

MODEL NV 65AH

1. DISASSEMBLY AND REASSEMBLY

The items particularly necessary for disassembly and reassembly are described below. The **[Bold]** numbers in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagram.

[CAUTION]

- Before disassembly or reassembly, be sure to disconnect the air hose from the nailer (with your finger released from the trigger) to exhaust all the compressed air and remove all nails.

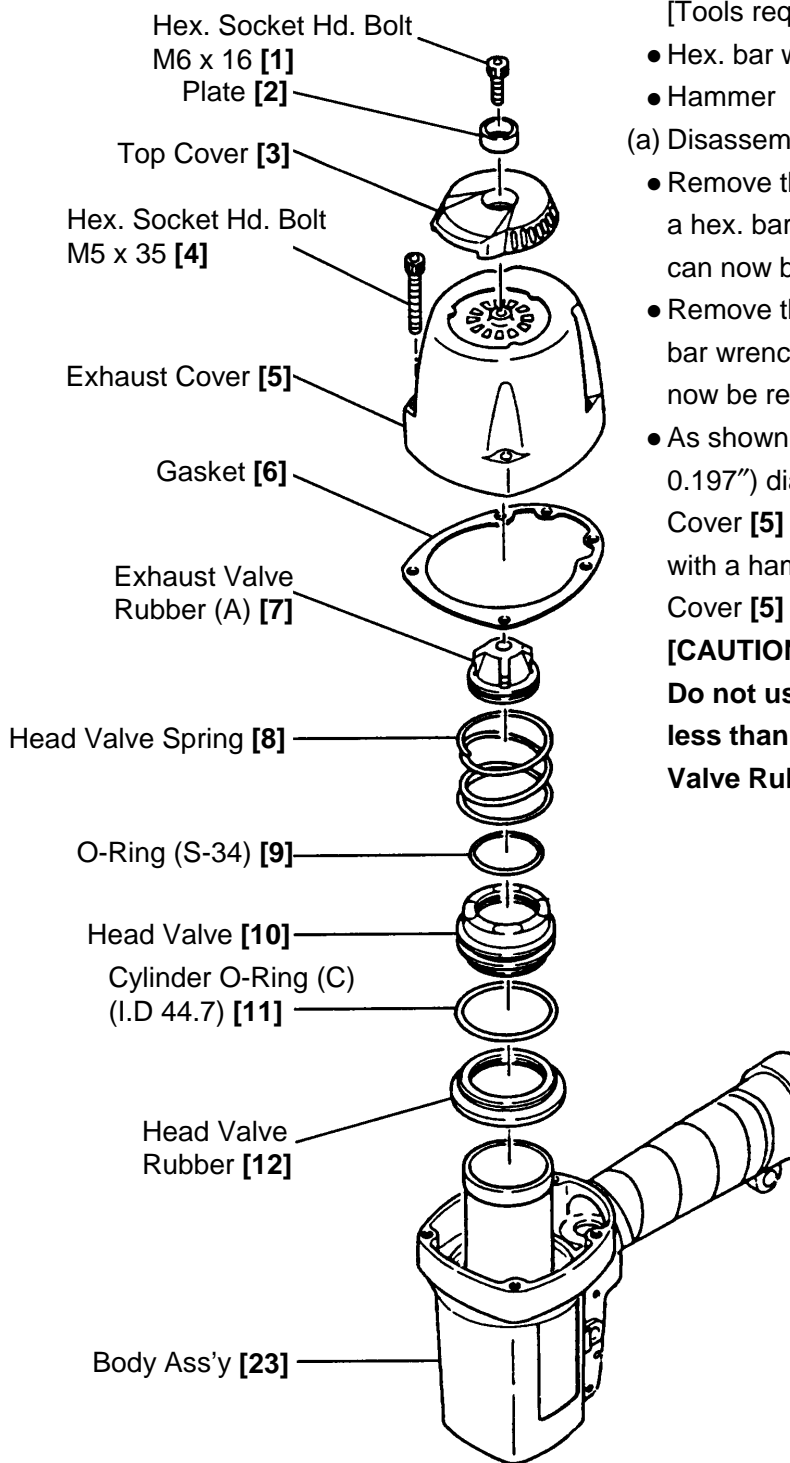
1-1. General Precautions in Disassembly and Reassembly

- Apply grease (Nippeco SEP-3A, Code No.930035) to the o-rings and o-rings' sliding portion. When installing the o-rings, be careful not to damage the o-rings and prevent dirt entry.
- Oil required: Hitachi pneumatic tool lubricant
 - 1 oz (30 cc) Oil feeder (Code No.877153)
 - 4 oz (120 cc) Oil feeder (Code No.874042)
 - 1 quart (1ltr) Can (Code No.876212)
- If the Gasket **[6]** is damaged, replace it and check that no air is leaking.
- Be especially careful to prevent the entry of foreign particles into the control valve section.
- Tightening torque for each part

Bolt, screw and cap		Tightening torque [N·m (kgf·cm, ft-lbs)]
Nylock High Tension Bolt M6	[30]	16.2±1.5 (165±15, 11.9±1.1)
Hex. Socket Hd. Bolt M6	[1], [43]	12.7±0.8 (130±8, 9.4±0.6)
Hex. Socket Hd. Bolt M5	[4]	8.3±0.5 (85±5, 6.1±0.4)
Nylock Hex. Socket Hd. Bolt M4	[102]	4.4±0.3 (45±3, 3.2±0.2)
Hex. Socket Hd. Bolt M4	[90]	4.4±0.3 (45±3, 3.2±0.2)
Machine Screw M5	[44]	2.0±0.5 (20±5, 1.5±0.4)
Machine Screw M4	[87]	0.5 - 1.0 (5 - 10, 0.36 - 0.72)
Cap	[49]	24.5±4.9 (250±50, 18±3.6)

2-2. Disassembly and Reassembly of the Output Section

(1) Disassembly and reassembly of the Exhaust Cover [5], the Head Valve [10], the Exhaust Valve Rubber (A) [7], etc. (See Fig. 12A and Fig. 12B)



[Tools required]

- Hex. bar wrench (5 mm and 4 mm)
- Hammer

(a) Disassembly

- Remove the four Hex. Socket Hd. Bolts M5 x 35 [4] with a hex. bar wrench (4 mm). The entire Exhaust Cover [5] can now be removed from the Body Ass'y [23].
- Remove the Hex. Socket Hd. Bolt M6 x 16 [1] with a hex. bar wrench (5 mm). The Plate [2] and Top Cover [3] can now be removed.
- As shown in Fig. 12B, insert a 4 to 5 mm (0.157" to 0.197") dia. bar into the M6 screw hole in the Exhaust Cover [5] and force out Exhaust Valve Rubber (A) [7] with a hammer. Now, the parts forming the Exhaust Cover [5] can be taken out.

