

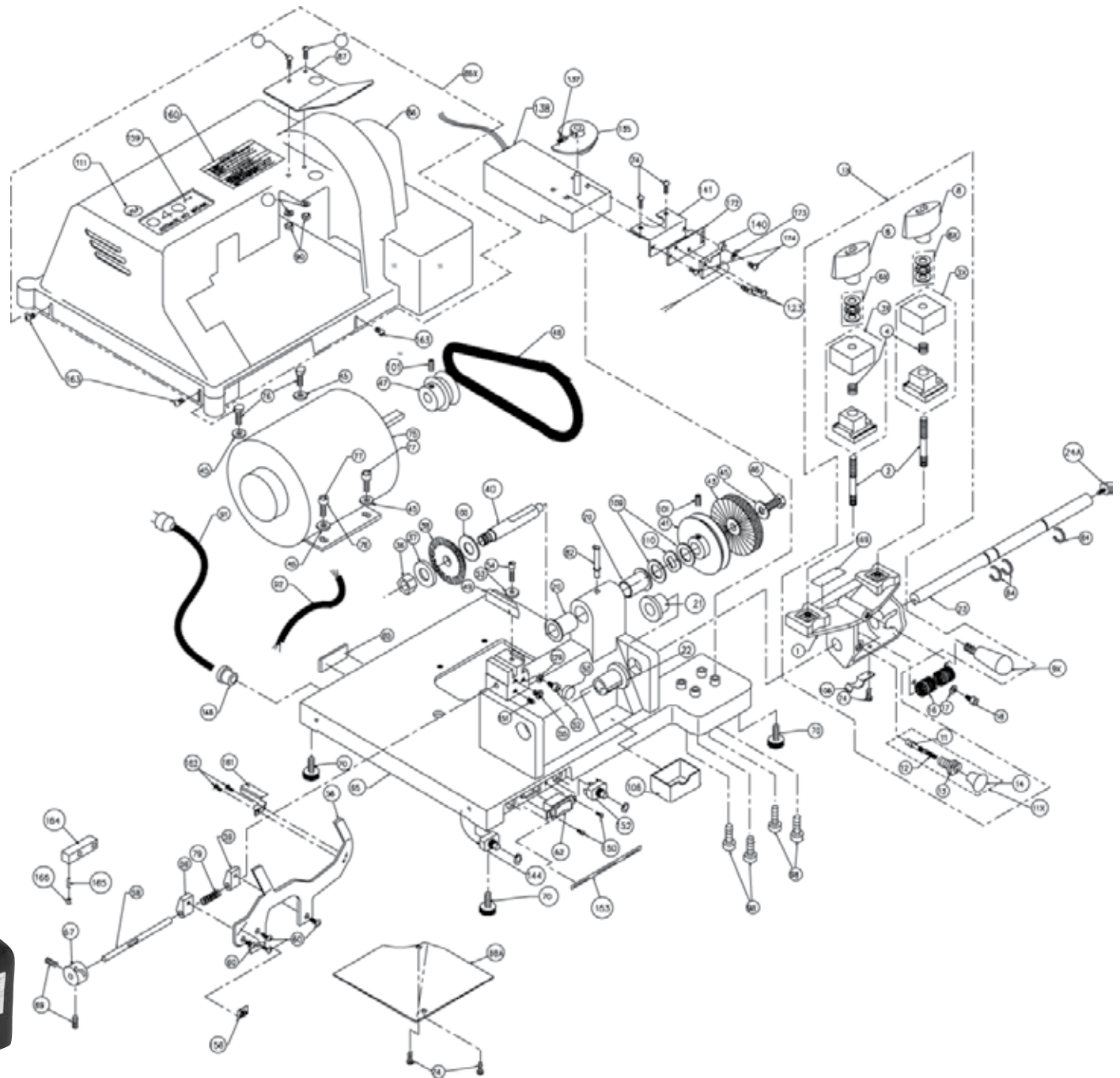


	Description	Part Number	Item Number		Description	Part Number	Item Number
1	Carriage	040-1	103263M	86X	Safety Hood Assembly	045-86X	501413
1X	Carriage Assembly	045-1X	501412	87	Safety Shield	045-87	129681
2	Carriage Stud	025-2	BD0328XXXX	89	#10 Lockwasher	045-89	194006
3X	Vise Jaw Assembly	025-3X	BD0410XXXX	90	Nut	025-90	151300
4	Vise Jaw Spring	025-4	1103495P	91	Power Cord	024B-91	1103290P
6X	Thrust Bearing Set	025-6X	BD0222XXXX	92	3 Wire Motor Cable	024B-92	1103118P
8	Wing Nut	025-8	BD0329XXXX	100	Cutter Spacer, Right	024B-100	194009
9X	Carriage Handle Assembly	040-9X	131516M	101	Set Screw, 1/4-20 X 1/4"	025-101	174619
20	Cutter Shaft Bushing	025-20	BD0360XXXX	106	Chip Tray	040-106	132021
21	Carriage Shaft Bushing	025-21	BD0361XXXX	109	Bearing Washer	025-109	129031
23	Carriage Shaft	045-23	131606	110	Wave Washer	025-110	194021
32	Socket Head Screw, 10-24 X 3/8"	024B-32	129334	129	Locking Nut (8-32)	040-129	151009
36	Cutter Nut	025-36	151090	146	Power Cord Strain Relief	040-146	129023
37	Cutter Spacer	025-37	1106180P	150	Switch Screws, 6-32 X 1/4"	040-150	1103395P
38	Cutter	P-X23MC	BC0089XXXX	151	Set Screw 8-32 X 3/8	040-151	174619
40A	Cutter Shaft	025-40A	BD0423XXXX	160	Caution Label	025-160	255288
41	Cutter Shaft Pulley	025-41	BD0364XXXX	163	Hood Screw	045-163	174151
43	Nylon Brush	814-00-51	BD0221XXXX	171	Cutter Pulley Set Screw, 5/16-18	025-171	174144
45	Brush Bolt Washer, 5/16"	025-45	194080	181	Key Gauge Spacer-Left	024B-181	129148
46A	Hex Head Screw, 5/16-18 X 3/4"	025-46A	174279	182	Key Gauge Spacer- Right	024B-182	129149
47	Motor Pulley 2-3L	025-47	129085	183	1/4-20 Lockwasher	040-183	194253
48	V-Belt, 3L-180"	025-48	BD0468XXXX	184	1/4-20 Hex Nut	040-184	151077
49	Cutter Guide (Stylus)	045-49	BD0659XXXX	186	6-32 X 3/8 Set Screw	045-186	129745
50	Carriage Block	040-50	131123	187	Dowel	045-187	153009
52	Socket Head Screw, 8-32 X 1-1/2"	040-52	174081	188	Dowel Spring	045-188	199179
53A	Cutter Guide Binding Plate	045-53A	129463	189	Adjustment Dial	045-189	129467
54	Cutter Guide Binding Screw	045-54	174153	190	Cutter Guide Label	045-190	186066
55A	Adjusting Screw	045-55A	129461	194	Chip Guard #10 Flat Washer	045-194	194272
56	Key Gauge	040-56	131797	195	10-32 X 1/2" Button Head Screw	045-195	174152
57	Key Gauge Bracket	024B-57	129157	198	7/16-14 X 3/4" Set Screw	045-198	174146
58	Key Gauge Dowel Pin	024B-58	129136	199	1/2-20 X 1/2" Set Screw	045-199	174279
59	Key Gauge Housing (2)	025-59	1106113A	N/S	Instruction Manual	045-IM	125385
60	Cap Screw, 8-32 X 1/2"	025-60	174123	N/S	220V 1/4HP Motor	025-240	129395
61	Circuit Breaker, ETA 1658	025-61	1103128P	N/S	Hex Key 3/32		129014
62A	On & Off Switch	025-62A	BD0359XXXX	N/S	Hex Key 5/32		129074
65	Machined Base	045-65	600294	N/S	Hex Key 1/8		129109
68	Electrical Cord	040-68	131603	N/S	12 Volt Motor		129297
70	Rubber Mount	040-70	129849	N/S	045 Sargent Guide		BD0601XXXX
74	Truss Head Screw, 8-32	040-74	1103379P				
75	Motor, 1/4 HP, 115V, C/S	040-75	131505				
79	Key Gauge Spring	024B-79	129054				
82	Oil Cup	025-82	BD0362XXXX				
84	Crescent Ring	024B-84	1102033P				

[illegible]

	Description	Part Number	Item Number		Description	Part Number	Item Number
1	Carriage	040-1	103263M	79	Key Gauge Spring	024B-79	129054
1X	Carriage Assembly	045-1X	501412	82	Oil Cup	025-82	BD0362XXXX
2	Carriage Stud	025-2	BD0328XXXX	84	Crescent Ring	024B-84	1102033P
3X	Vise Jaw Assembly	025-3X	BD0410XXXX	86X	Safety Hood Assembly	045-86X	501413
4	Vise Jaw Spring	025-4	1103495P	87	Safety Shield	045-87	129681
6X	Thrust Bearing Set	025-6X	BD0222XXXX	89	#10 Lockwasher	045-89	194006
8	Wing Nut	025-8	BD0329XXXX	90	Nut	025-90	151300
9X	Carriage Handle Assembly	040-9X	131516M	91	Power Cord	024B-91	1103290P
20	Cutter Shaft Bushing	025-20	BD0360XXXX	92	3 Wire Motor Cable	024B-92	1103118P
21	Carriage Shaft Bushing	025-21	BD0361XXXX	100	Cutter Spacer, Right"	024B-100	194009
23	Carriage Shaft	045-23	131606	101	Set Screw, 1/4-20 X 1/4"	025-101	174619
32	Socket Head Screw, 10-24 X 3/8"	024B-32	129334	106	Chip Tray	040-106	132021
36	Cutter Nut	025-36	151090	109	Bearing Washer	025-109	129031
37	Cutter Spacer	025-37	1106180P	110	Wave Washer	025-110	194021
38	Cutter	P-SMS45	BC0085XXXX	129	Locking Nut (8-32)	040-129	151009
40A	Cutter Shaft	025-40A	BD0423XXXX	146	Power Cord Strain Relief	040-146	129023
41	Cutter Shaft Pulley	025-41	BD0364XXXX	150	Switch Screws, 6-32 X 1/4"	040-150	1103395P
43	Nylon Brush	814-00-51	BD0221XXXX	151	Set Screw 8-32 X 3/8	040-151	174619
45	Brush Bolt Washer, 5/16"	025-45	194080	160	Caution Label	025-160	255288
46A	Hex Head Screw, 5/16-18 X 3/4"	025-46A	174279	163	Hood Screw	045-163	174151
47	Motor Pulley 2-3L	025-47	129085	171	Cutter Pulley Set Screw, 5/16-18	025-171	174144
48	V-Belt, 3L-180	025-48	BD0468XXXX	181	Key Gauge Spacer-Left	024B-181	129148
49	Cutter Guide (Stylus)	046-49	BD0422XXXX	182	Key Gauge Spacer- Right	024B-182	129149
50	Carriage Block	040-50	131123	183	1/4-20 Lockwasher	040-183	194253
52	Socket Head Screw, 8-32 X 1-1/2"	040-52	174081	184	1/4-20 Hex Nut	040-184	151077
53A	Cutter Guide Binding Plate	045-53A	129463	186	6-32 X 3/8 Set Screw	045-186	129745
54	Cutter Guide Binding Screw	045-54	174153	187	Dowel	045-187	153009
55A	Adjusting Screw	045-55A	129461	188	Dowel Spring	045-188	199179
56	Key Gauge	040-56	131797	189	Adjustment Dial	045-189	129467
57	Key Gauge Bracket	024B-57	129157	190	Cutter Guide Label	045-190	186066
58	Key Gauge Dowel Pin	024B-58	129136	194	Chip Guard #10 Flat Washer	045-194	194272
59	Key Gauge Housing (2)	025-59	1106113A	195	10-32 X 1/2" Button Head Screw	045-195	174152
60	Cap Screw, 8-32 X 1/2"	025-60	174123	198	7/16-14 X 3/4" Set Screw	045-198	174146
61	Circuit Breaker, ETA 1658	025-61	1103128P	199	1/2-20 X 1/2" Set Screw	045-199	174279
62A	On & Off Switch	025-62A	BD0359XXXX	N/S	Instruction Manual	046-IM	125009
65	Machined Base	045-65	600294	N/S	220V 1/4HP Motor	025-240	129395
68	Electrical Cord	040-68	131603	N/S	Hex Key 3/32		129014
70	Rubber Mount	040-70	129849	N/S	Hex Key 5/32		129074
74	Truss Head Screw, 8-32	040-74	1103379P	N/S	Hex Key 1/8		129109
75	Motor, 1/4 HP, 115V, C/S	040-75	131505	N/S	12 Volt Motor		129297

040



	Description	Part Number	Item Number		Description	Part Number	Item Number
1	Carriage	040-1	103263M	75	Motor, 1/4 HP, 115V, C/S	040-75	131505
1X	Carriage Assembly	040-1X	BD0662XXXX	79	Key Gauge Spring	040-79	131810
2	Carriage Stud	025-2	BD0328XXXX	82	Oil Cup	025-82	BD0362XXXX
3X	Vise Jaw assembly	025-3X	BD0410XXXX	84	Crescent Ring	024B-84	1102033P
4	Vise Jaw Spring	025-4	1103495P	86AX	Safety Hood Assembly	040-86AX	501408
6X	Thrust Bearing Set	025-6X	BD0222XXXX	87A	Safety Shield	040-87A	129133
8	Wing Nut	025-8	BD0329XXXX	90	Nut, 10-32	025-90	151300
9X	Carriage Handle	040-9X	131516M	91	Power Cord	040-91	1103290P
11X	Trigger Assembly	040-11X	BD0387XXXX	92	Motor Cable	040-92	1103118P
16	Carriage Torsion Spring	040-16	1105170P	98	Cam Motor Screws	040-98	174114
17	Washer	025-17	194251	100	Cutter Spacer, Right	040-100	194009
18	Screw, 10-32 X 1/2"	025-18	174605	101	Set Screw, 1/4-20 X 1/4"	025-101	174619
20	Cutter Shaft Bushing	025-20	BD0360XXXX	106	Chip Tray	040-106	132021
21	Carriage Shaft Bushing, Right	025-21	BD0361XXXX	108	Carriage Bumper	040-108	131799
22	Carriage Shaft Bushing, Left	040-22	131803	109	Bearing Washer	025-109	129031
23	Carriage Shaft	040-23	131606	110	Wave Washer	025-110	194021
24	Friction Reducer	040-24	131926	123	Screw, 4-40 X 1/4"	040-123	172018
36	Cutter Nut	025-36	151090	129	Locking Nut (8-32)	040-129	151009
37	Cutter Spacer	025-37	1106180P	135	Cam	040-135	129106M
38	CU20 Cutter	CU20	BC0151XXXX	137	Set Screw, 10-32 X 3/16"	040-137	174449
40A	Cutter Shaft	025-40A	BD0423XXXX	138	Gear Motor (115 Volt)	040-138	131506
41	Cutter Shaft Pulley (3-1/2")	025-41	BD0364XXXX	140	Gear Motor Cam Switch	040-140	129877
43	Nylon Brush (814-00-51)	025-43	BD0221XXXX	141A	Micro Switch Plate (Static)	040-141A	129076
45	Brush Bolt Washer, 5/16"	025-45	194080	144	Automatic Cycle Switch	040-144	BD0354XXXX
46A	Hex Head Screw, 5/16"-18 X 3/4"	025-46A	174279	146	Strain Relief For Power Cord	040-146	129023
47	Motor Pulley 2"-3L	025-47	129085	150	Switch Screws (6-32 X 1/4")	040-150	1103395P
48	V-Belt, 3L-180	025-48	BD0468XXXX	151	Set Screw 8-32 X 3/8"	040-151	174619
49	Cutter Guide (Stylus)	040-49	BD0544XXXX	152	Deburring Switch	040-152	131808
50	Carriage Stop	040-50	131123	153	Switch Panel Label	040-153	131811
52	Socket Head Screw, 8-32 X 1/2"	040-52	174081	158	Key Gauge Label	040-158	131805
53A	Cutter Guide Binding Plate	045-53A	129463	160	Caution Label	040-160	131809
54	Cutter Guide Binding Screw	045-54	174153	161	Key Gauge Guard	040-161	131778
55A	Adjusting Screw	045-55A	129461	162	Key Gauge Guard Screws	040-162	174034
56	Key Gauge	040-56	131797	163	Hood Screw	045-163	1103379P
58	Key Gauge Dowel Pin	040-58	131806	164	Cam Follower Block	040-164	131802
59	Key Gauge Housing (2)	025-59	1106113A	165	3/32" X 1/2 Dowel Pin	040-165	131800
60	Cap Screw, 8-32 X 1/2"	025-60	1106155P	166	Cam Follower Pin	040-166	131804
62	On & Off Switch	040-62	131807	169	Carriage Label	040-169	131841
67	Key Gauge Cam	040-67	131801	171	Cutter Pulley Set Screw	025-171	174144
68	Electrical Cover	040-68	131603	183	1/4-20 Lock Washer	040-183	194253
69	Set Screw 10-24 X 3/8"	040-69	131812	184	1/4-20 Hex Nut	040-184	151077
70	Rubber Mount	040-70	129849	186	6-32 X 3/8 Set Screw	045-186	129745
74	Truss Head Screw	040-74	1103379P	187	Dowel	045-187	153009

040

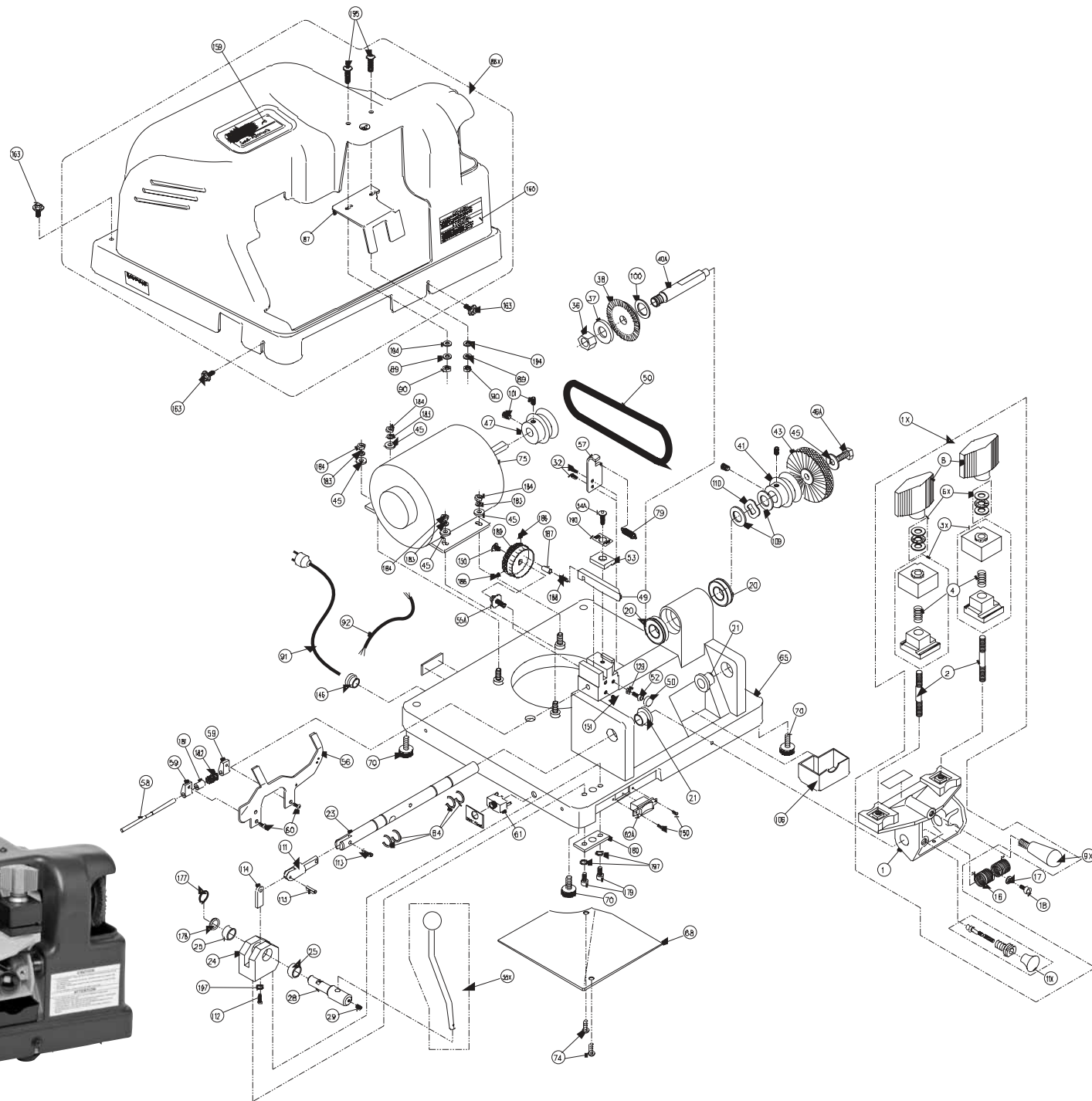
	Description	Part Number	Item Number		Description	Part Number	Item Number
188	Dowel Spring	045-188	199179	N/S	Instruction Manual	040P-IM	125007
189	Adjustment Dial	045-189	129467	N/S	Hex Key 3/32		129014
190	Cutter Guide Label	045-190	186066	N/S	Hex Key 5/32		129074
191	Switch Plate (Adjustable)	040-191	129077	N/S	Hex Key 1/8		129109
192	Switch Plate Screws	040-192	1103379P		Push Button Switch Boot		129844
193	Switch Plate Washers	040-193	194100	N/S	040 Sargent Guide		BD0600XXXX
194	#10 Flat Washer	045-194	194272	N/S	Circuit Breaker	025-61	1103128P
195	10-32 X 1/2 Button Head Screw	045-195	174152				



045 HD

	Description	Part Number	Item Number		Description	Part Number	Item Number
1	Carriage	045HD-1	502619M	75	Motor, 1/4 HP, 115V, C/S	040-75	131505
1X	Carriage Assembly	045HD-1X	502615	79	Key Gauge Spring	024B-79	129054
2	Carriage Stud	025-2	BD0328XXXX	84	Crescent Ring	024B-84	1102033P
3X	Vise Jaw Assembly	045HD-3X	BD0053XXXX	86X	Safety Hood Assembly	045HD-86X	502626
4	Vise Jaw Spring	025-4	1103495P	87	Safety Shield	045HD-87	129681
6X	Thrust Bearing Set	025-6X	BD0222XXXX	89	#10 Lockwasher	045-89	194006
8	Wing Nut	025-8	BD0329XXXX	90	Nut	025-90	151300
9X	Carriage Handle Assembly	040-9X	131516M	91	Power Cord	024B-91	1103290P
20	Cutter Shaft Bearing	040HD-20	132666	92	3 Wire Motor Cable	024B-92	1103118P
21	Carriage Shaft Bushing	025-21	BD0361XXXX	100	Cutter Spacer, Right	040HD-100	194047
23	Carriage Shaft	045HD-23	132672	101	"Set Screw, 1/4-20 X 1/4"	025-101	174619
32	Socket Head Screw, 10-24 X 3/8"	024B-32	129334	106	Chip Tray	040-106	132021
36	Cutter Nut	025-36	151090	109	Bearing Washer	025-109	129031
37	Cutter Spacer	025-37	1106180P	110	Wave Washer	025-110	194021
38	Cutter	P-X23MC	BC0089XXXX	129	Locking Nut (8-32)	040-129	151009
40	Cutter Shaft	040HD-40	132667	146	Power Cord Strain Relief	040-146	129023
41	Cutter Shaft Pulley	025-41	BD0364XXXX	150	Switch Screws, 6-32 X 1/4"	040-150	1103395P
51	Nylon Brush	814-00-51	BD0221XXXX	151	Set Screw 8-32 X 3/8	040-151	174619
45	Brush Bolt Washer, 5/16"	025-45	194080	160	Caution Label	025-160	255288
46A	Hex Head Screw, 5/16-18 X 3/4"	025-46A	174279	163	Hood Screw	045-163	174151
47	Motor Pulley 2-3L	025-47	129085	171	Cutter Pulley Set Screw, 5/16-18	025-171	174144
48	V-Belt, 3L-180	025-48	BD0468XXXX	181	Key Gauge Spacer-Left	024B-181	129148
49	Cutter Guide (Stylus)	045-49	BD0659XXXX	182	Key Gauge Spacer- Right	024B-182	129149
50	Carriage Block	040-50	131123	183	1/4-20 Lockwasher	040-183	194253
52	Socket Head Screw, 8-32 X 1-1/2"	040-52	174081	184	1/4-20 Hex Nut	040-184	151077
53A	Cutter Guide Binding Plate	045-53A	129463	186	6-32 X 3/8 Set Screw	045-186	129745
54	Cutter Guide Binding Screw	045-54	174153	187	Dowel	045-187	153009
55A	Adjusting Screw	045-55A	129461	188	Dowel Spring	045-188	199179
56	Key Gauge	040-56	131797	189	Adjustment Dial	045-189	129467
57	Key Gauge Bracket	024B-57	129157	190	Cutter Guide Label	045-190	186066
58	Key Gauge Dowel Pin	024B-58	129136	194	Chip Guard #10 Flat Washer	045-194	194272
59	Key Gauge Housing (2)	025-59	1106113A	195	10-32 X 1/2" Button Head Screw	045-195	174152
60	Cap Screw, 8-32 X 1/2"	025-60	174123	198	7/16-14 X 3/4" Set Screw	045-198	174146
61	Circuit Breaker, ETA 1658	025-61	1103128P	199	1/2-20 X 1/2" Set Screw	045-199	174279
62A	On & Off Switch	025-62A	BD0359XXXX	N/S	Instruction Manual	045HD-IM	125191
65	Machined Base	045HD-65	502622M	N/S	Hex Key 3/32		129014
68	Electrical Cord	040-68	131603	N/S	Hex Key 5/32		129074
70	Rubber Mount	040-70	129849	N/S	Hex Key 1/8		129109
74	Truss Head Screw, 8-32	040-74	1103379P	N/S	045 Sargent Guide		BD0601XXXX

044 HD



044 HD

	Description	Part Number	Item Number		Description	Part Number	Item Number
1	Carriage	044HD-1	502619M	60	Cap Screw, 8-32 X 1/2"	025-60	174123
1X	Carriage Assembly	044HD-1X	502618	61	Circuit Breaker, ETA 1658	025-61	1103128P
2	Carriage Stud	025-2	BD0328XXXX	62	On & Off Switch	025-62A	BD0359XXXX
3X	Vise Jaw Assembly	045HD-3X	BD0053XXXX	65	Machined Base	044HD-65	502616M
4	Vise Jaw Spring	025-4	1103495P	68	Electrical Cord	040-68	131603
6X	Thrust Bearing Set	025-6X	BD0222XXXX	70	Rubber Mount	040-70	129849
8	Wing Nut	025-8	BD0329XXXX	74	Truss Head Screw, 8-32"	040-74	1103379P
9X	Carriage Handle Assembly	040-9X	131516M	75	Motor, 1/4 HP, 115V, C/S	040-75	131505
11X	Trigger Assembly	040-11X	BD0387XXXXX	79	Key Gauge Spring	024B-79	129054
16	Carriage Torsion Spring	040-16	1105170P	84	Crescent Ring	024B-84	1102033P
17	Washer	024-17	194251	86X	Safety Hood Assembly	044HD-86X	502620
18	Screw 10-32 X 1/2	024-18	174605	87	Safety Shield	044HD-87	129681
20	Cutter Shaft Bearing	045HD-20	132660	89	#10 Lockwasher	045-89	194006
21	Carriage Shaft Bushing	025-21	BD0361XXXX	90	Nut	025-90	151300
23	Carriage Shaft	044HD-23	132007	91	Power Cord	024B-91	1103290P
24	Pivot Block	024B-24	129152	92	3 Wire Motor Cable	024B-92	1103118P
25	Pinion Shaft Bushing	024B-25	1105030P	100	Cutter Spacer, Right	040HD-100	132671
28	Pinion Shaft	024B-28	129153	101	Set Screw, 1/4-20 X 1/4"	025-101	174619
29	Set Screw, 1/4-20 X 5/16"	024B-29	174079	106	Chip Tray	040-106	132021
32	Socket Head Screw, 10-24 X 3/8"	024B-32	129334	109	Bearing Washer	025-109	129031
35X	Carriage Lever Assembly	044-35X	600291	110	Wave Washer	025-110	194021
36	Cutter Nut	025-36	151090	111	Yoke	024B-111	129156
37	Cutter Spacer	025-37	1106180P	112	Socket Head Screw, 10-32 X 3/4"	024B-112	174685
38	Cutter	P-CU20	BC0219XXXX	113	Roll Pin	024B-113	129980
40	Cutter Shaft	040HD-40	132667	114	Torque Arm	024B-114	129155
41	Cutter Shaft Pulley	040HD-41	502607M	129	Locking Nut (8-32)	040-129	151009
51	Nylon Brush	814-00-51	BD0221XXXX	146	Power Cord Strain Relief	040-146	129023
45	Brush Bolt Washer, 5/16"	025-45	194080	150	Switch Screws, 6-32 X 1/4"	040-150	1103395P
46A	Hex Head Screw, 5/16-18 X 3/4"	025-46A	174279	151	Set Screw 8-32 X 3/8	040-151	174619
47	Motor Pulley 2-3L	025-47	129085	160	Caution Label	025-160	255288
48	V-Belt, 3L-170	040HD-48	132676	163	Hood Screw	045-163	174151
49	Cutter Guide (Stylus)	044-49	129462	171	Cutter Pulley Set Screw, 5/16-18	025-171	174144
50	Carriage Block	040-50	131123	177	Ext. Retaining Ring	024B-177	1500410P
52	Socket Head Screw, 8-32 X 1-1/2"	040-52	174114	178	Washer	024B-178	1500625P
53A	Cutter Guide Binding Plate	045-53A	129463	179	10-32 X 3/4 SCHS	024B-179	174685
54	Cutter Guide Binding Screw	045-54	174153	180	Mount Plate	024B-180	129154
55A	Adjusting Screw	045-55A	129461	181	Key Gauge Spacer-Left	024B-181	129148
56	Key Gauge	040-56	131797	182	Key Gauge Spacer- Right	024B-182	129149
57	Key Gauge Bracket	024B-57	129157	183	1/4-20 Lockwasher	040-183	194253
58	Key Gauge Dowel Pin	024B-58	129136	184	1/4-20 Hex Nut	040-184	151077
59	Key Gauge Housing (2)	025-59	1106113A	186	6-32 X 3/8 Set Screw	045-186	129745

044 HD

	Description	Part Number	Item Number		Description	Part Number	Item Number
187	Dowel	045-187	153009	N/S	Instruction Manual	044HD-IM	125190
188	Dowel Spring	045-188	199179	N/S	Hex Key 3/32		129014
189	Adjustment Dial	045-189	129467	N/S	Hex Key 5/32		129074
190	Cutter Guide Label	045-190	186066	N/S	Hex Key 1/8		129109
194	Chip Guard #10 Flat Washer	045-194	194272	N/S	040 Sargent Guide		BD0600XXXX
197	10-32 X 1/2 Button Head Screw	045-197	194038				



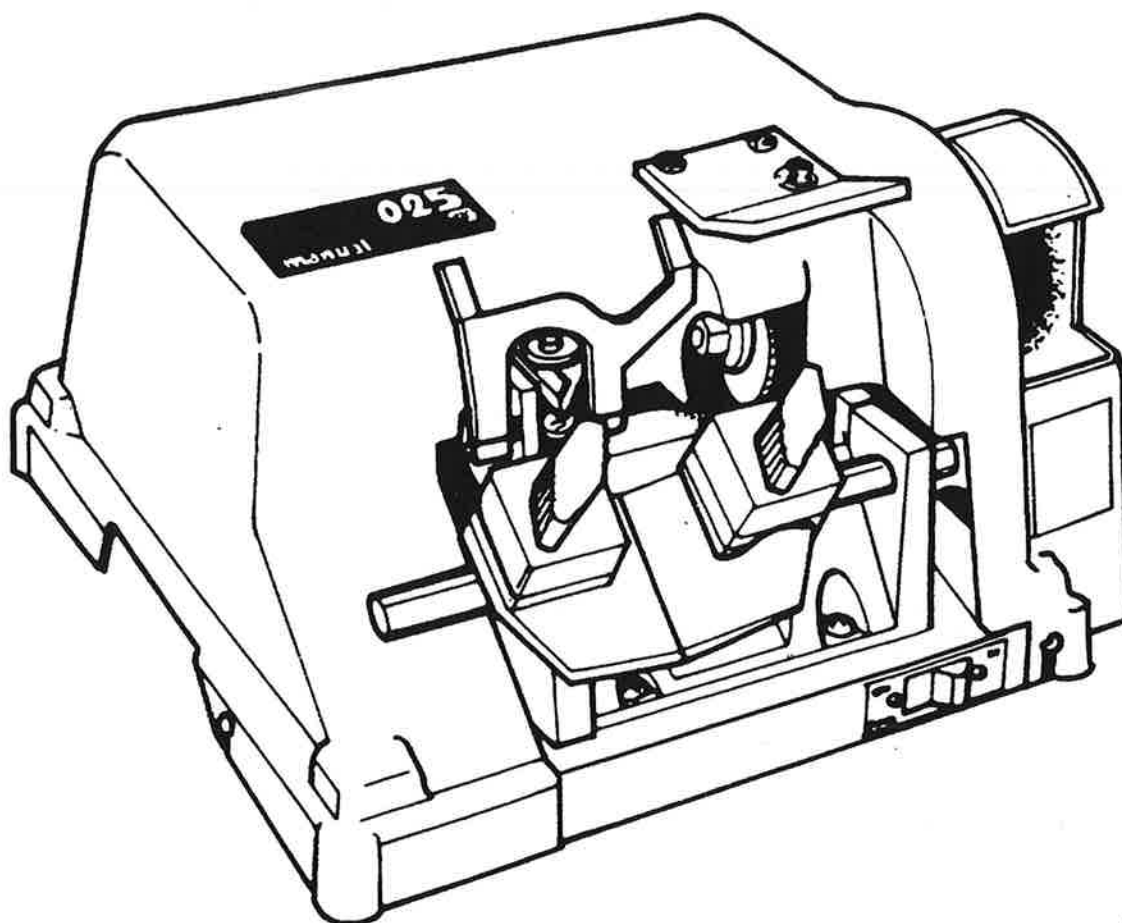
English

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 025 Key Machine.

Ensure that all safety recommendations are followed!

See page 2 for instructions.

**ILCO UNICAN**

ENGLISH

This manual is registered and applies specifically to the machine which carries this serial number. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. It's the only one of its kind. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 025 and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other ILCO UNICAN machines.

CONTENTS

Warranty	2
Safety information	3
Introduction / unpacking	4
Operating parts (illustrated)	5
Operating parts identification (names and part numbers)	5
Exploded view	6
Exploded view parts list / unpacking / test keys	8
How to duplicate keys	9
The cutting operation / replacing the cutter	11
Adjustments	12

ONE YEAR LIMITED WARRANTY

ILCO UNICAN warrants to the original buyer of any new model 025 machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of ILCO UNICAN, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by ILCO UNICAN, provided that the machine is returned by prepaid transport to ILCO UNICAN or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). ILCO UNICAN may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

ILCO UNICAN sells precision-made machines. The buyer assumes all risks, and ILCO UNICAN shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with ILCO UNICAN's printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by ILCO UNICAN on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases ILCO UNICAN from any liability for any reason other than a breach of its warranties hereunder.

The liability of ILCO UNICAN shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall ILCO UNICAN be liable for any personal injuries, property damage or consequential damages.

Use only genuine ILCO UNICAN replacement parts on this machine!

Serial number : _____

WARNING – SAFETY NOTICE

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (120 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact ILCO UNICAN at the address printed on the cover. (ILCO UNICAN also offers repair service for out-of-warranty machines. Contact ILCO UNICAN for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

INTRODUCTION / UNPACKING

Congratulations! **You've purchased a superior key cutting machine.**

The Model 025 semiautomatic key machine you've just purchased incorporates the latest improvements in design for key duplicating machines of its type.

This machine features exclusive four-way vise jaws designed to accommodate virtually any standard cylinder key without the need for adaptors.

Even double-sided automotive keys can be duplicated with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary.

Accurate, easy to operate and maintain, the model 025 delivers excellent performance at an economical price!

Unpacking instructions

Your 025 key machine has been shipped to you in a sturdy, specially-cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free of all rustproof-

ing oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 12 "Adjusting for depth of cut").

Safety

The 025 has been engineered to duplicate cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

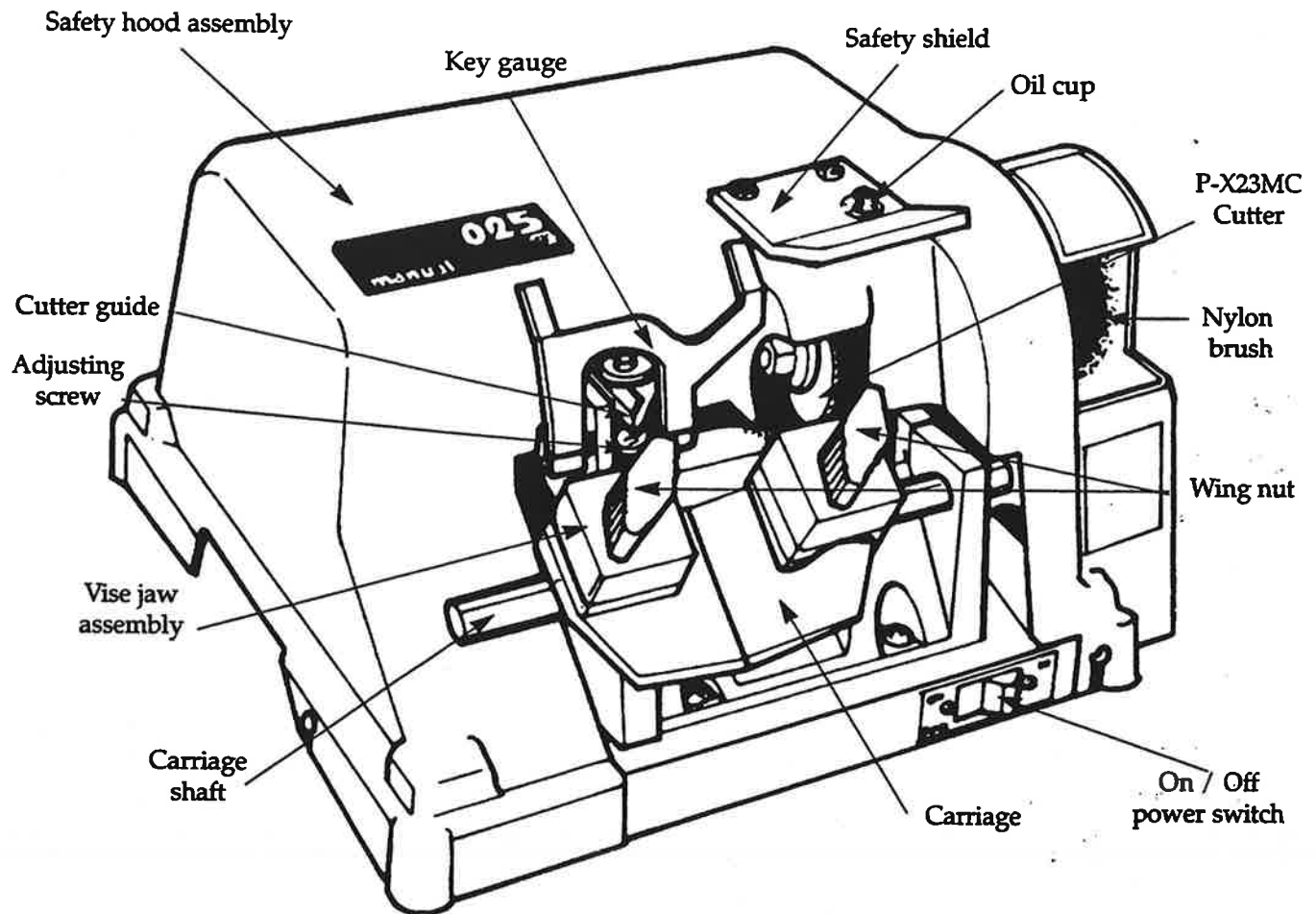
ILCO UNICAN strongly recommends the use of protective eye glasses or goggles when operating this machine,

or when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

CAUTION!	DO NOT DESTROY OR DISCARD THIS VALUABLE SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	--

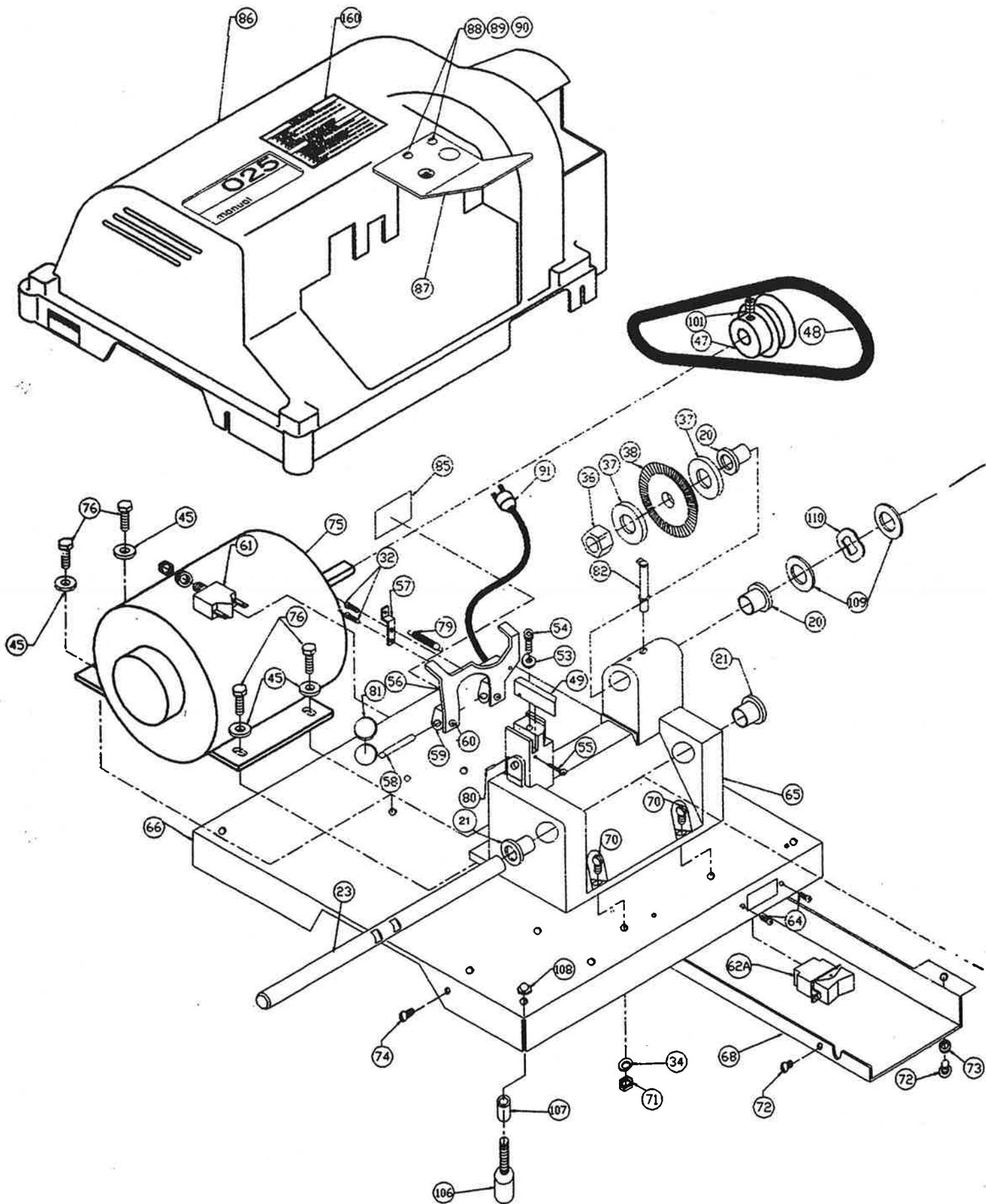
OPERATING PARTS



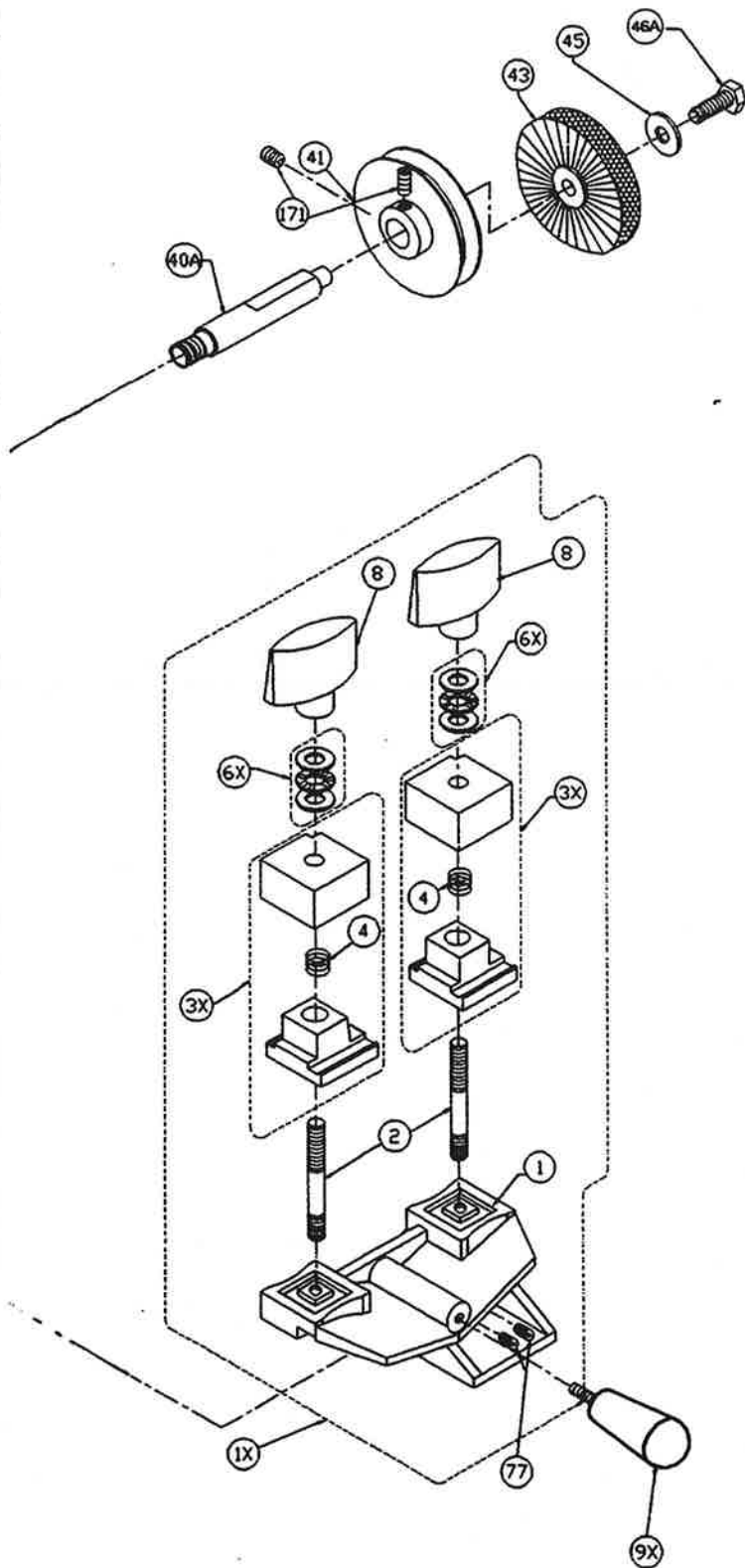
Operating parts identification

Part no.	Identification
025-1	Carriage
025-3X	Vise jaw assembly
025-8	Wing nut
025-23	Carriage shaft
025-38	P-X23MC cutter
025-43	Nylon brush
025-49A	Cutter guide (stylus)
025-55	Adjusting screw
025-56	Key gauge
025-62A	On/Off switch
025-82	Oil cup
025-86X	Safety hood assembly
025-87	Safety shield

EXPLODED VIEW / VISTA EN DETALLE / SCHÉMA ÉCLATÉ



EXPLODED VIEW / VISTA EN DETALLE / SCHÉMA ÉCLATÉ



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part no.	Description	Ref.	Part no.	Description
1	025-1	Carriage	65	025-65	Main Base, machined
1X	025-1X	Carriage assembly	66	025-66	Sub-base
2	025-2	Carriage stud	68	025-68	Electrical cover
3X	025-3X	Vise jaw assembly	70	025-70	Base screws, ¼-20 x 1"
4	025-4	Vise jaw spring	71	025-71	Base screw nut, ¼-20
6X	025-6X	Thrust bearing set	72	025-72	RHMS screw, 8-32 x ¾"
8	025-8	Wing nut	73	025-73	Lockwasher, #8
9X	025-9X	Carriage handle	74	025-74	Truss head screw, 8-32
20	025-20	Cutter shaft bushing	75	025-75	Motor, ¼hp, 115V
21	025-21	Carriage shaft bushing	76	025-76	Motor bolt
23	025-23	Carriage shaft	77	025-77	Set screw, ¼-20 x ½"
32	025-32	Button head. screw, 10-24 x ¾"	79	025-79	Key gauge spring
34	025-34	¼" lockwasher	80	025-80	Roll pin
36	025-36	Cutter nut, N-4	81	025-81	Snap plug, ¾"
37	025-37	Cutter spacer	82	025-82	Oil cup
38	025-38	P-X23MC cutter	86	025-86	Safety hood with 025 decal
40A	025-40A	Cutter shaft	86X	025-86X	Safety hood assembly
41	025-41	Cutter shaft pulley	87	025-87	Safety shield
43	025-43	Nylon brush	88	025-88	Shield screws, 10-32 x ½"
45	025-45	Brush bolt washer, ¾"	89	025-89	Flat washer, #10
46A	025-46A	Hex head screw, ¼-18 x ¾"	90	025-90	Nut, #10-32
47	025-47	Motor pulley 2" - 3L	91	025-91	Power cord
48	025-48	V-Belt, 3L-180	92	025-92	3 wire motor cable
49A	025-49A	Cutter guide (stylus)	101	025-101	Motor pulley set screw
53	025-53	Cutter guide binding washer	106	025-106	Rubber mount
54	025-54	Cutter guide binding screw	107	025-107	Spacer
55	025-55	Adjusting screw	108	025-108	Acorn nut, ¼-20
56	025-56	Key gauge	109	025-109	Bearing washer
57	025-57	Key gauge bracket	110	025-110	Wave washer
58	025-58	Key gauge dowel pin	160	025-160	Caution label
59	025-59	Key gauge housing	171	025-171	Cutter pulley set screw, ¼" -18
60	025-60	Cap screw, 8-32 x ½"	IM	025-IM	Instruction manual
61	025-61	Circuit Breaker, ETA 1658	NS	025-240	220V ¼HP motor
62A	025-62A	On/Off switch			

Unpacking

The 025 key machine is shipped completely assembled and pre-adjusted. Upon unpacking the machine, locate the nylon band securing the carriage assembly and cut it to allow the carriage to drop to its normal "down" position. At this point, you should be able to slide the carriage sideways.

Test keys

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory-dimensioned pattern keys and are accurate to .002" or less. Save these keys and use them as standards to check the accuracy of cuts in the keys you make. Duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

Proper key cutting techniques

Even though your 025 key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

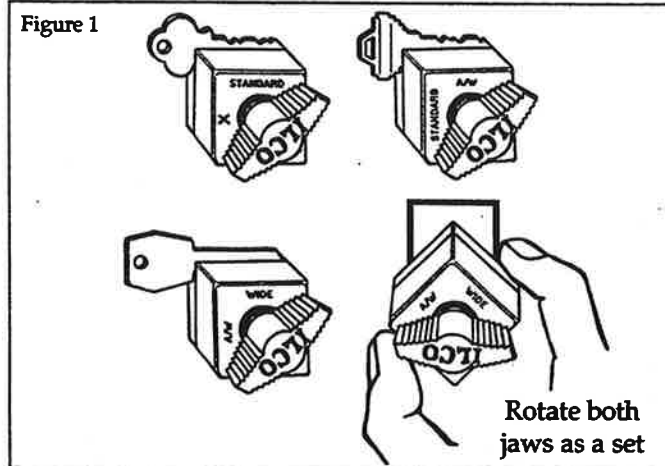
Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys; you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubricating of moving parts is important. An oil cup is provided to keep the cutter shaft bearings well lubricated. The carriage spindle should be lubricated with a thin film of oil and wiped free of chip build up. The lubrication procedures should be performed every 2-3 weeks depending on usage. (5-7 drops of a lightweight machine oil such as "3-in-1" or equivalent is sufficient for the oil cup.)

Using the four-way vise jaws

Your 025 is equipped with the ILCO UNICAN versatile Super Jaw 2 four-way vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical cylinder key (see Fig. 1).

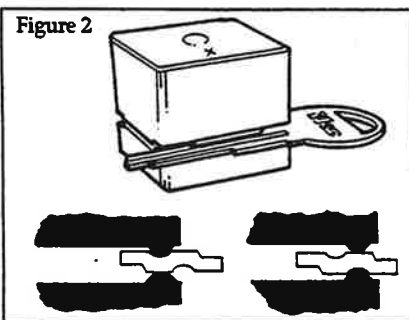


Standard - for holding regular cylinder keys, such as house keys, single sided automotive keys, padlock keys, with one or two shoulders.

W/A - for holding the SC6 and/or the SC22 Schlage wafer keys. Clamp the keys by the center groove rather than by the blade where the cuts are made.

Wide - for holding the Ford double-sided keys and similar types, either primary or secondary. When positioning the keys in the vise jaws, lay the key so that its center ledge is flat against the top surface of the jaw.

X - Ideal for holding most double-sided convenience keys used on most current automobiles. Grip these keys by the grooves rather than the blade edge where the cuts are located (see Fig. 2).



To reposition the vise jaws, as from Standard to Wide, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position.

HOW TO DUPLICATE KEYS

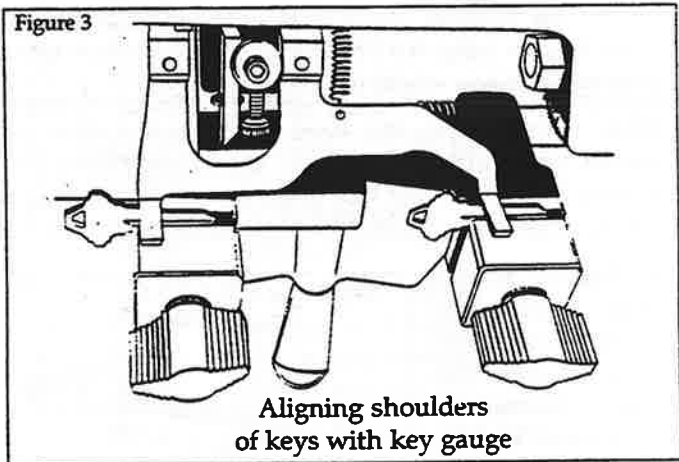
Aligning keys in the vise jaws Keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machine's carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is located approximately $\frac{1}{8}$ " to the left of the vise jaw's left edge. Holding the key blank firmly and level against the jaw, tighten the wing nut. Position the pattern key in the carriage's LEFT vise jaw in a similar manner only this time allowing a $\frac{1}{8}$ " gap between the shoulder of the key and the edge of the vise jaw.

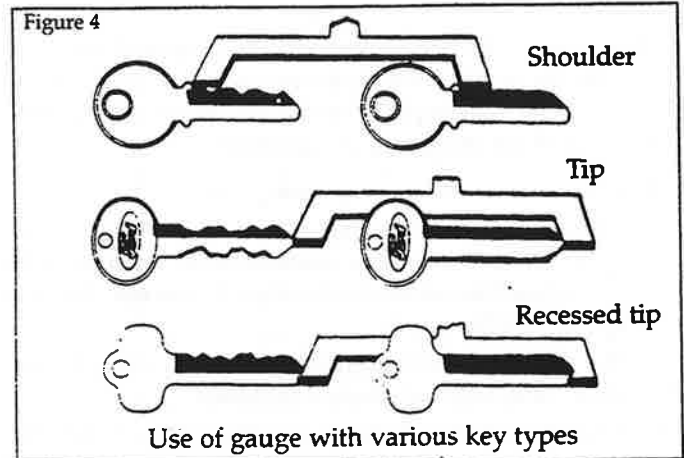
Next lower the key gauge and position the carriage so that the left edge of the gauge's RIGHT prong contacts the edge of the key blank's shoulder (see Figure 3). Loosen the wing nut securing the pattern key and reposition the key so that its shoulder is in contact with the left edge of the LEFT prong of the key gauge.



Check to ensure that the pattern key and blank key's shoulders are snug against the key gauge and both keys are positioned level (not tilted) in the vise jaws. Retighten the wing nut.

Aligning keys in the vise jaws Keys without shoulders

On keys such as the Ford double-sided key, which do not have conventional shoulder, the tip of the key is used as the aligning point (see Fig. 4). Clamp the blank key in first and move the machine carriage to the left. Lower the key gauge and position the carriage so the tip of the Ford key touches the key gauge. Install and align the pattern key in the left vise jaw in the same manner.

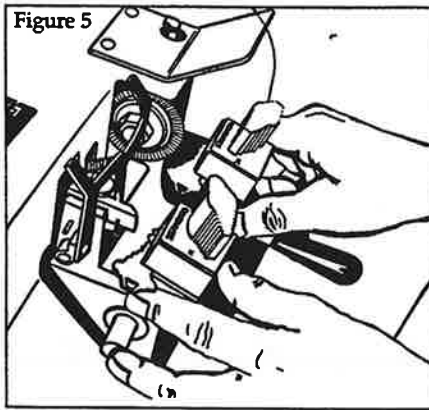


"Best" and "Falcon" type keys do not have a conventional shoulder but have a recessed tip and the key gauge is used to align the recessed tips. After clamping the blank key, the carriage is moved to the left so that the key gauge can be lowered to contact the recessed tip surface. The pattern key is aligned in the left vise jaw and positioned to contact the edge of the key gauge in the same manner.

General Operating Sequence

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. Rotate both vise jaws to the station suitable for the key being duplicated.
2. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
3. Lower the key gauge to align the keys using an appropriate method as described under "Aligning Keys ..." found in the previous section (see page 10).
4. After the keys are aligned, return the gauge to its "up" position.
5. Press the off/on switch to the "on" position.
6. Lift the carriage with both hands (see Figure 5).
7. Move the carriage to line up the cutter guide with the shoulder of the pattern key, then shift slightly away from the shoulder. Do not permit the cutter to touch the shoulder of the key blank.
8. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make a corresponding cut in the key blank. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed during the initial pass over the key blank.
9. Press the off/on switch to the "off" position. Remove the blank key. Press the switch to the "on" position and remove any burrs that remain by contacting the key lightly against the deburring brush. Return the switch to the "off" position.
10. Operating Tips - When duplicating a key, avoid an irregular jerking motion in the movement of the carriage. Acquire a smooth steady motion, using both hands on the carriage to guide it. Apply the same degree of pressure each time a key is duplicated. Excessive pressure may cause "over-cutting". It is sometimes best to practice on a few keys until the operator learns to impart a steady, uniform pressure to the carriage.



Replacing the Cutter

The P-23XMC cutter used on this machine is $\frac{2}{4}$ " in diameter, .250" thick ($\frac{1}{4}$ ") and has a $\frac{1}{2}$ " hole. It's a milling cutter, made out of high speed steel. It has a flat left side, which is excellent for making deep cuts, when these cuts are next to the shoulder, such as on GM, Chicago, etc. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

As with any metal cutting instrument, the P-23XMC will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

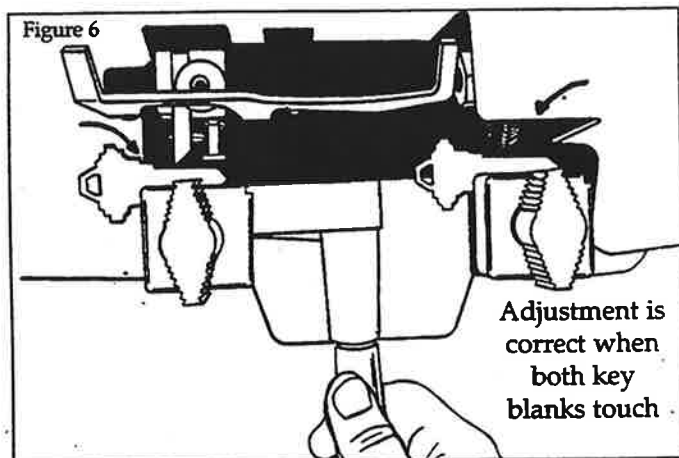
1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrilly sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter, use two wrenches, one $\frac{3}{4}$ " wrench for the cutter nut and one $\frac{1}{2}$ " wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns downward to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers, and the nut.

ADJUSTMENTS

Adjusting for depth of cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 6).

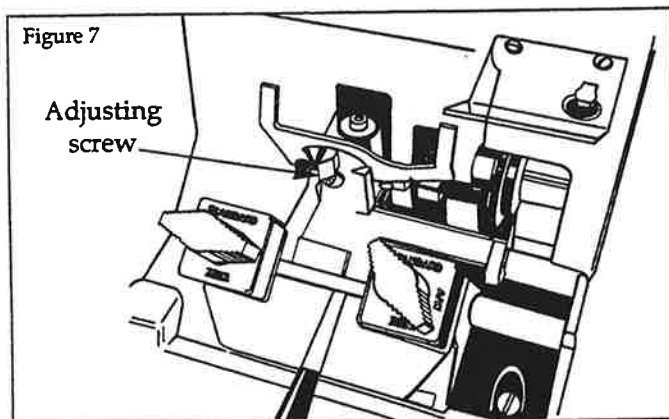


To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. (It is not necessary to align the blanks.) Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.

Adjusting for depth of cut (continued)

To adjust cutter guide, loosen the screw on top of the guide. With a flat screwdriver, turn adjusting screw in (to increase depth of cut) and/or out (to decrease depth of cut). Again, proper adjustment is achieved when the cutter barely grazes the key blank.



Adjusting for spacing

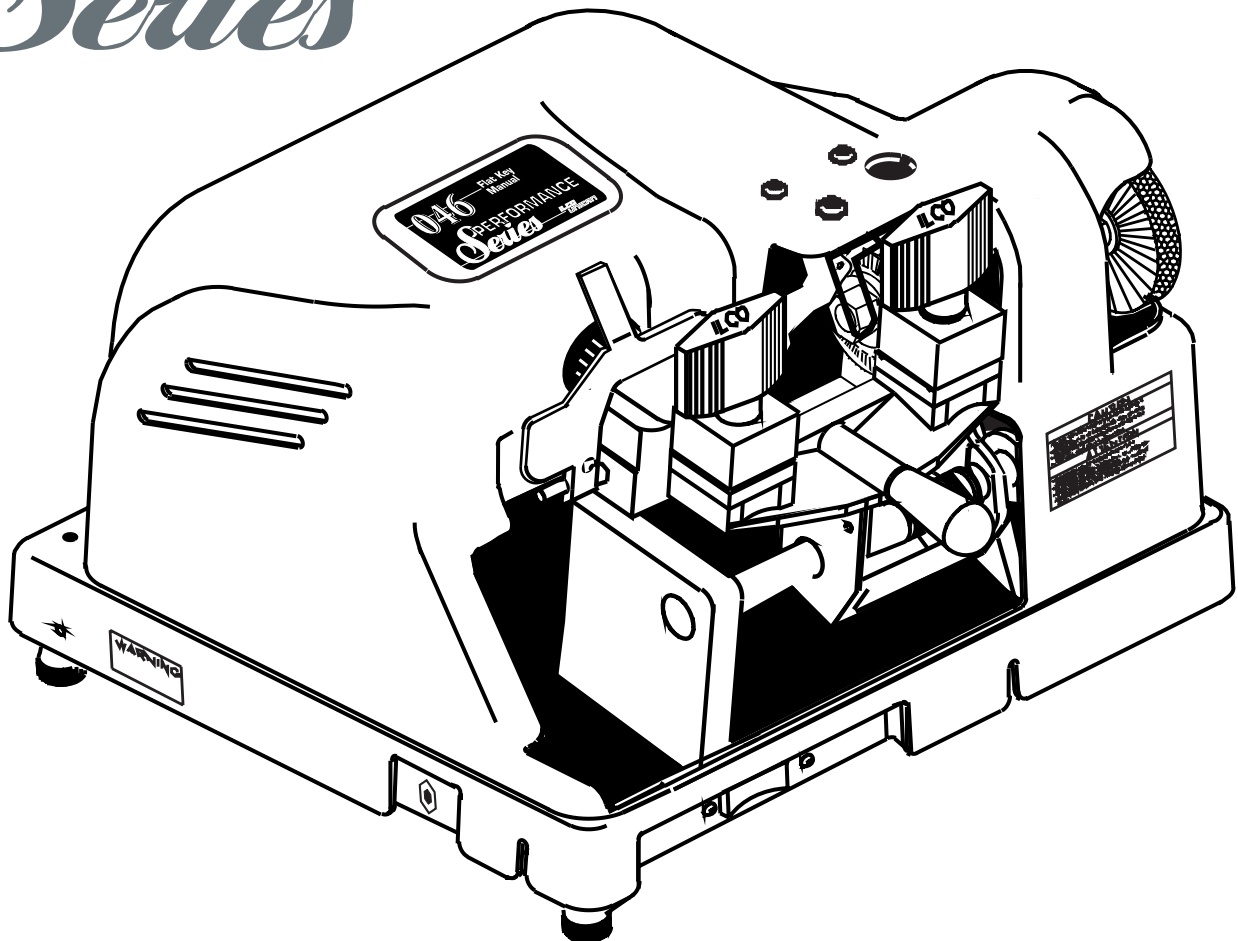
There is no adjustment for spacing. However, if a key gauge assembly is ever replaced, the key gauge must be fitted to the machine after it has been installed. To do this, first install a pattern key and key blank and align these against the cutter guide and cutter. Then lower the key gauge and file the appropriate prong of the gauge to allow contact with the shoulder of both keys.

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 046 Key Machine.
Ensure that all safety recommendations are followed!

See page 3 for instructions.

PERFORMANCE
Series



ILCO UNICAN

This manual applies specifically to the 046 Performance Series key machine. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 046 and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other ILCO UNICAN machines.

CONTENTS

Warranty	2
Safety information	3
Introduction / unpacking	4
Operating parts (illustrated).....	5
Operating parts identification (names and part numbers) ..	5
Exploded view	6
Exploded view parts list / unpacking / test keys	8
How to duplicate keys	9
The cutting operation / replacing the cutter	12
Adjustments	13

ONE YEAR LIMITED WARRANTY

ILCO UNICAN warrants to the original buyer of any new model 046 machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of ILCO UNICAN, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by ILCO UNICAN, provided that the machine is returned by prepaid transport to ILCO UNICAN or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). ILCO UNICAN may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

ILCO UNICAN sells precision-made machines. The buyer assumes all risks, and ILCO UNICAN shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with ILCO UNICAN printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by ILCO UNICAN on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases ILCO UNICAN from any liability for any reason other than a breach of its warranties hereunder.

The liability of ILCO UNICAN shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall ILCO UNICAN be liable for any personal injuries, property damage or consequential damages.

Use only genuine ILCO UNICAN replacement parts on this machine!

Serial number : _____

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (115 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact ILCO UNICAN at the address printed on the cover. (ILCO UNICAN also offers repair service for out-of-warranty machines. Contact ILCO UNICAN for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

INTRODUCTION / UNPACKING

Congratulations!

You've purchased a superior key cutting machine.

The Model 046 manual Performance Series key machine you've just purchased incorporates the latest improvements in design for key duplicating machines of its type.

This machine features exclusive four-way vise jaws designed to accommodate flat type keys (safe deposit, locker, etc.) without the need for adapters.

Even corrugated flat keys can be duplicated with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary.

Accurate, easy to operate and maintain, the model 046 delivers excellent performance at an economical price!

Unpacking instructions

Your 046 key machine has been shipped to you in a sturdy, specially cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free of all rustproofing

oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 13 "Adjusting for depth of cut").

Safety

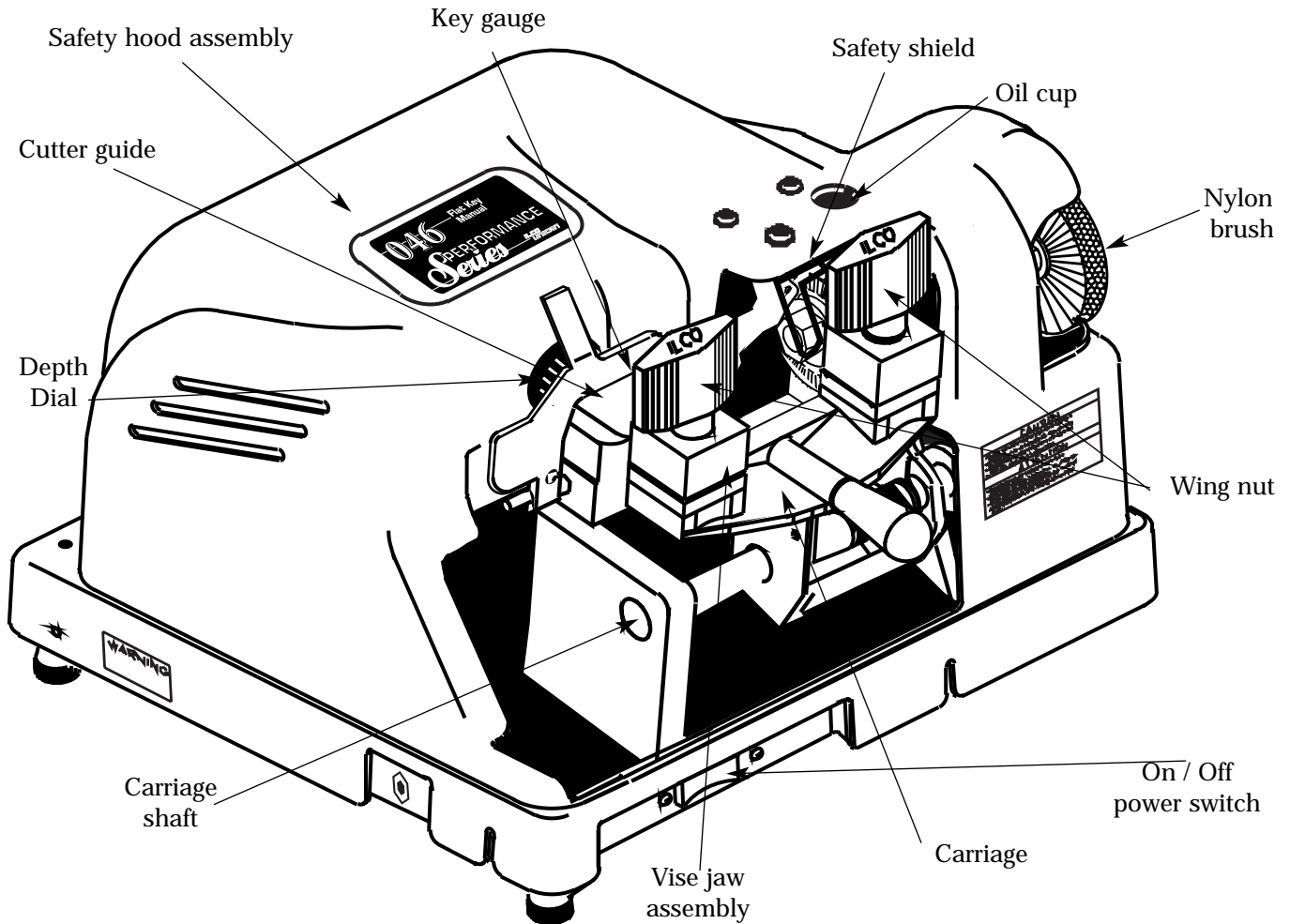
The 046 has been engineered to duplicate flat (safe deposit, etc.) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

ILCO UNICAN **strongly recommends** the use of protective eye glasses or goggles when operating this ma-

chine, or when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

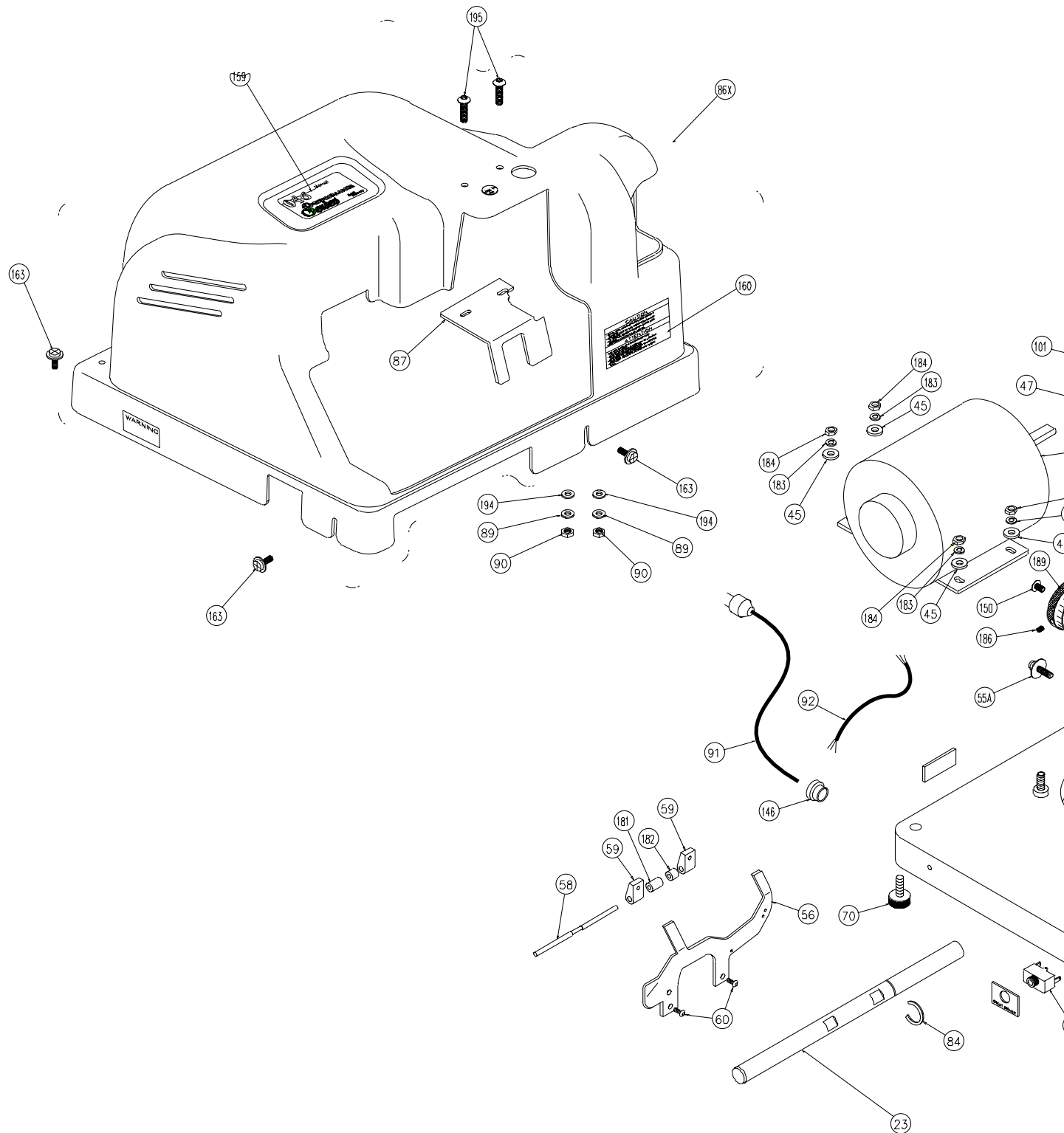
CAUTION!	DO NOT DESTROY OR DISCARD THIS SPECIAL SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	---



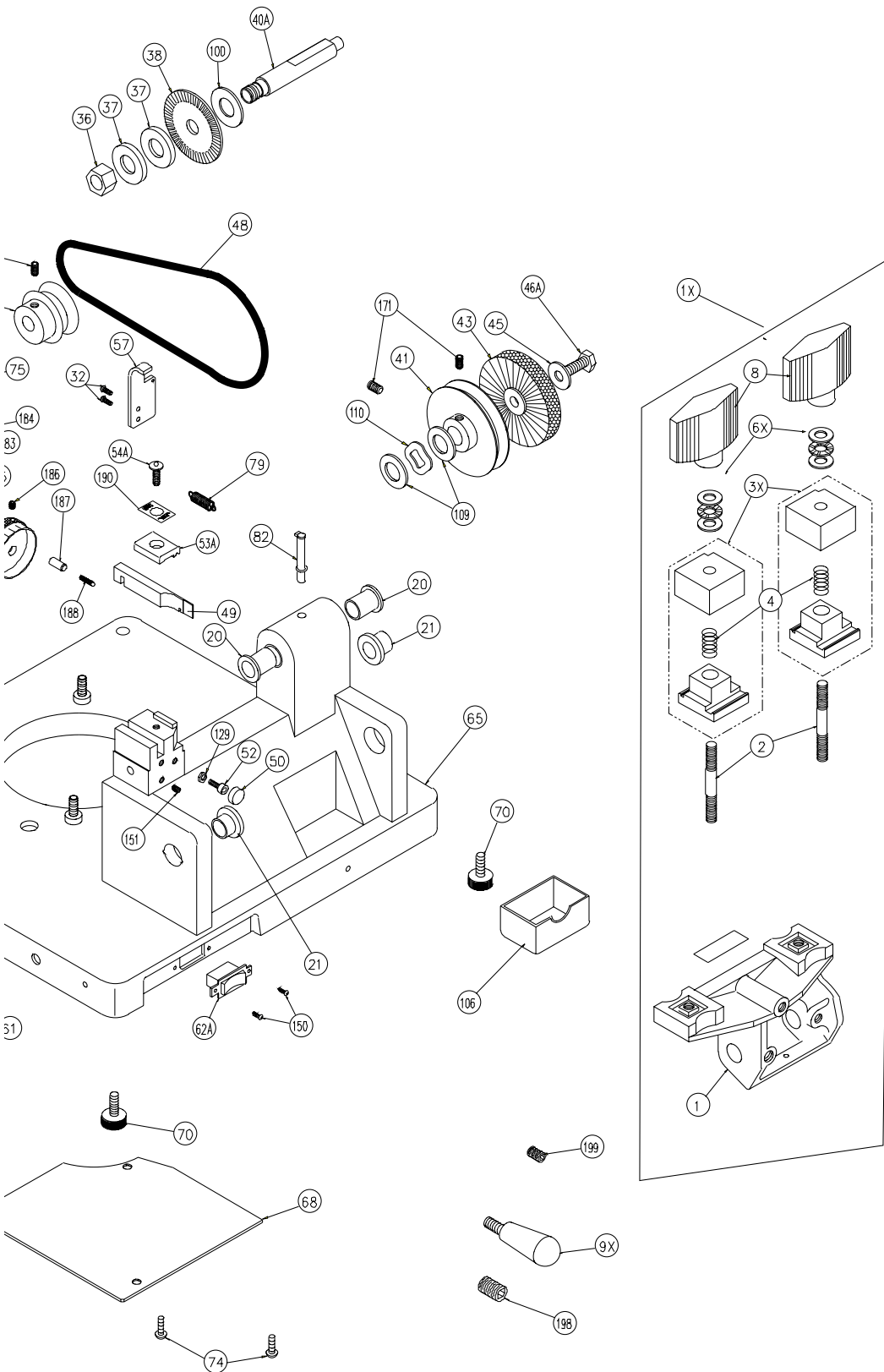
Operating parts identification

Part no.	Identification
024B-1	Carriage
025-3X	Vise jaw assembly
025-8	Wing nut
045-23	Carriage shaft
P-SMS45	P-SMS45 cutter
814-00-51	Nylon brush
046-49	Cutter guide (stylus)
045-55A	Adjusting screw
040-56	Key gauge
025-62A	On/Off switch
025-82	Oil cup
046-86X	Safety hood assembly
045-87	Safety shield

EXPLODED VIEW



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part no.	Description	Ref.	Part no.	Description
1	024B-1	Carriage	75	040-75	Motor, ¼hp, 115V
1X	024B-1X	Carriage assembly	79	024B-79	Key gauge spring
2	025-2	Carriage stud	82	025-82	Oil cup
3X	025-3X	Vise jaw assembly	84	024B-84	Clip
4	025-4	Vise jaw spring	86X	046-86X	Safety hood assembly
6X	025-6X	Thrust bearing set	87	045-87	Safety shield
8	025-8	Wing nut	89	046-89	#10 Lockwasher
9X	040-9X	Carriage handle	90	025-90	Nut, #10-32
20	025-20	Cutter shaft bushing	91	024B-91	Power cord
21	025-21	Carriage shaft bushing	92	024B-92	3 wire motor cable
23	045-23	Carriage shaft	101	025-101	Motor pulley set screw
32	024B-32	Button head. screw, 10-24 x ¾"	106	040-106	Chip tray
36	025-36	Cutter nut, N-4	109	025-109	Bearing washer
37	025-37	Cutter spacer	110	025-110	Wave washer
38	P-SMS45	P-SMS45 cutter	129	040-129	Locking nut (8-32)
40A	025-40A	Cutter shaft	146	040-146	Power cord strain relief
41	025-41	Cutter shaft pulley	150	040-150	Switch screw (6-32 x 1/4")
43	814-00-51	Nylon brush	151	040-151	Set screw (8-32 x 3/8")
45	024-45	Brush bolt washer, ⅝"	160	025-160	Caution label
46A	025-46A	Hex head screw, ⅝"-18 x ¾"	163	045-163	Hood Screw
47	025-47	Motor pulley 2" - 3L	171	025-171	Cutter pulley set screw, ⅝"-18
48	025-48	V-Belt, 3L-180	181	024B-181	Key Gauge Spacer - Left
49	046-49	Cutter guide (stylus)	182	024B-182	Key Gauge Spacer - Right
50	040-50	Carriage stop	183	040-183	1/4-20 Lockwasher
51	026-51	Cutter shaft thrust washer (thin)	184	040-184	1/4-20 Hex Nut
52	040-52	Socket hd. screw 8-32 x 1-1/2"	186	045-186	6-32 x 3/8" set screw
53	045-53A	Cutter guide binding washer	187	045-187	dowel
54	045-54	Cutter guide binding screw	188	045-188	dowel spring
55A	045-55A	Adjusting screw	189	045-189	Adjustment dial
56	040-56	Key gauge	190	045-190	Cutter guide label
57	024B-57	Key gauge bracket	194	045-194	#10 flat washer
58	024B-58	Key gauge dowel pin	195	045-195	10-32 x 1/2" Button hd. screw
59	025-59	Key gauge housing	198	045-198	7/16-14 x 3/4" set screw
60	025-60	Cap screw, 8-32 x ½"	199	045-199	1/2-20 x 1/2" set screw
61	025-61	Circuit Breaker, ETA 1658	IM	046-IM	Instruction manual
62A	025-62A	On/Off switch	NS	025-240	220V ¼HP motor
65	045-65	Machined base			
68	040-68	Electrical cover			
70	040-70	Rubber mount			
74	040-74	Truss head screw, 8-32			

Unpacking

The 046 key machine is shipped completely assembled except for the carriage handle. Upon unpacking the machine, locate the carriage handle and thread it into the carriage.

Test keys

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory dimensioned pattern keys and are accurate to .002" or less. You can conduct periodic testing of your machine's accuracy by duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

Proper key cutting techniques

Even though your 046 key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys, you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. **It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.**
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication of moving parts is important. An oil cup is provided to keep the cutter shaft bearings well lubricated. (5-7 drops of 3-in-1 or lightweight spindle oil in the oil cup is sufficient.) The carriage spindle should be lubricated with a thin film of oil and wiped free of chip build up. The lubrication procedures should be performed every 2-3 weeks depending on usage. The motor requires lubrication on an annual basis. See motor label for details.

HOW TO DUPLICATE KEYS

General key duplication procedures

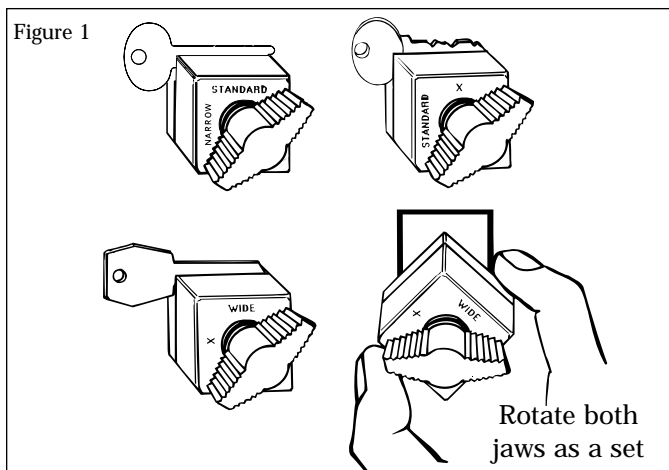
WARNING: Do not install or remove keys unless the off/on switch is in the OFF position! Always wear eye protection when operating this machine!

There are four procedures that the machine operator performs to insure proper duplication of a key:

1. Selection of the proper key blank. Compare the head, length, and key blank's cross section (width, angle, and location of grooves) with the key to be duplicated to assure that a proper match has been made.
2. Ensuring both four-way vise jaws have been placed in the proper position for the type of key to be duplicated. See "Using the four-way vise jaws" section of this manual.
3. Proper alignment of the pattern key and blank key within the vise jaws. See "Aligning keys in the vise jaws".
4. Actual duplication of the pattern key; which can be properly accomplished only after the previous steps are performed.

Using the four-way vise jaws

Your 046 is equipped with the ILCO UNICAN versatile Four-way, Super Jaw 2 vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical flat style key (see Fig. 1).



Using the four-way vise jaws (cont.)

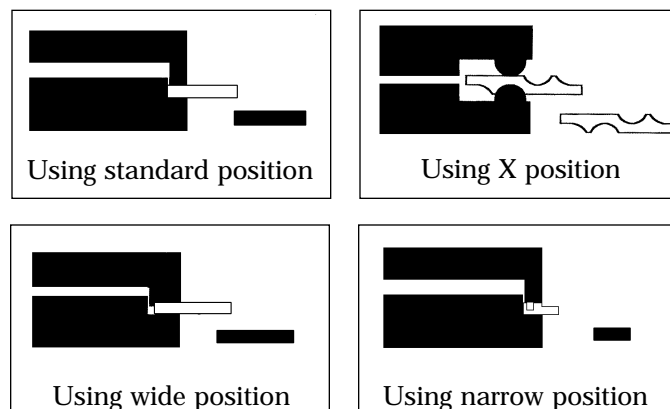
To obtain the best gripping action possible, it is necessary to assure that the proper vise jaw position is selected for each key you duplicate. The vise positions are explained below and proper usage shown in figure 2.

Standard - for holding most typical flat keys, including many common safe deposit, locker and corrugated pad-lock types.

Narrow - for holding narrow flat keys as well as those with very deep cuts.

Wide - for holding wide flat keys, typically those 1/2" or more in width.

X - sometimes quite useful for holding corrugated flat keys and those with milled grooves. Generally, if such keys cannot be securely gripped using another vise position this position may provide improved clamping performance.



To reposition the vise jaws, as from Standard to Wide, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position.

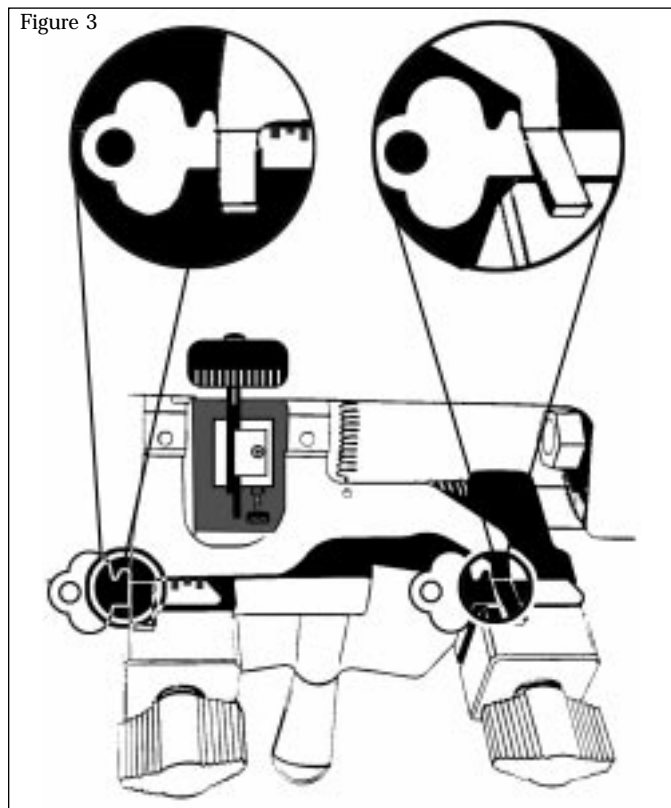
Aligning keys in the vise jaws Keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machine's carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is located approximately $\frac{1}{8}$ " to the left of the vise jaw's left edge. Holding the key blank firmly and level against the jaw, tighten the wing nut. Position the pattern key in the carriage's LEFT vise jaw in a similar manner only this time allowing a $\frac{1}{4}$ " gap between the shoulder of the key and the edge of the vise jaw.

Next lower the key gauge and position the carriage so that the left edge of the gauge's RIGHT prong contacts the edge of the key blank's shoulder (see Figure 3). Loosen the wing nut securing the pattern key and reposition the key so that its shoulder is in contact with the



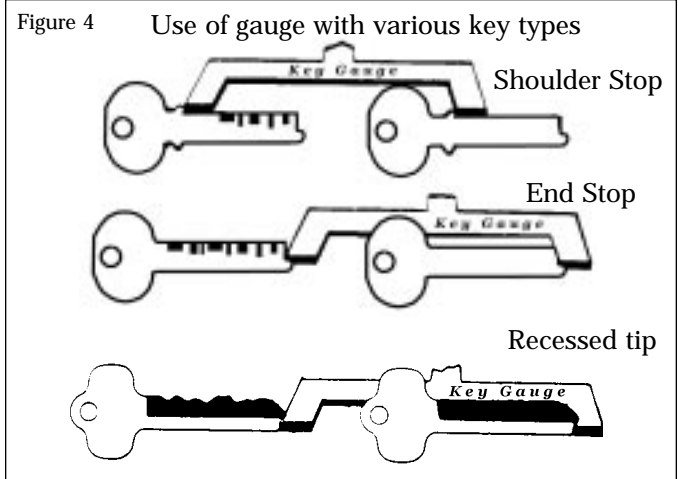
left edge of the LEFT prong of the key gauge.

Check to ensure that the pattern key and blank key's shoulders are snug against the key gauge and both keys are positioned level (not tilted) in the vise jaws. Retighten the wing nut.

Aligning keys in the vise jaws Keys without shoulders

Most flat keys do not have a conventional shoulder. With such keys, the aligning point is generally the vertical surface closest to the tip of the key (see Figure 4 - End Stop).

To align these keys, clamp the blank key in the RIGHT vise jaw and move the machine carriage to the left. Lower the key gauge and position the carriage so that the key gauge prong contacts the vertical surface indicated in Figure 4. Insert and align the pattern key in the left vise jaw in the same manner.



It is important that the key gauge prongs are in contact with both keys at the same time.

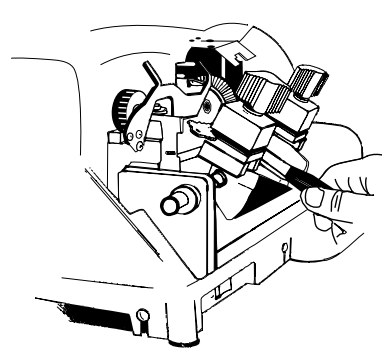
THE CUTTING OPERATION / REPLACING THE CUTTER

General Operating Sequence

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. Rotate both vise jaws to the station suitable for the key being duplicated.
2. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
3. Lower the key gauge to align the keys using an appropriate method as described under "Aligning Keys ..." found in the previous section (see page 10).
4. After the keys are aligned, return the gauge to its "up" position.
5. Press the off/on switch to the "on" position.
6. Lift the carriage with both hands (see Figure 5).
7. Move the carriage to line up the cutter guide with the shoulder of the pattern key, then shift slightly away from the shoulder. Do not permit the cutter to touch the shoulder of the key blank.
8. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make a corresponding cut in the key blank. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed during the initial pass over the key blank.
9. Press the off/on switch to the "off" position. Remove the blank key. Press the switch to the "on" position and remove any burrs that remain by contacting the key lightly against the deburring brush. Return the switch to the "off" position.
10. Operating Tips - When duplicating a key, avoid an irregular jerking motion in the movement of the carriage. Acquire a smooth steady motion, using both hands on the carriage to guide it. Apply the same degree of pressure each time a key is duplicated. Excessive pressure may cause "over-cutting". It is sometimes best to practice on a few keys until the operator learns to impart a steady, uniform pressure to the carriage.

Figure 5



Replacing the Cutter

The P-45SMS cutter used on this machine is 2¼" in diameter, .045" thick and has a ½" hole. It's a side milling slotter, made out of high speed steel. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

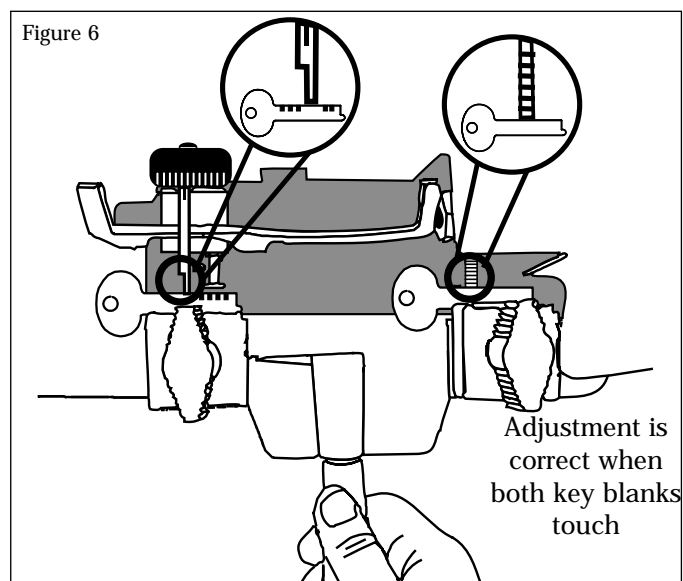
As with any metal cutting instrument, the P-45SMS will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrill sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter, use two wrenches, one ¾" wrench for the cutter nut and one ½" wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns downward to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers, and the nut.

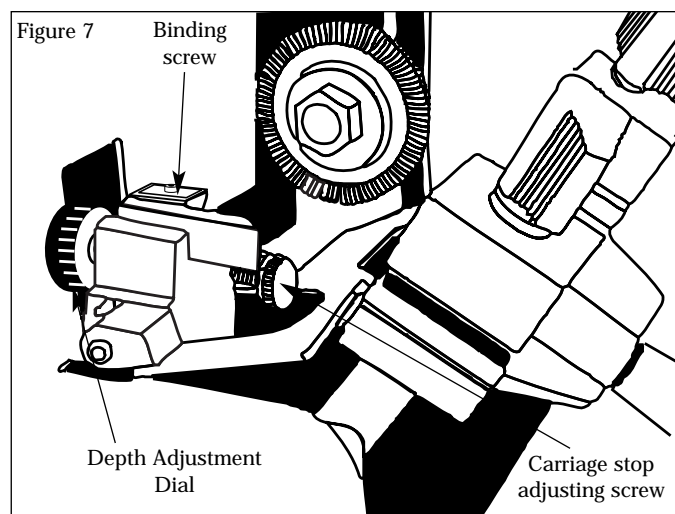
Adjusting for depth of cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 6).

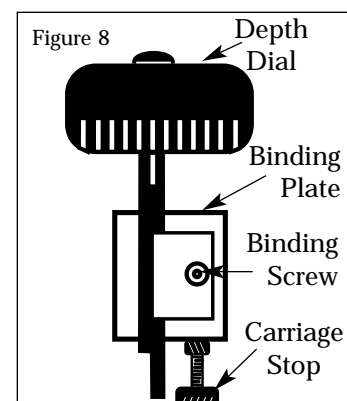


To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. (It is not necessary to align the blanks.) Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will



be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.



To adjust the cutter guide, loosen the binding screw on top of the cutter guide **slightly**. (see Fig. 7 & 8). Once you have loosened this screw, the depth adjustment dial can be rotated to the left (to decrease depth of cut) or to the right (to increase depth of cut). Again, proper adjustment will be achieved when the cutter

just **barely grazes** the key blank before it while the cutter guide is in contact with the other key blank. Retighten the binding screw once the calibration process is completed. Recheck after tightening to assure that adjustment did not shift.

Each calibration mark on the depth adjustment dial is equivalent to approx. .0015" (1 1/2 thousandths of an inch). As you can see, this system can allow for very precise adjustment of your new key machine. In fact, if you have a key micrometer or dial caliper available, you can adjust your machine with "factory accuracy". To do this, you would simply duplicate a key and measure cuts on both the "pattern key" and the duplicate key for comparison. This would show any deviation that existed and whether the duplicate cuts were too deep or too shallow and by how much. With this information, you can use the depth adjustment dial on your machine to calibrate your machine for best possible accuracy. This is very important as many locks are designed with close fit tolerances and the keys you duplicate are often themselves copies; functional but just barely so. The more accurate your key machine is adjusted, the closer your duplicates will match their originals, resulting in fewer non-functional miscuts!

It is very important to understand that adjusting your machine is not a "one time" procedure. As the cutter on your machine wears down, the machine must be adjusted to compensate. It is good shop practice to **check** your machines' depth adjustment every 2-4 weeks, based upon your store's key cutting volume and readjust as necessary. You will find that re-calibration is seldom needed, but by checking and correcting **BEFORE** customers begin returning miscut keys, you will create a reputation for your store as a "good place" to have keys duplicated.

ADJUSTMENTS

Adjusting for spacing

There is no adjustment for spacing. However, if a key gauge assembly is ever replace, the key gauge must be fitted to the machine after it has been installed. To do this, first install a pattern key and key blank and align these against the cutter guide and cutter. Then lower the key gauge and file the appropriate finger of the gauge to allow contact with the shoulder of both keys.

Adjust the Carriage Stop

The purpose of the carriage stop is to prevent the cutter from hitting into the right vise jaw. The stop is a nut and bolt and is adjustable. To check the adjustment, raise carriage (without keys in vise jaws) and rotate the cutter by hand. The cutter should not contact the vise jaw. When the carriage stop is properly adjusted, there should be a space of .008" between the vise jaw and the cutter (this is about the thickness of an ordinary business card). Do not allow a greater distance since this may affect the depth of cut.

