

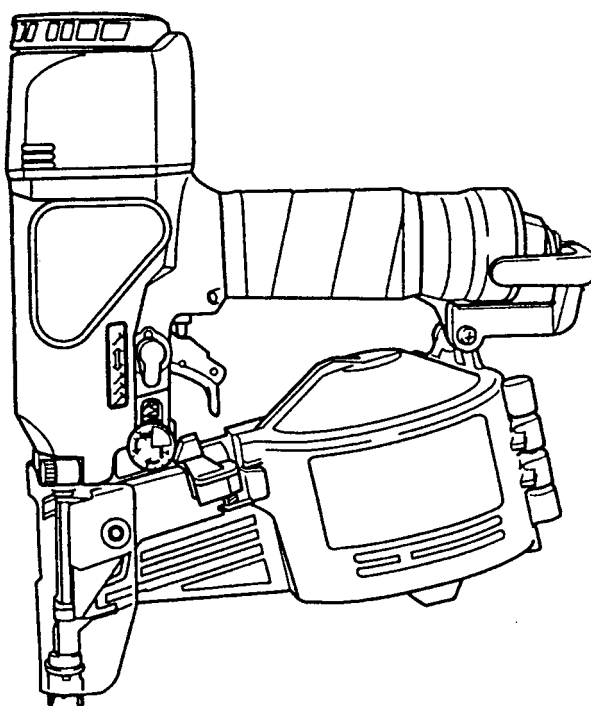
MODEL

NV 50AF3

Hitachi Power Tools

**COIL NAILER
NV 50AF3**

**TECHNICAL DATA
AND
SERVICE MANUAL**



N

LIST No.: E019

Jan. 2005



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1. PRODUCT NAME

Hitachi Coil Nailer, Model NV 50AF3

2. MARKETING OBJECTIVE

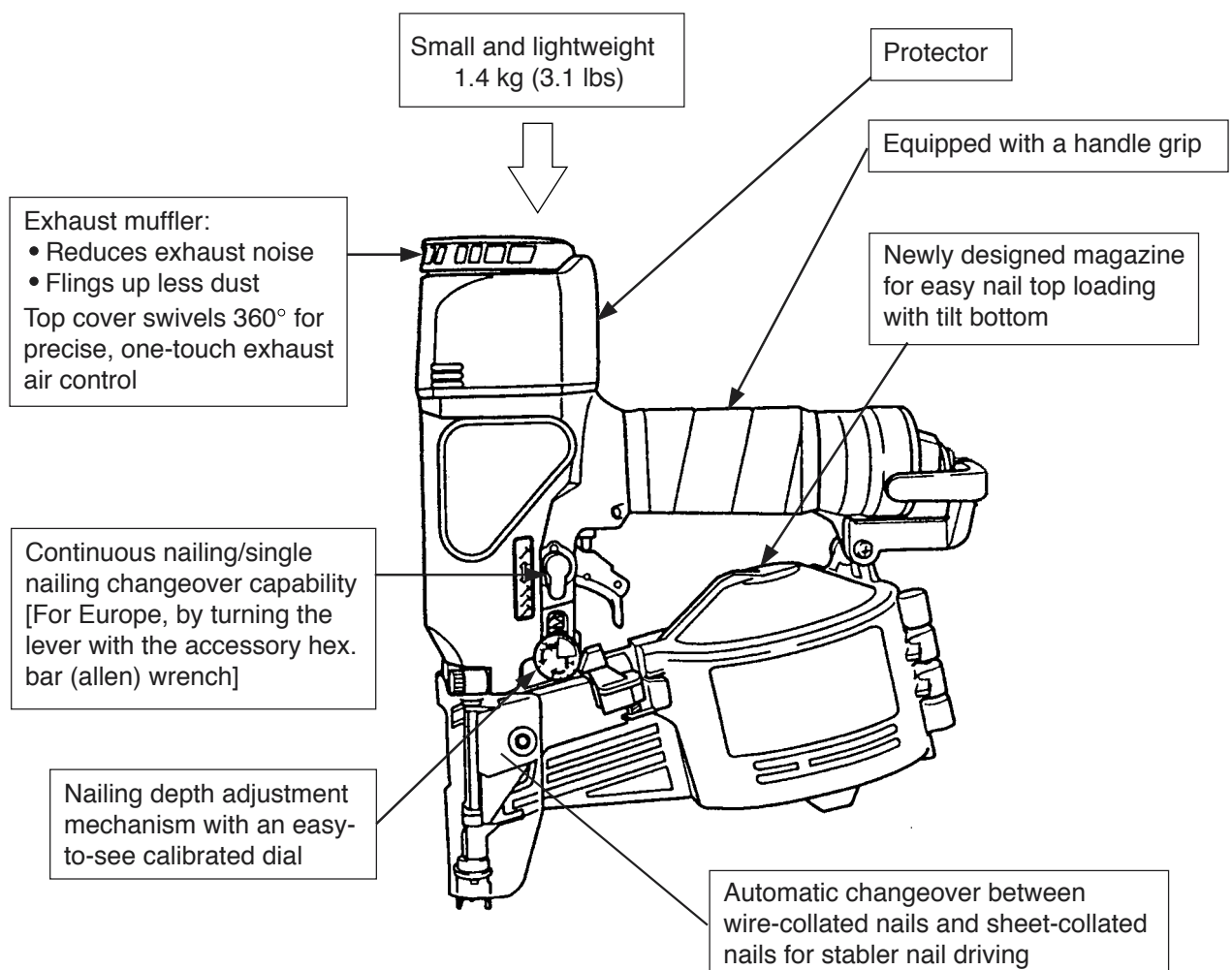
The Model NV 50AF3 is a lightweight coil nailer that can handle wire-collated nails with lengths of 27 mm (1-1/16") to 50 mm (2") and sheet-collated nails with lengths of 25 mm (1") to 45 mm (1-3/4"). This model's outstanding features are as follows.