[CAUTION]

Do not use a pointed bar or a bar with a diameter of less than 4 mm (0.157") to prevent damage to Exhaust Valve Rubber (A) [7].

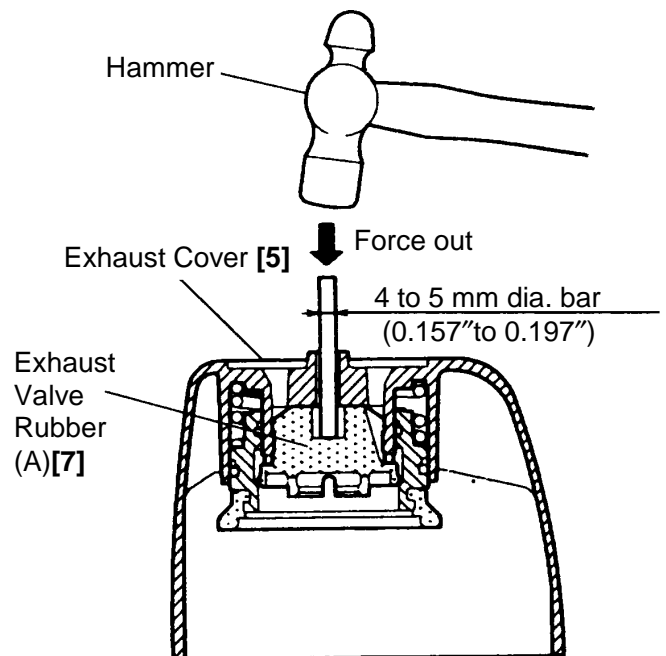


Fig. 12A Disassembly and reassembly of the exhaust cover, head valve, exhaust valve rubber (A), etc.

Fig. 12B

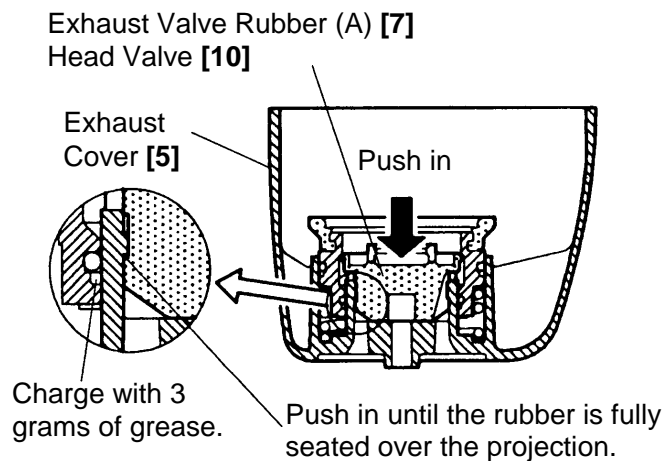


Fig. 13

(2) Disassembly and reassembly of the Cylinder [17], the Piston [20], the Piston Bumper [26], etc.

(See Fig. 14)

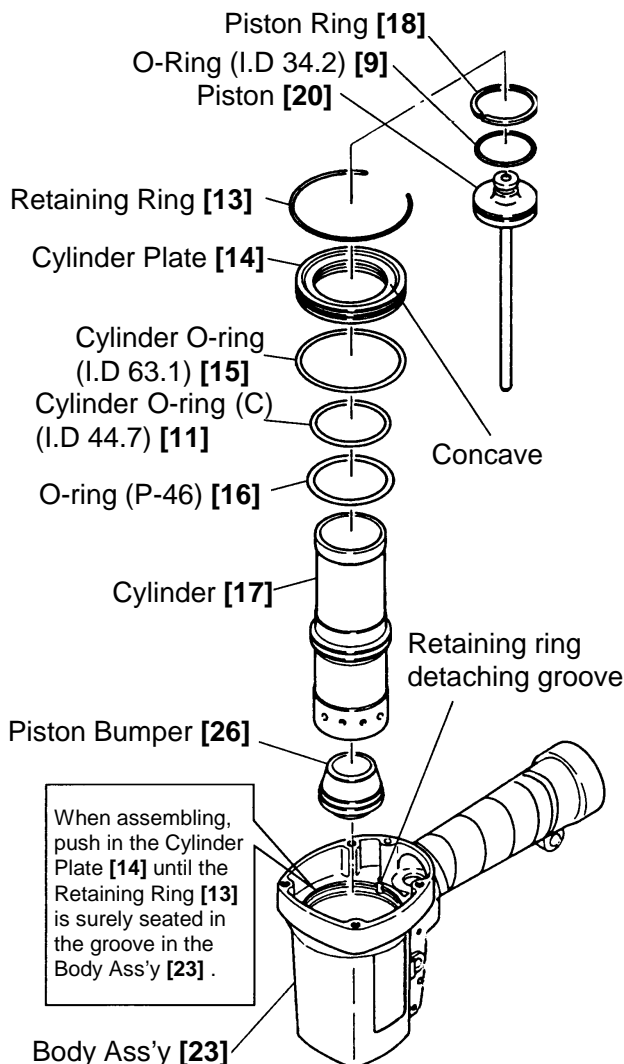


Fig.14 Disassembly and reassembly of the Cylinder, Piston, Piston bumper, etc.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- Lubricate the sliding portion of the Head Valve [10] in the Exhaust Cover [5] with about 3 grams of grease and apply grease to each surface of the O-Ring [9] [11].
- As shown in Fig. 13, firmly push in Exhaust Valve Rubber (A) [7] until it is fully seated over the projection of the Exhaust Cover [5].

