

First Edition: 20 September 2018

SERVICE MANUAL & PARTS LIST

MODEL: BL35B

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Service Access (1)

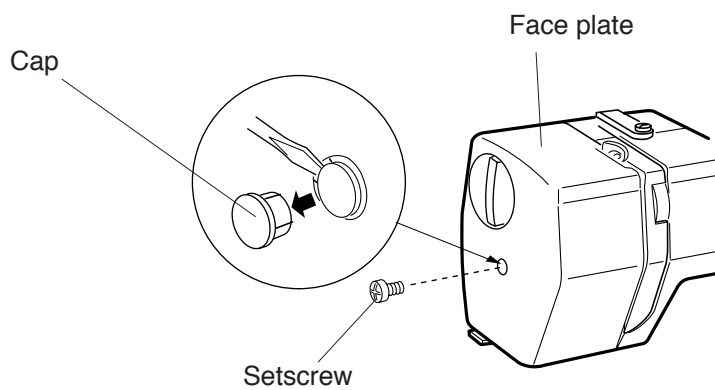
- Face plate

<To remove>

Remove the cap and setscrew. Remove the face plate.

<To attach>

Attach the face plate with the setscrew. attach the cap.



Service Access (2)

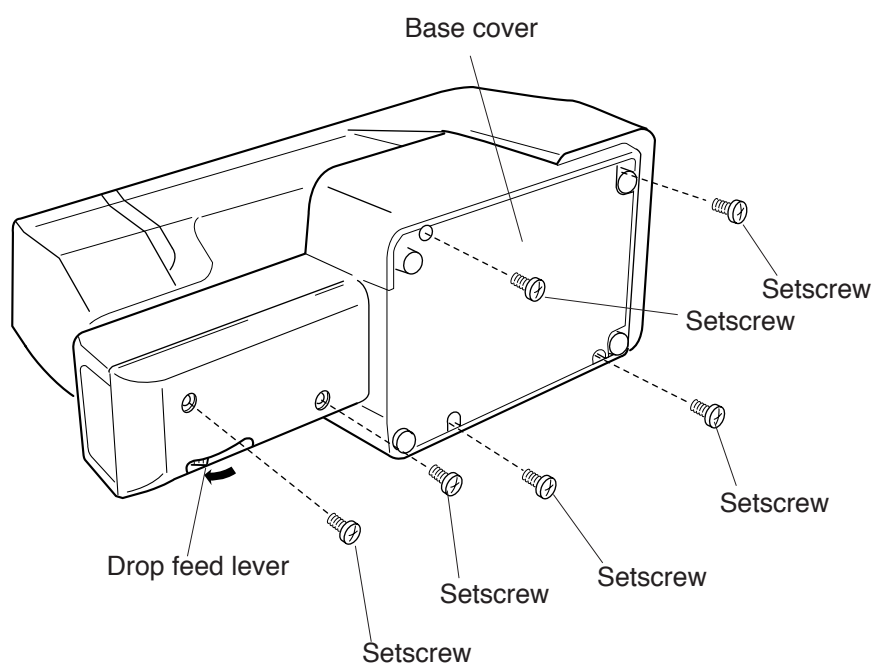
- Base cover

<To remove>

Remove the setscrews (6 pcs.) and remove the base cover.

<To attach>

Shift the drop feed lever in the direction of the arrow. Attach the base cover with setscrews.



Service Access (3)

• Front cover

<To remove>

Remove the face plate and base cover (see pages 1 and 2).

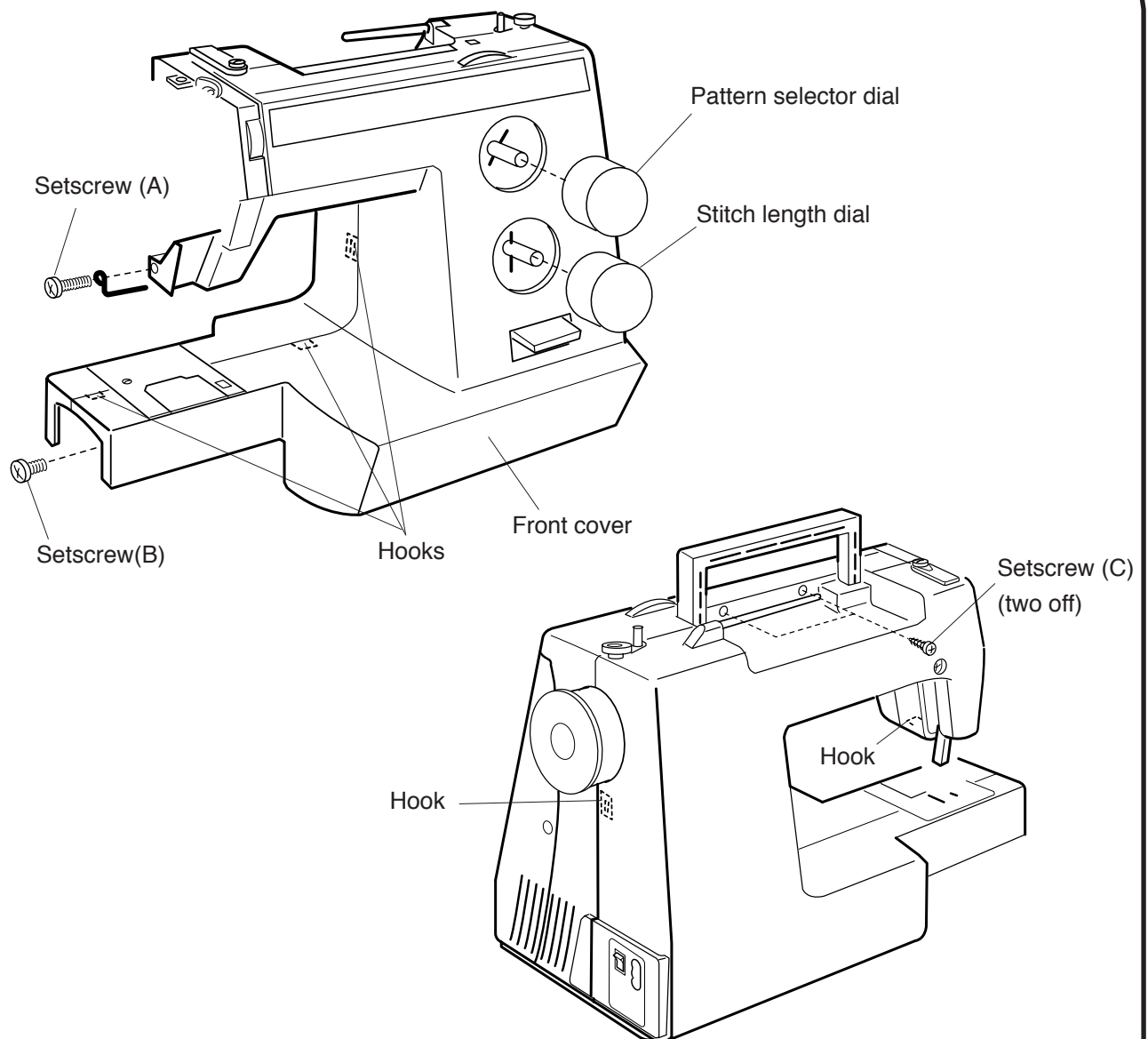
Pull out the pattern selector dial and stitch length dial.

Remove the setscrews (A), (B) and (C) (two off).

Remove the front cover, unlocking all the hooks.

<To attach>

Follow the above procedure in reverse.



Service Access (4)

- Rear cover

<To remove>

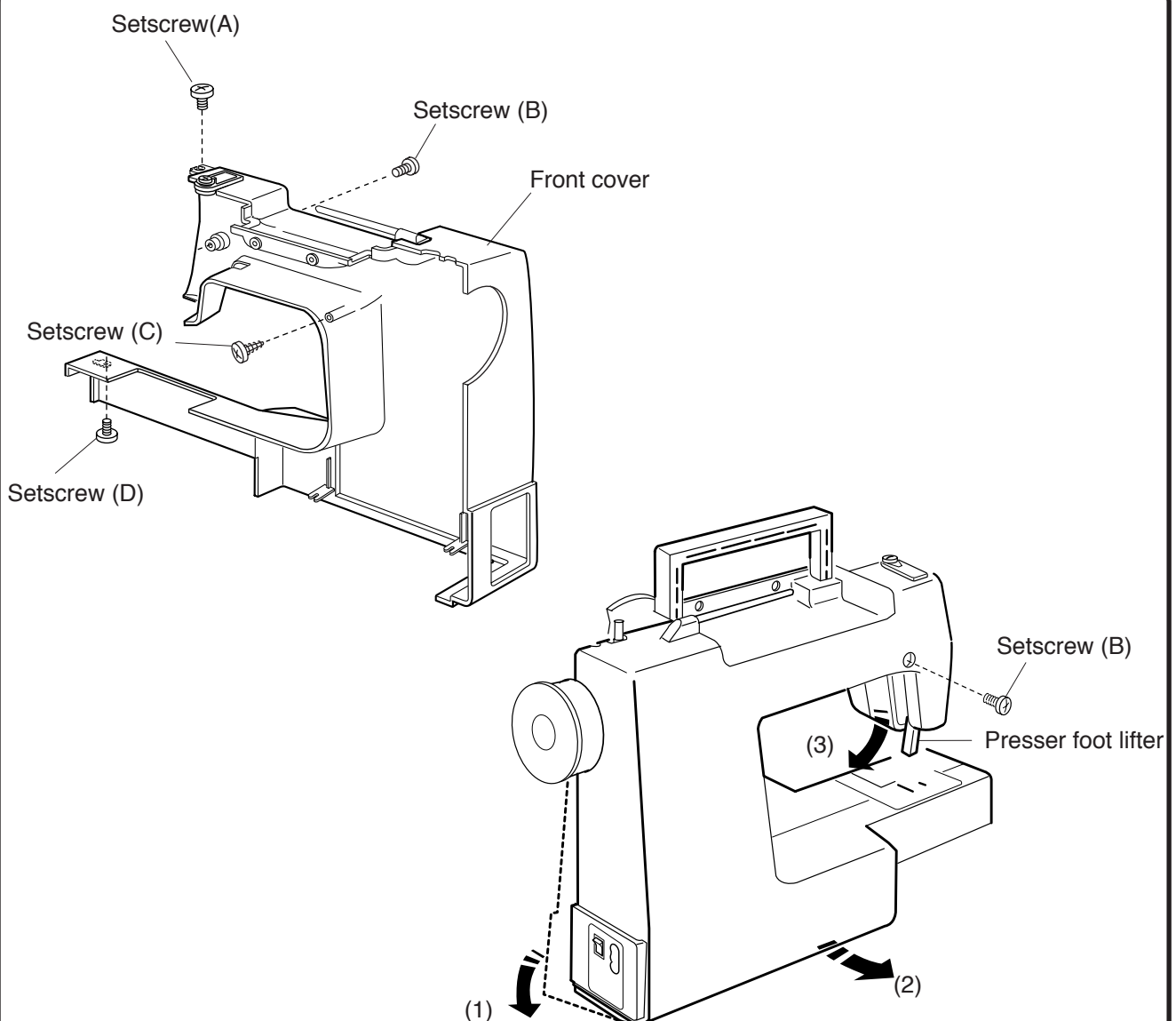
Remove the face plate, base cover and front cover (see pages 1-3).

Remove the setscrews (A), (B), (C) and (D).

Lower the presser foot lifter and pull away the rear cover from the machine, clearing the parts
(1), (2) and (3), in this order.

<To attach>

Follow the above procedure in reverse.



Adjusting Thread Tension

- The standard tension should be 75 - 90 grams measured with a white polyester thread #50 being pulled in the direction of the arrow, when the tension dial is set at "4".

<To adjust>

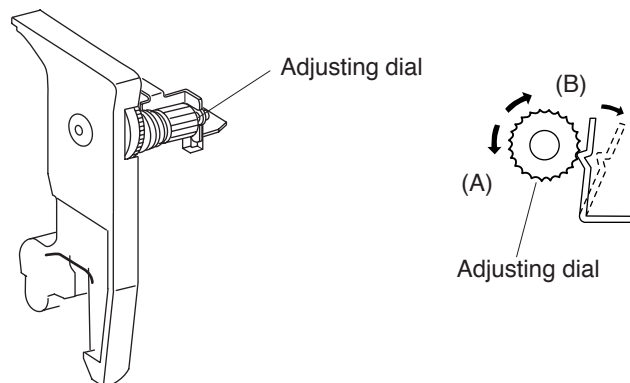
Remove the front cover (see page 3).

Set the tension dial at "4".

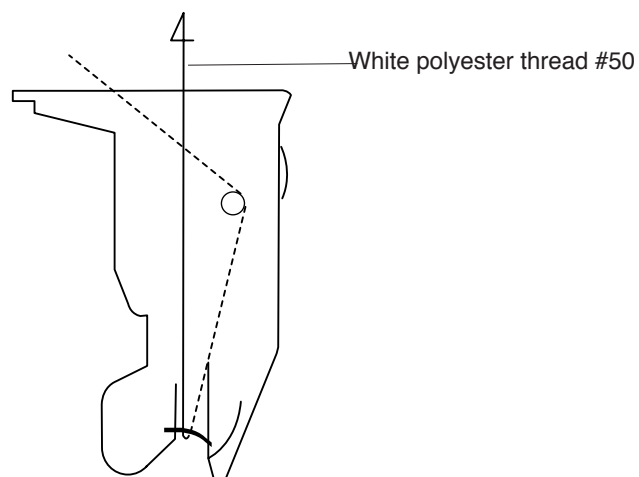
If the tension is too tight, turn the adjusting dial in the direction (A).

If the tension is too loose, turn the adjusting dial in the direction (B).

Check the tension again and attach the front cover.



Pull the thread in this direction at approx.
110 mm per second.



