

# MODEL NR 90AC

## 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 remove all nails and disconnect the air hose from the nailer (with your finger released from the trigger) to exhaust all the compressed air.**

### 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 (30cc) oil feeder (Code No. 877153)
  - 4 oz (120cc) oil feeder (Code No.874042)
  - 1 quart (1 ltr) can (Code No.876212)
- If Gasket (A) **[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 pan

Bolt		Tightening torque N·m (kgf·cm, ft-lb)
Nylock Hex. Socket Hd. Bolt M8	<b>[63]</b>	25.5±2 (260±20, 18.8±1.4)
Hex. Socket Hd. Bolt M6	<b>[1], [39], [64]</b>	12.7±0.8 (130±8, 9.4±0.6)
Hex. Socket Hd. Bolt (W/Flange) M6	<b>[4], [27]</b>	12.7±0.8 (130±8, 9.4±0.6)
Hex. Socket Hd. Bolt M5	<b>[44]</b>	6.4±0.5 (65±5, 4.7±0.4)
Hex. Socket Button Bolt M5	<b>[83]</b>	4.4±0.3 (45±3, 3.3±0.2)
Hex. Socket Hd. Bolt M4	<b>[73]</b>	3.4±0.3 (35±3, 2.5±0.2)
Hex. Socket Hd. Bolt (W/Flange) M4	<b>[80]</b>	3.4±0.3 (35±3, 2.5±0.2)

## 1-2. Disassembly and Reassembly of the Output Section

(1) Disassembly and reassembly of the Exhaust Cover [5] Head Valve [10], Exhaust Valve Rubber [7], etc.  
(See Fig. 8A and Fig. 8B)

[Tools required]

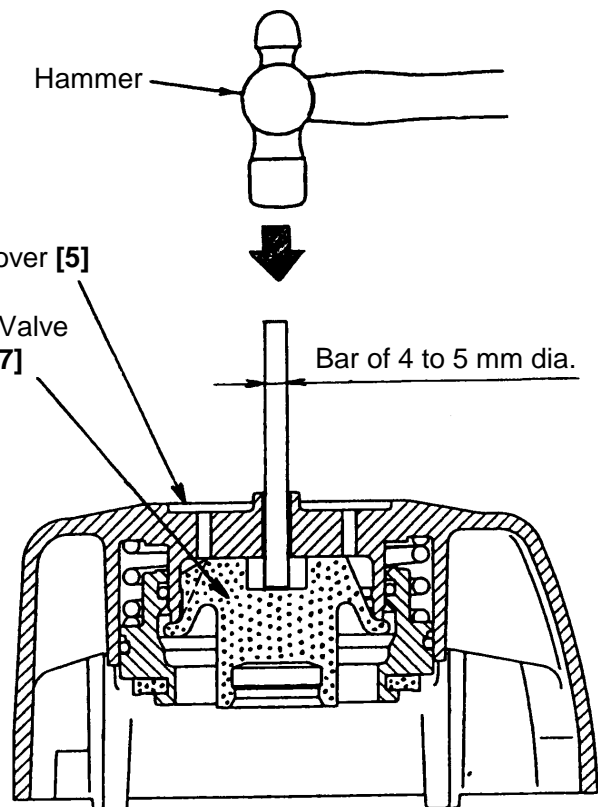
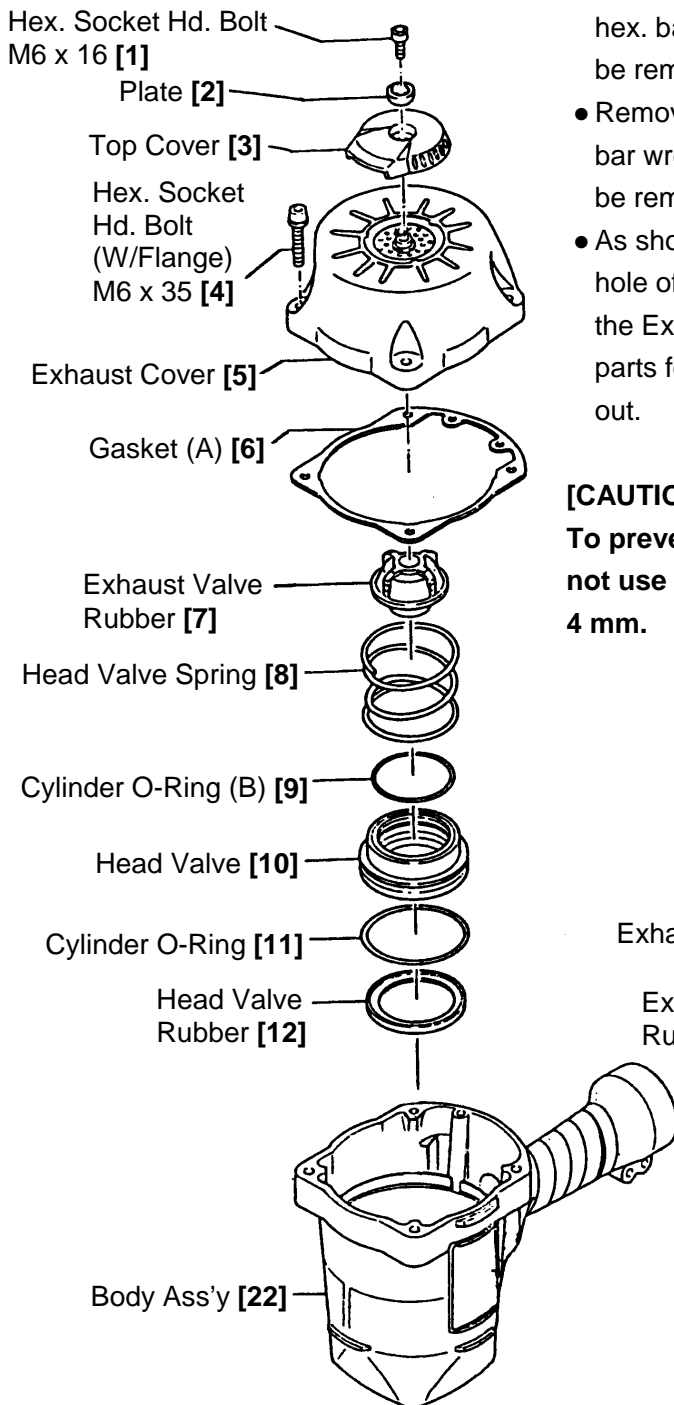
- Hex. Bar wrench (5 mm)
- Hammer

