

MODEL NR 83A

1. PREAUTIONS IN DISASSEMBLY AND REASSEMBLY:

For general reference purposes, the Model NR83A can be said to consist of three major sections: the Output Section, the Valve Section and the Magazine Section. The descriptions below explain important points in the disassembly and reassembly of these sections. The circled numbers in the descriptions correspond to the item numbers in the Parts List and exploded assembly diagram.

[CAUTION] Prior to disassembly/reassembly, ensure without fail that the air hose is disconnected from the Nailer, compressed air is completely discharged, and all nails are removed.

1 -1. Disassembly and Reassembly of the Output Section:

(1) Piston Damper (31), Packing (A) (32), and Related Parts:

Tools Required:

- 8 mm, 6 mm and 5 mm Hexagon Bar Wrenches
- 3 mm Roll Pin Remover
- 5 mm Spanner

(a) Disassembly:

- Loosen the two M5 x 25 Hexagon Socket Hd. Bolts (72) and two M6 x 20 Hexagon Socket Hd. Bolts (33) which fix the Magazine Base Ass'y (69), and remove the Magazine Base Ass'y by withdrawing it from the Tail Cover (38).

[CAUTION] Prior to loosening the two M6 x 20 Hexagon Socket Hd. Bolts (33), shift the Nail Feeder (64) to the Tail Cover (38) side without fail. Also, do not fully remove the front-side M6 x 20 Hexagon Socket Hd. Bolts (33).

- Extract the D3 x 30 Roll Pin (47), remove the four M8 x 25 Hexagon Socket Hd. Bolts (40) which fix the Tail Cover (38), and remove the Tail Cover (38) and Push Lever Ass'y (50) from the Body (B) Ass'y (26).
- On completion of the above disassembly procedures, Packing (A) (32), the Piston Damper (31), Damper Ring (30) and Cylinder Damper (29) can be taken out from the lower portion of the Body (B) Ass'y (26). Please note that if the Cylinder (19) has not been already disassembled as described in Para. 1 -1 (2) below, the Cylinder O-Ring (28) cannot be removed from the Body (B) Ass'y (26) at this time.