[Tools required]

- Hex. bar wrench (4 mm)
- Flatblade head screwdriver

(a) Disassembly

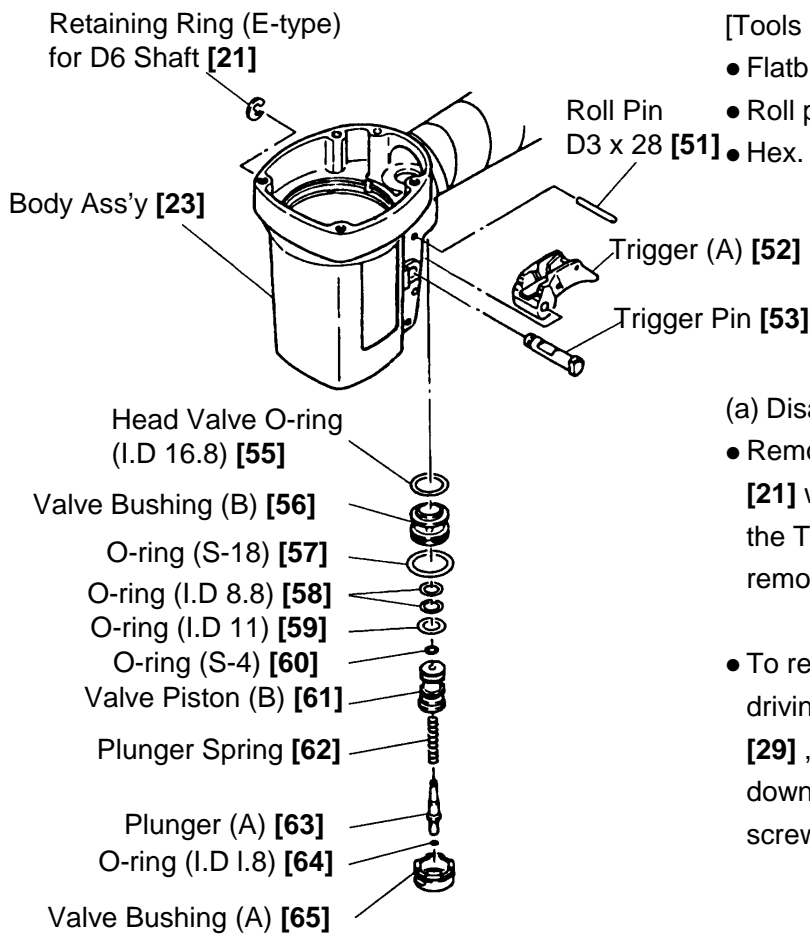
- Remove the Exhaust Cover [5] as described in section (1), remove the Retaining Ring [13] in the Body Ass'y [23], insert the blade of the screwdriver into the retaining ring detaching groove in the Body Ass'y [23], and remove the Retaining Ring [13]. Now, the Cylinder [17], the Cylinder Plate [14], the Piston [20], the Piston Bumper [26], etc. can be taken out.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- Apply the supplied oil (Hitachi pneumatic tool lubricant) to the Piston Ring [18], the O-Ring (I.D 34.2) [9], and the internal side of the Cylinder [17].
- Apply grease to the Cylinder O-Ring (I.D 63.1) [15], the Cylinder O-Ring (C) (I.D 44.7) [11] and install.
- Facing the concave side of the Cylinder Plate [14] upward, fit and push the Cylinder [17] in the Body Ass'y [23] until the Retaining Ring [13] is correctly seated in the groove of the Body Ass'y.
- Remember that when putting the Retaining Ring [13] into the groove of the Body Ass'y [23], the opening of the Retaining Ring [13] must not overlap with the retaining ring detaching groove.

1-3. Disassembly and Reassembly of the Control Valve Section (See Fig. 15)



[Tools required]

- Flatblade head screwdriver
- Roll pin puller (3 mm dia.)
- Hex. bar wrench (4 mm)

(a) Disassembly

- Remove the Retaining Ring (E-Type) for D6 Shaft [21] with the blade of a screw driver and remove the Trigger Pin [53], and Trigger (A) [52] can be removed.
- To remove Trigger (A) [52] together with the driving Section (Pushing Lever (B) [37], the Nose [29], etc.), remove Trigger (A) [52] while forcing down Plunger (A) [63] with the blade of a screwdriver, as shown in Fig. 16.