Cleaning

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a single filing can alter the accuracy of the machine.

Lubrication Intervals

Lubricating of moving parts is important. An oil cup is provided to keep the cutter shaft bearings well lubricated (5-7 drops of 3-in-1 or lightweight spindle oil in the oil cup is sufficient.) The carriage spindle should be lubricated with a thin film of oil and wiped free of chip build up. The lubrication procedures should be performed every 2-3 weeks depending on usage. The motor requires lubrication on an annual basis. See motor label for details.



USA

ILCO UNICAN CORP.

400 Jeffreys Rd., Rocky Mount, NC 27802-2627

Tel.: (252) 446-3321 • (252) 446-4702

Canada and international

ILCO UNICAN INC.

7301 Decarie Blvd., Montreal, Quebec H4P 2G7

Tel.: (514) 735-5411 • (514) 735-4704

Export Fax: (514) 735-1393

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 045 Key Machine.

Ensure that all safety recommendations are followed!

See page 3 for instructions.

MANUEL D'UTILISATION

IMPORTANT : Veuillez lire ces instructions avant d'utiliser votre nouvelle machine à tailler les clés no 045. Assurez-vous de suivre toutes les recommandations de sécurité!

Reportez-vous à la page 16 pour consulter ces consignes.

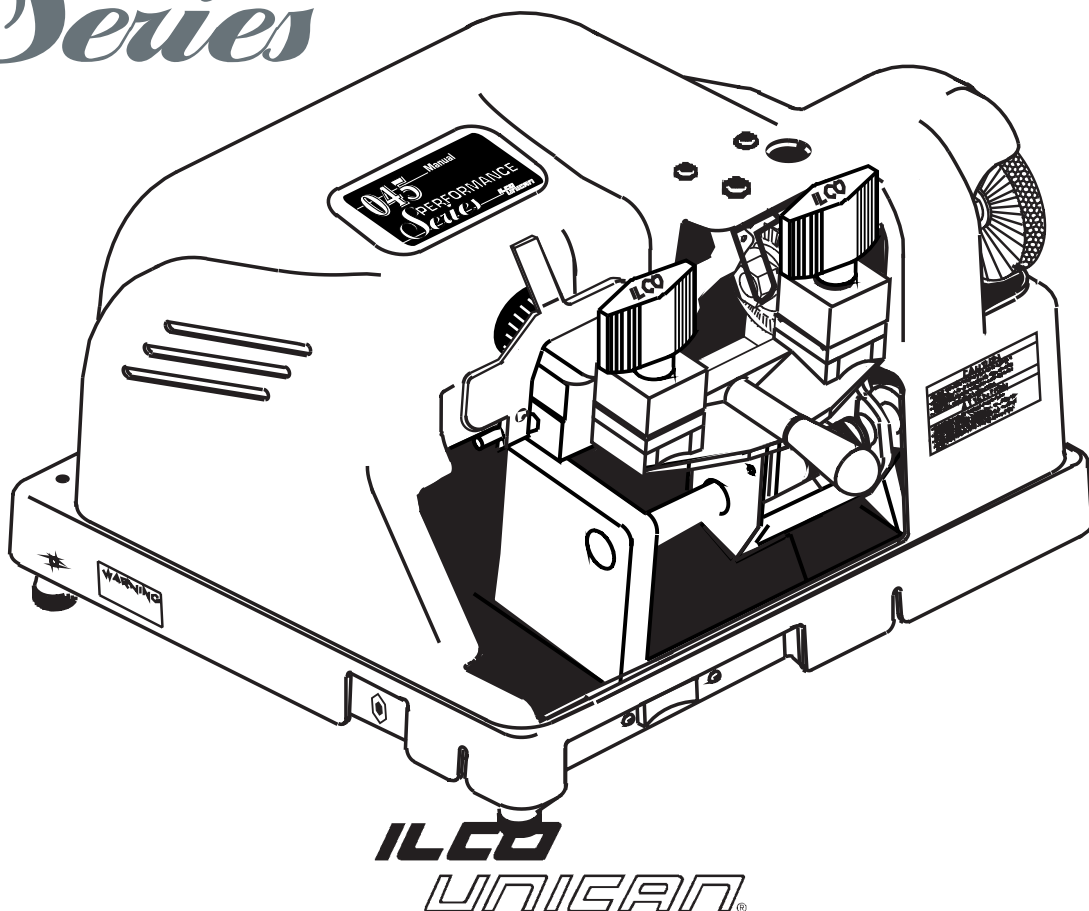
MANUAL DE INSTRUCCIONES

IMPORTANTE: Lea estas instrucciones antes de utilizar

su nueva máquina de tallar llaves del modelo nº 045.

Asegúrese de que se cumplen todas las consignas de seguridad (página 31).

PERFORMANCE
Series



This manual is applies specifically to the 045 Performance Series key machine. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. It's the only one of its kind. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 045 and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other ILCO UNICAN machines.

CONTENTS

Warranty	2
Safety information	3
Introduction / unpacking	4
Operating parts (illustrated).....	5
Operating parts identification (names and part numbers) ..	5
Exploded view	6
Exploded view parts list / unpacking / test keys	8
How to duplicate keys	9
The cutting operation / replacing the cutter	12
Adjustments	13

ONE YEAR LIMITED WARRANTY

ILCO UNICAN warrants to the original buyer of any new model 045 machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of ILCO UNICAN, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by ILCO UNICAN, provided that the machine is returned by prepaid transport to ILCO UNICAN or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). ILCO UNICAN may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

ILCO UNICAN sells precision-made machines. The buyer assumes all risks, and ILCO UNICAN shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with ILCO UNICAN printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by ILCO UNICAN on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases ILCO UNICAN from any liability for any reason other than a breach of its warranties hereunder.

The liability of ILCO UNICAN shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall ILCO UNICAN be liable for any personal injuries, property damage or consequential damages.

Use only genuine ILCO UNICAN replacement parts on this machine!

Serial number : _____

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (115 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact ILCO UNICAN at the address printed on the cover. (ILCO UNICAN also offers repair service for out-of-warranty machines. Contact ILCO UNICAN for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

INTRODUCTION / UNPACKING

Congratulations!

You've purchased a superior key cutting machine.

The Model 045 manual Performance Series key machine you've just purchased incorporates the latest improvements in design for key duplicating machines of its type.

This machine features exclusive four-way vise jaws designed to accommodate virtually any standard cylinder key without the need for adapters.

Even double-sided automotive keys can be duplicated with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary.

Accurate, easy to operate and maintain, the model 045 delivers excellent performance at an economical price!

Unpacking instructions

Your 045 key machine has been shipped to you in a sturdy, specially cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free of all rustproofing

oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 13 "Adjusting for depth of cut").

Safety

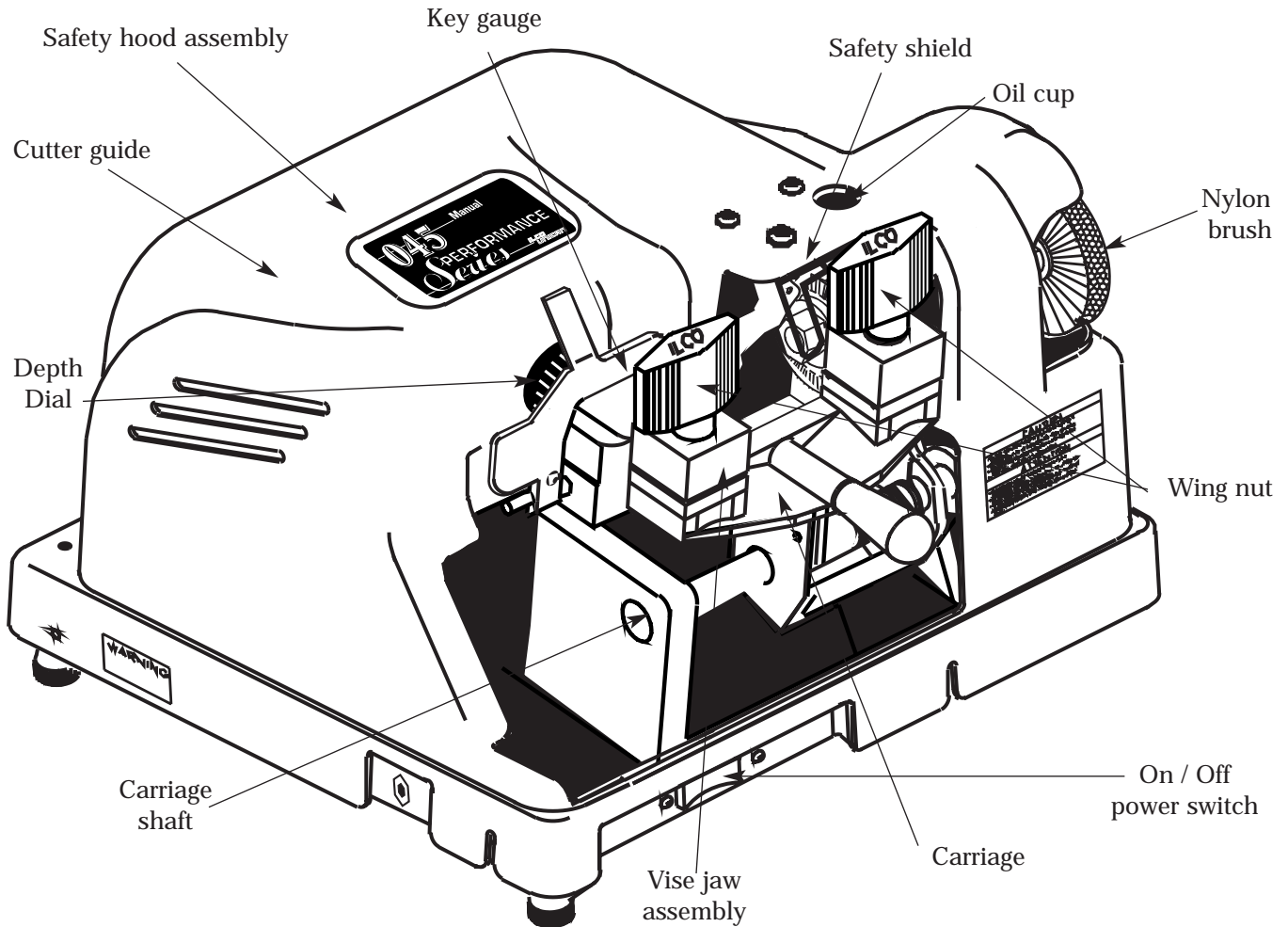
The 045 has been engineered to duplicate cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

ILCO UNICAN **strongly recommends** the use of protective eye glasses or goggles when operating this ma-

chine, or when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

CAUTION!	DO NOT DESTROY OR DISCARD THIS SPECIAL SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	---



Operating parts identification

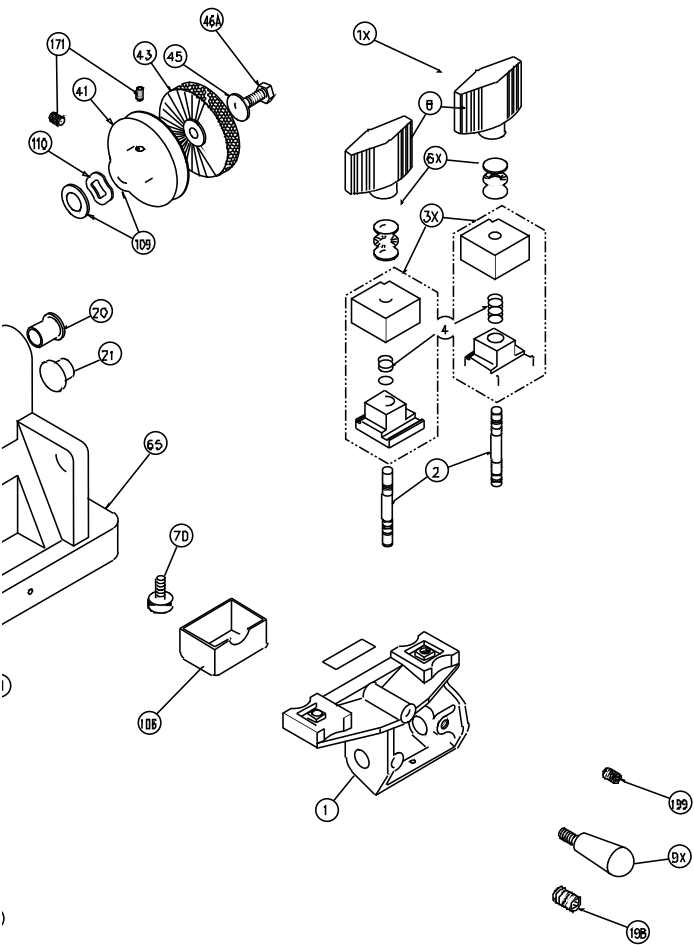
Part no.	Identification
024B-1	Carriage
025-3X	Vise jaw assembly
025-8	Wing nut
045-23	Carriage shaft
P-X23MC	P-X23MC cutter
814-00-51	Nylon brush
045-49	Cutter guide (stylus)
045-55A	Adjusting screw
040-56	Key gauge
025-62A	On/Off switch
025-82	Oil cup
045-86X	Safety hood assembly
045-87	Safety shield

EXPLODED VIEW



EXPLODED VIEW

2



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part no.	Description	Ref.	Part no.	Description
1	024B-1	Carriage	79	024B-79	Key gauge spring
1X	024B-1X	Carriage assembly	82	025-82	Oil cup
2	025-2	Carriage stud	84	024B-84	Clip
3X	025-3X	Vise jaw assembly	86X	045-86X	Safety hood assembly
4	025-4	Vise jaw spring	87	045-87	Safety shield
6X	025-6X	Thrust bearing set	89	045-89	#10 Lockwasher
8	025-8	Wing nut	90	025-90	Nut, #10-32
9X	040-9X	Carriage handle	91	024B-91	Power cord
20	025-20	Cutter shaft bushing	92	024B-92	3 wire motor cable
21	025-21	Carriage shaft bushing	101	025-101	Motor pulley set screw
23	045-23	Carriage shaft	106	040-106	Chip tray
32	024B-32	Button head. screw, 10-24 x 3/8"	109	025-109	Bearing washer
36	025-36	Cutter nut, N-4	110	025-110	Wave washer
37	025-37	Cutter spacer	129	040-129	Locking nut (8-32)
38	P-X23MC	P-X23MC cutter	146	040-146	Power cord strain relief
40A	025-40A	Cutter shaft	150	040-150	Switch screw (6-32 x 1/4")
41	025-41	Cutter shaft pulley	151	040-151	Set screw (8-32 x 3/8")
43	814-00-51	Nylon brush	160	025-160	Caution label
45	024-45	Brush bolt washer, 5/16"	163	045-163	Hood Screw
46A	025-46A	Hex head screw, 5/16-18 x 3/4"	171	025-171	Cutter pulley set screw, 3/8" -18
47	025-47	Motor pulley 2" - 3L	181	024B-181	Key Gauge Spacer - Left
48	025-48	V-Belt, 3L-180	182	024B-182	Key Gauge Spacer - Right
49	045-49	Cutter guide (stylus)	183	040-183	1/4-20 Lockwasher
50	040-50	Carriage stop	184	040-184	1/4-20 Hex Nut
52	040-52	Socket hd. screw 8-32 x 1-1/2"	186	045-186	6-32 x 3/8" set screw
53	045-53A	Cutter guide binding washer	187	045-187	dowel
54	045-54	Cutter guide binding screw	188	045-188	dowel spring
55A	045-55A	Adjusting screw	189	045-189	Adjustment dial
56	040-56	Key gauge	190	045-190	Cutter guide label
57	024B-57	Key gauge bracket	194	045-194	#10 flat washer
58	024B-58	Key gauge dowel pin	195	045-195	10-32 x 1/2" Button hd. screw
59	025-59	Key gauge housing	198	045-198	7/16-14 x 3/4" set screw
60	025-60	Cap screw, 8-32 x 1/2"	199	045-199	1/2-20 x 1/2" set screw
61	025-61	Circuit Breaker, ETA 1658	IM	045-IM	Instruction manual
62A	025-62A	On/Off switch	NS	025-240	220V 1/4 HP motor
65	045-65	Machined base			
68	040-68	Electrical cover			
70	040-70	Rubber mount			
74	040-74	Truss head screw, 8-32			
75	040-75	Motor, 1/4hp, 115V			

Unpacking

The 045 key machine is shipped completely assembled except for the carriage handle and the lever handle. Upon unpacking the machine, locate the carriage handle and thread it into the carriage.

Test keys

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory dimensioned pattern keys and are accurate to .002" or less. Save these keys and use them as standards to check the accuracy of cuts in the keys you make. Duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

Proper key cutting techniques

Even though your 045 key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys, you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. **It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.**
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication of moving parts is important. An oil cup is provided to keep the cutter shaft bearings well lubricated. (5-7 drops of 3-in-1 or lightweight spindle oil in the oil cup is sufficient.) The carriage spindle should be lubricated with a thin film of oil and wiped free of chip build up. The lubrication procedures should be performed every 2-3 weeks depending on usage. The motor requires lubrication on an annual basis. See motor label for details.

HOW TO DUPLICATE KEYS

General key duplication procedures

WARNING: Do not install or remove keys unless the off/on switch is in the OFF position! Always wear eye protection when operating this machine!

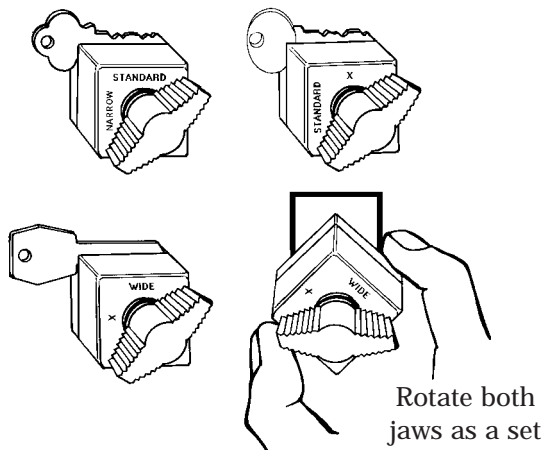
There are four procedures that the machine operator performs to insure proper duplication of a key:

1. Selection of the proper key blank. Compare the head, length, and key blank's cross section (width, angle, and location of grooves) with the key to be duplicated to assure that a proper match has been made.
2. Ensuring both four-way vise jaws have been placed in the proper position for the type of key to be duplicated. See "Using the four-way vise jaws" section of this manual.
3. Proper alignment of the pattern key and blank key within the vise jaws. See "Aligning keys in the vise jaws".
4. Actual duplication of the pattern key; which can be properly accomplished only after the previous steps are performed.

Using the four-way vise jaws

Your 045 is equipped with the ILCO UNICAN versatile Four-way, Super Jaw 2 vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical cylinder key (see Fig. 1).

Figure 1



Using the four-way vise jaws (cont.)

To obtain the best gripping action possible, it is necessary to assure that the proper vise jaw position is selected for each key you duplicate. The vise positions are explained below and proper usage shown in figure 2.

Standard - for holding regular cylinder keys, such as house keys, single sided automotive keys, padlock keys, with one or two shoulders.

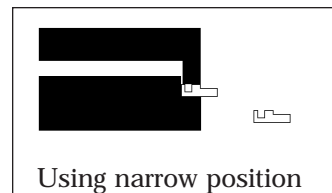
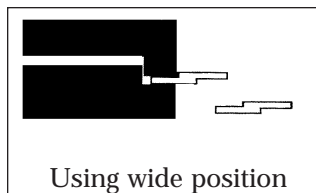
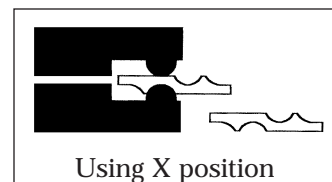
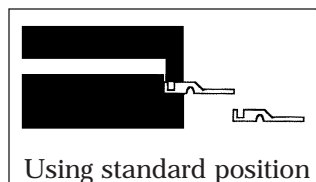
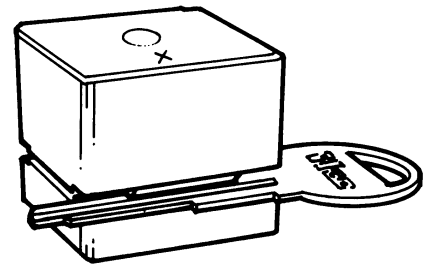
Narrow - for holding the 1092B and other narrow width keys.

Wide - for holding the Ford double-sided keys and similar types, either primary or secondary. When positioning the keys in the vise jaws, lay the key so that its center ledge is flat against the top surface of the jaw.

X - Ideal for holding most double-sided convenience keys used on most current automobiles. Grip these keys by the grooves rather than the blade edge where the cuts are located (see Fig. 2).

Figure 2

Super Jaw 2 vise jaw shown gripping a typical automotive key



To reposition the vise jaws, as from Standard to Wide, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position.

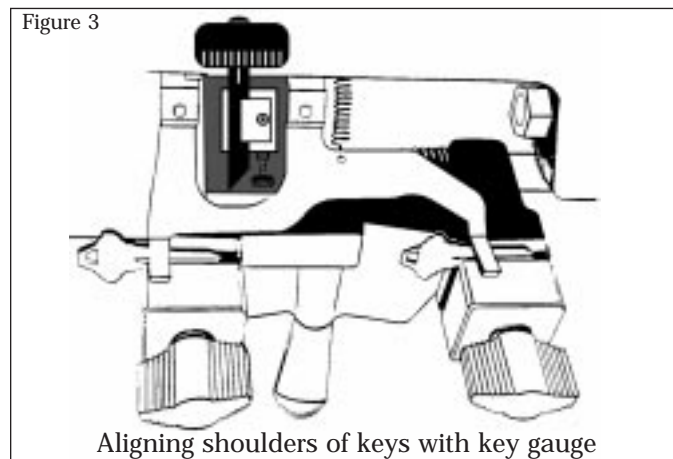
Aligning keys in the vise jaws Keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machine's carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is located approximately $\frac{1}{8}$ " to the left of the vise jaw's left edge. Holding the key blank firmly and level against the jaw, tighten the wing nut. Position the pattern key in the carriage's LEFT vise jaw in a similar manner only this time allowing a $\frac{1}{4}$ " gap between the shoulder of the key and the edge of the vise jaw.

Next lower the key gauge and position the carriage so that the left edge of the gauge's RIGHT prong contacts the edge of the key blank's shoulder (see Figure 3). Loosen the wing nut securing the pattern key and reposition the key so that its shoulder is in contact with the

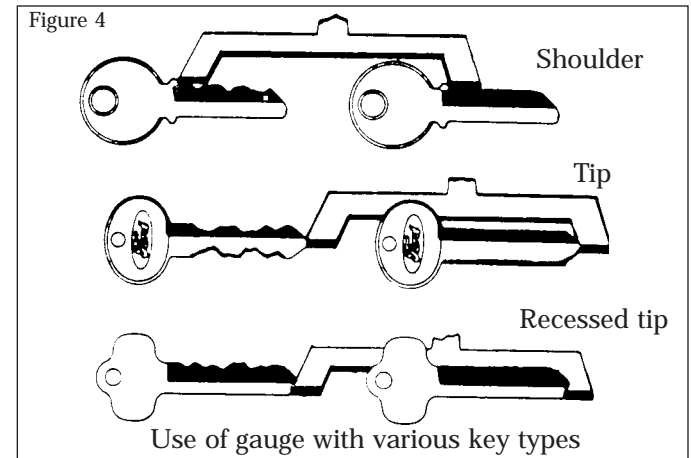


left edge of the LEFT prong of the key gauge.

Check to ensure that the pattern key and blank key's shoulders are snug against the key gauge and both keys are positioned level (not tilted) in the vise jaws. Retighten the wing nut.

Aligning keys in the vise jaws Keys without shoulders

On keys such as the Ford double-sided key, which do not have a conventional shoulder, the tip of the key is used as the aligning point (see Fig. 4). Clamp the blank key in first and move the machine carriage to the left. Lower the key gauge and position the carriage so the tip of the Ford key touches the key gauge. Install and align the pattern key in the left vise jaw in the same manner.



"Best" and "Falcon" type keys do not have a conventional shoulder but have a recessed tip and the key gauge is used to align the recessed tips. After clamping the blank key, the carriage is moved to the left so that the key gauge can be lowered to contact the recessed tip surface. The pattern key is aligned in the left vise jaw and positioned to contact the edge of the key gauge in the same manner.

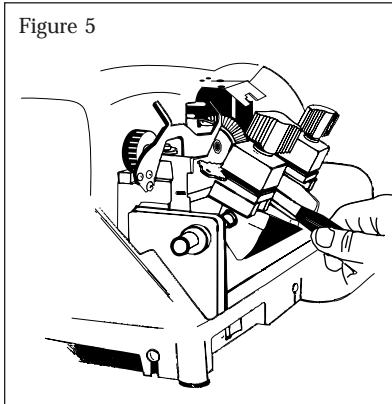
THE CUTTING OPERATION / REPLACING THE CUTTER

General Operating Sequence

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. Rotate both vise jaws to the station suitable for the key being duplicated.
2. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
3. Lower the key gauge to align the keys using an appropriate method as described under "Aligning Keys ..." found in the previous section (see page 10).
4. After the keys are aligned, return the gauge to its "up" position.
5. Press the off/on switch to the "on" position.
6. Lift the carriage with both hands (see Figure 5).
7. Move the carriage to line up the cutter guide with the shoulder of the pattern key, then shift slightly away from the shoulder. Do not permit the cutter to touch the shoulder of the key blank.
8. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make a corresponding cut in the key blank. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed during the initial pass over the key blank.
9. Press the off/on switch to the "off" position. Remove the blank key. Press the switch to the "on" position and remove any burrs that remain by contacting the key lightly against the deburring brush. Return the switch to the "off" position.
10. Operating Tips - When duplicating a key, avoid an irregular jerking motion in the movement of the carriage. Acquire a smooth steady motion, using both hands on the carriage to guide it. Apply the same degree of pressure each time a key is duplicated. Excessive pressure may cause "over-cutting". It is sometimes best to practice on a few keys until the operator learns to impart a steady, uniform pressure to the carriage.

Figure 5



Replacing the Cutter

The P-23XMC cutter used on this machine is $\frac{3}{4}$ " in diameter, .093" thick and has a $\frac{1}{2}$ " hole. It's a milling cutter, made out of high speed steel. It has a flat left side, which is excellent for making deep cuts, when these cuts are next to the shoulder, such as on GM, Chicago, etc. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

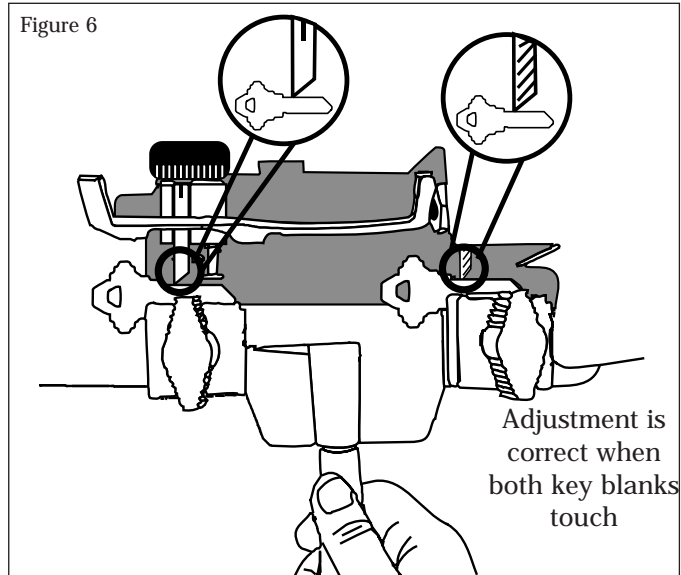
As with any metal cutting instrument, the P-23XMC will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrill sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter, use two wrenches, one $\frac{3}{4}$ " wrench for the cutter nut and one $\frac{1}{2}$ " wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns downward to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers, and the nut.

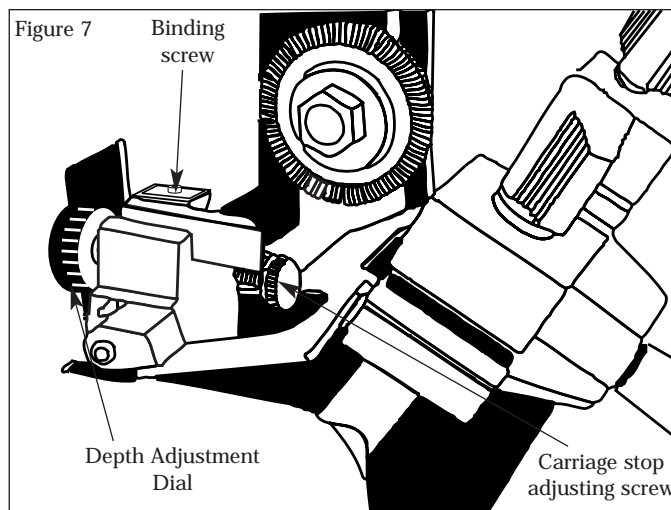
Adjusting for depth of cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 6).

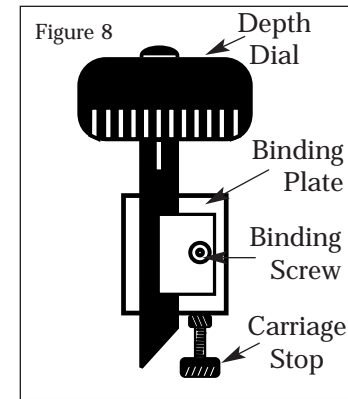


To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. (It is not necessary to align the blanks.) Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will



be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.



To adjust the cutter guide, loosen the binding screw on top of the cutter guide **slightly**. (see Fig. 7 & 8). Once you have loosened this screw, the depth adjustment dial can be rotated to the left (to decrease depth of cut) or to the right (to increase depth of cut). Again, proper adjustment will be achieved when the cutter

just **barely grazes** the key blank before it while the cutter guide is in contact with the other key blank. Retighten the binding screw once the calibration process is completed. Recheck after tightening to assure that adjustment did not shift.

Each calibration mark on the depth adjustment dial is equivalent to approx. .0015" (1 1/2 thousandths of an inch). As you can see, this system can allow for very precise adjustment of your new key machine. In fact, if you have a key micrometer or dial caliper available, you can adjust your machine with "factory accuracy". To do this, you would simply duplicate a key and measure cuts on both the "pattern key" and the duplicate key for comparison. This would show any deviation that existed and whether the duplicate cuts were too deep or too shallow and by how much. With this information, you can use the depth adjustment dial on your machine to calibrate your machine for best possible accuracy. This is very important as many locks are designed with close fit tolerances and the keys you duplicate are often themselves copies; functional but just barely so. The more accurate your key machine is adjusted, the closer your duplicates will match their originals, resulting in fewer non-functional miscuts!

It is very important to understand that adjusting your machine is not a "one time" procedure. As the cutter on your machine wears down, the machine must be adjusted to compensate. It is good shop practice to **check** you machines' depth adjustment every 2-4 weeks, based upon your store's key cutting volume and readjust as necessary. You will find that re-calibration is seldom needed, but by checking and correcting **BEFORE** customers begin returning miscut keys, you will create a reputation for your store as a "good place" to have keys duplicated.

ADJUSTMENTS

Adjusting for spacing

There is no adjustment for spacing. However, if a key gauge assembly is ever replace, the key gauge must be fitted to the machine after it has been installed. To do this, first install a pattern key and key blank and align these against the cutter guide and cutter. Then lower the key gauge and file the appropriate finger of the gauge to allow contact with the shoulder of both keys.

Adjust the Carriage Stop

The purpose of the carriage stop is to prevent the cutter from hitting into the right vise jaw. The stop is a nut and bolt and is adjustable. To check the adjustment, raise carriage (without keys in vise jaws) and rotate the cutter by hand. The cutter should not contact the vise jaw. When the carriage stop is properly adjusted, there should be a space of .008" between the vise jaw and the cutter (this is about the thickness of an ordinary business card). Do not allow a greater distance since this may affect the depth of cut.

Cleaning

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a single filing can alter the accuracy of the machine.

Lubrication Intervals

Lubricating of moving parts is important. An oil cup is provided to keep the cutter shaft bearings well lubricated (5-7 drops of 3-in-1 or lightweight spindle oil in the oil cup is sufficient.) The carriage spindle should be lubricated with a thin film of oil and wiped free of chip build up. The lubrication procedures should be performed every 2-3 weeks depending on usage. The motor required lubrication on an annual basis. See motor label for details.



USA

ILCO UNICAN CORP.

400 Jeffreys Rd., Rocky Mount, NC 27802-2627
Tel.: (252) 446-3321 • (252) 446-4702

Canada and international

ILCO UNICAN INC.

7301 Decarie Blvd., Montreal, Quebec H4P 2G7
Tel.: (514) 735-5411 • (514) 735-4704
Export Fax: (514) 735-1393

É.-U.

ILCO UNICAN CORP.

400 Jeffreys Rd., Rocky Mount, NC 27802-2627
Tél. : (252) 446-3321 • (252) 446-4702

Canada et international

ILCO UNICAN INC.

7301 Decarie Blvd., Montreal, Quebec H4P 2G7
Tél. : (514) 735-5411 • (514) 735-4704
Télééc. à l'exportation : (514) 735-1393

EE.UU.

ILCO UNICAN CORP.

400 Jeffreys Rd., Rocky Mount, NC 27802-2627
Tel.: (252) 446-3321 • (252) 446-4702

Canadá e internacional

ILCO UNICAN INC.

7301 Decarie Blvd., Montreal, Quebec H4P 2G7
Tel.: (514) 735-5411 • (514) 735-4704
Fax exportaciones: (514) 735-1393

045 HD

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 045 HD Key Machine.
Ensure that all safety recommendations are followed!

See page 3 for instructions.



PERFORMANCE
Series

This manual applies specifically to the 045 HD Performance Series key machine. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 045 HD and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other ILCO machines.

CONTENTS

Warranty	2
Safety information	3
Introduction / unpacking	4
Operating parts (illustrated).....	5
Operating parts identification (names and part numbers) ..	5
Exploded view	6
Exploded view parts list / unpacking / test keys	8
How to duplicate keys	9
The cutting operation / replacing the cutter	12
Adjustments	13

ONE YEAR LIMITED WARRANTY

KABA ILCO warrants to the original buyer of any new model 045 HD machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of KABA ILCO, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by KABA ILCO, provided that the machine is returned by prepaid transport to KABA ILCO or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). KABA ILCO may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

KABA ILCO sells precision-made machines. The buyer assumes all risks, and KABA ILCO shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with KABA ILCO printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by KABA ILCO on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases KABA ILCO from any liability for any reason other than a breach of its warranties hereunder.

The liability of KABA ILCO shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall KABA ILCO be liable for any personal injuries, property damage or consequential damages.

Use only genuine KABA ILCO replacement parts on this machine!

Serial number : _____

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (115 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact KABA ILCO at the address printed on the cover. (KABA ILCO also offers repair service for out-of-warranty machines. Contact KABA ILCO for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

INTRODUCTION / UNPACKING

Congratulations!

You've purchased a superior key cutting machine.

The Model 045 HD manual Performance Series key machine you've just purchased incorporates the latest improvements in design for key duplicating machines of its type.

This machine features exclusive four-way vise jaws designed to accommodate virtually any standard cylinder key without the need for adapters.

Even double-sided automotive keys can be duplicated with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary.

Accurate, easy to operate and maintain, the model 045 HD delivers excellent performance at an economical

Unpacking instructions

Your 045 HD key machine has been shipped to you in a sturdy, specially cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free of all rustproof-

ing oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 13 "Adjusting for depth of cut").

Safety

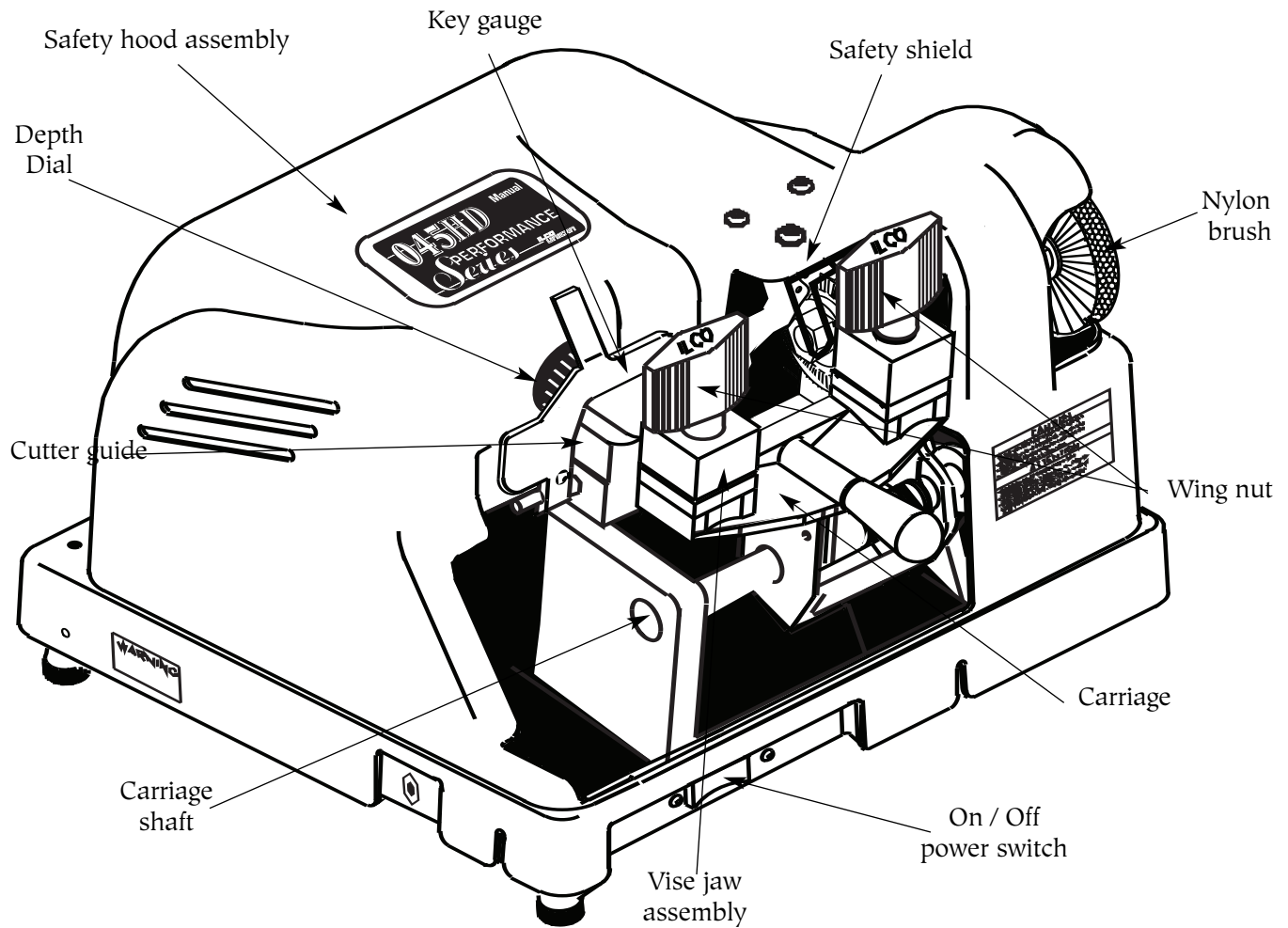
The 045 HD has been engineered to duplicate cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

KABA ILCO **strongly recommends** the use of protective eye glasses or goggles when operating this machine, or

when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

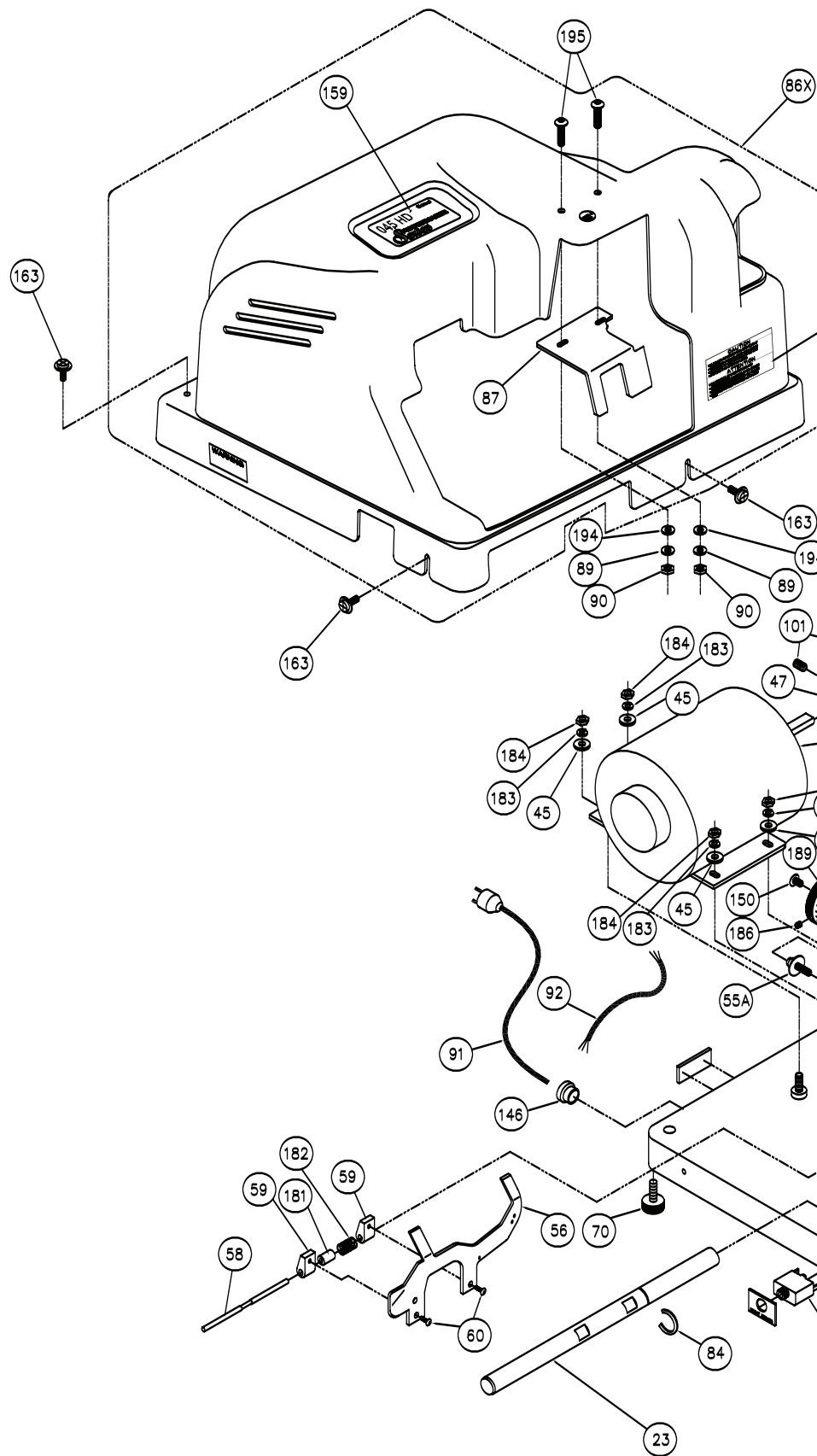
CAUTION!	DO NOT DESTROY OR DISCARD THIS SPECIAL SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	---



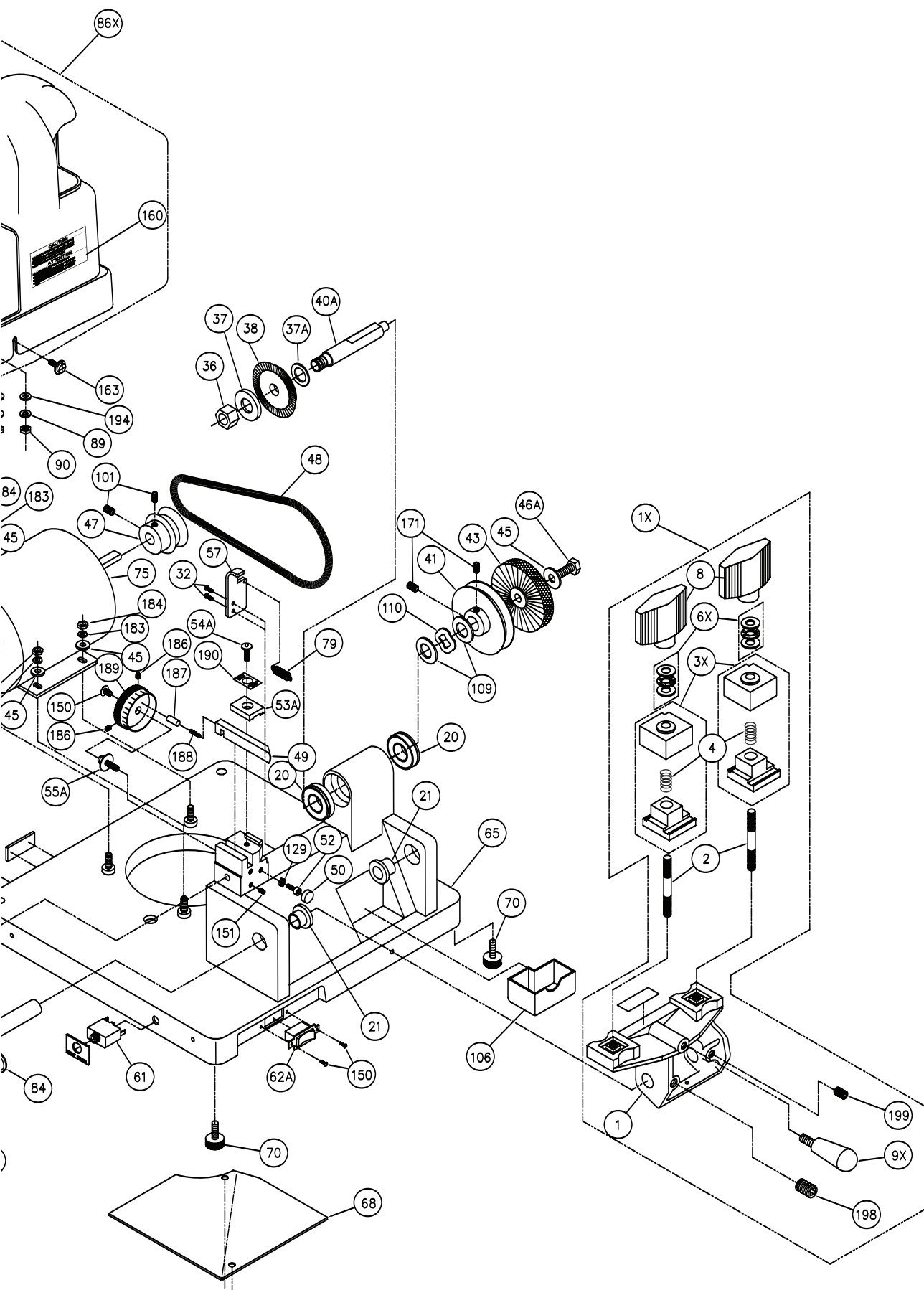
Operating parts identification

Part no.	Identification
024B-1	Carriage
025-3X	Vise jaw assembly
025-8	Wing nut
045-23	Carriage shaft
P-X23MC	P-X23MC cutter
814-00-51	Nylon brush
045-49	Cutter guide (stylus)
045-55A	Adjusting screw
040-56	Key gauge
025-62A	On/Off switch
045-86X	Safety hood assembly
045-87	Safety shield

EXPLODED VIEW



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part no.	Description	Ref.	Part no.	Description
1	045HD-1	Carriage	79	024B-79	Key gauge spring
1X	045HD-1X	Carriage assembly	84	024B-84	Clip
2	025-2	Carriage stud	86X	045HD-86X	Safety hood assembly
3X	045HD-3X	Vise jaw assembly (Super Jaw 3)	87	045HD-87	Safety shield
4	025-4	Vise jaw spring	89	045-89	#10 Lockwasher
6X	025-6X	Thrust bearing set	90	025-90	Nut, #10-32
8	025-8	Wing nut	91	024B-91	Power cord
9X	040-9X	Carriage handle	92	024B-92	3 wire motor cable
20	040HD-20	Cutter shaft bearings	100	040HD-100	Cutter spacer; right
21	025-21	Carriage shaft bushing	101	025-101	Motor pulley set screw
23	045HD-23	Carriage shaft	106	040-106	Chip tray
32	024B-32	Button head. screw, 10-24 x 3/8"	109	025-109	Bearing washer
36	025-36	Cutter nut, N-4	110	025-110	Wave washer
37	025-37	Cutter spacer; left	129	040-129	Locking nut (8-32)
38	P-X23MC	P-X23MC cutter	146	040-146	Power cord strain relief
40	040HD-40	Cutter shaft	150	040-150	Switch screw (6-32 x 1/4")
41	025-41	Cutter shaft pulley	151	040-151	Set screw (8-32 x 3/8")
43	814-00-51	Nylon brush	160	025-160	Caution label
45	024-45	Brush bolt washer, 5/16"	163	045-163	Hood Screw
46A	025-46A	Hex head screw, 5/16"-18 x 3/4"	171	025-171	Cutter pulley set screw, 3/8" -18
47	025-47	Motor pulley 2" - 3L	181	024B-181	Key Gauge Spacer - Left
48	025-48	V-Belt, 3L-180	182	024B-182	Key Gauge Spacer - Right
49	045-49	Cutter guide (stylus)	183	040-183	1/4-20 Lockwasher
50	040-50	Carriage stop	184	040-184	1/4-20 Hex Nut
52	040-52	Socket hd. screw 8-32 x 1-1/2"	186	045-186	6-32 x 3/8" set screw
53	045-53A	Cutter guide binding washer	187	045-187	dowel
54	045-54	Cutter guide binding screw	188	045-188	dowel spring
55A	045-55A	Adjusting screw	189	045-189	Adjustment dial
56	040-56	Key gauge	190	045-190	Cutter guide label
57	024B-57	Key gauge bracket	194	045-194	#10 flat washer
58	024B-58	Key gauge dowel pin	195	045-195	10-32 x 1/2" Button hd. screw
59	025-59	Key gauge housing	198	045-198	7/16-14 x 3/4" set screw
60	025-60	Cap screw, 8-32 x 1/2"	199	045-199	1/2-20 x 1/2" set screw
61	025-61	Circuit Breaker, ETA 1658	IM	045HD-IM	Instruction manual
62A	025-62A	On/Off switch	NS	025-240	220V 1/4HP motor
65	045HD-65	Machined base			
68	040-68	Electrical cover			
70	040-70	Rubber mount			
74	040-74	Truss head screw, 8-32			
75	040-75	Motor, 1/4hp, 115V			

Unpacking

The 045 HD key machine is shipped completely assembled except for the carriage handle. Upon unpacking the machine, locate the carriage handle and thread it into the carriage.

Test keys

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory dimensioned pattern keys and are accurate to .002" or less. Save these keys and use them as standards to check the accuracy of cuts in the keys you make. Duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

Proper key cutting techniques

Even though your 045 HD key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys, you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. **It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.**
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication requirements for your new "HD" Performance Series key machine are minimized through the use of sealed, permanently lubricated cutter spindle bearings. The carriage shaft however, should be inspected on a routine basis, and wiped with a dry, clean cloth to remove any chip buildup that occurs. After cleaning, application of a dry film lubricant is recommended for maximum service life; spray type lubricants that dry completely once applied are fine. Depending on usage, the machine's 1/4 hp motor may require lubrication once annually. Refer to the label on the motor for lubrication details and recommended interval.

HOW TO DUPLICATE KEYS

General key duplication procedures

WARNING: Do not install or remove keys unless the off/on switch is in the OFF position! Always wear eye protection when operating this machine!

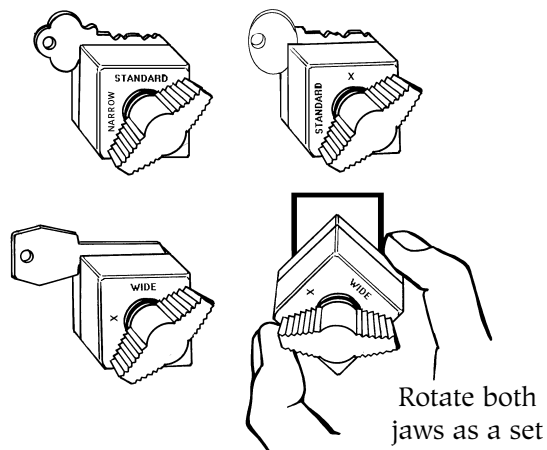
There are four procedures that the machine operator performs to insure proper duplication of a key:

1. Selection of the proper key blank. Compare the head, length, and key blank's cross section (width, angle, and location of grooves) with the key to be duplicated to assure that a proper match has been made.
2. Ensuring both four-way vise jaws have been placed in the proper position for the type of key to be duplicated. See "Using the four-way vise jaws" section of this manual.
3. Proper alignment of the pattern key and blank key within the vise jaws. See "Aligning keys in the vise jaws".
4. Actual duplication of the pattern key; which can be properly accomplished only after the previous steps are performed.

Using the four-way vise jaws

Your 045 HD is equipped with the KABA ILCO versatile Four-way, Super Jaw 3 vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical cylinder key (see Fig. 1).

Figure 1



Using the four-way vise jaws (cont.)

To obtain the best gripping action possible, it is necessary to assure that the proper vise jaw position is selected for each key you duplicate. The vise positions are explained below and proper usage shown in figure 2.

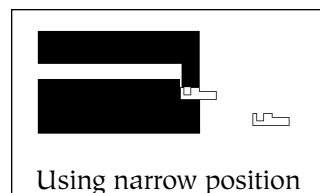
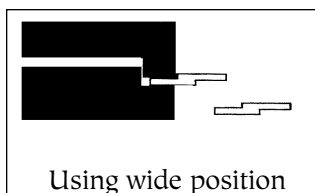
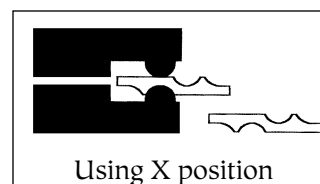
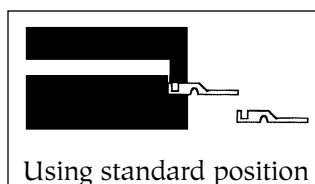
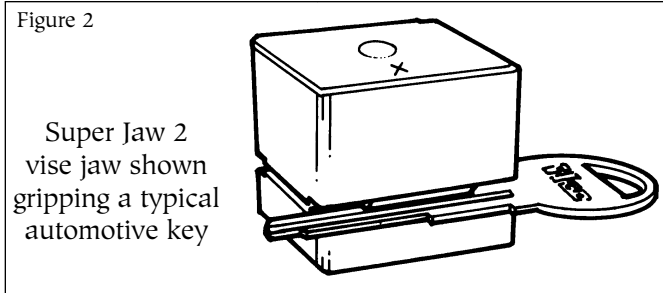
Standard - for holding regular cylinder keys, such as house keys, single sided automotive keys, padlock keys, with one or two shoulders.

Narrow - for holding the 1092B and other narrow width keys.

Wide - for holding the Ford double-sided keys and similar types, either primary or secondary. When positioning the keys in the vise jaws, lay the key so that its center ledge is flat against the top surface of the jaw.

X - Ideal for holding most double-sided convenience keys used on most current automobiles. Grip these keys by the grooves rather than the blade edge where the cuts are located (see Fig. 2).

Figure 2



To reposition the vise jaws, as from Standard to Wide, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position.

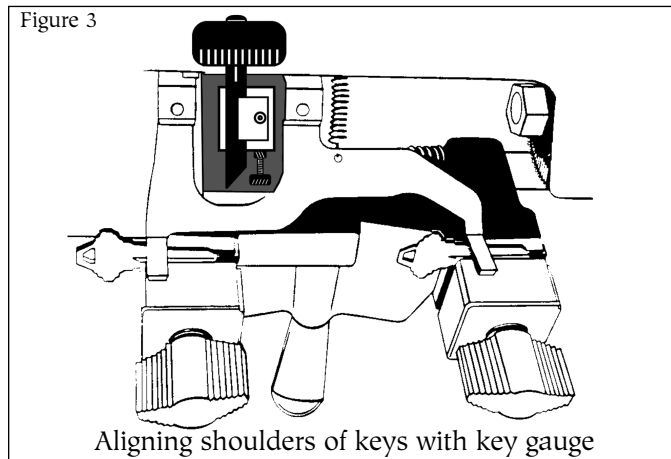
Aligning keys in the vise jaws Keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machine's carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is located approximately $\frac{1}{8}$ " to the left of the vise jaw's left edge. Holding the key blank firmly and level against the jaw, tighten the wing nut. Position the pattern key in the carriage's LEFT vise jaw in a similar manner only this time allowing a $\frac{1}{4}$ " gap between the shoulder of the key and the edge of the vise jaw.

Next lower the key gauge and position the carriage so that the left edge of the gauge's RIGHT prong contacts the edge of the key blank's shoulder (see Figure 3). Loosen the wing nut securing the pattern key and reposition the key so that its shoulder is in contact with the

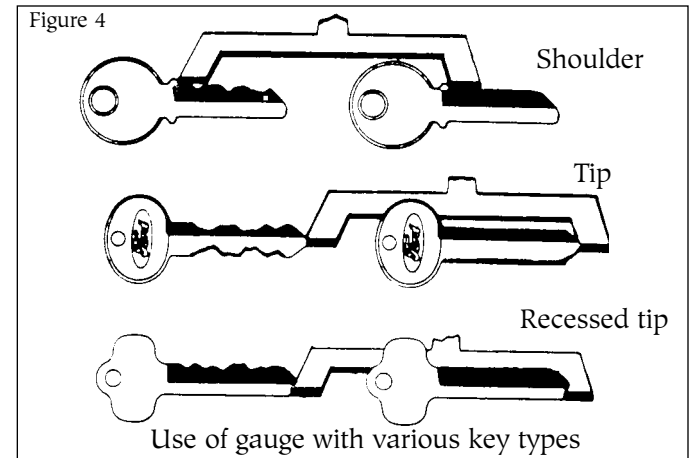


left edge of the LEFT prong of the key gauge.

Check to ensure that the pattern key and blank key's shoulders are snug against the key gauge and both keys are positioned level (not tilted) in the vise jaws. Retighten the wing nut.

Aligning keys in the vise jaws Keys without shoulders

On keys such as the Ford double-sided key, which do not have a conventional shoulder, the tip of the key is used as the aligning point (see Fig. 4). Clamp the blank key in first and move the machine carriage to the left. Lower the key gauge and position the carriage so the tip of the Ford key touches the key gauge. Install and align the pattern key in the left vise jaw in the same manner.



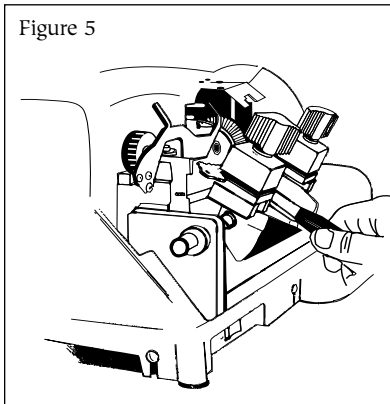
"Best" and "Falcon" type keys do not have a conventional shoulder but have a recessed tip and the key gauge is used to align the recessed tips. After clamping the blank key, the carriage is moved to the left so that the key gauge can be lowered to contact the recessed tip surface. The pattern key is aligned in the left vise jaw and positioned to contact the edge of the key gauge in the same manner.

THE CUTTING OPERATION / REPLACING THE CUTTER

General Operating Sequence

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. Rotate both vise jaws to the station suitable for the key being duplicated.
2. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
3. Lower the key gauge to align the keys using an appropriate method as described under "Aligning Keys ..." found in the previous section (see page 10).
4. After the keys are aligned, return the gauge to its "up" position.
5. Press the off/on switch to the "on" position.
6. Lift the carriage with both hands (see Figure 5).
7. Move the carriage to line up the cutter guide with the shoulder of the pattern key, then shift slightly away from the shoulder. Do not permit the cutter to touch the shoulder of the key blank.
8. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make a corresponding cut in the key blank. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed during the initial pass over the key blank.
9. Press the off/on switch to the "off" position. Remove the blank key. Press the switch to the "on" position and remove any burrs that remain by contacting the key lightly against the deburring brush. Return the switch to the "off" position.
10. Operating Tips - When duplicating a key, avoid an irregular jerking motion in the movement of the carriage. Acquire a smooth steady motion, using both hands on the carriage to guide it. Apply the same degree of pressure each time a key is duplicated. Excessive pressure may cause "over-cutting". It is sometimes best to practice on a few keys until the operator learns to impart a steady, uniform pressure to the carriage.



Replacing the Cutter

The P-23XMC cutter used on this machine is $\frac{3}{4}$ " in diameter, .093" thick and has a $\frac{1}{2}$ " hole. It's a milling cutter, made out of high speed steel. It has a flat left side, which is excellent for making deep cuts, when these cuts are next to the shoulder, such as on GM, Chicago, etc. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

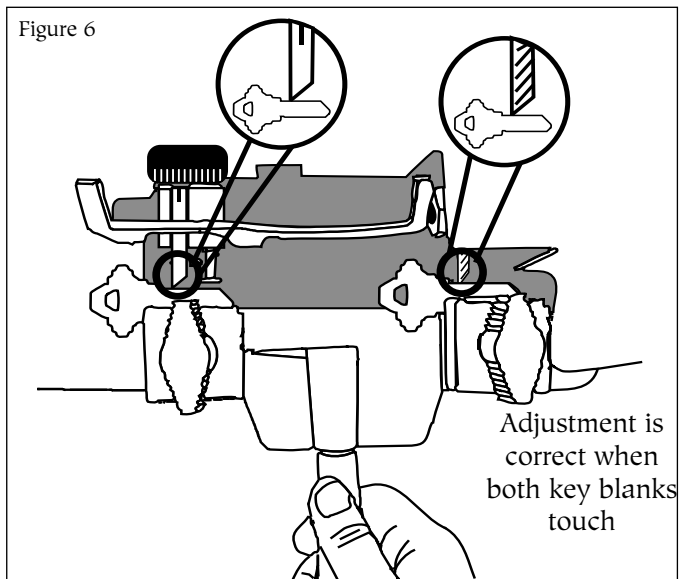
As with any metal cutting instrument, the P-23XMC will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrill sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter, use two wrenches, one $\frac{3}{4}$ " wrench for the cutter nut and one $\frac{1}{2}$ " wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns downward to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers, and the nut.

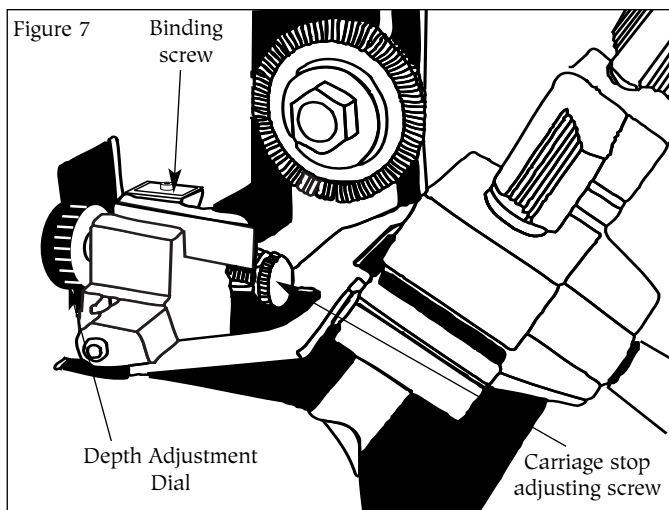
Adjusting for depth of cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 6).

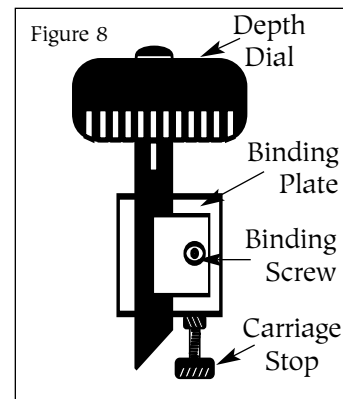


To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. (It is not necessary to align the blanks.) Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will



be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.



To adjust the cutter guide, loosen the binding screw on top of the cutter guide **slightly**. (see Fig. 7 & 8). Once you have loosened this screw, the depth adjustment dial can be rotated to the left (to decrease depth of cut) or to the right (to increase depth of cut). Again, proper adjustment will be achieved when the cutter

just **barely grazes** the key blank before it while the cutter guide is in contact with the other key blank. Retighten the binding screw once the calibration process is completed. Recheck after tightening to assure that adjustment did not shift.

Each calibration mark on the depth adjustment dial is equivalent to approx. .0015" (1 1/2 thousandths of an inch). As you can see, this system can allow for very precise adjustment of your new key machine. In fact, if you have a key micrometer or dial caliper available, you can adjust your machine with "factory accuracy". To do this, you would simply duplicate a key and measure cuts on both the "pattern key" and the duplicate key for comparison. This would show any deviation that existed and whether the duplicate cuts were too deep or too shallow and by how much. With this information, you can use the depth adjustment dial on your machine to calibrate your machine for best possible accuracy. This is very important as many locks are designed with close fit tolerances and the keys you duplicate are often themselves copies; functional but just barely so. The more accurate your key machine is adjusted, the closer your duplicates will match their originals, resulting in fewer non-functional miscuts!

It is very important to understand that adjusting your machine is not a "one time" procedure. As the cutter on your machine wears down, the machine must be adjusted to compensate. It is good shop practice to **check** your machines' depth adjustment every 2-4 weeks, based upon your store's key cutting volume and readjust as necessary. You will find that re-calibration is seldom needed, but by checking and correcting **BEFORE** customers begin returning miscut keys, you will create a reputation for your store as a "good place" to have keys duplicated.

ADJUSTMENTS

Adjusting for spacing

There is no adjustment for spacing. However, if a key gauge assembly is ever replaced, the key gauge must be fitted to the machine after it has been installed. To do this, first install a pattern key and key blank and align these against the cutter guide and cutter. Then lower the key gauge and file the appropriate finger of the gauge to allow contact with the shoulder of both keys.

Adjust the Carriage Stop

The purpose of the carriage stop is to prevent the cutter from hitting into the right vise jaw. The stop is a nut and bolt and is adjustable. To check the adjustment, raise carriage (without keys in vise jaws) and rotate the cutter by hand. The cutter should not contact the vise jaw. When the carriage stop is properly adjusted, there should be a space of .008" between the vise jaw and the cutter (this is about the thickness of an ordinary business card). Do not allow a greater distance since this may affect the depth of cut.

Cleaning

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a single filing can alter the accuracy of the machine.



A Member of the Kaba Group

Kaba Ilco Corp.

P O Box 2627 (27802)

400 Jeffreys Rd., Rocky Mount, NC 27804

Tel.: (252) 446-3321 • Fax: (252) 446-4702

www.kaba-ilco.com

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 040 HD Key Machine.

Ensure that all safety recommendations are followed!

See page 3 for instructions.



PERFORMANCE
Series

This manual applies specifically to the 040 HD Performance Series key machine. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 040 HD and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other KABA ILCO machines.

CONTENTS

Warranty	2
Safety Information	3
Introduction to the 040	4
Operating Parts (illustrated)	5
Exploded View	6-7
Exploded View Parts List	8
How to Duplicate Keys.....	9-10
The Cutting Operation	11-12
Replacements and Adjustments	13 -14

ONE YEAR LIMITED WARRANTY

KABA ILCO warrants to the original buyer of any new model 040 HD machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of KABA ILCO, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by KABA ILCO, provided that the machine is returned by prepaid transport to KABA ILCO or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). KABA ILCO may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

KABA ILCO sells precision-made machines. The buyer assumes all risks, and KABA ILCO shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with KABA ILCO printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by KABA ILCO on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases KABA ILCO from any liability for any reason other than a breach of its warranties hereunder.

The liability of KABA ILCO shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall KABA ILCO be liable for any personal injuries, property damage or consequential damages.

Use only genuine KABA ILCO replacement parts on this machine!

Serial number : _____

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (115 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact KABA ILCO at the address printed on the cover. (KABA ILCO also offers repair service for out-of-warranty machines. Contact KABA ILCO for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

INTRODUCTION / UNPACKING

Congratulations! **You've purchased a superior key cutting machine.**

The Model 040 HD Auto/Manual Performance Series key machine you've just purchased is a dual function: 1) it will duplicate keys automatically at the press of a button and 2) it will duplicate keys manually. This dual capability gives you the freedom to select the type of action best suited for the key being duplicated.

The 040 HD is a proven approach to a long time problem in the retail store - how to handle a customer's needs while having to cut keys at the same time. With the 040 HD, the operator can depress a button and walk away, returning later to get the finished key. It will turn waiting time into product time, permitting your people to wait on customers more quickly and to ring up that cash register more frequently.

For those occasions when manual cutting of a key is required, such as a worn or broken key, you can use the 040 HD by operating it as a conventional manual duplicator. There are no complicated or involved procedures to follow for either the manual or the automatic mode.

Featuring exclusive Super Jaw 3 four-way vise jaws, the model 040 HD is designed to accommodate virtually any standard cylinder key without the need for adapters. Even double-sided automotive keys can be duplicated with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary. (See illustration on page 11)

UNPACKING INSTRUCTIONS

Your 040 HD key machine has been shipped to you in a sturdy, specially cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free of all rustproof-

ing oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 13 "Adjusting for Depth of Cut").

SAFETY

The 040 HD has been engineered to duplicate cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

KABA ILCO **strongly recommends** the use of protective eye glasses or goggles when operating this machine, or

when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

CAUTION!	DO NOT DESTROY OR DISCARD THIS SPECIAL SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	---

REPLACEMENTS AND ADJUSTMENTS

REPLACING THE CUTTER

The P-CU20 cutter used on this machine is 2 1/4" in diameter, .250" thick (1/4") and has a 1/2" hole. It's a milling cutter, made out of high speed steel. It has a flat left side, which is excellent for making deep cuts, when these cuts are next to the shoulder, such as on GM, Chicago, etc. No warranty is place on the cutter. Operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bank into the cutter, and do no apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

As with any metal cutting instrument, the P-CU20 will dull with usage. There are three ways to tell when a cutter is dull and required replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrill sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter, use two wrenches, one 3/4" wrench for the cutter nut and one 1/2" wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns "downward" to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers and the nut in the order they were removed.

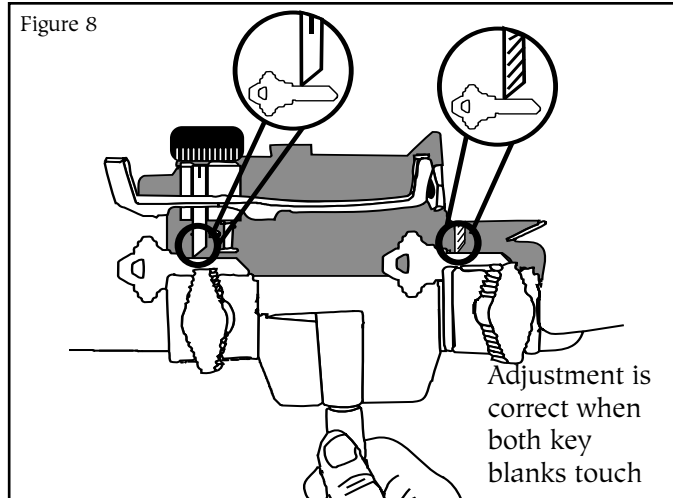
ADJUSTING FOR DEPTH OF CUT

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 8).

To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. (It is not necessary to align the blanks.) Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation

Figure 8



of the cutter before changing adjustment. There will be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.

To adjust the cutter guide, loosen the binding screw on

top of the cutter guide **slightly**. (see Fig. 9 & 10). Once you have loosened this screw, the depth adjustment dial can be rotated to the left (to decrease depth of cut) or to the right (to increase depth of cut). Again, proper adjustment will be achieved when the cutter just **barely grazes** the key blank before it while the cutter guide is in contact with the other key blank. Retighten the binding screw once the calibration process is completed. Recheck after tightening to assure that adjustment did not shift.

Figure 9

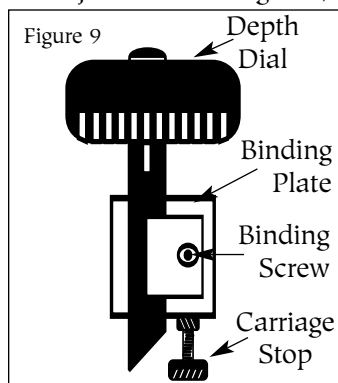
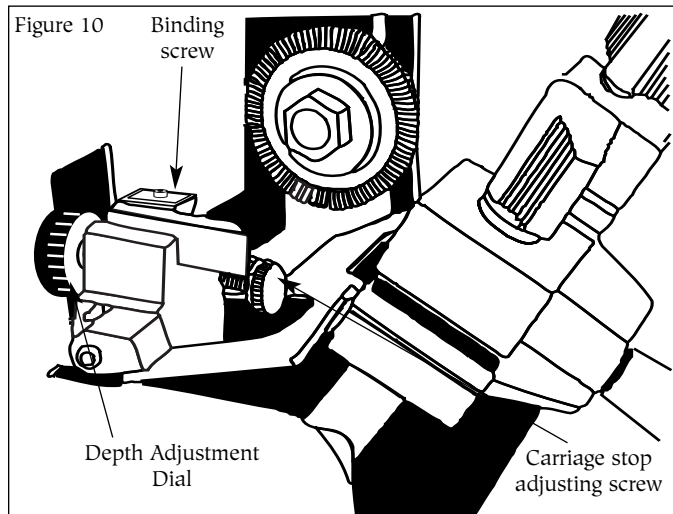


Figure 10



THE CUTTING OPERATION

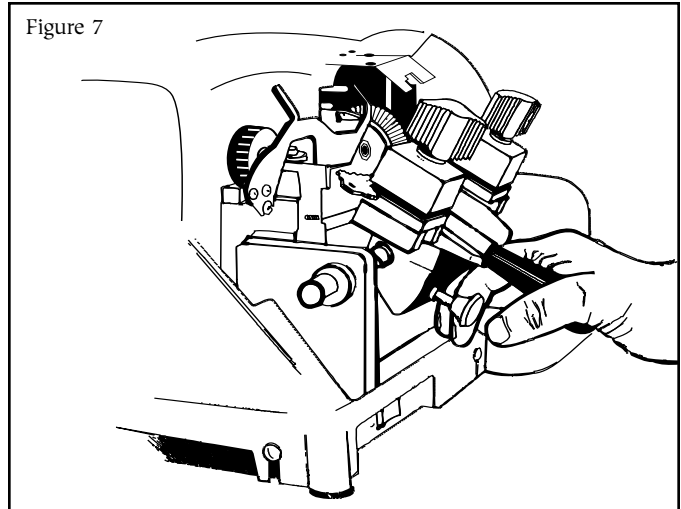
9. Move the carriage to line up the cutter guide with the shoulder of the pattern key, then shift slightly away from the shoulder. Do not permit the cutter to touch the shoulder of the key blank.
10. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make corresponding cuts in the key blank.
11. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed on the initial pass over the key blank.

DUPLICATING PROCEDURE - Automatic Mode

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. Install the pattern key and key blank in the vise jaws as described in steps 1-6 of "Manual Mode".
2. Slide the carriage all the way to the right.
3. Press the off/on power switch to its "on" position.
4. Pull down on the carriage handle while pulling out on the carriage trigger (Fig. 7). This will enable the carriage tension spring to lift the carriage into cutting position. (EASE the carriage into cutting position. DO NOT allow it so "slam" forward.) Once eased into position, remove your hand from the carriage handle; the

Figure 7

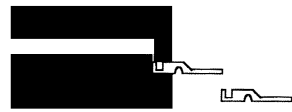
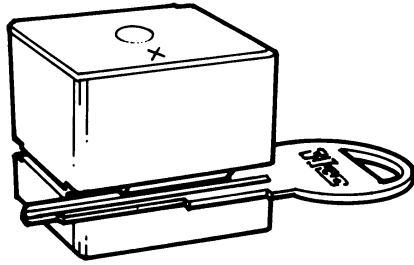


carriage spring will supply the necessary pressure to cut a key.

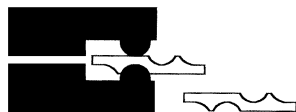
5. Depress the auto start switch and hold it depressed for a least two seconds. The drive motor will start and the carriage will begin moving to the left.
6. The carriage will make only one pass in front of the cutter. When it has completed this pass, the drive motor will turn off.
7. Press the off/on power switch to its "off" position.
8. Pull down on the carriage handle to lower the carriage. When the carriage snaps into its latched position, remove the cut key from the right vise jaw.
9. Depress the off/on power switch, which will cause the demurring brush and cutter to rotate. Press the cut key against the rotating brush to remove any burrs of chips that may be present.

Figure 4

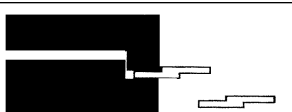
Super Jaw 3
vise jaw shown
gripping a typical
automotive key



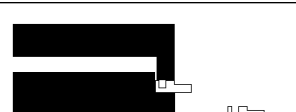
Using standard position



Using X position



Using wide position



Using narrow position

GENERAL OPERATING SEQUENCE

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

The 040 HD key machine can be used in either a manual or automatic mode simply by altering steps in the operating procedure. For either manual or automatic operation, the pattern key and blank key are loaded using the same steps.

To duplicate keys using the manual mode, press the off/on switch to the "ON" position. Then the cutting operation is performed with the operator holding the carriage up to the cutter guide and cutter while moving the carriage sideways. The cutting operation should begin at the cut closest to the head of the key with the operator carefully tracing each cut in turn until they have traced the cut closest to the tip.

To duplicate using the automatic mode, load the pattern and blank key, then pull down on the carriage while pulling out on the carriage trigger. This will enable the operator to ease the carriage up into cutting position with cutting pressure automatically applied. With the off/on switch in the auto position, the cutting operation will begin once the automatic actuator switch is depressed.

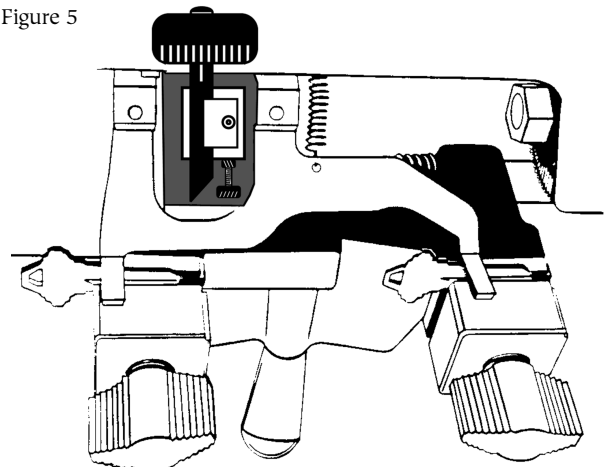
DUPLICATING PROCEDURE - Manual Mode

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Use this procedure when the manual mode is selected:

1. Slide the carriage to its extreme right position.
2. Rotate both vise jaws to the station suitable for the key being duplicated.
3. Insert the blank key in the right vise and tighten the wing nut. Be sure the key is laying flat in the vise jaw and is not tilted up or down.
4. Lower the key gauge and move the blank key so that the shoulder of the key contacts the right finger of the key gauge. Leave the key gauge in this position (Fig. 5)

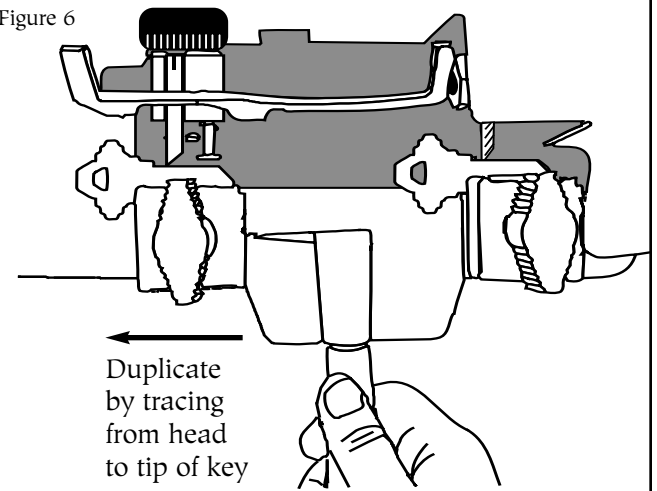
Figure 5



Aligning Shoulder of Keys with Key Gauge

5. Insert the pattern key into the left vise jaw, pushing it into the jaw until its shoulder butts against the left finger of the key gauge. Tighten the wing nut to secure the pattern key.
6. Lift the key gauge to its up position.
7. Press the off/on switch to the "manual" position.
8. Lift the carriage with both hands (Fig 6.)

Figure 6

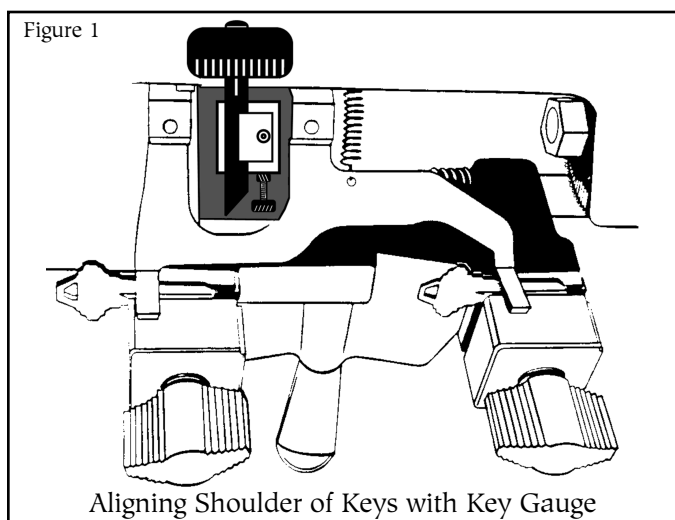


HOW TO DUPLICATE KEYS

ALIGNING KEYS IN THE VISE JAWS

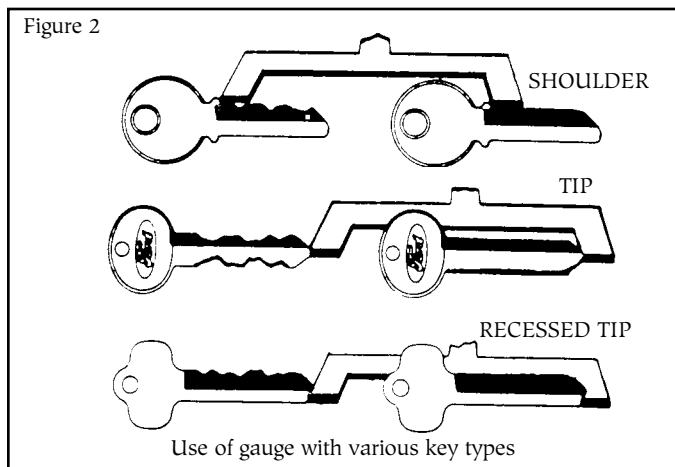
Both the pattern key and key blank must be aligned to each other and must be securely clamped in the vise jaws. To do this, slide the machine carriage towards the right and clamp the appropriate blank key in the right jaw and tighten the wing nut (Do NOT over-tighten). Lower the key gauge and position the blank key so the shoulder of the key contacts the left side of the right hand key gauge finger (See Fig. 1). Insert the pattern key in the left vise jaw until its shoulder contacts the left key gauge finger. Tighten the wing nut (do NOT over-tighten). You can now proceed to cut.

Figure 1



On keys such as the Ford double-sided key, which do not have conventional shoulder, the tip of the key is used as the aligning point (see Fig. 2). Clamp the blank key in first and move the machine carriage to the left. Lower the key gauge and position the carriage so the tip of the blank key touches the key gauge. Install and align the pattern key in the left vise jaw in the same manner.

Figure 2

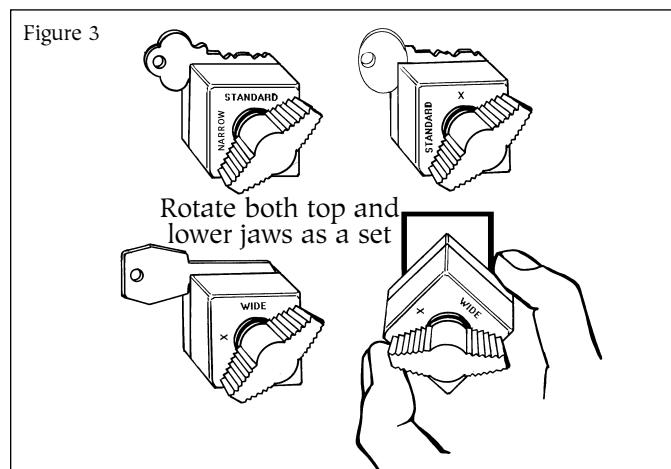


“Best” and “Falcon” type keys to not have a conventional shoulder but have a recessed tip and the key gauge is used to align the recessed tips. After clamping the blank key, the carriage is moved to the left so that the key gauge can be lowered to contact the recessed tip surface. The pattern key is aligned in the left vise jaw and positioned to contact the edge of the key gauge in the same manner.

USING THE SUPER JAW 3 FOUR-WAY VISE JAWS

Your 040 HD is equipped with the KABA ILCO versatile Four-way, Super Jaw 3 vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical cylinder key (see Fig. 3).

Figure 3



Standard - for holding regular cylinder keys, such as house keys, single-sided automotive keys, padlock keys, with one or two shoulders.

Narrow - for holding the 1092B and other narrow width keys.

Wide - for holding the Ford double-sided keys and similar types, either primary or secondary. When positioning the keys in the vise jaws, lay the key so that its center ledge is flat against the top surface of the jaw.

X - Ideal for holding most double-sided convenience keys used on most current automobiles. Grip these keys by the grooves rather than the blade edge where the cuts are located (see Fig. 4 on next page).

To reposition the vise jaws, as from Standard to Wide, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position.

OPERATING HANDLES

The 040 HD key machine is shipped completely assembled except for the carriage handle. Upon unpacking the machine, locate the handle and thread it into the carriage. Note that the handle threads into the carriage in the area directly above the trigger assembly. Then, cut the nylon band holding the carriage rigid and let the carriage drop to its down position. At this point, you should be able to slide the carriage right to left easily. If there is any binding that prevents the carriage from sliding sideways, do NOT force the carriage. Instead, plug in the power cord and depress the ON button to start the cutter rotating. This will relocate the automatic cam (which may have been creating the binding action) to the starting position and thus free the carriage.

TEST KEYS

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory dimensioned pattern keys and are accurate to .002" or less. Save these keys and use them as standards to check the accuracy of cuts in the keys you make. By measuring across the cuts with a micrometer, you'll be able to see if your machine is cutting too deep or too shallow thus indicating that an adjustment of the key guide is necessary.

PROPER KEY CUTTING TECHNIQUES

Even though your 040 HD key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will **NOT** produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys, you should re-examine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. **It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.**
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the

cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.

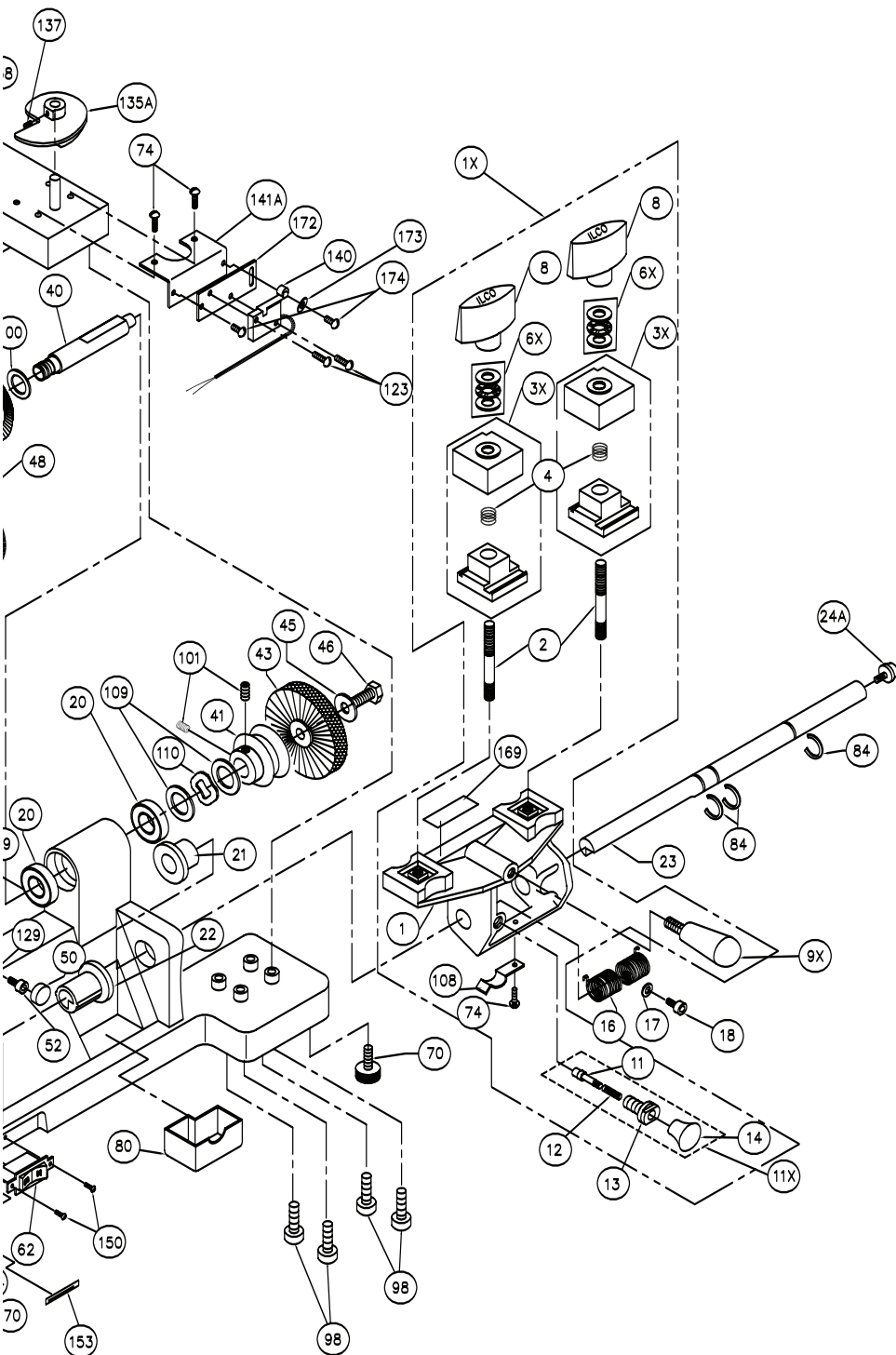
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication requirements for your new "HD" Performance Series key machine are minimized through the use of sealed, permanently lubricated cutter spindle bearings. The carriage shaft however, should be inspected on a routine basis, and wiped with a dry, clean cloth to remove any chip buildup that occurs. After cleaning, application of a dry film lubricant is recommended for maximum service life; spray type lubricants that dry completely once applied are fine. Depending on usage, the machine's 1/4 hp motor may require lubrication once annually. Refer to the label on the motor for lubrication details and recommended interval.

EXPLODED VIEW PARTS LIST

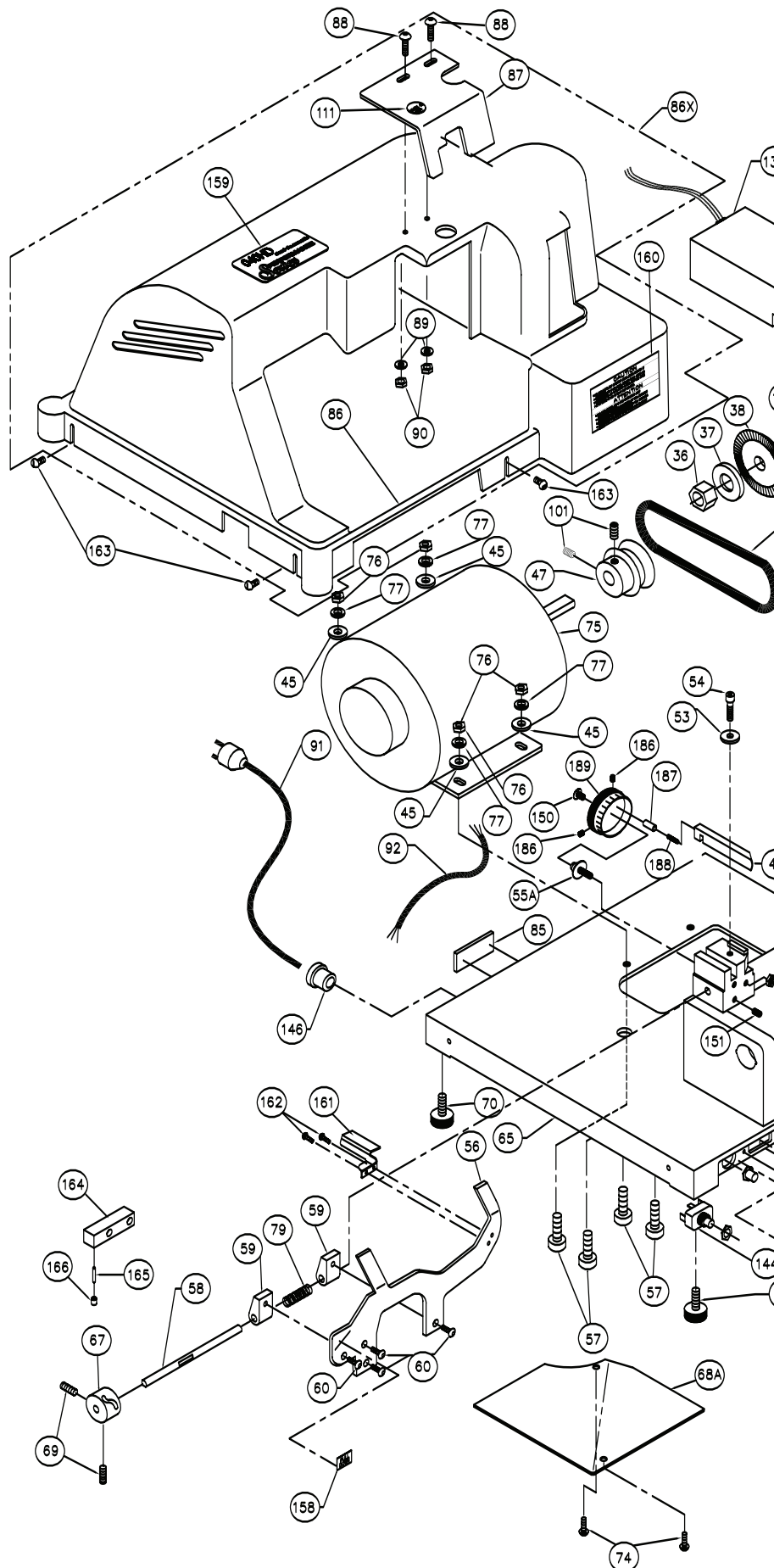
Refer to pages 6-7 for illustration

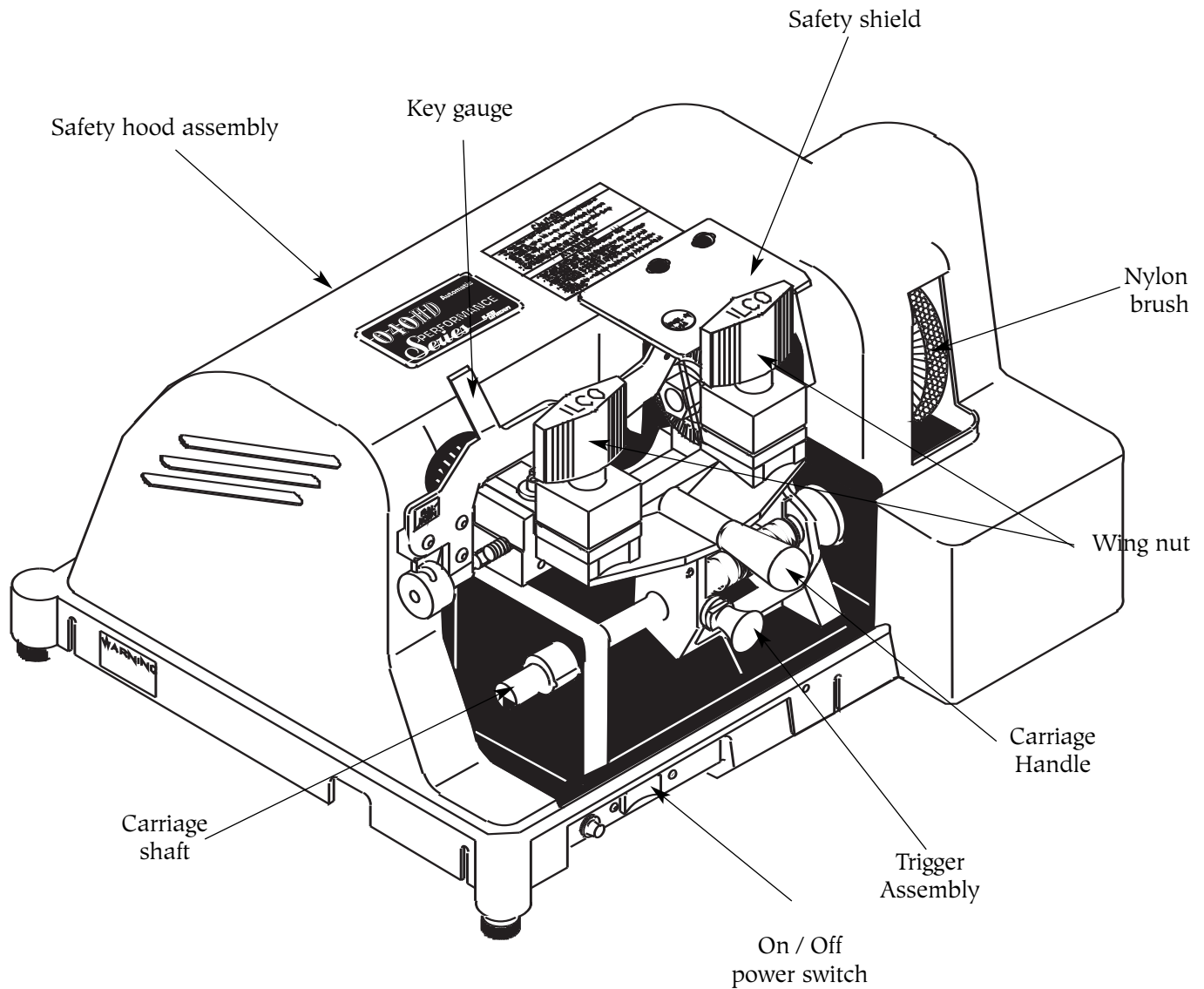
Ref.	Part no.	Description	Ref.	Part no.	Description
1	040HD-1	Carriage	87	040HD-87	Safety shield
1X	040HD-1X	Carriage assembly	90	025-90	Nut, #10-32
2	025-2	Carriage stud	91	040-91	Power cord
3X	045HD-3X	Vise jaw assembly (Super Jaw 3)	92	040-92	motor cable
4	025-4	Vise jaw spring	98	040-98	Cam motor screws
6X	025-6X	Thrust bearing set	100	040HD-100	Cutter spacer; right
8	025-8	Wing nut	101	025-101	Set screw, 1/4-20x1/4"
9X	040-9X	Carriage handle	106	040-106	Chip tray
11	040-11	Trigger Pin	108	040-108	Carriage Bumper
11X	040-11X	Trigger Assembly	109	025-109	Bearing washer
16	040-16	Carriage torsion spring	110	025-110	Wave washer
17	025-17	Washer	123	040-123	Screw, #4-40x1/2"
18	025-18	Screw. 10-32 x 1/2"	129	040-129	Locking nut (8-32)
20	040HD-20	Cutter shaft bearings	135	040-135	Cam
21	025-21	Carriage shaft bushing, right	137	040-137	Set screw, #10-32 x 3/16"
22	040-22	Carriage shaft bushing, left	138	040-138	Gear motor (115V)
23	040HD-23	Carriage shaft	140	040-140	Gear motor cam
24	040-24	Friction Reducer	141A	040-141A	Micro switch plate
36	025-36	Cutter nut, N-4	144	040HD-144	Automatic cycle switch
37	025-37	Cutter spacer; left	146	040-146	Strain relief for power cord
38	P-CU20	P-CU20 cutter	150	040-150	Switch screw (6-32 x 1/4")
40	040HD-40	Cutter shaft	151	040-151	Set screw (8-32 x 3/8")
41	040HD-41	Cutter shaft pulley (2")	153	040HD-153	Switch panel label
43	025-43	Nylon brush	158	040-158	Key gauge label
45	025-45	Brush bolt washer, 5/16"	160	025-160	Caution label
46A	025-46A	Hex head screw, 5/16"-18 x 3/4"	161	040-161	Key Gauge guard
47	025-47	Motor pulley 2" - 3L	162	040-162	Key Gauge guard Screws
48	040HD-48	V-Belt, 3L160	163	045-163	Hood Screw
49	040-49	Cutter guide (stylus)	164	040-164	Cam follower block
50	040-50	Carriage stop	165	040-165	3932 x 1/2 dowel pin
52	040-52	Socket hd. screw 8-32 x 1-1/2"	166	044-166	Cam follower pin
53	040-53A	Cutter guide binding plate	169	040-169	Carriage Label
54	045-54	Cutter guide binding screw	171	025-171	Cutter pulley set screw, 3/8" -18
55	045-55A	Adjusting screw	181	024B-181	Key Gauge Spacer - Left
56	040-56	Key gauge	183	040-183	1/4-20 Lockwasher
58	040-58	Key gauge dowel pin	184	040-184	1/4-20 Hex Nut
59	025-59	Key gauge housing	186	045-186	6-32 x 3/8" set screw
60	025-60	Cap screw, 8-32 x 1/2"	187	045-187	dowel
62	025-62A	On/Off switch	188	045-188	dowel spring
65	040HD-65	Base machined	189	045-189	Adjustment dial
68	040-68	Electrical cover	190	045-190	Cutter guide label
69	040-69	Set Screw 10-24 x 3/8"	191	040-191	Switch plate (adjustable)
70	040-70	Rubber mount	192	040-192	Switch plate screws
74	040-74	Truss head screw, 8-32	193	040-193	Switch plate washer
75	040-75	Motor, 1/4hp, 115V C/S	194	045-194	#10 flat washer
79	040-79	Key gauge spring	195	045-195	10-32 x 1/2" Button hd. screw
84	024B-84	Crescent ring	NS	040HD-IM	040 HD Instruction Manual
86X	040HD-86X	Safety hood assembly			

EXPLODED VIEW



EXPLODED VIEW





Operating Parts Identification

Part no.	Identification
040-1 025-3X 025-8	Carriage Vise jaw assembly Wing nut
040-9X 040-11X 040-23	Carriage Handle Trigger Carriage shaft
CU20 814-00-51 040-49A	P-CU20 cutter Nylon brush Cutter guide (stylus)
040-50 040-56 040-62	Carriage Stop Key gauge On/Off power switch
040-86X 040-87A 040-144	Safety hood assembly Safety shield Auto Start Switch

REPLACEMENTS AND ADJUSTMENTS

Each calibration mark on the depth adjustment dial is equivalent to approx. .0015" (1 1/2 thousandths of an inch). As you can see, this system can allow for very precise adjustment of your new key machine. In fact, if you have a key micrometer or dial caliper available, you can adjust your machine with "factory accuracy". To do this, you would simply duplicate a key and measure cuts on both the "pattern key" and the duplicate key for comparison. This would show any deviation that existed and whether the duplicate cuts were too deep or too shallow and by how much. With this information, you can use the depth adjustment dial on your machine to calibrate your machine for best possible accuracy. This is very important as many locks are designed with close fit tolerances and the keys you duplicate are often themselves copies; functional but just barely so. The more accurate your key machine is adjusted, the closer your duplicates will match their originals, resulting in fewer non-functional miscuts!

