



715 - 725 - 735 - 745

WORKSHOP MANUAL

Welcome to the BCS family of dealers.

This handbook has been developed to enable you to maintain and service the BCS Models 715, 725, 735 and 745 tractors faster and more profitably.

It includes all the directions you'll need to provide your customers with outstanding service.

If you find it necessary to seek additional maintenance or servicing advice, please call during working hours and our technical service manager will be glad to help.

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INTRODUCTION

This handbook contains the instructions for repairing BCS models 715, 725, 735, 745 and their implements. Every effort has been made to provide simple and accurate instructions. Please follow the instructions carefully and follow all the precautions listed in this guide.



WARNING

General safety

To avoid accidents, please follow the precautions listed below:

- Always wear suitable clothes when working.
- Protect yourself with safety glasses and gloves.
- Never service the machine when engine is running.
- Do not smoke in presence of gasoline or fuels.
- Do not use gasoline or flammable fluids for cleaning.
- Use non-toxic solvents.
- Engine should be run only in a well ventilated area.
- Maintain a clean work area.
- Do not refuel when the engine is running.
- Before starting the engine, check fluid levels and be sure the gearbox and P.T.O. are out of gear.

General instructions

This guide is divided into three parts: 0. Specifications and maintenance, 1. Tractor, 2. Implements.

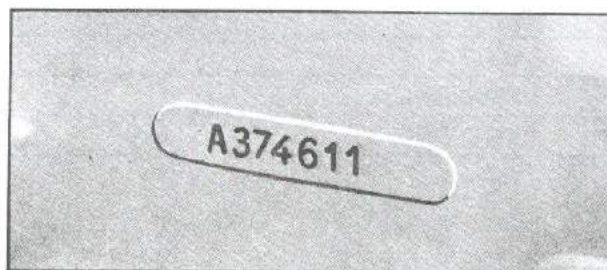
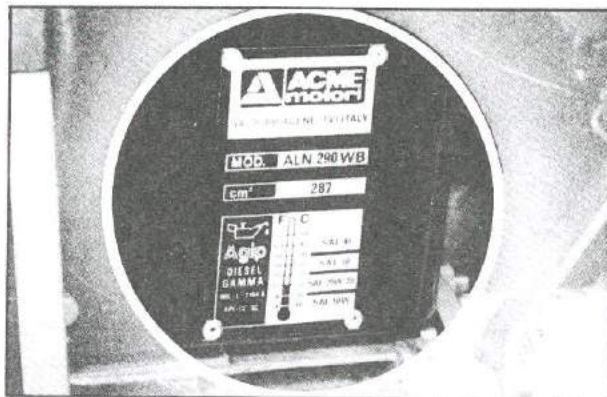
For the engine, please consult the literature of the respective manufacturers.

- * Unless otherwise noted, proceed in the same way for all models 715, 725, 735 and 745. To reassemble, reverse the disassembly procedures.

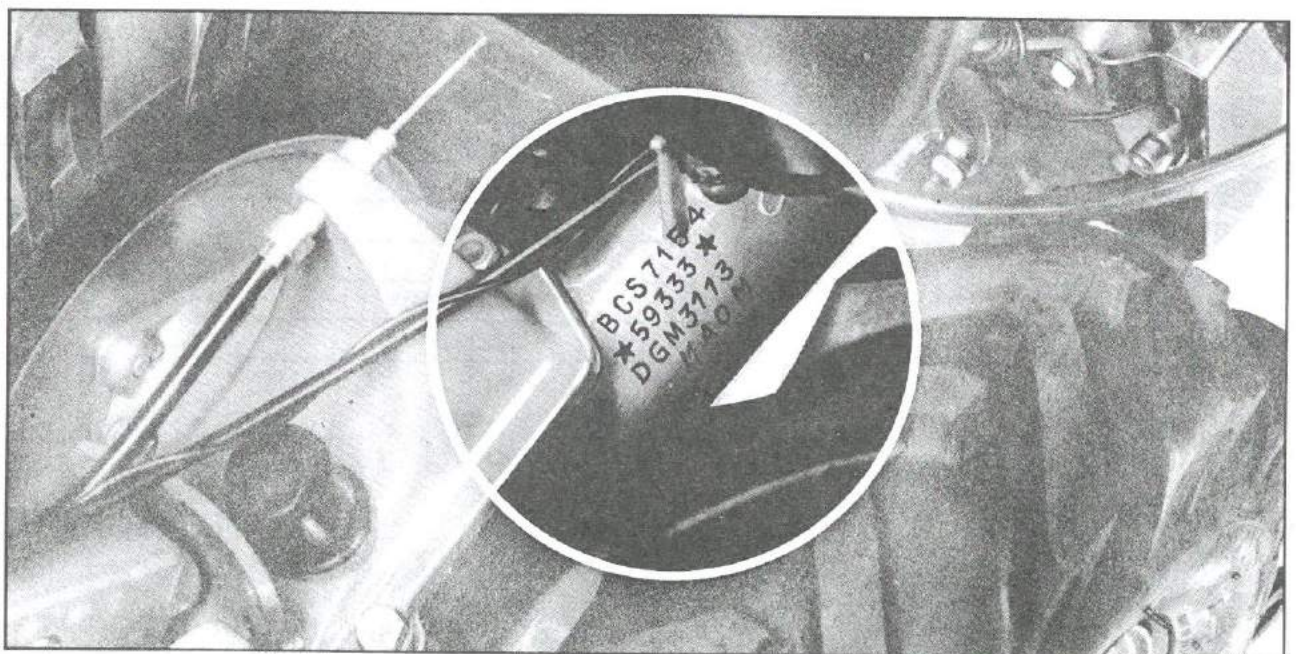
Service rules

- Disassemble and overhaul the parts only if service is necessary.
- Replace all worn parts to prevent more costly repairs at a later date.
- To keep the machine at its original quality level and condition, use BCS spare parts only.
- Order spare parts by giving the machine model and the full part number.
- Use proper tools to avoid damage to parts.
- If it is necessary to hammer for adjusting or to separate parts, always use mallets made of soft material.
- Lubricate the parts before assembly.
- Where suggested, use an antifriction grease such as Molykote or similar product.
- Replace gaskets, oil seals and o-rings before reassembly.
- Use a press for the assembly and disassembly of bearings.
- Use proper size pins in bearing presses.
- Lubricate oil seals and o-rings before assembly.
- Use care in reassembly to avoid seal damage.
- When overhauling replace the spring roll pins.
- Make sure circlips are seated.
- Always tighten bolts and nuts at the specified torques.
- Clean and check all parts before reassembly.

Engine serial No.



Tractor serial No. *59333*



0. SPECIFICATIONS AND MAINTENANCE

0.1 Technical features

0.1.1 Engine technical features

Type	ACME ALN 290 WB
Cycle	4 stroke
Displacement	287 cc/17.5 cu. in.
Compression ratio	5.7 : 1
Max power	8 HP
Max RPM	3600 RPM
Idle RPM	1000 RPM

Type	ACME ALN 330 WB
Cycle	4 stroke
Displacement	327 cc/19.9 cu. in.
Compression ratio	5.9 : 1
Max power	10 HP
Max RPM	3600 RPM
Idle RPM	1000 RPM

Type	ACME VT 88 WB
Cycle	4 stroke
Displacement	480 cc/29.3 cu. in.
Compression ratio	6.5 : 1
Max power	14 H.P.
Max RPM	3000 RPM
Idle RPM	1000 RPM

Type	LOMBARDINI 6LD 360
Cycle	Diesel - 4 stroke
Displacement	359 cc/21.9 cu. in.
Compression ratio	18 : 1
Max power	8.2 HP
Max RPM	3600 RPM
Idle RPM	1000 RPM

Type	LOMBARDINI 3LD 510
Cycle	Diesel - 4 stroke
Displacement	510 cc/31.2 cu. in.
Compression ratio	18 : 1
Max power	12.5 HP
Max RPM	3000 RPM
Idle RPM	1000 RPM

0.1.2 Technical features 715

Type	B C S 715
------	-----------

Transmission case is die-cast light weight alloy.

Clutch	dry cone
Gearbox	heat treated, steel cut gears
Number of gears	3 forward, 1 reverse

Transmission ratios:

1st speed	1 : 10.896
2nd speed	1 : 4.348
3rd speed	1 : 1
Reverse speed	1 : 5.493

Final drive - worm screw-helical gear

Transmission ratio:

1: 24.5	2/49
---------	------

Transmission total ratios:

1st speed	1 : 266.95
2nd speed	1 : 106.53
3rd speed	1 : 24.50
Reverse speed	1 : 134.58

Forward speeds with standard 4.00-8 wheels and engine at 3600 RPM

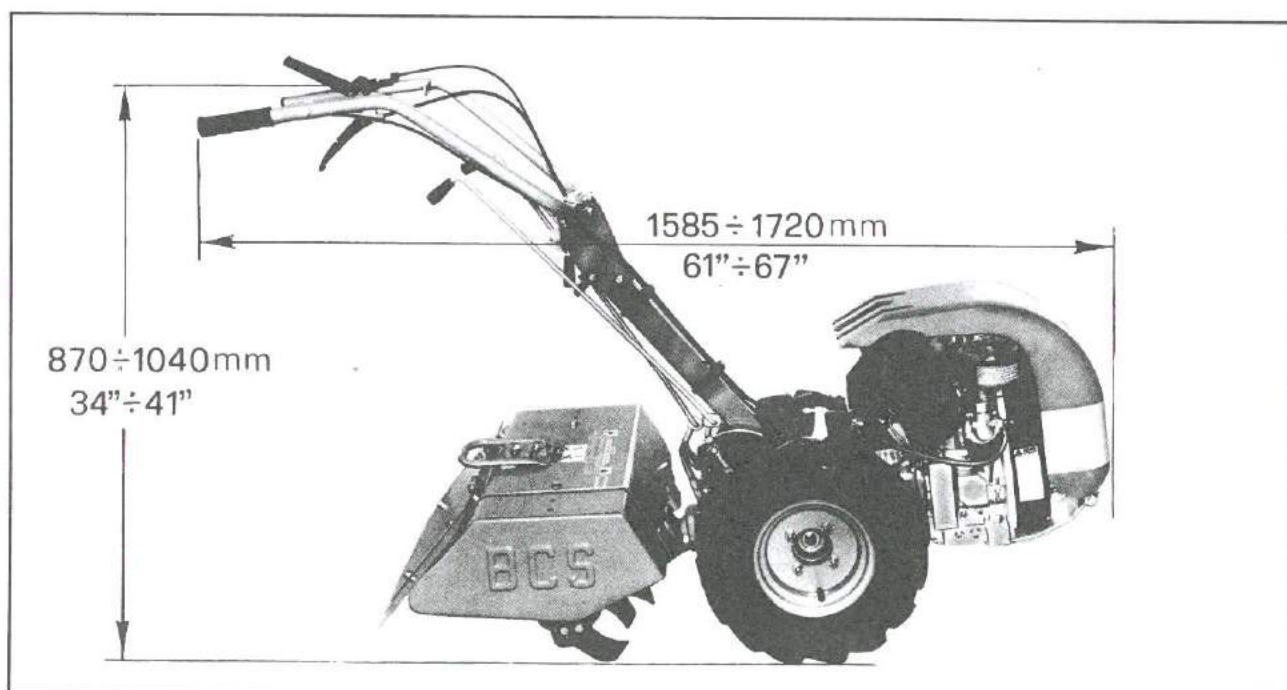
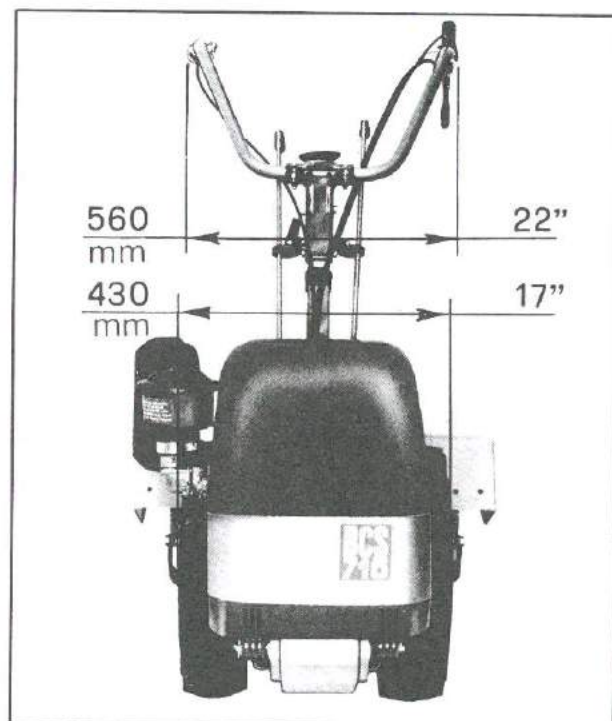
1st speed	0.7 mph
2nd speed	1.7 mph
3rd speed	7.2 mph
Reverse speed	1.4 mph

Power take off speed with engine at 3600 RPM	965 RPM
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Weights:

Machine without implements, with wheels 4.00-8	141 lbs.
Rotary hoe 21"	66 lbs.
Cutter bar with middle cut fingers 43"	77 lbs.
Cutter bar with Mulching fingers 43"	64 lbs.
Cutter bar «Europa» 45"	95 lbs.
Cutter bar with middle cut fingers 50"	84 lbs.
Cutter bar with Mulching fingers 50"	68 lbs.
Cutter bar «Europa» 52"	108 lbs.
Lawn mower 22" with grass-catcher	77 lbs.
Snowthrower 28"	117 lbs.

Dimensions:



0.1.3 Technical features 725

Type	B C S 725
------	-----------

Transmission case is die-cast light weight alloy.

Clutch	dry cone
Gearbox	heat treated, steel cut gears
Number of gears	5 forward, 2 reverse

Transmission ratios:

1st speed	1 : 11.803
2nd speed	1 : 5.502
3rd speed	1 : 3.993
4th speed	1 : 1.861
5th speed	1 : 1
1st reverse speed	1 : 9.629
2nd reverse speed	1 : 3.257

Final drive worm screw-helical gear.

Final transmission ratio:

1 : 24.5	2/49
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Total transmission ratios:

1st speed	1 : 289.17
2nd speed	1 : 134.80
3rd speed	1 : 97.82
4th speed	1 : 45.60
5th speed	1 : 24.50
1st reverse speed	1 : 235.91
2nd reverse speed	1 : 79.80

Forward speeds with standard 5.00-10 wheels and engine at 3.600 RPM:

1st speed	0.7 mph
2nd speed	1.5 mph
3rd speed	2.1 mph
4th speed	4.0 mph
5th speed	8.1 mph
1st reverse speed	0.9 mph
2nd reverse speed	2.4 mph

Power take off speed with engine at 3600 r.p.m.

965 RPM

Weights:

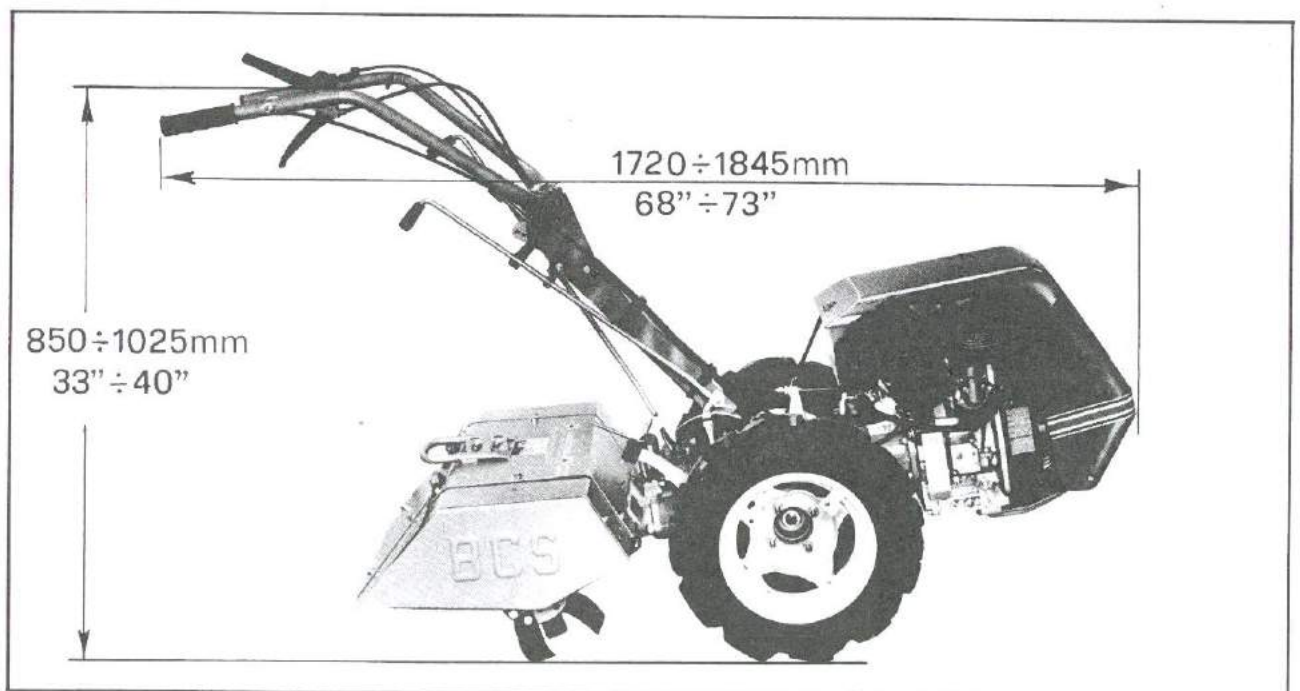
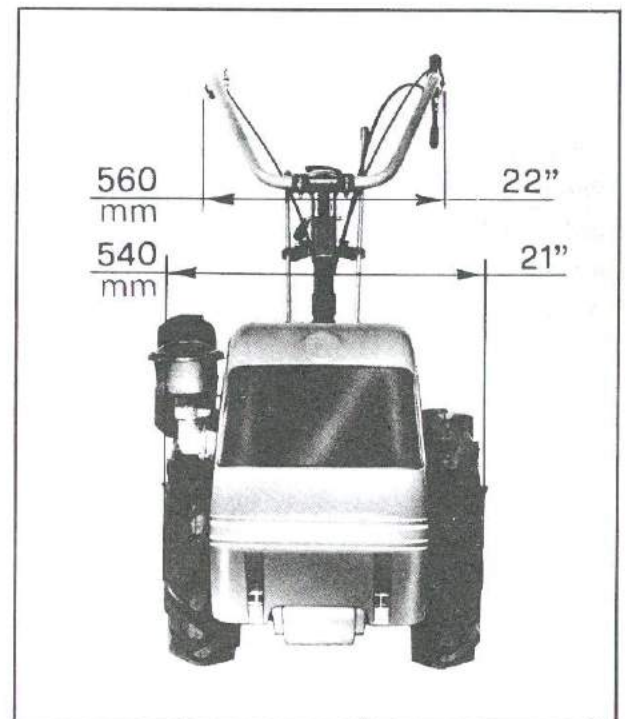
Machine without implements, with wheels 4.00 - 10

168 lbs

Rotary hoe 26"

77 lbs

Dimensions:



0.1.4 Technical features 735

Type	B C S 735
------	-----------

Transmission case is die-cast light weight alloy.

Clutch	dry cone
Gearbox	heat treated, steel cut gears
Number of gears	5 forward, 2 reverse

Transmission ratios:

1st speed	1 : 11.803
2nd speed	1 : 5.502
3rd speed	1 : 3.993
4th speed	1 : 1.861
5th speed	1 : 1
1st reverse speed	1 : 9.629
2nd reverse speed	1 : 3.257

Final drive - worm screw - helical gear.

Final transmission ratio:

1 : 24.5	2/49
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Total transmission ratios:

1st speed	1 : 289.17
2nd speed	1 : 134.80
3rd speed	1 : 97.82
4th speed	1 : 45.60
5th speed	1 : 24.50
1st reverse speed	1 : 235.91
2nd reverse speed	1 : 79.80

Forward speeds with standard 4.00-10 wheels and engine at 3.600 RPM:

1st speed	0.6 mph
2nd speed	1.4 mph
3rd speed	1.9 mph
4th speed	4.1 mph
5th speed	7.5 mph
1st reverse speed	0,8 mph
2nd reverse speed	2.4 mph

Differential with conic gears and hand locking device

Drum brakes with controls independent on both wheels

PTO independent from gearbox

Power take off speed with engine at 3600 RPM

965 RPM

Optional:

PTO synchronized with the speed change

Inside transmission ratio:

1 : 4.895

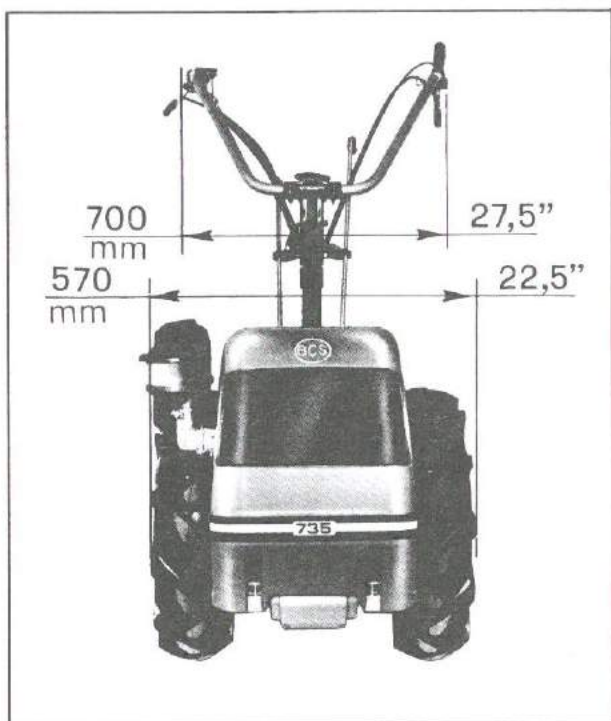
11/25 x 13/28

Transmission ratio between the synchronized PTO and trailer wheel shaft:

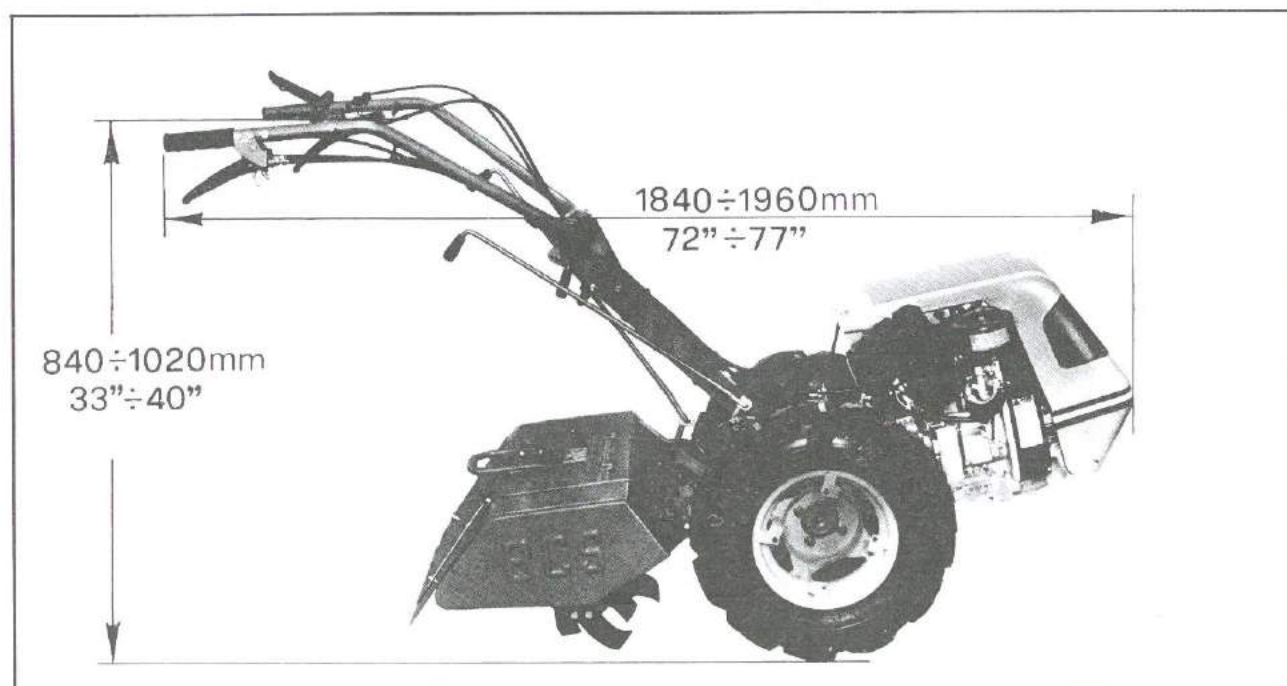
1:5,05 ÷ 1:5,12

Weights:

Machine without implements, with wheels 5.00 - 10	183 lbs
Rotary hoe 30"	93 lbs
3-blade lawn mower 40"	115 lbs



Dimensions:



0.1.5 Thechnical features 745

Type	B C S 745
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Transmission case is die-cast light weight alloy

Clutch	Dry dual conc.
Gearbox	heat treated, steel cut gears
Number of gears	5 forward, 2 reverse

Transmission ratios:

1st speed	1 : 11.515
2nd speed	1 : 5.367
3rd speed	1 : 3.993
4th speed	1 : 1.861
5th speed	1 : 1
1st reverse speed	1 : 9.394
2nd reverse speed	1 : 3.152

Final drive - worm screw - helical gear

1 : 11.75	4/47
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Final transmission ratio:

1 : 2.66	9/24
----------	------

Total transmission ratios:

1st speed	1 : 360.808
2nd speed	1 : 168.196
3rd speed	1 : 125.106
4th speed	1 : 58.320
5th speed	1 : 31.333
1st reverse speed	1 : 294.343
2nd reverse speed	1 : 102.60

Forward speeds with standard 6.5/80-12 wheels and engine at 3.000 RPM

1st speed	0.54 mph
2nd speed	1.14 mph
3rd speed	1.54 mph
4th speed	3.30 mph
5th speed	6.15 mph
1st reverse speed	0.65 mph
2st reverse speed	1.89 mph

PTO synchronized with the speed change

Inside transmission ratio:

1 : 7.272

$11/30 \times 9/24$

Transmission ratio between the synchronized PTO and trailer:

1 : 4.3

10/43

Differential with conical gears and hand locking device

Gear reducers on wheels

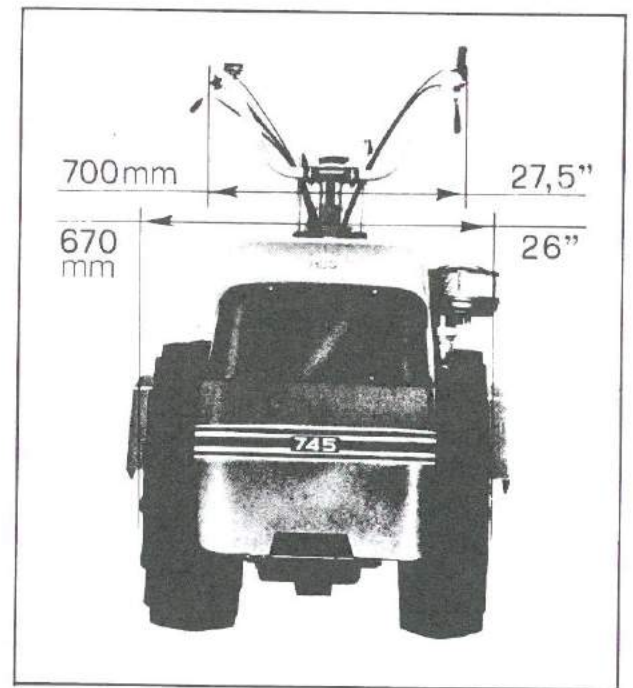
PTO independent from gearbox

Power take off speed with engine at 3.000 RPM

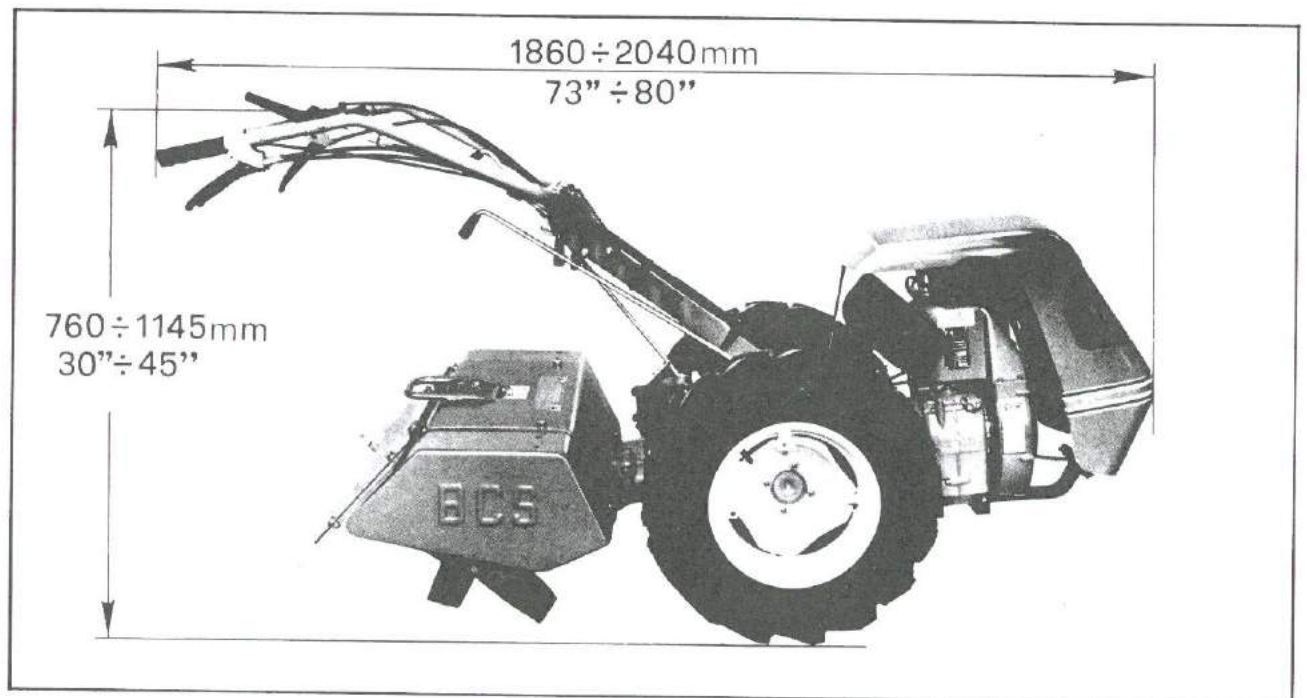
825 RPM

Weights:

Machine without implements, with wheels 6.5/80 - 12"	328 lbs.
Rotary hoe 33"	152 lbs.



Dimensions:



0.2 Maintenance

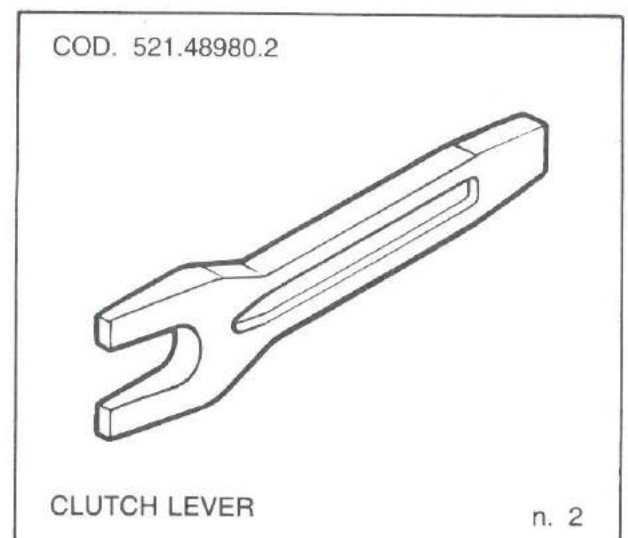
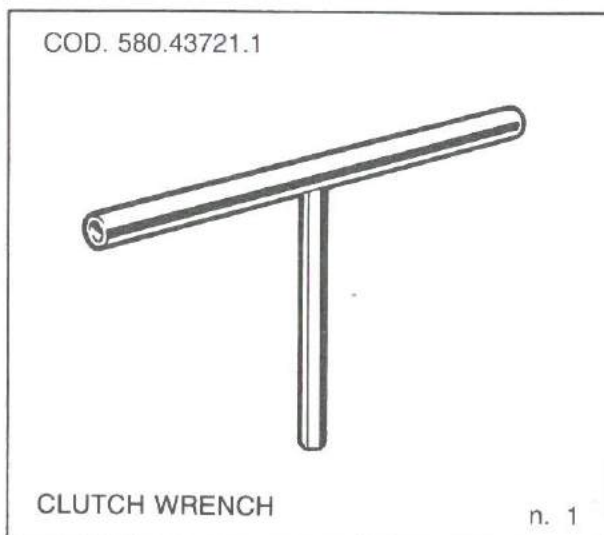
0.2.1 Maintenance program

OPERATION	first 10h	every 4h	every 8h	every 50h	every 100h	every 200h	every 500h	every year
Check crankcase oil level		•						
Check air filter oil level			•					
Check valve clearance						•		
Check breaker contact play						•		
Clean fuel filter				•				
Clean head cooling fins					•			
Clean spark plugs					•			
Clean crankcase breather						•		
Clean fuel tank							•	
Clean air filter				•				
Change engine crankcase oil				•				
Change air filter oil				•				
Replace spark plug						•		
Replace breaker points							•	
Tighten bolts and nuts	•							
Check gearbox oil level	•			•				
Check rotary hoe oil level	•				•			
Check lawn mower oil level	•			•				
Check snow thrower oil level	•				•			
Check 3-blade lawn mower oil level	•			•				
Check clutch cable play	•			•				
Check tire pressure	•							•
Lubricate control cables								•
Lubricate cutter bar		•						
Replace gearbox oil								•
Replace rotary hoe oil								•
Replace lawn mower oil								•
Replace snow thrower oil								•
Replace 3-blade lawn mower oil								•

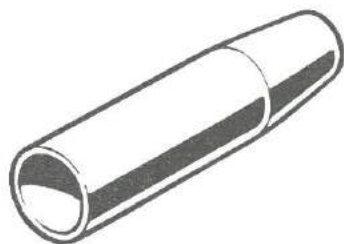
0.2.2. Fuel and oil specifications

PART TO BE FILLED	FLUID NATURE	LEVEL
Engine fuel tank	Regular gas - Diesel fuel No. 1	
Engine crankcase	Oil SAE 40 (Summer) SAE 20 (Winter) or equivalent	See specific instructions of the engine manufacturer
Engine air filter	Oil SAE 20 or 30 or equivalent	
Gearbox-transmission	Oil SAE 80W/90 EP or equivalent	Keep level between lines of cap
Final transmission 745 reducer boxes	Grease GR MU2 or equivalent	Fill
Rotary hoe casing Snow thrower casing	Oil SAE 80W/90 EP or equivalent	Fill almost to top
Lawn mower casing 3 blade lawn mower casing	Oil SAE 80W/90 EP or equivalent	2" from the line of the filling hole
Tire pressure	98 kPA	14.2 psi

0.2.3 Shop tools



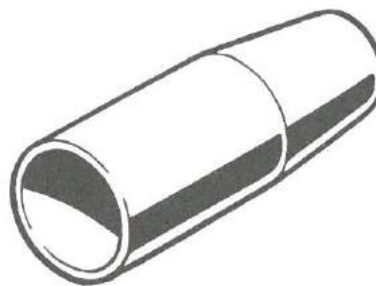
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OIL SEAL TAKER-IN TOOL

n. 3

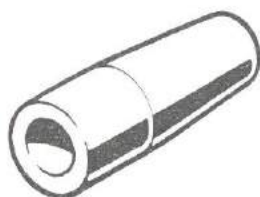
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OIL SEAL TAKER-IN TOOL

n. 4

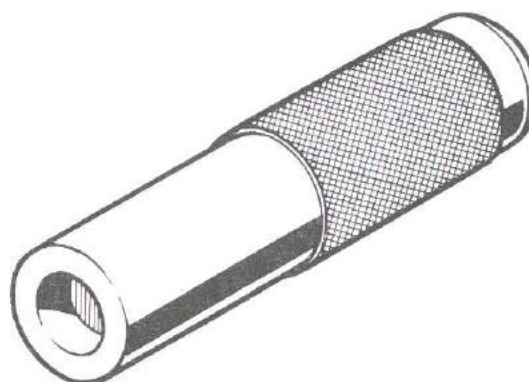
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OIL SEAL TAKER-IN TOOL

n. 5

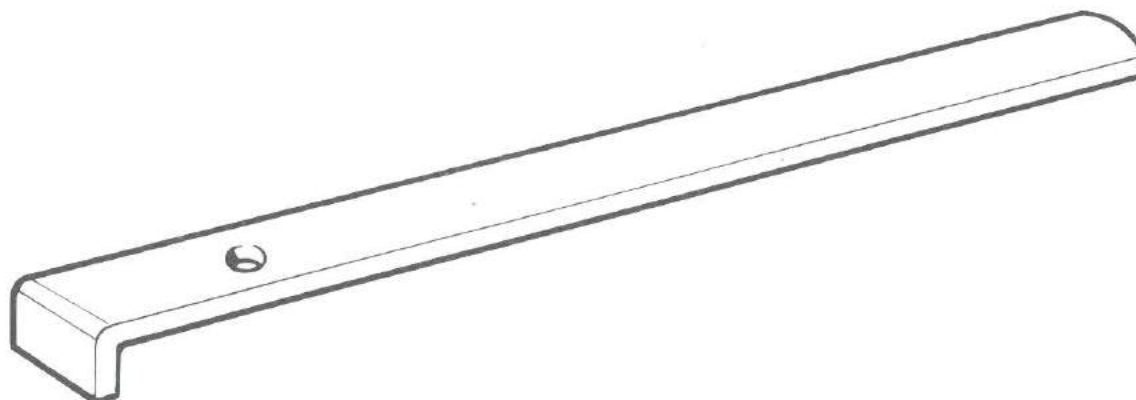
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SILENT-BLOCK TAKER-IN TOOL

n. 6

COD. 561.48987.6



LAWN MOWER BLADE REMOVAL TOOL

n. 7

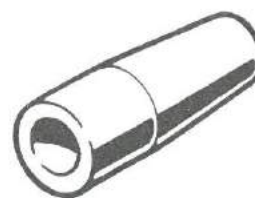
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OIL SEAL TAKER-IN TOOL

n.8

COD. 561.48984.3



OIL SEAL TAKER-IN TOOL

n. 9

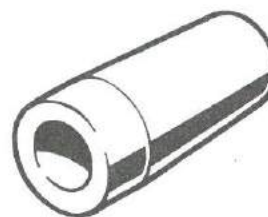
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OIL SEAL TAKER-IN TOOL

n.10

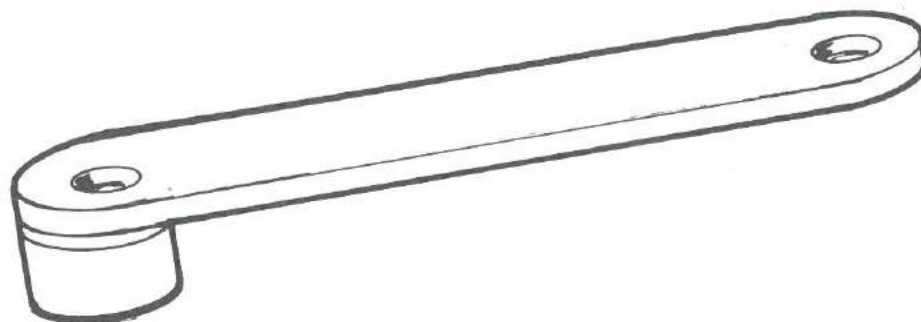
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OIL SEAL TAKER-IN TOOL

n.11

COD. 590.48989.6



LAWN MOVER SHAFT STOPPING TOOL

n.12

0.2.4 Special storage instructions

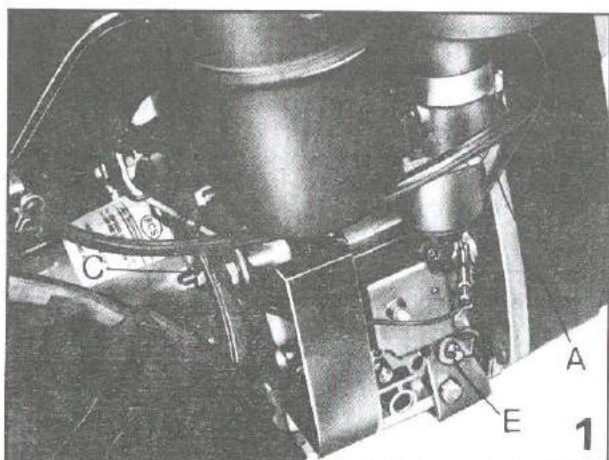
The following steps must be taken to protect the machine when it is stored for long periods of time:

- Empty the fuel tank.
- Start the engine and let it run till all fuel in the carburetor and fuel line is consumed.
- Drain oil from engine.
- Lubricate the engine cylinder and pour one tablespoon oil into the spark plug hole or injector (Manually rotate engine 6-8 times).
- Clean engine and machine with soft brush and/or compressed air.

0.2.5 Trouble shooting

PROBLEM	CAUSES	REMEDIES	REF.
1. Clutch hard to pull	a. Control cable not lubricated b. Damaged cable sheath	a. Lubricate the cable b. Replace the sheath	
2. Clutch slips	a. No play in cable b. Worn-out clutch lining c. Insufficient spring load d. Worn clutch cone	a. Adjust the play b. Replace rings 590.48092.5 590.48102.1 590.49574.3 c. Replace spring 580.43110.6 d. Replace cones 521.48095.6 521.48105.2 590.49570.6 521.49566.0	1.2.4 1.1.2/1.1.3 1.1.5/1.1.6 1.1.2/1.1.3, 1.1.5/1.1.6 1.1.2/1.1.3, 1.1.5/1.1.6
3. Clutch does not disengage	a. Too much play in cable	a. Adjust the play	1.2.4
4. Handlebar loose	a. Worn holes in the support b. Loose fastening bolt c. Loose fork nut d. Bent handlebar fastening fork	a. Replace cap 590.43311.5 b. Tighten bolt A (fig. 16) c. Tighten nut D (fig. 17) d. Replace fork 590.43305.6	1.2.1/1.2.2 1.2.1 1.2.1 1.2.1/1.2.2
5. Neutral not well defined	a. Gearbox selector out of position	a. Adjust selector S (fig. 21)	1.2.4
6. With handlebar in Walking Tractor position (towards implements) the reverse speed engages at the same time as P.T.O.	a. Lock-out not adjusted properly	a. Check lock-out	1.2.4
7. With the handlebar in motor mower position (towards the engine) the 2nd and 3rd speed for the 715 and the 2nd, 4th and 5th speed for 725-735-745 engage at the same time as the P.T.O.	a. Lock-out not adjusted properly	a. Check lock-out	1.2.4

PROBLEM	CAUSES	REMEDIES	REF.
8. The P.T.O. does not engage	a. Worn-out lever fastening pins b. Bent lever	a. Replace pins 342.13020.2. Check the condition of the housing holes. If necessary replace levers 523.43168.3 and/or 590.43166.0 b. Check the condition of lever 590.43166.0 and replace it if necessary	1.3.1/1.3.2 1.3.1
9. The P.T.O. disengages automatically during running	a. Weak slide fastening spring b. Worn-out lever fastening pins c. Implement not centered properly	a. Replace spring 580.42059.5 b. See point 8/a. c. Fit implement on machine. Start engine idling. Loosen the fastening nuts of implement. Engage the P.T.O. Tighten the fastening nuts of the implement.	1.3.1 1.3.1/1.3.2.
10. Difficult gear shifting	a. Incorrectly adjusted clutch b. Worn-out lever fastening pins	a. Adjust clutch b. Replace pins 342.13024.6. Check the condition of the housing holes. If necessary replace levers 590.48045.0 and/or 521.43171.3	1.2.4 1.3.1/1.3.2 1.4.1/1.4.2 1.5.1/1.5.2
11. Third speed difficult to engage (715)	a. Gearbox main shaft worn	a. Replace shaft 524.43112.1	1.3.1/1.3.2
12. Difficult 5th speed engagement (725-735)	a. Gearbox main shaft worn	a. Too much play in the control cable	1.4.1/1.4.2
13. Difficult 5th speed engagement (745)	a. Gearbox main shaft worn	a. Replace shaft 590.49602.2	1.5.1/1.5.2
14. The differential lock does not engage	a. Too much play in the control cable.	a. Adjust the control cable	1.2.4

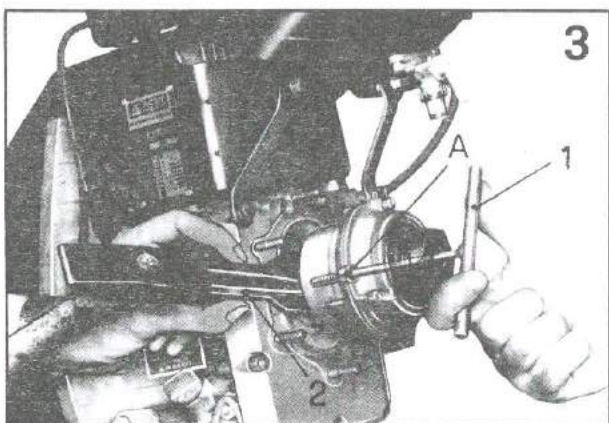
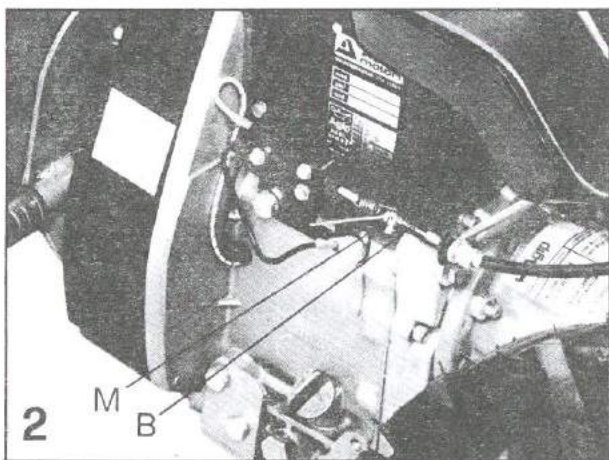


1. TRACTOR

1.1 Clutch

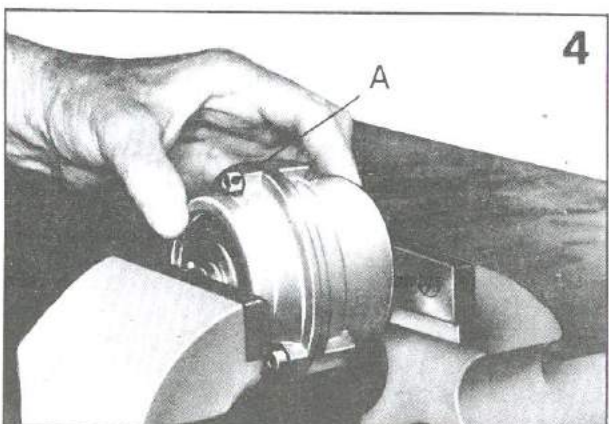
1.1.1 Engine Removal

- Remove accelerator cable A by removing clamp E, (Fig. 1).
- Disconnect ground wire B and remove clamp M (Fig. 2).
- Unscrew nuts C (Fig. 1).
- Separate the engine from the gearbox.



1.1.2 Clutch removal 715-725-735

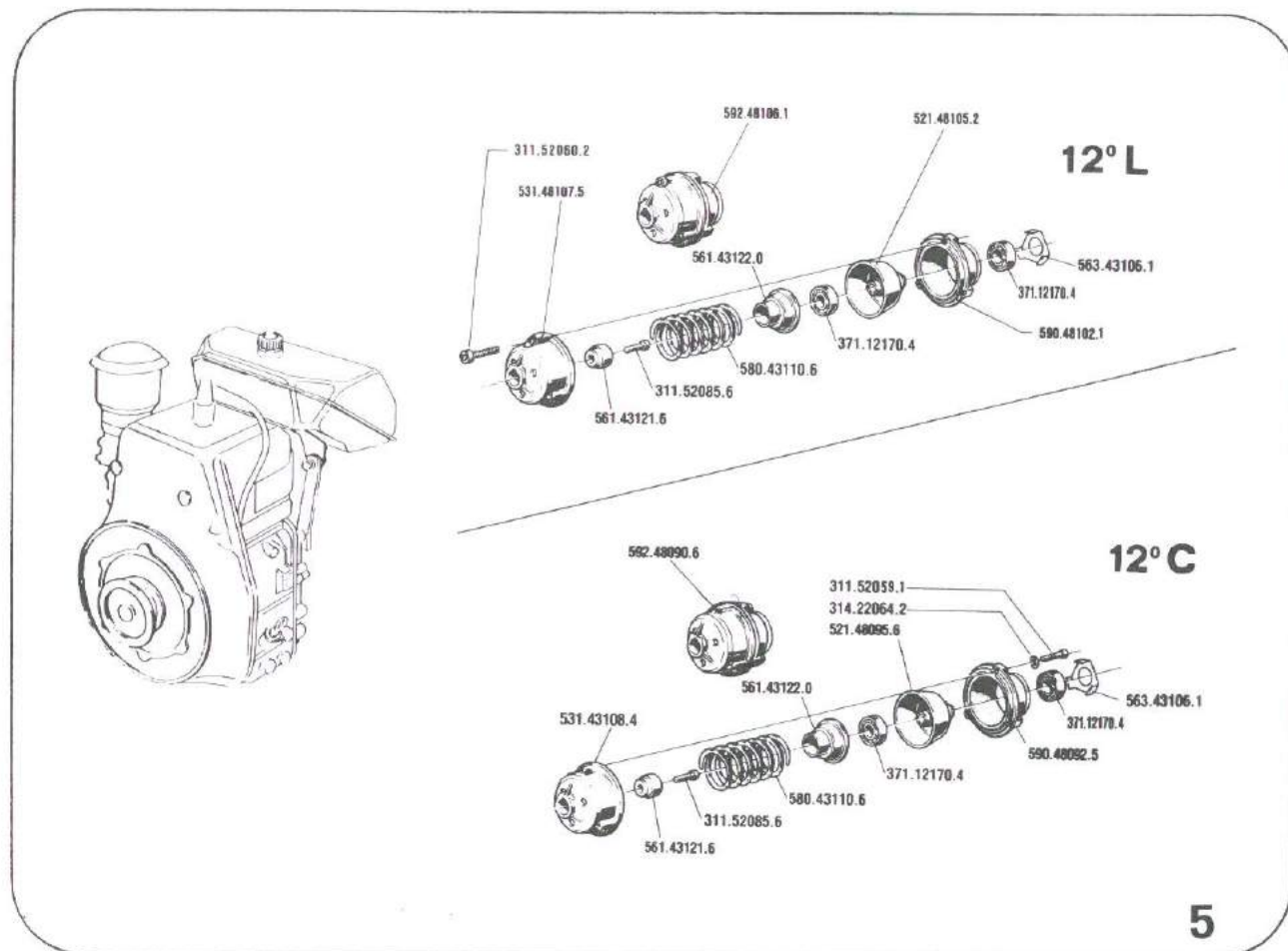
- Remove engine (see 1.1.1).
- Loosen center screw A using hex wrench No. 1 (Fig. 3).
- Remove clutch from drive shaft with tool No. 2 or by hammering slightly on the driving flange with a soft mallet. This will free the clutch from the tapered shaft (Fig. 3).



- Compress clutch in a vise as shown in Fig. 4.
- Vise should have a minimum of 6" jaw opening.
- Unscrew screws A (Fig. 4).
- Release the vise and remove the clutch.

WARNING: Be particularly careful during this operation because the clutch contains a highly compressed spring.

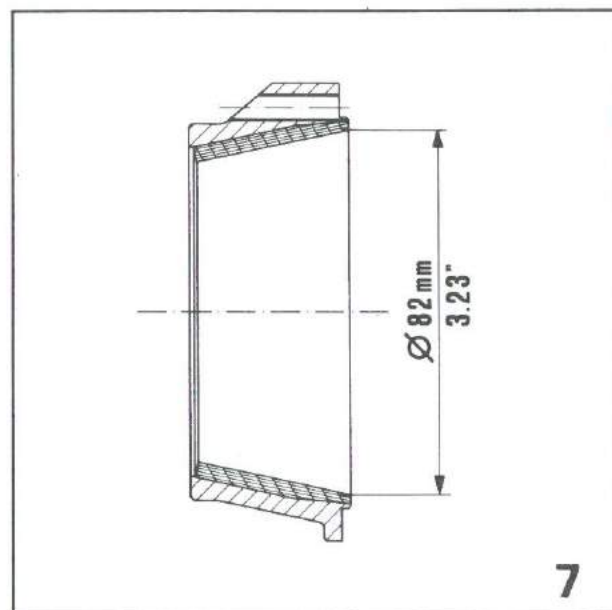
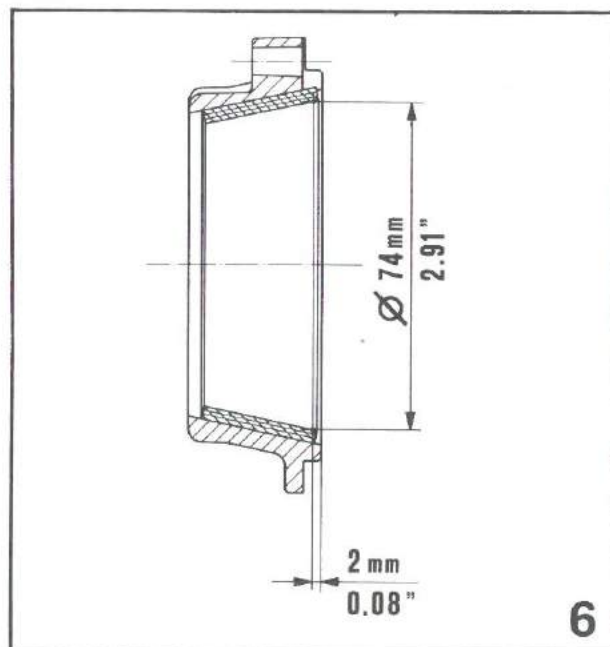
1.1.3 Clutch overhauling 715-725-735

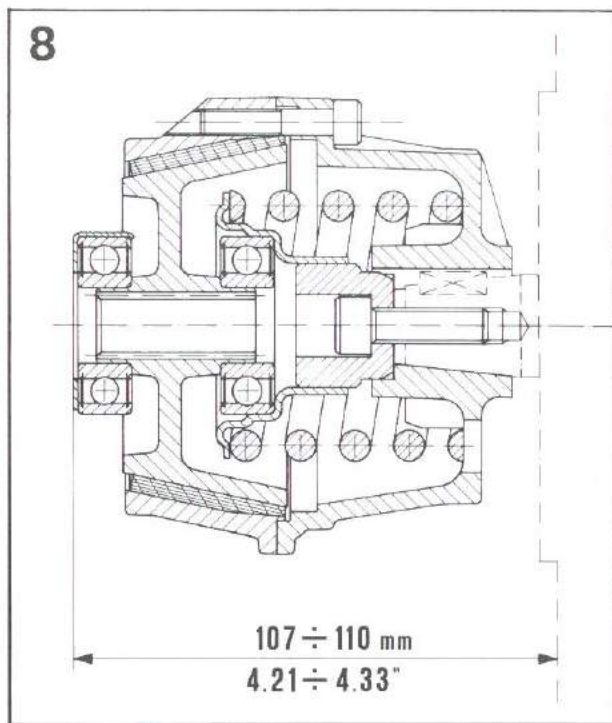


Make the following checks and replace any worn part (Fig. 5):

- Check spring 580.43110.6. The free length must not be lower than 3.3".

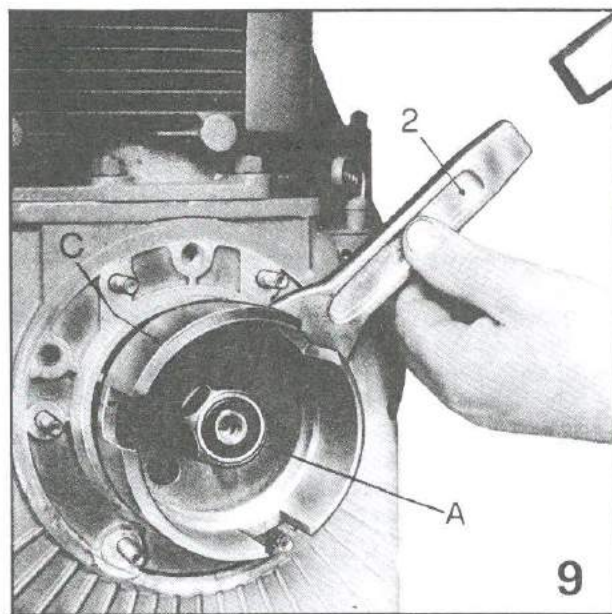
- Retainer 561.43121.6 must slide freely inside bearing cup 561.43122.0.
- Check the wear of the friction material on ring 590.48092.5 by checking the indicated measurement in figure (Fig. 6).
- Check the wear of the friction material on ring 580.48102.1 by checking the indicated measurement in figure (Fig. 7).





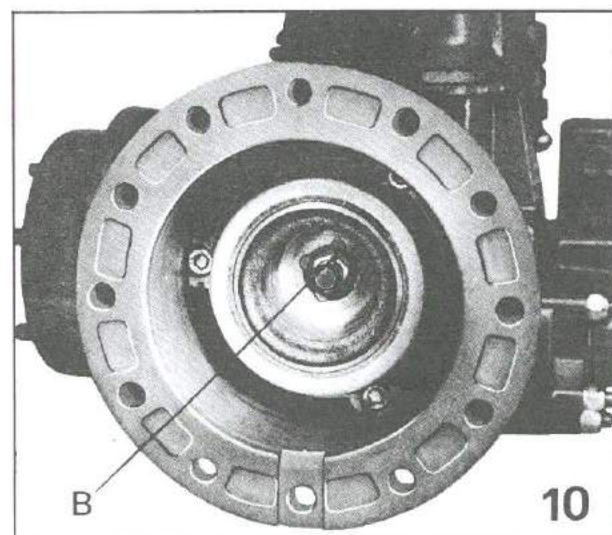
1.1.4 Clutch assembly

- Assemble the parts and tighten screws A to the torque of 8 Ft.lbs. (Fig. 4).
- Fit clutch on engine by tightening screw A at the torque of 18 Ft.lbs. (Fig. 3).
- When clutch is in place check dimension (Fig. 8).
- Lightly grease the clutch spline.
- Fit the engine to gearbox by tightening nuts C at the torque of 18 Ft.lbs. (Fig. 1).



1.1.5 Clutch removal 745

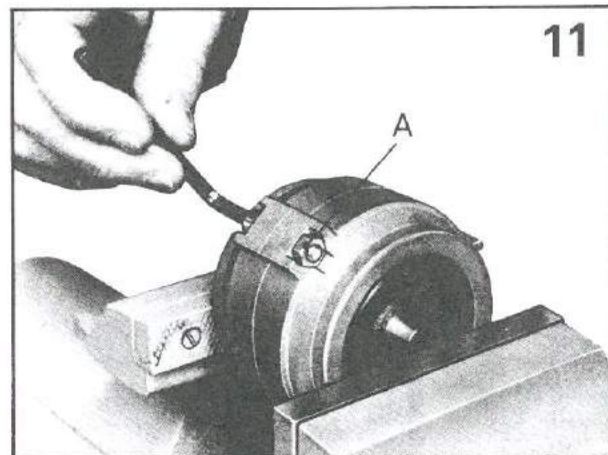
- Remove engine (see 1.1.1).
- Loosen and remove nut A and washer (Fig. 9).
- Remove clutch C from drive shaft with tool No. 2 or by hammering slightly on the driving flange with a soft mallet. This will free the clutch from drive shaft (Fig. 9).



- Loosen center screw B and remove clutch from the main shaft (Fig. 10).

