

MODEL NR 83AA

1. PREAUTIONS IN DISASSEMBLY AND REASSEMBLY:

For general reference purposes, the Model NR 83AA 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 (34), Packing (A) (35), 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 M6 x 14 Hexagon Socket Pan Hd. Bolts (84) and two M6 x 16 Hexagon Socket Hd. Bolts (36) which fix the Magazine (38), and remove the Magazine by withdrawing it from the Tail Cover (39).

[CAUTION] Prior to loosening the two M6 x 16 Hexagon Socket Hd. Bolts (36), shift the Nail Feeder (75) to the Tail Cover (39) side without fail. Also, do not fully remove the front-side M6 x 16 Hexagon Socket Hd. Bolts (36).

- Extract the D3 x 30 Roll Pin (48), remove the four M8 x 25 Hexagon Socket Hd. Bolts (40) which fix the Tail Cover (39), and remove the Tail Cover (39) and Push Lever (51) from the Body (B) (31).

- On completion of the above disassembly procedures, Packing (A) ③⑤ and the Piston Damper ③④ can be taken out from the lower portion of the Body (B) ③①. Please note that if the Cylinder ②④ has not been already disassembled as described in Para. 1-1 (2) below, the Cylinder O-Ring ③③ cannot be removed from the Body (B) ③① at this time.