Adjusting Presser Foot Height and Alignment

- The distance between the bottom of the presser foot in up position and the needle plate should be 6.0 mm.

<To adjust>

Remove the face plate and needle.

Lower the feed dog below the needle plate. Place a block 6 mm thick under the presser foot and lower the presser foot lifter.

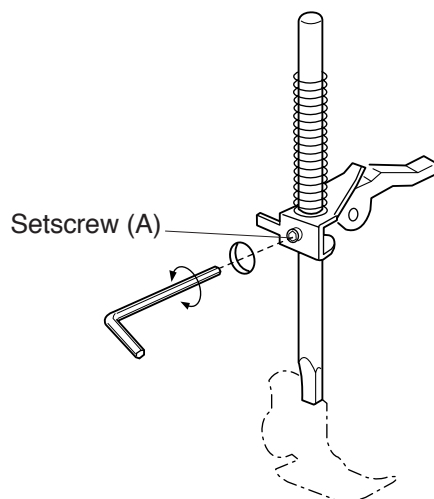
Loosen the setscrew (A). Raise the presser foot lifter and tighten the setscrew (A) firmly.

Attach the needle and face plate.

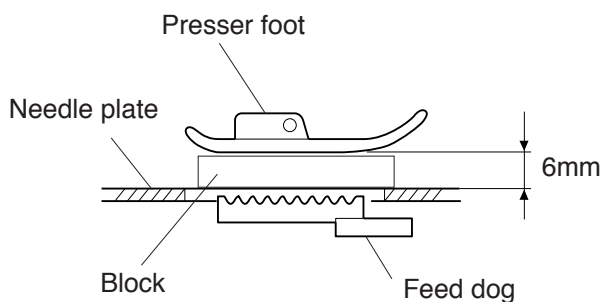
Attach the face plate.

NOTE:

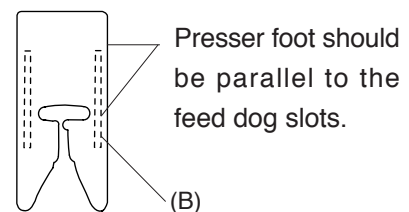
Make sure that the presser foot should be parallel to the feed dog slots (B) in the needle plate.



Presser foot height



Presser foot alignment



Adjusting Needle Swing

- If the needle swing when it is still in the fabric, correct it as follows.

<To adjust>

Remove the front cover (see page 3).

Select the zigzag stitch () and set the stitch width dial at 5.0.

Loosen the setscrews on the worm.

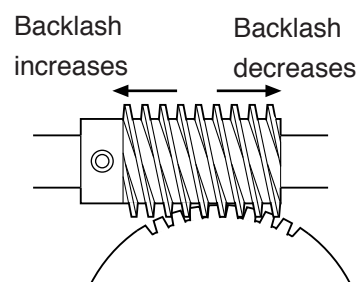
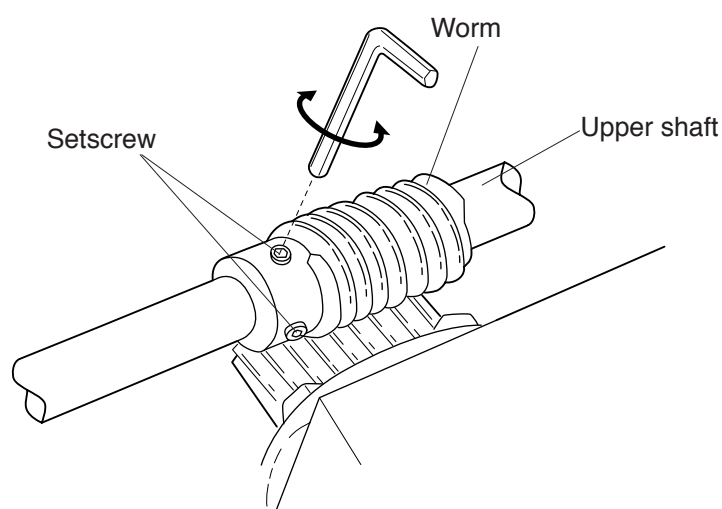
While holding the worm as not to rotate, turn the handwheel to adjust the needle bar swing so that the needle starts to swing 2 - 3 mm above the needle plate in the right outflow.

Tighten the setscrews on the worm securely.

Attach the front cover.

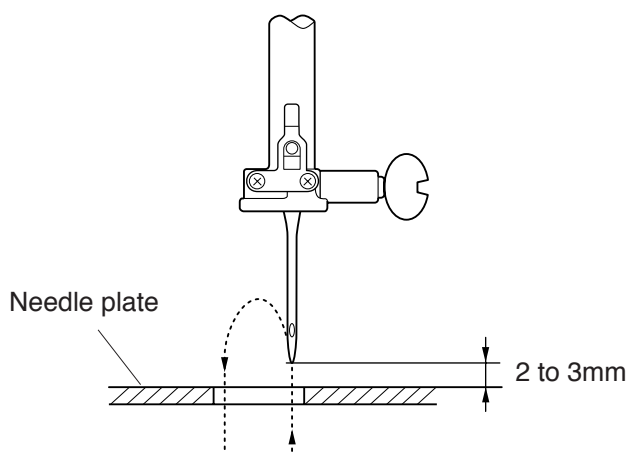
Note:

The upper shaft should turn smoothly without an excessive backlash between the worm and gear.



Note:

Make sure the worm does not move sideways when turning the handwheel, otherwise the backlash will change.



Adjusting Needle Drop Position

- The clearance between the needle and side edges of the needle hole should be 0.2 mm or more when the maximum width zigzag stitch () is select. And the needle should drop in the center of the needle hole when the straight stitch is selected.

<To adjust>

Remove the face plate (see page 1).

Select the straight stitch ().

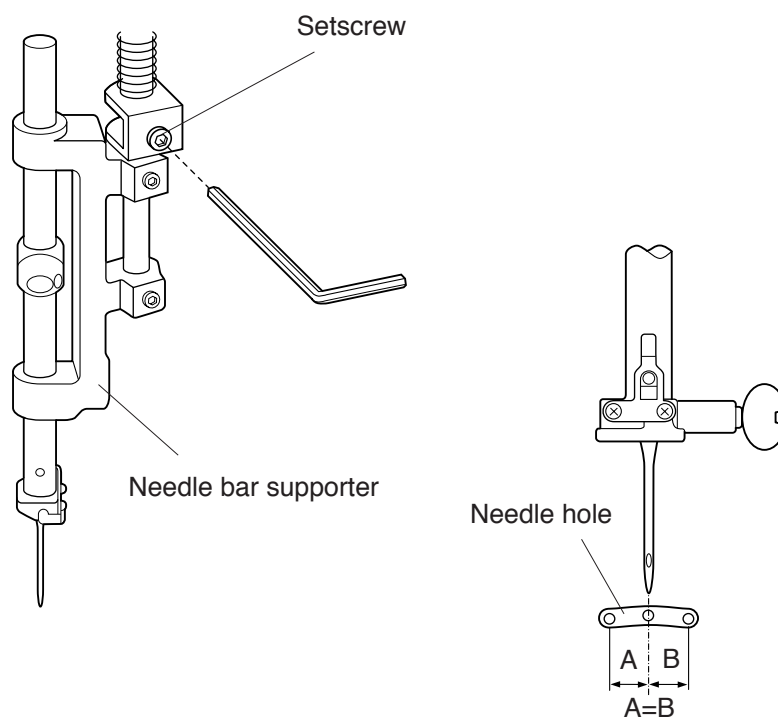
Loosen the setscrew.

Move the needle bar supporter so that the needle drops in the center of the needle hole.

Tighten the setscrew.

Select the zigzag stitch () and set the stitch width dial at 5.0 to check the clearance between needle and side edges of the needle hole.

Attach the face plate.



Adjusting Needle to Hook Timing

- The amount of ascending travel of the needle in the maximum width zigzag stitch () from the right lowest position should be 1.4 to 2.0 mm where the hook point meets the right side of the needle.

<To adjust>

Select the maximum width zigzag stitch ().

Remove the base cover (see page 2).

Remove the needle plate and bobbin holder.

Loosen the setscrews on the lower shaft gear.

Turn the handwheel toward you to bring the needle to the right lowest position. Then raise the needle 1.7mm from the lowest position.

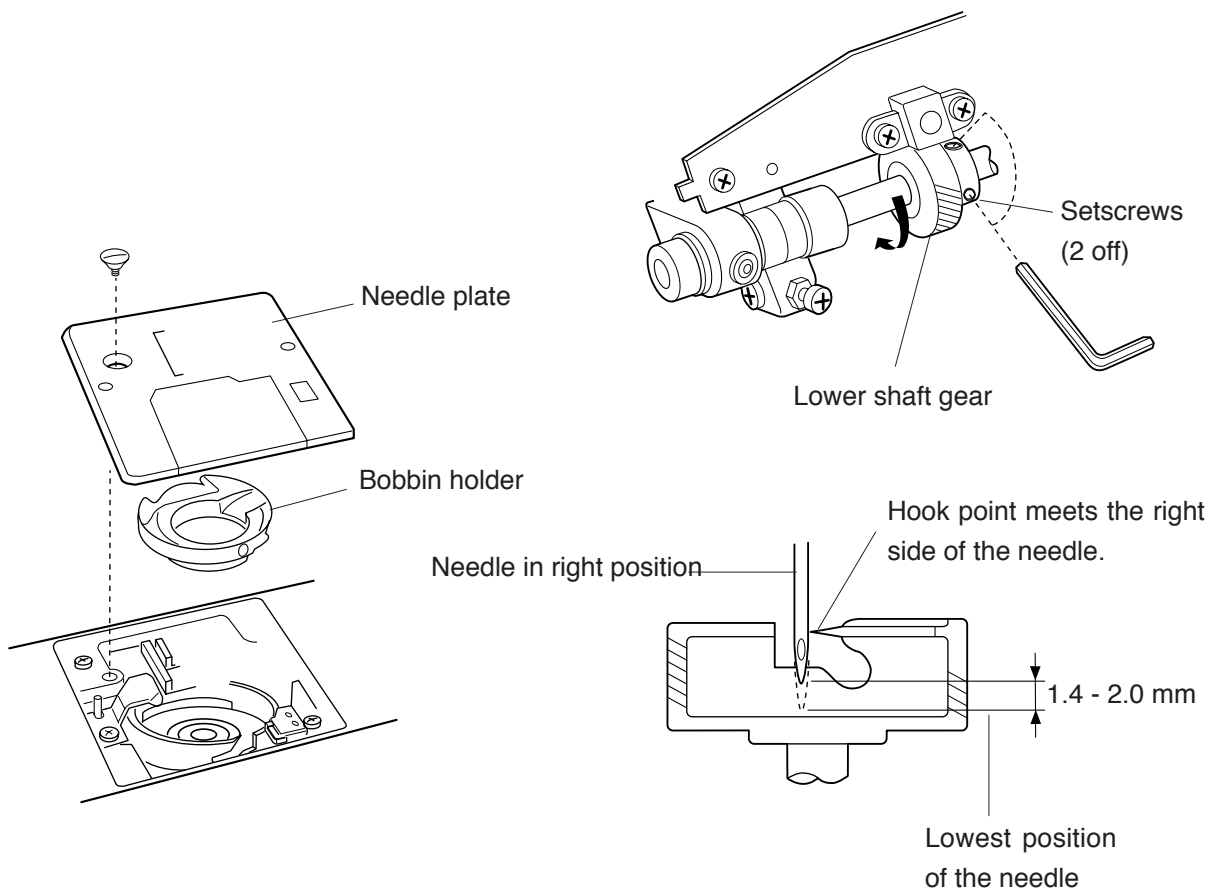
While holding the handwheel as not to move the needle bar, rotate the hook race until the hook point meets the right side of the needle.

Tighten the setscrews.

Attach the bobbin holder and needle plate.

Attach the base cover.

Note: Before performing this adjustment, be sure to check the needle bar height.



Adjusting Needle Bar Height

- The standard distance between the upper edge of the needle eye and the upper surface of the hook race should be in the range of 3.0 - 3.3 mm when the hook point meets the right side of the needle in its ascending travel from the right lowest position of the maximum width zigzag stitch ().

<To adjust>

Select the maximum width zigzag stitch () and bring the needle to the right lowest position.

Remove the face plate (see page 1).

Remove the needle plate and bobbin holder.

Turn the handwheel toward you until the hook point meets the right side of the needle.

Loosen the setscrew and move the needle bar up or down to adjust the needle bar height.