- Small and lightweight [1.4 kg (3.1 lbs)]
- Exhaust muffler for reduction of exhaust noise and dust disturbance
- New magazine with a tilt bottom for easy top loading
- Nailing depth adjustment mechanism with an easy-to-see calibrated dial

3. APPLICATIONS

- * General nailing for construction such as nailing of a variety of backing materials, such as plywood or drywall.
- * Fastening of a variety of interior finishing materials
- * Nailing of a variety of architectural metals, such as reinforcing brackets [0.35 m (0.014") or less in thickness] for joining frames or rafters of wooden buildings

4. SELLING POINTS



4-1. Selling Point Descriptions

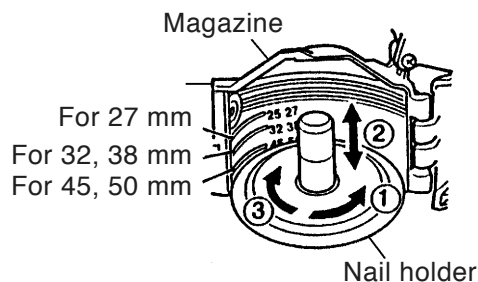
(1) Magazine

(a) Tilttable

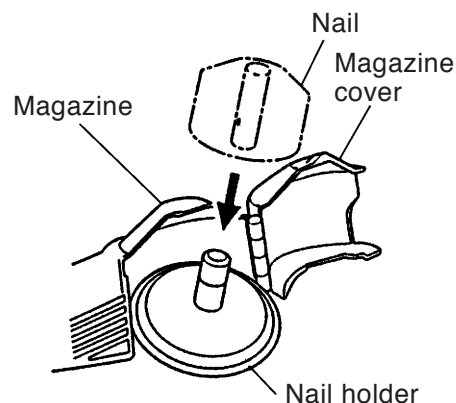
The nail holder can be tilted for easy nail loading.

[Reference]

Adjust the nail holder according to the length of nails to be used as shown below.