It is very important to understand that adjusting your machine is not a "one time" procedure. As the cutter on your machine wears down, the machine must be adjusted to compensate. It is good shop practice to **check** your machines' depth adjustment every 2-4 weeks, based upon your store's key cutting volume and readjust as necessary. You will find that re-calibration is seldom needed, but by checking and correcting **BEFORE** customers begin returning miscut keys, you will create a reputation for your store as a "good place" to have keys duplicated.

ADJUSTING FOR SPACING

There is no adjustment for spacing. However, if a key gauge assembly is ever replaced, the key gauge must be fitted to the machine after it has been installed. To do this, first install a pattern key and key blank and align these against the cutter guide and cutter. Then lower the key gauge and file the appropriate finger of the gauge to allow contact with the shoulder of both keys.

ADJUST THE CARRIAGE STOP

The purpose of the carriage stop is to prevent the cutter from hitting into the right vise jaw. The stop is a nut and bolt and is adjustable. To check the adjustment, raise carriage (without keys in vise jaws) and rotate the cutter by hand. The cutter should not contact the vise jaw. When the carriage stop is properly adjusted, there should be a space of .008" between the vise jaw and the cutter (this is about the thickness of an ordinary business card). Do not allow a greater distance since this may affect the depth of cut.

CLEANING

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a single filing can alter the accuracy of the machine.



A Member of the Kaba Group

Kaba Ilco Corp.

P O Box 2627 (27802)

400 Jeffreys Rd., Rocky Mount, NC 27804

Tel.: (252) 446-3321 • Fax: (252) 446-4702

www.kaba-ilco.com

029A

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before using the new 029A Key Machine.
Ensure that all safety recommendations are followed!



ILCO UNICAN®

This manual is registered and applies specifically to the machine which carries this serial number. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place.

If ownership of this machine is transferred, this

service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. (which is 029A) and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other ILCO UNICAN machines.

CONTENTS

Warranty	2
Safety information	3-4
Introduction to the 029A	5
Operating parts (illustrated)	6
Operating parts identification (names and part numbers)	7
Exploded view	8-9
Exploded view parts list	10
Unpacking	11

Proper Key Cutting Techniques	11
Four-Way Vise Jaws	12
Key Alignment - Duplicating	13
The Cutting Operation	14
Cutting Keys by Code	15
Key Alignment - Code Cutting	16
The Cutting Operation	17
Replacing the Cutter/Adjustment	18-19

ONE YEAR LIMITED WARRANTY

ILCO UNICAN warrants to the original buyer of any new model 029A machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of ILCO UNICAN, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by ILCO UNICAN, provided that the machine is returned by prepaid transport to ILCO UNICAN or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). ILCO UNICAN may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

ILCO UNICAN sells precision-made machines. The buyer assumes all risks, and ILCO UNICAN shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with ILCO UNICAN's printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by ILCO UNICAN on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases ILCO UNICAN from any liability for any reason other than a breach of its warranties hereunder.

The liability of ILCO UNICAN shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall ILCO UNICAN be liable for any personal injuries, property damage or consequential damages.

Use only genuine ILCO UNICAN replacement parts on this machine!

Serial number : _____

WARNING – SAFETY NOTICE

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (120 Volt models) Your machine is designed to operate using 120 Volt A.C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact Ilco Unican at the address printed on the cover. (ILCO UNICAN also offers repair service for out-of-warranty machines. Contact ILCO UNICAN for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

CONSIGNES DE SÉCURITÉ

IMPORTANT : Veuillez lire attentivement ce qui suit avant d'utiliser la machine.

La sécurité commence avec la prévention et se poursuit en agissant prudemment. Tout le personnel qui utilisera cette machine devrait lire le guide d'utilisation fourni afin de savoir comment faire fonctionner la machine. Les chances d'accidents et de clés mal taillées seront grandement réduites.

Sécurité générale:

- Toujours porter des lunettes de protection lorsque vous vous trouvez à proximité de la machine à tailler les clés en marche ou lorsque vous l'utilisez afin de réduire tout risque de blessures aux yeux.
- Toujours arrêter la machine avant de la régler ou d'insérer ou de retirer des clés.
- Placer la machine dans un endroit réservé uniquement aux utilisateurs. cet endroit devra être tel que la clientèle et le reste du personnel seront protégés contre les risques de projection de copeaux susceptibles de causer des blessures.
- Ne pas modifier aucun dispositif de sécurité installé sur cette machine. Il est strictement défendu de modifier ou d'enlever l'écran de protection, les protecteurs de la fraise ou tout autre dispositif de sécurité.
- Ne jamais toucher aux pièces mécaniques d'entraînement lorsque la machine fonctionne. L'utilisateur ne doit pas non plus porter des vêtements amples et doit avoir les cheveux attachés lorsqu'il se trouve à proximité de la machine.
- Cette machine a été conçue et fabriquée uniquement pour tailler des clés et doit être utilisée tel que décrit dans le guide d'utilisation. Il serait dangereux d'essayer d'utiliser cette machine à d'autres fins. Ceci aurait pour conséquence de rendre nulle la garantie de la machine.
- Certaines provinces imposent des restrictions d'âge pour certains types de machines. Vérifier auprès des autorités locales et provinciales pour être conforme à la loi.

Sécurité électrique :

- (Modèles 120 volts) Cette machine est conçue pour fonctionner à l'électricité sur du 120 V-c.a. à une fréquence de 60 Hz. La machine est munie d'un câble électrique à fiche tripolaire lequel ne doit être utilisé qu'avec une prise de courant tripolaire. Ne pas modifier la fiche du câble et ne pas l'utiliser dans une prise de courant non reliée à la terre (polarisée).
- Afin de réduire les risques de feu ou de chocs électriques, la machine ne doit pas être exposée à l'humidité ou à l'eau.
- Seuls des techniciens qualifiés doivent procéder aux réparations d'ordre électrique. Si la machine est sous garantie, communiquer avec ILCO UNICAN (adresse, n° de téléphone et n° de télécopieur sur la page couverture). ILCO UNICAN offre également un service de réparation pour les machines dont la garantie est expirée.
- **Toujours** débrancher la machine avant d'enlever le couvercle ou de changer la fraise.

Directives de mise à la terre

- Advenant le mauvais fonctionnement ou une panne de la machine, la mise à la terre fournit un trajet de moindre résistance pour le courant afin de réduire tout risque de chocs électriques. Cette machine est munie d'un câble électrique équipé d'un conducteur de protection et d'une fiche de terre. La fiche doit être branchée à une prise de courant correspondante adéquatement installée et reliée à la terre conformément aux codes et aux règlements locaux.
- Ne pas modifier la fiche. Si elle ne correspond pas à la prise, vous adresser à un électricien pour installer la prise adéquate.
- Le raccordement inadéquat du conducteur de protection peut entraîner des risques de chocs électriques.
- Le conducteur dont la surface extérieure de l'isolant est verte (avec ou sans rayures jaunes) constitue le conducteur de protection. Si le câble électrique ou la fiche doit être réparé ou remplacé, ne pas brancher le conducteur à une borne sous tension.
- Vérifier auprès d'un électricien ou du personnel de service si vous ne comprenez pas les directives de mise à la terre ou si vous avez des doutes quant à la mise à la terre adéquate de la machine.
- Utiliser seulement des prolongateurs trifilaires munis de fiches et de prises tripolaires acceptant la fiche de la machine.
- Réparer ou remplacer immédiatement les câbles endommagés ou usés.

Congratulations! **You've purchased a superior key cutting machine.**

The model 029A code/duplicating machine is designed for maximum versatility and convenience. Its "dual function" design allows the operator to originate a key by code where necessary, or duplicate an existing key when available.

The machine features exclusive four-way vise jaws designed to accommodate virtually any standard automotive key without the need for adapters. Even

double sided automotive keys can be duplicated or code cut with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced performance when necessary (see illustration on page 12.)

Accurate, easy to operate and maintain, the model 029A delivers excellent performance at an economical price!

Unpacking instructions

Your 029A key machine has been shipped to you in a sturdy, specially-cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free

of all rustproofing oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 18 "Adjusting for depth of cut").

Safety

The 029A has been engineered to duplicate/code cut cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

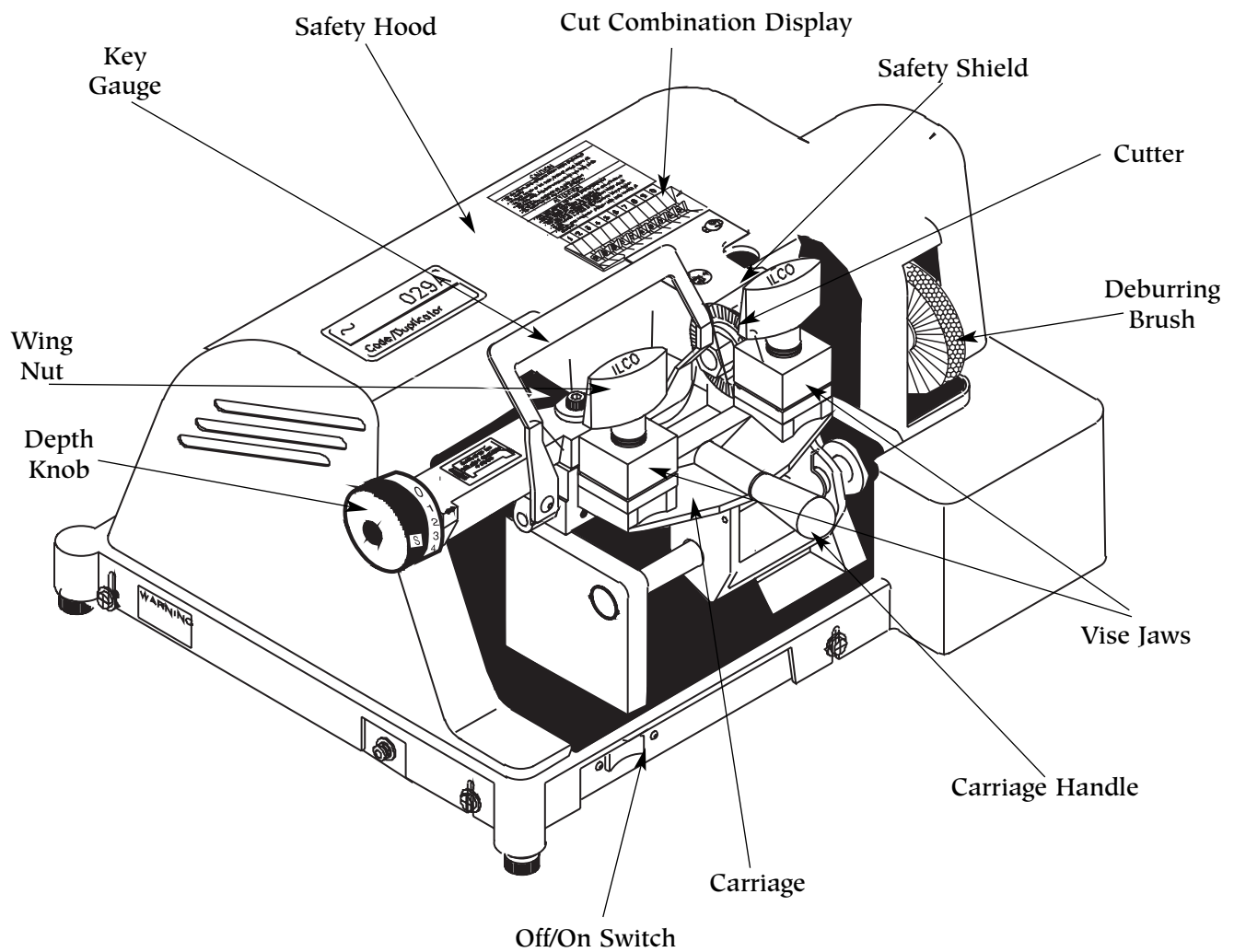
ILCO UNICAN strongly recommends the use of protective eye glasses or goggles when operating this

machine, or when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

CAUTION!	DO NOT DESTROY OR DISCARD THIS VALUABLE SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	--

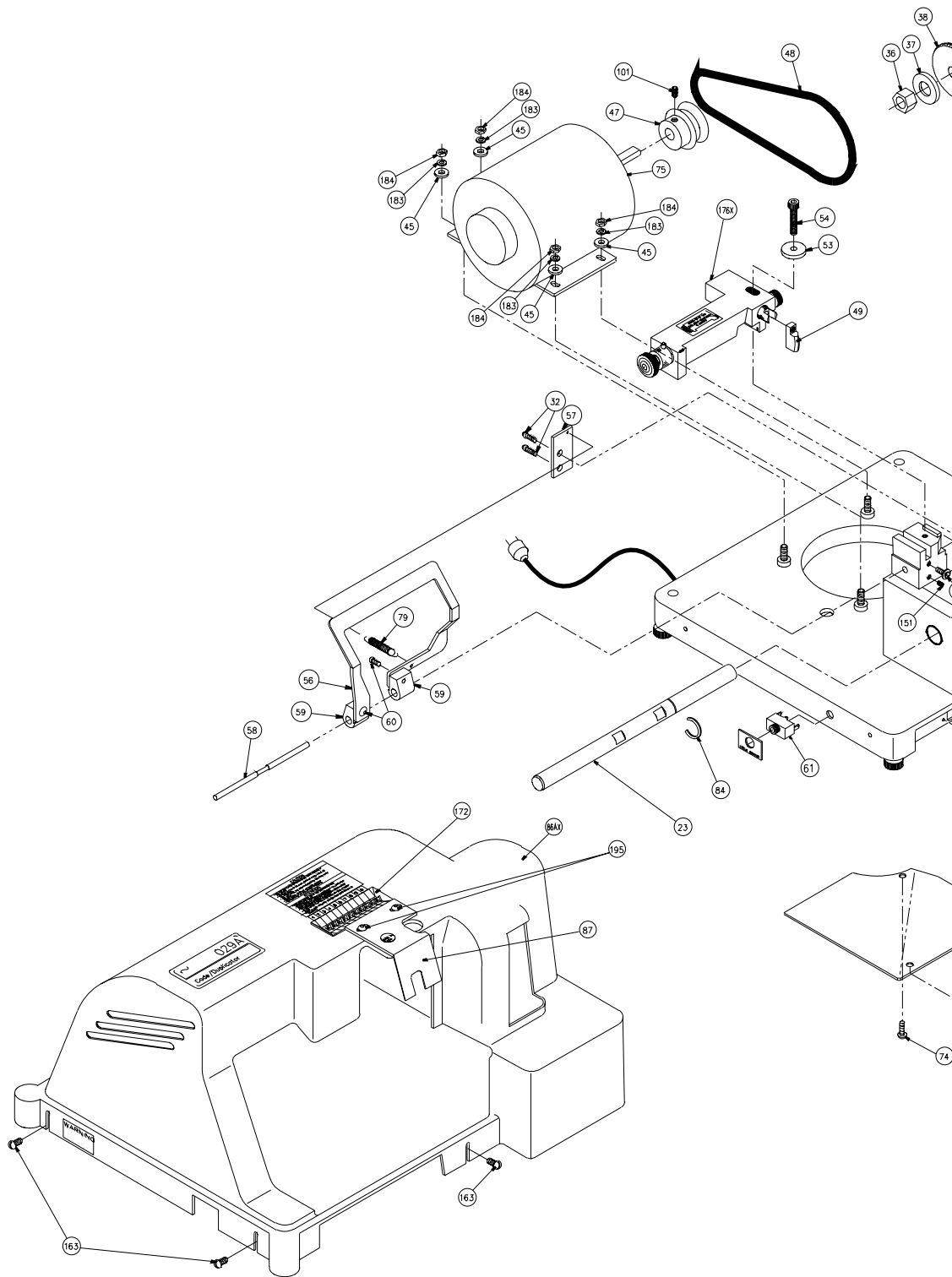
OPERATING PARTS



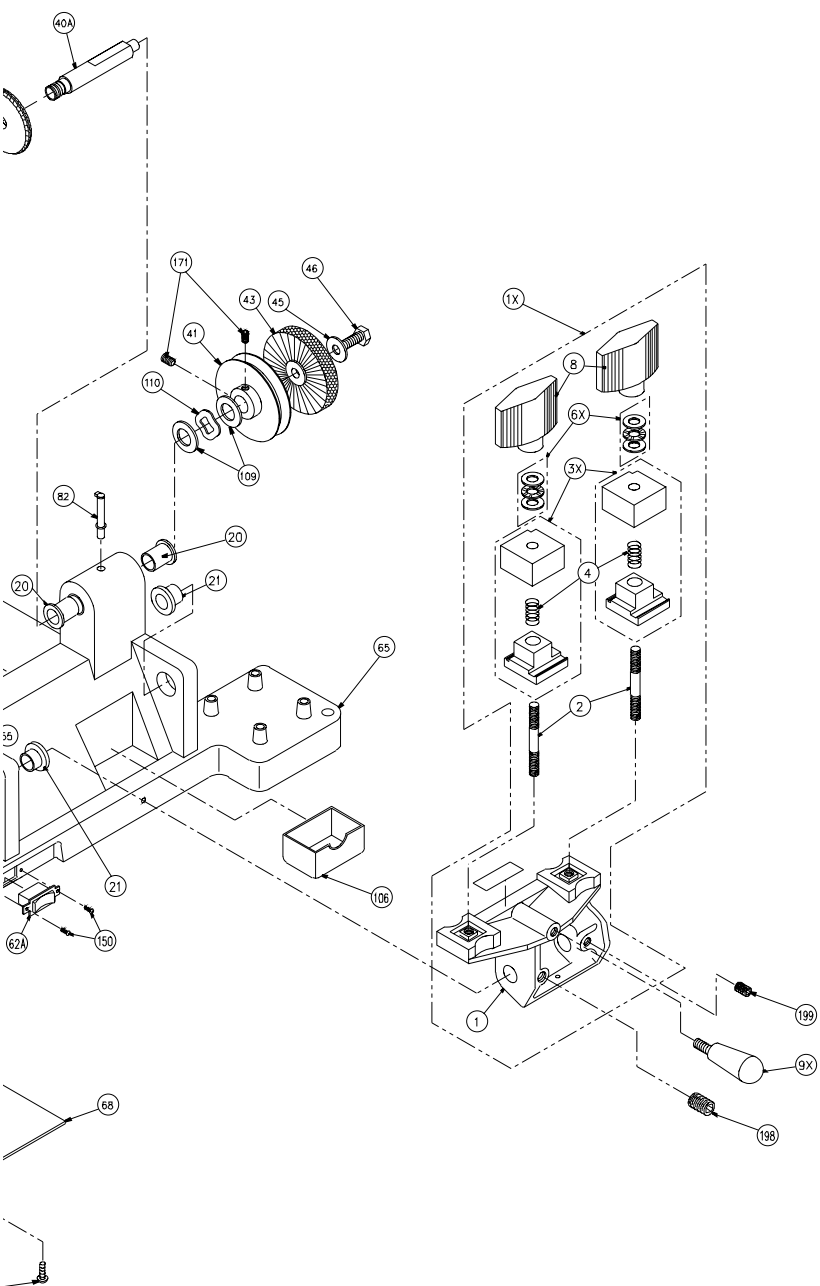
**OPERATING PARTS
IDENTIFICATION***Refer to page 6*

Part No.	Identification
024B-1	Carriage
029A-3X	Vise Jaw Assembly (2)
025-8	Wing Nut (2)
045-23	Carriage Shaft
CU29	CU29 Cutter
814-00-51	Deburring Brush
029A-49	Cutter Guide (stylus)
025-55	Adjusting Screw
029A-56	Key Gauge
025-62A	Off/On Switch
029A-86X	Safety Hood Assy.
029A-87	Safety Shield

EXPLODED VIEW



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part no.	Description	Ref.	Part no.	Description
1	024B-1	Carriage	86	029A-85	Safety hood with 029A decal
1X	024B-1X	Carriage assembly	86X	029A-86X	Safety hood assembly
2	025-2	Carriage stud	87	029A-87	Safety shield
3X	029A-3X	Vise jaw assembly	88	029A-88	Shield screws, 10-32 x 1/2
4	025-4	Vise jaw spring	89	045-89	Lock washer, #10
6X	025-6X	Thrust bearing set	90	025-90	Nut, #10-32
8	025-8	Wing nut	91	024B-91	Power cord
9X	040-9X	Carriage handle	92	024B-92	3 wire motor cable
20	025-20	Cutter shaft bushing	101	025-101	Motor pulley set screw
21	025-21	Carriage shaft bushing	106	040-106	Chip Tray
23	024-23	Carriage shaft	107	029A-107	Spacer
32	024B-32	Button head. screw, 10-24 x 3/8"	109	025-109	Bearing washer
36	025-36	Cutter nut, N-4	110	025-110	Wave washer
37	025-37	Cutter spacer	146	040-146	Power cord strain relief
38	CU29	CU29 cutter	150	040-150	Switch screw (6-32 x 1/4")
40A	025-40A	Cutter shaft	151	040-151	Set screw (8-32 x 38")
41	025-41	Cutter shaft pulley	160	025-160	Caution label
43	814-00-5	Nylon brush	163	045-163	Hood screw
45	025-45	Brush bolt washer, 5/16	170	029A-170	Bushing Spacer
46A	025-46A	Hex head screw, 5/16-18 x 3/4	171	025-171	Cutter pulley set screw, 3/8" -18
47	025-47	Motor pulley 2" - 3L	172	029A-172	Cut Combination Display
48	025-48	V-Belt, 3L-180	173	029A-173	Cutter Guide Screw
49	029-49	Cutter guide (stylus)	174	029A-174	Cutter Guide Lock Screw
53	025-53	Cutter guide binding washer	175	029A-175	Depth Knob Retaining Screw
54	029-54	Cutter guide binding screw	176X	029A-176X	Cutter guide Block Assy.
55	025-55	Adjusting screw	183	040-183	1/4" Lock washer
56	029A-56	Key gauge	184	040-184	1/4-20 Hexnut
57	024B-57	Key gauge bracket	194	045-194	#10 Flat washer
58	024B-58	Key gauge dowel pin	195	045-195	10-32 x 1/2" Button hd. Screw
59	025-59	Key gauge housing	198	045-198	7/16-14 x 3/4" set screw
60	025-60	Cap screw, 8-32 x 1/2"	199	045-199	1/4-20 x 1/2" set screw
61	025-61	Circuit Breaker, ETA 1658	IM	029A-IM	Instruction manual
62A	025-62A	On/Off switch	NS	040-240	220V 1/4 HP motor
65	045-65	Main Base, machined			
68	040-68	Electrical cover			
70	040-70	Rubber Mount			
74	040-74	Truss head screw, 8-32			
75	040-75	Motor, 1/4hp, 115V			
79	029A-79	Key gauge spring			
82	025-82	Oil cup			

UNPACKING

The 029A key machine is shipped completely assembled and pre-adjusted. Upon unpacking the machine, locate the nylon band securing the carriage assembly and cut it to allow the carriage to drop to its normal "down" position. At this point, you should be able to slide the carriage sideways.

TEST KEYS

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory-dimensioned pattern keys and are accurate to .002" or less. Save these keys and use them as standards to check the accuracy of cuts in the keys you make. Duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

PROPER KEY CUTTING TECHNIQUES

Even though your 029A key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate or code cut replacement key is to operate the lock for which it was intended. If customers return keys, you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. **It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.**
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should

be free to move without binding.

4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication of moving parts is important. An oil cup is provided to keep the cutter shaft bearings well lubricated. The carriage spindle should be lubricated with a thin film of oil and wiped free of chip build up. The lubrication procedures should be performed every 2-3 weeks depending on usage. (5-7 drops of a lightweight machine oil such as "3-in-1" or equivalent is sufficient for the oil cup.)

FOUR WAY VISE JAWS

The highly versatile ILCO UNICAN 029A is capable of creating a key from a code number (cutting by code), or copying a customer's existing key (duplicating). The ultimate goal in either application is to produce an accurately cut key that smoothly operates in the lock cylinder it is intended. While the goal is the same, there are important differences between code cutting and duplicating. Please read the following sections of this manual carefully!

Using the four-way vise jaws

Your 029A is equipped with the ILCO UNICAN versatile four-way vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical cylinder key (see Fig. 1).

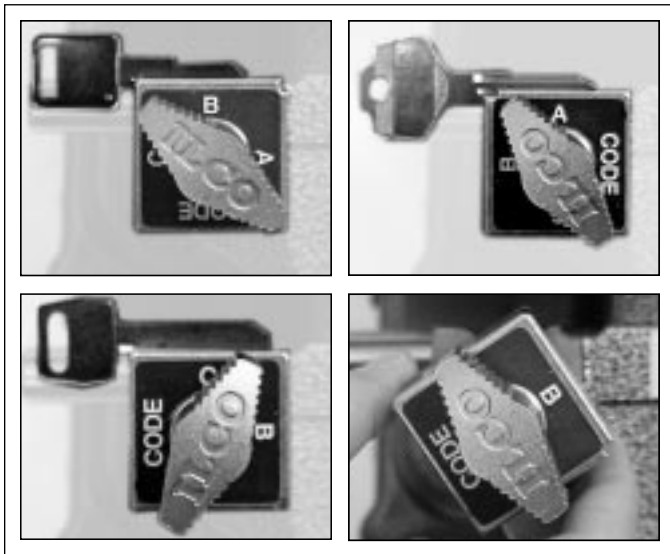
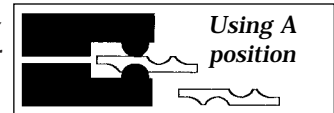


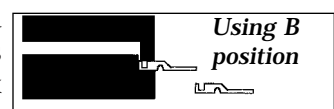
Figure 1 Rotate both jaws as a set

IMPORTANT: The correct vise jaw positions to use for all lock applications covered by your 029A key machine are listed in the Application Guide accompanying this manual. It is important, especially for cutting keys by code, that the vise jaw positioning indicated in the Application Guide be used to assure accurate results.

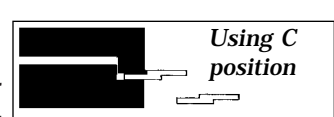
A - For holding double-sided keys by gripping their center groove(s).



B - For holding single-sided automotive keys, as well as most house and padlock keys.



C - For holding certain keys, such as most "Ford types" by gripping along their edge, allowing the "center ridge" of the key to rest against the face of the vise.



Code - Specific to the left side vise jaw, this position is used only when cutting keys by code. All spacing keys are clamped using this position **except for those used for cutting single sided keys**. Refer to the Application Guide for vise jaw positioning instructions for specific key types.

To reposition the vise jaws, as from A to B, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position, except when cutting by code.

Aligning keys in the vise jaws for duplication Keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

After positioning the vise jaws to the proper setting, both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machine's carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is roughly aligned with the red mark on the vise jaw face. Verify that the key blank is held level (not tilted), then tighten the wing nut. Position the "original" or pattern key in a similar manner into the LEFT vise jaw.

Next, lower the key gauge and position the carriage so that the edges of the gauge contact the shoulders of both the original and blank key **at the same time**. You may have to loosen the wing nut securing one of the keys and reposition it slightly. **It is important that the shoulder of both keys are in contact with the gauge at the conclusion of this step.**

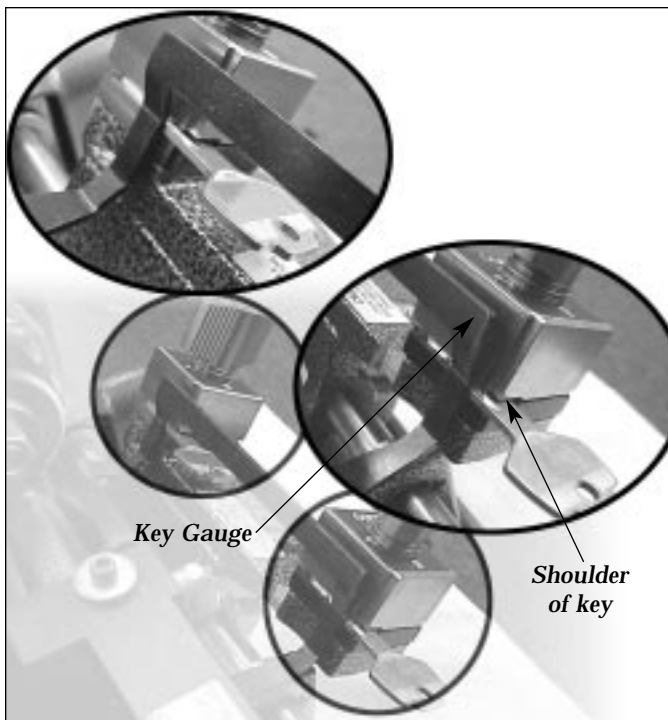


Figure 2 - Aligning shoulders of keys with key gauge

Aligning keys in the vise jaws for duplication Keys without shoulders

On keys such as the Ford double-sided key, which do not have a conventional shoulder, the tip of the key is used as the aligning point (see Fig. 3). Clamp the blank key in first and move the machine carriage to the left. Lower the key gauge and position the carriage so the tip of the key blank touches the key gauge. Install and align the pattern key in the left vise jaw in the same manner.

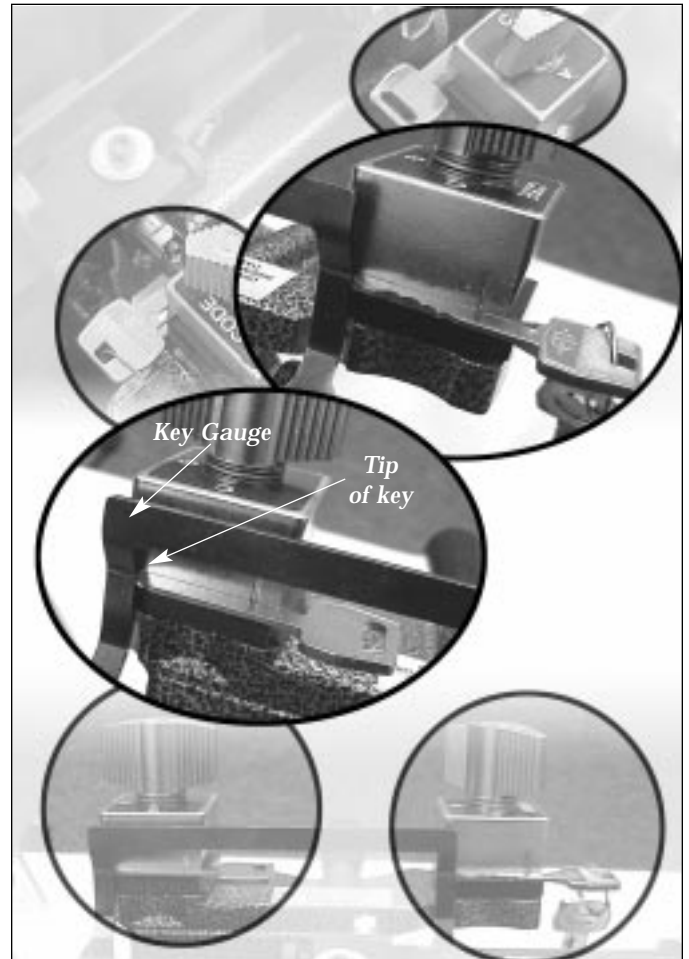


Figure 3

THE CUTTING OPERATION

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

1. **Set machine in duplication mode.** This is accomplished by positioning the depth knob in to its deepest cut position. (This is the last number, usually the highest, encountered as you rotate the depth knob away from you.) **At this point**, push in on the cutter guide until it stops and tighten the locking screw in that position (See Fig. 4)

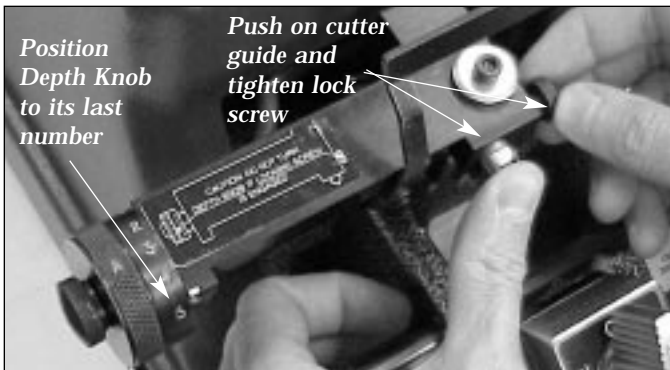


Figure 4

2. Rotate both vise jaws to the station suitable for the key being duplicated.
3. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
4. Lower the key gauge to align the keys using an appropriate method as described under "Aligning Keys ..." found in the previous section (see page 10).
5. After the keys are aligned, return the gauge to its "up" position.
6. Press the off/on switch to the "on" position.
7. Lift the carriage with both hands (see Figure 5).



Figure 5

8. Move the carriage to line up the cutter guide with the cut closest to the head on the pattern key. Do not permit the cutter to touch the shoulder of key blanks with shoulders.
9. Press in on the carriage, while guiding it to the left. Carefully trace the cuts of the pattern key with the cutter guide. The cutter will make a corresponding cut in the key blank. When the cut closest to the tip of the pattern key has been traced, retrace the cuts by guiding the carriage to the right. This will clear away any metal not removed during the initial pass over the key blank. Again, on keys with shoulders, do not allow the cutter to contact the shoulder.
10. Press the off/on switch to the "off" position. Remove the blank key. Press the switch to the "on" position and remove any burrs that remain by contacting the key lightly against the deburring brush. Return the switch to the "off" position.
11. **Operating Tips** - When duplicating a key, avoid an irregular jerking motion in the movement of the carriage. Acquire a smooth steady motion, using both hands on the carriage to guide it. Apply the same degree of pressure each time a key is duplicated. Excessive pressure may cause "over-cutting". It is sometimes best to practice on a few keys until the operator learns to impart a steady, uniform pressure to the carriage.

CUTTING KEYS BY CODE

INTRODUCTION: In addition to duplicating keys the model 029A using optional accessories, has the capability of cutting keys by code.

The previous section covered the procedures used to duplicate a key from an existing copy. Code cutting, does not require a key to copy. Instead, notches (cuts) are made in the key blank based upon the code number supplied with the original key. Often this number is found on an accompanying tag or break-off tab. If this number is known, the original key is not needed. But you do need the proper code chart, which is a numerical listing of key code numbers. Listed beside each key code number on the chart will be a corresponding series of digits which is the key cut combination for that particular code; in short, the actual cuts which should appear on a given key.

There are two critical dimensions in code cutting - **spacing** of the cuts and **depth** of the cuts. **Spacing** refers to where the cuts are placed along the blade of the key "laterally". The component which controls the spacing dimension when cutting a key by code using the model 029A is call a spacing key. Spacing keys are either "tip stop" or "shoulder stop" in design (see Fig. 6). This indicates how a particular spacing key and key

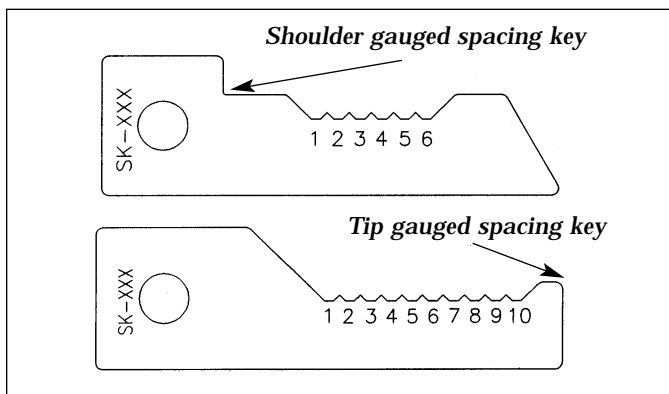


Figure 6

blank should be aligned prior to cutting. The series of cuts found on a spacing key are numbered and correspond to the correct order in which cuts will be made to the key blank. This will be fully explained later.

Depth refers to how deeply the notch (cut) is made into the blade of the key. The component which controls the depth dimension for code cutting purposes is called the depth knob (see Fig. 7). There are a series of numbers which circle a depth knob. These digits correspond to the digits found beside a code number on a code chart.



Figure 7

IMPORTANT: Refer to the Application Guide to determine which specific spacing key and depth knob to use for a given application. Each spacing key is stamped with "SK" - followed by a 3 digit number; depth knobs are stamped with letters to aid in identification.

CUTTING KEYS BY CODE - PROCEDURES

Application Guide

The Application Guide that accompanies your machine is a very important item when cutting keys by code. Its most important function is to specify which depth knob, spacing plate, and key blank is required for a specific lock application. It also will indicate the proper vise jaw position required to properly grip the key blank for code cutting.

Changing the Depth Knob

When referring to the Application Guide you may find that the key you wish to make requires a depth knob different from the one already on the machine. Changing the depth knob is easy; simply remove the retaining screw (see Fig. 8) and slip the current depth knob off by

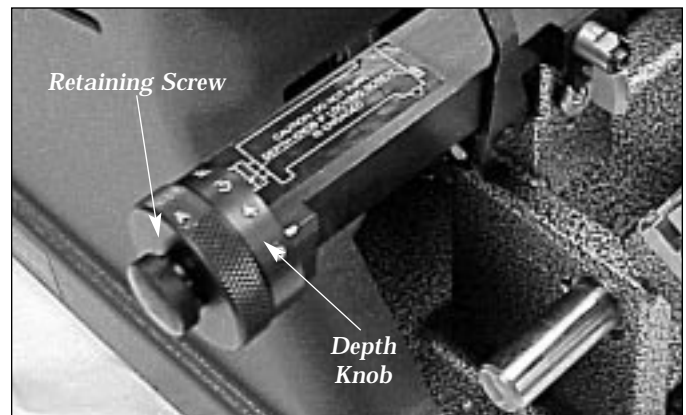


Figure 8

pulling it to the left. Install the selected knob by aligning the slot on its right side with the pin projecting up from the shaft it attaches to. Reinstall the retaining screw finger tight, and the change is complete.

Vise Jaw Positioning

The 029A is equipped with "four-position" vise jaws. The proper vise position to use (Code, A, B, etc.) will be indicated in the Application Guide for each key listed. It is **IMPORTANT** to remember that both vise jaws should be set to the positions indicated in the booklet.

KEY ALIGNMENT - CODE CUTTING

Aligning keys in the vise jaws for code cutting keys with shoulders

WARNING: Do not install or remove keys unless the off/on switch is in the off position.

One difference between duplicating keys and code cutting them is that the vise jaws are not always positioned to the same stations or sides. The **LEFT** and **RIGHT** vise jaws should be positioned to the settings indicated in the Application Guide.

After positioning the vise jaws to the proper setting, both the spacing key and the key blank must be properly aligned and securely clamped in the vise jaws. To do this, slide the machine's carriage assembly towards the right and position the appropriate key blank in the carriage's RIGHT vise jaw with the head of the blank pointing to the left.

Ensure that the shoulder of the key blank is roughly aligned with the red mark on the vise jaw face. Verify that the key blank is held level (not tilted), and tighten the wing nut. Position the appropriate Spacing Key in a similar manner in the Left vise jaw.

Next, lower the key gauge and position the carriage so that the edges of the gauge contact the shoulders of both the Spacing Key and the blank key **at the same time**. You may have to loosen the wing nut securing one of the keys and reposition it slightly. **It is important** that the shoulder of both keys are in contact with the gauge at the conclusion of this step.

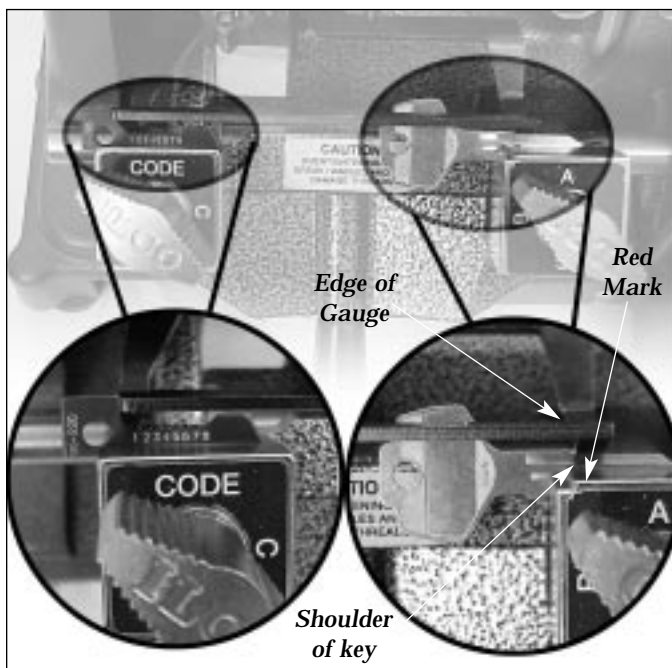


Figure 9

Aligning keys in the vise jaws for code cutting keys without shoulders

On keys such as the Ford double sided key, which do not have a conventional shoulder, the tip of the key is used as the aligning point (see Fig. 10). Clamp the blank key in first and move the machine carriage to

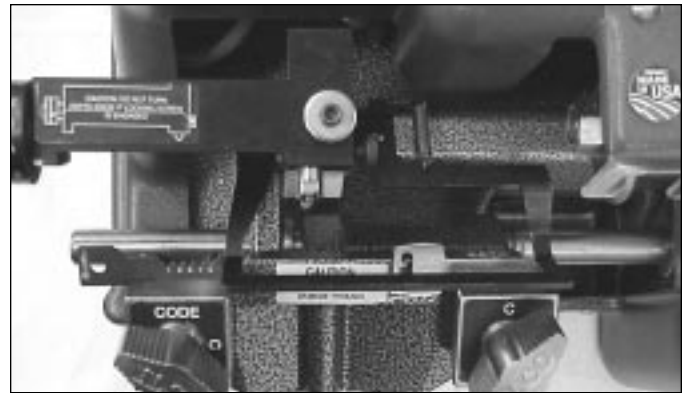


Figure 10

the left. Lower the key gauge and position the carriage so the tip of the Ford key touches the key gauge. Install and align the spacing key in the left vise jaw in the same manner.

THE CUTTING OPERATION

To make the process of cutting by code easier to understand follow the step-by-step example provided below.

WARNING: Do not install or remove keys unless the off /on switch is in the off position!

Scenario: A key needs to be cut by code from key code #10J4 for a General Motors vehicle. The proper code chart for this code series has been accessed and it indicates the key cut combination for key code 10J4 is 355331. With this information known, it is possible to continue the steps needed to create a working key from this number.

1. Refer to the Application Guide and “look up” by vehicle brand and model the code series containing the code number needed. The Guidebook will list the proper Depth Knob, Spacing Key, key blank, and vise jaw position for the application selected.
2. Install the depth knob indicated by the Application Guide onto the model 029A. In the example above, the specified Depth Knob is “A”.
3. Rotate both vise jaws to the position specified (wide).
4. **Ensure that the cutter guide lock screw is loosened to allow the guide to spring forward (see Fig. 11).**
5. Clamp the Spacing Key (SK-100) and key blank



Figure 11 - Loosen Cutter Guide Lock Screw to allow guide to spring forward for code cutting

specified for the intended application into the vise jaws. (Refer to Application Guide for proper vise jaw positioning.)

6. Lower the key gauge to align the spacing key and key blank using the appropriate method as described under “Aligning keys...” found in the previous section (see page 17).
7. After they are aligned, return the gauge to its “up” position.
8. The key cut combination for the sample key is 355331. Enter this number on the key cut display (see Fig. 12). This device provides an easy to read display of the number and can be referred to as the key is cut. You are now ready to begin cutting the key!
9. Press the off/on switch to the “on” position.



Figure 12 - Rotate thumb wheels on display to change numbers shown

10. Rotate the Depth Knob to the number that corresponds to the first number of the desired key cut combination. In our example, 355331, this number would be “3”(see Fig. 13).

11. Lift the carriage with both hands and position it so

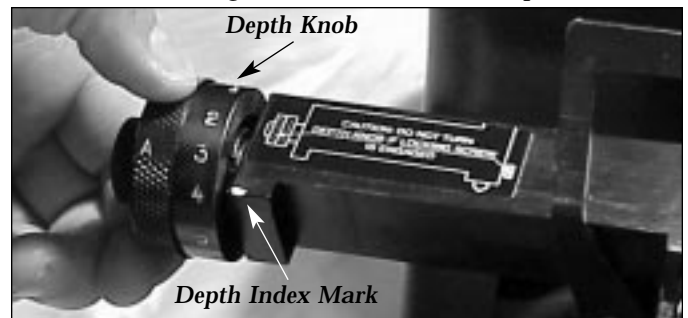


Figure 13

that the cutter guide is directly in front of the cut on the Spacing Key marked “1” (see Fig. 14).

12. Apply moderate pressure to enable the cutter

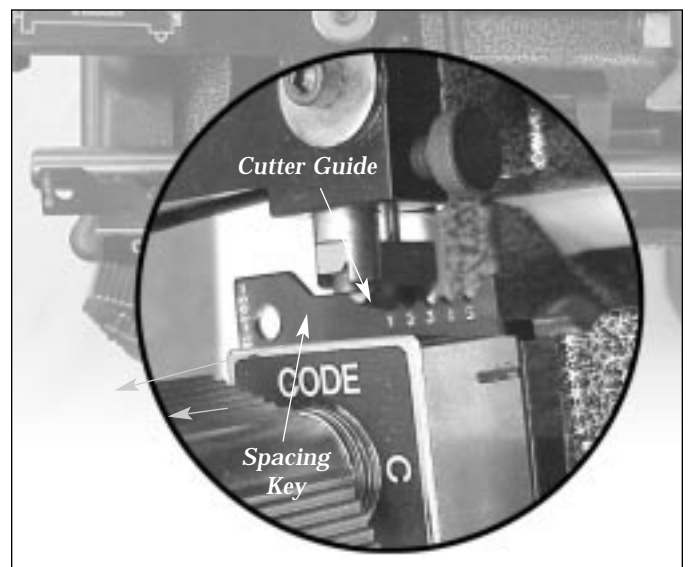


Figure 14

guide to enter into the “1” cut on the spacing key. As you apply pressure, the cutter guide, which is spring loaded, will retract enabling the key blank to contact the cutter and thus create the first cut of the key cut combination. Use a “straight in - straight out” cutting action.

13. Allow the carriage to return to its “rest” position.

THE CUTTING OPERATION (CON'T)

14. Rotate the Depth Knob to the number that corresponds to the second number of the desired key cut combination. In our example 355331, this number would be "5".
15. Repeat step 12, but position the cutter guide into the "2" cut on the spacing key instead. In essence, the numbered cuts on the spacing key correspond to the proper location where each cut of the key cut combination should be placed. Therefore, the third cut of key cut combination 355331, which is a "5", will be created using the #3 position on the spacing key and so on. **Remember the Depth Knob controls the depth of a cut, the Spacing Key determines its location!.**
16. Once each cut of the key cut combination has been produced onto the key blank, remove it after first ensuring the machine's off/on switch is in the "off" position. In the case of a double sided key, reclamp the spacing key and key blank as was initially done. Repeat steps 9-16.
17. To deburr the completed key, press the off/on switch to the "on" position and contact the key lightly against the deburring brush. Return the switch to the "off" position.

REPLACING THE CUTTER/ADJUSTMENTS

Replacing the Cutter

The CU29 cutter used on this machine is 2 1/4" in diameter. It is specially designed for versatility and can be used to duplicate and code cut most automotive type keys. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

As with any metal cutting instrument, the CU29 will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - A dull cutter will emit a shrill sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or not burrs.

To replace the cutter, use two wrenches, one 3/4" wrench for the cutter nut and one 1/2" wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns clockwise to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers, and the nut. **Please note that the machine should be unplugged from its power source and the hood removed before performing this procedure.**

Adjusting for Depth of Cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It is imperative that the cutter guide and cutter operate in the same plane, that is, aligned to each other. If the cutter guide is adjusted too far forward, the resulting cuts in a key blank will be too shallow and the keys cut will not work. Likewise, if the cutter guide is "behind" the cutter, the cuts in the key will be too deep.

1. **To check the depth adjustment**, insert two identical key blanks into the vise jaws ensuring that they are positioned flat (not tilted) in the vise jaws. It is not necessary to align them with the key gauge for this procedure.
2. Rotate the depth knob to its deepest cut position.
3. **IMPORTANT:** Press in on the cutter guide until it stops and tighten the cutter guide lock screw (see Fig. 15).

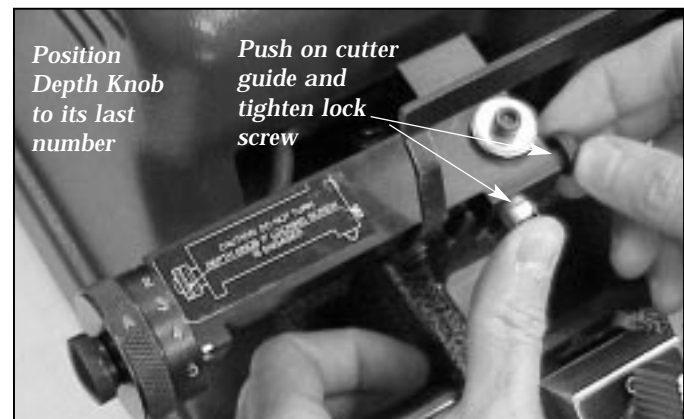


Figure 15

REPLACING THE CUTTER/ADJUSTMENTS (CON'T)

4. Raise the carriage, positioning the blank on the left against the cutter guide and the right blank against the cutter. Turn the machine pulley by hand and note the right blank. The cutter should **barely graze** the key blank when the adjustment is correct (see Fig. 16).



Figure 16 - Adjustment is correct when both keys touch

NOTE: No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not contact the key blank after one rotation, or contacts excessively, proceed to change the adjustment.

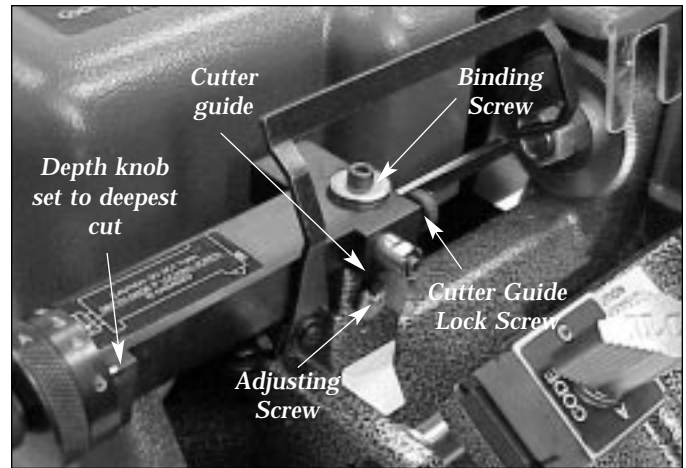


Figure 17

5. To adjust the cutter guide, slightly loosen the binding screw (see Fig. 17).
6. With a flat screwdriver, turn the adjusting screw in (to increase cut) and/or out (to decrease depth of cut). Again, proper adjustment is achieved when the cutter barely grazes the key blank.
7. Retighten the binding screw to complete the adjustment.

ILCO UNICAN®

USA

ILCO UNICAN CORP.

400 Jeffreys Rd., Rocky Mount, NC 27802-2627

Tel.: (252) 446-3321 • Fax: (252) 446-4702

Canada and international

ILCO UNICAN INC.

7301 Decarie Blvd., Montreal, Quebec H4P 2G7

Tel.: (514) 735-5411 • Fax: (514) 735-4704

Export fax: (514) 735-1393

044 HD

INSTRUCTION MANUAL

IMPORTANT! Read these instructions before you use your new 044 HD Key Machine.

Ensure that all safety recommendations are followed!

See page 3 for instructions.



PERFORMANCE
Series

This manual applies specifically to the 044 HD Performance Series key machine. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. If ownership of this machine is transferred, this service manual should accompany the machine.

When seeking service information about this machine, refer to Model No. 044 HD and the part number desired (see pages 6 to 8). Note that many parts are not interchangeable with other KABA ILCO machines.

CONTENTS

Warranty	2
Safety information	3
Introduction / unpacking	4
Operating parts (illustrated).....	5
Operating parts identification (names and part numbers) ..	5
Exploded view	6
Exploded view parts list / unpacking / test keys	8
How to duplicate keys	9
The cutting operation / replacing the cutter	12
Adjustments	13

ONE YEAR LIMITED WARRANTY

KABA ILCO warrants to the original buyer of any new model 044 HD machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of KABA ILCO, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by KABA ILCO, provided that the machine is returned by prepaid transport to KABA ILCO or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). KABA ILCO may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

KABA ILCO sells precision-made machines. The buyer assumes all risks, and KABA ILCO shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with KABA ILCO printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by KABA ILCO on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases KABA ILCO from any liability for any reason other than a breach of its warranties hereunder.

The liability of KABA ILCO shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall KABA ILCO be liable for any personal injuries, property damage or consequential damages.

Use only genuine KABA ILCO replacement parts on this machine!

Serial number : _____

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (115 Volt models) Your machine is designed to operate using 120 Volt A. C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact KABA ILCO at the address printed on the cover. (KABA ILCO also offers repair service for out-of-warranty machines. Contact KABA ILCO for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

INTRODUCTION / UNPACKING

Congratulations!

You've purchased a superior key cutting machine.

The Model 044 HD manual Performance Series key machine you've just purchased incorporates the latest improvements in design for key duplicating machines of its type.

This machine features exclusive four-way vise jaws designed to accommodate virtually any standard cylinder key without the need for adapters.

Even double-sided automotive keys can be duplicated with ease; the four-way jaws include stations ideally suited to gripping these keys and is capable of gripping them in the groove or milling for enhanced clamping performance when necessary.

Accurate, easy to operate and maintain, the model 044 HD delivers excellent performance at an economical price!

Unpacking instructions

Your 044 HD key machine has been shipped to you in a sturdy, specially cushioned container to prevent the possibility of damage during handling and shipment. Once the machine is removed from the carton, it should be set up on a level workbench and wiped free of all rustproof-

ing oil. The machine is adjusted at the factory and test keys have been cut on it, but it is recommended that you check the adjustments to make sure they have not slipped or shifted during transit (see page 13 "Adjusting for depth of cut").

Safety

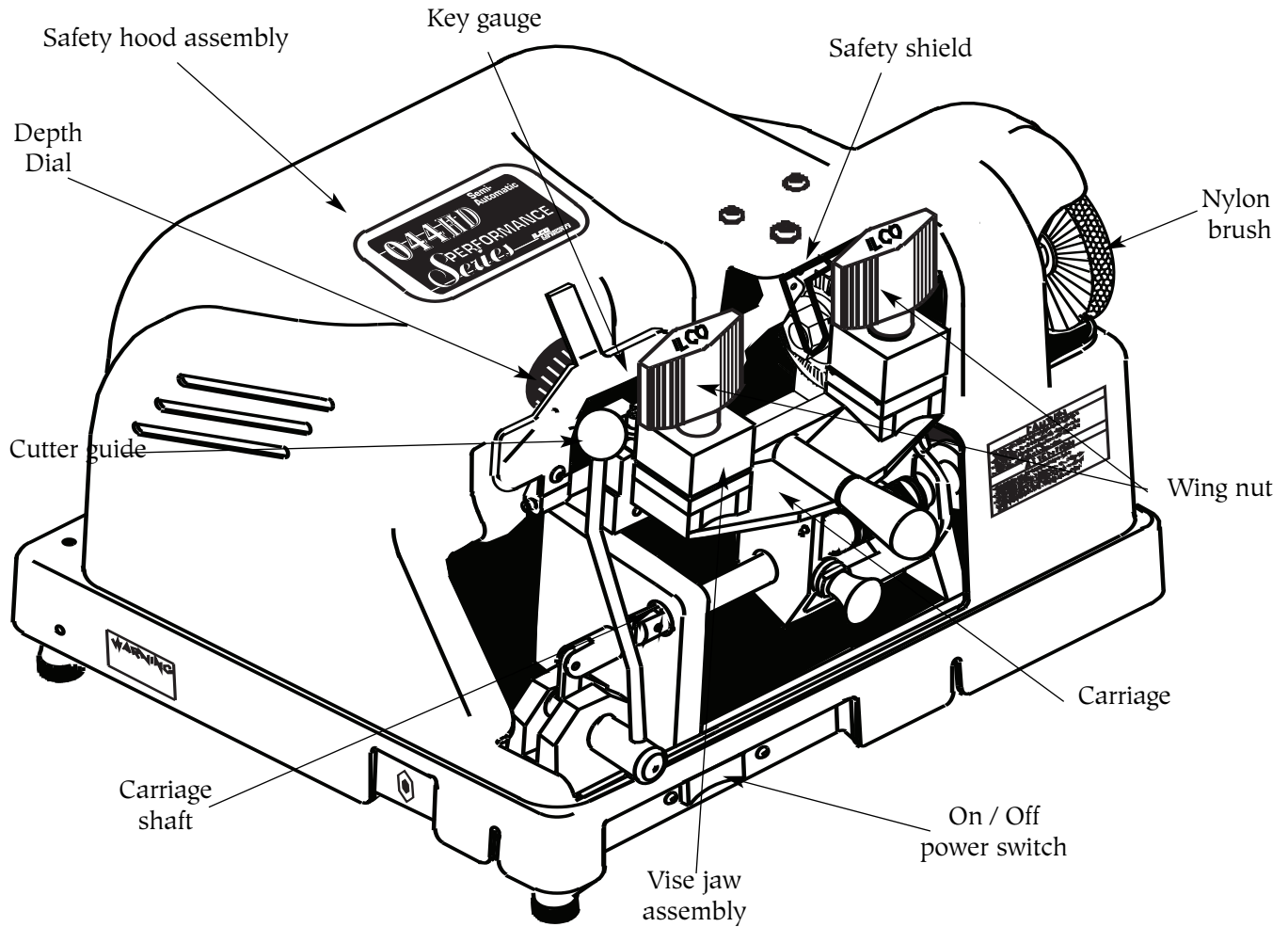
The 044 HD has been engineered to duplicate cylinder (paracentric) keys. It is not intended or designed for any other purpose. The machine operator assumes all liability when using this machine in a manner inconsistent with its stated design purpose. Refer to page 3 for complete safety information before operating the machine.

KABA ILCO **strongly recommends** the use of protective eye glasses or goggles when operating this machine, or

when in the vicinity of the machine while it is being operated. Protective eye wear prevents injuries! The machine should be turned off before loading or unloading keys.

When the key machine is operating, be careful not to contact the vise jaw or carriage against the cutting wheel as this will cause damage to the cutter, jaw, or carriage.

CAUTION!	DO NOT DESTROY OR DISCARD THIS SPECIAL SHIPPING CARTON. STORE IT CAREFULLY IN A SAFE PLACE. THIS CARTON SHOULD BE USED WHENEVER THE MACHINE IS MOVED OR SHIPPED.
-----------------	---



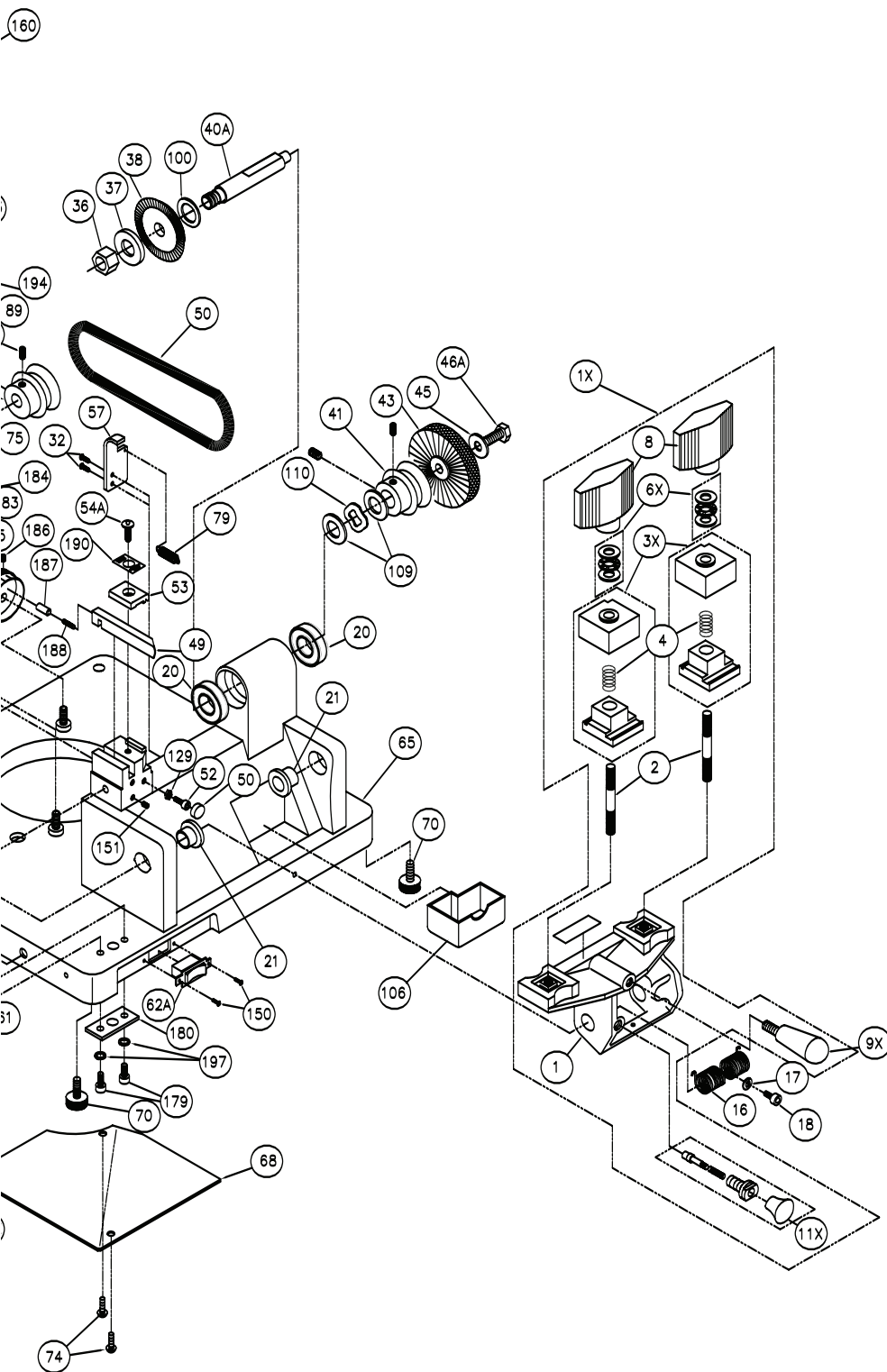
Operating parts identification

Part no.	Identification
024B-1	Carriage
025-3X	Vise jaw assembly
025-8	Wing nut
045-23	Carriage shaft
P-CU20	P-CU20 cutter
814-00-51	Nylon brush
045-49	Cutter guide (stylus)
045-55A	Adjusting screw
040-56	Key gauge
025-62A	On/Off switch
045-86X	Safety hood assembly
045-87	Safety shield

EXPLODED VIEW



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Refer to pages 6-7 for illustration

Ref.	Part no.	Description	Ref.	Part no.	Description
1	044HD-1	Carriage	79	024B-79	Key gauge spring
1X	044HD-1X	Carriage assembly	84	024B-84	Clip
2	025-2	Carriage stud	86X	044HD-86X	Safety hood assembly
3X	045HD-3X	Vise jaw assembly (Super Jaw 3)	87	044HD-87	Safety shield
4	025-4	Vise jaw spring	89	045-89	#10 Lockwasher
6X	025-6X	Thrust bearing set	90	025-90	Nut, #10-32
8	025-8	Wing nut	91	024B-91	Power cord
9X	040-9X	Carriage handle	92	024B-92	3 wire motor cable
20	040HD-20	Cutter shaft bearings	100	040HD-100	Cutter spacer; right
21	025-21	Carriage shaft bushing	101	025-101	Motor pulley set screw
23	044HD-23	Carriage shaft	106	040-106	Chip tray
32	024B-32	Button head. screw, 10-24 x 3/8"	109	025-109	Bearing washer
36	025-36	Cutter nut, N-4	110	025-110	Wave washer
37	025-37	Cutter spacer; left	129	040-129	Locking nut (8-32)
38	P-CU20	P-CU20 cutter	146	040-146	Power cord strain relief
40	040HD-40	Cutter shaft	150	040-150	Switch screw (6-32 x 1/4")
41	040HD-41	Cutter shaft pulley (2")	151	040-151	Set screw (8-32 x 3/8")
43	814-00-51	Nylon brush	160	025-160	Caution label
45	024-45	Brush bolt washer, 5/16"	163	045-163	Hood Screw
46A	025-46A	Hex head screw, 5/16"-18 x 3/4"	171	025-171	Cutter pulley set screw, 3/8" -18
47	025-47	Motor pulley 2" - 3L	181	024B-181	Key Gauge Spacer - Left
48	040HD-48	V-Belt, 3L160	182	024B-182	Key Gauge Spacer - Right
49	045-49	Cutter guide (stylus)	183	040-183	1/4-20 Lockwasher
50	040-50	Carriage stop	184	040-184	1/4-20 Hex Nut
52	040-52	Socket hd. screw 8-32 x 1-1/2"	186	045-186	6-32 x 3/8" set screw
53	045-53A	Cutter guide binding washer	187	045-187	dowel
54	045-54	Cutter guide binding screw	188	045-188	dowel spring
55A	045-55A	Adjusting screw	189	045-189	Adjustment dial
56	040-56	Key gauge	190	045-190	Cutter guide label
57	024B-57	Key gauge bracket	194	045-194	#10 flat washer
58	024B-58	Key gauge dowel pin	195	045-195	10-32 x 1/2" Button hd. screw
59	025-59	Key gauge housing	198	045-198	7/16-14 x 3/4" set screw
60	025-60	Cap screw, 8-32 x 1/2"	199	045-199	1/2-20 x 1/2" set screw
61	025-61	Circuit Breaker, ETA 1658	IM	044HD-IM	Instruction manual
62A	025-62A	On/Off switch	NS	025-240	220V 1/4HP motor
65	044HD-65	Machined base			
68	040-68	Electrical cover			
70	040-70	Rubber mount			
74	040-74	Truss head screw, 8-32			
75	040-75	Motor, 1/4hp, 115V			

Operating Handles

The 044 HD key machine is shipped completely assembled except for the carriage handle and the lever handle. Upon unpacking the machine, locate the carriage handle and thread it into the carriage in the area directly above the trigger assembly. Then, cut the nylon band holding the carriage rigid and insert the lower end of the lever handle into the hole in the pinion shaft (located at the front of the machine on the left side). Tighten the set screw on the front of the pinion shaft to secure the lever handle. Refer to page 5 if unsure of handle placement.

Test keys

A series of cut keys are supplied with your machine. These keys were cut on your machine and represent the result of our quality inspectors' work before approving your machine for shipment. The keys are reproductions of factory dimensioned pattern keys and are accurate to .002" or less. Save these keys and use them as standards to check the accuracy of cuts in the keys you make. Duplicating a key and then using a key micrometer or caliper to compare the actual depth of the cuts on both the duplicate and the pattern key will allow you to see if your machine is cutting too deep or too shallow, thus indicating that an adjustment of the cutter guide is necessary.

Proper key cutting techniques

Even though your 044 HD key machine is designed to make key cutting fast, efficient and accurate, operator skill is important. The actual mechanics of placing keys within the vise jaws is simple to learn, but there are some basics that must be followed. A properly adjusted key machine used by someone who ignores good key cutting techniques will NOT produce a good key. The way a person clamps a key into the vise jaws is critical to the accuracy of the duplicated key.

Remember - the real purpose of a duplicate key is to operate the lock for which it was intended. If customers return keys, you should reexamine your cutting techniques and adjustment of the machine.

Here are some important operating tips:

1. Vise jaws - clean them regularly so that no metal chips lie under the keys. **It is essential that both keys lie flat across the entire width of each vise jaw. Neither key should be tilted.**
2. Do NOT use pliers or other tools to tighten the vise jaws. Firm hand pressure is sufficient.
3. Keep the carriage shaft free of metal chips. A thin film of oil can be applied to it. The carriage should be free to move without binding.
4. NEVER touch the shoulder of a key to the side of the cutter guide. This will cause the shoulder of the key blank to touch the side of the cutting wheel. When this happens, some of the metal will be cut away from the shoulder of the key blank. If the resulting duplicated key is duplicated two, three, four times over, an error will accumulate and cause a non-operating key. Do not grind away the shoulder.
5. Don't run the cutter into the vise jaw; this will dull the cutter, and reduce cutter efficiency.
6. Keep the cutter clean. Don't let any foreign objects or instruments blunt it. This cutter is a precise cutting tool and should be handled with care.
7. Lubrication requirements for your new "HD" Performance Series key machine are minimized through the use of sealed, permanently lubricated cutter spindle bearings. The carriage shaft however, should be inspected on a routine basis, and wiped with a dry, clean cloth to remove any chip buildup that occurs. After cleaning, application of a dry film lubricant is recommended for maximum service life; spray type lubricants that dry completely once applied are fine. Depending on usage, the machine's 1/4 hp motor may require lubrication once annually. Refer to the label on the motor for lubrication details and recommended interval.

HOW TO DUPLICATE KEYS

General key duplication procedures

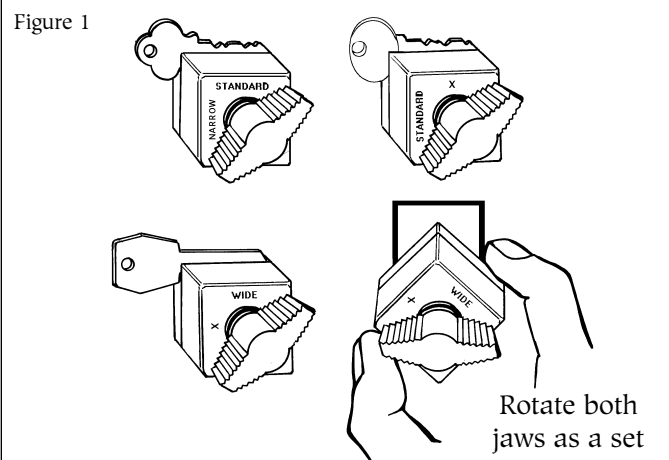
WARNING: Do not install or remove keys unless the off/on switch is in the OFF position! Always wear eye protection when operating this machine!

There are four procedures that the machine operator performs to insure proper duplication of a key:

1. Selection of the proper key blank. Compare the head, length, and key blank's cross section (width, angle, and location of grooves) with the key to be duplicated to assure that a proper match has been made.
2. Ensuring both four-way vise jaws have been placed in the proper position for the type of key to be duplicated. See "Using the four-way vise jaws" section of this manual.
3. Proper alignment of the pattern key and blank key within the vise jaws. See "Aligning keys in the vise jaws".
4. Actual duplication of the pattern key; which can be properly accomplished only after the previous steps are performed.

Using the four-way vise jaws

Your 044 HD is equipped with the KABA ILCO versatile Four-way, Super Jaw 3 vise jaws. They feature four unique clamping surfaces to securely grip virtually any typical cylinder key (see Fig. 1).



Using the four-way vise jaws (cont.)

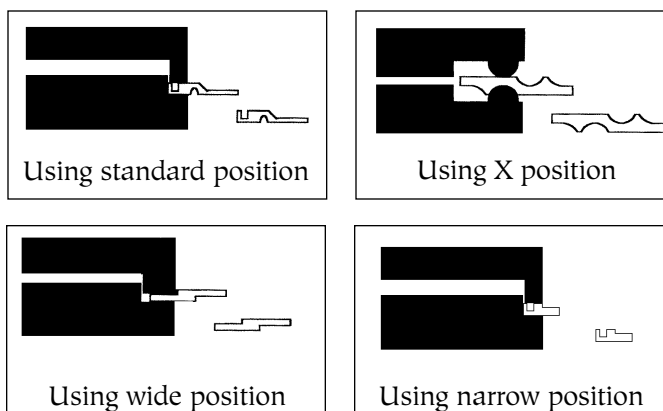
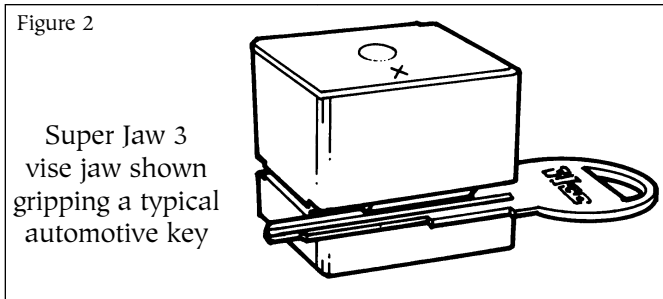
To obtain the best gripping action possible, it is necessary to assure that the proper vise jaw position is selected for each key you duplicate. The vise positions are explained below and proper usage shown in figure 2.

Standard - for holding regular cylinder keys, such as house keys, single sided automotive keys, padlock keys, with one or two shoulders.

Narrow - for holding the 1092B and other narrow width keys.

Wide - for holding the Ford double-sided keys and similar types, either primary or secondary. When positioning the keys in the vise jaws, lay the key so that its center ledge is flat against the top surface of the jaw.

X - Ideal for holding most double-sided convenience keys used on most current automobiles. Grip these keys by the grooves rather than the blade edge where the cuts are located (see Fig. 2).



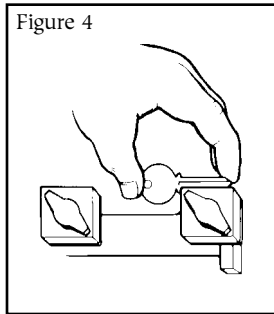
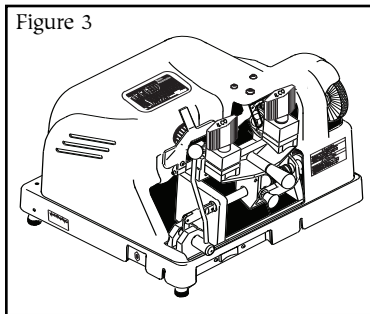
To reposition the vise jaws, as from Standard to Wide, first loosen the wing nuts. Then lift upward on the top and bottom of each vise jaw as a complete unit to raise them above their seat in the carriage. Rotate the jaws until the chosen vise position is facing toward the rear of the machine and lower the jaws back into contact with the carriage. Both left and right vise jaws should be rotated to the same position.

Aligning keys in the vise jaws Keys with shoulders

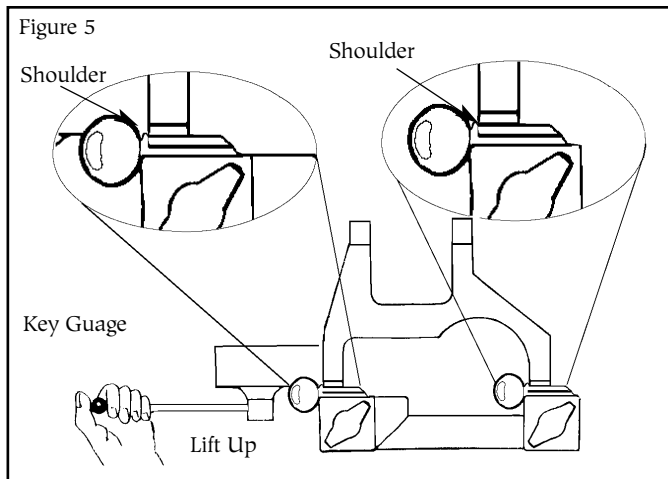
WARNING: Do not install or remove keys unless the off/on switch is in the off position.

Both the pattern key and the key blank must be properly aligned and securely clamped in the vise jaws prior to duplication. The correct procedure to do this follows.

1. Move the carriage lever to the left as far as possible (See Fig. 3).



2. Assure that both vise jaws are rotated to the correct position for the type of key being duplicated.
3. Place the key blank in the right hand jaw. Position it so that it is parallel with the front portion of the jaw (see Fig. 4). Tighten wing nut lightly.
4. Swing key gauge down to rest on the blade of the key blank. Slowly move carriage lever clockwise to the right until the shoulder of the key blank butts up against the edge of the key gauge (See Fig. 5).
5. Use index finger to press down on the front edge of the key blank while loosening wing nut. Retighten securely after assuring that the key blank is contacting key gauge and is properly seated in the vise jaw.
6. Position pattern key in the left vise jaw repeating the procedure described in step 4.

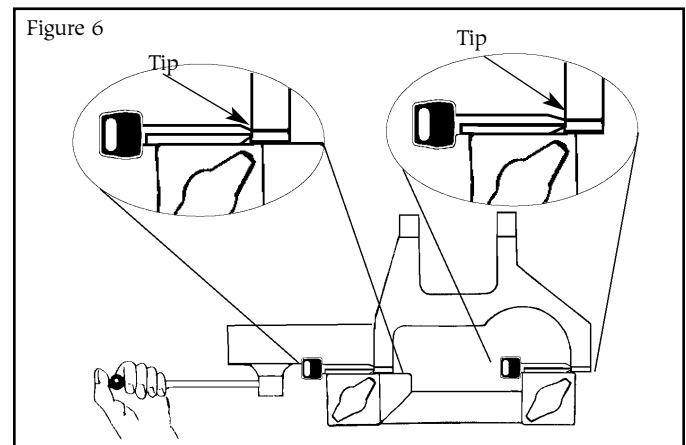


7. Check to ensure that the pattern key and blank key's shoulder are snug against the key gauge and both keys positioned level (not tilted) in the vise jaws. Return key gauge to the "up" position. The key is now properly aligned for duplication.

Aligning keys in the vise jaws Keys without Shoulders

On keys that don't have a conventional shoulder, such as the Ford double-sided key, the tip of the key is used as the aligning point. With keys of this type follow this procedure.

1. Assure that both vise jaws are rotated to the correct position for the type of key being duplicated.
2. Position the key blank in the right hand jaw. For most tip gauged automotive keys, position the blank so that the tip is roughly 1/4" left of the jaws right edge. Tighten the jaws wing nut securely.
3. Move the carriage lever to the left so that the key gauge's right hand "finger", **with gauge lowered**, is just forward of the key blank's tip.
4. Insert the customer's key (pattern key) in a similar manner in the left hand jaw. Then position both the customer's key and the key blank so that their tips are both in **direct contact** with the left edge of the key gauge fingers (See Fig. 6).



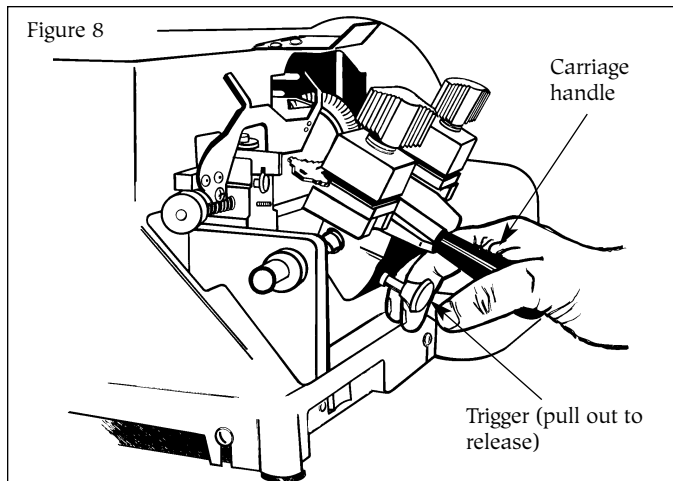
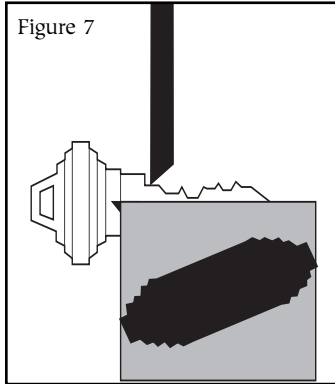
5. After both the customer's key and blank key are aligned, left key gauge to its raised position.
6. If a key is cut on both sides, after duplicating "side one" rotate and proceed with "side two" using the same alignment procedure. In the case of Ford keys as well as most double-sided European and Japanese double sided keys, only the blank needs to be rotated as the cuts are the same on both sides.
7. Refer to page 12 for additional information covering the actual key duplication process.

THE CUTTING OPERATION / REPLACING THE CUTTER

General Operating Sequence

WARNING: Do not install or remove keys unless the off/on switch is in the off position. Always wear eye protection when operating this machine.

1. Rotate both vise jaws to the station suitable for the key being duplicated.
2. Insert the blank key and pattern key into the vise jaws using the appropriate method described under "Aligning Keys in the Vise Jaws". Be sure that both keys are laying level in the vise jaws and are not tilted.
3. After the keys are aligned, move the carriage lever to the right (clockwise) until the cutter guide is slightly left of the cut closest to the head of the pattern key (see Fig. 7)
5. Press the off/on switch to the "on" position.
6. **Push down on the carriage handle while pulling out on the carriage trigger** (See Fig. 8).



This will allow you to ease the carriage up into cutting position. Take care to ensure that the carriage does not "slam" forward as this will result in probable cutter damage. Remember, best results are obtained if the cutter guide makes initial contact slightly left of the cut closest to the head of the pattern key. Do not permit the cutter to touch the should of the key blank.

6. The carriage movement is controlled by the carriage lever. Using slow moderate speed, smoothly move the carriage lever to the left (counter clockwise). Avoid using an erratic, jerking movement! Once the cutter is at the tip of the key, move the carriage to the right by moving the carriage lever clockwise. This will result in a second cutting pass over the key blank. STOP before cutter contact with the shoulder of the blank occurs.
7. Press the off/on switch to the off" position and remove finished key by pushing down on the carriage handle until the trigger clicks into place. Then loosen wing nut to remove duplicate key.
8. To deburr the key, turn the machine on, and position the cut key lightly against the rotating deburring brush.

Replacing the Cutter

The P-CU20 cutter used on this machine is .250 in diameter, .093" thick and has a 1/2" hole. It's a milling cutter, made out of high speed steel. It has a flat left side, which is excellent for making deep cuts, when these cuts are next to the shoulder, such as on GM, Chicago, etc. No warranty is placed on the cutter, operators should treat it with care and avoid harsh usage. Do not force the carriage up, causing the key blank to bang into the cutter, and do not apply heavy pressure when cutting. Also, do not let the cutter run into the vise jaw; this will dull the cutter quickly.

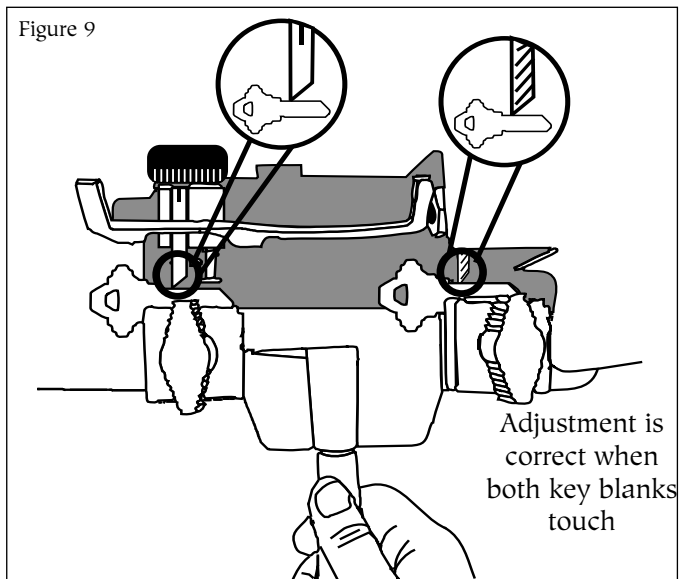
As with any metal cutting instrument, the P-CU20 will dull with usage. There are three ways to tell when a cutter is dull and requires replacing:

1. Time - a dull cutter takes longer to make the cuts.
2. Sound - a dull cutter will emit a shrill sound as it runs across the key blank.
3. Burrs - a dull cutter will not cut away the metal but will roll it away. When this occurs, there will be a buildup of metal burrs on the underside of the key. If this buildup is heavy, the cutter is dull. A sharp cutter leaves little or no burrs.

To replace the cutter, use two wrenches, one 3/4" wrench for the cutter nut and one 1/2" wrench for the cutter shaft. Set the two wrenches in position and loosen the cutter nut. Note that the cutter nut has a reverse thread and turns downward to loosen. Remove the spacer washers and the dull cutter. Install the new cutter, the washers, and the nut.

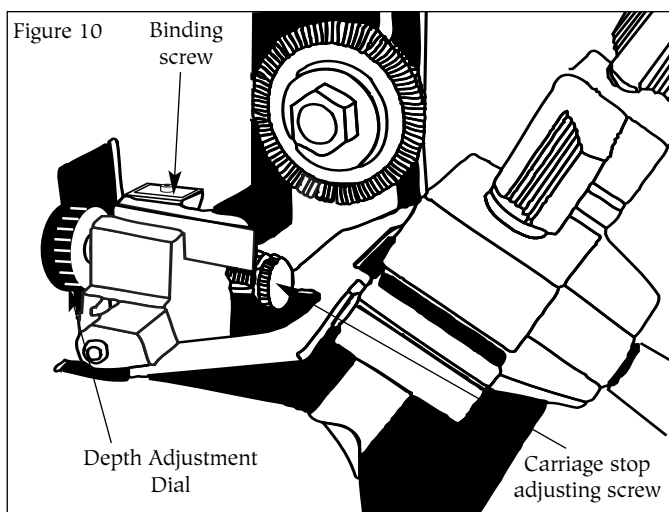
Adjusting for depth of cut

To ensure safety, UNPLUG machine from its power source before adjusting for depth of cut. It's imperative that the key guide and the cutter be in the same plane, that is, aligned to each other. If the cutter guide protrudes further than the cutter, the resulting cuts in a key blank will be too shallow and the duplicate key will not work. Likewise, if the cutter guide is behind the cutter, the cuts in the key will be too deep (see Fig. 9).

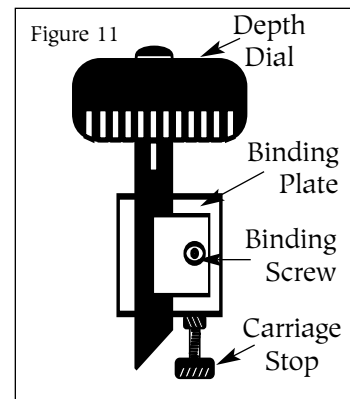


To check the depth adjustment, insert two identical key blanks into the vise jaws, setting them flat in each vise. (It is not necessary to align the blanks.) Then, raise the carriage, positioning the left blank against the cutter guide and the right blank against the cutter. Next, turn the machine pulley by hand and note the right key blank. The cutter should just barely graze the key blank when the adjustment is correct.

No cutter is perfectly round so make one complete rotation of the cutter before changing adjustment. There will



be a high point on the cutter; the adjustment should be made to the high point. If the cutter does not touch the key blank after one rotation, proceed to change the adjustment.



To adjust the cutter guide, loosen the binding screw on top of the cutter guide **slightly**. (see Fig. 10 & 11). Once you have loosened this screw, the depth adjustment dial can be rotated to the left (to decrease depth of cut) or to the right (to increase depth of cut). Again, proper adjustment will be achieved when the cutter

just **barely grazes** the key blank before it while the cutter guide is in contact with the other key blank. Retighten the binding screw once the calibration process is completed. Recheck after tightening to assure that adjustment did not shift.

Each calibration mark on the depth adjustment dial is equivalent to approx. .0015" (1 1/2 thousandths of an inch). As you can see, this system can allow for very precise adjustment of your new key machine. In fact, if you have a key micrometer or dial caliper available, you can adjust your machine with "factory accuracy". To do this, you would simply duplicate a key and measure cuts on both the "pattern key" and the duplicate key for comparison. This would show any deviation that existed and whether the duplicate cuts were too deep or too shallow and by how much. With this information, you can use the depth adjustment dial on your machine to calibrate your machine for best possible accuracy. This is very important as many locks are designed with close fit tolerances and the keys you duplicate are often themselves copies; functional but just barely so. The more accurate your key machine is adjusted, the closer your duplicates will match their originals, resulting in fewer non-functional miscuts!

It is very important to understand that adjusting your machine is not a "one time" procedure. As the cutter on your machine wears down, the machine must be adjusted to compensate. It is good shop practice to **check** you machines' depth adjustment every 2-4 weeks, based upon your store's key cutting volume and readjust as necessary. You will find that re-calibration is seldom needed, but by checking and correcting **BEFORE** customers begin returning miscut keys, you will create a reputation for your store as a "good place" to have keys duplicated.

ADJUSTMENTS

Adjusting for spacing

There is no adjustment for spacing. However, if a key gauge assembly is ever replaced, the key gauge must be fitted to the machine after it has been installed. To do this, first install a pattern key and key blank and align these against the cutter guide and cutter. Then lower the key gauge and file the appropriate finger of the gauge to allow contact with the shoulder of both keys.

Adjust the Carriage Stop

The purpose of the carriage stop is to prevent the cutter from hitting into the right vise jaw. The stop is a nut and bolt and is adjustable. To check the adjustment, raise carriage (without keys in vise jaws) and rotate the cutter by hand. The cutter should not contact the vise jaw. When the carriage stop is properly adjusted, there should be a space of .008" between the vise jaw and the cutter (this is about the thickness of an ordinary business card). Do not allow a greater distance since this may affect the depth of cut.

Cleaning

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a single filing can alter the accuracy of the machine.



A Member of the Kaba Group

Kaba Ilco Corp.

P O Box 2627 (27802)

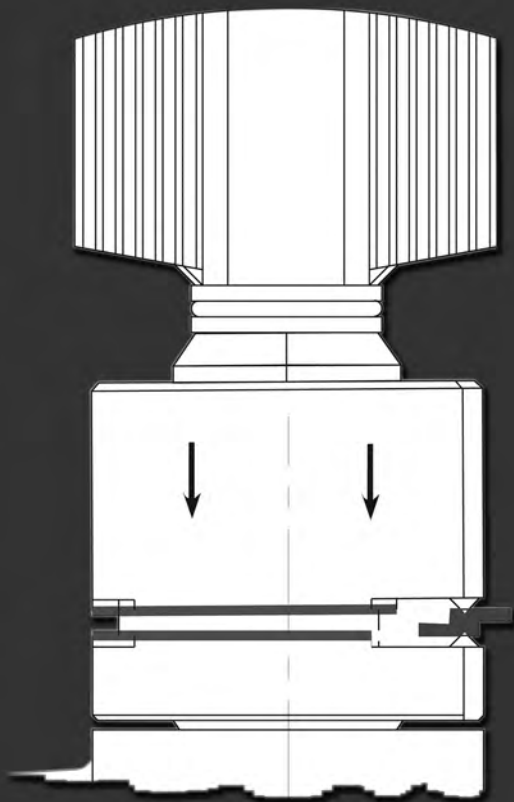
400 Jeffreys Rd., Rocky Mount, NC 27804

Tel.: (252) 446-3321 • Fax: (252) 446-4702

www.kaba-ilco.com

Super Jaw III

Ideal “tune up” for your existing Ilco Key Machine

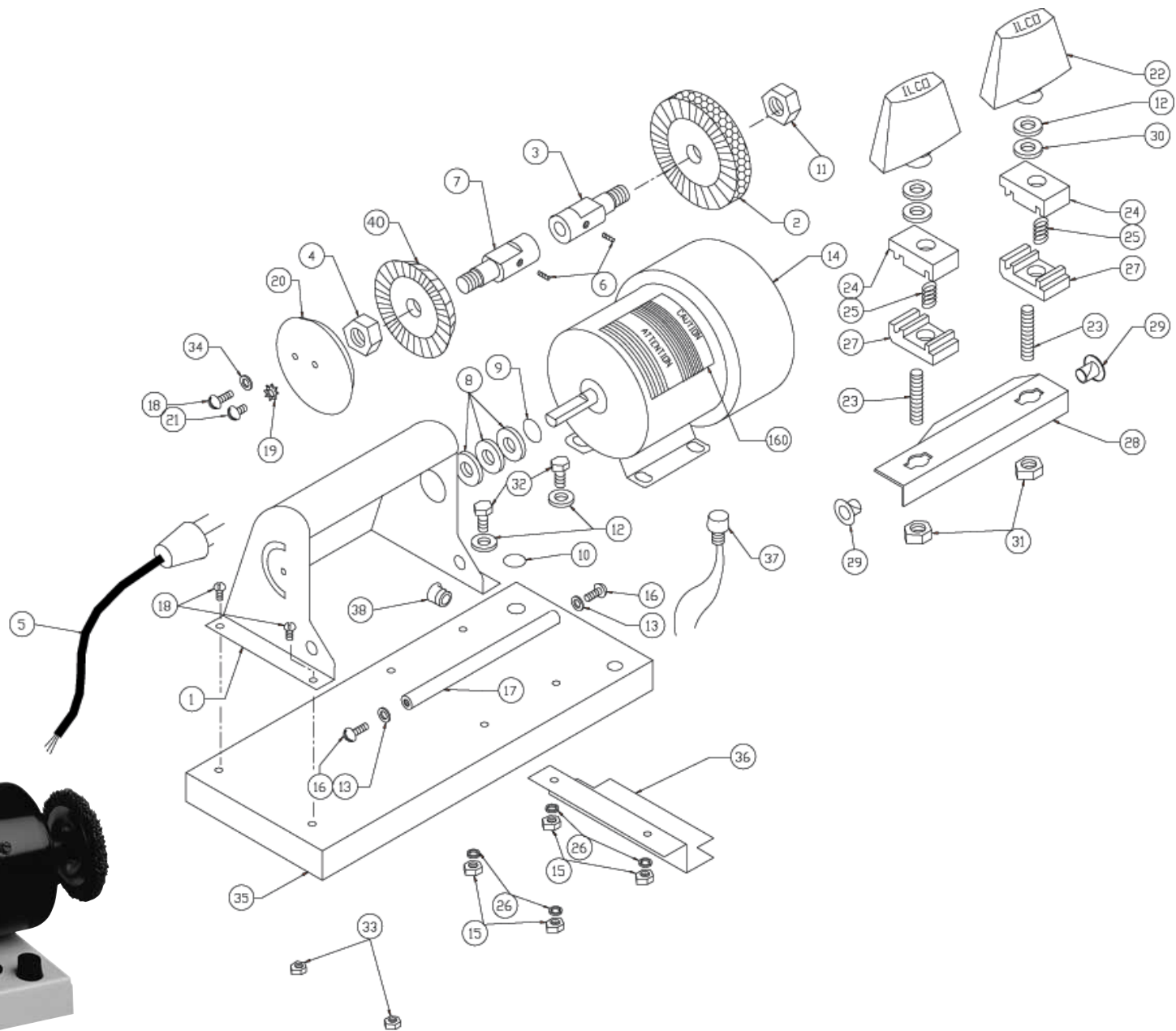


Replace your key machine's existing four-way vise jaws with new **Ilco Super Jaw III** high performance vise jaws! Their improved clamping performance means fewer mis-cuts, and better key cutting efficiency ...