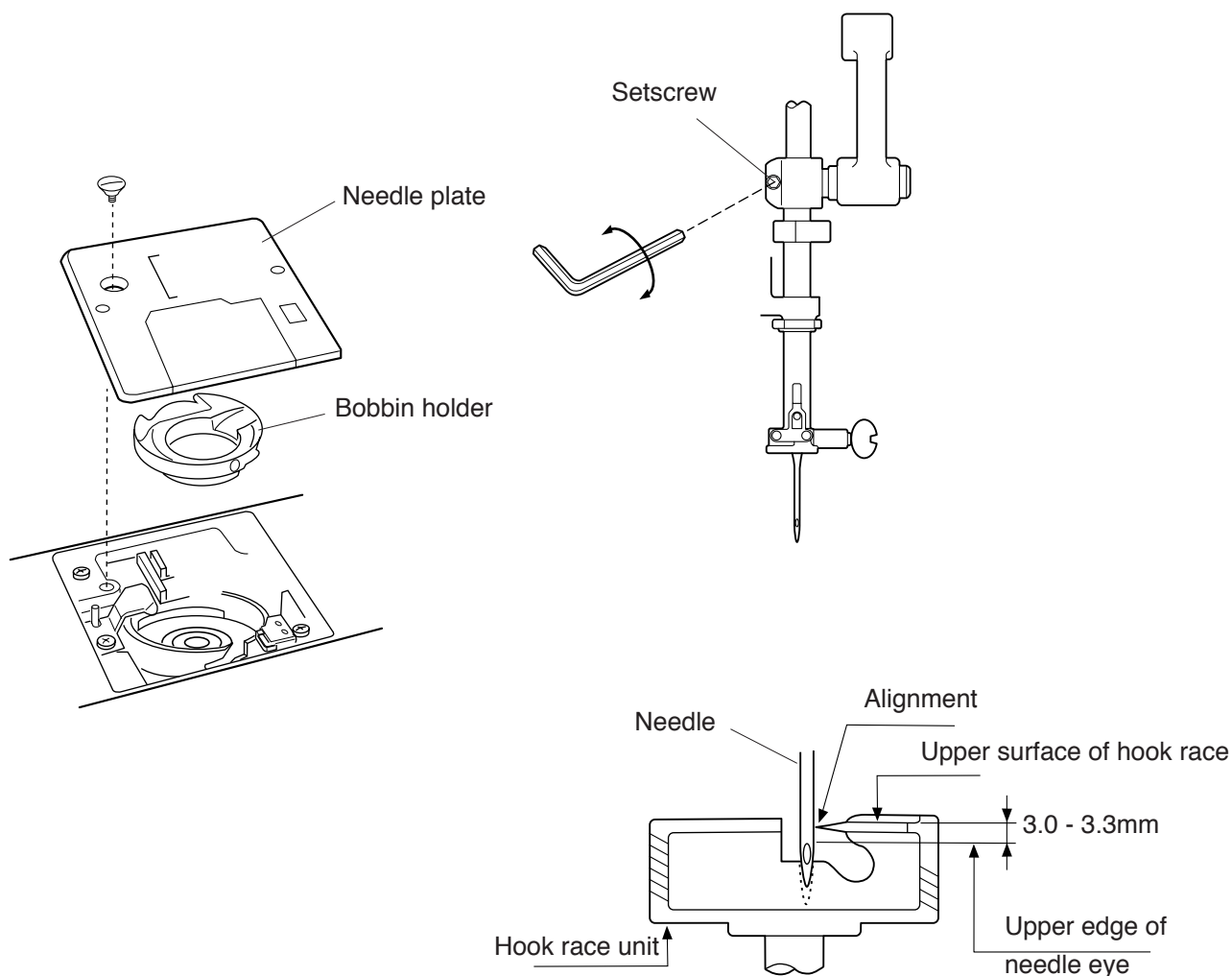
Note: Be careful not to rotate the needle bar.

Tighten the setscrew.

Attach the bobbin holder, needle plate and face plate.

Note:

Before performing this adjustment, check the needle to hook timing.



Adjusting Clearance between Needle and Hook Point

- The standard clearance between the needle and hook point should be -0.10 to +0.05 mm.

<To adjust>

Select the maximum width zigzag stitch ().

Remove the base cover (see page 2). Remove the needle plate and bobbin holder.

Replace the needle with the test pin. Loosen the setscrews (B) and (C). Slightly loosen the setscrew (A).

Turn the handwheel toward you to bring the hook point behind the test pin.

Adjust the clearance to -0.1 to +0.05 mm by moving the hook base plate up or down.

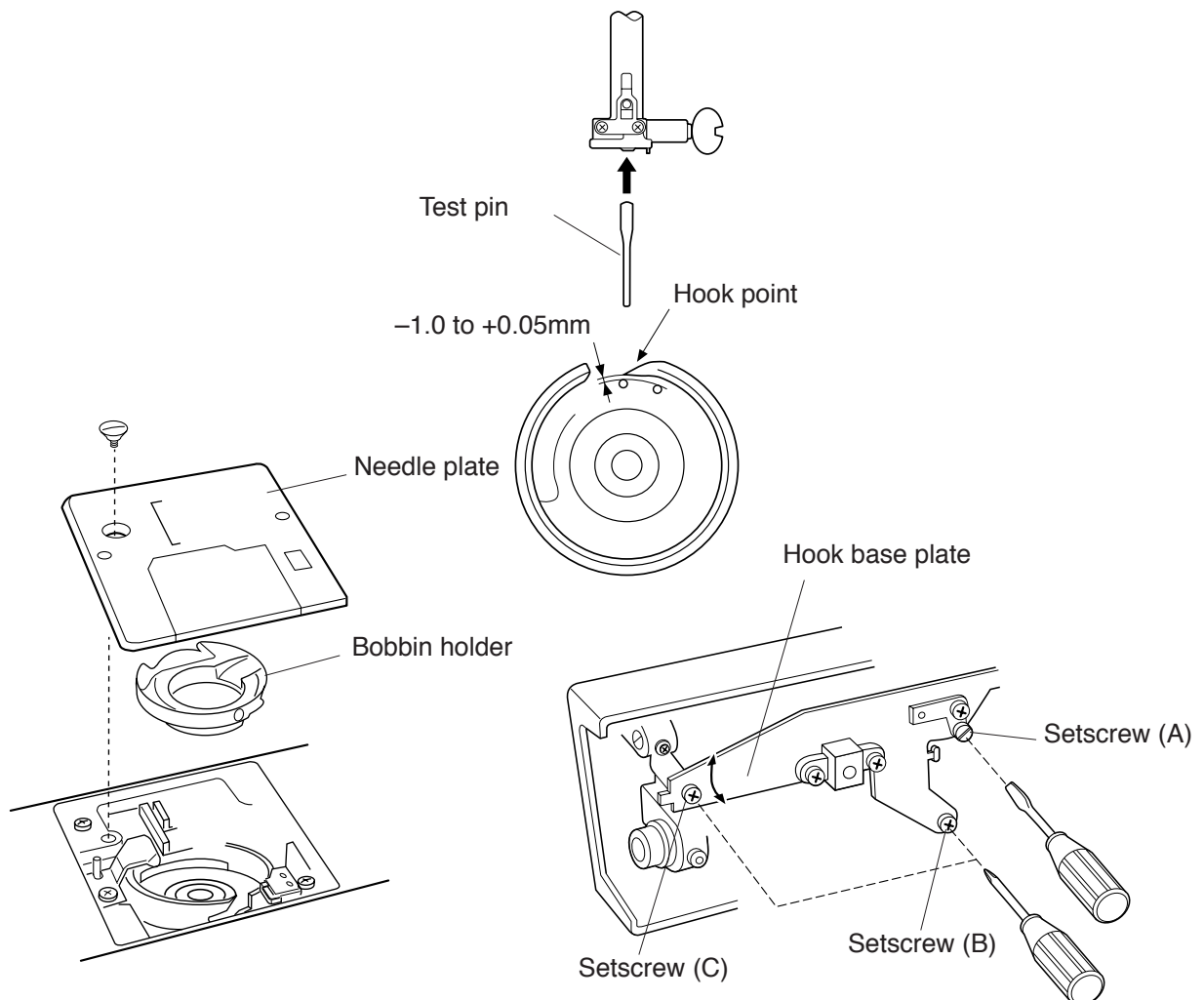
Tighten the setscrews (A), (B) and (C) securely.

Check the backlash of the hook drive gear and lower shaft gear.

Note: Adjust the backlash if necessary (see page 12).

Attach the base cover.

Replace the test pin with the needle. Attach the bobbin holder and needle plate.



Adjusting Backlash between Hook Drive Gear and Lower Shaft Gear

- The rotary play should be 0.8 mm or less when the hook point is within the span of the feed dog, and the gears should turn smoothly.

<To adjust>

Remove the base cover (see page 2).

Loosen the setscrews.

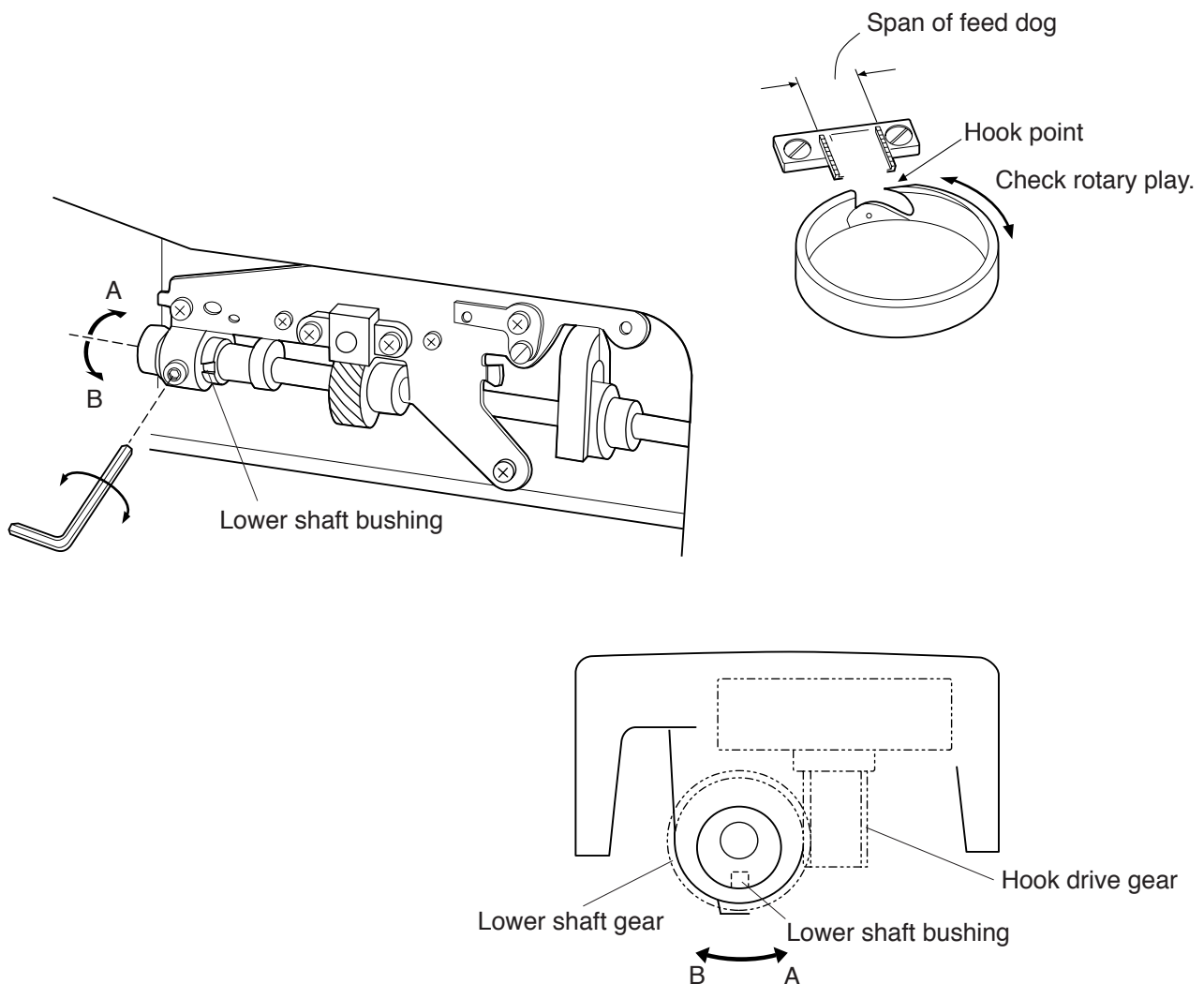
If the backlash is too big, turn the lower shaft bushing in the direction (B).

If the gear engagement is too tight, turn the lower shaft bushing in the direction (A).

Tighten the setscrews and attach the base cover.

Note:

Be sure to check and adjust the needle to hook timing and feed dog height if necessary, after performing this adjustment.



Adjusting Feed Dog Height

- The distance between the lowered presser foot and needle plate should be 0.75 to 0.85 mm when the feed dog is in its highest position.

<To adjust>

Select the straight stitch () and set the stitch width at "4".

Lower the presser foot. Turn the handwheel to bring the feed dog to its highest position.

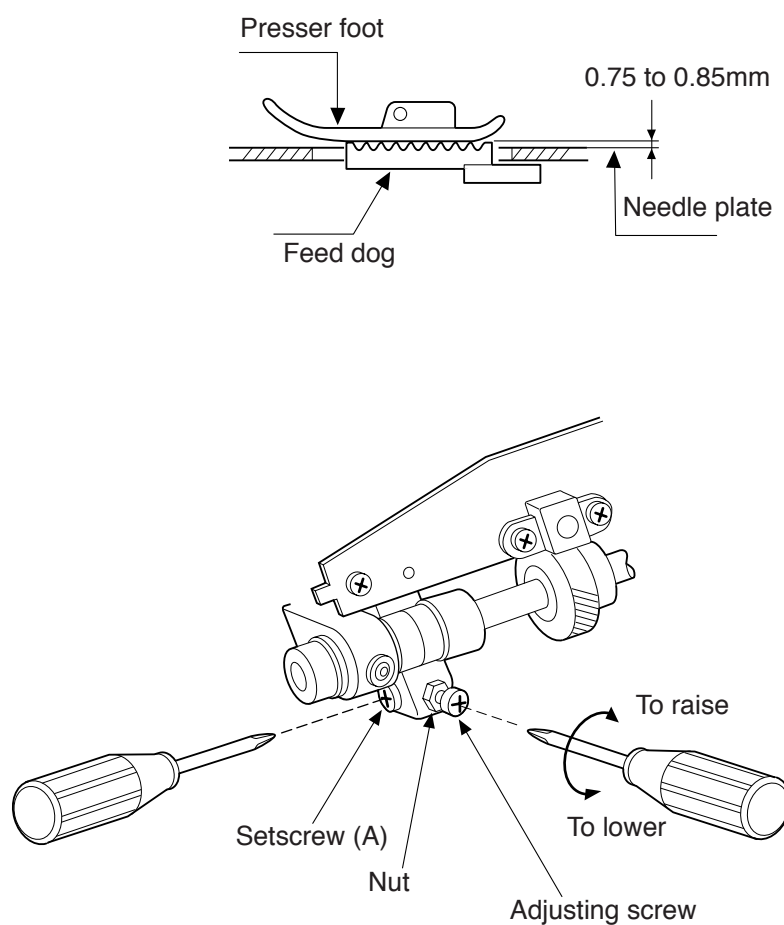
Remove the base cover (see page 2).