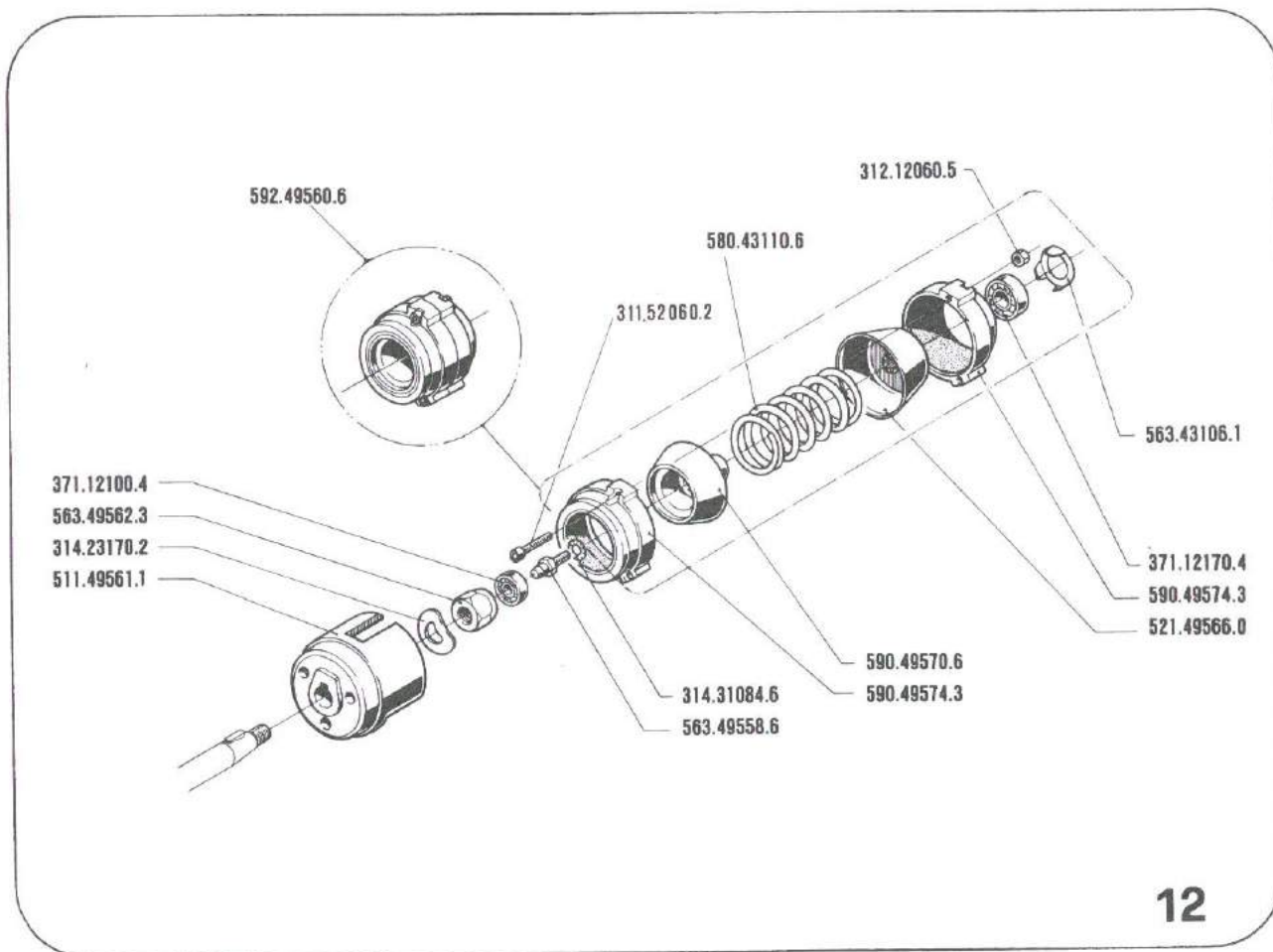
- Compress clutch in a vise as shown in fig. 11.
- Vise should have a minimum of 6" jaw opening.
- Unscrew screws A (Fig. 11).
- Release the vise and remove the clutch.

WARNING: Be particularly careful during this operation because the clutch contains a highly compressed spring.



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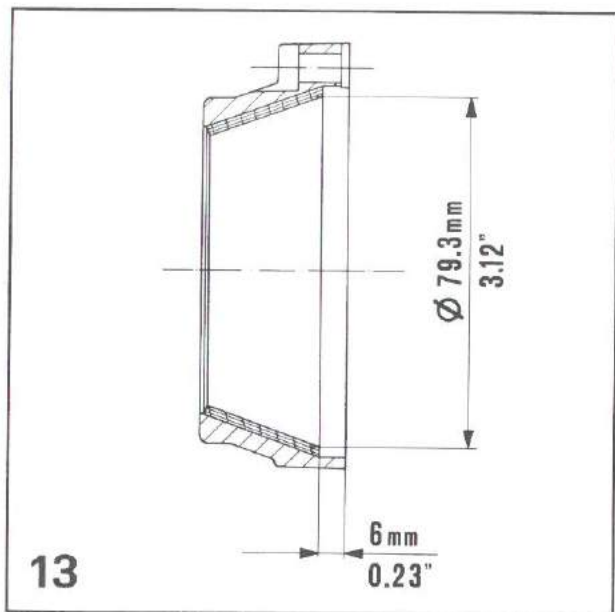
1.1.6 Clutch overhauling 745



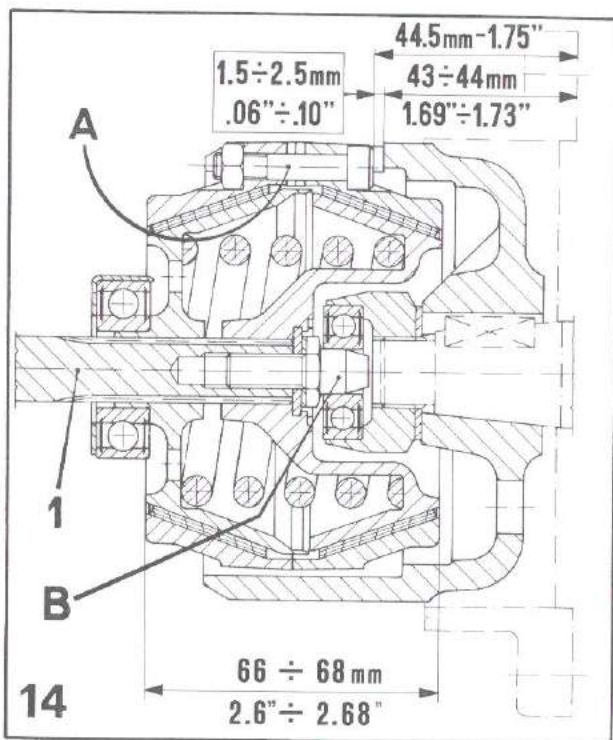
12

Make the following checks and replace any worn part (Fig. 12).

- Check spring 580.43110.6. The free length must not be lower than 3.3".
- Check the broaching on cones 590.49570.6 and 521.49566.0.



- Check the centering of screw 563.49558.6.
- Check the wear of the friction material on rings 590.49574.3 by checking the indicated measurement in figure (Fig. 13).
- Check the condition of bearings 371.12170.4 and 371.12100.4.



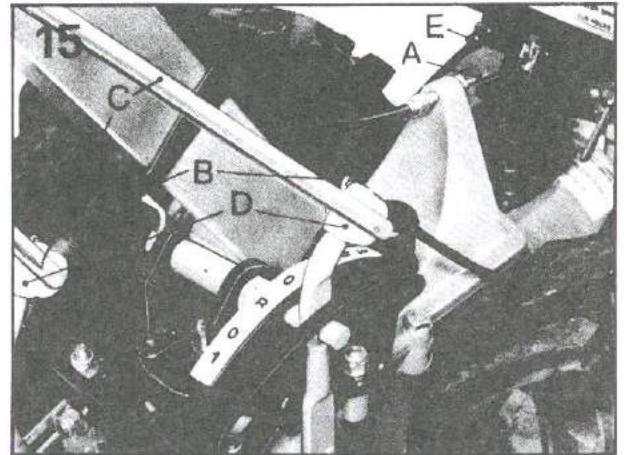
1.1.7 Clutch assembly 745

- Assemble the parts of clutch and before tightening screws A at the torque of 8 Ft.lbs., align the broachings of the two cones by introducing the main shaft 1 (Fig. 14).
- After assembling clutch, check the indicated measurement (Fig. 14).
- Lightly grease the main shaft spline, assemble the clutch and tighten the center screw B with washer at the torque of 18 Ft.lbs. (Fig. 10).
- Fit clutch on engine. Check the position of keyway on the drive shaft, install the washer and tighten the special nut with bearing at the torque of 108.5 Ft.lbs. (Fig. 9).
- Fit the engine to gearbox by tightening nuts C at the torque of 18 Ft.lbs. (Fig. 1).

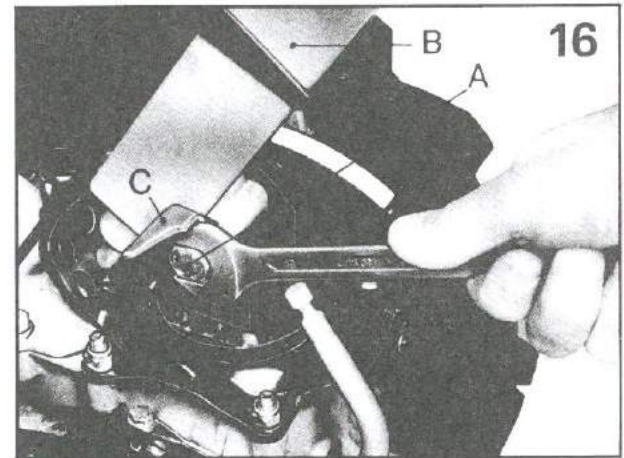
1.2 Handlebar and controls

1.2.1 Handlebar removal

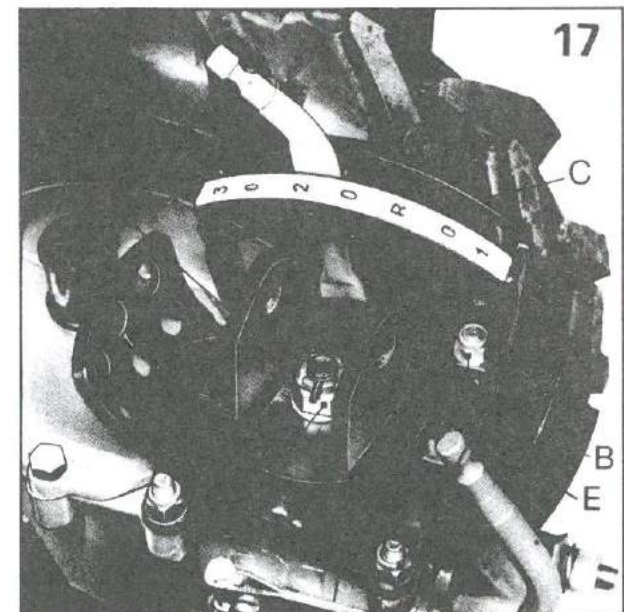
- Detach the accelerator cable A by removing clamp E (Fig. 1).
- Detach the ground wire B and separate clamp M (Fig. 2).
- Detach the brake cables by removing the corresponding clamps (735, 745).
- Detach differential cable and remove its clamp (735, 745).
- Detach clutch cable A and remove clamp E (Fig. 15).
- Remove pins B with washers and detach rods C and joints D (fig. 15).



- Unscrew bolt A, remove handlebar B and plate C (Fig. 16).
- For 745 plate C is to be turned downwards (Fig. 16).

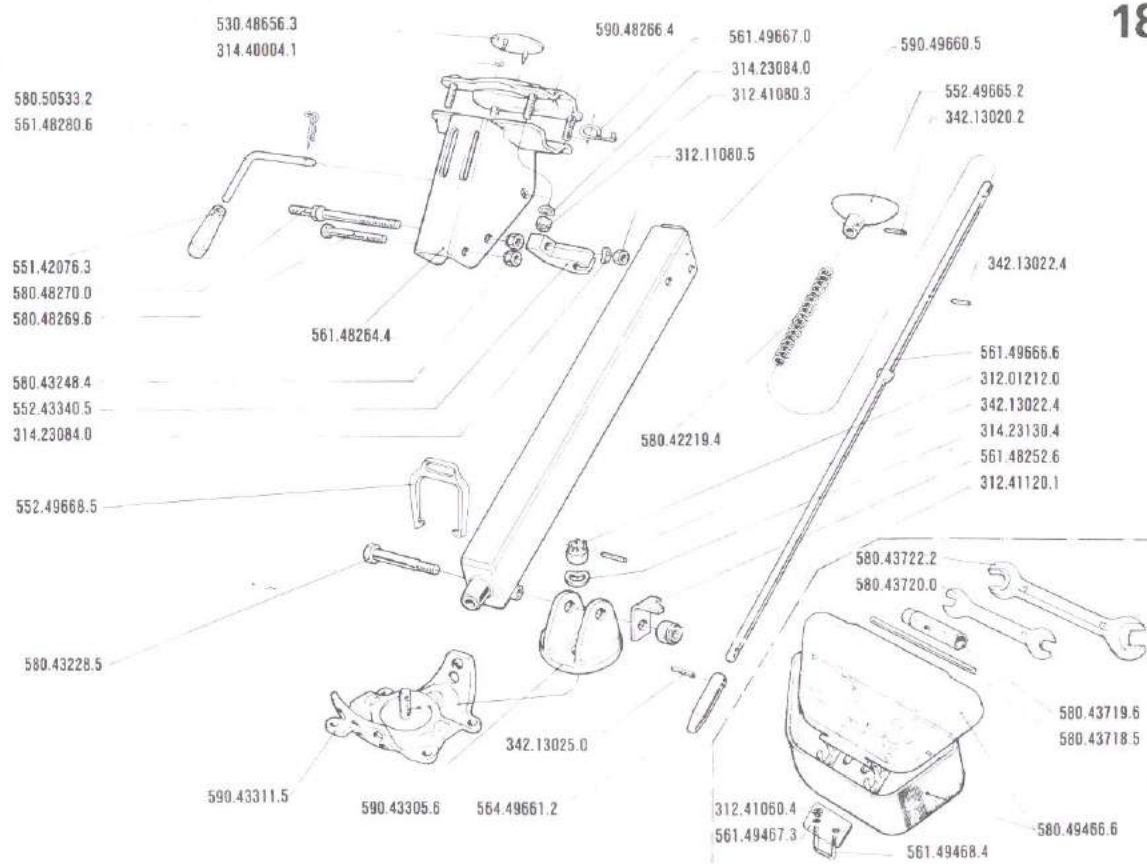


- Remove pin A, unscrew nut D, remove fork F. (Fig. 17).
- Unscrew bolts E, remove selector C. Do not lose the ball springs. Remove support B (715, 725, 735) (Fig. 17).



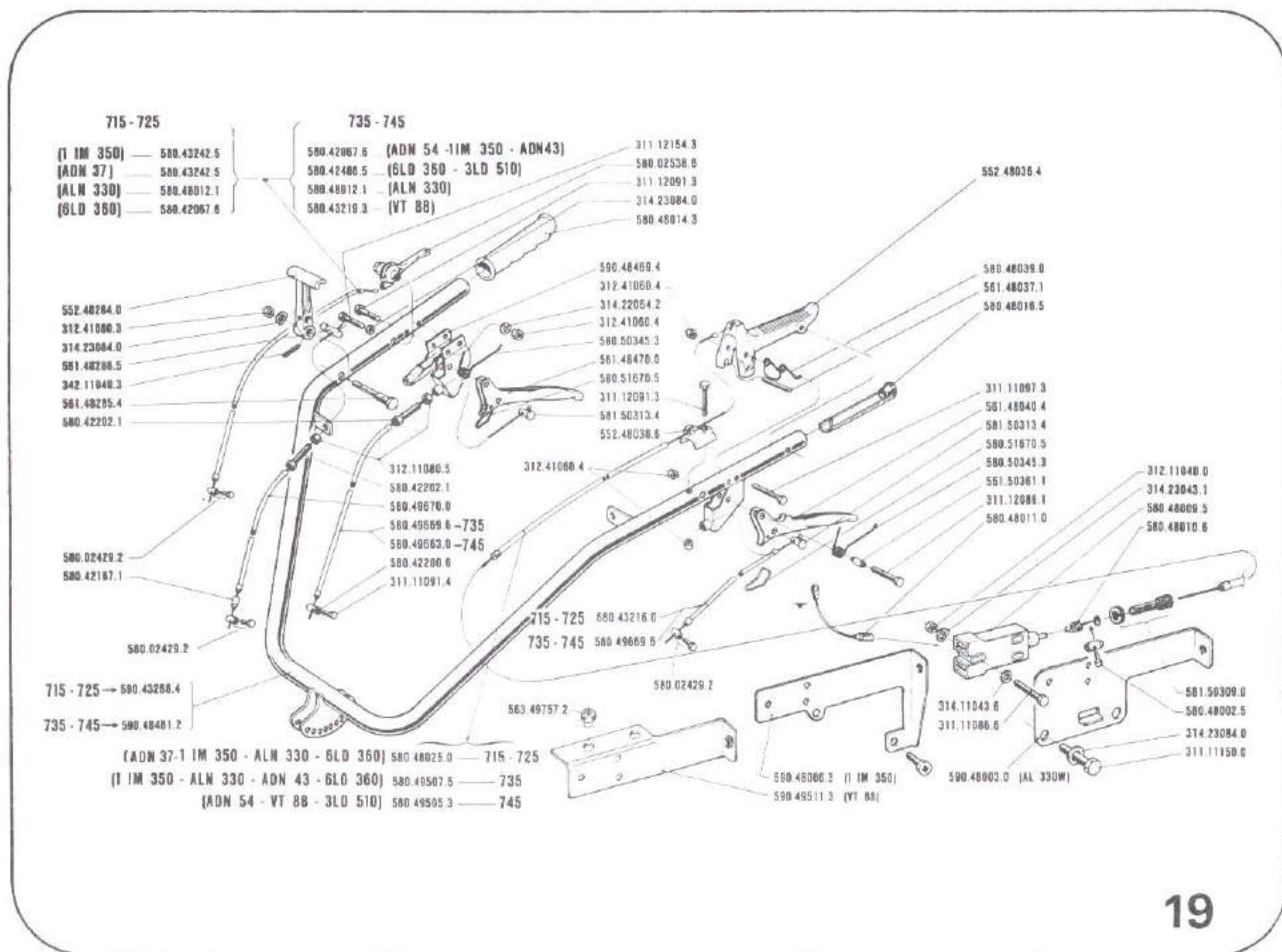
1.2.2 Handlebar overhauling

18



Make following checks and replace any worn part (Fig. 18-19):

- Check support 590.43311.5. Replace it if the positioning holes of the handlebar are worn.
- Inspect the sliding of the handlebar locking rod and the wear of ferrule 564.49661.2.



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1.2.3 Handlebar assembly

- Lubricate the sliding surfaces of the locking rod.
- Grease the contact surface between support B and fork F (Fig. 17).
- Tighten nut D, then loosen it a half turn to allow for easy rotation of the handlebar without excessive play.
Lock it in position with spring roll pin A (Fig. 17).
- Assemble handlebar B and plate C.
- Tighten bolt A to allow for easy rotation of the handlebar without excessive play. Plate C must be in the correct position shown in fig. 16.
- Adjust controls (operation 1.2.4).

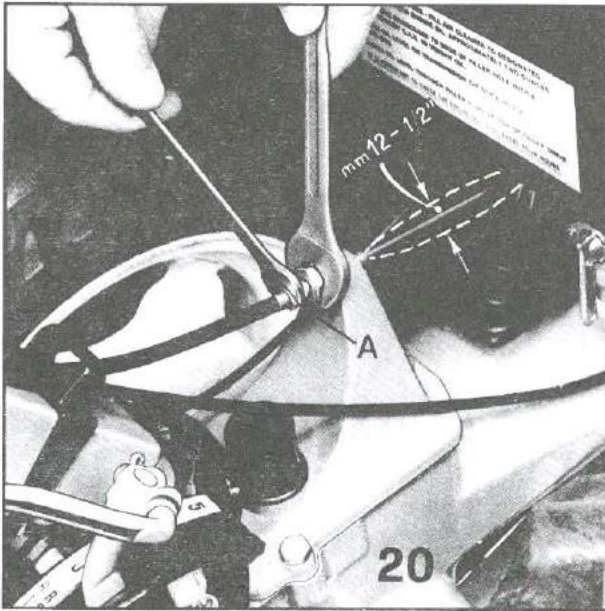
1.2.4 Control adjustment

Clutch cable

- Adjust clutch cable play to 1/2" by turning adjuster A (Fig. 20).

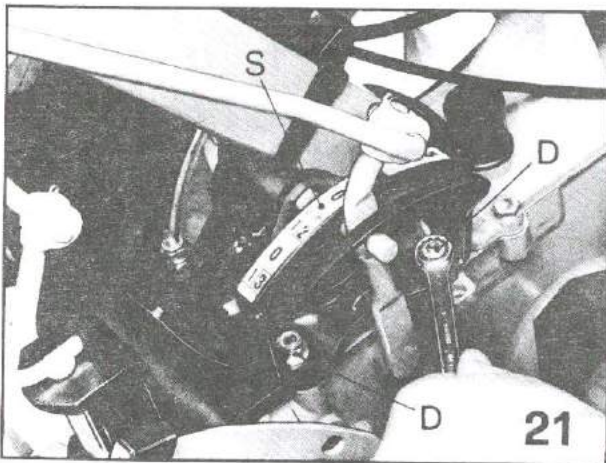
Differential lock Model 735-745

Adjust the control by turning the adjuster on the handlebar to allow the cable the minimum slack necessary to allow full disengagement of the differential.



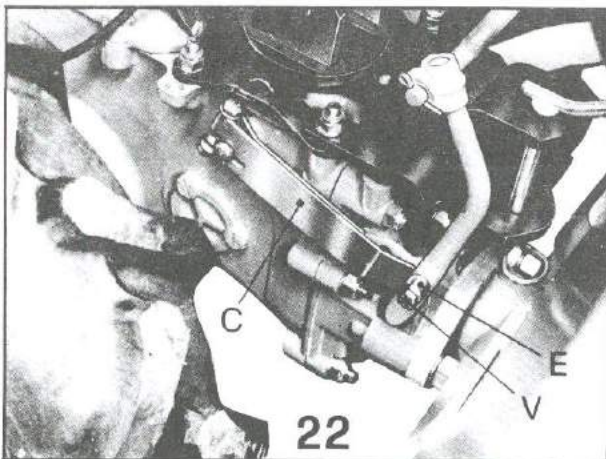
Gearbox control

- Put gear selector in neutral between reverse and 2nd gear.
- Check gearbox to insure neutral position.
- If gearbox is not in neutral, loosen nuts D and adjust the selectors S as necessary (Fig. 21).

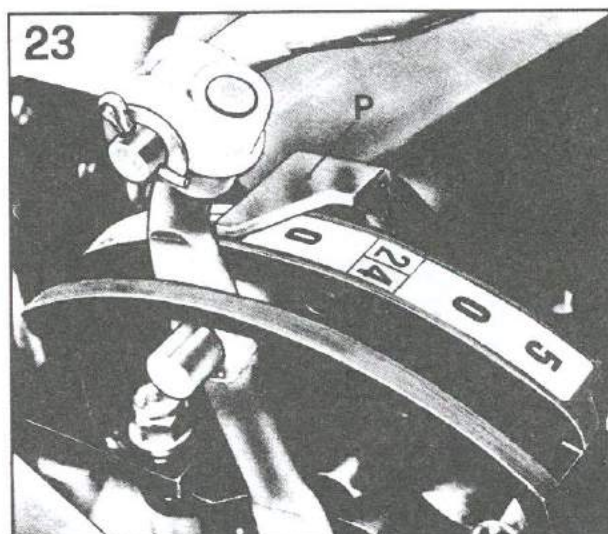


Lock-out device.

- Set handlebar in the WALKING TRACTOR position (towards implements).
- Be sure that P.T.O. and reverse gears are not engaged at the same time.
- Make sure screw V and cam E are in place (Fig. 22).
- Make sure arm C is positioned correctly (Fig. 22).



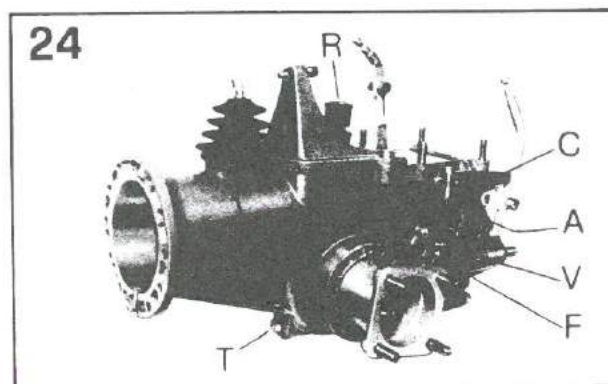
- Place gear selector into first gear.
- Set handlebar in MOTOR MOWER position (towards the engine).
- Be sure that 2nd and 3rd gear (715), or 2nd, 4th and 5th (for 725, 735, 745) are blocked out by plate P (Fig. 23).



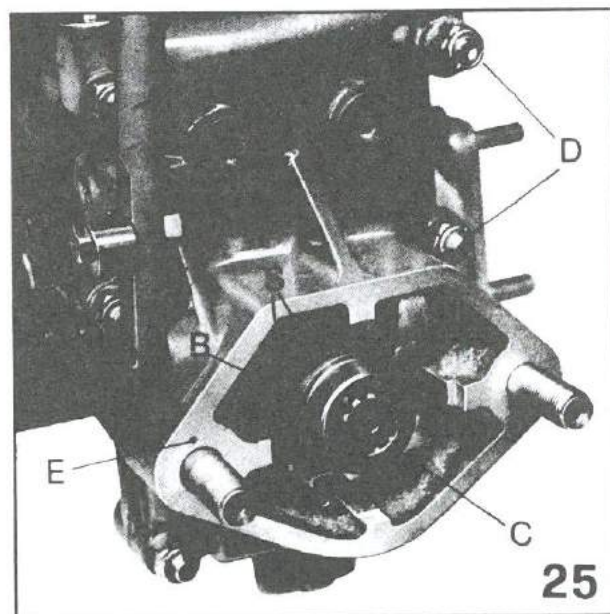
1.3 Gearbox 715

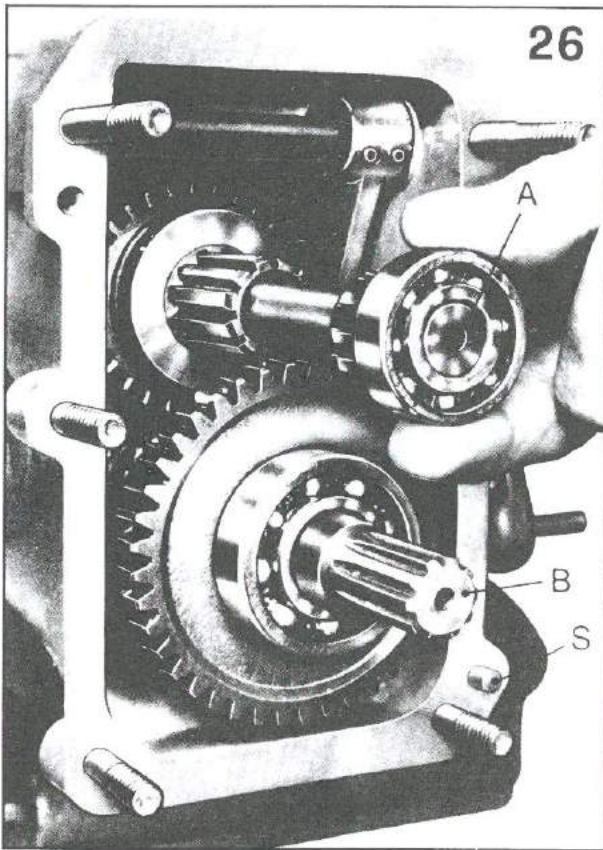
1.3.1 Gearbox removal 715

- Remove engine (see 1.1.1).
- Remove handlebar (see 1.2.1).
- Drain oil by removing plug T (fig. 24).
- Remove screws V and remove reverse speed flange F (fig. 24).
- Remove bolt A and detent arm C (fig. 24).

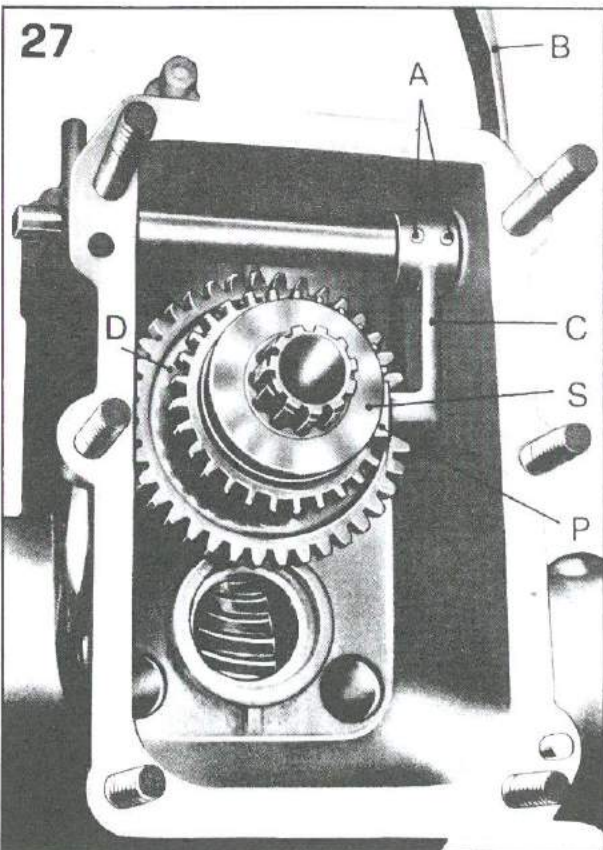


- Remove pins S, remove lever A, taking the spring and ball, lever B and slide C (fig. 25).
- Unscrew nuts D and remove cover E (fig. 25).



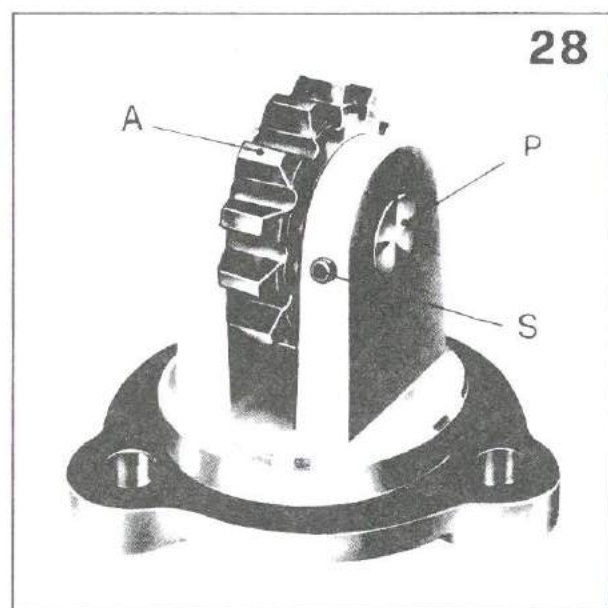


— Pull out shafts A and B (Fig. 26).

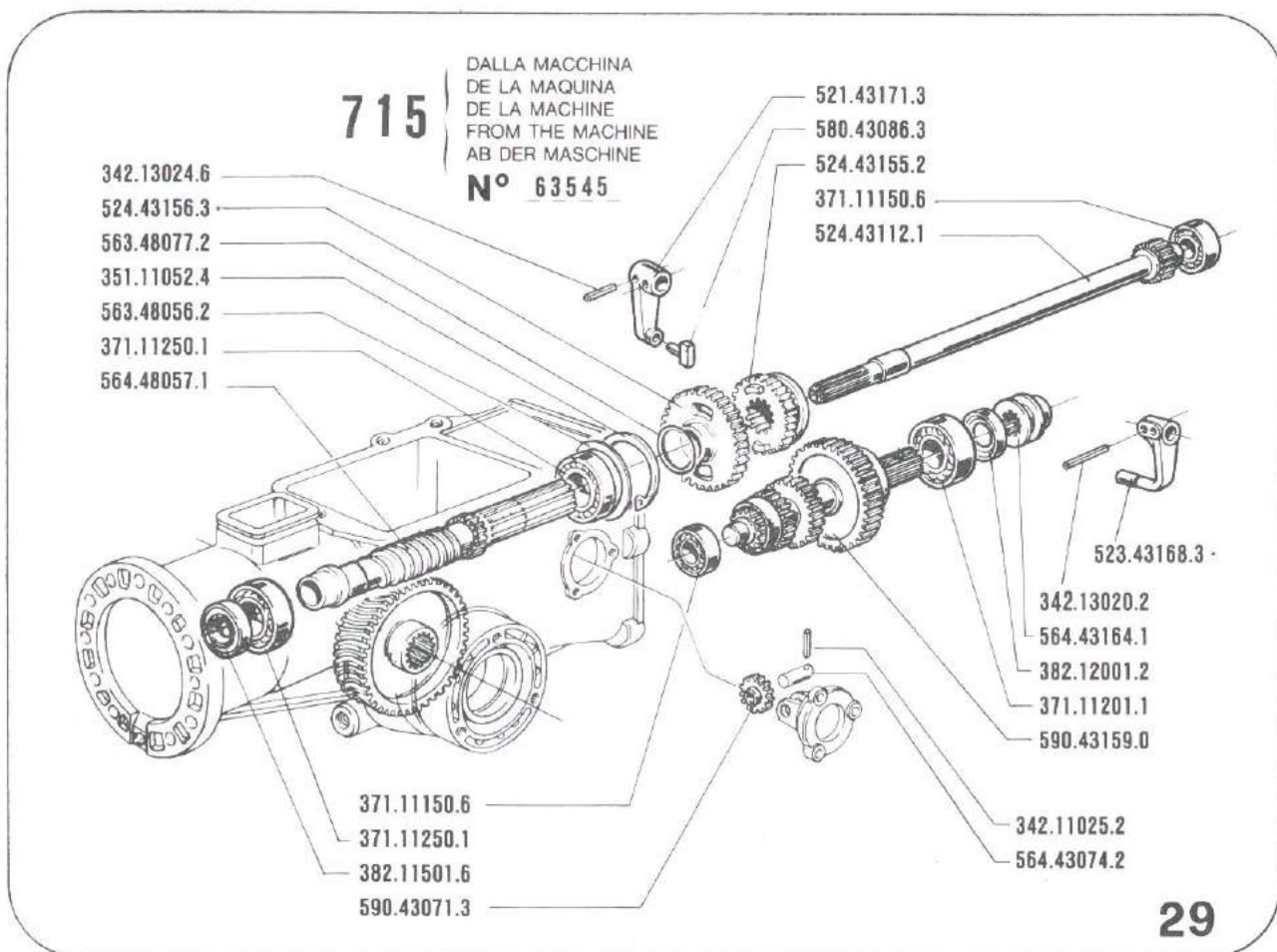


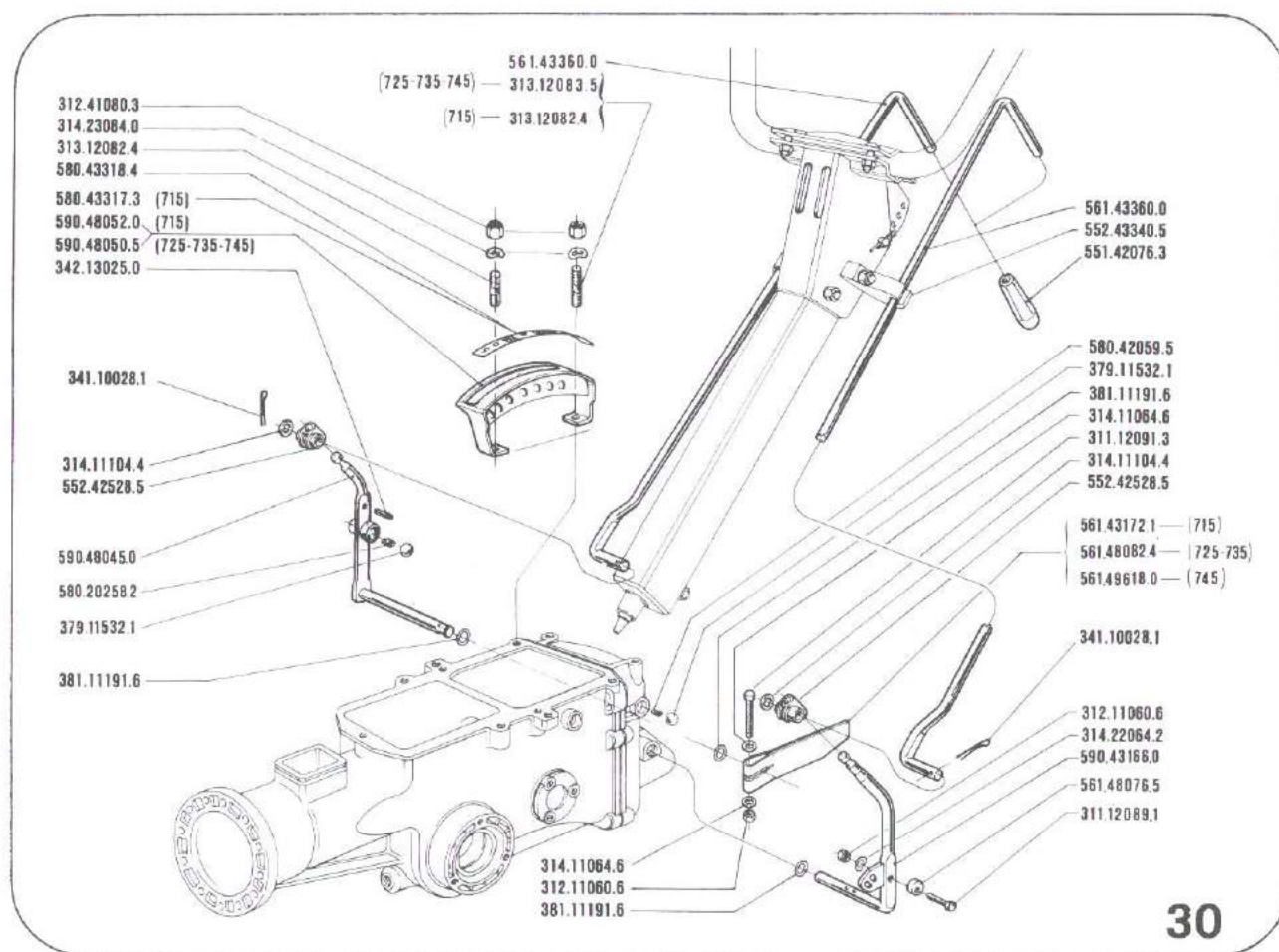
— Remove pins A. Avoid dropping pins into the bronze gear housing of the final transmission through the oil holes. Remove levers B and C, sliding block P, extract slider S and gear D (Fig. 27).

- Check reverse gear idler for wear, if necessary remove pins, pin P and gear A (Fig. 28).



1.3.2 Gearbox overhauling 715





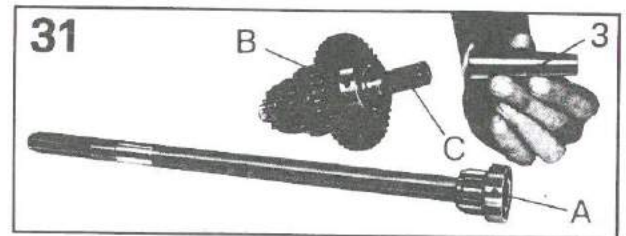
Make following checks and replace any worn parts (fig. 29-30).

- Check the broaching on slider 564.43164.1.
- Check spring 580.20258.2. The free length must not be lower than .96".
- Check the spring 580.42059.5. The free length must not be lower than .35".
- Check teeth and spline on shaft 590.43159.0.
- Check condition of the pressed ring.
- Check the teeth and spline on shaft 524.43112.1.
- Check the broaching, the teeth and the front couplings on gear 524.43155.2.
- If the spline of the worm screw is worn, overhaul the final-transmission assembly.

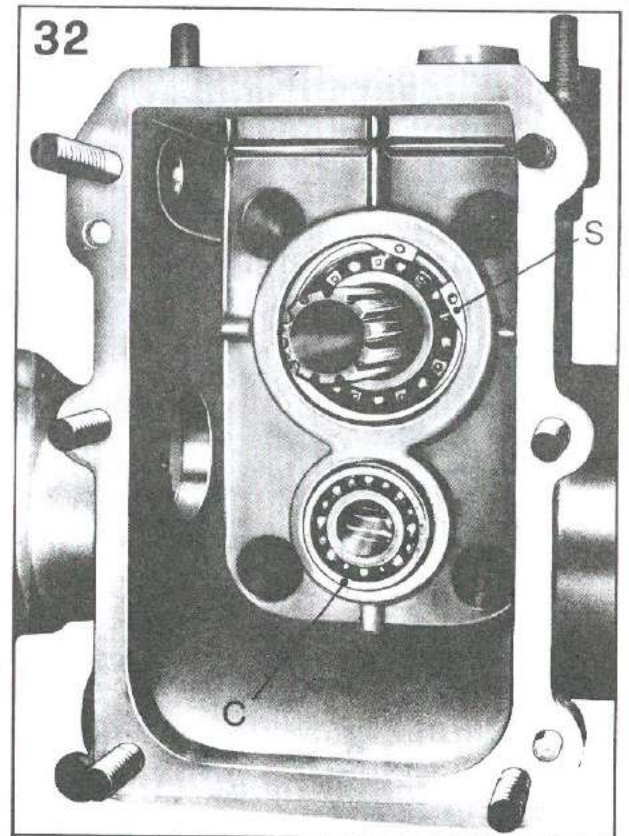
- Check teeth and slots of wheel 524.43156.3.
- Check wear of slider 580.43086.3.
- Check teeth of gear 590.43071.3.
- Make sure pin 564.43074.2 is tight.
- Check spring roll pins 342.13024.6 and 342.13020.2.
- Check the condition of bearings 371.11150.6 and 371.11201.1.

1.3.3 Gearbox assembly 715

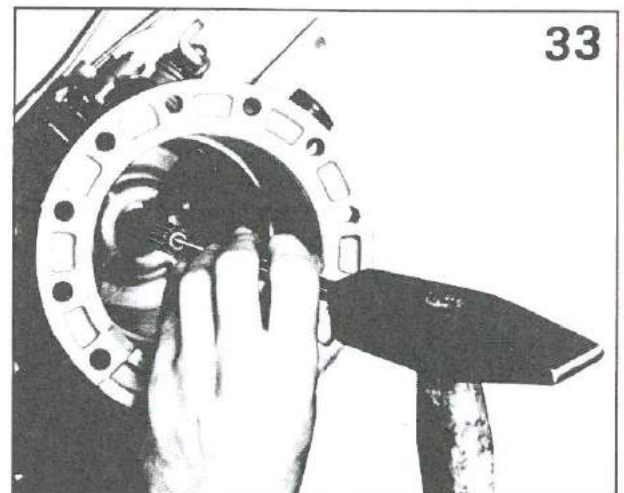
- Fit reverse speed gear, pins P and pin S (Fig. 28).
- Replace bearings A and B (Fig. 31).



- Check circlip S and fit bearing C (Fig. 32).
- Fit gear D after greasing the hole with Molykote (Fig. 27).
- Fit the slide S. Put in new o-rings, fit levers B and C and slider P. Be sure to check their sliding in the groove. Fit pins A (Fig. 27).
- Fit shafts A and B (Fig. 26).
- Install a new gasket, fit flange F and screws V (Fig. 24).
- Fit driving flange C and fasten bolt A (fig. 24).
- Protect the spline C with the driver No. 3 (Fig. 31).
- Be sure pins S are in place (Fig. 26).
- Install a new oil seal and gasket, fit cover E, tighten nuts D at the torque of 18 Ft.lbs. (Fig. 25).
- Grease the spline, install slider C with lever B, install lever A with spring and the ball. Install pins S (Fig. 25).
- Fill gearbox with oil through dip stick hole R (Fig. 24) (see 0.2.2 Fuel and oil specification).



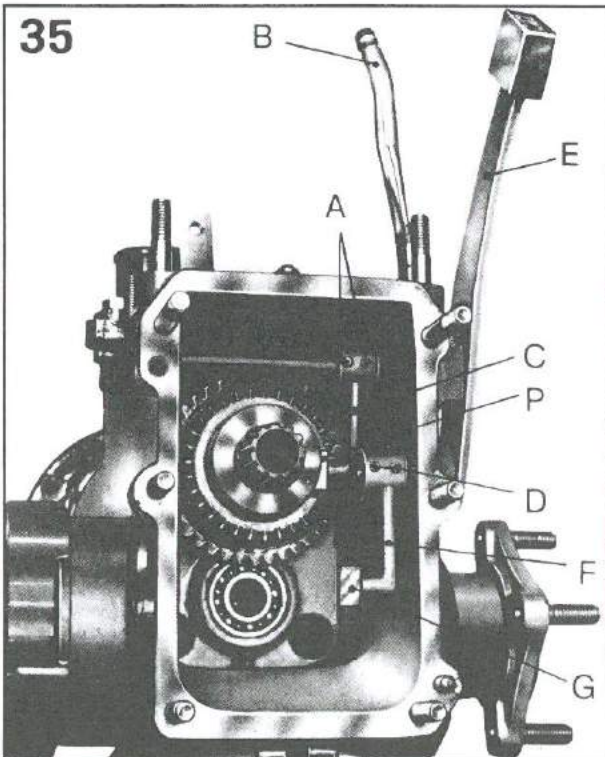
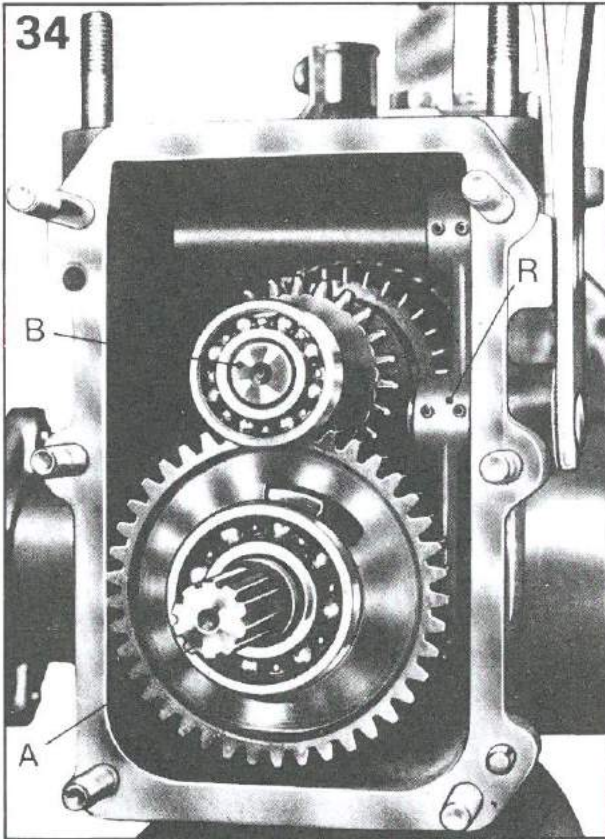
- Seat the shaft and bearings by tapping the main shaft with a punch and hammer. Before fitting engine to gearbox lightly grease the spline in the clutch cone (Fig. 33).



1.4 Gearbox 725-735

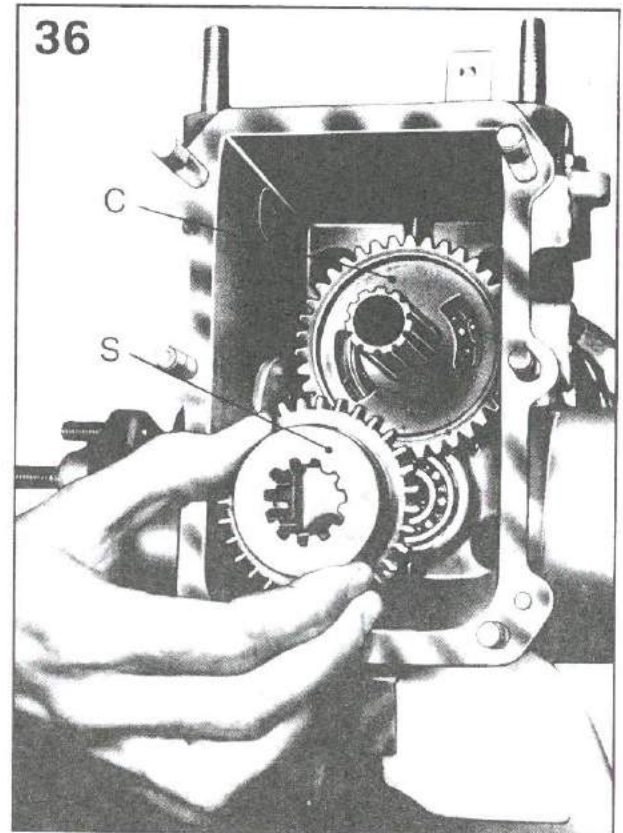
1.4.1 Gearbox removal 725-735

- Repeat same operations described in the removal of the 715 gearbox (see 1.3.1) up to removing the rear cover E (Fig. 25).
- Remove shaft A with gears, freeing the slider of the reduction unit R control lever (Fig. 34).
- Remove shaft B (Fig. 34).



- Remove pins A. Avoid dropping the pins into the oil holes leading into the housing of the final transmission. Remove lever B, lever C and its slider P (Fig. 35).
- Remove pins D, lever E and recover the spring and ball. Remove lever F with its slider G (Fig. 35).

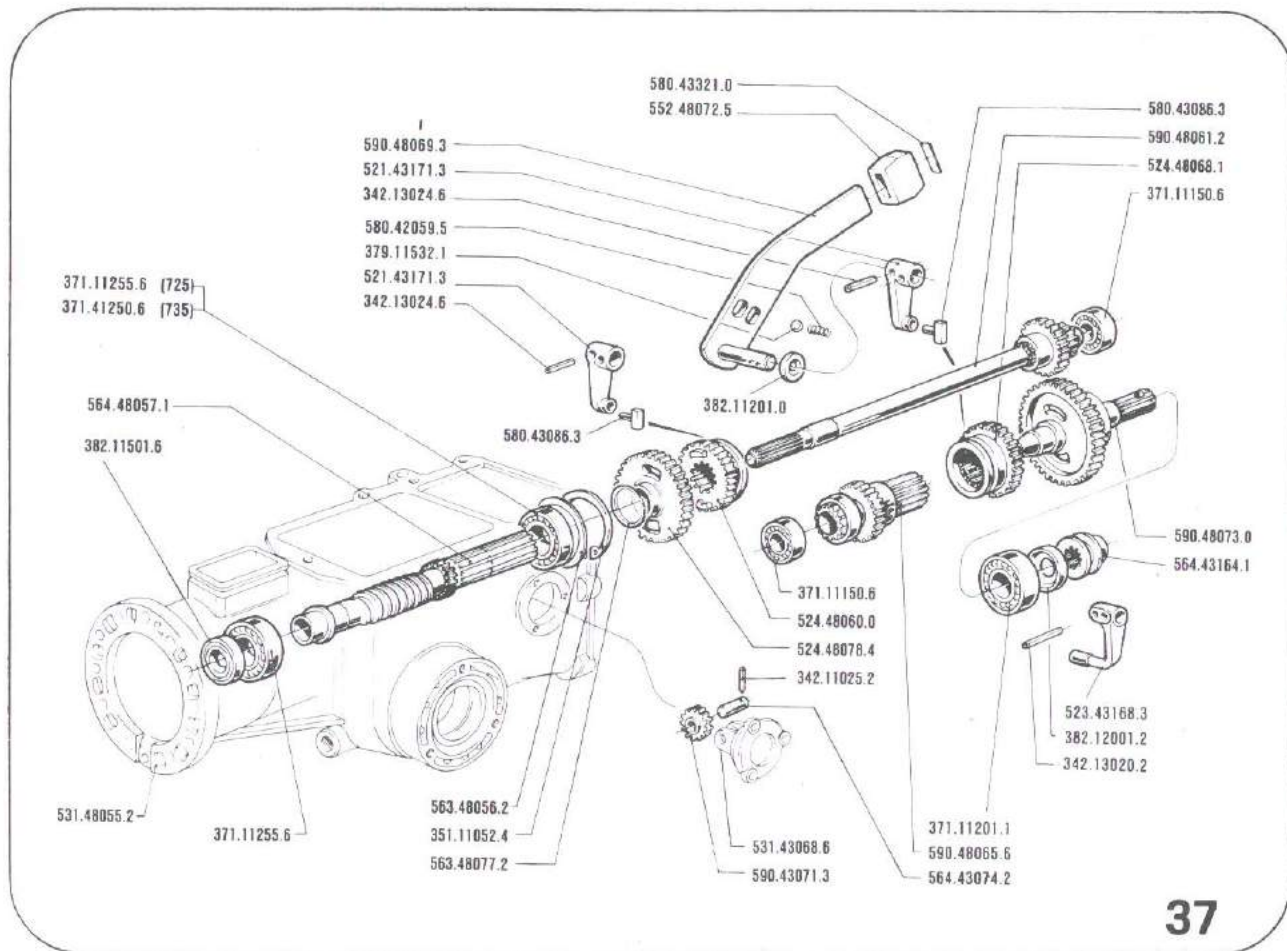
- Extract slider S. Remove gear C with the rear washer (Fig. 36).
- If necessary, disassemble the reverse speed gear as described in the 715 gearbox removal (see 1.3.1).



1.4.2 Gearbox overhauling 725-735

Make following checks and replace any worn parts (Fig. 30-37).

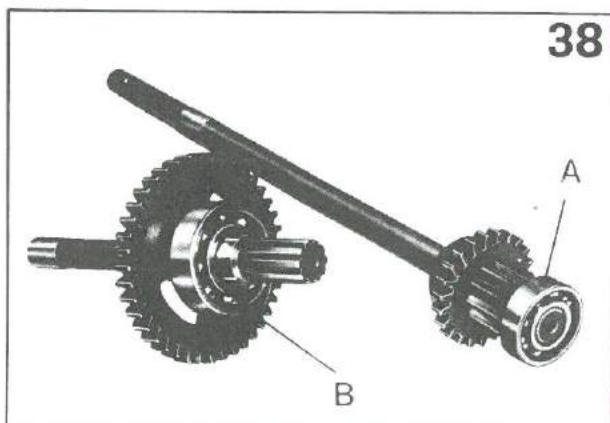
- Check the broaching on slider 564.43164.1.
- Check the spring 580.42059.5: the free length must not be less than .35".
- Check the spring 580.20258.2: the free length must not be less than .96".
- Check the teeth and the spline on shaft 590.48061.2. Be sure that the pressed gear is correctly in place and that the circlip is not damaged.
- Check the teeth and the spline on gear 590.48065.6. Inspect the condition of the pressed ring. Check the brass liner.
- Check the broaching, the teeth and the front couplings on gear 524.48068.1.
- Check the teeth, the spline the gear slots and the modified housing of shaft 590.48073.0.
- Check the teeth, the broaching and the front couplings of slider 524.48060.0. If the spline of the worm screw is worn, overhaul the final transmission assembly.
- Check the teeth and slots of wheel 524.48078.4.
- Check the wear of sliders 580.43086.3.
- Check the teeth of gear 590.43071.3. Make sure pin 564.43074.2 is tight.
- Check spring pins 342.13024.6 and 342.13020.2.
- Check that lever 590.43188.1 is tight on shaft.
- Check the condition of bearings 371.11150.6 and 371.11201.1.



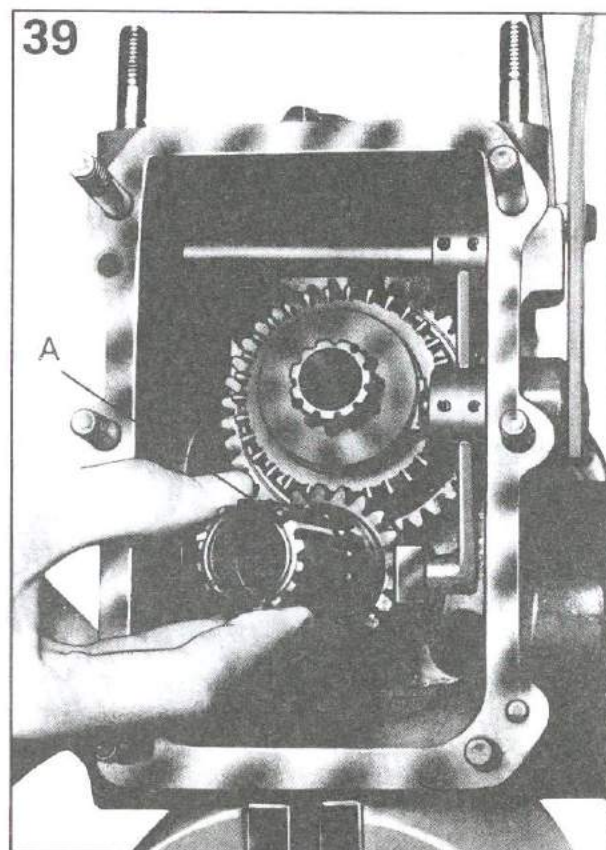
37

1.4.3 Gearbox assembly 725-735

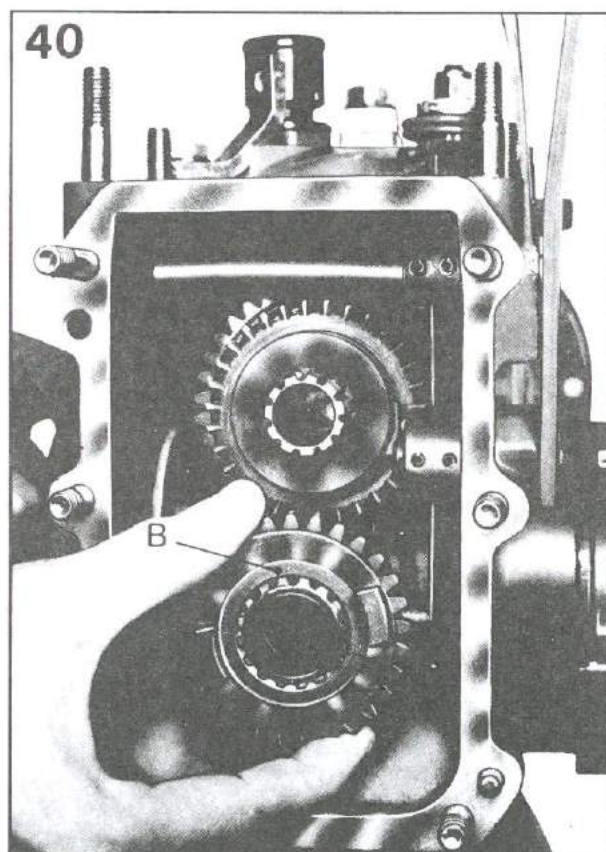
- Fit bearings A and B (Fig. 38).
- Check circlip S and fit bearing C (Fig. 32).



- Fit the shoulder washer and gear C after greasing the hole with Molykote (Fig. 36).
- Fit slide S (Fig. 36).
- Set new O-rings, fit lever B and C and slider P and check that it does not bind in the groove. Set pins A (Fig. 35).
- Install a new oil seal, fit lever E with spring and ball, fit lever F and slider G. Install pins D (Fig. 35).
- Grease the brass liner with Molykote and set the triple gear A in place (Fig. 39).