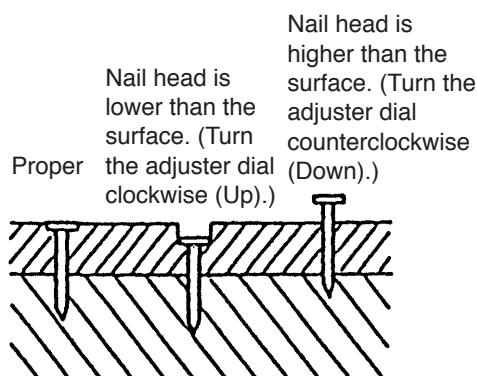


- ① Turn the nail holder about 90° counterclockwise.
- ② Adjust the upper surface of the nail holder to a desired mark on the inside of the magazine according to the length of nails to be used by sliding the nail holder vertically.
- ③ Turn the nail holder clockwise until a click is heard (about 90°).



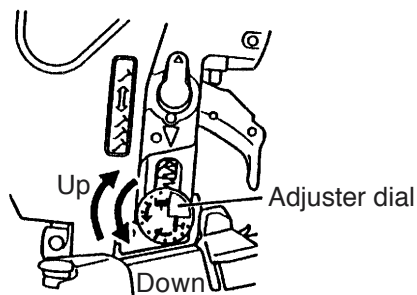
(2) Nailing depth adjustment mechanism

The Model NV 50AF3 is equipped with a nailing depth adjustment mechanism that enables adjustment of nailing depth by turning the adjuster dial.



- The nailing depth can be changed by 0.5 mm per click.
- The adjustable range of nailing depth is from 0 mm to 0.5 mm.

However, an air pressure which exceeds the proper level for the driving resistance of the nails can shorten the service life of the coil nailer. Be sure to instruct customers to adjust both the air pressure level and the adjuster dial by referring to the table below.



- Adjust the adjuster dial and the air pressure level referring to the table below.
- Perform a test driving. When the nail head is sunk below the wood surface, adjust the adjuster dial clockwise (Up).
- When the nail head is left above the wood surface, adjust the air pressure level to higher.

Reference of air pressure and adjuster dial setting

Nail length	Air pressure	Adjuster dial
27 mm to 32 mm	4.9 bar (5 kgf/cm ² , 70 psi)	Fully turn the adjuster dial counterclockwise for the lowermost level.
38 mm to 50 mm	6.9 bar (7 kgf/cm ² , 98 psi)	

5. SPECIFICATIONS

5-1. Specifications

Model	NV50AF3
Driving system	Reciprocating piston type
Applicable pressure	4.9 — 8.3 bar (5 — 8.5 kgf/cm ² , 70 — 120 psi) (Gauge pressure)
Driving speed	3 pcs./sec
Product weight	1.4 kg (3.1 lbs)
Main body dimensions (Length x Height x Width)	252 mm x 269 mm x 112 mm (9-15/16" x 10-19/32" x 4-13/32")
Nail feed system	Reciprocating piston type
Nail capacity	200 — 400 nails
Air consumption	0.80 liter/cycle at 6.9 bar (0.80 liter/cycle at 7 kgf/cm ²) (0.28 ft ³ /cycle at 100 psi)
Air inlet	3/8 NPT thread
Packaging	Corrugated cardboard box (Sleeve type)
Package dimensions (Length x Height x Width)	310 mm x 350 mm x 135 mm (12-3/16" x 13-25/32" x 5-5/16")
Standard accessories	<ul style="list-style-type: none"> • Safety glasses (Code No. 875769) 1 • Hex. bar wrench for M4 screw (Code No. 943277) 1 • Hex. bar wrench for M5 screw (Code No. 944458) 1 • Hex. bar wrench for M6 screw (Code No. 944459) 1 • Oiler (30 cc) (Code No. 877153) 1 • Case (Code No. 881849) 1 • Nose cap (A) (Code No. 881092) 1 • Nose cap (B) (Code No. 881093) 1
Optional accessories	Sequential fire parts set (Code No. 881012) Pneumatic tool lubricant [30 cc (1 oz) oil feeder] (Code No. 877153) Pneumatic tool lubricant [120 cc (4 oz) oil feeder] (Code No. 872042) Pneumatic tool lubricant [1 ltr (1 quart) can] (Code No. 876212) Grease (ATTOLUB No. 2) [500 g (1.1 lbs.)] (Code No. 317918)

5-2. Nail Selection

The Model NV 50AF3 utilizes common round-head nails collated by wire or sheet into coils from 200 to 400 pieces. Applicable nail dimensions are shown below. However, it is recommended to use genuine HITACHI nails to ensure satisfactory driving quality.