Fig. 15 Disassembly and reassembly of the control valve section

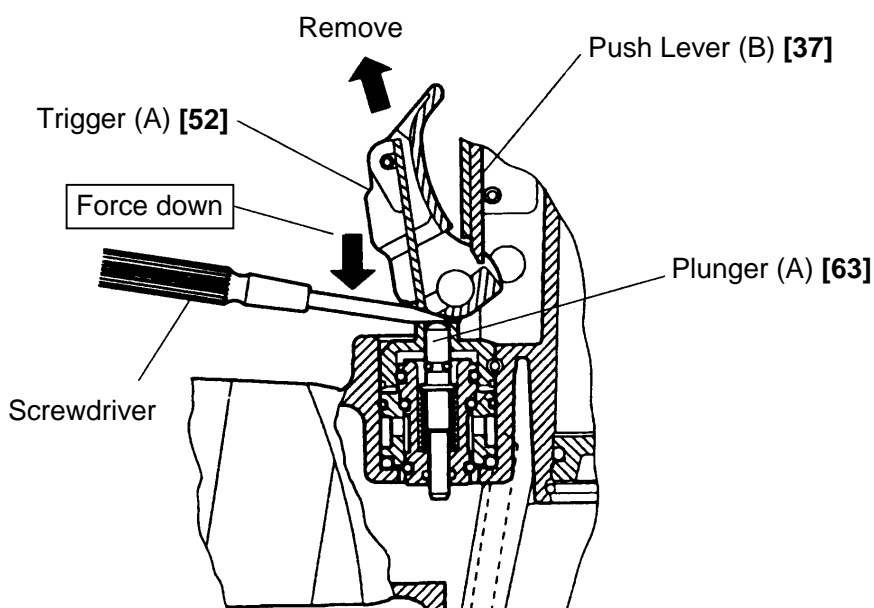


Fig. 16

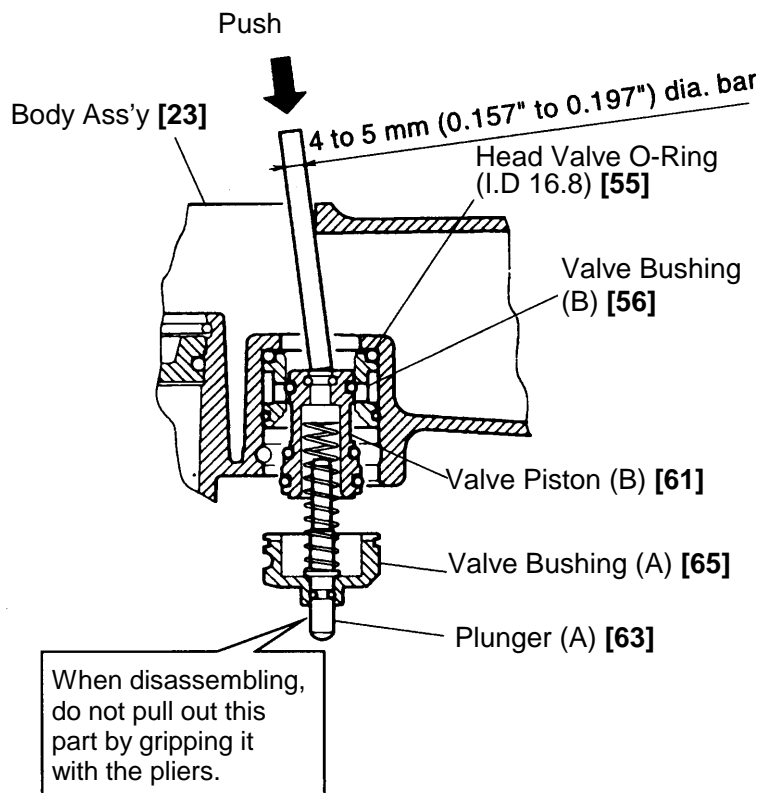


Fig. 17

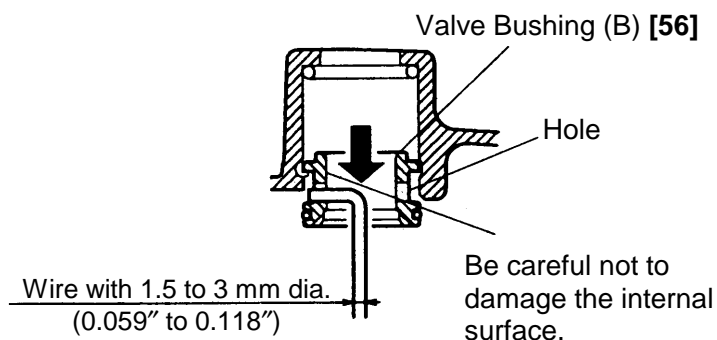


Fig. 18

- Pull out the Roll Pin D3 x 28 [51] with the roll pin puller (3 mm dia.), and take out the control valve in the following manner.

- 1) Remove the Exhaust Cover [5] by following the procedure in (1), section 1-2.
- 2) As shown in Fig. 17, put a 4 to 5 mm (0.157 to 0.197") dia. bar in from the upper side of the Body Ass'y [23] and push the top of Valve Piston (B) [61]. Now, the parts forming the control valve can be taken out except Valve Bushing (A) [65] and the Head Valve O-Ring (I.D 16.8) [55].

[CAUTIONS]

- Be careful not to damage Valve Piston (B) [61], Valve Bushing (A) [65] and (B) [56], etc.
- Do not pull out the end of Plunger (A) [63] with pliers.

- 3) To take out Valve Bushing (B) [56], put a 1.5 to 3 mm (0.059 to 0.118") dia. wire with its end hooked into the hole in the bushing and pull it out while being careful not to damage the internal surface of Valve Bushing (B) [56], as shown in Fig. 18.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- Be extremely careful to prevent the entry of foreign particles into the control valve section.
- Thoroughly apply grease to the O-Ring (I.D 1.8) [64] on Plunger (A) [63], O-Ring (S-4) [60], (I.D 8.8) [58] and (I.D 11) [59] on Valve Piston (B) [61], and the shaft of Plunger (A) [63], as shown in Fig.19.
- As shown in Fig. 19, install Valve Bushing (A) [65] so that the roll pin groove in Valve Bushing (A) [65] will be aligned with the roll pin hole in the Body Ass'y [23]. First, insert a roll pin puller (3 mm dia.) into the roll pin hole. Then, upon confirming that the puller passes through the hole, drive in the Roll Pin D3 x 28 [51].

[If an attempt is made to drive the roll pin with force when the roll pin groove in Valve Bushing (A) [65] is not aligned with the roll pin hole in the Body Ass'y [23], it will damage the periphery of Valve Bushing (A) [65] and prevent disassembly or reassembly.]