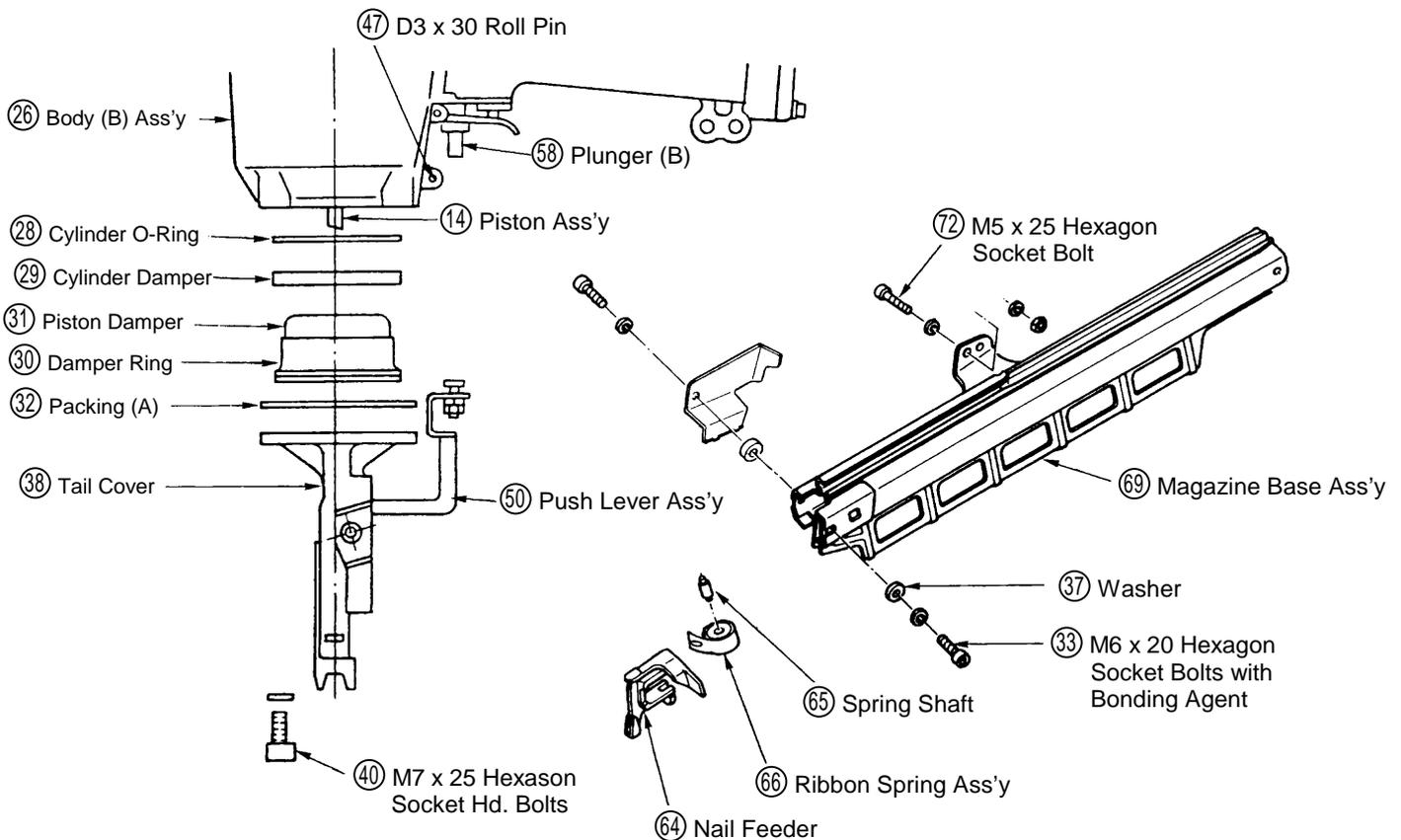


Fig. 7 Disassembly and Reassembly of the Piston Damper, Packing (A), etc.

(b) Reassembly:

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items:

- Ensure that the Piston Ass'y (14) is positioned so its semicircular groove faces toward the Magazine side (see Fig. 8 below).
- Plunger (B) (58) may drop out during disassembly. Ensure it is properly assembled.
- Assemble the Body (B) Ass'y (26), Tail Cover (38), and Magazine Ass'y (81) in the following manner:
 - 1) With the Push Lever Ass'y (50) properly mounted on the Tail Cover (38) as illustrated in Fig. 7, assemble the Tail Cover (38) to the Body (B) Ass'y (26) with the four M8 x 25 Hexagon Socket Hd. Bolts (40), and tighten them to rated torque (see para. 1-4).

[CAUTION] Please note that the Push Lever Ass'y (50) cannot be assembled after the Tail Cover (38) has been assembled to Body (B) Ass'y (26).

- II) Connect the Push Lever Ass'y (50) to the Body (B) Ass'y (26) with the D3 x 30 Roll Pin (47).
- III) Temporarily attach the Ribbon Spring Ass'y (66) and Nail Feeder (64) to the Tail Cover (38) with the M6 x 20 Hexagon Socket Hd. Bolts (33) (please note that this step is not necessary if the front-side M6 x 20 Hexagon Socket Hd. Bolt (33) was only loosened and not fully removed during reassembly [refer to Fig. 16]), and assemble the Magazine Base Ass'y (69) (refer to Para. 1-3- (1)).

[NOTE] Please refer to Para. 1-4 below for appropriate tightening torques for nuts and bolts.

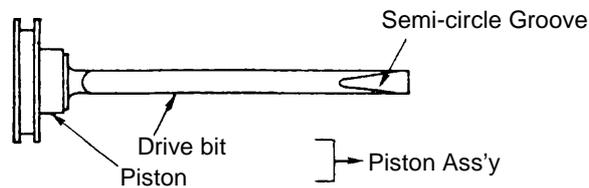


Fig. 8 Semi-circle groove of piston ass'y

(2) Cylinder (19), Piston Ass'y (14) and Related Parts:

Tool Required:

- 6 mm Hexagonal Bar Wrench

(a) Disassembly:

- Loosen the four M6 x 25 Hexagon Socket Hd. Bolts (4), and remove the Exhaust Cover (5) from the Body (B) Ass'y (26). Packing (G) (25), Packing (B) (6), and the piston Ass'y (14) can then be removed. (see Fig. 9)
- As illustrated in Fig. 10, screw two of the M6 x 25 Hexagon Socket Hd. Bolts (4) partially into their matching holes on the Cylinder Plate (17). Using the bolts, pull the Cylinder Plate upward while turning it to remove it from the Body.