CAUTION: Ensure that nails are as specified in Figs. 1, 2 and 3. Other nails will cause clogging of nails and subsequent damage to the nailer.

NOTE: Aluminum nails may bend when driven into a hard workpiece. Test before use.

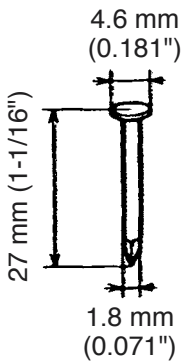
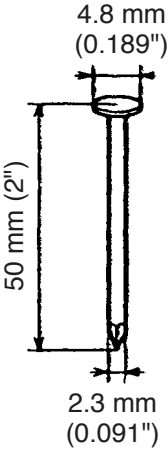
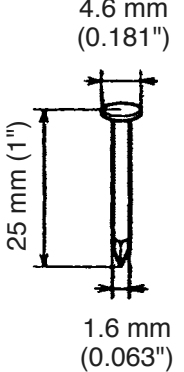
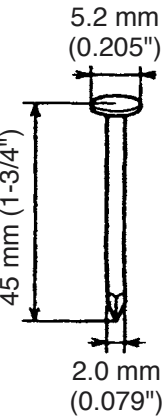
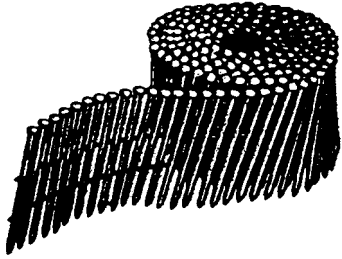
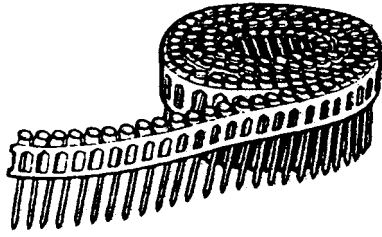
Wire-collated nails		Sheet-collated nails	
Min.	Max.	Min.	Max.
			
			

Fig. 1 Dimensions of nails

L	d	d ₁	L ₁	L ₂	D ₁	D ₂	H
27 – 50 (1-1/16 – 2)	1.8 – 2.3 (0.071 – 0.091)	0.6 (0.024)	12 (0.472)	24 (0.98)	22 (0.866)	100 (3.937)	72 (2.835)

Unit: mm (inch)