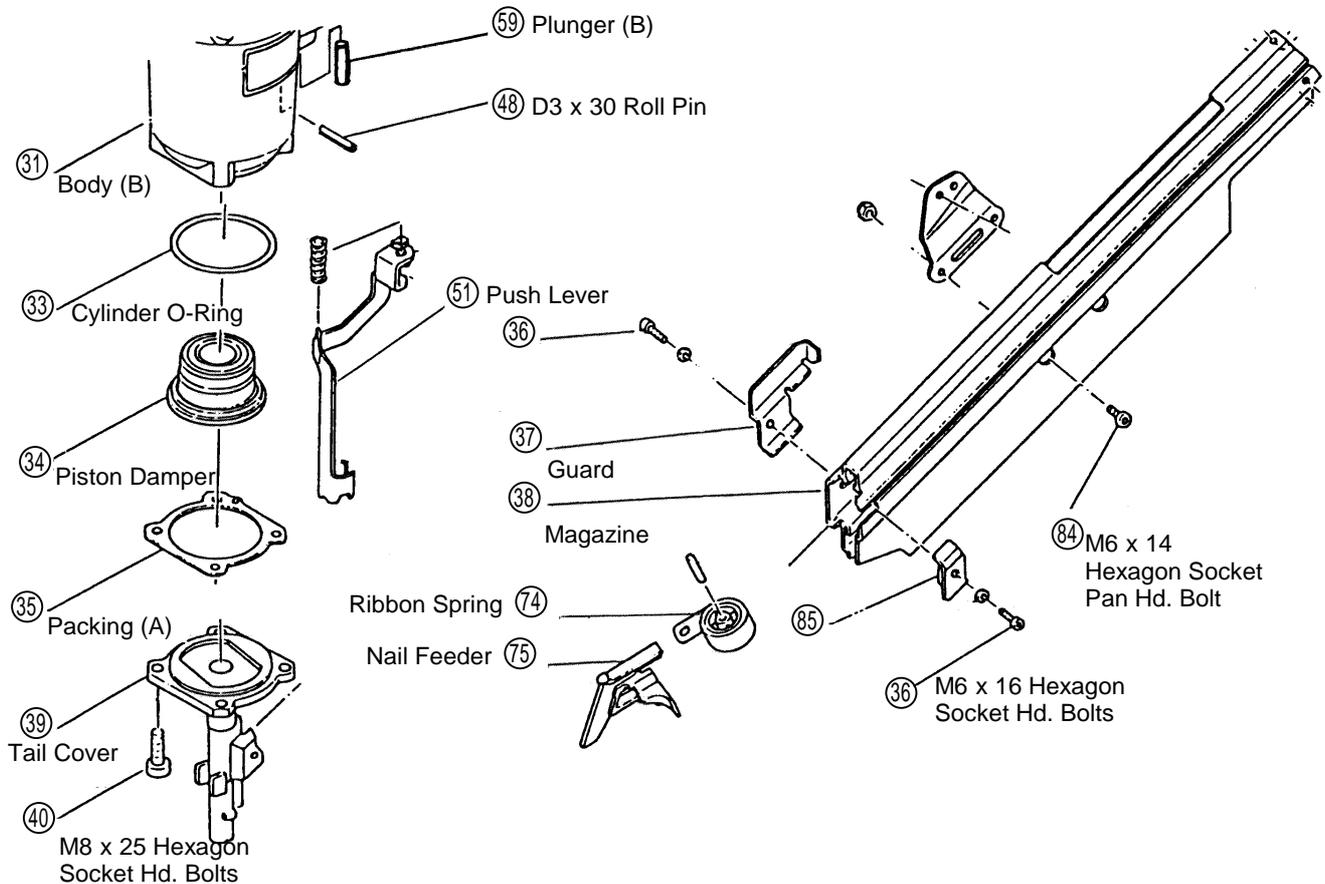


Fig. 7 Disassembly and Reassembly of the Piston Damper, Packing (A), etc.

(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. 12 below).
- Plunger (B) ⑤⑨ may drop out during disassembly. Ensure it is properly assembled.
- Assemble the Body (B) ③①, Tail Cover ③⑨, and Magazine ③⑧ in the following manner:
 - I) With the Push Lever ⑤① properly mounted on the Tail Cover ③⑨ as illustrated in Fig. 7, assemble the Tail Cover ③⑨ to the Body (B) ③① with the four M8 x 25 Hexagon Socket Hd. Bolts ④①, and tighten them to rated torque (see Para. 1-4).
 - II) Connect the Push Lever ⑤① to the Body (B) ③① with the D3 x 30 Roll Pin ④⑧.
 - III) Temporarily attach the Ribbon Spring ⑦④ and Nail Feeder ⑦⑤ to the Tail Cover ③⑨ with the M6 x 16 Hexagon Socket Hd. Bolts ③⑥ (please note that this step is not necessary if the front-side M6 x 16 Hexagon Socket Hd. Bolt ③⑥ was only loosened and not fully removed during reassembly [refer to Fig. 16]), and assemble the Magazine ③⑧ (refer to Para. 1-3-(1)).

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

(2) Piston Ass'y (14), Cylinder (24), and related parts:

Tools Required:

- 6 mm Hexagon Bar Wrench

(a) Disassembly: (Refer to Figs. 8, 9, and 10)

- Remove the four M6 x 25 Hexagon Socket Hd. Bolts (5), and take off the Exhaust Cover (6). The Piston Ass'y (14) can then be taken out.
- Next, as illustrated in Fig. 9, screw two of the previously removed M6 x 25 Hexagon Socket Hd. Bolts (5) into the provided holes on the Cylinder Plate (22).
- Gripping these two bolts, simultaneously turn and pull upward to remove the Cylinder Plate (22). When this has been accomplished, the Cylinder (24) and other parts which make up the Output Section can be removed, as illustrated in Fig. 10.
- If it is difficult to remove the Cylinder (24), remove the Tail Cover (39) by referring Para. 1-1- (1) procedures, and push the Cylinder (24) out from the lower part of the main body.

(b) Reassembly:

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

- Confirm that Packing (G) (30) is reassembled.
- Ensure that the four Spring Lock Washers (2) are properly mounted on the four M6 x 25 Hexagon Socket Hd. Bolts (5).
- Tighten the four M6 x 25 Hexagon Socket Hd. Bolts (5) to rated torque [130 ± 8 kg-cm (9.4 ± 6 ft-lb)]