### (a) Disassembly

- Remove the four Hex. Socket Hd. Bolt M6 x 35 [4] with a hex. bar wrench. The entire Exhaust Cover [5] can now be removed from the Body Ass'y [22].
- Remove the Hex. Socket Hd. Bolt M6 x 16 [1] with a hex bar wrench. The Plate [2] and the Top Cover [3] can now be removed.
- As shown in Fig. 8 B, insert a 4 to 5 mm dia. Bar into the hole of M6 screw in the Exhaust Cover [5] and force out the Exhaust Valve Rubber [7] with a hammer. Now, the parts forming the Exhaust Valve Rubber [5] can be taken out.

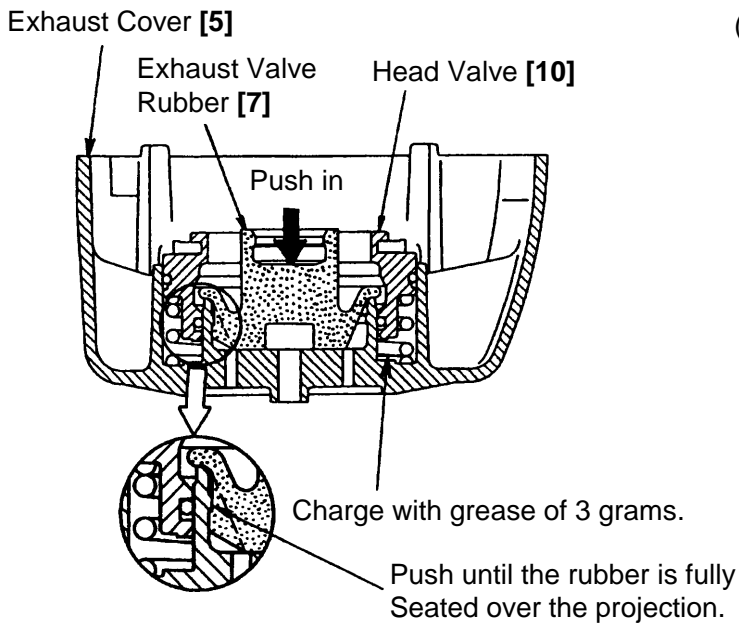
### [CAUTION]

To prevent damage to the Exhaust Valve Rubber [7] do not use a pointed bar or a bar with a diameter of less than 4 mm.



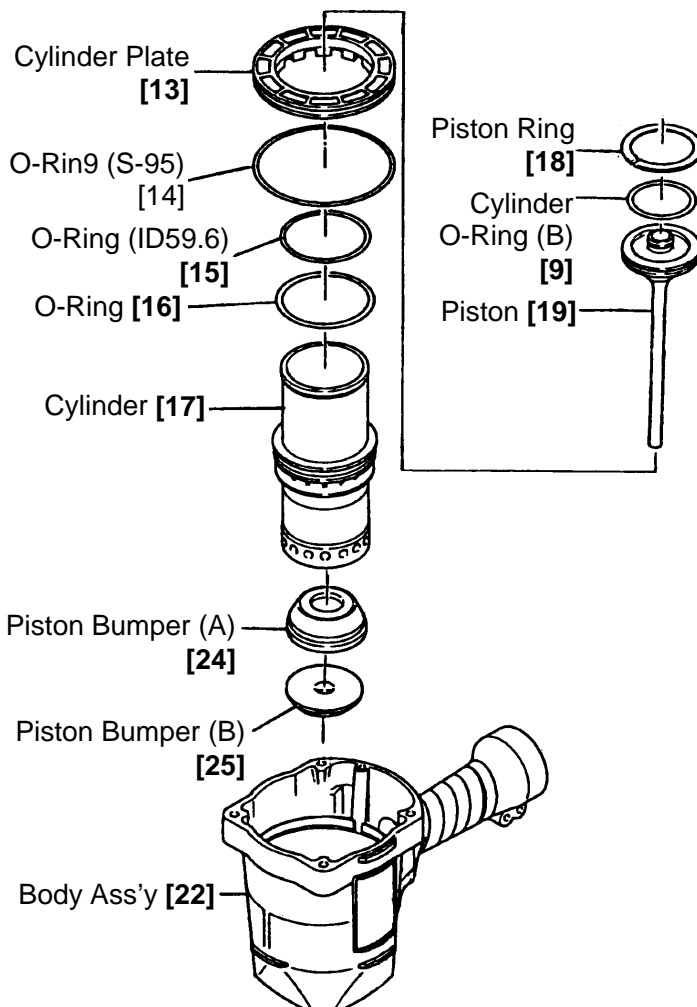
**Fig. 8A Disassembly and Reassembly of the Exhaust Cover, Head Valve, Exhaust Valve Rubber, etc.**