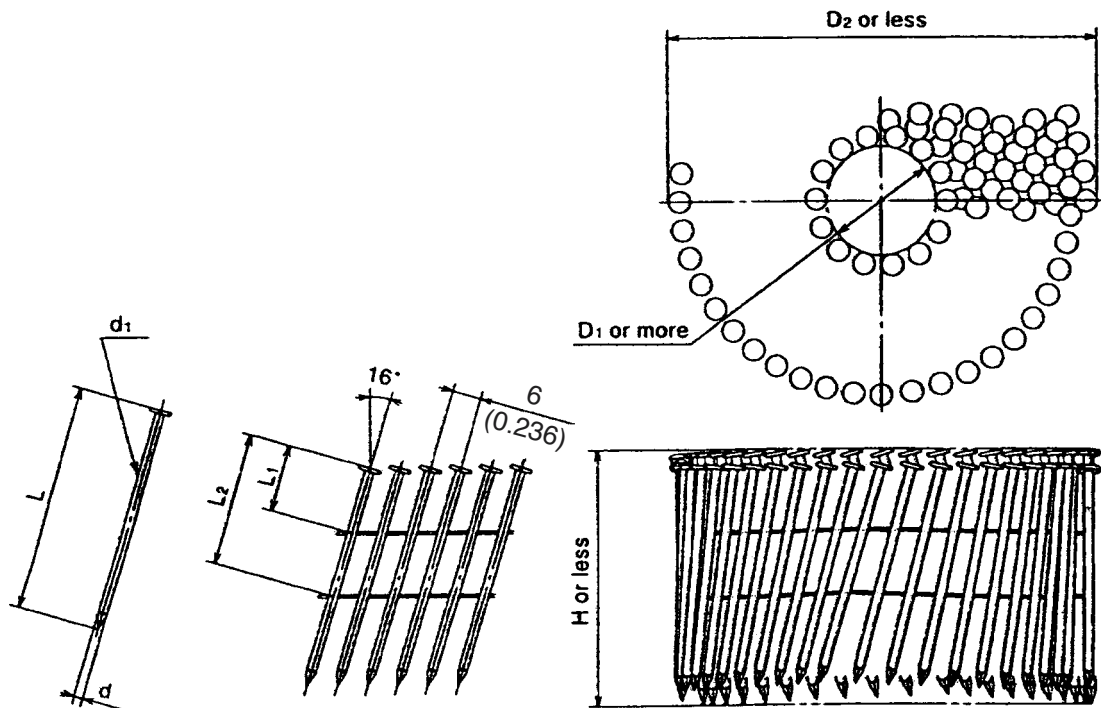


Fig. 2 Dimensions of wire-collated nails

L	d	D ₁	D ₂	H
25 – 45 (1 – 1-3/4)	1.6 – 2.0 (0.063 – 0.079)	25 (1)	98 (3.858)	47 (1.85)

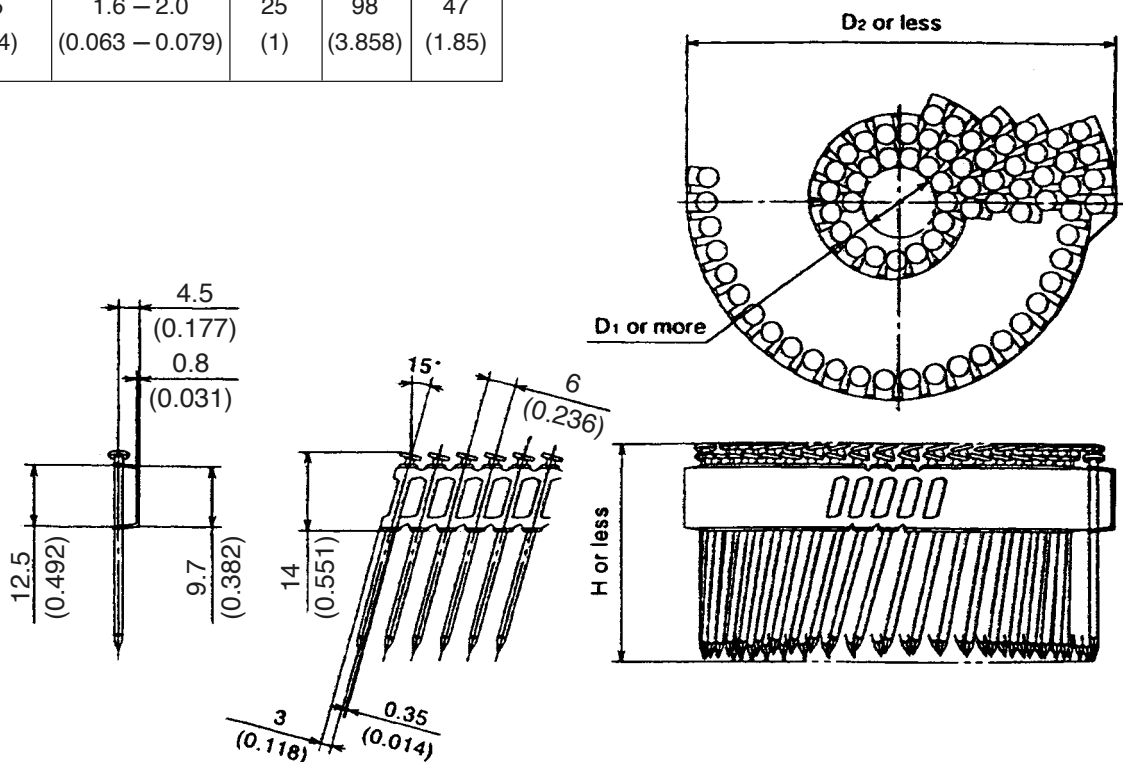


Fig. 3 Dimensions of sheet-collated nails

5-3. Nail Driving Force

Figure 4 shows the energy required to drive a nail flush and the output energy of the NV 50AF3 nailer.