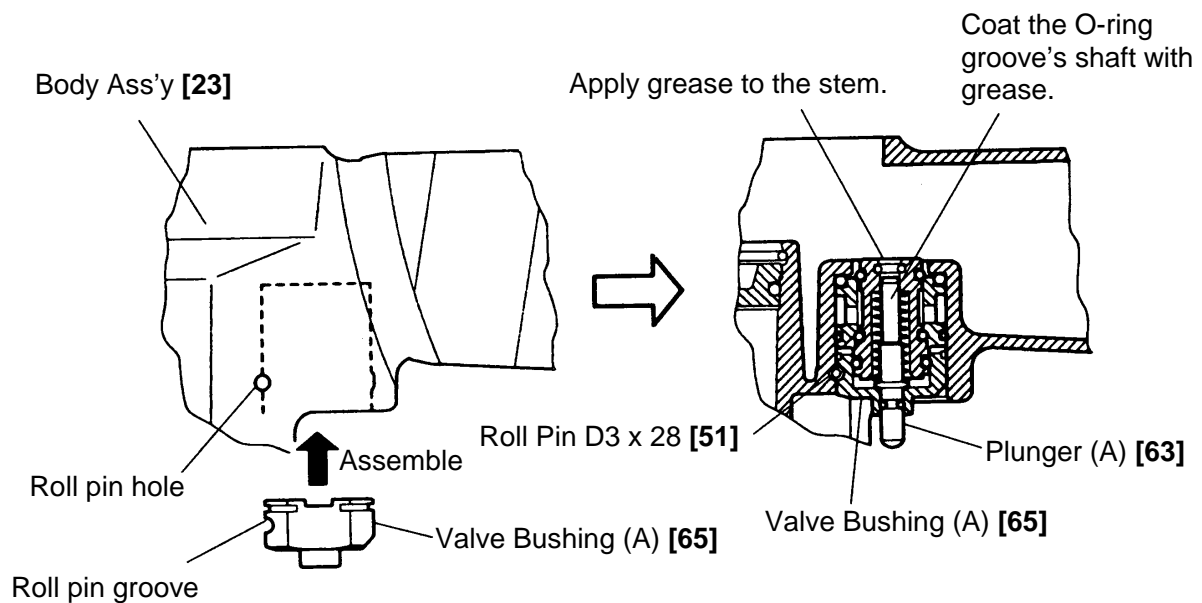


Fig. 19

- After assembling, check that Plunger (A) [63] moves smoothly.

1-4. Disassembly and Reassembly of the Driving Section (See Fig. 20)

[Tools required]

- Hex. Bar wrench (3 mm and 5 mm)
- Roll pin puller (3 mm dia. and 4 mm dia.)
- Phillips screwdriver
- Puller for Retaining Ring (C-Type) for Hole
- Open ended wrench (10 mm)

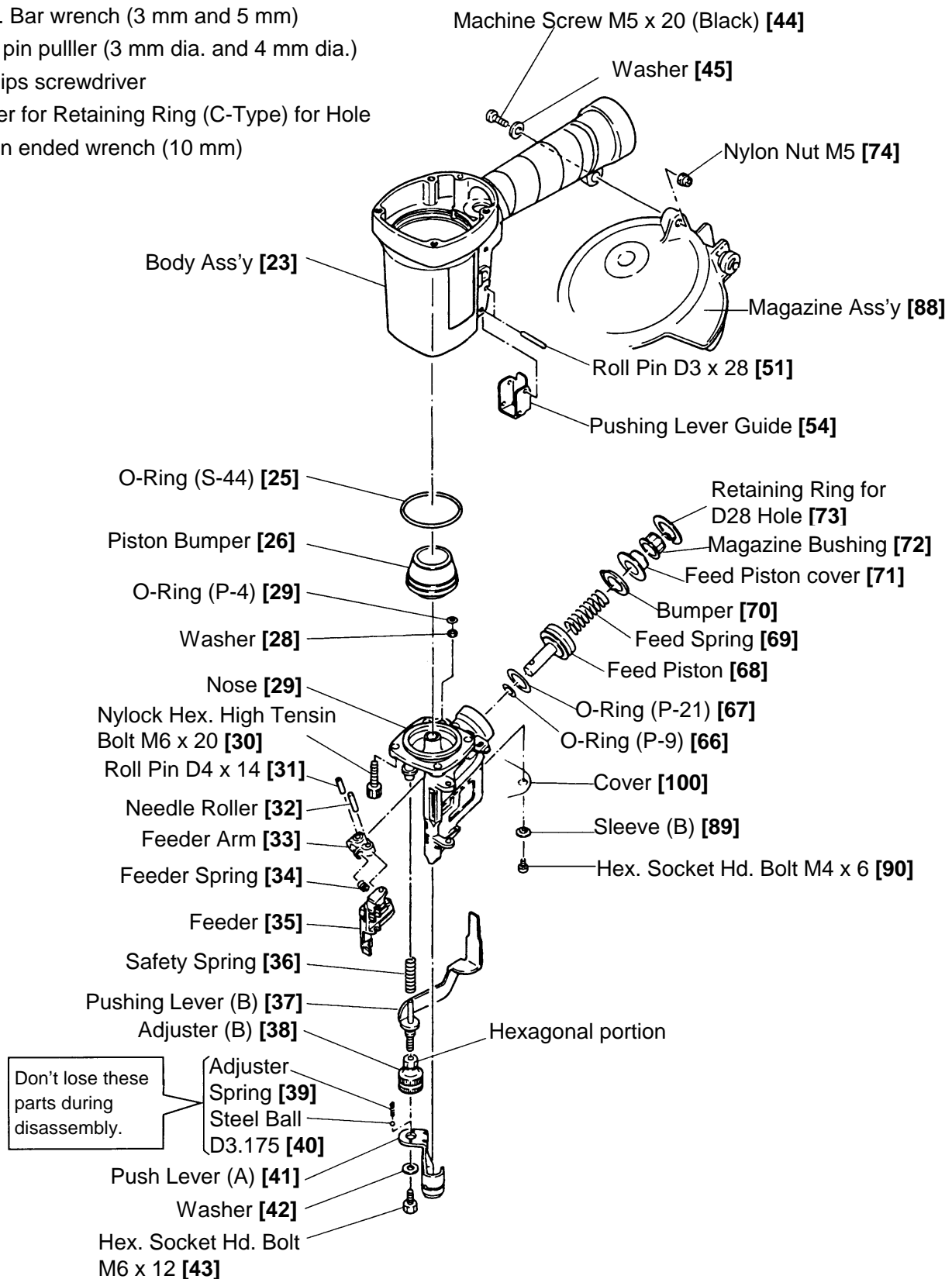


Fig. 20 Disassembly and reassembly of the driving section

(1) Disassembly and Reassembly of the Nose [29], Pushing Levers (A) [41], and (B) [37], etc. (See Fig. 20)

(a) Disassembly

- Remove the Machine Screw M5 x 20 (black) [44] with a Phillips screwdriver and then remove the Magazine Ass'y [88]. Remove the Hex. Socket Hd. Bolt M4 x 6 [90] with a hex. bar wrench (3 mm) and then remove the Cover [100] from the Nose [29].
- Remove the four Nylock High Tension Bolts M6 x 20 [30] from the Nose [29] with a hex. bar wrench (5 mm). Now, the Nose [29], Pushing Levers (A) [41] and (B) [37] can be removed. (The Nylock High Tension Bolts M6 x 20 [30] in the feed piston section can be easily removed by inserting a bar between the Feeder [35] and the Nose [29] to lower the Feeder [35].)
- Hold the hexagonal portion of the Adjuster (B) [38] with an open ended wrench (10 mm), then remove the Hex. Socket Hd. Bolt M6 x 12 [43] with a hex. bar wrench (5 mm) being careful not to lose the Steel Ball D3.175 [40] and the Adjuster Spring [39]. Now, Adjuster (B) [38] and Pushing Lever (A) [41] can be removed.
- Pull out the two Roll Pins D3 x 28 [51] with a roll pin puller (3 mm dia.). Then the Pushing Lever Guide [54] can be removed.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- Before assembling, apply grease to the Adjuster Spring [39].
- Apply grease to the O-Ring (S-44) [25] and then fit it in the groove of the Nose [29].
- After reassembly, check that the components of the Pushing Lever and Adjuster (B) [38] operate smoothly.