**Fig. 8B**



**Fig. 9**

(2) Disassembly and reassembly of the Cylinder [17], Piston [19], Piston Bumper (A) (B) [24] [25], etc.  
(See Fig. 10.)



**Fig. 10 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.

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

**(a) Disassembly**

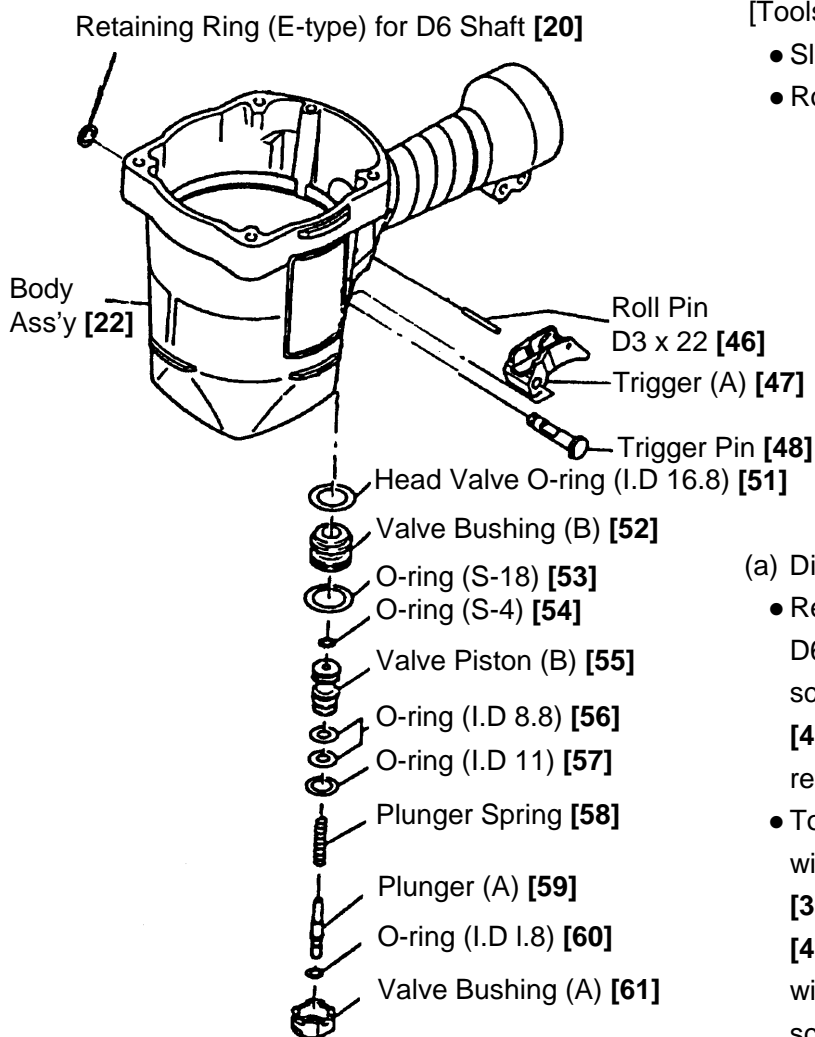
- Remove the Exhaust Cover [5] as described in item (1). Now, the Cylinder [17], Cylinder Plate [13], Piston [19], Piston Bumper (A), (B) [24], [25], etc. can be taken out.

**(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], O-ring [9] and the internal side of the Cylinder [17].
- Apply grease to the O-ring (S-95) [14], O-ring (I.D 59.6) [15] and the O-ring [16], and then install them.