- Super Jaw III utilizes an alignment bushing and precision machining to ensure that the clamping force is *evenly* applied to keys, and that the jaws mate squarely.
- Gives your key machine greater clamping power, requiring less effort to secure keys.
- Provides improved key cutting performance and accuracy; especially useful when cutting double-sided automotive keys.
- Easy installation

Super Jaw III is designed to retrofit all Ilco and Dominion Lock key machine models using **chromed four-way jaws** including the following: 020, 024, 025, 040, 044, 045, etc.

027A



027A

	Description	Part Number	Item Number		Description	Part Number	Item Number
2	Brush	027A-2	BD0221XXXX	25	Vise Spring	027A-25	184045
3	Brush Adaptor	027A-3	131442	26	1/4" Lock Washer	027A-26	194253
4	Cutter Nut	027A-4	151090	27	Stationary Jaw	027A-27	129635
5	Power Cord	027A-5	1103290P	28	Carriage	027A-28	129638F
6	Set Screw	027A-6	174449	29	Nylon Carriage Bushing	027A-29	129631
7	Cutter Adaptor	027A-7	131441	30	Fiber Washer	027A-30	194012
8	Steel Thrust Washer	027A-8	194026	31	Vise Stud Nut	027A-31	151017
9	Nylon Thrust Washer	027A-9	147013	32	1/4" Screw	027A-32	172441
10	Grommet	027A-10	129852	33	#8 Nut	027A-33	151009
11	Brush Nut	027A-11	151089	34	#8 Washer	027A-34	194013
12	Thrust Washer	027A-12	194080	35	Base Plate	027A-35	131439P
13	Carriage Screw Washer	027A-13	194251	36	Cover Plate	027A-36	131440P
14	Motor 110 Volt	027A-14	131443	37	Switch	027A-37	129632
15	1/4" Nut	027A-15	151077	38	Strain Relief Button	027A-38	129023
16	Carriage Screw	027A-16	172314	39	Warning Label	027A-39	131809
17	Carriage Shaft	027A-17	129630	40	CU1 Cutter	027A-40	BC0104XXXX
18	Key Guide Clamp Screw	027A-18	172350	160	Caution Label	025-160	255288
19	Star Washer	027A-19	194014	N/S	Instruction Manual	027A-IM	125173
20	Key Guide	027A-20	131447	N/S	Hex Key 3/32		129014
21	Key Guide Pivot Screw	027A-21	172119	N/S	Hex Key 5/32		129074
22	Wing Nut (pr.)	027A-22	BD0242XXXX	N/S	Hex Key 1/8		129109
23	Vise Stud	027A-23	185000	N/S	3-62F Straight Wires		BD0356XXXX
24	Movable Jaw	027A-24	129634				



Flash Mobile



Flash Mobile

Portable, mobile duplicator for edge-cut keys.

Flash Mobile is a battery-operated version of the popular Flash 008 machine that makes it a truly a “mobile” machine. The 24V battery allows the machine to operate at 2200 RPM and will cut 300+ brass keys in a single charge.

Four position clamps mean flexibility of use:

The four jaw positions easily clamp virtually all edge cut keys present on the market. Clamps are nickel plated to provide long life. The clamps can be quickly and smoothly rotated by simply loosening the knob and rotating the clamp into the proper jaw position. Two large, ergonomic clamp handles tighten with a minimum of force to hold the key securely.

3-1/2” (88.9 mm) spacing between clamps accommodate large bow (head) and long blade keys including flip style automotive keys.

Smooth carriage movements:

The space-saving rotating knob ensures precise horizontal movements. The carriage can also be easily moved manually using the front lever.

Flash Mobile is designed to cut typical residential, commercial and automotive keys including those with large bows or long blades as well as tip stop and flip-type keys.

Optimized calibration:

A tracer point adjustment system for fast, precise calibration in increments of .001” (.025 mm).

Wear resistant components:

The cutter is AlTiN (Aluminum Titanium Nitride) coated for longer life and oxidation resistance even at temperatures up to 800°C (1,472°F). Teflon-coated bushings provide protection to the carriage shaft and guarantee a smoother, quieter movement.



Space-saving solution for fixed or mobile use:

The mounting bracket, supplied as standard, allows the machine to be secured to a work-bench and the built-in carry handle makes it easily transported to the job-site.



Safe for the user:

The protective cover on the switch protects from unintentional start up. Cutter and “tynex” de-burring brush are housed behind a protective cover. Inverted frame protects the PCB and battery from key shavings.



Technical Data

Power Supply:24V battery
 Battery Capability:2950mAh lithium-ion
 Battery Life:300+ brass keys in a single charge
 LED indicator for monitoring battery charge status
 Cutter motor:120W, 2200 RPM +/- 10%
 Movements:by rectified carriage shaft and rack
 Cutter:AITiN coated HSS (Super Rapid Steel)
 Target Cutter life:1,100 brass keys
 Carriage Runs (maximum length of cuts):42mm – 1.65"
 Dimensions:Width: 320 mm – 12.6"
Depth: 255 mm – 10.5" (with carry handle)
Height: 255 mm – 10.5"
 Weight:7 kg – 15.4 lbs.
 Noise level:sound pressure Lp(A) = 56 dB(A)
 Ideal Environmental conditions:between 10-40° C (50-104° F)
60% humidity

Warranty

Machine:2 years (excluding battery)

Accessories provided

.....2.5mm, 3mm, 4mm, 5mm allen keys
Adjusting keys (2 pcs)
Stop bars (2 pcs)
1.20 mm and 1.70 mm steel pins (2 each)
Cutter release rod
Mounting bracket
Charging/Power cord

DISCOVER A NEW WORLD OF BENEFITS

MYKEYS Pro

MYKEYS Pro provides a quick and easy method to obtain vehicle and key-programming information for **over 5000 vehicles.**



ML0159XXXX

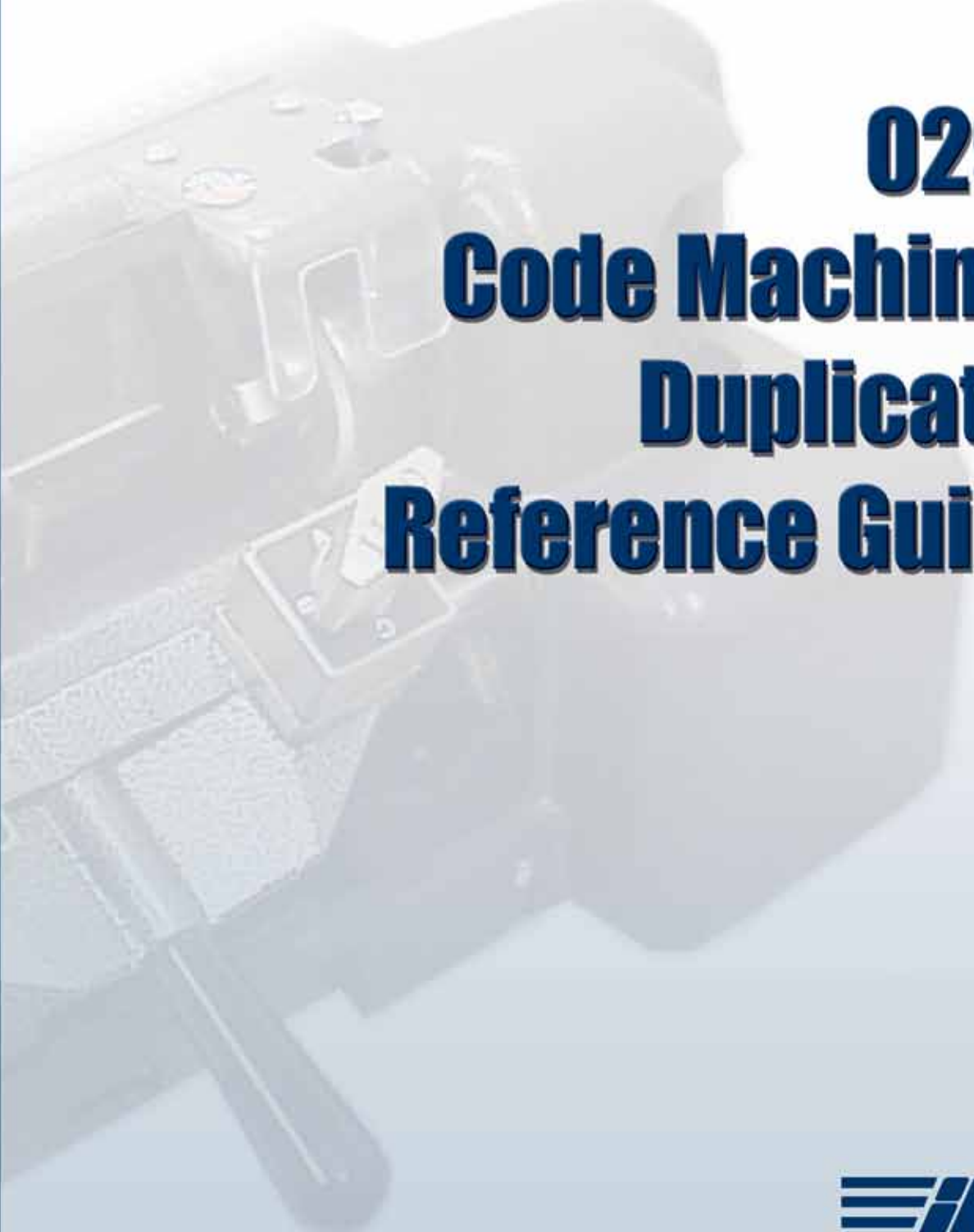
All the brand and product names mentioned in this flyer are registered trademarks and exclusive property of authorized manufacturers. Said trademarks or trade names are nominated only for the purposes of information in order to be rapidly identified.



North America:
 U.S.A., Canada, Caribbean Islands

Kaba Ilco Corp.
 400 Jeffreys Rd. • Rocky Mount, NC 27804
 Phone: 1.800.334.1381 • Fax: 252.446.4702
 Web: www.ilco.us





029A Code Machine/ Duplicator Reference Guide

The  to your success

ilco
A Member of the Kaba Group

Table of Contents

How to Use This Reference.....	3
General Information.....	4
Available Kits	4
Code Components and Vise Jaw Settings	5-11

Manufacturer Index

Acura	5	Jeep.....	8
Buick.....	5	Kia	8-9
Cadillac.....	5	Lincoln	9
Chevrolet	5-6	Mazda.....	9
Chrysler	6	Mercury.....	9
Dodge.....	6-7	Mitsubishi	9
Eagle	7	Nissan.....	10
Ford	7	Oldsmobile.....	10
Geo.....	7	Plymouth.....	10
GMC Truck	7	Pontiac.....	10-11
Honda.....	7	Saturn	11
Hummer.....	8	Subaru	11
Hyundai	8	Suzuki.....	11
Infiniti	8	Toyota.....	11
Isuzu	8		

HOW TO USE THE 029A REFERENCE GUIDE

1. In section two (page 5), look up the vehicle make (brand) associated with the key you need to cut. Under each vehicle make, you will find a listing of code series that manufacture has used, or currently used in the vehicles they produce.
2. Find the code series that includes the specific key code number of the key you need to create.
3. Refer to the Ilco Auto Truck Key Blank Reference for a listing of key blanks that are potentially used with that code series.
4. The appropriate accessory code components and vise jaw settings required to cut the key is shown for each code series listed.
5. From the information shown, you should be able to identify the appropriate items and settings required to cut the specific key you need by code.
6. Operating instructions for the 029A are found in the owner's manual.

The Kaba Ilco 029A ... the versatility of a code cutter, the convenience of a duplicator.

The 029A Code Cutter/Duplicator is specially designed for automotive key cutting applications. Its dual function design offers the convenience of duplication capability when a working key is available and the utility of being able to cut by code when necessary. The 029A is also simple to use and accurate; requires minimal training to operate.

Optional Code Accessories

Code Accessories are sold separately, and are available for most popular automotive lock applications. They are available as individual items. For some vehicle brands, they are also supplied in "Accessory Kit" form.

The chart at right shows the currently available kits along with the specific lock code series the kit covers. These kits include depth knobs, spacing keys, and codes necessary for their listed applications. **IMPORTANT: Components for individual applications, including many not shown in the chart at right**, are detailed on pages 5-11. Code Accessory Kits, individual depth knobs, spacing keys, and key codes can be ordered through your supplier.

Manufacturer	Kit No.	Depth Knobs	Spacing Keys	Codes Covered
Chrysler	029A-CHY1	AM, BX	SK-102, SK-244 SK-244A, SK-402A	J1-3580, L1-3580, M1-2618 EP1-3000, ES1-3000
Ford	029A-FORD1	A, BX	SK-103, SK-104 SK-114, SK-400	A-B-C-D-E (10 cut), 1X-1706 (8 cut) FA0-1863 (5cut prim.) FB0-1863 (5 cut sec.)
GM	029A-GM1	A,AM,AW	SK-100,SK-249A SK-261A	GM (Various single sided) J,K, (6 Cut double sided) GM '94+ (10 Cut), 0001-2000 H1-3988, O5000-6999,S000A-S999K O5000-O6999 G0000-G3631 70000-75928 J1-1200, T1-1200,V1-1200, V2001-3000
	029A-GM2	S	SK-206A (Stabilizer 129730)	
	029A-GM3 (Saturn Ion)	S	SK-206A (Stabilizer 129730)	
	029A-GM4	BM	SK-267	
	029A-GMDAT	OM	SK-201, SK-202	
Honda/Acura	029A-HD1	M,HD	SK-225,SK-240A	3001-4481, 5001-8442
Hyundai	029A-HYU1	HB,O,MC	SK-232A, SK-233A SK-255A, SK-263A SK-627, SK-698A	T1-1000/J1-1000, R1-1000,S1-1000 X1-1000,X1001-2000/D1001-2000 Y1001-2000, Z1001-2000 F0001-2500, S0001-2500 V0001-V1200 (8 CUT) H/M/T0001-2500
	029A-HYU2	G	SK-137A	
	029A-HYU3	OH	SK-698A	
	029A-HYU07		SK-138A	
Kia	029A-KIA1	AM, HB,O	SK-255A, SK-403A SK-405A, SK-407A	WA1001-3040, Y2001-3000, Y7001-8200, V1-1200 (8 cut 1-4)
	029A-KIA2	R	SK-140A	WC1001-3500, WD1001-3500
Mazda	029A-MAZ1	P,S	SK-248, SK-248A SK-624A	10100-12283 (flat keyway) 10100-12283 (Z keyway), 6500-7733
Mitsubishi	029A-MIT1	N,P,V,XM	SK-245A, SK-247A SK-406A	E5001-7000, E7001-7700, F0001-1571, 30010-32009
Nissan/Infiniti	029A-NIS1	HB,XM	SK-226, SK-226A SK-401A	X0001-8000 (w/transponder), X0001-8000, Y0001-8000, 1-22185, 40001-41518
Subaru	029A-SUB1	XM	SK-401A	30001-37850
Suzuki	029A-SUZ1	N,O,P	SK-245A,SK-246A,SK-256	U1-2000, 18100-19617, 25001-26200
Toyota	029A-TOY1	O,SS,V	SK-253, SK-256 SK-900A	10001-15000, G1-2000, P1-2390 S1-2878, X0001-2248
	029A-TOY2	XM	SK-247	50000-69999

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
ACURA								
3001-4481	029A-HD1	M	SK-225	ACB-HO	CODE	C	C	C
5001-8442	029A-HD1	HD	SK-240A	ACB-HO	CODE	A	A	A
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A
BUICK								
J,K (double sided)	029A-GM1	AW	SK-249A	ACB-GM1	CODE	A	A	A
J,K (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
L, M (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
ABNP (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
NPSU (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
EFGH (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
JKLM (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
VWXY (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
8000-9499 (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
H0001-H3988	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
O5000-O6999	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
0001-2000	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
CADILLAC								
J,K (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
L, M (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
ABNP (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
NPSU (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
EFGH (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
JKLM (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
VWXY (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
8000-9499 (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
O5000-O6999	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
H0001-H3988	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
0001-2000	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
J,K (double sided)	029A-GM1	AW	SK-249A	ACB-GM1	B	A	A	A
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
CHEVROLET								
J,K (double sided)	029A-GM1	AW	SK-249A	ACB-GM1	B	A	A	A
J,K (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
L, M (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
ABNP (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
NPSU (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
EFGH (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
JKLM (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
VWXY (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
8000-9499 (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
H0001-H3988	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
0001-2000	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
O5000-O6999*	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
	029A-GM2 (stabilizer 129730)	S	SK-206A	ACB-GM-04	CODE	A	A	A
* The O5000-O6999 Code Series can use either .025 or .020 increment depth drops depending upon the application.								
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
70000-75928	029A-GM4	BM	SK-267	ACB-GM3	CODE	C	C	C
T1-T1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	C	C	C
J1-J1200	029A-GMDAT	OM	SK-201	ACB-GMDAT	CODE	A	A	A
V1-V1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	A	A	A
10001-15000		O	SK-256	ACB-PRZ	CODE	C	C	C
18100-19617		P	SK-246A	ACB-TSK	CODE	A	A	A
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A
CHRYSLER								
EP1-3000	029A-CHY1	BX	SK-102	ACB-CHY1	B	B	B	B
ES1-3000	029A-CHY1	BX	SK-102	ACB-CHY1	B	B	B	B
J1-3580	029A-CHY1	AM	SK-244	ACB-CHY1	CODE	C	C	C
L1-3580	029A-CHY1	AM	SK-244A	ACB-CHY1	CODE	A	A	A
M1-2618	029A-CHY1	AM	SK-402A	ACB-CHY1	CODE	A	A	A
G0000-1394		AM	SK-901A	ACB-CH-G	CODE	A	A	A
E5001-7000	029A-MIT1	N	SK-245A	ACB-MIT1	CODE	A	A	A
E7001-7700	029A-MIT1	V	SK-245A	ACB-MIT1	CODE	A	A	A
F1-F1571	029A-MIT1	XM	SK-406A	ACB-MIT1	CODE	A	A	A
30010-32009	029A-MIT1	P	SK-247A	ACB-MIT1	CODE	A	A	A
DODGE								
EP1-3000	029A-CHY1	BX	SK-102	ACB-CHY1	B	B	B	B
ES1-3000	029A-CHY1	BX	SK-102	ACB-CHY1	B	B	B	B
J1-3580	029A-CHY1	AM	SK-244	ACB-CHY1	CODE	C	C	C
L1-3580	029A-CHY1	AM	SK-244A	ACB-CHY1	CODE	A	A	A
M1-2618	029A-CHY1	AM	SK-402A	ACB-CHY1	CODE	A	A	A
G0000-1394		AM	SK-901A	ACB-CH-G	CODE	A	A	A
E5001-7000	029A-MIT1	N	SK-245A	ACB-MIT1	CODE	A	A	A
E7001-7700	029A-MIT1	V	SK-245A	ACB-MIT1	CODE	A	A	A
F1-F1571	029A-MIT1	XM	SK-406A	ACB-MIT1	CODE	A	A	A

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
30010-32009	029A-MIT1	P	SK-247A	ACB-MIT1	CODE	A	A	A
EAGLE								
J1-3580	029A-CHY1	AM	SK-244	ACB-CHY1	CODE	C	C	C
L1-3580	029A-CHY1	AM	SK-244A	ACB-CHY1	CODE	A	A	A
M1-2618	029A-CHY1	AM	SK-402A	ACB-CHY1	CODE	A	A	A
E5001-7000	029A-MIT1	N	SK-245A	ACB-MIT1	CODE	A	A	A
E7001-7700	029A-MIT1	V	SK-245A	ACB-MIT1	CODE	A	A	A
30010-32009	029A-MIT1	P	SK-247A	ACB-MIT1	CODE	A	A	A
FORD								
1X-1706X	029A-FORD1	A	SK-400	ACB-FO1	CODE	C	C	C
A-B-C-D-E	029A-FORD1	A	SK-114	ACB-FO1	CODE	C	C	C
FA0-1863	029A-FORD1	BX	SK-103	ACB-FO1	CODE	C	C	C
FB0-1863	029A-FORD1	BX	SK-104	ACB-FO1	CODE	C	C	C
6500-7733	029A-MAZ1	S	SK-624A	ACB-MAZ1	CODE	A	A	A
10100-12283	029A-MAZ1 (center groove)	P	SK-248A	ACB-MAZ1	CODE	A	A	A
	029A-MAZ1 (flat keyway)	P	SK-248	ACB-MAZ1	CODE	C	C	C
GEO								
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A
U1-2000		N	SK-245A	ACB-MET	CODE	A	A	A
10001-15000		O	SK-256	ACB-PRZ	CODE	C	C	C
18100-19617		P	SK-246A	ACB-TSK	CODE	A	A	A
GM CTRUCK								
J,K (double sided)	029A-GM1	AW	SK-249A	ACB-GM1	CODE	A	A	A
J,K (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
L, M (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
ABNP (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
NPSU (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
EFGH (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
JKLM (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
VWXY (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
8000-9499 (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
70000-75928	029A-GM4	BM	SK-267	ACB-GM3	CODE	C	C	C
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
T1-T1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	C	C	C
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A
HONDA								
3001-4481	029A-HD1	M	SK-225	ACB-HO	CODE	C	C	C
5001-8442	029A-HD1	HD	SK-240A	ACB-HO	CODE	A	A	A
D4001-6000		P	SK-246A	ACB-IZU	CODE	A	A	A
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
HUMMER								
FA0-1863	029A-FORD1	BX	SK-103	ACB-FO1	CODE	C	C	C
FB0-1863	029A-FORD1	BX	SK-104	ACB-FO1	CODE	C	C	C
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
70000-75928	029A-GM4	BM	SK-267	ACB-GM3	CODE	A	A	A
HYUNDAI								
R1-1000	029A-HYU1	MC	SK-698A	ACB-HY1	CODE	A	A	A
S1-1000	029A-HYU1	O	SK-263A	ACB-HY1	CODE	A	A	A
T1-1000	029A-HYU1	O	SK-255A	ACB-HY1	CODE	A	A	A
X1-1000	029A-HYU1	HB	SK-233A	ACB-HY1	CODE	A	A	A
X1001-2000	029A-HYU1	HB	SK-233A	ACB-HY1	CODE	A	A	A
Y1001-2000	029A-HYU1	HB	SK-232A	ACB-HY1	CODE	A	A	A
Z1001-2000	029A-HYU1	HB	SK-627	ACB-HY1	CODE	C	C	C
F0001-F2500	029A-HYU2	G	SK-137A	ACB-HYU2	CODE	A	A	A
S0001-S2500	029A-HYU2	G	SK-137A	ACB-HYU2	CODE	A	A	A
V1-1200 (8 CUT 4-1)	029A-HYU3 cut 1 is deepest	OH	SK-698A	ACB-HYU3	CODE	A	A	A
H0001-H2500	029A-HYU07	G	SK-138A	ACB-HYU07	CODE	A	A	A
M0001-M2500	029A-HYU07	G	SK-138A	ACB-HYU07	CODE	A	A	A
INFINITI								
X0001-8000	029A-NIS1 (w/transponder)	HB	SK-226	ACB-NIS1	CODE	A	A	A
	029A-NIS1 (w/out transponder)	HB	SK-226A	ACB-NIS1	CODE	A	A	A
Y0001-8000	029A-NIS1	HB	SK-226A	ACB-NIS1	CODE	A	A	A
1-22185	029A-NIS1	XM	SK-401A	ACB-NIS-96	CODE	A	A	A
40001-41518		XM	SK-401A	ACB-NIS-05	CODE	A	A	A
ISUZU								
D4001-6000		P	SK-246A	ACB-IZU	CODE	A	A	A
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A
5001-8442	029A-HD1	HD	SK-240A	ACB-HO	CODE	A	A	A
70000-75928	029A-GM4	BM	SK-267	ACB-GM3	CODE	A	A	A
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
H0001-H3988	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
JEEP								
G0000-1394		AM	SK-901A	ACB-CH-G	CODE	A	A	A
J1-3580	029A-CHY1	AM	SK-244	ACB-CHY1	CODE	C	C	C
L1-3580	029A-CHY1	AM	SK-244A	ACB-CHY1	CODE	A	A	A
M1-2618	029A-CHY1	AM	SK-402A	ACB-CHY1	CODE	A	A	A
KIA								
Y2001-3000	029A-KIA1	HB	SK-405A	ACB-KIA	CODE	A	A	A
Y7001-8200	029A-KIA1	HB	SK-403A	ACB-KIA	CODE	A	A	A

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
WA1001-3040	029A-KIA1	AM	SK-407A	ACB-KIA RIO CINCO	CODE	A	A	A
WC1001-WC3500	029A-KIA2	R	SK-140A	ACB-KIA10	CODE	A	A	A
WD1001-WD3500	029A-KIA2	R	SK-140A	ACB-KIA10	CODE	A	A	A
V1-1200 (8 CUT 1-4)	029A-KIA1	O	SK-255A	ACB-KIA05	CODE	A	A	A
S1-1000	029A-HYU1	O	SK-263A	ACB-HY1	CODE	A	A	A
V1-1200 (10 CUT)		G	SK-137A	ACB-KIA V1-1200 10 CUT	CODE	A	A	A
H0001-H2500	029A-HYU07	G	SK-138A	ACB-HYU07	CODE	A	A	A
M0001-M2500	029A-HYU07	G	SK-138A	ACB-HYU07	CODE	A	A	A
LINCOLN								
1X-1706X	029A-FORD1	A	SK-400	ACB-FO1	CODE	C	C	C
A-B-C-D-E	029A-FORD1	A	SK-114	ACB-FO1	CODE	C	C	C
FA0-1863	029A-FORD1	BX	SK-103	ACB-FO1	CODE	C	C	C
FB0-1863	029A-FORD1	BX	SK-104	ACB-FO1	CODE	C	C	C
6500-7733	029A-MAZ1	S	SK-624A	ACB-MAZ1	CODE	A	A	A
10100-12283	029A-MAZ1 (center groove)	P	SK-248A	ACB-MAZ1	CODE	A	A	A
	029A-MAZ1 (flat keyway)	P	SK-248	ACB-MAZ1	CODE	C	C	C
MAZDA								
6500-7733	029A-MAZ1	S	SK-624A	ACB-MAZ1	CODE	A	A	A
10100-12283	029A-MAZ1 (center groove)	P	SK-248A	ACB-MAZ1	CODE	A	A	A
	029A-MAZ1 (flat keyway)	P	SK-248	ACB-MAZ1	CODE	C	C	C
1X-1706X	029A-FORD1	A	SK-400	ACB-FO1	CODE	C	C	C
A-B-C-D-E	029A-FORD1	A	SK-114	ACB-FO1	CODE	C	C	C
FA0-1863	029A-FORD1	BX	SK-103	ACB-FO1	CODE	C	C	C
FB0-1863	029A-FORD1	BX	SK-104	ACB-FO1	CODE	C	C	C
MERCURY								
1X-1706X	029A-FORD1	A	SK-400	ACB-FO1	CODE	C	C	C
A-B-C-D-E	029A-FORD1	A	SK-114	ACB-FO1	CODE	C	C	C
FA0-1863	029A-FORD1	BX	SK-103	ACB-FO1	CODE	C	C	C
FB0-1863	029A-FORD1	BX	SK-104	ACB-FO1	CODE	C	C	C
6500-7733	029A-MAZ1	S	SK-624A	ACB-MAZ1	CODE	A	A	A
10100-12283	029A-MAZ1 (center groove)	P	SK-248A	ACB-MAZ1	CODE	A	A	A
	029A-MAZ1 (flat keyway)	P	SK-248	ACB-MAZ1	CODE	C	C	C
MITSUBUSHI								
E5001-7000	029A-MIT1	N	SK-245A	ACB-MIT1	CODE	A	A	A
E7001-7700	029A-MIT1	V	SK-245A	ACB-MIT1	CODE	A	A	A
F1-F1571	029A-MIT1	XM	SK-406A	ACB-MIT1	CODE	A	A	A
30010-32009	029A-MIT1	P	SK-247A	ACB-MIT1	CODE	A	A	A
M1-2618	029A-CHY1	AM	SK-402A	ACB-CHY1	CODE	A	A	A
X1-1000	029A-HYU1	HB	SK-233A	ACB-HY1	CODE	A	A	A
X1001-2000	029A-HYU1	HB	SK-233A	ACB-HY1	CODE	A	A	A

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
NISSAN								
X0001-8000	029A-NIS1 (w/transponder)	HB	SK-226	ACB-NIS1	CODE	A	A	A
	029A-NIS1 (w/out transponder)	HB	SK-226A	ACB-NIS1	CODE	A	A	A
Y0001-8000	029A-NIS1	HB	SK-226A	ACB-NIS1	CODE	A	A	A
1-22185	029A-NIS1	XM	SK-401A	ACB-NIS-96	CODE	A	A	A
40001-41518		XM	SK-401A	ACB-NIS-05	CODE	A	A	A
1X-1706X	029A-FORD1	A	SK-400	ACB-FO1	CODE	C	C	C
A-B-C-D-E	029A-FORD1	A	SK-114	ACB-FO1	CODE	C	C	C
OLDSMOBILE								
J,K (double sided)	029A-GM1	AW	SK-249A	ACB-GM1	B	A	A	A
J,K (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
L, M (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
ABNP (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
NPSU (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
EFGH (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
JKLM (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
VWXY (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
8000-9499 (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
AA00-7T51	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
O5000-O6999	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
PLYMOUTH								
EP1-3000	029A-CHY1	BX	SK-102	ACB-CHY1	B	B	B	B
ES1-3000	029A-CHY1	BX	SK-102	ACB-CHY1	B	B	B	B
J1-3580	029A-CHY1	AM	SK-244	ACB-CHY1	CODE	C	C	C
L1-3580	029A-CHY1	AM	SK-244A	ACB-CHY1	CODE	A	A	A
M1-2618	029A-CHY1	AM	SK-402A	ACB-CHY1	CODE	A	A	A
G0000-1394		AM	SK-901A	ACB-CH-G	CODE	A	A	A
E5001-7000	029A-MIT1	N	SK-245A	ACB-MIT1	CODE	A	A	A
E7001-7700	029A-MIT1	V	SK-245A	ACB-MIT1	CODE	A	A	A
F1-F1571	029A-MIT1	XM	SK-406A	ACB-MIT1	CODE	A	A	A
30010-32009	029A-MIT1	P	SK-247A	ACB-MIT1	CODE	A	A	A
PONTIAC								
J,K (double sided)	029A-GM1	AW	SK-249A	ACB-GM1	CODE	A	A	A
J,K (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
L, M (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
ABNP (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
NPSU (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
EFGH (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
JKLM (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
VWXY (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B

Code Series	Included w/Kit (Note)	Depth Knob	Spacing Key	Code Book	Jaw Setting Code Cutting		Jaw Setting Duplication	
					Left Jaw	Right Jaw	Left Jaw	Right Jaw
8000-9499 (single sided)	029A-GM1	A	SK-100	ACB-GM1	B	B	B	B
GM 10-Cut	029A-GM1	AM	SK-261A	ACB-GM-94	CODE	A	A	A
H0001-H3988	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
0001-2000	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
O5000-O6999*	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
	029A-GM2 (stabilizer 129730)	S	SK-206A	ACB-GM-04	CODE	A	A	A
* The O5000-O6999 Code Series can use either .025 or .020 increment depth drops depending upon the application.								
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
T1-T1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	C	C	C
V1-V1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	A	A	A
N5001-7000		V	SK-245A	ACB-IZU	CODE	A	A	A
SATURN								
0001-2000	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
H0001-H3988	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
O5000-O6999	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
S000A-S999K	029A-GM1	AM	SK-261A	ACB-GM2000	CODE	A	A	A
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
T1-T1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	C	C	C
V1-V1200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	A	A	A
V2001-V3200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	A	A	A
R,T,S		AM	SK-901A	ACB-SAT	CODE	A	A	A
SUBARU								
30001-37850	029A-SUB1	XM	SK-401A	ACB-SUB	CODE	A	A	A
X0001-8000	029A-NIS1 (w/transponder)	HB	SK-226	ACB-NIS1	CODE	A	A	A
	029A-NIS1 (w/out transponder)	HB	SK-226A	ACB-NIS1	CODE	A	A	A
Y0001-8000	029A-NIS1	HB	SK-226A	ACB-NIS1	CODE	A	A	A
SUZUKI								
U1-2000		N	SK-245A	ACB-MET	CODE	A	A	A
18100-19617		P	SK-246A	ACB-TSK	CODE	A	A	A
25001-26200		O	SK-256	ACB-SUZ-AERIO	CODE	A	A	A
1-22185	029A-NIS1	XM	SK-401A	ACB-NIS-96	CODE	A	A	A
G0000-G3631	029A-GM3 (stabilizer 129730)	S	SK-206A	ACB-SAT GM-03	CODE	A	A	A
V2001-V3200	029A-GMDAT	OM	SK-202	ACB-GMDAT	CODE	A	A	A
J1-J1200	029A-GMDAT	OM	SK-201	ACB-GMDAT	CODE	C	C	C
TOYOTA								
G1-2000	029A-TOY1	V	SK-900A	ACB-TOY1	CODE	A	A	A
S1-2878	029A-TOY1	SS	SK-253A	ACB-TOY1	CODE	A	A	A
10001-15000	029A-TOY1	O	SK-256	ACB-TOY1	CODE	C	C	C
P1-2390	029A-TOY1	V	SK-900A	ACB-TOY1	CODE	A	A	A
X1-2248	029A-TOY1	V	SK-900A	ACB-TOY1	CODE	A	A	A
50000-69999	029A-TOY2	XM	SK-247	ACB-TOY2	CODE	C	C	C

Electronic Code Machines Available from Ilco® ...



Ultracode® A/T

The Ultracode® A/T is an electronic key cutting machine for duplication and code cutting for cylindrical automotive and truck keys. A patented Laser Optical Reader allows operators to quickly and easily duplicate single and double sided keys. Pre-loaded with digital depth and spacing data cards for the precise cutting of cylindrical automotive and truck keys. Up to 200 user defined (Design-A-Key™) data cards can be created without the need for a personal computer, further enhancing the machine's extensive capabilities.



Tri-Code H.S.

The Tri-Code H.S. is an electronic key cutting machine designed to be used by automotive dealers, and locksmiths, to cut "laser style" high security keys by code number or duplication. Simple to operate, this machine eliminates the guesswork and effort with cutting "laser type" automotive keys. In addition to providing "factory perfect" results when originating a key, the Tri-Code H.S. also excels when simply duplicating a key. If key wear is detected on the pattern (original) key, the machine automatically corrects it, producing a duplicate that is cut to original factory specifications with tolerances of $\pm .001$ ".



Ilco EZ®-Code

The Ilco EZ®-Code electronic machine cuts traditional automotive and commercial keys by code or duplication. Features include an internal database of codes and cut specifications, patent pending "Automatic Key Edge Detection" and automatic depth calibration. This affordable machine has features that will help make the job fast, easy and accurate to within $\pm .002$ ". Up to 255 user defined cards are available to create customized commercial, residential and automotive keys using the Ilco EZ®-Code Design-A-Key™ program.

Kaba Ilco Corp.
400 Jeffreys Road • Rocky Mount, NC 27804
Phone 800.334.1381 • Fax 252.446.4702
www.kaba-ilco.com

Form No. 3047/0411
Code No. 125390



Universal™ II



OPERATION MANUAL



Thank You For Purchasing Your New Ilco UNIVERSAL II Code Machine!

The Ilco Universal™ II is designed for originating commercial, residential, and automotive keys in an efficient, straightforward manner. Incorporating several unique design enhancements not found on competitive products, the Universal II is built to deliver superb accuracy in a “user friendly”, simple to operate product. Utilizing a series of “code cards”, the Universal II allows the user to quickly change over from cutting keys for one locking system to that of another in just seconds! Simply remove the existing code card from the machine, insert the card for the desired application, and if required, install an alternate cutter featuring a different cut profile; changeover is possible in as little as 10 seconds!

In the following pages, we will introduce you to the Universal II, and the steps involved in using it to originate keys. Please read this manual thoroughly to ensure that you fully understand the operation of the machine and are therefore able to take complete advantage of its many capabilities.

One important feature of the Universal II is that its code cards and accessories will work on competitive “card type” models, and “their” code cards and accessories will work with it also. This is especially important for individuals that have been using card type code machines for several years; the various accessories that were purchased over time for a prior machine will work equally well on the Universal II!

Accurate, easy to operate, simple to calibrate... We are sure you’ll find the Universal II to be, feature-for-feature, the best value in a “card type” code machine available today.

Thank you for choosing Ilco!

CONTENTS

Safety Notice	3
Carton Contents	4
Warranty	5
Operating Parts	6
Setting Up Your Machine	
Code Card Storage	7
Cutter Storage	7
Code Cards	7-8
Code Card Listing	9-10
Cutters	10
How To Change Cutters	11
How to Gauge and Clamp Keys	11-15
Spacing Depth Controls	15-16
Originating a Key	16-20
Machine Maintenance and Adjustment Procedures	21-23
Replacement Parts	24

WARNING - SAFETY NOTICE

IMPORTANT - Please read carefully before operating machine.

Safety begins with education, and continues with proper application. All personnel who operate your machine should read the supplied Operator's Manual for information on how to properly operate it. The likelihood of accidents and miscuts will be greatly reduced.

General safety

- Safety glasses must be worn to reduce the possibility of eye injury while operating or in the immediate vicinity of key cutting equipment.
- Always turn machine off before making adjustments or inserting or removing keys.
- Machine should be located in an area accessible only by authorized operators. Location must be such that customers and other personnel are not subject to potential injury from "flying chips".
- Do not defeat safety features built into your machine. Removal or modification of safety shields, cutter guards, and other safety devices should be strictly forbidden.
- At no time should the mechanically-driven parts of the machine be touched while it is in operation. The operator should take care to ensure that loose-fitting clothing, long hair, etc. are kept from the area of machine operation.
- Your machine has been specially designed and built for key cutting purposes only and should be operated according to the Operator's Manual. All other uses are strongly discouraged as potentially dangerous, and should not be attempted! Such use will immediately void the machine's warranty.
- Some states have specific age restriction concerning the operation of certain types of equipment. Check local and state ordinances for compliance.

Electrical safety

- (120 Volt models) Your machine is designed to operate using 120 Volt A.C. 60 Hz. electrical current. It is supplied with a three-prong power plug which should be used with a properly grounded three-prong outlet only. Do not defeat the safety purpose of the plug by modifying or using with non-grounded outlets!
- To reduce risk of fire or electrical shock, do not expose or operate machine in damp or wet locations.
- Electrical problems should be referred to qualified repair technicians. If the machine is under warranty, contact Ilco Unican at the address printed on the cover. (ILCO also offers repair service for out-of-warranty machines. Contact ILCO for details.)
- Always unplug the machine before removing the hood or changing the cutter wheel.

Grounding instructions

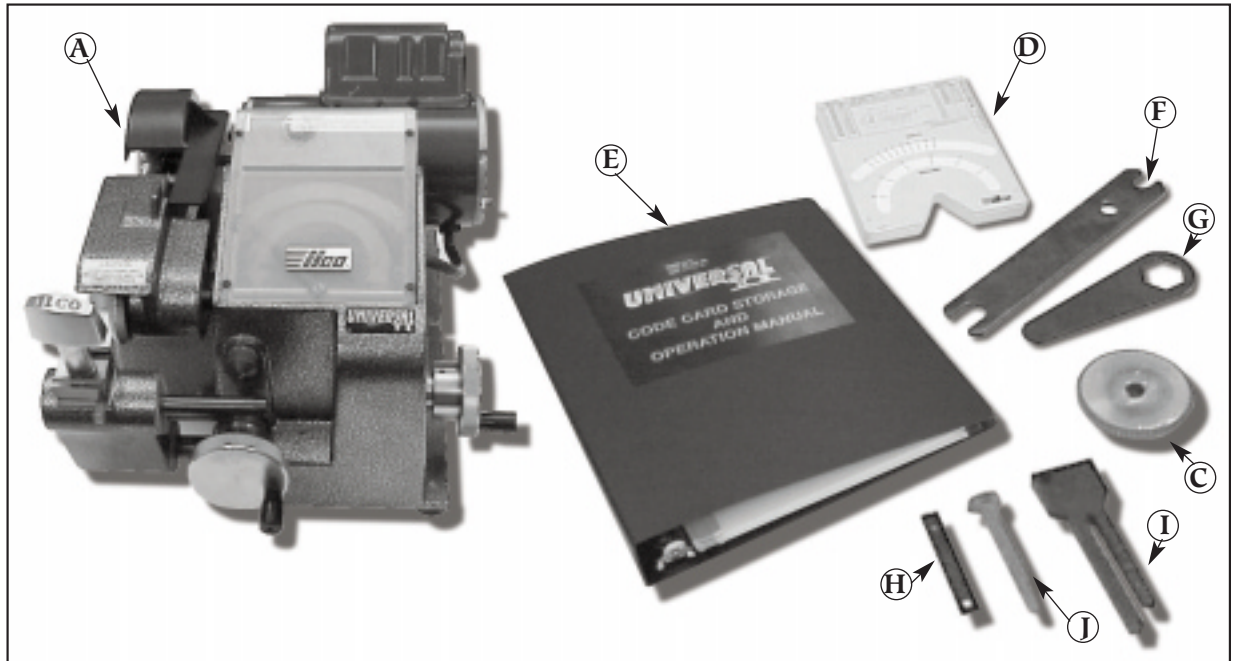
- In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug must be plugged into a machine outlet that is properly installed and grounded in accordance with all local codes and ordinances.
- Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation that has a green outer surface (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the machine's plug.
- Repair or replace damaged or worn cords immediately.

CARTON CONTENTS

Your new Universal II key cutting system includes the following:

A	1 ea.	Universal II Code machine
B	1 ea.	T14MC Cutter (Installed on machine)
C	1 ea.	TCW-1011 Cutter
D	1 ea.	MCM-CP1 Code Card Set Includes 120 Code Cards)
E	1 ea.	MCM-BIN1 Code Card Binder (with 3 storage panels)
F	1 ea.	MCM-WR1 Wrench (open end)
G	1 ea.	MCM-WR2 Wrench (box end)
H	1 ea.	MCM-SH1 Shim
I	1 ea.	MCM-TSU U-Shaped Tip Stop
J	1 ea.	MCM-TSR Red Plastic Tip Stop
K	1 ea.	Universal II Instruction Manual

Please take care to store the accessory items in a secure location to prevent loss or misplacement.



Universal II Code Machine and included accessories

WARRANTY

This Operation Manual applies specifically to the Universal II and contains information relative to operation of the machine as well as proper identification of replacement parts. Please retain this manual in a safe place; if ownership of the machine is transferred, the manual should accompany it. When seeking service information about this machine, reference the model number (Universal II), and be prepared to provide the serial number of the unit (located on a metal tag attached to the back of the unit). A Parts List, located at the back of the manual identifies machine components by "Product Number" and "Description"; please use both of these identifiers, along with the serial number of your machine when ordering replacement parts.

ONE YEAR LIMITED WARRANTY

ILCO warrants to the original buyer of any new Universal II machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of ILCO, to have defects arising from the faulty manufacture of the machine or from defective material or components, during a period of one (1) year from the date of shipment of the machine by ILCO, provided that the machine is returned by prepaid transport to ILCO or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). ILCO may, at its discretion, elect to refund the purchase price allowable to the part affected, or to issue a credit if the price therefore remains unpaid.

ILCO sells precision-made machines. The buyer assumes all risks, and ILCO shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with ILCO's printed instructions or operated beyond its rated capacity shall not be covered by this or any other warranty.

Any and all warranties made by ILCO on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product or component thereof is warranted irrespective of whether or not payment is eventually made.

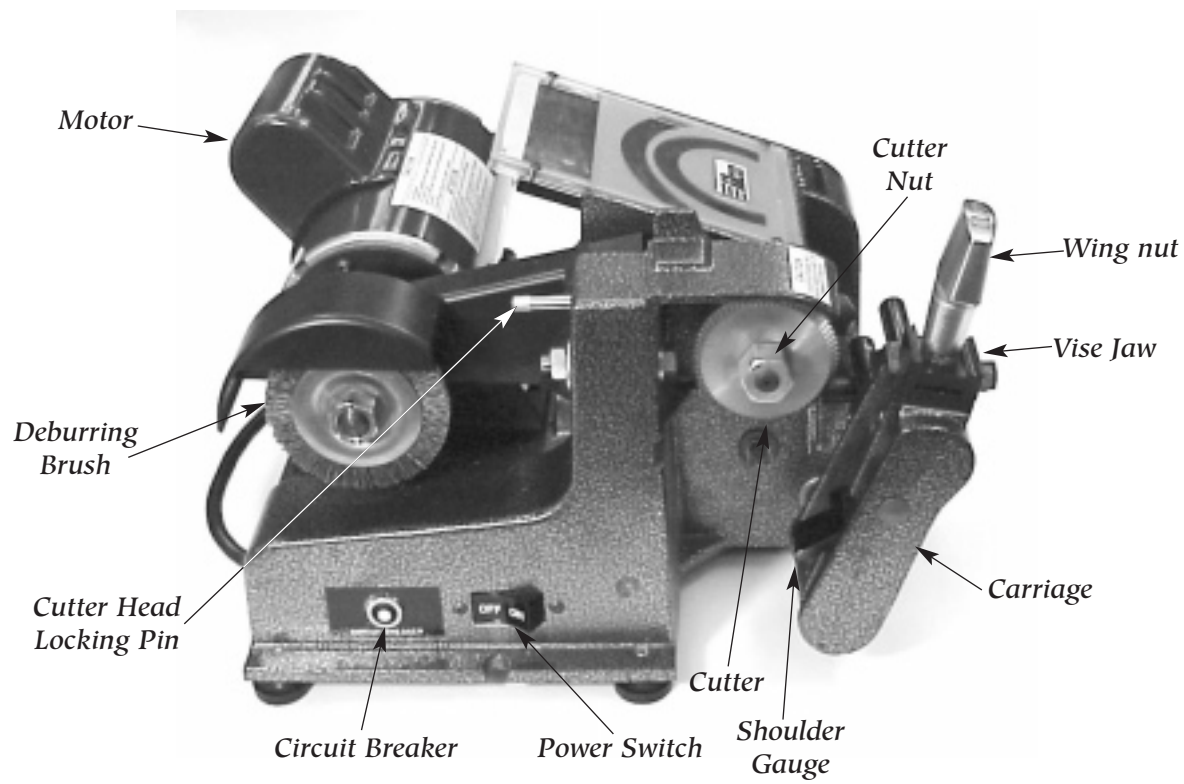
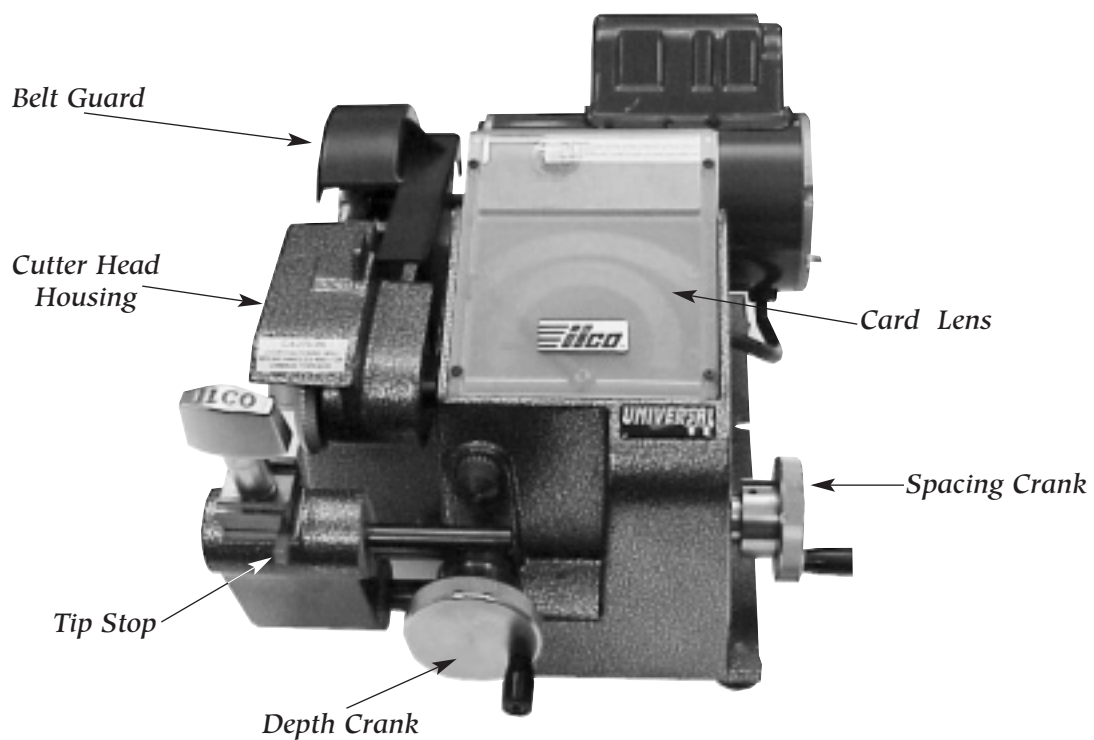
These warranties are in lieu of and not in addition to any other warranty of condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases ILCO from any liability for any reason other than a breach of its warranties hereunder.

The liability of ILCO shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall ILCO be liable for any personal injuries, property damage or consequential damages.

Use only genuine ILCO replacement parts on this machine!

Serial number : _____

OPERATING PARTS



SETTING UP YOUR MACHINE

Code Card Storage

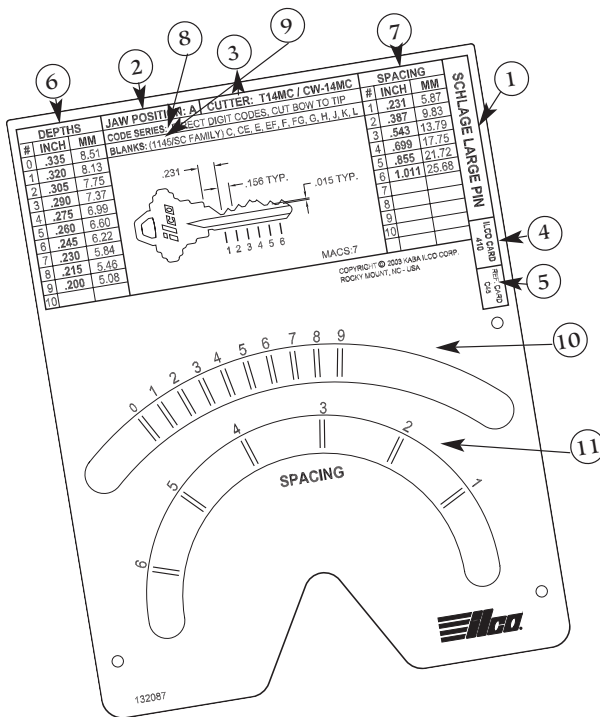
Once unpacked, your Universal II should be placed in a *stable, well-lit, non-cluttered* work area prior to use. The Code Cards included with your machine are pre-sorted according to usage (Commercial/Residential and Automotive applications). They are further collated alphabetically. Most users will find it easier to locate cards for specific applications by leaving them in this order. Included with your machine is a Code Card Storage Binder containing (3) Code Card Holders. It is suggested that the Code Cards be placed in their special holders for maximum protection. As insurance against losing Code Cards, it is strongly recommended that they be replaced in the Storage Binder when not being used.

Cutter Storage

The Universal II is supplied with two cutters, with several additional cutter types available separately. To maximize cutter life they should be stored so that they do not bump into each other, or against other metal items. Many users store the cutters on a nail or similarly on a wooden dowel pin when not in use on their machine. Tossing cutters into a drawer or toolbox with other metal items is a sure way to reduce their effective service life.

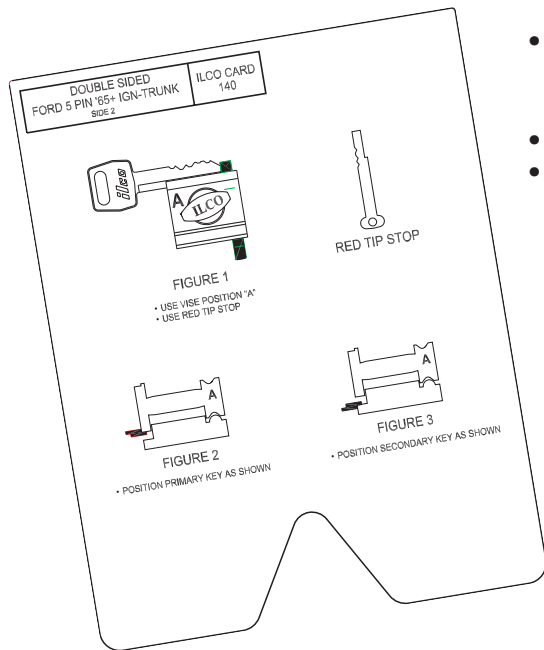
CODE CARDS

1. **MANUFACTURER/PRODUCT DESIGNATION** - Indicates by manufacturer and lock product type, the application for which the Code Card is designed
2. **JAW POSITION CALLOUT** - Indicates the proper vise jaw position to use for the application
3. **CUTTER CALLOUT** - Lists the proper Ilco cutter to use for the application
4. **ILCO CARD NUMBER** - Indicates the Code Card's unique Ilco/Silca card number designation
5. **REF. CARD NUMBER** - Indicates the corresponding HPC card number
6. **CUT DEPTH SPECIFICATIONS** - Shows biting numbers and their corresponding cut depths associated with the specific Code Card's intended lock application
7. **SPACING SPECIFICATIONS** - Shows dimensional information relative to cut spacing for the specified application
8. **CODE SERIES CALLOUT** - Provides information relative to possible code series used for the specified application
9. **KEY BLANK CALLOUT** - Provides information relative to key blanks that historically have been used with the specified lock application. Where multiple key blank numbers are given, the first number shown in a grouping (#### / #### / ####) is the Ilco key blank number, the second is its E-Z equivalent, and any additional numbers refer to OEM or other key blank manufacturers. The list of keys shown is in many cases only a representative listing; most manufacturers use multiple key blank profiles with their lock products. Due to space restraints, only the more common key blanks may be listed on a given card.
10. **DEPTH MARKINGS** - Displays the markings that the Depth Needle will need to be aligned with during the cutting process
11. **SPACING MARKINGS** - Displays the markings that the Spacing Needle will need to be aligned with during the cutting process



CODE CARDS

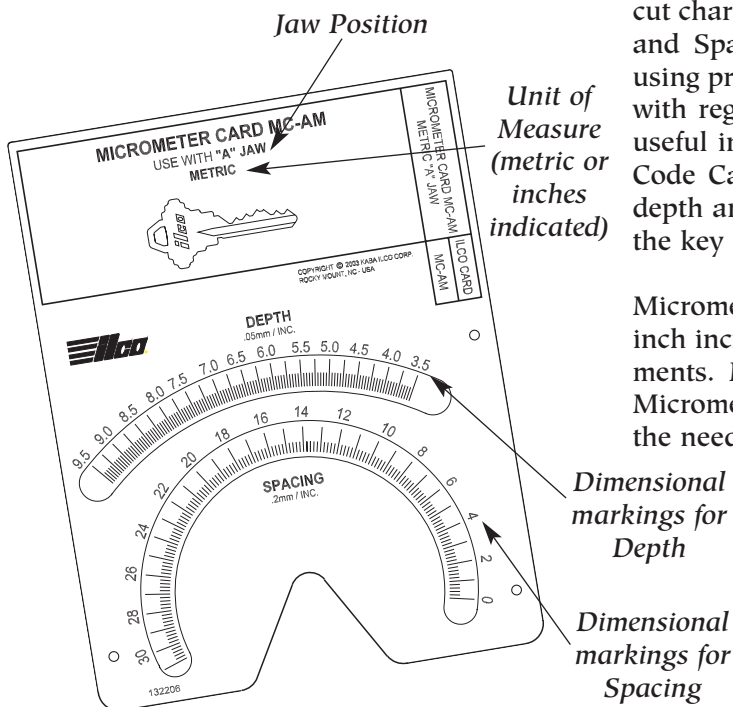
Some Code Cards feature additional information on their reverse side. This information would typically include the following:



- Graphics illustrating which vise position to use, and VERY IMPORTANT, how to position the key blank in the jaw in order to properly clamp it in a secure fashion.
- A drawing of the proper TIP STOP to use to gauge the key (if applicable)
- Instructions relative to the use and placement of the Straight Shim accessory (if applicable)

Micrometer Cards

Included in the selection of Code Cards received with your machine is a special type known as a MICROMETER CARD. Unlike other Code Cards, Micrometer Cards are not designed for specific lock manufacturers or lock products. Instead of Spacing and Depth Markings, they feature a graduated dimensional scale. This allows the user, with an in-depth knowledge of the physical cut characteristics of a given key, to position the machine's Depth and Spacing Needles based on actual dimensions rather than using pre-established Depth and Spacing numbers, as is the case with regular Code Cards. Therefore, Micrometer Cards are very useful in instances where you do not have the correct dedicated Code Card for a particular application. If you know the actual depth and spacing dimensions for a given key, you can originate the key using the appropriate Micrometer Card.



Micrometer Cards are categorized by unit of measure, (metric or inch increments), as well as by vise jaw and key gauging requirements. Many users will never have to originate a key from a Micrometer Card, but they do provide a simple alternative should the need arise.

CODE CARD LISTING

Description	ILCO Card #	Ref. Card #	Cutter	Description	ILCO Card #	Ref. Card #	Cutter
COMMERCIAL APPLICATIONS				British Autos & Cycles	73	CF43	TCW-1011
American Small Pin	494	C30	TCW-1011	Chrysler 8-Cut	745	CX102	TCW-1011
Arrow--New Large Pin	1355	C2	T14MC	Chrysler Double-Sided ('89-'92)	287	CX59	TCW-1011
ASSA Twin 6000	345	CEX1	TCW-32MC	Chrysler Double-Sided ('93+)	537	CX60	TCW-1011
Best/Falcon/Eagle/Arrow (A2)	563	C3	TCW-90MC	Chrysler Pin ('69+)	139	C10	TCW-1011
Chicago Pin	1041	C6	TCW-1011	Chrysler/Renault (Secondary) (B,G,C,DE)	32	CF101	TCW-1011
Chicago/Fort Single Sided-Disc	561	C5	TCW-1011	Chrysler/Renault/Peugeot (Prim.) (B,G,H,J,E) ('82-'85)	28	CF100	TCW-1011
Chicago/Steelcase Small Pin	1042	CX14	TCW-1011	Eagle Premier Ignition ('88+)	290	CF119	TCW-47MC
Corbin (system 70) (X-class/ 27-99) ('77+)	1391	CX5	TCW-90MC	Ford 5 Pin Double-Sided ('65+)	140	C24	T14MC
Corbin Disc	1114	C11	TCW-1011	Ford 8-Cut	612	CX101	TCW-1011
Corbin Small Pin	398	C12	TCW-1011	Ford Aspire (Kia) 10-Cut (B Series)	585	CF303	TCW-1011
Dexter Large Pin ('69+)	401	C16	T14MC	Ford Capri/Fiesta	1345	CF11	TCW-1011
Eagle Large Pin	1072	C21	T14MC	Ford Cargo Truck ('86+~/Sterling)	439	CF48	TCW-1011
Eagle Small Pin Long Space	1046	C20	TCW-20	Ford I0 Cut	194	CX56	TCW-1011
Emhart/Corbin/Russwin (system 70) (Z,D,H) ('93+)	1290	CX6A	TCW-90MC	General Motors Wafer ('36+)	1333	C25	TCW-1011
Emhart/Corbin/Russwin (system 70) High Security Angle Cut	1655	CX1	TCW-1013	Geo Tracker/Suzuki Sidekick/ Isuzu	288	CF89	TCW-1011
Hudson Disc	1069	CX32	TCW-1011	GM ('94+) Modular Ignition Program	567	CF215	TCW-1011
Hudson Small Pin	1039	C26	TCW-1011	GM-Allante ('87+)	222	CF204	TCW-1011
Ilco Small Pin	1049	C27	TCW-1011	GM-Cavalier ('91+~/N" Body ('92+)	470	CF206	TCW-1011
Ilco/Lockwood Large Std. Pin	404	C28	T14MC	GM-Chevy Nova Primary & Secondary (R,S)	1650	CF86	TCW-1011
Illinois/Timberline Single-Sided Disc	1050	C29	TCW-1011	GM-Chevy Spectrum/Isuzu/ Mitsubishi (A,H)	156	CF85	TCW-1011
Kaba Peaks (140) (6 Pin) (A2)	1653	CPKS1	TCW-90MC	GM-Pontiac Lemans (S) ('88+)	110	CF205	TCW-1011
Kaba Peaks (150) (6 & 7 Pin) (A2)	1654	CPKS2	TCW-90MC	GM-Saturn	636	CF207	TCW-1011
Kwikset Large Pin	403	C31	T14MC	Honda ('82+~/Acura ('86+)	148	CF73	TCW-1011
Kwikset Titan	767	C31X	TCW-1011	Honda ('88+~/Acura ('90+)	262	CF74	TCW-47MC
Lori L10	1502	C115	TCW-90MC	Honda Cycles ('83+)	84	CMC37	TCW-1011
LSDA (Taiwan) Large Pin	687	CX58	T14MC	Hyundai 7-Cut (X, Y Series)/ Kia	1651	CF301	TCW-1011
Master Small Pin (7K)	1350	C34	TCW-1011	Hyundai 8-Cut (S, T Series)	487	CF302	TCW-42MC
Master Standard Large Pin (1K)	526	C35	TCW-1011	Hyundai Sonata	1652	CF211	TCW-1011
Medeco Biaxial	1131	CSP3	TCW-1012	Hyundai-U.S. (X-Series) ('86+)	221	CF201	TCW-1011
Medeco Small Pin (thin head)	859	CX3	TCW-1012	Iveco Truck (P,Z)	131	CF99	TCW-1011
Medeco Standard (.030 inc.)	427	C36	TCW-1012	Jaguar XJ6 (10 Disc) ('88+)	217	CF49	TCW-1011
National Cabinet Single-Sided Disc	1054	C37	TCW-1011	Jaguar/Datsun/Mazda/Triumph	5	CF40	TCW-1011
National Cabinet Small Pin Std.	1043	C39	TCW-1011	Kawasaki Cycles ('79+)	151	CMC50	TCW-1011
National Large Pin	1087	C40	T14MC	Kia Sephia (1998+) (8-cut)	742	CF305	TCW-1011
Russwin (system 70) (K,N) ('77+)	1315	CX7	TCW-90MC	Mazda ('70-'80)	21	CF64	TCW-1011
Russwin Large Pin (not system 70)	408	C41	TCW-90MC	Mazda/Ford 10 Cut	1656	CF68	TCW-1011
Russwin D&H (PRE-SYSTEM 70)	1145	C42	TCW-90MC	Mazda/Ford Truck	20	CF63	TCW-1011
Sargent Large Pin	409	C44	TCW-20FM	Mazda/Ford/Mercury	157	CF65	TCW-1011
Schlage Large Pin	410	C45	T14MC	MERKUR (German Ford)	1337	CF13	TCW-1011
Segal Large Pin	1351	C46	T14MC	Mitsubishi Galant (1999+) (8-cut)	1029	CF306	TCW-1011
Taylor Large Pin	1093	C49	T14MC	Nissan Pathfinder	607	CF304	TCW-1011
Taylor Small Pin	1062	C48	TCW-1011	Nissan/Datsun/Subaru (FM,N,W)	80	CF60	TCW-1011
Weiser-Falcon	411	C50	T14MC	Nissan/Datsun/Subaru/GMC (8 Disc)	145	CF67	TCW-1011
Welch Large Pin	1155	C51	TCW-20FM	Porsche (911 -912)	35	CF36	TCW-1011
Weslock Large Pin	1156	C52	T14MC	Saab ('74+)	52	CF56	TCW-1011
XL Lock Letterbox (X, K Series)	1065	C53	TCW-1011	Suzuki Cycles ('88+)	289	CMC71	TCW-1011
Yale Disc	1335	C55	TCW-1011	Toyota (A,M,N,T,) ('69+~/ Chevy Luv (B)	90	CF81	TCW-1011
Yale Large Pin	412	C57	T14MC				
Yale Small Pin	1555	C56	TCW-1011				
COMMERCIAL APPLICATIONS							
American Motors (D, E, K, L)	144	C1	TCW-1011				
BMW/Mercedes (11 Wafer) ('75+)	184	CF34	TCW-1011				
Briggs & Stratton Disc (Gas Cap)	142	C4	TCW-1011				

CODE CARD LISTING

Description	ILCO Card #	Ref. Card #	Cutter	Description	ILCO Card #	Ref. Card #	Cutter
Toyota (unlettered) ('69+)	91	CF82	TCW-1011	Volvo 240,740 & 760	69	CF52	TCW-1011
Toyota 8 Disc	197	CF87	TCW-1011	Volvo/ MG Primary & Secondary	68	CF51	TCW-1011
Toyota Camry/Corolla Sedan/ Geo Prizm	514	CF208	TCW-1011	VW (plain/shoulder side)	48	CF3	TCW-1011
Toyota Corolla Wagon ('93+)	1346	CF209	TCW-1011	VW/Audi/Porsche	1339	CF4	TCW-1011
Toyota/Geo/Isuzu/Mitsubishi/ Suzuki/Daihatsu	264	CF88	TCW-47MC	VW/Volvo (Gas Cap)	56	CF8	TCW-1011
Toyota/Isuzu/Mitsubishi/Hyundai (D,K,R,S,F,P,C,H,U,Z)	89	CF80	TCW-1011	Yamaha Cycles ('81+)	98	CMC80	TCW-1011

Micrometer Data Cards

Description	ILCO Card #	Ref. Card #
FOR "A" JAW (INCH)	MC-A	CMMI
FOR "A" JAW (RED TIP STOP)	MC-ART	CMRT
FOR "A" JAW (U-SHAPED TIP STOP)	MC-AUT	CMHT
FOR "A" JAW (METRIC)	MC-AM	CMMM
FOR "A" JAW (RED TIP STOP-METRIC)	MC-ARTM	CMRM
FOR "A" JAW (U-SHAPED TIP STOP-METRIC)	MC-AUTM	CMHM
FOR "B" JAW (INCH)	MC-B	CMBI
FOR "B" JAW (METRIC)	MC-BM	CMBM

CUTTERS

The Universal II is supplied with two cutter wheels, each having a different profile. You can identify each type by the product number displayed on their left side. Ilco's family of cutters for the "U2" is constructed of high quality M2 tool steel, and coated with very hard Titanium Nitride for maximum service life. Both cutters supplied with your machine are designed for cutting specific key types and should only be used for suitable applications, as indicated on the code cards supplied with the machine. The T-14MC is used for most standard "full size" cylinder keys, and is the one installed on your machine when you received it. Also supplied is a TCW-1011 cutter which is used for padlocks, cabinet locks, and most automotive applications (Reminder: exceptions exist... ALWAYS REFER TO CODE CARDS FOR THE CUTTER NUMBER SPECIFIED FOR A SPECIFIC LOCK APPLICATION). Certain code cards require the use of optional cutters not included with the machine; these may be obtained from your favorite Ilco Distributor.

A convenient feature of your Universal II is that no adjustment is required when you change cutters for cutting various keys. The manufacturing tolerances are very rigorously controlled... Use only Ilco cutters or their HPC equivalent! When a cutter begins to dull (characterized by heavy burring of key blanks or louder than normal noise), when cutting you should replace it rather than have it re-sharpened. VERY IMPORTANT: Re-sharpening a cutter reduces its diameter, and hence it will no longer "match" your machine's other cutters and cut to its intended depth. Re-adjusting your machine to "accommodate" a re-sharpened cutter, then "re-setting" it back to its original setting for other applications is not a practical solution... Its best to replace the worn cutter with a new one!

Supplied Cutters:

Cutter No.	Description
T14MC	100° angle; standard “full size” cylinder cutter
TCW-1011	90° angle; common “small” cylinder cutter

Optional Cutters:

Cutter No.	Description
TCW-47MC	87° angle; required for some Toyota, Honda, and other automotive applications
TCW-90MC	90° angle; for Best, Falcon, Arrow, Eagle, Kaba, and keys for similar IC core
TCW-20FM	76° angle; flat tooth profile for Sargent keys
TCW-1012	86° angle; designed for cutting Medeco high security keys (Avail. late 2003)
TCW-1013	90° angle; designed for cutting Emhart high security keys (Avail. late 2003)
TCW-1014	100° angle; designed with .080“ flat for one step cutting of Weiser, Kwikset, and Weslock keys when using OEM pins (Avail. late 2003)
TCW-32MC	90° angle; designed for ASSA keys with .032“ flat (Avail. late 2003)

HOW TO CHANGE CUTTERS

Always follow appropriate safety practices when changing the cutter on ANY key machine. Maximum safety is assured by UNPLUGGING the machine prior to performing this procedure!

1. Assure that the machine's power switch is in the “OFF” position.
2. Engage the right end of the cutter shaft with a 1/2" open end wrench (part # MCM-WR1 supplied).
3. Remove the cutter nut with a 3/4" box end wrench by turning it clockwise (it has a left hand thread).
4. Remove the cutter.
5. Place the replacement cutter onto the shaft. **VERY IMPORTANT.** Be certain that the cutter is correctly installed for clockwise rotation! (cutter number should be visible on the left side of the cutter beside the cutter nut).
6. Hold the cutter shaft using the 1/2" wrench and re-install the cutter nut.
7. Tighten the cutter nut using the 3/4" box end wrench. **DO NOT OVERTIGHTEN;** moderate pressure is sufficient!



Reminder: The cutter nut has a left hand thread and is removed by turning clockwise.

HOW TO GAUGE AND CLAMP KEYS

Clamping Keys

Your Universal II uses a TWO-POSITION vise jaw (featuring “A” and “B” sides) for most applications. Optional vise jaws are required for special applications... their use is specified on Code Cards for applications that require them.

HOW TO GAUGE AND CLAMP KEYS

As previously discussed, the individual Code Cards supplied with your machine indicate the correct jaw position to be used for clamping specific keys. Where appropriate, certain code cards feature graphics on their reverse side to provide additional detail and special instructions for gripping specified key blanks. **VERY IMPORTANT: Pay close attention to the illustrations to assure that you select the proper vise position, correctly position the key blank, and follow all instructions given relative to gauging a key!**

To Change the Vise Jaw Position:

1. Loosen and remove the vise wing nut assembly and thrust bearings
2. Lift up on the Upper Vise to remove it from the machine
3. Flip the Upper Vise over to its alternate position
4. Reinstall the thrust bearings and wing nut assembly.



Option: Remove the upper vise and flip it over to use alternate position.

The Clamping Process:

Due to the huge variety of key profiles (groove patterns) used in today's locking systems, there isn't one correct way to properly clamp all keys! Most keys however, including some double-sided types, should be inserted into the "A" vise so that the bottom of the key blade rests against the inner ledge of the vise (this is the same technique one normally uses to position single-sided keys on most duplicating machines). Code Cards intended for keys requiring a different clamping technique than that just described, display the necessary instructions on their reverse side relative to proper clamping. On such cards, you will find information regarding the correct jaw position to use, how to position the key within the jaw for proper clamping, and if applicable, positioning of the straight shim (Part No. SH1) with your machine.

Points to remember:

- Most keys are clamped using the "A" vise jaw position
- Code cards indicate when an alternate clamping process is required
- Some keys require the use of a straight shim to assure level clamping
- Code Cards supply specific information relative to the clamping of non-standard keys

Very Important:

Once a key blank has been properly gauged and positioned within the vise jaw, use **moderate pressure** when tightening the vise wing nut. **Use care not to OVERTIGHTEN the wing nut during the clamping process!** Moderate pressure is sufficient; excessive tightening force may lead to damage, or pre-mature failure of the wing nut or other carriage components!

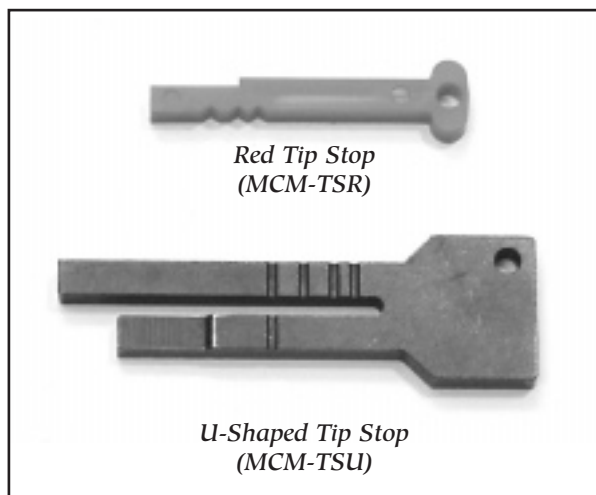
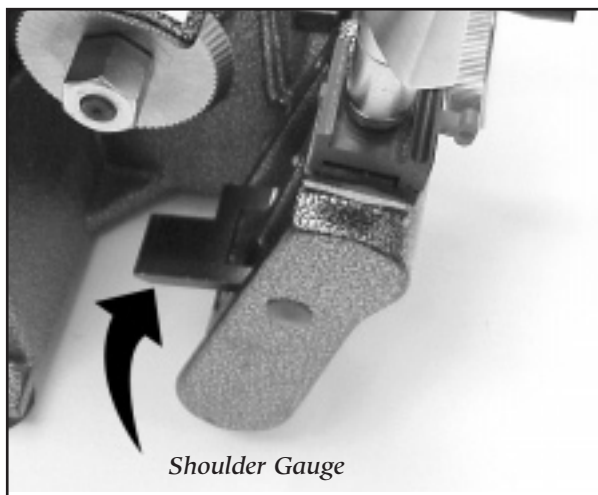
Gauging Keys

CAUTION: Make certain that the power switch is OFF before attempting to gauge keys!

One of the first steps involved with originating a key is to first, properly position the required key blank into the machine's vise jaw. Gauging (aligning the blank) refers to the process that assures the key blank is correctly positioned laterally (left-to-right) relative to the cutter on the machine before beginning to cut it. The Universal II provides three separate ways to achieve this. The most common method used, for keys with a shoulder features along their blade, is "shoulder gauging".

HOW TO GAUGE AND CLAMP KEYS

There are also two methods of “tip gauging” for keys without a shoulder feature. Where applicable, Code Cards specify the tip gauging method required for a given application. **You must use the method indicated on the card to achieve the desired result.** A description of each method follows:



Shoulder Gauging Keys

The majority of Commercial and Residential keys should be gauged using the flapper style shoulder key gauge on the machine. The unique design of the shoulder gauge allows for greater contact along the blade of the key blank than competitive products, and helps assure that the blank is positioned level within the vise jaw. Some Automotive key types are similarly gauged, but those for many newer applications require the use of one of the two Tip Gauging methods described later in this section. When **Tip Gauging** is necessary, you will find a special notation indicating such, on the Code Cards used for those applications.

To Position a Key Using the Universal II Shoulder Gauge:

1. Rotate the SPACING and DEPTH CRANKS counter-clockwise to provide maximum clearance and easy accessibility for inserting the key blank.
2. Insert the required key blank into the vise jaw with the shoulder gauge in the up or load position.
3. Slide the key blank within the jaw so that it's shoulder is in contact with the edge of the key gauge; do not use undue pressure as doing so may cause the shoulder gauge to stick in the load position.
4. At this point, tighten the vise jaw wing nut to secure the key blank in position. **As noted above, it does not require extreme clamping pressure to secure the blank in the vise jaw!**
5. Once the key blank is secured, make certain that the shoulder gauge is returned to its normal down or rest position. Failure to do so may result in damage to the shoulder gauge and/or cutter!



Shoulder of key is in contact with edge of gauge.

Note: To prevent possible interference with the key blank, make certain that the red tip stop is pulled back from the vise jaw into its first detent position whenever the shoulder gauge is used. This assures that the tip stop does not protrude into the vise jaw's clamping area.

HOW TO GAUGE AND CLAMP KEYS

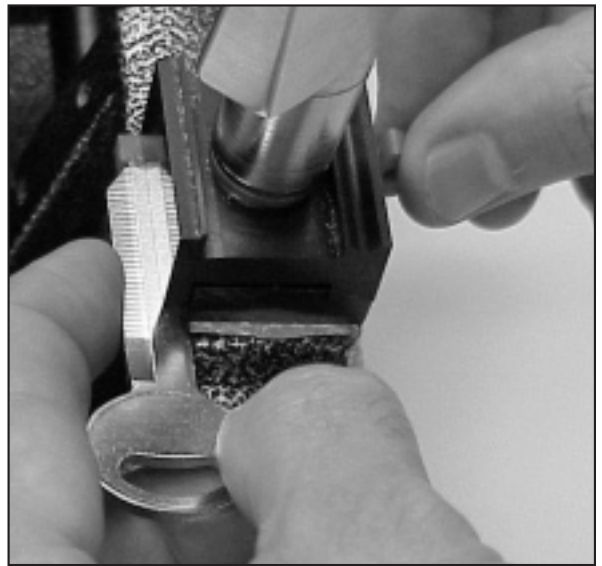
Tip Gauging Keys

As mentioned previously, some keys must be gauged using their tip as the reference point. Most are readily identified by virtue of the fact that they lack a shoulder feature on the blade, and therefore can't be gauged using the method described in the previous section. To address these keys, the Universal II is supplied with two types of Tip Stops. In use, the tip of a key blank is made to contact the edge of the Tip Stop, thus establishing the proper positioning of the key blank within the vise jaw. A Red (plastic) Tip Stop is used with some keys, and a U-Shaped (metal) Tip Stop is required for others. Code Cards designed for cutting Tip Gauged keys specify which of the two styles of Tip Stops should be used for specific applications, and provide additional details regarding their use. Also, both types of Tip Stops incorporate detent positions that may be specifically referenced by a Code Card, the use of which is a requirement for certain applications.

NOTE: When not in use, it's a good practice to position an installed Tip Stop into its first detent position (by pulling towards you) so that it does not intrude into the clamping area of the jaw. With the Tip Stop left too far in, a mis-cut key could be produced if you tried to originate a key requiring shoulder gauge alignment.

To Position a Key Using the Red Tip Stop (plastic)

1. Rotate the SPACING and DEPTH CRANKS counter-clockwise to provide maximum clearance and easy accessibility for inserting the key blank.
2. Insert the Red Tip Stop into the slot on the vise jaw and push in until it reaches the appropriate detent position. **Note: Code Cards used with applications requiring the Red Tip Stop may indicate a detent position that must be used.**
3. For many Automotive applications, the Red Tip Stop is pushed inward into the machine's vise jaw until its **third** detent position is engaged.
4. Some Non-Automotive applications require use of the **second** detent position. In this setting, the tip stop does not protrude as far into the clamping area at the front of the vise jaw.
5. Insert the appropriate key blank into the vise jaw, following the directions printed on the Code Card. For most tip gauged keys (including all automotive), the tip of the key should butt against the edge of the tip stop.
6. Tighten the wing nut to secure the key blank in place.



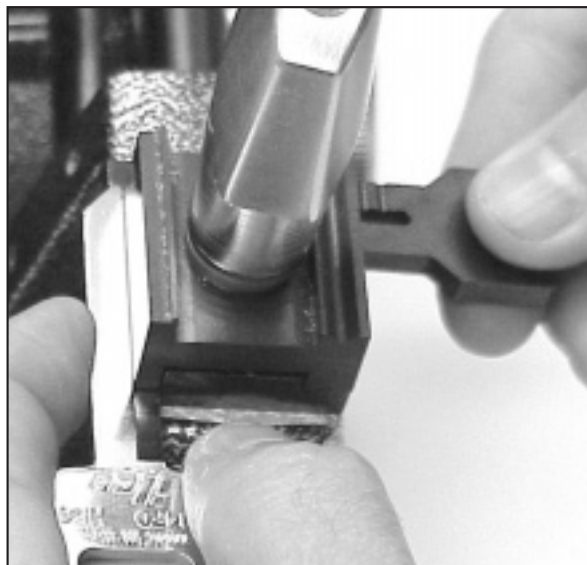
Tip of key is in contact with edge of tip stop.

Note: Once a key is gauged and the wing nut tightened to secure it, you should pull the Tip Stop back towards you to eliminate the potential for damage (due to cutter contact) before proceeding to cut the key.

HOW TO GAUGE AND CLAMP KEYS

To Position a Key Using the U-Shaped Tip Stop (metal):

1. Rotate the SPACING and DEPTH CRANKS counter-clockwise to provide maximum clearance and easy accessibility for inserting the key blank.
2. Insert the U-Shaped Tip Stop into the slot on the vise jaw and push in until it reaches the appropriate detent position. **Note: Code Cards used with applications requiring the U-Shaped Tip Stop typically indicate the correct detent position that should be used.** As in the case with the red tip stop, automotive keys should butt against the tip stop edge.
3. For many Automotive applications, the Red Tip Stop is pushed inward into the machine's vise jaw until its **third** detent position is engaged.
4. Some Non-Automotive applications require use of the **second** detent position. In this setting, the tip stop does not protrude as far into the clamping area at the front of the vise jaw.



Tip of key is in contact with edge of tip stop.

5. Insert the appropriate key blank into the vise jaw, following the directions printed on the Code Card.
6. Tighten the wing nut to secure the key blank in place.

Note: Once a key is gauged and the wing nut tightened to secure it, you should pull the Tip Stop back towards you to eliminate the potential for damage (due to cutter contact) before proceeding to cut the key.

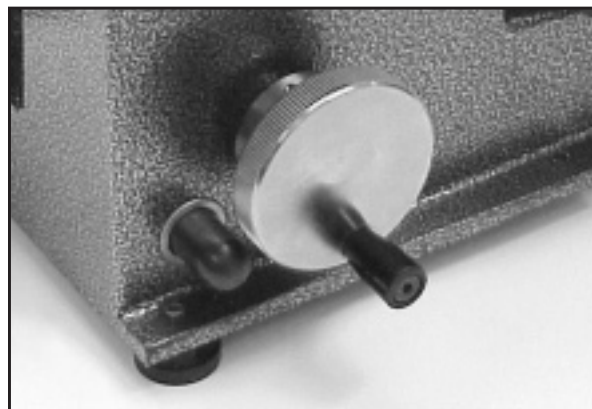
7. Remove the U-Shaped Tip Stop from the machine when not in use.

SPACING AND DEPTH CONTROLS

The actual process of cutting a key on the Universal II is performed through the movement of two controls, the SPACING CRANK and DEPTH CRANK. As these controls are rotated, the machine's Spacing and Depth Needles move across the depth and spacing windows on the CODE Card lens in relation to movement of the machine's carriage. When a Code Card is inserted in the machine, it provides a visual indication of where to position the needles to create specific cuts on the key. Because of this, it is imperative that the proper Code Card be selected for the key application desired.

Spacing Crank

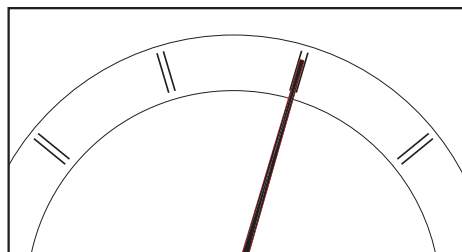
Rotating the "SPACING CRANK", located on the right side of the machine, controls the lateral location of cuts (SPACING), along the blade of a key. Counter-clockwise rotation of this crank moves a key blank towards the left, positioning it so that cuts would be produced closer to its tip. The SPACING CRANK is used to position the Spacing Needle directly over spacing markings on a Code Card, to assure proper lateral placement of cuts along the blade of a key.



Spacing Crank

SPACING AND DEPTH CONTROLS

- The SPACING CRANK control is used to align the SPACING Needle directly over spacing markings on Code Cards to create a cut at a desired location along the blade of a key.
- Most spacing positions are marked with a “double line” configuration. The Spacing Needle is correctly positioned when it is centered between these lines.
- As a general rule, the Spacing Needle should be positioned over the #1 spacing mark prior to making the first cut on a key blank.



Spacing needle is correctly positioned when “centered” between double line markings.

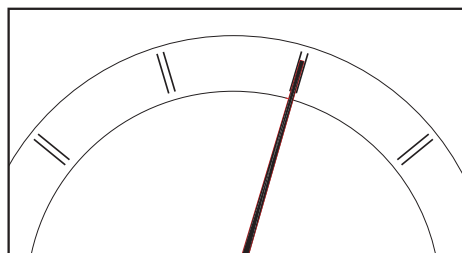
Depth Crank

Rotating the DEPTH CRANK, located on the front of the machine, controls the DEPTH of cut. Clockwise rotation will move a key blank closer to the cutter, and thus INCREASES the depth of cut made. Counter-clockwise rotation moves the key blank away from the cutter (decreasing the depth of cut). The DEPTH CRANK is used to position the Depth Needle directly over depth markings on a Code Card, and thus create corresponding cuts on the key blank.



Depth Crank

- The DEPTH CRANK control is used to align the Depth Needle directly over a depth marking on Code Cards to create a desired cut depth on a key.
- Most Depth positions are marked with a “double line” configuration. The Depth Needle is correctly positioned when it is centered between these lines.
- After turning the DEPTH CRANK to create a cut, you should rotate it counter-clockwise until the Depth Needle is to the left of the depth markings on the Code Card being used. At this point, it is safe to rotate the SPACING CRANK to position the Spacing Needle for the next cut to be made on the key.



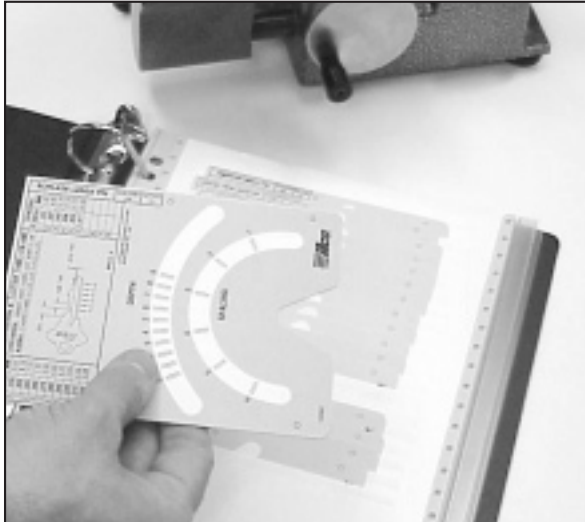
Spacing needle is correctly positioned when “centered” between double line markings.

A step-by-step explanation of the key cutting process is contained in the following section of this manual.

ORIGINATING A KEY

The instructions that follow, guide you through the process of originating a key on your new machine. **If you have not done so, please read the section concerning Safety located on page 3 of this manual before operating the machine; safety glasses or another approved form of eye protection is STRONGLY RECOMMENDED! Never Insert, remove or gauge keys with the cutter turning.**

1. Select the appropriate Code Card for your intended application and slide it beneath the lens as shown.



Select the appropriate Code Card



Slide the Code Card beneath lens as shown.

2. Verify that the cutter and jaw specified on the Code Card are on the machine; if necessary install the required component.
3. Rotate the SPACING and DEPTH CRANKS counter-clockwise to provide maximum clearance and easy access for inserting the key blank.
4. With the power switch "OFF", insert the appropriate key blank into the Universal II's vise jaw and **gauge it using the method indicated on the Code Card**. Once assured that the key is positioned "level" in the jaw, tighten the wing nut to secure it.

CAUTION - Do NOT remove or insert keys while the cutter is turning!

Note: A few applications require the use of the steel *Stabilizer Shim* (part no. SH-1) accessory included with your machine, when clamping the key blank. This shim provides additional support for key blanks that might otherwise "tilt" in the vise jaw, due to their particular groove pattern. Its use is **CRITICAL** in applications where it is specified on a Code Card!



Align key using shoulder gauge or correct tip stop as required

ORIGINATING A KEY

5. After securing the key blank in the vise jaw, assure that the Shoulder Gauge is in the down position before continuing.
6. Turn the Power Switch to the "ON" position.
7. Rotate the SPACING CRANK clockwise until the Spacing Needle is centered over the #1 spacing mark in the spacing window. (see picture below)



Rotating Spacing Crank to center Spacing Needle over desired cut position



8. Rotate the DEPTH CRANK slowly until the Depth Needle is centered over the depth mark you wish to cut.

USE CARE NOT TO PASS THIS MARK

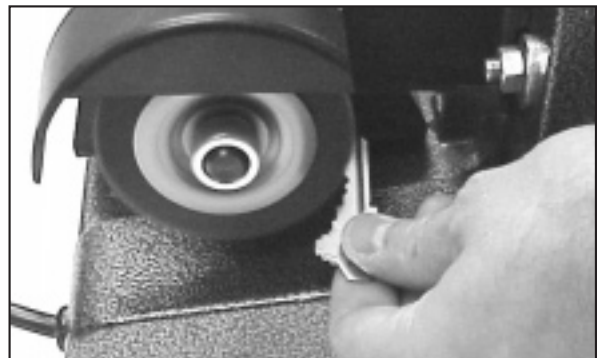
Doing so will make the resulting cut deeper than desired!

9. **IMPORTANT:** Rotate the DEPTH CRANK counter-clockwise so that the key blank is clear of the spinning cutter.

10. Rotate the SPACING CRANK to the #2 spacing mark.
11. Slowly rotate the DEPTH CRANK until the Depth Needle is centered over the depth you wish to create in this space position.
12. Follow the same procedure until all required cuts are created from the head of the key to its tip.
13. After completing the final cut, **turn the power switch to the "OFF" position!** Rotate the SPACING and DEPTH CRANKS counter-clockwise to provide maximum clearance and access; remove the finished key.

CAUTION - DO NOT remove or insert keys while the cutter is turning!

14. Turn the power switch back "ON" to de-burr the key.



Lightly brush key against rotating brush to deburr

ORIGINATING A KEY

Special Instructions for Double-Sided Keys

Double-sided keys sometimes present a special challenge when being cut. For most applications, the Universal II requires that a flat (mostly uncut) surface be positioned against the inner ledge of the vise jaw to establish the reference point for depth of cut. With single-sided keys, no problem exists due to the fact that they are cut only on one side, and thus the flat “referencing surface” remains on the reverse side of the key. Some double-sided keys however, may present a problem, depending upon their specific design, and the amount of uncut material remaining after the first side has been cut.

With some keys and cut patterns, not enough material remains after cutting the first side to assure that the key rests level within the vise jaw, once it is flipped over to create the cuts on the second side. In most cases, an experienced operator can compensate for this by visually “tilting” the key so that its groove pattern is again parallel with the face of the vise jaw as it is being clamped. This usually provides for a properly functioning key, but the accuracy obtained is dependent upon the “judgment of the operator”.

For this reason, most Code Cards intended for double-sided keys warn that “it may be necessary to cut one side of the key by code, and then duplicate the result onto a second key blank” to create a functioning key. Through experience, most operators will quickly determine which process works best for them when cutting keys for specific applications.

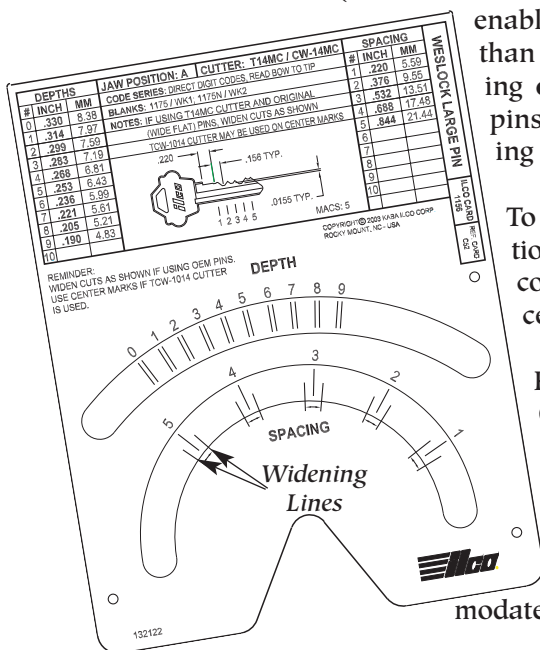
Special Instructions for Code Cards Featuring “Widen Spacing” Marks

A few Code Cards feature special Spacing Markings that allow for **widening** cuts in each spacing location (cards for Weiser and Kwikset are examples). The reason for the special markings is to enable the T14MC cutter (supplied with your machine) to create the wider than normal cut widths necessary for these keys to be used in locks containing **original equipment pins**. For locks containing “standard” aftermarket pins, the middle mark at each spacing position can be used, with no widening process required.

To widen a cut, start at the first widening mark encountered at its spacing position, and while holding the DEPTH CRANK, turn the SPACING CRANK counter-clockwise from the first widening mark until the Spacing Needle is centered over the second widening mark found in that spacing position.

FOR MAXIMUM ACCURACY DO NOT TURN THE SPACING CRANK CLOCKWISE DURING THE CUT WIDENING PROCESS!

A simpler solution is to purchase a TCW-1014 cutter (sold separately) for cutting keys requiring wide cuts. When using this cutter, you may center the Spacing Needle over the middle marks at each spacing position and the cut created will automatically be wide enough to accommodate original equipment pins.



Widening Lines - Some cards display a special type of spacing marking that includes “Widening Lines”. The factory keys furnished with the locks for which these special cards apply have wider than normal cut flats. If cutting a key for a lock that has been repinned with traditional round tip pins use the center line as the correct spacing position. If the lock still contains OEM “blunt tip” pins, use the Spacing Crank to widen the cuts by moving the Spacing Needle between the two outer lines at each spacing position. Using a special cutter, TCW-1014 (see page 10) dispense with the need to use widening lines with these applications.

ORIGINATING A KEY

Originating Angled Cut Keys

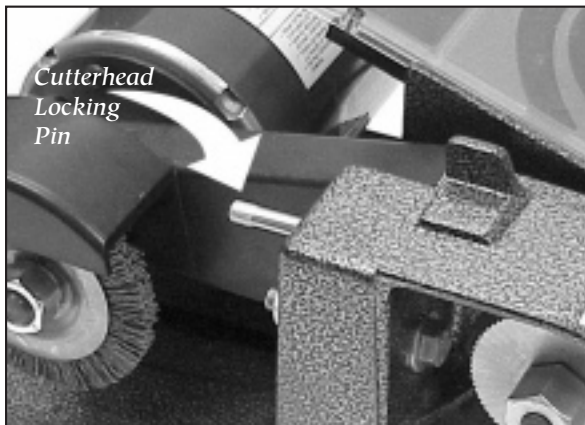
Your Universal II Code Machine can be configured to create “angled cuts” such as those found on Medeco® and Emhart® high security keys. To utilize this capability the following optional items will be needed:

For Classic Medeco Keys: Requires vise jaw # MCM-JAW C and cutter TCW-1012 (both available late 2003) or their HPC equivalent

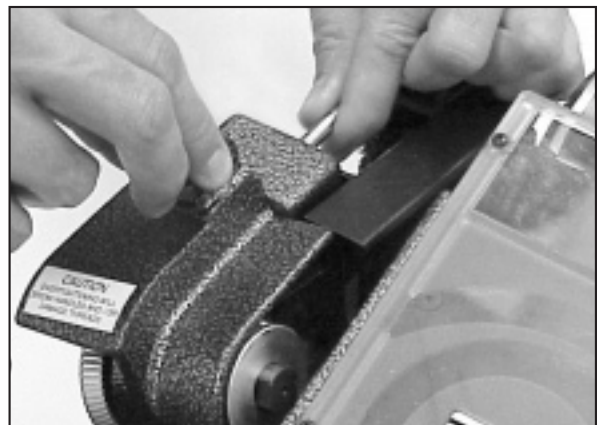
For Biaxial Medeco Keys: Requires cutter TCW-1012 (optional vise jaw is not required)

For Emhart High Security Keys: Requires cutter TCW-1013 (available late 2003), (optional vise jaw not required)

The Universal II features a cutter head that can be swiveled. By pulling out on the spring loaded locking pin, located at the back of the cutter head, it can be swiveled left or right to correspond to the angled cuts found on the above family of high security keys. Be sure that the locking pin fully engages its detent locations before operating the machine (the cutter head should lock in place and



The Universal II's cutter head is designed to rotate for cutting angled cut keys.



To rotate, pull back on locking pin and tilt cutter head to desired position

not rotate when properly positioned).

Pay careful attention to the information printed on Code Cards intended for angled cut keys! The information supplied regarding vise jaw position, correct cutter, and proper clamping of the key blank must be followed to obtain satisfactory results. The basic procedures involved in cutting these keys are the same as for other single-sided key types, except for re-positioning of the cutter head to change cut angle.

MACHINE MAINTENANCE AND ADJUSTMENT PROCEDURES

Your Universal II Code Machine has been designed to require minimal maintenance. The machine utilizes permanently lubricated bearings for both the cutter spindle and drive motor, which do not require periodic lubrication or adjustment. The following maintenance tips apply to the remainder of the machine:

- Allow the machine time to do its work. Cutting keys is not a race... excessive speed results in reduced accuracy, and is detrimental to both machine and cutters.
- Use a soft-bristle brush to assure that brass chips generated during the cutting process do not build up on the machine surfaces. This is **especially important** on the vise jaw surfaces, as this may effect the accuracy of the keys produced by the machine.
- **Do not use compressed air to dust off the machine!** Doing so may result in debris being forced into critical areas, creating a potential source of problems.
- The clear Code Card Lens may be cleaned with a soft damp cloth. Do not use solvents or abrasive cleansers on any portion of the machine.
- Cutters and accessories should be stored in a secure place to prevent loss and potential damage. It is very important that cutters be stored so that they do not bump against other metal items as this can easily degrade their useful service life.
- The Universal II is equipped with a circuit breaker. In the unlikely event it activates, pressing in on its white button will reset it. A tripped breaker situation should not occur on a regular basis; if it does the machine should be examined for a defective breaker or other abnormal electrical condition by an Ilco Service Technician or other experienced electrician.

Cutter Replacement

Under normal usage, the cutters supplied with the Universal II should provide excellent service life and value. Cutting keys made of steel or other hard materials, contact with the vise jaw, or use for cutting non-key items will definitely degrade a cutter and diminish available service life.

Even with proper use there comes a time however when a cutter is no longer fit for service. Signs that a cutter has reached the end of its service life include the following: a distinct burr or ridge of material remains after cutting a key that is difficult to remove with the deburring brush, the noise level the cutter generates while cutting markedly increases, or it starts requiring noticeably more rotation force on the Depth Crank to cut a key.

When its time to replace the cutter, it is **strongly suggested that a new cutter be installed rather than re-sharpening the original**. The machine and the Code Cards are designed so that cutters can be freely changed on the machine as required without re-adjustment when cutting various types of keys; this dictates that the cutters must all be of the same, correct diameter... which will not be the case if one is re-sharpened! When changing or replacing a cutter, remember that the cutter nut has a left hand (reverse) thread, and should be turned clockwise to remove.