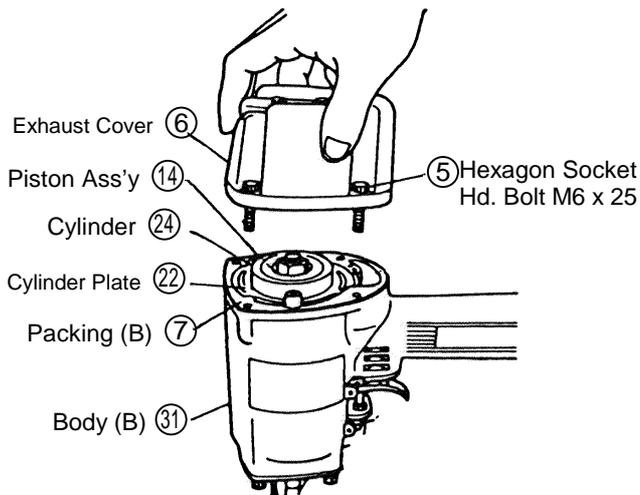


Fig. 8

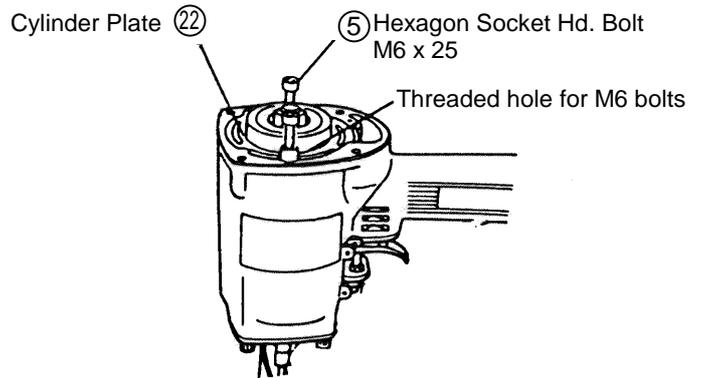


Fig. 9

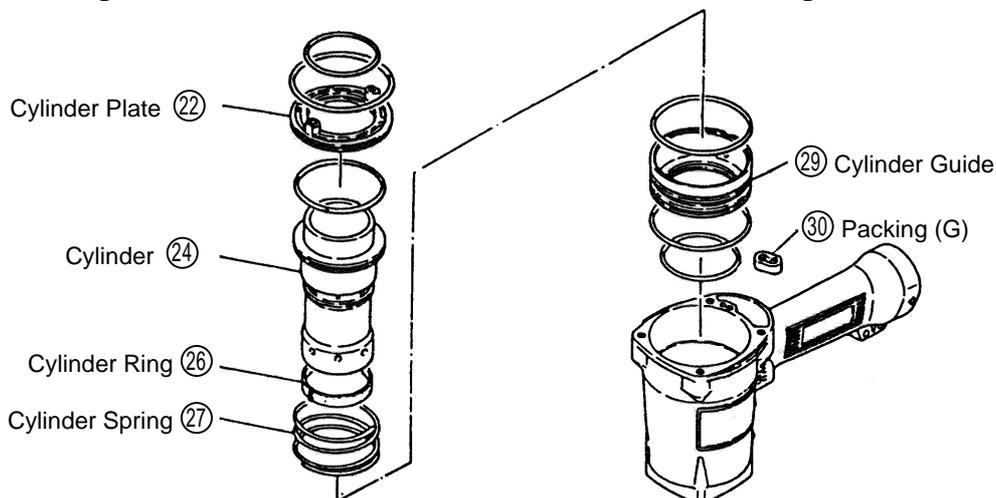


Fig. 10

(3) Head Cap ⑫, Exhaust Piece ⑨, and Related

Parts:

Tool Required:

- 6 mm Hexagonal Bar Wrench

(a) Disassembly:

- Remove the Exhaust Cover ⑥ as described in section 1-1-(2).
- Loosen the three M6 x 45 Hexagon Socket Hd. Bolts ① and, as illustrated in Fig. 11, remove the Head Cap ⑫, Exhaust Valve ⑪, Exhaust Piece ⑨, Packing (C) ⑩ and Packing (F) ⑧.

(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) ⑩ and Packing (F) ⑧ 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.).

(4) Piston ⑰, Drive Bit ⑲, and Related Parts:

Tools Required:

- 17 mm (.67") Wrench
- 17 mm (.67") Socket Wrench (dodecagonal type is recommended.)

(a) Disassembly: (Refer to Fig. 12)

- Remove the Piston Ass'y ⑭ as described in Para. 1-1-(2).
- Secure the provided two flat surface of the Drive Bit ⑲ in a vise, and remove the M12 Small Hexagon Nut ⑮.
- Next, with the Drive Bit ⑲ still secured in the vise, fit the 17 mm Wrench onto the provided flat surfaces on the Piston ⑰, and remove the Piston ⑰ from the Drive Bit ⑲.