### 1-3. Disassembly and Reassembly of the Control Valve Section (See Fig. 11)



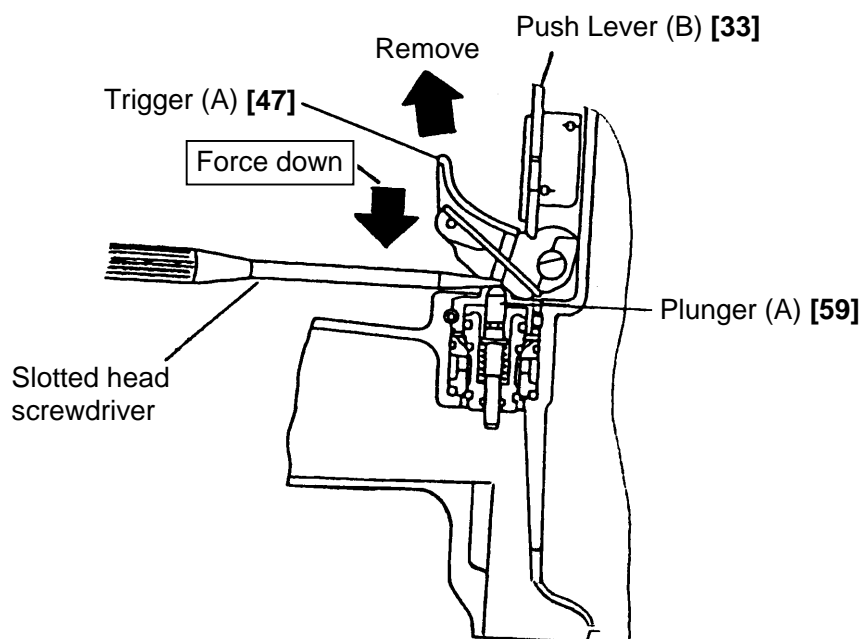
[Tools required]

- Slotted Head Screwdriver
- Roll pin puller (3 mm dia.)

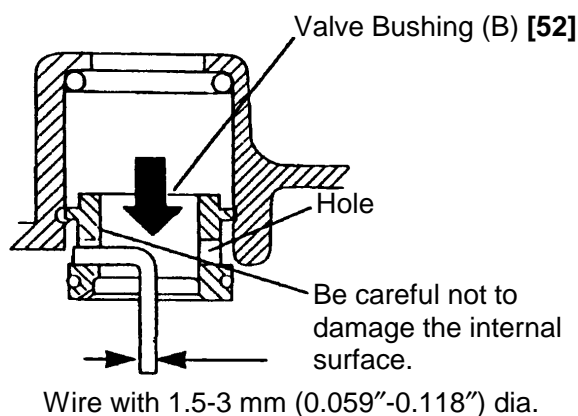
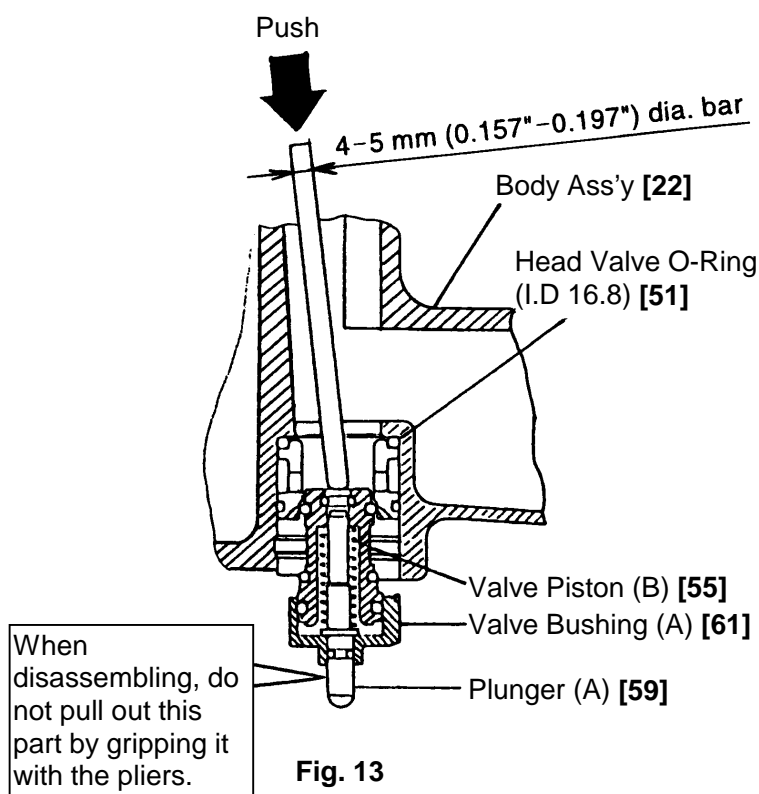
#### (a) Disassembly

- Remove the Retaining Ring (E-type) for D6 Shaft [20] with the slotted head screwdriver and pull out the Trigger Pin [48], then Trigger (A) [47] can be removed.
- To Remove the Trigger (A) [47] together with the driving section (Push Lever (B) [33], Nose [30], etc.), remove Trigger (A) [47] while forcing down Plunger (A) [59] with the blade of a slotted head screwdriver, as shown in Fig. 12.