MACHINE MAINTENANCE AND ADJUSTMENT PROCEDURES

How and When To Adjust Depth of Cut

VERY IMPORTANT! You **WILL NOT** need to re-adjust the Universal II for depth of cut each time you use a different Code Card. The Depth Markings on all Universal II Code Cards are imprinted so that when your machine is correctly adjusted for one card, it is adjusted for all, provided you use Ilco or equivalent HPC cutter wheels!

Depth adjustment on the Universal II is rarely needed, and the procedure should be performed only after more common reasons for mis-cut keys are considered and eliminated.

Common Reasons for Mis-Cut Keys:

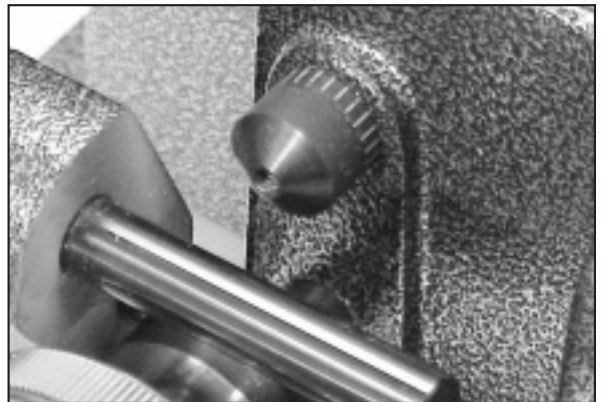
- **Incorrect Key Blank-** This cause is the easiest to identify, as usually an incorrect key blank will not enter the intended lock. This type of mistake is also encountered when duplicating keys; the mis-cut situations that follow are unique to code cutting.
- **Incorrect Code Number for Intended Lock System-** Many lock manufacturers use key code series numbers that correspond to ones used by other manufacturers. While the code numbers may be the same, their associated bitting numbers, along with the required spacing and depth dimensions, may be vastly different.
- **Incorrect Code Card Selected-** As an example, a key for a Yale door lock will not be properly cut using a Code Card for a Yale desk drawer or cabinet lock. You must select the proper Code Card for the task at hand.
- **Typographical Errors Sometimes Occur-** Occasionally, you will find that a code book, or computerized code program, is in error regarding a particular key code. Also, it is not uncommon for an Automotive Manufacturer's documentation to be incorrect in that the locks actually installed on a particular vehicle do not match the code number recorded for that vehicle by the manufacturer.

If you cut a lot of keys, at some point you will encounter all of the above! Its important however not to reach for wrenches just because you've cut a bad key... eliminate other factors first, as usually something other than machine adjustment is the culprit!

Depth Adjustment Procedure

If you feel that the machine does not cut keys to the proper cut depth, first verify that one of the situations mentioned in the above section is not the underlying issue. If the problem still appears to be due to machine adjustment, proceed with the depth adjustment procedures outlined below:

1. Cut a key by code, and measure its cut depths using a key micrometer or dial caliper.
2. Compare the measured depths against the corresponding depth data shown on the front of the Code Card used to cut the key.
3. If the measured cuts match the Code Card data, machine re-adjustment is not indicated. If the measurements do not match within 1 thousandths of an inch (.001") proceed to step four.
4. Turn the Depth Crank counter-clockwise to its stop position.



The Universal II utilizes a graduated Depth Adjustment Dial for precise, simple to perform, adjustment for depth of cut.

MACHINE MAINTENANCE AND ADJUSTMENT PROCEDURES

5. Insert a 3/32" allen wrench into the front end of the Depth Adjustment Dial to engage the Depth Locking Screw, and loosen it by turning the wrench counter-clockwise by about 1/2 of a turn.
6. With the screw loosened, the Depth Adjustment Dial can now be rotated by hand. Each graduated mark on the dial changes the depth of cut by approximately 1½ thousandths of an inch (.0015"). Rotate the Dial the required number of marks to compensate for the depth error previously measured. Clockwise rotation INCREASES cut depth; counter-clockwise rotation DECREASES cut depth.
7. Once you have adjusted the dial as described above, re-tighten the Depth Locking Screw. DO NOT OVERTIGHTEN... this screw secures the Depth Adjustment Dial by expanding an internal friction lock. Snugging the screw is adequate!
8. At this point you should cut another key and measure it to verify that the proper amount of depth adjustment has been achieved.
9. Note that the goal when adjusting your machine is to enable it to cut to within .001 (or better) of the depth data shown on the Code Card.



To change depth of cut, loosen the locking screw in the front of the Depth Adjustment Dial by turning it counter-clockwise about 1/2 of a turn.

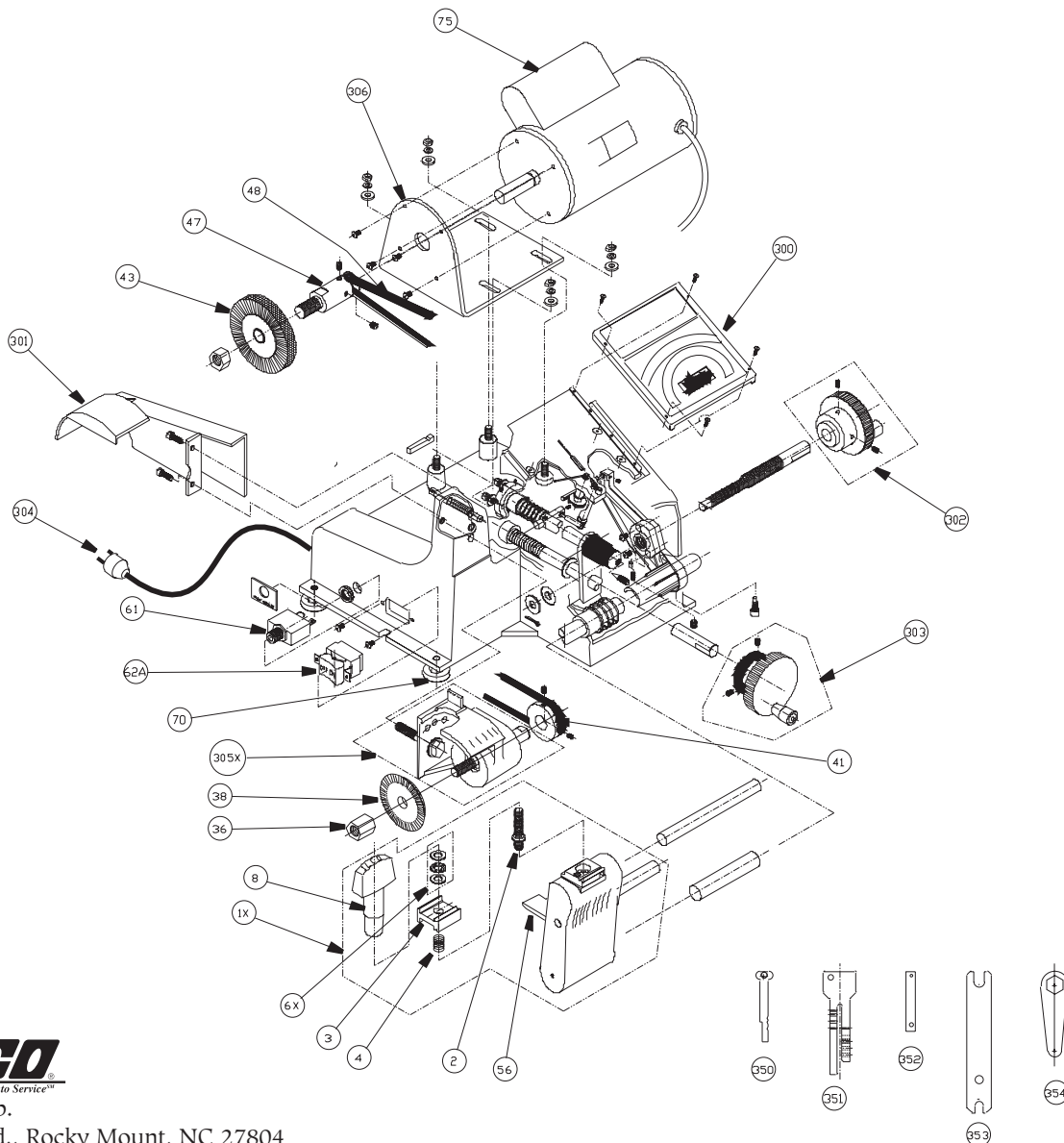


With the locking screw loosened, rotate the dial clockwise to increase cut depth or counter-clockwise to decrease as desired. (each mark is equivalent to 1½ thousandths of an inch change in cut depth).

REPLACEMENT PARTS

	Part Number	Description		Part Number	Description
1X	MCM-1X	Carriage Assembly	70	MCM-70	Rubber Feet
2	MCM-2	Carriage Stud	75	MCM-75	Motor (110 V-AC)
3	MCM-3	Upper Vise Jaw	300	MCM-300	Card Lens
4	MCM-4	Vise Jaw Spring	301	MCM-301	Belt Guard
6X	MCM-6X	Thrust Bearing Set	302	MCM-302	Spacing Crank Complete
8	MCM-8	Wing Nut Assembly	303	MCM-303	Depth Crank Complete
36	MCM-36	Cutter Nut	304	MCM-304	Power Cord
38		Cutter (specify type)*	305X	MCM-305X	Cutter Head Assembly
41	MCM-41	Cutter Shaft Pulley	306	MCM-306	Motor Bracket
43	MCM-43	Nylon Brush	350	MCM-TSR	Red Tip Stop
47	MCM-47	Motor Pulley	351	MCM-TSU	U-Shaped Tip Stop
48	MCM-48	V-Belt	352	MCM-SH1	Flat Shim
56	MCM-56	Key Gauge	353	MCM-WR1	Wrench (open end)
61	MCM-61	Circuit Breaker	354	MCM-WR2	Wrench (box end)
62A	025-62A	Power Switch			

* Cutters T14MC and TCW-1011 are both supplied with Universal II (full system); specify version desired.



Kaba Ilco Corp.
400 Jeffreys Rd., Rocky Mount, NC 27804
Tel: 800-334-1381 • Fax: 252-446-4702
www.kaba-ilco.com

A Member of the Kaba Group



Code No. 125038

ULTRACODE®

Card Reference Guide

Db 17.01





PEAKS[®] Preferred/Classic

Technical Manual

KABA[®]

Table of Contents

Section 1	Introduction
Section 2	Product Information
Section 3	Key Cutting & Pinning
Section 4	Key Control & Record Keeping
Section 5	Cylinder Installation Guide

A publication of Kaba Access Control
2941 Indiana Ave.
Winston-Salem, NC 27105

No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without prior written permission from the Publisher.

Disclaimer: While reasonable efforts were made to ensure the accuracy of this document at the time of printing, Kaba assumes no liability for any errors or omissions. This information is subject to be revised without notice, and changes may be incorporated in future releases.

[illegible]



PEAKS[®] Preferred/Classic

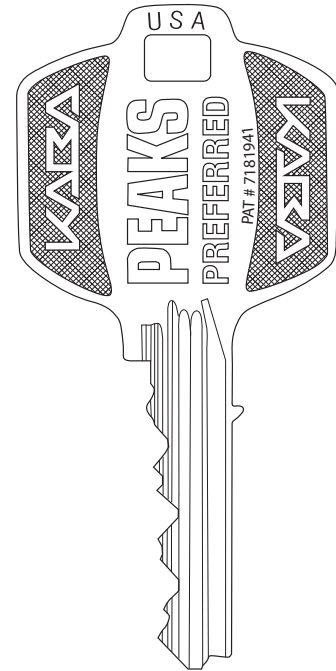
Technical Manual

Section 1: Introduction

KABA[®]

Peaks Preferred/Classic Advantage

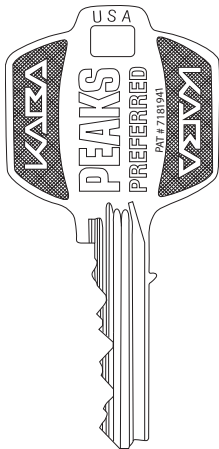
- Blanks and cut keys protected by strong, uncontested utility patents
- Patented key control without added expense of UL437
- Retrofits a wide variety of lock brands
- Combines conventional mortise, rim and key-in-knob cylinders, with Best, Arrow, and Falcon interchangeable cores, and Corbin Russwin, Medeco (classic only), Yale, Schlage and Sargent removable cores, all in the same patent protected keying system
- Maximizes use of existing hardware for substantial cost savings
- Cores can be added to existing non-small format interchangeable core systems without loss of keying capacity
- Cylinders resistant to key manipulation for safer master keying
- Keyway families for large institutional end users
- Lowest cost entry into key control market
- Technically simple
- Uses existing key machines
- Distributor supported
- Made in America by world's oldest, largest manufacturer of key control and high security products
- World class factory support



What is Peaks Preferred?

Peaks Preferred is the most cost effective, application flexible, patented end-user key control system available. Two projections near the key bow, called “peaks” are part of the utility patents safeguarding the key blanks. The “peak” operates the patent pin stack. Since the uncut key blank itself is patented, Kaba controls blank manufacture and distribution.

Key Blank Identification Number and Peaks Contracts



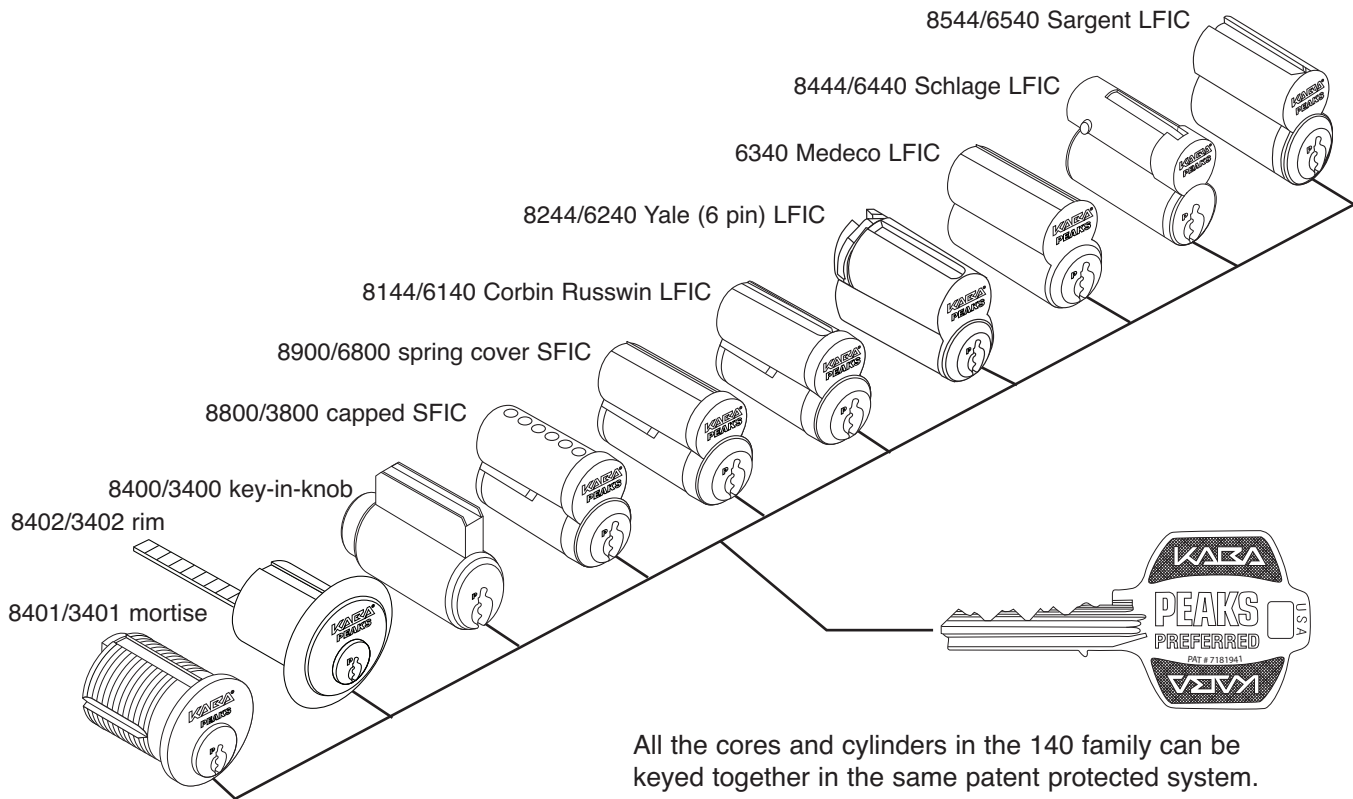
All Peaks key blanks are marked with a unique identification number. The Kaba key control contract and this manual specify certain key control procedures. Breach of contract or failure to abide by factory key records policies can result in loss of the product line.

Contracts specify that:

1. The blank ID number may not be removed, stamped-over, or altered in any way;
2. Parties under contract may not duplicate any keys bearing a blank ID number different from their own;
3. Key blanks may not be sold, lent, or given away;
4. Proper key records must be kept and authorization procedures observed.

The Peaks 140 Family

140 and 150 are the actual pin-to-pin spacings in thousandths of an inch. 140 spacing is used in the interkeyable family of conventional cylinders, interchangeable cores and removable cores. All 140 products are 6-pin. There are actually seven pin stacks in a Peaks 140 core or cylinder. One pin chamber is used for the patent pin stack and is constant in all Peaks products. The remaining six chambers are used for combining.



Peaks 150 – Small Format Interchangeable Cores only

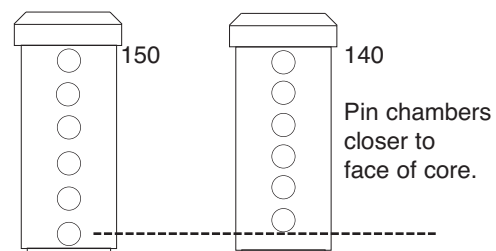
150 spacing is used for Peaks small format interchangeable cores only! There are no conventional cylinders or other large format interchangeable cores in 150 spacing. 150 small format interchangeable cores cannot be interkeyed with the 140 family.

The pin-to-pin spacing is 0.150" in original Best small format interchangeable cores. Peaks small format interchangeable cores are available in 6-pin and 7-pin lengths, and will retrofit any Best style housing.

In 150, the first pin chamber is very close to the back. In 140, there is a $\frac{1}{16}$ " gap between the first chamber and the back.

There are seven pin chambers in 6-pin Peaks small format interchangeable cores: six operating pins plus the patent pin, a constant in all cylinders. There are eight pin chambers in 7-pin small format interchangeable cores.

face of Peaks small format interchangeable cores



Quick Technical Reference

Increment systems

A2 system: ten depths, numbered 0 to 9, shallow to deep, respectively. The increment of .0125" requires two step progression. Choose a specific parity pattern by using either the odd or even bittings in any given position. The preferred factory standard is A2 system.

A4 system: six depths, numbered 0 to 5, shallow to deep, respectively. The increment of .021" allows for one step progression. *Since there is no parity in A4, all key systems in any keyway are the same.* Kaba strongly suggests the use of A2 system whenever possible.

MACS : use 90 degree cutter

A2 System

140 MACS is 8–09, 90 are forbidden

150 MACS is 9–no forbidden combinations

A4 System

140 MACS is 4–05, 50 are forbidden

150 MACS is 5–no forbidden combinations

Cut next to "peak"

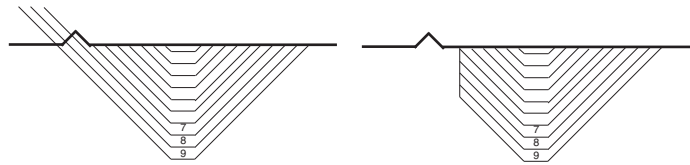
A2 system: #7, 8 or 9 cuts next to the "peak" require #1011 or equivalent cutter.

When master keying, progress this position last.

A4 system: #4 or 5 cuts next to the "peak"

require #1011 or equivalent cutter.

When master keying, progress this position last.



Total pin stack heights

	small format interchangeable core	mortise/rim	key-in-knob / large format interchangeable core
A2 system	23	31	26
A4 system	14	18	15

Pinning

The same pins are used for all cylinders and cores, except Corbin Russwin and Sargent large format interchangeable cores and the Universal 8400-xx-1095/1099 and 3400-xx-1095/1099 key-in-knobs, which require the J or K series bottom pins. ***Non-original pins will not work properly in Kaba products and their use voids product warranty.***

All products are top loaded. Capped small format interchangeable cores require the correct capping block (140 or 150). Spring covers are installed with a staking tool and fixture. Combined conventional cylinders may be rekeyed by removing the spring cover or by using a Peaks follower tool and setup key.

Lubrication

Poxylube, a dry spray, is the factory recommended lubricant.

Key Blanks

1. Only keys bearing your unique, factory stamped, Key Blank ID number may be duplicated.
2. Key blanks may not be sold, lent, or given away.
3. Return of key blanks, for any reason, must be made directly to Kaba or to any of the parties as outlined in your contract.

Core marking

Do not stamp the face of the core as the patent pin chamber may collapse. Kaba strongly discourages Visual Key Control (VKC) for security reasons. Concealed Key Control (CKC), such as marking the side of the core with a fine point magic marker, is recommended, and is the factory standard. See section 3–1 for complete marking instructions.

Kaba Access Control

Kaba has provided strong, powerful security solutions since 1862, when German businessman Franz Bauer established a locksmith and safe company named Kassa Bauer (Bauer Safe). Over the past 140 years Kaba has continually increased its capabilities and expanded its vision, becoming a world leader in access control solutions and door hardware.

Today, Kaba's worldwide operations serve millions of customers in more than 150 countries with a comprehensive set of products and services that range from safe locks to access control system integration. More than 7,000 Kaba employees, located in 20 countries are working to maintain the highest levels of customer satisfaction as we continue to grow and expand our vision.

Kaba defines the future of access control as Total Access—the integration of all access control devices, from door hardware to mechanical locking systems, to electronic access systems and data collection. The people of Kaba are committed to leading the access control industry.

Terminology Used in This Manual

Professional industry groups, like the Associated Locksmiths of America (ALOA), the Builders Hardware Manufacturers Association (BHMA), and the Door and Hardware Institute (DHI), work to standardize terminology. This manual conforms to the ALOA publication, *The Professional Glossary of Terms Related to Cylinders, Keys and Master Keying*, hereinafter referred to as the Glossary. It also conforms to the keying symbols of the DHI Keying Manual and BHMA standards. The symbols of the Standard Key Coding System are the industry standard accepted by all lock manufacturers.

Resources

Kaba recommends the following resources:

1. Door and Hardware Institute publications, available from DHI, 14170 Newbrook Drive, Chantilly, VA, 22021. Tel: 703-222-2010
 - Abbreviations and Symbols as used in *Architectural Door and Hardware Schedules and Specifications*
 - Sequence and Format for the Hardware Schedule*
 - Basic Architectural Hardware*
 - Keying Manual*

2. ALOA publication, available from Associated Locksmiths of America, 3003 Live Oak Street, Dallas, TX 75204. Tel: 214-827-1701

–*Fundamentals of Master Keying*

Certain forms used in this manual have been reprinted with permission from Fundamentals of Master Keying. You are free to copy the master keying forms at the back of the manual as is, or alter them. There are many other forms available, from site surveys to specialized bitting lists.

3. Kaba Customer Service and Kaba Key Systems are available Monday through Friday, 8:00 a.m. to 5:00 p.m. Eastern Time to answer questions. For Customer Service please call 1-800-849-8324, Ext. 1. For Kaba Key Systems, please call 1-800-849-8324, Ext. 285.

Patents

The primary purpose of patented high security locks is the prevention of unauthorized key duplication. Contracts, factory marked blanks, limited distribution, key records controls, and strong utility patents are essential to state-of-the-art key control.

Fabrication of Peaks Preferred key blanks by anyone other than Kaba is an infringement of utility patent 7.18.1941.

Patent Criteria: A novel mechanical feature on the uncut blank, without which the lock will not operate, is the critical mechanical requirement for a utility patent to protect against unauthorized key duplication.

Kaba Access Control and Kaba Holding AG will bring legal action against any person or persons producing or contributing to the production of unauthorized Peaks keys or key blanks.

Competitive Patents

Brand	Patent Type	Expires
Medeco KeyMark X4	utility	2027
Peaks Preferred	utility	2024
Schlage Primus XP	utility	2024
Kaba's Peaks Global	utility	2023
Assa CLIQ	utility	2021
Medeco M3	utility	2021
Kaba L10	utility	2017
Corbin Pyramid	utility	2017
Assa Twin Pro	utility	2015
Schlage Everest Primus	utility	July 2014
Arrow Flex Core	utility	July 2012
Sargent Signature	utility	Dec 2012
Kaba Gemini T	utility	Aug 2012
Medeco Keymark	utility	Jan 2011
Kaba's Peaks Classic	utility	June 2010
Assa Twin V-10	utility	Nov 2008
Kaba Gemini	utility	April 2006
Schlage Primus	utility	July 2005
Medeco Biaxial	utility	expired 2004
Assa Twin 6000 Blank	design	expired 2000
Abloy DiskLock Pro	utility	expired 1999
Medeco Original	utility	expired 1987
Distributor "locksmith" keyways	none	not patented
Commonly called "restricted" keyways	none	not patented

Key Blank Identification Number and Peaks Contracts

All Peaks key blanks are marked with a unique identification number. The Kaba key control contract and this manual specify certain key control procedures. Breach of contract or failure to abide by factory key records policies can result in loss of the product line.

Contracts specify that:

1. The blank ID number may not be removed, stamped-over, or altered in any way;
2. Parties under contract may not duplicate any keys without following proper key records authorization procedures;
3. Key blanks may not be sold, lent, or given away;
4. Proper key records must be kept and authorization forms maintained.

Kaba Peaks Quality

Kaba Access Control employs the latest machining techniques to ensure smooth reliable operation throughout a wide variety of cylinders to provide hardware to fit the full spectrum of security needs. Kaba uses high quality brass to manufacture the plug and shell of each cylinder. All Kaba Peaks keys are made of nickel silver which incorporates a large bow capable of receiving stampings and use by physically impaired people. All Kaba Peaks family of reliable cylinders are designed and manufactured to stand up to the heaviest of use over an extended life of many years.

The patented security features of Kaba's Peaks Security Cylinders provide new capabilities to the standard pin tumbler lock design without complicating the procedures involved in servicing the cylinder. Patent protected Kaba Peaks keys use standard pin tumbler combination bittings, so standard code and duplicating key machines can cut Peaks keys from key blanks that are produced by the factory.



PEAKS[®] Preferred/Classic

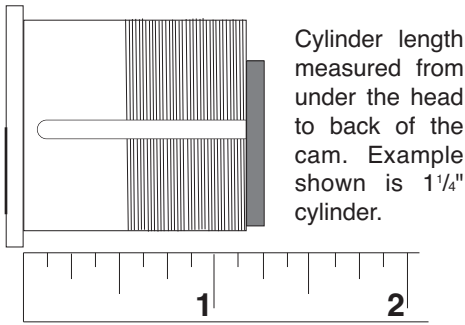
Technical Manual

Section 2: Product Information

KABA[®]

Conventional Mortise Cylinders—8401/3401 Series

6-pin 140



Conventional mortise cylinders are available in 1 1/8" and 1 1/4" lengths.

Longer length applications can normally be handled by using small format interchangeable core housings.

Collars are not included. Please order collars separately.

Cams for conventional mortise cylinders are attached with 4701-98-4118 Loctite® coated screws. One 3418-00-2000 cam cover is placed over the cam before screws are installed.

If cams are changed in the field, use new screws and tighten them firmly.

Please specify cam when ordering. Contact Kaba about other cam requirements. See bottom of this page for mortise cylinder kit.

Cams shown below are not for small format interchangeable core housings.



3418-00-3000
Corbin Russwin
DL4000
length: 1.080"



3418-00-3001
Adams Rite



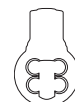
3418-00-3002
Standard



3418-00-3003
Best and
Corbin Russwin
cloverleaf



3418-00-3004
Sargent and Yale
length: 1.010"



3418-00-3008
AR 4070



3418-00-3009
Schlage L



3418-00-3010
Falcon

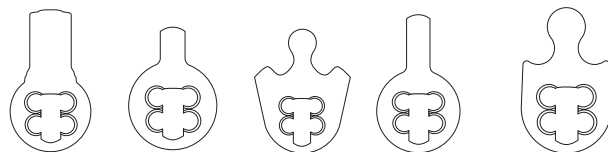
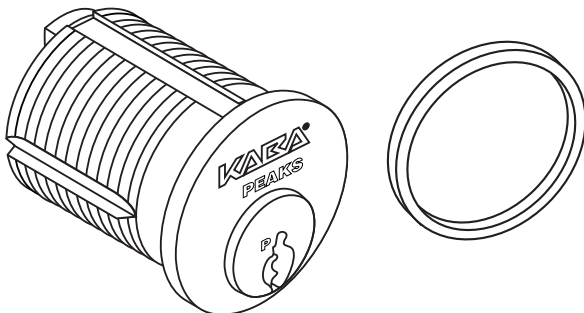
Mortise Cylinder Kits

mortise cylinder kit, 140 6-pin 1 1/8"

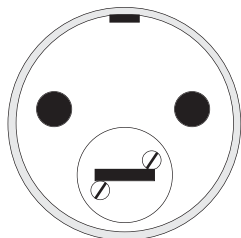
8401-xx-1038	uncombined
8401-xx-1238	factory combined
3401-xx-1038	uncombined
3401-xx-1238	factory combined

xx = Finish

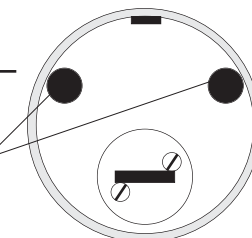
Kit includes: standard, Adams Rite, cloverleaf, Sargent/Yale and Schlage L cams, 5/32" spacer, spare Loctite® coated screws and a cam cover.



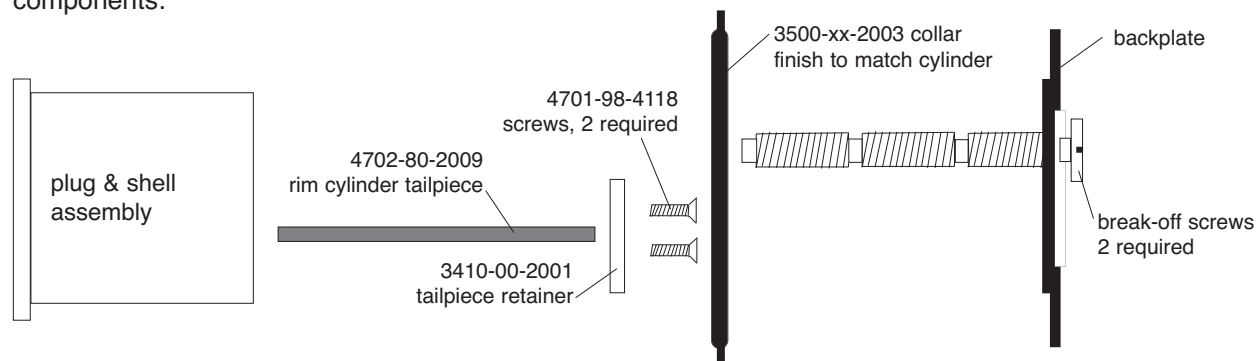
8402-xx-1010
3402-xx-1010
standard
screw hole
locations



8402-xx-1012
3402-xx-1012
screw holes "high
and outside" for
Sargent exit
devices



Each 8402/3402 cylinder assembly includes these components:



Key-In-Knob Cylinders

Key-in-knob cylinder kit

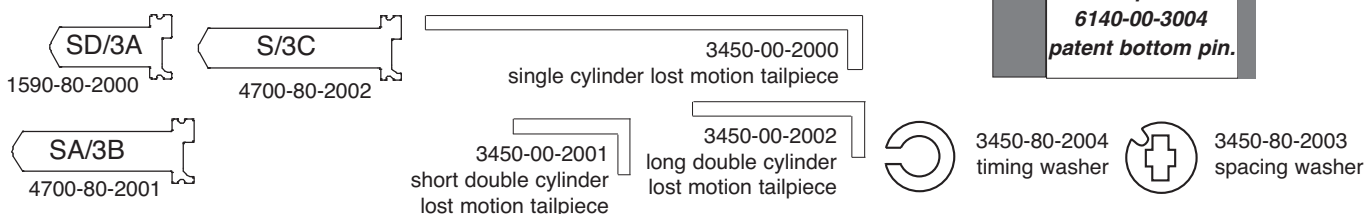
6-pin 140

Universal cylinder kit for cylindrical and tubular locks ("99" kit)

8400-xx-1099	uncombined
8400-xx-1299-99	factory combined
3400-xx-1099	uncombined
3400-xx-1299-99	factory combined

xx = Finish

The screw cap plug retainer accepts original tailpiece and driver assemblies by Arrow, Baldwin, Corbin Russwin, Falcon, LSDA, Sargent, Schlage and others. Kit includes a cylinder assembly and one each of the components shown:



8400 Series

Large diameter
plug requires
J or K series

bottom pins and
8144-00-3004
patent bottom pin.

3400 Series

Large diameter
plug requires
J or K series

bottom pins and
6140-00-3004
patent bottom pin.

The Universal "99" cylinder kit can be used with the following lock types. For details, please refer to the specific line drawing of the product.

Manufacturer	Lock Type	Model #	Manufacturer	Lock Type	Model #
Amerock	See Arrow		Marks	130 series deadlocks	-01
Arrow	H, L, S and W series	-09	Marks	170, 190, 195 series levers	-01
Arrow	M and Q series levers	-09	Marks	210 series knobs	-01
Arrow	M series Ball knobs	-20	Master	ProSeries padlocks	-01
Arrow	Single Cyl. Deadlocks	-90	New Standard	Brass padlocks	-41
Arrow	Double Cyl. Deadlocks	-92			
Cal-Royal	BA grade 2 knobs	-14	Omnilock	Knob, key by-pass	-17
Cal-Royal	CGN grade 1 levers	-18	Omnilock	Lever, key by-pass	-18
Cal-Royal	SL grade 2 levers	-18	PDQ	SK, SP, ST levers	-16
Corbin Russwin	CL3800	-01	PDQ	SV grade 2	-84
Corbin Russwin	CL3300	-20	PDQ	Imported grade 1 levers	-23
Corbin Russwin	CL3400 and CL3600	-11	Sargent	5500 Line grade 2 knobs	-14
Corbin Russwin	ED8000-A5/N5 lever trim	-11	Sargent	465, 485, 486 single cyl. deadlocks	-90
Falcon	X series knobs, except Hana	-12	Sargent	464, 484 double cyl. deadlocks	-92
Falcon	B series grade 2 levers	-18	Schlage	A series, non-Orbit knobs	-14
Falcon	F series levers	-17	Schlage	A series, Orbit knobs	-07
Falcon	N series knobs	-17	Schlage	AL series levers	-20
Falcon	LY grade 1 levers	-23	Schlage	B single cyl. deadlocks	-90
Falcon	RU grade 1 unit locks	-01	Schlage	B600, 700, 800 single cyl. deadlocks	-91
Falcon	S series knobs, except Hana	-13	Schlage	B double cyl. deadlocks	-92
Falcon	S series Hana knobs	-33	Schlage	B600, 700, 800 double cyl. deadlocks	-93
Falcon	T series levers	-01	Schlage	C & D series grade 1 knobs	-17
Kaba	1411 padlocks	-41	Schlage	C & D series grade 1 levers	-18
LSDA	LS100B, 100P, 100T knobs	-14	Schlage	S series grade 2 levers	-01
LSDA	LX1000 grade 1 levers (1994)	-18	Schlage	PL series padlocks	-01
LSDA	LX1000 grade 1 levers (1998)	-18	Schlage	Old style 45-101 padlocks	-01
LSDA	LH1000 grade 1 knobs	-17			
LSDA	L100 grade 2 levers	-18	Select/Medeco	2000/All-N-One deadlocks	-01
LSDA	600 series clutch levers	-18	Trilogy	2500 by-pass, knob	-17
LSDA	Single cyl. deadlocks	-90	Trilogy	2500 by-pass lever	-18
LSDA	Double cyl. deadlocks	-01	Ultra	7000 Ball knob	-18
Marks	110, 120 series	-14	Von Duprin	22 series exit knob trim	-07

Key-In-Knob Cylinders

The 8400-xx-1095 and 3400-XX-1095 cylinder kit with small diameter plug face ("95" kit)

8400-xx-1095	uncombined
8400-xx-1295-99	factory combined
3400-xx-1095	uncombined
3400-xx-1295-99	factory combined

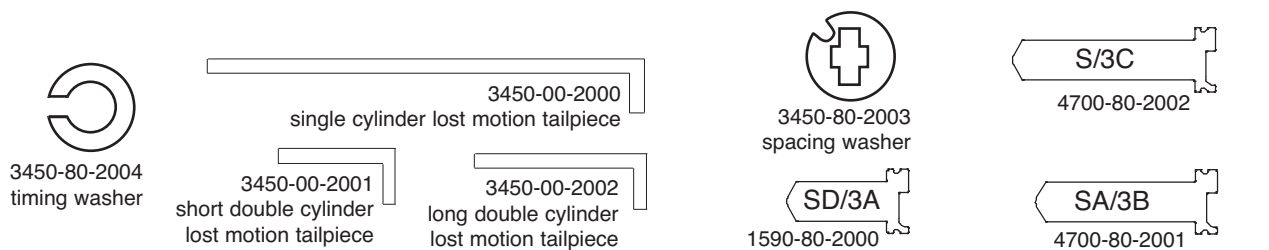
xx = Finish

Falcon applications require Falcon tailpiece kit, Kaba part number 4700-00-5109.

Falcon, Cal-Royal, LSDA, and Weiser deadlocks require OEM tailpieces.

The "95" cylinder kit is used for selected applications which require a small diameter plug face.

The "95" kit includes a cylinder assembly and one each of the components shown:



The "95" cylinder kit can be used to make the following. For details, please refer to the specific line drawing of the product.

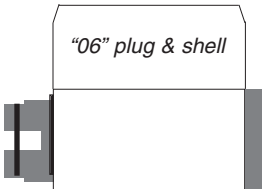
Manufacturer	Lock Type	Model #	Manufacturer	Lock Type	Model #
Cal-Royal	LSD single cyl. deadlock	-01	Sargent	2000 exit device trim	-10
Cal-Royal	LSDD double cyl. deadlock	-01	Sargent	6500 Line	-10
Falcon	D series deadlocks	-01	Weiser	D 9370/9470 series deadlocks	-01
Falcon	X series knobs/unit locks	-21	Yale	5300L grade 2 levers	-95
Sargent	6 Line knobs, except Ball	-10	Yale	5300LN grade 2 levers	-56
Sargent	10 Line levers	-10			

Key-In-Knob Cylinders

The 8800-xx-1006 and 3400-xx-1006 for Arrow—LSDA—Schlage key-in-knob cylinders (“06” kit)

8400-xx-1006	uncombined
8400-xx-1206-06	factory combined
3400-xx1006	uncombined
3400-xx-1206-06	factory combined

xx = Finish



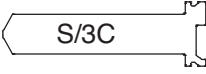
The “06” cylinder also accepts original Arrow, Ilco, Lori, Marks and Sargent fixed tailpieces.
The “06” cylinder kit includes a cylinder assembly and one each of the components shown:



1590-80-2000



4700-80-2001



4700-80-2002

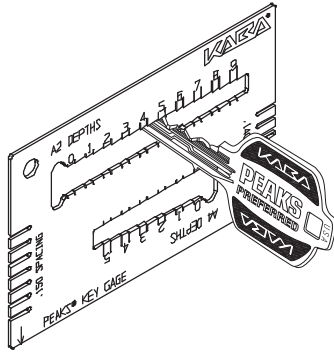


3400-00-2009 security bushing

The “06” cylinder kit can be used for the following lock types. For details, please refer to the specific line drawing of the product.

Manufacturer	Lock Type	Model #	Manufacturer	Lock Type	Model #
American	3600 and 3700 series padlocks	-01	Master	System 29 padlocks	01
Arrow	M series Tudor and Darrin	-26	Trilogy	2700 and 3000 levers	-03
Falcon	X series grade 1 Hana Knob	-33	Master	Pro series	-01

Tools



3800-00-4050 Peaks Multi-Gage checks .140" and .150" spacing and depth for the A2 and A4 system.

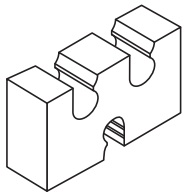
6440-00-4001
staking tool



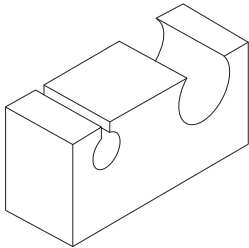
3800-00-3547
capping tool for
both capping
blocks



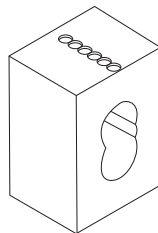
3800-00-3548
ejector tool



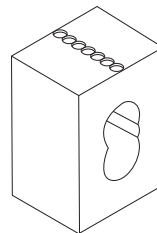
6840-00-3540
staking fixture



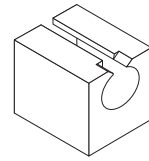
3400-00-4000 staking
fixture for conventionals



3840-00-3540
140 capping block
(6 holes)



3850-00-3540
150 capping block
(7 holes)



6440-00-3540
staking fixture

Notes

Notes

Section 2 - 7

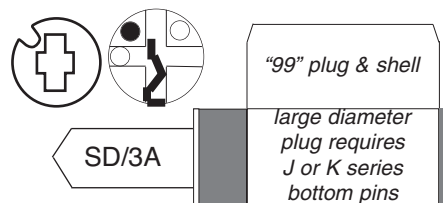
AMERICAN Padlocks—see pages 2–23

AMEROCK Same as Arrow retrofits listed below

ARROW *H, L, S & W knobs and levers, Q and M series levers*

8400-xx-1299-09	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-09	factory combined
3400-xx-1099	uncombined and use*

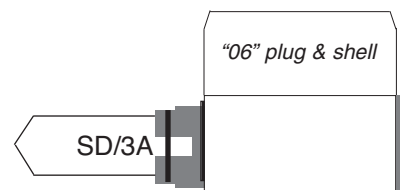
*1590-80-2000 SD/3A tailpiece, vertical
*3450-80-2003 spacing washer



ARROW *M series Tudor and Darrin*

8400-xx-1206-26	factory combined
8400-xx-1006	uncombined and use*
3400-xx-1206-26	factory combined
3400-xx-1006	uncombined and use*

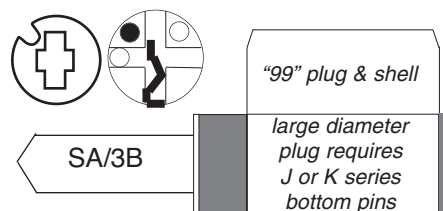
*1590-80-2000 SD/3A tailpiece, vertical
*3400-80-2000 SD/3A tailpiece, vertical



ARROW *M series Ball knobs*

8400-xx-1299-20	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-20	factory combined
3400-xx-1099	uncombined and use*

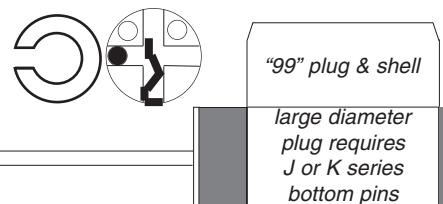
*4700-80-2001 SA/3B tailpiece, vertical
*3450-80-2003 spacing washer



ARROW *Single cylinder deadlocks*

8400-xx-1299-90	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-90	factory combined
3400-xx-1099	uncombined and use*

*3450-00-2000 lost motion tailpiece
*3450-80-2004 timing washer



Key-In-Knob Cylinders

ARROW

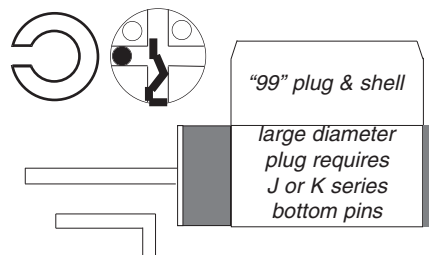
Double cylinder deadlocks

8400-xx-1299-92	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-92	factory combined
3400-xx-1099	uncombined and use*

*3450-00-2002 long double cylinder lost motion tailpiece standard for 1 $\frac{3}{4}$ " doors

*3450-80-2004 timing washer

*3450-00-2001 short double cylinder lost motion tailpiece included for 1 $\frac{3}{8}$ " doors



NOTE: File shutter tab slightly on inside cylinder housing to allow clearance for bottom peak.

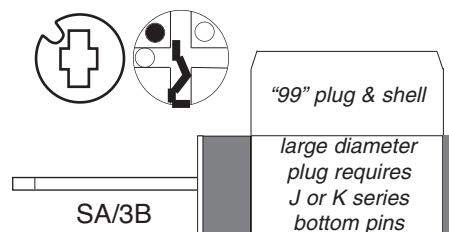
CAL-ROYAL

BA grade 2 knobs

8400-xx-1299-14	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-14	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2001 SA/3B tailpiece, horizontal

*3450-80-2003 spacing washer



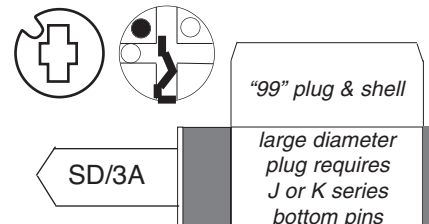
CAL-ROYAL

CGN grade 1 levers and SL grade 2 levers

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*

*1590-80-2000 SD/3A tailpiece, vertical

*3450-80-2003 spacing washer



NOTE: Sometimes the drivehole will not accept the Peaks® tailpiece without first filing it narrower top to bottom.

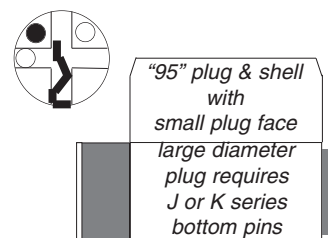
CAL-ROYAL

LSD single cylinder deadlocks

LSDD double cylinder deadlocks

8400-xx-1295-01	factory combined and use*
8400-xx-1095	uncombined and use*
3400-xx-1295-01	factory combined and use*
3400-xx-1095	uncombined and use*

*Cal-Royal tailpieces



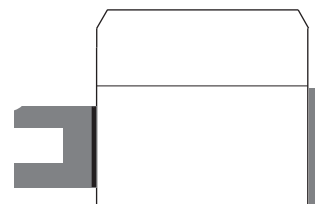
Cal-Royal tailpieces are not supplied.

CORBIN RUSSWIN

CK4200 grade 1 knobs, UT5200 Unit locks

8400-xx-1204-04	factory combined
8400-xx-1004	uncombined
3400-xx-1204-04	factory combined
3400-xx-1004	uncombined

Contact Kaba about applications prior to 1972.



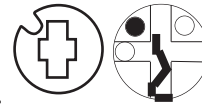
Key-In-Knob Cylinders

CORBIN RUSSWIN

CL3300 grade 1 levers

8400-xx-1299-20	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-20	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2001 SA/3B tailpiece, vertical
 *3450-80-2003 spacing washer or, the original
 *Corbin Russwin tailpiece may be used.



SA/3B

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

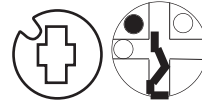
NOTE: Not for use on G3 exit trim.

CORBIN RUSSWIN

CL3400, CL3600 grade 1 levers, Lever trim A5, N5 for ED8000 exit devices

8400-xx-1299-11	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-11	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2002 S/3C tailpiece, vertical
 *3450-80-2003 spacing washer



S/3C

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

If spacer supplied by Corbin Russwin is missing, substitute Kaba 3400-00-2009 security bushing.

CORBIN RUSSWIN

CL3800 grade 2 levers

8400-xx-1299-01	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined
3400-xx-1099	uncombined and use*

*the original Corbin Russwin tailpiece and plastic tailpiece bushing

Corbin Russwin tailpiece and bushing not supplied.



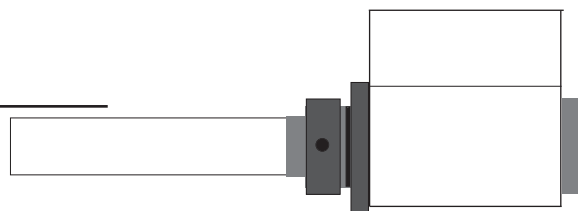
"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

CORBIN RUSSWIN

CL3900 grade 2 levers

8400-xx-1255-55	factory combined
8400-xx-1055	uncombined
3400-xx-1255-55	factory combined
3400-xx-1055	uncombined

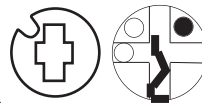


FALCON

B Series grade 2 levers

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*

*1590-80-2000 SD/3A tailpiece, vertical
 *3450-80-2003 spacing washer



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

Key-In-Knob Cylinders

FALCON

D Series deadlocks

8400-xx-1295-01	factory combined
8400-xx-1095	uncombined and use*
3400-xx-1295-01	factory combined
3400-xx-1095	uncombined and use*



"95" plug & shell
with
small plug face
large diameter
plug requires
J or K series
bottom pins

Single cylinder functions:

*Falcon TP-10 tailpiece (A28350-000-00)
and retainer TPR-4 (A08385-000-00)

or

Double cylinder functions:

*Falcon TP-9 tailpiece (A24350-007-00)
and retainer TPR-2 (A14351-000-00)

Use Falcon tailpiece, not supplied.

FALCON

F Series levers & N Series knobs

8400-xx-1299-17	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-17	factory combined
3400-xx-1099	uncombined and use*



SD/3A

"99" plug & shell
large diameter
plug requires
J or K series
bottom pins

*1590-80-2000 SD/3A tailpiece, horizontal

*3450-80-2003 spacing washer

FALCON

LY grade 1 levers (same as early model imported PDQ lever)

8400-xx-1299-23	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-23	factory combined
3400-xx-1099	uncombined and use*



SA/3B

"99" plug & shell
large diameter
plug requires
J or K series
bottom pins

*4700-80-2001 SA/3B tailpiece, vertical

*3450-80-2003 spacing washer

*two 4700-00-4007 metal washers, tailpiece



FALCON

RU Series grade 1 Unit lock

8400-xx-1299-01	factory combined
8400-xx-1099	uncombined*
3400-xx-1299-01	factory combined
3400-xx-1099	uncombined*



"99" plug & shell
large diameter
plug requires
J or K series
bottom pins

*Use Falcon parts

*Install Falcon driver and tailpiece.

Most functions use Falcon no. 030730-001-30

RU 381 inside cylinder only use Falcon no. 030730-003-30

RU571 only use Falcon no. 030730-005-30

Falcon parts are not supplied.

Key-In-Knob Cylinders

FALCON

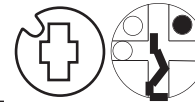
S Series grade 2 knobs, except Hana

8400-xx-1299-13	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-13	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2004 FS tailpiece, horizontal

*3450-80-2003 spacing washer

Or, use original Falcon tailpiece TP-2 or TP-3 with Falcon retainer TPR-1 may be used.



FS

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

FALCON

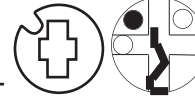
S Series grade 2, Hana knobs

8400-xx-1299-33	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-33	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2006 FH tailpiece, horizontal

*3450-80-2003 spacing washer

Or, use Falcon tailpiece TP-3 or TP-4 with Falcon retainer TPR-1.



FH

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

FALCON

T Series, grade 1 levers

8400-xx-1299-01	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined
3400-xx-1099	uncombined and use*

*Most functions use Falcon no. 030730-001-30

*T381 inside cylinder only use Falcon no. 030730-003-30

*T571 only use Falcon no. 030730-005-30

Falcon parts are not supplied.



"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

FALCON

X Series grade 1 knobs, except Hana

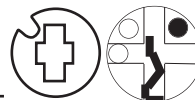
8400-xx-1299-12	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-12	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2003 FX tailpiece, horizontal

*3450-80-2003 spacing washer

Or, use Falcon tailpiece TP-1, TP-3, or TP-5 with Falcon retainer TPR-1.

Falcon parts are not supplied.



FX

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

FALCON

X Series grade 1, Hana knobs

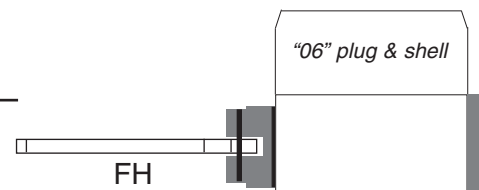
8400-xx-1206-33	factory combined
8400-xx-1006	uncombined*
3400-xx-1206-33	factory combined
3400-xx-1006	uncombined*

*4700-80-2006 FH tailpiece, horizontal

*3450-80-2003 Spacing Washer

Or, use Falcon TP-2, TP-4 or TP-6 with retainer TPR-1

Falcon parts are not supplied.



FH

"06" plug & shell

***NOTE:** When ordering cylinder uncombined, FH tailpiece must be requested.

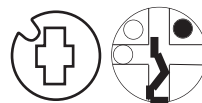
***NOTE:** When replacing 7-pin Falcon cylinder, a 6-pin Falcon cylinder spacer must be used.

Key-In-Knob Cylinders

FALCON

Older X Series grade 1 knobs and unit locks with one-piece (capless) knobs and knob hole bushings

8400-xx-1295-21	factory combined
8400-xx-1095	uncombined and use*
3400-xx-1295-21	factory combined
3400-xx-1095	uncombined and use*



"95" plug & shell
with
small plug face
large diameter
plug requires
J or K series
bottom pins

*3450-80-2003 spacing washer

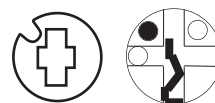
*use existing tailpiece from Falcon cylinder, horizontal.

NOTE: If Falcon tailpiece needs replacement, Kaba FX tailpiece (4700-80-2003) can be used, but must be ordered separately.

KABA

1411 padlock

8400-xx-1299-41	factory combined
8400-xx-1099	uncombined* and use*
3400-xx-1299-41	factory combined
3400-xx-1099	uncombined* and use*



"99" plug & shell
large diameter
plug requires
J or K series
bottom pins

*1410-82-2000 P tailpiece horizontal

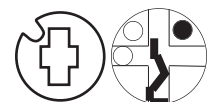
*3450-80-2003 spacing washer

***NOTE:** When ordering cylinder uncombined, P tailpiece must be requested.

LSDA

LH1000 grade 1 knobs

8400-xx-1299-17	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-17	factory combined
3400-xx-1099	uncombined and use*



"99" plug & shell
large diameter
plug requires
J or K series
bottom pins

*1590-80-2000 SD/3A tailpiece, horizontal

*3450-80-2003 spacing washer

SD/3A

LSDA

LX1000 grade 1 levers, L100 grade 2 levers, 600 series 'clutch' lever (1998)

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*



"99" plug & shell
large diameter
plug requires
J or K series
bottom pins

*1590-80-2000 SD/3A tailpiece, vertical

*3450-80-2003 spacing washer

SD/3A

Key-In-Knob Cylinders

LSDA

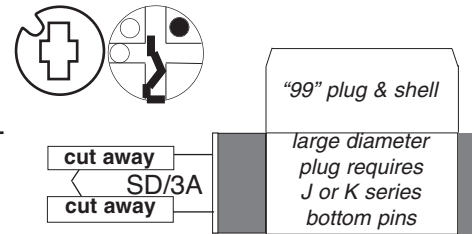
LX1000 grade 1 levers (prior to 1994)

Field modification required.

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*

*3450-80-2003 spacing washer

*1590-80-2000 SD/3A tailpiece, vertical, modified as shown



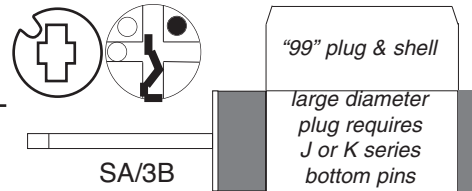
LSDA

(LS)100B, 100P and 100T grade 2 knobs

8400-xx-1299-14	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-14	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2001 SA/3B tailpiece, horizontal

*3450-80-2003 spacing washer



LSDA

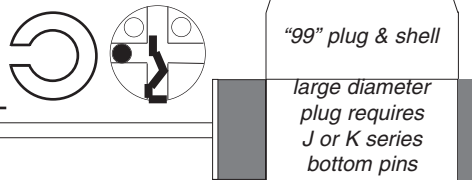
Single cylinder deadlocks

8400-xx-1299-90	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-90	factory combined
3400-xx-1099	uncombined and use*

*3450-00-2000 lost motion tailpiece

*3450-80-2004 timing washer

Or, use LSDA tailpiece and driver.



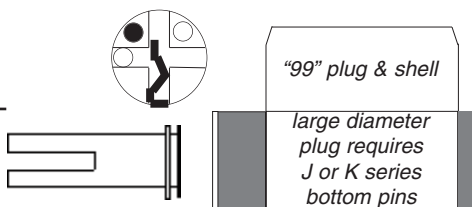
LSDA

Double cylinder deadlocks

8400-xx-1299-01	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined
3400-xx-1099	uncombined and use*

*LSDA tailpiece assembly.

LSDA double cylinder tailpiece assembly not supplied.

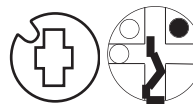


Key-In-Knob Cylinders

MARKS

110, 120 Series cylindrical locks

8400-xx-1299-14	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-14	factory combined
3400-xx-1099	uncombined and use*



SA/3B

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

*4700-80-2001 SA/3B tailpiece, horizontal

*3450-80-2003 spacing washer

MARKS

130 Series deadlocks

8400-xx-1299-01	factory combined and use*
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined and use*
3400-xx-1099	uncombined and use*



"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

*Mark's tailpieces

1 $\frac{3}{8}$ " to 1 $\frac{1}{2}$ " door: Marks tailpiece 1353-L

1 $\frac{5}{8}$ " to 1 $\frac{7}{8}$ " door: Marks tailpiece 1354-L

2" to 2 $\frac{1}{4}$ " door: Marks tailpiece 1355-L

Marks tailpieces are not supplied.

MARKS

170, 190, 195 Series levers, 210 Series knobs

8400-xx-1299-01	factory combined and use*
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined and use*
3400-xx-1099	uncombined and use*



"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

*Mark's tailpieces

All functions except DA, DC, S: Marks tailpiece A1903-C (C9)

Functions DA, DC, S: Marks tailpiece A1903S-C (SC9)

Marks tailpieces are not supplied.

MASTER

Padlocks—see page 2–23

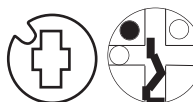
NEW STANDARD

Brass padlock—See Kaba 1411 padlock page 2–23

OMNILOCK

Knob, key by-pass

8400-xx-1299-17	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-17	factory combined
3400-xx-1099	uncombined and use*



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

*1590-80-2000 SD/3A tailpiece, horizontal

*3450-80-2003 spacing washer

Key-In-Knob Cylinders

OMNILOCK

Lever, key by-pass

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*

*1590-80-2000 SD/3A tailpiece, vertical

*3450-80-2003 spacing washer



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

PDQ

SK, SP & ST levers (U.S.A.)

8400-xx-1299-16	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-16	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2002 S/3C tailpiece, vertical

*3450-80-2003 spacing washer



S/3C

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

PDQ

Imported SV grade 2 knobs using Ilco 7056 or Lori 1539 cylinders and 3A or SV tailpieces

8400-xx-1299-84	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-84	factory combined
3400-xx-1099	uncombined and use*

*1590-80-2000 SD/3A tailpiece, horizontal

*3450-80-2003 spacing washer

*two 4700-00-4007 metal washers, tailpiece



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins



PDQ

Imported grade 1 Levers (prior to U.S.A. Spirit Levers)

8400-xx-1299-23	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-23	factory combined
3400-xx-1099	uncombined and use*

*4700-80-2001 SA/3B tailpiece, vertical

*3450-80-2003 spacing washer

*two 4700-00-4007 metal washers, tailpiece



SA/3B

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins



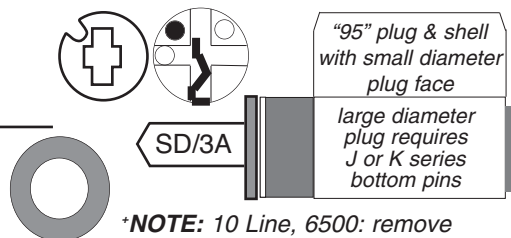
Key-In-Knob Cylinders

SARGENT

10* Line levers, 2000 exit device trim

8400-xx-1295-10	factory combined
8400-xx-1095	uncombined and use*
3400-xx-1295-10	factory combined
3400-xx-1095	uncombined and use*

- *4700-00-4008 neoprene washer
- *1590-80-2000 SD/3A tailpiece, vertical
- *3450-80-2003 spacing washer



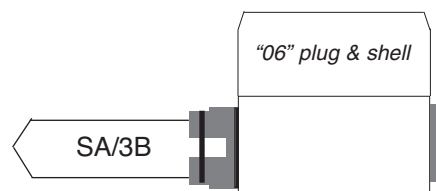
***NOTE:** 10 Line, 6500: remove Sargent nylon or plastic spindle bushing and place washer #4700-00-4008 over tailpiece before installing cylinder.

SARGENT

6 Line grade 2 Ball knobs

8400-xx-1210-65	factory combined
8400-xx-1010	uncombined and use*
3400-xx-1210-65	factory combined
3400-xx-1010	uncombined and use*

- *4700-80-2001 SA/3B tailpiece, vertical
- *3400-00-2009 spacing washer

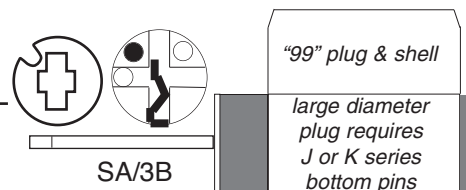


SARGENT

5500 Line imported grade 2 knobs

8400-xx-1299-14	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-14	factory combined
3400-xx-1099	uncombined and use*

- *4700-80-2001 SA/3B tailpiece, horizontal
- *3450-80-2003 spacing washer

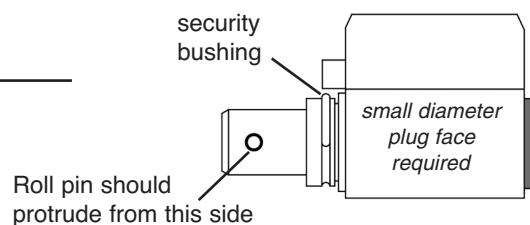


SARGENT

7, 8 & 9 Line grade 1 knobs

8400-xx-1208-08	factory combined
8400-xx-1008	uncombined and use*
3400-xx-1208-08	factory combined
3400-xx-1008	uncombined and use*

- *3440-00-5108 adapter assembly

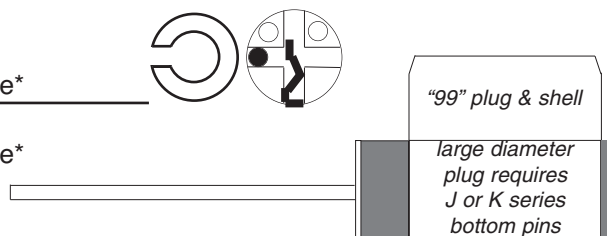


SARGENT

465, 485, 486 single cylinder deadlocks

8400-xx-1299-90	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-90	factory combined
3400-xx-1099	uncombined and use*

- *3450-00-2000 lost motion tailpiece
- *3450-80-2004 timing washer

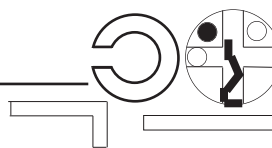


Key-In-Knob Cylinders

SARGENT

464, 484 double cylinder deadlocks

8400-xx-1299-92	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-92	factory combined
3400-xx-1099	uncombined and use*



"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

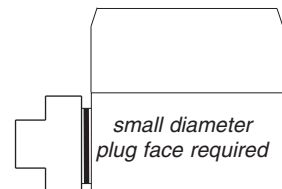
- *3450-00-2002 long double cylinder lost motion tailpiece standard for 1 $\frac{3}{4}$ " thick doors
- *3450-80-2004 timing washer
- *3450-00-2001 short double cylinder lost motion tailpiece included for 1 $\frac{3}{8}$ " thick doors

NOTE: Slightly file shutter tab on inside cylinder housing to allow clearance for bottom peak.

SARGENT

7600 Series Integralock

8400-xx-1276-76	factory combined
8400-xx-1076	uncombined
3400-xx-1276-76	factory combined
3400-xx-1076	uncombined

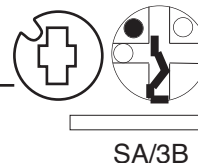


small diameter
plug face required

SCHLAGE

A Series, grade 2 non-Orbit knobs

8400-xx-1299-14	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-14	factory combined
3400-xx-1099	uncombined and use*



SA/3B

"99" plug & shell

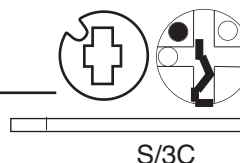
large diameter
plug requires
J or K series
bottom pins

- *4700-80-2001 SA/3B tailpiece, horizontal
- *3450-80-2003 spacing washer

SCHLAGE

A Series, grade 2 Orbit knob

8400-xx-1299-07	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-07	factory combined
3400-xx-1099	uncombined and use*



S/3C

"99" plug & shell

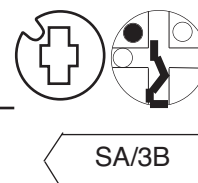
large diameter
plug requires
J or K series
bottom pins

- *4700-80-2002 S/3C tailpiece, horizontal
- *3450-80-2003 spacing washer

SCHLAGE

AL Series grade 2 levers

8400-xx-1299-20	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-20	factory combined
3400-xx-1099	uncombined and use*



SA/3B

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

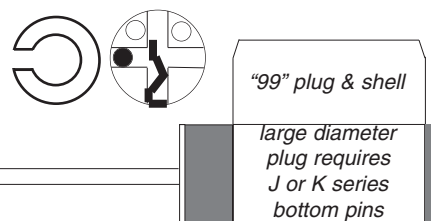
- *4700-80-2001 SA/3B tailpiece, vertical
- *3450-80-2003 spacing washer

Key-In-Knob Cylinders

SCHLAGE **B100, B400 E, EB, F160, MD single cylinder deadlocks, S200 and H locksets**

8400-xx-1299-90	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-90	factory combined
3400-xx-1099	uncombined and use*

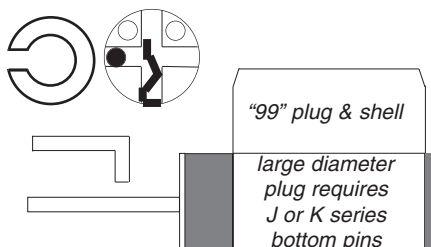
- *3450-00-2000 lost motion tailpiece
- *3450-80-2004 timing washer



SCHLAGE **B100, B400, E, EB, Fi60 and MD double cylinder deadlocks**

8400-xx-1299-92	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-92	factory combined
3400-xx-1099	uncombined and use*

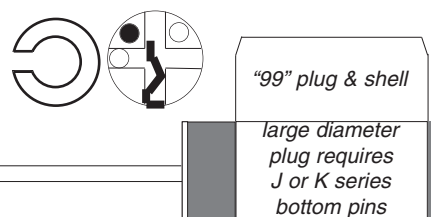
- *3450-80-2004 timing washer
- *3450-00-2002 long double cylinder lost motion tailpiece for 1³/₄" thick doors or
- *3450-00-2001 short double cylinder lost motion tailpiece for 1³/₈" thick doors



SCHLAGE **B600, B700 and B800 single cylinder deadlocks**

8400-xx-1299-91	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-91	factory combined
3400-xx-1099	uncombined and use*

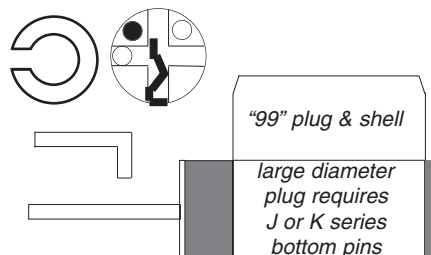
- *3450-00-2000 lost motion tailpiece
- *3450-80-2004 timing washer



SCHLAGE **B600, B700 and B800 double cylinder deadlocks,**

8400-xx-1299-93	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-93	factory combined
3400-xx-1099	uncombined and use*

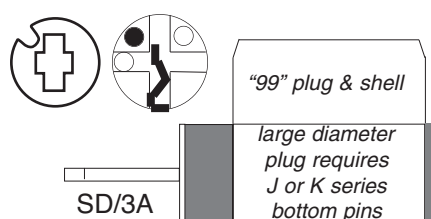
- *3450-80-2004 timing washer
- *3450-00-2002 long double cylinder lost motion tailpiece for 1³/₄" thick doors or
- *3450-00-2001 short double cylinder lost motion tailpiece for 1³/₈" thick doors



SCHLAGE **C & D Series grade 1 knobs**

8400-xx-1299-17	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-17	factory combined
3400-xx-1099	uncombined and use*

- *1590-80-2000 SD/3A tailpiece, horizontal
- *3450-80-2003 spacing washer



Key-In-Knob Cylinders

SCHLAGE

C & D Series, and Vandlgard grade 1 levers

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*

*1590-80-2000 SD/3A tailpiece, vertical
 *3450-80-2003 spacing washer



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

SCHLAGE

S Series grade 2 levers

8400-xx-1299-01	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined
3400-xx-1099	uncombined and use*

*Schlage S series driver S605-228
 *Schlage cylinder sleeve S605-192



"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

Schlage parts are not supplied.

SELECT or MEDECO

2000 Series deadlocks All-N-One deadlocks

8400-xx-1299-01	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-01	factory combined
3400-xx-1099	uncombined and use*

*No attachments.



"99" plug & shell

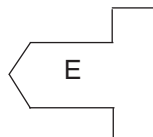
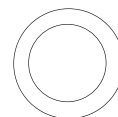
large diameter
plug requires
J or K series
bottom pins

TRILOGY

2700, 3000 levers

8400-xx-1206-03	factory combined
8400-xx-1006	uncombined and use*
3400-xx-1206-03	factory combined
3400-xx-1006	uncombined and use*

*4700-80-2005 E tailpiece, vertical
 *3400-00-4008 security washer, plug



"06" plug & shell

TRILOGY

2500 bypass, knob designs prior to 5-97

8400-xx-1299-17	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-17	factory combined
3400-xx-1099	uncombined and use*

*1590-80-2000 SD/3A tailpiece, horizontal
 *3450-80-2003 spacing washer



SD/3A

"99" plug & shell

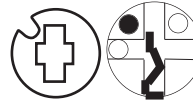
large diameter
plug requires
J or K series
bottom pins

Key-In-Knob Cylinders

TRILOGY

2500 bypass, lever designs prior to 5-97

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

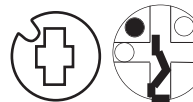
*1590-80-2000 SD/3A tailpiece, vertical

*3450-80-2003 spacing washer

ULTRA

7000 Ball knob

8400-xx-1299-18	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-18	factory combined
3400-xx-1099	uncombined and use*



SD/3A

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

*1590-80-2000 SD/3A tailpiece, vertical

*3450-80-2003 spacing washer

WEISER

D 9370 and 9470 series deadlocks

8400-xx-1295-01	factory combined
8400-xx-1095	uncombined and use*
3400-xx-1295-01	factory combined
3400-xx-1095	uncombined and use*



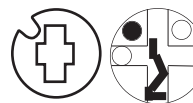
"95" plug & shell
with
small plug face
large diameter
plug requires
J or K series
bottom pins

*Weiser tailpiece and retainer.

Weiser parts are not supplied.

VON DUPRIN 22 Series exit device knob trim

8400-xx-1299-07	factory combined
8400-xx-1099	uncombined and use*
3400-xx-1299-07	factory combined
3400-xx-1099	uncombined and use*



S/3C

"99" plug & shell

large diameter
plug requires
J or K series
bottom pins

*4700-80-2002 S/3C tailpiece, horizontal

*3450-80-2003 spacing washer over tailpiece

Key-In-Knob Cylinders

YALE

6100 and 6200 series Monolocks

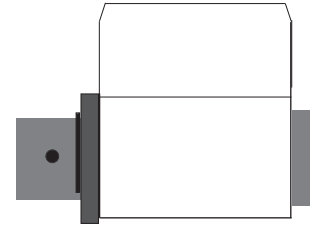
Retrofit for Yale No. 1801 cylinder

8400-xx-1255 (Yale monolock) factory combined

8400-xx-1055 (Yale monolock) uncombined

3400-xx-1255 (Yale monolock) factory combined

3400-xx-1055 (Yale monolock) uncombined



Same as 8400-xx-1054-54 cylinder below, but without rollpin and spacer.

YALE

5400 grade 1 knobs and 5300 grade 2 knobs

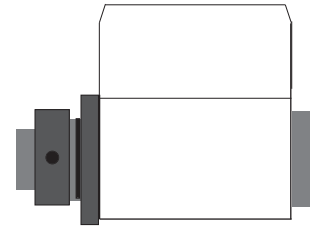
Retrofit for Yale No. 1801 cylinder

8400-xx-1254-54 factory combined

8400-xx-1054 uncombined

3400-xx-1254-54 factory combined

3400-xx-1054 uncombined



Same as 8400-xx-1055-55 cylinder below, but without tailpiece.

YALE

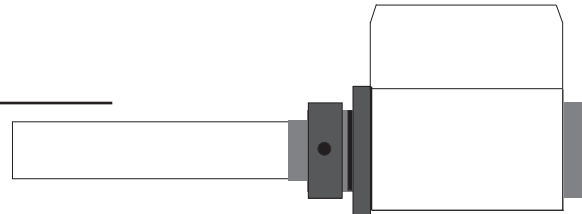
5400LN grade 1 levers

8400-xx-1255-55 factory combined

8400-xx-1055 uncombined and use*

3400-xx-1255-55 factory combined

3400-xx-1055 uncombined and use*



*3425-82-3012 tailpiece

*3425-00-4012 retainer pin (1/16" roll pin)

Same as 8400-xx-1054 cylinder above but with tailpiece.

YALE

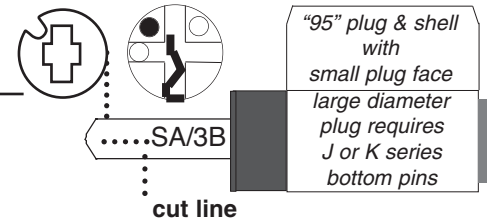
5300L grade 2 levers

8400-xx-1295-95 factory combined then modify

8400-xx-1095 uncombined and use*

3400-xx-1295-95 factory combined then modify

3400-xx-1095 uncombined and use*



*4700-80-2001 SA/3B tailpiece, vertical

*3450-80-2003 spacing washer

Field modification required.

Note: Modify tailpiece using Yale tailpiece as a template.

YALE

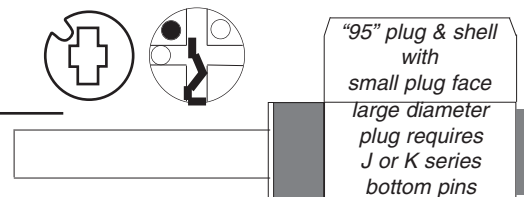
5300LN grade 2 levers

8400-xx-1295-56 factory combined

8400-xx-1095 uncombined and use*

3400-xx-1295-56 factory combined

3400-xx-1095 uncombined and use*



*3450-80-2003 spacing washer

*3450-00-2000 lost motion tailpiece, vertical

Padlocks—Key-in-Knob Cylinders

Kaba 1411 or New Standard

8400-xx-1299-41	factory combined
8400-xx-1099	cylinder with Kaba P tailpiece
3400-xx-1299-41	factory combined
3400-xx-1099	cylinder with Kaba P tailpiece

The following can be made from 8400-xx-1099 or 3400-xx-1099 cylinder kit using OEM drivers:

Master ProSeries—Use adapter #0298-0628 from Master.

8400-xx-1299-01	factory combined
3400-xx-1299-01	factory combined

Schlage PL series—Use padlock driver from Schlage.

8400-xx-1299-01	factory combined
3400-xx-1299-01	factory combined

Schlage old style 45-101—Use padlock driver from Schlage.

8400-xx-1299-01	factory combined
3400-xx-1299-01	factory combined

The following can be made from 8400-xx-1006 or 3400-xx-1006 cylinder kit using OEM adapters:

Master System 29—Use with adapter from Master

8400-xx-1206-01	factory combined
3400-xx-1206-01	factory combined

Master Pro Series—Use adapter #0298-0626 from Master.

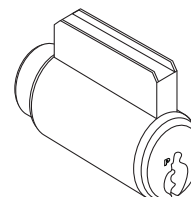
8400-xx-1206-01	factory combined
3400-xx-1206-01	factory combined

American 3600 & 3700—Use with modified adapter. See below.

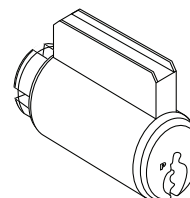
8400-xx-1206-01	factory combined
3400-xx-1206-01	factory combined

6-pin 140

Made with the “99”



Made with the “06”



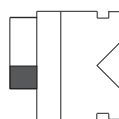
American padlocks

Use 8400-xx-1006 or 3400-xx-1006 cylinder.

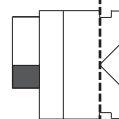
Shorten Medeco adapter .050"



Lori adapter may also be modified.



1. “L” adapter



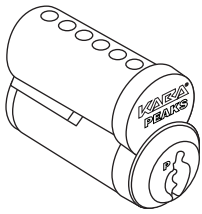
2. shorten adapter*



3. notch for key tip and retainer ring

*Dealers have reported that shortening isn't always necessary.

Padlocks—Small Format Interchangeable Core



8800 or 8900 series and 3800 or 6800 cores fit any padlock prepared for 6-pin ICore, including:

Abus 381C/45
American 3200 & 3500 series
Arrow
Best (Except .150" Spacing)

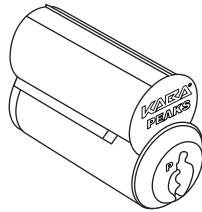
Falcon
Master Proseries 6400 & 6500
Wilson Bohannon

6-pin 140

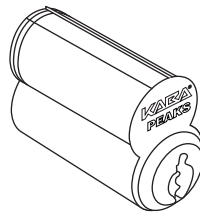
For 6-pin core in 7-pin housing, use spacer 3800-00-3007



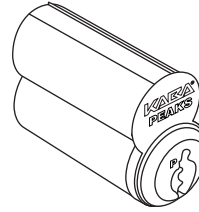
Padlocks—Large Format Interchangeable Core



Corbin Russwin
PL5070 padlocks:
use 8144 or 6140

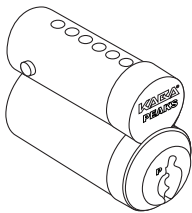


Medeco 50 series
brass padlocks:
use 6340

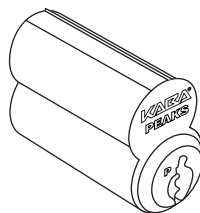


Sargent 758 series
padlocks: use
8544 or 6540

6-pin 140



Schlage PL4XXX
series padlocks:
use 8444 or 6440

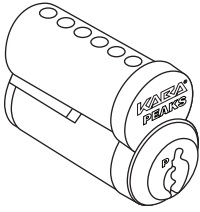


Yale 424 and 434
series padlocks:
use 8244 or 6240

Cabinet Locks and Specialty Applications

- 8800/8900 or 3800/6800 small format interchangeable cores can be installed in most cabinet locks, mailbox locks and switch locks prepped for small format interchangeable core.
- Olympus cabinet lock with Corbin Russwin large format interchangeable cores prep: use 8144 or 6140 series large format interchangeable cores
- Olympus 720, 721, 722 & 728 series: use 8800/8900 or 3800/6800 series small format interchangeable cores
- Olympus 700 & 800 series cabinet locks: use 8400-xx-1099 or 3400-xx-1099 with Olympus 78-Kaba-Conv Kit
- Schlage CL1000 and CL2000 series: use 8400-xx-1099 or 3400-xx-1099 with Schlage tailpiece and driver

Small Format Interchangeable Cores (Capped)—8800/3800 Series



- brass plug
- brass shell and control sleeve
- capped pin chambers
- individual chambers may be emptied with ejector tool
- 140 capping block / press required
- face of plug is key stop for longer core life
- retrofits Arrow, Best, Falcon, KSP, or Lockwood small format interchangeable cores prep

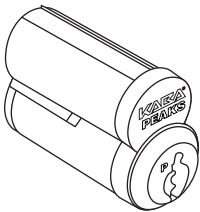
**6-pin 140 &
6 or 7-pin 150**

uncombined:	combined:	
8840-xx-1006	8840-xx-1206	140, 6-pin
8850-xx-1006	8850-xx-1206	150, 6-pin
8850-xx-1007	8850-xx-1207	150, 7-pin
3840-xx-1006	3840-xx-1206	140, 6-pin
3850-xx-1006	3850-xx-1206	150, 6-pin
3850-xx-1007	3850-xx-1207	150, 7-pin

Uses:
3800-00-4221 individual caps
3425-34-4002 C-ring plug retainer
For 6-pin core in 7-pin housing,
use spacer 3800-00-3007



Small Format Interchangeable Cores (Spring Loaded)—8900/6800 Series



- brass plug
- alloy shell and control sleeve with patented plating and coating
- spring cover retains pins and springs
- 6840-00-3540 staking fixture and 6440-00-4001 staking tool required
- face of plug is key stop for longer core life
- retrofits Arrow, Best, Falcon, KSP or Lockwood small format interchangeable cores prep

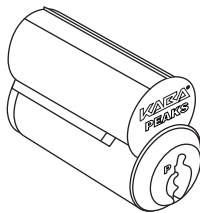
**6-pin 140 &
6 or 7-pin 150**

uncombined:	combined:	
8940-xx-1006	8940-xx-1206	140, 6-pin
8950-xx-1006	8950-xx-1206	150, 6-pin
8950-xx-1007	8950-xx-1207	150, 7-pin
6840-xx-1006	6840-xx-1206	140, 6-pin
6850-xx-1006	6850-xx-1206	150, 6-pin
6850-xx-1007	6850-xx-1207	150, 7-pin

Uses:
6800-00-2006 6-pin, or 6800-00-2007
7-pin spring covers
3425-34-4002 C-ring plug retainer
For 6-pin core in 7-pin housing,
use spacer 3800-00-3007



Large Format Interchangeable Cores for Corbin Russwin—8144/6140 Series



- brass plug
- alloy shell and control sleeve with patented plating and coating
- spring cover retains pins and springs
- 6840-00-3540 staking fixture and 6440-00-4001 staking tool required
- face of plug is key stop for longer core life
- no restricted control combinations

6-pin 140

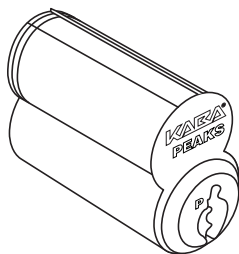
- This product uses a large diameter plug.
J series bottom pins required for A2 system pinning.
K series bottom pins required for A4 system pinning.

uncombined:	combined:	
8144-xx-1006	8144-xx-1206	140, 6-pin
6140-xx-1006	6140-xx-1206	140, 6-pin

Uses:
3425-00-2006 mortise/rim spring cover
6140-00-4002 C-ring plug retainer

Large Format Interchangeable Cores for Yale—8244/6240 Series

6-pin 140



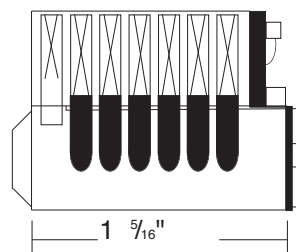
- brass plug
- alloy shell and control sleeve with patented plating and coating
- spring cover retains pins and springs
- 6840-00-3540 staking fixture and 6440-00-4001 staking tool required
- does not require a special extended tip control blank
- face of plug is key stop for longer core life
- retrofits Medeco 31

uncombined:	combined:	
8244-xx-1006	8244-xx-1206	for Yale 1210 140, 6-pin
6240-xx-1006	6240-xx-1206	for Yale 1210 140, 6-pin
6240-xx-1007	6240-xx-1207	for Yale 1220 140, 7-pin

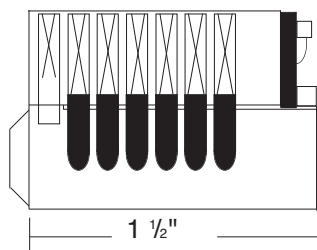
Uses:
 3425-00-2006 mortise/rim spring cover
 6240-00-4002 C-ring plug retainer

NOTE: Yale cores are not interchangeable across Yale's product line. It must be determined if you are replacing a Yale 1210, 6-pin core, or a Yale 1220, 7-pin core.

8244-xx-1006
 6240-xx-1006
 retrofits Yale 1210 in 6-pin housings ONLY

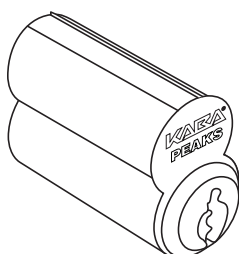


6240-xx-1007
 retrofits Yale 1210 in 7-pin housings ONLY



Large Format Interchangeable Cores for Medeco 32—6340 Series

6-pin 140

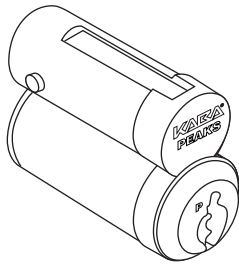


- brass plug
- alloy shell and control sleeve with patented plating and coating
- spring cover retains pins and springs
- 6840-00-3540 staking fixture and 6440-00-4001 staking tool required
- no forbidden or mandatory control combinations
- face of plug is key stop for longer core life

uncombined:	combined:	
6340-xx-1006	6340-xx-1206	140, 6-pin

Uses:
 6340-00-4012 timing pin
 6340-00-4002 C-ring plug retainer
 6800-00-2007 7-pin small format inter-changeable core spring cover

Large Format Removable Cores for Schlage—8444/6440 Series



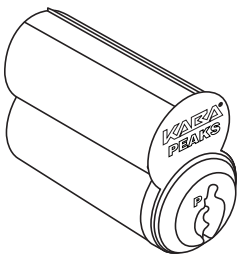
- brass plug
- alloy shell and control sleeve with patented plating and coating
- spring cover retains pins and springs
- 6440-00-3540 staking fixture and 6440-00-4001 staking tool required
- pins like original small format interchangeable cores; A2 system stacks to 26
- face of plug is key stop for longer core life
- 6440-00-2000 spring cover
- 6140-00-4002 C-ring plug retainer

6-pin 140

uncombined:	combined:		Uses:
8444-xx-1006	8444-xx-1206	140, 6 pin	6440-00-2000 spring cover
6440-xx-1006	6440-xx-1206	140, 6 pin	6140-00-4002 C-ring plug retainer

NOTE: Dedicated pin kit #6440-00-5002 required: Available for A2 system pinning only.

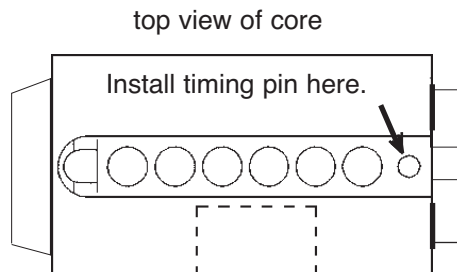
Large Format Removable Cores for Sargent—8544/6540 Series



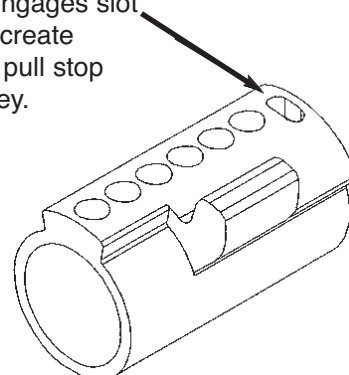
- brass plug
- alloy shell and control sleeve with patented plating and coating
- spring cover retains pins and springs
- 6840-00-3540 staking fixture and 6440-00-4001 staking tool required
- no forbidden or mandatory control combinations
- face of plug is key stop for longer core life
- This product uses a large diameter plug.
J series bottom pins required for A2 system pinning.
K series bottom pins required for A4 system pinning.

6-pin 140

uncombined:	combined:		Uses:
8544-xx-1006	8544-xx-1206	140, 6 pin	6340-00-4012 timing pin
6540-xx-1006	6540-xx-1206	140, 6 pin	6800-00-2007 7-pin small format interchangeable cores spring cover
			6140-00-4002 C-ring plug retainer



Timing pin engages slot
in sleeve to create
positive key pull stop
for control key.



Product Specification and Testing Data

For specification purposes, 6-pin Peaks products have seven active pin stacks and 7-pin Peaks products have eight active pin stacks. Texts of product specifications are available upon request.

Mechanical Testing

Testing of 8900/6800 series cores has proven them to be superior to the 8800/3800 series cores. The modern alloys used in the shells and sleeves of the 8900/6800 series have remarkable bearing properties. In addition, Kaba employs a patented two step process of plating and cladding on all 8900/6800 and 8400/3400 sleeves and shells that makes the surfaces of these components harder than conventional brass surfaces. Plugs for both 8900/6800 and 8800/3800 series are made of brass because of its machinability.

Peaks cores and cylinders exceed 500,000 cycles with no measurable wear on shells and sleeves. Keys, keyways and bottom pins show normal wear. When 8900/6800 series cores are cut open, tool marks remain visible in the pin chambers.

Pull tests have been successfully completed on Peaks cores in Arrow, Best, KSP, Corbin Russwin and Yale housings. The 8900/6800 cores actually require more force than 8800/3800 series cores. This is due to the behavioral characteristics of the metals. All brass tends to shear, while the alloys employed in the 8900/6800 tend to distend but hold.

Environmental testing

The standard ASTM B117 salt spray (corrosion) test for trim is 200 hours. After over 300 hours, both control and operating keys work in Peaks cores, even before lubrication. After lubrication, the cores feel like new. Chrome finish cores do not discolor. Brass finish cores may darken with exposure to the elements.

Product in development, warranty and updates

The catalog indicates current product availability. Product is always under development. Contact Kaba Access Control about retrofits not currently shown. The last page of the catalog is a one page summary of pinning components. Warranty and return policies are in the catalog. ***Non-original pins will not work properly in Kaba products and their use voids product warranty.***

Peaks® Preferred/Classic Notes

Product Information

Peaks® Preferred/Classic

Notes

Product Information

Notes

Notes

Section 2 - 32



PEAKS[®] Preferred/Classic

Technical Manual

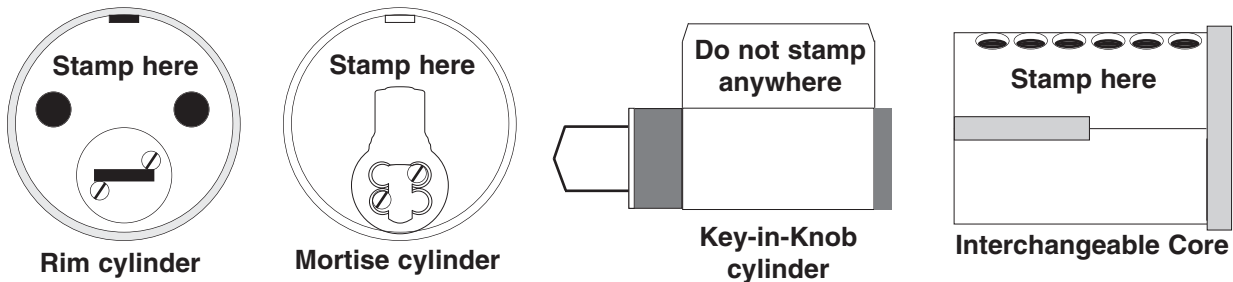
Section 3: Key Cutting and Pinning

KABA[®]

Cylinder Stamping, Marking, Lubrication & Tailpiece Installation

Stamping and Marking

Kaba Access Control recommends marking cylinders with an indelible marker. If stamping or engraving of cast cylinders is unavoidable the stamped or engraved area must be coated with a clear acrylic enamel (Krylon, fingernail polish, etc.). Application by brush is preferable, but spray is acceptable as long as care is taken to reduce overspray. Key-in-knob cylinders should never be stamped. Cores should be stamped on the top half of the shell. Mortise and rim cylinders should be stamped on the back of the shell.

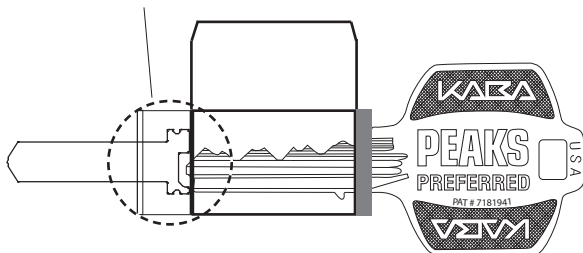


Lubrication

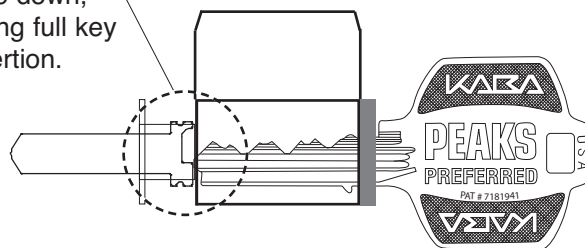
Kaba recommends the use of Poxylube® (a dry spray) for all Peaks Preferred cylinders.

Tailpiece Installation

Tailpiece inserted correctly, allowing tip of key full insertion.



Tailpiece inserted upside down, preventing full key insertion.



When inserting tailpiece horizontally it can be flipped either way for proper operation.

Key Bitting Specifications

Stops

Peaks keys have two stops, a *bow stop* and a *tip stop*. The bow stop gauges keys in all current products. The tip stop gauges only in non-domed face small format interchangeable cores made prior to March, 1996. Either stop may be used when code cutting depending on the machine employed.

Most Peaks key sections are paracentric and not designed to be clipped on a key bitting punch. Paracentric keyways are preferred for their enhanced pick resistance. They also produce many more key-way variations than flat bladed keys.

Factory bittings are tip to bow

Factory bitting lists are written tip to bow. When using card-type key machines such as the Ilco Universal II or HPC 1200 CM, it is suggested that keys be cut bow to tip to lessen the effects of the backlash of the rack-and-pinion mechanism. Care must be taken in reversing bittings written as tip to bow.

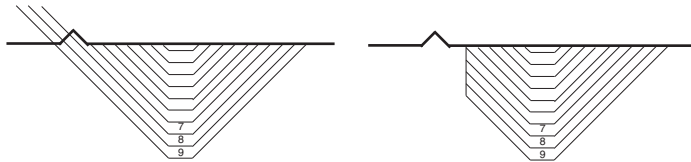
Tolerances and milling cutters

Peaks tolerances are tighter than most other brands. Both depth and spacing must be held within +/- 0.002" for proper operation. Key machines must be kept in precise adjustment. The required cutter angle is 90 degrees for proper key insertion. A cut root flat of .046" is required. The 90MC or equivalent cutter is recommended.

Position next to the Peak

In the position next to the Peak, cuts deeper than a #6 in the A2 system or a #3 in the A4 system require the use of an asymmetrical cutter, such as the #1011.

The 90MC cutter can not be used as it removes the upper Peak when making these deep cuts next to the Peak.



MACS

140 A2 MACS is 8.

140 A4 MACS is 4.

150 A2 MACS is 9.

150 A4 MACS is 5.

Depth and spacing data

Depths

	<u>A2</u>	<u>A4</u>
0	.318"	.318"
1	.305"	.297"
2	.293"	.276"
3	.280"	.255"
4	.268"	.234"
5	.255"	.213"
6	.243"	
7	.230"	
8	.218"	
9	.205"	

.140 Spacing

	<u>from tip</u>	<u>from bow</u>
1	.136"	1.030"
2	.276"	.890"
3	.416"	.750"
4	.556"	.610"
5	.696"	.470"
6	.836"	.330"

.150 Spacing

	<u>from tip</u>	<u>from bow</u>
0	.086"	1.080"
2	.236"	.930"
3	.386"	.780"
4	.536"	.630"
5	.686"	.480"
6	.836"	.330"

Cutting Keys by Code

Peaks tolerances are tighter than most other brands. Both depth and spacing must be held within +/- 0.002" for proper key operation. Key machines should be periodically gauged to maintain tolerances.

Framon #2

Contact Framon at 517-354-5623 regarding a Peaks tip stop. Use the bitting specifications in this manual.

Framon KX-1

The KX-1 cuts 140 - 6 pin keys

Framon FRA-2001

This machine is computer operated and a Peaks vise jaw is required.

HPC Codemax

The following are the correct DSD numbers for Peaks.

	<u>140, 6-pin</u>	<u>150, 6-pin</u>	<u>150, 7-pin</u>
A2	DSD608, A jaw/red tip stop	DSD606, A jaw/red tip stop	DSD607, modified B jaw/bow stop
A4	DSD612, A jaw/red tip stop	DSD615, A jaw/red tip stop	DSD616, modified B jaw/bow tip stop

Codemax cuts all keys bow to tip. Peaks systems are written tip to bow.
Reverse the bittings on factory lists.

HPC/LaGard 1200CM

HPC manufactures the following A2 system card for Peaks:

140, 6-pin: HPC card number CPKS1 red tip stop, standard A jaw	150, 6 and 7 -pin: HPC card number CPKS2 horseshoe tip stop, modified B vise jaw
---	---

The modified B vise jaw required to cut Peaks keys on the 1200CM is available from Kaba.

Spacing on HPC cards is bow to tip. When using a factory bitting list, reverse the bittings. In December 1996, HPC began to provide a calibration kit for the 1200, part no. CMB-CK. A spacing calibration key is available from Kaba to check the accuracy of the space adjustment. Because of rack-and-pinion backlash, better keys may be produced by reversing the bittings and cutting bow to tip.

ITL9000

Machines purchased after September 1992 already have Peaks data installed and the key rest milled to accommodate the bottom peak.

ILCO Universal II

Use 0.140" spacing disc. The 0.0125" depth disc is used for A2 system. The 0.021" depth disc is used for A4 system. Use tip stop on the 27B key rest. For 6-pin keys, chamfer the corner of the key rest for bottom peak clearance.

Duplication

Automatic duplicating machines like the ILCO #017 currently require field modification of the vise jaw for the bottom peak. As of August 1992, Rytan machines are manufactured with a divot in the jaw.

Components for Pinning

Peaks products may be pinned to the A2 or A4 system. The patent pin stack is built into the face of all small format interchangeable cores. In large format interchangeable cores and conventional cylinders, the patent pins are installed when combining. Certain products have a large diameter plug and require longer bottom pins. All products use the same top pins.

Peaks Preferred Patent pins



3425-00-3002
patent top pin
(for conventionals & KIK)



3800-00-3005
patent top pin
(all cores other than conventional & KIK)



8800-00-3004
patent bottom pin for all
products except those with
large diameter plugs



8144-00-3004
patent bottom pin for the Universal 8400-xx-1099, the
8400-xx-1095 key-In-knob, the 8144 Corbin Russwin,
the 8544 Sargent and the 8444 Schlage large format
interchangeable cores.