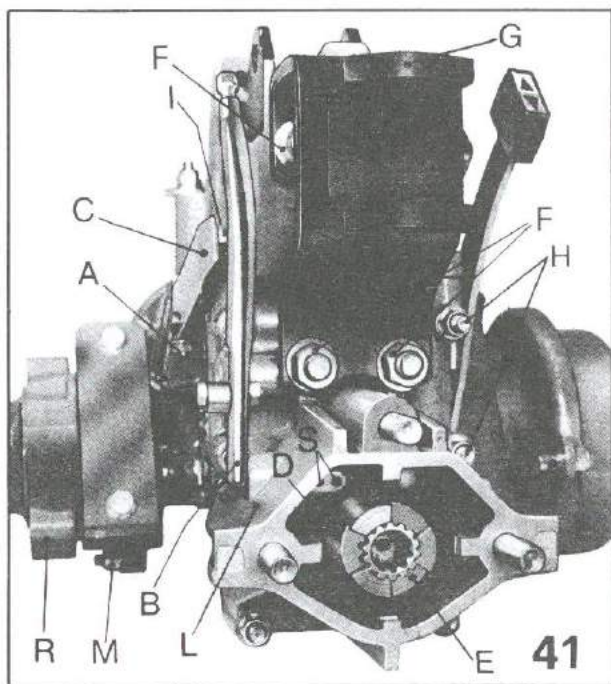


- Fit slider B and check that the control lever slider does not bind in the groove (Fig. 40).
- Fit shaft B (Fig. 34).
- Fit shaft A in its housing (Fig. 34).
- With the remaining parts do the same operations as for 715 (see 1.3.3).

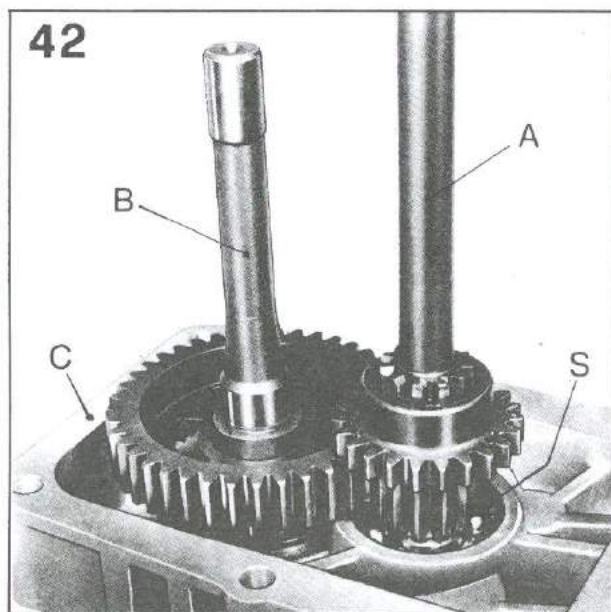


1.5 Gearbox 745

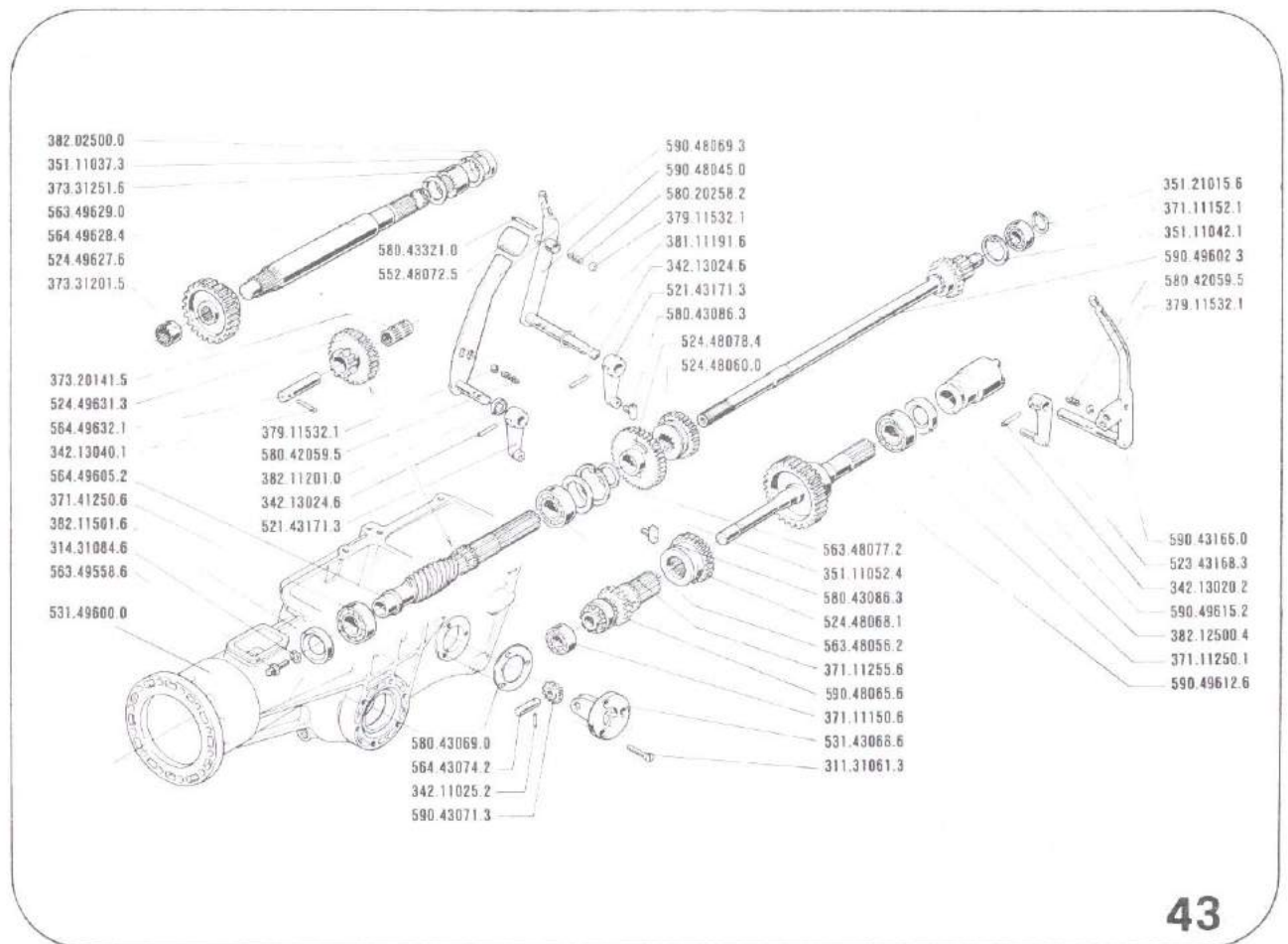
- Remove the engine (see 1.1.1).
- Remove the clutch (see 1.1.5).
- Remove the handlebar (see 1.2.1).
- Drain oil removing cap T (fig. 24).
- Remove bolt A and detent C (fig. 41).
- Remove pins S and lever B, recovering spring and ball. Remove lever D with slider E (fig. 41).
- Unscrew nuts F and remove hook G (fig. 41).
- Unscrew nuts H and screws I, remove cover L (fig. 41).
- Remove brake (see 1.7.1).
- Unscrew nuts M and remove the reduction case R (fig. 41).



- Remove circlip S, driving shaft A and shaft B from cover C (fig. 42).
- With the remaining parts do the same operations as for 725-735 (see 1.4.1).



1.5.2 Gearbox overhauling 745

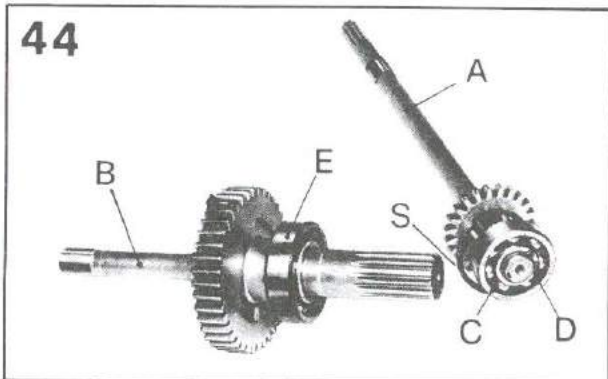


43

Make following checks and replace any worn parts (fig. 30-43):

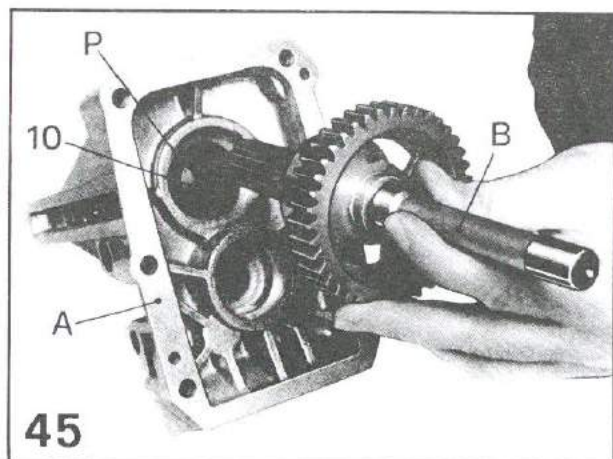
- Check the broaching on slider 590.49615.2.
- Check spring 580.42059.5. The free length must not be lower than .35".
- Check the teeth, spline and inside threads on shaft 590.49602.3. Check that gear is correctly pressed in its position and the circlip is not damaged.
- Check the teeth and spline on gear 590.48065.6.
- Inspect the condition of the pressed ring. Check the brass liner.
- Check the teeth broaching and the front couplings on slider 524.48068.1.
- Check the broaching, the spline and the gear slots and the ground surfaces of shaft 590.49612.6.

- Check the teeth, the broaching and the front couplings on slider 524.48060.0. If the spline of the worm screw is worn, overhaul the final transmission assembly.
- Check the spline and the slots of gear 524.48078.4.
- Check the wear of sliders 580.43086.3.
- Check the teeth on gear 590.43071.3. Make sure pin 564.43074.2 is tight.
- Check spring pins 342.13024.6 and 342.13020.2.
- Check the condition of bearings 371.11150.6 - 371.11250.1 - 371.11152.1.

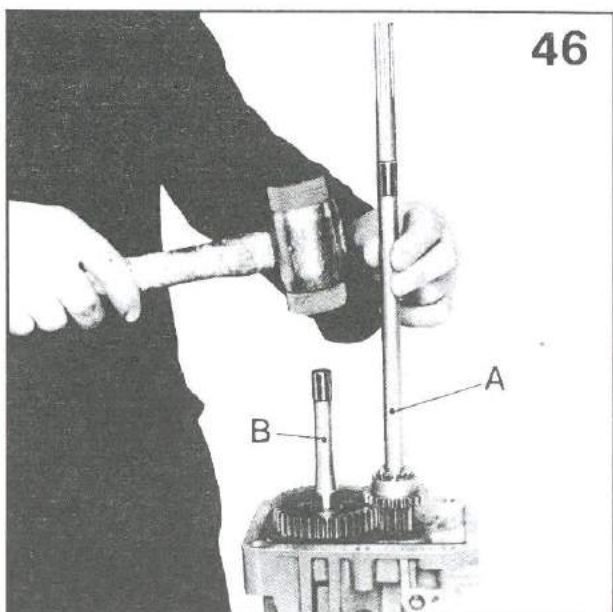


1.5.3 Gearbox assembly 745

- Fit circlip S on the teeth of the drive shaft A as shown in fig. 44.
- Fit bearing C and circlip D (fig. 44).
- Fit bearing E on shaft B (fig. 44).



- Fit a new oil seal P in cover A. Install the protection No. 10 into the oil seal and introduce shaft B (fig. 45).

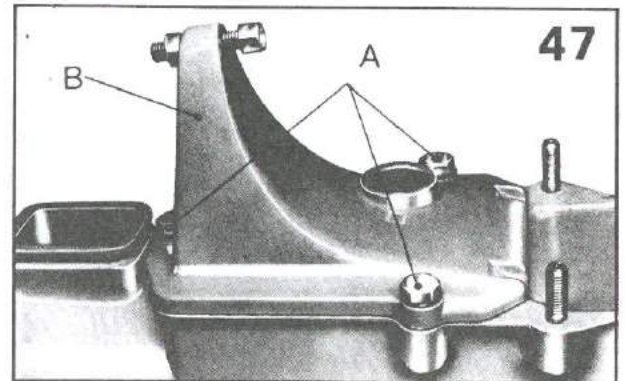


- Fit the drive shaft A as shown in fig. 46.
- To install into their housings shafts A and B, hammer both ends with a mallet made of soft material (Fig. 46).
- With the remaining parts do the same operation as for 725-735 (see 1.4.3).

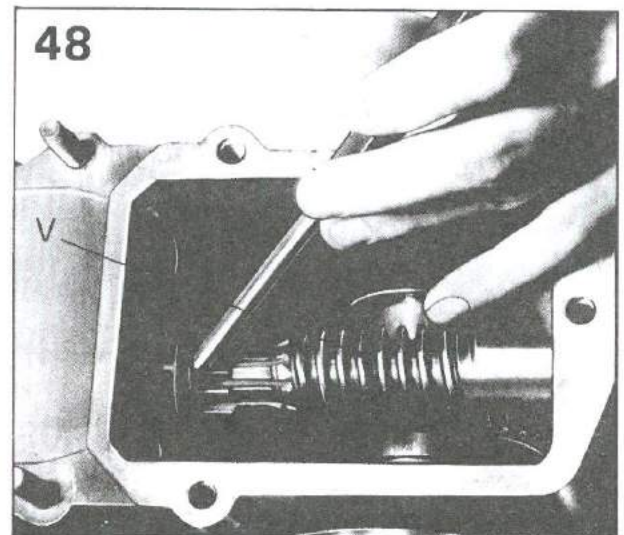
1.6 Final transmission 715-725

1.6.1 Final transmission removal 715-725

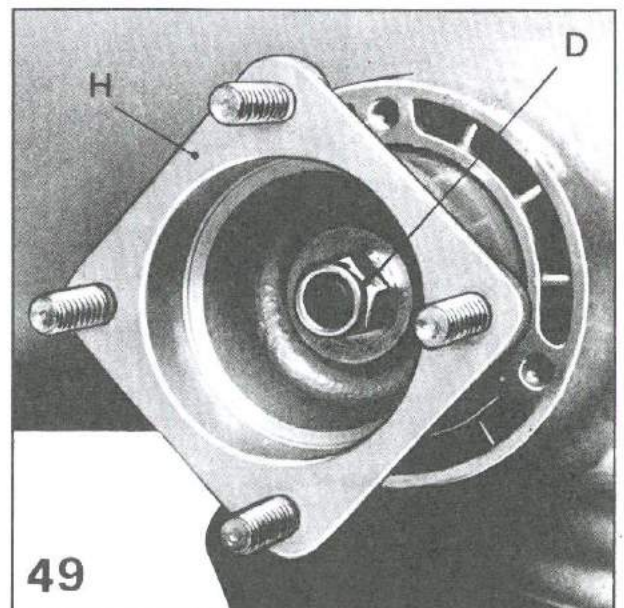
- Detach the engine (see 1.1.1).
- Remove the handlebar (see 1.2.1).
- Remove the wheels by removing the four central nuts.
- Remove the brake (if fitted) (see 1.6.1).
- Remove the gearbox (see 1.3.1 for 715 - see 1.4.1 for 725).
- Remove screws A and cover B (Fig. 47).
- Remove circlip S (Fig. 32).

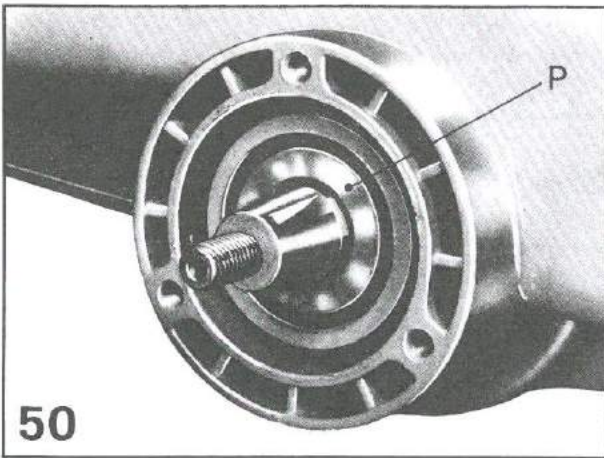


- Remove worm screw V (Fig. 48).

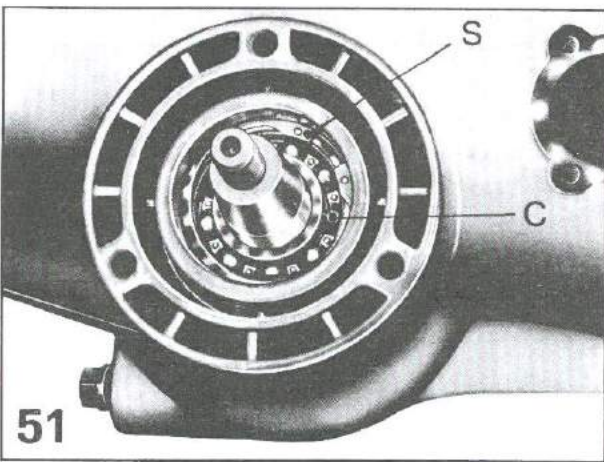


- Remove the two hubs H by unscrewing the central nuts D. Strike with a mallet to free them from the shaft (Fig. 49).

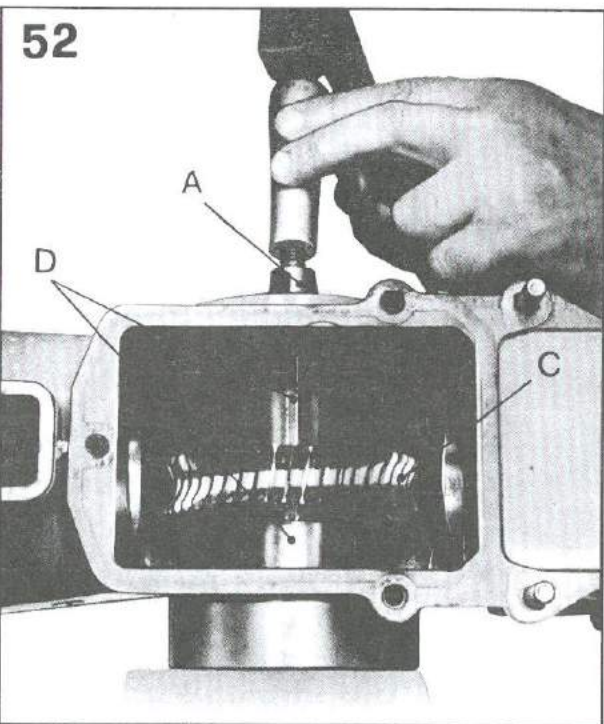




— Remove oil seals P (one each side) (Fig. 50).

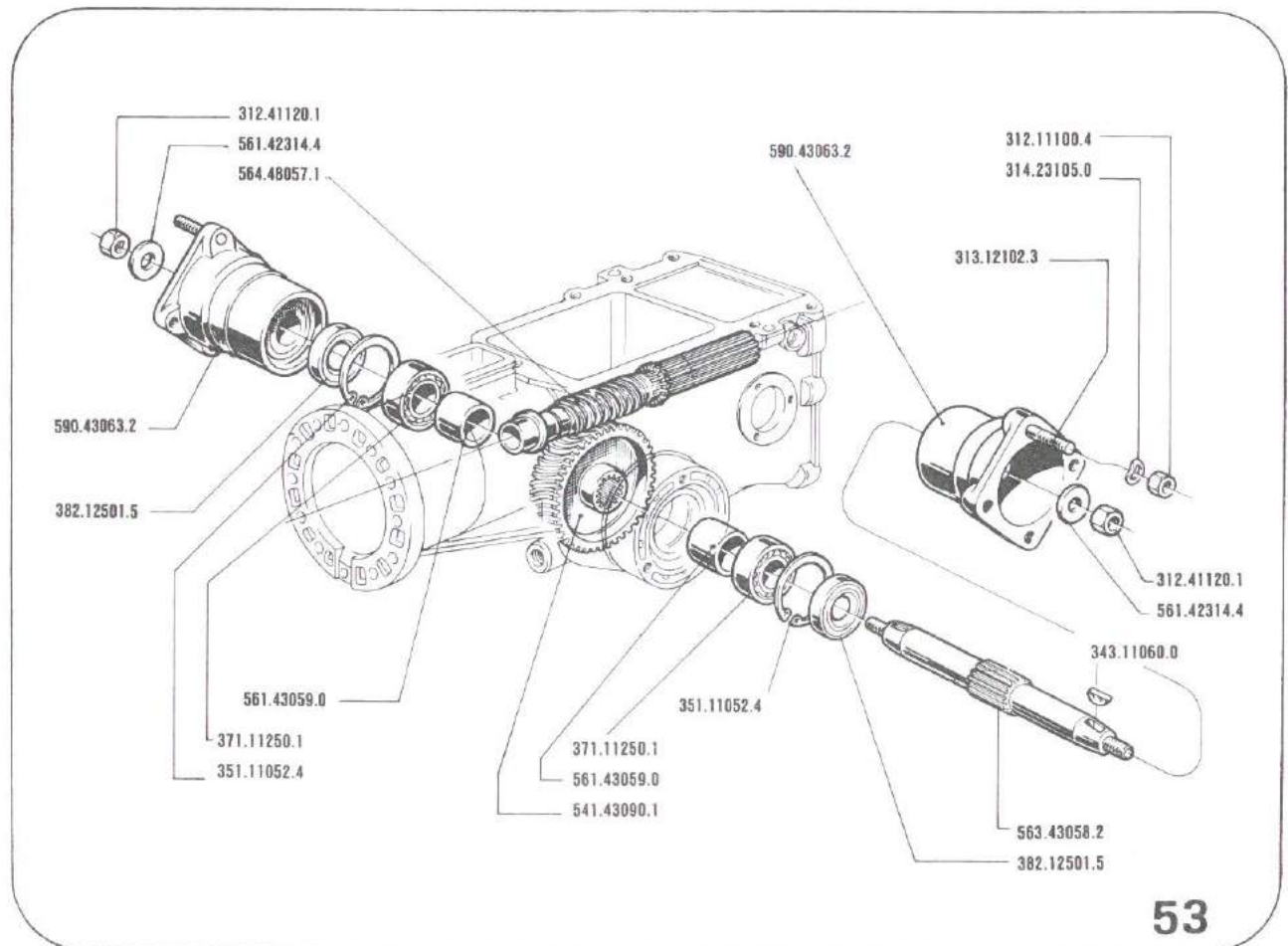


— Remove circlips S (one each side) (Fig. 51).



— Extract shaft A, remove gear C and spacers D (Fig. 52).

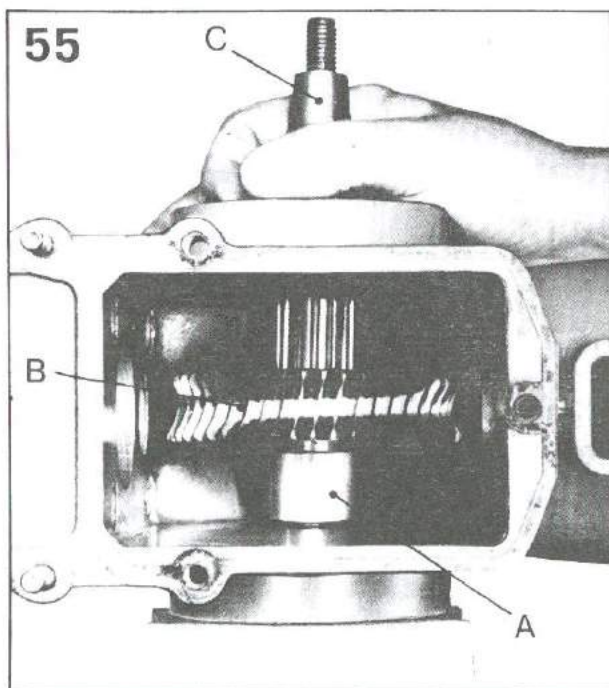
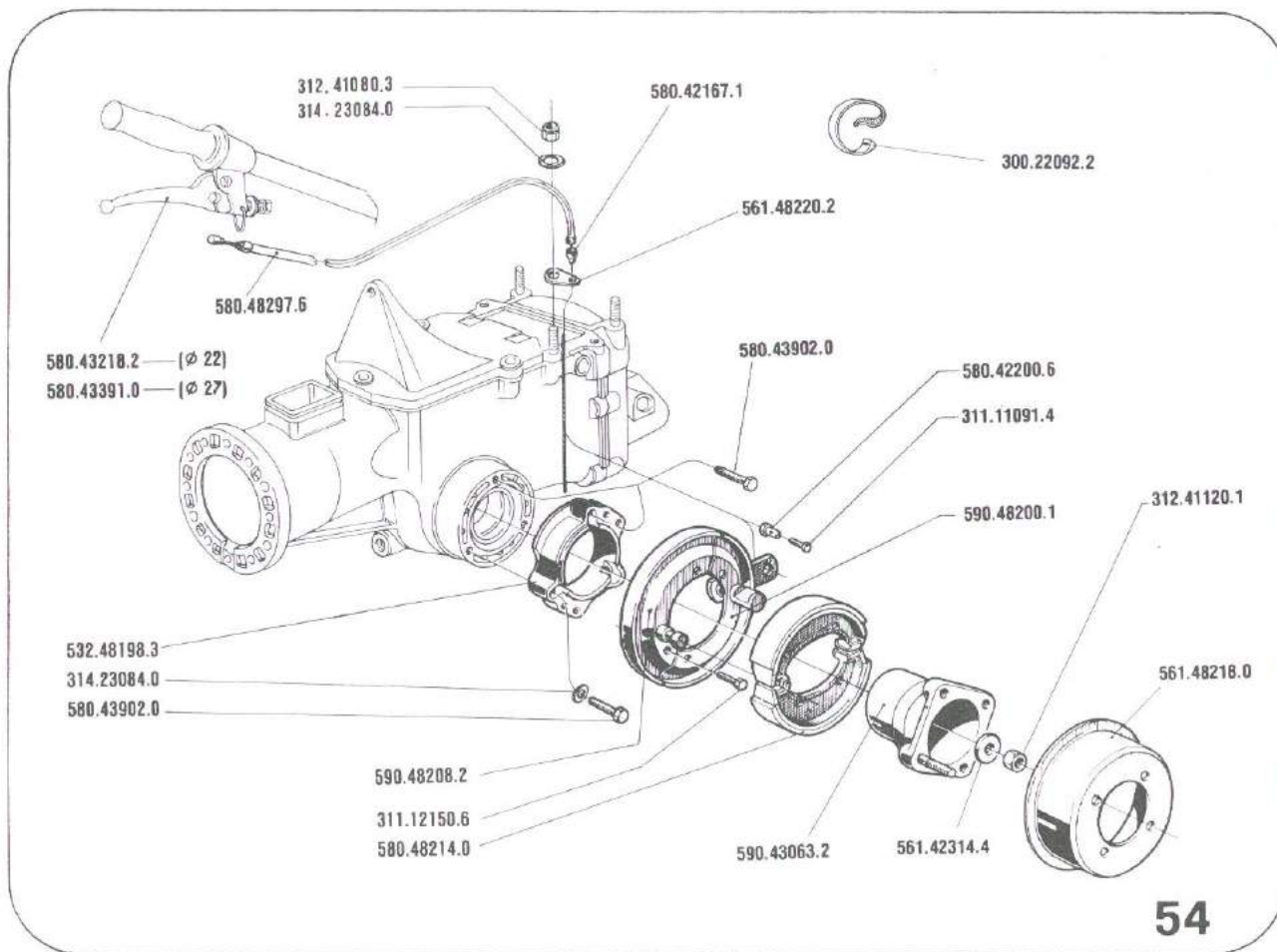
1.6.2 Final transmission overhauling 715-725



Make the following checks and replace any worm part (Fig. 29-37-53-54).

- Check the teeth of gear 541.43090.1.

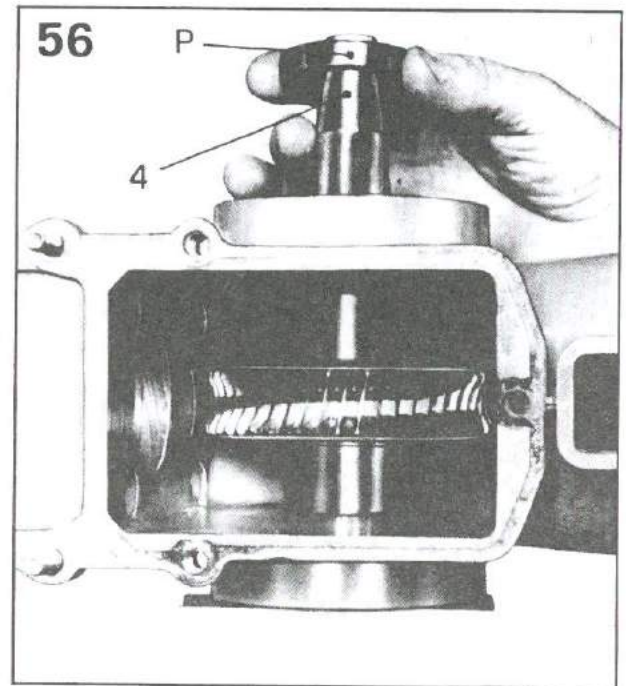
- Check the spline and the thread of screw 564.48057.1.
- Check the condition of bearings 371.11250.1 and 371.11255.6.



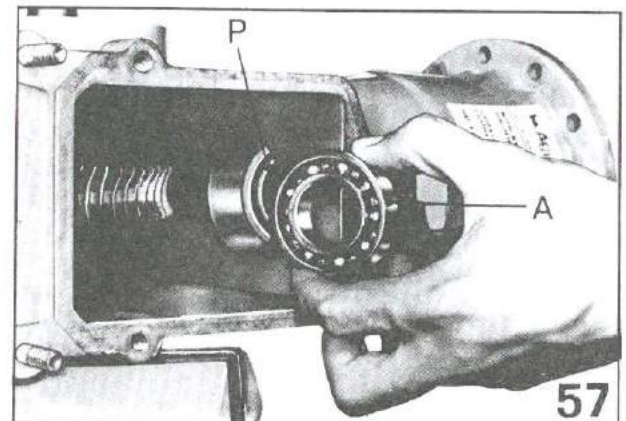
1.6.3 Final transmission assembly 715-725

- Install circlip S and bearing C on one side only (Fig. 51).
- Install one spacer A and gear B. Install shaft C (Fig. 55).
- Set the second spacer A (Fig. 55).
- Fit the second bearing C (Fig. 51).
- Fit the second circlip S (Fig. 51).

- Use seal tool No. 4 and fit a new oil seal P. Repeat the operation on both sides (Fig. 56).



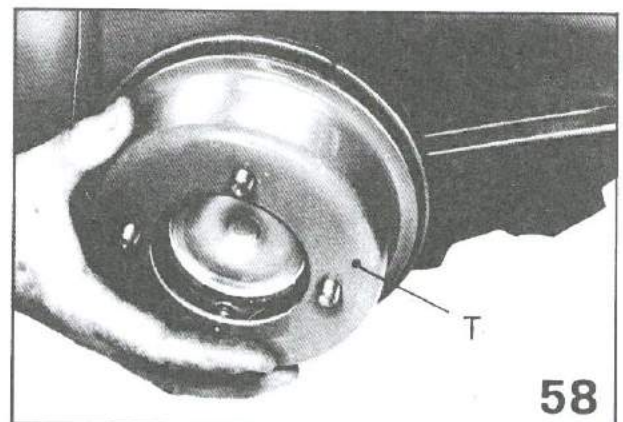
- Fit a new oil seal P (Fig. 57).
- Fit the bearing A (Fig. 57).
- Fit the worm screw V (Fig. 48).
- Fit bearing B and circlip S (Fig. 32).
- Set a new gasket and fit cover B (Fig. 47).
- Install the woodruff keys and fit hubs H by tightening nuts D at the torque of 63 Ft.lbs. (Fig. 49).
- Fit the wheels by tightening the fastening nuts at the torque of 37 Ft.lbs.

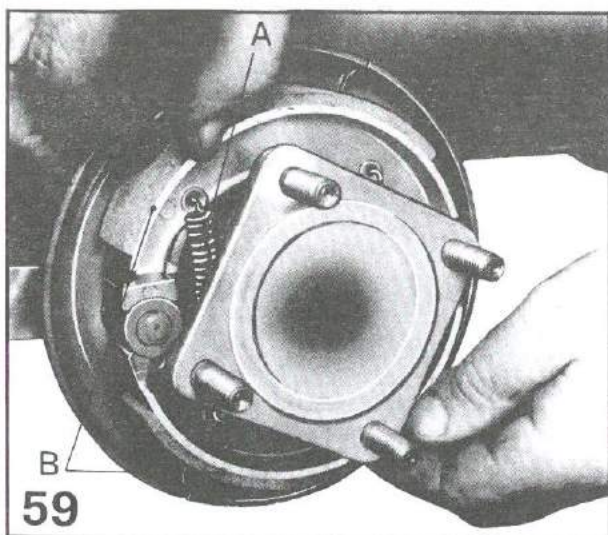


1.7 Final transmission 735

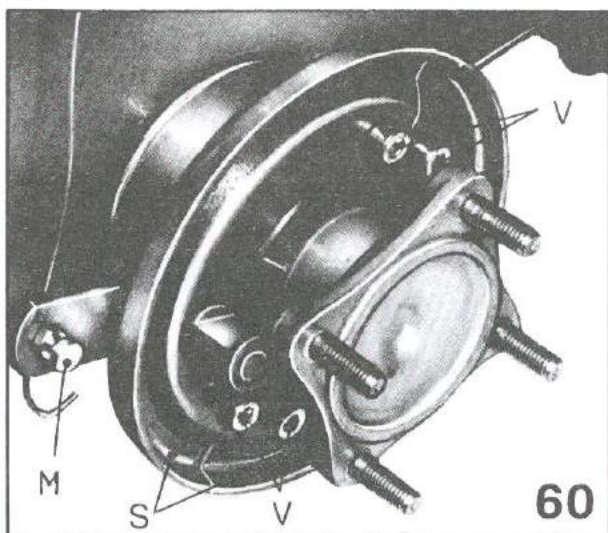
1.7.1 Brake removal

- Remove the wheels by removing the four central nuts.
- Remove drum T (Fig. 58).

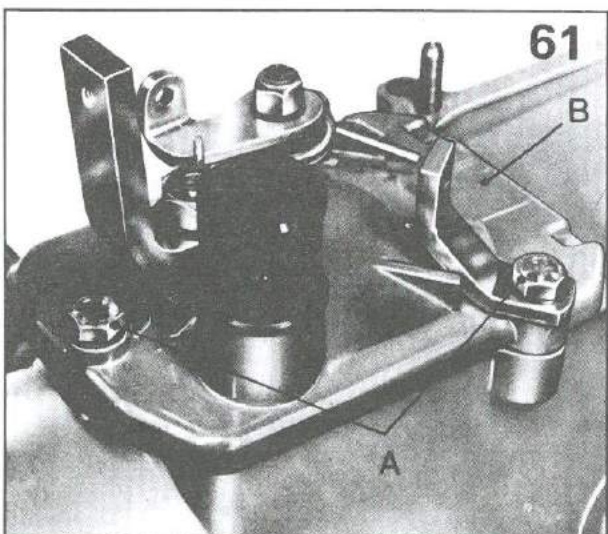




— Remove springs A and shoes B (Fig. 59).



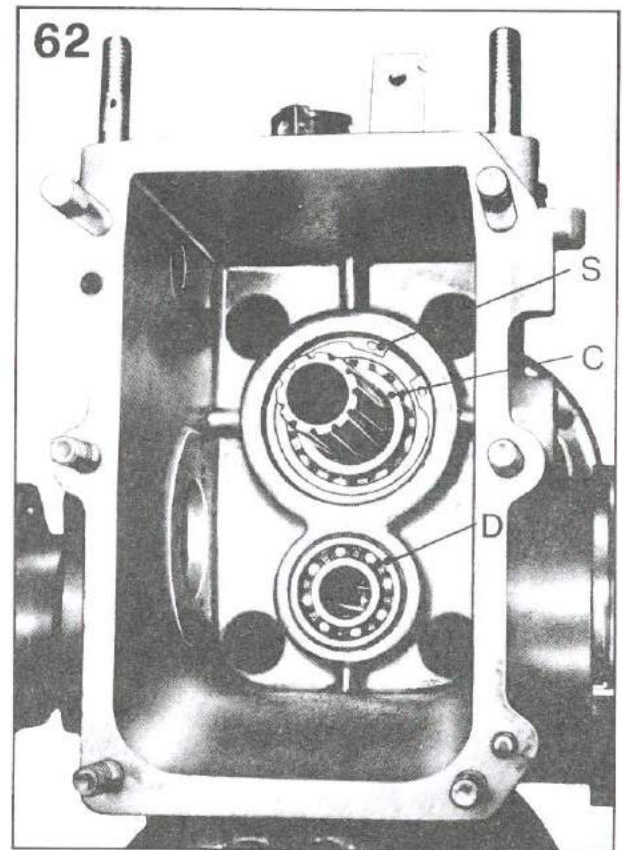
— Remove screws V, loosen clamp M and remove the half discs S (Fig. 60).



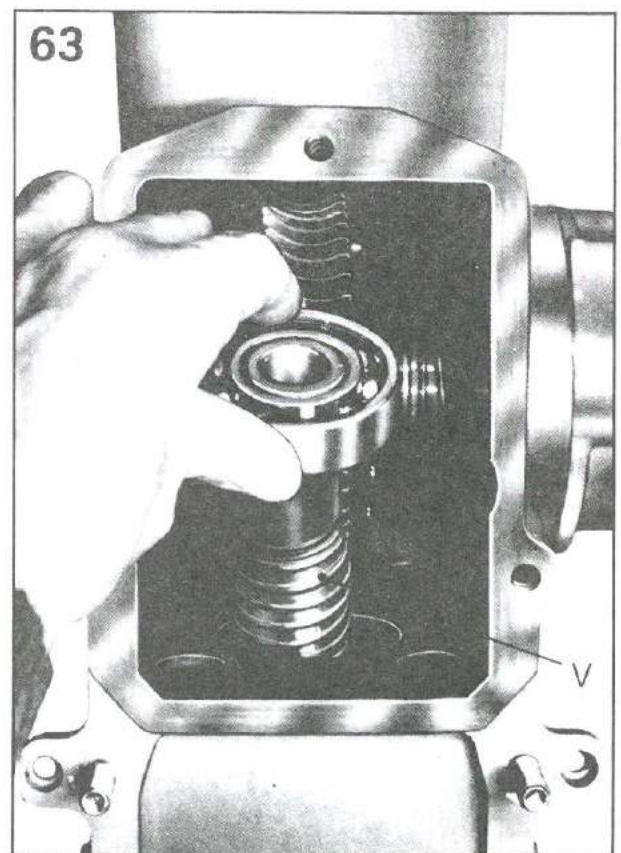
1.7.2 Final transmission removal 735

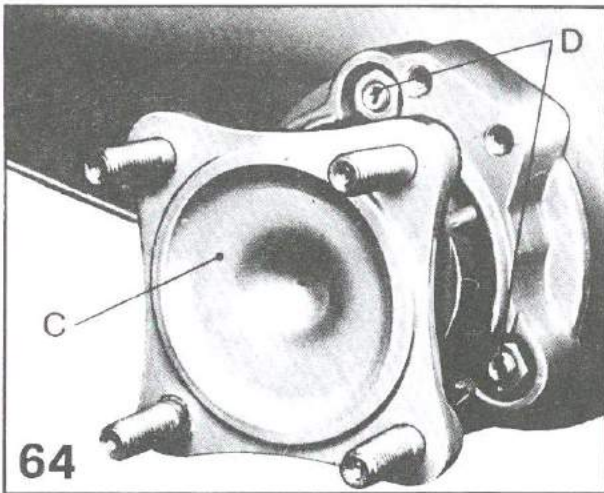
- Detach the engine (see 1.1.1).
- Detach the handlebar (see 1.2.1).
- Remove the wheels and brakes (see 1.7.1).
- Remove the gearbox (see 1.4.1).
- Remove screws A and cover B (Fig. 61).

— Remove circlip S and the shoulder ring (Fig. 62).

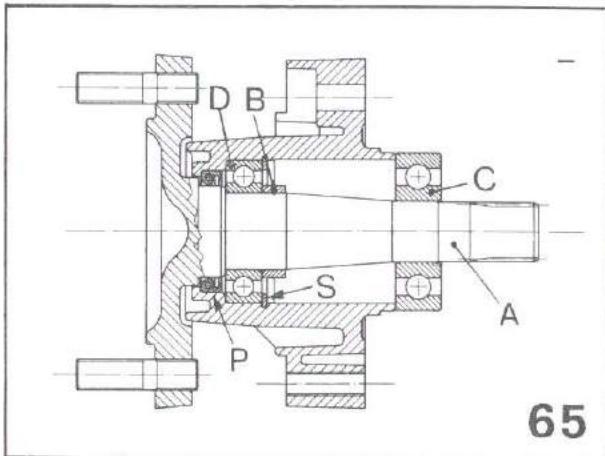


— Remove the worm screw V (Fig. 63).

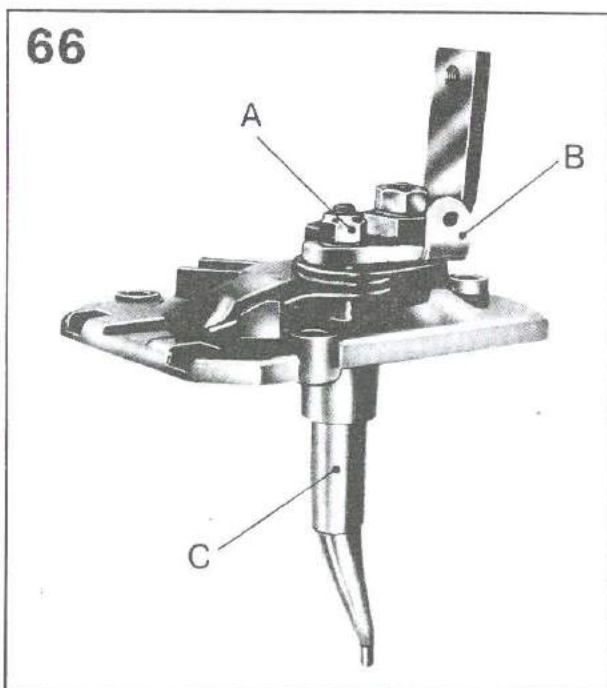




- Unscrew nuts D, remove hubs C, remove from gearbox the full differential with its locking system (Fig. 64).

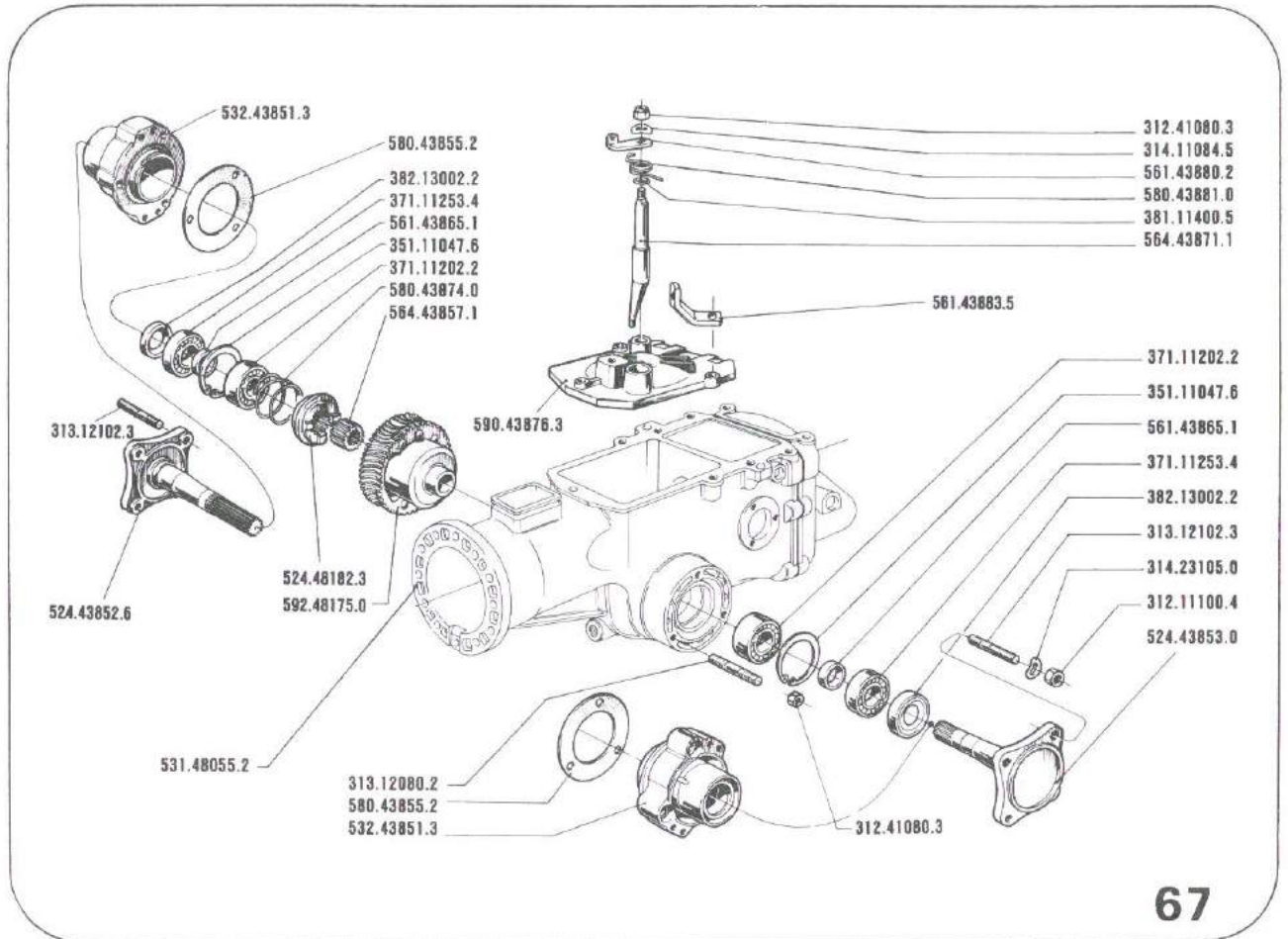


- Remove the hubs by taking out the axle shaft A with a press to remove ring B. After removing the axle shaft and the bearing C, remove circlip S, bearing D and oil seal P (Fig. 65).



- Unscrew nut A, remove lever B and rod C with its spring (Fig. 66).

1.7.3 Final transmission overhauling 735

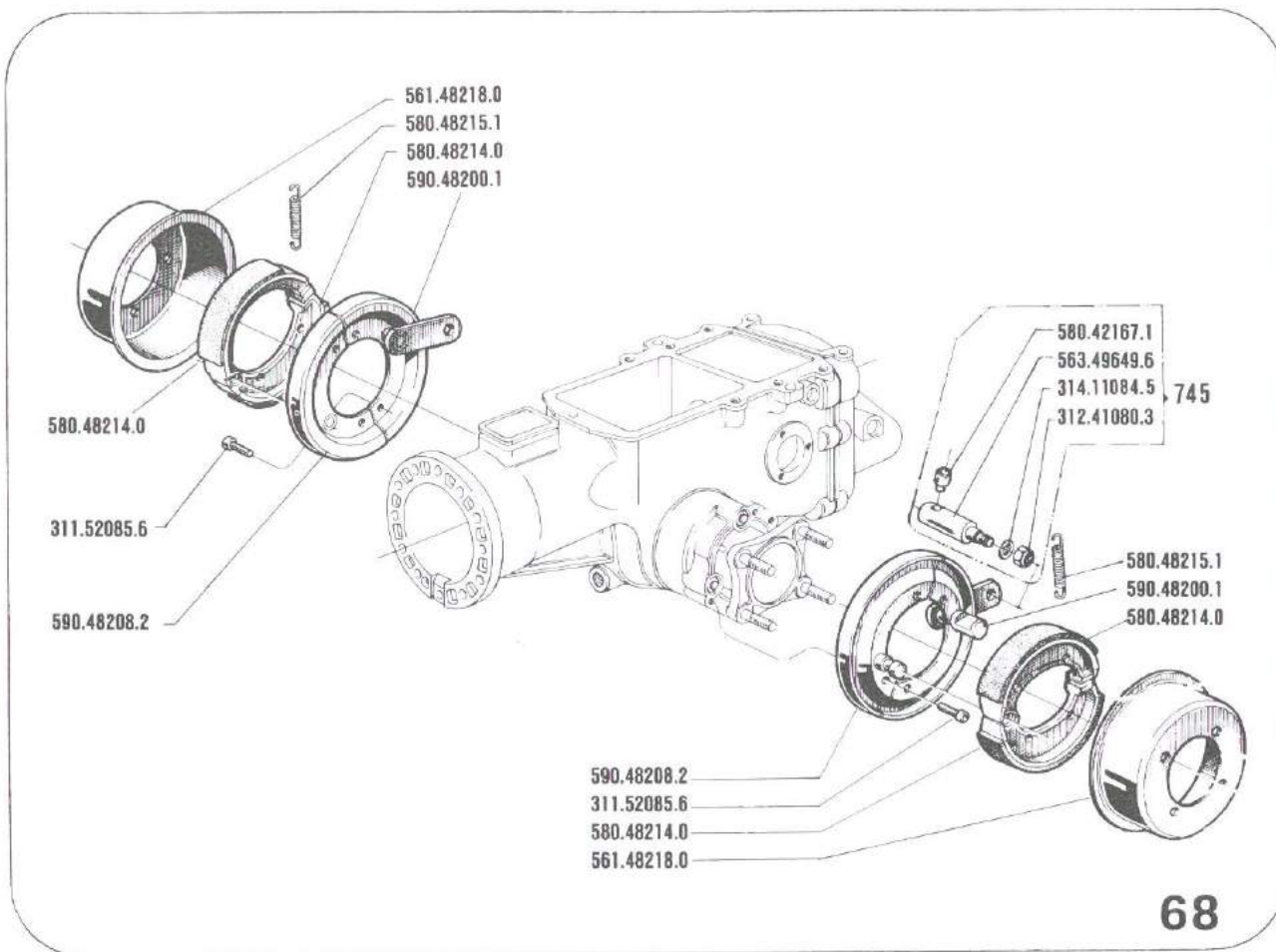


67

Make the following checks and replace any worn part (Fig. 37-67-68):

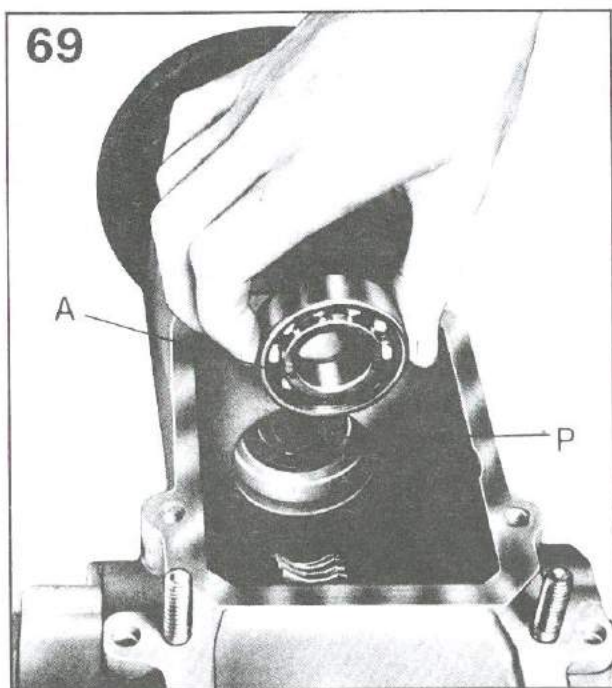
- Check the spline and thread on screw 564.48057.1.
- Check the teeth of the bronze gear, make sure that all rivets are tight in the differential housing. Check the front coupling teeth of the differential lock and the condition of the inside conic gears. If necessary, replace the full differential 592.48175.0.

- Check the wear of the outside spline and of the inside broaching on spacer 564.43857.1.
- Check the front teeth and the broaching on coupling 524.48182.3.
- Check that spring 580.43874.0 is not warped. The free length of a new spring is 1".
- Check the spline on the axle shafts 524.43852.6 and 524.43853.0.
- Check the condition of bearings 371.11202.2 and 371.11253.4.

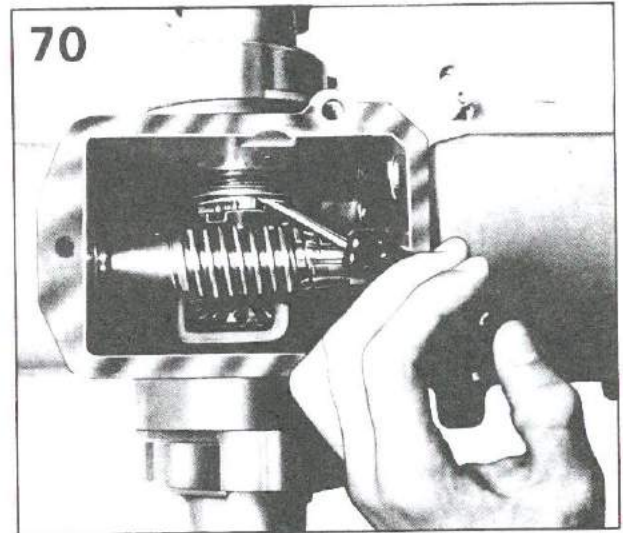


1.7.4 Final transmission assembly 735

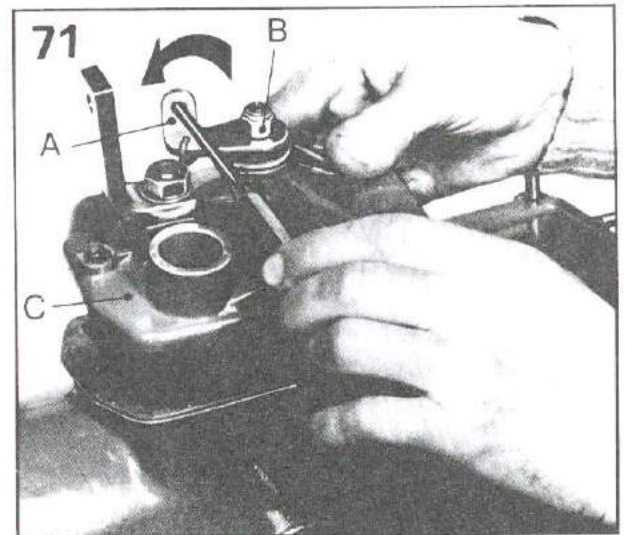
- Fit rod C, set a new O-ring, fit lever B with its spring in the position shown in the figure. Tighten nut A (Fig. 66).
- Assemble the hubs: fit a new oil seal P, bearing D and circlip S. Fit the axle shaft A, fit a new ring B and fit bearing C (Fig. 65).
- Install in the gearbox the full differential, the locking coupling with its spacer. Set the spring, fit hubs C and tighten nuts D at the torque of 18 Ft.lbs. (Fig. 64).
- Fit a new oil seal P (Fig. 69).
- Fit bearing A (Fig. 69).
- Fit the worm screw V (Fig. 63).
- Fit bearing C, the shoulder ring and circlip S (Fig. 62).

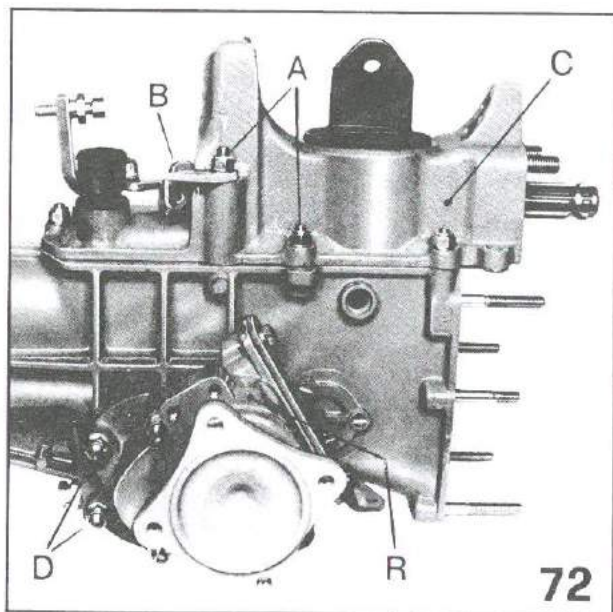


- Disengage the differential lock by putting the slider in the position shown in the figure (Fig. 70).



- Rotate counterclockwise lever A in order to set rod B in the correct assembly position. Set a new gasket and put on cover C with its screws (Fig. 71).
- Fit the brakes.
- Fit the wheels by tightening the fastening nuts at the torque of 37 Ft.lbs.

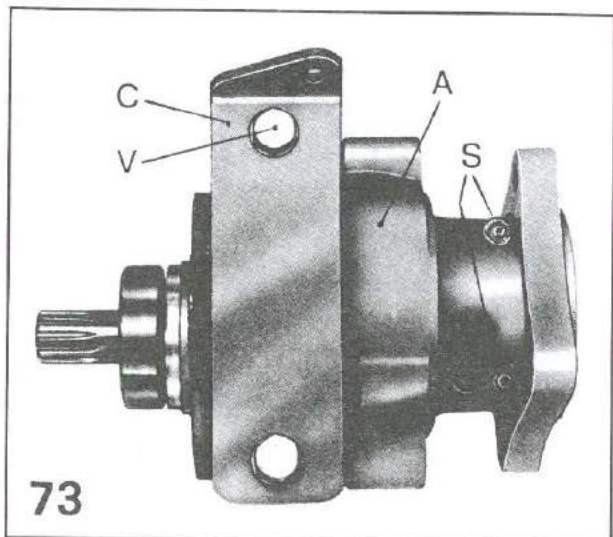




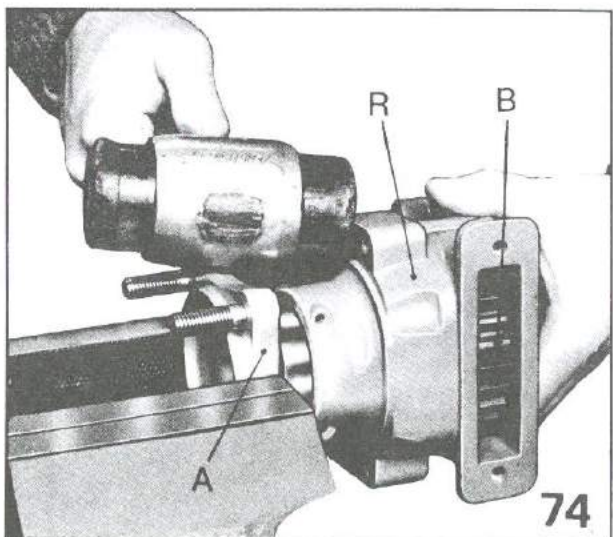
1.8 Final transmission 745

1.8.1 Final transmission removal 745

- Detach the engine (see 1.1.1).
- Detach the clutch (see 1.1.5).
- Detach the handlebar (see 1.2.1).
- Remove the wheels and brakes (see 1.7.1).
- Remove the gearbox (see 1.5.1).
- Unscrew nuts A, detent B and the synchronized powertake-off cover C (fig. 72).
- Unscrew nuts D and remove the two reduction boxes R (fig. 72).
- Remove circlip S and ring (fig. 62).
- Remove worm screw V (fig. 63).
- Remove from gearbox the differential with its locking system.

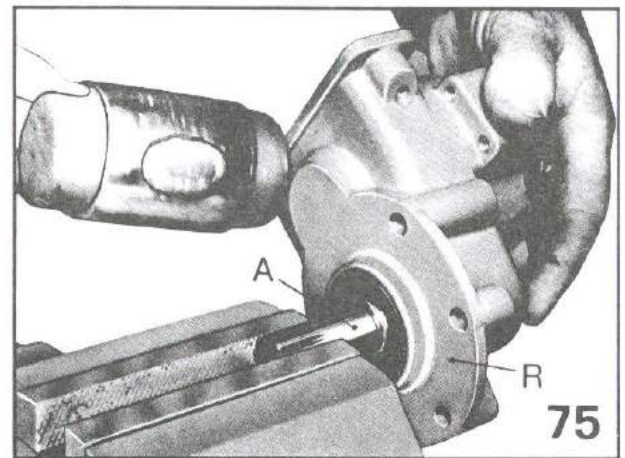


- Remove pins S from reduction box A, unscrew screws V and remove cover C (fig. 73).