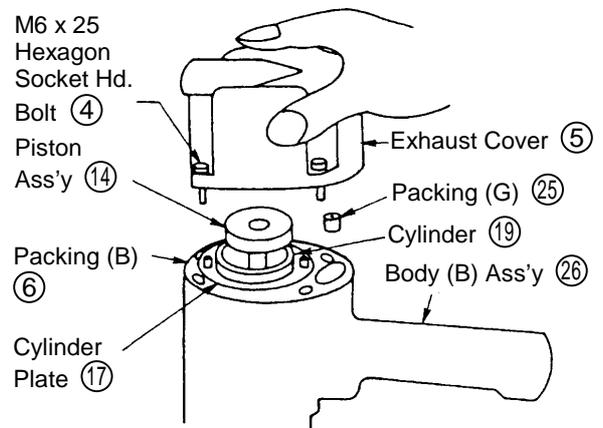


Fig. 9 Disassembly of Upper Part of Main Body

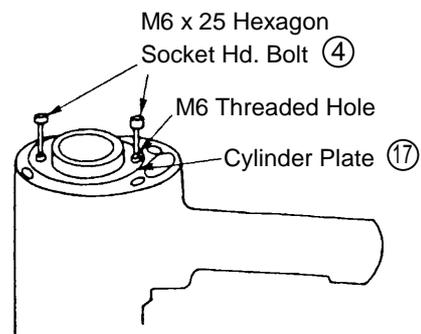


Fig. 10 Removal of cylinder plate

The Cylinder (19), Cylinder Spring (22), and other components which constitute the Output System (see Fig. 11) can then be removed.

- As it should be difficult to remove the Cylinder (19), first remove the Tail Cover (38) as described in section 1-1-(1), and push the Cylinder upwards and out from below.

(b) Assembly:

Assembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items:

- Ensure that the Piston Ass'y (14) is positioned so its semicircular groove faces toward the Magazine (see Fig. 8 above).
- Ensure that Packing (G) (25) is properly fitted to the shape of its matching hole in the Body (B) Ass'y (26), properly aligned with the assembly as shown in Fig. 11, and properly contacts the base of the Exhaust Piece Ass'y (8) (see Fig. 12).

(3) Head Cap Ass'y (12) Exhaust Piece Ass'y (8), and Related Parts:

Tool Required:

- 6 mm Hexagonal Bar Wrench

(a) Disassembly;

- Remove the Exhaust Cover (5) as described in section 1-1-(2).
- Loosen the three M6 x 45 Hexagon Socket Hd. Bolts (1) and, as illustrated in Fig. 12, remove the Head Cap Ass'y (12) Valve Rubber Ass'y (11), Exhaust Piece Ass'y (8), Packing (C) (9), and Packing (F) (7).

(b) Reassembly:

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

- Packing (C) (9) and Packing (F) (7) should be replaced with new genuine Hitachi parts.
- Tighten the M6 x 45 Hexagon Socket Hd. Bolts (1) to rated torque (see Para. 1-4.).