Loosen the setscrew (A) and nut.

Turn the adjusting screw to set the feed dog height to 0.75 to 0.85 mm.

Tighten the nut and setscrew (A).

Attach the base cover.



Adjusting Feed Balance

The forward feeding (A) and backward feeding (B) should be equal when sewing stretch stitch pattern.

<To adjust>

Select the straight stretch stitch ().

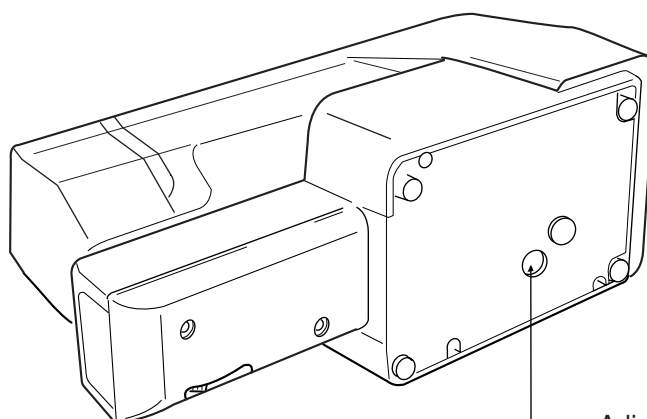
Place a piece of paper under the foot. Turn the handwheel to check the needle marks.

Remove the cap to access the adjusting screw.

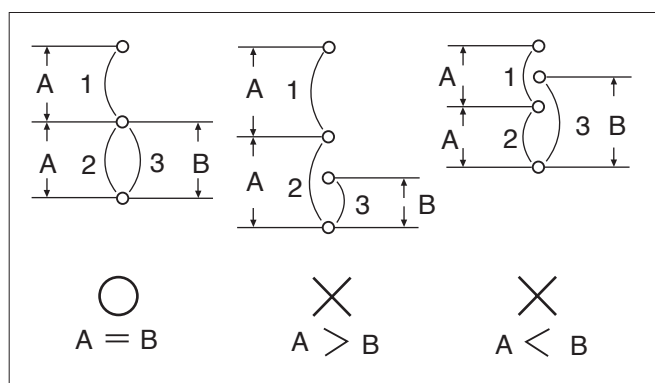
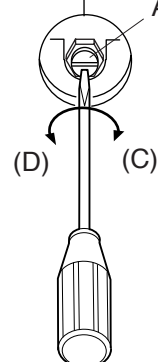
If the forward feeding (A) is longer than backward feeding (B), turn the adjusting screw in the direction (C).

If the forward feeding (A) is shorter than backward feeding (B), turn the adjusting screw in the direction (D).

Attach the cap.



Adjusting screw



Adjusting Buttonhole Feed Balance

- When sewing a buttonhole, the stitches on each side of the buttonhole should be the same density.

The range of 9 to 12 stitches in the right side row against 10 stitches in the left side row is considered acceptable.

<To adjust>

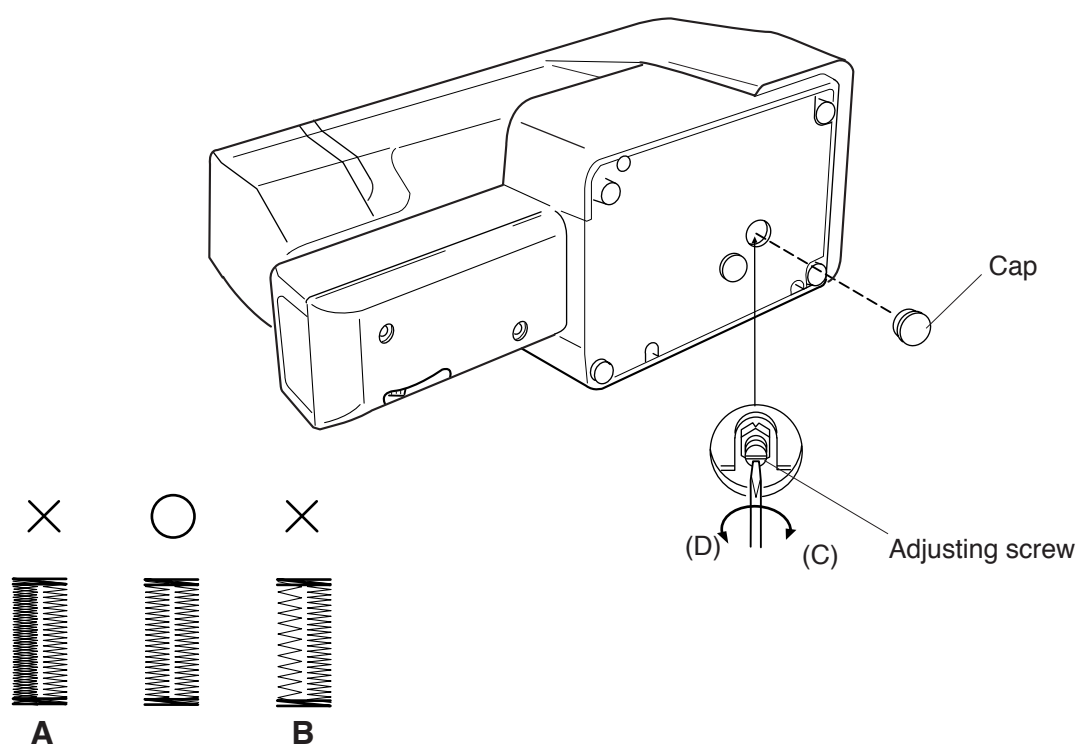
Sew a test buttonhole and count the stitches on each side.

Remove the cap to access the adjusting screw.

If the left row is denser (A), turn the adjusting screw in the direction (C).

If the right row is denser (B), turn the adjusting screw in the direction (D).

Attach the cap.



Adjusting Buttonhole Zero Feed

- If the fabric is fed when sewing a bartack of the buttonhole, correct it as follows:

<To adjust>

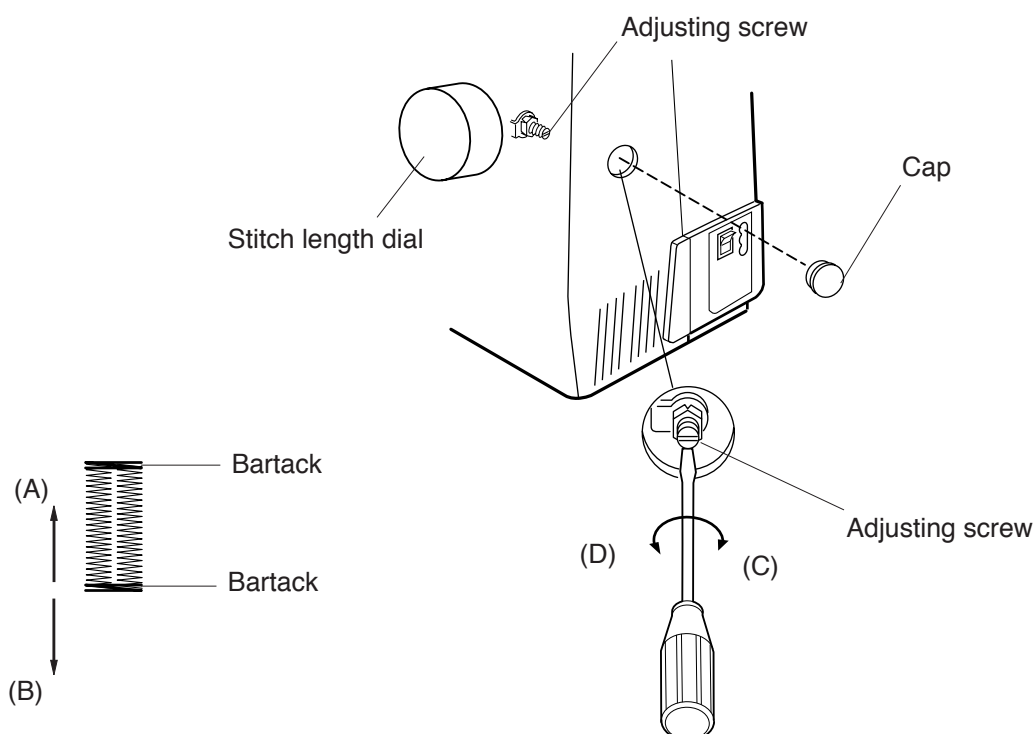
Sew a test buttonhole to check if the fabric is fed while sewing the bartacks.

Remove the cap to access the adjusting screw.

If the fabric is fed forward (A), turn the adjusting screw in the direction (C).

If the fabric is fed backward (B), turn the adjusting screw in the direction (D).

Attach the cap.



Adjusting Buttonhole Function

<To check>

Buttonhole should be about 3mm longer than the length set by the R foot.

if this length cannot be obtained, then check and adjust as follows:

<To adjust>

Lower the feed dog and set the R foot.

Remove the face plate. Loosen the setscrew (A).

Lower the buttonhole lever to its lowest position and press it against the R foot.

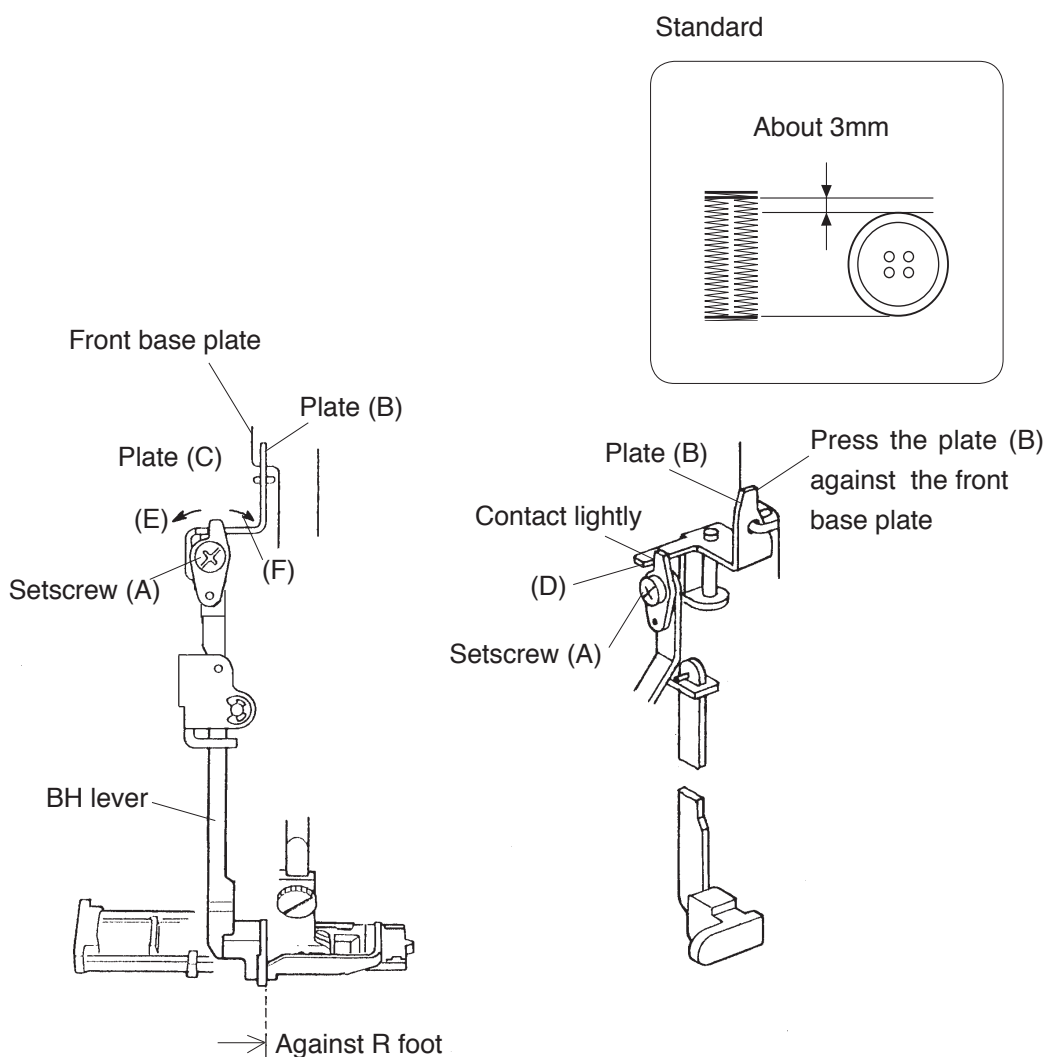
Press the plate (B) against the front base plate lightly. Move the plate (C) so that it contacts with the plate (D) and tighten the setscrew (A).

Raise the feed dog and sew a test buttonhole to check the length.

Move the plate (C) in the direction of (E) if the buttonhole stitch length is longer than the standard, or in the direction of (F) if the buttonhole stitch length is shorter than the standard.

Tighten the setscrew (A).

Attach the face plate.



Replacing Motor and Adjusting Motor Belt Tension

<To replace the motor>

Remove the face plate, base cover, front cover and rear cover (see pages 1 to 4).

Remove the setscrews (A) and machine socket. Remove the setscrews (B) and machine socket lid.

Remove the nuts and disconnect the motor cords.

Remove the setscrews (C) and motor.