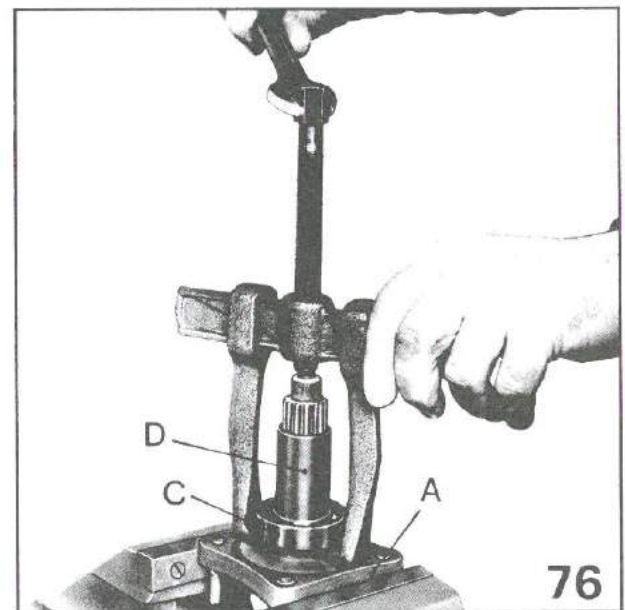


- Remove axle shaft A from the reduction box R, recovering gear B (fig. 74).

- Remove shaft A with oil seal from the reduction shaft R (Fig. 75).



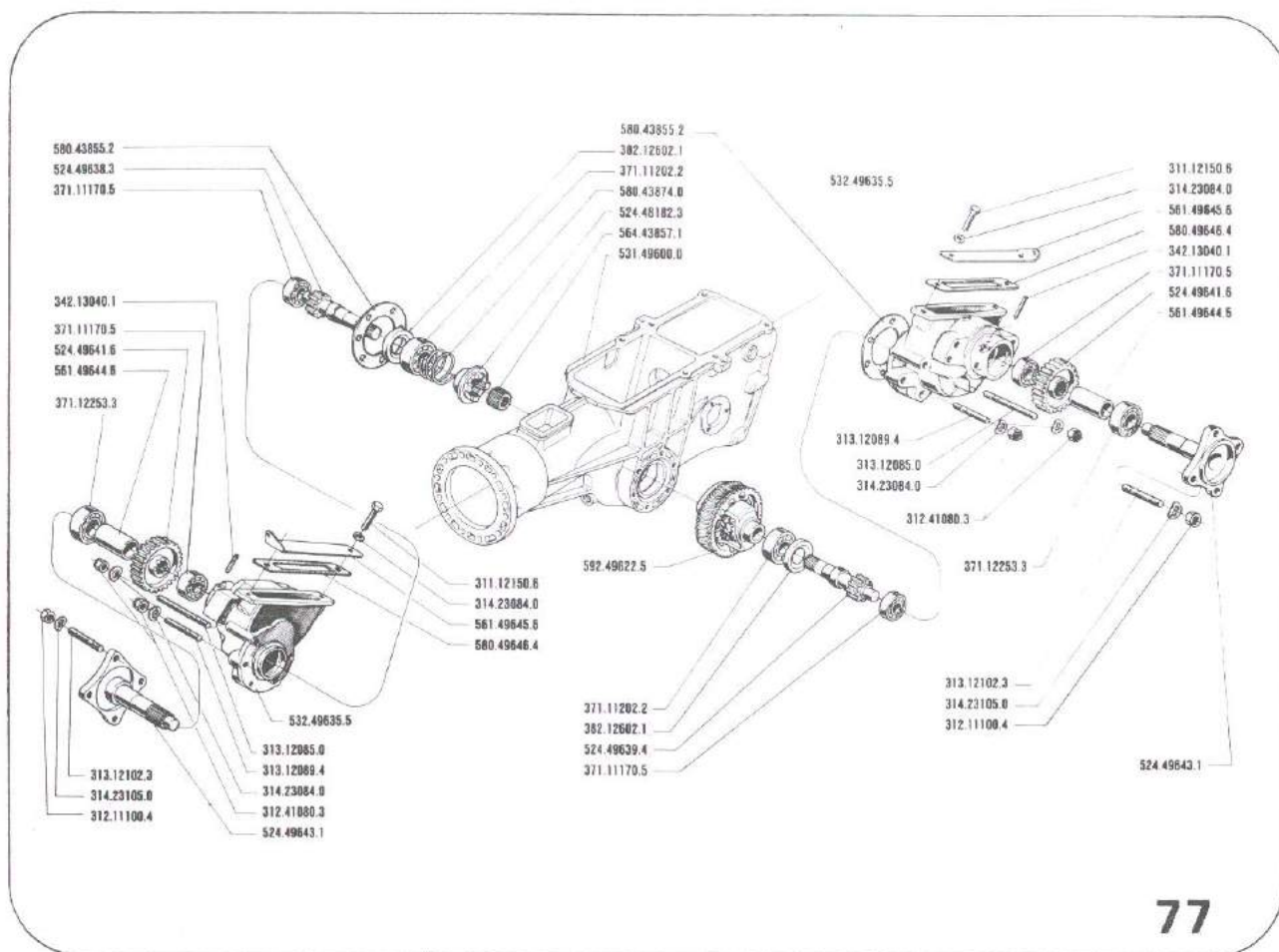
- Remove axle shaft A, bearing C and spacer D with an extractor (Fig. 76).



1.8.2 Final transmission overhauling 745

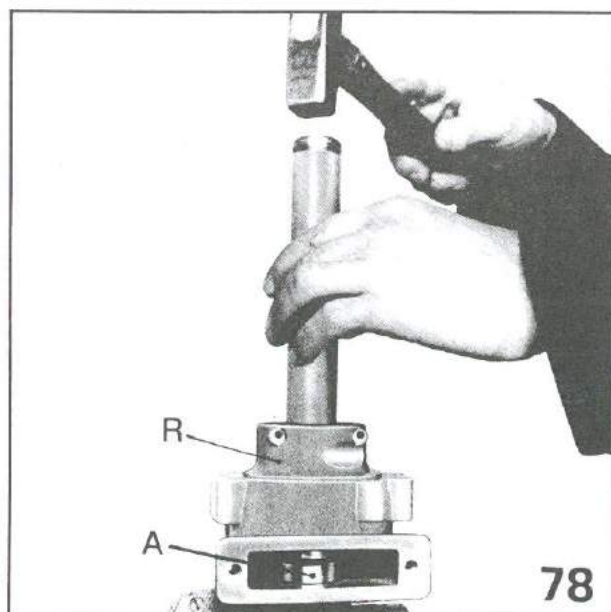
Make following checks and replace any worn part (fig. 43-68-77).

- Check the spline and thread on worm screw 564.49605.2.
- Check the teeth of the bronze gear. Make sure that all rivets are tight in the differential housing. Check the front coupling teeth of the differential lock and the condition of the inside conic gears. If necessary replace the full differential 592.49622.5.
- Check the wear of the outside spline and of inside broaching on spacer 564.43857.1.
- Check the front teeth and the broaching on coupling 524.48182.3.
- Check that spring 580.43874.0 is not warped. The free length of a new part is 1".
- Check the spline and teeth on shafts 524.49639.4 and 524.49638.3.
- Check the broaching and teeth on gear 524.49641.6.
- Check the spline on axle shafts 524.49643.1.
- Check the condition of bearings 371.12253.3, 371.11202.2, 371.11170.5, 371.41250.6 and 371.11255.6.

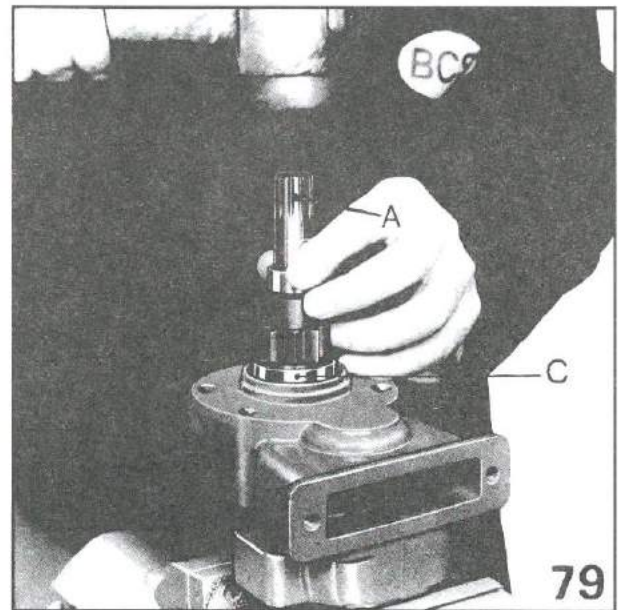


1.8.3 Final transmission assembly 745

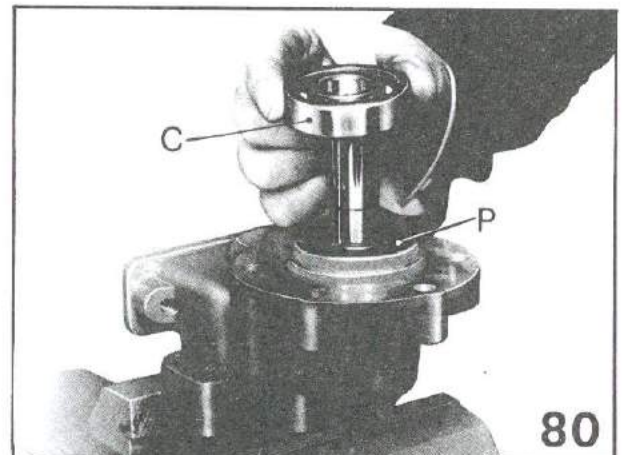
- Fit bearing C with the thin part towards outside on axle shaft A. Install a new spacer S (fig. 76).
- Assemble the reduction boxes R. Fit bearings A working on the outside ring of bearings with a tool of the correct size (fig. 78).



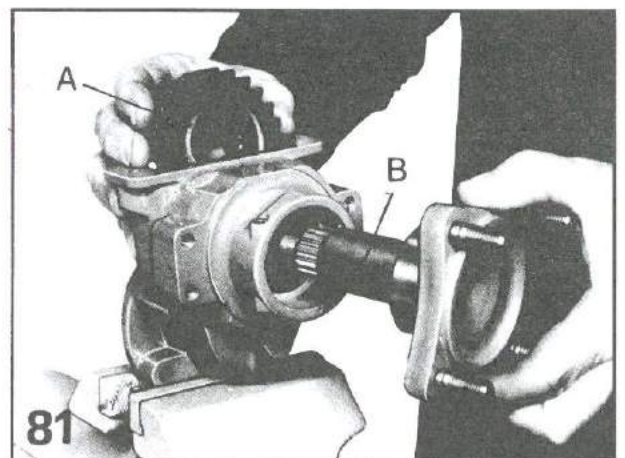
- Install shafts A with bearings C using a mallet made of soft material (fig. 79).

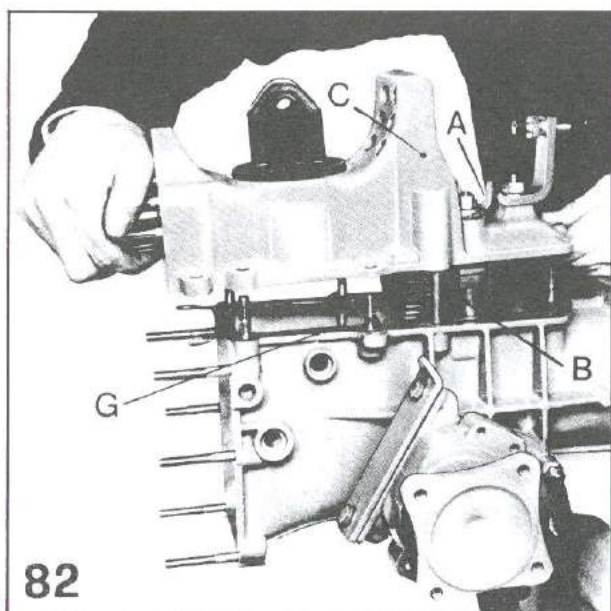


- Fit the new oils seals P and bearings C (fig. 80).



- Fill the reduction boxes with grease (see 0.2.2 Fuel and oil specifications).
- Install gear A and insert axle shaft B with bearing and spacer. Make sure that axle shaft B with gear A is well centered and splined (fig. 81).

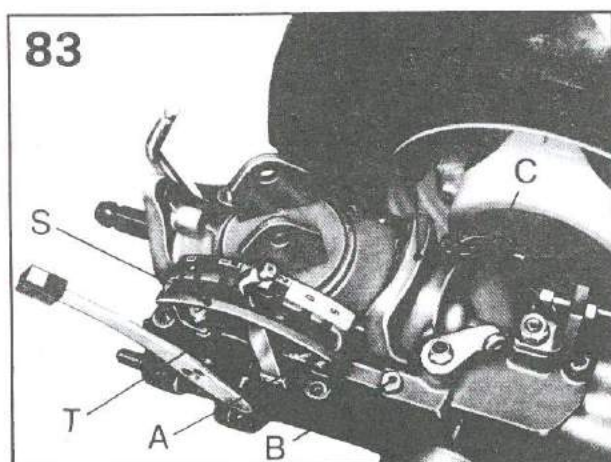




- Install the axle shaft and fit pins S (fig. 73).
- Fit a new gasket and cover C. Tighten screws V with washer at the torque of 18 Ft.lbs. (fig. 73).
- Fit the new oil seal P (fig. 69).
- Install bearing A (fig. 69).
- Fit inside the gearbox the full differential and the locking with spacer.
- Set the spring, fit the reduction units and tighten screws D at the torque of 18 Ft.lbs. (fig. 72).
- Fit the worm screw V (fig. 63).
- Fit bearing C, the ring and the circlip S (fig. 62).
- Disengage the differential locking placing the slider in the position indicated in fig. 70.
- Set lever A in order to put rod B in the correct assembly position as shown in fig. 82.
- Fit a new gasket G and the synchronized P.T.O. cover C (fig. 82).
- Fasten the cover to the gearbox tightening the nuts at the torque of 18 Ft.lbs.

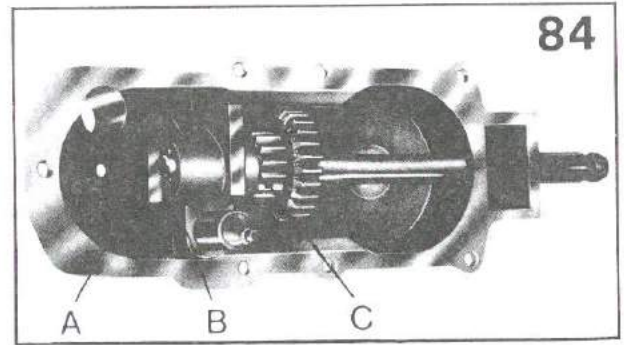
1.9 Synchronized P.T.O. 735-745

1.9.1 Synchronized P.T.O. 735 removal

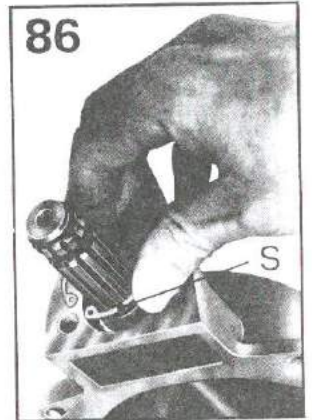
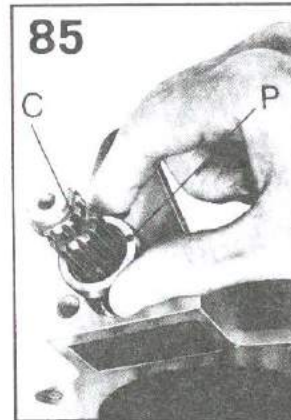


- Detach from the walking tractors all controls before disconnecting it from the trailer.
- Unscrew nuts A and screws B. Remove detent C and the full PTO cover D (fig. 83).

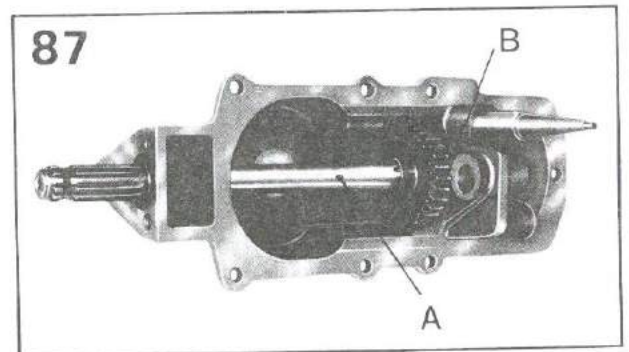
— Remove pin A, pin B and gear C (Fig. 84).



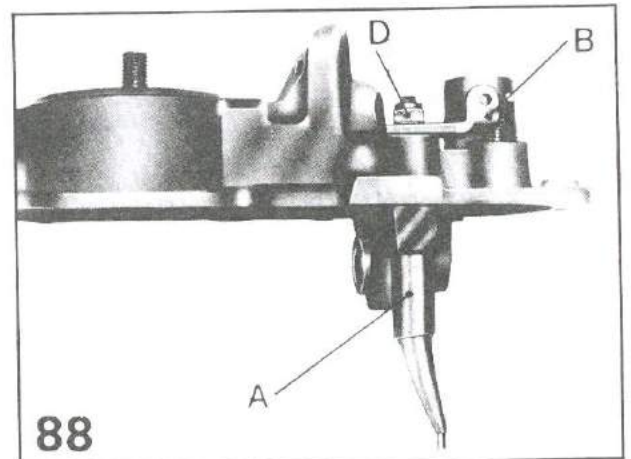
- Remove oil seal P (Fig. 85).
- Remove circlip S (Fig. 86).



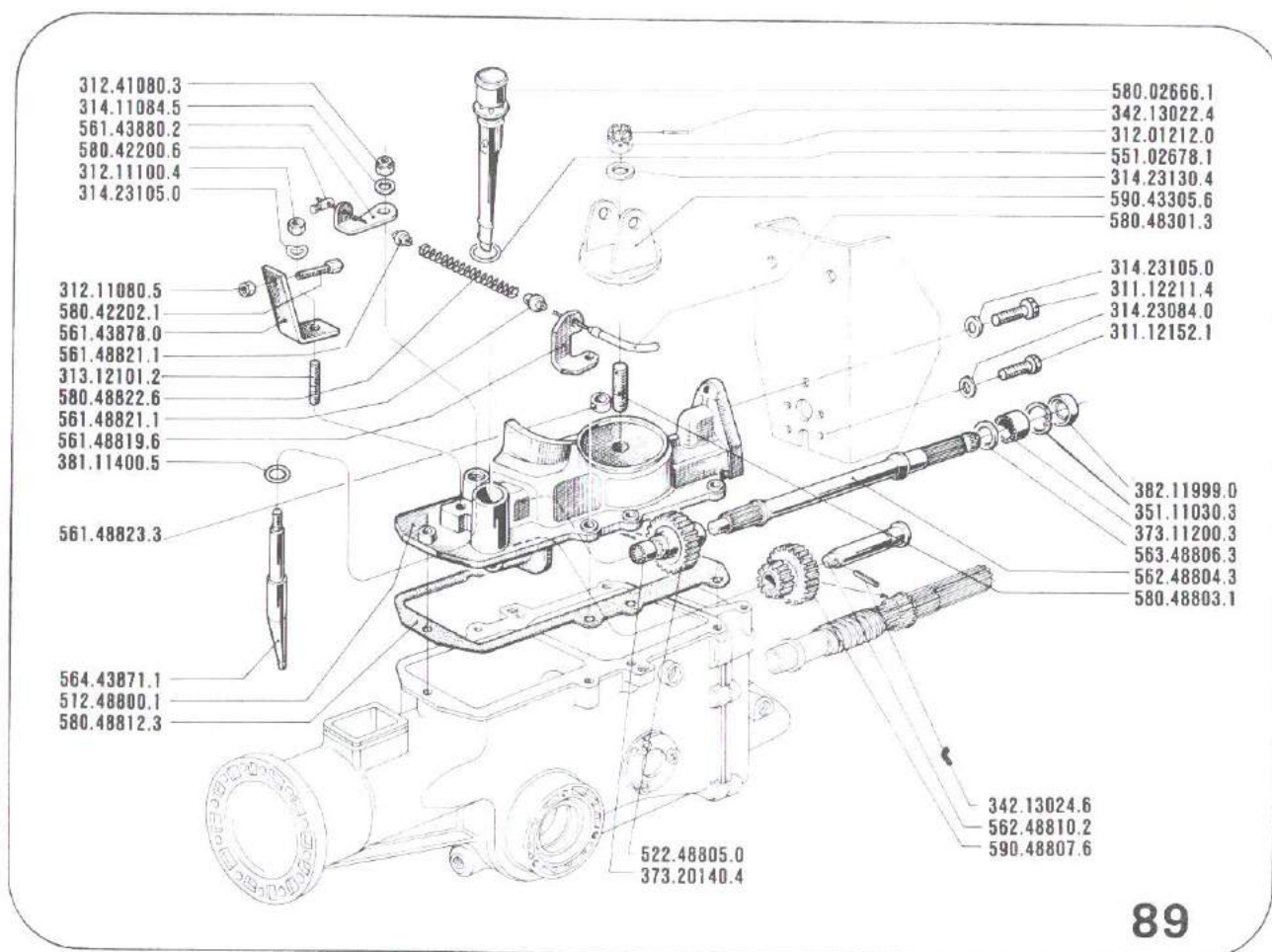
— Extract shaft A and remove gear B (Fig. 87).



— Unscrew nut D, remove lever B and rod A (Fig. 88).



1.9.2 Synchronized PTO overhauling 735



89

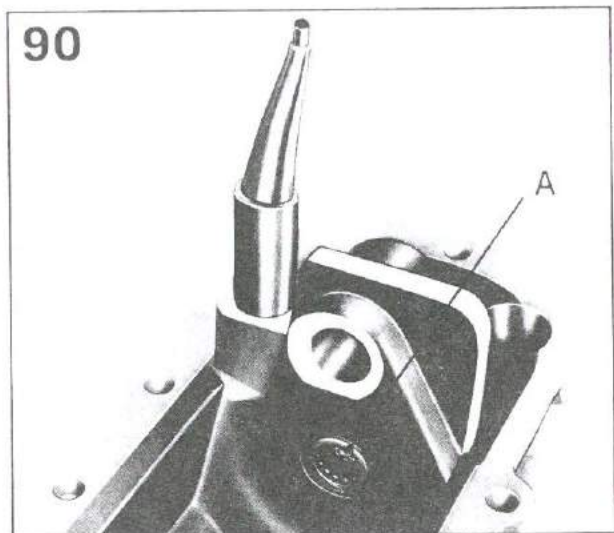
Make the following checks and replace any worm part (Fig. 53-89).

- Check the teeth on gear 590.48807.6. Inspect the condition of the brass liner and the coupling with pin 562.48810.2. It must not be too loose.
- Check the teeth of gear 522.48805.0.

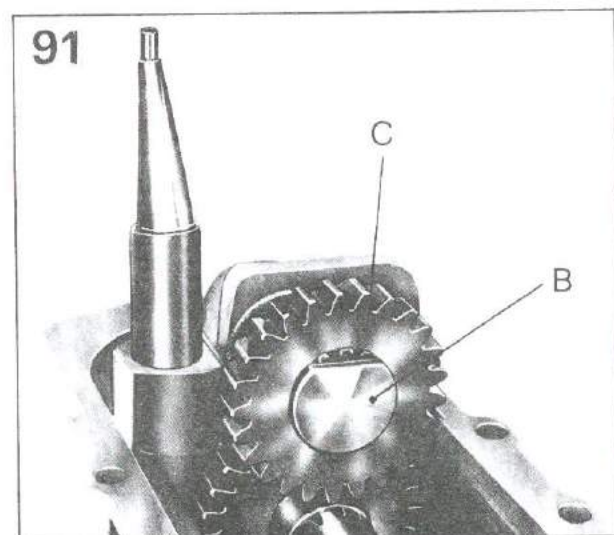
- Check the teeth of the gear obtained on screw 564.48057.1.
- If necessary, replace the worm screw and disassemble the final transmission (see 1.7.2).
- Check the condition roller bearings 373.11200.3 and 373.20140.4.

1.9.3 Synchronized PTO assembly 735

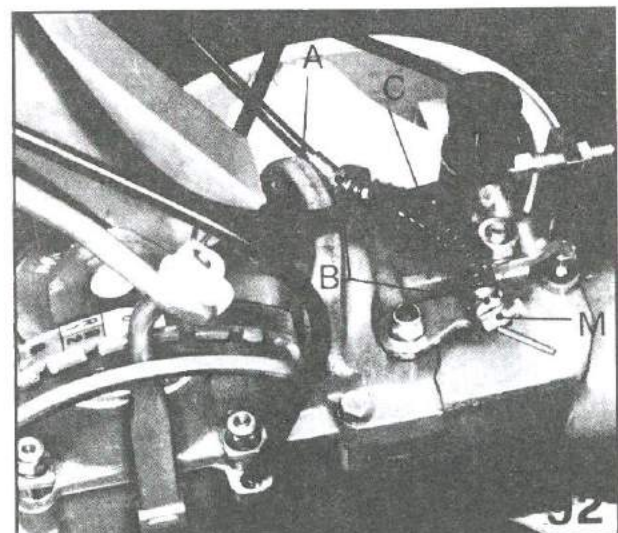
- Fit rod A, set a new o-ring, fit lever B in the position shown in the figure. Tighten nut D (Fig. 88).
- Fit the roller bearing A. Fill the bearing with Molykote (Fig. 90).
- Fit gear B and shaft A (Fig. 87).
- Fill with Molykote the second roller bearing. Fit the spacer ring, the bearing and circlip S (Fig. 86).
- Set on protection No. 8 a new oil seal and install it (fig. 85).



- Grease the brass gear with Molykote, fit gear C and pin B in the position shown in the figure (Fig. 91).
- Fit pin A (Fig. 84).
- Disengage the differential lock by setting the slider in the position shown in the figure (Fig. 70).
- Set a new gasket and fit the full PTO cover D. Fit detent C in the position shown in the figure. Fit the gearbox selector S, by inserting, if necessary, the spacer T. Tighten nuts A and screws B at the torque of 18 Ft.lbs. (Fig. 83).
- Fit the handlebar.

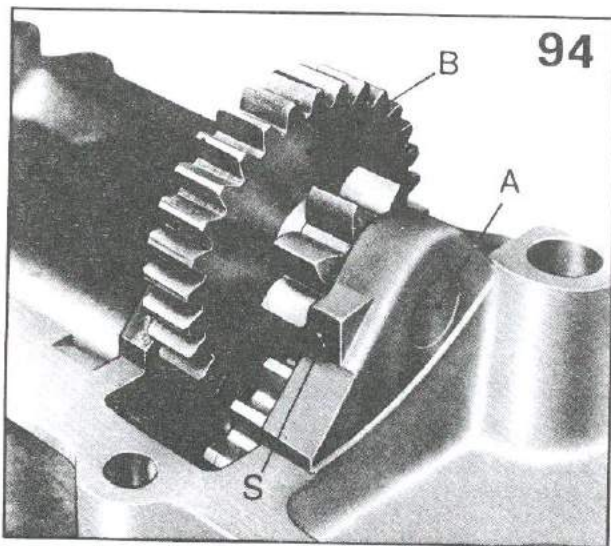
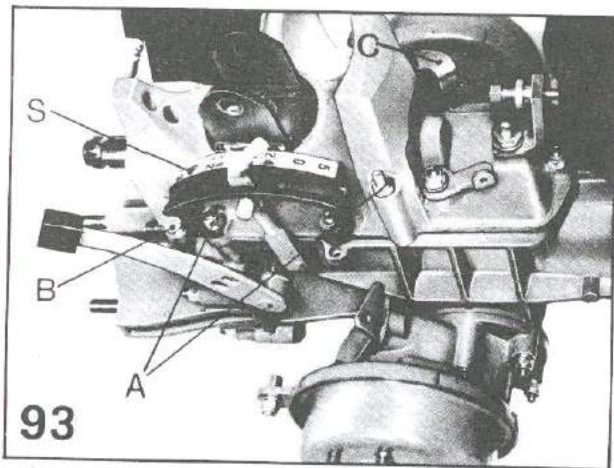


- Fit the control cable A of the differential lock by installing bushes B and spring C. Tighten clamp M (Fig. 92).

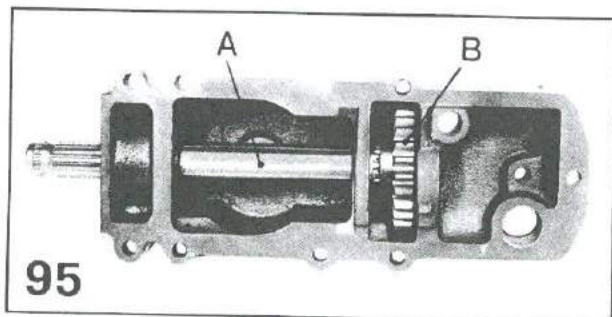


1.9.5 Synchronized PTO removal 745

- Detach from the walking tractor all controls before disconnecting it from the trailer.
- Unscrew nuts A and screws B. Remove the PTO cover from the gearbox (Fig. 93).
- Unscrew nut D, remove lever B and extract rod A (fig. 88).

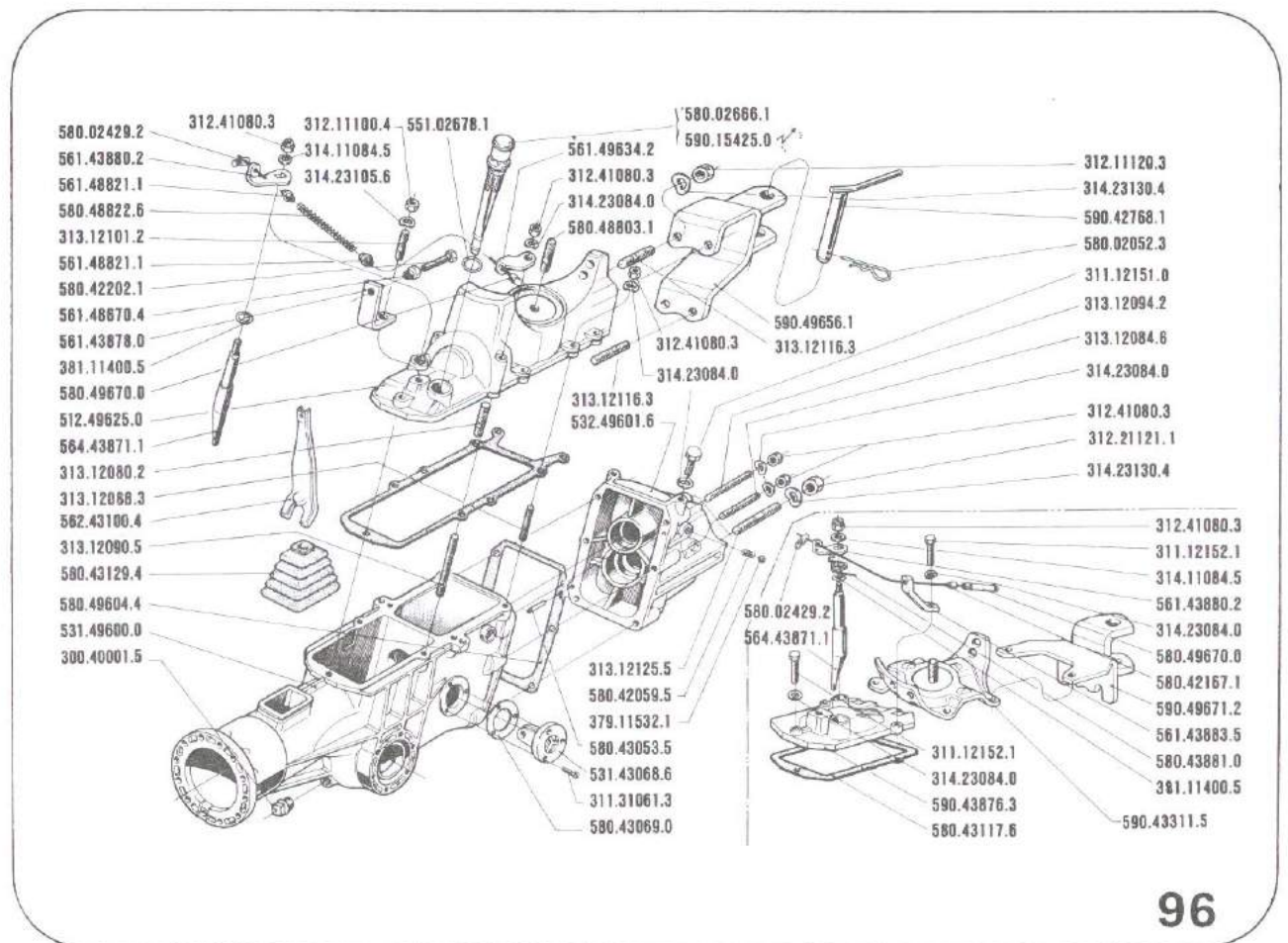


- Remove pins S and A recovering gear B (fig. 94).
- Remove oil seal P (fig. 85).
- Remove circlip S (fig. 86).



- Remove shaft A recovering gear B (fig. 95).

1.9.6 Synchronized PTO overhauling 745

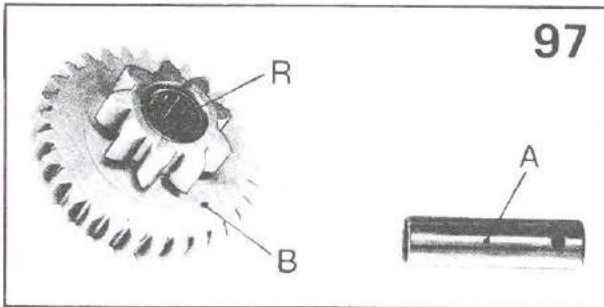


Make the following checks and replace any worn part (fig. 43, 89, 96):

- Check the teeth on gear 524.49631.3.
- Check the teeth and broaching of gear 524.49627.6.
- Check the teeth of the gear obtained on worm

screw 564.49605.2. If necessary, replace the worm screw and remove the final transmission (see 1.8.1).

- Check the condition of bearings 373.20141.5 - 373.31201.5 and 373.31251.6.



1.9.7 Synchronized PTO assembly 745

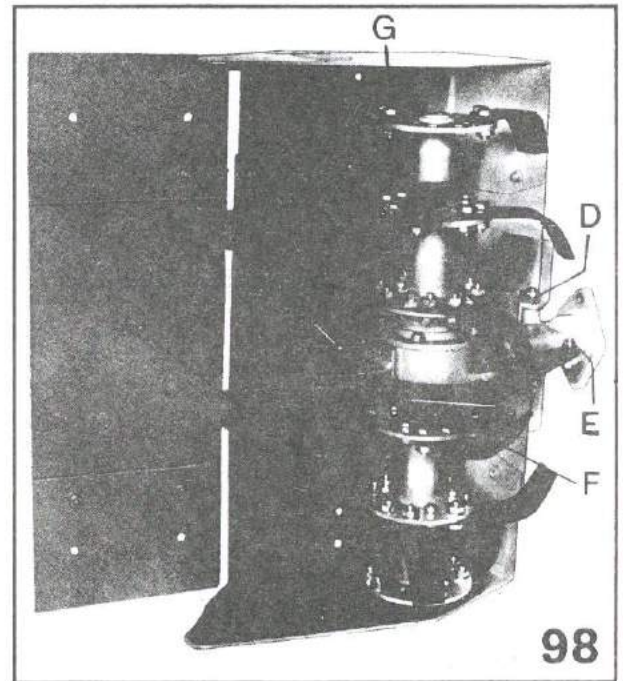
- Fit rod A, set a new O-ring, fit lever B in the position shown in the figure. Tighten nut D (Fig. 88).
- Fit the roller bearing A; fill the bearing with Molykote (Fig. 90).
- Fit gear B and shaft A (fig. 95).
- Fill with Molykote the second roller bearing. Fit the spacer ring, the bearing and circlip S (Fig. 86).
- Set on protection No. 10 a new oil seal and install it (fig. 85).
- Fill with Molykote the roller bearings R and set them into gear B. Grease pin A (fig. 97).
- Set gear B in the PTO cover and insert pin A. The hole must be well orientated for the pin (fig. 94).
- Install pin S (fig. 94).
- Set lever A enabling rod B to be in the correct position as shown in fig. 82.
- Set a new gasket G and fit the full PTO cover C (fig. 82).
- Fit detent C as shown in figure, the gearbox selector S and tighten nuts A and screws B at the torque of 18 Ft.lbs. (Fig. 93).
- Connect the trailer to the walking tractor and all controls.

2. IMPLEMENTS

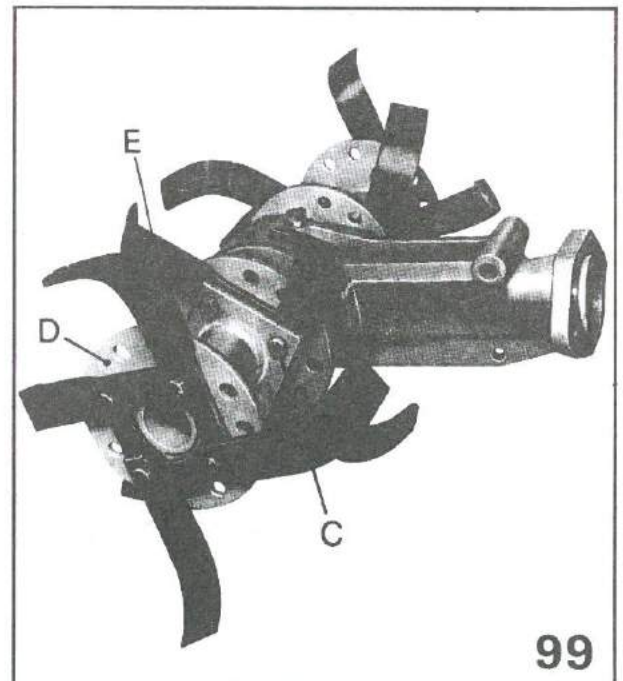
2.1 Rotary hoe 21'' - 26'' - 30''

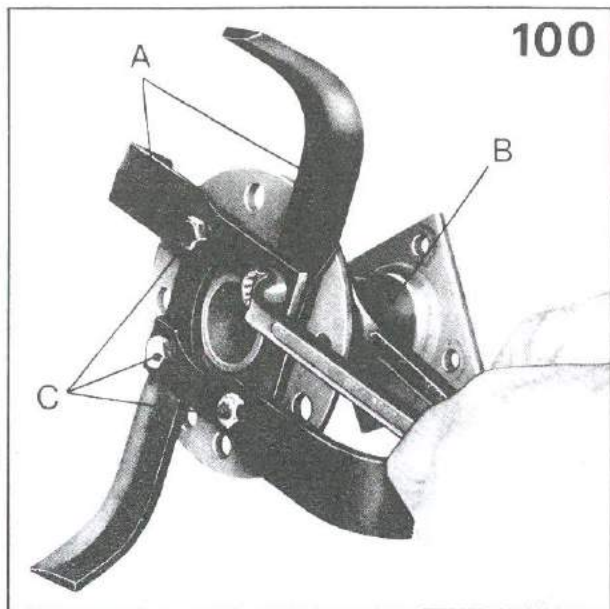
2.1.1 Rotary hoe removal 21'' - 26'' - 30''

- Remove split pins C and flap (fig. 98).
- Unscrew bolts A, B, D, E and remove knife F and cover G (Fig. 98).

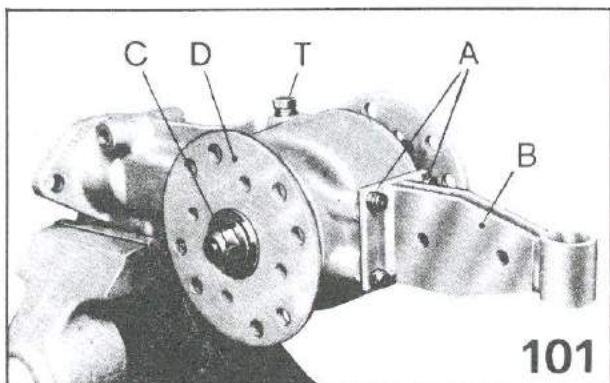


- Remove the four bolts C, remove the tine assembly D and knives E (Fig. 99).

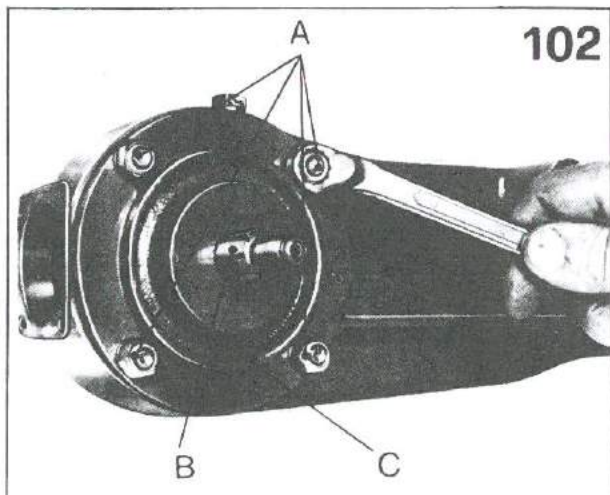




- Separate knives A from spacers B by removing bolts C (fig. 100).

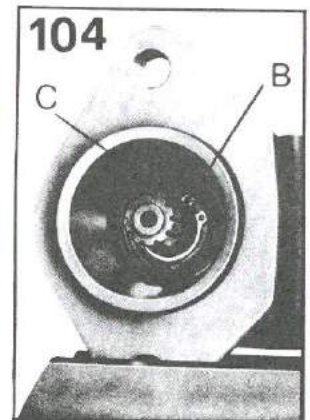
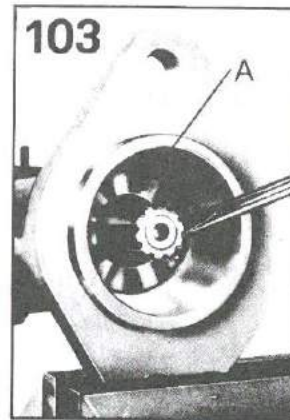


- Remove plug T and drain oil, unscrew nuts A and remove cover B.
- Unscrew nuts C and remove flanges D by lightly hammering to free them from the cone (fig. 101).

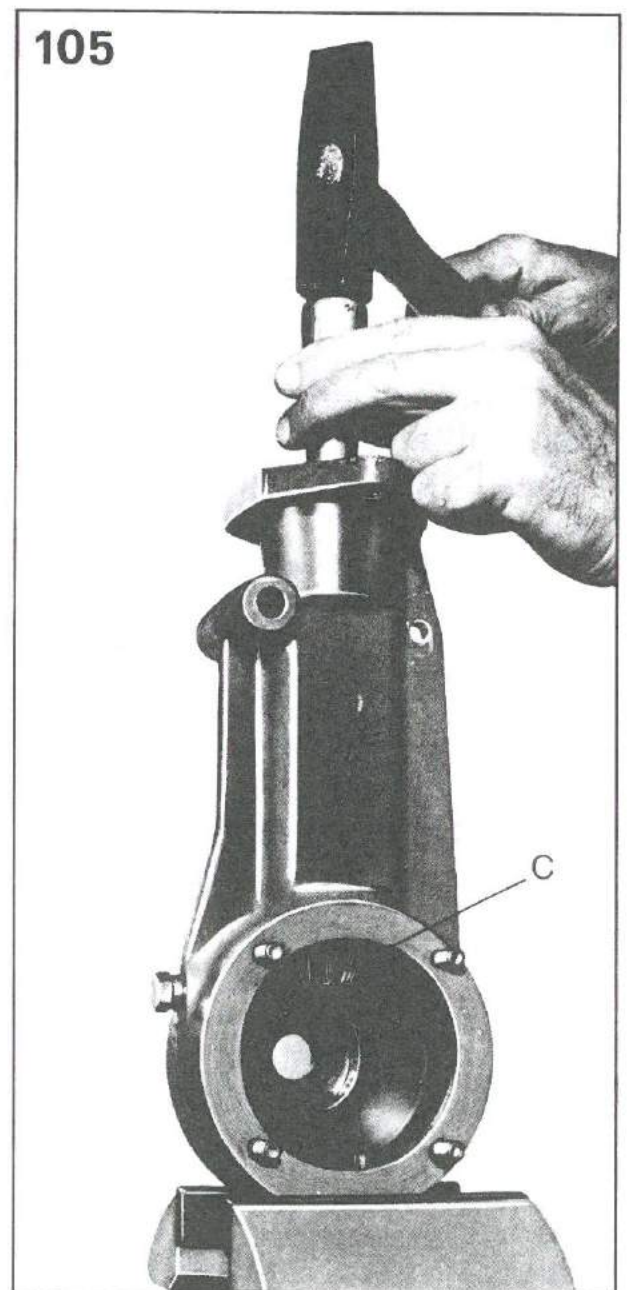


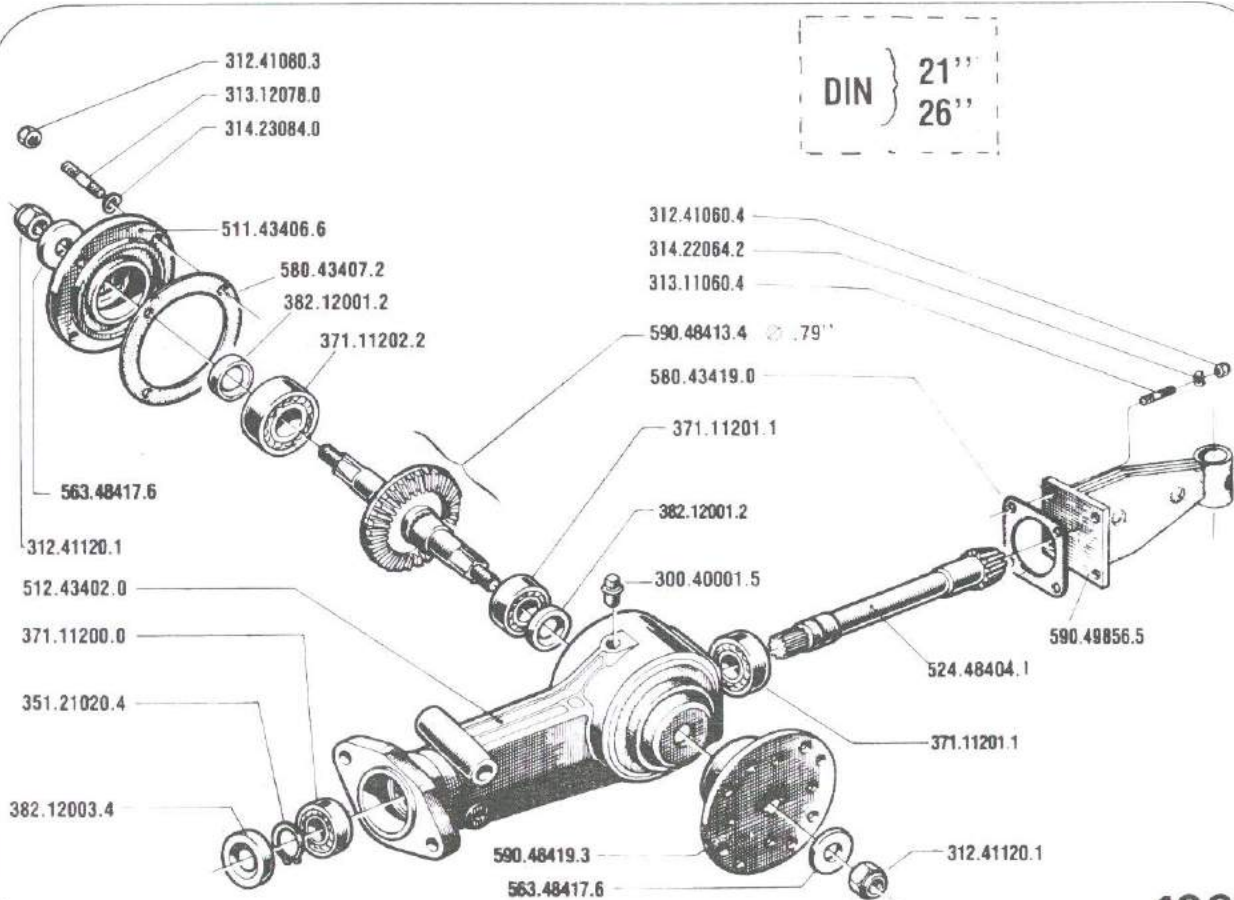
- Unscrew nuts A, remove shaft B together with cover C (fig. 102).

- Remove oil seal A (Fig. 103).
- Remove circlip B (Fig. 104).

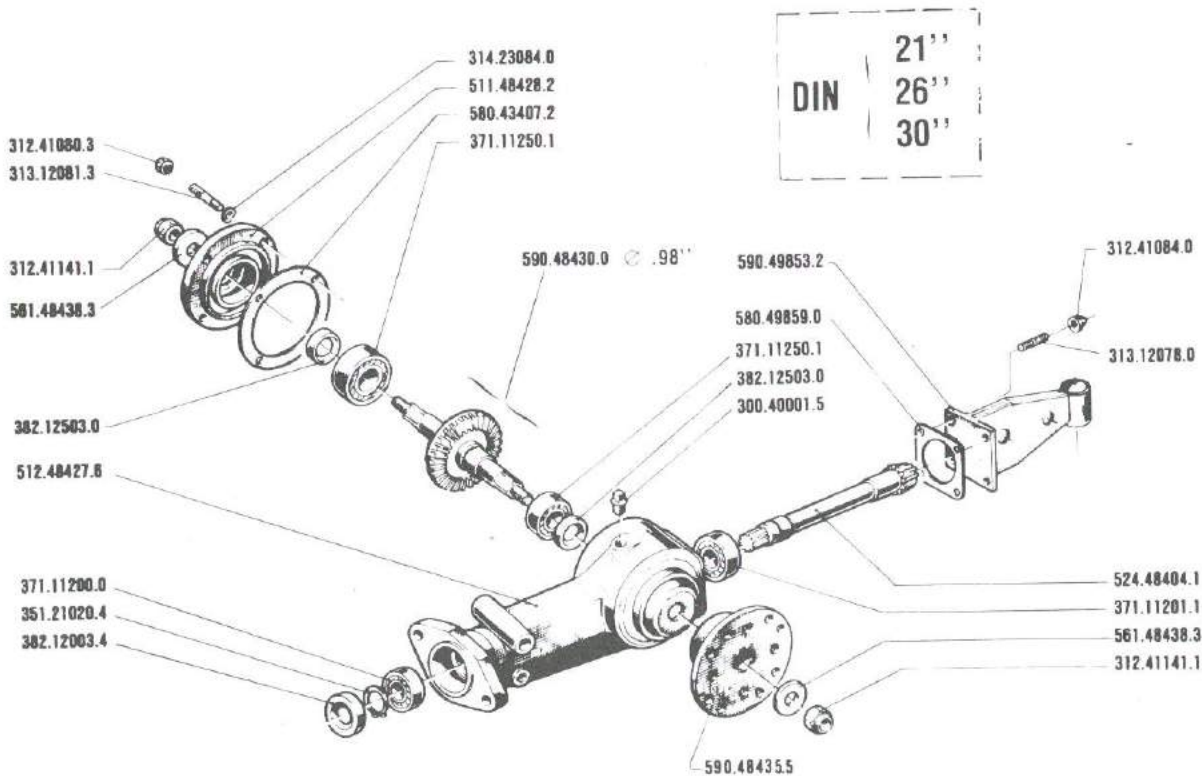


- Remove shaft C (Fig. 105).

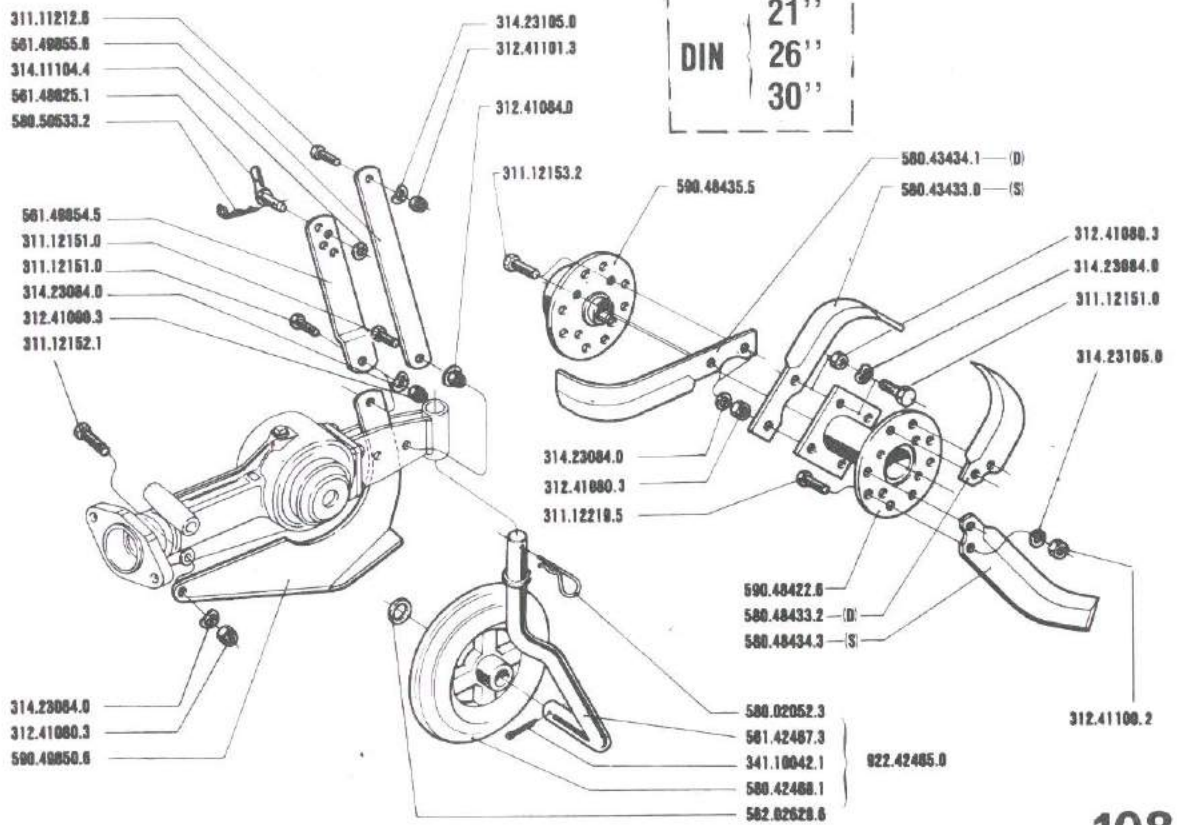




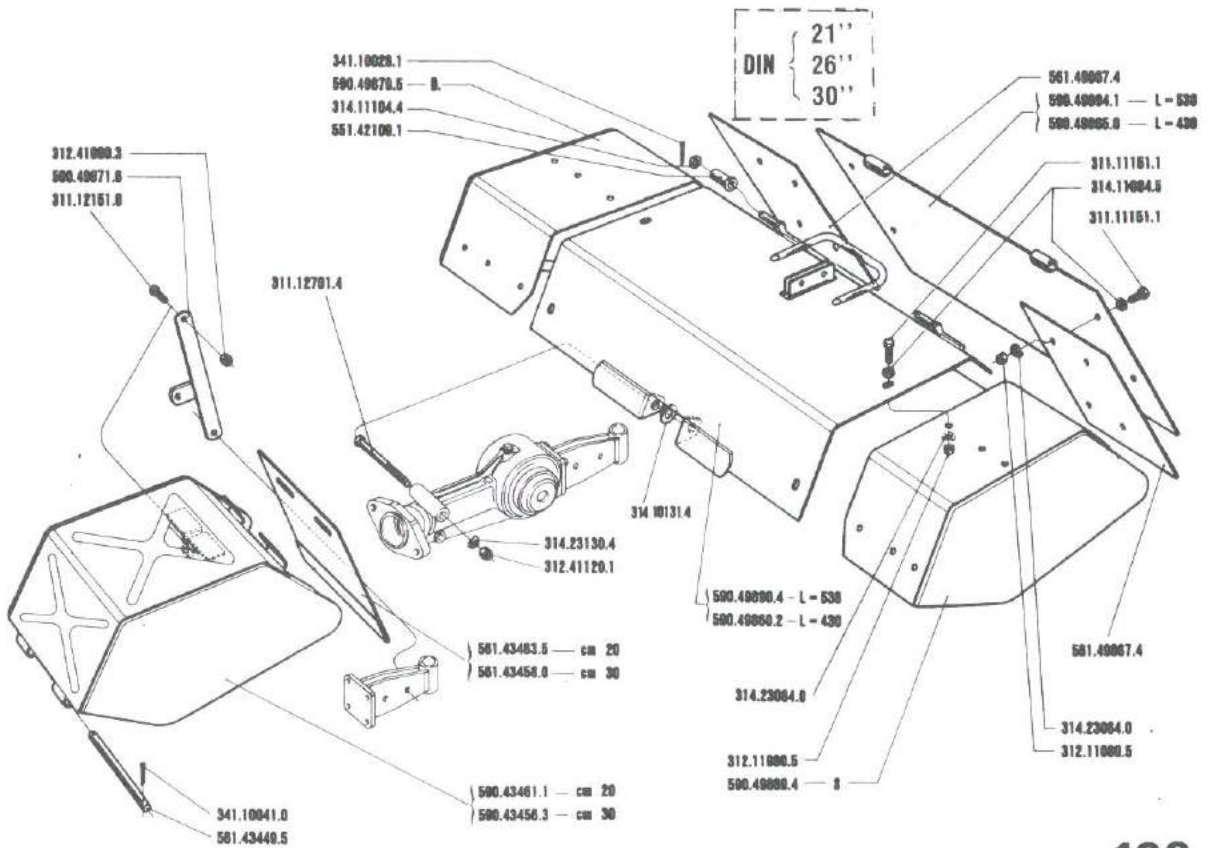
106



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108

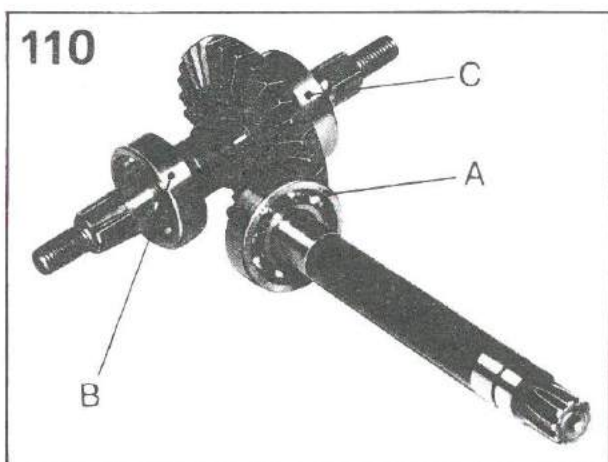


109

2.1.2 Rotary hoe overhauling 21" - 26" - 30"

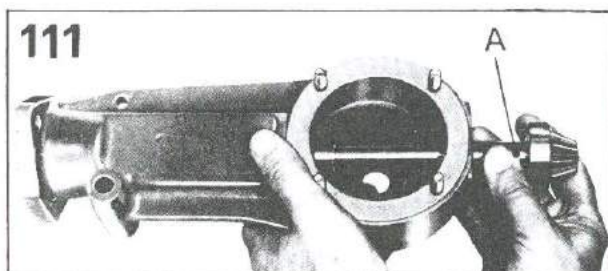
Make the following checks and replace any worn parts, (Fig. 106-107-108-109).

- Check the wear of the rotary hoe knives and of the central knife.
- Check that the surfaces of spacers 590.48422.6 are straight and parallel.
- Check the spline and teeth of pinion 524.48404.1.
- Check the teeth on shaft 590.48413.4 (590.48430.0 fr shaft $\varnothing$.98").
- Check the condition of bearings 371.11200.0, 371.11201.1, 371.11202.2 (371.11250.1).