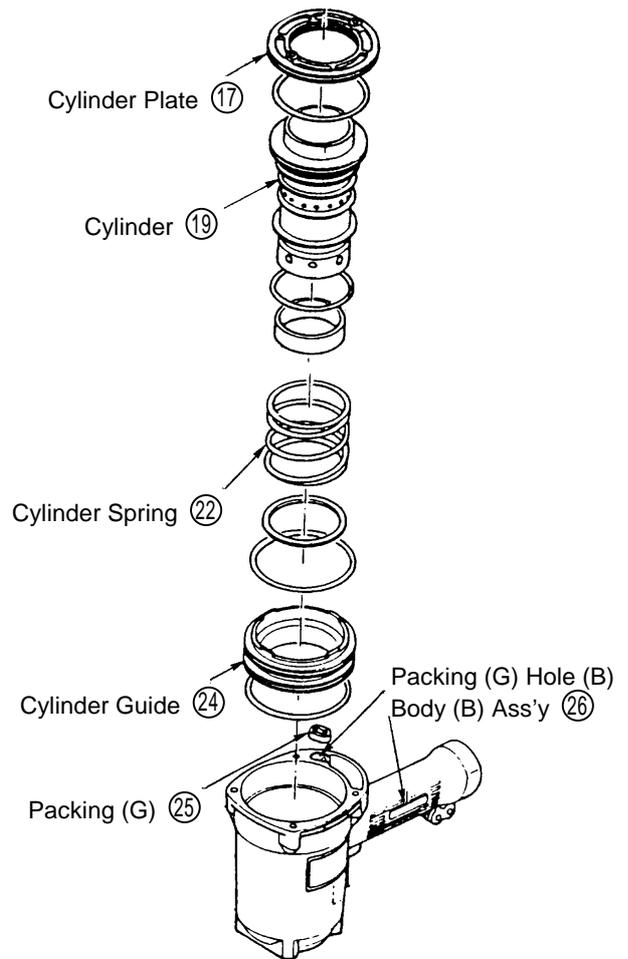


Fig. 11 Main body output disassembly

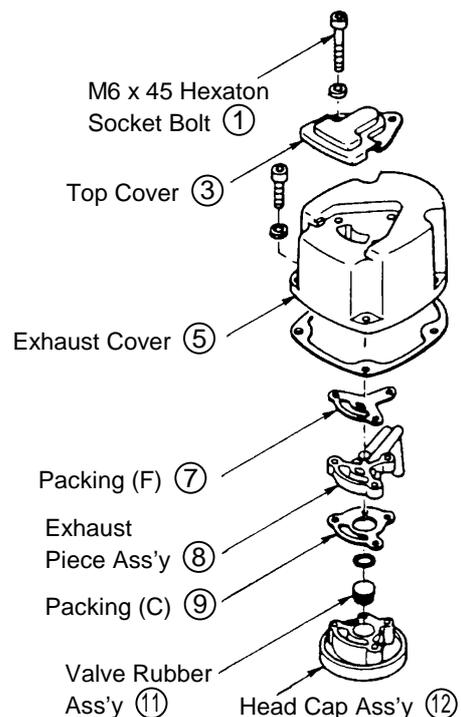


Fig. 12 Disassembly of main body, upper part:

1-2. Dsassembly and Reassembly of the Valve Section:

Tools Required:

- 3 mm Roll Pin Remover
- Minus-Hd. Screwdriver

(a) Disassembly:

(please refer to Fig. 13)

- Remove the Magazine Ass'y (81) as described in section 1-1- (1).
- Remove the Push Lever Ass'y (50) as described in section 1-1- (1).
- With the 3 mm Roll Pin Remover, take out the D3 x 30 Roll Pin (47), and remove the Trigger (57), Trigger Plunger (63), and Plunger (B) (58).
- Insert the minus-Hd. screwdriver into the groove of the Trigger Valve Bushing (62), and loosen it by turning it to the left, being careful not to damage the groove.
- After removing the Trigger Valve Bushing (62), pull down strongly on the Valve Bushing (55) to remove the Valve Bushing (55), Plunger (A) (54), and the Plunger Spring (52).

(b) Reassembly:

Reassembly can be accomplished by following the disassembly procedures in revese. However, special attention should be given to the following items:

- Be very careful in handling the Plunger Spring (52), as it can become twisted very easily.
- To prevent the two O-Rings on the outside of the Valve Bushing (55) from being damaged when inserted into the Body, carefully apply grease to the Body hole and the outer circumference of the O-Rings prior to assembly.

(c) Adjustment of the Push Lever Ass'y (50) (see Fig. 14):

- The Push Lever Ass'y (50) can be adjusted by loosening the M5 Nut (51) and turning the Safety Bolt (48).
- Perform adjustment to a point where the resistance of Plunger (B) (58) pushing up Plunger (A) (54) is felt when the Push Lever Ass'y is raised. At this point, the lower end of the Tail Cover (38) should be separated from the lower end of the Push Lever Ass'y by $3.5 \pm 0.5 \text{ mm}$ ($.138 \pm .020$).