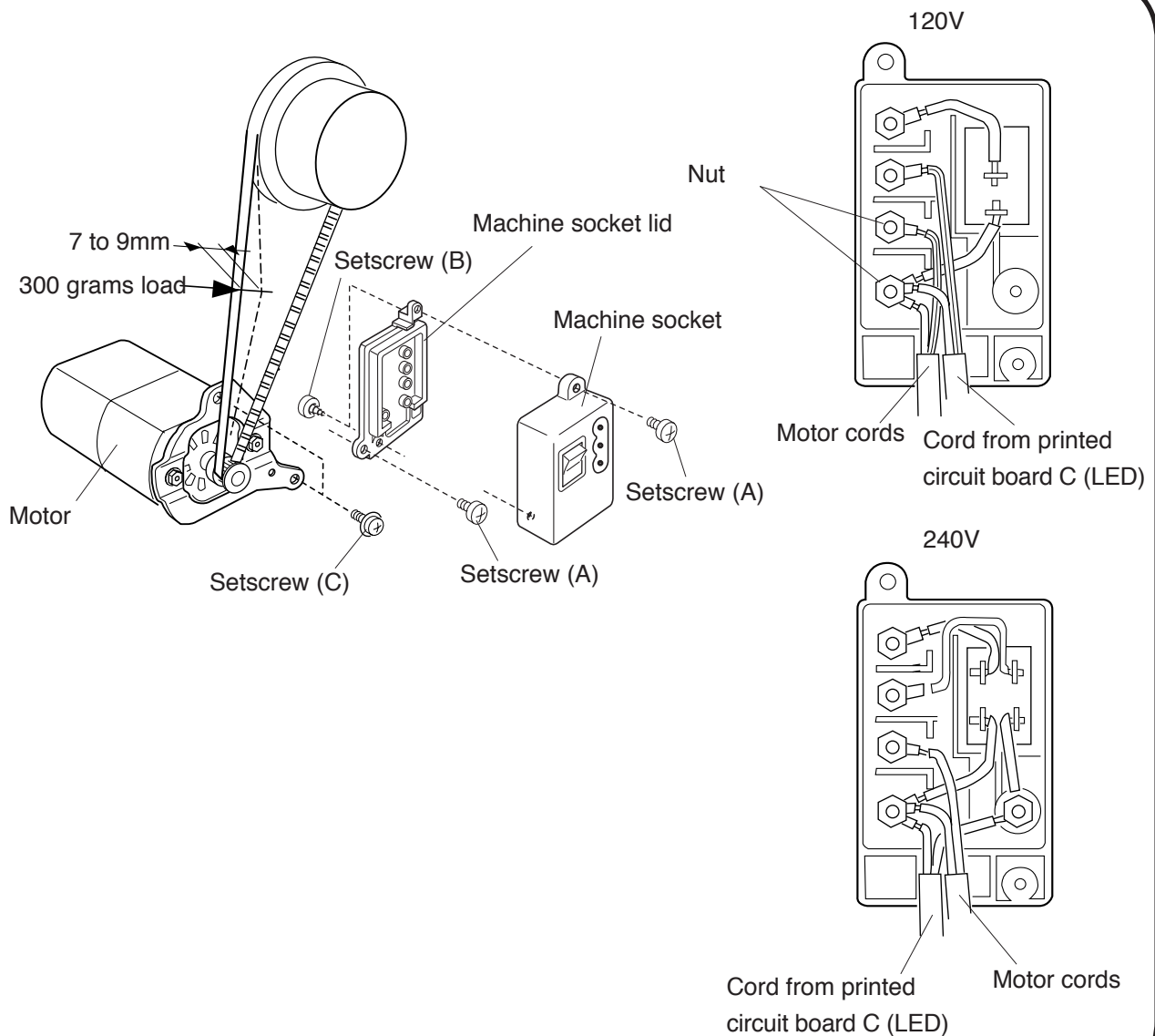
To attach the motor, follow the above procedure in reverse.

<To adjust the motor belt tension>

Slightly loosen the setscrews (C).

While pushing the middle of the motor belt with a 300 grams load, move the motor up or down so that the belt deflects 7 to 9 mm.

Tighten the setscrews (C) securely.



Replacing and Adjusting Threader

<To replace>

Remove the face plate (see page 1).

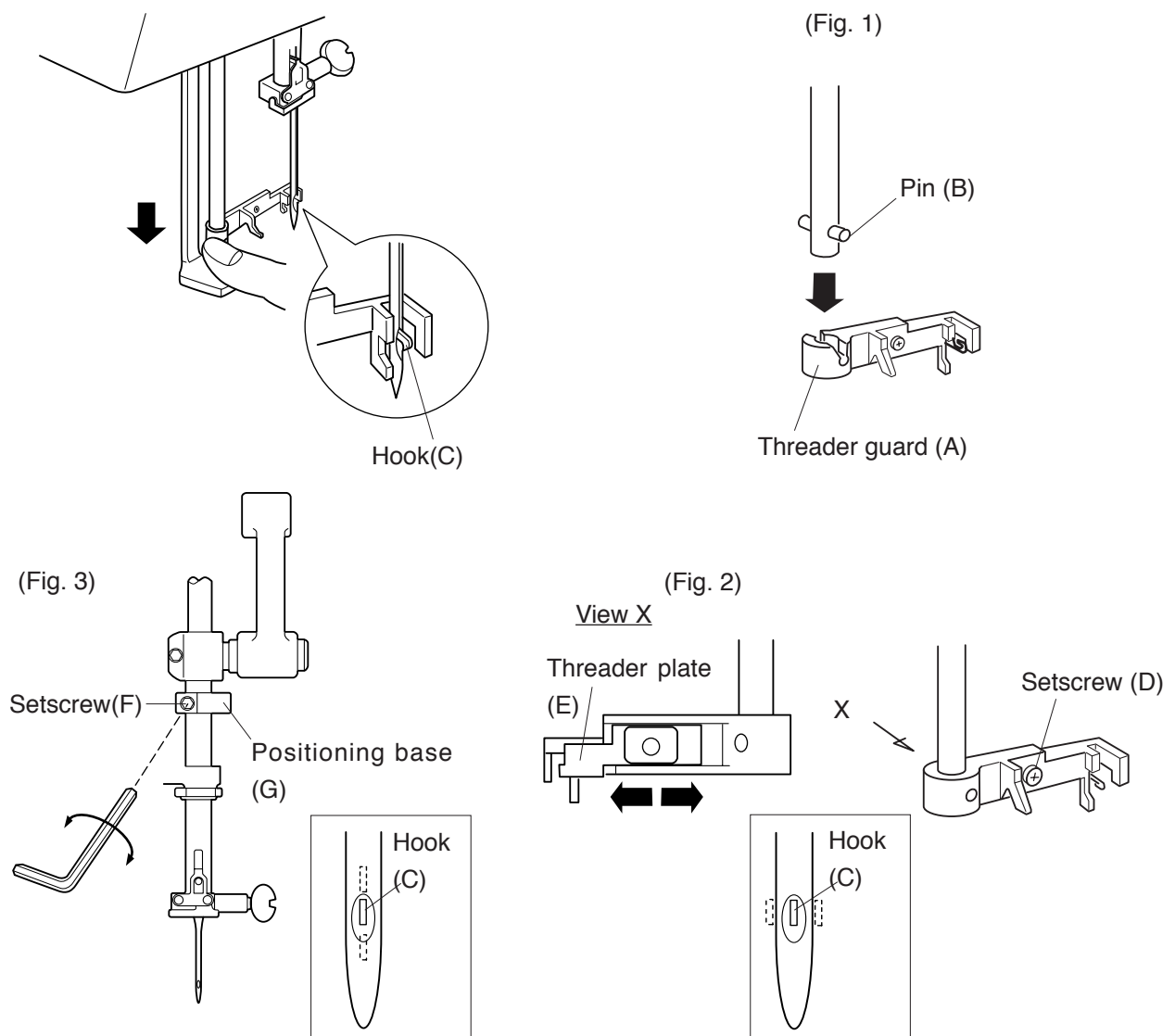
Pull the threader guard away from the threader.

Align the groove on the threader guide with the pin on the threader shaft and push the threader guide up to snap it in place. (See Fig. 1).

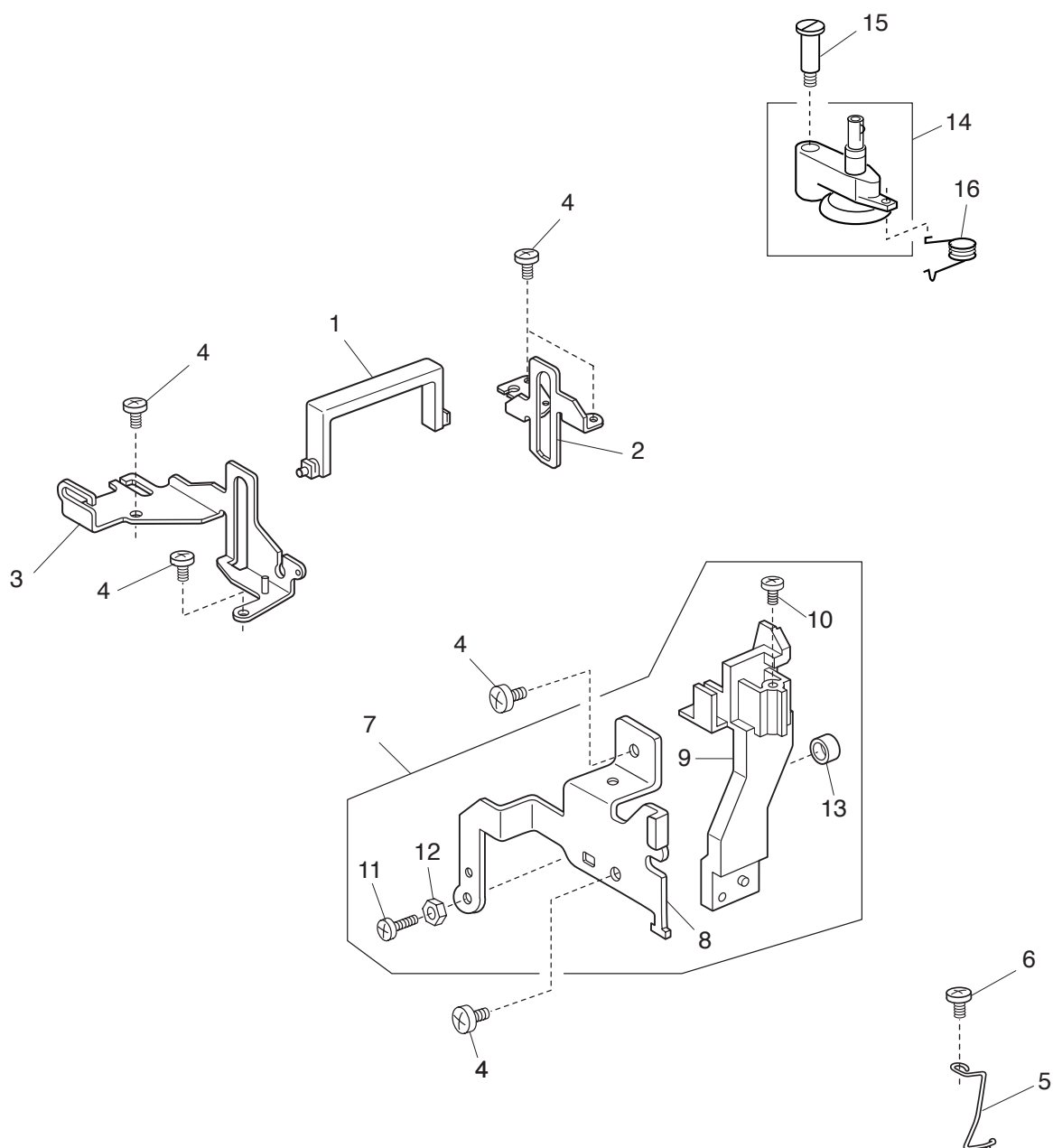
<To adjust>

If the hook (C) of the threader thrust or hit against the side edge of the needle eye, loosen the setscrew (D) and adjust the lateral position of the threader plate (see Fig. 2).

If the hook (C) thrust against upper or lower edge of the needle eye, remove the face plate and loosen the setscrew (F) and move the positioning base (G) up or down so that the hook enters through the needle eye (see Fig. 3).