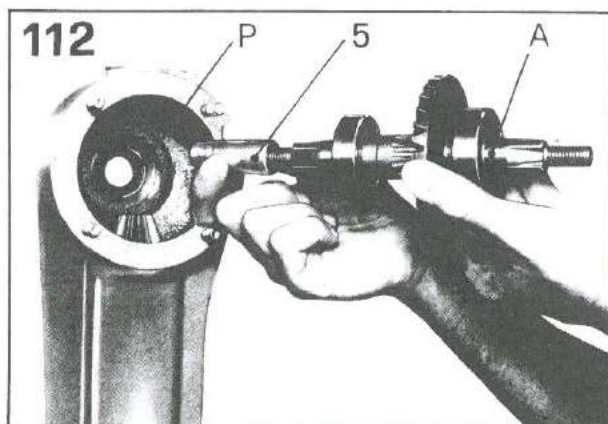


2.1.3 Rotary hoe assembly 21" - 26" - 30"

- Fit bearings A, B and C (Fig. 110).

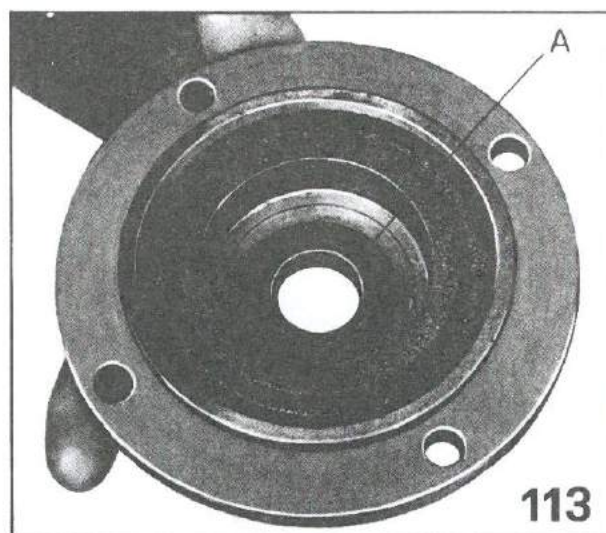


- Fit shaft A (Fig. 111)
- Install a detent under the pinion and fit bearing C (Fig. 104).
- Fit circlip B (Fig. 104).
- Put in a new oil seal A, using the seal driving tool No. 3 (Fig. 103).

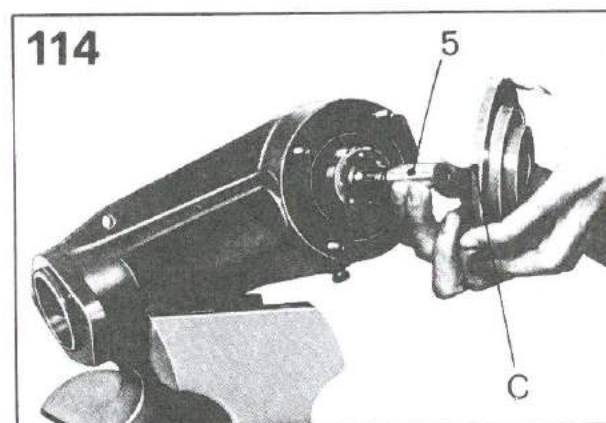


- Put in a new oil seal P, using the seal driving tool No. 5 (No. 9 for shaft $\varnothing$.98") and fit shaft A (Fig. 112).

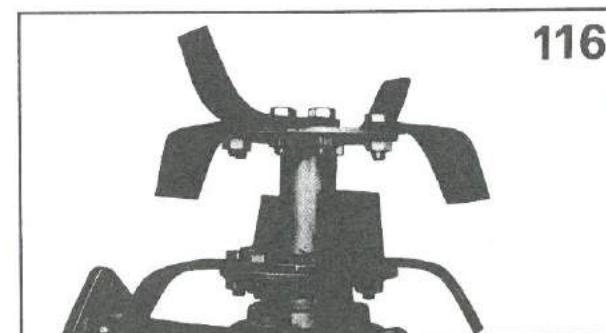
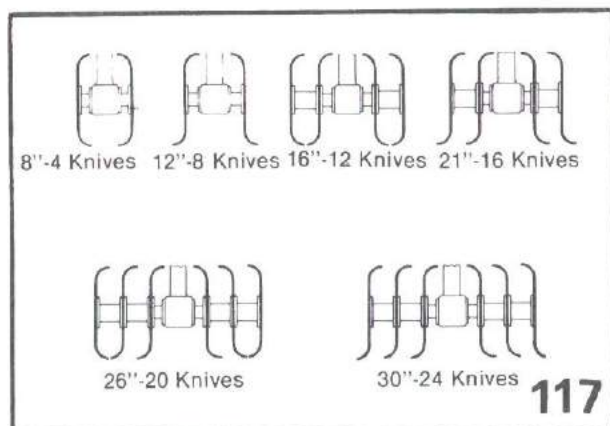
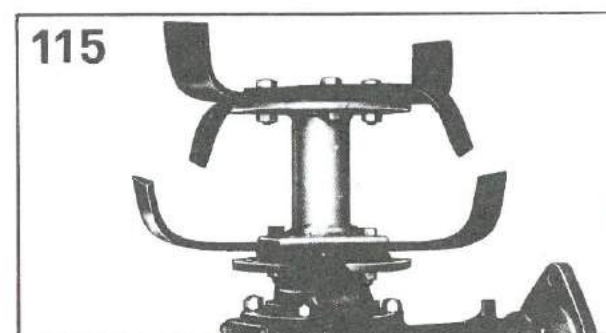
- Fit a new oil seal A (fig. 113).



- Set a new gasket, use driver No. 5 (driver No. 9 for gear shaft $\varnothing .98''$) and fit cover C (fig. 114).
- Tighten nuts A at the torque of 18 Ft.lbs. (Fig. 102).
- Set a new gasket and fit cover B. Tighten nuts A at the torque of 18 Ft.lbs. for nuts M8 (Fig. 101).
- Fill rotary hoe with oil through plug T (Fig. 101) - (See 0.2.2 fuel and oil specifications).
- Fit flanges D and lock them by tightening nuts C at the torque of 100 Ft.lbs.(fig. 101). (63 Ft.lbs. for nuts M 12) (Fig. 101).



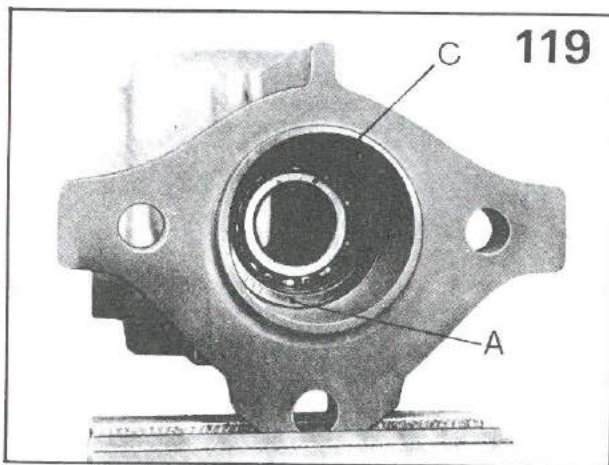
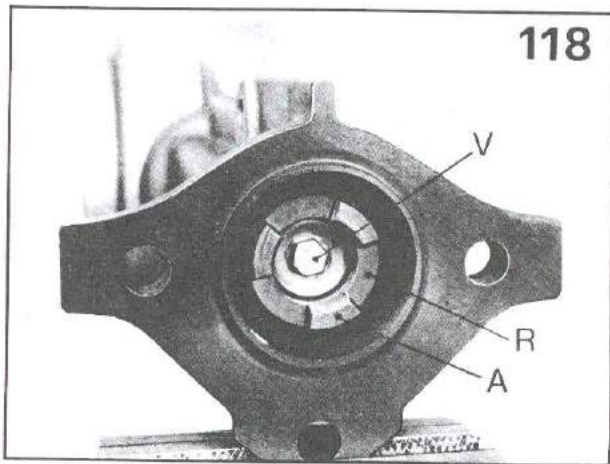
- Fit the knives and spacers according to figures (fig. 117). Tighten the fastening bolts at the torque of 18 Ft.lbs. for the standard knives and of 37 Ft.lbs. for the wide knives (fig. 115 standard knives - fig. 116 wide knives).



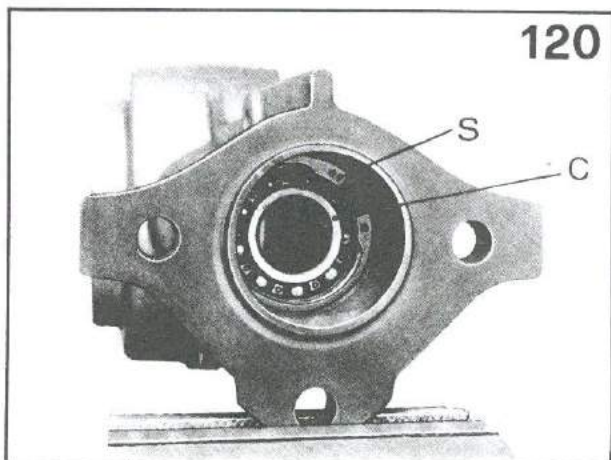
2.2 Rotary hoe 33''-38''

2.2.1 Rotary hoe removal 33''-38''

- Make the same operations described for the removal of rotary hoes 21''-26''-30'' (see 2.1.1) until the removal of shaft B (fig. 102).
- Unscrew screw V with washer, remove coupling A (fig. 118).
- Remove shaft C (fig. 105).

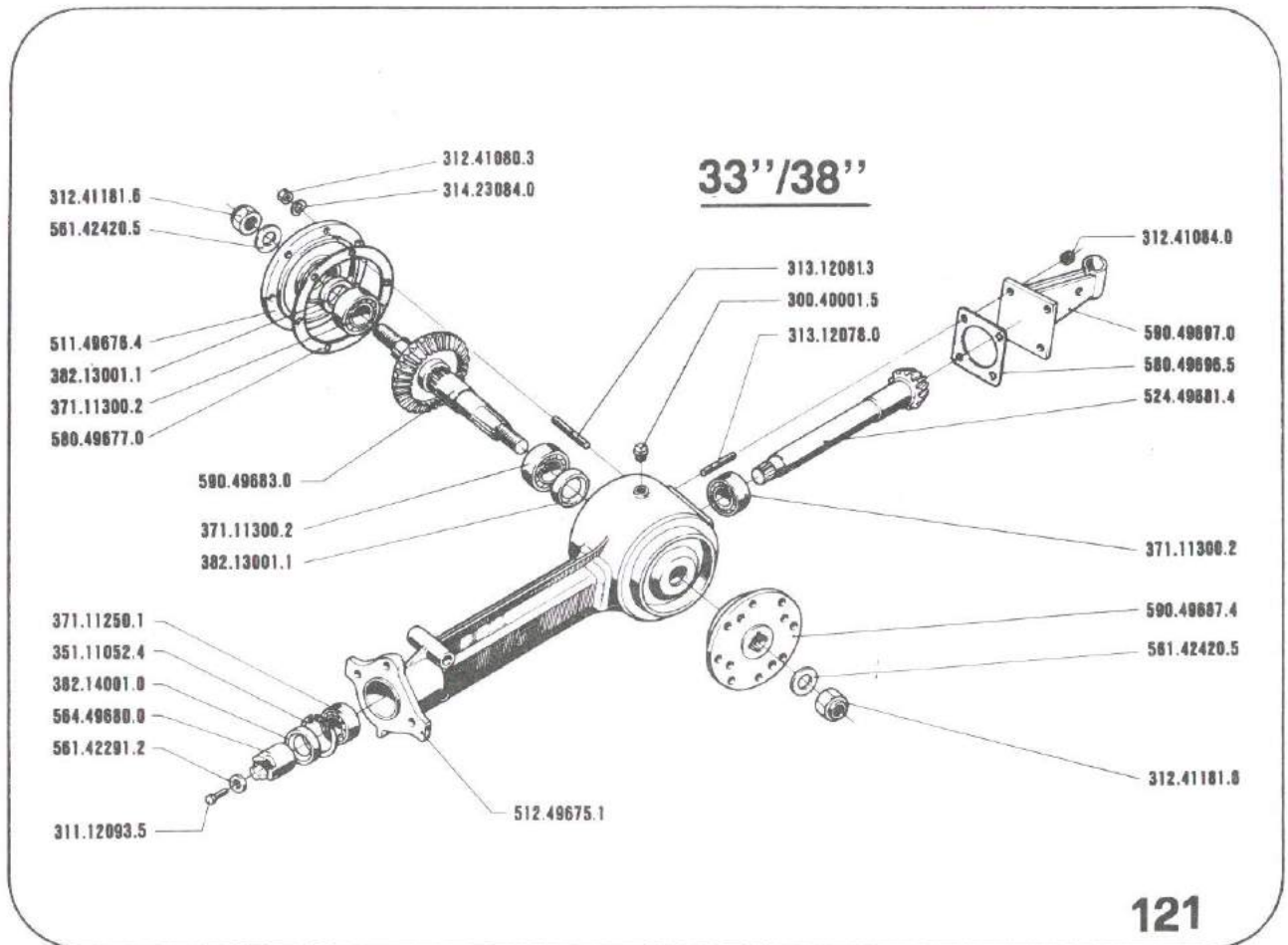


- Remove oil seal A (fig. 119).



- Remove circlip S (fig. 120).

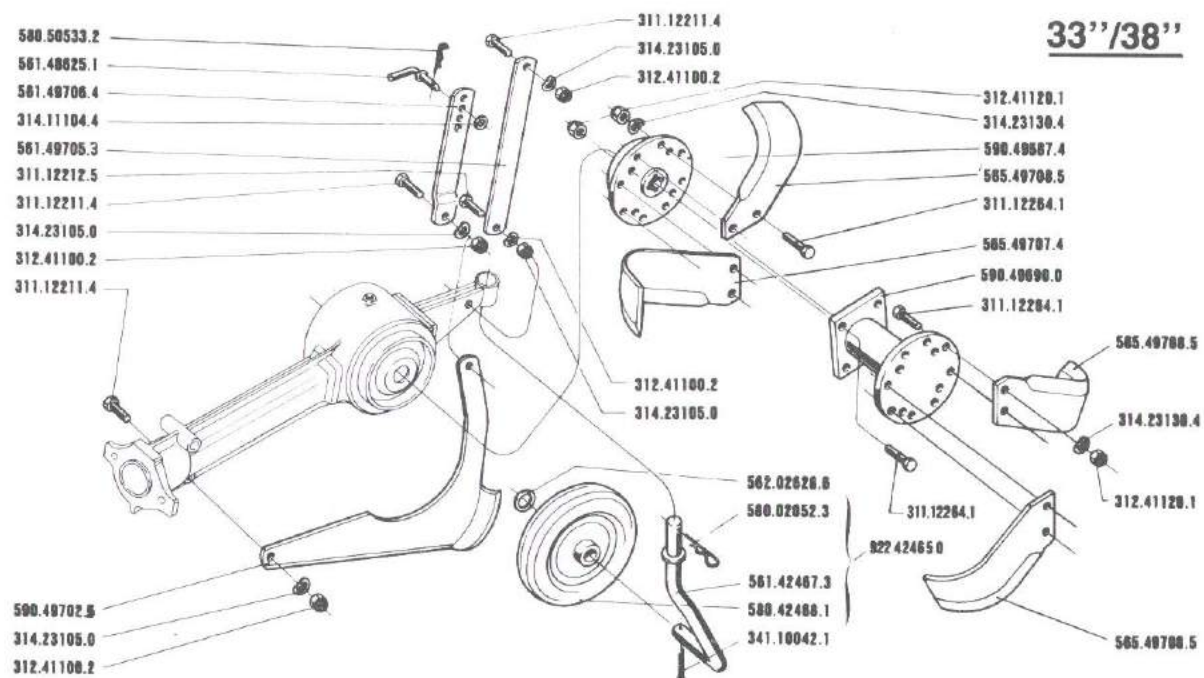
2.2.2 Rotary hoe overhaulig 33"-38"



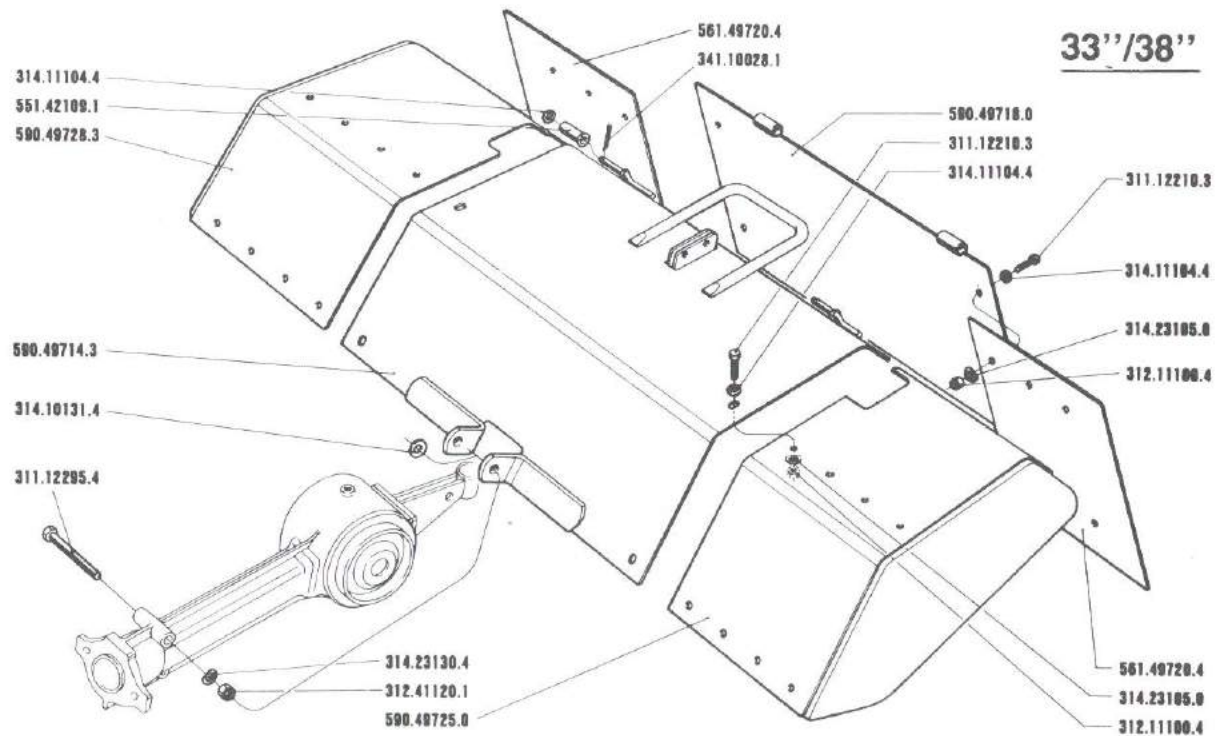
Make following checks and replace any worn part (fig. 121-122-123):

- Check the wear of the rotary hoe knives and of the central knife.
- Make sure that the surfaces of spacers 590.49690.0 are straight and parallel.

- Check the spline on shaft 590.49683.0.
- Check the spline and teeth of pinion 524.49681.4.
- Check the condition of bearings 371.11300.2 and 371.11250.1.



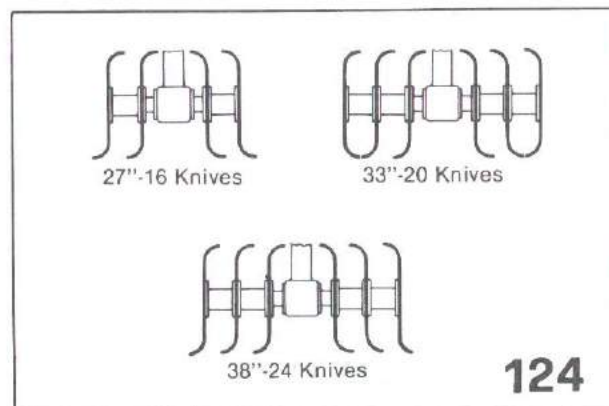
122



123

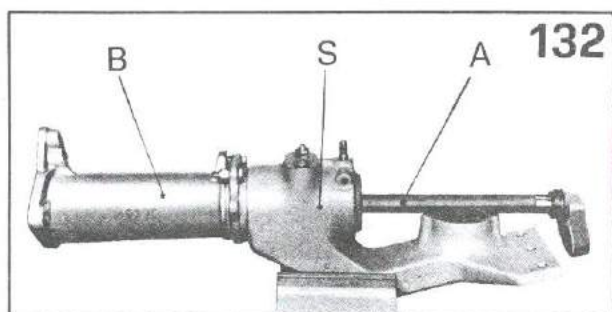
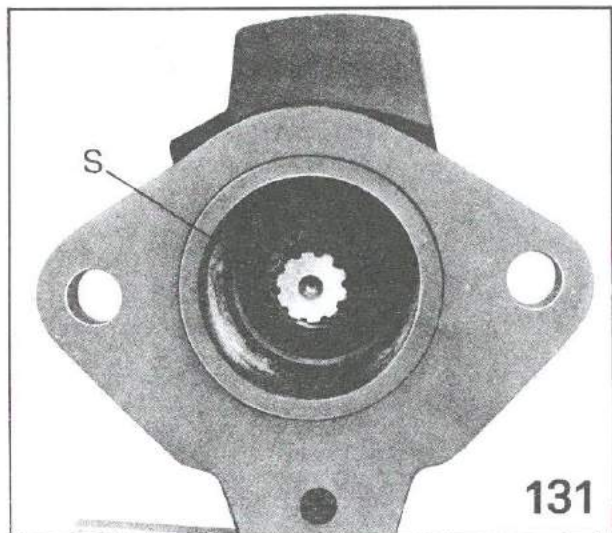
2.2.3 Rotary hoes assembly 33"-38"

- Fit bearings A-B-C (fig. 110).
- Fit shaft A (fig. 111).
- Install a detent under the pinion and fit bearing C (fig. 120).
- Fit circlip S (fig. 120).
- Fit a new oil seal A (fig. 119).
- Put sylicon glue on the inside ring of bearing c. (Fig. 119).
- Fit coupling A, set washer R and tighten screw V at the torque of 8 Ft.lbs. (fig. 118).
- Fit a new oil seal P using driver No. 11 (replaces No. 5) and fit shaft A (fig. 112).
- Fit a new oil seal A (fig. 113).
- Install a new gasket using driver No. 11 (replaces No. 5) and fit cover C (fig. 114).
- Thigten nuts A at the torque of 18 Ft.lbs. (fig. 102).
- Install a new gasket and fit cover B.
- Tighten nuts A at the torque of 18 Ft.lbs. (fig. 101).
- Fill the rotary hoe with oil through cap T (see 0.2.2 Fuel and oil specifications) (fig. 101).
- Fit flanges D and tighten nuts C at the torque of 202 Ft.lbs. (fig. 101).
- Fit the knives and spacers as shown in figure 124.
- Tighten the fastening bolts at the torque of 63 Ft.lbs.

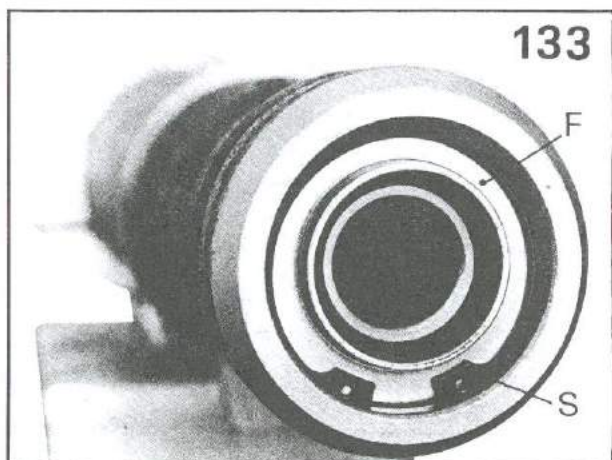


Long driving unit

- Remove circlip S (fig. 131).

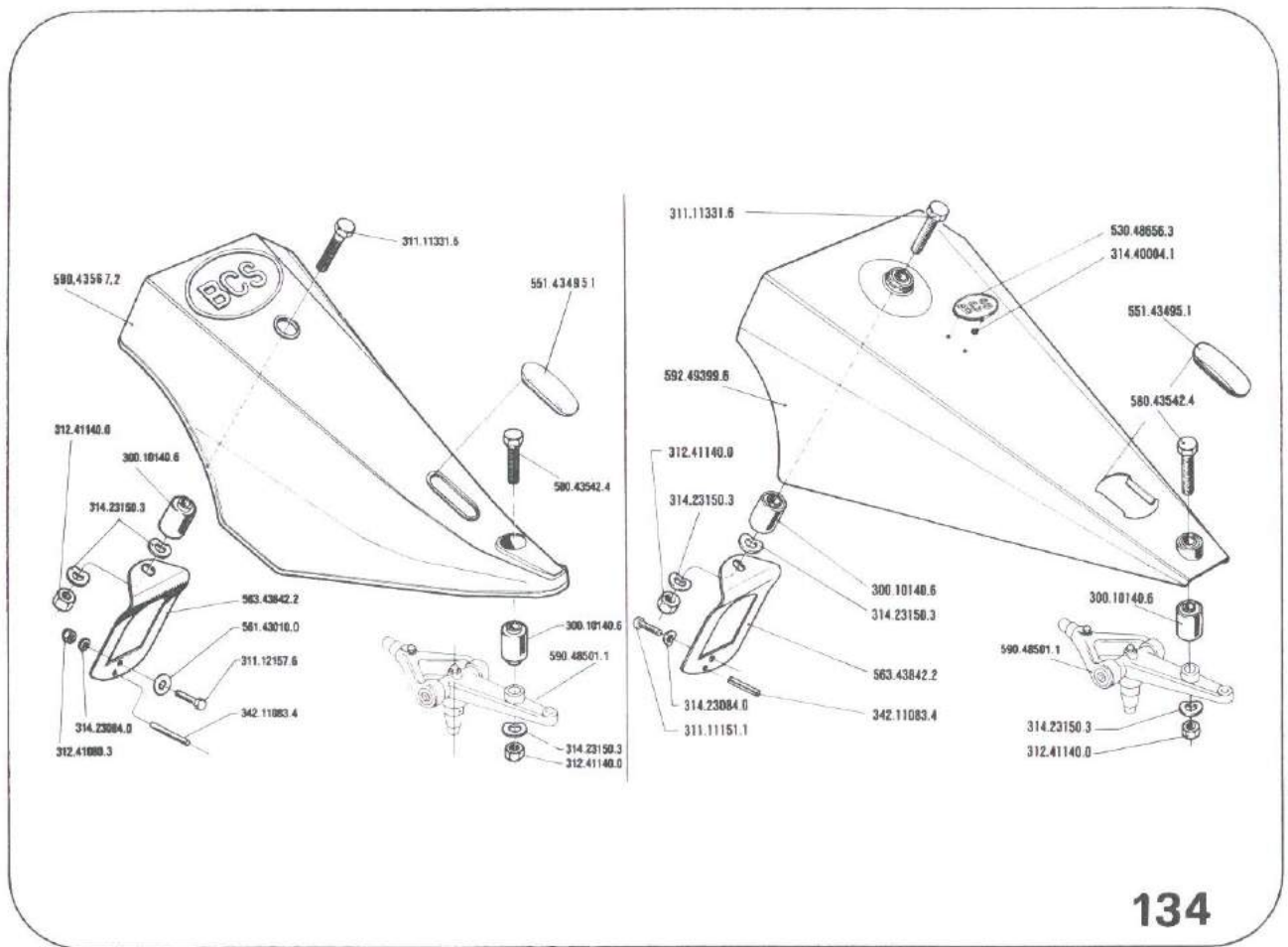


- Remove the eccentric shaft A and bushing B from support S (fig. 132).



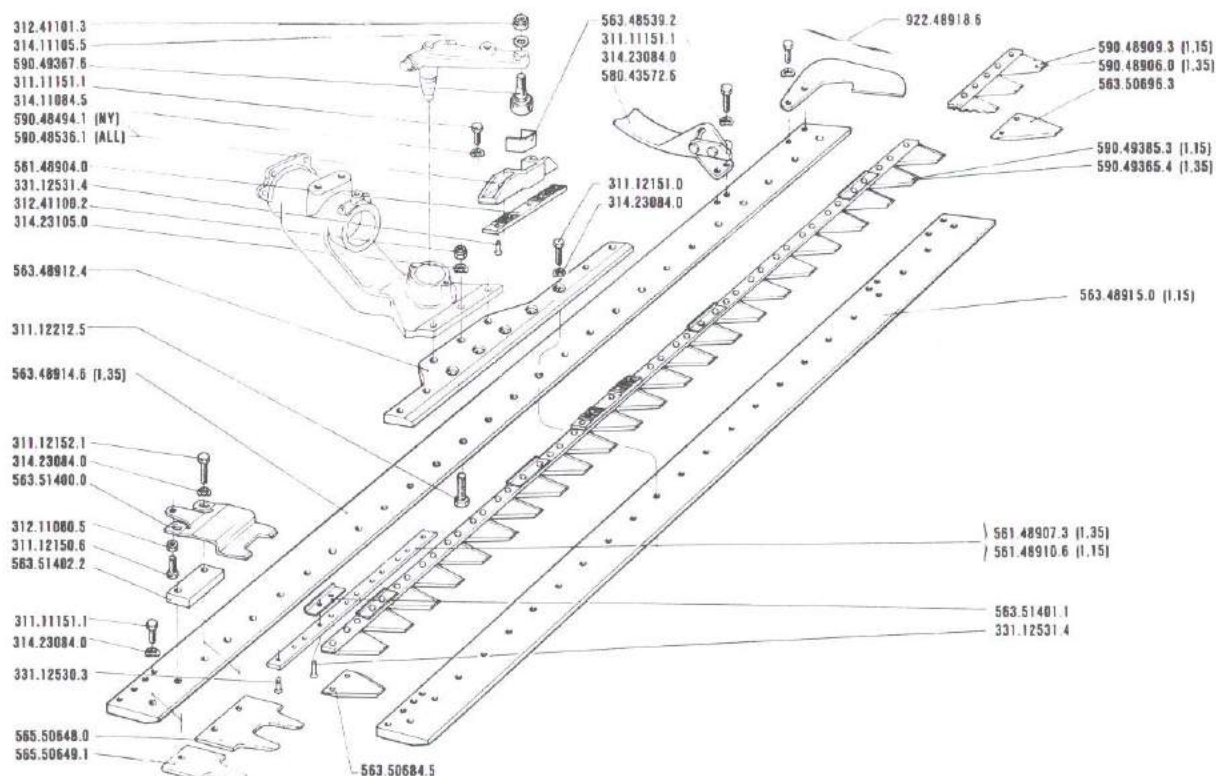
- Remove circlip S and bottom F (fig. 133).

2.3.2 Blade control overhauling



Make following checks and replace any worn part (fig. 134-135-136-137):

- Check that the oscillating protectors 590.43567.2 -592.49399.1 are not warped or cracked.
- Check the condition of isolators 300.10140. To fit and remove them use the tool No. 6.
- Check the condition of the pins with bearings 590.48506.6 and 590.49367.6 to be fitted with 12° SUPPORT (12° is punched on support).
- Check that the rotation of fork 525.48510.0 and crank 524.48502.1 are right. If necessary replace the full crank 590.48501.1.
- Check the condition of bearings 371.11150.6 and 371.12253.3.
- Check the splines on shafts 524.48512.4 and 524.49392.2.
- Check the condition of bearings 371.12200.6.
- Check that bushes 512.48501.1 or 512.49390.3 are not worn at the point of the slot for screw 311.00803.6 or for pin 342.13066.6.
- Check the wearing of the head of screw 311.00803.6 or pin 342.13006.6.
- Check greasers 300.00001.3.
- Check the condition of bearings 371.11202.2 with bottoms 571.40533.2 or 561.49389.2.



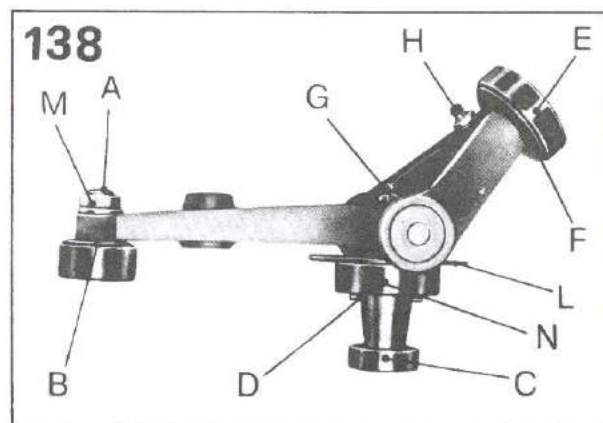
137

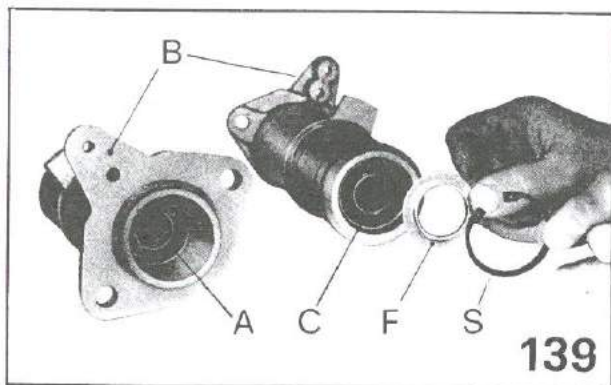
2.3.3 Blade control assembly

- Fit on fork-crank assembly pin A with bottom B, or pin A complete with bottom (for support 12° - Fig. 138).
- Tighten nut M at the torque of 37 Ft.lbs. (fig. 138).
- Fit bearing E with bottom F (fig. 138).
- Fit greasers G and H (fig. 138).

Short driving unit.

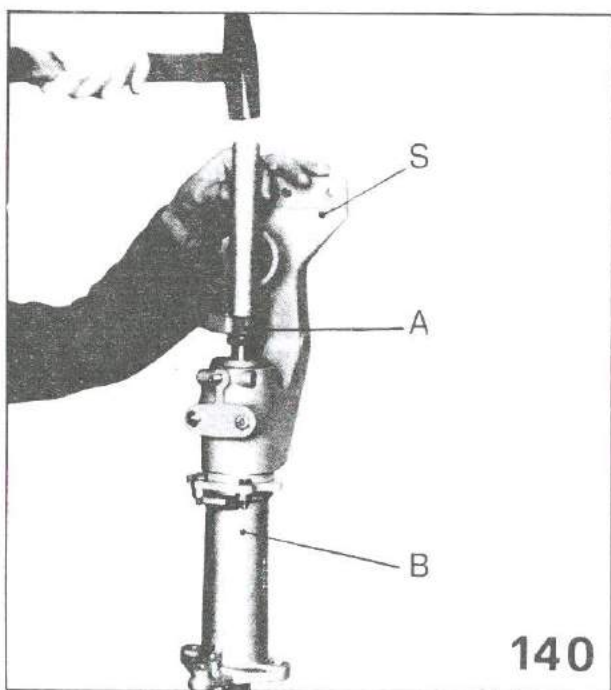
- Assemble bush B and support S after greasing the centering surface (fig. 130).
- Fit eccentric shaft A, bearing C, spacer D and bearing E (fig. 130).
- Fit circlips A and B (fig. 129).





Long driving unit

- Fit bearing A into bush B (fig. 139).
- Fit bearing C, bottom F and circlip S into bush B (fig. 139).

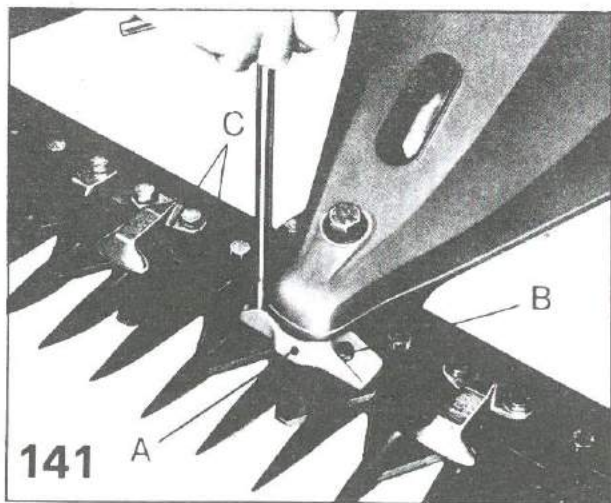


- Introduce, bush B into support S and fit the eccentric shaft A putting a detent on the inside bearing ring (fig. 140).
- Set the eccentric shaft as shown in figure and bring it back as much as possible (fig. 127).
- Fit the fork-crank assembly. Tighten screws V at the torque of 98 Ft.lbs. (fig. 127).
- Bring forward the eccentric shaft until bearing C is positioned, fit pin S or dowel G by adjusting it in order that the bush in the support can freely rotate avoiding its coming out (fig. 127).
- Fit the cutter bar. Tighten bolts A at the torque of 37 Ft.lbs. (fig. 126).
- Fit protection D, bolt C and nut B (fig. 126).
- Grease the blade control.
- Fit the oscillating protection A. Tighten bolts B at the torque of 100 Ft.lbs. (fig. 125).

2.3.4 Cutter bar adjustment

Blade sharpening

- Remove the blade from cutter bar by removing the blade coupling A fastened with screws B (fig. 141).
- Check that rivets C are well fastened (fig. 141).
- Sharpen the blade with an abrasive stone in the upper part of tooth.
- Fit again and tighten well screws B (fig. 141).

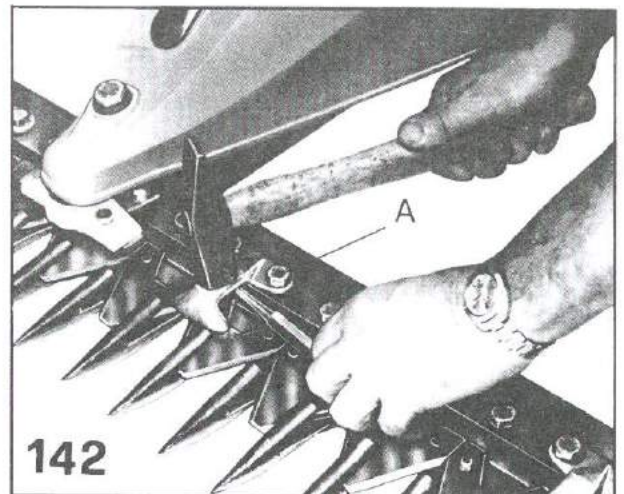


Blade holder adjustment

- The blade holders must not be so tight that they bind the blade but there must not be an excessive clearance.
- Replace the blade holders if too worn.
- Adjustment must be made as follows:

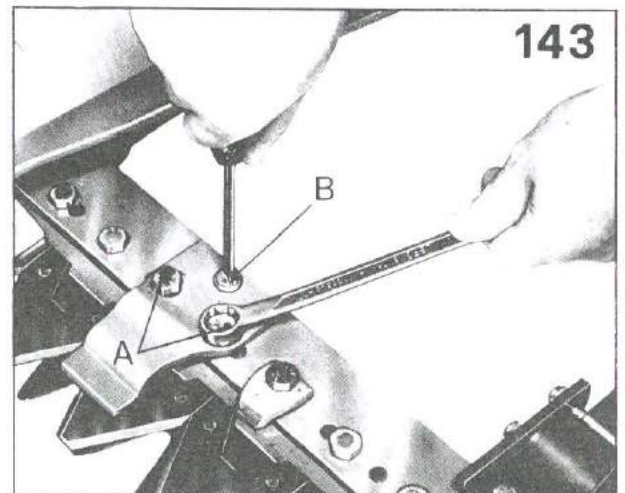
Cutter bar with low or middle cut fingers

- Loosen the fastening screws A (fig. 142).
- Put a shim under the blade holder and bend it as much as necessary (fig. 142).
- Retighten screws A (fig. 142).



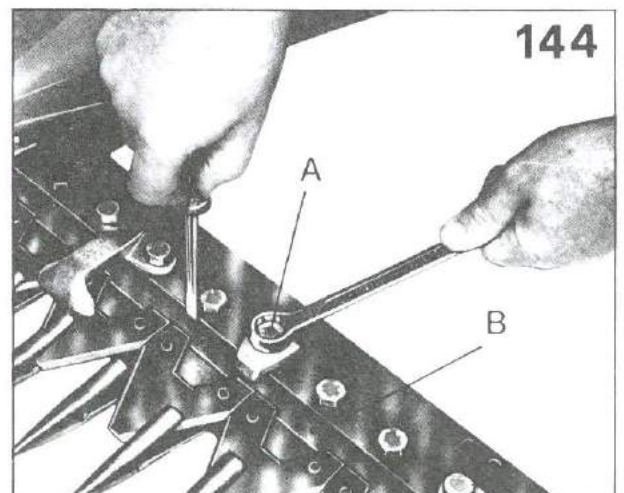
Cutter bar with Mulching fingers

- Loosen screws A (fig. 143).
- Adjust the pressure screws B (fig. 143).
- Retighten screws A (fig. 143).



Adjustment of the wear strip

- Loosen the strip holder screws A (fig. 144).
- Adjust the blade clearance by moving strip B forward (fig. 144).



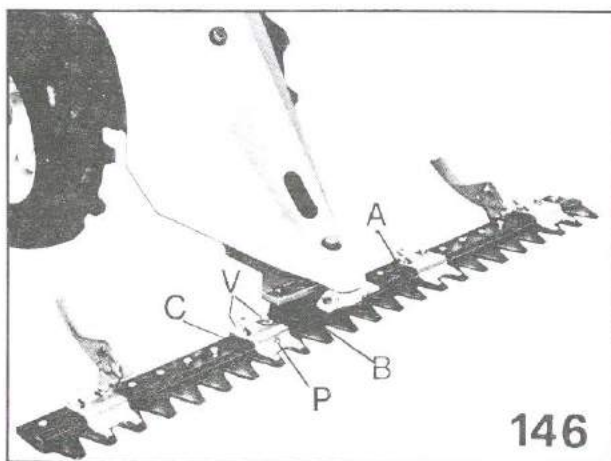
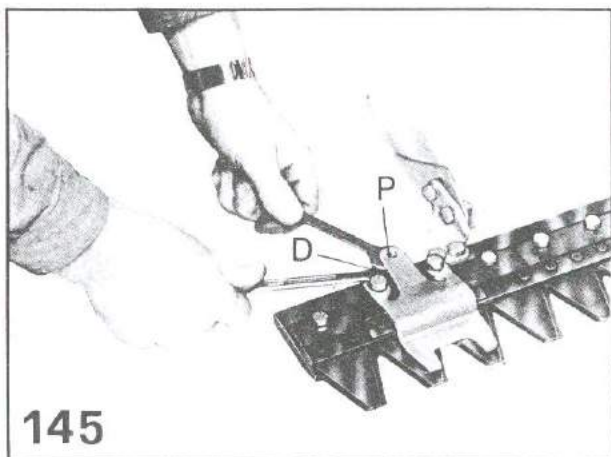
Europa Cutter bar

Blade holder adjustment

- Loosen lock nut D, adjust screw P so that the blade sections lean on teeth without clearance. Do not tighten excessively pressure screw P to prevent blade from locking. Lock again lock nut D (fig. 145).

Blade play adjustment.

- Check the rear play for blade A, cutter bar coupling B and blocks C. When play is excessive, loosen screws B which lock the blade holders P. Bring the blade holders P back, tighten screws V and let the correct play (fig. 146).

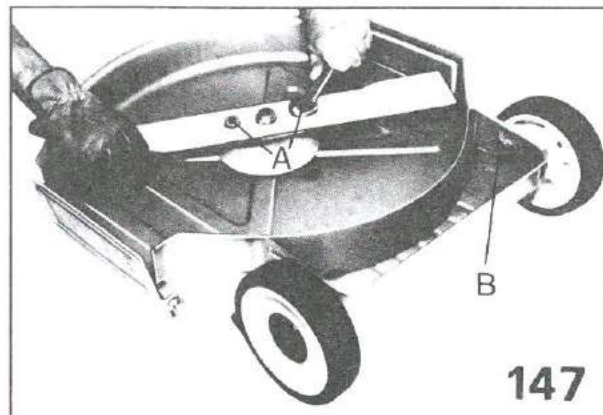


2.4 Lawn mower

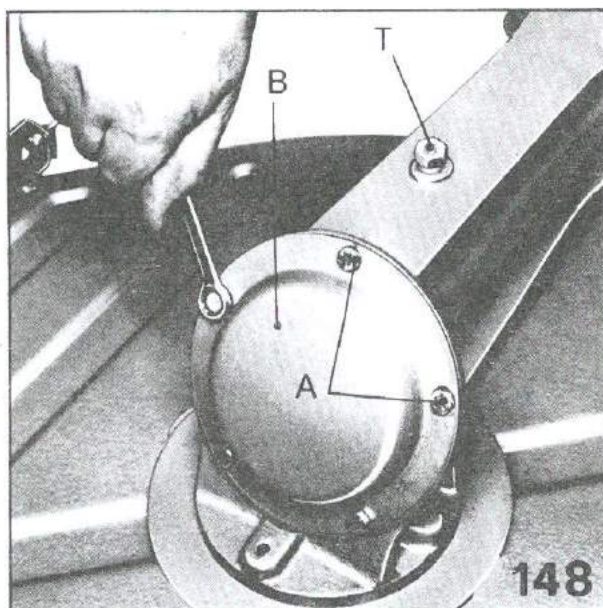
2.4.1 Lawn mower removal

- Remove the wheels by taking off bolts B (Fig. 147).
- Remove the blade by taking off screws A (Fig. 147).

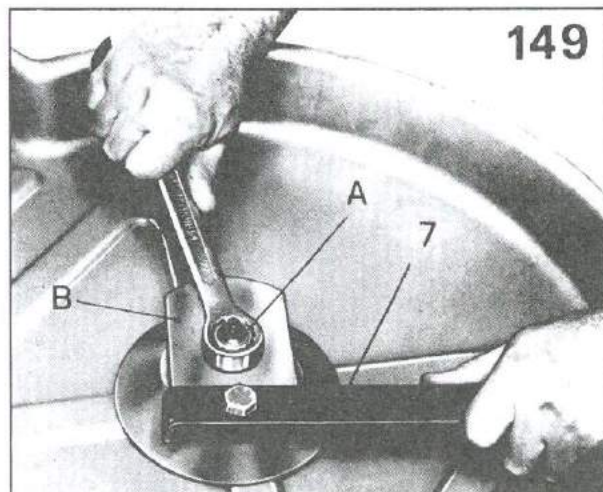
NOTE: When stopping the blade rotation, use protective gloves to avoid injury.

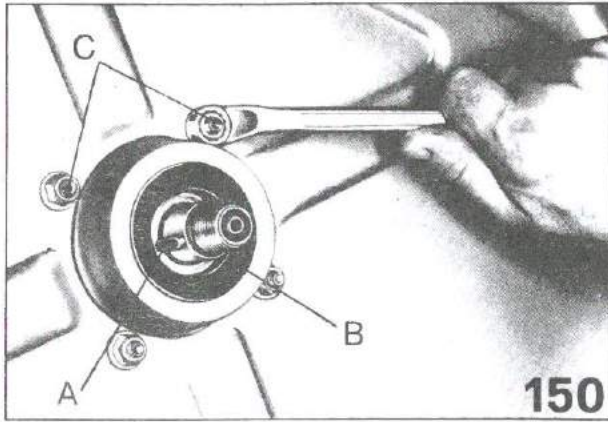


- Remove plug T and drain the oil, remove screws A and remove cover B (Fig. 148).

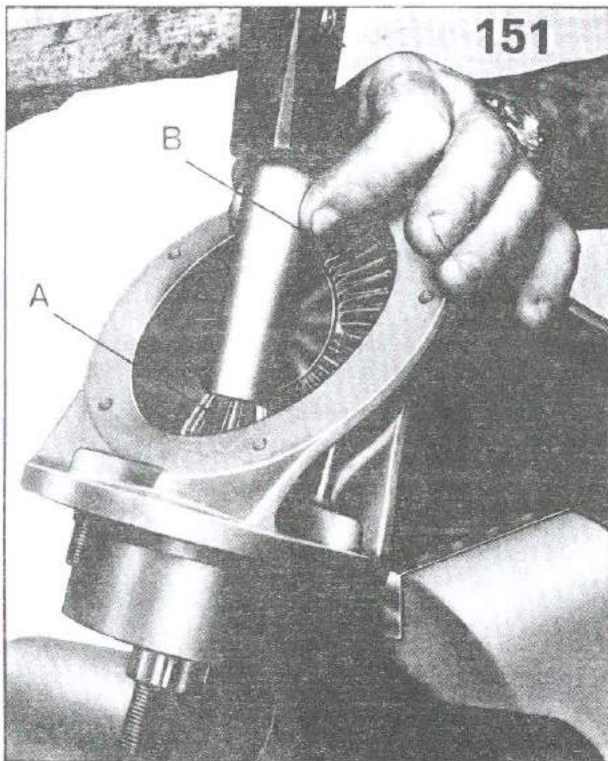


- Using tool No. 7, remove nut A and remove hub B (Fig. 149).

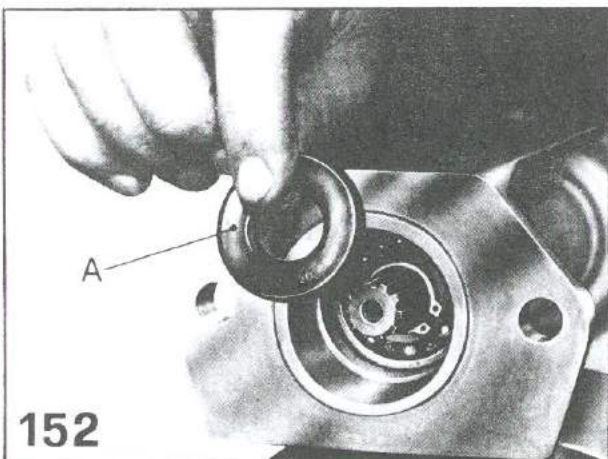




- Remove tab A, oil seal B and the circlip underneath. Unscrew nuts C and separate the crank-case from the gear case assembly (Fig. 150).
- Remove the spacer (for the lifted mower used on 725 and 735).

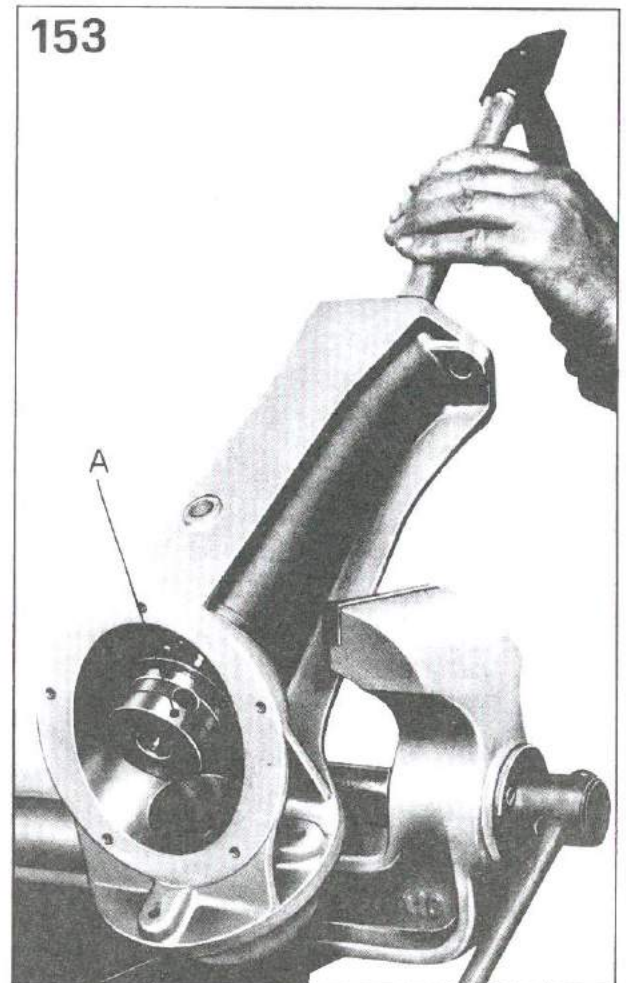


- Remove pinion A with bearings (Fig. 151).
- Carefully remove gear B, by holding the caps. Remove them together with the springs (Fig. 151).



- Remove oil seal A and the circlip underneath (Fig. 152).

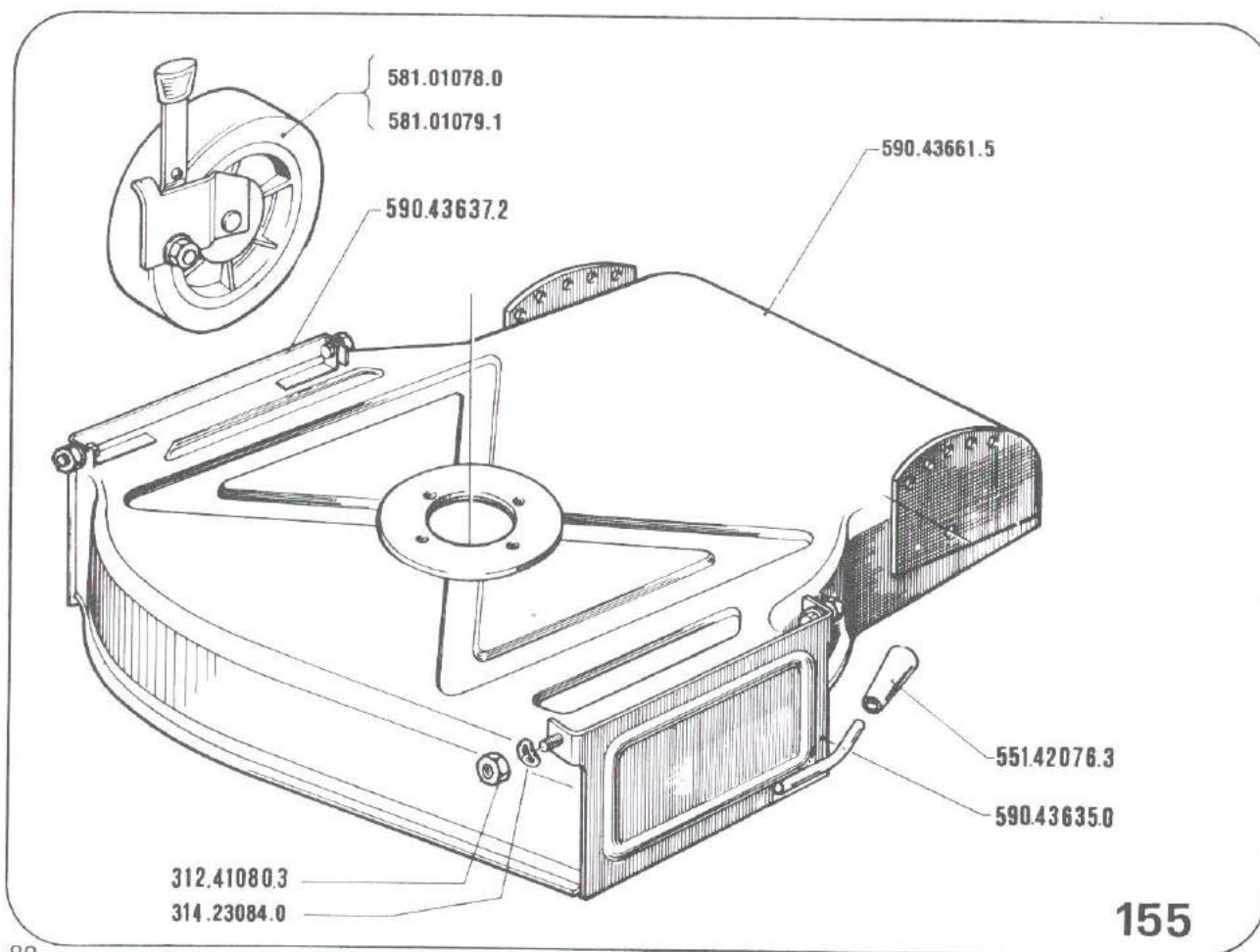
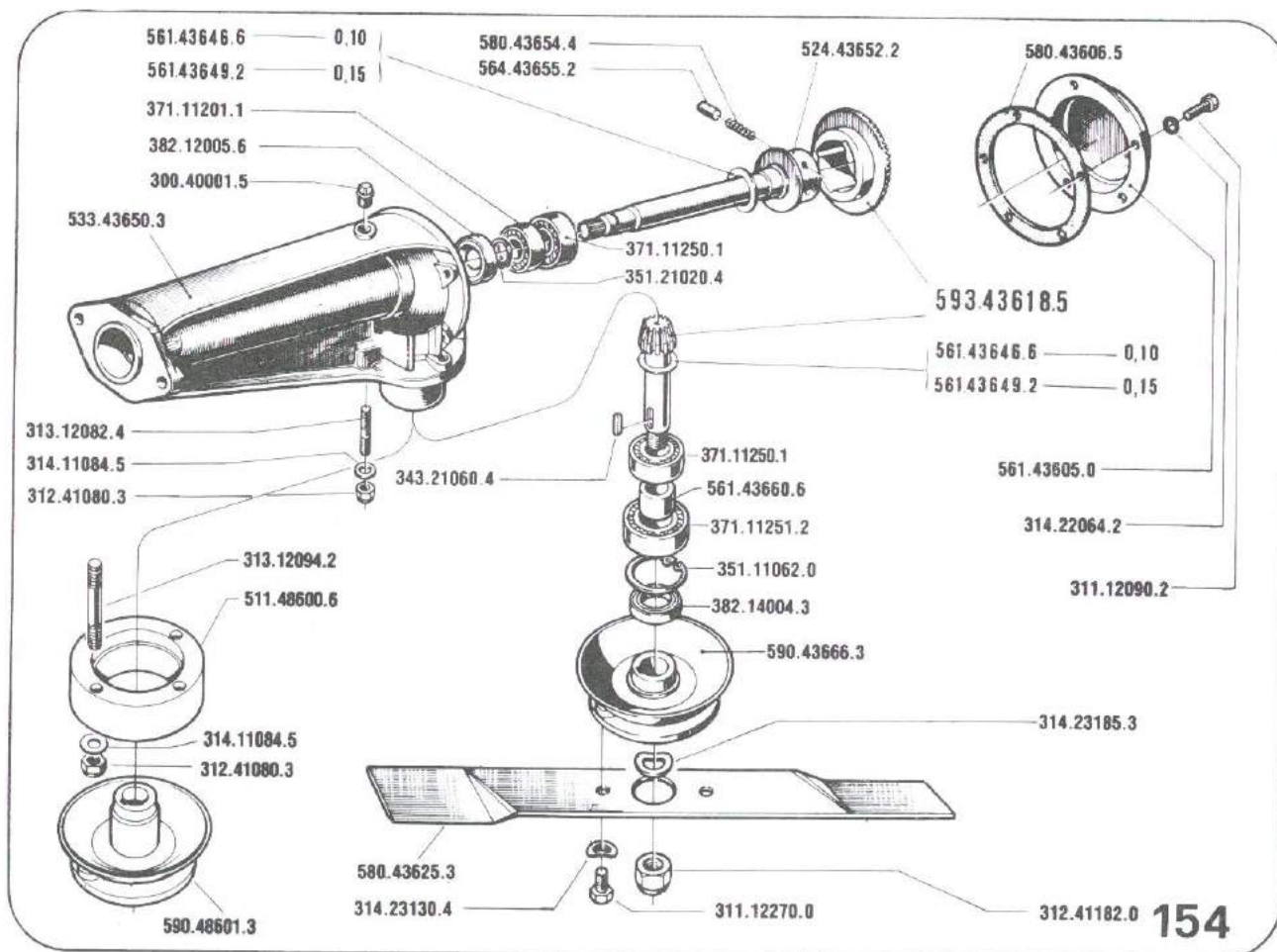
— Remove shaft A (Fig. 153).



2.4.2 Lawn mower overhauling

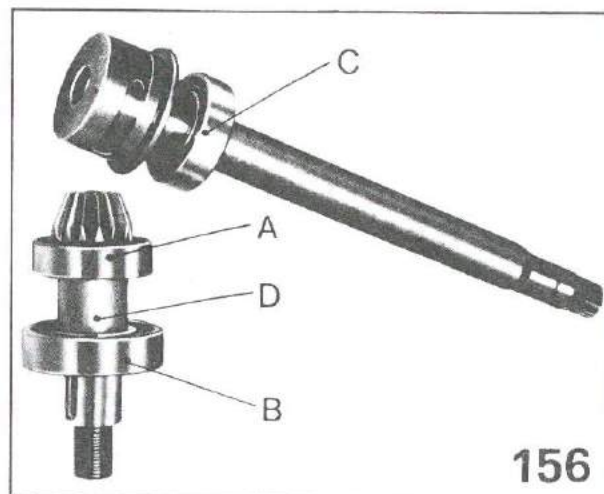
Make the following checks and replace any worn parts (Fig. 154-155).