(2) Disassembly and reassembly of the Piston Bumper [26], the Feeder [35], the Feed Piston [68], etc. (See Fig. 20)

(a) Disassembly

- Remove the Magazine Ass'y [88], Nose [29] and the components of the Pushing Lever from the output section according to the procedure of section 1-4 (1). Then the Piston Bumper [26] can be removed.
- Pull out the Retaining Ring for D28 Hole [73] with the puller for retaining ring (C-type) for hole while pressing the Feed Piston Cover [71] with your fingers. Then the Feed Piston Cove [71], the Bumper [70] and the Feed Spring [69] can be removed.
- Pull out the Roll Pin D4 x 14 [31] with a roll pin puller (4 mm dia.). Then the Feed Piston [68] and the Feeder Arm [33] can be removed.
- Push out the Needle Roller [32] with the roll pin puller (4 mm dia.). Then the Feeder Arm [33], the Feeder [35] and the Feeder Spring [34] can be removed.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- When replacing the Piston Bumper [26], completely remove the broken pieces of the Piston Bumper [26] packed in the passages of the Body Ass'y [23] and the Nose [29] as shown in Fig. 21 or in the feed piston chamber as shown in Fig. 22 so that the Feed Piston [68] works smoothly.

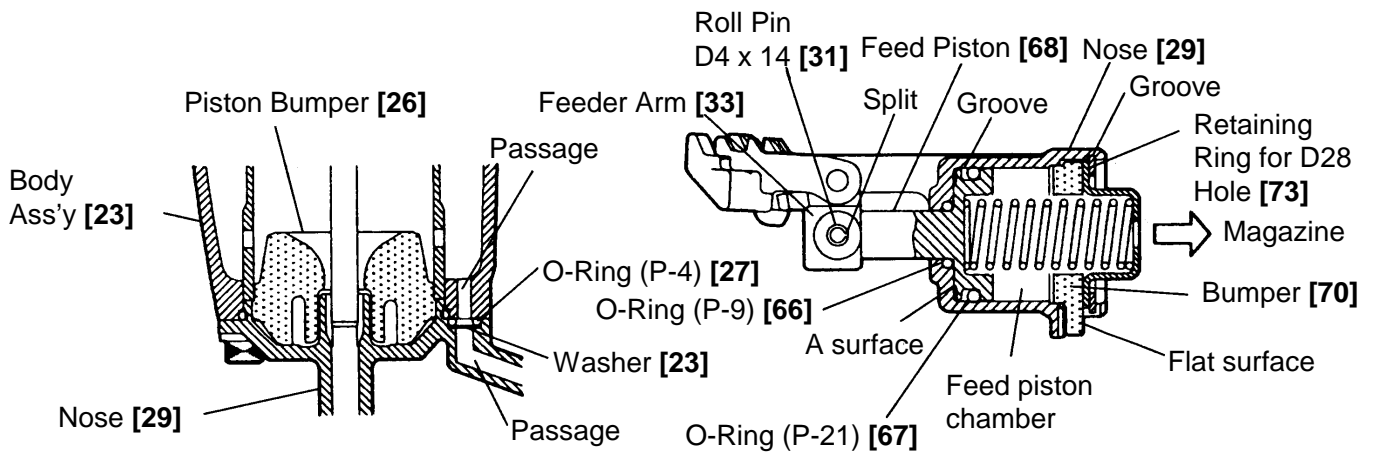


Fig. 21

Fig. 22

- Apply grease to the O-Ring (P-9) [66] and O-Ring (P-21) [67] before reassembly.
- Charge grease in the groove of the Feed Piston [68] (Fig. 22).
- Apply grease to the O-Ring sliding surfaces of the Feed Piston [68] and Nose [29] before reassembly. Be careful not to apply too much grease to the A surface (Fig. 22). Too much grease can impair the operation of the Feed Piston [68] (at low pressure).
- Put the Roll Pin D4 x 14 [31] in the Feeder Arm [33] facing the split to the Magazine as shown in Fig. 22.
- Mount the Bumper [70] facing the flat surface to the Magazine as shown in Fig. 22.
- Check that the Retaining Ring for D28 Hole [73] fits securely in the groove of the Nose [29].

(3) Disassembly and reassembly of the Nail Guide [93], Nail Stoppers (A) [96], and (B) [98], etc.

(See Fig. 23)

[Tools required]