(b) Reassembly:

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

- Secure the flat surfaces of the Drive Bit ⑲ in a vise, mount the Washer ⑱, and tighten the Piston ⑰ to rated torque [420 ± 20 kg-cm (30.4 ± 1.4 ft-lb)].
- Next, coat the threaded portion of the Drive Bit ⑲ with bonding agent (LOCTITE Corporation, Grade No. 242, is recommended).
- Then, after ensuring that the Conical Spring Washer ⑯ is properly assembled, tighten the M12 Small Hexagon Nut ⑮ to rated torque [710 ± 10 kg-cm (51.3 ± 7 ft-lb)].
- After applying the bonding and assembling parts, leave the assembled unit at room temperature for 24 hours to ensure complete hardening.

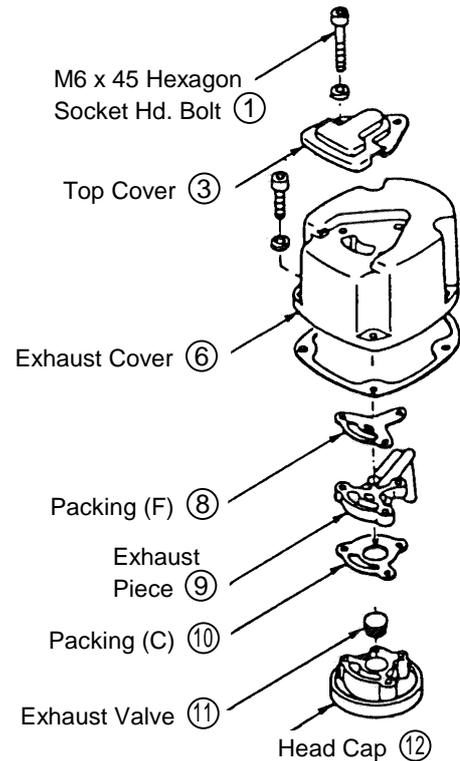


Fig. 11 Disassembly of main body, upper part:

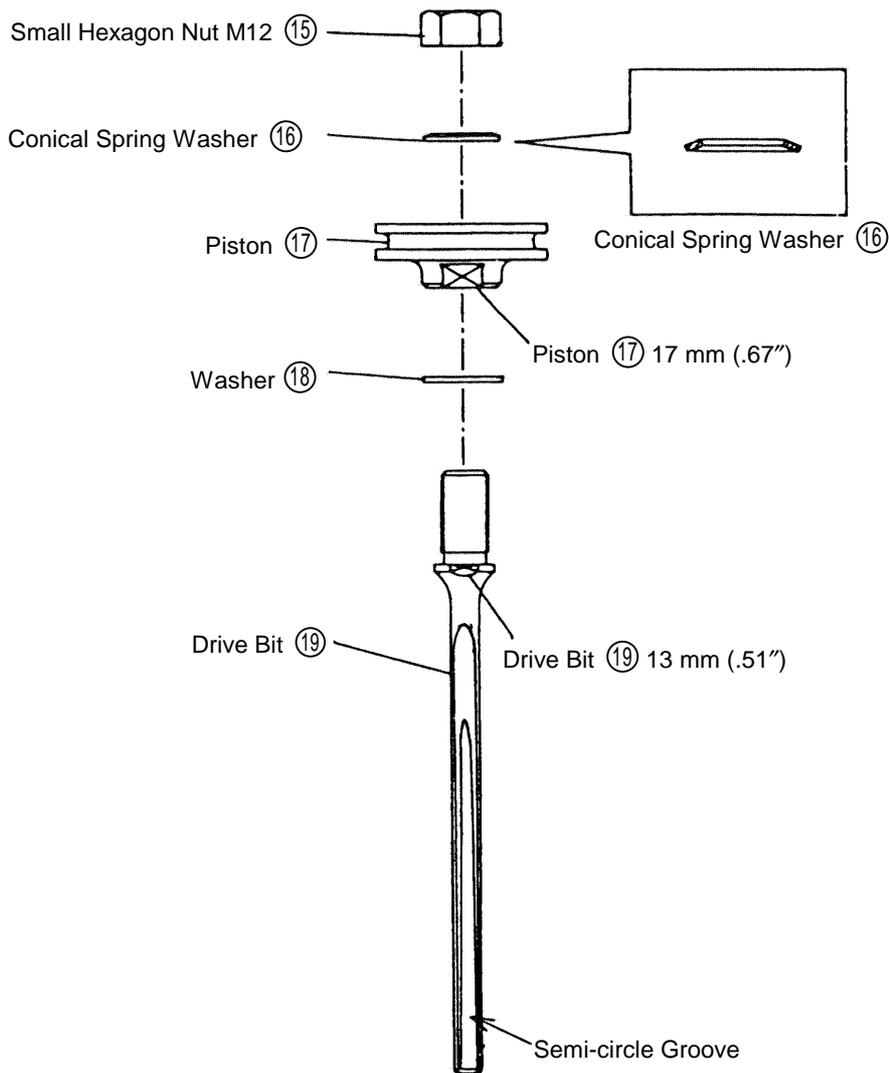


Fig. 12

1-2. Disassembly 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 (38), as described in section 1-1-(1).
- Remove the Push Lever (51) as described in section 1-1-(1).
- With the 3 mm Roll Pin Remover, take out the D3 x 30 Roll Pin (48) and remove the Trigger (58), Trigger Plunger (64), and Plunger (B) (59).
- Insert the minus-Hd. screwdriver into the groove of the Trigger Valve Bushing (63), and loosen it by turning it to the left, being careful not to damage the groove.
- After removing the Trigger Valve Bushing (63), pull down strongly on the Valve Bushing (56) to remove the Valve Bushing (56), Plunger (A) (55), and the Plunger Spring (53).

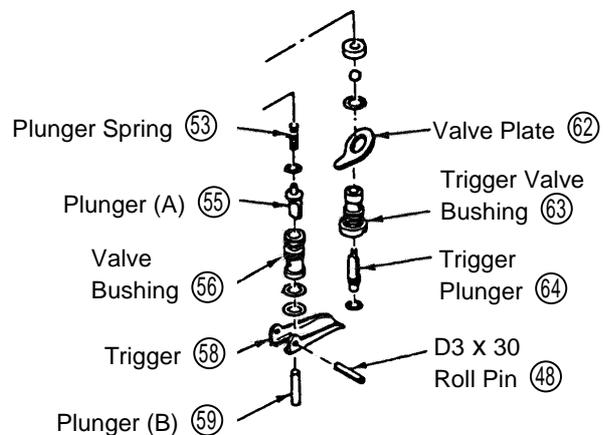


Fig. 13 Disassembly of valve

(b) Reassembly:

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

- Be very careful in handling the Plunger Spring (53), as it can become twisted very easily
- To prevent the two O-Rings on the outside of the Valve Bushing (56) 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 (51) (see Fig. 14):

- The Push Lever (51) can be adjusted by loosening the M5 Nut (52) and turning the Safety Bolt (49).
- Perform adjustment to a point where the resistance of Plunger (B) (59) pushing up Plunger (A) (55) is felt when the Push Lever is raised. At this point, the lower end of the Tail Cover (39) should be separated from the lower end of Push Lever by $3.5 \text{ mm} \pm 0.5 \text{ mm}$ ($.138'' \pm .020''$).

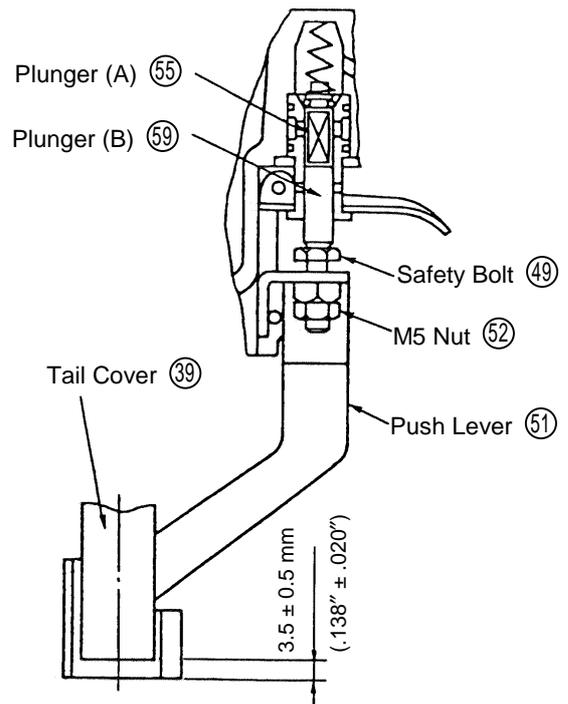


Fig. 14 Push lever assembly adjustment

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

(1) Magazine (38), Nail Feeder (75), Ribbon Spring (74), and Related Parts:

Tools Required:

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

(a) Disassembly

- Shift the Nail Feeder (75) to the Tail Cover (39) side in a state where it is held by the Ribbon Spring (74).
- Remove the two M6 x 14 Hexagon Socket Hd. Bolts (84) and the M6 x 16 Hexagon Socket Hd. Bolt (36) on the Guard (37) side.
- Loosen the front-side M6 x 16 Hexagon Socket Hd. Bolt (36) (on the Magazine Guard (A) (85) side), and withdraw the Magazine (38) from the Tail Cover (39). The Magazine (38), Ribbon Spring (74) and related parts can then be disassembled (see Fig. 15).

Please note that if the front-side M6 x 16 Hexagon Socket Hd. Bolt (36) is only loosened and not fully removed, the Nail Feeder (75) and Ribbon Spring (74) can be kept mounted on the Tail Cover (39). This facilitates disassembly and reassembly when only the Magazine (38) needs to be removed.

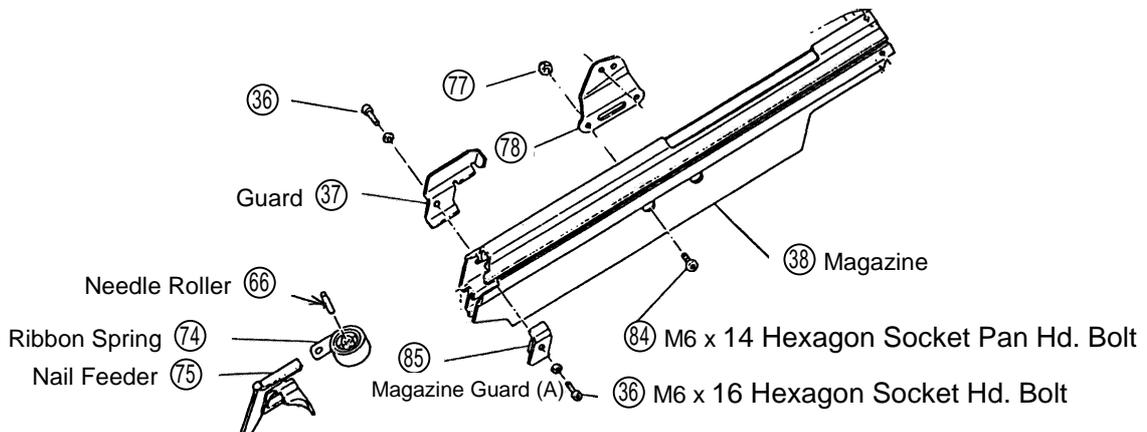


Fig. 15 Disassembly/Reassembly of the Magazine Section

(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 (74), Needle Roller (66) and Nail Feeder (75) onto the Tail Cover (39) with the front-side M6 x 16 Hexagon Socket Hd. Bolt (36), and slide the Magazine (38) onto the Tail Cover (39). Then, secure the assembly by tightening the M6 x 16 Hexagon Socket Hd. Bolt (36) on the Guard (37) side and the two M6 x 14 Hexagon Socket Pan Hd. Bolts (84) to rated torque (see Para. 1-4.).