- Inspect wheels 581.01078.0 and 581.01079.1 for free rotation and check that the adjusting device works properly.
- Check blade sharpness. If necessary, sharpen it with a grinding stone on the lower part of the blade.
- Check the keyway on hub 590.43666.3 (590.48601.3 for lifted mower used on 725-735).
- Check the condition of key 343.21060.4.
- Check the teeth and the keyway on pinion 564.43658.5.
- Check the spline and the housing of the caps on shaft 524.43652.2.
- Check the condition of caps 564.43652.2.
- Check the springs 580.43654.4.
The free length on a new spring is 1.2".
- Check the teeth and the inside profile 524.43656.6.
- Check the condition of bearings 371.11201.1, 371.11250.1, 371.11251.2.

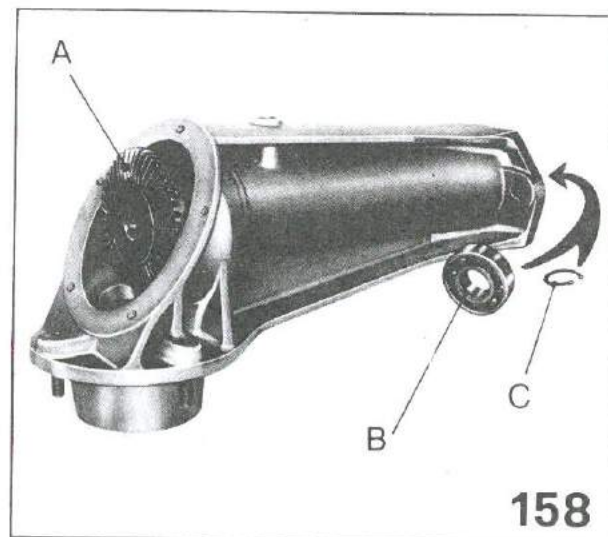
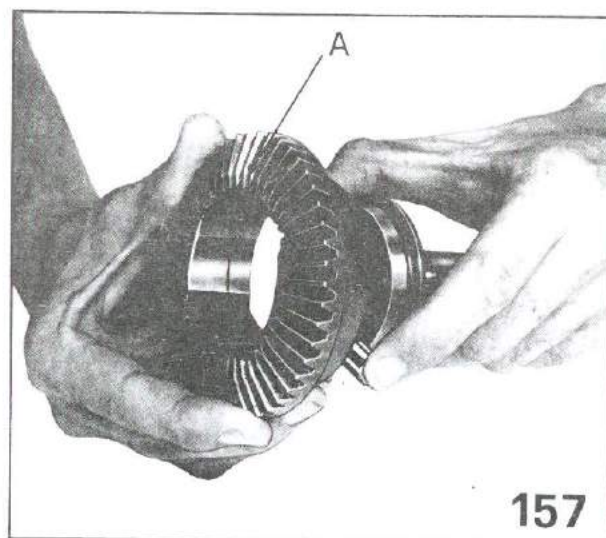


2.4.3 Lawn mower assembly

- Assemble bearings A, B, C and spacer D (Fig. 156).



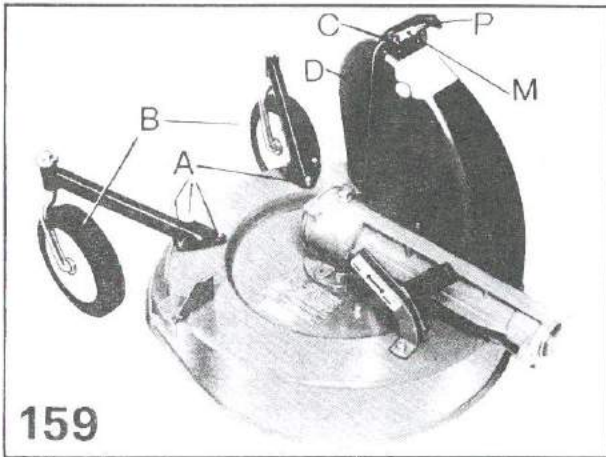
- Grease the gears with Molykote, install spring and caps, then assemble gear A (Fig. 157).
 - Fit shaft A, bearing B and fasten with circlip C (Fig. 158).
 - Using tool No. 3 install a new oil seal A (Fig. 152).
 - Fit pinion A (Fig. 151).
 - Fit circlip and oil seal B (Fig. 150).
 - Fit the control assembly on crankcase by fastening nuts C at the torque of 18 Ft.lbs. (Fig. 150).
 - Fit hub B and set the cap correctly, work with care to avoid damage to the oil seal (Fig. 149).
 - Using tool No. 7 tighten nut A at the torque of 159 Ft.lbs. (Fig. 149).
 - Fit the blade by tightening screws A at the torque of 58 Ft.lbs.
- Install the blade for correct rotation (Fig. 147).
- NOTE: Use gloves to avoid injury.
- Fit the wheels by tightening bolts B at the torque of 36 Ft.lbs. (Fig. 147).
 - Assemble a new gasket and fit cover B using screws A (Fig. 148).
 - Fill gear case through plug T (Fig. 148) (see 0.2.2 Fuel and oil specifications).



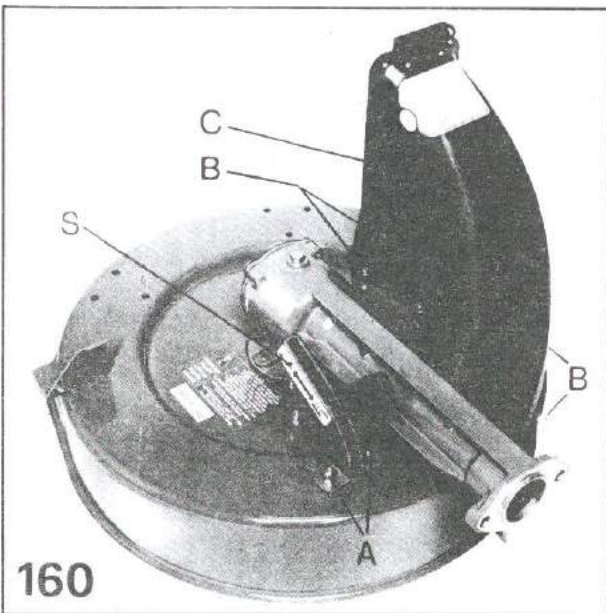
2.5 Lawn mower with front grass catcher

2.5.1 Removal of the lawn mower with front grass catcher

- Unscrew screws A. Remove wheel B with the spindles and supports. Remove pin C, pin P, spring M and flap D (fig. 159).

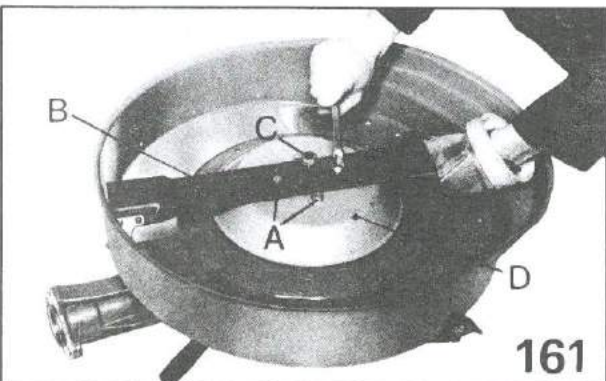


- Unscrew bolts B. Remove conveyor C. Unscrew bolts A, remove selector S (fig. 160).

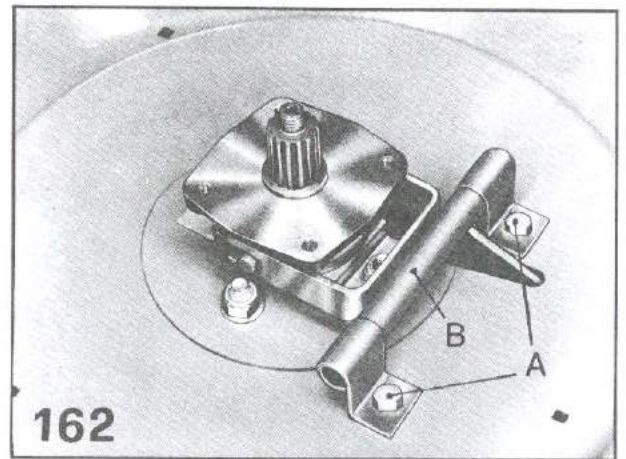


- Unscrew nut C. Unscrew screws A, remove blade B and disc D (fig. 161).

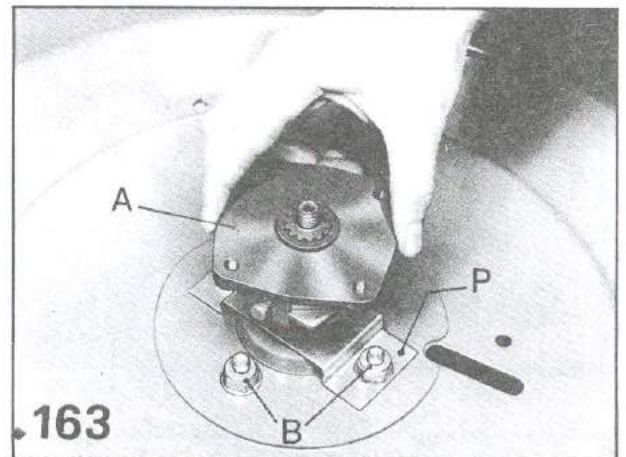
NOTE: lock the blade rotation using gloves to avoid injury.



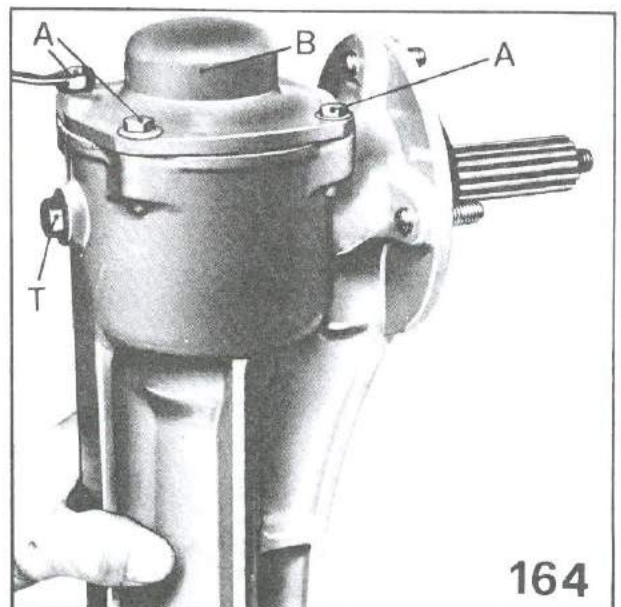
- Unscrew bolts A, remove lever B (fig. 162).

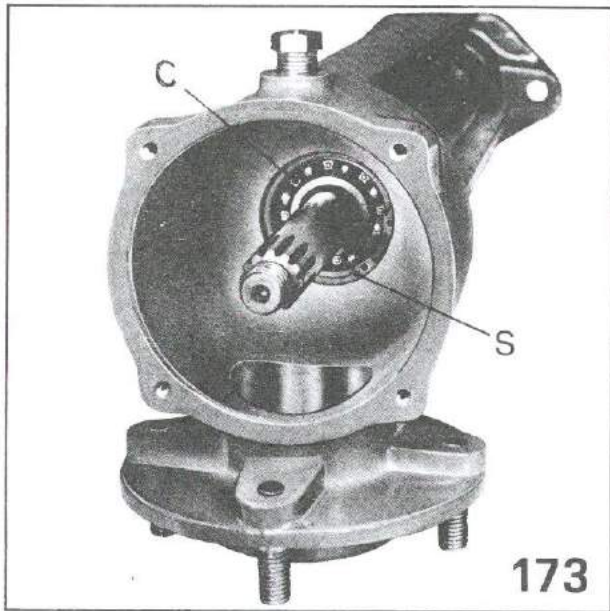


- Remove blade holder hub A, unscrew nuts B, remove protector P and separate the crankcase from the blade control (fig. 163).

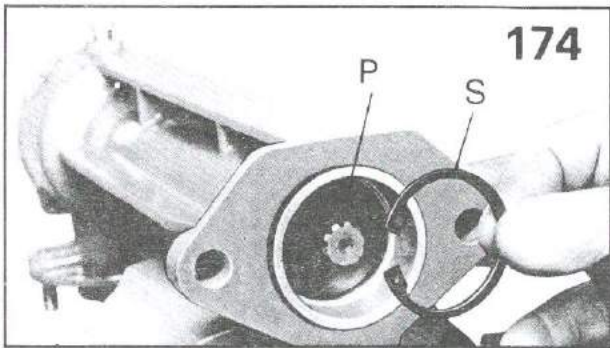


- Unscrew screws A, remove brake bell B and drain oil (fig. 164).

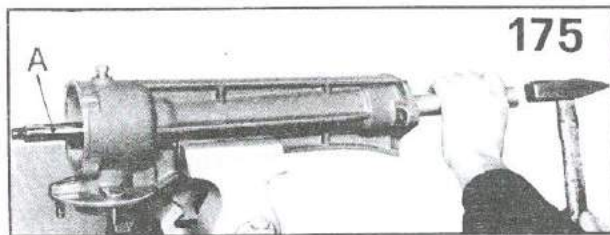




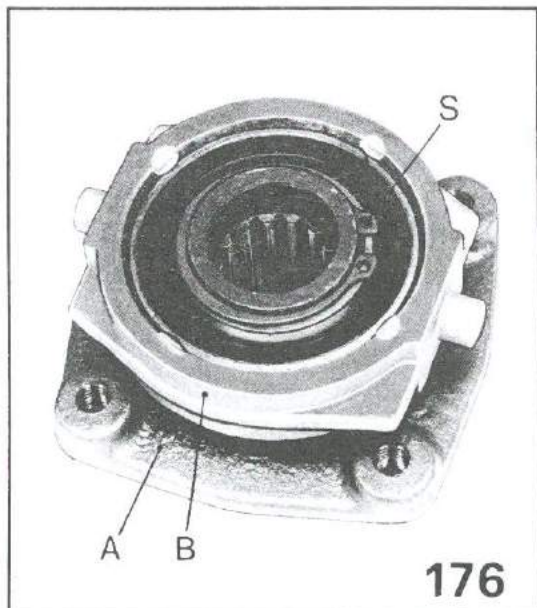
— Remove circlip S (fig. 173).



— Remove circlip S and oil seal P (fig. 174).

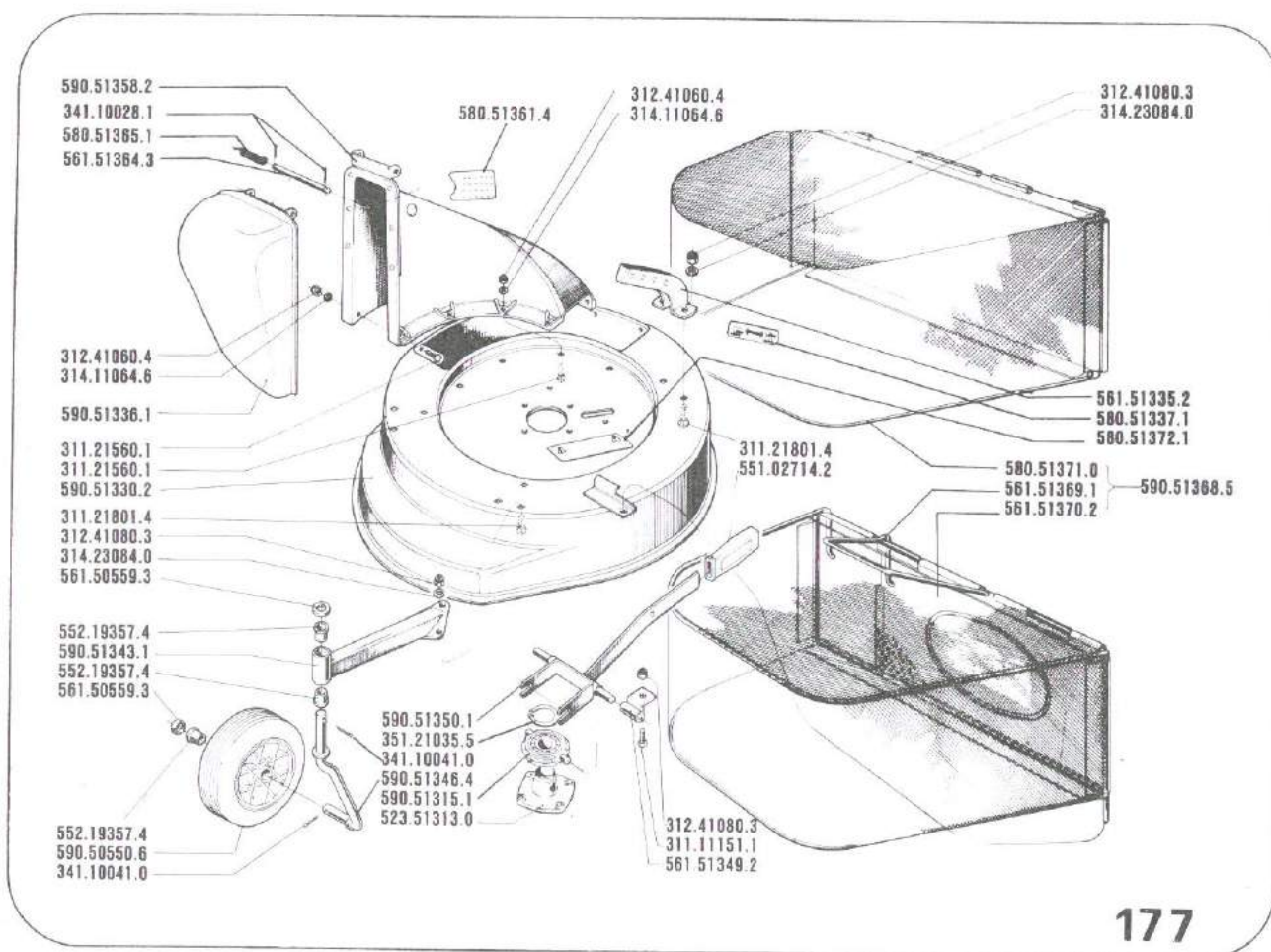


— Remove main shaft A using a punch as shown in figure 175.



— Remove circlip S and collar B from blade holder hub A (fig. 176).

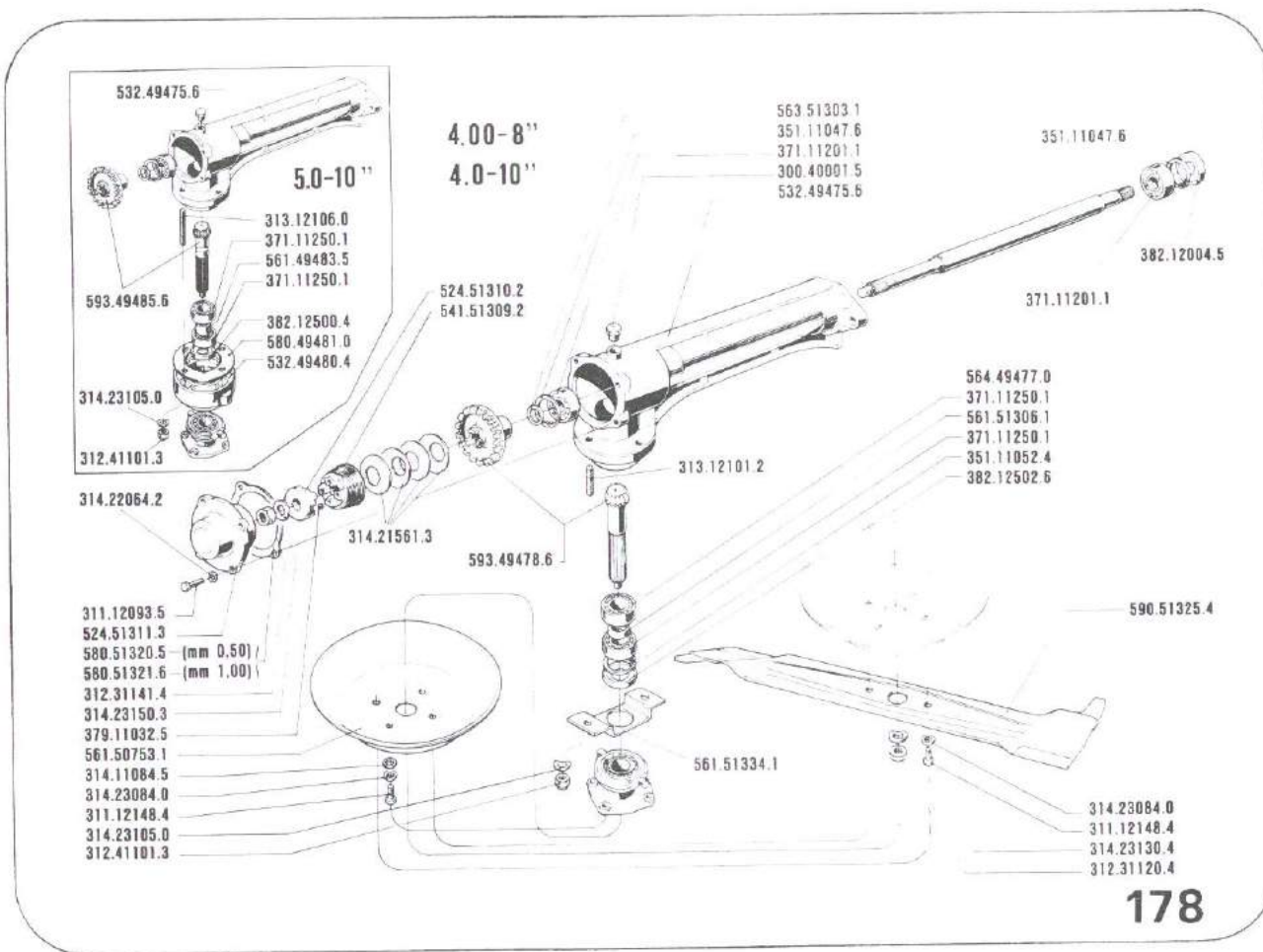
2.5.2 Overhauling of the lawn mower with front grass catcher



177

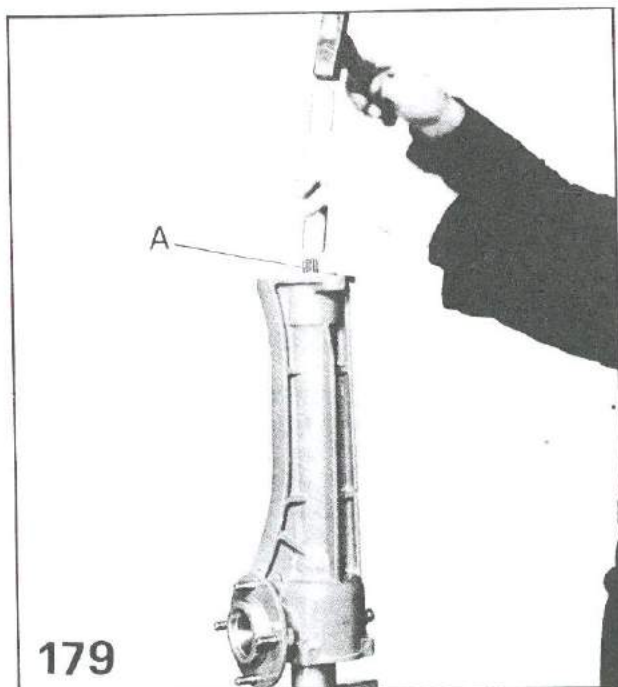
Make following checks and replace any worn part (fig. 177-178):

- Check the free rotation of wheels 590.50550.6 and spindles 590.51346.4 in supports 590.51343.1.
If necessary separate the parts removing pins 341.10041.0 and replace bushes 590.19357.4.
- Check the sharpening of blade 590.51325.4. If necessary, use an abrasive stone on the lower part of the blade.
- Make sure that frame 561.51369.1 is not warped and that bag 580.51371.0 is not torn. If necessary widen the rubber profile and separate the two parts.
- Check that conveyor 590.51358.2 is not damaged or broken.
- Check that flap 590.51366.1 is not damaged or broken.
- Check deck 590.51330.2. The deck must not have excessive damages or cracks.
- Check the condition of the bearing fitted on collar 590.51315.1.
- Check that hub 523.51313.0 freely slides on pinion.
- Check the condition of the front teeth and the teeth of bevel gear pairs 593.49478.6 or 593.49485.6.
- Check that inside the gear hole there are no seizures.
- Check the condition of the front teeth and the crests of the score obtained on brake cone 541.51309.2.
- Check the disc springs 314.21561.3. The height of the new piece is .138".
- Check the splines, the modified seats and the thread on shaft 564.49477.0.
- Check the condition of bearings 371.11201.1 and 371.11250.1.

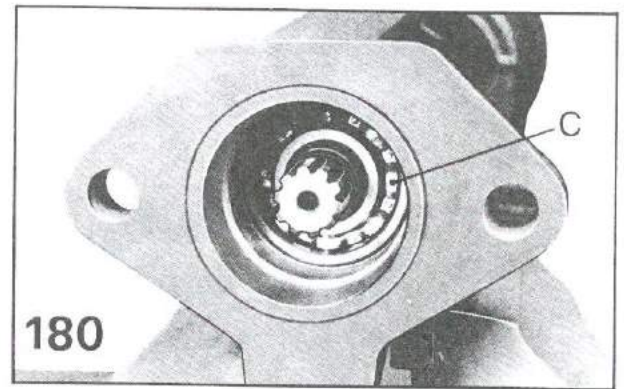


2.5.3 Assembly of the lawn mower with front grass catcher

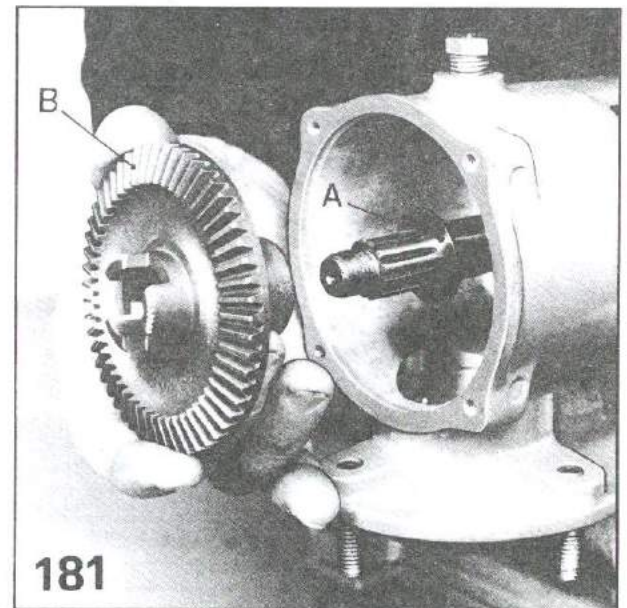
- Fit bearing C and circlip S (fig. 173).
- Set a detent under the inside ring of bearing and fit shaft A (fig. 179).



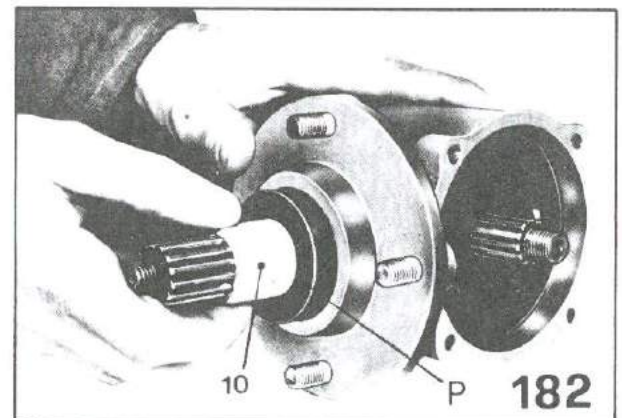
- Fit bearing C (fig. 180).
- Fit oil seal P and circlip S (fig. 174).

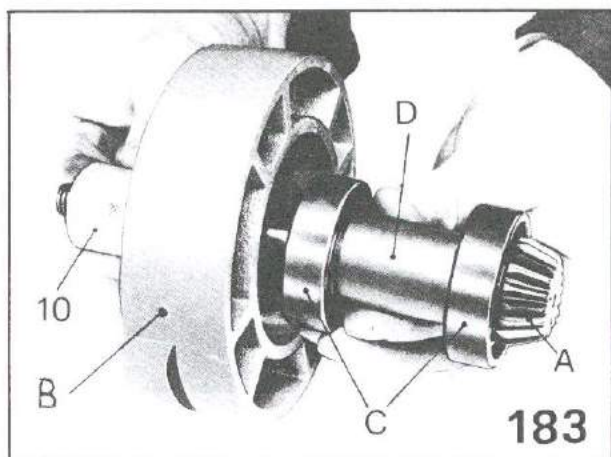


- Set washer A. Put some antiscuff grease on the cylindric hole and fit bevel gear B (fig. 181).
- Fit bevel pinion A with bearings B and C and spacer D (fig. 169).
- Fit circlip S (fig. 168).

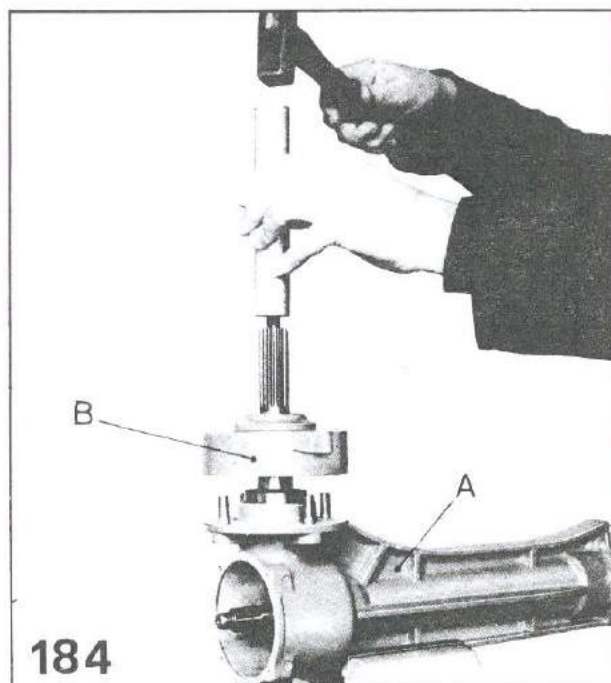


- Fit a new oil seal P on protector No. 10 (fig. 182).

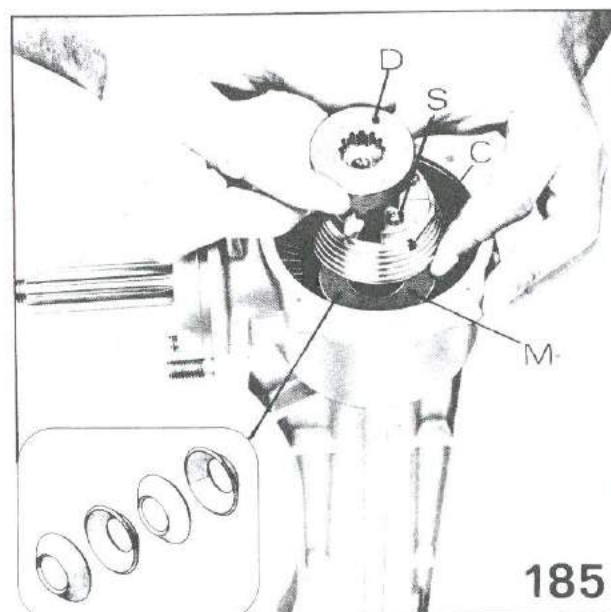




- Fit a new oil seal into flange B (fig. 171).
- Set protector No. 10 into the oil seals and fit pinion. A with bearings C and spacer D in flange B (fig. 183).



- Fit in the lawn mower A the flange B with pinion (fig. 184).



- Set disc springs M in the direction shown in the figure.
- Lubricate with oil brake cone C and fit it properly.
- Set balls S and fit coupler D (Fig. 185)
- Lock the main shaft rotation with the wrench No. 12. Tighten nut D at the torque of 37 Ft.lbs. (Fig. 166).

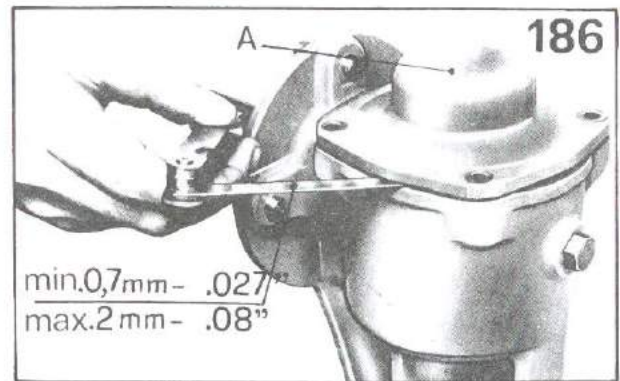
- Set the brake box A without gasket and measure with a thickness gauge the dimension shown in figure. If the dimension is lower than .05", fit the gasket with thickness .02". If the dimension is higher, fit the gasket with thickness .04". If the dimension is lower than .03" or higher than .08", overhaul the mechanism (operation 2.5.2) (fig. 186).
- Fit the brake box A, tighten screws B at the torque of 8 Ft.lbs. (fig. 164).
- Fill with oil from cap T (fig. 164) (see 0.2.2 fuel and oil specifications).
- Fit the crankcase and protector P by tightening the nuts B at the torque of 37 Ft.lbs. Fit the blade holder hub A (fig. 163).
- Fit lever B putting the fork ends into the stakes of the blade holder hub. Tighten screws A (fig. 162).
- Fit disc D and blade B. Tighten screws A at the torque of 18 Ft.lbs.
- Tighten nut C at the torque of 63 Ft.lbs. (fig. 161).

NOTE: Lock the blade rotation using gloves to avoid injuries.

Fit the lawn mower on the machine.

Start the engine and bring it to top RPM.

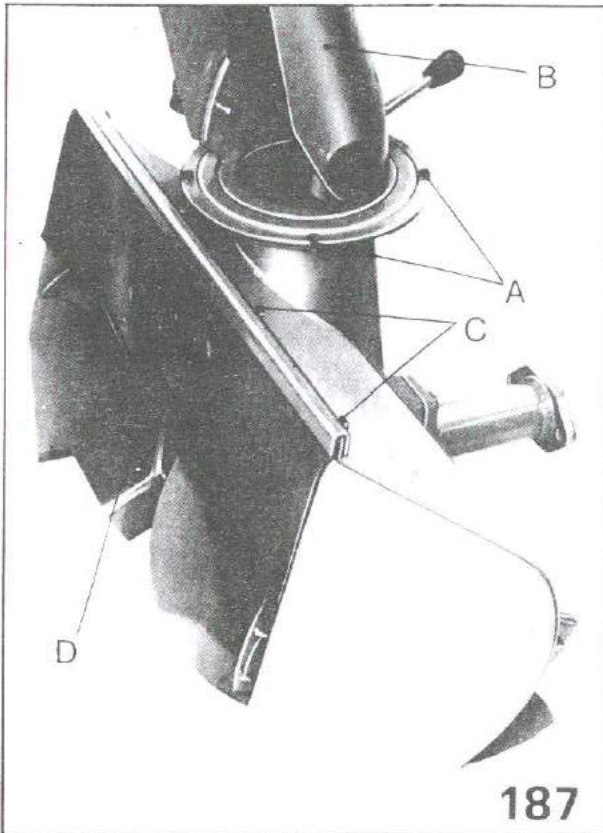
Set the throttle to 1/2 speed. Engage the PTO and make sure the blade turns correctly. Release the PTO by pulling on the handle. The blade should stop in three seconds or less.



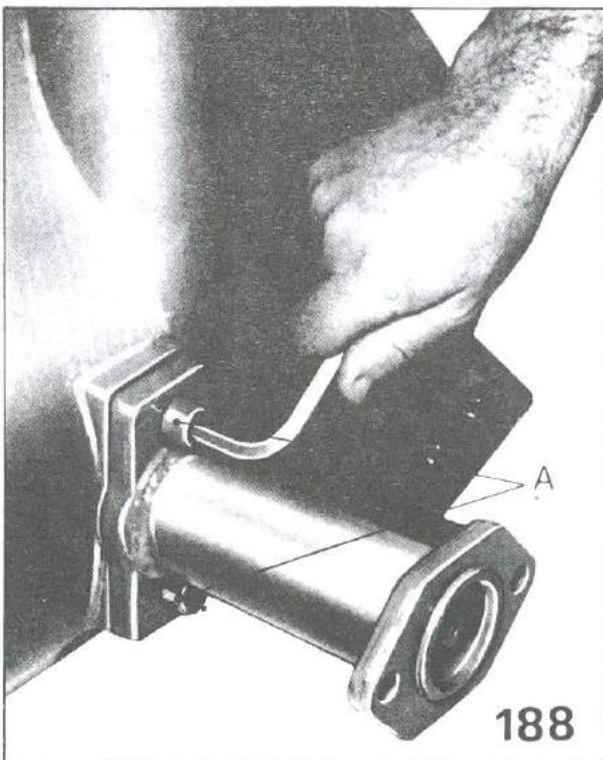
2.6 Snow thrower 24''

2.6.1 Snow thrower removal

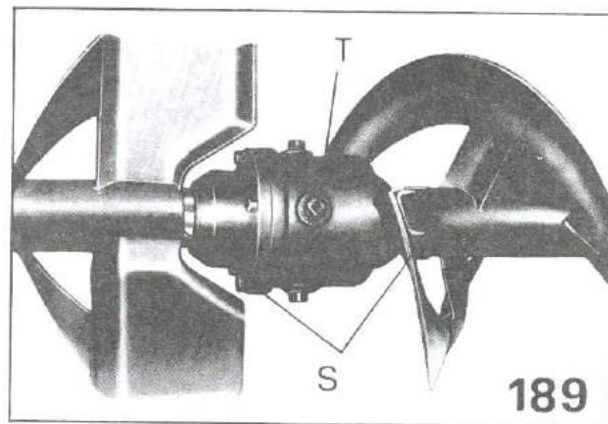
- Remove bolts A and chute B (Fig. 187).
- Remove screws C and snow flap D (Fig. 187).



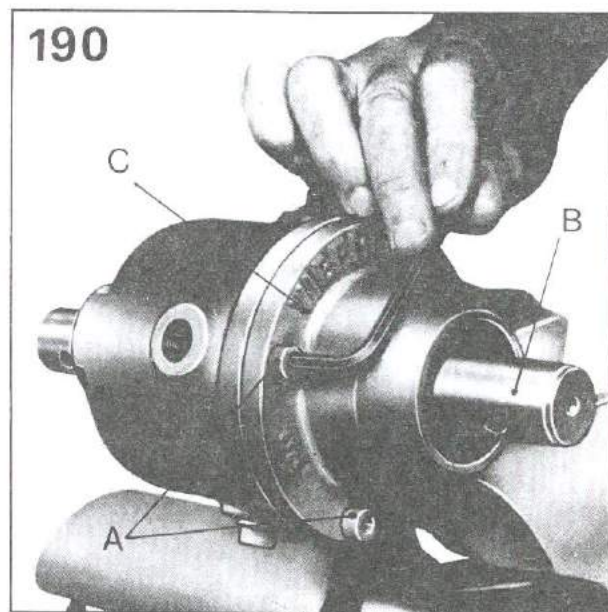
- Remove screw A and separate the crankcase from the turbine assembly (Fig. 188).



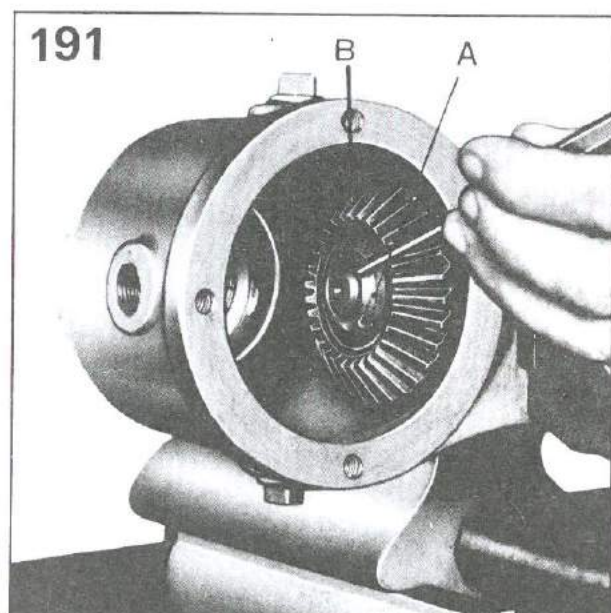
- Remove pins S and the turbines (Fig. 189).
- Drain oil from caps T (Fig. 189).

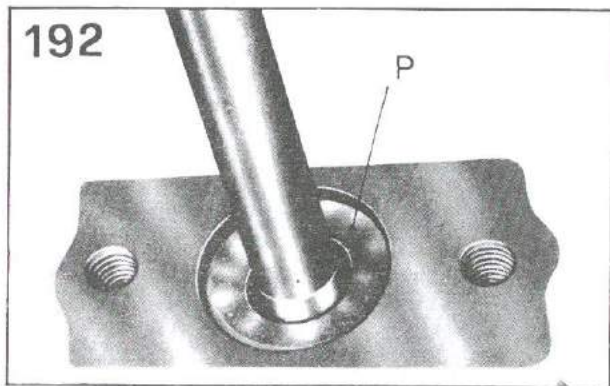


- Remove screws A. Remove shaft B along with cover C (Fig. 190).

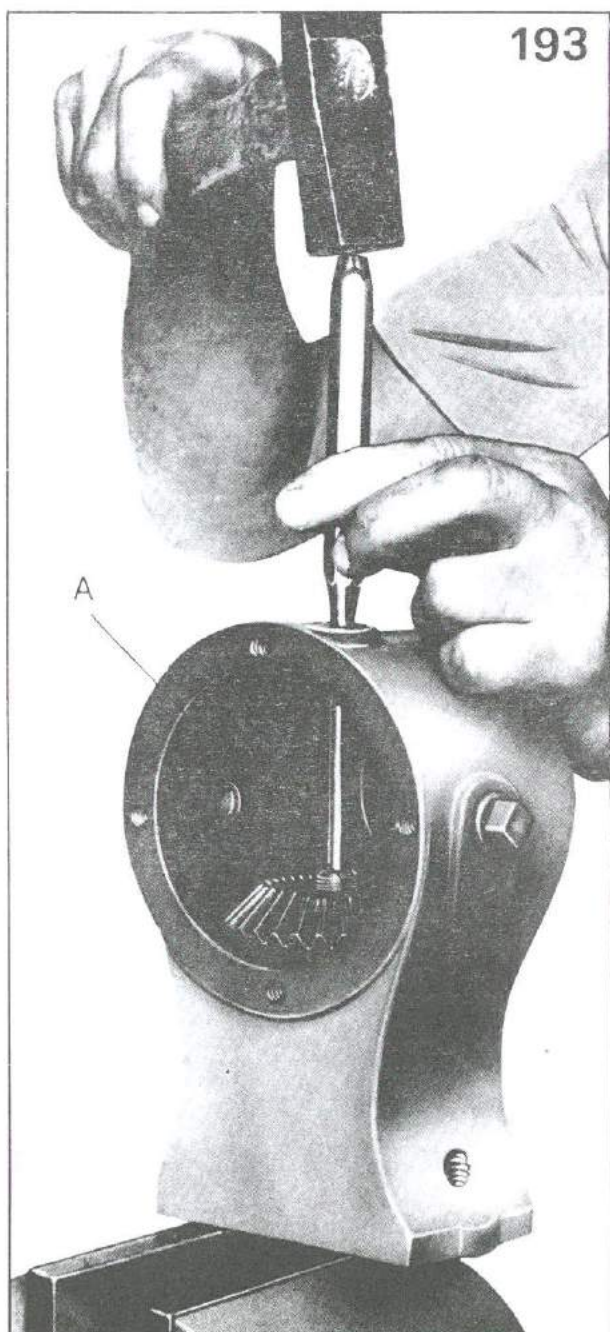


- Unscrew ring nut A (Fig. 191).



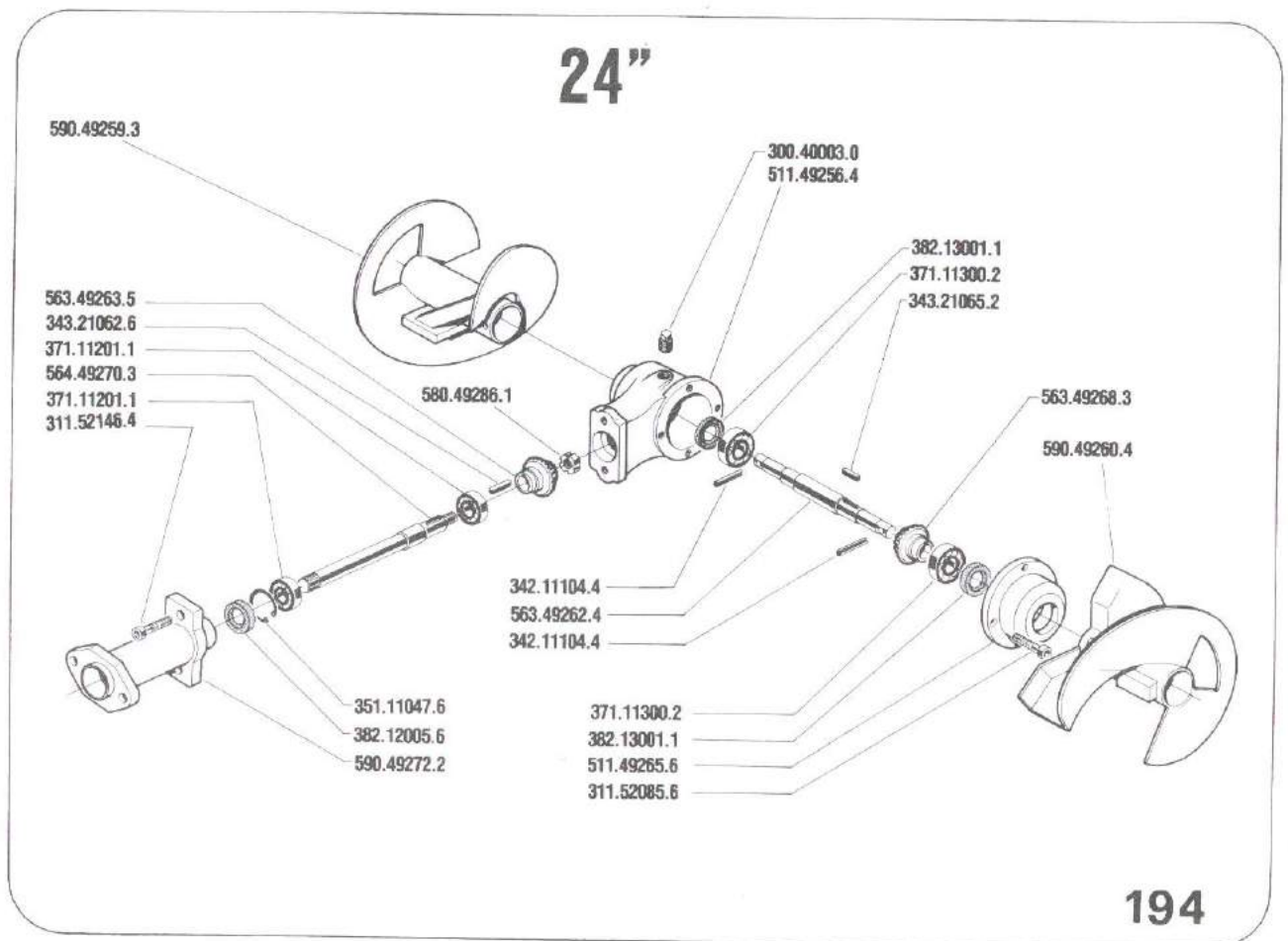


— Remove oil seal P and the circlip underneath (Fig. 192).



— Use a punch and remove shaft A (Fig. 193).

2.6.2 Snow thrower 24'' overhauling

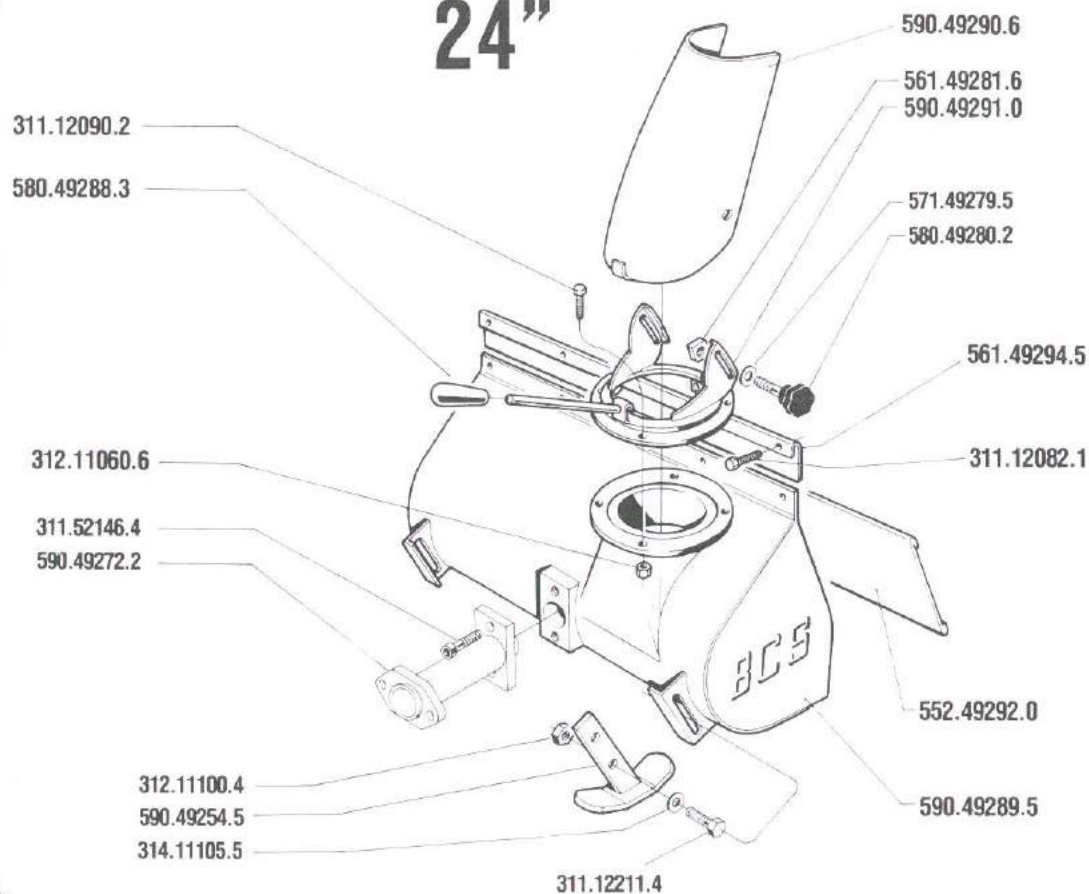


Make the following checks and replace any worn part (Fig. 194-195).

- Make sure the turbines rotate freely and the crankcase is not broken or deformed.
- Check the keyway on shaft 563.49262.4.
- Check the teeth and the keyway on gear 563.49268.3.
- Check the key 343.21065.2.
- Inspect the condition of the spring pins 342.11104.4.

- Inspect the spline and the keyway on gear 564.49270.3.
- Check the teeth and keyway on gear 563.49263.5.
- Check the key 343.21062.6.
- Check the condition of bearings 371.11201.1 and 371.11300.2.

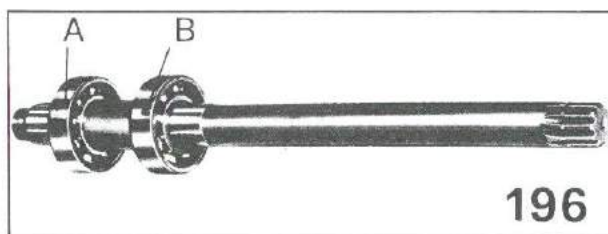
24"



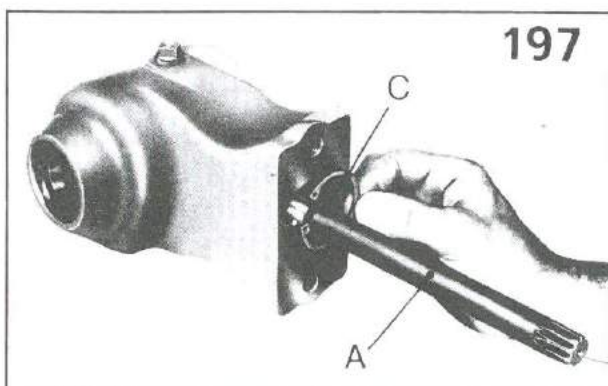
195

2.6.3 Snow thrower assembly 24"

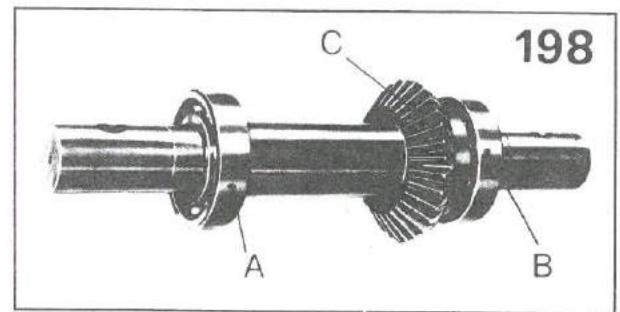
- Install bearings A and B on the drive shaft (Fig. 196).



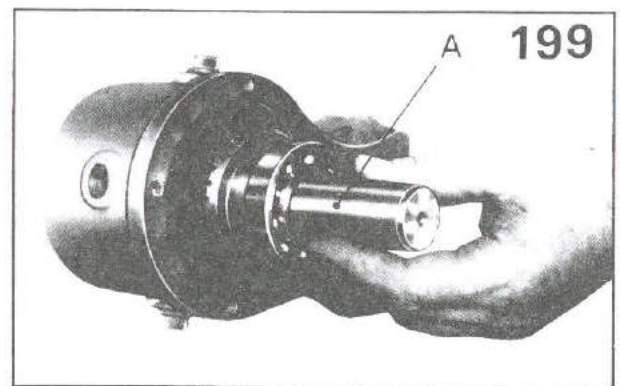
- Install the drive shaft A and the circlip C (Fig. 197).
- Fit a new oil seal P (Fig. 192).
- Fit the gear B and carefully set the key. Tighten the ring nut A (Fig. 191).



- Install bearings A and B and gear C. Install the key (Fig. 198).



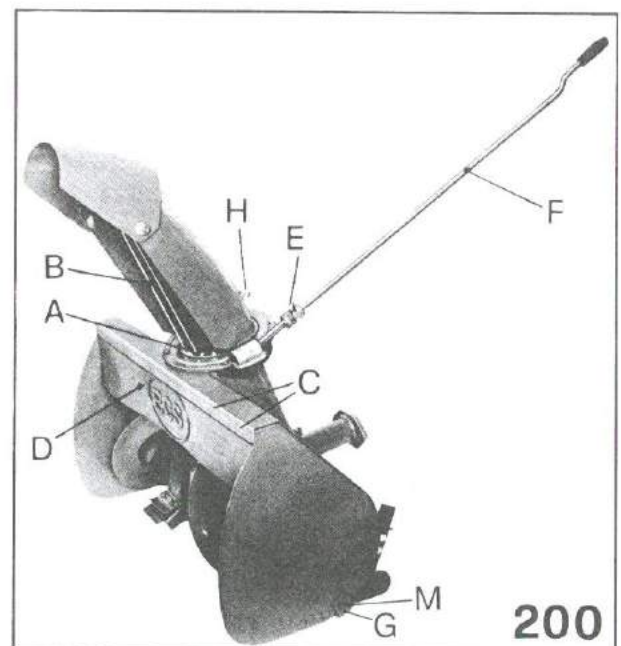
- Install a new oil seal into the housing and install the assembled shaft A (Fig. 199).
- Fit a new oil seal, clean the bearing surface thoroughly, use a sealing compound and install cover C. Tighten screws A at the torque of 18 Ft.lbs. (Fig. 190).
- Fill gearcase assembly with oil through plug T (Fig. 189) (see 0.2.2 Fuel and oil specifications).
- Install turbines (do not reverse their position) and replace pins S (Fig. 189).
- Grease the bearing surface and fit chute B with its spring and positioning ball. Tighten bolts A (Fig. 187).
- Assemble snowflaps D using screws C (Fig. 187).

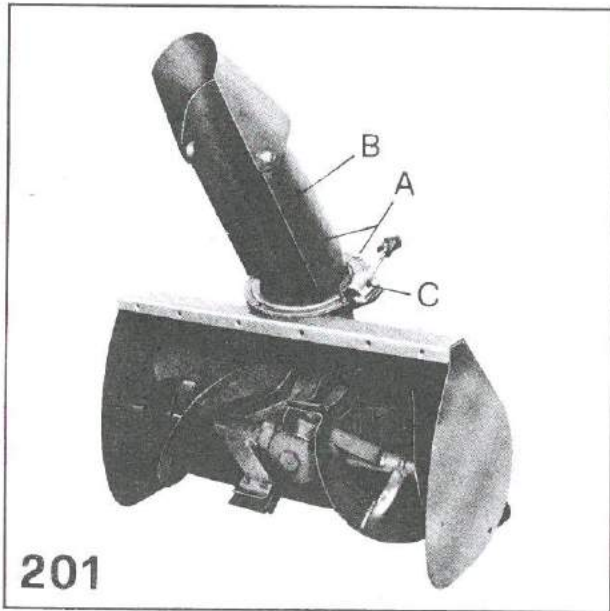


2.7 Snow thrower 28''

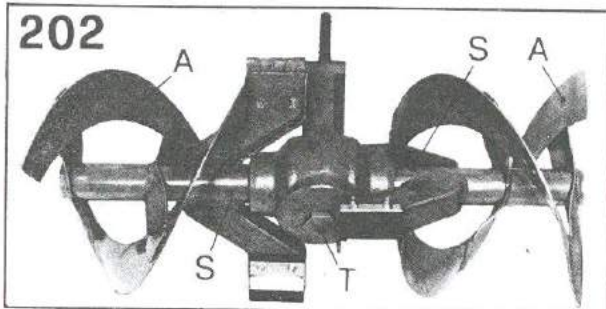
2.7.1 Snow thrower 28'' removal

- Unscrew screws A and remove chute B (Fig. 200).
- Unscrew bolts C and remove snowflap D (Fig. 200).
- Unscrew bolt E and remove funnel rod F (Fig. 200).
- Unscrew bolts M and remove blade G (Fig. 200).

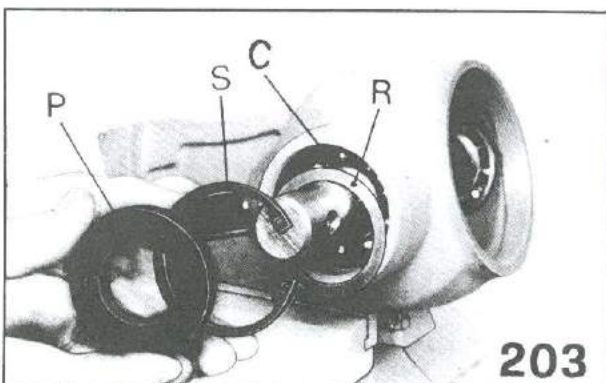




- Unscrew bolts A, remove chute B and funnel control assembly C (Fig. 201).
- Remove spring H (Fig. 200).
- Unscrew screws A and separate the turbine assembly from the crankcase (operation 2.6.1) (fig. 188).