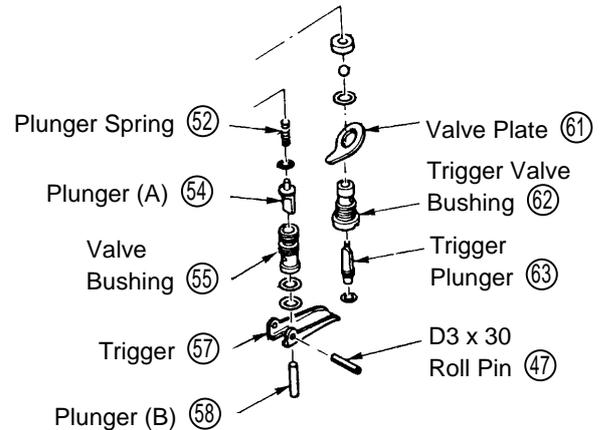


Fig. 13 Disassembly of valve

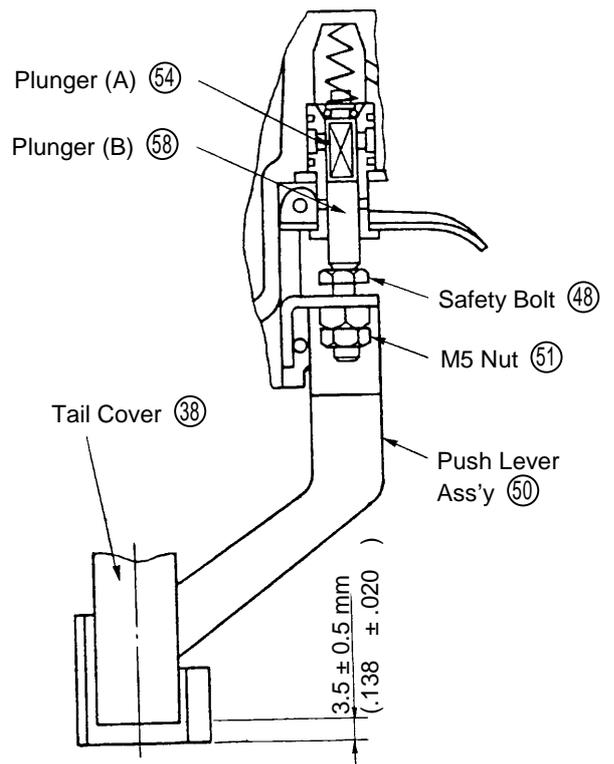


Fig. 14 Push lever assembly adjustment

1-3. Disassembly and Reassembly of the Magazine Section:

(1) Magazine Base Ass'y (69), Nail Feeder (64), Ribbon Spring Ass'y (66), and Related Parts:

Tools Required:

- 6 mm and 5 mm Hexagon Bar Wrenches
- 5 mm Spanner

(a) Disassembly:

- Shift the Nail Feeder (64) to the Tail Cover (38) side in a state where it is held by the Ribbon Spring Ass'y (66).
- Remove the two M5 x 25 Hexagon Socket Hd. Bolts (72) and the M6 x 20 Hexagon Socket Hd. Bolt (33) on the Guard (36B) side.
- Loosen the front-side M6 x 20 Hexagon Socket Hd. Bolt (33) (opposite from the Guard (36B) side), and withdraw the Magazine Base Ass'y (69) from the Tail Cover (38). The Magazine Ass'y (81), Ribbon Spring Ass'y (66) and related parts can then be disassembled (see Fig. 15).

Please note that if the front-side M6 x 20 Hexagon Socket Hd. Bolt (33) is only loosened and not fully removed, the Nail Feeder (64) and Ribbon Spring Ass'y (66) can be kept mounted on the Tail Cover (38). This facilitates disassembly and reassembly when only the Magazine Base Ass'y (69) need to be removed.