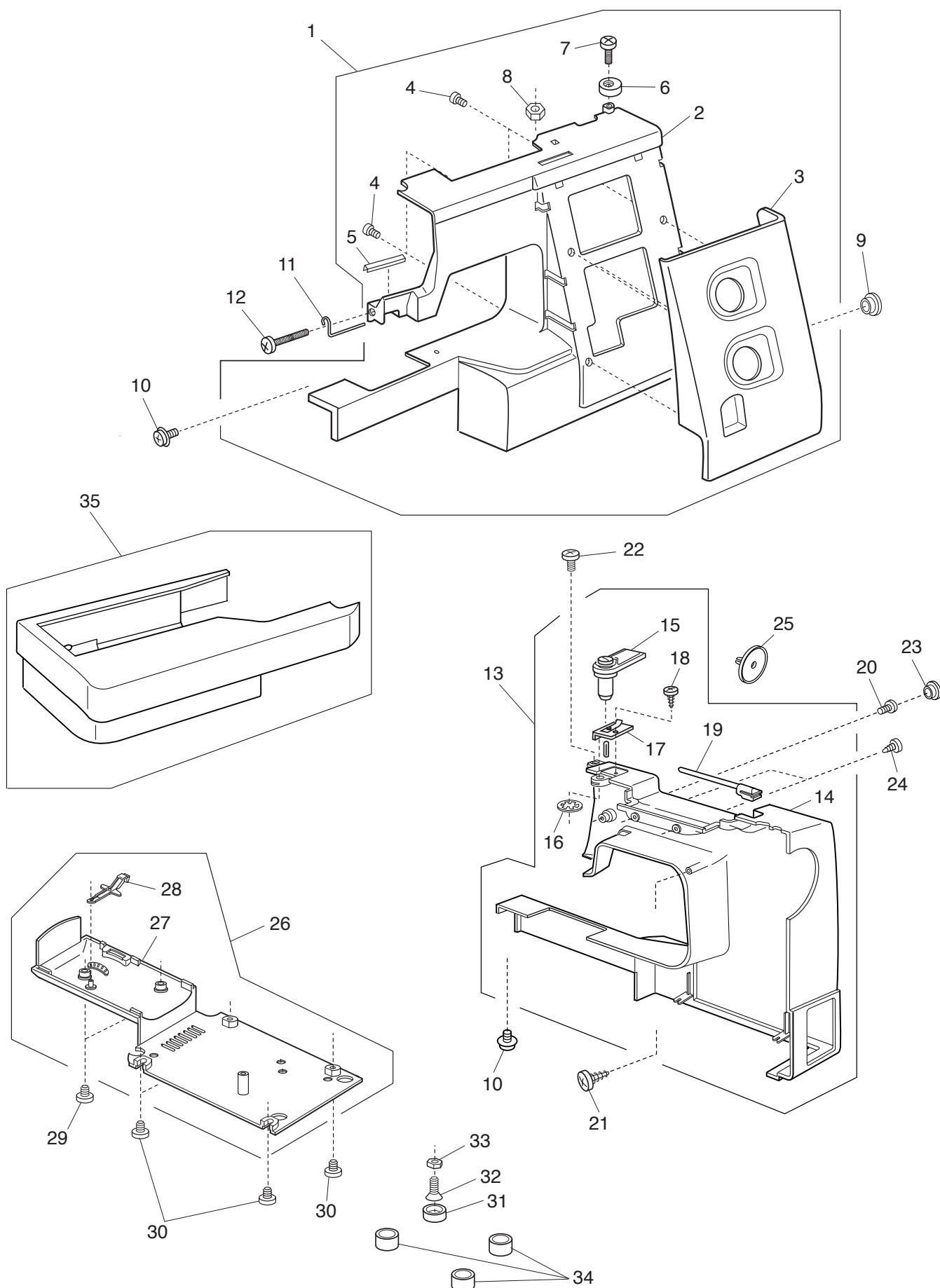
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	751100000	Carrying handle
2	507150002	Carrying handle supporter (right)
3	751077029	Carrying handle supporter (left)
4	000081005	Setscrew 4x8
5	652137006	Arm thread guide (2)
6	000101404	Setscrew 4x6
7	507605111	Face plate set plate (unit)
8	507161006	Face plate set plate
9	751375008	Threader shaft guide (upper)
10	000076306	Setscrew 3x10
11	000105419	Setscrew 4x20
12	000160102	Adjustable lock nut 4
13	685042005	Supporter stopper
14	652506000	Bobbin winder (unit)
15	652093009	Setscrew
16	659034003	Spring

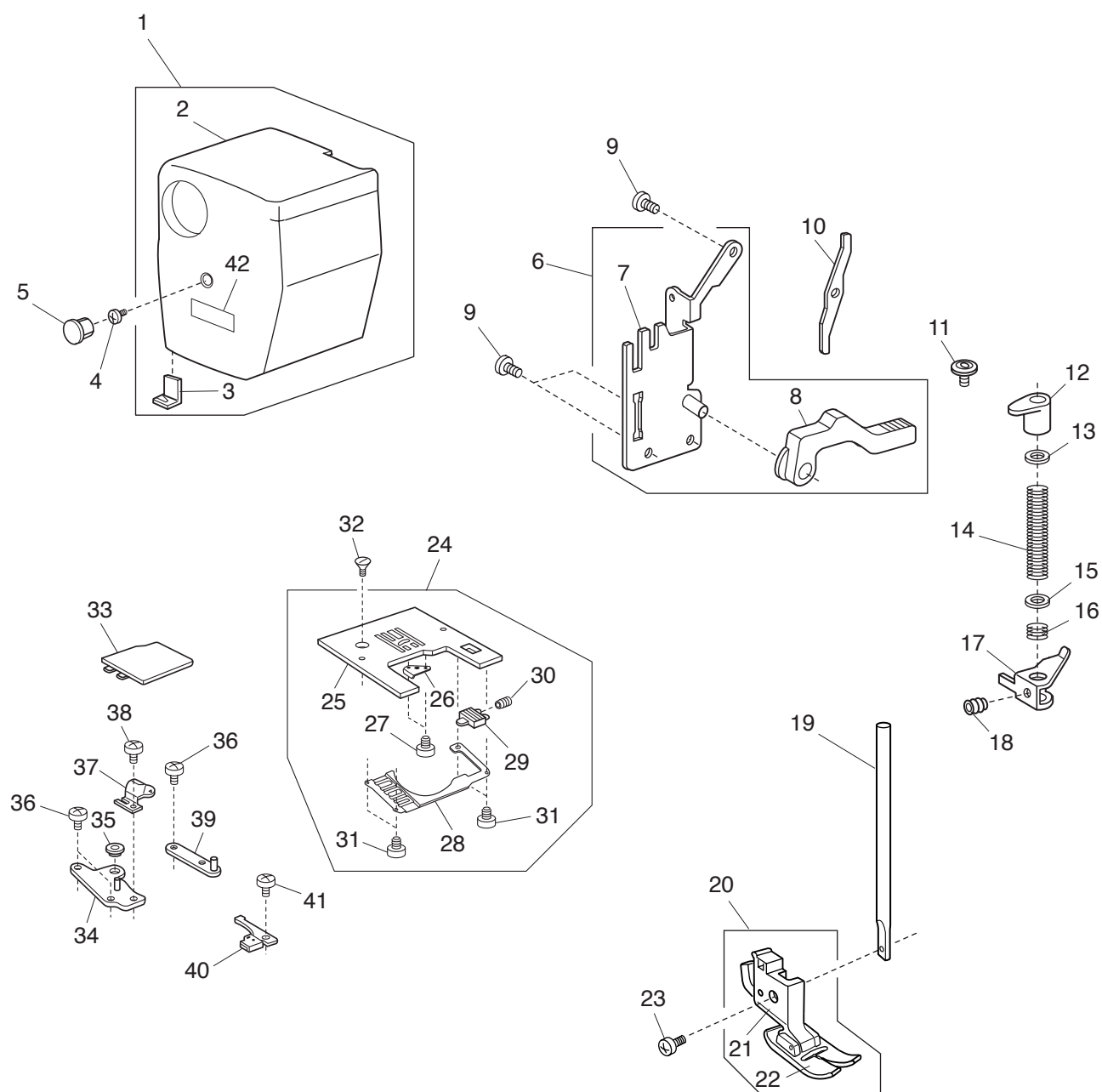
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507634186	Front cover (unit)
2	507110A04	Front cover
3	507111A05	Ornamental panel
4	000161402	Setscrew 2.3x8 (B)
5	753125007	Thread guide
6	735016307	Bobbin winder stopper
7	000103107	Setscrew 4x14
8	000061205	Nut 4-3-7
9	745033002	Cap
10	000115205	Setscrew TP 4x6
11	753126008	Arm thread guide
12	000092917	Setscrew 3.5x27
13	507631253	Rear cover (unit)
14	507102A03	Rear cover
15	650503078	Thread guide (unit)
16	000014409	Snap ring CS-8
17	827503005	Top cover thread guide (unit)
18	000162001	Setscrew 2.6x5 (B)
19	659067005	Additional spool pin
20	000101817	Setscrew 4x16
21	000121905	Setscrew 4x12 (B)
22	810220003	Setscrew
23	653006101	Cap
24	000161310	Setscrew 3x12 (B)
25	822020503	Spool holder (large)
26	507601003	Base cover (unit)
27	507001007	Base cover
28	753005000	Drop feed lever
29	000101703	Setscrew 4x12
30	000103509	Setscrew 4x10
31	735002001	Rubber foot
32	000097808	Setscrew 5x25
33	000061412	Nut 5-3-8
34	647009002	Bed rubber cushion
35	507637A05	Extension table (unit)

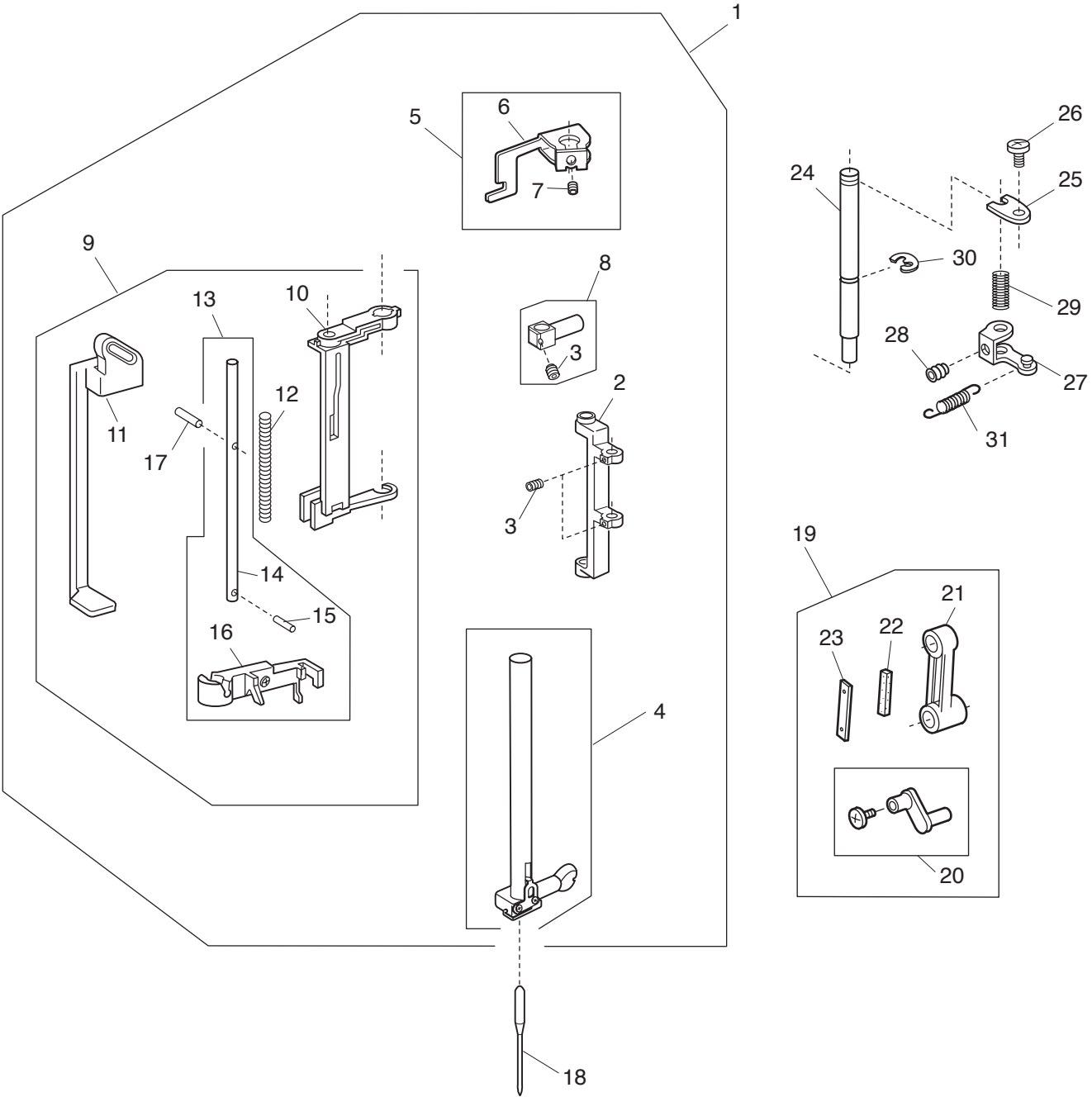
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507632977	Face plate (unit)
2	507105B04	Face plate
3	840602006	Thread cutter (unit)
4	000101703	Setscrew 4x12
5	653006101	Cap
6	507618106	Presser bar base plate (unit)
7	507156008	Presser bar base plate
8	735029004	Presser foot lifter
9	000081005	Setscrew 4x8
10	751142004	Thread tension release lever
11	000193001	Thin-head setscrew TP 4x6
12	652104004	Presser bar bushing
13	652201002	Washer
14	826006000	Presser bar spring
15	826055004	Washer
16	826056005	Presser foot support spring
17	735028003	Presser bar supporter
18	000111500	Hexagonal socket screw 4x8
19	827021004	Presser bar
20	660508007	Presser foot (unit)
21	660806008	Presser foot holder
22	685502019	Zigzag foot
23	660106001	Thumbscrew
24	751603802	Needle plate (unit)
25	653179405	Needle plate
26	654078004	Bobbin holder set plate
27	820373003	Serscrew 2x3
28	751374007	Hook cover plate supporter
29	825016000	Hook cover plate release button
30	825017001	Spring
31	820374004	Setscrew 2x2.3
32	820390109	Needle plate setscrew
33	750036012	Hook cover plate
34	751008007	Needle plate adjusting plate (left)
35	822314002	Nut
36	000066705	Setscrew 3x8
37	822011109	Bobbin holder stopper
38	000103808	Setscrew 3x5
39	751009008	Needle plate adjusting plate (right)
40	751502109	Bobbin holder stopper (unit)
41	810220003	Setscrew
42	100517008	Caution sticker