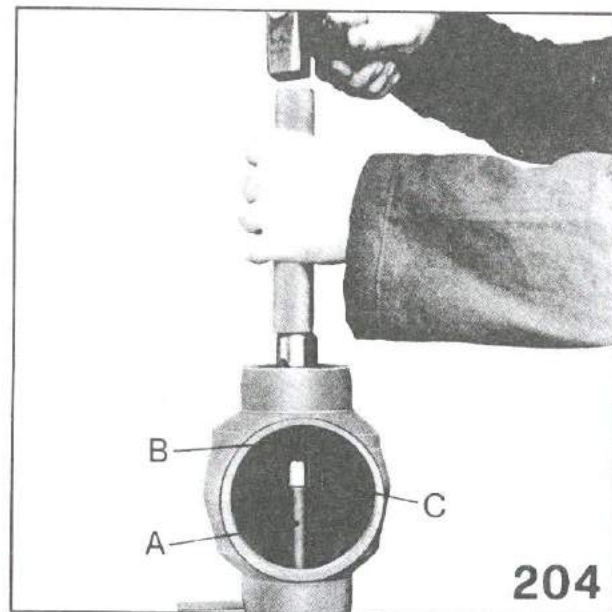


- Remove pins S and turbines A (fig. 202).
- Drain oil from cap T and remove the gasket (fig. 202).

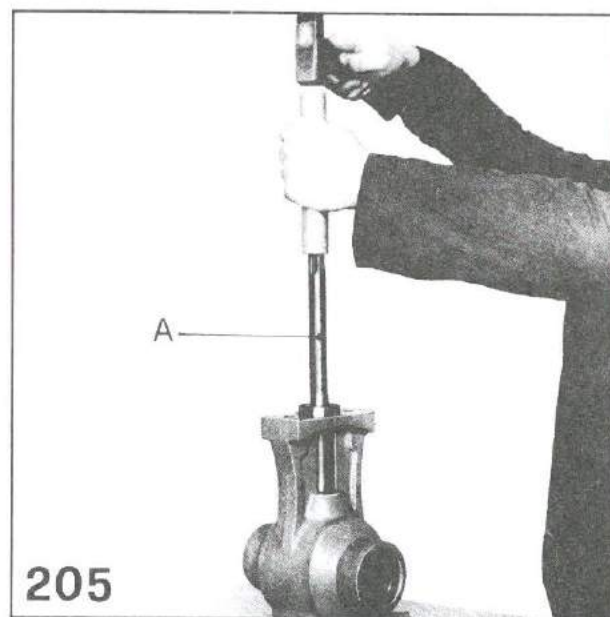


- Remove oil seals P, circlips S and spacers R (one each side) (Fig. 203).

- Remove turbine shaft A, gear B and cap C using a punch (Fig. 204).



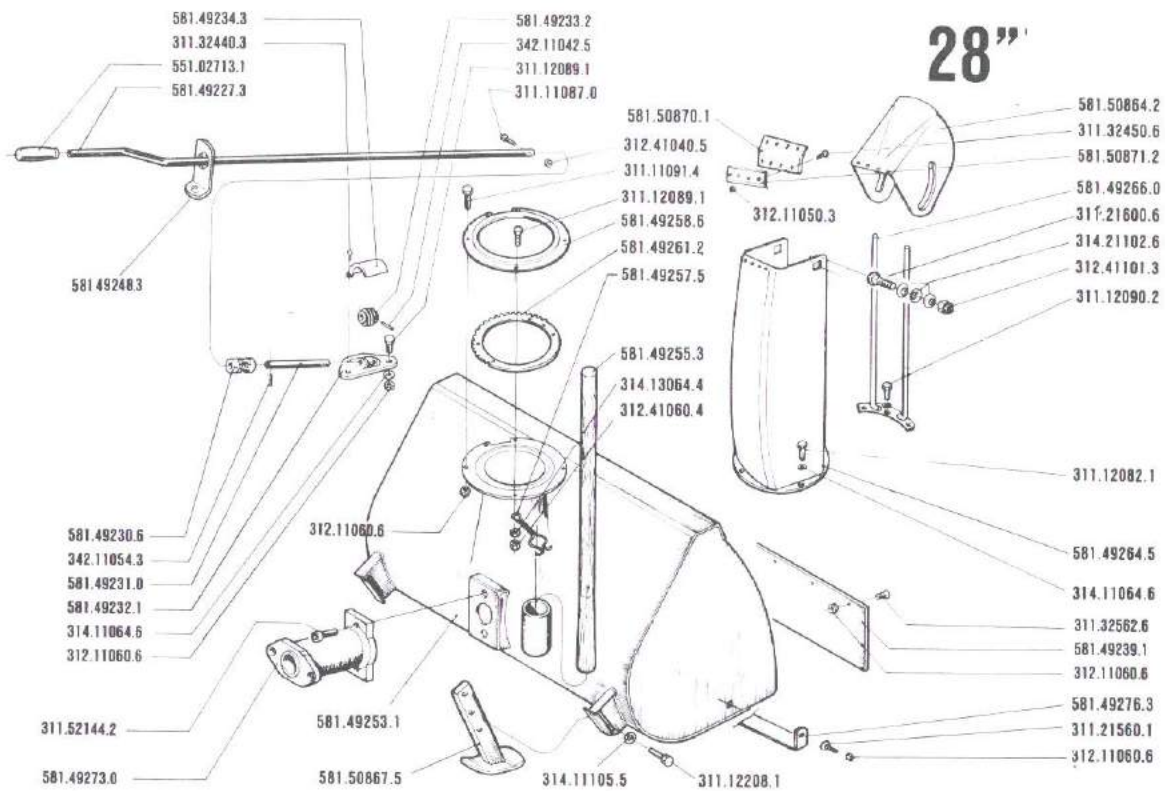
- Remove shaft A using a punch as shown in figure 205.



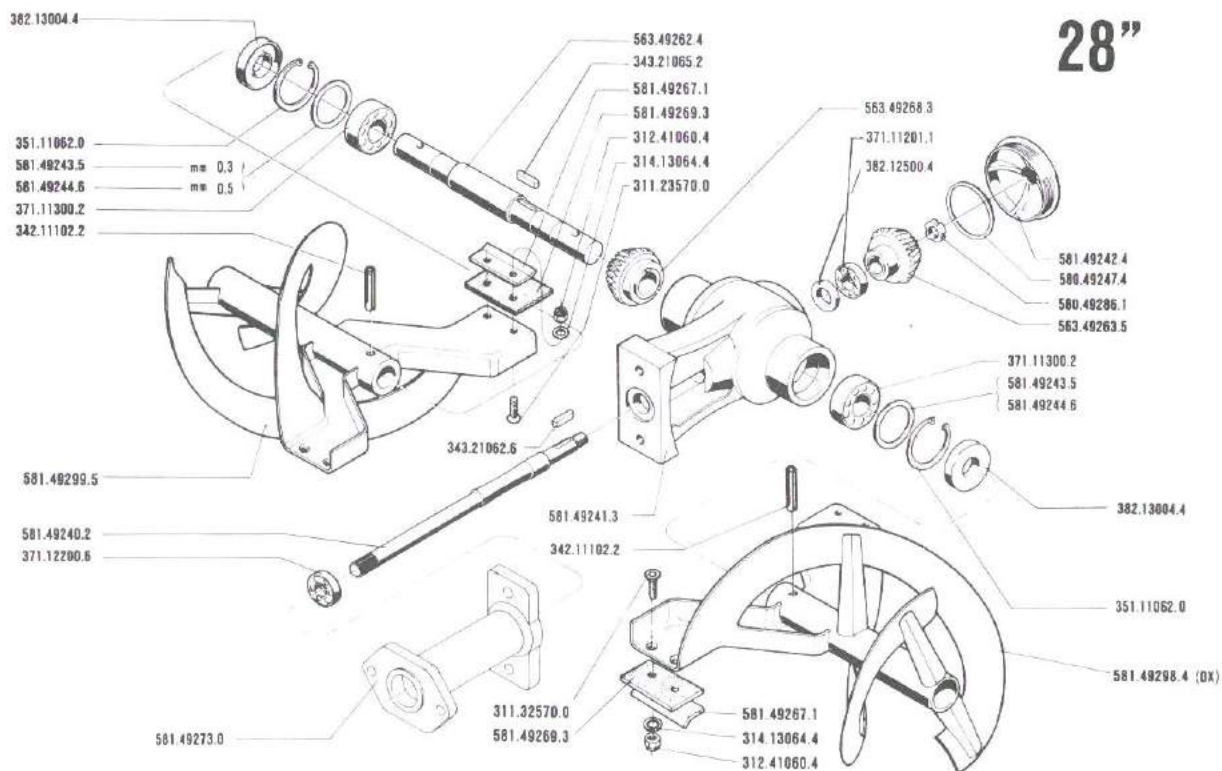
2.7.2 Snow thrower 28" overhauling

Make the following checks and replace any worn part (Fig. 206-207):

- Make sure that turbines rotate freely and that the crankcase is not broken or deformed.
- Check joint 581.49230.6 and gear 581.49233.2.
- Check the keyway on shafts 581.49240.2 and 563.49262.4.
- Check the spline on shaft 581.49240.2.
- Check the keyways and teeth on gears 563.49263.5 and 563.49268.3.
- Check keyways 343.21065.2 and 343.21062.6.
- Check the condition of pins 342.11102.2.
- Check the condition of bearings 371.11300.2, 371.11201.1 and 371.12200.6.



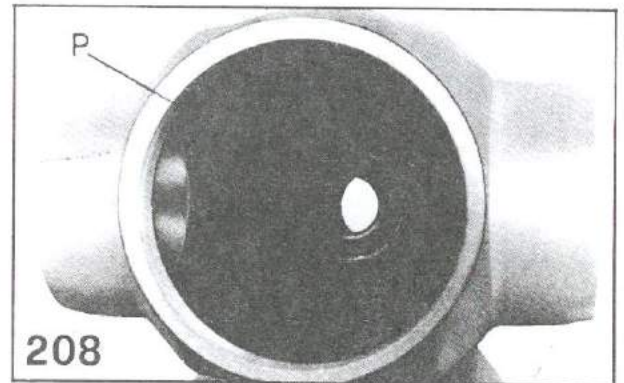
206



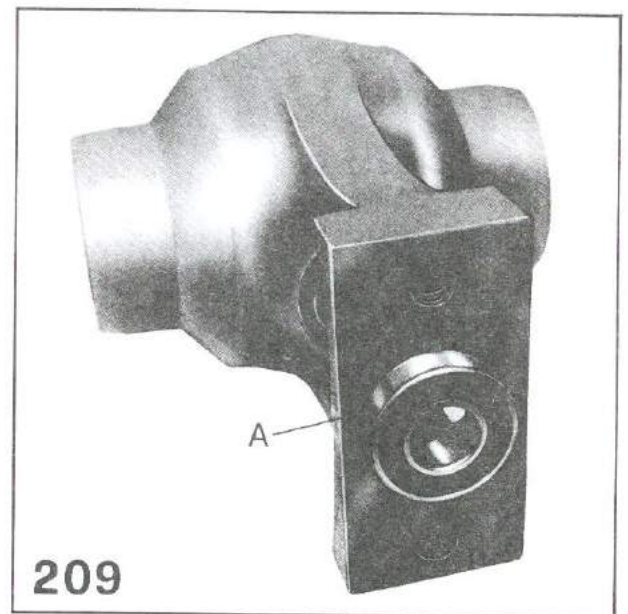
207

2.7.3 Snow thrower 28'' assembly

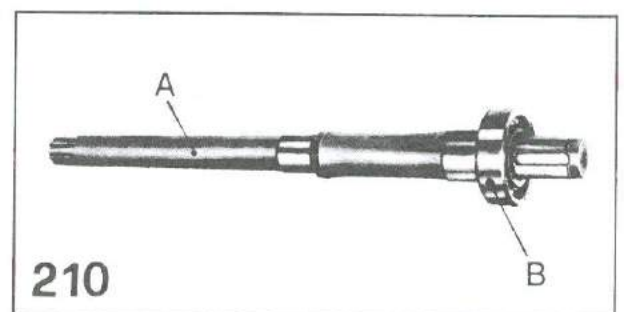
— Fit oil seal P (fig. 208).

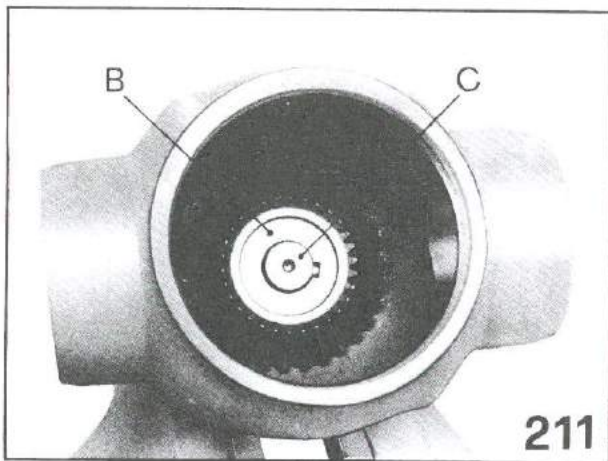


— Fit bearing A (fig. 209).

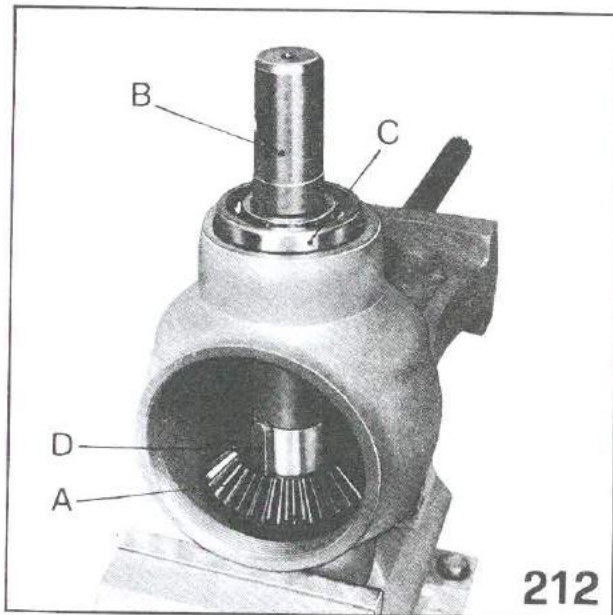


— Fit on shaft A bearing B (Fig. 210).

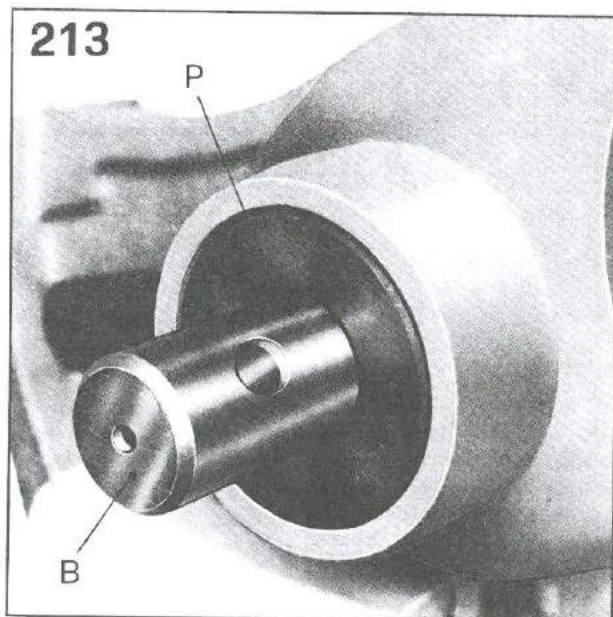




- Fit shaft C and gear B making a contrast on the inside ring of bearing A (fig. 209). Be careful with the keyway position (fig. 211).



- Fit on one side only bearing C and circlip S (Fig. 203).
- Set gear A, fit shaft B with bearing C. Be careful with the keyway D position (Fig. 212).

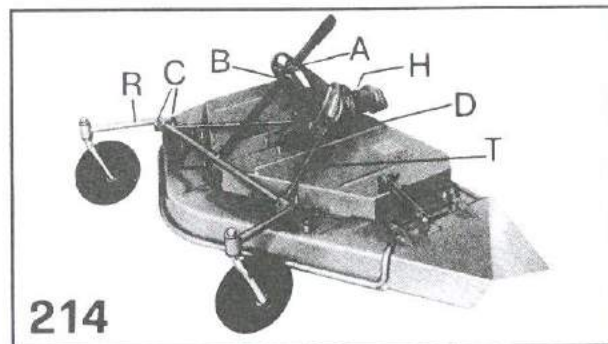


- Fit circlip S (Fig. 203).
- Check the clearance between the two gears, which must be the lowest possible one; if necessary, put spacers R under the circlips in order to obtain the smallest clearance (Fig. 203).
- Fit the new oil seals P and make sure that shaft B has no sharp edges on the holes for the pins (Fig. 213).
- Fill with oil the central body (see 0.2.2 Fuel and oil specifications).
- Fit cap T with a new gasket (Fig. 202).
- Fit the turbines and pins S; do not reverse the rotation direction of turbines, which must be clockwise.
- Fit the turbine assembly to the crankcase operation by tightening screws A (Fig. 188) (operation 2.6.1).
- Fit snowflap D by tightening bolts C (Fig. 200).
- Grease the chute bearing surface (Fig. 201).
- Fit chute B with the chute control assembly C (Fig. 201).
- Fit spring H (Fig. 200).
- Fit grid B and tighten screws A (Fig. 200).
- Fit chute control rod F by tightening bolt E (Fig. 200).

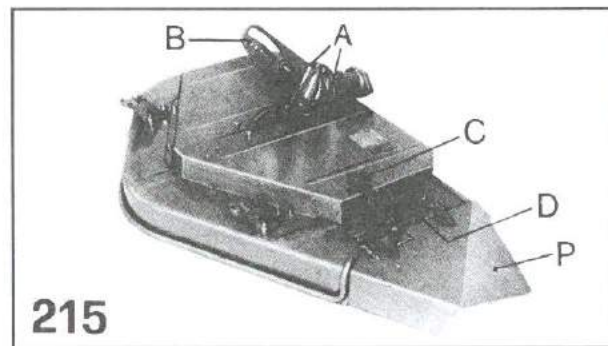
2.8 3-Blade lawn mower

2.8.1 3-blade lawn mower removal

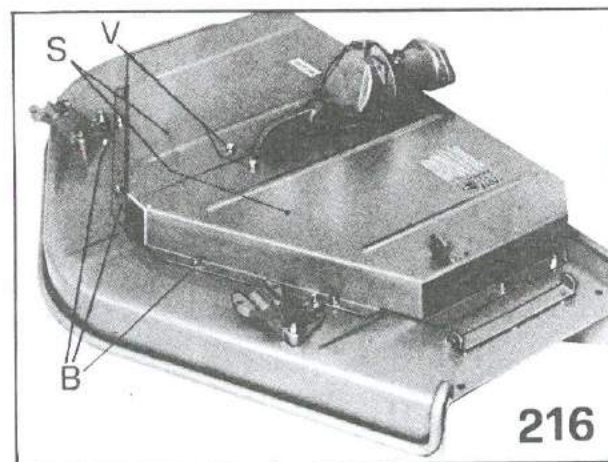
- Remove nut A, remove pin B. Unscrew bolts C, remove bolt D. Remove wheel axle R and tie rods T (Fig. 214).

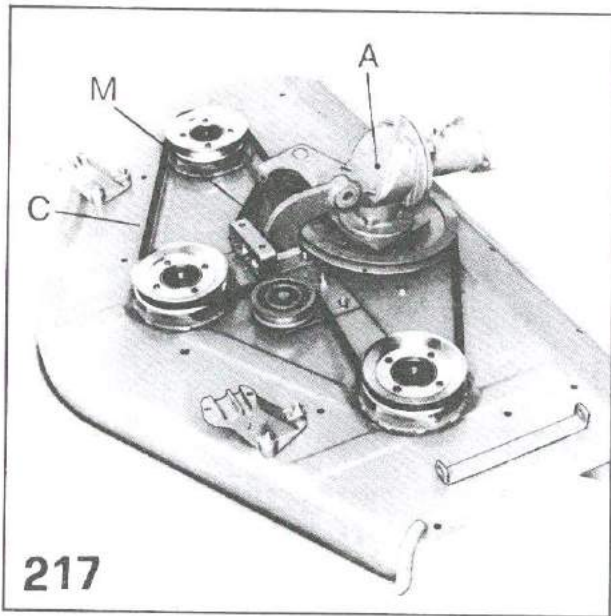


- Remove nuts A, remove support B. Remove bolt C with the spring and pawl, extract pin D and remove flap P (Fig. 215).

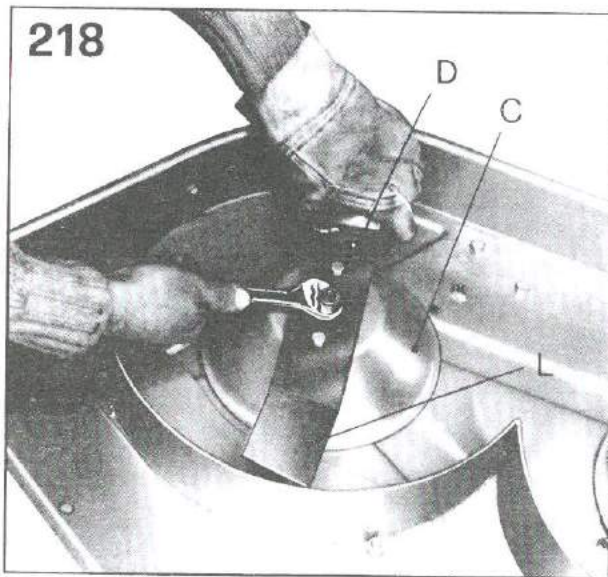


- Remove bolts B and screws V. Remove the two covers S (Fig. 216).

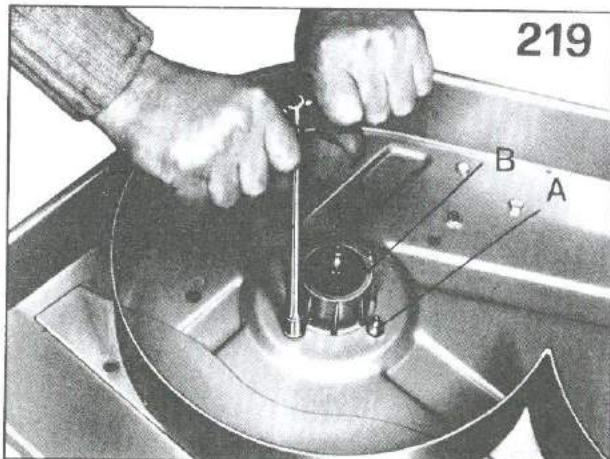




— Release spring M. Remove belt C. Remove the full central casing A (Fig. 217).

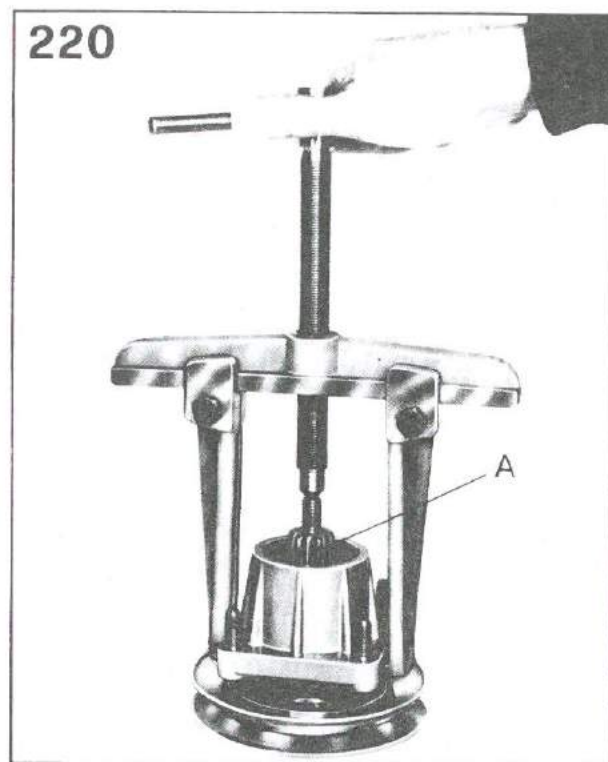


— Unscrew nuts D, remove blades L and guards C. Remove the blade holder hubs (Fig. 218).
NOTE: When you stop blade rotation, use gloves to avoid injury.

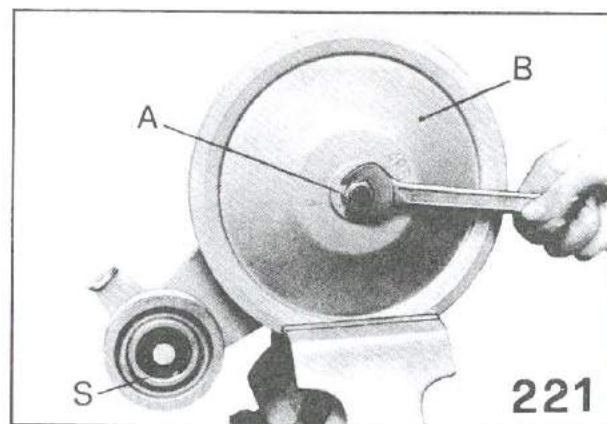


— Unscrew nuts A and remove the blade control assemblies B (Fig. 219).

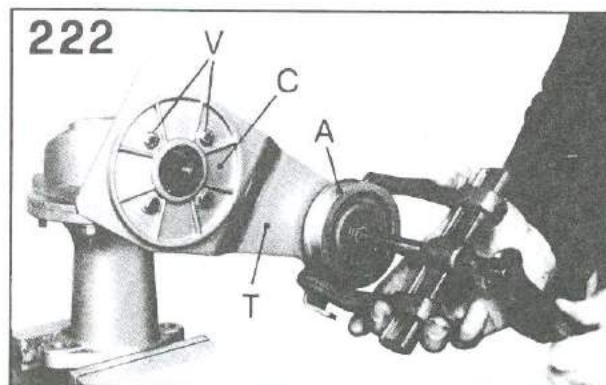
- Remove shaft A, extract circlip and extract the bearings and spacer (Fig. 220).
- Drain oil from plug H (Fig. 214).

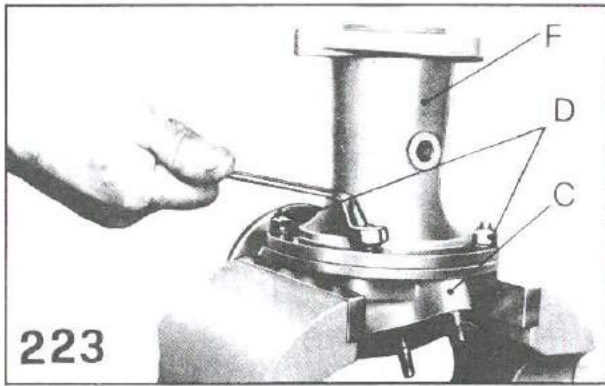


- Unscrew nut A and pulley B (Fig. 221).
- Remove circlip S and its washer (Fig. 221).

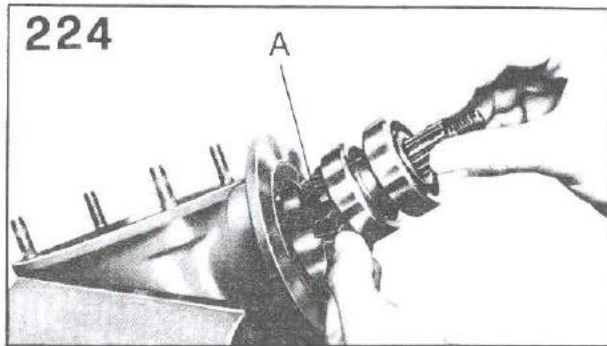


- Extract guide - pulley A (Fig. 222).
- Unscrew screws V, remove cover C and tightener T (Fig. 222).

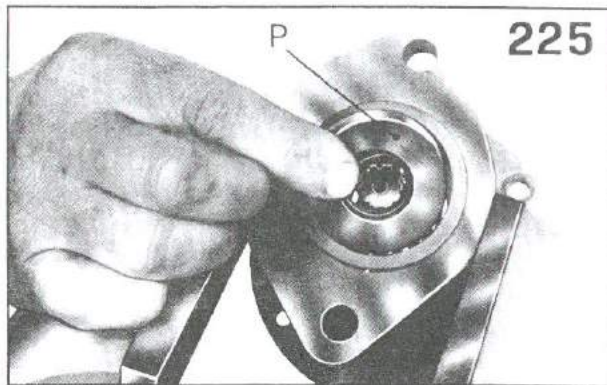




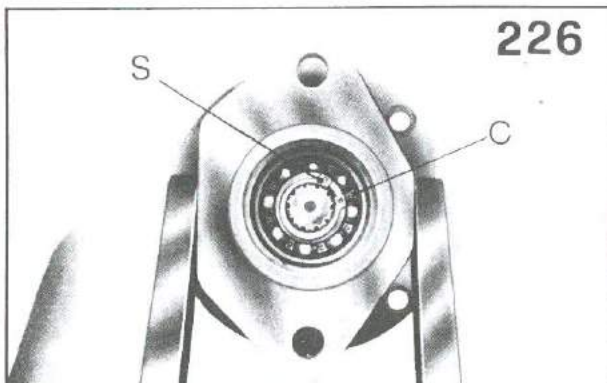
- Remove nuts D. Separate casing C from flange F (Fig. 223).



- Remove pinion A (Fig. 224).

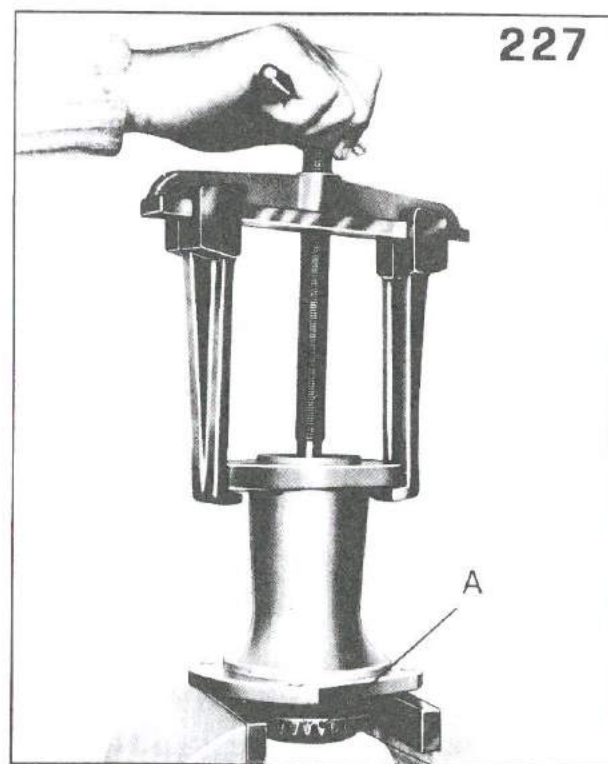


- Extract oil seal P (Fig. 225).

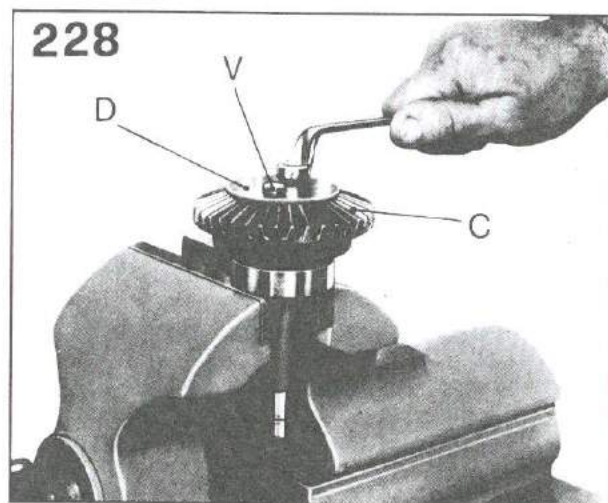


- Remove circlip S (Fig. 226).

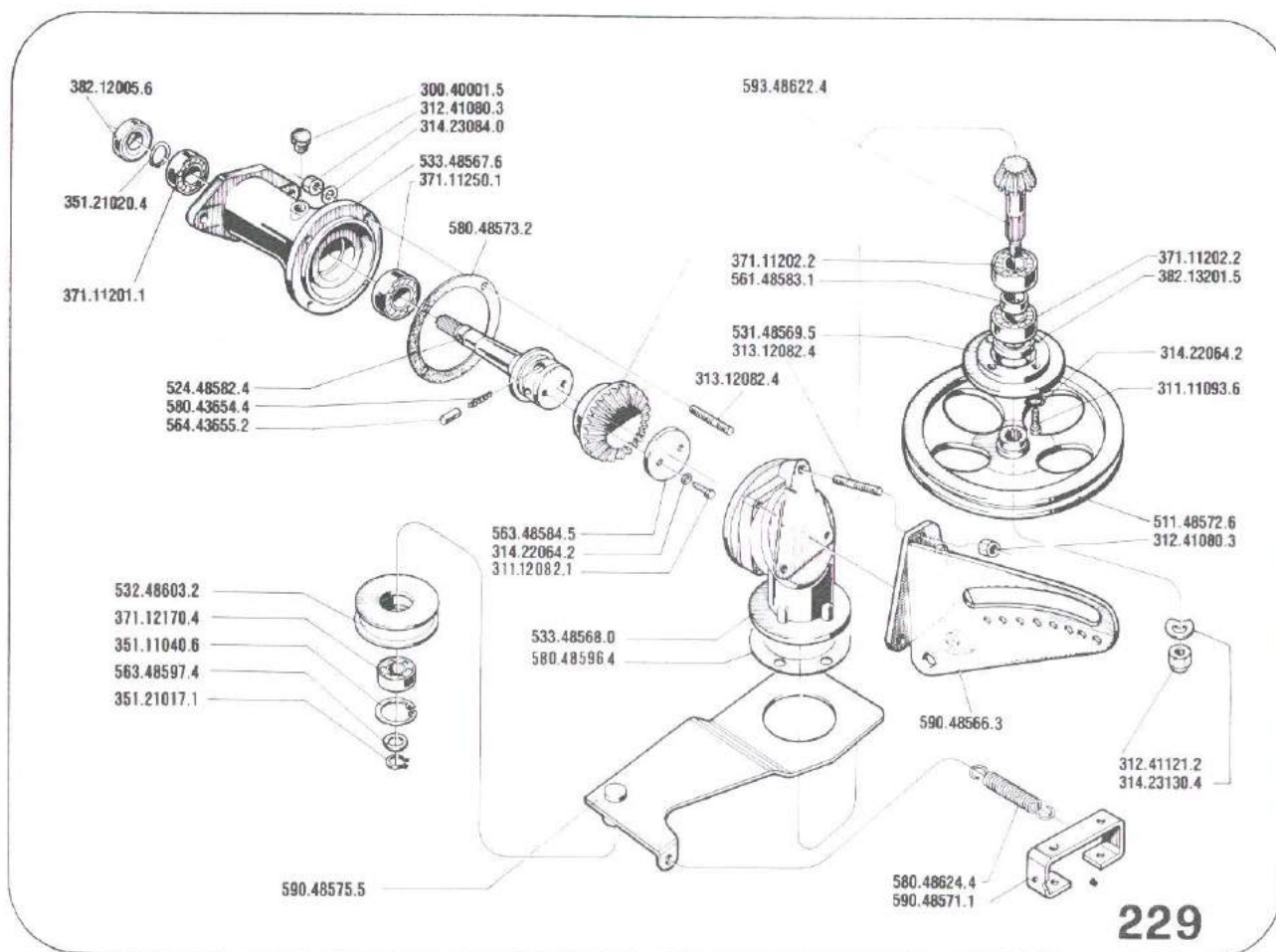
— Remove shaft A (Fig. 227).



— Unscrew screws V, remove disc D. Extract gear C by keeping the springs and caps (Fig. 228).



2.8.2 3-blade lawn mower overhauling

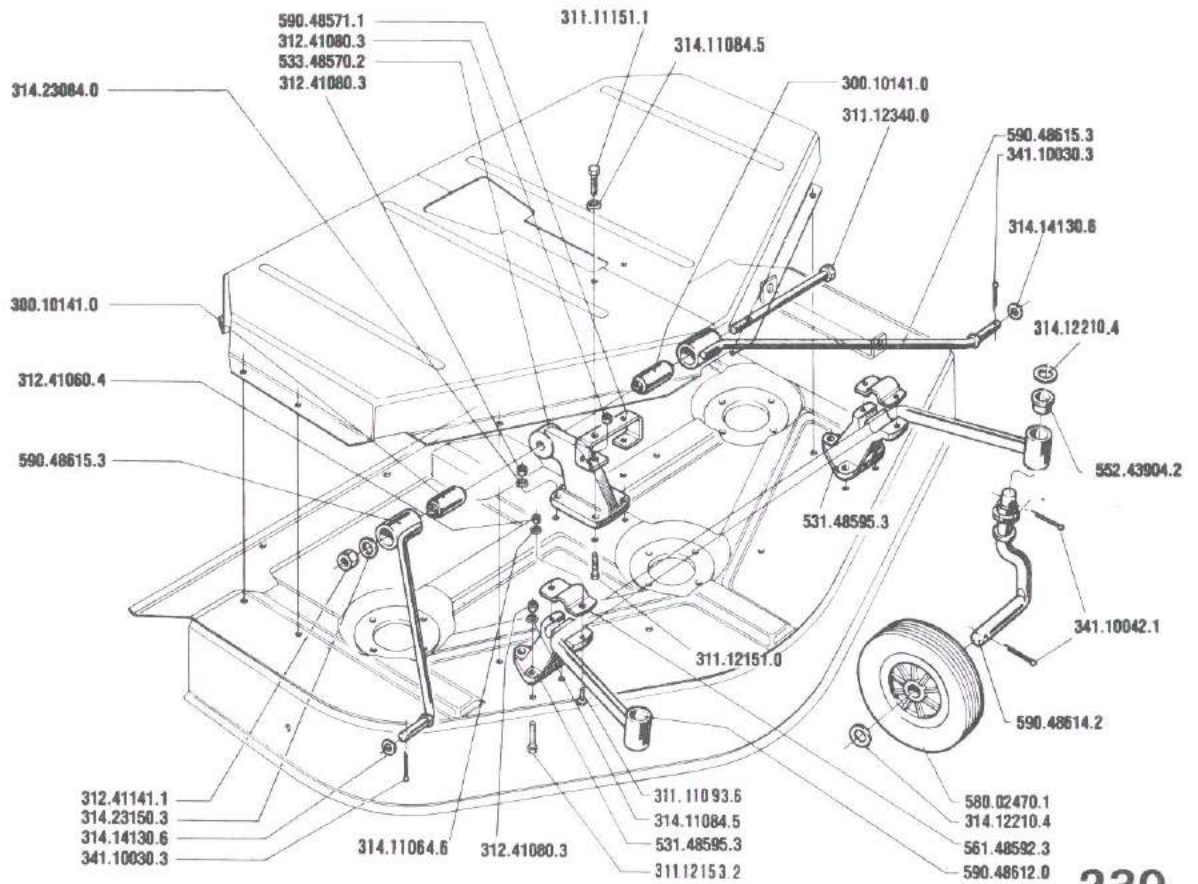


229

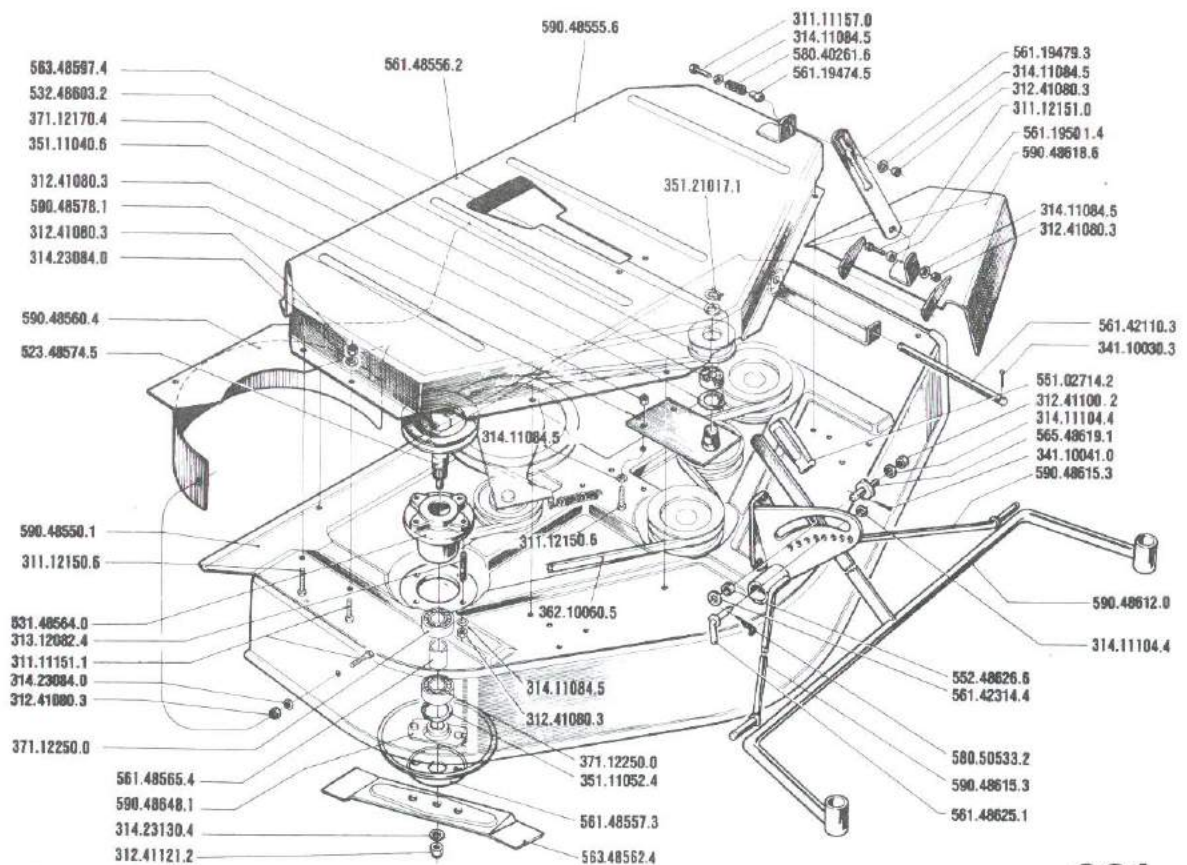
Make the following checks and replace any worn part (Fig. 229-230-231).

- Check that bell 362.10060.5 has no crack, abrasion or excessive wear. The belt must not be greasy or contact grease, lubricants or any solvent.
- Check the condition of isolators 300.10141.0. For their assembly or disassembly use tool No. 6.
- Check the crankcase 590.48550.1, the flap 590.48560.4 and the belt guards 561.48556.2 and 590.48555.6, for wear or damage. The plate must not have excessive dents, cracks or weak spots.
- Inspect the blade sharpness. If necessary; grind with an abrasive stone in the lower part of blades.
- Check that protections 590.48557.3 are not warped.

- Check that guide pulleys 532.48603.2 can rotate freely.
- Check the efficiency of tightener 590.48575.5. It must rotate freely and spring 580.48264.4 must not be broken or weak.
- Check the spline and cap housing on shaft 524.48582.4.
- Check the condition of caps 564.43655.2.
- Check the springs 580.43654.4. The free length of a new spring is 1.2".
- Check the teeth and inside profile of gear 593.48622.4.
- Check the teeth on pinion 593.48622.4.
- Check the condition of bearings 371.11201.1, 371.11250.1, 371.11202.2, 371.12250.0, 371.12170.4.



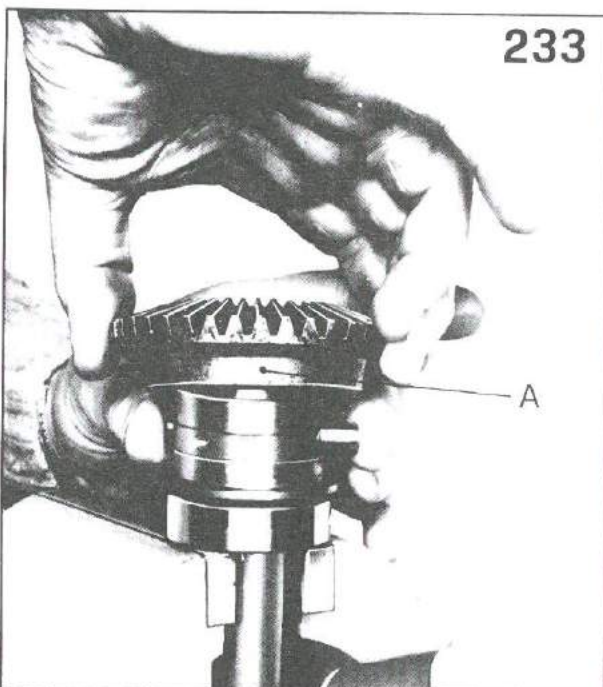
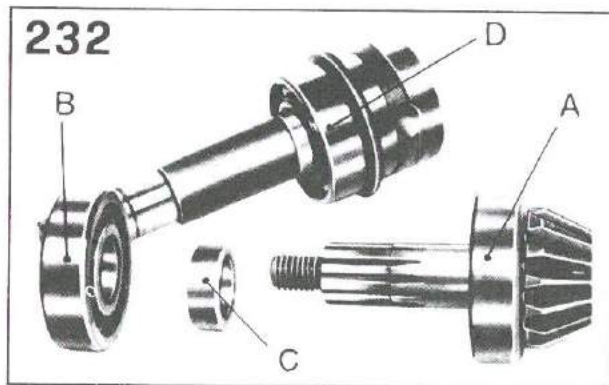
230



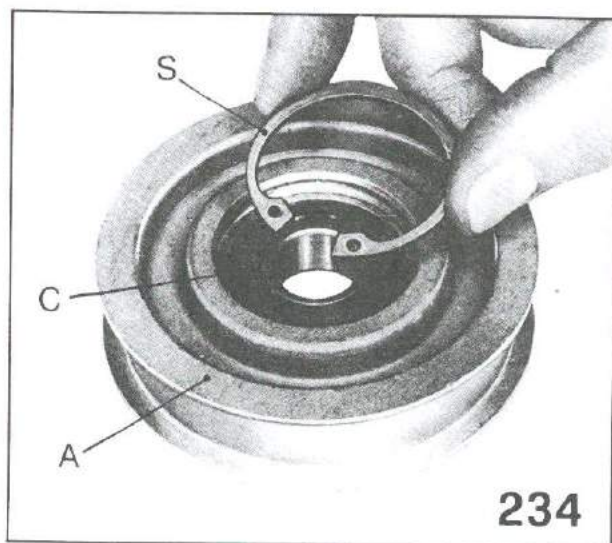
231

2.8.3. 3 Blade lawn mower assembly

- Fit bearing A, B and spacer C. Fit bearing D (Fig. 232).



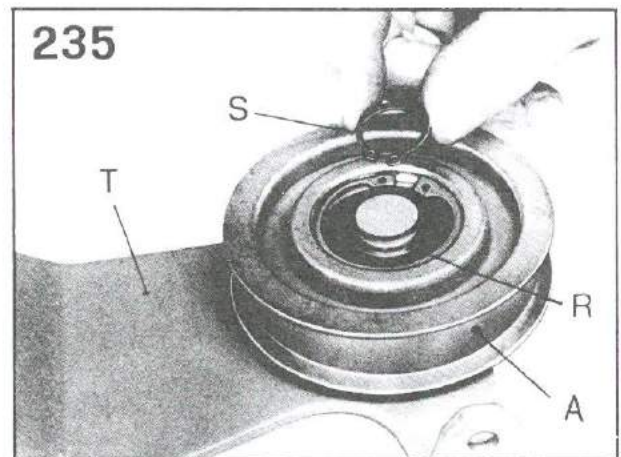
- Grease the housing with Molykote grease. Install the springs and caps, then fit gear A (Fig. 233).
- Fit disc D. Tighten screws V (Fig. 228).
- Install shaft A into the housing (Fig. 227).
- Fit bearing C and circlip S (Fig. 226).
- Use tool No. 3 and fit a new oil seal P (Fig. 225).
- Install pinion A (Fig. 224).
- Set a new gasket and assemble casing C to flange F. Tighten nuts D at the torque of 18 Ft.lbs. (Fig. 223).



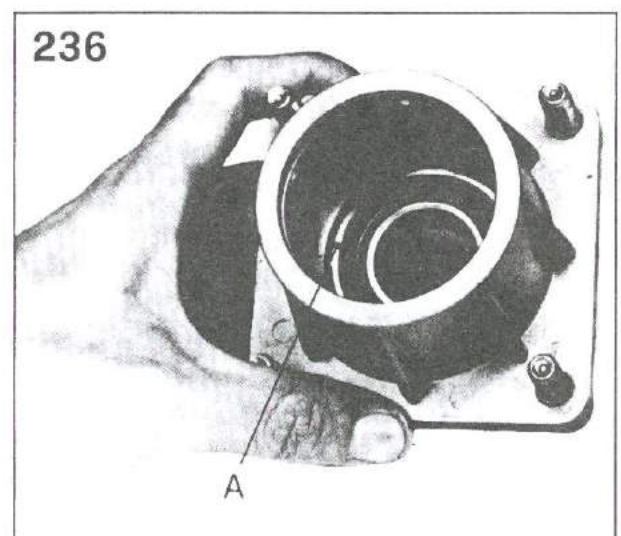
- Fit into guide pulley A bearing C and circlip S (Fig. 234).

- Fit guide pulley A on stretcher T.
Set washer R and fit circlip S (Fit. 235).

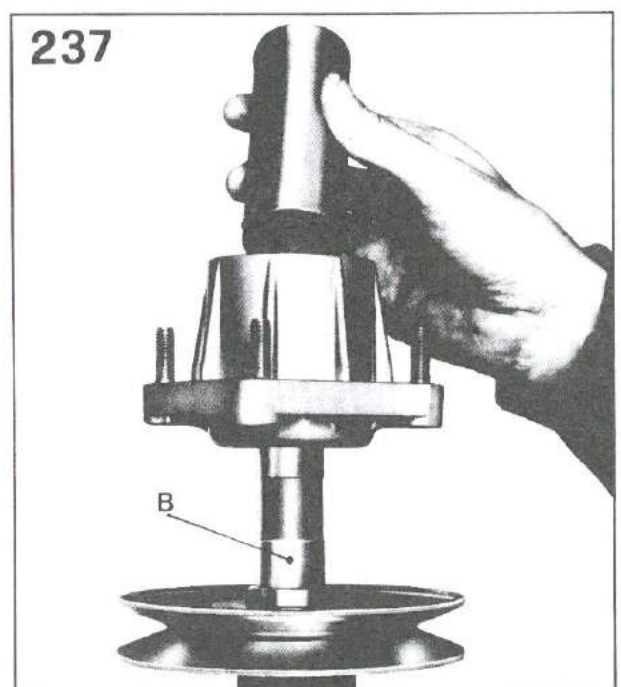
- Set stretcher T as shown in figure, install a new gasket, fit cover C with a new oil seal. Tighten screws V at the torque of 98 Ft.lbs.
- Fit pulley B. Tighten nut A at the torque of 63 Ft.lbs. (Fig. 221).
- Fill with oil the central assembly from cap H (Fig. 214) (see 0.2.2 fuel and oil specifications).

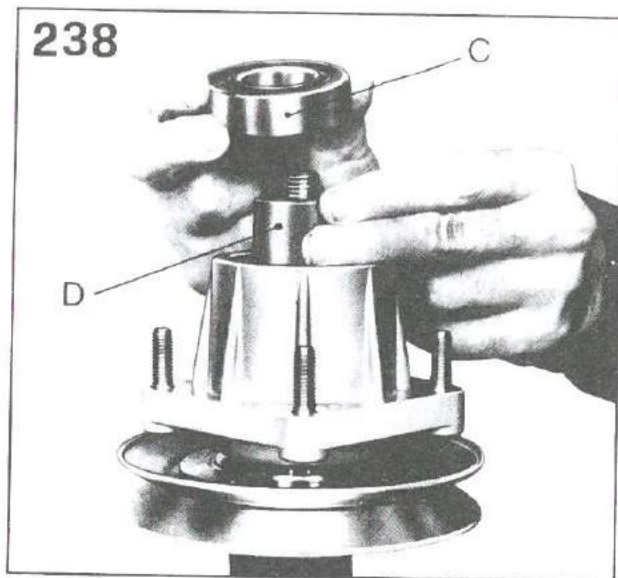


- Fit bearing A (Fig. 236).

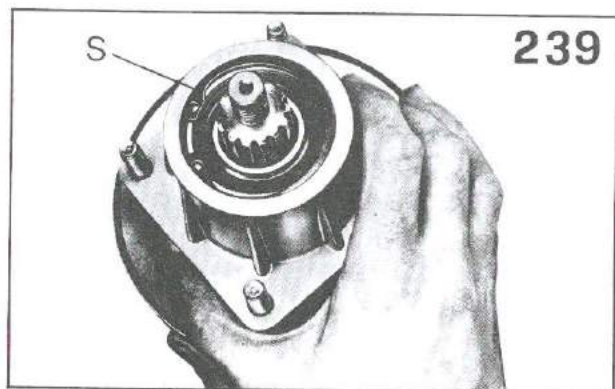


- Assemble the housing into shaft B (Fig. 237).





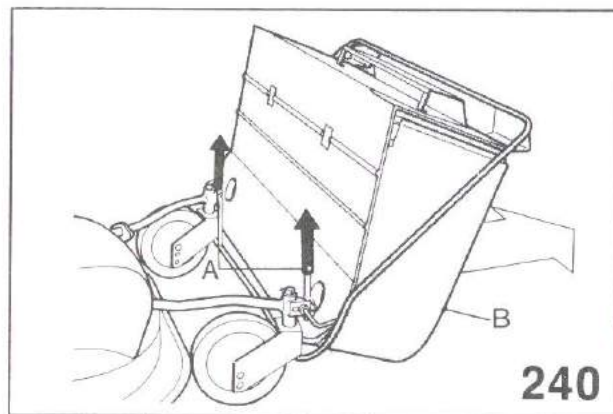
- Fit spacer D and second bearing C (Fig. 238).
- Fit circlip S (Fig. 239).
- Fit the blade control casings B. Tighten nuts at the torque of 18 Ft.lbs. (Fig. 219).
- Install guard C and blades L. Tighten nuts D at the torque of 58 Ft.lbs. (Fig. 218).
- Set the entire control casing A, assemble belt C and hook spring M (Fig. 217).
- Fit support B. Tighten nuts A (Fig. 215).
- Set the wheel axle R and tighteners T. Fit bolt D, bolts C, nut A and pin B (Fig. 214).
- Check the belt and pulley rotation. Fit the two guards S. Tighten screws V and bolts B (Fig. 216).
- Fit flap P and pin D. Fit bolt C with the spring and pawl (Fig. 215).
- Note: On 604 and 735 with 5.0/10 wheels, it is necessary to use a spacer of about 1.5 in. between deck and floor. A length of a 2×4 wood stud works very well.



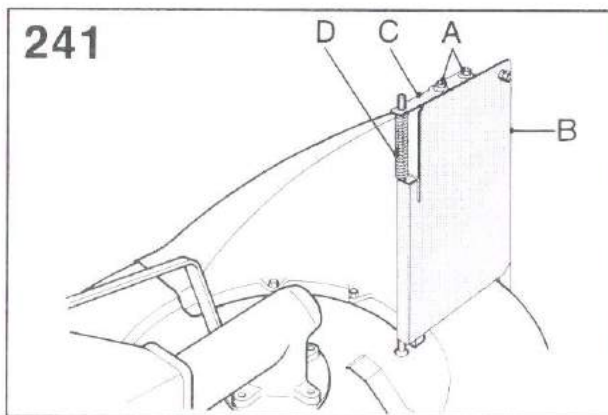
2.9 Blade lawn mower with grass catcher

2.9.1 Removal of the 2-blade lawn mower

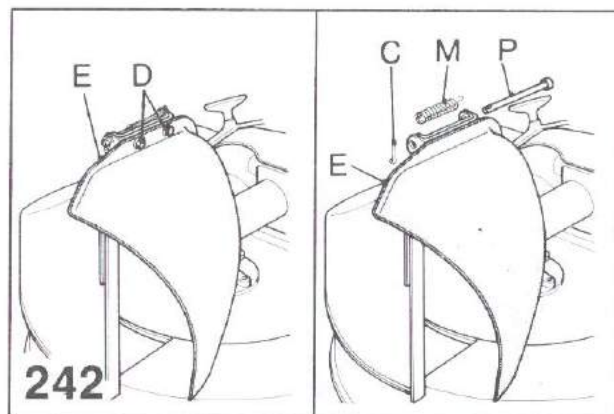
- Remove spring pins A and bag B (Fig. 240)



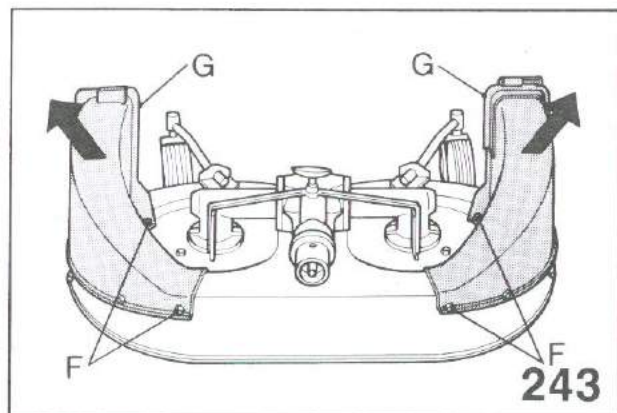
- Unscrew screws A and remove flap B with corresponding plate C and spring D (Fig. 241)

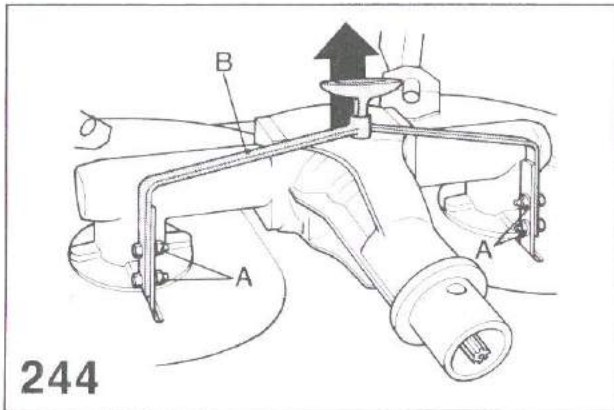


- Unscrew bolts D and remove flap E (Fig. 242)
- Remove cotter pin C and extract pin P, recovering spring M and flap E (Fig. 242).

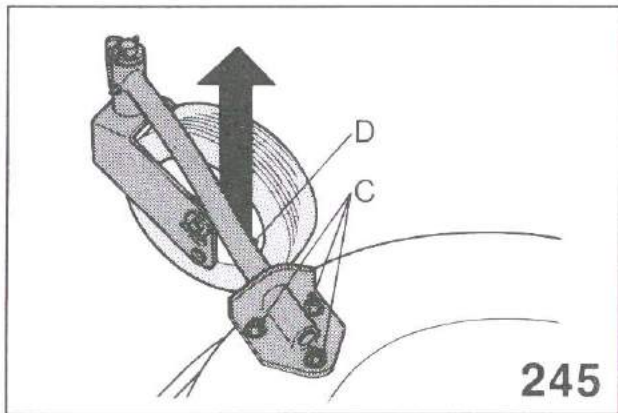


- Unscrew bolts F and remove conveyors G (Fig. 243)

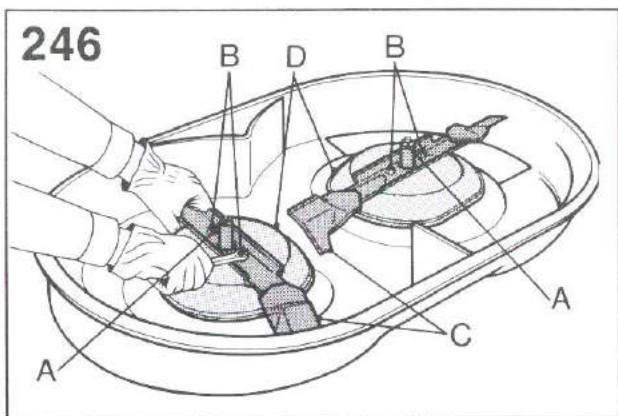




- Unscrew bolts A and remove crosspiece B (Fig. 244).