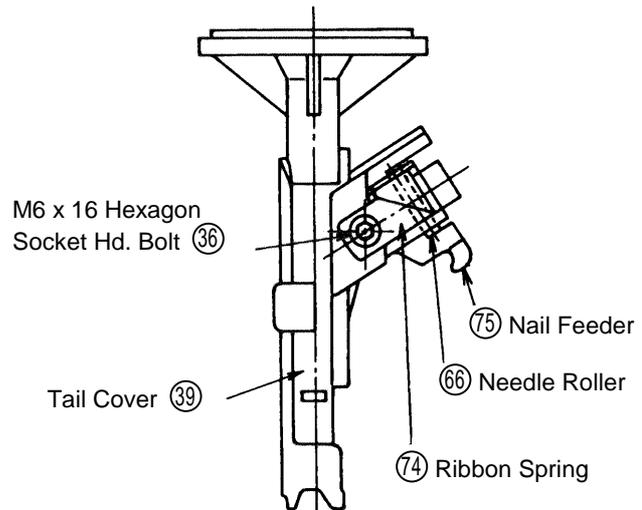


Fig. 16 Mounting of the Nail Feeder

(2) Stop Lever (82), Stopper Spring (80), 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 (73), M4 x 20 Hexagon Socket Hd. Bolt (83) and M4 Machine Screw (69), 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 (81) into the Stop Lever (82), and mount the Stopper Spring (80) with the M4 x 20 Hexagon Socket Hd. Bolt (83) (see Para. 1-4 for tightening torque). At this time, the Stopper Spring (80) must be assembled so that one of its hooked portions is inserted into the Stop Lever (82), and the other hooked portion is inserted into the Magazine (38).
- Fix the stopper (71) in position with the M5 x 45 Hexagon Socket Hd. Bolt (73) (see Para. 1-4 for tightening torque) .

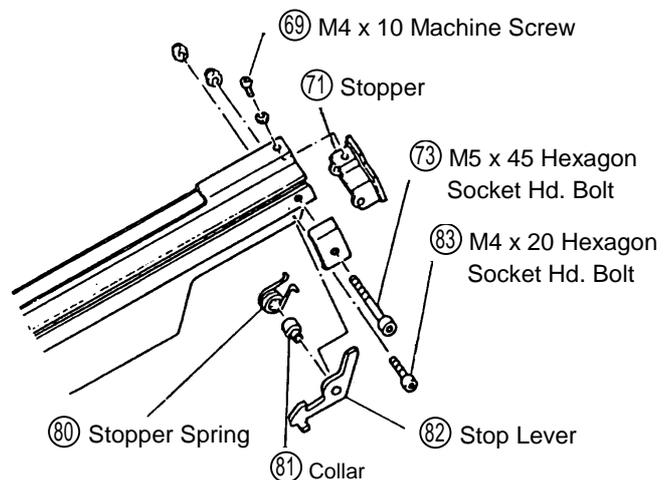


Fig. 17

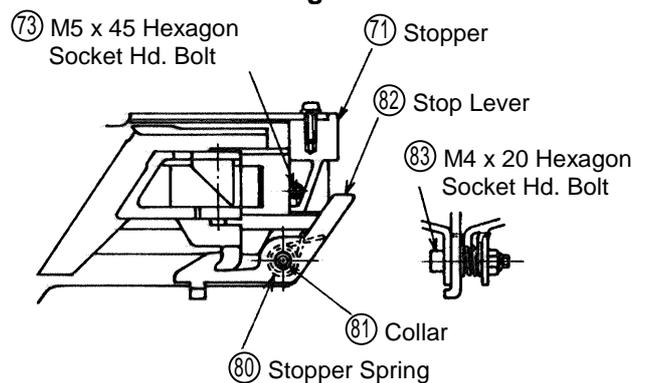


Fig. 18 Reassembly of the Stop Lever, Stopper Spring, etc.

1-4 General Precautions on Reassembly:

- Apply grease (Nippeco SEP-3A, Part 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/Screw/Nut type and Piston Ass'y		Rated Tightening Torque
Hexagon Socket Hd. Bolts M8 ④⑩		260 ± 10 kg-cm (18.8 ±.7 ft-lb)
Hexagon Socket Hd. Bolts M6 ①, ⑤, ③⑥, ⑧④		130 ± 8 kg-cm (9.4 ±.6 ft-lb)
Hexagon Socket Hd. Bolts M5 ④⑥, ④①, ⑦③		85 ± 5 kg-cm (6.1 ±.4 ft-lb)
Hexagon Socket Hd. Bolts M4 ⑧③		45 ± 3 kg-cm (3.2 ±.2 ft-lb)
Machine Screw M4 ⑥⑨		5 - 10 kg-cm (.36 - .72 ft-lb)
Nut M5 ⑤②		35 ± 3 kg-cm (2.5 ±.2 ft-lb)
Piston Ass'y	Piston ①⑦ and Drive Bit ①⑨	420 ± 20 kg-cm (30.4 ± 1.4 ft-lb)
	Drive Bit ①⑨ and Small Hexagon Nut M12 ①⑤	710 ± 10 kg-cm (51.3 ±.7 ft-lb)

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

- Confirm that the Nail Feeder ⑦⑤ and Stop Lever ⑧② 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 nuts, screws and bolts.