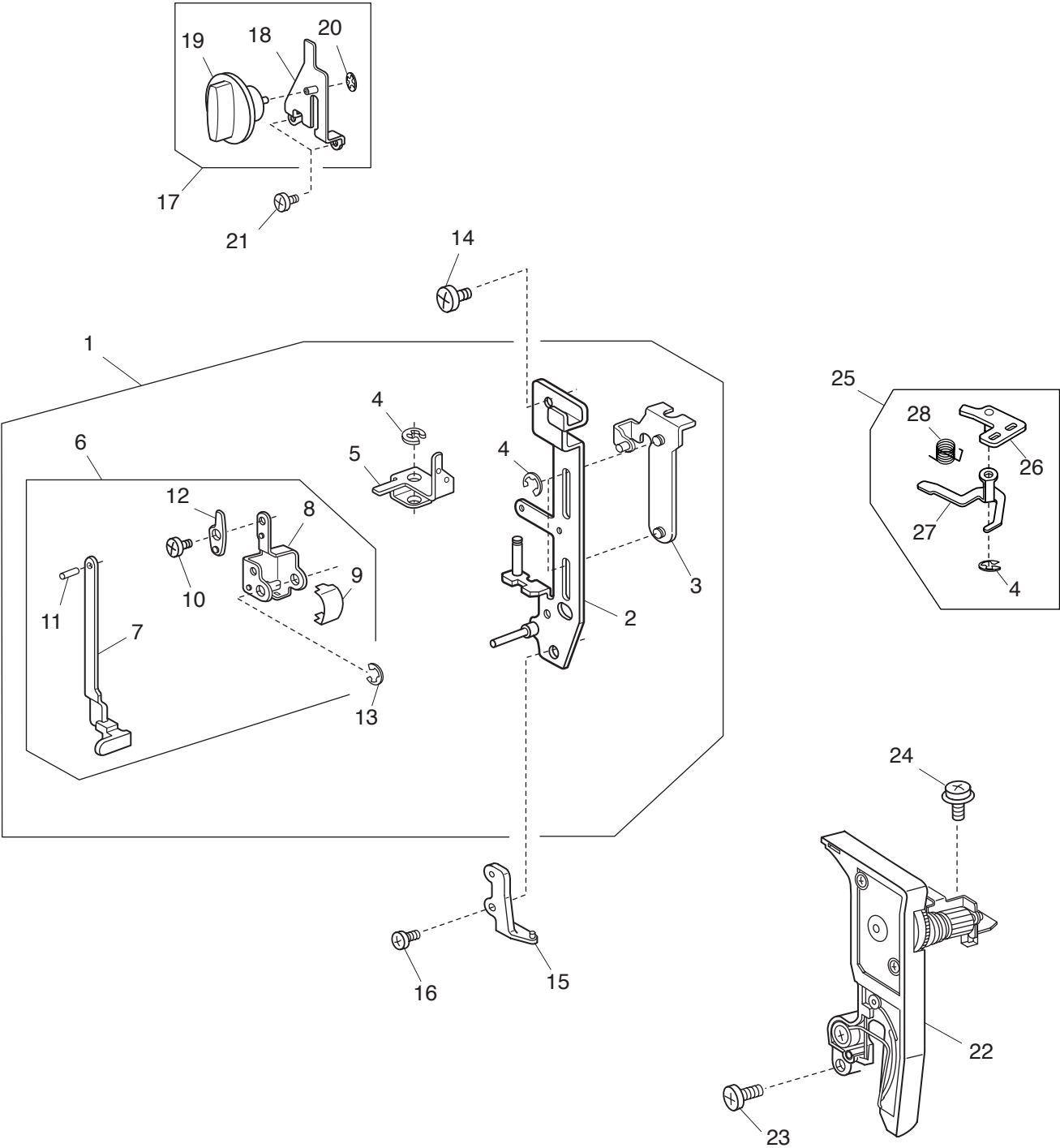
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	755627103	Needle bar supporter (unit)
2	751014006	Needle bar supporter
3	000111201	Hexagonal socket screw 4x4
4	751630015	Needle bar (unit)
5	807607019	Threader positioning setting plate (unit)
6	807018109	Threader positioning setting plate
7	000111902	Hexagonal socket screw 3x4
8	507521008	Needle bar connecting stud (unit)
9	659633008	Needle threader (unit)
10	755062001	Threader frame
11	853026011	Threader lever
12	755067006	Needle threader spring
13	755625008	Threader shaft (unit)
14	755066005	Threader shaft
15	000003508	Spring pin 2x8
16	755643002	Threader plate (unit)
17	000125105	Guide pin E-2x16-CH
18	102408089	Needle
19	846615000	Needle bar crank (unit)
20	652512009	Needle bar crank pin (unit)
21	650039001	Needle bar crank rod
22	650040005	Felt
23	650041006	Spring
24	650033005	Supporter shaft
25	650034006	Supporter shaft stopper plate
26	000101404	Setscrew 4x6
27	650035007	Zigzag width arm
28	000111108	Hexagonal socket screw 4x6
29	650036008	Spring
30	000001609	Snap ring E-5
31	507094007	Needle bar supporter spring

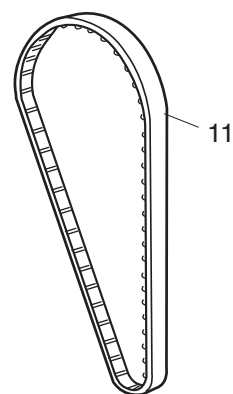
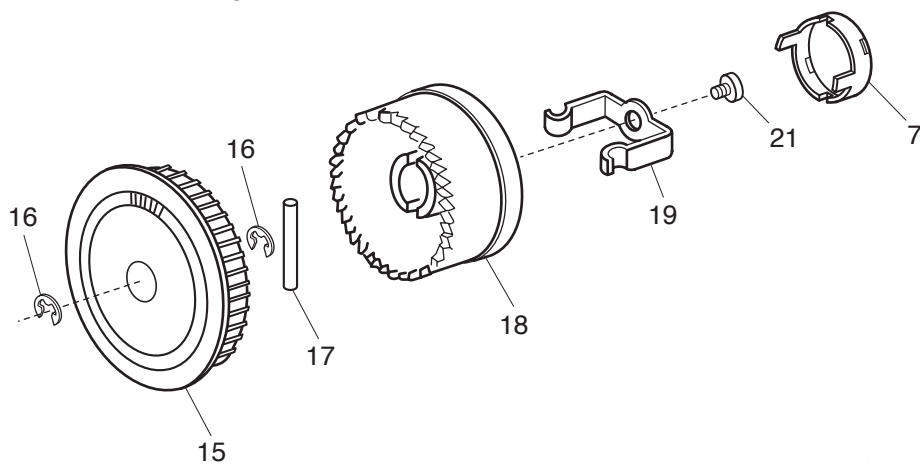
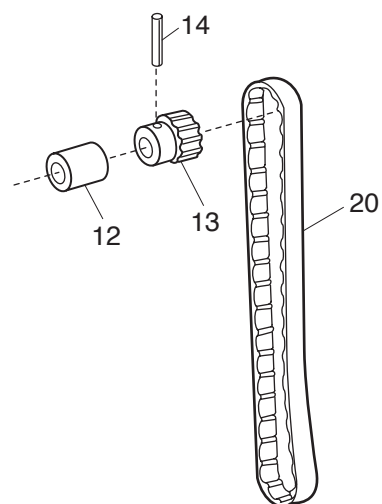
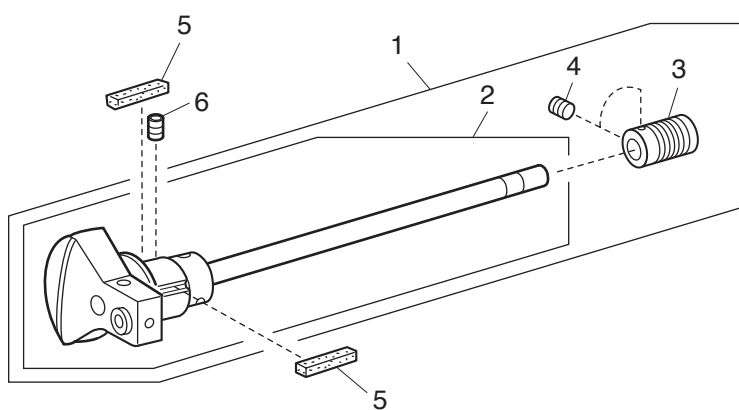
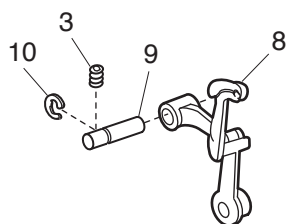
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507606008	Front bracket (unit)
2	507007014	Front bracket
3	501009007	Presser foot pressure adjusting plate
4	000002105	Snap ring E-3
5	751022100	Drag rod link
6	751657007	Buttonhole lever (unit)
7	751610008	Buttonhole lever (unit)
8	753026203	Buttonhole lever supporter plate
9	753027008	Spring
10	652203004	Setscrew 3x3.5
11	000023009	Spring pin 1.6x4
12	753029000	Buttonhole lever adjusting plate
13	000001207	Snap ring E-2.5
14	000081005	Setscrew 4x8
15	755074006	Threader guide plate
16	000103509	Setscrew 4x10
17	507607009	Presser foot pressure dial (unit)
18	501008109	Dial set plate
19	507008004	Presser foot pressure dial
20	000014007	Snap ring CS-4
21	000106203	Setscrew 3.5x4
22	507504027	Thread tension (unit)
23	000101703	Setscrew 4x12
24	000115205	Setscrew TP 4x6
25	507638009	Thread tension release arm (unit)
26	752055002	Thread tension release arm base
27	751215009	Thread tension release arm
28	752056003	Thread tension release spring

PARTS LIST



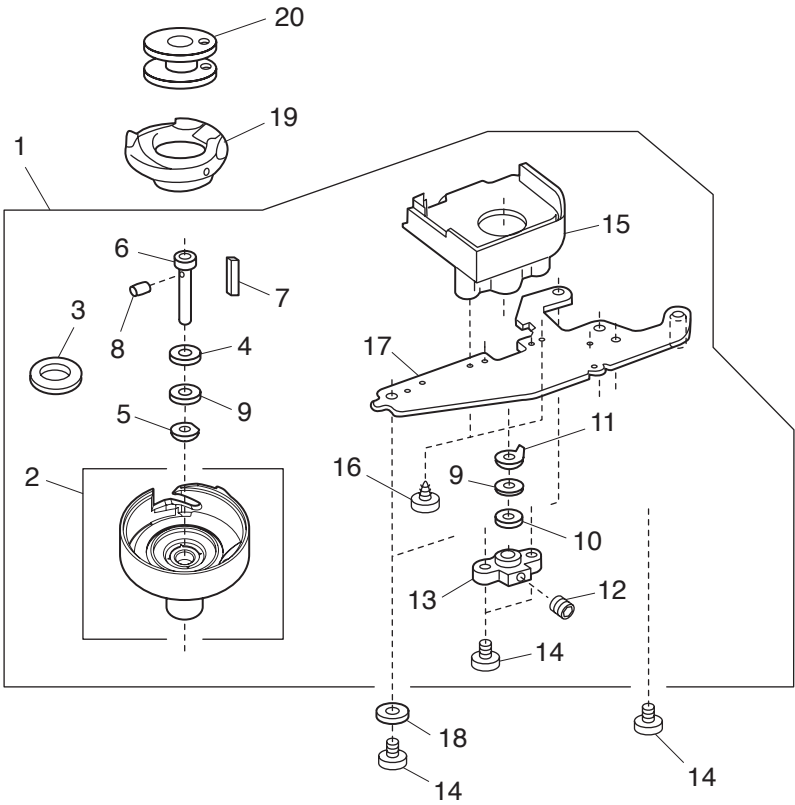
PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	756607100	Upper shaft (whole unit)
2	756189000	Upper shaft (unit)
3	507059000	Worm
4	000111201	Hexagonal socket screw 4x4
5	731384008	Felt
6	000111304	Hexagonal socket screw 5x5
7	650070509	Clutch cap
8	820511108	Thread take-up lever (unit)
9	650062003	Thread take-up lever pin
10	000002806	Snap ring E-6
11	653139012	Timing belt
12	673062004	Upper shaft rear bushing
13	756017004	Upper shaft gear
14	000020501	Spring pin 3x22
15	756018005	Belt wheel
16	000030205	Snap ring E-8
17	000023803	Spring pin 4x40
18	639097024	Handwheel
19	639113016	Clutch spring
20	650071005	Timing belt
21	000081005	Setscrew 4x8

PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	751666504	Feed rock shaft (unit)
2	653193003	Feed dog
3	000104005	Setscrew 3.5x8
4	650085002	Feed base spring
5	738055008	Straight pin
6	000111304	Hexagonal socket screw 5x5
7	650612004	Feed regulator (unit)
8	820387000	Ring
9	000081005	Setscrew 4x8
10	507095008	Feed regulator spring
11	625144002	Feed shaft bushing (front)
12	650175000	Cushion
13	000111201	Hexagonal socket screw 4x4
14	650092002	Feed shaft bushing (rear)
15	507608000	Feed regulating plate (unit)
16	507062006	Feed shaft
17	507011103	Feed shaft set plate
18	000081500	Setscrew 3x12
19	507064008	SS adjusting plate
20	507087007	Setscrew
21	000160102	Adjustable lock nut 4
22	507063007	Feed regulating plate
23	648010009	Setscrew
24	000159201	Setscrew 4x12
25	751612206	Lower shaft (unit)
26	650079003	Lower shaft bushing (rear)
27	820161006	Feed lifting pin
28	751148000	Feed cam
29	000115009	Setscrew TP 3x8
30	808137005	Lower shaft gear
31	753183025	Feed lifting cam
32	686035008	Feed lifting cam spring
33	820166001	Lower shaft ring
34	000038502	Washer
35	650078002	Lower shaft bushing (front)
36	735143005	Felt
37	858177002	Washer
38	000002806	Snap ring E-6