**Fig. 11 Disassembly and Reassembly of the Control Valve Section**



**Fig. 12**



- Pull out the Roll Pin D3 x 22 [46] 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), item 1-2.
- 2) As shown in Fig. 13, Put in the 4-5 mm (0.157" - 0.197") dia. bar from the upper side of the Body Ass'y [22] and push the top of the Valve Piston (B) [55]. Now, the parts forming the control valve can be taken out except the Valve Bushing (A) [61] and the Head Valve O-Ring (ID 16.8) [51].

#### [CAUTIONS]

- Be careful not to damage Valve Piston (B) [55], Valve Bushing (A) [61] and (B) [52], etc.
- Do not pull out the end of Plunger (A) [59] with the pliers.

- 3) To take out Valve Bushing (B) [52], put a 1.5-3 mm (0.059" - 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) [52], as shown in Fig. 14.

(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) [60] of Plunger (A) [59], the O-Rings (S-4), (I D 8.8) and (I D 11) [54], [56] and [57] of Valve Piston (B) [55], and the shaft of Plunger (A) [59] shown in Fig. 15.
- As shown in Fig. 15, install Valve Bushing (A) [61] so that the roll pin groove in Valve Bushing (A) [61] will be aligned with the roll pin hole in the Body Ass'y [22]. First, insert the 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 22 [46].

If an attempt is made to drive the roll pin with force when the roll pin groove in Valve Bushing (A) [61] is not aligned with the roll pin hole in the Body Ass'y [22], it will damage the periphery of Valve Bushing (A) [61] and prevent disassembly or reassembly.

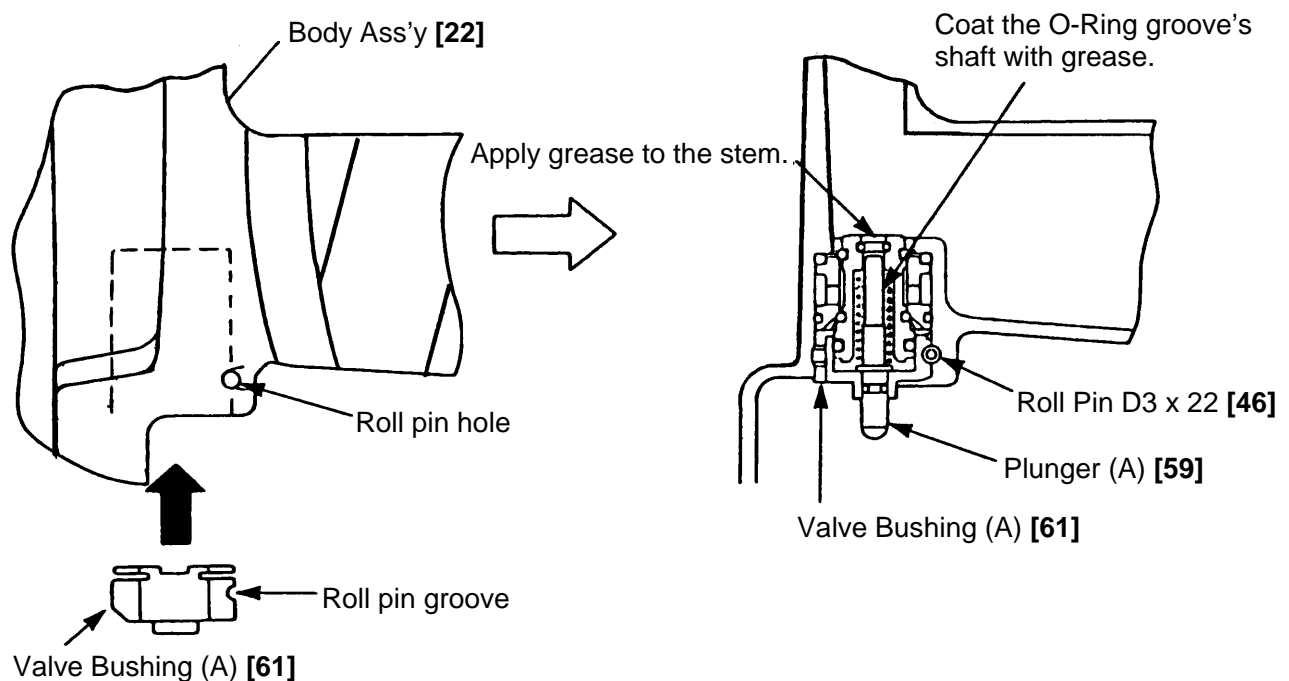
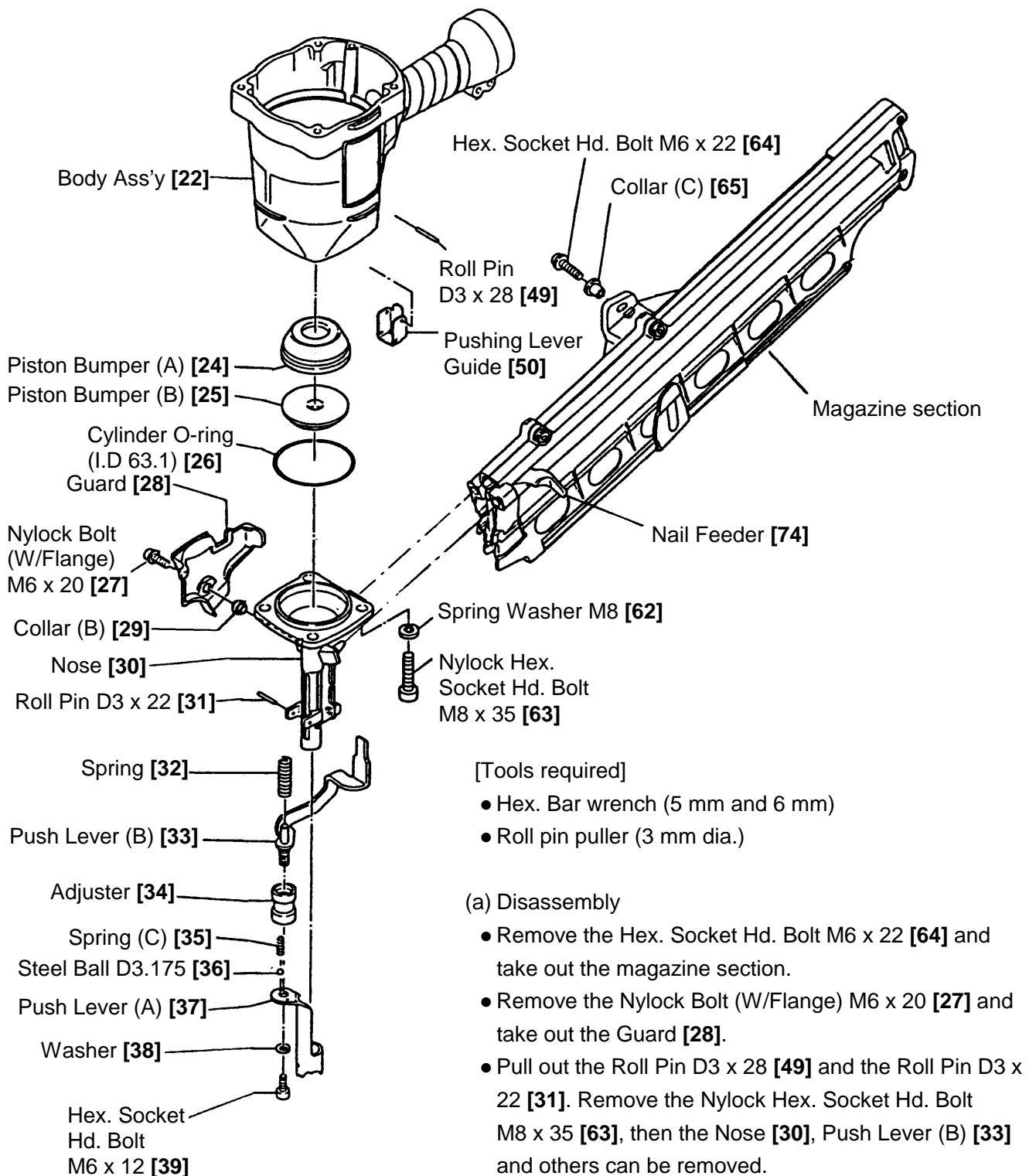