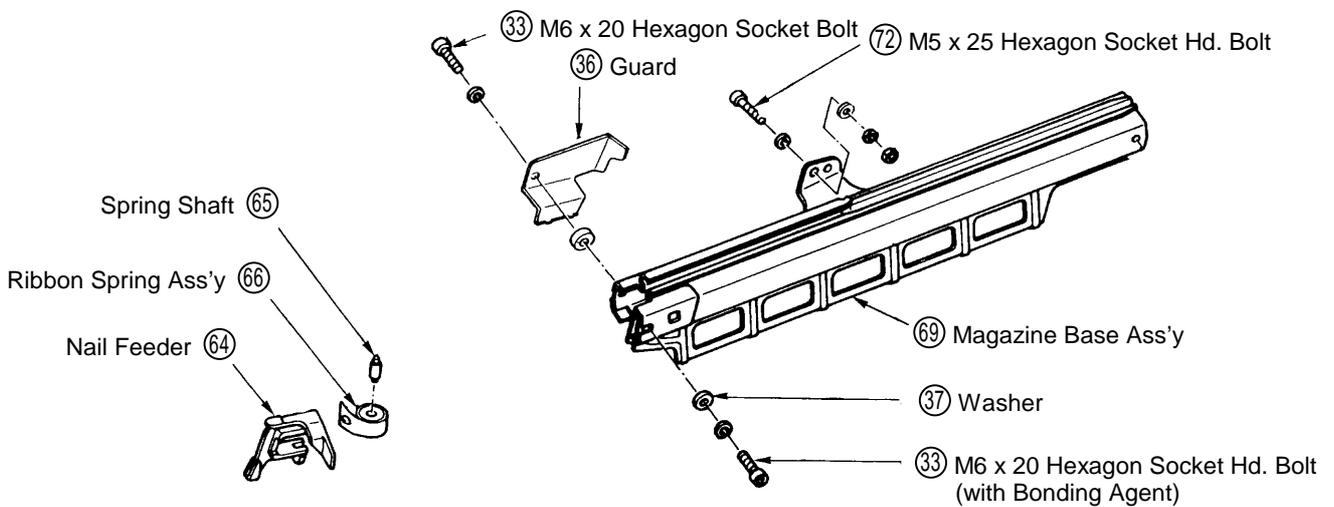


Fig. 15 Disassembly / Reassembly of the Magazine Section

(b) Reassembly:

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

- As illustrated in Fig. 16, temporarily fix the Ribbon Spring Ass'y (66), Spring Shaft (65) and Nail Feeder (64) onto the Tail Cover (38) with the front-side M6 x 20 Hexagon Socket Hd. Bolt (33), and slide the Magazine Base Ass'y (69) onto the Tail Cover (38). Then, secure the assembly by tightening the M6 x 20 Hexagon Socket Hd. Bolt (33) on the Guard (36B) side and the two M5 x 25 Hexagon Socket Hd. Bolts (72) to rated torque (see Para. 1-4).
- Finally, loosen the front-side M6 x 20 Hexagon Socket Hd. Bolt (33), shift the Nail Feeder (64) fully back into the magazine, ensure the Magazine Base Ass'y (69) is properly aligned, and tighten the front-side M6 x 20 Hexagon Socket Hd. Bolt (33) to rated torque (see Para. 1-4)

(2) Stop Lever (74), Stopper Spring (76), and Related Parts:

Tools Required:

- 5 mm and 4 mm Hexagon Bar Wrenches
- 5 mm and 4 mm Spanners

(a) Disassembly: (see Fig. 17)

- After removing the M5 x 45 Hexagon Socket Hd. Bolt (71) and M4 x 15 Hexagon Socket Hd. Bolt (77), the parts illustrated in Fig. 17 can be taken out.

(b) Reassembly: (see Fig. 18)

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

- As illustrated in Fig. 18, insert the Collar (75) into the Stop Lever (74), and mount the Stopper Spring (76) with the M4 x 15 Hexagon Socket Hd. Bolt (77) (see Para. 1-4 for tightening torque). At this time, the Stopper