Spring



3800-00-4010
stainless steel for all Peaks products
except 8444
6440-00-4010

Peaks Classic Patent pins



3425-00-3002
patent top pin
(for conventionals & KIK)



3800-00-3005
patent top pin
(all cores other than conventionals & KIK)



3800-00-3004
patent bottom pin for all
products except those with
large diameter plugs



6140-00-3004
patent bottom pin for the Universal 3400-xx-1099, the
3400-xx-1095 key-In-knob, the 6140 Corbin Russwin,
the 6540 Sargent and the 6440 Schlage large format
interchangeable core

Spring



3800-00-4010
stainless steel for all Peaks products
except 6440
6440-00-4010

Tumbler pins

Peaks pins are crowned for smooth operation and long cylinder life. Bottom pins are nickel silver. Spool pins are used to increase pick and impression resistance. Bottom pins are .003" shorter than after market replacement pins. ***Non-original pins will not work properly in Kaba products and their use voids product warranty.***

A2 system: Use A series bottom pins for everything except the 8400-xx-1095 and 3400-xx-1095 key-in-knob, the Universal 8400-xx-1099 and 3400-xx-1099 key-in-knob cylinder, the 8144/6140 Corbin Russwin, and 8544/6540 Sargent large format interchangeable core with large diameter plugs. J series bottom pins are required for products with large diameter plugs. Use B series master/top pins for all products.

J series bottom pins are for the large diameter plugs only. 0J thru 4JS are the same as 5A thru 9AS, respectively.									
0A	1A	2A	3A	4A	5A	6A	7AS	8AS	9AS

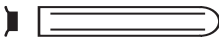
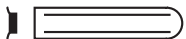
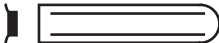
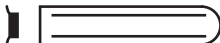
A4 system: Use E series bottom pins for everything except the 8400-xx-1095 and 3400-xx-1095 key-in-knob, the Universal 8400-xx-1099 and 3400-xx-1099 key-in-knob cylinder and the 8144/6140 Corbin Russwin large format interchangeable core with large diameter plugs. K series bottom pins are required for products with large diameter plugs. Use F series master/top pins for all products.

K series bottom pins are for the large diameter plug only. 1K and 2K are the same as 4ES and 5ES, respectively.				
0E	1E	2E	3E	4ES

Components for Pinning (continued)

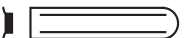
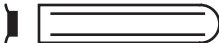
Peaks Preferred Spring covers

Spring covers are curved. Install them by flattening with the 3400-00-4001 staking tool.

- | | | | |
|---|--|--|---|
|  | 6440-00-2000
key-in-knob |  | 6800-00-2006
6-pin 6800 small format interchangeable cores |
|  | 3425-00-2006
mortise, rim, Corbin Russwin and Yale large format interchangeable cores |  | 6800-00-2007
7-pin 6800 small format interchangeable cores, 5340 Medeco large format interchangeable cores |

Peaks Classic Spring covers

Spring covers are curved. Install them by flattening with the 3400-00-4001 staking tool.

- | | | | |
|---|--|---|---|
|  | 6440-00-2000
key-in-knob |  | 6800-00-2006
6-pin 6800 small format interchangeable cores |
|  | 3425-00-2006
mortise, rim, Corbin Russwin and Yale large format interchangeable cores |  | 6800-00-2007
7-pin 6800 small format interchangeable cores, 5340 Medeco large format interchangeable cores |

Universal pin kits

Peaks universal pin kits (3400-00-5012 for A2 and 3400-00-5004 for A4) contain all of the components required to pin any uncombined cylinder or core, including the 6340-00-4012 timing pin.

Non-original pins will not work properly in Kaba products and their use voids product warranty.

Pin Lengths and Stack Heights

Pin lengths and material

Kaba bottom pins are .003" shorter than after market replacement pins.

Non-original pins will not work properly and void the product warranty.

"S" indicates spool type pins. Bottom pins are nickel silver.

Top pins are brass.

bottom pin part number	length	A2	A2	A4	A4
3800-00-3200	.107	0A		0E	
-3201	.1195	1A			
-3202	.132	2A			
-3203	.1445	3A			
-3204	.157	4A			
-3205	.1695	5A	0J	3E	0K
-3206	.182	6A	1J		
-3207	.1945	7AS	2JS		
-3208	.207	8AS	3JS		
-3209	.2195	9AS	4JS		
3800-00-3401	.128			1E	
-3402	.149			2E	
-3404	.191			4ES	1KS
-3405	.212			5ES	2KS
6140-00-3205	.2325		5J		3K
-3206	.2445		6J		
3207	.257		7J		
-3208	.2695		8J		
-3209	.282		9J		
6140-00-3404	.254				4K
-3405	.275				5K

top pin part number	length	A2	A4
3800-00-4202	.025	2B	
-4203	.0375	3B	
-4204	.050	4B	
-4205	.0625	5B	
-4206	.075	6BS	
-4207	.0875	7B	
-4208	.100	8BS	
-4209	.1125	9B	
-4210	.125	10BS	6FS
-4211	.1375	11B	
-4212	.150	12B	
-4213	.1625	13B	
-4214	.175	14B	
-4215	.1875	15B	
-4216	.200	16B	
-4217	.2125	17B	
-4218	.225	18B	
-4219	.2375	19B	
3800-00-4401	.021		1F
-4402	.042		2F
-4403	.063		3F
-4404	.084		4FS
-4405	.105		5FS
-4407	.147		7F
-4408	.168		8F
-4409	.189		9F
-4410	.210		10F
-4411	.231		11F






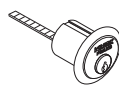







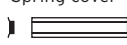




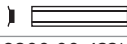











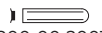
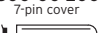





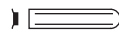





















Peaks Preferred Pin series and uniform stack heights for A2 and A4 systems

product system	8400 K-I-K <u>except</u> 8400-xx-1099 8400-xx-1095	8400-xx-1099 8400-xx-1095 with large diameter plug	8401/8402 conventional mortise and rim	8800 and 8900 SFIC	8144 Corbin Russwin R/C with large diameter plug	8244 Yale	8444 Schlage R/C	8544 Sargent R/C
<u>A2 system</u> stack total top pins bottom pins	26 B series A series	26 B series J series	31 B series A series	23 B series A series	26 B series J series	26 B series A series	26 W series X series	26 B series J series
<u>A4 system</u> stack total top pins bottom pins	15 F series E series	15 F series K series	18 F series E series	14 F series E series	15 F series K series	15 F series E series	NA	15 F series K series


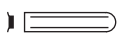



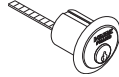

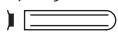





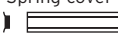




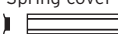












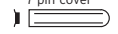





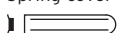





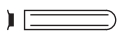





















Peaks Classic Pin series and uniform stack heights for A2 and A4 systems

product system	3400 key-in-knob <u>except</u> 3400-xx-1099 3400-xx-1095	3400-xx-1099 3400-xx-1095 with large diameter plug	3401/3402 conventional mortise and rim	3800 and 6800 I/C	6140 Corbin Russwin R/C with large diameter plug	6240 Yale and 6340 Medeco R/C
<u>A2 system</u> stack total top pins bottom pins	26 B series A series	26 B series J series	31 B series A series	23 B series A series	26 B series J series	26 B series A series
<u>A4 system</u> stack total top pins bottom pins	15 F series E series	15 F series K series	18 F series E series	14 F series E series	15 F series K series	15 F series E series

Peaks Preferred Component Summary Table

Product	Retainer	Spring Retainer	Patent Bottom	Patent Top	System	Pins	Stack Height	Springs
8401 Mortise 	Specify cam 4701-98-4118 cam screws 3418-00-2000 cam cover	3425-00-2006 Mortise/Rim/RC Spring cover 	8800-00-3004 	3425-00-3002 	A2	A & B	31	3800-00-4010 Stainless
					A4	E & F	18	
8402 Rim 	3410-00-2001 retainer 	3425-00-2006 Mortise/Rim/RC Spring cover 	8800-00-3004 	3425-00-3002 	A2	A & B	31	3800-00-4010 Stainless
					A4	E & F	18	
8400 key-in-knob except 1095 and 1099 	3425-36-4002 C-ring 	6440-00-2000 Key-in-knob Spring cover 	8800-00-3004 	3425-00-3002 	A2	A & B	26	3800-00-4010 Stainless
					A4	E & F	15	
8400-XX-1095 and 8400-XX-1099 	Screw cap plug retainer accepts other mfg's tailpieces	6440-00-2000 Key-in-knob Spring cover 	8144-00-3004 	3425-00-3002 	A2	J & B	26	3800-00-4010 Stainless
					A4	K & F	15	
8800 ICore 	3425-34-4002 C-ring 	3800-00-4221 Caps 	8800-00-3004 Installed at factory 	3800-00-3005 Installed at factory 	A2	A & B	23	3800-00-4010 Stainless
					A4	E & F	14	
8900 ICore 	3425-34-4002 C-ring 	6800-00-2006 6-pin cover  6800-00-2007 7-pin cover 	8800-00-3004 Installed at factory 	3800-00-3005 Installed at factory 	A2	A & B	23	3800-00-4010 Stainless
					A4	E & F	14	
8144 Corbin Russwin RCore 	6140-00-4002 C-ring 	3425-00-2006 Mortise / Rim / RC Spring cover 	8144-00-3004 	3800-00-3005 	A2	J & B	26	3800-00-4010 Stainless
					A4	K & F	15	
8244 Yale RCore 	6240-00-4002 C-ring 	3425-00-2006 Mortise/Rim/RC Spring cover 	8800-00-3004 	3800-00-3005 	A2	A & B	26	3800-00-4010 Stainless
					A4	E & F	15	
8444 Schlage RCore 	6140-00-4002 C-ring 	6440-00-2000 Spring cover 	8144-00-3004 	3800-00-3005 	A2	X & W	26	6440-00-4010 Stainless
					A4	N/A	15	 Smaller diameter than 3800-00-4010
8544 Sargent RCore 	6140-00-4002 C-ring 	6800-00-2007 7-pin cover 	8144-00-3004 	3800-00-3005 	A2	J & B	26	3800-00-4010 Stainless
					A4	K & F	15	

Peaks Classic Component Summary Table

Product	Retainer	Spring Retainer	Patent Bottom	Patent Top	System	Pins	Stack Height	Springs
3401 Mortise 	Specify cam 4701-98-4118 cam screws 3418-00-2000 cam cover	3425-00-2006 Mortise/Rim/RC Spring cover 	3800-00-3004 	3425-00-3002 	A2	A & B	31	3800-00-4010 Stainless
					A4	E & F	18	
3402 Rim 	3410-00-2001 retainer 	3425-00-2006 Mortise/Rim/RC Spring cover 	3800-00-3004 	3425-00-3002 	A2	A & B	31	3800-00-4010 Stainless
					A4	E & F	18	
3400 key-in-knob except 1095 and 1099 	3425-36-4002 C-ring 	6440-00-2000 Key-in-knob Spring cover 	3800-00-3004 	3425-00-3002 	A2	A & B	26	3800-00-4010 Stainless
					A4	E & F	15	
3400-XX-1095 and 3400-XX-1099 	Screw cap plug retainer accepts other mfg's tailpieces	6440-00-2000 Key-in-knob Spring cover 	6140-00-3004 	3425-00-3002 	A2	J & B	26	3800-00-4010 Stainless
					A4	K & F	15	
3800 ICore 	3425-36-4002 C-ring 	3800-00-4221 Caps 	3800-00-3004 Installed at factory 	3800-00-3005 Installed at factory 	A2	A & B	23	3800-00-4010 Stainless
					A4	E & F	14	
6800 ICore 	3425-36-4002 C-ring 	6800-00-2006 6-pin cover  6800-00-2007 7-pin cover 	3800-00-3004 Installed at factory 	3800-00-3005 Installed at factory 	A2	A & B	23	3800-00-4010 Stainless
					A4	E & F	14	
6140 Corbin Russwin RCore 	6140-00-4002 C-ring 	3425-00-2006 Mortise / Rim / RC Spring cover 	6140-00-3004 	3800-00-3005 	A2	J & B	26	3800-00-4010 Stainless
					A4	K & F	15	
6240 Yale RCore 	6240-00-4002 C-ring 	3425-00-2006 Mortise/Rim/RC Spring cover 	3800-00-3004 	3800-00-3005 	A2	A & B	26	3800-00-4010 Stainless
					A4	E & F	15	
6340 Medeco RCore 	6340-00-4002 C-ring 	6800-00-2007 7-pin cover 	3800-00-3004 	3800-00-3005 	A2	A & B	26	3800-00-4010 Stainless
					A4	E & F	15	
6440 Schlage RCore 	6140-00-4002 C-ring 	6440-00-2000 Spring cover 	6140-00-3004 	3800-00-3005 	A2	X & W	26	6440-00-4010 Stainless
					A4	N/A	15	 Smaller diameter than 3800-00-4010
6540 Sargent RCore 	6140-00-4002 C-ring 	6800-00-2007 7-pin cover 	6140-00-3004 	3800-00-3005 	A2	J & B	26	3800-00-4010 Stainless
					A4	K & F	15	

Pinning Conventional Cylinders

Peaks conventional cylinders are designed to be top loaded. Install the Peaks patent bottom and top pins in the patent chamber immediately next to the plug face. Peaks Classic patent bottom pins are installed small end down, whereas Peaks Preferred patent bottom pins are installed small end up. Install the Peaks patent top pins small end down for both Peaks Classic and Preferred. **In the A2 system a number 7 top pin should be seated above the patent top pin. In A4 use a number 4 top pin above the patent top pin.**

Pin stacks

Consult the charts on pages 3 - 17 and 3 - 20 for the correct pins.

The Universal 8400-xx-1099 and the 8400-xx-1095 key-in-knob cylinder have large diameter plugs and require longer bottom pins and the 8144-00-3004 patent bottom pin.

The Universal 3400-xx-1099 and the 3400-xx-1095 key-in-knob cylinder have large diameter plugs and require longer bottom pins and the 6140-00-3004 patent bottom pin.

All conventional cylinders, Peaks Preferred/Classic use the same top pins. Observe the specified pin stack heights. After loading the pins install a 3800-00-4010 stainless steel tumbler spring in each chamber.

Staking

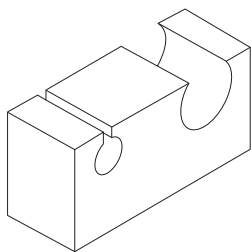
Place the cylinder in the correct cavity of the 3400-00-4000 staking fixture. Set the correct curved spring cover in place over the springs and hold it down with the staking tool.

Using a plastic or rawhide mallet, flatten the spring cover between the flanges. Do not strike the bible flanges on key-in-knob cylinders. Bending or breaking the flanges breaks the patented hard coat on the shells and can lead to corrosion.

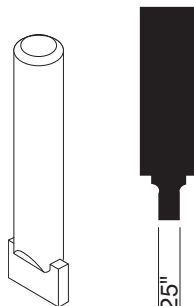
The chrome key-in-knob cylinder shell requires a staking tool and new curved spring cover, 6440-00-2000. Older staking tools had a thick blade. The blade must be narrowed to 0.125" to fit between the bible flanges.

- Work on a firm bench surface.
- Strike tools gently with a plastic or rawhide mallet.
- Do not use excessive force.
- Use Kaba original equipment.

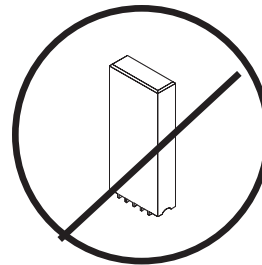
These are the tools required for conventional cylinders:



3400-00-4000 staking
fixture for conventionals



6440-00-4001
staking tool



The 3400-00-4002 key-in-knob staking tool and flat spring covers are discontinued. Do not use this or similar tools on chrome key-in-knob cylinders.



Pinning Conventional Cylinders

Rekeying Conventional Cylinders

Pry off and discard the spring cover. Rekey and apply a new spring cover. Since all Peaks products are designed to be top loaded, use of a follower for rekeying is optional.

Mortise/rim cylinder screws have a Loctite® coating. If cams or plug retainers are removed, use new screws and tighten them firmly.

Pinning Interchangeable Cores

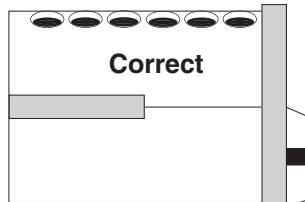
Pin to uniform pin stack height

Insert a key into the core and turn the plug 90 degrees. Extend the control lug into the locked position. Top load the core. Let the bottom pins stop against the plug as shown in figure 1.

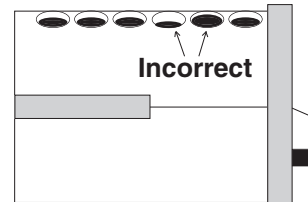
All the stacks should have a uniform height. Dump any incorrect chamber and repin it. When the pin stack heights are uniform, turn the plug and let the pins drop into the plug.



1. Load pins with plug turned.

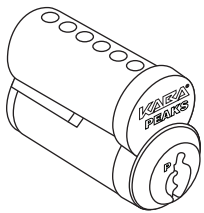


2. Uniform pin stack heights



3. Errors in 4th and 5th chambers

8800/3800 series capped small format interchangeable cores



140 and 150 cores require different capping blocks. Place the core loaded with pins only, into the capping block. Insert a tumbler spring, 3800-00-4010, into each chamber by dropping them into the holes in the block.

One chamber at a time, place a cap on top of each spring and tap it in place with the capping tool and a plastic or rawhide mallet until the capping tool is flush against the block.

Do not use excessive force. Lubricate core with Poxylube® spray lubricant.

For high volume pinning, existing capping presses may be used for 150 cores.

For 140 cores, a capping press in .140" spacing is available from Kaba.

Rekeying

Place the ejector tool into the hole under the chamber(s) and drive out the pins, spring, and cap with a light tap.

Discard the elements and repin. Always use new springs and caps.

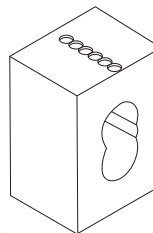
3800-00-3548
ejector tool



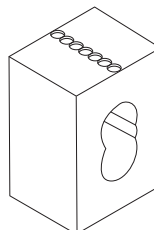
3800-00-3547
capping tool
is used with
both blocks



3840-00-3540
140 capping block
(6 holes)



3850-00-3540
150 capping block
(7 holes)

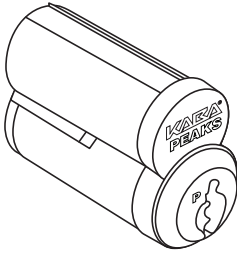


- Work on a firm bench surface.
- Strike tools gently with a plastic or rawhide mallet.
- Do not use a metal hammer.



Pinning Interchangeable Cores

8900/6800 series spring cover small format interchangeable cores



Place core loaded with pins and springs into the correct cavity of the 6840-00-3540 staking fixture. Place the correct spring cover (6-pin or 7-pin length) over the springs.

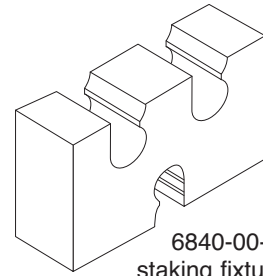
Set the staking tool on the cover. Gently tap the cover flat with a plastic or rawhide mallet. Do not use excessive force. Lubricate with Poxylube® spray lubricant.

Rekeying spring cover cores: Pry up and discard the spring cover. Dump the old pins and springs. Repin and stake on a new spring cover and lubricate with Poxylube® spray lubricant.

- Work on a firm bench surface.
- Strike tools gently with a plastic or rawhide mallet.
- Do not use excessive force.



6440-00-4001
staking tool for
use with all
spring covers



6840-00-3540
staking fixture for
Best, Corbin Russwin,
Medeco, and Yale
series cores

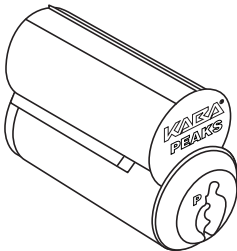
Staking technique

Capping blocks and fixtures are designed to support cores at their waist to prevent sleeves and shells from becoming out-of-round. Working without proper equipment and technique can cause deformation resulting in poor operation, and can void product warranty

- Use original pins and Kaba equipment.
- Do not use excessive force.
- Do not deform or score the shells.

8144/6140 large format interchangeable cores for Corbin Russwin

The 8144/6140 large format interchangeable cores for Corbin Russwin have an A2 system pin stack total of 26.



8144 cores use the *large diameter plug* and require the following components:

A2 system: J series bottom pins and B series top pins

A4 system: K series bottom pins and F series top pins

8144-00-3004 patent bottom pin

3800-00-3005 patent top pin

3800-00-4010 stainless steel tumbler springs

3425-00-2006 mortise/rim/large format interchangeable core spring covers

6140 cores use the *large diameter plug* and require the following components:

A2 system: J series bottom pins and B series top pins

A4 system: K series bottom pins and F series top pins

6140-00-3004 patent bottom pin

3800-00-3005 patent top pin

3800-00-4010 stainless steel tumbler springs

3425-00-2006 mortise/rim/large format interchangeable core spring covers

Top load the core in the usual manner. Stake in 6840-00-3540 staking fixture.

- Work on a firm bench surface.
- Strike tools gently with a plastic or rawhide mallet.
- Do not use excessive force.

Pinning Interchangeable Cores

8244/6240 large format interchangeable core for Yale

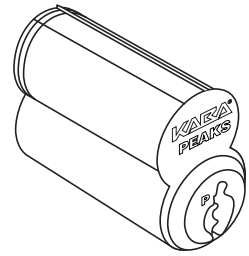
The 8244/6240 large format interchangeable core have an A2 system pin stack total of 26. Use 8244-xx-1006 or 6240-xx-1006 to retrofit Yale 1210.

8244 cores use the following components:

A2 system: A series bottom pins and B series top pins
A4 system: E series bottom pins and F series top pins
8800-00-3004 patent bottom pin
3800-00-3005 patent top pin
3800-00-4010 stainless steel tumbler springs
3425-00-2006 mortise/rim spring covers

6240 cores use the following components:

A2 system: A series bottom pins and B series top pins
A4 system: E series bottom pins and F series top pins
3800-00-3004 patent bottom pin
3800-00-3005 patent top pin
3800-00-4010 stainless steel tumbler springs
3425-00-2006 mortise/rim spring covers



Top load the core in the usual manner. Stake in 6840-00-3540 staking fixture.

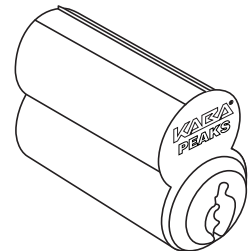
- Work on a firm bench surface.
- Strike tools gently with a plastic or rawhide mallet.
- Do not use excessive force.

6340 large format interchangeable core for Medeco 32 Series

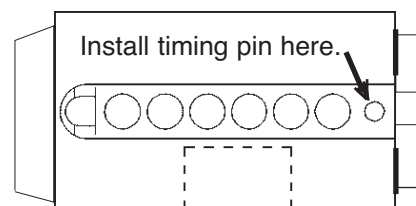
The 6340 large format interchangeable core have an A2 system pin stack total of 26. The 6340 series requires a timing pin, number 6340-00-4012, which must be installed during pinning. Uncombined cores do not contain the timing pin. They can be found in the Peaks universal pin kits. Do not omit the timing pin. Omitting the timing pin will make it difficult to install the core.

6340 cores use the following components:

A2 system: A series bottom pins and B series top pins
A4 system: E series bottom pins and F series top pins
6340-00-4012 timing pin
3800-00-3004 patent bottom pin
3800-00-3005 patent top pin
3800-00-4010 stainless steel tumbler springs
6800-00-2007 spring cover, 7-pin



top view of core



Top load core in the usual manner. Install 3800-00-3004 patent bottom pin and 3800-00-3005 patent top pin in the patent chamber. Use 3800-00-4010 stainless steel tumbler springs in all chambers.

The 6800-00-2007 7-pin small format interchangeable core spring cover is required to contain all the components. Apply spring cover using Peaks core staking fixture and staking tool.

- Work on a firm bench surface.
- Strike tools gently with a plastic or rawhide mallet.
- Do not use excessive force.

Pinning Interchangeable Cores

8444/6440 Schlage Removable Core

The 8444/6440 large format removable core has an A2 system pin stack total of 26.

8444 cores use the large diameter plug and require the following components:

A2 system: X series bottom pins and W series top pins

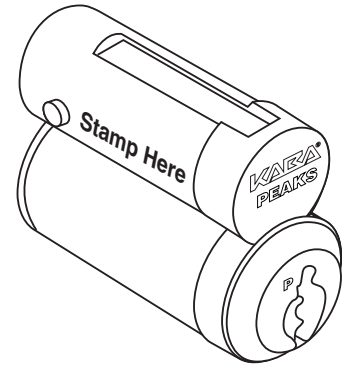
A4 system: A4 pinning not available

8144-00-3004 patent bottom pin

3800-00-3005 patent top pin

6440-00-2000 spring cover

6440-00-4010 stainless steel springs



6440 cores use the large diameter plug and require the following components:

A2 system: X series bottom pins and W series top pins

A4 system: A4 pinning not available

6140-00-3004 patent bottom pin

3800-00-3005 patent top pin

6440-00-2000 spring cover

6440-00-4010 stainless steel springs

NOTE: Dedicated pin kit #6440-00-5002 required: Available for A2 system pinning only.

8544/6540 Sargent Removable Core

The 8544/6540 large format removable core has an A2 system pin stack total of 26.

The 8544/6540 has an A-4 system pin stack total of 15. The 8544/6540 series requires a timing pin, number 6340-00-4012. Do not omit the timing pin. Omitting the timing pin will make it difficult to install the core.

8544 cores use the following components:

A2 system: J series bottom pins and B series top pins

A4 system: K series bottom pins and F series top pins

6340-00-4012 timing pin

3800-00-3005 patent top pin

8144-00-3004 patent bottom pin

3800-00-4010 stainless steel springs

6800-00-2007 spring cover

6540 cores use the following components:

A2 system: J series bottom pins and B series top pins

A4 system: K series bottom pins and F series top pins

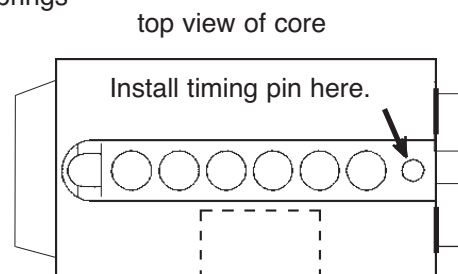
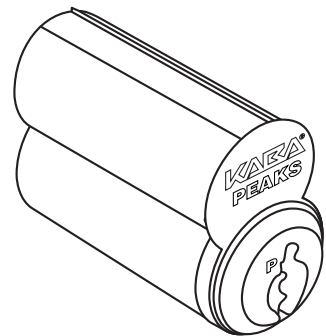
6340-00-4012 timing pin

3800-00-3005 patent top pin

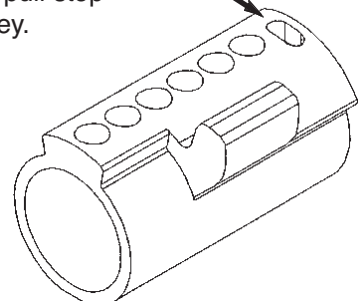
6140-00-3004 patent bottom pin

3800-00-4010 stainless steel springs

6800-00-2007 spring cover



Timing pin engages slot in sleeve to create positive key pull stop for control key.



Rekeying

Pry off and discard the spring cover. Rekey, lubricate the cylinder with Poxylube®, and apply a new spring cover.

Since all Peaks products are designed to be top loaded, use of a follower for rekeying is optional.

Mortise/rim cylinder screws have a Loctite® coating. If cams or plug retainers are removed, use new screws and tighten them firmly.

The 8400/3400-xx-1006 kit security bushing

To prevent tailpiece detachment in certain locksets, the 3400-00-2009 security bushing must be applied to some 8400/3400 series key-in-knob cylinders. See Section 2 of this Manual for cylinder details.

Calculating Small Format Interchangeable Core – A2 System Pin Stacks

A2 system has ten depths numbered 0 to 9, shallow to deep, respectively. Two step progression must be used to prevent key interchange. In A2 system, parity must be maintained in each position, i.e., only the odd or even cuts may be used in a given pin chamber.

When a key system is written, the choice of a TMK automatically determines the parity pattern. Section 4 of this Manual has forms with all sixty-four parity patterns to use in maintaining a TMK register. This can also be done with a computer and data base program.

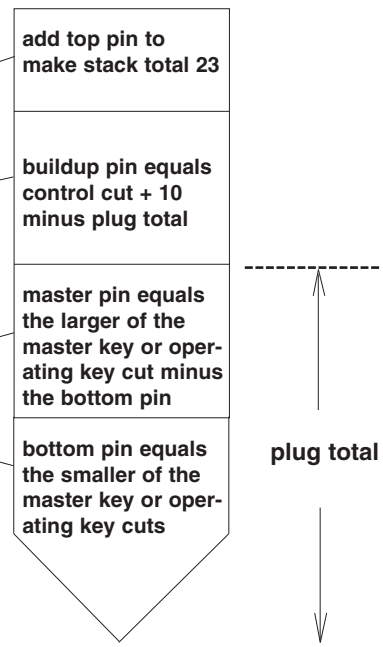
The operating and control shear lines are distinct in all positions. All the operating keys work at the plug (operating) shear line. Only the control key works at the control shear line.

Pin to the operating keys first. The shallow cut determines the bottom pin. A master pin makes up the difference between shallow and deep operating cuts. The numerical value of the bottom pin and master pin together is called the “plug total”. For example, a #3 bottom pin plus a #4 master pin results in a plug total of 7.

Buildup pins are added to the plug total to make the control key operate at the control shear line. Top pins are added to achieve a uniform pin stack height of 23 in all chambers.

Calculating the pin stack

3. Add a top pin to bring the total pin stack to 23.
2. Add 10 to control bitting. Subtract plug total.
The remainder is the buildup pin.
1. Pin operating keys to the plug shear line.
The plug total equals the deep operating bitting.



Non-original pins will not work properly in Kaba products and their use voids product warranty.

Calculating Other A2 Pinning Stacks

Comparing A2 Pin Stacks

The examples on this page show pinning for key symbol 1AA.

When pinning conventional cylinders, ignore the control bitting. If a top pin of 20 or greater is needed, use two pins of equal length to bring the pin stack to the required height. When an odd numbered top pin is required, such as 21, use two pins that are close in size—11 and 10 instead of 13 and 8.

For the patent pin chamber in all conventional cylinders, insert the proper bottom and top patent pins, then insert a number 7B top pin.

Pinning for all Peaks products can now be accomplished with only one spring. That stainless steel spring is number 3800-00-4010.

Note: Peaks Preferred Patent Pins for illustration only. (See key pinning section 3 - 4 to 3 - 12)

control CTR 779631
master AA 951473
change 1AA 593875

Stack height 31

8401-xx-1210
3401-xx-1210

Rim/Mortise

top	11	11	14	12	12	13	7B
buildup	11	11	14	11	12	13	
master	4	4	2	4	-	2	
bottom	5	5	1	4	7	3	

Stack height 23

8800/8900
3800/6800

Small Format
Interchangeable Core

top	6	6	4	7	10	12
control	8	8	16	8	6	6
master	4	4	2	4	-	2
bottom	5	5	1	4	7	3

Stack height 26

8400-xx-1206
3400-xx-1206

Key-in-Knob

top	17	17	12	18	19	11	7B
buildup			11			10	
master	4	4	2	4	-	2	
bottom	5	5	1	4	7	3	

8400-xx-1299
3400-xx-1299

"99" and "95" Key-in-Knob

top	17	17	12	18	19	11	7B
buildup	-	-	11	-	-	10	
master	4	4	2	4	-	2	
bottom	5	5	1	4	7	3	

8244-xx-1206 Yale

6240-xx-1206 Yale

6340-xx-1206 Medeco

top	9	9	7	10	13	15
control	8	8	16	8	6	6
master	4	4	2	4	-	2
bottom	5	5	1	4	7	3

8144-xx-1206

6140-xx-1206

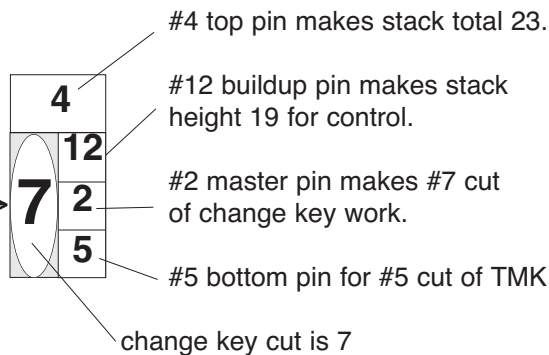
Corbin Russwin

top	9	9	7	10	13	15
control	8	8	16	8	6	6
master	4	4	2	4	-	2
bottom	5	5	1	4	7	3

A2 System Small Format Interchangeable Core Pinning Charts

Control	9	6	0	4	7	8
TMK	5	2	8	6	1	4
	7	4	2	8	3	6
	3	0	4	0	5	2
	1	8	6	2	9	0
	9	6	0	4	7	8
SOP	a	b	c	d	e	f

A small format interchangeable core pinning chart is an expanded key biting array (KBA) that speeds pinning. At the left is a key biting array. The control combination is a change key that is set aside. SOP stands for Sequence of Progression.



The inset at the left shows the pin stack for the first change key possibility in the first chamber.

The “7” from the KBA is in the large oval. To the right of the oval are the pins needed to make the #7 cut work with the #5 cut of the top master key and the #9 cut of the control key. Pin stacks are read from the bottom up.

top pins	4	7	13	9	6	5
	12	12	2	6	14	12
	2	4	2	2	3	2
	5	2	2	6	1	4
	14	14	2	8	12	14
	3	0	4	0	5	2
	2	2	4	6	4	2
	3	0	4	0	1	2
	14	8	2	8	8	14
	4	6	2	4	8	4
	1	2	6	2	1	0
	10	10	2	8	10	10
	4	4	0	4	7	4
	5	2	0	4	1	4
complete pin stacks for constants						
	4	7	13	9	6	5
	14	14	2	8	16	14
	5	2	8	6	1	4

The complete pinning chart contains every possible pin stack for every possible change key and master key in the system.

To pin a core to a given key, find the biting of the key in each position in the large oval and install the pins indicated in the squares next to the oval.

The bottom row beneath the heading “complete pin stacks for constants”, gives complete pin stacks, including top pins, for the rotating constant method, or for pinning to master keys only.

Factory biting lists come with pinning charts. To make a pinning chart, fill in the large ovals with the cuts in the key biting array, and do the pin stack calculations one column at a time.

SKD's and cross keying

SKD's and cross keying cannot be pinned from this chart. SKD's are never master keyed. Cross keying must be calculated separately for each keying specification.

Calculating Small Format Interchangeable Cores A4 Pinning Stacks

A4 system has six depths numbered 0 to 5, shallow to deep, respectively. This is a single step progression system. Because there is no parity in the A4 system, key interchange between systems in the same keyway cannot be prevented.

The operating and control shear lines are distinct. All the operating keys work at the operating (plug) shear line. Only the control key works at the control shear line.

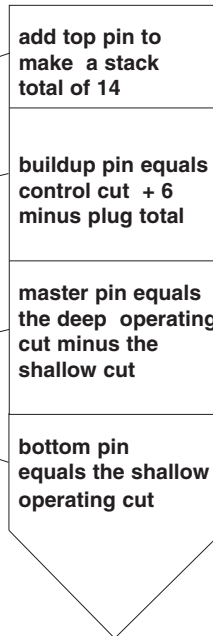
Pin to the operating keys first. The shallow cut determines the bottom pin. A master pin makes up the difference between shallow and deep operating cuts. The numerical value of the bottom pin and master pin together is called the “plug total.” For example, a #1 bottom pin plus a #4 master pin results in a plug total of 5.

Buildup pins are added to the plug total to make the control key operate at the control shear line. Top pins are added to achieve a uniform pin stack height of 14 in all chambers.

The control dimension, or thickness of the control lug, is a multiple of the increment. The increment is 0.021" while the control dimension is 0.21". Because the control lug is 6 increment units thick, the control shear line is 6 units higher than the operating shear line.

Calculating the pin stack

3. Add a top pin to bring the total pin stack to 14.
2. Add 6 to control bitting. Subtract plug total.
The remainder is the buildup pin.
1. Pin operating keys to the plug shear line.
The plug total equals the deep operating bitting.



Non-original pins will not work properly in Kaba products and their use voids product warranty.

Calculating Other A4 Pinning Stacks

Comparing A4 Pin Stacks

The examples on this page show pinning for key symbol 1AA.

When pinning conventional cylinders, ignore the control biting. If a top pin of 12 or greater is needed, use two pins of equal length to bring the pin stack to the required height. When an odd numbered top pin is required, such as 15, use two pins that are close in size—8 and 7 instead of 11 and 4.

For the patent pin chamber in all conventional cylinders, insert the proper bottom and top patent pins, then insert a number 4F top pin.

Pinning for all Peaks products can now be accomplished with only one spring. That stainless steel spring is number 3800-00-4010.

Note: Peaks Preferred Patent Pins for illustration only. (See key pinning section 3 - 4 to 3 - 12)

control CTR 153042
master AA 204153
change 1AA 315103

Stack height 18

8401-xx-1210
3401-xx-1210

Rim/Mortise

top	7	8	6	8	6	7	4F
buildup	8	9	7	9	7	8	
master	1	1	1	-	5	-	
bottom	2	0	4	1	0	3	

Stack height 14

8800/8900
3800/6800

Small Format
Interchangeable Core

top	7	3	5	8	4	6
control	4	10	4	5	5	5
master	1	1	1	-	5	-
bottom	2	0	4	1	0	3

Stack height 15

8400-xx-1206
3400-xx-1206

Key-in-Knob

top	6	7	10	7	10	6	4F
buildup	6	7	-	7	-	6	
master	1	1	1	-	5	-	
bottom	2	0	4	1	0	3	

8400-xx-1299
3400-xx-1299

“99” and “95” Key-in-Knob

top	6	7	10	7	10	6	4F
buildup	6	7	-	7	-	6	
master	1	1	1	-	5	-	
bottom	2	0	4	1	0	3	

8244-xx-1206 Yale
6240-xx-1206 Yale
6340-xx-1206 Medeco

top	8	4	6	9	5	7
control	4	10	4	5	5	5
master	1	1	1	-	5	-
bottom	2	0	4	1	0	3

8144-xx-1206
6140-xx-1206

Corbin Russwin

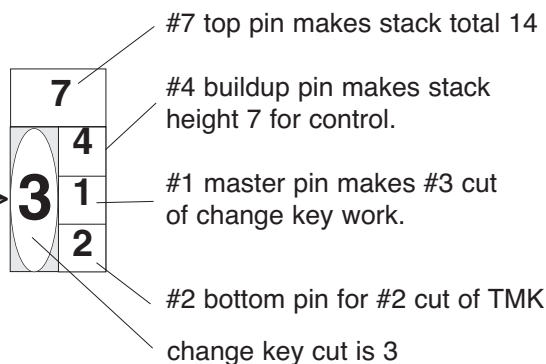
top	8	4	6	9	5	7
control	4	10	4	5	5	5
master	1	1	1	-	5	-
bottom	2	0	4	1	0	3

A4 Keying is not available for the 8444 series cylinders

A4 System Small Format Interchangeable Core Pinning Chart

Control	1	5	3	0	4	2
TMK	2	0	4	1	5	3
	3	1	5	2	0	4
	4	2	0	3	1	5
	5	3	1	4	2	0
	0	4	2	5	3	1
	1	5	3	0	4	2
SOP	a	b	c	d	e	f

A small format interchangeable core pinning chart is an expanded key bitting array (KBA) that speeds pinning. At the left is a key bitting array. The control combination is merely a change key that has been set aside.



The inset at the left shows the pin stack for the first change key possibility in the first chamber.

The "3" from the KBA is in the large oval. To the right of the oval are the pins needed to make the #3 cut work with the #2 cut of the top master key and the #1 cut of the control key. Pin stacks are read from the bottom up.

top pins	7	3	5	8	4	6
	4	10	4	4	5	4
	3	1	1	5	1	2
	2	0	4	1	0	3
	3	9	5	3	5	3
	2	2	0	4	3	2
	2	0	0	1	1	3
	2	8	5	2	5	5
	3	3	1	3	4	3
	2	0	1	1	2	0
	5	7	5	1	5	5
	2	4	4	2	5	4
	0	0	2	5	3	2
	0	0	2	1	3	1
	5	6	5	5	5	5
	1	5	3	1	0	1
	1	0	3	0	4	2
complete pin stacks for constants						
	7	3	5	8	4	6
	2	5	0	11	4	5
	2	0	4	1	5	3

The complete pinning chart contains every possible pin stack for every possible change key and master key in the system.

To pin a core to a given key, find the bitting of the key in each position in the large oval and install the pins indicated in the squares next to the oval.

The bottom row beneath the heading "complete pin stacks for constants", gives complete pin stacks, including top pins, for the rotating constant method, or for pinning to master keys only.

Factory bitting lists come with pinning charts.

SKD's and cross keying

SKD's and cross keying cannot be pinned from this chart. SKD's are never master keyed. Cross keying must be calculated separately for each specification.

Notes

[illegible]



PEAKS[®] Preferred/Classic

Technical Manual

Section 4: Key Control &
Record Keeping

KABA[®]

Introduction

Peaks contracts specify that:

1. The key blank identification number may not be removed, stamped-over, or altered in any way
2. Dealers can only duplicate keys bearing their own blank ID number, and must refuse to copy others
3. Only cut keys may be sold; key blanks may not be sold, lent or given away
4. Proper key records must be kept and authorization procedures observed

Poor record keeping can be a serious liability. Overall, end users respond favorably to professional record keeping practices when they understand that they exist for their protection.

Authorized Signature Registration Form

The Kaba key system authorized signature registration form records the key system's physical location and signature specimens of the persons authorized to order locks and keys from Kaba.

A completed authorized signature registration form is required to initiate any factory key system. It registers the system to a specific dealer and is used to verify signatures when subsequent orders are placed. To the right is a sample of an authorized signature registration form.

KABA KEY SYSTEMS AUTHORIZED SIGNATURE REGISTRATION FORM				
THIS ORIGINAL FORM MUST BE MAILED WITH YOUR CONTRACT BEFORE THE FIRST ORDER CAN BE PROCESSED. ** FAXED COPIES WILL NOT BE ACCEPTED **				
PROJECT INFORMATION: (to be completed by end user)				
End User (please print or type)		Type of Facility (ie. University, Hospital, Mfg.)		
Street Address (no PO Box)	City	State	Zip Code	
End User Phone Number	Distributor Name	Keyway		
AUTHORIZED OWNER SIGNATURE(S) If restrictions are not indicated and in multiple signature cases, the first signature will be regarded as the primary authority able to control signers on this form.				
1.				
Name (please print or type)		Street (no PO Box)		
Title or Position		City	State	Zip Code
Signature	Date	Phone Number		
2.				
Name (please print or type)		Street (no PO Box)		
Title or Position		City	State	Zip Code
Signature	Date	Phone Number		
3.				
Name (please print or type)		Street (no PO Box)		
Title or Position		City	State	Zip Code
Signature	Date	Phone Number		
DISTRIBUTOR OR LOCKSMITH AUTHORIZATION (OPTIONAL WITH OWNER AUTHORIZATION / SIGNATURE)				
Distributor or Locksmith Company Name		System #		
Address (no PO Box)				
City	State	Zip Code	Phone Number	Fax Number
Contact 1 (please print or type)		Contact 2 (please print or type)		
Contact 1 Signature		Contact 2 Signature		
Note If this form is to be used as a blanket authorization for a specific distributor or locksmith, please indicate distributor/locksmith's name below and the date for which this authorization will remain effective. (No more than one year)				
Authorization Effective: _____ through _____ Date Date				
Owners Authorization By (please print or type)				
Owners Authorization Signature		Date		
SPECIAL NOTE: In the case where the End User/Owner assigns the Distributor or Locksmith authorization (as noted above), the Distributor or Locksmith agrees to take full responsibility for validating the owners signature as identified on the Kaba Key Systems Authorized Signature Registration Form.				
Please fill out a new Kaba Key Systems Authorized Signature Registration Form in the event of changes, additions or deletions in authorized signatures. Kaba Key Systems Authorized Signature Registration Forms are available from Kaba Key Systems or your local Kaba sales representative.				
Please mail original to:		Kaba Access Control Key Systems Department 2941 Indiana Ave. Winston Salem, NC 27105		
Rev. 11/07				

Dealer Systems—Authorization Procedures

Always meet the minimum requirements for authorization on a Peaks system:

1. Know who the end user is
2. Know who has authority to order more locks or keys
3. Be able to prove that you have furnished locks and keys only to authorized persons

Authorization procedures for ordering Peaks keys and locks should be uniform and simple.

Here are some suggestions for procedures:

1. Obtain signed authorized signature registration form for all Peaks locks and keys
Check the signature on the purchase order against the authorized signature registration form on file
2. Use the Kaba form and obtain signatures upon receipt of Peaks locks and keys
The authorized registration form on file is used to confirm the identities of persons signing for materials

Adding/Deleting Names on the Authorized Signature Registration Form

1. Current Signatories

Only a person currently on the authorized signature registration form can add or delete others.

2. No Current Signatories

a. Declaration of Authority Letter

When the original persons on the authorized signature registration form are no longer available, then the only person authorized to add persons to the authorized signature registration form is the original signee on the contract. In any case, this person is not available, then a new contract must be signed and signatories can be added at that time, by filling out a new authorized signature registration form. This policy is to protect both the dealer and the factory from fraudulent claims of authorization. Contact Kaba if this authorized signature registration form is required.

Authorization Procedure

The Initial Order for a New Key System

Factory systems: Initial orders for factory master keyed product must be accompanied by a completed authorized signature registration form, which registers the key system with the factory. The order should be written using the industry standard key coding system and give keying expansion to help us properly design the key system.

Subsequent Orders Against an Existing Key System

The authorized signature registration form must be signed by an authorized signatory of the dealer before the factory can process the order. This form authorizes the factory to furnish Peaks keys or cylinders as requested. The factory will not accept faxes or photocopies of the authorized signature registration form.

Subsequent factory orders should be accompanied by a KABA order shipping form signed by an authorized signatory of the dealer, found on the authorized signature registration form provided earlier.

KABA ORDER SHIPPING FORM					
THIS FORM MUST BE COMPLETED AND RETURNED BY THE END USER BEFORE THE FIRST ORDER WILL BE PROCESSED					
ORDER INFORMATION:					
Keyway:		Key ID:		Key System #:	
Distributor:					
SPECIAL INSTRUCTIONS: Please indicate any restrictions to authorized individuals listed on this form when purchasing additional Kaba products or duplicating keys.					
SHIPPING INSTRUCTIONS: It is the policy of Kaba to ship products directly to the End User/Owner to maximize the security of keys and cylinders. Be sure that the shipping address provided below includes the name of the specific individual in your organization to whom the keys and cylinders should be shipped to.					
COMPLETE ORDER SHIPPING ADDRESS:			CYLINDERS/CUT KEYS: (CHANGE, GMK, MK, SELECTIVE)		
Shipping Location Name			Shipping Location Name		
Attention			Attention		
Street (no PO Box)			Street (no PO Box)		
City		State	Zip Code	City	
				State	
				Zip Code	
KEY BLANKS (ONLY) SHIPPING ADDRESS:			BITTING LIST SHIPPING ADDRESS:		
Shipping Location Name			Shipping Location Name		
Attention			Attention		
Street (no PO Box)			Street (no PO Box)		
City		State	Zip Code	City	
				State	
				Zip Code	
Kaba will ship to an alternate location only as directed by a designated signatory and with the understanding that the undersigned assumes full responsibility for the security and care of that material. Unless otherwise specified above, products will be shipped to the original End User/Owner address on file.					
SIGNATURE BLOCK I hereby authorize the above Kaba distributor to order material for the Kaba Key system above and I certify that I am the owner or authorized agent of the owner, of the Kaba patent protected key control system specified above and I am authorized to place the order.					
Authorized Signature			Date		
PLEASE MAIL OR FAX TO:			KABA ACCESS CONTROL KEY SYSTEMS DEPARTMENT 2941 INDIANA AVE. WINSTON SALEM, NC 27105 www.kaba-access.com 800-849-8324 * 336-201-5519 fax		

Rev. 11/07

Dealer written key systems

Dealers should follow the same authorization procedures as Kaba for adding and deleting names on the authorized signature registration form.

Cross Keying

Cross Keying

Kaba Key Systems discourages cross keying of any sort. If Kaba Key Systems creates a key system, it is our intent to avoid cross keying totally if possible. If asked to generate a system with cross keying, we will generate that system as asked, but do know that Kaba Key Systems will not be held responsible for the integrity of the system when any cross keying is requested.



January 2008

Customer xyz
System # HXXX

We have received a request that your key system incorporate cross keying.

Kaba Key Systems strongly discourages cross keying. This condition could severely limit the security of the cylinder while minimizing the future expansion of the system. When a few different keys operate the same cylinder, or a few different cross keyed cylinders exist per system, then the integrity of the system is jeopardized.

As defined by (DHI) Door and Hardware Institute and (ALOA) Associated Locksmiths of America:

CONTROLLED CROSS KEYING - A condition where two or more different change keys, under the same higher level master key, operate one cylinder by design, e.g., XAA1 operated by AA2.

UNCONTROLLED CROSS KEYING - A condition in which two or more different keys under different higher level keys operate one cylinder by design; e.g. XAA1, operated by AB, AB1

Cross keying can be a deliberate process to combine a cylinder to two or more different keys which would not normally operate it. Kaba Key Systems discourages cross keying controlled and uncontrolled. Incorporating cross keying and /or selective keying into a key system will diminish system capacity.

By signing, dating and returning this form, you acknowledge you are in receipt of this notification and unless otherwise instructed, you wish to proceed with the cross keying as requested. Do understand that Kaba Key Systems will not be held responsible for the integrity of the system when any controlled or uncontrolled cross keying is requested.

(Signature)

(Date)

Thank you

Melissa Anderson
Key Systems Administrator

Kaba Access Control
2941 Indiana Ave.
Winston-Salem, NC 27105
Phone: 336-725-1331, Fax: 336-201-5519
www.kabaaccess.com

Writing the Key System Expansion Specification

Expansion information is essential for accurately planning a key system. Expansion should include the installed portion of the key system and planned future growth.

The key system expansion should be furnished in clear terms.

For example, a three level system may be described as follows:

Furnish a new grand master key system. Plan for a top control key. Provide for eight master keys with up to forty changes each. Provide for twelve changes directly under the grand master.

Or,

1 Grand Master x 1 Control x 8 Masters x 40 Changes / Master plus 12 Grand Changes

Questions regarding the design and generation of key systems may be directed to Kaba Key Systems.

KABA KEY SYSTEM INFORMATION FORM
 Please use a separate form for each individual key system.

Specify (X): A2 System _____ A4 System _____

Product: _____ PEAKS 140 _____ PEAKS 150 6-pin _____ PEAKS 150 7-pin

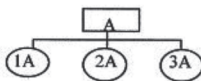
Note: 150 Spacing for Peaks SFIC only

For Larger Systems

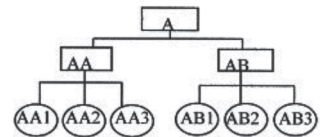
Multiplex keyways may be used to accommodate larger systems and expansion requirements necessary for future development. Plan your large systems wisely from the start; with the user of multiplex keyways the bittings are repeated on other key sections. Let the Kaba Key Systems Department decide how to apply keyways to best suit the job at hand based on the numerical expansion parameters.

Levels of keying—Specify (X):

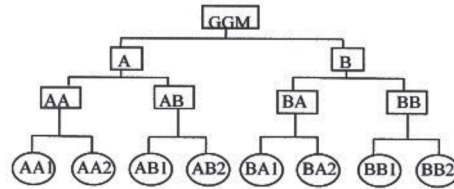
____ 2 level system.



____ 3 level system.



____ 4 level system.



Selective Master Keys
 (ENG) Engineering Key
 (HSCP) Housekeeping Key
 (JAN) Janitor's Key
 (SEC) Security Key
 (GRND) Ground Key

Expansion Specification — the quantities of combinations needed at each level of keying:
 Please express in prose as in DHI Keying Manual or alphanumeric notation per ALOA's Fundamentals of Master Keying.

Specify any cross keying or non-standard keying required. (Cross keying is strongly discouraged)

The Standard Key Coding System

The following key symbols are the lock industry standard, used by manufacturers, BHMA, DHI and ALOA. They should be used when specifying any master keyed system. The symbols are constructed as follows:

Abbreviation	Key type	Symbolized by	Symbols or "keysets"
GGMK	great grand master key	GGM	GGM
GMK	grand master key	single letter	A, B, C, T
MK	master key	pair of letters	AA, AB, CC, BA, TR
CK	change key	letters and numbers	AA1, AB29, 17AA, SKD1

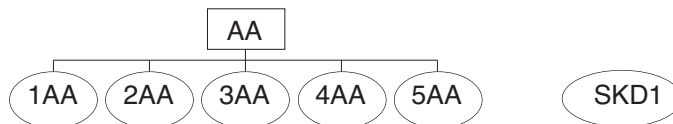
One level of keying—the most secure keying

Locks are never master keyed, but keyed alike (KA) or keyed different (KD). If you have two cylinders keyed to SKD1, it is a keyed alike group.



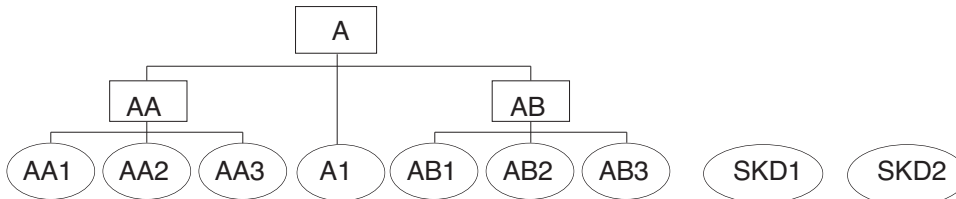
Two levels of keying—simple master key system

Consists of a Master and change keys. Master key is named with an identical pair of letters, AA, BB, CC, etc. The change key numbers go **in front of** the letter pair.



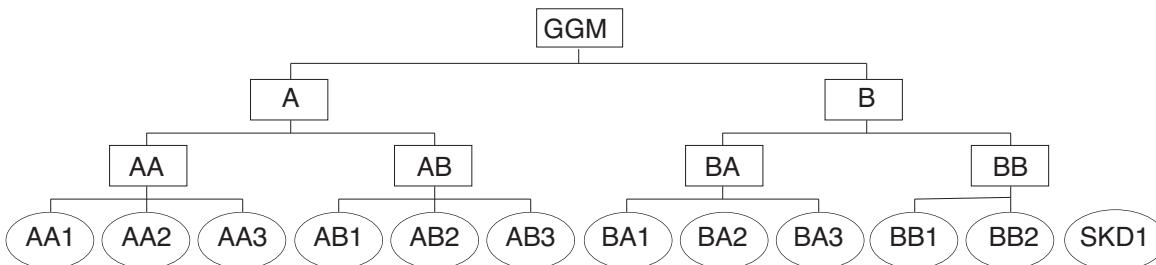
Three levels of keying—grand master key system

Consists of a Grand Master and multiple Master keys under the Grand. Change key numbers go **after** the letter pair. The first letter of the master key symbols is the grand.



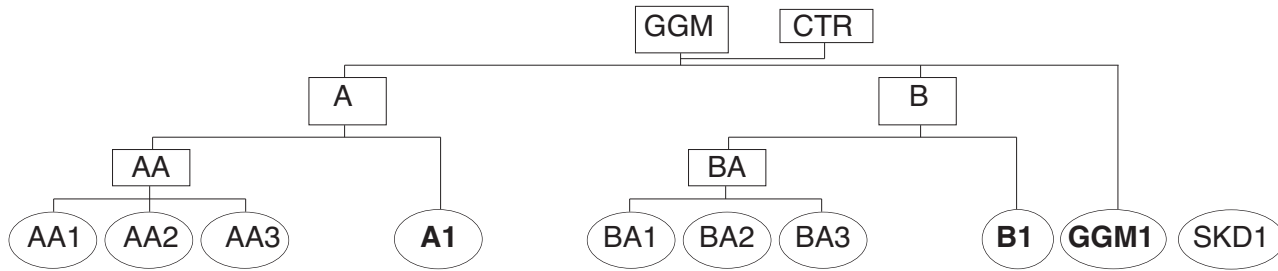
Four levels of keying—great grand master key system.

Consists of a Great Grand Master with multiple Grand Master "systems" under it. Change key numbers go **after** the letter pair.



Special Symbols

Change keys directly under higher level master keys take the name of their associated master key and add numbers after the letter(s). SKD's, if used, are considered part of the system.



CTR is the symbol for a control key. A top control key, capable of operating all the cores in a system, is shown in the schematic at the same level as the top master key.

Cross keying

Although sometimes required, cross keying, either controlled or uncontrolled, should be discouraged. Cross keying greatly reduces the keying capacity of a system, severely limits the security of the cross keyed cylinder and makes the key system less flexible. Whenever possible, alternate solutions to cross keying should be explored.

If cross keying is required, each set's operating parameters need to be defined. The expressions can be written as follows:

XAA1 oby AA1, AA2, AA, A (oby = operated by)

X1X oby AC1 - AC5, AC10, AC, A

In the second example above, the "X" after the cylinder designation indicates that there is no change key (CK). It should be noted that cross keying requirements need to be defined at the time bitings are being generated. Cross keyed cylinders are labeled with the "X" symbol.

Additional Details

The letter "X" should not be used to designate a grand master. As stated above, this letter symbol is reserved for use in cross keying.

The letters I and O should be avoided for use as grand master or master key symbols as they are sometimes confused for numbers. To avoid confusion with O, Q should also be avoided.

For systems with more than twenty-four master keys under a given grand, the counting numbers are used between the letters of the pair. For example, A2A, A2B, A2C....A2Z are the symbols for master keys twenty-five through forty-eight.

SKD Combinations—Non-master Keyed Cylinders

SKD's Used in a Master Key System

The symbol SKD is used to indicate combinations in a master key system that are never operated by a master key. Typical uses are for securing personnel records, pharmacies, evidence rooms in police stations, etc., where SKD combinations provide greater security.

The key symbols SKD1, SKD2 and SKD3 represent different bittings. If you have three locks keyed to SKD1, you have a keyed alike group. It is for this reason that SKD does not mean single keyed different.

SKD sets are never master keyed; their combinations are derived outside of a master key system.

Non-master Keyed Cylinders—One Level of Keying

SKD is the standard symbol for one level of keying. Locks are either keyed-alike (KA) or keyed-different (KD). To prevent key interchange or repetition of SKD's, a biting list can be generated under a selected parity pattern and the bittings crossed off the list as they are used.

Important Note:

Serious liability can arise by furnishing SKD's for different End Users under the same control key. Although this is convenient for servicing it is not an acceptable practice. Kaba treats SKD's under a single control key like a master key system.

Kaba Factory Bitting List Policy

A biting list is a document showing all the key combinations used in a keying system. Possession of a biting list imposes a serious responsibility for the integrity of the system. For these reasons, Kaba contracts designate the biting list to be the property of the Dealer.

Since a biting list requires the time and labor of a qualified professional to generate, a nominal fee will be charged for creating the list or for a transcript. This charge is in the factory price list.

Orders for biting list transcripts are subject to the conditions of the specific key control contract and distribution channel.

Dealers and End Users ordering factory master keyed product in their contracted keyway, automatically receive a copy of the biting list from Kaba. Requests for additional factory biting list transcripts for End User keyways require a completed Kaba order shipping form with a designated signature matching one of those found on the Kaba key systems authorized signature registration form.

Designing Top Master Keys and Control Keys

The standards given below are used by the factory in designing and generating bitting lists. They apply to the top master key (TMK) in a system as well as the control key (CTR).

Design Standards

1. TMK's should have at least one of the shallowest possible bittings in one progressed position, and one of the deepest possible bittings in another position, whether it is progressed or not.

The purpose is to keep lower level keys from being cut down to the TMK or CTR bitting. The deepest possible cut statistically reduces key manipulation (key picking) as does a moderately deep constant.

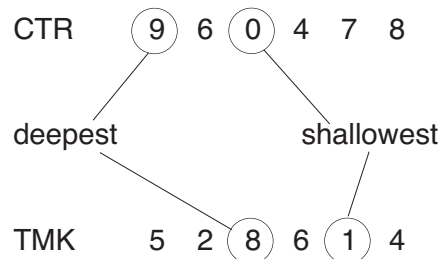
2. Moderate cut-to-cut variations should be employed. Extremes in adjacent cut depths cause premature wear in the cylinder and on the key. Bittings of this type should be assigned last.
3. Uniformly shallow or deep keys should not be used. For example, 988789, is easy to pick, and any key in the system can be cut down to it. Uniformly shallow keys, like 120112, also make the locks easy to pick.
4. Declining step keys should be avoided. 976642 is an example of a declining step key. Such keys, when worn, tend to pull out of a turned plug and make the cylinder less pick-resistant.
5. Deep cuts next to the bow should be avoided as they can weaken a key. Kaba recommends that this position be progressed last in any key system to make all keys as strong as possible.

Control Keys (CTR)

The control key (CTR) should have the same characteristics as a top master key. The control key should normally differ from the top master key in all positions. The control key cuts are chosen from the progression columns of the KBA. The control is actually a change key. Note in the sample system that the key bitting array has been manipulated so that the control key is the last key in the system.

When you cross the control key combination off the progression list, you can be certain that no other key in the system will ever be a control key.

CTR	9	6	0	4	7	8
TMK	5	2	8	6	1	4
	7	4	2	8	3	6
	3	0	4	0	5	2
	1	8	6	2	9	0
	9	6	0	4	7	8
SOP	a	b	c	d	e	f



All systems should have different TMK's and distinct CTR combinations. TMK and control combinations should be recorded in a register to prevent repetition of the combinations. Kaba recommends that parity patterns be used to separate the master key systems from the KA and KD combinations for non-master keyed projects.

The TMK Register

The TMK register logs all top master keys and control keys by system register number to prevent duplication of systems. This type of register is kept by all manufacturers. Kaba maintains their logs by keyway, parity pattern and system location.

Example of TMK Register

Mfr.	Key Section	TMK	Control	Parity	Location	Register #
Corbin	60	453263		Sys70	Toledo	A012
Dexter	67	12212		OEEOE	Medina	A102
Kaba	PEAKS-D	836152		EOEOOE	Parma	A016
Kaba	PEAKS-D	793063	957405	OOOEEO	Bay Village	A015
Kwikset	1063	41363		none	Rocky River	A035
Sargent	LA	361794	363594	OEOOOE	Bay Village	A013

Adding small & large format interchangeable cores to a system of conventional cylinders

Small format interchangeable core/large format interchangeable core cylinders can usually be added to a system of 140 conventional cylinders at any time. KABA recommends that you write a control key for all Peaks systems, so that if small format interchangeable core/large format interchangeable core is added later, the control key will be properly designed.

Visual Key Control (VKC)

Visual key control is the marking of the face of cores and cylinders with the symbols of the standard key coding system. From a security standpoint this is not a wise practice. If a key is found, a glance at the face of the cylinder would reveal what the key operates.

Do not stamp the plug face. This voids the warranty and may collapse the patent pin chamber.

Concealed Key Control (CKC)

Concealed key control is the marking of key symbols on the side or back of cores or cylinders. Kaba marks the key symbol on the side of the core with a permanent marker. In this way, when the core is recombined, the key symbol can be buffed off and no damage will be done.



PEAKS[®] Preferred/Classic

Technical Manual

Section 5: Cylinder Installation Guide



Introduction

This is an aid to selecting Peaks key-in-knob cylinders for grade 1 and 2 cylindrical locksets. It should be used in conjunction with Section 2 of the Peaks Technical Manual and your own library of competitors' catalogs and technical literature.

While there are many variations in trim designs, there is a finite offering of hardware. You will see the same few cylinder configurations used repeatedly.

The industry calls cylinders for both knob and lever trim “key-in-knob” cylinders. This document will use “handle” to mean the portion of the operating trim which contains the cylinder.

Key Demountable (KDH) versus Non-Key Demountable (Non-KDH) handles

To retrofit a cylindrical lock with Peaks, the handle must be removed to gain access to the cylinder. Some handles can be removed by turning an operating key and depressing a retainer.

Other locks require disassembly of the lockset and take more time to retrofit. This distinction is important when quoting labor for installation.

Tools

Basic hand tools are needed to service cylindrical locks, including standard and Phillips screw drivers, a plastic or rawhide mallet, and Poxylube® lubricant. Key demountable handles require a “poker” tool to depress the retainer. A 1/16" pin punch is an excellent tool for this purpose.

Spanner wrenches are required for all grade 1 knobs, and a few grade 1 levers. Grade 2 knobs and levers are normally mounted with concealed screws and do not require spanner wrenches.

Any tools beyond basic hand tools required for specific hardware will be listed below.

Finishes

North American hardware finishes for the plug face of key-in-knob cylinders are as follow:

for white finishes such as 625, 626, 628, 629, and 630: use Peaks satin chrome finish number 25; for all other finishes: use Peaks satin brass finish number 04.

Identifying the Manufacturer

The face of the latch is the first indicator of manufacturer. Certain brands of latch bolts and lock chassis are compatible. For example, occasionally an Arrow chassis will be seen with a Schlage latch bolt. When the knob or lever is removed, the appearance of the spindle cam, i.e., the cylindrical actuator into which the cylinder tailpiece fits, can be used to identify the chassis.



Brand	Logo On Face	Notes
Arrow	yes	"AMEROCK" and other OEM names have been used.
Corbin Russwin	yes	Prior to the brand merger in 1993, the individual brand names "CORBIN" or "RUSSWIN" were used. The Emhart logo, a capital E with horizontal arrows was used during Emhart's ownership. Some older unit locks have no trademark.
Falcon	yes	Falcon LY series grade 1 levers were imported from the same source as PDQ grade 1 levers and are sometimes confused.
LSDA	yes	Imported; house brand of the IDN companies.
Marks	yes	
PDQ	maybe	Latches for these locks bear check marks in a circle (✓✓) (sic), and may be private labeled. Products assembled in the U.S.A. are marked "PDQ".
Sargent	yes	Product line numbers 6, 7, 8, 9, 10, 7600, etc. are stamped on the face. eg., a latch face marked "8" indicates an 8 Line lock.
Schlage	yes	Same key-in-knob cylinder body used throughout cylindrical lock line. Only the tailpiece shape and orientation vary.
Yale	yes	

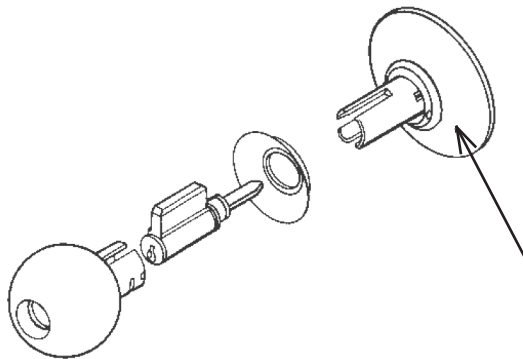
5-pin versus 6-pin

Older hardware may have 5-pin cylinders and no room in the handle to retrofit a 6-pin cylinder. Existing operating keys can be misleading. For example, some contemporary hardware is pinned to 5-pin keys, even though the cylinders have six pin chambers. This is referred to as "drilled 6, pinned 5". Try a 6-pin key blank in the cylinder. It will not seat fully in a 5-pin cylinder.

Cylinder Removal Methods

Key demountable handle (KDH): Remove cylinder by turning any operating key, depressing a retainer in the shank of the handle, and pulling on the handle.

Most contemporary cylindrical locks have key demountable handles.



1. Turn any operating key to the right about 45 degrees.
2. Depress the retainer through the access hole in the trim, and pull off the knob.

Non-key demountable handle (Non-KDH): Remove cylinder by disassembling the lockset.

Corbin Russwin and Sargent grade 1 knobs and preassembled locksets are the primary Non-KDH hardware.

brand	grade 1 levers	grade 1 knobs	grade 1 preassembled	grade 2 levers	grade 2 knobs
Arrow	KDH	KDH		KDH	KDH
Corbin Russwin	KDH	Non-KDH	Non-KDH	KDH	KDH/ Non-KDH
Falcon	KDH	KDH	KDH	KDH	KDH
LSDA	KDH	KDH		KDH	KDH
Marks	KDH	KDH		KDH	KDH
PDQ	KDH	KDH		KDH	KDH
Sargent	KDH	Non-KDH	Non-KDH *	KDH	KDH
Schlage	KDH	KDH		KDH	KDH
Yale	KDH	KDH	KDH	KDH	KDH

NOTES:

*Sargent discontinued their unit lock decades ago. However, they also made a lock called the “IntegraLock” (7600 Line) that used a small mortise body with through-bolted key-in-knob trim.

Arrow Architectural Hardware

Division of Assa Abloy

- “ARROW” appears on the latch face.
- Basic hand tools required.

NOTES:

- Flexcore is available in small format interchangeable core only.
- Entire Arrow line is available prepped for small format interchangeable core.

Arrow	H series grade 1 knobs & levers	J series grade 2 interconnected	L, M series grade 2 levers	M series grade 2 knobs	tubular deadlocks
retrofit type	KDH	KDH	KDH	KDH	
Peaks Preferred	8400-xx-1099	8400-xx-1099	8400-xx-1099	8400-xx-1099	8400-xx-1099
Peaks Classic	3400-xx-1099	3400-xx-1099	3400-xx-1099	3400-xx-1099	3400-xx-1099



Corbin Russwin Architectural Hardware

Division of Yale Security

Assa Abloy

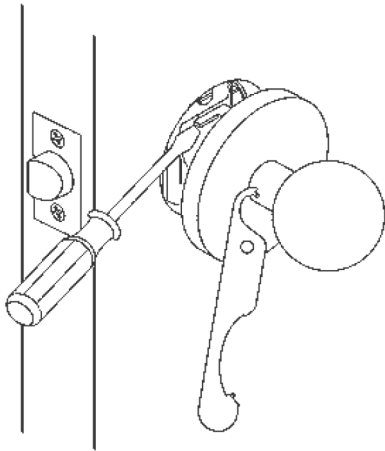
- Depending on the vintage, “CORBIN”, “CORBIN RUSSWIN”, “EMHART”, and “RUSSWIN” will all be seen on latch faces.
- Corbin Russwin’s proprietary profile core can be retrofit with Peaks 8144/6140 Rcore.

Corbin old no.	Russwin old no.	Corbin Russwin (1993)	product	retrofit method	Peaks Preferred Peaks Classic
700	900	CL3200	grade 1 levers	KDH	8144 LFIC 6140 LFIC
na	na	CL3300	grade 1 levers	KDH	8400-xx-1099 3400-xx-1099
800	800	CL3400, CL3600	grade 1 levers	KDH	8400-xx-1099 or 8144 LFIC 3400-xx-1099 or 6140 LFIC
na	na	CL3800	grade 2 levers discontinued 9-97 (replaced by CL3900)	KDH	8400-xx-1099 with OEM tailpiece 3400-xx-1099 with OEM tailpiece
na	na	CL3900	grade 2 levers	KDH	8400-xx-1055 3400-xx-1055
400	400	CK4200	grade 1 knobs	Non-KDH	8400-xx-1004 or 8144 LFIC 3400-xx-1099 or 6140 LFIC
6600	3400	CK4400	grade 2 knobs, import	KDH/ Non-KDH	in development
300	500	UT5200	grade 1 unit locks	Non-KDH	8400-xx-1004 or 8144 LFIC 3400-xx-1099 or 6140 LFIC

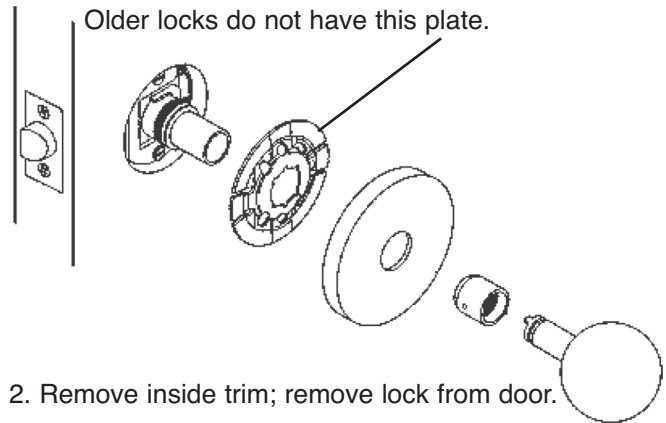
TOOLS:

- Grade 1 levers CL3400 and CL3600, require #585F48 hex wrench for flanged nut on rose liner.
- Grade 1 knobs, CK4200, require spanner wrench and long nose Tru-Arc pliers.
- Replacement of pre-1972 cylinders requires purchase of Corbin Russwin cylinder driver #144F29.

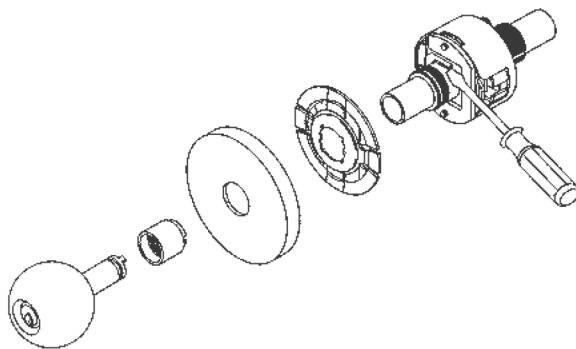
Retrofitting Corbin Russwin CK4200 Grade 1 Knobs current model, 1976 to date



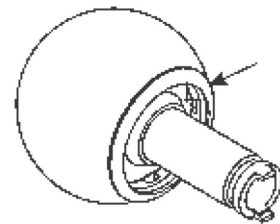
1. Loosen inside rose with spanner wrench; depress knob retainer.



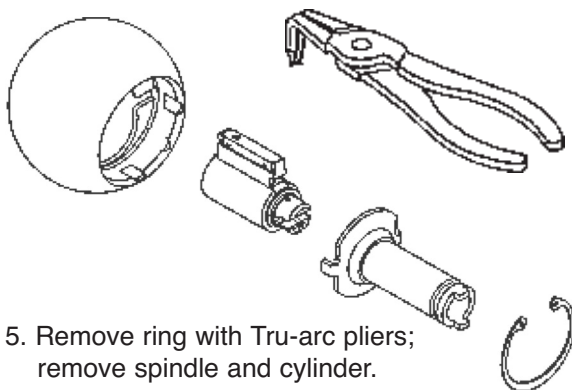
2. Remove inside trim; remove lock from door.



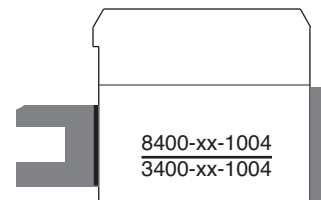
3. Depress outside knob retainer; remove outside knob.



4. Remove knob cap if present.



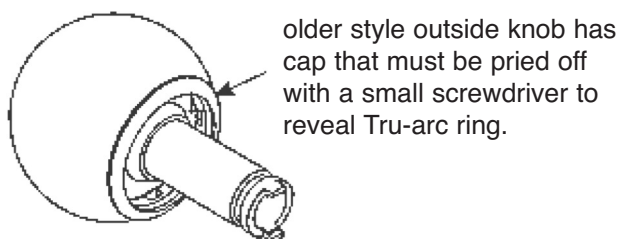
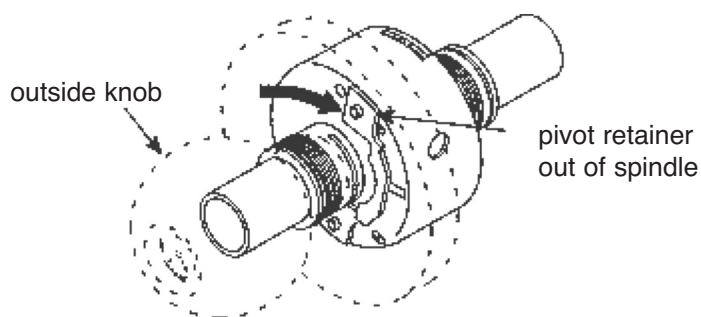
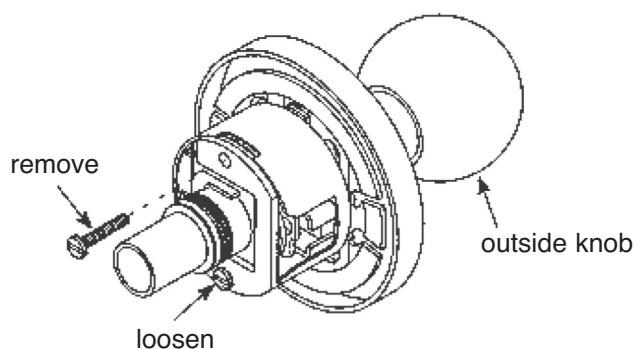
5. Remove ring with Tru-arc pliers; remove spindle and cylinder.



6. Install Peaks Preferred cylinder 8400-xx-1004 or Peaks Classic cylinder 3400-xx-1004 and reverse above steps.

Retrofitting Corbin Russwin CK4200 Grade 1 Knobs models prior to 1976

Locksets made prior to 1976 were made with the outside knob retainer rigid. To remove the outside knob on pre-1976 locksets, remove one of the chassis screws completely, and loosen the other screw slightly. This will allow the knob retainer to pivot out of the spindle and permit knob removal.



Falcon Lock Co.

Division of Ingersoll Rand

- "FALCON" appears on the latch face.

TOOLS:

- Spanner wrench is required for grade 1.
- 1/16" pin punch for depressing retainer.

Falcon	LY series grade 1 levers	X series grade 1 knobs	RU and X series grade 1 unit lock preassembled	S series grade 2 knobs	D series tubular deadlocks/latches
retrofit type	KDH	KDH	KDH	KDH	
Peaks Preferred	8400-xx-1099	8400-xx-1099	8400-xx-1099	8400-xx-1099	8400-xx-1095
Peaks Classic	3400-xx-1099	3400-xx-1099	3400-xx-1099	3400-xx-1099	3400-xx-1095

- 8400-xx-1095 is identical to 8400-xx-1099 and 3400-xx-1095 is identical to 3400-xx-1099, except for the small diameter plug face required for Falcon dead locks and old style X series unit locks.

Marks USA

Amityville, New York

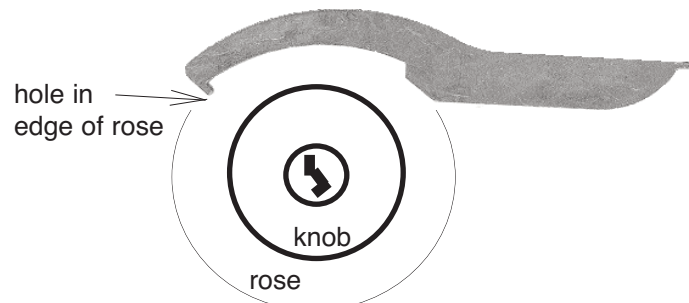
- "MARKS" appears on the latch face.
- Grade 1 and 2 cylindrical locks can be prepped for small format interchangeable core.
- Current Marks deadbolts accept only 6-pin small format interchangeable core.

Marks	195/295 grade 1 levers	180 grade 1 knobs	170/270 grade 2 levers	110/120 grade 2 knobs	130 Deadlocks
retrofit type	KDH	KDH	KDH	KDH	
Peaks Preferred	8400-xx-1099*	8400-xx-1099*	8400-xx-1099*	8400-xx-1099*	8400-xx-1099*
Peaks Classic	3400-xx1099*	3400-xx1099*	3400-xx1099*	3400-xx1099*	3400-xx1099*

*with original Marks tailpieces

TOOLS:

- Marks spanner wrench (engages entire rose) is required to install lockset, but not to change cylinders.

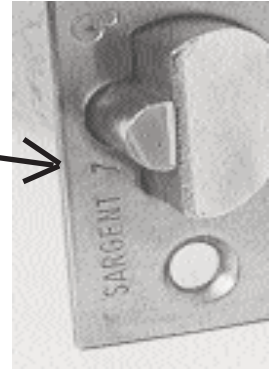


Sargent

Div. of Assa Abloy

"SARGENT" appears on the latch face.

Latch face bears a number indicating product line (6, 7, 8, 9, 10, etc.).
Sargent 10 Line is identical to Arrow lever, except for small plug face diameter.



TOOLS:

7, 8 and 9 Line grade 1 knobs require a $\frac{3}{32}$ " hand held punch and mallet.

10 Line grade 1 levers require Sargent bushing wrench, #10-0022.

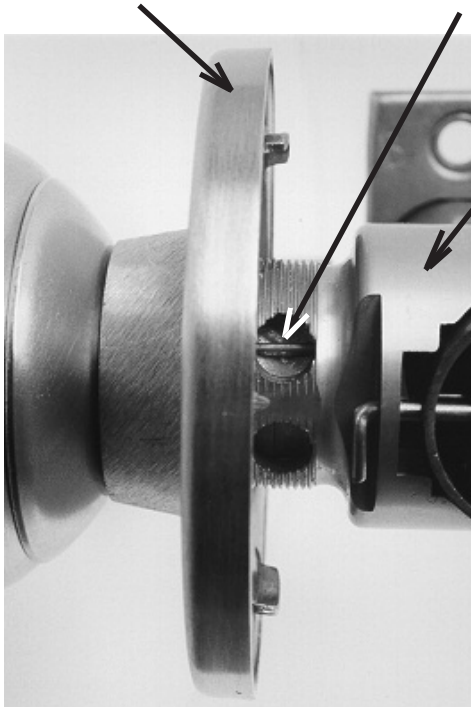
Sargent	6 line grade 2 non-Ball knobs	6 Line grade 2 Ball knobs	7, 8, 9 Line grade 1 knobs	10 Line grade 1 levers	5500 grade 2 knobs
retrofit type	KDH	KDH	<i>Non-KDH</i>	KDH	KDH
Peaks Preferred	8400-xx-1095	8400-xx-1095	8400-xx-1008	8400-xx-1095	8400-xx-1095
Peaks Classic	3400-xx-1095	3400-xx-1095	3400-xx-1008	3400-xx-1095	3400-xx-1095

Sargent	6500 Line grade 2 levers	2000 exit devices	7600 Line preassembled	tubular deadlocks
retrofit type	KDH	KDH	<i>Non-KDH</i>	
Peaks Preferred	8400-xx-1095	8400-xx-1095	8400-xx-1076	8400-xx-1099
Peaks Classic	3400-xx-1095	3400-xx-1095	3400-xx-1076	3400-xx-1099

Retrofitting Sargent 7, 8 and 9 Line grade 1 knobs

1. With spanner wrench, loosen inside rose and unscrew outside rose completely.

rose unscrewed



knob retainer spring visible through hole in aligner tube

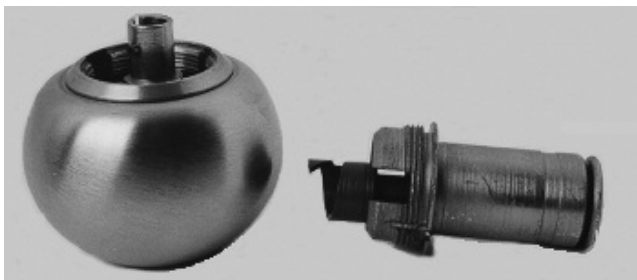
aligner tube

2. Lock must be unlocked (outside knob free).
If storeroom function, remove inside knob first per step 3. For other single cylinder functions, it is not necessary to remove inside knob.
3. Rotate knob and until knob retainer spring is visible in any hole threaded shank of aligner tube.
4. Depress knob retainer spring with small screwdriver. Pull out on knob and rotate back to rest position. Pull knob out of aligner tube.



5. Pry up nylon ring and remove knob collar.

6. Drive roll pin completely into knob with $\frac{3}{32}$ " punch and mallet.



7. Unscrew spindle from knob. Slowly separate knob and spindle. Observe order of parts and save them, including the roll pin.



8. Replace cylinder with Peaks Preferred 8400-xx-1008 or Peaks Classic 3400-xx-1008. Reverse steps to reassemble. Do not reassemble with key in cylinder.

Schlage Lock Co.

Division of Ingersoll Rand

- “SCHLAGE” appears the latch face.

TOOLS:

- Spanner wrench is required for grade 1.
- Castlenut bushing wrench (included with new locks) is required to install AL grade 2 leversets, but not to change the cylinders.
- 1/16" pin punch for depressing retainer.

NOTES:

- Original S series tailpiece must be used in 8400-xx1099 or 3400-xx-1099 cylinder.

Schlage	D series grade 1 knobs & levers	H series grade 2 interconnected	A, AL series grade 2 knobs & levers	S series grade 2 levers	E/B series tubular deadlocks/latches
retrofit type	KDH	KDH	KDH	KDH	
Peaks Preferred	8400-xx-1099	8400-xx-1099	8400-xx-1099	8400-xx-1099	8400-xx-1099
Peaks Classic	3400-xx-1099	3400-xx-1099	3400-xx-1099	3400-xx-1099	3400-xx-1099

Yale Security

Assa Abloy

- “YALE” appears the latch face.
- All grade 1 & 2 product is key demountable.*

TOOLS:

- 3400 grade 1 knobs require a spanner wrench.
- 3400L grade 1 levers require an 1/8" Allen wrench and an original Yale 5400L spanner wrench.

Yale 5400L	5400 grade 1 levers	6200 Monolock grade 1 knobs	5300L grade 1 unit lock preassembled	5300 grade 2 levers	grade 2 knobs
retrofit type	KDH*	KDH	KDH	KDH	KDH
Peaks Preferred	8400-xx-1055	8400-xx-1054	8400-xx-1054	8400-xx-1095	8400-xx-1054
Peaks Classic	3400-xx-1055	3400-xx-1054	3400-xx-1054	3400-xx-1095	3400-xx-1054

*The original 5400 Augusta Lever was non-key demountable.
This lock was produced for only a few months and was redesigned to be key demountable.

Notes

[illegible]



Kaba Access Control
2941 Indiana Avenue
Winston-Salem, NC 27105 USA
Tel: (800) 849-8324 (336) 725-1331
Fax: (800) 346-9640 (336) 725-3269

www.kabaaccess.com

KAA1149 1209

**Please take a few moments to read the following instructions
concerning the use of this reference guide.**

Pages 1-36 provide a detailed look at the 1246 internal data cards that are pre-loaded on the Ultracode®. The individual data card number can be found under the “**CARD NO.**” heading (C). Each data card also has a description of its application found under the “**LOCK MANUFACTURER**” heading (A). Once the operator has determined which data card is to be used, they can refer to the “**POSSIBLE KEY NO.**” heading (B). Here they will find which Ilco/Silca key blank number to use for the application. The information found in column (D) refers to which **CLAMP/ADAPTER** is to be used to grip the key blank. Column (E) refers the **CUTTER (S)** to be used for the application.

CODE CARDS INDEX

(A) LOCK MANUFACTURER	(B) POSSIBLE KEY NO.	(C) CARD NO.	(D) CLAMP ADAPTER	(E) CUTTER
A				
Abloy	AL1	429	B4 - Abloy (AY1)	06/06W
Abloy	AL1	1518	B4 - Abloy (AY1)	06/06W
Absa	Original	743	V100 Standard	U01/U01W
Abus	AB62E	326	V100 Standard	U01/U01W
	AB4		V100 Standard	

Pages 37-53 provide a list of the automotive Code Series that have been pre-loaded onto the internal database of the Ultracode®. These code series may be found by searching for the manufacturer of the vehicle (A) or by searching for the actual code series (B) itself. Once a specific code series has been found, the indirect code number (ex. X2370) should be entered on the Ultracode® keyboard. The Ultracode® will provide the operator with all relevant key loading and gripping information.

CODE SERIES INDEX

(A) MANUFACTURER	(B) CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
A				
Acura	3001-4481	148	V100 - Standard	U01/U01W
Acura	5001-8442	262	V100 - Standard	U01/U01W
Acura	N5001-7000	264	V100 - Standard	U01/U01W
Alfa Romeo	1501-11000	4	V100 - Standard	U01/U01W
			V100 - Standard	U01/U01W

Should you have any questions concerning the Ultracode® Card Reference Guide or the Ultracode® Key Machine, contact the Ilco Technical Assistance Department for further information (see page 54 for contact information).