- Hex. bar wrench (3 mm)
- Flatblade screwdriver

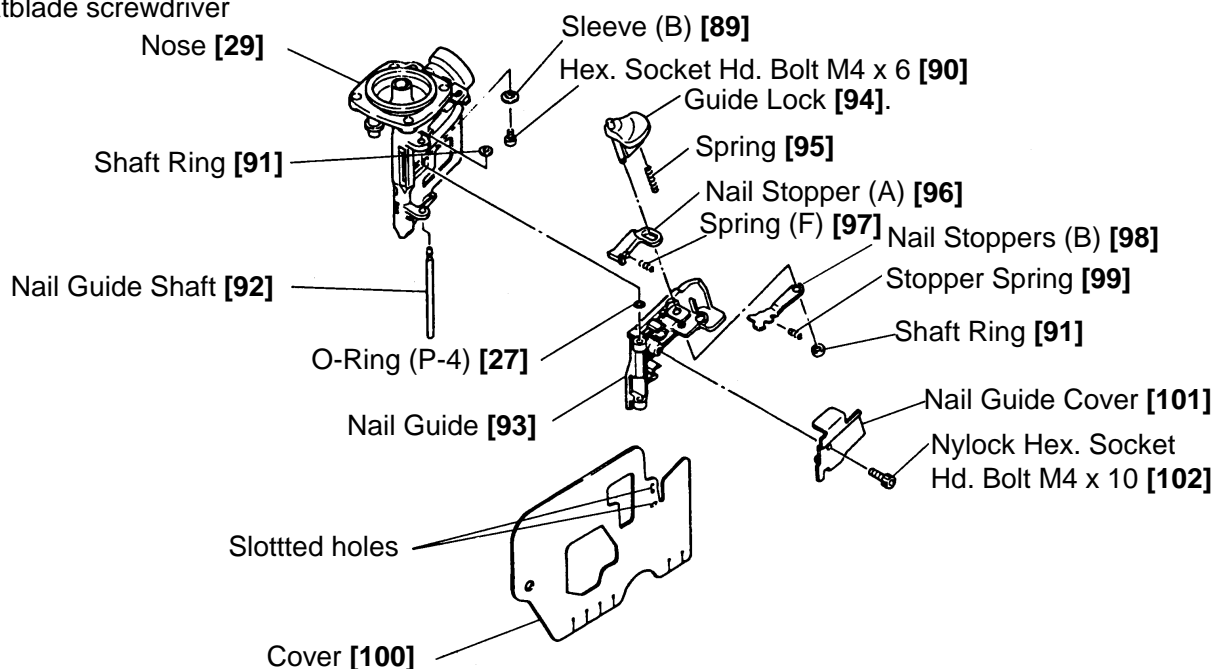


Fig. 23 Disassembly and reassembly of the nail guide, nail stoppers (A) and (B), etc.

(a) Disassembly

- Remove the Hex. Socket Hd. Bolt M4 x 6 [90] with a hex. bar wrench (3 mm) and remove the Cover [100] from the Nose [29].
- Remove the Shaft Ring [91] from the Nail Guide Shaft [92] with a flatblade screwdriver and pull out the Nail Guide Shaft [92]. Then the Nail Guide [93] assembled with other components can be removed.
- Remove the Nylock Hex. Socket Hd. Bolt M4 x 10 [102] with the hex. bar wrench (3 mm). Then the Nail Guide Cover [101] Spring (F) [97], the Stopper Spring [99] and the Cover [100] can be removed.
- Remove the Shaft Ring [91] from the Guide Lock [94] with the flatblade screwdriver and pull out the Guide Lock [94]. Then Nail Stoppers (A) [96] and (B) [98] can be removed.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points

- Remove dust from the claw groove of the Nail Guide [93] and then assemble it.
- Securely engage Spring (F) [97] and the Stopper Spring [99] with the convex portions of Nail Stoppers (A) [96] and (B) [98] to assemble.
- Engage the two slotted holes of the Cover [100] with the convex portions of the Nail Guide [93] to assemble.

1-5. Disassembly and Reassembly of the Cap and the Magazine Section

(1) Disassembly and reassembly of the Cap [49] (See Fig. 24)

[Tools required]

- Wrench (23 mm)

(a) Disassembly

- The Cap [49] has an M42 mm screw portion. Hold the two flat portions of the Cap [49] with a wrench (23 mm) and turn the Cap [49] to remove it.

(b) Reassembly

- Disassembly procedures should be followed in the reverse order. Apply grease to the O-Ring (I.D 37.2) [48] before reassembly.

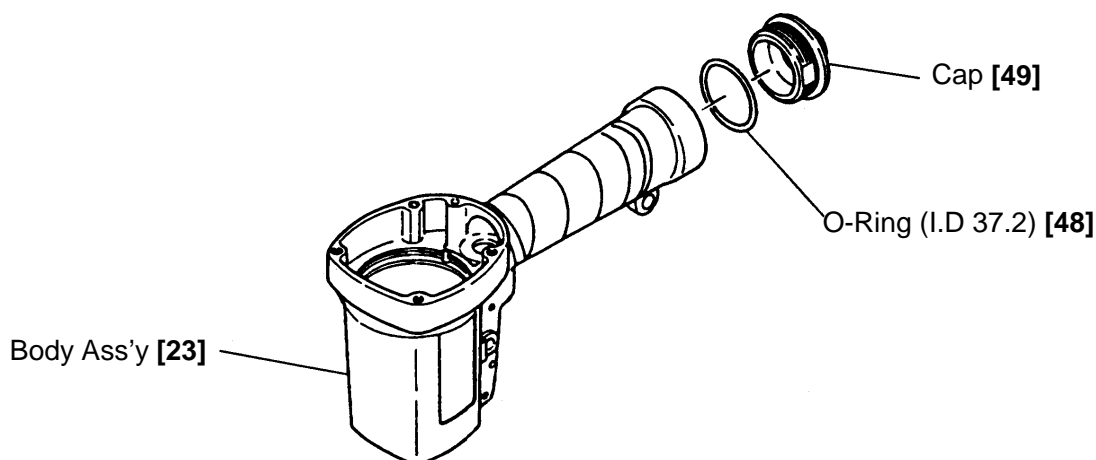


Fig. 24 Disassembly and reassembly of the cap

(2) Disassembly and reassembly of the magazine section (See Fig. 25)

[Tools required]