When the supplied pressure is adjusted so that the output energy of the nailer equals the energy required for driving a nail, the nail can be completely driven.

For example, in driving wire-collated nails of 2.1 mm dia. x 50 mm length (0.080" dia. x 2" length) into Hemlock below a 12 mm plywood sheet with the Model NV 50AF3, a force of about 5.3 bar (5.6 kgf/cm², 79.8 psi) is required to drive the nail flush with the surface of the plywood. If the nail is driven with a force more than 5.5 bar (5.6 kgf/cm², 79.8 psi), the nail head will be sunk below the wood surface. Please use Fig. 4 as a rough guide only, because figures vary according to the workpiece materials, moisture content, and grain of the wood.

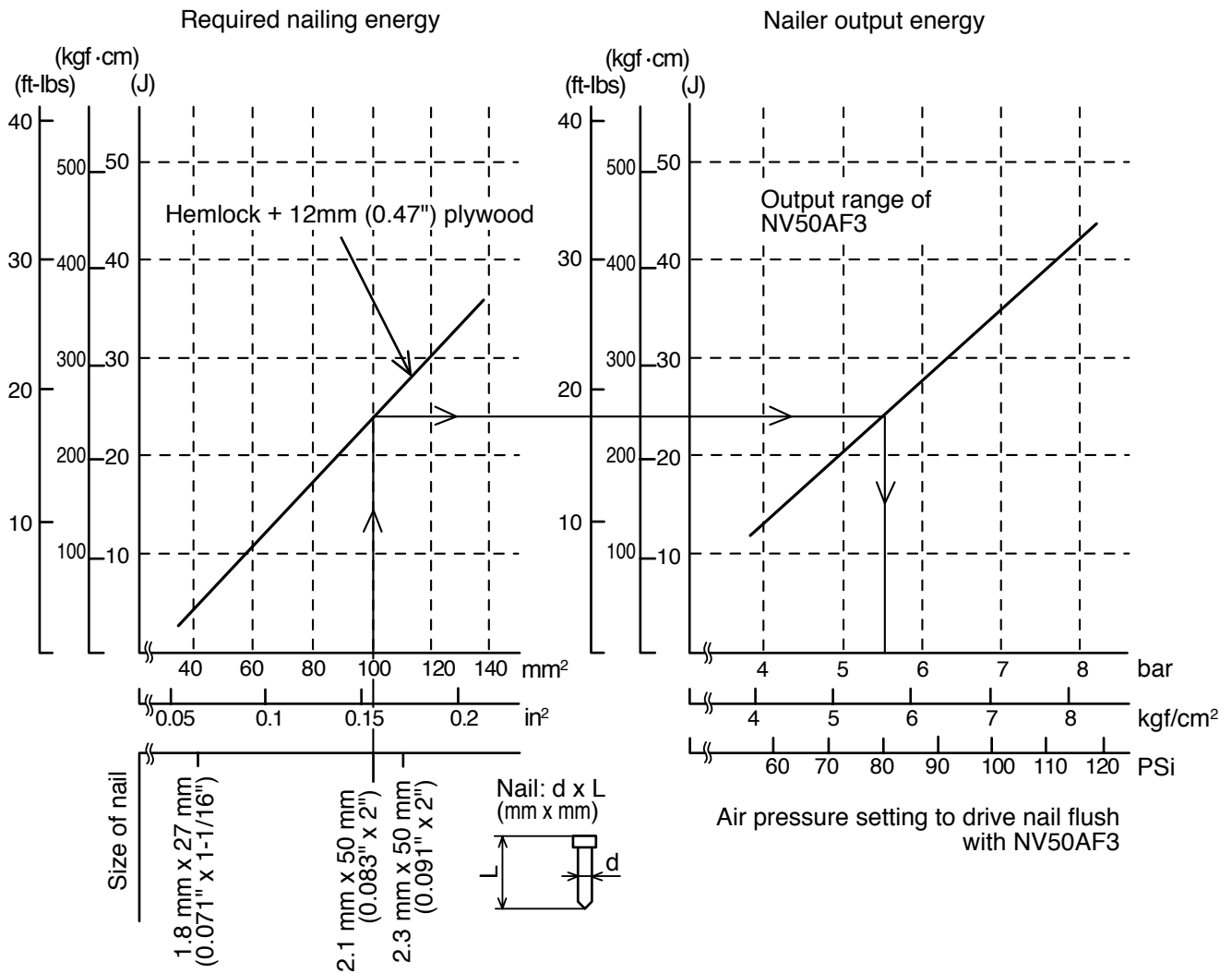


Fig. 4 Required nailing energy and nailer output energy

5-4. Optional Accessory

Sequential fire parts set:

The sequential fire parts set is provided as an optional accessory for the Model NV 50AF3. By using this optional accessory, a nail is driven by pressing the pushing lever first against a workpiece and then pulling the trigger, and no nail is driven when pulling the trigger first and then pressing the pushing lever against a workpiece (single-shot operation). Please recommend the sequential fire parts set to the customers who want to use it. Salespersons must instruct the customers to read the Handling Instructions attached to the sequential fire parts set and also the Handling Instructions of the Model NV 50AF3 thoroughly for correct use.