TABLE OF CONTENTS

Code Cards Index	1
Code Series Index	37

CODE CARDS INDEX

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
A				
Abloy	AL1	429	B4 - Abloy (AY1)	06/06W
Abloy	AL1	1518	B4 - Abloy (AY1)	06/06W
Absa	Original	743	V100 Standard	U01/U01W
Abus	AB62E	326	V100 Standard	U01/U01W
Abus	AB1	328	V100 Standard	U01/U01W
Abus	AB9	333	V100 Standard	U01/U01W
Abus	AB18	391	V100 Standard	U01/U01W
Abus	Original	465	V100 Standard	U01/U01W
Abus	Original	534	V100 Standard	U01/U01W
Abus	AB1+	559	V100 Standard	U01/U01W
Abus	Original	634	V103-SP/TSP	U01/U01W
Abus	AB23	714	V100 Standard	U01/U01W
Abus	AB38P	716	B13-Abus Plus	06/06W
Abus	AB56	729	V100 Standard	U01/U01W
Abus	Original	731	V100 Standard	U01/U01W
Abus	Original	735	V100 Standard	U01/U01W
Abus	Original	760	V100 Standard	U01/U01W
Abus	AB16	762	V100 Standard	U01/U01W
Abus	Original	839	V103-SP/TSP	U01/U01W
Abus	Original	1421	V100 Standard	U01/U01W
Abus	Original	1422	V100 Standard	U01/U01W
Abus	Original	1453	V100 Standard	U01/U01W
Abus	AB38P	1519	V100 Standard	U01/U01W
Abus	Original	1599	V100 Standard	U01/U01W
Abus	Original	2577	V100 Standard	U01/U01W
Abus	Original	2657	V100 Standard	U01/U01W
Abus	Original	2689	V100 Standard	U01/U01W
Abus	AB16	2702	V100 Standard	U01/U01W
Abus	AB22	2703	V100 Standard	U01/U01W
Abus	Original	2704	V100 Standard	U01/U01W
Abus	Original	2705	V100 Standard	U01/U01W
Abus	Original	2706	V100 Standard	U01/U01W
Abus	AB15	2707	V100 Standard	U01/U01W
Abus	AB14	2709	V100 Standard	U01/U01W
Abus	AB12	2710	V100 Standard	U01/U01W
Abus	AB53	3079	V100 Standard	U01/U01W
Abus (Bicycles)	Original	1458	V100 Standard	U01/U01W
Abus (Bicycles)	Original	2502	V100 Standard	U01/U01W
Abus (Bicycles)	Original	2611	V100 Standard	U01/U01W
Abus 45/30	AB23	756	V100 Standard	U01/U01W
Abus 45/40	AB12	757	V100 Standard	U01/U01W
Abus 55/40	AB16	761	V100 Standard	U01/U01W
Abus 55/45	AB15	763	V100 Standard	U01/U01W
Abus 65/40	AB13	758	V100 Standard	U01/U01W
Abus 65/50	191AB	759	V100 Standard	U01/U01W
Abus 84/40	AB12	764	V100 Standard	U01/U01W
Abus 84/40	AB12	765	V100 Standard	U01/U01W
Abus 85/40	AB62E	568	V100 Standard	U01/U01W
Abus 85/50	9CS	327	V100 Standard	U01/U01W
Abus 880/170	AB58RAP	730	V100 Standard	U01/U01W
Abus Granit	AB32	430	B12-Abus Granit	06/U06W
Abus Padlock	Original	3077	V100 Standard	U01/U01W
Abus Padlock	Original	3078	V100 Standard	U01/U01W
Abus Plus	Original	584	B13-Abus Plus	06/06W

Abus - American Motors

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Abus/24/41	AB62C+	500	V100 Standard	U01/U01W
Acura	X184	264	V100 Standard	U01/U01W
Acura 1986-89	X183+	148	V100 Standard	U01/U01W
Acura 1990+	X193+	262	V100 Standard	U01/U01W
Acura 1991-96	X208	148	V100 Standard	U01/U01W
Acura 1991-96	X204+	262	V100 Standard	U01/U01W
Acura 1997-06	HD106-PT+	262	V100 Standard	U01/U01W
AGA Furniture	AGA1	436	V100 Standard	U01/U01W
AGB Cylinders	AGB1R	583	V100 Standard	U01/U01W
AGE	AG1R	1119	V100 Standard	U01/U01W
AGE	AG1	1218	V100 Standard	U01/U01W
Aircraft (Various Makes)	T61A	88	V100 Standard	U01/U01W
Aircraft (Various Makes)	C1054B	261	V100 Standard	U01/U01W
ALA	AA3R	573	V100 Standard	U01/U01W
Aldridge E.	ASEC1	1841	V100 Standard	U01/U01W
Alfa	Original	420	V100 Standard	U01/U01W
Alfa	Original	674	V100 Standard	U01/U01W
Alfa Romeo	FT38+	4	V100 Standard	U01/U01W
Alfa Romeo	FA2FP	11	V100 Standard	U01/U01W
Alfa Romeo	FAB1	12	V100 Standard	U01/U01W
Alfa Romeo	FAB3R	12	V100 Standard	U01/U01W
Alfa Romeo	RE61XR	26	V100 Standard	U01/U01W
Alfa Romeo	X109	38	V100 Standard	U01/U01W
Alfa Romeo	GT5FP	62	V100 Standard	U01/U01W
Alfa Romeo	FT46	63	V100 Standard	U01/U01W
Alfa Romeo	NE10	101	V100 Standard	U01/U01W
Alfa Romeo	63SP	111	V100 Standard	U01/U01W
Alfa Romeo	H61VR	117	V100 Standard	U01/U01W
Alfa Romeo	V61S	124	V100 Standard	U01/U01W
Alfa Romeo	DAT12P	145	V100 Standard	U01/U01W
Alfa Romeo	YU2	210	V100 Standard	U01/U01W
Alfa Romeo	GT15R	258	V100 Standard	U01/U01W
Alfa Romeo	GT5FP	388	V100 Standard	U01/U01W
Alfa Romeo	GT2AP	499	V100 Standard	U01/U01W
Alfa Romeo 1987+	FT48	185	V100 Standard	U01/U01W
Alfa Romeo/Autobianchi	LR61D+	1	V100 Standard	U01/U01W
Alfa Romeo/Ferrari/Fiat/Lamborghini/Maserati 1966+	F91C+	3	V100 Standard	U01/U01W
Alfa Romeo/Fiat	61G+	2	V100 Standard	U01/U01W
Alfa Romeo/Fiat 1970+	R63SP	40	V100 Standard	U01/U01W
Alfa Romeo/Fiat 1970+	FT43	41	V100 Standard	U01/U01W
Alfa Romeo/Fiat 1975-80	X64+	8	V100 Standard	U01/U01W
Alfa Romeo/Mercedes Benz	KL1	374	V100 Standard	U01/U01W
Alianca	AI1	655	V100 Standard	U01/U01W
Almet	AE1+	1165	V100 Standard	U01/U01W
Alpha	ALP9R	3261	V100 Standard	U01/U01W
Alpha (Switchboards)	ALP4	195	V100 Standard	U01/U01W
Amaro Limitada	SS14	1553	V100 Standard	U01/U01W
Amaro Limitada	SS14R	1554	V100 Standard	U01/U01W
American Lock	1045	7	V100 Standard	U01/U01W
American Lock	1041B	1133	V100 Standard	U01/U01W
American Lock Small Pin	1046+	494	V100 Standard	U01/U01W
American Motors	P1098J	14	V100 Standard	U01/U01W
American Motors	RN24	27	V100 Standard	U01/U01W
American Motors	NE46	74	V100 Standard	U01/U01W
American Motors	RN30	122	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
American Motors	H1098X	142	V100 Standard	U01/U01W
American Motors	CY16P	287	V100 Standard	U01/U01W
American Motors	CY20	537	V100 Standard	U01/U01W
American Motors/Jeep 1977-84	X92	32	V100 Standard	U01/U01W
American Motors/Jeep 1980-84	RN24	28	V100 Standard	U01/U01W
American Motors/Jeep 1980-84	RN24	119	V100 Standard	U01/U01W
American Motors/Jeep/Renault	NE73	623	V100 Standard	U01/U01W
American Motors/Jeep/Renault 1970-88	1970AM	144	V100 Standard	U01/U01W
Anchor	Original	462	B11- Anchor-Las	60/60W
Anker	AKR7	277	V100 Standard	U01/U01W
Anker	AKR7	278	V100 Standard	U01/U01W
Anker	AKR1	279	V100 Standard	U01/U01W
Anker	AK2	280	V100 Standard	U01/U01W
Anker	AKR5	281	V100 Standard	U01/U01W
Anker	AKR3R	608	V100 Standard	U01/U01W
Anker	AKR3R	637	V100 Standard	U01/U01W
Anker	AKR3R	638	V100 Standard	U01/U01W
Anker	AKR3R	639	V100 Standard	U01/U01W
Anker	AKR3R	640	V100 Standard	U01/U01W
Anker	AKR3R	641	V100 Standard	U01/U01W
Anker	AKR3R	642	V100 Standard	U01/U01W
Anker	AK2	766	V100 Standard	U01/U01W
Anker on Cash registers	AKR2	277	V100 Standard	U01/U01W
Anker on Cash registers	AKR2	278	V100 Standard	U01/U01W
Anker on Cash registers	AKR2	279	V100 Standard	U01/U01W
Anker on Cash registers	AKR2	280	V100 Standard	U01/U01W
Anker on Cash registers	AKR2	533	V100 Standard	U01/U01W
Anker on Cash registers	AKR2	766	V100 Standard	U01/U01W
APRILIA (Cycles)	NE44	22	V100 Standard	U01/U01W
APRILIA (Cycles)	ZD16RP	136	V100 Standard	U01/U01W
APRILIA (Cycles)	NE44	171	V100 Standard	U01/U01W
APRILIA (Cycles)	ZD14RP	210	V100 Standard	U01/U01W
Arco	1131/1131R	1040	V100 Standard	U01/U01W
Arco	1130/1130R	1163	V100 Standard	U01/U01W
Armstrong	ART1R	3119	V100 Standard	U01/U01W
Arnov Cylinders	CA8	616	V100 Standard	U01/U01W
Arrow	1179	678	V100 Standard	U01/U01W
Arrow	1179A	1355	V100 Standard	U01/U01W
Arrow/MK	1179	1235	V100 Standard	U01/U01W
ASSA	ASS6	350	V100 Standard	U01/U01W
ASSA	A61Q	352	V100 Standard	U01/U01W
ASSA	ASS60R	413	V100 Standard	U01/U01W
ASSA	ASS47	476	V100 Standard	U01/U01W
ASSA	ASS6R	588	V100 Standard	U01/U01W
ASSA	AX1RP	1366	V100 Standard	U01/U01W
ASSA	Original	1637	V100 Standard	U01/U01W
ASSA	Original	2334	V100 Standard	U01/U01W
ASSA	Original	2573	V100 Standard	U01/U01W
ASSA	Original	2880	V106-Assa	U01W
ASSA (Bicycles)	AS89	162	V100 Standard	U01/U01W
ASSA (Bicycles)	AS6	163	V100 Standard	U01/U01W
ASSA 35.7mm	AS84	354	V100 Standard	U01/U01W
ASSA/28.7mm	61W	346	V100 Standard	U01/U01W
ASSA/28.7mm	R61W	347	V100 Standard	U01/U01W
ASSA/29.7mm	AS15	351	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
ASSA/29.7mm	ASS44	353	V100 Standard	U01/U01W
ASSA/31mm	AS790	356	V100 Standard	U01/U01W
ASSA/34.5mm	A61T	348	V100 Standard	U01/U01W
ASSA/35.7mm	AS74	349	V100 Standard	U01/U01W
ASSA/37mm	AS80+	355	V100 Standard	U01/U01W
ASSA/500RS	61W	353	V100 Standard	U01/U01W
ASSA/600	AS19+	345	V100 Standard	U01/U01W
Aston Martin	DM5	7	V100 Standard	U01/U01W
Aston Martin	FO10P	13	V100 Standard	U01/U01W
Aston Martin	62FS	73	V100 Standard	U01/U01W
Aston Martin	S30FD-P	220	B2-FORD TIBBE	06/06W
Aston Martin/Bedford/Ford/Jaguar 1970-81	62FT	72	V100 Standard	U01/U01W
Aston Martin/Fiat/Jaguar/Nissan	F81E+	5	V100 Standard	U01/U01W
Aston Martin/Ford/Jaguar/Rover 1985+	X86	57	V100 Standard	U01/U01W
Astra Cylinders	AT1	455	V100 Standard	U01/U01W
Astra Cylinders	Original	456	V100 Standard	U01/U01W
Astra Cylinders	Original	747	V100 Standard	U01/U01W
Astra Cylinders	MCM3	748	V100 Standard	U01/U01W
Astra Cylinders	MCM2	749	V100 Standard	U01/U01W
Astra Cylinders	MCM3	750	V100 Standard	U01/U01W
Astra Cylinders	AT1	751	V100 Standard	U01/U01W
Audi	WT5	48	V100 Standard	U01/U01W
Audi	X9	50	V100 Standard	U01/U01W
Audi	DK91B	109	V100 Standard	U01/U01W
Audi	V79D	117	V100 Standard	U01/U01W
Audi	AU15	183	V100 Standard	U01/U01W
Audi	AD1	255	V100 Standard	U01/U01W
Audi	PA6	286	V100 Standard	U01/U01W
Audi	AA2	473	V100 Standard	U01/U01W
Audi	AU4	490	V100 Standard	U01/U01W
Audi 1970-79	PA5	76	V100 Standard	U01/U01W
Audi/Bedford/Honda/Jaguar 1970-76	X51	118	V100 Standard	U01/U01W
Audi/Porsche 1971+	X9+	49	V100 Standard	U01/U01W
Audi/Volkswagen	PA8	159	V100 Standard	U01/U01W
Azbe	AZ2+	594	V100 Standard	U01/U01W
Azbe	TO27	2934	V100 Standard	U01/U01W
B				
BAB Cylinders	BAB13	569	V100 Standard	U01/U01W
BAB Cylinders	BAB13	602	V100 Standard	U01/U01W
BAB Cylinders	BAB13R	618	V100 Standard	U01/U01W
BAB Cylinders	Original	732	V100 Standard	U01/U01W
BAB Cylinders	Original	1423	V100 Standard	U01/U01W
BAB Cylinders	Original	2367	V100 Standard	U01/U01W
Barrows	1021BA+	1134	V100 Standard	U01/U01W
Basta (Bicycles Various Makes)	NE58	172	V100 Standard	U01/U01W
Basta (Bicycles Various Makes)	BAS2R	586	V100 Standard	U01/U01W
Basta (Bicycles Various Makes)	BAS4R/BAS5R	796	V100 Standard	U01/U01W
Basta (Bicycles Various Makes)	Original	1539	V100 Standard	U01/U01W
Basta (Bicycles Various Makes)	Original	1540	V100 Standard	U01/U01W
Basta (Bicycles Various Makes)	BAS4R	2563	V100 Standard	U01/U01W
Bentley	62HA (BDFE)	303	V100 Standard	U01/U01W
Bentley	62JB	304	V100 Standard	U01/U01W
Best	A1114A	496	V100 Standard	U01/U01W
Best	A1114A	3232	V100 Standard	U01/U01W
Best A2 (Falcon/Arrow)	A1114A	563	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Best A3	A1115A+	1127	V100 Standard	U01/U01W
Best A4	A1115A+	1232	V100 Standard	U01/U01W
Beta	BT4	311	V100 Standard	U01/U01W
Beta	Original	2941	V100 Standard	U01/U01W
Bilock	Original	621	B10-Bilock	U01/U01W
Bimota	ZD11P	53	V100 Standard	U01/U01W
Bimota	SZ4	86	V100 Standard	U01/U01W
Bimota	ZD11P	187	V100 Standard	U01/U01W
BKS	Original	536	V100 Standard	U01/U01W
BKS	KS91C	614	V100 Standard	U01/U01W
BKS On Furniture	Y5,Y6	242	V100 Standard	U01/U01W
BMB	1649	2376	V100 Standard	U01/U01W
BMW	DK91B	109	V100 Standard	U01/U01W
BMW	SR61N	171	V100 Standard	U01/U01W
BMW	NE8	177	V100 Standard	U01/U01W
BMW	63I	239	V100 Standard	U01/U01W
BMW	PE1	506	V100 Standard	U01/U01W
BMW	KL4	531	V100 Standard	U01/U01W
BMW (Cycles)	Y16	22	V100 Standard	U01/U01W
BMW 1960+	H61VM	987	V100 Standard	U01/U01W
BMW 1968-76	BMW1	102	V100 Standard	U01/U01W
BMW 1968-76	WT3	375	V100 Standard	U01/U01W
BMW 1976-84	X59	10	V100 Standard	U01/U01W
BMW 1984-92	BMW2-P	184	V100 Standard	U01/U01W
Boda	ST91A	357	V100 Standard	U01/U01W
Boda	BD6	358	V100 Standard	U01/U01W
Boda	L62US	557	V100 Standard	U01/U01W
Bommer Mailbox	1069L	1107	V100 Standard	U01/U01W
Bommer Mailbox	1003M+	1175	V100 Standard	U01/U01W
Bommer/Corbin Cabinet Lock/Hudson	1003M	1039	V100 Standard	U01/U01W
Brasil	BRA7R	652	V100 Standard	U01/U01W
Brasil	BRA6R	653	V100 Standard	U01/U01W
Brasil	BRA5	656	V100 Standard	U01/U01W
Bricard	BD3	291	V100 Standard	U01/U01W
Bricard	BD9R	534	V100 Standard	U01/U01W
British Leyland	NE49	103	V100 Standard	U01/U01W
British Leyland	BR20	141	V100 Standard	U01/U01W
British Leyland	62DH	249	V100 Standard	U01/U01W
British Leyland	STR6	722	V100 Standard	U01/U01W
British Leyland	BR6/S64S	1009	V100 Standard	U01/U01W
British Leyland LNG 1974	WB1	213	V100 Standard	U01/U01W
British Leyland SRT 1974	WB1	213	V100 Standard	U01/U01W
Brockway	1125	138	V100 Standard	U01/U01W
Brockway	1098X	142	V100 Standard	U01/U01W
Brockway	62JB	1335	V100 Standard	U01/U01W
BTV on furniture	DM63	228	V100 Standard	U01/U01W
Buick (GM)	S1098H	14	V100 Standard	U01/U01W
Buick (GM)	P1099	470	V100 Standard	U01/U01W
Buick (GM)	P1102+	567	V100 Standard	U01/U01W
Buick (GM)	B97-PT	2020	V100 Standard	U01/U01W
Burg	BUR11	292	V100 Standard	U01/U01W
Burg	BUR7	293	V100 Standard	U01/U01W
Burg	BUR7	294	V100 Standard	U01/U01W
Burg	BUR7	803	V100 Standard	U01/U01W
Burg	BUR21	804	V100 Standard	U01/U01W

Burg - CES

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Burg	BUR13	805	V100 Standard	U01/U01W
Burg	Original	1641	V100 Standard	U01/U01W
Burg	Original	1642	V100 Standard	U01/U01W
Burg	BUR24R	1643	V100 Standard	U01/U01W
Burg	Original	1644	V100 Standard	U01/U01W
Burg	Original	2385	V100 Standard	U01/U01W
Burg	Original	2386	V100 Standard	U01/U01W
Burg	JU11	2455	V100 Standard	U01/U01W
Burg	Original	2459	V100 Standard	U01/U01W
Burg	Original	2460	V100 Standard	U01/U01W
Burg	BUR20	3070	V100 Standard	U01/U01W
Burglar Alarms (Various Makes)	NE76AP	122	V100 Standard	U01/U01W
Burglar Alarms (Various Makes)	LF23	299	V100 Standard	U01/U01W
Butters	1022X	1151	V100 Standard	U01/U01W
C				
CABT	Original	571	V100 Standard	U01/U01W
Cadillac (GM)	X162	14	V100 Standard	U01/U01W
Cadillac (GM)	HU46T	110	V100 Standard	U01/U01W
Cadillac (GM)	BA2	137	V100 Standard	U01/U01W
Cadillac (GM)	B59	222	V100 Standard	U01/U01W
Cadillac (GM)	H1098LA	507	V100 Standard	U01/U01W
Cadillac (GM)	BPP-PT+	567	V100 Standard	U01/U01W
Cadillac (GM)	B111-PT+	2020	V100 Standard	U01/U01W
Cagiva (Cycles)	KW14P	152	V100 Standard	U01/U01W
Cagiva (Cycles)	KW14P	542	V100 Standard	U01/U01W
Cagiva (Cycles)	ME2	560	V100 Standard	U01/U01W
Cam Lock	Original	734	V100 Standard	U01/U01W
Campers	101AM+	1030	V100 Standard	U01/U01W
Canada Post Mail Box	1558	1102	V100 Standard	U01/U01W
Canada Post Mail Box	P54F	1118	V100 Standard	U01/U01W
Caravans	Z3H	22	V100 Standard	U01/U01W
CAS/Cisma	CIS5	442	V100 Standard	U01/U01W
CAS/Cisma	LH2	1434	V100 Standard	U01/U01W
CAS/Cisma	CIS9	1470	V100 Standard	U01/U01W
Cash Box	CAX2R	1558	V100 Standard	U01/U01W
Cavers	CA91L	295	V100 Standard	U01/U01W
Cays Cylinders	CYS1	626	V100 Standard	U01/U01W
CEM on furniture	LF5	114	V100 Standard	U01/U01W
CEM on furniture	CE2	257	V100 Standard	U01/U01W
CEM on furniture	CE8	472	V100 Standard	U01/U01W
Cema (Switchboards Various Brands)	CM3	552	V100 Standard	U01/U01W
Cemex	1548	1216	V100 Standard	U01/U01W
Cemex	1550	1217	V100 Standard	U01/U01W
CES	CE9	2320	V100 Standard	U01/U01W
CES	Original	2907	V100 Standard	U01/U01W
CES	CS10	223	V100 Standard	U01/U01W
CES	L62US	357	V100 Standard	U01/U01W
CES	CS2	414	V100 Standard	U01/U01W
CES	CE1	557	V100 Standard	U01/U01W
CES	CS48	643	V100 Standard	U01/U01W
CES	CE12	673	V100 Standard	U01/U01W
CES	Original	737	V100 Standard	U01/U01W
CES	1145A	1197	V100 Standard	U01/U01W
CES	CE41	1424	V100 Standard	U01/U01W
CES	CS12	1594	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Cessna	C1054B	261	V100 Standard	U01/U01W
Chesler	1178	1136	V100 Standard	U01/U01W
Chevrolet (GM)	S1098H+	14	V100 Standard	U01/U01W
Chevrolet (GM)	YM28	16	V100 Standard	U01/U01W
Chevrolet (GM)	P1106	89	V100 Standard	U01/U01W
Chevrolet (GM)	DWO4RAP	110	V100 Standard	U01/U01W
Chevrolet (GM)	SUZ15	264	V100 Standard	U01/U01W
Chevrolet (GM)	B69	288	V100 Standard	U01/U01W
Chevrolet (GM)	B84-P	470	V100 Standard	U01/U01W
Chevrolet (GM)	X217	514	V100 Standard	U01/U01W
Chevrolet (GM)	P1107	567	V100 Standard	U01/U01W
Chevrolet (GM)	B92-P	1037	V100 Standard	U01/U01W
Chevrolet (GM)	1003M	1420	V100 Standard	U01/U01W
Chevrolet (GM)	P1114	1420	V100 Standard	U01/U01W
Chevrolet (GM)	HF59R	1426	V100 Standard	U01/U01W
Chevrolet (GM)	B111-PT+	2020	V100 Standard	U01/U01W
Chevrolet (GM)	ORIGINAL	2134	V100 Standard	U01/U01W
Chevrolet (GM)	Original	2991	V100 Standard	U01/U01W
Chevrolet (Isuzu))	B53	156	V100 Standard	U01/U01W
Chevrolet (Suzuki)	SZ8RP	157	V100 Standard	U01/U01W
Chicago	1041y+	1041	V100 Standard	U01/U01W
Chicago/Fort Single Sided	1041T+	561	V100 Standard	U01/U01W
Chicago/Steelcase Small Pin	S1041JA	1042	V100 Standard	U01/U01W
Chrysler	P1771CR	70	V100 Standard	U01/U01W
Chrysler	DC1	80	V100 Standard	U01/U01W
Chrysler	P1786P+	139	V100 Standard	U01/U01W
Chrysler	1970AM	144	V100 Standard	U01/U01W
Chrysler	D1759L	189	V100 Standard	U01/U01W
Chrysler	1199B+	190	V100 Standard	U01/U01W
Chrysler	P1795	745	V100 Standard	U01/U01W
Chrysler 1968	U1770CH, S1770U	191	V100 Standard	U01/U01W
Chrysler 1988+	X171	122	V100 Standard	U01/U01W
Chrysler 1988+	X176+	264	V100 Standard	U01/U01W
Chrysler 1988+	X175	290	V100 Standard	U01/U01W
Chrysler Double Sided 1989-92	P1789	287	V100 Standard	U01/U01W
Chrysler Double Sided 1993	1793V	537	V100 Standard	U01/U01W
Chrysler Double Sided 1993	P1793	537	V100 Standard	U01/U01W
Chrysler Double Sided 1993	P1793	537	V100 Standard	U01/U01W
Chrysler Double Sided 1994	1794V	537	V100 Standard	U01/U01W
Chrysler Double Sided 1994-97	P1794	537	V100 Standard	U01/U01W
Chrysler Outboards	CU7	971	V100 Standard	U01/U01W
Chrysler/GM/Hyundai/Isuzu/Mitsubishi 1984-88	X121	89	V100 Standard	U01/U01W
Chrysler/Mitsubishi	Y162-PT	1029	V100 Standard	U01/U01W
Chrysler/Mitsubishi 1993+	X224	288	V100 Standard	U01/U01W
Chrysler/Mitsubishi 1993+	X229	288	V100 Standard	U01/U01W
Chrysler/Renault 1981+	X122	74	V100 Standard	U01/U01W
Chubb	S33FD-P	188	B3-FORD Chubb	05/05w
Chubb	1516	516	V100 Standard	U01/U01W
Chubb	ACH	571	B7-ACH	05/05W
Chubb	1516	667	V100 Standard	U01/U01W
Chubb (Password Protected)	ACH	1811	B7-ACH	05/05W
CISA	AB62E	326	V100 Standard	U01/U01W
CISA	CS6	326	V100 Standard	U01/U01W
CISA	CS17	327	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
CISA	CS91	328	V100 Standard	U01/U01W
CISA	R9CS	391	V100 Standard	U01/U01W
CISA	Original	559	V100 Standard	U01/U01W
CISA	Original	634	V100 Standard	U01/U01W
CISA	Original	2182	V100 Standard	U01/U01W
CISA	Original	2183	V100 Standard	U01/U01W
CISA	CS119	2461	V100 Standard	U01/U01W
CISA/MLA	CS17	534	V100 Standard	U01/U01W
Citroen	KM6	18	V100 Standard	U01/U01W
Citroen	NE18	24	V100 Standard	U01/U01W
Citroen	NE18	25	V100 Standard	U01/U01W
Citroen	NE39	31	V100 Standard	U01/U01W
Citroen	L62UC	36	V100 Standard	U01/U01W
Citroen	VC25+	42	V100 Standard	U01/U01W
Citroen	63PX	43	V100 Standard	U01/U01W
Citroen	VC24+	44	V100 Standard	U01/U01W
Citroen	VC25+	45	V100 Standard	U01/U01W
Citroen	62Z	123	V100 Standard	U01/U01W
Citroen	62UC	124	V100 Standard	U01/U01W
Citroen	L62UC	394	V100 Standard	U01/U01W
Citroen	SX9AP	431	V100 Standard	U01/U01W
Citroen	SX9AP	632	V100 Standard	U01/U01W
Citroen	KI9	1461	V100 Standard	U01/U01W
Citroen	KI9	1462	V100 Standard	U01/U01W
Citroen	C6	1472	V100 Standard	U01/U01W
Citroen 1980+	SI SX6	71	V100 Standard	U01/U01W
Citroen/Panhard/Ronis	7DC	484	V100 Standard	U01/U01W
City	CA91L	295	V100 Standard	U01/U01W
City	IE6R	330	V100 Standard	U01/U01W
Clinton	1023+	1137	V100 Standard	U01/U01W
Corbin	CB1	314	V100 Standard	U01/U01W
Corbin	CB1	315	V100 Standard	U01/U01W
Corbin	CB1	316	V100 Standard	U01/U01W
Corbin	CB16	317	V100 Standard	U01/U01W
Corbin	CB16	318	V100 Standard	U01/U01W
Corbin Cabinet Lock (CCL)	1001DA+	1112	V100 Standard	U01/U01W
Corbin Canada	A1011EH	1250	V100 Standard	U01/U01W
Corbin KIK	1001GH	403	V100 Standard	U01/U01W
Corbin Russwin	CB3	312	V100 Standard	U01/U01W
Corbin Russwin	CB3	313	V100 Standard	U01/U01W
Corbin Russwin	CB7	319	V100 Standard	U01/U01W
Corbin Russwin	CB7	320	V100 Standard	U01/U01W
Corbin Russwin	CB8	321	V100 Standard	U01/U01W
Corbin Russwin	CB8	322	V100 Standard	U01/U01W
Corbin Russwin	CB12	323	V100 Standard	U01/U01W
Corbin Russwin	CB6	327	V100 Standard	U01/U01W
Corbin Russwin	1001AH	396	V100 Standard	U01/U01W
Corbin Russwin	CB34R	458	V100 Standard	U01/U01W
Corbin Russwin	1000V+	521	V100 Standard	U01/U01W
Corbin Russwin	CB79	717	V100 Standard	U01/U01W
Corbin Russwin	CB70	718	V100 Standard	U01/U01W
Corbin Russwin	CB81	719	V100 Standard	U01/U01W
Corbin Russwin	CB80	720	V100 Standard	U01/U01W
Corbin Russwin	1000K	1147	V100 Standard	U01/U01W
Corbin Russwin	1000KX	1169	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Corbin Russwin	A1001AH	1253	V100 Standard	U01/U01W
Corbin Russwin	1225	1277	V100 Standard	U01/U01W
Corbin Russwin	A1001EH	1290	V100 Standard	U01/U01W
Corbin Russwin	B1001EJ	1391	V100 Standard	U01/U01W
Corbin Russwin	CB1	2612	V100 Standard	U01/U01W
Corbin Russwin	1000V+	1367	V100 Standard	U01/U01W
Corbin Russwin Disc.	1000V+	1114	V100 Standard	U01/U01W
Corbin Small Pin B4R	1000G+	398	V100 Standard	U01/U01W
Corbin X/pre 1970	1001EN+	1080	V100 Standard	U01/U01W
Corbin Z/pre 1970	1001EH+	396	V100 Standard	U01/U01W
Corbin/4R	1000G+	397	V100 Standard	U01/U01W
Corbin/X/MK	1001EB	1237	V100 Standard	U01/U01W
Corbin/Z/MK	1001EH	406	V100 Standard	U01/U01W
Corni	CC1	324	V100 Standard	U01/U01W
Corni	CC2	325	V100 Standard	U01/U01W
Corni	CC2R	1432	V100 Standard	U01/U01W
Corni	CC2R	1433	V100 Standard	U01/U01W
Couch	1225BL	1289	V100 Standard	U01/U01W
Cutler/MB	1181C	1094	V100 Standard	U01/U01W
D				
Daewoo Lanos	DW05RT5	110	V100 Standard	U01/U01W
Daewoo Leganza	DW05T5	110	V100 Standard	U01/U01W
Daewoo Nubira	DW04RAP	110	V100 Standard	U01/U01W
DAF	BL11	23	V100 Standard	U01/U01W
DAF	BL11	26	V100 Standard	U01/U01W
DAF	NE48	49	V100 Standard	U01/U01W
DAF	73VB	50	V100 Standard	U01/U01W
DAF	DF1	59	V100 Standard	U01/U01W
DAF	HF46	65	V100 Standard	U01/U01W
DAF	NE48	68	V100 Standard	U01/U01W
DAF	LR62VA	109	V100 Standard	U01/U01W
DAF	WAS11RP	217	V100 Standard	U01/U01W
DAF	73VB	451	V100 Standard	U01/U01W
DAF	NE48	505	V100 Standard	U01/U01W
DAF	Original	3118	V100 Standard	U01/U01W
Daihatsu	Original	2794	V100 Standard	U01/U01W
Daihatsu/Toyota 1988+	X174	264	V100 Standard	U01/U01W
Daimler	BL6	13	V100 Standard	U01/U01W
Daimler	X177	217	V100 Standard	U01/U01W
Daimler	S33FJ-P	386	B5 - Jaguar	06/06W
De Lorean	WB3	115	V100 Standard	U01/U01W
Delaporte Furniture Cylinders	DL1R	224	V100 Standard	U01/U01W
Delaporte Furniture Cylinders	Original	1454	V100 Standard	U01/U01W
Delaporte Furniture Cylinders	Original	1455	V100 Standard	U01/U01W
Delaporte Furniture Cylinders	Original	1456	V100 Standard	U01/U01W
Delaporte Furniture Cylinders	Original	1513	V100 Standard	U01/U01W
DeISEY Furniture Cylinders	L6S+	116	V100 Standard	U01/U01W
Delta Motor	TA16	87	V100 Standard	U01/U01W
Dexter	D1054K	399	V100 Standard	U01/U01W
Dexter	D1054K	400	V100 Standard	U01/U01W
Dexter	D1054K	401	V100 Standard	U01/U01W
Dexter Old	1054KD	1172	V100 Standard	U01/U01W
Dexter/0125	1054KD	1171	V100 Standard	U01/U01W
DKW	DK91U	993	V100 Standard	U01/U01W
Doblina	DN1	376	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Doblina	DB1	424	V100 Standard	U01/U01W
Doblina	TB3	425	V100 Standard	U01/U01W
Dodge/Chrysler	YM15T5-SI	15	V100 Standard	U01/U01W
Dodge/Chrysler	NE46	74	V100 Standard	U01/U01W
Dodge/Chrysler	X121	89	V100 Standard	U01/U01W
Dodge/Chrysler	P1770U	139	V100 Standard	U01/U01W
Dodge/Chrysler	X245	264	V100 Standard	U01/U01W
Dodge/Chrysler	P1789	287	V100 Standard	U01/U01W
Dodge/Chrysler	X224	288	V100 Standard	U01/U01W
Dodge/Chrysler	X175	290	V100 Standard	U01/U01W
Dodge/Chrysler	P1793	537	V100 Standard	U01/U01W
Dodge/Chrysler	T164-PT	745	V100 Standard	U01/U01W
DOM	DO1M-D01E	225	V100 Standard	U01/U01W
DOM	D01S	225	V100 Standard	U01/U01W
DOM	D01M	226	V100 Standard	U01/U01W
DOM	H64E	227	V100 Standard	U01/U01W
DOM	DM10+	228	V100 Standard	U01/U01W
DOM	DM31	228	V100 Standard	U01/U01W
DOM	DM10	229	V100 Standard	U01/U01W
DOM	DM61	230	V100 Standard	U01/U01W
DOM	DM60	231	V100 Standard	U01/U01W
DOM	DO3M	232	V100 Standard	U01/U01W
DOM	D64	359	V100 Standard	U01/U01W
DOM	D03M	377	V100 Standard	U01/U01W
DOM	D04F	378	V100 Standard	U01/U01W
DOM	H64E	378	V100 Standard	U01/U01W
DOM	D03R	469	V100 Standard	U01/U01W
DOM	DM21	475	V100 Standard	U01/U01W
DOM	DM96	592	V100 Standard	U01/U01W
DOM	DM57	2283	V100 Standard	U01/U01W
DOM (Password Protected)	Original	2817	V100 Standard	U01/U01W
Dominion	A54F	684	V100 Standard	U01/U01W
Dominion	752	1090	V100 Standard	U01/U01W
Dominion	P54F	3032	V100 Standard	U01/U01W
Dorma	Original	355	V100 Standard	U01/U01W
Dorma	TO6	419	V100 Standard	U01/U01W
Dorma	D	1060	V100 Standard	U01/U01W
Dorma	E	1061	V100 Standard	U01/U01W
Dubois	P65A	105	V100 Standard	U01/U01W
Dubois	VAC25R	489	V100 Standard	U01/U01W
Ducati (Cycles)	GE10+	161	V100 Standard	U01/U01W
Ducati (Cycles)	STR5R	273	V100 Standard	U01/U01W
Ducati (Cycles)	KW17T5	2497	V100 Standard	U01/U01W
Durasteel/MB	1069LB	1043	V100 Standard	U01/U01W
E				
Eagle Lock	O1014S	1045	V100 Standard	U01/U01W
Eagle/Chrysler	NE46	74	V100 Standard	U01/U01W
Eagle/Chrysler	X171	122	V100 Standard	U01/U01W
Eagle/Chrysler	X176	264	V100 Standard	U01/U01W
Eagle/Chrysler	X224	288	V100 Standard	U01/U01W
Eagle/Chrysler	X175	290	V100 Standard	U01/U01W
Eagle/Chrysler	P1794	537	V100 Standard	U01/U01W
Eagle/Chrysler	P1794	745	V100 Standard	U01/U01W
Earle	1119	1173	V100 Standard	U01/U01W
Efco	EF3R	402	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Elgin	1154C	1213	V100 Standard	U01/U01W
Elzett	ELZ1	713	V100 Standard	U01/U01W
Elzett	ELZ1	823	V100 Standard	U01/U01W
EMKA	EMK1	668	V100 Standard	U01/U01W
ESP	1503	1039	V100 Standard	U01/U01W
ESP	1502	1069	V100 Standard	U01/U01W
ESP	1502	1178	V100 Standard	U01/U01W
Eurolock	LF4R	114	V100 Standard	U01/U01W
Eurolock	Original	167	V100 Standard	U01/U01W
Eurolock	EU1R	200	V100 Standard	U01/U01W
Eurolock	LF19R	247	V100 Standard	U01/U01W
Eurolock	S1771CR	298	V100 Standard	U01/U01W
Eurolock	LF30R	300	V100 Standard	U01/U01W
Eurolock	EU4	449	V100 Standard	U01/U01W
Eurolock	EU5R	723	V100 Standard	U01/U01W
Eurolock	BAS4R	796	V100 Standard	U01/U01W
Eurolock	Original	1435	V100 Standard	U01/U01W
Eurolock	EU4R	1446	V100 Standard	U01/U01W
Eurolock	VR61S	1447	V100 Standard	U01/U01W
Eurolock	Original	1474	V100 Standard	U01/U01W
Eurolock	Original	1475	V100 Standard	U01/U01W
Eurolock	Original	1476	V100 Standard	U01/U01W
Eurolock	Original	1477	V100 Standard	U01/U01W
Eurolock	EU13R	2636	V100 Standard	U01/U01W
Eurolock	Original	2688	V100 Standard	U01/U01W
Eurolock	Original	3249	V100 Standard	U01/U01W
Eurolock	Original	3250	V100 Standard	U01/U01W
Eurolock	Original	3251	V100 Standard	U01/U01W
Eurospec	999U	1585	V100 Standard	U01/U01W
Eurospec	Original	2387	V100 Standard	U01/U01W
Eurospec	Original	2388	V100 Standard	U01/U01W
Eurospec	Original	2496	V100 Standard	U01/U01W
Eurospec	Original	2690	V100 Standard	U01/U01W
Evinrude	40F	972	V100 Standard	U01/U01W
EVVA	EV8+	233	V100 Standard	U01/U01W
EVVA	62EV	360	V100 Standard	U01/U01W
EVVA	62EV	360	V100 Standard	U01/U01W
EVVA	62EV	361	V100 Standard	U01/U01W
EVVA	62EV	441	V100 Standard	U01/U01W
EVVA	Original	666	V100 Standard	U01/U01W
EVVA	EV8	736	V100 Standard	U01/U01W
EVVA	Original	1429	V203-EVVA	U01/U01W
EVVA	EV8	1536	V100 Standard	U01/U01W
EVVA	EV10	1537	V100 Standard	U01/U01W
EVVA	Original	1877	V100 Standard	U01/U01W
EVVA	Original	1879	V100 Standard	U01/U01W
EVVA	Original	2282	V203-EVVA	U01/U01W
EVVA	EV22R	2319	V100 Standard	U01/U01W
EVVA	Original	2333	V100 Standard	U01/U01W
F				
FAB	65CB	605	V100 Standard	U01/U01W
FAB	FB13R	606	V100 Standard	U01/U01W
FAB (Password Protected)	Original	1874	V100 Standard	U01/U01W
FAC	FAC9	625	V100 Standard	U01/U01W
Facchinetti	FF2	503	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Falcon	1054WB	411	V100 Standard	U01/U01W
Falcon	A1114A	496	V100 Standard	U01/U01W
Falcon	A1114A	563	V100 Standard	U01/U01W
Falcon/025	1054WB	1252	V100 Standard	U01/U01W
Fama	FAM6	650	V100 Standard	U01/U01W
Fama	FAM4	651	V100 Standard	U01/U01W
Fama	FAM3	659	V100 Standard	U01/U01W
Fama	FAM5	662	V100 Standard	U01/U01W
Faultless	1063KW	663	V100 Standard	U01/U01W
FEB	PO1	3028	V100 Standard	U01/U01W
FEB	CB7	3029	V100 Standard	U01/U01W
Ferrari	FAR2	3	V100 Standard	U01/U01W
Ferrari	BM3	177	V100 Standard	U01/U01W
Ferrari F40 /Ducati 1990+ (Fuel Caps)	STR5	273	V100 Standard	U01/U01W
Ferrari/Fiat/Iveco/Lamborghini 1967+	FT37	4	V100 Standard	U01/U01W
Ferrari/Fiat/Yugo	X152	63	V100 Standard	U01/U01W
Fiat	61E	1	V100 Standard	U01/U01W
Fiat	LR61D	1	V100 Standard	U01/U01W
Fiat	R63TS	1	V100 Standard	U01/U01W
Fiat	X113	6	V100 Standard	U01/U01W
Fiat	FT6R	9	V100 Standard	U01/U01W
Fiat	BL1	23	V100 Standard	U01/U01W
Fiat	NE18	25	V100 Standard	U01/U01W
Fiat	BL11	26	V100 Standard	U01/U01W
Fiat	NE9	37	V100 Standard	U01/U01W
Fiat	F44	41	V100 Standard	U01/U01W
Fiat	NE54	62	V100 Standard	U01/U01W
Fiat	NE57	108	V100 Standard	U01/U01W
Fiat	63SP	111	V100 Standard	U01/U01W
Fiat	IM1P	166	V100 Standard	U01/U01W
Fiat	WS4	176	V100 Standard	U01/U01W
Fiat	GT10BP	283	V100 Standard	U01/U01W
Fiat	NE57	437	V100 Standard	U01/U01W
Fiat (Iveco)	X109	38	V100 Standard	U01/U01W
Fiat 1960+	61G	2	V100 Standard	U01/U01W
Fiat/Citroen/Peugeot/Lancia 1996+	SX9AP	431	V100 Standard	U01/U01W
Fichet	FCT45	1215	V100 Standard	U01/U01W
Filller Caps (Various brands)	L2EX	113	V100 Standard	U01/U01W
Filller Caps (Various brands)	LF19 / LF5	114	V100 Standard	U01/U01W
Filller Caps (Various brands)	L6S	116	V100 Standard	U01/U01W
Filller Caps (Various brands)	62VG	182	V100 Standard	U01/U01W
Filller Caps (Various brands)	BU7	211	V100 Standard	U01/U01W
Filller Caps (Various brands)	L4A1	545	V100 Standard	U01/U01W
Ford	62FT	72	V100 Standard	U01/U01W
Ford	UNI9	73	V100 Standard	U01/U01W
Ford	HF1R	109	V100 Standard	U01/U01W
Ford	1167FD+	193	V100 Standard	U01/U01W
Ford	FO6	193	V100 Standard	U01/U01W
Ford	LF14	204	V100 Standard	U01/U01W
Ford	LF24	205	V100 Standard	U01/U01W
Ford	S30FD-P	220	B2-FORD TIBBE	06/06W
Ford	LF36	247	V100 Standard	U01/U01W
Ford	X221	288	V100 Standard	U01/U01W
Ford	VW1CZ	384	V100 Standard	U01/U01W
Ford	UN1	471	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Ford	FT3	530	V100 Standard	U01/U01W
Ford	X231	585	V100 Standard	U01/U01W
Ford	61PC	794	V100 Standard	U01/U01W
Ford	FT9R	59	V100 Standard	U01/U01W
Ford	YM13	133	V100 Standard	U01/U01W
Ford 1952-64	1127DU+	192	V100 Standard	U01/U01W
Ford 1981-82	X169	115	V100 Standard	U01/U01W
Ford 1996+	1196FD/X247	612	V100 Standard	U01/U01W
Ford International	CI3	58	V100 Standard	U01/U01W
Ford International	YM14	60	V100 Standard	U01/U01W
Ford International	FT5	179	V100 Standard	U01/U01W
Ford International	SF11	199	V100 Standard	U01/U01W
Ford International	SR3	208	V100 Standard	U01/U01W
Ford International	CE8	472	V100 Standard	U01/U01W
Ford Transit (Van) 1984-85	CEM6	164	V100 Standard	U01/U01W
Ford/Jaguar 1979+	X86	13	V100 Standard	U01/U01W
Ford/Kenworth/Peterbilt/Sterling 1985+	X170	505	V100 Standard	U01/U01W
Ford/Lincoln 5 Pin Double Sided	1167FD+	140	V100 Standard	U01/U01W
Ford/Mazda	MZ11	153	V100 Standard	U01/U01W
Ford/Mazda 1970-82	X26+	21	V100 Standard	U01/U01W
Ford/Mazda 1974-82	X4+	20	V100 Standard	U01/U01W
Ford/Mazda 1983+	X202	157	V100 Standard	U01/U01W
Ford/Mazda/Lincoln 10 cut 1984+	1184FD+	194	V100 Standard	U01/U01W
Ford/Opel 1970-74	X22	61	V100 Standard	U01/U01W
Fort	EU1R	200	V100 Standard	U01/U01W
Fort	FRT4R	247	V100 Standard	U01/U01W
Fort	FRT8	671	V100 Standard	U01/U01W
Fort	1041E+	1268	V100 Standard	U01/U01W
Fort	1054G+	1269	V100 Standard	U01/U01W
Fort	750+	1372	V100 Standard	U01/U01W
Fort	775	1381	V100 Standard	U01/U01W
Fort	Original	2426	V100 Standard	U01/U01W
Freightliner	MB17	15	V100 Standard	U01/U01W
Freightliner	O1122A	138	V100 Standard	U01/U01W
Freightliner	1098M	142	V100 Standard	U01/U01W
Freightliner	1584	144	V100 Standard	U01/U01W
Freightliner	O1122A	466	V100 Standard	U01/U01W
Freightliner	P1794	537	V100 Standard	U01/U01W
Freightliner	1041T	561	V100 Standard	U01/U01W
FTH	FH11	669	V100 Standard	U01/U01W
FTH	FH15	1812	V100 Standard	U01/U01W
G				
Garage Doors (Various Makes)	HF10	180	V100 Standard	U01/U01W
Garage Doors (Various Makes)	H62DP	180	V100 Standard	U01/U01W
Garage Doors (Various Makes)	HF11	180	V100 Standard	U01/U01W
Gege	GH1	107	V100 Standard	U01/U01W
Gege	GE14	161	V100 Standard	U01/U01W
Gege	7GE	235	V100 Standard	U01/U01W
Gege	GE2	235	V100 Standard	U01/U01W
Gege	GE18	236	V100 Standard	U01/U01W
Gege	GE3	360	V100 Standard	U01/U01W
Gege	GE3	361	V100 Standard	U01/U01W
Gege	7GE	362	V100 Standard	U01/U01W
Gege	LR7GE	362	V100 Standard	U01/U01W
Gege	LR7GE	363	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Gege	Original	420	V100 Standard	U01/U01W
Gege	GE33	502	V100 Standard	U01/U01W
Gege	LR7GE	515	V100 Standard	U01/U01W
Gege	GE3	565	V100 Standard	U01/U01W
Gege	Original	670	V100 Standard	U01/U01W
Gege	Original	674	V100 Standard	U01/U01W
Gege	LR7GE	824	V100 Standard	U01/U01W
Gege	GE14	825	V100 Standard	U01/U01W
Gege	Original	826	V100 Standard	U01/U01W
Gege	Original	827	V100 Standard	U01/U01W
Gege	Original	828	V100 Standard	U01/U01W
Gege	Original	829	V100 Standard	U01/U01W
Gege	Original	2419	V100 Standard	U01/U01W
Gege	Original	3057	V100 Standard	U01/U01W
General Motors	B62	275	V100 Standard	U01/U01W
General Motors	1003M	1037	V100 Standard	U01/U01W
General Motors	P1114	1420	V100 Standard	U01/U01W
General Motors	B106+	2020	V100 Standard	U01/U01W
General Motors	Original	2134	V100 Standard	U01/U01W
General Motors	Original	2991	V100 Standard	U01/U01W
General Motors 1991+	P1099	470	V100 Standard	U01/U01W
General Motors 1994+	P1102+	567	V100 Standard	U01/U01W
Geo	X154	145	V100 Standard	U01/U01W
Geo	X192	264	V100 Standard	U01/U01W
Geo	X180	288	V100 Standard	U01/U01W
Geo Prizm	X225	514	V100 Standard	U01/U01W
Geo/General Motors 1985-90	X143	156	V100 Standard	U01/U01W
Geo/Honda/Isuzu 1988+	X184	264	V100 Standard	U01/U01W
GERA	GR1R	574	V100 Standard	U01/U01W
GERA	Original	599	V100 Standard	U01/U01W
GERA	Original	2217	V100 Standard	U01/U01W
GERA	Original	2504	V100 Standard	U01/U01W
German Auto 1960+	62VH+/C15	992	V100 Standard	U01/U01W
German Auto 1960+	BO 228	1002	V100 Standard	U01/U01W
German Auto 1960+	BO 361	1008	V100 Standard	U01/U01W
German Auto 1960+/Saab 1960+	62VH	1000	V100 Standard	U01/U01W
German Auto 1985+	P68Z	1006	V100 Standard	U01/U01W
GHE	GH1	107	V100 Standard	U01/U01W
GHE	GH3	488	V100 Standard	U01/U01W
GHE	GH5	562	V100 Standard	U01/U01W
Giobert	NE57	283	V100 Standard	U01/U01W
Giobert	NE57	437	V100 Standard	U01/U01W
GMC (Isuzu)W4/W5	X158	156	V100 Standard	U01/U01W
GMC (Isuzu)W4/W5	X184	264	V100 Standard	U01/U01W
GMC (Isuzu)W6/W7	X154	145	V100 Standard	U01/U01W
Goal	GL3+	596	V100 Standard	U01/U01W
Goal	GL1	1139	V100 Standard	U01/U01W
GTV	Original	450	V100 Standard	U01/U01W
GTV	GV1	452	V100 Standard	U01/U01W
GTV	Original	609	V100 Standard	U01/U01W
GTV	Original	738	V100 Standard	U01/U01W
GTV	Original	739	V100 Standard	U01/U01W
GTV	Original	2287	V100 Standard	U01/U01W
Guard	Original	1592	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
H				
Hafele	L6S+	116	V100 Standard	U01/U01W
Hafele	V61S+	124	V100 Standard	U01/U01W
Hafele	DM34R	228	V100 Standard	U01/U01W
Hafele	HU3	238	V100 Standard	U01/U01W
Hafele	CS2	414	V100 Standard	U01/U01W
Hafele	HF75R	1775	V100 Standard	U01/U01W
Hafele	HF74	1776	V100 Standard	U01/U01W
Hafele	HF1R	2765	V100 Standard	U01/U01W
Haga	HAG1	649	V100 Standard	U01/U01W
Harley Davidson	N2M	22	V100 Standard	U01/U01W
Harley Davidson	63SP	111	V100 Standard	U01/U01W
Harley Davidson	X47	135	V100 Standard	U01/U01W
Harley Davidson	X47	142	V100 Standard	U01/U01W
Harley Davidson	N2M	171	V100 Standard	U01/U01W
Harley Davidson	C1041P	561	V100 Standard	U01/U01W
Harley Davidson	X234	1025	V100 Standard	U01/U01W
Harley Davidson 1970+	H78K+	975	V100 Standard	U01/U01W
Harley Davidson 1970+	H72G	977	V100 Standard	U01/U01W
Harley Davidson 1970+	H72G+	990	V100 Standard	U01/U01W
Harley Davidson 1975+	X93+	143	V100 Standard	U01/U01W
Harley Davidson 1982-84	X133+	978	V100 Standard	U01/U01W
Harley Davidson 1984+	X141+	979	V100 Standard	U01/U01W
Harley Davidson 1984-92	X226	1116	V100 Standard	U01/U01W
Harley Davidson TOP COVER	X226	1038	V100 Standard	U01/U01W
Harloc	TE3	1198	V100 Standard	U01/U01W
Harloc	TE3	1199	V100 Standard	U01/U01W
Harloc	TE3	1200	V100 Standard	U01/U01W
Harloc	TE3	1205	V100 Standard	U01/U01W
Hekna	HN1	237	V100 Standard	U01/U01W
Hekna	HN3	755	V100 Standard	U01/U01W
Henderson	LF4	114	V100 Standard	U01/U01W
Henderson	HEN1	272	V100 Standard	U01/U01W
Hino Trucks	X174	264	V100 Standard	U01/U01W
Hino Trucks	x274	3416	V100 Standard	U01/U01W
Hollymade	1170b+	1135	V100 Standard	U01/U01W
Honda	NE30	30	V100 Standard	U01/U01W
Honda	HD73	83	V100 Standard	U01/U01W
Honda	HD71	84	V100 Standard	U01/U01W
Honda	HD29	88	V100 Standard	U01/U01W
Honda	X185	264	V100 Standard	U01/U01W
Honda	NE71R	439	V100 Standard	U01/U01W
Honda	HON65RT6	801	V100 Standard	U01/U01W
Honda (Cycles)	HD12	81	V100 Standard	U01/U01W
Honda (Cycles)	67LC	82	V100 Standard	U01/U01W
Honda (Cycles)	X57+	83	V100 Standard	U01/U01W
Honda (Cycles)	H77P+	147	V100 Standard	U01/U01W
Honda (Cycles)	H77PR+	147	V100 Standard	U01/U01W
Honda (Cycles)	H79M+	147	V100 Standard	U01/U01W
Honda (Cycles)	H79MR+	147	V100 Standard	U01/U01W
Honda (Cycles)	Original	3121	V100 Standard	U01/U01W
Honda (Cycles) 1976-81	X71	84	V100 Standard	U01/U01W
Honda (Cycles) 1973-76	X44	742	V100 Standard	U01/U01W
Honda (Cycles) 1975-76	X58	83	V100 Standard	U01/U01W
Honda (Cycles) 1977+	X84+	83	V100 Standard	U01/U01W

Honda - Illinois

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Honda (Cycles) 1983+	X84+	160	V100 Standard	U01/U01W
Honda (Cycles) 1997+	X265	148	V100 Standard	U01/U01W
Honda 1979	HD8	147	V100 Standard	U01/U01W
Honda 1982-89	X181+	148	V100 Standard	U01/U01W
Honda 1982-89	X190	148	V100 Standard	U01/U01W
Honda 1990+	X191+	262	V100 Standard	U01/U01W
Honda 1990+	X195+	262	V100 Standard	U01/U01W
Honda Accord	X214	262	V100 Standard	U01/U01W
Honda Accord	X215	262	V100 Standard	U01/U01W
Honda Passport 1994/Isuzu 1991	B74P+	288	V100 Standard	U01/U01W
Honda/Isuzu 1988+	X198	288	V100 Standard	U01/U01W
Honda/Isuzu 1990+	X198	288	V100 Standard	U01/U01W
Huber	1020	1248	V100 Standard	U01/U01W
Huber.156	1020	1248	V100 Standard	U01/U01W
Hudson	1502	138	V100 Standard	U01/U01W
Hudson	1098X	142	V100 Standard	U01/U01W
Hudson	L1054G	1069	V100 Standard	U01/U01W
Hudson	H18	1121	V100 Standard	U01/U01W
Hudson Disc	01122+	1069	V100 Standard	U01/U01W
Hudson Mailbox	1003M	1175	V100 Standard	U01/U01W
Hummer (Ford)	S1167FD	140	V100 Standard	U01/U01W
Hummer (GM)	P1113	567	V100 Standard	U01/U01W
Hummer (GM)	P1114	1420	V100 Standard	U01/U01W
Hurd	O1122A	138	V100 Standard	U01/U01W
Hurd	1125A	1194	V100 Standard	U01/U01W
Huwil	HU3	238	V100 Standard	U01/U01W
Huwil	HU3	501	V100 Standard	U01/U01W
Huwil	HW4R	539	V100 Standard	U01/U01W
Huwil	HU3	2500	V100 Standard	U01/U01W
Hyundai	HMC1	146	V100 Standard	U01/U01W
Hyundai	KA13	158	V100 Standard	U01/U01W
Hyundai	X236+	2281	V100 Standard	U01/U01W
Hyundai	HY15-P+	2330	V100 Standard	U01/U01W
Hyundai	HY16-P+	2454	V100 Standard	U01/U01W
Hyundai	HY15-P+	2503	V100 Standard	U01/U01W
Hyundai 1989+	X187+	221	V100 Standard	U01/U01W
Hyundai Elantra	X236	487	V100 Standard	U01/U01W
Hyundai Excel	X196/X160	221	V100 Standard	U01/U01W
Hyundai Pony 1974-79	HMC1	146	V100 Standard	U01/U01W
Hyundai Scoupe	X196	89	V100 Standard	U01/U01W
Hyundai Sonata	X187	89	V100 Standard	U01/U01W
Hyundai Sonata	X232	487	V100 Standard	U01/U01W
Hyundai/Mitsubishi 1990-91	X196	221	V100 Standard	U01/U01W
I				
Ikea	HU3	501	V100 Standard	U01/U01W
Ilco	X1054JA	523	V100 Standard	U01/U01W
Ilco	1054UN+	561	V100 Standard	U01/U01W
Ilco	1502	1069	V100 Standard	U01/U01W
Ilco	1054UN+	1268	V100 Standard	U01/U01W
Ilco	1041S	1365	V100 Standard	U01/U01W
Ilco	C1054B+	138	V100 Standard	U01/U01W
Ilco/Lockwood Large Standard Pin	1054DL+	404	V100 Standard	U01/U01W
Illinois	1502	1069	V100 Standard	U01/U01W
Illinois	1043D+	2765	V100 Standard	U01/U01W
Illinois/DbI	1041H+	1104	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Illinois/Timberline Single-sided disc	1043D+	1050	V100 Standard	U01/U01W
Infiniti/Nissan (tip stop pos. 3)	N104T	2269	V100 Standard	U01/U01W
Infiniti/Nissan (tip stop pos. 4)	N104T	607	V100 Standard	U01/U01W
Infiniti/Nissan 1990+	X124	145	V100 Standard	U01/U01W
Infiniti/Nissan/Subaru 1990+	X210	145	V100 Standard	U01/U01W
Ingersol	ING1	504	V100 Standard	U01/U01W
Ingersol	Original	776	V100 Standard	U01/U01W
International Harvester	H1098DB	142	V100 Standard	U01/U01W
ISEO	IE5	329	V100 Standard	U01/U01W
ISEO	WA91WL	330	V100 Standard	U01/U01W
ISEO	IE27R	2567	V100 Standard	U01/U01W
Isuzu	X121	89	V100 Standard	U01/U01W
Isuzu	X196	221	V100 Standard	U01/U01W
Isuzu	X250	262	V100 Standard	U01/U01W
Isuzu	X198	288	V100 Standard	U01/U01W
Isuzu	SUZ2	581	V100 Standard	U01/U01W
Isuzu	TOY43R	1420	V100 Standard	U01/U01W
Isuzu (GM)	P1113	567	V100 Standard	U01/U01W
Isuzu W4/W5	X158	156	V100 Standard	U01/U01W
Isuzu W4/W5	B65/X184	264	V100 Standard	U01/U01W
Isuzu W6/W7	B54/X154	145	V100 Standard	U01/U01W
Iveco Trucks	X155	4	V100 Standard	U01/U01W
Iveco Trucks	X157	9	V100 Standard	U01/U01W
Iveco Trucks	BU8	56	V100 Standard	U01/U01W
Iveco Trucks	IV1	131	V100 Standard	U01/U01W
Iveco Trucks	BU8	211	V100 Standard	U01/U01W
Iveco Trucks	63L	239	V100 Standard	U01/U01W
Iveco Trucks	VO12	298	V100 Standard	U01/U01W
J				
Jaguar	DM5	5	V100 Standard	U01/U01W
Jaguar	DM5	7	V100 Standard	U01/U01W
Jaguar	62FT	72	V100 Standard	U01/U01W
Jaguar	WS11	75	V100 Standard	U01/U01W
Jaguar	DA20	79	V100 Standard	U01/U01W
Jaguar	WB2	115	V100 Standard	U01/U01W
Jaguar	H61VR	117	V100 Standard	U01/U01W
Jaguar	BR20	141	V100 Standard	U01/U01W
Jaguar	WB1	213	V100 Standard	U01/U01W
Jaguar	JA2	217	V100 Standard	U01/U01W
Jaguar	S30FD-P	220	B2-FORD TIBBE	06/06W
Jaguar	62DH	249	V100 Standard	U01/U01W
Jaguar 1970+	62FS	73	V100 Standard	U01/U01W
Jaguar 1970-77	MG1	175	V100 Standard	U01/U01W
Jaguar 1971-72	KL2	179	V100 Standard	U01/U01W
Jaguar 1979+	BL6	13	V100 Standard	U01/U01W
Jeep	P1098J	14	V100 Standard	U01/U01W
Jeep	FEM1	106	V100 Standard	U01/U01W
Jeep	SEA2	129	V100 Standard	U01/U01W
Jeep	P1789	287	V100 Standard	U01/U01W
Jeep	P1793	537	V100 Standard	U01/U01W
Jeep	P1795	745	V100 Standard	U01/U01W
Jeep (AMC/Chrysler)	1970AM	144	V100 Standard	U01/U01W
JIS	JS2	624	V100 Standard	U01/U01W
K				
Kaba		2274	V100 Standard	U01/U01W

Kaba Peaks - Kwikset

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Kaba Peaks 6-pin, .140 spacing, A2 depths	Original	1621	V100 Standard	U01/U01W
Kaba Peaks 6-pin, .140 spacing, A4 depths	Original	1624	V100 Standard	U01/U01W
Kaba Peaks 6-pin, .150 spacing, A2 depths	Original	1619	V100 Standard	U01/U01W
Kaba Peaks 6-pin, .150 spacing, A4 depths	Original	1622	V100 Standard	U01/U01W
Kaba Peaks 7-pin, .150 spacing, A2 depths	Original	1620	V100 Standard	U01/U01W
Kaba Peaks 7-pin, .150 spacing, A4 depths	Original	1623	V100 Standard	U01/U01W
Kaba/SHD/A2	Original	563	V100 Standard	U01/U01W
Kaba/TIP/A2	Original	563	V100 Standard	U01/U01W
Kaba/TIP/A4	Original	1232	V100 Standard	U01/U01W
Kawasaki	KW10R	95	V100 Standard	U01/U01W
Kawasaki	X18	96	V100 Standard	U01/U01W
Kawasaki	KA5	149	V100 Standard	U01/U01W
Kawasaki	X18+	154	V100 Standard	U01/U01W
Kawasaki	X104	158	V100 Standard	U01/U01W
Kawasaki	KW18DP	3294	V100 Standard	U01/U01W
Kawasaki 1970+	KA12	85	V100 Standard	U01/U01W
Kawasaki 1970+	X34	150	V100 Standard	U01/U01W
Kawasaki 1970+	X90	520	V100 Standard	U01/U01W
Kawasaki 1970+	KA1	1027	V100 Standard	U01/U01W
Kawasaki 1973-78	X104	86	V100 Standard	U01/U01W
Kawasaki 1979+	KA14	151	V100 Standard	U01/U01W
Kawasaki 1979+	X105	152	V100 Standard	U01/U01W
Kawasaki 1991+	X257+	98	V100 Standard	U01/U01W
Kawasaki 1991+	KW14P	542	V100 Standard	U01/U01W
Kawasaki 1993+	KA5BP	152	V100 Standard	U01/U01W
Kenworth	X53	59	V100 Standard	U01/U01W
Kenworth	X170	68	V100 Standard	U01/U01W
Kenworth	1098DB	142	V100 Standard	U01/U01W
Kenworth 1994+	K1994	468	V100 Standard	U01/U01W
Kenworth 1994+	K1994	636	V100 Standard	U01/U01W
KIA	KIA4RBP	158	V100 Standard	U01/U01W
KIA	X233	221	V100 Standard	U01/U01W
KIA	KK6-P	487	V100 Standard	U01/U01W
KIA	KK5-P	1860	V100 Standard	U01/U01W
KIA	HY13-P	2281	V100 Standard	U01/U01W
KIA	X231	2358	V100 Standard	U01/U01W
KIA	HY15-P	2503	V100 Standard	U01/U01W
KIA		2662	V100 Standard	U01/U01W
KIA	KK8-P	3003	V100 Standard	U01/U01W
KIA	KK8-P	3417	V100 Standard	U01/U01W
KIA	KK8-P	3417	V100 Standard	U01/U01W
KIA	HY15-P	3419	V100 Standard	U01/U01W
Kia 1998+	KK3-P	742	V100 Standard	U01/U01W
KIA`	HY13-P	2454	V100 Standard	U01/U01W
Kiferm	61PE	18	V100 Standard	U01/U01W
Kiferm	KM7	112	V100 Standard	U01/U01W
Kiferm	L2EX	113	V100 Standard	U01/U01W
Kiferm	S91S	509	V100 Standard	U01/U01W
Kiferm	R63H	510	V100 Standard	U01/U01W
Kiferm	N63G	510	V100 Standard	U01/U01W
Kiferm	NR63G	1460	V100 Standard	U01/U01W
Kiferm	RK4	1463	V100 Standard	U01/U01W
Kryptonite	1567	1202	V100 Standard	U01/U01W
KVR	KVR91	603	V100 Standard	U01/U01W
Kwikset	A1176	2279	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Kwikset Large Pin	1176+	403	V100 Standard	U01/U01W
Kwikset Titan	A1176ST	1451	V100 Standard	U01/U01W
L				
L.A.S.	L5CR	67	V100 Standard	U01/U01W
L.A.S.	L5CR	67	V100 Standard	U01/U01W
L.A.S.	LS10	67	V100 Standard	U01/U01W
L.A.S.	LS29	113	V100 Standard	U01/U01W
L.A.S.	L6S+	116	V100 Standard	U01/U01W
L.A.S.	L4RM+	206	V100 Standard	U01/U01W
L.A.S.	ST91S	414	V100 Standard	U01/U01W
L.A.S.	R63H	510	V100 Standard	U01/U01W
L.A.S.	L4RM+	545	V100 Standard	U01/U01W
L.A.S.	RC1	1195	V100 Standard	U01/U01W
L.A.S.	LS12	1464	V100 Standard	U01/U01W
L.A.S.	L1S	1465	V100 Standard	U01/U01W
Lada	LA-2P	201	V100 Standard	U01/U01W
Lada	LD2R	202	V100 Standard	U01/U01W
Lada Vaz 1984-94	SI LD1	201	V100 Standard	U01/U01W
Lada Vaz 1984-94	LD2R	202	V100 Standard	U01/U01W
Lada Vaz 1984-94	LD3RP	203	V100 Standard	U01/U01W
Lafonte	LAF1	645	V100 Standard	U01/U01W
Lafonte	LAF2	657	V100 Standard	U01/U01W
Land Rover	X157	9	V100 Standard	U01/U01W
Land Rover	X239	68	V100 Standard	U01/U01W
Land Rover	62FT	72	V100 Standard	U01/U01W
Land Rover	62FS	73	V100 Standard	U01/U01W
Land Rover		175	V100 Standard	U01/U01W
Laperche	RO30	124	V100 Standard	U01/U01W
Laperche	H10F	306	V100 Standard	U01/U01W
Laperche	LH2	443	V100 Standard	U01/U01W
Laperche	LH4	447	V100 Standard	U01/U01W
Laperche	LN1	741	V100 Standard	U01/U01W
Laperche	PJ12	793	V100 Standard	U01/U01W
Laperche (Password Protected)	Original	1482	V100 Standard	U01/U01W
Laporte	63L	239	V100 Standard	U01/U01W
Laporte	63L	392	V100 Standard	U01/U01W
Lasbolaget	LS29	590	V100 Standard	U01/U01W
Lasbolaget	LS10	591	V100 Standard	U01/U01W
Legge	62LG	415	V100 Standard	U01/U01W
Lenlock	24	522	V100 Standard	U01/U01W
Lenlock	C209	593	V100 Standard	U01/U01W
Lenlock	LF27	772	V100 Standard	U01/U01W
Lenlock	RD4	1375	V100 Standard	U01/U01W
Lenlock	RD2	1376	V100 Standard	U01/U01W
Lenlock	RD1	1377	V100 Standard	U01/U01W
Lince	LC8	589	V100 Standard	U01/U01W
Lince	LC11R	627	V100 Standard	U01/U01W
Lincoln	1125D	1021	V100 Standard	U01/U01W
Lincoln (Ford)	S1167FD	140	V100 Standard	U01/U01W
Lincoln (Ford)	1188LN-P	194	V100 Standard	U01/U01W
Lincoln (Ford)	H72-PT+	612	V100 Standard	U01/U01W
Lips	LP21	519	V100 Standard	U01/U01W
Lips	LP21W	675	V100 Standard	U01/U01W
Lips	LP21W	676	V100 Standard	U01/U01W
Lips	Original	2617	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Litto	LT3	576	V100 Standard	U01/U01W
LKWD/Flat	201	296	V100 Standard	U01/U01W
LKWD/Flat	202	297	V100 Standard	U01/U01W
Lloyd Matheson	1396S	1258	V100 Standard	U01/U01W
Lloyd Matheson/565	1396S	1258	V100 Standard	U01/U01W
Lloyd Matheson/566	1396S	1259	V100 Standard	U01/U01W
Lloyd/Matador/Viking	63	491	V100 Standard	U01/U01W
LOB Cylinders	YT15	604	V100 Standard	U01/U01W
LOB Cylinders	Orig	610	V100 Standard	U01/U01W
LOB Cylinders	Original	2937	V100 Standard	U01/U01W
LOB Cylinders	Original	2938	V100 Standard	U01/U01W
Lockwood	X1054K	404	V100 Standard	U01/U01W
Lockwood	A1015M+	405	V100 Standard	U01/U01W
Lockwood	LK1+	405	V100 Standard	U01/U01W
Lockwood	1145	410	V100 Standard	U01/U01W
Lockwood	24	522	V100 Standard	U01/U01W
Lockwood	DL91	523	V100 Standard	U01/U01W
Lockwood	X1054JA	523	V100 Standard	U01/U01W
Lockwood	DL91	524	V100 Standard	U01/U01W
Lockwood	LW21R	570	V100 Standard	U01/U01W
Lockwood	4	2351	V100 Standard	U01/U01W
Lockwood	1004M	1123	V100 Standard	U01/U01W
Lockwood	LW28	2718	V100 Standard	U01/U01W
Lockwood	LW28	2779	V100 Standard	U01/U01W
Lockwood/MK	1004	1240	V100 Standard	U01/U01W
Lori	O1014S	1045	V100 Standard	U01/U01W
Lori	1014F+	1072	V100 Standard	U01/U01W
Lori	LO80	1124	V100 Standard	U01/U01W
Lori	X1014L	1177	V100 Standard	U01/U01W
Lori L10/6 SHL	Original	1284	V100 Standard	U01/U01W
Lori L10/6 TIP	Original	1283	V100 Standard	U01/U01W
Lori L10/7 SHL	Original	1284	V100 Standard	U01/U01W
Lori L10/7 TIP	Original	1283	V100 Standard	U01/U01W
Lori/Centric	LO L90	1126	V100 Standard	U01/U01W
Loriplex	Original	1125	V100 Standard	U01/U01W
Lowe & Fletcher	LF17	9	V100 Standard	U01/U01W
Lowe & Fletcher	UNI8	72	V100 Standard	U01/U01W
Lowe & Fletcher	LF1P	73	V100 Standard	U01/U01W
Lowe & Fletcher	LF1	114	V100 Standard	U01/U01W
Lowe & Fletcher	WB3	115	V100 Standard	U01/U01W
Lowe & Fletcher	LF7	167	V100 Standard	U01/U01W
Lowe & Fletcher	LF14	204	V100 Standard	U01/U01W
Lowe & Fletcher	LF24	205	V100 Standard	U01/U01W
Lowe & Fletcher	WB1	213	V100 Standard	U01/U01W
Lowe & Fletcher	WA91L	243	V100 Standard	U01/U01W
Lowe & Fletcher	W91C	244	V100 Standard	U01/U01W
Lowe & Fletcher	W91C	245	V100 Standard	U01/U01W
Lowe & Fletcher	LF23R	246	V100 Standard	U01/U01W
Lowe & Fletcher	LF36R	247	V100 Standard	U01/U01W
Lowe & Fletcher		265	V100 Standard	U01/U01W
Lowe & Fletcher		266	V100 Standard	U01/U01W
Lowe & Fletcher		267	V100 Standard	U01/U01W
Lowe & Fletcher		268	V100 Standard	U01/U01W
Lowe & Fletcher	HN2	272	V100 Standard	U01/U01W
Lowe & Fletcher		299	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Lowe & Fletcher	C218	393	V100 Standard	U01/U01W
Lowe & Fletcher	LF23	393	V100 Standard	U01/U01W
Lowe & Fletcher	LF37	448	V100 Standard	U01/U01W
Lowe & Fletcher	LF37	448	V100 Standard	U01/U01W
Lowe & Fletcher	LF4	508	V100 Standard	U01/U01W
Lowe & Fletcher	LF16	541	V100 Standard	U01/U01W
Lowe & Fletcher	LF33	564	V100 Standard	U01/U01W
Lowe & Fletcher	LF27	593	V100 Standard	U01/U01W
Lowe & Fletcher	LF45R	721	V100 Standard	U01/U01W
Lowe & Fletcher	LF7	2371	V100 Standard	U01/U01W
Lowe & Fletcher	Original	3034	V100 Standard	U01/U01W
Lowe & Fletcher /Flat	WA91L	265	V100 Standard	U01/U01W
Lowe & Fletcher /Flat	WA91L	266	V100 Standard	U01/U01W
Lowe & Fletcher /Flat	WA91L	267	V100 Standard	U01/U01W
Lowe & Fletcher /Flat	W91C	268	V100 Standard	U01/U01W
Lowe & Fletcher ward/FKE	999	243	V100 Standard	U01/U01W
Lowe & Fletcher ward/FKF	WA91L	243	V100 Standard	U01/U01W
Lowe & Fletcher ward/FGK	WA91L	243	V100 Standard	U01/U01W
Lowe & Fletcher ward/ZA	999	243	V100 Standard	U01/U01W
Lowe & Fletcher ward/ZG/ZL	WA91L	243	V100 Standard	U01/U01W
Lowe & Fletcher/BOT	LF28R	1267	V100 Standard	U01/U01W
Lowe & Fletcher/TOP	LF28R	1266	V100 Standard	U01/U01W
LSDA	1522	687	V100 Standard	U01/U01W
Luma	LU13	1187	V100 Standard	U01/U01W
M				
Mack	1098M	142	V100 Standard	U01/U01W
Mack/Renault 1985+	R62UC	36	V100 Standard	U01/U01W
Mack/Volvo 1985+	X163+	101	V100 Standard	U01/U01W
Master	M21	3001	V100 Standard	U01/U01W
Master	M21	3002	V100 Standard	U01/U01W
Master	1092B	525	V100 Standard	U01/U01W
Master Bike Lock	8105K	1191	V100 Standard	U01/U01W
Master Standard Large Pin	6000K+	526	V100 Standard	U01/U01W
Master/#1/3/27	1092VM	526	V100 Standard	U01/U01W
Master/#130+	1092DS+	1052	V100 Standard	U01/U01W
Master/#150+	1092D+	1053	V100 Standard	U01/U01W
Master/#19	1092J	1051	V100 Standard	U01/U01W
Master/#7	1092B+	525	V100 Standard	U01/U01W
Master/120	1092VB	1230	V100 Standard	U01/U01W
Master/81/1700	1092VM	1231	V100 Standard	U01/U01W
Master/Control	1092c+	1189	V100 Standard	U01/U01W
Mauer	-	1589	V100 Standard	U01/U01W
Mauer	-	2762	V100 Standard	U01/U01W
Mauer	-	2764	V100 Standard	U01/U01W
Mauser	L6FM	116	V100 Standard	U01/U01W
Mazda	MZ13	157	V100 Standard	U01/U01W
Mazda	MZ14	158	V100 Standard	U01/U01W
Mazda	FF1	20	V100 Standard	U01/U01W
Mazda	X26	21	V100 Standard	U01/U01W
Mazda	NE48P	25	V100 Standard	U01/U01W
Mazda	DT15	78	V100 Standard	U01/U01W
Mazda	MZ12	79	V100 Standard	U01/U01W
Mazda	1127ME+	140	V100 Standard	U01/U01W
Mazda	MZ25	194	V100 Standard	U01/U01W
Mazda	H72-PT+	612	V100 Standard	U01/U01W

Mazda - Metro

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Mazda	mz15	1024	V100 Standard	U01/U01W
Mazda 1970-73	X36	153	V100 Standard	U01/U01W
Mazda 1989+	X249	288	V100 Standard	U01/U01W
Mazda 1993+	X222	288	V100 Standard	U01/U01W
MCM	MCM2	595	V100 Standard	U01/U01W
MCM	MC12	810	V100 Standard	U01/U01W
Medeco		426	V101-MEDECO	U01/U01W
Medeco	1515+	428	V101-MEDECO	U01/U01W
Medeco	Original	677	V100 Standard	U01/U01W
Medeco/.015	1515+	427	V101-MEDECO	U01/U01W
Medeco/.030	1515+	464	V101-MEDECO	U01/U01W
ME-FA	MF1R	492	V100 Standard	U01/U01W
Mercedes Benz	MB15	181	V100 Standard	U01/U01W
Mercedes Benz	S50HF-P	477	V100 Standard	U01/U01W
Mercedes Benz (Trucks)	YM15T5	1418	V100 Standard	U01/U01W
Mercedes Benz 1960+	H62VG	1014	V100 Standard	U01/U01W
Mercedes Benz	BU8/S62FD	56	V100 Standard	U01/U01W
Mercedes Benz	62VA	109	V100 Standard	U01/U01W
Mercedes Benz	YM3+	133	V100 Standard	U01/U01W
Mercedes Benz	MB59	169	V100 Standard	U01/U01W
Mercedes Benz	CA3	178	V100 Standard	U01/U01W
Mercedes Benz	BU8	211	V100 Standard	U01/U01W
Mercedes Benz	YM16	219	V100 Standard	U01/U01W
Mercedes Benz	AA2	282	V100 Standard	U01/U01W
Mercedes Benz	KL1	374	V100 Standard	U01/U01W
Mercedes Benz	MB9	381	V100 Standard	U01/U01W
Mercedes Benz	H61VM	987	V100 Standard	U01/U01W
Mercedes Benz 1960+	62VH	256	V100 Standard	U01/U01W
Mercedes Benz 1960+	63JA	381	V100 Standard	U01/U01W
Mercedes Benz 1970-79	MB15	15	V100 Standard	U01/U01W
Mercedes Benz 1977-85	X82+	110	V100 Standard	U01/U01W
Mercury	CE6	13	V100 Standard	U01/U01W
Mercury	FT7R	58	V100 Standard	U01/U01W
Mercury	FT7	59	V100 Standard	U01/U01W
Mercury	X21	61	V100 Standard	U01/U01W
Mercury	1127ME	140	V100 Standard	U01/U01W
Mercury	MZ13	157	V100 Standard	U01/U01W
Mercury	FT5	179	V100 Standard	U01/U01W
Mercury	1127MU	192	V100 Standard	U01/U01W
Mercury	1193MU	194	V100 Standard	U01/U01W
Mercury	MZ17	288	V100 Standard	U01/U01W
Mercury	H72PT	612	V100 Standard	U01/U01W
Mercury	CH5	981	V100 Standard	U01/U01W
Mercury Mariner Outboards	CU7+	981	V100 Standard	U01/U01W
Mercury Mariner Outboards	1261A	982	V100 Standard	U01/U01W
Meroni	MER8	331	V100 Standard	U01/U01W
Meroni	MER9R	332	V100 Standard	U01/U01W
Meroni	MER2	416	V100 Standard	U01/U01W
Meroni	ME2	560	V100 Standard	U01/U01W
Meroni	MER29	2421	V100 Standard	U01/U01W
Meroni	MER33R	2423	V100 Standard	U01/U01W
Metal	CB7	798	V100 Standard	U01/U01W
Meteor	L3XY	112	V100 Standard	U01/U01W
Meteor	MO1	417	V100 Standard	U01/U01W
Metro	X184	264	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Michigan	1303	1280	V100 Standard	U01/U01W
Mitsubishi	X54	89	V100 Standard	U01/U01W
Mitsubishi	MIT3RP	156	V100 Standard	U01/U01W
Mitsubishi	MIT4-P	264	V100 Standard	U01/U01W
Mitsubishi	X224	288	V100 Standard	U01/U01W
Mitsubishi 1986+	X160	221	V100 Standard	U01/U01W
Mitsubishi 1987+	FU2	263	V100 Standard	U01/U01W
Mitsubishi 1999+	MIT9-PT	1029	V100 Standard	U01/U01W
Miwa	MIW2	774	V105-MIWA	U01/U01W
Miwa	MIW3	775	V105-MIWA	U01/U01W
Miwa		786	V105-MIWA	U01/U01W
Miwa	MIW4	787	V105-MIWA	U01/U01W
Miwa	MIW5	788	V105-MIWA	U01/U01W
Miwa	MIW6	789	V105-MIWA	U01/U01W
Miwa	MIW7	790	V105-MIWA	U01/U01W
Miwa	MIW12	791	V105-MIWA	U01/U01W
Miwa	MIW13	792	V105-MIWA	U01/U01W
Miwa	MIW15	1542	V105-MIWA	U01/U01W
MLM	MLM1	728	V100 Standard	U01/U01W
MLM	MLM2	1448	V100 Standard	U01/U01W
MLM	MLM2	1595	V100 Standard	U01/U01W
MLM	Original	1596	V100 Standard	U01/U01W
Mobella Letter Boxes	MBS300	622	V100 Standard	U01/U01W
Mobellas Letter Boxes	MBS300	453	V100 Standard	U01/U01W
Moped	BAS2R	586	V100 Standard	U01/U01W
Moped 1970+	Y61	22	V100 Standard	U01/U01W
Mosler GRD ward/554 5700/gd	1323	1306	V100 Standard	U01/U01W
Mosler RNT 5900/rt	1115A	1310	V100 Standard	U01/U01W
Mosler RNT ward/552 5700/rt	1323	1308	V100 Standard	U01/U01W
Mosler RNT ward/553 5700/rt	1115A	1307	V100 Standard	U01/U01W
Moto Guzzi	ZD6	186	V100 Standard	U01/U01W
MULT	MUL1	644	V100 Standard	U01/U01W
N				
Nabob	NAB1	365	V100 Standard	U01/U01W
Nabob	YD4	372	V100 Standard	U01/U01W
National / Diebold	1028NR+	1043	V100 Standard	U01/U01W
National / MB	1069LB+	1043	V100 Standard	U01/U01W
National / MK	R1064D	1087	V100 Standard	U01/U01W
National Cabinet	1527	1055	V100 Standard	U01/U01W
National Cabinet	S1064A	1056	V100 Standard	U01/U01W
National Cabinet	1646	1107	V100 Standard	U01/U01W
National Cabinet	1069FL+	1121	V100 Standard	U01/U01W
National Cabinet	1545	1132	V100 Standard	U01/U01W
National Cabinet Lock	1069LB	1043	V100 Standard	U01/U01W
National Cabinet Single Sided	1069+	1054	V100 Standard	U01/U01W
National Cabinet Single Sided	1069L+	1054	V100 Standard	U01/U01W
National Cash Register	1083	398	V100 Standard	U01/U01W
National Cash Register	1083	1057	V100 Standard	U01/U01W
National EZ Set	1177N	1176	V100 Standard	U01/U01W
National Large Pin	R1064D	1241	V100 Standard	U01/U01W
Navistar - International Harvester	H1098C+	14	V100 Standard	U01/U01W
Navistar - International Harvester	B5	142	V100 Standard	U01/U01W
Navistar - International Harvester	RA4	144	V100 Standard	U01/U01W
Navistar - International Harvester	X188+	288	V100 Standard	U01/U01W
Navistar - International Harvester	P1794	537	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Neiman	NE58	11	V100 Standard	U01/U01W
Neiman	RT3	23	V100 Standard	U01/U01W
Neiman	NE17P	24	V100 Standard	U01/U01W
Neiman	NE30	30	V100 Standard	U01/U01W
Neiman	PN2	33	V100 Standard	U01/U01W
Neiman	NE61P	53	V100 Standard	U01/U01W
Neiman	NE33SP	120	B1-Neiman	U01/U01W
Neiman	NE33SP	121	B1-Neiman	U01/U01W
Neiman	NE76AP	122	V100 Standard	U01/U01W
Neiman	PN2	170	V100 Standard	U01/U01W
Neiman	NE58	172	V100 Standard	U01/U01W
Neiman	NE17R	173	V100 Standard	U01/U01W
Neiman	NE70P	454	V100 Standard	U01/U01W
Neiman	RT3	1467	V100 Standard	U01/U01W
Nissan	DT1	78	V100 Standard	U01/U01W
Nissan	DA32+	194	V100 Standard	U01/U01W
Nissan	X242	612	V100 Standard	U01/U01W
Nissan	X275	2698	V100 Standard	U01/U01W
Nissan	HU133RT14	3124	V100 Standard	U01/U01W
Nissan 1981-82	X114	80	V100 Standard	U01/U01W
Nissan 1981-82	X7	80	V100 Standard	U01/U01W
Nissan/Infiniti tip stop 3	N102T	2269	V100 Standard	U01/U01W
Nissan/Infiniti tip stop 4	X237	607	V100 Standard	U01/U01W
Nissan/Subaru 1970-81	X6+	80	V100 Standard	U01/U01W
Nissan/Subaru 1981-82	X115	80	V100 Standard	U01/U01W
Nissan/Subaru 1981-82	X6	80	V100 Standard	U01/U01W
Nissan/Subaru 1982+	X123+	145	V100 Standard	U01/U01W
Norwalk	1017BA+	1140	V100 Standard	U01/U01W
Norwalk	O1017NL	1247	V100 Standard	U01/U01W
Nutome/MB	1069LB	1043	V100 Standard	U01/U01W
O				
Oldsmobile (GM)	S1098H+	14	V100 Standard	U01/U01W
Oldsmobile (GM)	P1099	470	V100 Standard	U01/U01W
Oldsmobile (GM)	B97-PT+	567	V100 Standard	U01/U01W
OMEC	OC1	333	V100 Standard	U01/U01W
OMEC	OC1	334	V100 Standard	U01/U01W
Opel	YM29	51	V100 Standard	U01/U01W
Opel	YM25	64	V100 Standard	U01/U01W
Opel	YM21	77	V100 Standard	U01/U01W
Opel	A62VN	109	V100 Standard	U01/U01W
Opel	HF59R	110	V100 Standard	U01/U01W
Opel	OP91G	133	V100 Standard	U01/U01W
Opel	OP9	180	V100 Standard	U01/U01W
Opel	Z4	234	V100 Standard	U01/U01W
Opel	62PG	395	V100 Standard	U01/U01W
Opel	HF43	498	V100 Standard	U01/U01W
Opel	YM27	976	V100 Standard	U01/U01W
Opel	62VO	1004	V100 Standard	U01/U01W
Opel 1973+	OP6	134	V100 Standard	U01/U01W
Opel - Holden - Vauxhall 1970+	HF43	17	V100 Standard	U01/U01W
Opel 1970+	O79JB+	48	V100 Standard	U01/U01W
P				
Pacri	PAC1R	660	V100 Standard	U01/U01W
Pado	PDO6	689	V100 Standard	U01/U01W
Pado	PDO7	690	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Pado	PDO9	691	V100 Standard	U01/U01W
Pado	PDO10	692	V100 Standard	U01/U01W
Pado	PDO11	693	V100 Standard	U01/U01W
Pado	PDO12	694	V100 Standard	U01/U01W
Pado	PDO13	695	V100 Standard	U01/U01W
Pado	PDO14	696	V100 Standard	U01/U01W
Pado	PDO15	697	V100 Standard	U01/U01W
Pado	PDO16	698	V100 Standard	U01/U01W
Pado	PDO17	699	V100 Standard	U01/U01W
Pado	1528R	700	V100 Standard	U01/U01W
Pado	PDO18	700	V100 Standard	U01/U01W
Pado	PDO19	701	V100 Standard	U01/U01W
Pado	PDO20	702	V100 Standard	U01/U01W
Pado	PDO21	703	V100 Standard	U01/U01W
Pado	PDO1R	704	V100 Standard	U01/U01W
Pado	PDO4	705	V100 Standard	U01/U01W
Pado	PDO3	706	V100 Standard	U01/U01W
Pado	PDO2	707	V100 Standard	U01/U01W
Pado	PDO1R	708	V100 Standard	U01/U01W
Pado	PDO5	709	V100 Standard	U01/U01W
Panhard	P65A	105	V100 Standard	U01/U01W
Papaiz	PZ1	711	V100 Standard	U01/U01W
Papaiz	PZ2	711	V100 Standard	U01/U01W
Papaiz	PZ7	711	V100 Standard	U01/U01W
Papaiz	PZ6	712	V100 Standard	U01/U01W
Papaiz	Original	1545	V100 Standard	U01/U01W
Papaiz	Original	1546	V100 Standard	U01/U01W
Papaiz	Original	1547	V100 Standard	U01/U01W
Papaiz	Original	1548	V100 Standard	U01/U01W
Papaiz	Original	1549	V100 Standard	U01/U01W
Parker	1145+	410	V100 Standard	U01/U01W
PC	PC10	335	V100 Standard	U01/U01W
PC	PC3	336	V100 Standard	U01/U01W
Pebra	PE1	506	V100 Standard	U01/U01W
Penn	1016N+	1141	V100 Standard	U01/U01W
Penn	1016	1209	V100 Standard	U01/U01W
Peterbuilt	X170	49	V100 Standard	U01/U01W
Peterbuilt	FT7R	59	V100 Standard	U01/U01W
Peterbuilt	X170	68	V100 Standard	U01/U01W
Peterbuilt	B5	142	V100 Standard	U01/U01W
Peterbuilt	P1100	636	V100 Standard	U01/U01W
Peugeot	RT19	19	V100 Standard	U01/U01W
Peugeot	NE22	24	V100 Standard	U01/U01W
Peugeot	RE61XR	26	V100 Standard	U01/U01W
Peugeot	L62UC	36	V100 Standard	U01/U01W
Peugeot	62Z	123	V100 Standard	U01/U01W
Peugeot	L62UC	394	V100 Standard	U01/U01W
Peugeot	NE70P	454	V100 Standard	U01/U01W
Peugeot	R63G	510	V100 Standard	U01/U01W
Peugeot	NE70P	1445	V100 Standard	U01/U01W
Peugeot (Cycles)	NE74P	795	V100 Standard	U01/U01W
Peugeot 1971-84	63PX	43	V100 Standard	U01/U01W
Peugeot 1971-84	63P	124	V100 Standard	U01/U01W
Peugeot 1977-84	X89+	18	V100 Standard	U01/U01W
Peugeot 1980-84	X116	119	V100 Standard	U01/U01W

Peugeot - Renault

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Peugeot 1985+	PG5	132	V100 Standard	U01/U01W
Piaggio (Cyles)	PG01	2276	V100 Standard	U01/U01W
Piaggio (Cyles)	Original	2277	V100 Standard	U01/U01W
Piaggio Vespa	WO1REP	40	V100 Standard	U01/U01W
Plymouth (Chrysler)	X121	89	V100 Standard	U01/U01W
Plymouth (Chrysler)	S1770U+	139	V100 Standard	U01/U01W
Plymouth (Chrysler)	X176	264	V100 Standard	U01/U01W
Plymouth (Chrysler)	P1789	287	V100 Standard	U01/U01W
Plymouth (Chrysler)	X224+	288	V100 Standard	U01/U01W
Plymouth (Chrysler)	P1794+	537	V100 Standard	U01/U01W
Plymouth (Chrysler)	Y160-PT+	745	V100 Standard	U01/U01W
Pontiac (GM)	P1101+	14	V100 Standard	U01/U01W
Pontiac (GM)	X168+	110	V100 Standard	U01/U01W
Pontiac (GM)	P1107	567	V100 Standard	U01/U01W
Pontiac (GM)	X217+	1420	V100 Standard	U01/U01W
Pontiac (GM)	B111-PT+	2020	V100 Standard	U01/U01W
Porsche	V61VW	109	V100 Standard	U01/U01W
Porsche	DM2	212	V100 Standard	U01/U01W
Porsche	DM3	379	V100 Standard	U01/U01W
Porsche	HU42P	597	BP-PORSCHE	U01/U01W
Porsche	HU45P	598	BP-PORSCHE	U01/U01W
Porsche (911-912) 1970-85	PO5-P	35	V100 Standard	U01/U01W
Porsche 1960+	P68Z	109	V100 Standard	U01/U01W
Porsche 1960+	P68Z	380	V100 Standard	U01/U01W
Porsche 1960+	P68Z	382	V100 Standard	U01/U01W
Porsche/Vauxhall	64K	382	V100 Standard	U01/U01W
Porsche/volkswagen	DM4	383	V100 Standard	U01/U01W
Porsche/Volkswagen	KP1	418	V100 Standard	U01/U01W
Potent	PT1	1188	V100 Standard	U01/U01W
Prefer	PA91	301	V100 Standard	U01/U01W
Prefer	PR91A	337	V100 Standard	U01/U01W
Prefer	PFO92	727	V100 Standard	U01/U01W
Prefer	PF2	785	V100 Standard	U01/U01W
Prefer	PF1	1880	V100 Standard	U01/U01W
Premium	A1176	1193	V100 Standard	U01/U01W
Presta	63L	239	V100 Standard	U01/U01W
Presta	A63L	460	V100 Standard	U01/U01W
Presta	DK91A	491	V100 Standard	U01/U01W
Pundra	PU4	1370	V100 Standard	U01/U01W
Pundra	1534	1371	V100 Standard	U01/U01W
R				
Ramis	1033N	73	V100 Standard	U01/U01W
Reading	1019+	1142	V100 Standard	U01/U01W
Reese	1140G	1058	V100 Standard	U01/U01W
Renault	RT19	19	V100 Standard	U01/U01W
Renault	NE13	24	V100 Standard	U01/U01W
Renault	X12+	24	V100 Standard	U01/U01W
Renault	X12+	25	V100 Standard	U01/U01W
Renault	NE40	29	V100 Standard	U01/U01W
Renault	NE33	120	B1-Neiman	U01/U01W
Renault	NE33	121	B1-Neiman	U01/U01W
Renault	HVR61	126	V100 Standard	U01/U01W
Renault	RT8	127	V100 Standard	U01/U01W
Renault	LM1	168	V100 Standard	U01/U01W
Renault 1970-79	NE31	23	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Renault 1972-79	VC29	46	V100 Standard	U01/U01W
Renault 1990+	VAC102DP	486	V100 Standard	U01/U01W
Renault/Saviem	RO39	128	V100 Standard	U01/U01W
Renault/Volkswagen 1950+	62VC	182	V100 Standard	U01/U01W
Renz	LF23R	247	V100 Standard	U01/U01W
Renz	REN1	298	V100 Standard	U01/U01W
Renz	REN2R	555	V100 Standard	U01/U01W
Renz	REN5R	2609	V100 Standard	U01/U01W
Rex	RX2	672	V100 Standard	U01/U01W
Riquier	GU4R	302	V100 Standard	U01/U01W
Rixson	1080	1143	V100 Standard	U01/U01W
Rolls Royce/Bentley	62JB	304	V100 Standard	U01/U01W
Rolls Royce/Bentley 1970-92	62HG	303	V100 Standard	U01/U01W
Ronis	62Z	123	V100 Standard	U01/U01W
Ronis	V61S	124	V100 Standard	U01/U01W
Ronis	H61P	125	V100 Standard	U01/U01W
Ronis	HV61	126	V100 Standard	U01/U01W
Ronis	RT8	127	V100 Standard	U01/U01W
Ronis	RO39	128	V100 Standard	U01/U01W
Ronis	RO67	206	V100 Standard	U01/U01W
Ronis	62Z	216	V100 Standard	U01/U01W
Ronis	61JD	366	V100 Standard	U01/U01W
Ronis	R041	444	V100 Standard	U01/U01W
Ronis	C91	484	V100 Standard	U01/U01W
Ronis	R16	493	V100 Standard	U01/U01W
Ronis	L4A1	545	V100 Standard	U01/U01W
Ronis	LS3	771	V100 Standard	U01/U01W
Ronis	S91M	794	V100 Standard	U01/U01W
Ronis	RO49	1469	V100 Standard	U01/U01W
Ronis	RO40	1471	V100 Standard	U01/U01W
Ronis	RO55	2424	V100 Standard	U01/U01W
Ronis	KM8	2769	V100 Standard	U01/U01W
Ronis	RO69	3007	V100 Standard	U01/U01W
Ronis	RO69	3083	V100 Standard	U01/U01W
Roots Group	SR1	248	V100 Standard	U01/U01W
Rousseau	MR3	1078	V100 Standard	U01/U01W
Rousseau	PU2	1098	V100 Standard	U01/U01W
Rousseau	M64	1111	V100 Standard	U01/U01W
Rover	CEM4	103	V100 Standard	U01/U01W
Rover	NE71R	439	V100 Standard	U01/U01W
Ruko	RK1	367	V100 Standard	U01/U01W
Ruko	RU6	368	V100 Standard	U01/U01W
Ruko	RU1	513	V100 Standard	U01/U01W
Ruko	RK1	517	V100 Standard	U01/U01W
Ruko	RK1	547	V100 Standard	U01/U01W
Ruko 7-PIN	Original	518	V100 Standard	U01/U01W
Ruko/500	RK1	543	V100 Standard	U01/U01W
Ruko/600	RK1	345	V100 Standard	U01/U01W
Russwin	Original	406	V100 Standard	U01/U01W
Russwin	A1011	407	V100 Standard	U01/U01W
Russwin	Original	682	V100 Standard	U01/U01W
Russwin	X1000KC+	1169	V100 Standard	U01/U01W
Russwin / 750B	1012A	1166	V100 Standard	U01/U01W
Russwin / 752R	1011	1165	V100 Standard	U01/U01W
Russwin / 852	1011+	1077	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Russwin / 981	1011P	1144	V100 Standard	U01/U01W
Russwin / Auto	1011X+	1146	V100 Standard	U01/U01W
Russwin /A/Old	1011M+	1148	V100 Standard	U01/U01W
Russwin /DH/15	1011D1+	1145	V100 Standard	U01/U01W
Russwin Canada	A1011D1	1249	V100 Standard	U01/U01W
Russwin/DH/28	1011D1+	1368	V100 Standard	U01/U01W
Russwin/N/Old	1011 15N+	408	V100 Standard	U01/U01W
Russwin/Old	1011B	1225	V100 Standard	U01/U01W
S				
Saab	X31+	99	V100 Standard	U01/U01W
Saab	SB10	100	V100 Standard	U01/U01W
Saab	NE10	101	V100 Standard	U01/U01W
Saab (GM)	B100-PT	567	V100 Standard	U01/U01W
Saab (Subaru)	NSN19	607	V100 Standard	U01/U01W
Saab 1974-93	X52	52	V100 Standard	U01/U01W
Safe	AL2	2	V100 Standard	U01/U01W
Safe	1049E	1226	V100 Standard	U01/U01W
Safe	1049	1228	V100 Standard	U01/U01W
Saga Safe	V61A	1108	V100 Standard	U01/U01W
Saga Safe	SY4+	1109	V100 Standard	U01/U01W
Sager	1047A	1149	V100 Standard	U01/U01W
Sager	1047	1210	V100 Standard	U01/U01W
Sargent	1007LA+	409	V100 Standard	U01/U01W
Sargent	1010U+	1074	V100 Standard	U01/U01W
Sargent & Greenleaf	1010U	1196	V100 Standard	U01/U01W
Sargent & Greenleaf / 4440 / GRD	SG4	1318	V100 Standard	U01/U01W
Sargent & Greenleaf / 4440 / RT	1063E	1319	V100 Standard	U01/U01W
Sargent/Long	1010B+	1073	V100 Standard	U01/U01W
Sargent/MK	1010B+	688	V100 Standard	U01/U01W
Sargent/Short	1010B+	1059	V100 Standard	U01/U01W
Saturn	B76-P	636	V100 Standard	U01/U01W
Saturn (GM)	B111-PT+	2020	V100 Standard	U01/U01W
Saturn 1991+	P1108	468	V100 Standard	U01/U01W
Saturn 1997	P1110	567	V100 Standard	U01/U01W
Scania	WT8R	49	V100 Standard	U01/U01W
Scania	WT8R	286	V100 Standard	U01/U01W
Schlage	1145+	410	V100 Standard	U01/U01W
Schlage	1145	546	V100 Standard	U01/U01W
Schlage	1145	683	V100 Standard	U01/U01W
Schlage	Original	802	V100 Standard	U01/U01W
Schlage/DBL	1307A	1369	V100 Standard	U01/U01W
Scion	TOY43AT4	1420	V100 Standard	U01/U01W
Scion	TOY43AT4	2751	V100 Standard	U01/U01W
Scoupe	X196	221	V100 Standard	U01/U01W
Seat 1984-94	CR3R	165	V100 Standard	U01/U01W
Security	1559	1174	V100 Standard	U01/U01W
Security/Kumahira	SY1+	410	V100 Standard	U01/U01W
Segal	1022A	1151	V100 Standard	U01/U01W
Segal Large Pin	1022	1351	V100 Standard	U01/U01W
Segal/MK	1022+	679	V100 Standard	U01/U01W
Segal/MK	SL1	679	V100 Standard	U01/U01W
Segal/Old	1022E	1152	V100 Standard	U01/U01W
Segal/Old	1022F	1153	V100 Standard	U01/U01W
Showa	SWA1	724	V100 Standard	U01/U01W
Showa	SWA13R	1543	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Simca (Gas Caps)	SM6	125	V100 Standard	U01/U01W
Simeca	SIM2	207	V100 Standard	U01/U01W
Simplex	VC30	42	V100 Standard	U01/U01W
Simplex	VC25	45	V100 Standard	U01/U01W
Simplex	SX6	71	V100 Standard	U01/U01W
Simplex	SX9	431	V100 Standard	U01/U01W
Simplex	SX9	632	V100 Standard	U01/U01W
Simplex	L1003M	1110	V100 Standard	U01/U01W
Simplex	SM2	1472	V100 Standard	U01/U01W
Ski Racks (Various Makes)	SIM2	207	V100 Standard	U01/U01W
Skoda	SK22RT1+	461	V100 Standard	U01/U01W
Skoda	SK18	538	V100 Standard	U01/U01W
Skoda	FB1+	548	V100 Standard	U01/U01W
Skoda	FB1+	550	V100 Standard	U01/U01W
Slaymaker	1074B+	1060	V100 Standard	U01/U01W
Slaymaker	SLA15+	1061	V100 Standard	U01/U01W
Slaymaker	T50	1279	V100 Standard	U01/U01W
Snap On Tool Box	1041Y	561	V100 Standard	U01/U01W
Snap On Tool Box	1527	1055	V100 Standard	U01/U01W
Stam	SAM2	648	V100 Standard	U01/U01W
Stam	SAM1	654	V100 Standard	U01/U01W
Sterling	X157	9	V100 Standard	U01/U01W
Sterling	CE6+	13	V100 Standard	U01/U01W
Sterling	X239+	68	V100 Standard	U01/U01W
Sterling	62FT	72	V100 Standard	U01/U01W
Sterling	1127FD+	140	V100 Standard	U01/U01W
Sterling	1184FD+	194	V100 Standard	U01/U01W
Strebor	SR3	208	V100 Standard	U01/U01W
Strebor	SR5	209	V100 Standard	U01/U01W
Strebor	SR2	248	V100 Standard	U01/U01W
Strebor	STR5	273	V100 Standard	U01/U01W
Strebor	STR6	722	V100 Standard	U01/U01W
Stuv	ST91F	240	V100 Standard	U01/U01W
Subaru	62DT	80	V100 Standard	U01/U01W
Subaru	DA28	145	V100 Standard	U01/U01W
Subaru	SUZ15	264	V100 Standard	U01/U01W
Subaru	X237	607	V100 Standard	U01/U01W
Subaru	X237	2269	V100 Standard	U01/U01W
Suzuki	DC3	89	V100 Standard	U01/U01W
Suzuki	DWO4RAP	110	V100 Standard	U01/U01W
Suzuki	ZD10P	136	V100 Standard	U01/U01W
Suzuki	SKA	157	V100 Standard	U01/U01W
Suzuki	IM1	166	V100 Standard	U01/U01W
Suzuki	IM2	166	V100 Standard	U01/U01W
Suzuki	Dealer Prox	1411	V100 Standard	U01/U01W
Suzuki	TR47	1552	V100 Standard	U01/U01W
Suzuki	SZ11EH2	1806	V100 Standard	U01/U01W
Suzuki	B111-PT+	2020	V100 Standard	U01/U01W
Suzuki	TR47	2756	V100 Standard	U01/U01W
Suzuki	SUZ17	288	V100 Standard	U01/U01W
Suzuki (Cycles)	X87+	86	V100 Standard	U01/U01W
Suzuki (Cycles)	YM63	289	V100 Standard	U01/U01W
Suzuki (Cycles)	SUZ2	581	V100 Standard	U01/U01W
Suzuki (Cycles)	SUZ12	582	V100 Standard	U01/U01W
Suzuki 1989-94	IM4R	438	V100 Standard	U01/U01W

Suzuki - Tool Box

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Suzuki Santana 1985-88	IM3R	259	V100 Standard	U01/U01W
Suzuki Swift	SUZ15	264	V100 Standard	U01/U01W
T				
Taco	A1054KD	1154	V100 Standard	U01/U01W
Taiwan	1054TW	1201	V100 Standard	U01/U01W
Taiwan	1092	1220	V100 Standard	U01/U01W
Taiwan	1092	1221	V100 Standard	U01/U01W
Talbot - Simca	61PS	18	V100 Standard	U01/U01W
Talbot - Simca	PJ1	34	V100 Standard	U01/U01W
Talbot - Simca	VAC43	47	V100 Standard	U01/U01W
Talbot - Simca	LM3	66	V100 Standard	U01/U01W
Talbot - Simca	L5CR	67	V100 Standard	U01/U01W
Talbot - Simca	PJ1	215	V100 Standard	U01/U01W
Talbot - Simca	61PS	509	V100 Standard	U01/U01W
Tampalini	TP2	338	V100 Standard	U01/U01W
Taylor	1141K	1063	V100 Standard	U01/U01W
Taylor Large Pin	1141GE	1093	V100 Standard	U01/U01W
Taylor Small Pin	1141F	1062	V100 Standard	U01/U01W
Telephone Lock	1155B	1083	V100 Standard	U01/U01W
Telephone Lock	1120S	1229	V100 Standard	U01/U01W
Tempo	63L	239	V100 Standard	U01/U01W
Tesa	TE4	369	V100 Standard	U01/U01W
Tesa	TE3 & TE4	387	V100 Standard	U01/U01W
Tesa	TE4	512	V100 Standard	U01/U01W
Tesa	TE6	726	V100 Standard	U01/U01W
Tesa	TE1 & TE4	770	V100 Standard	U01/U01W
Teskey	1041T	561	V100 Standard	U01/U01W
Teskey	1003M	1088	V100 Standard	U01/U01W
Teskey	1122	1100	V100 Standard	U01/U01W
Teskey	1122	1101	V100 Standard	U01/U01W
The Club	1573A+	1170	V100 Standard	U01/U01W
Timberline	1043J	2765	V100 Standard	U01/U01W
Tire Lock	DM31	228	V100 Standard	U01/U01W
Tire Lock	H83F	1033	V100 Standard	U01/U01W
Titan	TN9	474	V100 Standard	U01/U01W
Titan	Original	1442	V100 Standard	U01W
Titan	Original	1443	V100 Standard	U01W
Titan	Original	1484	V100 Standard	U01W
Titan	Original	1489	V100 Standard	U01W
Titan	Original	2201	V100 Standard	U01W
Titan	Original	2202	V100 Standard	U01W
Titan	Original	2403	V100 Standard	U01W
Titan	Original	2944	V100 Standard	U01W
Titan	Original	2945	V100 Standard	U01W
Titan	Original	2946	V100 Standard	U01W
Titan	Original	2947	V100 Standard	U01W
Titan	Original	2948	V100 Standard	U01W
Titan	Original	2950	V100 Standard	U01W
TOK	TO91	174	V100 Standard	U01/U01W
TOK	WS2	176	V100 Standard	U01/U01W
TOK/7H	TK4+	174	V100 Standard	U01/U01W
TOK/8H	Ttk4+	1159	V100 Standard	U01/U01W
TOK-WINKHAUS	TO91	1439	V100 Standard	U01/U01W
Tool Box	1563+	1031	V100 Standard	U01/U01W
Tool Box	1563+	1069	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Toyota	TA5	87	V100 Standard	U01/U01W
Toyota	TA6	88	V100 Standard	U01/U01W
Toyota	TR26	91	V100 Standard	U01/U01W
Toyota	C197	156	V100 Standard	U01/U01W
Toyota	T61C	221	V100 Standard	U01/U01W
Toyota	TOY13	527	V100 Standard	U01/U01W
Toyota	T61C	532	V100 Standard	U01/U01W
Toyota	X217	572	V100 Standard	U01/U01W
Toyota	TOY44D-PT	1420	V100 Standard	U01/U01W
Toyota	YH28RP	2572	V100 Standard	U01/U01W
Toyota	Original	2794	V100 Standard	U01/U01W
Toyota	Original	2870	V100 Standard	U01/U01W
Toyota 1969-83	T61F	90	V100 Standard	U01/U01W
Toyota 1969-85	X137+	89	V100 Standard	U01/U01W
Toyota 1969-90	TR25	196	V100 Standard	U01/U01W
Toyota 1972-80	T61F	90	V100 Standard	U01/U01W
Toyota 1983-91	X159	89	V100 Standard	U01/U01W
Toyota 1983-91	X218	89	V100 Standard	U01/U01W
Toyota 1986+	X151+	197	V100 Standard	U01/U01W
Toyota 1990+	X211	264	V100 Standard	U01/U01W
Toyota 1990+	X218	264	V100 Standard	U01/U01W
Toyota 1992+	X217	514	V100 Standard	U01/U01W
Toyota 1992+	X220	514	V100 Standard	U01/U01W
Toyota 1993+	TR53	551	V100 Standard	U01/U01W
Toyota 1993+	X223	551	V100 Standard	U01/U01W
Toyota 1997+	X217	572	V100 Standard	U01/U01W
Trabant	TB2R	424	V100 Standard	U01/U01W
Trabant	TB3	425	V100 Standard	U01/U01W
Trailer Hitch Lock	SY1	1084	V100 Standard	U01/U01W
Trimark	1609	138	V100 Standard	U01/U01W
Trimark	1607	466	V100 Standard	U01/U01W
Trimark	T80R	1262	V100 Standard	U01/U01W
Trimark	KS610	1281	V100 Standard	U01/U01W
Trimark	KS800	1335	V100 Standard	U01/U01W
Trio-Ving	TO5	419	V100 Standard	U01/U01W
Trio-Ving	TO1	511	V100 Standard	U01/U01W
Trio-Ving	Original	715	V100 Standard	U01/U01W
Triumph	DM5	5	V100 Standard	U01/U01W
Triumph	DM5	7	V100 Standard	U01/U01W
Triumph	N2M	22	V100 Standard	U01/U01W
Triumph	HD70	84	V100 Standard	U01/U01W
Triumph	MG1	175	V100 Standard	U01/U01W
Triumph	WB1	213	V100 Standard	U01/U01W
Triumph	X248	289	V100 Standard	U01/U01W
Triumph	CE8	472	V100 Standard	U01/U01W
Triumph (Cycles)	YH35	2716	V100 Standard	U01/U01W
Triumph (Cycles)		2717	V100 Standard	U01/U01W
Triumph (Jaguar)	62FT	72	V100 Standard	U01/U01W
Triumph (Jaguar)	62FS	73	V100 Standard	U01/U01W
U				
Uchance	Sub1002A	1278	V100 Standard	U01/U01W
Ueme Cylinders	UE1R	661	V100 Standard	U01/U01W
Union	62FT	72	V100 Standard	U01/U01W
Union	62FS	73	V100 Standard	U01/U01W
Union	62DC	249	V100 Standard	U01/U01W