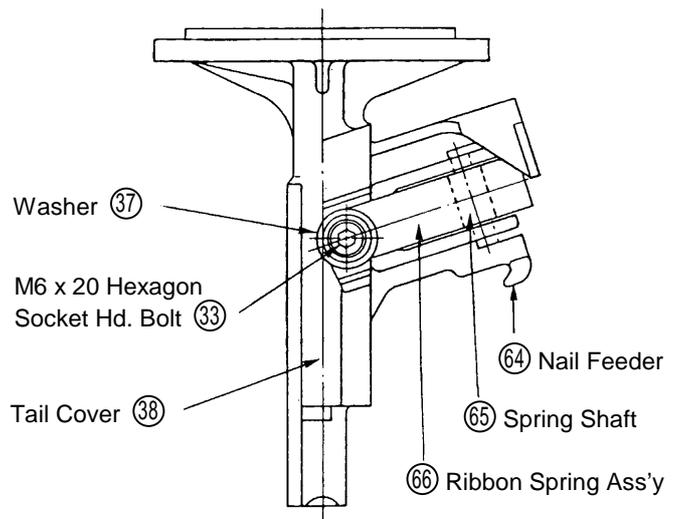


Fig. 16 Mounting of the Nail Feeder

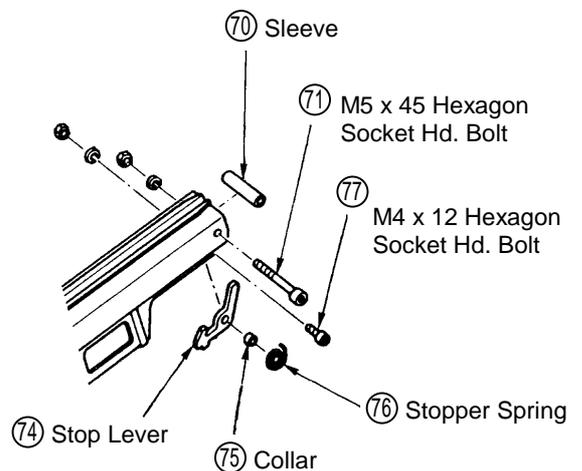


Fig. 17

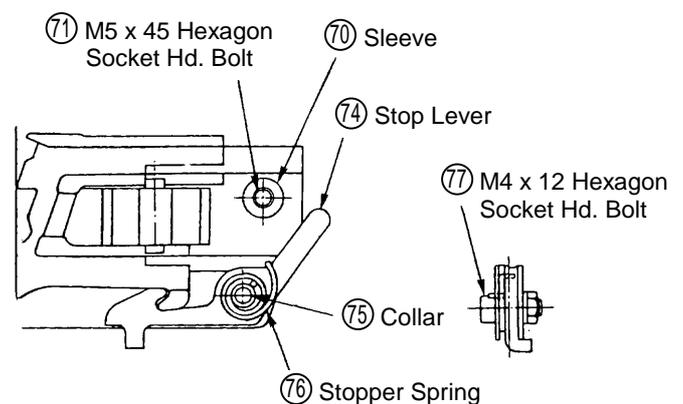


Fig. 18 Reassembly of the Stop Lever, Stopper Spring, etc.

Spring ⑦⑥ must be assembled so that one of its hooked portions is inserted into the Stop Lever ⑦④, and the other hooked portion is inserted into the small hole provided on the Magazine Base Ass'y ⑥⑨.

- Fix the Sleeve ⑦⑩ in position with the M5 x 45 Hexagon Socket Hd. Bolt ⑦① (see Para. 1-4 for tightening torque).

1-4. General Precautions on Reassembly:

- Apply grease (Hitachi Motor Grease No. 29, Code No. 930035, is recommended) to the O-Rings and the O-Ring sliding portions. When reassembling the O-Rings, be particularly careful not to damage them, or permit dust or other foreign matter to enter the mechanism.
- If the Packings are damaged, replace them without fail and ensure that there is no air leakage after repair.
- Be particularly careful not to permit dust or other foreign matter to enter the Valve Section.
- Coat a small amount of grease (or sliding oil) on the sliding portions of the Nail Feeding Section.
- Rated tightening torques for fastening bolts, nuts, screws and the Piston Ass'y are as follows:

Bolt / Nut type	Rated Tightening Torque
Hexagon Socket Hd. Bolt M8 ④⑩	260 ± 20 kg-cm (18.8 ± 1.4 ft-lb)
Hexagon Socket Hd. Bolt M6 ①, ④, ③③	100 ± 8 kg-cm (7.2 ± 0.6 ft-lb)
Hexagon Socket Hd. Bolt M5 ④⑤, ⑦①, ⑦②	65 ± 5 kg-cm (4.7 ± 0.4 ft-lb)
Hexagon Socket Hd. Bolt M4 ⑦⑦	45 ± 3 kg-cm (3.2 ± 0.2 ft-lb)
Nut M5..... ⑤①	35 ± 3 kg-cm (2.5 ± 0.2 ft-lb)

1-5. Inspection and confirmation After Reassembly or Repair:

- Confirm that the Nail Feeder ⑥④ and Stop Lever ⑦④ move smoothly.
- Operate the Nailer with an air pressure of 4 kg/cm² (60 psi), and confirm that there is no abnormal driving or bending of nails.
- With appropriate torque wrenches and / or torque drivers, confirm the correct tightening torque of all nut, screws and bolts.