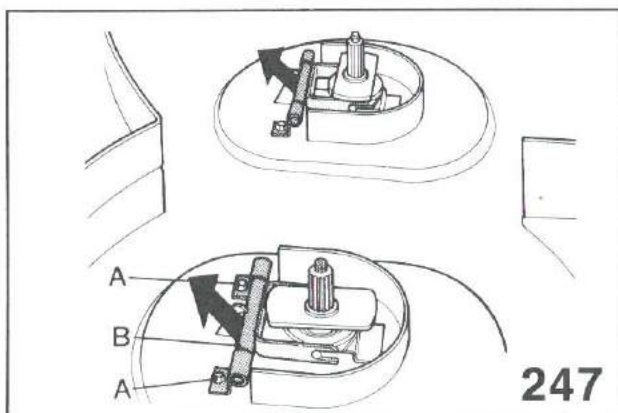


- Unscrew bolts C and remove stub axles D complete with wheels (Fig. 245).



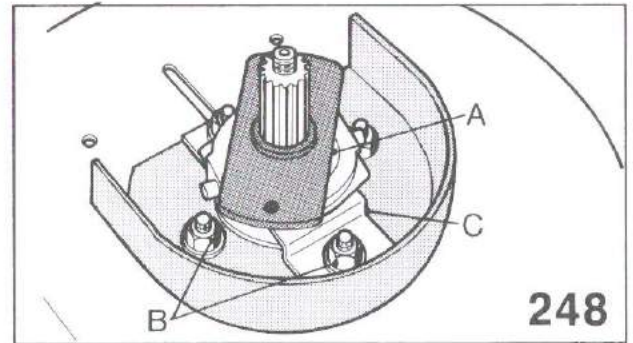
- Unscrew nuts A. Unscrew screws B, remove blades C and discs D (Fig. 246)

WARNING: Stop blade rotation wearing gloves to avoid accidents.

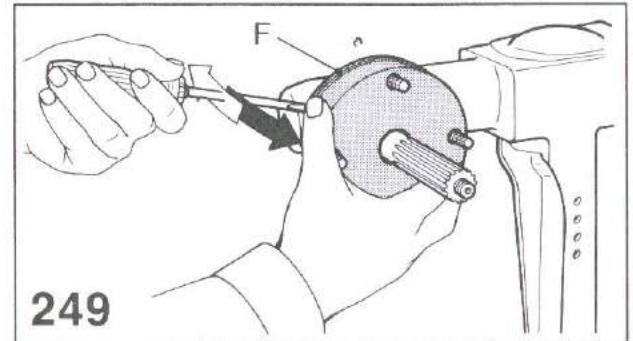


- Unscrew bolts A and remove levers B (Fig. 247).

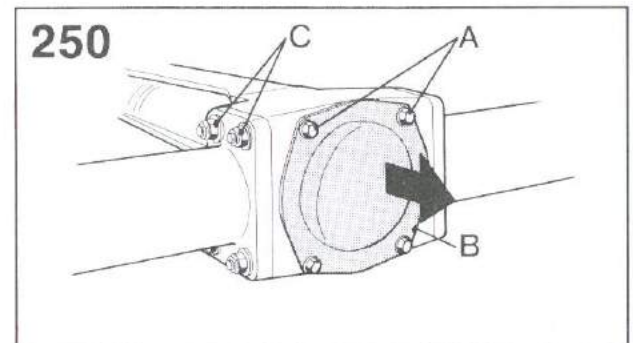
- Remove blade holder hubs A, unscrew nuts B, remove guards C and separate the crankcase from the blade control assembly (Fig. 248).



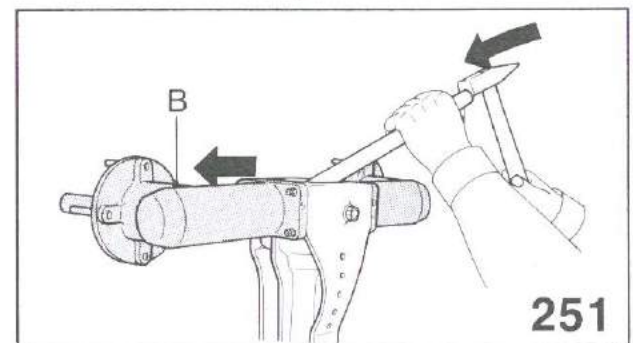
- Remove flanges F from the trasmission assembly (Fig. 249).



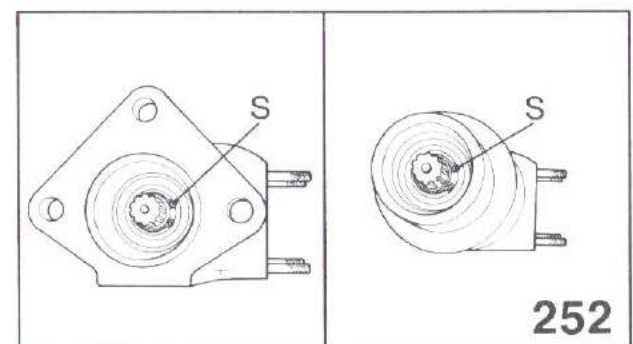
- Unscrew screws A and remove cover B. Drain oil (Fig. 250).
- Unscrew nuts C (fig. 250)

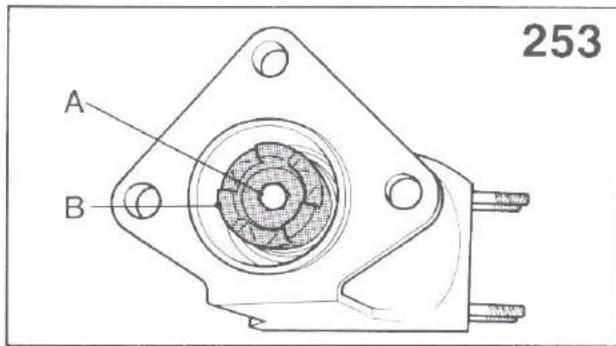


- Using a mallet pull out the two side trasmission bodies B marked with **D** and **S** (Fig. 251).

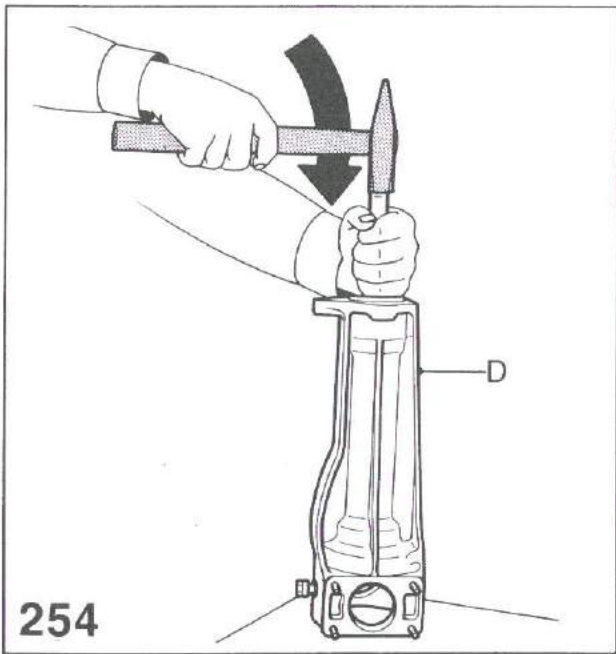


- Remove circlip S (Fig. 252).

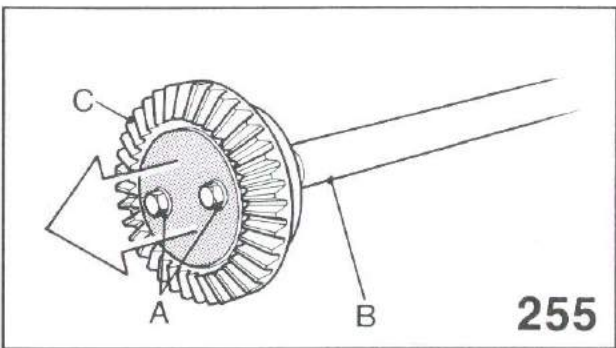




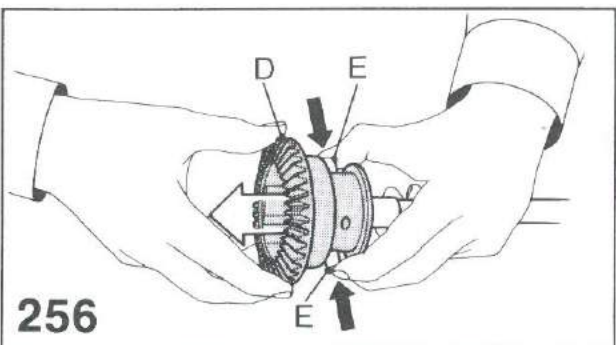
- Unscrew screw A and remove front coupling B (Fig. 253).



- Pull out the main shaft from central body D (Fig. 254).

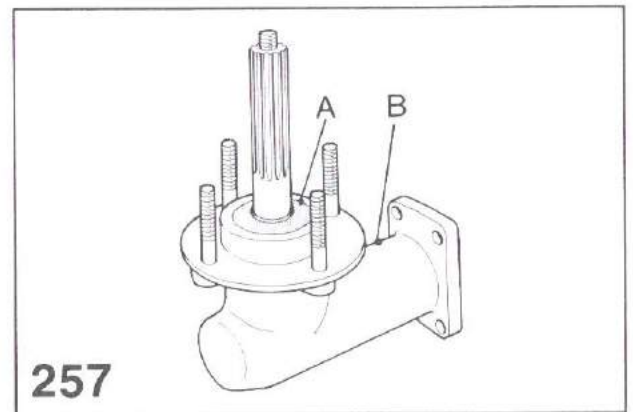


- Unscrew the two screws A and remove disc B from shaft B (Fig. 255).

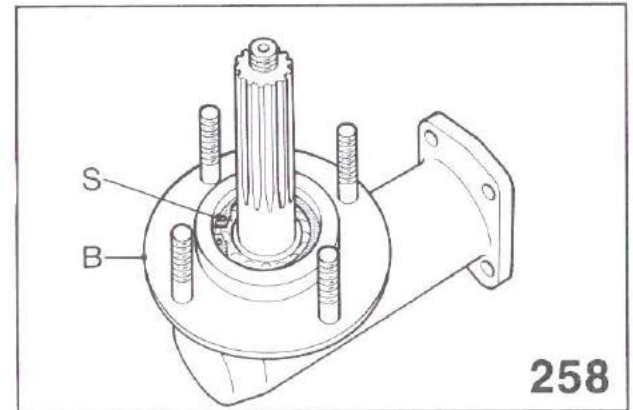


- Carefully extract gear D, keeping rods E. Extract them from the shaft together with the springs (Fig. 256).

- Remove oil seals A from side bodies B (Fig. 257).

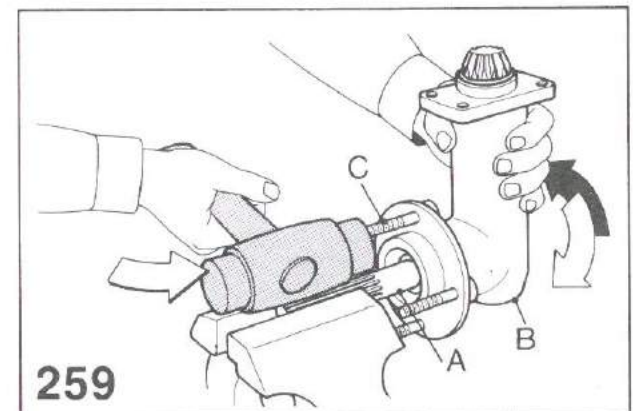


- Remove circlips S from side bodies B (Fig. 258).

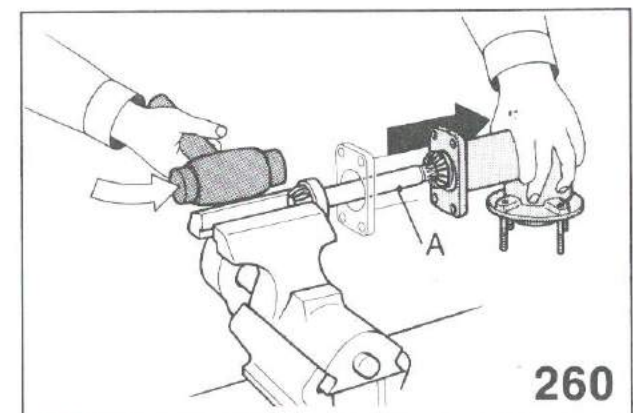


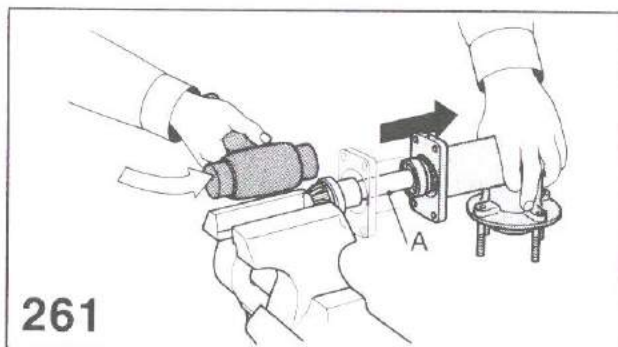
- Remove bevel pinions A from side bodies B, clamping with a vice the shanks of pinions. Strike with a mallet studs C, turning body B to balance the stroke (Fig. 259).

NOTE: Proceed carefully to avoid component exchange and:

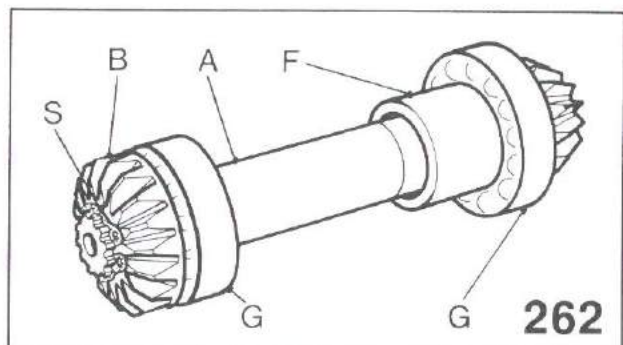


- from the side body with letter S stamped: clamp the gear with a vice and with a mallet pull out the complete shaft A (Fig. 260).

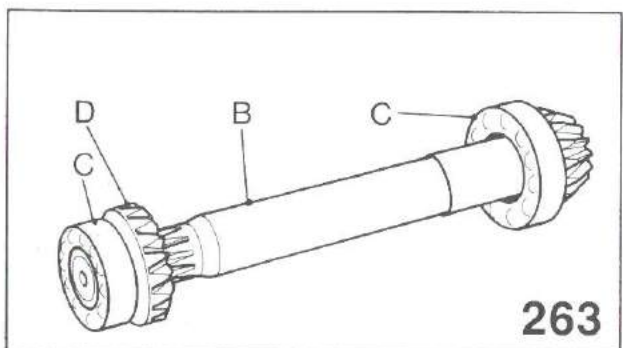




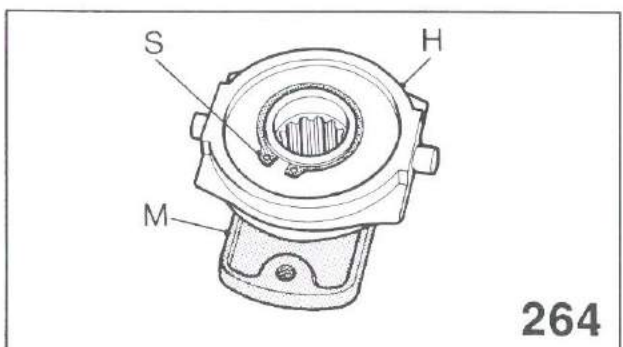
- from the side body with letter D stamped: clamp the gear with a vice and with a mallet pull out the complete shaft A (Fig. 261).



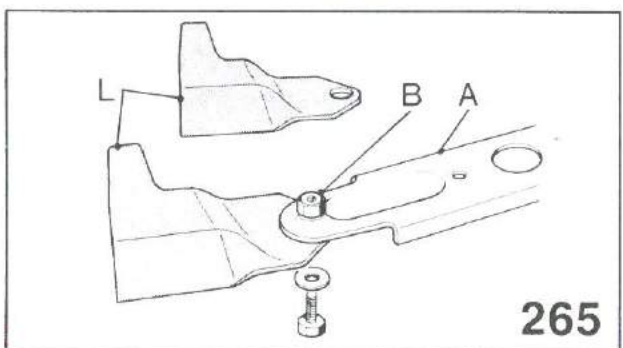
- From the right main shaft A remove circlip S and bevel gear B. Using an extractor or a press pull out stop ring F with bearings C (Fig. 262).



- From the left main shaft B remove bearings C with gear D using an extractor (Fig. 263).

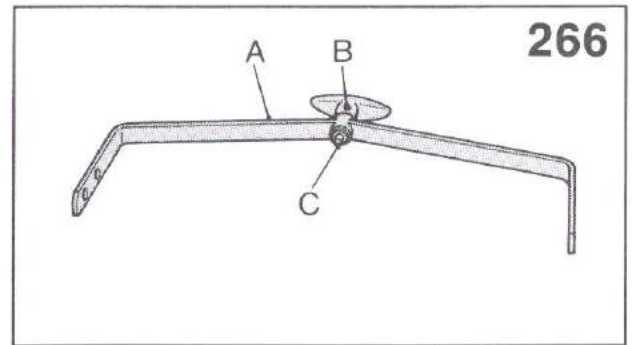


- Remove circlip S: Remove collar H from the blade holder hub M (Fig. 264).



- Unscrew bolts B from blade holders A and remove blades L (Fig. 265).

- From crosspiece A pull out pin B and recover ferule C with the corresponding spring (Fig. 266).

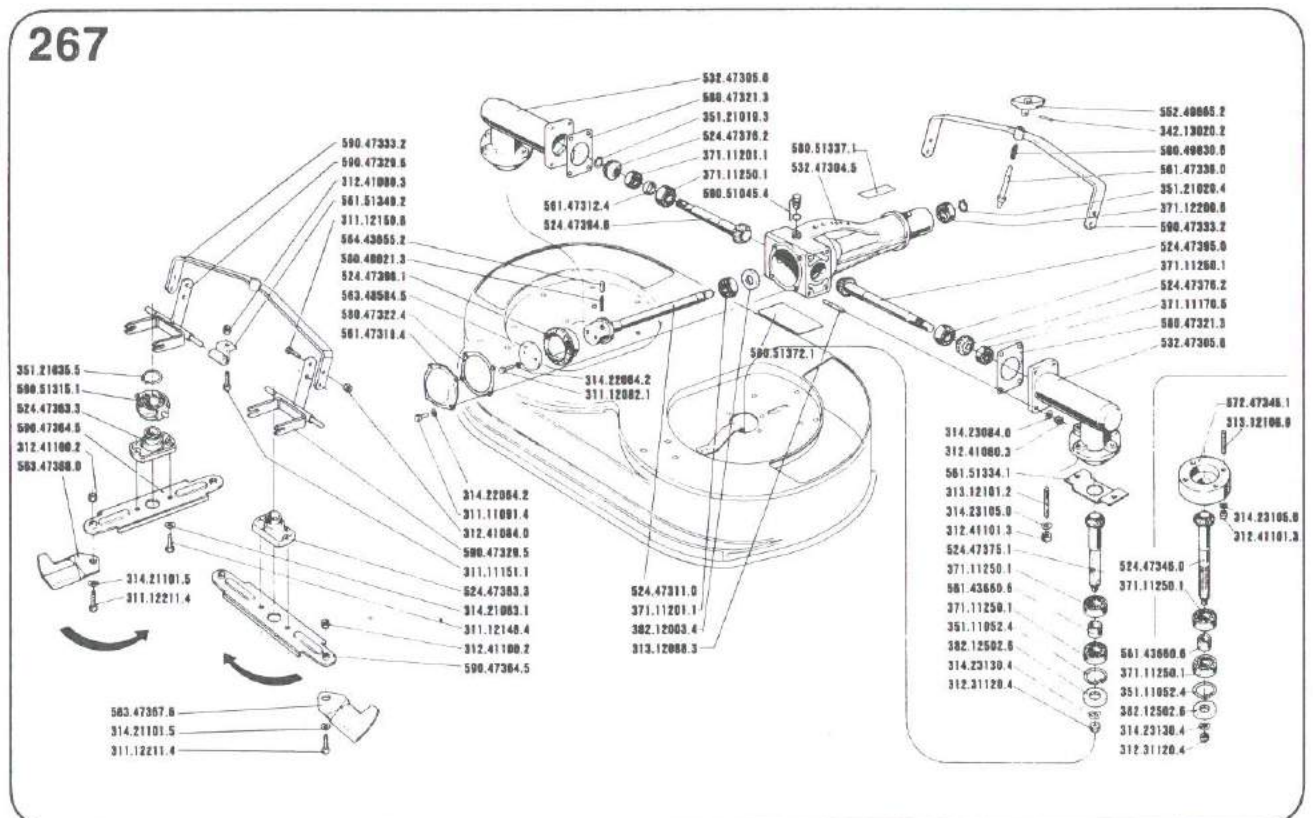


2.9.2 Overhauling of the 2-blade lawn mower with grass catcher

Make following checks and replace any worn part (Fig. 267-268).

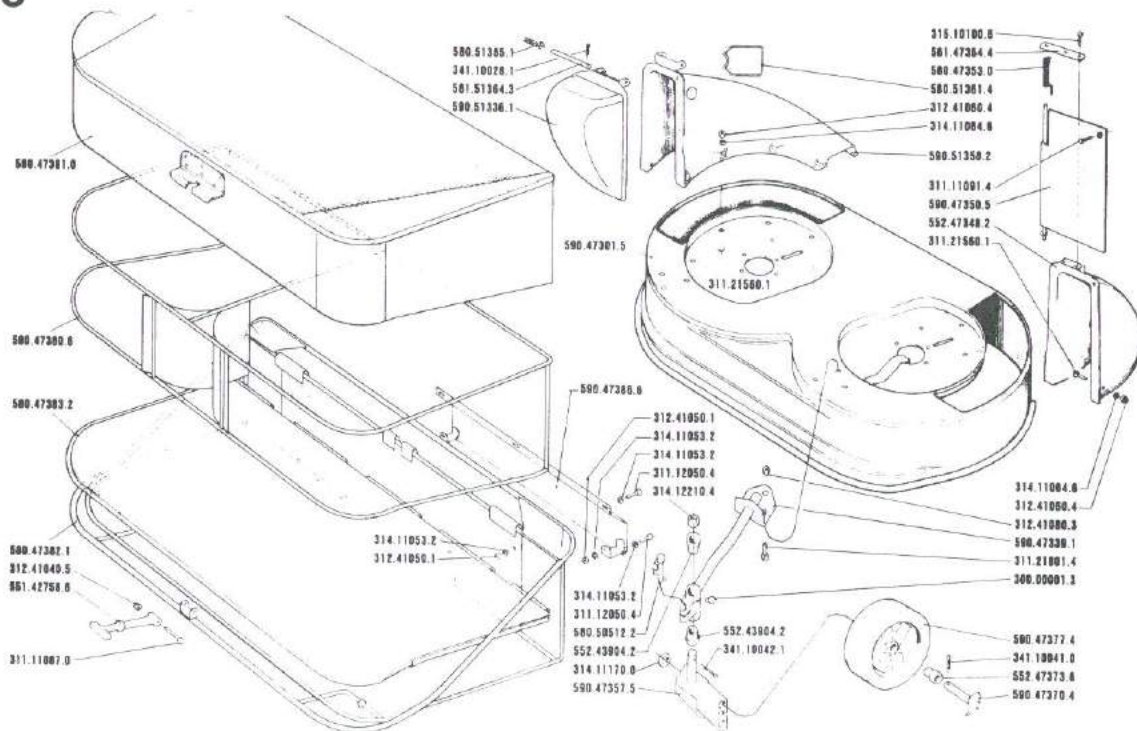
- Check the free rotation of wheels 570.47377.4 on pins 590.47370.4 and of forks 590.47357.5 in wheel supports 590.47339.1. If necessary, strip the parts removing cotter pins 341.10041.0 and 341.10042.1. Replace bushes 552.47373.6 and 552.43904.2.

- Check the sharpening of blades 563.47367.6 and 563.47368.0. If necessary, sharpen them with the grinding stone on their lower part.
- Check that the frame of grass catcher 590.47383.2 and the frame of catcher bottom 580.47382.1 are not warped and that catcher 580.47381.0 and catcher bottom 580.47383.6 are not drilled or broken. If necessary, widen the rubber contour and separate the parts. Verify that handle 551.42758.6 is not worn: if necessary, replace it unscrewing screw 311.11087.0.



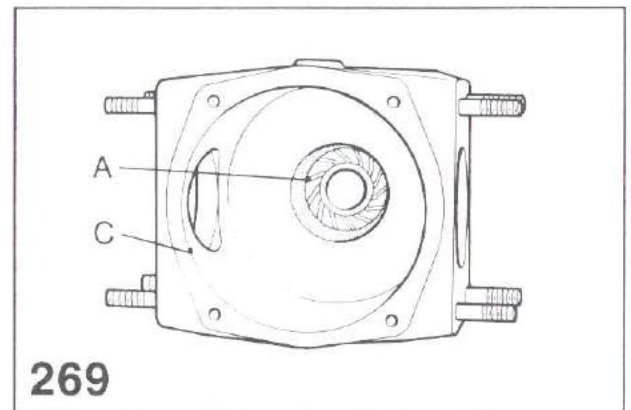
- Verify that conveyors 590.51358 and 552.47348 are not cracked or partially broken.
- Verify that flap 590.51336 and 590.47350 are not too much dented or cracked or broken.
- Check crankcase 590.47301. The plate must not have big dents, cracks or breakages.
- Check the condition of the bearings installed on collars 590.51315.
- Verify the free sliding of blade holder hubs 524.47363 on pinions.
- Check the condition of teeth and keyings as well as the modified housings of conical gears 524.47376, 524.47394, 524.47395, 524.47375, 524.47346.
- Check the teeth and inside contour of gear 524.47396.
- Check the surface and cap housings as well as the keying of shafts 524.47311.
- Check the condition of caps 564.43655.
- Check the condition of springs 580.48021 (the free length on a new part is 1,38").
- Check the condition of the three front teeth of coupling 564.48398.
- Check the condition of bearings 371.11250, 371.12200, 371.11202, 371.12252, 371.11170.

268

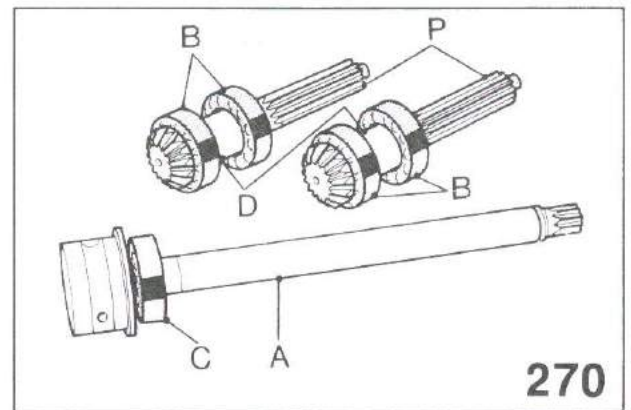


2.9.3 Assembly of the 2-blade lawn mower with grass catcher

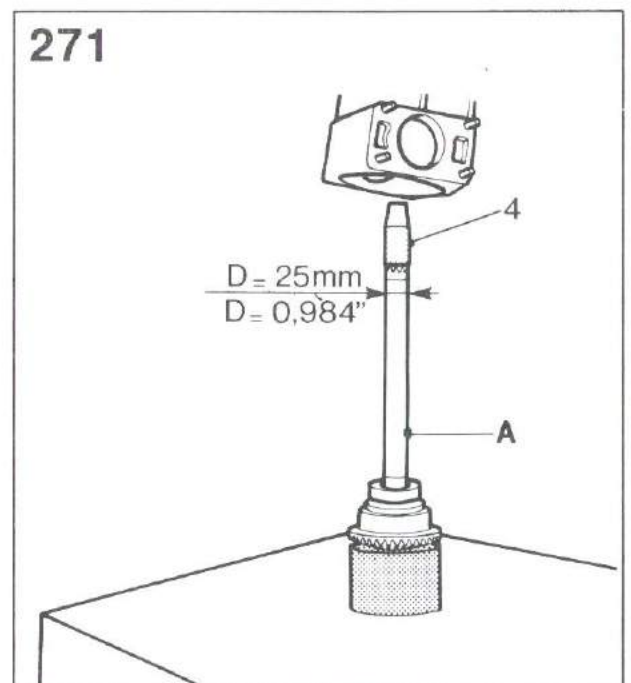
- Fit oil seal A into central body C (Fig. 269).

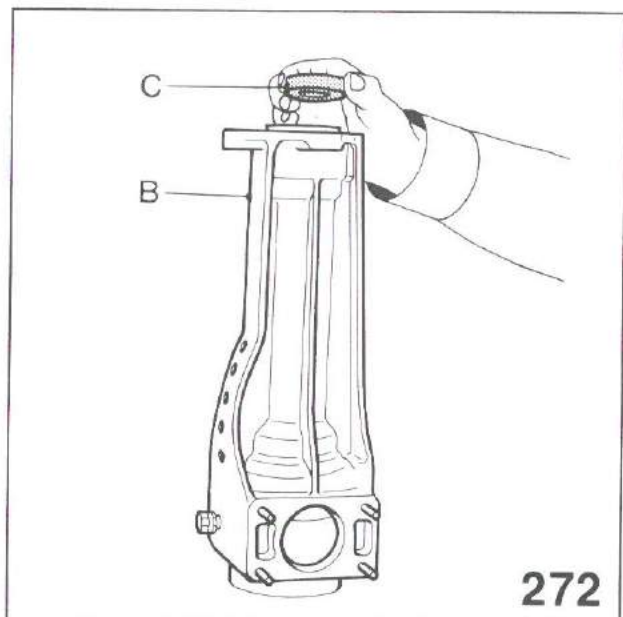


- Fit bearing C on shaft A and bearings B and spacer D on pinions P (Fig. 270).
- Grease with antiscuff grease the cap and bevel gear housing, then insert springs A with corresponding caps B and fit gear C on disc D (Fig. 256).
- Tighten the two screws V with washers at the torque of 8 ft/lbs.

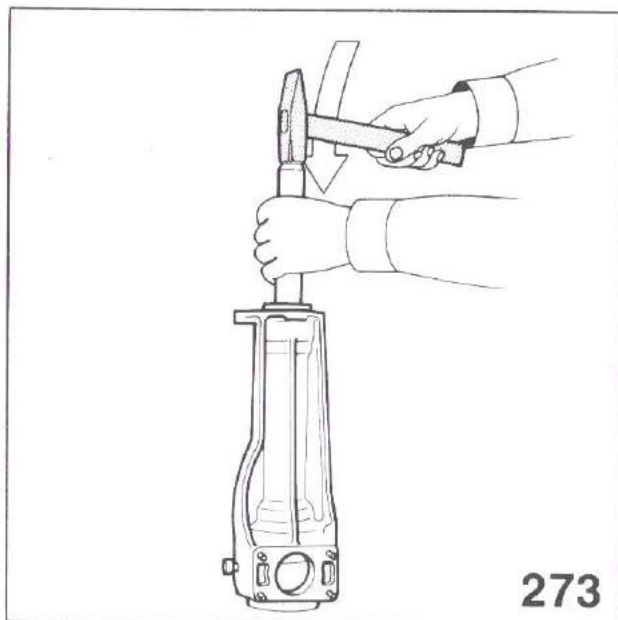


- Put a dog under shaft A.
- For the shaft with diameter 0.984" install protection No. 4 (Fig. 271).

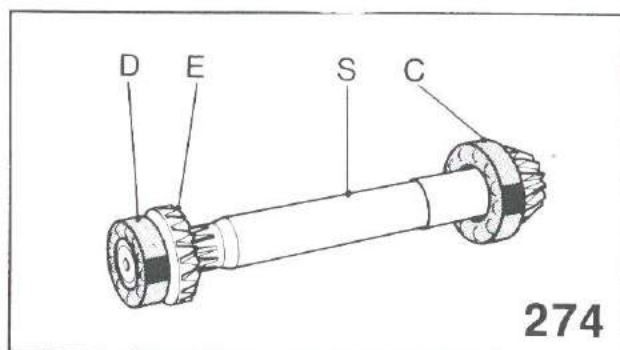




— Fit body B and install bearing C (Fig. 272).

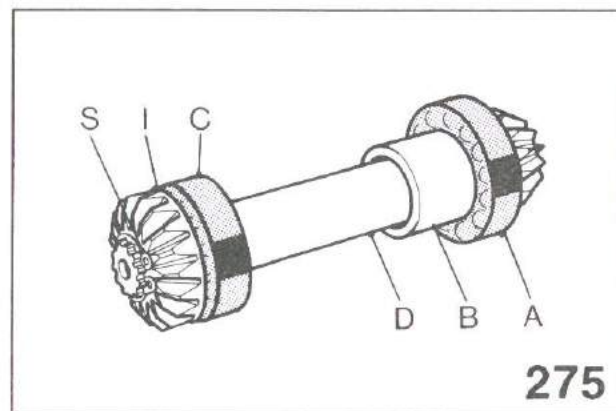


— By a taker-in bring bearings into their housing (Fig. 273).
 — Fit circlip S (Fig. 252).
 — For the shaft with diameter 0.984" key coupling A, put washer B and lock with screw C (Fig. 253).

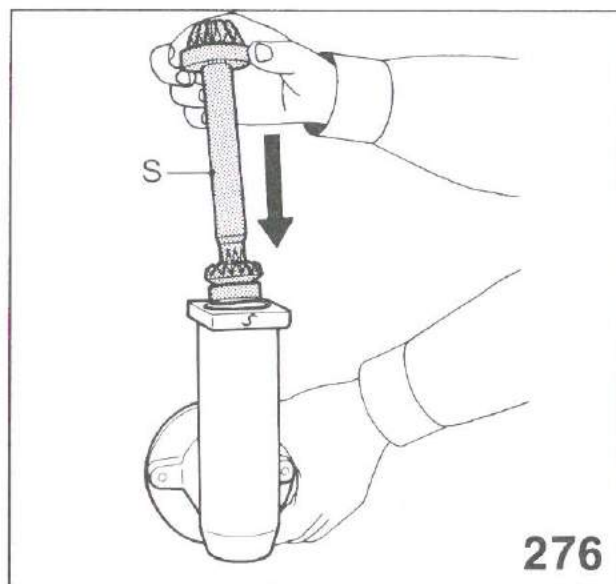


— Fit bearing C on left main shaft S, key gear E and insert bearing D (Fig. 274).

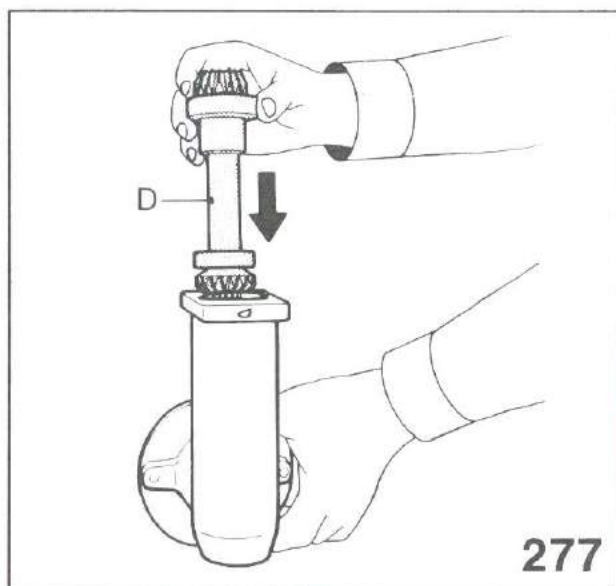
- Fit on right shaft D bearing A and a new ring B by means of a press: Fit bearing C, key gear I and circlip S (Fig. 275).

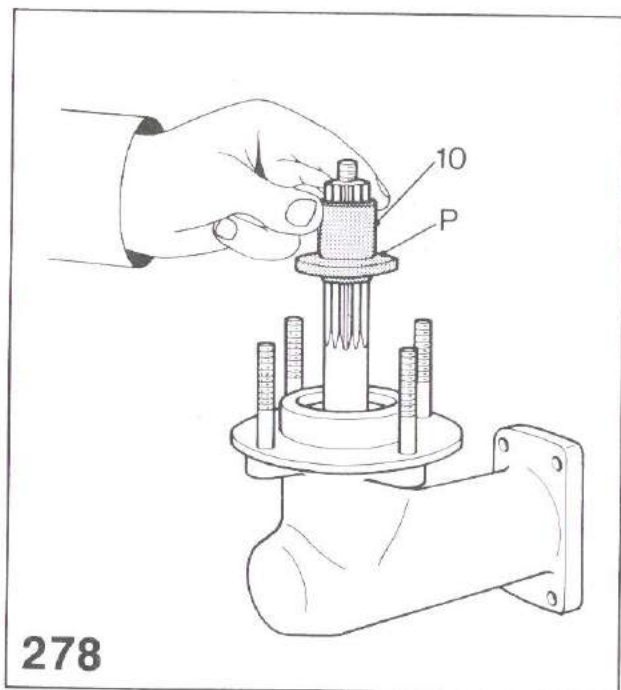


- Fit shaft S of fig. 274 on the side body marked with letter S (Fig. 276).



- Fit shaft D of figure 275 on the side body marked with letter D (Fig. 277).
- Fit into the side bodies pinions A complete with bearings and spacers (Fig. 258).
- Fit circlips S into the side bodies B (Fig. 258).





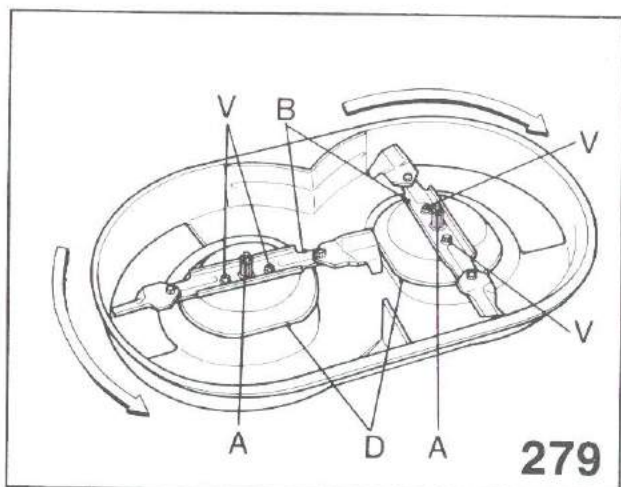
- Put on protection No. 10 the new oil seals S and install them in their housing (fig. 278).
- Assemble the side bodies with the central transmission body installing new gaskets. Tighten nuts A at the torque of 18 ft./lbs. (Fig. 250).

NOTE: the side bodies are marked with the letters S and D and after the assembly they must be combined with letters **S** and **D** stamped on the central transmission body A (Fig. 251).

- Install under cover B a new gasket, tighten screws A at the torque of 8 ft./lbs. (Fig. 250). Fill the assembly with oil through plug T (Fig. 244) (see 0.2.2 Fuels and oil specifications).
- Install a new gasket under cover B, tighten screws A at the torque of 8 ft./lbs. (Fig. 250). Fit flanges F if the lawn mower is lifted (Fig. 249).
- Fit the transmission assembly on the lawn mower crankcase, fit protection P and tighten nuts B at the torque of 37 ft./lbs.
- Fit collars H and circlip S on hubs M (Fig. 264).
- Put the blade holder hubs M, fit levers B inserting the fork ends into the stakes of the blade holder hubs. Tighten well bolts A (Fig. 247).
- Install the protection discs D, fit blades B in the **correct sense of rotation** and tighten screws V at the torque of 18 ft./lbs. Tighten nuts A (Fig. 279).

WARNING: Stop blade rotation wearing gloves to avoid accidents.

- Fit on crosspiece A ferrule C and the spring to adjust the handle M, after greasing them. Install pin B (Fig. 266).
- Fit crosspiece B and tighten bolts A (Fig. 244).
- Fit conveyors G and tighten bolts A (Fig. 243).
- Fit flap E tightening bolts D (Fig. 242).
- Put door B with spring C and plate P, then tighten screws A (Fig. 241).
- Fit the catcher and spring pins A (Fig. 240).



TIGHTENING TORQUES OF NUTS AND BOLTS

Position	No.	Part. number	Sizes	Kgm	Nm	lb/ft.
Clutch						
Tightening screws ring-cone	3	311.52059.1	M6 × 35	1.1	10.4	8
Engine fastening screws	1	311.52085.6	M8 × 25	2.5	24.6	18
Tightening bolts rings-cones	3	311.52060.2	M6 × 30	1.1	10.4	8
Clutch box rightening nut	1	563.49562.3	M16 × 1.5	15	147	108.5
Gearbox 715-725-735-745						
Engine-gearbox fastening nuts	6	312.11080.5	M8	2.5	24.6	18
Gearbox cover fastening nuts	6	312.11080.5	M8	2.5	24.6	18
Final transmission 715-725						
Wheel hub fastening nuts	2	312.41120.1	M12 selflocking	8.7	84.8	63
Wheel fastening nuts	8	312.11100.4	M10	5.1	50.1	37
Final transmission 735						
Wheel hub fastening nuts	6	312.41080.3	M8 selflocking	2.5	24.6	18
Wheel fastening nuts	8	312.11100.4	M10	5.1	50.1	37
Final transmission 745						
Reducer box fastening nuts	10	312.41080.3	M8 selflocking	2.5	24.6	18
Cover screws	4	311.12150.6	M8 × 20	2.5	24.6	18
Wheel fastening nuts	8	312.11100.4	M10	5.1	50.1	37
Synchronized PTO 735						
Cover fastening nuts	4	312.41080.3	M8 selflocking	2.5	24.6	18
Cover fastening screws	3	311.12152.1	M8 × 30	2.5	24.6	18
Synchronized PTO 745						
Cover fastening nuts	7	312.41080.3	M8 selflocking	2.5	24.6	18
Cover fastening screws	2	311.12151.0	M8 × 25	2.5	24.6	18
Rotary hoes 21"-26"-30"						
Side cover fastening nuts	4	312.41080.3	M8 selflocking	2.5	24.6	18
Rear cover fastening nuts	4	312.41060.4	M6 selflocking	1.1	10.4	8
Fastening nuts for blade holder flanges	2	312.41120.1	M12 selflocking	8.7	84.8	63
Fastening bolts for blade holder flanges	2	312.41141.1	M14 selflocking	13.8	135	100
Wide knives fastening bolts	—	311.12219.5	M10 × 25	5.1	50.1	37
Standard knives fastening bolts	—	311.12153.2	M8 × 35	2.5	24.6	18
Rotary hoe 33"-38"						
Side cover fastening nuts	6	312.41080.3	M8 selflocking	2.5	24.6	18
Rear cover fastening nuts	4	312.41080.3	M8 selflocking	2.5	24.6	18
Knife-holder flange fastening nuts	2	312.41181.6	M18 × 1.5	27.9	273.5	202
Knife fastening bolts	—	311.12264.1	M12 × 35	8.7	84.8	63
Cutter bar						
Fastening nut for blade control pin	1	312.41101.3	M10 selflocking	5.1	50.1	37
Bearing cover fastening screws	2	311.12090.2	M6 × 16	1.1	10.4	8
Cutter bar fastening bolts	3	311.12212.5	M10 × 35	5.1	50.1	37
Front oscillating protection fastening bolts	1	580.43542.4	M14 × 70 special	13.8	135	100
Rear oscillating protection fastening bolts	1	311.11331.6	M14 × 50	13.8	135	100
Lawn mower						
Crankcase fastening nuts	4	312.41080.3	M8 selflocking	2.5	24.6	18
Blade hub fastening nut	1	312.41182.0	M18 × 1.5	22	215.6	159
Blade fastening screws	2	311.12270.0	M12 × 20	8	74.8	58
Wheel fastening bolts	2	581.01091.6	M10	5	49	36
Lawn mower with front grass catcher						
Brake box fastening screws	4	311.12093.5	M6 × 20	1.1	10.4	8
Crankcase fastening nuts	4	312.41101.3	M10 selflocking	5.1	50.1	37
Blade fastening screws	4	311.12148.4	M8 × 14	2.5	24.6	18
Snow thrower 28"						
Side cover fastening screws	4	311.52085.6	M8 × 25	2.5	24.6	18
3-blade lawn mower						
Flange-casing fastening nuts	4	312.41080.3	M8 selflocking	2.5	24.6	18
Drive pulley fastening nut	1	312.41121.2	M12 selflocking	8.7	84.8	63
Blade control assemblies fastening nuts	12	312.41080.3	M8 selflocking	2.5	24.6	18
Blades fastening nuts	3	312.41121.2	M12 selflocking	8	78.4	58

BEARING SIZES

Position	No.	Part number	Type	Sizes mm
Clutch				
Inside support	1	371.12170.4	6203-2RS	17 × 40 × 12
Outside thrust block	1	371.12170.4	6203-2RS	17 × 40 × 12
Special nut	1	371.12100.4	6200-2RS	10 × 30 × 9
Gearbox 715-725-735				
Main shaft support	1	371.11150.6	6202	15 × 35 × 11
PTO shaft support - internal side	1	371.11150.6	6202	15 × 35 × 11
PTO shaft support - cover side	1	371.11201.1	6204	20 × 47 × 14
Gearbox 745				
Main shaft support	1	371.11152.1	6302	15 × 42 × 13
PTO shaft support - internal side	1	371.11150.6	6202	15 × 35 × 11
PTO shaft support - cover side	1	371.11250.1	6205	25 × 52 × 15
Final transmission 715				
Worm screw supports	2	371.11250.1	6205	25 × 52 × 15
Wheel shaft supports	2	371.11250.1	6205	25 × 52 × 15
Final transmission 725				
Worm screw supports	2	371.11255.6	6205	25 × 52 × 15
Wheel shaft supports	2	371.11250.1	6205	25 × 52 × 15
Final transmission 735				
Worm screw support - gearbox side	1	371.41250.6	7205-B	25 × 52 × 15
Worm screw support - engine side	1	371.11255.6	6205	25 × 52 × 15
Axle shaft supports - differential side	2	371.11202.2	6304	20 × 52 × 15
Axle shaft supports - wheel side	2	371.11253.4	6005	25 × 47 × 12
Final transmission 745				
Worm screw support - gearbox side	1	371.11255.6	6205	25 × 52 × 15
Worm screw support - engine side	1	371.41250.6	7205-B	25 × 52 × 15
Reduction shaft supports - differential side	2	371.11202.2	6304	20 × 52 × 15
Inside reduction shaft supports	2	371.11170.5	6203	17 × 40 × 12
Inside axle shaft supports	2	371.11170.5	6203	17 × 40 × 12
Axle shaft supports - wheel side	2	371.12253.3	6205-RS	25 × 52 × 15
Synchronized PTO 735				
Shaft front support	1	373.20140.4	DL 1412	14 × 20 × 12
Shaft rear support	1	373.11200.3	RNA 4902	20 × 28 × 13
Synchronized PTO 745				
Shaft front support	1	373.31201.5	DL 2012	20 × 26 × 12
Shaft rear support	1	373.31251.6	RNA 4904	25 × 37 × 17
Double gear	1	373.20141.5	K 14 × 18 × 28/2	14 × 18 × 28
Rotary hoe 21"-26"-30"				
Pinion support - PTO side	1	371.11200.0	6004	20 × 42 × 12
Pinion support - Gear side	1	371.11201.1	6204	20 × 47 × 14
Knife holder shaft support - internal side	1	371.11201.1	6204	20 × 47 × 14
Knife holder shaft support - cover side	1	371.11202.2	6304	20 × 52 × 15
Knife holder shaft support .98"	2	371.11250.1	6205	25 × 52 × 15
Rotary hoes 33"-38"				
Pinion support - PTO side	1	371.11250.1	6205	25 × 52 × 15
Pinion support - gear side	1	371.11300.2	6206	30 × 62 × 16
Knife holder shaft supports	2	371.11300.2	6206	30 × 62 × 16
Cutter bar				
Crank top support	1	371.12253.3	6205-RS	25 × 52 × 15
Crank bottom support	1	371.11150.6	6202	15 × 35 × 11
Fork rear support	1	371.11202.2	6304	20 × 52 × 15
Eccentric shaft supports	2	371.12200.6	6204-2RS	20 × 47 × 14

BEARING SIZES

Position	No.	Part number	Type	Sizes mm
Lawn mower				
Pinion top support	1	371.11250.1	6205	25 × 52 × 15
Pinion bottom support	1	371.11251.2	6305	25 × 62 × 17
Drive shaft support - PTO side	1	371.11201.1	6204	20 × 47 × 14
Drive shaft support - gear side	1	371.11250.1	6205	25 × 52 × 15
Lawn mower with front grass catcher				
Drive shaft supports	2	371.11201.1	6204	20 × 47 × 14
Blade holder shaft supports	2	371.11250.1	6205	25 × 52 × 15
Snow thrower 24"				
Drive shaft supports	2	371.11201.1	6204	20 × 47 × 14
Shaft supports turbine	2	371.11300.2	6206	30 × 62 × 16
Snow thrower 28"				
Shaft supports turbine	2	371.11300.2	6206	20 × 62 × 16
Drive shaft support - PTO side	1	371.12200.6	6204-2RS	20 × 47 × 14
Drive shaft support - gear side	1	371.11201.1	6204	20 × 47 × 14
3-Blade lawn mower				
Blade holder shaft supports	6	371.12250.0	6205-2RS	25 × 52 × 15
Central assembly pinion supports	2	371.11202.2	6304	20 × 52 × 15
Drive shaft support - PTO side	1	371.11201.1	6204	20 × 47 × 14
Drive shaft support - Gear side	1	371.11250.1	6205	25 × 52 × 15
Guide pulley	2	371.12170.4	6203-2RS	17 × 40 × 12

OIL SEAL AND O-RING SIZES

Position	No.	Part. number	Sizes mm
Gearbox 715			
PTO output	1	382.12001.2	20 × 35 × 7
Driving shaft entrance	1	382.11501.6	15 × 40 × 10
Gearbox ratio operating lever	2	381.11191.6	OR 115 11.91 × 2.62
PTO operating lever	1	381.11191.6	OR 115 11.91 × 2.62
Gearbox 725-735-745			
PTO output	1	382.12001.2	20 × 35 × 7
PTO output 745	1	382.12500.4	25 × 40 × 7
Driving shaft entrance	1	382.11501.6	15 × 40 × 10
Gearbox ratio operating lever	2	381.11191.6	OR 115 11.91 × 2.62
Reduction unit control lever	1	382.11201.0	12 × 19 × 5
PTO operating lever	1	381.11191.6	OR 115 11.91 × 2.62
Final transmission 715-725			
Wheel shaft output	2	382.12501.5	25 × 52 × 10
Final transmission 735			
Axle shaft output	2	382.13002.2	30 × 40 × 7
Differential locking control rod output	1	381.11400.5	OR 2056 14.00 × 1.78
Final transmission 745			
Reduction shaft output	2	382.12602.1	26 × 47 × 7
Synchronized PTO 735			
PTO shaft output	1	382.11999.0	20 × 30 × 7
Differential locking control rod output	1	381.11400.5	OR 2056 14.00 × 1.78
Synchronized PTO 745			
PTO shaft output	1	382.02500.0	25 × 37 × 7
Differential locking control rod output	1	381.11400.5	OR 2056 14.00 × 1.78
Rotary hoes 21''-26''-30''			
Drive shaft entrance	1	382.12003.4	20 × 42 × 7
Knife holder shaft output .79''	2	382.12001.2	20 × 35 × 7
Knife holder shaft output .98''	2	382.12503.0	25 × 35 × 7
Rotary hoes 33''-38''			
Drive shaft entrance	1	382.14001.0	40 × 52 × 7
Knife holder shaft output	2	382.13001.1	30 × 52 × 10
Lawn mower			
Driving shaft entrance	1	382.12005.6	20 × 47 × 10
Blade holder hub output	1	382.14004.3	40 × 62 × 7
Lawn mower with front grass catcher			
Driving shaft output	1	382.12004.5	20 × 47 × 7
Blade holder shaft output	1	382.12502.6	25 × 52 × 7
Blade holder shaft output (flange)	1	382.12500.4	25 × 40 × 7
Snow thrower 24''			
Driving shaft entrance	1	382.12005.6	20 × 47 × 10
Turbine shaft output	2	382.13001.1	30 × 52 × 10
Snow thrower 28''			
Driving shaft output	1	382.12500.4	25 × 40 × 7
Turbine shaft output	2	382.13004.4	30 × 62 × 10
3-Blade lawn mower			
Driving shaft entrance	1	382.12005.6	20 × 47 × 10
Central assembly pulley shaft output	1	382.13201.5	32 × 42 × 7

CIRCLIP SIZES

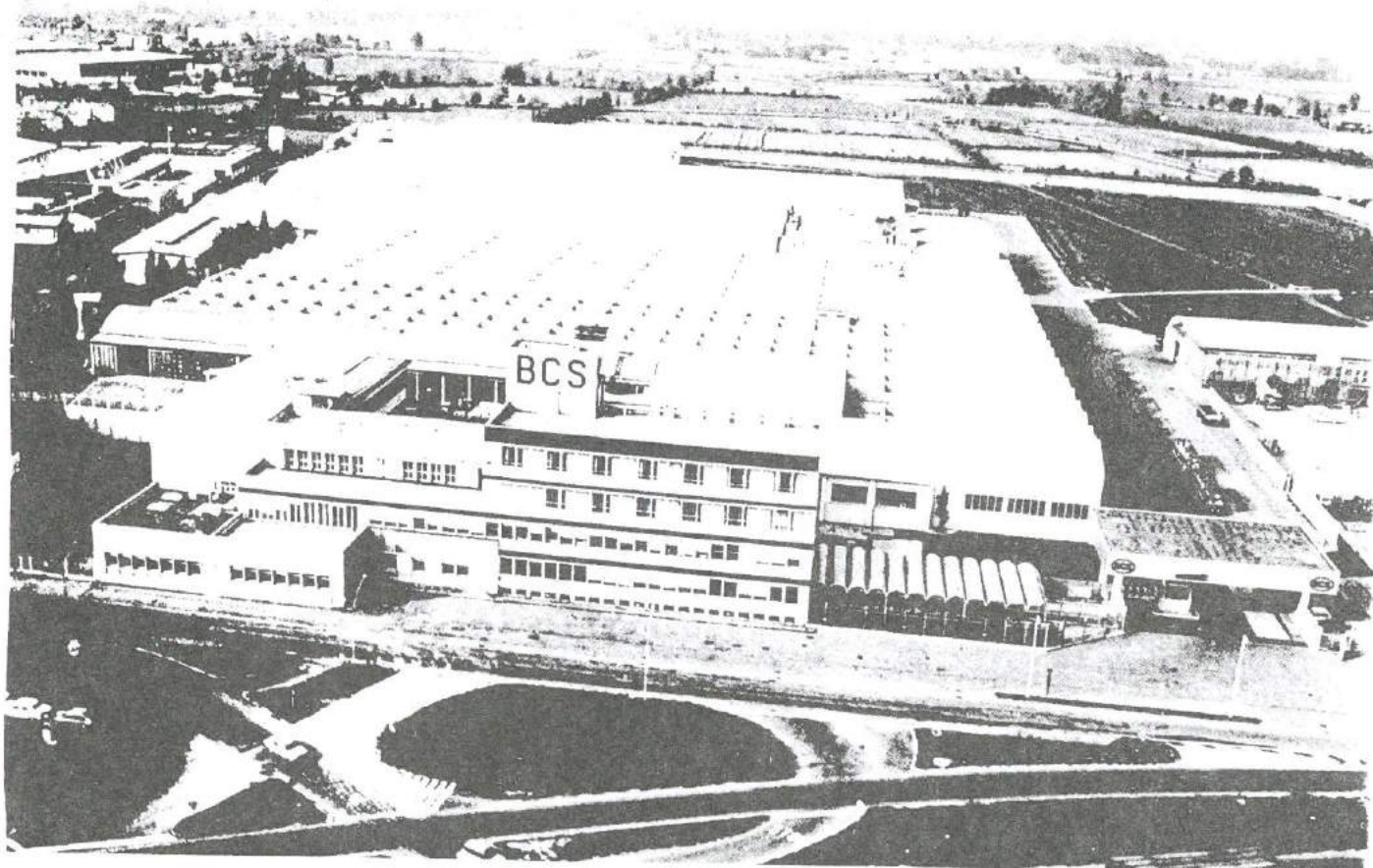
Position	No.	Part. number	Sizes mm
Gearbox 745			
Rear cover	1	351.11042.1	INSIDE Ø 42 DIN 472
Final transmission 715-725			
Worm screw	1	351.11052.4	INSIDE Ø 52 DIN 472
Wheel shaft	1	351.11052.4	INSIDE Ø 52 DIN 472
Final transmission 735			
Worm screw	1	351.11052.4	INSIDE Ø 52 DIN 472
Axle shaft	2	351.11047.6	INSIDE Ø 47 DIN 472
Final transmission 745			
Worm screw	1	351.11052.4	INSIDE Ø 52 DIN 472
Synchronized PTO 735			
PTO shaft	1	351.11030.0	INSIDE Ø 30 DIN 472
Synchronized PTO 745			
PTO shaft	1	351.11037.3	INSIDE Ø 37 DIN 472
Rotary hoes 21"-26"-30"			
Driving shaft	1	351.21020.4	OUTSIDE Ø 20 DIN 471
Rotary hoes 33"-38"			
Driving shaft	1	351.11052.4	INSIDE Ø 52 DIN 472
Cutter bar			
Driving shaft	1	351.21020.4	OUTSIDE Ø 20 DIN 471
Driving shaft	1	351.11047.6	INSIDE Ø 47 DIN 472
Lawn mower			
Driving shaft	1	351.21020.4	OUTSIDE Ø 20 DIN 471
Blade shaft	1	351.11062.0	INSIDE Ø 62 DIN 472
Lawn mower with front grass catcher			
Driving shaft	2	351.11047.6	INSIDE Ø 47 DIN 472
Blade holder shaft	1	351.11052.4	INSIDE Ø 52 DIN 472
Snow thrower 24"			
Driving shaft	1	351.11047.6	INSIDE Ø 47 DIN 472
Snow thrower 28"			
Turbine shaft	2	351.11062.0	INSIDE Ø 62 DIN 472
3-blade lawn mower			
Driving shaft	1	351.21020.4	OUTSIDE Ø 20 DIN 471
Blade shafts	3	351.11052.4	INSIDE Ø 52 DIN 472
Guide pulley pin	2	351.21017.1	OUTSIDE Ø 17 DIN 471
Guide pulley	2	351.11040.6	INSIDE Ø 40 DIN 472

SPRING ROLL SIZES

Position	No.	Part. number	Sizes mm
Handlebar and controls			
Handlebar rotation nuts	1	342.13022.4	3 × 22 UNI 6876
Cap	1	342.13025.0	4 × 14 UNI 6876
Column road	1	342.13022.4	3 × 22 UNI 6876
Handle	1	342.13020.2	4 × 20 UNI 6876
Differential lock lever	1	342.11040.3	4 × 20 UNI 1481
Gearbox 715			
Reverse speed gear pin	1	342.11025.2	2.5 × 22 DIN 1481
Ratio operating lever	2	342.13024.6	4 × 24 UNI 6876
PTO operating lever	2	342.13020.2	4 × 20 UNI 6876
Gearbox 725-735-745			
Reverse speed gear pin	1	342.11025.2	2.5 × 22 DIN 1481
Ratio operating lever	2	342.13024.6	4 × 24 UNI 6876
PTO operating lever	2	342.13020.2	4 × 20 UNI 6876
Reduction unit control lever	2	342.13024.6	4 × 24 UNI 6876
Final transmission 745			
Reduction boxes	4	342.13040.1	4 × 45 UNI 6876
Cutter bar			
Top support of blade control crank	1	342.11041.4	4 × 35 DIN 1481
Snow thrower 24"			
Turbine shaft	2	342.11104.4	10 × 70 DIN 1481
Snow thrower 28"			
Turbine shaft	2	342.11102.2	10 × 50 DIN 1481

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BCS SpA



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