Fig. 15

After assembly, make sure that Plunger (A) [59] moves smoothly.

#### 1-4. Disassembly and Reassembly of the Driving Section (See Fig. 16)



**Fig. 16 Disassembly and Reassembly of the Driving Section**

##### (b) Reassembly

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

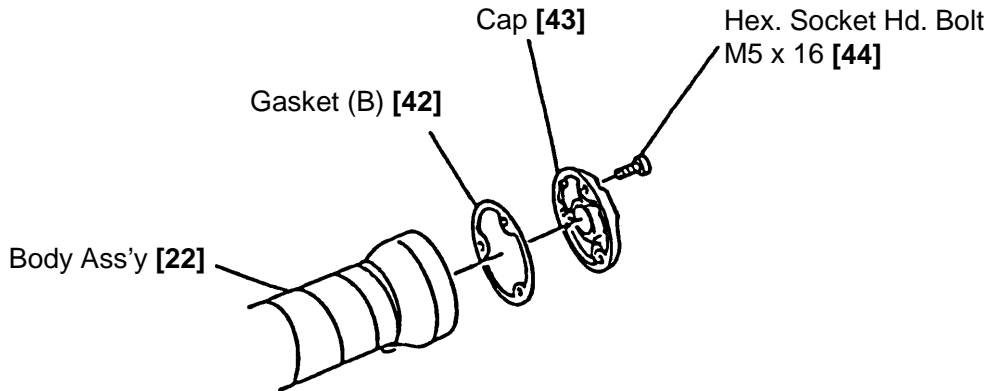
- Apply grease to the Cylinder O-ring (I.D 63.1) [26] and then install it.
- Slide the Nail Feeder [74] toward the Nose [30] and then mount the magazine section to the Nose [30] and the Body Ass'y [22]. Check that the Nail Feeder [74] moves smoothly.