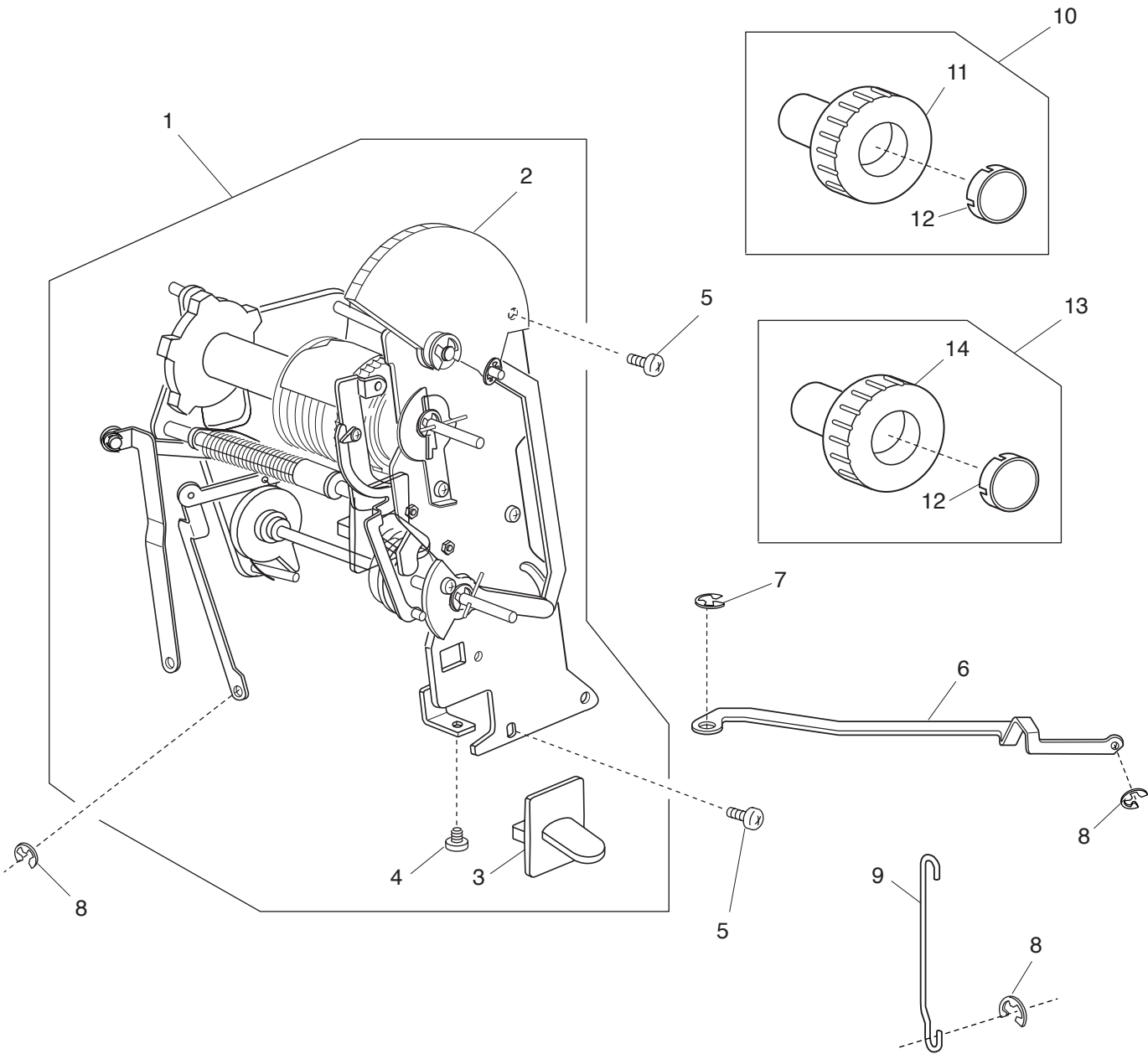
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	660655011	Hook race (unit)
2	660536004	Hook body (unit)
3	627190010	Magnet
4	508118001	Washer
5	508139008	Magnet set plate
6	820123006	Hook race shaft
7	820124007	Oil string (1)
8	820125008	Oil string (2)
9	000038409	Washer 6x0.5
10	625102008	Washer
11	627192001	Hook race shaft washer
12	000111304	Hexagonal socket screw 5x5
13	650094004	Hook race shaft base
14	000081005	Setscrew 4x8
15	827040009	Cover
16	000107204	Setscrew 3x12 (B)
17	823106002	Hook race set plate
18	000070506	Washer 4
19	627569106	Bobbin holder (unit)
20	102261103	Bobbin

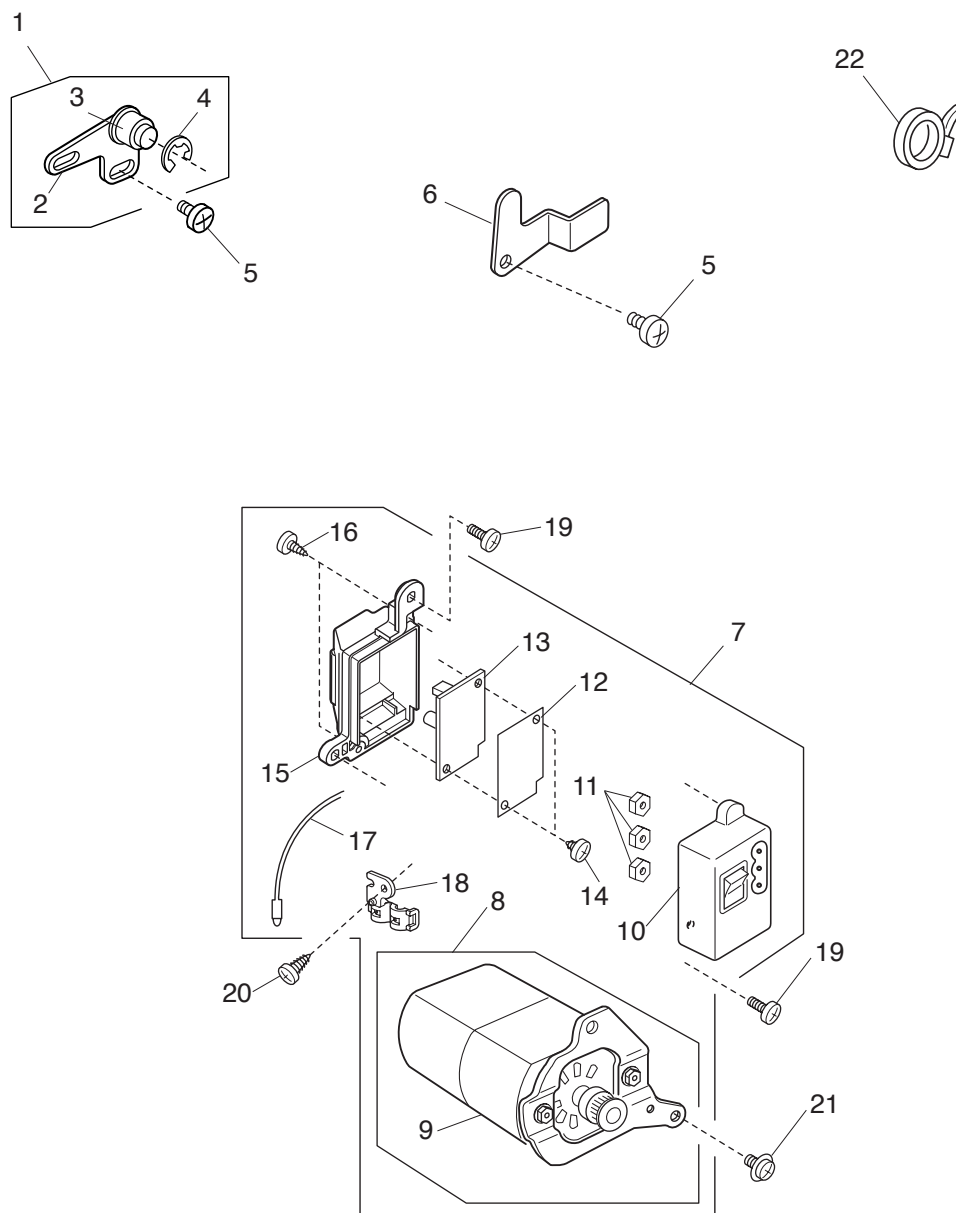
PARTS LIST



PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507636030	Cam block (unit)
2	507041700	Zigzag width dial
3	507109040	R lever
4	000107307	Setscrew 3x8 (B)
5	000081005	Setscrew 4x8
6	507066000	Zigzag width rod
7	000002507	Snap ring E-4
8	000002105	Snap ring E-3
9	507047005	BH Rod
10	507635682	Pattern selector dial (unit)
11	507112A14	Pattern selector dial
12	507113003	Dial cover
13	507635693	Feed dial (unit)
14	507112A15	Feed dial

PARTS LIST

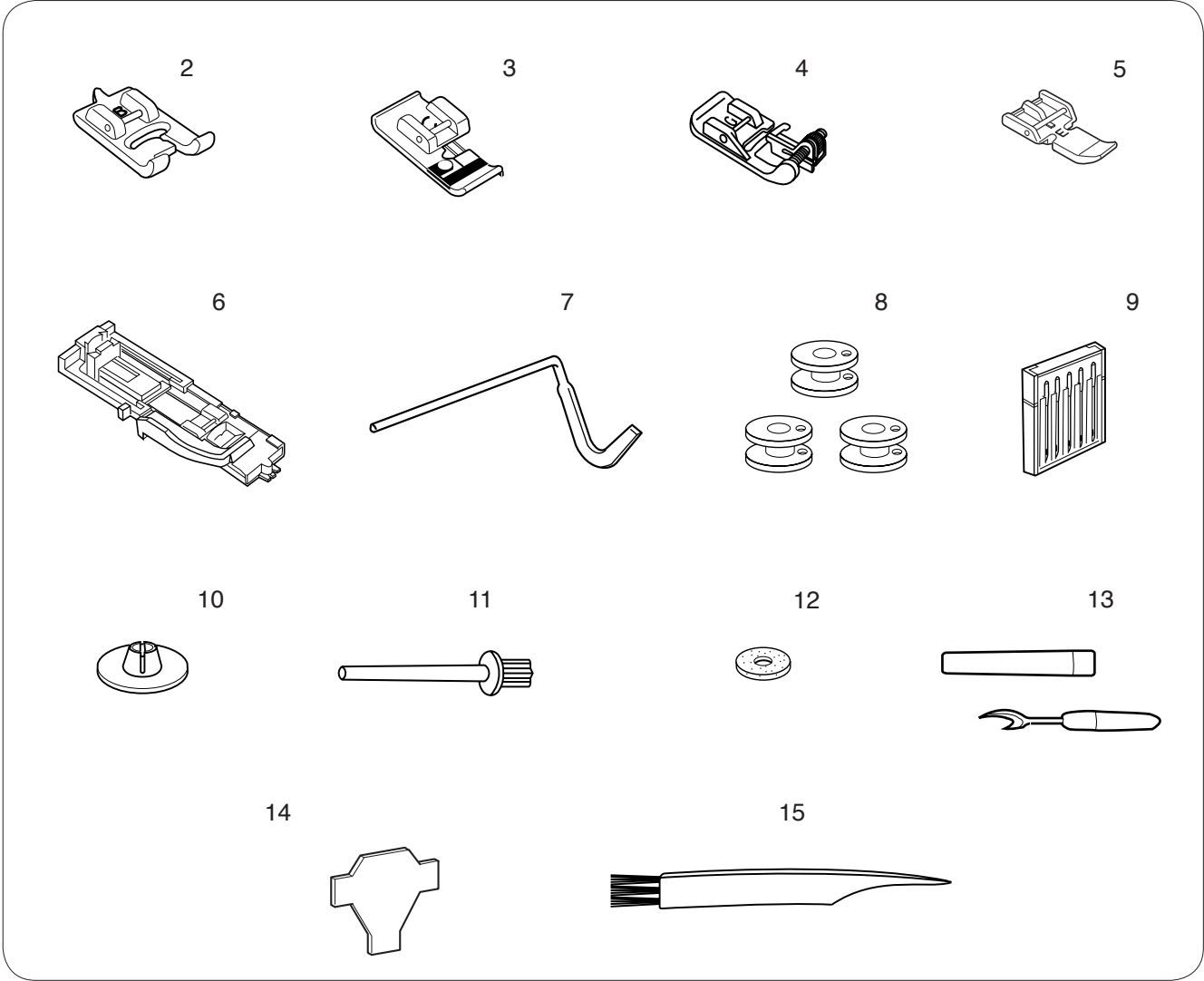


PARTS LIST

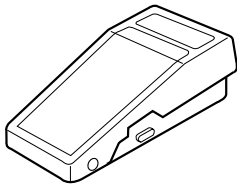
KEY NO.	PARTS NO.	DESCRIPTION
1	753619003	Idler (unit)
2	753119008	Idler base
3	625217100	Idler
4	000002806	Snap ring E-6
5	000081005	Setscrew 4x8
6	507067001	Set plate
7	755648203	Machine socket (whole unit)
8	505623005	Motor (unit)
9	M-1073A	Motor
10	739505403	Machine socket (unit)
11	000060802	Nut 3-1-5.5
12	508134003	Insulating paper
13	508512009	Printed circuit board C (unit)
14	000120203	Setscrew 3x8 (B)
15	505080004	Machine socket cover
16	000107802	Setscrew 3x10 (B)
17	508515105	LED (unit)
18	508143005	LED holder
19	000103509	Setscrew 4x10
20	000107307	Setscrew 3x8 (B)
21	000115504	Setscrew TP 5x10
22	000053709	Cord binder

PARTS LIST

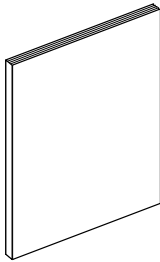
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PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
1	507870049	Standard accessories
2	820801016	BH foot
3	822801001	Overedge foot
4	820817015	Blind hem foot
5	808852003	Zipper foot
6	753801004	BH foot
7	802422002	Quilting guide bar
8	102261103	Bobbin
9	540401026	Needle case (unit)
10	822019509	Spool holder (small)
11	625031500	Additional spool pin
12	102403109	Felt
13	647808009	Seam ripper (buttonhole opener)
14	653802002	Screwdriver
15	802424004	Lint brush
16	C-1028	Foot control
17	507851332	Instruction manual