- Phillips screwdriver
- Flatblade screwdriver

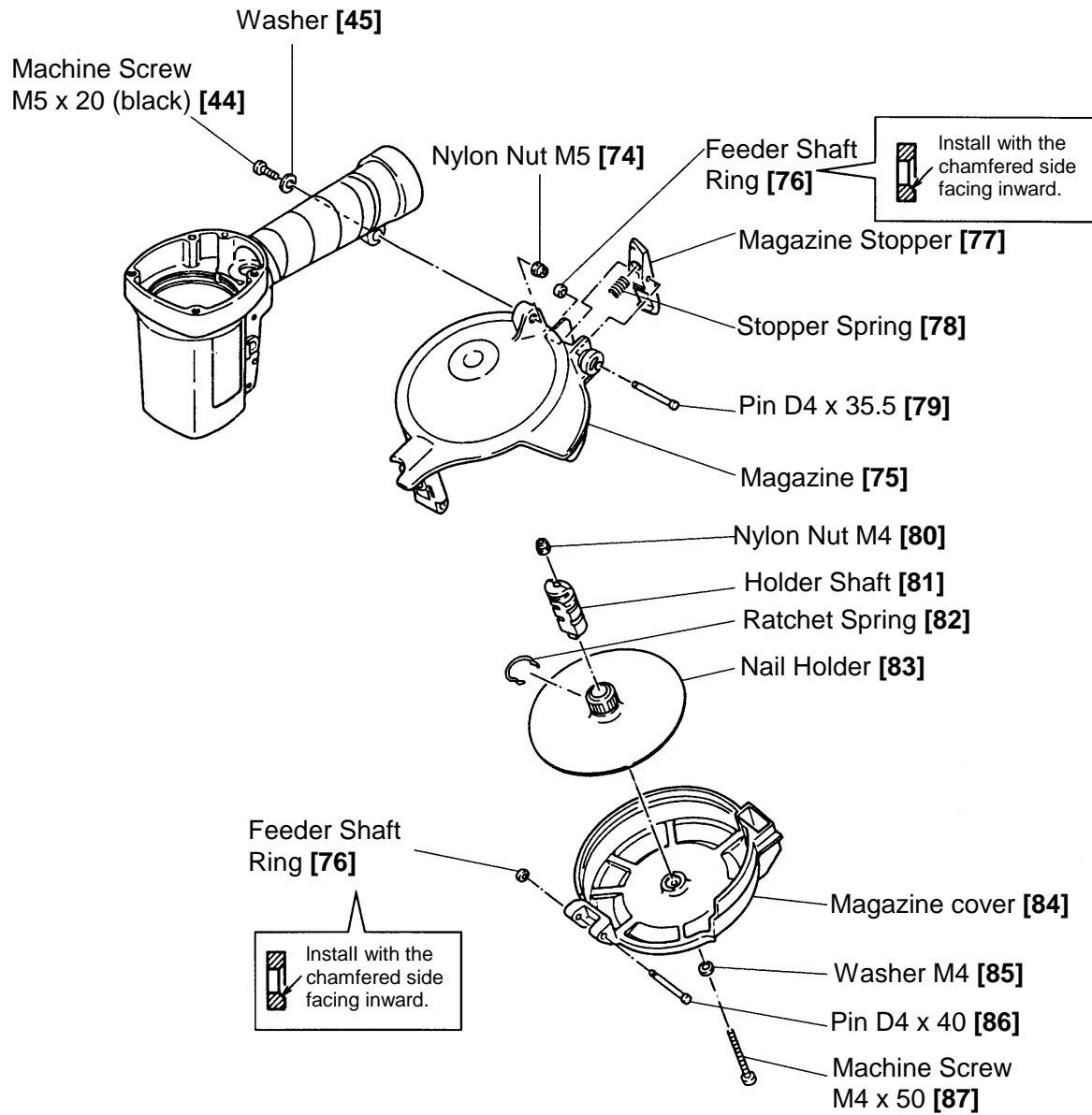


Fig. 25 Disassembly and reassembly of the magazine section

(a) Disassembly

- Remove the Machine Screw M5 x 20 (black) **[44]** with the Phillips screwdriver. Then the Magazine Ass'y **[88]** can be removed.

(b) Reassembly

- Disassembly procedures should be followed in the reverse order.

(3) Disassembly and reassembly of the Magazine Stopper **[77]** (See Fig. 25)

(a) Disassembly

- Remove the Feeder Shaft Ring **[76]** from the Pin D4 x 35.5 **[79]** with a flatblade screwdriver. Pull out the Pin D4 x 35.5 **[79]** pressing the Magazine Stopper **[77]** with your fingers. Then the Magazine Stopper **[77]** and the Stopper Spring **[78]** can be removed.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- Mount the Feeder Shaft Ring **[76]** facing the chamfered side inward as shown in Fig. 25.

(4) Disassembly and reassembly of the Magazine Cover **[84]** (See Fig. 25)

(a) Disassembly

- Remove the Feeder Shaft Ring **[76]** from the Pin D4 x 40 **[86]** with the flatblade screwdriver and pull out the Pin D4 x 40 **[86]**. Then the Magazine Cover **[84]** can be removed in an assembly state.

(b) Reassembly

Disassembly procedures should be followed in the reverse order. Note the following points:

- Mount the Feeder Shaft Ring **[76]** facing the chamfered side inward as shown in Fig. 25.

(5) Disassembly and reassembly of the Nail Holder **[83]** and the Holder Shaft **[81]** (See Fig. 25)

(a) Disassembly

- Open the Magazine Cover **[84]** and remove the Machine Screw M4 x 50 **[87]** with a Phillips screwdriver. Then the Nail Holder **[83]** and the Holder Shaft **[81]** can be removed.

(b) Reassembly

- Disassembly procedures should be followed in the reverse order.

2. INSPECTION AND CONFIRMATION AFTER REASSEMBLY

- Check that Plunger (A) **[63]** moves smoothly.
- Check that there is no air leakage from each part.
- While driving nails with an air pressure of 4.5 kgf/cm² (63 psi), check that there is no idle driving and bending of nails.

Note: Before conducting the driving test, turn Adjuster (B) **[38]** to the deepest position.

- Recheck the tightening torque of each screw.
- Check that Pushing Lever (A) **[41]** slides smoothly.
- Check that the machine will not operate only by pulling Trigger (A) **[52]**. Also check that the machine will not operate only by depressing Pushing Lever (A) **[41]**.

3. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable Fixed	10	20	30	40	50	60 min.
NV 65AH	General Assembly Fixed Costs Safety Ass'y: 0 min Others: 20 min.	Work Flow					
			Exhaust Cover Ass'y Valve Rubber Ass'y Valve O-Ring Head Cap Ass'y				
				Cylinder Plate Cylinder Guide Cylinder Cylinder Ring Cylinder O-Ring x 7			
		Safety Ass'y	Trigger Plunger Plunger O-Ring Safety Plunger (A) Plunger Spring Urethane Ball				Body Ass'y
			Piston Ass'y Piston O-Ring				
		Feed Piston Feed Spring	Damper Ring Piston Damper Cylinder Damper				
				Tail Cover Ass'y Magazine Ass'y			
			Adjustment Cylinder, Body and Valve				