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

(1) Disassembly and reassembly of the cap (See Fig. 17)

[Tool required]

- Hex. Bar wrench (4 mm)



**Fig. 17 Disassembly and Reassembly of the Cap**

### (a) Disassembly

- Remove the three Hex. Socket Hd. Bolts M5 x 16 [44] with the hex. bar wrench so that the Cap [43] and Gasket (B) [42] can be removed.

### (b) Reassembly

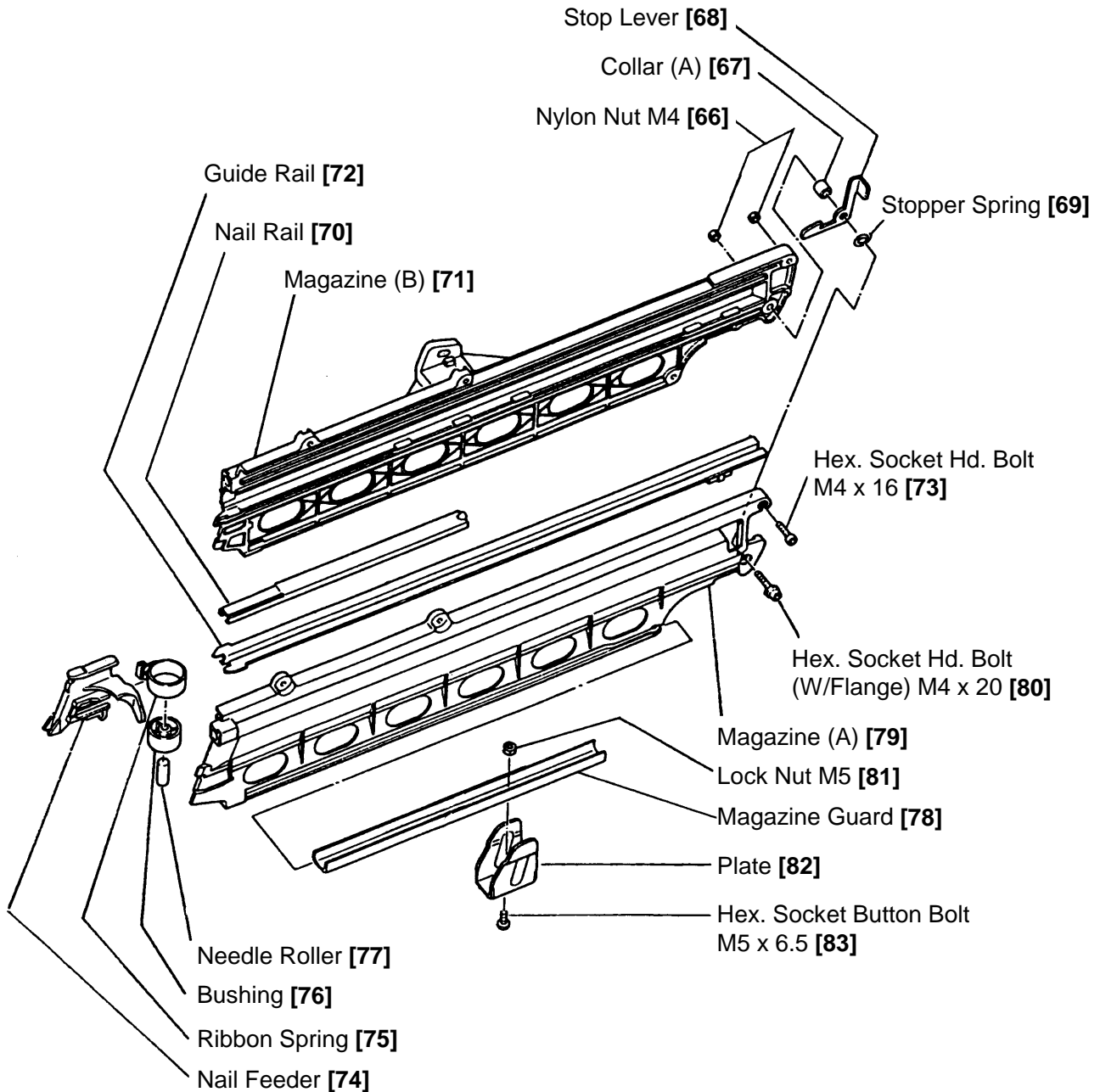
- Disassembly procedures should be followed in the reverse order.



(2) Disassembly and reassembly of the magazine section (See Fig. 18)

[Tools required]

- Hex. bar wrench (3 mm)



**Fig. 18 Disassembly and Reassembly of the Magazine Section**

(a) Disassembly

- Slide the Nail Feeder [74] toward the Nose [30] and then loosen the four Hex. Socket Hd. Bolts M4 x 16 [73] and the Hex. Socket Hd. Bolt (W/Flange) M4 x 20 [80].
- Loosen the Hex. Socket Button Bolt M5 x 6.5 [83] and remove the Plate [82] and the Magazine Guard [78]. Now, Magazine (A), (B) [79], [71] and the internal components can be removed.
- Slide the Nail Feeder [74] toward the Stop Lever [68] and then remove the Nail Feeder [74] together with the Guide Rail [72] from Magazine (A) [79].