Union - Ving

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Union	62DM	250	V100 Standard	U01/U01W
Union	S33C	251	V100 Standard	U01/U01W
Union	62DA	252	V100 Standard	U01/U01W
Union	62DB	275	V100 Standard	U01/U01W
Union	UN8D	370	V100 Standard	U01/U01W
Union	S33C	440	V100 Standard	U01/U01W
Union	62DC	463	V100 Standard	U01/U01W
Union	1033N	667	V100 Standard	U01/U01W
Union	ORIG DTEC	1808	V100 Standard	U01/U01W
Union	Original	2576	V100 Standard	U01/U01W
Union	1033N	2733	V100 Standard	U01/U01W
Union	1033N	2734	V100 Standard	U01/U01W
Union	1033N	2735	V100 Standard	U01/U01W
Union	NII23	2957	V100 Standard	U01/U01W
Union (Password Protected)	ORIG DTEC	3004	V100 Standard	U01/U01W
Union (Password Protected)	ORIG DTEC	3005	V100 Standard	U01/U01W
Union/Flat	WA91L	549	V100 Standard	U01/U01W
Union/Flat	WA91L	553	V100 Standard	U01/U01W
Union/Flat	WA91L	554	V100 Standard	U01/U01W
Union/HX	BS62DV	497	V100 Standard	U01/U01W
V				
Vachette	VC24	44	V100 Standard	U01/U01W
Vachette	VC25	45	V100 Standard	U01/U01W
Vachette	KM4	113	V100 Standard	U01/U01W
Vachette	H10F	306	V100 Standard	U01/U01W
Vachette	VC28	307	V100 Standard	U01/U01W
Vachette	VAC42	308	V100 Standard	U01/U01W
Vachette	H62DM	309	V100 Standard	U01/U01W
Vachette	L62KE	310	V100 Standard	U01/U01W
Vachette	RO41	444	V100 Standard	U01/U01W
Vachette	L62KE	445	V100 Standard	U01/U01W
Vachette	L62KE	446	V100 Standard	U01/U01W
Vachette	VAC65	485	V100 Standard	U01/U01W
Various Cabinet Locks	PHF2R	575	V100 Standard	U01/U01W
Various Cylindrical Applications	STU1	587	V100 Standard	U01/U01W
Various Garage Doors	HF10	180	V100 Standard	U01/U01W
Various Garage Doors	H62DP	180	V100 Standard	U01/U01W
Various Garage Doors	HF11	180	V100 Standard	U01/U01W
Various Gas Caps	FAR3R	3	V100 Standard	U01/U01W
Various Gas Caps	AF7DP	4	V100 Standard	U01/U01W
Various Gas Caps	PN1	34	V100 Standard	U01/U01W
Various Gas Caps	X132	40	V100 Standard	U01/U01W
Various Gas Caps	BU8	56	V100 Standard	U01/U01W
Various Gas Caps	WS11	75	V100 Standard	U01/U01W
Various Gas Caps	HR62VK	109	V100 Standard	U01/U01W
Various Gas Caps	62VG	182	V100 Standard	U01/U01W
Various Gas Caps	BU8	211	V100 Standard	U01/U01W
Various Gas Caps	WAS7R	217	V100 Standard	U01/U01W
Various Gas Caps	WAS7P	284	V100 Standard	U01/U01W
Various Gas Caps	WAS12R	285	V100 Standard	U01/U01W
Various Gas Caps	X132	298	V100 Standard	U01/U01W
Various Gas Caps	SSA3R	385	V100 Standard	U01/U01W
Various Gas Caps	PN1	215	V100 Standard	U01/U01W
Various Glove Compartments	ZD8	54	V100 Standard	U01/U01W
Ving	VG3	241	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Ving	TO6	419	V100 Standard	U01/U01W
Ving	TO1	511	V100 Standard	U01/U01W
Viro	VR91S	339	V100 Standard	U01/U01W
Viro	VR91S	339	V100 Standard	U01/U01W
Viro	VR91B	340	V100 Standard	U01/U01W
Viro	VR91AR	340	V100 Standard	U01/U01W
Viro	VI5	341	V100 Standard	U01/U01W
Viro	VR91CR	600	V100 Standard	U01/U01W
Viro	VI10	601	V100 Standard	U01/U01W
Viro	VI10	628	V100 Standard	U01/U01W
Viro	VI10	629	V100 Standard	U01/U01W
Viro	VI3	630	V100 Standard	U01/U01W
Viro	VI5	631	V100 Standard	U01/U01W
Viro	Original	3215	V100 Standard	U01/U01W
Viro (Password Protected)	Original	3044	V100 Standard	U01/U01W
Viro (Password Protected)	Original	3045	V100 Standard	U01/U01W
Volkswagen	H62FD	58	V100 Standard	U01/U01W
Volkswagen	X53/V32	59	V100 Standard	U01/U01W
Volkswagen	BH4	101	V100 Standard	U01/U01W
Volkswagen	V70D	102	V100 Standard	U01/U01W
Volkswagen	61VW+	109	V100 Standard	U01/U01W
Volkswagen	RN31	122	V100 Standard	U01/U01W
Volkswagen	73VBP	159	V100 Standard	U01/U01W
Volkswagen	VW77	179	V100 Standard	U01/U01W
Volkswagen	62VG	182	V100 Standard	U01/U01W
Volkswagen	BU8	211	V100 Standard	U01/U01W
Volkswagen	DM2	212	V100 Standard	U01/U01W
Volkswagen	63WG	234	V100 Standard	U01/U01W
Volkswagen	TR48	264	V100 Standard	U01/U01W
Volkswagen	VO12	298	V100 Standard	U01/U01W
Volkswagen	DM3	380	V100 Standard	U01/U01W
Volkswagen	KP1	418	V100 Standard	U01/U01W
Volkswagen	73VB	451	V100 Standard	U01/U01W
Volkswagen	A63L	460	V100 Standard	U01/U01W
Volkswagen	AA2	473	V100 Standard	U01/U01W
Volkswagen	FT3F	530	V100 Standard	U01/U01W
Volkswagen	W62VE	985	V100 Standard	U01/U01W
Volkswagen	VW63A	5	V100 Standard	U01/U01W
Volkswagen	MB17	15	V100 Standard	U01/U01W
Volkswagen	V27	48	V100 Standard	U01/U01W
Volkswagen	V37+	49	V100 Standard	U01/U01W
Volkswagen	CE21R	223	V100 Standard	U01/U01W
Volkswagen	DM8	228	V100 Standard	U01/U01W
Volkswagen 1960+	VW63	528	V100 Standard	U01/U01W
Volkswagen 1960+	H61VM	987	V100 Standard	U01/U01W
Volkswagen 1960+	A62VC	1005	V100 Standard	U01/U01W
Volkswagen 1966-70	VW67	48	V100 Standard	U01/U01W
Volkswagen 1970+	VW1C7	384	V100 Standard	U01/U01W
Volkswagen 1970+	63VN	529	V100 Standard	U01/U01W
Volkswagen 1970+	X8	1026	V100 Standard	U01/U01W
Volkswagen 1971+	X9+	50	V100 Standard	U01/U01W
Volvo	VO73S	27	V100 Standard	U01/U01W
Volvo	AK3	55	V100 Standard	U01/U01W
Volvo	HU38P	65	V100 Standard	U01/U01W
Volvo	VL6-P	69	V100 Standard	U01/U01W

Volvo - Yale

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Volvo	ASS1	99	V100 Standard	U01/U01W
Volvo	VO62	117	V100 Standard	U01/U01W
Volvo	O1122A	138	V100 Standard	U01/U01W
Volvo	V06	214	V100 Standard	U01/U01W
Volvo	S60HF-P	482	V100 Standard	U01/U01W
Volvo	-	745	V100 Standard	U01/U01W
Volvo	MRT2RAP	2796	V100 Standard	U01/U01W
Volvo 1973-76	X29+	68	V100 Standard	U01/U01W
W				
Wally	WA7R	619	V100 Standard	U01/U01W
Wally	WA91	620	V100 Standard	U01/U01W
Wartburg	DB2	424	V100 Standard	U01/U01W
Wartburg	TB3R	425	V100 Standard	U01/U01W
Waso	WS4	176	V100 Standard	U01/U01W
Weber	VEC2	421	V100 Standard	U01/U01W
Weber	WEB1	421	V100 Standard	U01/U01W
Weiser	1054WB+	411	V100 Standard	U01/U01W
Welch	1054WB	578	V100 Standard	U01/U01W
Welch	1123+	1155	V100 Standard	U01/U01W
Welka	WE2	342	V100 Standard	U01/U01W
Weslock.MK	1175N	1156	V100 Standard	U01/U01W
Weslock/STD	1175N	1156	V100 Standard	U01/U01W
Weslock/VNGD	1175N	1157	V100 Standard	U01/U01W
West Alloy	62DH	274	V100 Standard	U01/U01W
West Alloy	BS62DV	497	V100 Standard	U01/U01W
West Alloy	WA1	1223	V100 Standard	U01/U01W
White	O1122A	138	V100 Standard	U01/U01W
Wilka	W91C	373	V100 Standard	U01/U01W
Wilka	Original	740	V100 Standard	U01/U01W
Wilka	Original	2474	V100 Standard	U01/U01W
Wilka	Original	2498	V100 Standard	U01/U01W
Wilka	Original	2499	V100 Standard	U01/U01W
Wilka	Original	2587	V100 Standard	U01/U01W
Wilka	Original	2952	V100 Standard	U01/U01W
Wilson Bohanon	1071B	1164	V100 Standard	U01/U01W
Wilson Bohanon #19	WB19	1263	V100 Standard	U01/U01W
Wilson Bohanon #21	1071+	1158	V100 Standard	U01/U01W
Winkfield	WF1	1095	V100 Standard	U01/U01W
Winkhaus	TO30	481	V100 Standard	U01/U01W
Winkhaus	Original	495	V100 Standard	U01/U01W
Winkhaus	Original	556	V100 Standard	U01/U01W
Winkhaus	Original	566	V100 Standard	U01/U01W
Winkhaus	Original	580	V100 Standard	U01/U01W
Winkhaus	Original	611	V100 Standard	U01/U01W
Winkhaus	Original	613	V100 Standard	U01/U01W
Winkhaus	Original	2223	V100 Standard	U01/U01W
Winkhaus	Original	2224	V100 Standard	U01/U01W
Winkhaus	Original	2225	V100 Standard	U01/U01W
X				
XL/'K'<MB	1180S	1064	V100 Standard	U01/U01W
XL/'S'<MB	1180S	1181	V100 Standard	U01/U01W
XL/'X'<MB	1180S	1065	V100 Standard	U01/U01W
Y				
Yale	O1122BE+	138	V100 Standard	U01/U01W
Yale	X1199B+	190	V100 Standard	U01/U01W

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Yale	997B	242	V100 Standard	U01/U01W
Yale	YL5	242	V100 Standard	U01/U01W
Yale	997X+	253	V100 Standard	U01/U01W
Yale	E1122A	254	V100 Standard	U01/U01W
Yale	YL6	276	V100 Standard	U01/U01W
Yale	H997E	343	V100 Standard	U01/U01W
Yale	999R	344	V100 Standard	U01/U01W
Yale	SX9B+	412	V100 Standard	U01/U01W
Yale	YA21	432	V100 Standard	U01/U01W
Yale	YL8	433	V100 Standard	U01/U01W
Yale	YL8	434	V100 Standard	U01/U01W
Yale	YL8	435	V100 Standard	U01/U01W
Yale	C1041P	535	V100 Standard	U01/U01W
Yale	H997EB	635	V100 Standard	U01/U01W
Yale	999	647	V100 Standard	U01/U01W
Yale	999	665	V100 Standard	U01/U01W
Yale	1132+	1066	V100 Standard	U01/U01W
Yale	1502+	1069	V100 Standard	U01/U01W
Yale	997LA	1081	V100 Standard	U01/U01W
Yale	997L	1106	V100 Standard	U01/U01W
Yale	997B+	1155	V100 Standard	U01/U01W
Yale	12225PL	1273	V100 Standard	U01/U01W
Yale	997JA	1329	V100 Standard	U01/U01W
Yale	YL6	1457	V100 Standard	U01/U01W
Yale	997B	1555	V100 Standard	U01/U01W
Yale	Y1GA	2280	V100 Standard	U01/U01W
Yale	14KH	2933	V100 Standard	U01/U01W
Yale	Original	3081	V100 Standard	U01/U01W
Yale /P	997D	1185	V100 Standard	U01/U01W
Yale /S.D.	885BL	1260	V100 Standard	U01/U01W
Yale Furniture Locks	YA8E	733	V100 Standard	U01/U01W
Yale WARD/558	885BL+	1328	V100 Standard	U01/U01W
Yale WARD/559	885BL	1328	V100 Standard	U01/U01W
Yale/025	999+	412	V100 Standard	U01/U01W
Yale/Flat	Flat	265	V100 Standard	U01/U01W
Yale/Flat	Flat	266	V100 Standard	U01/U01W
Yale/Flat	Flat	267	V100 Standard	U01/U01W
Yale/Flat	Flat	268	V100 Standard	U01/U01W
Yale/Flat	202	269	V100 Standard	U01/U01W
Yale/Flat	W91C	270	V100 Standard	U01/U01W
Yale/Flat	W91C	271	V100 Standard	U01/U01W
Yale/Long	997X+	1068	V100 Standard	U01/U01W
Yamaha (Cycles)	N2M	22	V100 Standard	U01/U01W
Yamaha (Cycles)	C300/NE30	53	V100 Standard	U01/U01W
Yamaha (Cycles)	YH9/16/20/22	92	V100 Standard	U01/U01W
Yamaha (Cycles)	X39+	93	V100 Standard	U01/U01W
Yamaha (Cycles)	YH24	94	V100 Standard	U01/U01W
Yamaha (Cycles)	YH39/40	95	V100 Standard	U01/U01W
Yamaha (Cycles)	X18	96	V100 Standard	U01/U01W
Yamaha (Cycles)	YH32+	97	V100 Standard	U01/U01W
Yamaha (Cycles)	YH48+	98	V100 Standard	U01/U01W
Yamaha (Cycles)	ZD24RDP	136	V100 Standard	U01/U01W
Yamaha (Cycles)	YH21+	154	V100 Standard	U01/U01W
Yamaha (Cycles)	YH41/42	155	V100 Standard	U01/U01W
Yamaha (Cycles)	N2M	171	V100 Standard	U01/U01W

Yamaha - Ziplock

LOCK MANUFACTURER	POSSIBLE KEY NO.	CARD NO	CLAMP ADAPTER	CUTTER
Yamaha (Cycles)	C300	187	V100 Standard	U01/U01W
Yamaha (Cycles)	YH31R	198	V100 Standard	U01/U01W
Yamaha (Cycles)	TM63	289	V100 Standard	U01/U01W
Yamaha (Cycles)	ZD9	389	V100 Standard	U01/U01W
Yamaha (Cycles)	YH14	986	V100 Standard	U01/U01W
Yamaha (Cycles)	Y77B	998	V100 Standard	U01/U01W
Yamaha (Cycles)	Y79H	999	V100 Standard	U01/U01W
Yamaha (Cycles)	X44	1871	V100 Standard	U01/U01W
Yamaha (Cycles)	YH28R	2572	V100 Standard	U01/U01W
Yamaha (Cycles)	Original	3121	V100 Standard	U01/U01W
Yardini	YD1	371	V100 Standard	U01/U01W
Yardini/Nabob	YD4	372	V100 Standard	U01/U01W
Yugo 1986	X153	218	V100 Standard	U01/U01W
Yugo 1987-89	X167	388	V100 Standard	U01/U01W
Z				
Zadi (Bicycles Various Makes)	ZD13R	390	V100 Standard	U01/U01W
Zadi Cabinet Locks	ME9	467	V100 Standard	U01/U01W
Zadi Cabinet Locks	ME9	483	V100 Standard	U01/U01W
Zeiss Ikon	ZE91G	422	V100 Standard	U01/U01W
Zeiss Ikon	ZE91CR	423	V100 Standard	U01/U01W
Zeiss Ikon	Original	540	V100 Standard	U01/U01W
Zeiss Ikon	Original	544	V100 Standard	U01/U01W
Zeiss Ikon	BAB13R	618	V100 Standard	U01/U01W
Zeiss Ikon	Original	633	V100 Standard	U01/U01W
Zeiss Ikon	Original	840	V100 Standard	U01/U01W
Zeiss Ikon	Original	968	V100 Standard	U01/U01W
Zeiss Ikon	ZK5+	1161	V100 Standard	U01/U01W
Zeiss Ikon	ZK5+	1162	V100 Standard	U01/U01W
Zeiss Ikon	Original	2958	V100 Standard	U01/U01W
Zenith	ZE91C	295	V100 Standard	U01/U01W
Zenith	UR62K	615	V100 Standard	U01/U01W
Zenith	CA91D	617	V100 Standard	U01/U01W
Ziplock	H1122W	1067	V100 Standard	U01/U01W

AUTOMOTIVE CODE SERIES INDEX

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
A				
Acura	3001-4481	148	V100 - Standard	U01/U01W
Acura	5001-8442	262	V100 - Standard	U01/U01W
Acura	N5001-7000	264	V100 - Standard	U01/U01W
Alfa Romeo	1501-11000	4	V100 - Standard	U01/U01W
Alfa Romeo	3501-31000	4	V100 - Standard	U01/U01W
Alfa Romeo	X1-8000	145	V100 - Standard	U01/U01W
Alfa Romeo	X8001-9000	145	V100 - Standard	U01/U01W
AMC	2700A1-4816Z9	74	V100 - Standard	U01/U01W
AMC	00E0-99E9(J)	14	V100 - Standard	U01/U01W
AMC	00F0-99F9(J)	14	V100 - Standard	U01/U01W
AMC	0E00-9E99(J)	14	V100 - Standard	U01/U01W
AMC	0F00-9F99(J)	14	V100 - Standard	U01/U01W
AMC	E000-999(J)	14	V100 - Standard	U01/U01W
AMC	F000-999	14	V100 - Standard	U01/U01W
AMC	G0-1394	287	V100 - Standard	U01/U01W
AMC	J1-3580	537	V100 - Standard	U01/U01W
AMC	K1-1000	144	V100 - Standard	U01/U01W
AMC	L1-1000	144	V100 - Standard	U01/U01W
Aprilia (Cycles)	C5001-6475	210	V100 - Standard	U01/U01W
Aprilia (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Aston Martin	AK1-1000	13	V100 - Standard	U01/U01W
Atala (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Audi	AH1-8154	49	V100 - Standard	U01/U01W
Audi	AH1001-9282	50	V100 - Standard	U01/U01W
Audi	AN1-8154	49	V100 - Standard	U01/U01W
Audi	AN1001-9282	50	V100 - Standard	U01/U01W
Audi	HV1-8154	49	V100 - Standard	U01/U01W
Audi	HV1001-9282	50	V100 - Standard	U01/U01W
Audi	MD1-8154	49	V100 - Standard	U01/U01W
Audi	NV1-8154	49	V100 - Standard	U01/U01W
Audi	NV1001-9282	50	V100 - Standard	U01/U01W
Audi	VB1-8154	49	V100 - Standard	U01/U01W
Austin	FT301-360	72	V100 - Standard	U01/U01W
B				
BedFord	7001-9000	68	V100 - Standard	U01/U01W
Beta (Cycles)	N1-700	136	V100 - Standard	U01/U01W
BMW	B101-300	375	V100 - Standard	U01/U01W
BMW	HB1-5000	10	V100 - Standard	U01/U01W
BMW	HB40001-49999	184	V100 - Standard	U01/U01W
BMW	SX241-750	109	V100 - Standard	U01/U01W
BMW	W7001-8000	102	V100 - Standard	U01/U01W
BMW (Cycles)	HB1-5000	10	V100 - Standard	U01/U01W
Brockway	C500-699	142	V100 - Standard	U01/U01W
Brockway	CH251-750	1335	V100 - Standard	U01/U01W
Brockway	CH0751-1178	1335	V100 - Standard	U01/U01W
Brockway	H601-1100	142	V100 - Standard	U01/U01W
Brockway	LL1-200	1335	V100 - Standard	U01/U01W
Buick (GM)	1-1988	567	V100 - Standard	U01/U01W
Buick (GM)	AA00-7T51	567	V100 - Standard	U01/U01W
Buick (GM)	S000A-711K	567	V100 - Standard	U01/U01W
Buick (GM)	00A0-99A9(C)	14	V100 - Standard	U01/U01W
Buick (GM)	00B0-99B9(C)	14	V100 - Standard	U01/U01W
Buick (GM)	00C0-99C9(D)	14	V100 - Standard	U01/U01W
Buick (GM)	00D0-99D9(D)	14	V100 - Standard	U01/U01W

Buick (GM) - Cadillac (GM)

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Buick (GM)	00E0-99E9(J)	14	V100 - Standard	U01/U01W
Buick (GM)	00F0-99F9(J)	14	V100 - Standard	U01/U01W
Buick (GM)	00G0-99G9(K)	14	V100 - Standard	U01/U01W
Buick (GM)	00H0-99H9(K)	14	V100 - Standard	U01/U01W
Buick (GM)	00J0-99J9 (Double Sided)	470	V100 - Standard	U01/U01W
Buick (GM)	00J0-99J9(E)	14	V100 - Standard	U01/U01W
Buick (GM)	00K0-99K9(E)	14	V100 - Standard	U01/U01W
Buick (GM)	00L0-99L9(H)	14	V100 - Standard	U01/U01W
Buick (GM)	00M0-99M9(H)	14	V100 - Standard	U01/U01W
Buick (GM)	00N0-99N9(C)	14	V100 - Standard	U01/U01W
Buick (GM)	00P0-99P9(C)	14	V100 - Standard	U01/U01W
Buick (GM)	00S0-99S9(D)	14	V100 - Standard	U01/U01W
Buick (GM)	00U0-99U9(D)	14	V100 - Standard	U01/U01W
Buick (GM)	00V0-99V9(A)	14	V100 - Standard	U01/U01W
Buick (GM)	00W0-99W9(A)	14	V100 - Standard	U01/U01W
Buick (GM)	00X0-99X9(B)	14	V100 - Standard	U01/U01W
Buick (GM)	00Y0-99Y9(B)	14	V100 - Standard	U01/U01W
Buick (GM)	0A00-9A99(A)	14	V100 - Standard	U01/U01W
Buick (GM)	0B00-9B99(A)	14	V100 - Standard	U01/U01W
Buick (GM)	0C00-9C99(B)	14	V100 - Standard	U01/U01W
Buick (GM)	0D00-9D99(B)	14	V100 - Standard	U01/U01W
Buick (GM)	0E00-9E99(J)	14	V100 - Standard	U01/U01W
Buick (GM)	0F00-9F99(J)	14	V100 - Standard	U01/U01W
Buick (GM)	0G00-9G99(K)	14	V100 - Standard	U01/U01W
Buick (GM)	0H00-9H99(K)	14	V100 - Standard	U01/U01W
Buick (GM)	0J00-9J99(E)	14	V100 - Standard	U01/U01W
Buick (GM)	0K00-9K99(E)	14	V100 - Standard	U01/U01W
Buick (GM)	0L00-9L99(H)	14	V100 - Standard	U01/U01W
Buick (GM)	0M00-9M99(H)	14	V100 - Standard	U01/U01W
Buick (GM)	0N00-9N99(C)	14	V100 - Standard	U01/U01W
Buick (GM)	0P00-9P99(C)	14	V100 - Standard	U01/U01W
Buick (GM)	0R00-9R99(D)	14	V100 - Standard	U01/U01W
Buick (GM)	0T00-9T99(D)	14	V100 - Standard	U01/U01W
Buick (GM)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
Buick (GM)	0W00-9W99(A)	14	V100 - Standard	U01/U01W
Buick (GM)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
Buick (GM)	0Y00-9Y99(B)	14	V100 - Standard	U01/U01W
Buick (GM)	E000-999(J)	14	V100 - Standard	U01/U01W
Buick (GM)	F000-999 (J)	14	V100 - Standard	U01/U01W
Buick (GM)	G000-999(K)	14	V100 - Standard	U01/U01W
Buick (GM)	G0-3631	2020	V100 - Standard	U01/U01W
Buick (GM)	H000-H999(K)	14	V100 - Standard	U01/U01W
Buick (GM)	H1-3988	567	V100 - Standard	U01/U01W
Buick (GM)	N000-999(E)	14	V100 - Standard	U01/U01W
Buick (GM)	O5000-6999 (GM 2000 Seires)	567	V100 - Standard	U01/U01W
Buick (GM)	P000-999(E)	14	V100 - Standard	U01/U01W
Buick (GM)	S000-999(H)	14	V100 - Standard	U01/U01W
Buick (GM)	U000-999(H)	14	V100 - Standard	U01/U01W
C				
Cadillac (GM)	1-1988	567	V100 - Standard	U01/U01W
Cadillac (GM)	AA00-7T51	567	V100 - Standard	U01/U01W
Cadillac (GM)	S000A-711K	567	V100 - Standard	U01/U01W
Cadillac (GM)	00A0-99A9(C)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00B0-99B9(C)	14	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Cadillac (GM)	00C0-99C9(D)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00D0-99D9(D)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00E0-99E9(J)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00F0-99F9(J)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00G0-99G9(K)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00H0-99H9(K)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00J0-99J9(E)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00K0-99K9(E)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00L0-99L9(H)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00M0-99M9(H)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00N0-99N9(C)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00P0-99P9(C)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00S0-99S9(D)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00U0-99U9(D)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00V0-99V9(A)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00W0-99W9(A)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00X0-99X9(B)	14	V100 - Standard	U01/U01W
Cadillac (GM)	00Y0-99Y9(B)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0A00-9A99(A)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0B00-9B99(A)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0C00-9C99(B)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0D00-9D99(B)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0E00-9E99(J)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0F00-9F99(J)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0G00-9G99(K)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0H00-9H99(K)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0J00-9J99(E)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0K00-9K99(E)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0L00-9L99(H)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0M00-9M99(H)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0N00-9N99(C)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0P00-9P99(C)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0R00-9R99(D)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0T00-9T99(D)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0W00-9W99(A)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
Cadillac (GM)	0Y00-9Y99(B)	14	V100 - Standard	U01/U01W
Cadillac (GM)	E000-999(J)	14	V100 - Standard	U01/U01W
Cadillac (GM)	F000-999 (J)	14	V100 - Standard	U01/U01W
Cadillac (GM)	G0-3631	2020	V100 - Standard	U01/U01W
Cadillac (GM)	G000-G999(K)	14	V100 - Standard	U01/U01W
Cadillac (GM)	H000-H999(K)	14	V100 - Standard	U01/U01W
Cadillac (GM)	H1-3988	567	V100 - Standard	U01/U01W
Cadillac (GM)	N000-999(E)	14	V100 - Standard	U01/U01W
Cadillac (GM)	O5000-6999 (GM 2000 Series)	567	V100 - Standard	U01/U01W
Cadillac (GM)	P000-999(E)	14	V100 - Standard	U01/U01W
Cadillac (GM)	S000-999(H)	14	V100 - Standard	U01/U01W
Cadillac (GM)	S1-5200	110	V100 - Standard	U01/U01W
Cadillac (GM)	S5298-6300	110	V100 - Standard	U01/U01W
Cadillac (GM)	U000-999(H)	14	V100 - Standard	U01/U01W
CAGIVA (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Chevrolet (GM)	AA00-7T51	567	V100 - Standard	U01/U01W
Chevrolet (GM)	10001-15000	514	V100 - Standard	U01/U01W

Chevrolet (GM)

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Chevrolet (GM)	18100-19299	288	V100 - Standard	U01/U01W
Chevrolet (GM)	70000-75928	2134	V100 - Standard	U01/U01W
Chevrolet (GM)	00A0-99A9(C)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00B0-99B9(C)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00C0-99C9(D)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00D0-99D9(D)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00E0-99E9(J)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00F0-99F9(J)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00G0-99G9(K)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00H0-99H9(K)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00J0-99J9 (Double Sided)	470	V100 - Standard	U01/U01W
Chevrolet (GM)	00J0-99J9(E)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00K0-99K9(Double Sided)	470	V100 - Standard	U01/U01W
Chevrolet (GM)	00K0-99K9(E)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00L0-99L9(H)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00M0-99M9(H)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00N0-99N9(C)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00P0-99P9(C)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00S0-99S9(D)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00U0-99U9(D)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00V0-99V9(A)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00W0-99W9(A)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00X0-99X9(B)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	00Y0-99Y9(B)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0A00-9A99(A)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0B00-9B99(A)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0C00-9C99(B)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0D00-9D99(B)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0E00-9E99(J)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0F00-9F99(J)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0G00-9G99(K)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0H00-9H99(K)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0J00-9J99(E)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0K00-9K99(E)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0L00-9L99(H)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0M00-9M99(H)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0N00-9N99(C)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0P00-9P99(C)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0R00-9R99(D)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0T00-9T99(D)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0W00-9W99(A)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	0Y00-9Y99(B)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	1-175	1037	V100 - Standard	U01/U01W
Chevrolet (GM)	1-9999	2991	V100 - Standard	U01/U01W
Chevrolet (Isuzu)	A8001-9400	156	V100 - Standard	U01/U01W
Chevrolet (GM)	E000-999(J)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	F000-999	14	V100 - Standard	U01/U01W
Chevrolet (GM)	G0-3631	2020	V100 - Standard	U01/U01W
Chevrolet (GM)	G000-G999(K)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	H000-H999(K)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	H1-400	89	V100 - Standard	U01/U01W
Chevrolet (GM)	H2221-2620	89	V100 - Standard	U01/U01W
Chevrolet (GM)	H4441-5143	89	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Chevrolet (GM)	L0-999	567	V100 - Standard	U01/U01W
Chevrolet (GM)	N000-999(E)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	P000-999(E)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	S000-999(H)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	S000A-711K	567	V100 - Standard	U01/U01W
Chevrolet (GM)	U000-999(H)	14	V100 - Standard	U01/U01W
Chevrolet (GM)	U1-2000	264	V100 - Standard	U01/U01W
Chevrolet (GM)	V2001-3200	110	V100 - Standard	U01/U01W
Chrysler	2700A1-4816Z9	74	V100 - Standard	U01/U01W
Chrysler	C500-699	142	V100 - Standard	U01/U01W
Chrysler	E5001-7000	264	V100 - Standard	U01/U01W
Chrysler	E7001-7700	264	V100 - Standard	U01/U01W
Chrysler	EP1-3000	139	V100 - Standard	U01/U01W
Chrysler	ES1-3000	139	V100 - Standard	U01/U01W
Chrysler	G0-1394	287	V100 - Standard	U01/U01W
Chrysler	H1-400	89	V100 - Standard	U01/U01W
Chrysler	H2221-2620	89	V100 - Standard	U01/U01W
Chrysler	H4441-5143	89	V100 - Standard	U01/U01W
Chrysler (Mack)	H601-1100	142	V100 - Standard	U01/U01W
Chrysler	J1-3580	537	V100 - Standard	U01/U01W
Chrysler	K1-1000	144	V100 - Standard	U01/U01W
Chrysler	L1-3580	537	V100 - Standard	U01/U01W
Chrysler	M1-2618	745	V100 - Standard	U01/U01W
D				
Daewoo	V1-1200	110	V100 - Standard	U01/U01W
Daihatsu	75000-75999	2794	V100 - Standard	U01/U01W
Daihatsu	K1-400	89	V100 - Standard	U01/U01W
Daihatsu	K1511-1910	89	V100 - Standard	U01/U01W
Daihatsu	K2221-2620	89	V100 - Standard	U01/U01W
Daihatsu	K3731-4400	89	V100 - Standard	U01/U01W
Daihatsu	K4401-4570	89	V100 - Standard	U01/U01W
DeLorean	7001-9000	68	V100 - Standard	U01/U01W
DeLorean	WR5000-5999	115	V100 - Standard	U01/U01W
DeLorean	WR3000-3999	115	V100 - Standard	U01/U01W
Diamond Reo	C500-699	142	V100 - Standard	U01/U01W
Diamond Reo	H601-1100	142	V100 - Standard	U01/U01W
Dodge (Chrysler)	2700A1-4816Z9	74	V100 - Standard	U01/U01W
Dodge (Chrysler)	30010-32009	288	V100 - Standard	U01/U01W
Dodge (Chrysler)	AM1-1000	290	V100 - Standard	U01/U01W
Dodge (Chrysler)	E5001-7000	264	V100 - Standard	U01/U01W
Dodge (Chrysler)	E7001-7700	264	V100 - Standard	U01/U01W
Dodge (Chrysler)	EP1-3000	139	V100 - Standard	U01/U01W
Dodge (Chrysler)	ES1-3000	139	V100 - Standard	U01/U01W
Dodge (Chrysler)	G0-1394	287	V100 - Standard	U01/U01W
Dodge (Chrysler)	H1-400	89	V100 - Standard	U01/U01W
Dodge (Chrysler)	H2221-2620	89	V100 - Standard	U01/U01W
Dodge (Chrysler)	H4441-5143	89	V100 - Standard	U01/U01W
Dodge (Chrysler)	J1-3580	537	V100 - Standard	U01/U01W
Dodge (Chrysler)	K1-1000	144	V100 - Standard	U01/U01W
Dodge (Chrysler)	L1-3580	537	V100 - Standard	U01/U01W
Dodge (Chrysler)	M1-2618	745	V100 - Standard	U01/U01W
Dodge (Chrysler)	NF1-NF1200	15	V100 - Standard	U01/U01W
DUCATI (Cycles)	N1-700	136	V100 - Standard	U01/U01W
DUCATI (Cycles)	C5001-6475	210	V100 - Standard	U01/U01W

Eagle - Freightliner

APPLICATION	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
E				
Eagle (Chrysler)	2700A1-4816Z9	74	V100 - Standard	U01/U01W
Eagle (Chrysler)	30010-32009	288	V100 - Standard	U01/U01W
Eagle (Chrysler)	AM1-1000	290	V100 - Standard	U01/U01W
Eagle (Chrysler)	E5001-7000	264	V100 - Standard	U01/U01W
Eagle (Chrysler)	E7001-7700	264	V100 - Standard	U01/U01W
Eagle (Chrysler)	EP1-3000	139	V100 - Standard	U01/U01W
Eagle (Chrysler)	ES1-3000	139	V100 - Standard	U01/U01W
Eagle (Chrysler)	G0-1394	287	V100 - Standard	U01/U01W
Eagle (Chrysler)	H1-400	89	V100 - Standard	U01/U01W
Eagle (Chrysler)	H2221-2620	89	V100 - Standard	U01/U01W
Eagle (Chrysler)	H4441-5143	89	V100 - Standard	U01/U01W
Eagle (Chrysler)	J1-3580	537	V100 - Standard	U01/U01W
Eagle (Chrysler)	K1-1000	144	V100 - Standard	U01/U01W
Eagle (Chrysler)	L1-3580	537	V100 - Standard	U01/U01W
Eagle (Chrysler)	M1-2618	745	V100 - Standard	U01/U01W
F				
Ferrari	1501-11000	4	V100 - Standard	U01/U01W
Ferrari	3501-31000	4	V100 - Standard	U01/U01W
Fiat	1501-11000	4	V100 - Standard	U01/U01W
Fiat	3501-31000	4	V100 - Standard	U01/U01W
Fiat	AK1-1000	13	V100 - Standard	U01/U01W
Fillercap (Various Brands)	LH1-400	116	V100 - Standard	U01/U01W
Ford	101A501-381A579(A)	194	V100 - Standard	U01/U01W
Ford	101B501-410B602(B)	194	V100 - Standard	U01/U01W
Ford	101C501-404C624(C)	194	V100 - Standard	U01/U01W
Ford	101D501-340D602(D)	194	V100 - Standard	U01/U01W
Ford	101E501-304E579(E)	194	V100 - Standard	U01/U01W
Ford	AK1-1000	13	V100 - Standard	U01/U01W
Ford (EU)	10100-12283	288	V100 - Standard	U01/U01W
Ford (EU)	AK1-1000	13	V100 - Standard	U01/U01W
Ford (EU)	FB1-210	59	V100 - Standard	U01/U01W
Ford (EU)	X1-8000	145	V100 - Standard	U01/U01W
Ford (EU)	X8001-9000	145	V100 - Standard	U01/U01W
Ford (USA)	6500-7733	157	V100 - Standard	U01/U01W
Ford (USA)	10100-12283	288	V100 - Standard	U01/U01W
Ford (USA)	1X-1706	612	V100 - Standard	U01/U01W
Ford (USA)	101A501-381A579(A)	194	V100 - Standard	U01/U01W
Ford (USA)	101B501-410B602(B)	194	V100 - Standard	U01/U01W
Ford (USA)	101C501-404C624(C)	194	V100 - Standard	U01/U01W
Ford (USA)	101D501-340D602(D)	194	V100 - Standard	U01/U01W
Ford (USA)	101E501-304E579(E)	194	V100 - Standard	U01/U01W
Ford (USA)	AK1-1000	13	V100 - Standard	U01/U01W
Ford (USA)	B1001-2200	585	V100 - Standard	U01/U01W
Ford (USA)	B5001-6200	585	V100 - Standard	U01/U01W
Ford (USA)	E2001-3000	68	V100 - Standard	U01/U01W
Ford (USA)	FA0-1863 (PA)	140	V100 - Standard	U01/U01W
Ford (USA)	FB1-1863 (PB)	140	V100 - Standard	U01/U01W
Ford (USA)	FT301-360	72	V100 - Standard	U01/U01W
Ford (USA)	WR3000-3999	115	V100 - Standard	U01/U01W
Freightliner	C500-699	142	V100 - Standard	U01/U01W
Freightliner	FL1-262	537	V100 - Standard	U01/U01W
Freightliner	FL201-240	561	V100 - Standard	U01/U01W
Freightliner	FT1001-3000	537	V100 - Standard	U01/U01W
Freightliner (Mack)	H601-1100	142	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Freightliner	LL1-326	138	V100 - Standard	U01/U01W
Freightliner	N225-814	144	V100 - Standard	U01/U01W
Freightliner	Z1-Z262	537	V100 - Standard	U01/U01W
G				
General Motors	S1-5200	110	V100 - Standard	U01/U01W
General Motors	S5298-6300	110	V100 - Standard	U01/U01W
Geo (GM)	10001-15000	514	V100 - Standard	U01/U01W
Geo (GM)	18100-19299	288	V100 - Standard	U01/U01W
Geo (GM)	19300-19617	288	V100 - Standard	U01/U01W
Geo (GM)	A8001-9400	156	V100 - Standard	U01/U01W
Geo (GM)	G001-7G0	264	V100 - Standard	U01/U01W
Geo (GM)	N5001-7000	264	V100 - Standard	U01/U01W
Geo (GM)	U1-2000	264	V100 - Standard	U01/U01W
Gileria (Cycles)	N1-700	136	V100 - Standard	U01/U01W
GMC (GM) (Suburban Console)	01-175	1037	V100 - Standard	U01/U01W
GMC (GM)	70000-75928	2134	V100 - Standard	U01/U01W
GMC (Isuzu)	A8001-9400	156	V100 - Standard	U01/U01W
GMC (GM)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
GMC (GM)	G0-3631	2020	V100 - Standard	U01/U01W
GMC (GM)	S8001-9000	145	V100 - Standard	U01/U01W
H				
Harley Davidson	C1251-1700	142	V100 - Standard	U01/U01W
Harley Davidson	M000-221	142	V100 - Standard	U01/U01W
Hino Truck	73000-73999	3416	V100 - Standard	U01/U01W
Hino Truck	K1-400	89	V100 - Standard	U01/U01W
Hino Truck	K1511-1910	89	V100 - Standard	U01/U01W
Hino Truck	K2221-2620	89	V100 - Standard	U01/U01W
Hino Truck	K3731-4400	89	V100 - Standard	U01/U01W
Hino Truck	K4401-4570	89	V100 - Standard	U01/U01W
Holden	S0-1999 (V)	14	V100 - Standard	U01/U01W
Holden	V0-1999	14	V100 - Standard	U01/U01W
Honda	3001-4481	148	V100 - Standard	U01/U01W
Honda	5001-8442	262	V100 - Standard	U01/U01W
Honda	D4001-6000	288	V100 - Standard	U01/U01W
Honda	N5001-7000	264	V100 - Standard	U01/U01W
Honda (Cycles)	123	3121	V100 - Standard	U01/U01W
Honda (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Honda (Cycles)	MD1-8154	49	V100 - Standard	U01/U01W
Honda (Cycles)	NV1-8154	49	V100 - Standard	U01/U01W
Honda (Cycles)	NV1001-9282	50	V100 - Standard	U01/U01W
Honda (Cycles)	VB1-8154	49	V100 - Standard	U01/U01W
Hummer (GM)	G0-3631	2020	V100 - Standard	U01/U01W
Hyundai	C6001-8042	89	V100 - Standard	U01/U01W
Hyundai	D1001-2000	221	V100 - Standard	U01/U01W
Hyundai	F1-2500	2330	V100 - Standard	U01/U01W
Hyundai	H1-400	89	V100 - Standard	U01/U01W
Hyundai	H2221-2620	89	V100 - Standard	U01/U01W
Hyundai	H4441-5143	89	V100 - Standard	U01/U01W
Hyundai	M1-2500	2503	V100 - Standard	U01/U01W
Hyundai	P1-2500	2503	V100 - Standard	U01/U01W
Hyundai	R1-1000	487	V100 - Standard	U01/U01W
Hyundai	S1-1000	487	V100 - Standard	U01/U01W
Hyundai	T1-1000	487	V100 - Standard	U01/U01W
Hyundai	T1-2500 (2007+)	2503	V100 - Standard	U01/U01W

Hyundai - Iveco

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Hyundai	V0001-1200 (8-cut) (depths 4-1)	2281	V100 - Standard	U01/U01W
Hyundai	X1-1000 (84/89)	221	V100 - Standard	U01/U01W
Hyundai	X1001-2000	89	V100 - Standard	U01/U01W
Hyundai	Y1001-2000	89	V100 - Standard	U01/U01W
Hyundai	Z1001-2000 (88/94)	89	V100 - Standard	U01/U01W
Hyundai	Z1-1000	89	V100 - Standard	U01/U01W
Hyundai	Z3001-4000	221	V100 - Standard	U01/U01W
I				
Infiniti (Nissan)	1-22185	607	V100 - Standard	U01/U01W
Infiniti (Nissan) (tip stop pos. 4)	40001-41518	607	V100 - Standard	U01/U01W
Infiniti (Nissan) (tip stop pos. 3)	40001-41518	2269	V100 - Standard	U01/U01W
Infiniti (Nissan)	X1-8000	145	V100 - Standard	U01/U01W
Infiniti (Nissan)	X8001-9000	145	V100 - Standard	U01/U01W
Infiniti (Nissan)	Y1-8000	145	V100 - Standard	U01/U01W
Infiniti (Nissan)	Y8001-9000	145	V100 - Standard	U01/U01W
International Harvistar (Navistar)	00A0-99A9(C)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	00B0-99B9(C)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	00V0-99V9(A)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	00W0-99W9(A)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0C00-9C99(B)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0D00-9D99(B)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	00Y0-99Y9(B)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0W00-9W99(A)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	0Y00-9Y99(B)	14	V100 - Standard	U01/U01W
International Harvistar (Navistar)	C250-499	142	V100 - Standard	U01/U01W
International Harvistar (Navistar)	C500-699	142	V100 - Standard	U01/U01W
International Harvistar (Navistar)	C1701-1950	142	V100 - Standard	U01/U01W
International Harvistar (Navistar)	H601-1100	142	V100 - Standard	U01/U01W
International Harvistar (Navistar) (Chrysler)	K1-1000	144	V100 - Standard	U01/U01W
International Harvistar (Navistar)	L1-1000	144	V100 - Standard	U01/U01W
Isuzu	5001-8442	262	V100 - Standard	U01/U01W
Isuzu	70000-75828	1420	V100 - Standard	U01/U01W
Isuzu	80000-80999	2698	V100 - Standard	U01/U01W
Isuzu	A8001-9400	156	V100 - Standard	U01/U01W
Isuzu	C6001-8042	89	V100 - Standard	U01/U01W
Isuzu	D4001-6000	288	V100 - Standard	U01/U01W
Isuzu	H1-400	89	V100 - Standard	U01/U01W
Isuzu	H2221-2620	89	V100 - Standard	U01/U01W
Isuzu	H4441-5143	89	V100 - Standard	U01/U01W
Isuzu	N5001-7000	264	V100 - Standard	U01/U01W
Isuzu	S8001-9000	145	V100 - Standard	U01/U01W
Isuzu (GM)	U1-2000	264	V100 - Standard	U01/U01W
Isuzu	Z1-1000	89	V100 - Standard	U01/U01W
Isuzu	Z1001-2000	89	V100 - Standard	U01/U01W
Isuzu	Z3001-4000	221	V100 - Standard	U01/U01W
Iveco	1501-11000	4	V100 - Standard	U01/U01W
Iveco	3501-31000	4	V100 - Standard	U01/U01W
Iveco	HV1-8154	49	V100 - Standard	U01/U01W
Iveco	HV1001-9282	50	V100 - Standard	U01/U01W
Iveco	MD1-8154	49	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Iveco	NV1-8154	49	V100 - Standard	U01/U01W
Iveco	NV1001-9282	50	V100 - Standard	U01/U01W
Iveco	VB1-8154	49	V100 - Standard	U01/U01W
Iveco	RO1001-2000	9	V100 - Standard	U01/U01W
J				
Jaguar	AK1-1000	13	V100 - Standard	U01/U01W
Jaguar	FT301-360	72	V100 - Standard	U01/U01W
Jaguar	FT1001-2001	141	V100 - Standard	U01/U01W
Jaguar	K0-1005	217	V100 - Standard	U01/U01W
Jaguar	WR1000-2999	115	V100 - Standard	U01/U01W
Jeep (GM)	00E0-99E9(J)	14	V100 - Standard	U01/U01W
Jeep (GM)	00F0-99F9(J)	14	V100 - Standard	U01/U01W
Jeep (GM)	0E00-9E99(J)	14	V100 - Standard	U01/U01W
Jeep (GM)	0F00-9F99(J)	14	V100 - Standard	U01/U01W
Jeep	C250-499	142	V100 - Standard	U01/U01W
Jeep	C500-699	142	V100 - Standard	U01/U01W
Jeep	C1701-1950	142	V100 - Standard	U01/U01W
Jeep	E000-999(J)	14	V100 - Standard	U01/U01W
Jeep	F000-999 (J)	14	V100 - Standard	U01/U01W
Jeep	G0-1394	287	V100 - Standard	U01/U01W
Jeep	H601-1100	142	V100 - Standard	U01/U01W
Jeep	J1-3580	537	V100 - Standard	U01/U01W
Jeep (Chrysler)	K1-1000	144	V100 - Standard	U01/U01W
Jeep (AMC)	L1-1000	144	V100 - Standard	U01/U01W
Jeep	L1-3580	537	V100 - Standard	U01/U01W
Jeep	M1-2618	745	V100 - Standard	U01/U01W
K				
Kawasaki (Cycles)	123	3294	V100 - Standard	U01/U01W
Kenworth	C250-499	142	V100 - Standard	U01/U01W
Kenworth	C500-699	142	V100 - Standard	U01/U01W
Kenworth	C1251-1700	142	V100 - Standard	U01/U01W
Kenworth	C1951-2200	142	V100 - Standard	U01/U01W
Kenworth	E2001-3000	68	V100 - Standard	U01/U01W
Kenworth	FB1-210	59	V100 - Standard	U01/U01W
Kenworth	G101-598	636	V100 - Standard	U01/U01W
Kenworth	H601-1100	142	V100 - Standard	U01/U01W
Kia	F1-2500	2503	V100 - Standard	U01/U01W
Kia	H1-2500	2503	V100 - Standard	U01/U01W
Kia	M1-2500	2503	V100 - Standard	U01/U01W
Kia	S1-1000	487	V100 - Standard	U01/U01W
Kia	S1-1000	2662	V100 - Standard	U01/U01W
Kia	T1-1000	2281	V100 - Standard	U01/U01W
Kia	V1-1200 (10-cut) (depths 5-1)	2503	V100 - Standard	U01/U01W
Kia (Optima mid'06 to2009)	V1-1200 (10-cut) (depths 1-5)	3419	V100 - Standard	U01/U01W
Kia	V1-1200 (8-cut) (depths 1-4)	2454	V100 - Standard	U01/U01W
Kia	V1-1200 (8-cut) (depths 4-1)	2281	V100 - Standard	U01/U01W
Kia	WA1001-3040	1860	V100 - Standard	U01/U01W
Kia	WC1001-3500 (8-cut) (depths 1-5)	3003	V100 - Standard	U01/U01W
Kia	WD1001-3500 (8-cut) (depths 1-5)	3003	V100 - Standard	U01/U01W
Kia	WC1001-3500 (8-cut) (depths 5-1)	3417	V100 - Standard	U01/U01W
Kia	WD1001-3500 (8-cut) (depths 5-1)	3417	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Kia	Y2001-3000	742	V100 - Standard	U01/U01W
Kia	Y7001-8200	221	V100 - Standard	U01/U01W
KTM	N1-700	136	V100 - Standard	U01/U01W
L				
Lamgourgini	1501-11000	4	V100 - Standard	U01/U01W
Lamgourgini	3501-31000	4	V100 - Standard	U01/U01W
Land Rover	7001-9000	68	V100 - Standard	U01/U01W
Land Rover	E2001-3000	68	V100 - Standard	U01/U01W
Land Rover	E8000-8999	68	V100 - Standard	U01/U01W
Land Rover	FT301-360	72	V100 - Standard	U01/U01W
Land Rover	L8001-10000	68	V100 - Standard	U01/U01W
Land Rover	RO1001-2000	9	V100 - Standard	U01/U01W
LDV	L1-1200	110	V100 - Standard	U01/U01W
Lexus	1-5000	480	V100 - Standard	U01/U01W
Lincoln (Ford)	1X-1706X	612	V100 - Standard	U01/U01W
Lincoln (Ford)	101A501-381A579(A)	194	V100 - Standard	U01/U01W
Lincoln (Ford)	101B501-410B602(B)	194	V100 - Standard	U01/U01W
Lincoln (Ford)	101C501-404C624(C)	194	V100 - Standard	U01/U01W
Lincoln (Ford)	101D501-340D602(D)	194	V100 - Standard	U01/U01W
Lincoln (Ford)	101E501-304E579(E)	194	V100 - Standard	U01/U01W
Lincoln (Ford)	FA0-1863	140	V100 - Standard	U01/U01W
Lincoln (Ford)	FB1-1863	140	V100 - Standard	U01/U01W
Lotus	00L0-99L9(H)	14	V100 - Standard	U01/U01W
Lotus	00M0-99M9(H)	14	V100 - Standard	U01/U01W
Lotus	0L00-9L99(H)	14	V100 - Standard	U01/U01W
Lotus	0M00-9M99(H)	14	V100 - Standard	U01/U01W
Lotus	FT301-360	72	V100 - Standard	U01/U01W
Lotus	K1-400	89	V100 - Standard	U01/U01W
Lotus	K1511-1910	89	V100 - Standard	U01/U01W
Lotus	K2221-2620	89	V100 - Standard	U01/U01W
Lotus	S000-999(H)	14	V100 - Standard	U01/U01W
Lotus	U000-999(H)	14	V100 - Standard	U01/U01W
Lotus	K1-400	89	V100 - Standard	U01/U01W
Lotus	K1511-1910	89	V100 - Standard	U01/U01W
Lotus	K2221-2620	89	V100 - Standard	U01/U01W
Lotus	K3731-4400	89	V100 - Standard	U01/U01W
Lotus	K4401-4570	89	V100 - Standard	U01/U01W
Lotus	RO1001-2000	9	V100 - Standard	U01/U01W
Lotus	S000-999(H)	14	V100 - Standard	U01/U01W
Lotus	U000-999(H)	14	V100 - Standard	U01/U01W
M				
Mack	C250-499	142	V100 - Standard	U01/U01W
Mack	C500-699	142	V100 - Standard	U01/U01W
Mack	C1701-1950	142	V100 - Standard	U01/U01W
Mack	H601-1100	142	V100 - Standard	U01/U01W
Mack	K1-1000	144	V100 - Standard	U01/U01W
Mack	M000-221	142	V100 - Standard	U01/U01W
Malaguti (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Maserati	1501-11000	4	V100 - Standard	U01/U01W
Maserati	3501-31000	4	V100 - Standard	U01/U01W
Maserati	FA0-1863	140	V100 - Standard	U01/U01W
Maserati	RO1001-2000	9	V100 - Standard	U01/U01W
Mazda	6500-7733	157	V100 - Standard	U01/U01W
Mazda	10100-12283	288	V100 - Standard	U01/U01W
Mazda	1X-1706X	612	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Mazda	101A501-381A579(A)	194	V100 - Standard	U01/U01W
Mazda	101B501-410B602(B)	194	V100 - Standard	U01/U01W
Mazda	101C501-404C624(C)	194	V100 - Standard	U01/U01W
Mazda	101D501-340D602(D)	194	V100 - Standard	U01/U01W
Mazda	101E501-304E579(E)	194	V100 - Standard	U01/U01W
Mazda	FA0-1863	140	V100 - Standard	U01/U01W
Mazda	FB1-1863	140	V100 - Standard	U01/U01W
MBK (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Mercedes Benz	HM6001-7110	15	V100 - Standard	U01/U01W
Mercedes Benz	NF1-1200 (NM)	15	V100 - Standard	U01/U01W
Mercury	6500-7733	157	V100 - Standard	U01/U01W
Mercury	10100-12283	288	V100 - Standard	U01/U01W
Mercury	101A501-381A579(A)	194	V100 - Standard	U01/U01W
Mercury	1X-1706X	612	V100 - Standard	U01/U01W
Mercury	101B501-410B602(B)	194	V100 - Standard	U01/U01W
Mercury	101C501-404C624(C)	194	V100 - Standard	U01/U01W
Mercury	101D501-340D602(D)	194	V100 - Standard	U01/U01W
Mercury	101E501-304E579(E)	194	V100 - Standard	U01/U01W
Mercury	AK1-1000	13	V100 - Standard	U01/U01W
Mercury	FA0-1863	140	V100 - Standard	U01/U01W
Mercury	FB1-1863	140	V100 - Standard	U01/U01W
MG	FT301-360	72	V100 - Standard	U01/U01W
MG	7001-9000	68	V100 - Standard	U01/U01W
Mitsubishi	8100-9113	263	V100 - Standard	U01/U01W
Mitsubishi	30010-32009	288	V100 - Standard	U01/U01W
Mitsubishi	E5001-7000	264	V100 - Standard	U01/U01W
Mitsubishi	E7001-7700	264	V100 - Standard	U01/U01W
Mitsubishi	F1-1571	1029	V100 - Standard	U01/U01W
Mitsubishi	H1-400	89	V100 - Standard	U01/U01W
Mitsubishi	H2221-2620	89	V100 - Standard	U01/U01W
Mitsubishi	H4441-5143	89	V100 - Standard	U01/U01W
Mitsubishi (Hyundai)	X1-1000	221	V100 - Standard	U01/U01W
Mitsubishi (Hyundai)	X1001-2000	89	V100 - Standard	U01/U01W
Moto Guzzi (Cycles)	1501-11000	4	V100 - Standard	U01/U01W
N				
Nissan	1-22185	607	V100 - Standard	U01/U01W
Nissan	1-22185 (11 cut)	2269	V100 - Standard	U01/U01W
Nissan	1X-1706X	612	V100 - Standard	U01/U01W
Nissan	101A501-381A579(A)	194	V100 - Standard	U01/U01W
Nissan	101B501-410B602(B)	194	V100 - Standard	U01/U01W
Nissan	101C501-404C624(C)	194	V100 - Standard	U01/U01W
Nissan	101D501-340D602(D)	194	V100 - Standard	U01/U01W
Nissan	101E501-304E579(E)	194	V100 - Standard	U01/U01W
Nissan (tip stop pos. 4)	40001-41518	607	V100 - Standard	U01/U01W
Nissan (tip stop pos. 3)	40001-41518	2269	V100 - Standard	U01/U01W
Nissan	80000-80999	2698	V100 - Standard	U01/U01W
Nissan	E2001-3000	68	V100 - Standard	U01/U01W
Nissan	IP5001-6308	3124	V100 - Standard	U01/U01W
Nissan	M6001-7000	80	V100 - Standard	U01/U01W
Nissan	M7001-8000	80	V100 - Standard	U01/U01W
Nissan	X1-8000	145	V100 - Standard	U01/U01W
Nissan	X8001-9000	145	V100 - Standard	U01/U01W
Nissan	Y1-8000	145	V100 - Standard	U01/U01W
Nissan	Y8001-9000	145	V100 - Standard	U01/U01W
Nissan (Trucks)	X1-8000	145	V100 - Standard	U01/U01W

Nissan - Oldsmobile (GM)

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Nissan (Trucks)	X8001-9000	145	V100 - Standard	U01/U01W
Nissan USA	1-22185	607	V100 - Standard	U01/U01W
Nissan USA	1-22185 (11 cut)	2269	V100 - Standard	U01/U01W
O				
Oldsmobile (GM)	00A0-99A9(C)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00B0-99B9(C)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00C0-99C9(D)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00D0-99D9(D)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00E0-99E9(J)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00F0-99F9(J)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00G0-99G9(K)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00H0-99H9(K)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00J0-99J9 (Double Sided)	470	V100 - Standard	U01/U01W
Oldsmobile (GM)	00J0-99J9(E)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00K0-99K9(Double Sided)	470	V100 - Standard	U01/U01W
Oldsmobile (GM)	00K0-99K9(E)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00L0-99L9(H)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00M0-99M9(H)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00N0-99N9(C)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00P0-99P9(C)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00S0-99S9(D)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00U0-99U9(D)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00V0-99V9(A)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00W0-99W9(A)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00X0-99X9(B)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	00Y0-99Y9(B)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0A00-9A99(A)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0B00-9B99(A)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0C00-9C99(B)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0D00-9D99(B)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0E00-9E99(J)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0F00-9F99(J)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0G00-9G99(K)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0H00-9H99(K)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0J00-9J99(E)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0K00-9K99(E)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0L00-9L99(H)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0M00-9M99(H)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0N00-9N99(C)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0P00-9P99(C)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0R00-9R99(D)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0T00-9T99(D)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0W00-9W99(A)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	0Y00-9Y99(B)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	AA00-7T51	567	V100 - Standard	U01/U01W
Oldsmobile (GM)	E000-999(J)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	F000-999	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	G000-G999(K)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	H000-H999(K)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	H1-3988	567	V100 - Standard	U01/U01W
Oldsmobile (GM)	N000-999(E)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	O5000-6999 (GM 2000 Series)	567	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Oldsmobile (GM)	P000-999(E)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	S000-999(H)	14	V100 - Standard	U01/U01W
Oldsmobile (GM)	S000A-711K	567	V100 - Standard	U01/U01W
Oldsmobile (GM)	U000-999(H)	14	V100 - Standard	U01/U01W
Opel-Vauxhall	50001-51398	1411	V100 - Standard	U01/U01W
P				
Pegaso	HV1-8154	49	V100 - Standard	U01/U01W
Peterbilt	C250-499	142	V100 - Standard	U01/U01W
Peterbilt	C500-699	142	V100 - Standard	U01/U01W
Peterbilt	C1251-1700	142	V100 - Standard	U01/U01W
Peterbilt	C1701-1950	142	V100 - Standard	U01/U01W
Peterbilt	C1951-2200	142	V100 - Standard	U01/U01W
Peterbilt	C1701-1950	142	V100 - Standard	U01/U01W
Peterbilt	E2001-3000	68	V100 - Standard	U01/U01W
Peterbilt	FB1-210	59	V100 - Standard	U01/U01W
Piaggio Vespa (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Piaggio Vespa (Cycles)	C5001-6475	210	V100 - Standard	U01/U01W
Pontiac (GM)	AA00-7T51	567	V100 - Standard	U01/U01W
Pontiac (GM)	S000A-711K	567	V100 - Standard	U01/U01W
Pontiac (GM)	00A0-99A9(C)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00B0-99B9(C)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00C0-99C9(D)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00D0-99D9(D)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00E0-99E9(J)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00F0-99F9(J)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00G0-99G9(K)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00H0-99H9(K)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00J0-99J9 (Double Sided)	470	V100 - Standard	U01/U01W
Pontiac (GM)	00J0-99J9(E)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00K0-99K9(Double Sided)	470	V100 - Standard	U01/U01W
Pontiac (GM)	00K0-99K9(E)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00L0-99L9(H)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00M0-99M9(H)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00N0-99N9(C)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00P0-99P9(C)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00S0-99S9(D)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00U0-99U9(D)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00V0-99V9(A)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00W0-99W9(A)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00X0-99X9(B)	14	V100 - Standard	U01/U01W
Pontiac (GM)	00Y0-99Y9(B)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0A00-9A99(A)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0B00-9B99(A)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0C00-9C99(B)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0D00-9D99(B)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0E00-9E99(J)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0F00-9F99(J)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0G00-9G99(K)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0H00-9H99(K)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0J00-9J99(E)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0K00-9K99(E)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0L00-9L99(H)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0M00-9M99(H)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0N00-9N99(C)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0P00-9P99(C)	14	V100 - Standard	U01/U01W

Pontiac (GM) - Seat

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Pontiac (GM)	0R00-9R99(D)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0T00-9T99(D)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0V00-9V99(A)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0W00-9W99(A)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0X00-9X99(B)	14	V100 - Standard	U01/U01W
Pontiac (GM)	0Y00-9Y99(B)	14	V100 - Standard	U01/U01W
Pontiac (GM)	E000-999(J)	14	V100 - Standard	U01/U01W
Pontiac (GM)	F000-999 (J)	14	V100 - Standard	U01/U01W
Pontiac (GM)	G000-999(K)	14	V100 - Standard	U01/U01W
Pontiac (GM)	G0-3631	2020	V100 - Standard	U01/U01W
Pontiac (GM)	H000-H999(K)	14	V100 - Standard	U01/U01W
Pontiac (GM)	N000-999(E)	14	V100 - Standard	U01/U01W
Pontiac (GM)	O5000-6999	567	V100 - Standard	U01/U01W
	(GM 2000 Series)			
Pontiac (GM)	O5000-6999	2020	V100 - Standard	U01/U01W
	(GM/SAT 04 Series)			
Pontiac (GM)	P000-999(E)	14	V100 - Standard	U01/U01W
Pontiac (GM)	S000-999(H)	14	V100 - Standard	U01/U01W
Pontiac (GM)	S1-5200	110	V100 - Standard	U01/U01W
Pontiac (GM)	S5298-6300	110	V100 - Standard	U01/U01W
Pontiac (GM)	T1-1200	110	V100 - Standard	U01/U01W
Pontiac (GM)	U000-999(H)	14	V100 - Standard	U01/U01W
Porsche	AH1-8154	49	V100 - Standard	U01/U01W
Porsche	AH1001-9282	50	V100 - Standard	U01/U01W
Porsche	HV1-8154	49	V100 - Standard	U01/U01W
Porsche	HV1001-9282	50	V100 - Standard	U01/U01W
Porsche	MD1-8154	49	V100 - Standard	U01/U01W
Porsche	NV1-8154	49	V100 - Standard	U01/U01W
Porsche	NV1001-9282	50	V100 - Standard	U01/U01W
Porsche	VB1-8154	49	V100 - Standard	U01/U01W
R				
Rizzato (Cycles)	N1-700	136	V100 - Standard	U01/U01W
Rover	3001-4481	148	V100 - Standard	U01/U01W
Rover	AK1-1000	13	V100 - Standard	U01/U01W
Rover	E2001-3000	68	V100 - Standard	U01/U01W
Rover	E8000-8999	68	V100 - Standard	U01/U01W
Rover	FR751-875	73	V100 - Standard	U01/U01W
Rover	FT301-360	72	V100 - Standard	U01/U01W
Rover	L8001-10000	68	V100 - Standard	U01/U01W
Rover	RO1001-2000	9	V100 - Standard	U01/U01W
S				
Saab	AC1-3192	52	V100 - Standard	U01/U01W
Saturn (GM)	1-2000	567	V100 - Standard	U01/U01W
Saturn (GM)	1X-2000X	567	V100 - Standard	U01/U01W
Saturn (GM)	G101-598	636	V100 - Standard	U01/U01W
Saturn (GM)	G0-3631	2020	V100 - Standard	U01/U01W
Saturn (GM)	H1-3988	567	V100 - Standard	U01/U01W
Saturn (GM)	R000-R999	468	V100 - Standard	U01/U01W
Saturn (GM)	S000-323	468	V100 - Standard	U01/U01W
Saturn (GM)	S000A-711K	567	V100 - Standard	U01/U01W
Saturn (GM)	T000-394	468	V100 - Standard	U01/U01W
Saturn (GM)	T395-T999	468	V100 - Standard	U01/U01W
Seat	AH1-8154	49	V100 - Standard	U01/U01W
Seat	HV1-8154	49	V100 - Standard	U01/U01W
Skoda	4AT1-2780	461	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Sterling	E8000-8999	68	V100 - Standard	U01/U01W
Sterling	L8001-10000	68	V100 - Standard	U01/U01W
Steyer-Puch	NF1-1200	15	V100 - Standard	U01/U01W
Subaru	30001-37850	607	V100 - Standard	U01/U01W
Subaru	M6001-7000	80	V100 - Standard	U01/U01W
Subaru	M7001-8000	80	V100 - Standard	U01/U01W
Subaru	S8001-9000	145	V100 - Standard	U01/U01W
Subaru	U1-2000	264	V100 - Standard	U01/U01W
Subaru	X1-8000	145	V100 - Standard	U01/U01W
Subaru	X8001-9000	145	V100 - Standard	U01/U01W
Subaru (Nissan)	Y1-8000	145	V100 - Standard	U01/U01W
Subaru	Y8001-9000	145	V100 - Standard	U01/U01W
Suzuki	18100-19299	288	V100 - Standard	U01/U01W
Suzuki	19300-19617	288	V100 - Standard	U01/U01W
Suzuki	25001-26200	1552	V100 - Standard	U01/U01W
Suzuki	25001-26200	2756	V100 - Standard	U01/U01W
Suzuki	50001-51308	1411	V100 - Standard	U01/U01W
Suzuki	C6001-8042	89	V100 - Standard	U01/U01W
Suzuki	G0-3631	2020	V100 - Standard	U01/U01W
Suzuki	H1-400	89	V100 - Standard	U01/U01W
Suzuki	H2221-2620	89	V100 - Standard	U01/U01W
Suzuki	H4441-5143	89	V100 - Standard	U01/U01W
Suzuki	K1-400	89	V100 - Standard	U01/U01W
Suzuki	K1511-1910	89	V100 - Standard	U01/U01W
Suzuki	K2221-2620	89	V100 - Standard	U01/U01W
Suzuki	K3731-4400	89	V100 - Standard	U01/U01W
Suzuki	K4401-4570	89	V100 - Standard	U01/U01W
Suzuki	U1-2000	264	V100 - Standard	U01/U01W
Suzuki	Z1-1000	89	V100 - Standard	U01/U01W
Suzuki	Z1001-2000	89	V100 - Standard	U01/U01W
Suzuki	Z3001-4000	221	V100 - Standard	U01/U01W
Suzuki (Cycles)	N1-700	136	V100 - Standard	U01/U01W
T				
Toyota	10001-15000	514	V100 - Standard	U01/U01W
Toyota	10001-15000	2870	V100 - Standard	U01/U01W
Toyota	25001-26200	2756	V100 - Standard	U01/U01W
Toyota	50000-59999	1420	V100 - Standard	U01/U01W
Toyota	60000-69999	1420	V100 - Standard	U01/U01W
Toyota	70000-75928	2134	V100 - Standard	U01/U01W
Toyota	75000-75999	2794	V100 - Standard	U01/U01W
Toyota	C6001-8042	89	V100 - Standard	U01/U01W
Toyota	F5951-6350	89	V100 - Standard	U01/U01W
Toyota	F7061-7460	89	V100 - Standard	U01/U01W
Toyota	F8171-8570	89	V100 - Standard	U01/U01W
Toyota	F8571-8970	89	V100 - Standard	U01/U01W
Toyota	F9281-9680	89	V100 - Standard	U01/U01W
Toyota	F9681-9710	89	V100 - Standard	U01/U01W
Toyota	G1-2377	264	V100 - Standard	U01/U01W
Toyota	K1-400	89	V100 - Standard	U01/U01W
Toyota	K1511-1910	89	V100 - Standard	U01/U01W
Toyota	K2221-2620	89	V100 - Standard	U01/U01W
Toyota	K3731-4400	89	V100 - Standard	U01/U01W
Toyota	K4401-4570	89	V100 - Standard	U01/U01W
Toyota	N1-2000	551	V100 - Standard	U01/U01W
Toyota	P1-2390	264	V100 - Standard	U01/U01W

Toyota - Volvo (Trucks)

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Toyota	S1-2878	197	V100 - Standard	U01/U01W
Toyota	T7850-7899	90	V100 - Standard	U01/U01W
Toyota	W1-2409	264	V100 - Standard	U01/U01W
Toyota	X1-2248	264	V100 - Standard	U01/U01W
Toyota	Z1-1000	89	V100 - Standard	U01/U01W
Toyota	Z1001-2000	89	V100 - Standard	U01/U01W
Toyota	Z3001-4000	221	V100 - Standard	U01/U01W
Toyota USA	X1-2248	264	V100 - Standard	U01/U01W
Toyota USA	10001-15000	514	V100 - Standard	U01/U01W
Triumph	FT301-360	72	V100 - Standard	U01/U01W
Triumph	WR1001-2000	213	V100 - Standard	U01/U01W
Triumph (Cycles)	3001-4006	2717	V100 - Standard	U01/U01W
Triumph (Cycles)	C8001-9000	2716	V100 - Standard	U01/U01W
Trucks USA	AA00-7T51	567	V100 - Standard	U01/U01W
V				
Volkswagen	2W01-50	228	V100 - Standard	U01/U01W
Volkswagen	AH1-8154	49	V100 - Standard	U01/U01W
Volkswagen	AH1001-9282	50	V100 - Standard	U01/U01W
Volkswagen	AN1-8154	49	V100 - Standard	U01/U01W
Volkswagen	AN1001-9282	50	V100 - Standard	U01/U01W
Volkswagen	FB1-210	59	V100 - Standard	U01/U01W
Volkswagen	G1-2377	264	V100 - Standard	U01/U01W
Volkswagen	HM6001-7110	15	V100 - Standard	U01/U01W
Volkswagen	HV1-8154	49	V100 - Standard	U01/U01W
Volkswagen	HV1001-9282	50	V100 - Standard	U01/U01W
Volkswagen	MD1-8154	49	V100 - Standard	U01/U01W
Volkswagen	N1-8154	49	V100 - Standard	U01/U01W
Volkswagen	NV1-8154	49	V100 - Standard	U01/U01W
Volkswagen	NV1001-9282	50	V100 - Standard	U01/U01W
Volkswagen	P1-2390	264	V100 - Standard	U01/U01W
Volkswagen	VB1-8154	49	V100 - Standard	U01/U01W
Volkswagen	W1-2409	264	V100 - Standard	U01/U01W
Volkswagen	X1-2248	264	V100 - Standard	U01/U01W
Volvo	7001-9000	68	V100 - Standard	U01/U01W
Volvo	C500-699	142	V100 - Standard	U01/U01W
Volvo	C/D001-050	2796	V100 - Standard	U01/U01W
Volvo	1A000-745	69	V100 - Standard	U01/U01W
Volvo	1B000-745	69	V100 - Standard	U01/U01W
Volvo	2A000-745	69	V100 - Standard	U01/U01W
Volvo	2B000-745	69	V100 - Standard	U01/U01W
Volvo	3A000-745	69	V100 - Standard	U01/U01W
Volvo	3B000-745	69	V100 - Standard	U01/U01W
Volvo	4A000-745	69	V100 - Standard	U01/U01W
Volvo	4B000-745	69	V100 - Standard	U01/U01W
Volvo	5A000-746	69	V100 - Standard	U01/U01W
Volvo	5B000-746	69	V100 - Standard	U01/U01W
Volvo	AK1-1000	13	V100 - Standard	U01/U01W
Volvo	C500-699	142	V100 - Standard	U01/U01W
Volvo	H601-1100	142	V100 - Standard	U01/U01W
Volvo (Trucks)	1A000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	1B000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	2A000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	2B000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	3A000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	3B000-745	69	V100 - Standard	U01/U01W

MANUFACTURER	CODE SERIES	CARD NO.	CLAMP ADAPTER	CUTTER
Volvo (Trucks)	4A000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	4B000-745	69	V100 - Standard	U01/U01W
Volvo (Trucks)	5A000-746	69	V100 - Standard	U01/U01W
Volvo (Trucks)	5B000-746	69	V100 - Standard	U01/U01W
W				
White	1A000-999	69	V100 - Standard	U01/U01W
White	1B000-999	69	V100 - Standard	U01/U01W
White	2A000-999	69	V100 - Standard	U01/U01W
White	2B000-999	69	V100 - Standard	U01/U01W
White	3A000-999	69	V100 - Standard	U01/U01W
White	3B000-999	69	V100 - Standard	U01/U01W
White	4A000-999	69	V100 - Standard	U01/U01W
White	4B000-999	69	V100 - Standard	U01/U01W
White	5A000-746	69	V100 - Standard	U01/U01W
White	5B000-746	69	V100 - Standard	U01/U01W
White	C500-699	142	V100 - Standard	U01/U01W
White	H601-1100	142	V100 - Standard	U01/U01W
White	K1-1000	144	V100 - Standard	U01/U01W
White	L1-1000	144	V100 - Standard	U01/U01W
White	N225-814	144	V100 - Standard	U01/U01W
Y				
Yamaha (Cycles)	1001-2252	136	V100 - Standard	U01/U01W
Yamaha (Cycles)	C8001-9000	2716	V100 - Standard	U01/U01W
Yamaha (Cycles)	N1-700	136	V100 - Standard	U01/U01W

For Technical Support contact:

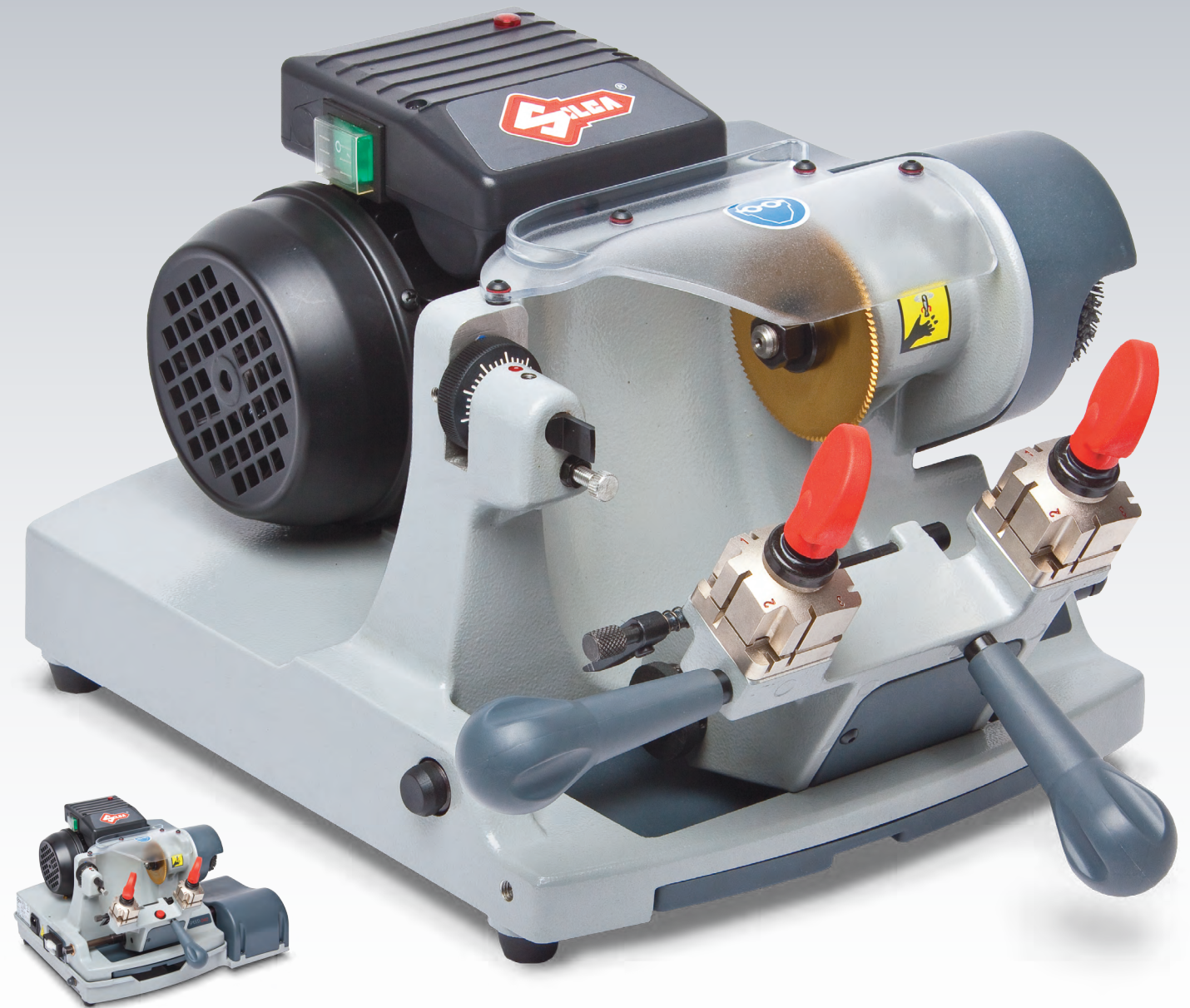
Ilco Technical Assistance Dept.

**400 Jeffreys Road
Rocky Mount, NC 27804 USA**

**Tel: 1-800-ILCO-USA
1-800-(452-6872)**

**Ext.: 200, 384, 356, 398
Fax: 252-446-4702**

**Kaba Ilco Corp.
400 Jeffreys Road • Rocky Mount, NC 27804
Phone 800.334.1381 • Fax 252.446.4702
www.kaba-ilco.com**



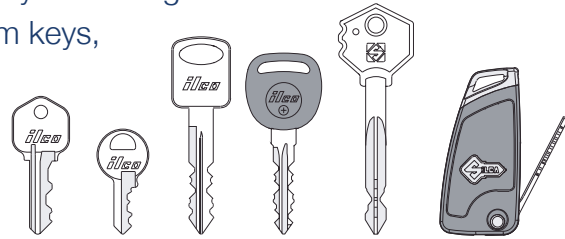
ilco

Speed Series

Mechanical Key Duplicators

Speed Series

The Speed 040, 044 and 045 are designed for duplicating typical automotive, residential and commercial keys including those with large bows or long blades such as cruciform keys, flip style keys and automotive keys with remote heads (IRKE).



SPEED 040 Automatic or Manual Operation

This dual operation machine can be operated either as an automatic or manual duplicator. When in automatic mode, the spring loaded carriage is engaged by simply pressing a button on the carriage. It applies a consistent cutting pressure. Operate in manual mode when more control is desired for a specific duplication.



SPEED 044 Semi-Automatic Operation

Features a spring loaded carriage that is easily engaged by the press of a button on top of the carriage. This action applies consistent cutting pressure during the entire operation.



SPEED 045 Manual Operation

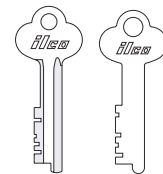
The ideal and yet very economical choice in a basic duplicator for any key cutting outlet. Designed with all the Speed Series convenient features and details.

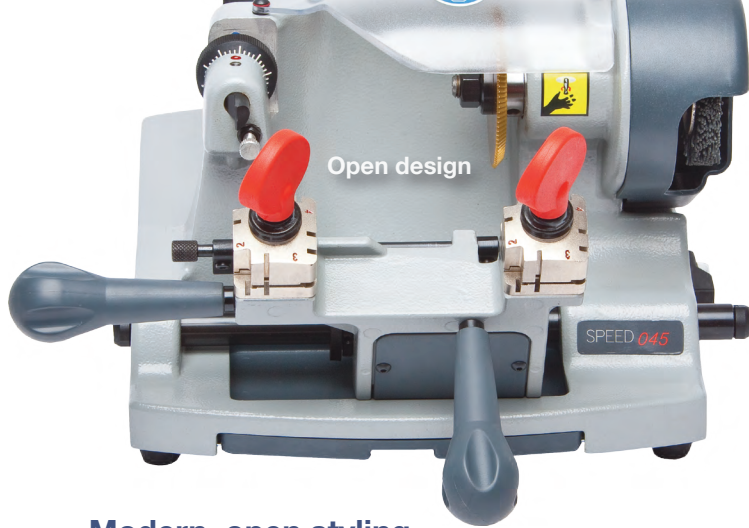
The Speed 046 is a mechanical key cutting machine for duplicating flat style keys.



SPEED 046 Manual Operation

All the same features as the Speed 045 only this model is designed specifically for cutting safety deposit keys and other similar flat style keys.





Modern, open styling

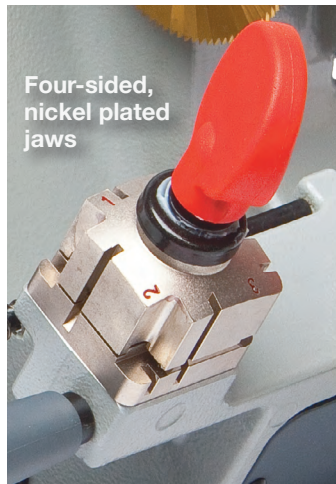
The open styling of the Speed 04X line of machines allows for ease of cleaning. A large drawer-type swarf tray is located under the carriage to capture key shavings.

Mounting bracket included for ease in securing the machine to a work bench.

Four-sided jaws mean flexibility of use

Four-sided jaws easily clamp virtually all edge cut and flat style keys present on the market. These jaws can be quickly and smoothly rotated by simply loosening the knob and rotating the jaw into the proper position.

The 3-1/2" (88.9 mm) spacing between clamps accommodates large bow (head) and long blade keys including the flip style automotive and cruciform keys. Jaws are nickel plated for extended life.

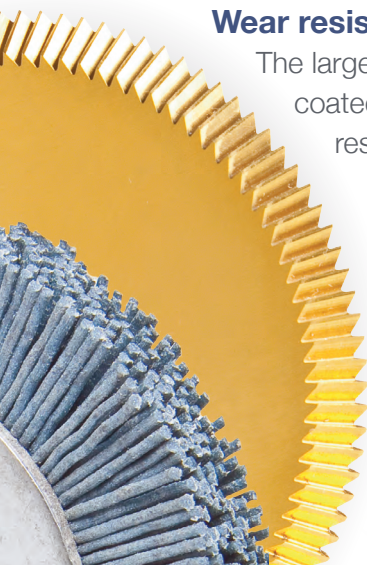


Wear resistant cutter

The large cutter is TiN (Titanium Nitride) coated for long life and oxidation resistance.

Finish keys perfectly

Nylon, soft-touch deburring brush bristles are perfect for the finishing of cut keys.



Optimized calibration and precise gauging

A depth tracer system with micro-adjustment feature provides fast, precise calibration in increments of .00098" (.025mm). The standard tracer works on all edge cut keys, including Sargent®.



Operator Safety

Electro-magnetic "main" safety switch (machine must be manually re-started after a power interruption).

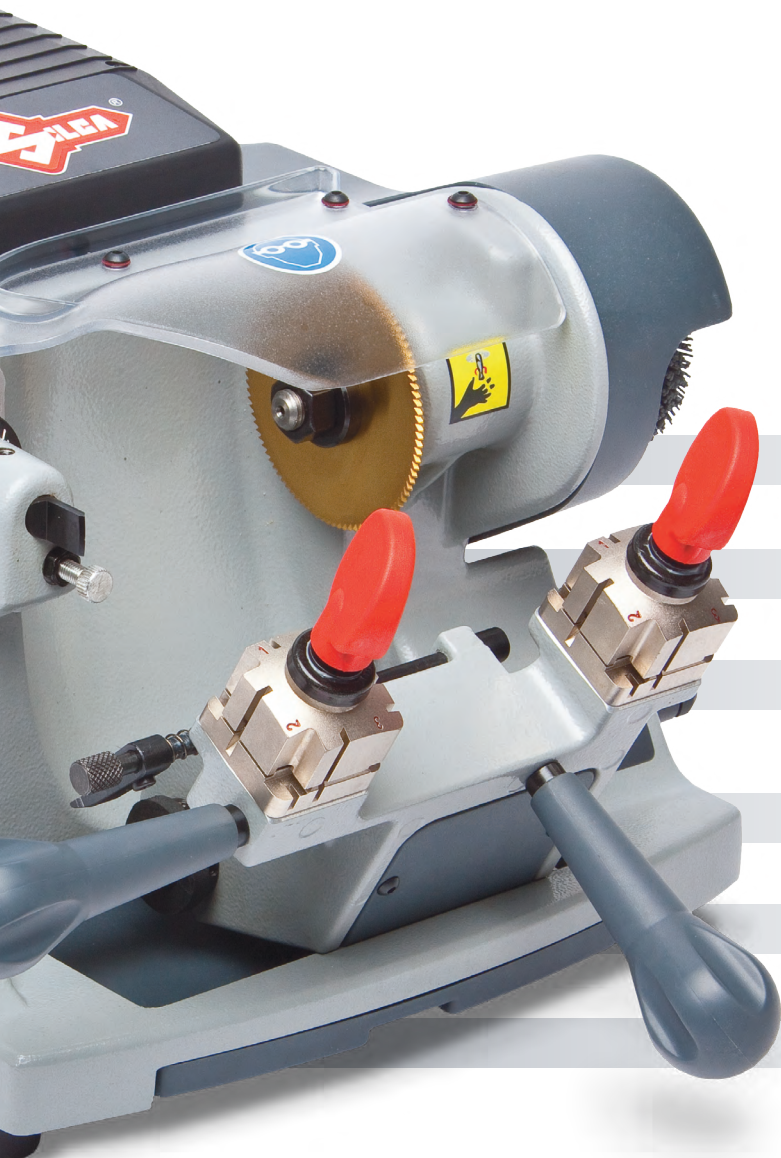
A separate cutter motor switch located on the side of the motor provides safe and easy access.

Belt/brush are covered and the large transparent cutter shield provides safety as well as storage for accessories.



TWO YEAR LIMITED WARRANTY





Technical Data

Power Supply:	120V-60Hz
Maximum absorbed power:	2.8 Amp, 200 Watt
Cutter motor:	single phase and speed
Movements:	by ball joint on rectified carriage
Tool Speed:	1350 rpm
Carriage Runs:	1.65" - 42mm

STANDARD PARTS

Cutters:

<i>Speed 040/044/045</i>	BC0599XXX D746382ZB
<i>Speed 046</i>	BC0598XXX D701744ZB
Brush:	BJ0929XXX D934958ZR

Dimensions:

SPEED 040:

Width: 19.3" (490 mm)
Depth: 18.1" (460 mm)
Height: 11.8" (300 mm)
Weight: 44 lbs. (20 kg)

SPEED 044:

Width: 22.8" (580 mm)
Depth: 18.1" (460 mm)
Height: 9.8" (250 mm)
Weight: 31 lbs.(14 kg)

SPEED 045/046:

Width: 15.75" (400 mm)
Depth: 18.1" (460 mm)
Height: 9.8" (250 mm)
Weight: 31 lbs. (14 kg)



Central America:

*Mexico, Guatemala, Belize, El Salvador, Honduras,
 Nicaragua, Costa Rica, Panama*

Corporación Cerrajera Alba S.A. de C.V.

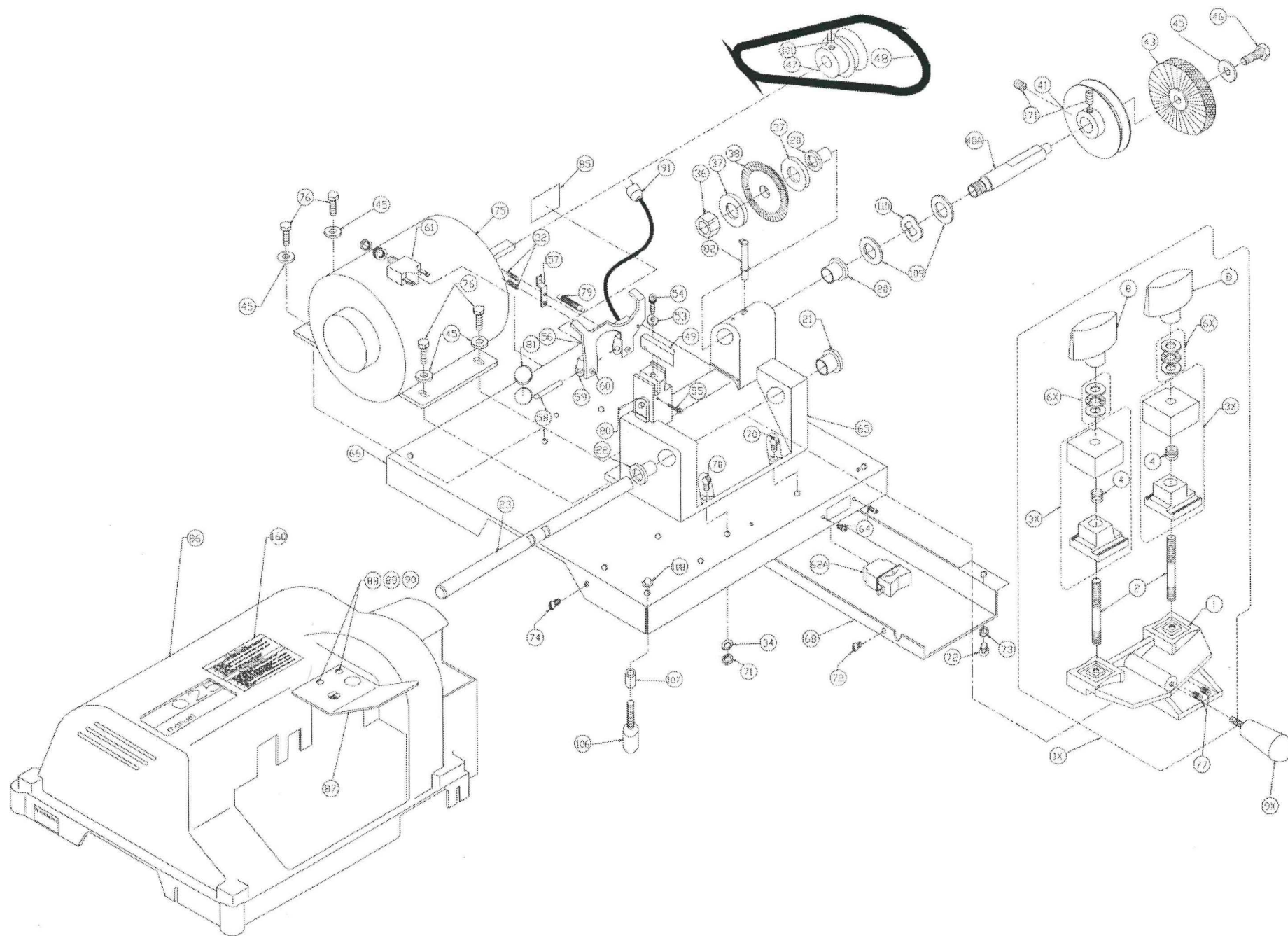
Prolongación avenida independencia 14, Bodega 5.
 Col. Los reyes, Tultitlán, Estado de México.
 C.P. 54915 • www.albailco.mx • Ph: 01.55.5366.7200

North America:

U.S.A., Canada, Caribbean Islands

Kaba Ilco Corp.

400 Jeffreys Road • Rocky Mount, NC 27804
www.ilco.us • Ph: 800.334.1381 or 252.446.3321
 Fax: 252.446.4702



	Description	Part No.	Code No.		Description	Part No.	Code No.		Description	Part No.	Code No.
1	Carriage	025-1	102028M	53	Cutter Guide Binding	025-53	194275	81	Snap Plug, 7/8	025-81	1103464P
1X	Carriage Assembly	025-1X	BD0346XXXX		Washer			82	Oil Cup	025-82	BD0362XXXX
2	Carriage Stud	025-2	BD0328XXXX	54	Cutter Guide Binding	025-54	174068	86	Safety Hood w/025	025-86	1106071A
3X	Vise Jaw Assembly	025-3X	BD0410XXXX		Screw				Decal		
4	Vise Jaw Spring	025-4	1103495P	55	Adjusting Screw	025-55	129111	86X	Safety Hood Assembly	025-86X	1106072S
6X	Thrust Bearing Set	025-6X	BD0222XXXX	56	Key Gauge	025-56	BD0358XXXX	87	Safety Shield	025-87	1105060P
8	Wing Nuts	025-8	BD0329XXXX	57	Key Gauge Bracket	025-57	1105025P	88	Shield Screw, 10-32 x 1/2	025-88	172022
9X	Carriage Handle	040-9X	131516M	58	Key Gauge Dowel Pin	025-58	1106100P	89	Flat Washer, #10	025-89	194006
20	Cutter Shaft Bushing	025-20	BD0360XXXX	59	Key gauge Housing	025-59	1106113A	90	Nut, #10-32	025-90	151300
21	Carriage Shaft Bushing	025-21	BD0361XXXX	60	Cap Screw, 8-32 X 1/2	025-60	174123	91	Power Cord	025-91	1103290P
23	Carriage Shaft	025-23	1106187P	61	Circuit Breaker, ETA	025-61	1103128P	92	3 Wire Motor Cable	025-92	1103118P
32	Button Head Screw, 10-24 X 3/8	025-32	1105115P		1658			101	Motor Pulley Set Screw	025-101	174619
34	1/4 Lockwasher	025-34	194253	62A	On/Off Switch	025-62A	BD0359XXXX	106	Rubber Mount	025-106	129838
36	Cutter Nut, N-4	025-36	151090	65	Main Base, Machined	025-65	500290M	107	Spacer	025-107	129839
37	Cutter Spacer	025-37	1106180P	66	Sub-Base	025-66	1106520S	108	Acorn Nut, 1/4-20	025-108	151008-14
38	P-X23MC Cutter	025-38	BC0089XXXX	68	Electrical Cover	025-68	1106061P	109	Bearing washer	025-109	129031
40A	Cutter Shaft	025-40A	BD0423XXXX	70	Base Screws, 1/4-20 X 1	025-70	1103361P	110	Wave Washer	025-110	194021
41	Cutter Shaft Pulley	025-41	BD0364XXXX	71	Base Screw Nut, 1/4-20	025-71	151077	160	Caution Label	025-160	255288
43	Nylon Brush, 814-00-51	025-43	BD0221XXXX	72	RHMS Screw, 8-32 x 3/16	025-72	1103382P	171	Cutter Pulley Set Screw, 5/16-18	025-171	174144
45	Brush Bolt Washer, 5/16	025-45	194080	73	Lockwasher, #8	025-73	194206	IM	Instruction Manual	025-IM	125367
46A	Hex Head Screw, 5/16-18 X 3/4	025-46A	174279	74	Truss Head Screw, 8-32	025-74	1103379P	NS	220V 1/4HP Motor	025-240	129395
				75	Motor, 1/4HP, 115V	025-75	129330	NS	Hex Key 3/32	—	129014
47	Motor Pulley 2-3L	025-47	129085	76	Motor Bolt	025-76	174269	NS	Hex Key 5/32	—	129074
48	V-Belt, 3L-180	025-48	BD0468XXXX	77	Set Screw, 1/4-20 x 1/2	025-77	1106173P	NS	Hex Key 1/8	—	129395
49A	Cutter Guide (Stylus)	025-49A	BD0357XXXX	79	Key gauge Spring	025-79	1105171P	NS	12 volt motor	—	129297
				80	Roll Pin	025-80	1103362P				

NS- Item Is Not Shown On Drawing