6. PRECAUTIONS IN SALES PROMOTION

6-1. Safety Instructions

In the interest of promoting the safest and most efficient use of the Model NV 50AF3 Nailer by all of our customers, it is very important that at the time of sale the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the meaning of the precautions listed on the Warning Label attached to each tool.

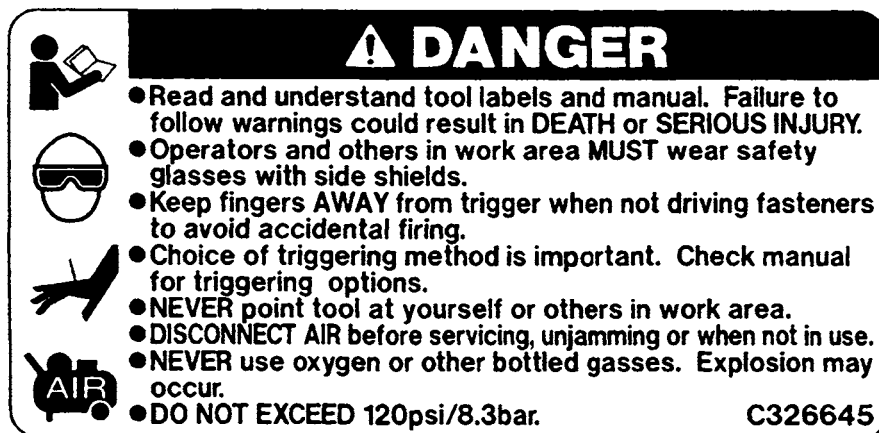
(1) Handling Instructions

Although every effort is made in each step of design, manufacture and inspection to provide protection against safety hazards, the dangers inherent in the use of any pneumatic tool cannot be completely eliminated.

Accordingly, specific precautions and suggestions for the use of the pneumatic nailer are listed in the Handling Instructions to enhance the safe and efficient use of the tool by the customer. Salespersons must be thoroughly familiar with the contents of the Handling Instructions to be able to offer appropriate guidance to the customer during sales promotion.

(2) Warning Label

Each Model NV 50AF3 unit is provided with a Warning Label (illustrated below) which lists basic safety precautions in its use. Carefully ensure that the customer fully understands and follows these precautions before using the tool.