(b) Reassembly

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

- Lubricate the Nail Feeder [74], sliding surfaces of the Nail Rail [70] and the Guide Rail [72] with Hitachi pneumatic tool lubricant before reassembly.
- Mount the Guide Rail [72] and the Nail Feeder [74] to Magazine (A) [79] together and then mount the Magazine components to Magazine (A) [79].
- Insert the inner hooking portion of the Stopper Spring [69] into the small hole of Magazine (A) [79] and hook the outer hooking portion on the Stop Lever [68] as illustrated in Fig. 19.
- Slide the Magazine Guard [78] from the back of the Magazine to mount. Note the following points when mounting .
  - Check that Magazine (A) [79] and Magazine (B) [71] are correctly mated.
  - Check that the Lock Nut M5 [81] is put in the hexagonal groove made at the lower position of Magazine (A) [79] and the Magazine (B) [71] .
  - Check that the hole of the Magazine Guard [78] is aligned to the Lock Nut M5 [81] position.

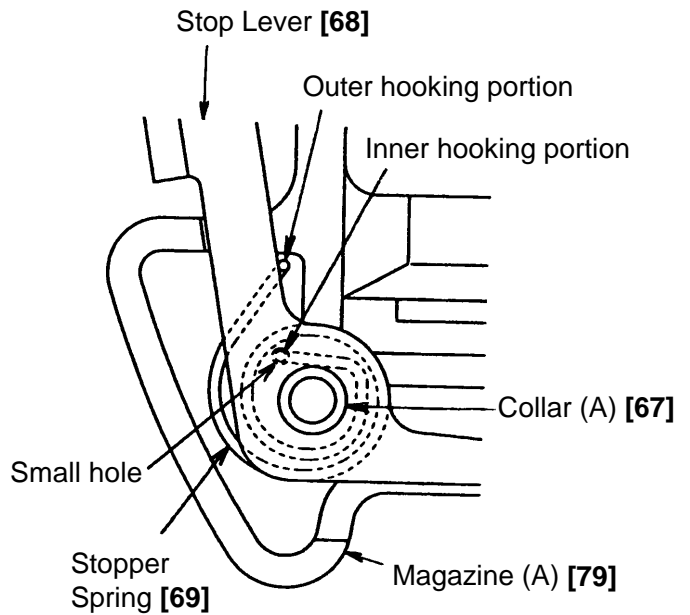


Fig. 19

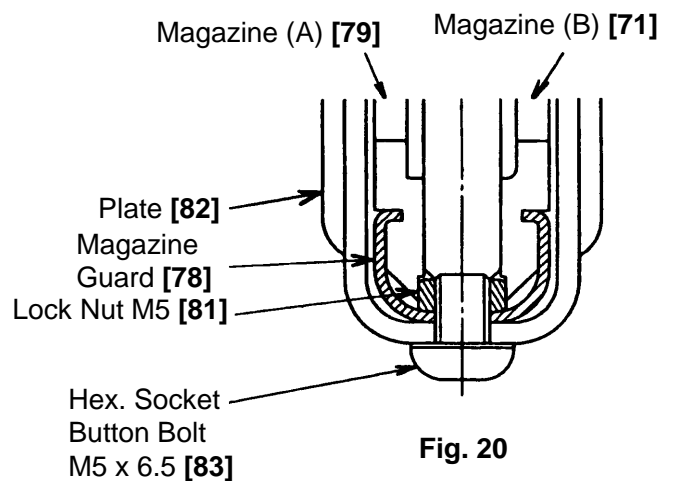


Fig. 20

## **2. INSPECTION AND CONFIRMATION AFTER REASSEMBLY**

- Check that Plunger (A) **[59]** moves smoothly.
- Check that there is no air leakage from each part.
- While driving nails with an air pressure of 4.5 kgf/cm<sup>2</sup> (63 psi), check that there is no misfiring and bending of nails.

Note: Before conducting the driving test, turn the Adjuster **[34]** to the deepest position.

- Recheck the tightening torque of each screw.
- Check that the Push Lever (A) **[37]** slides smoothly.
- Check that the machine will not operate only by pulling Trigger (A) **[47]**. Also check that the machine will not operate only by depressing Push Lever (A) **[37]**.

### 3. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
NR 90AC		Work Flow						
				Top Cover Exhaust Cover Gasket (A) Exhaust Valve Rubber Head Valve Spring Cylinder O-Ring Head Valve Cylinder O-Ring (B) Head Valve Rubber	Nose Nail Feeder Ribbon Spring Magazine (A) Magazine (B)			
	General Assembly			Push Lever (B) Spring Adjuster Push Lever (A) Piston Piston Ring Cylinder O-Ring (B) Pushing Lever Guide Trigger (A) Trigger Pin Valve Bushing (A) Valve Bushing (B) O-Ring Plunger (A) Plunger Spring Valve Piston (B) Adjustment Cylinder Body Ass'y Head Valve	Cylinder Cylinder Plate O-Ring Piston Bumper (A) Piston Bumper (B)			Body Ass'y