GEFAHR • Vor Gebrauch die **BETRIEBSANLEITUNG** LESEN. Ein Nichtbeachten der Betriebsanleitung **KANN ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN**.
• Anwender und andere Personen, die sich im Arbeitsbereich aufhalten, **MÜSSEN DIE ERFORDERLICHEN SCHUTZBRILLEN TRAGEN**.
• **NIEMALS FLASCHENGASE BENUTZEN**. Ausschließlich regulierte Druckluft benutzen.
• **ÜBERSCHREITEN SIE NIEMALS 120 psi/8.3 bar.** • **TRAGEN SIE DIE MASCHINE NIEMALS MIT DEM FINGER AM SCHALTER.** • Vor Service- und Reparaturarbeiten, sowie wenn das Gerät nicht benutzt wird, **DRUCKSCHLAUCH ABKLEMMEN**.
DANGER • **LISEZ LE MANUEL D'UTILISATION** avant usage. **VOUS POUVEZ VOUS BLESSER GRAVEMENT** en ne suivant pas les instructions. • L'opérateur ainsi que toute personne à proximité **DOIT PORTER DES LUNETTES DE SECURITE AGREES.** • **NE JAMAIS UTILISER DU GAZ EMBOUTEILLE.** Utiliser uniquement de l'air réglé. • **NE PAS DEPASSER 12 psi/8.3 bar.** • **NE JAMAIS PORTER AVEC LE DOIGT SUR LA GACHETTE.** • **DEBRANCHEZ L'AIR** avant de commencer l'entretien, le réglage ou avant d'arrêter le travail.
C316007

6-2. Related Laws and Regulations

As nailers and staplers are designed to instantaneously drive nails and staples, there is an ever-present danger of misfiring and subsequent possible serious injury. Accordingly, close attention in handling is absolutely necessary at all times. Carefully ensure that the customer is fully aware of the precautions listed in the Handling Instructions provided with each unit.

While there are no specific safety regulations, there are related items in various general safety regulations with which the salespersons should be familiar in order to advise the customer properly. Please check your national and/or local regulations for applicable items.

Some applicable items are outlined below.

(1) Europe

EUROPEAN STANDARD	EN792-13 JUNE 2000
	HAND-HELD NON-ELECTRIC POWER TOOLS—SAFETY REQUIREMENTS
	Part 13: Fastener driving tools

(2) The U.S.A.

OSHA	1926.102 Eye and Face Protection
	1926.302 Power-Operated Hand Tools
ANSI SNT-101-2002	Portable, Compressed-Air-Actuated, Fastener Driving Tools—Safety Requirements for

6-3. Precautions in Sales Promotion

The salespersons must instruct customers to observe the following precautions.

- (1) An air pressure less than 4.4 bar (4.5 kgf/cm², 63 psi) or more than 7.8 bar (8 kgf/cm², 112 psi) can affect the performance, service life and safety of the Model NV 50AF3. Pay special attention to the pressure level, capacity and piping of the air compressor. [If using an air compressor capable of high air pressure [9.8 bar (10 kgf/cm², 140 psi) or more], be sure to install a pressure reducing valve on the air compressor and limit the pressure to 7.8 bar (8 kgf/cm², 112 psi) or less.]
- (2) To protect the Model NV 50AF3 against rust, apply oil and perform idle driving two or three times to spread the applied oil fully inside this nailer when it is not used for a long time. Also coat the steel parts with oil.
- (3) Rust inside this nailer can cause performance degradation or failure. The salespersons must instruct the customers to drain the air compressor tank without fail.
- (4) The salespersons must instruct the customers, especially those who use the Model NV 50AF3 frequently, to check and maintain this nailer without fail.
- (5) The salespersons must instruct the customers to clean and apply the provided oil to the sliding sections of the pushing lever regularly.

7. MECHANISM AND OPERATION PRINCIPLE

7-1. Mechanism

Most of the parts of the Model NV 50AF3 have been newly designed, though the basic construction is the same as that of the Model NV 38AB2. Features of the main parts are described below.

Output section Most of the parts have been newly designed, though the basic construction is the same as that of the Model NV 38AB2.

The muffler has been added to reduce air exhaust force.

Control valve section This section is common to that of the Model NV 38AB2.

Driving section The adjuster, nose, nail guide and other parts have been newly designed for improvement of operability in nailing depth adjustment.

Magazine section Most of the parts have been newly designed for easier nail loading.

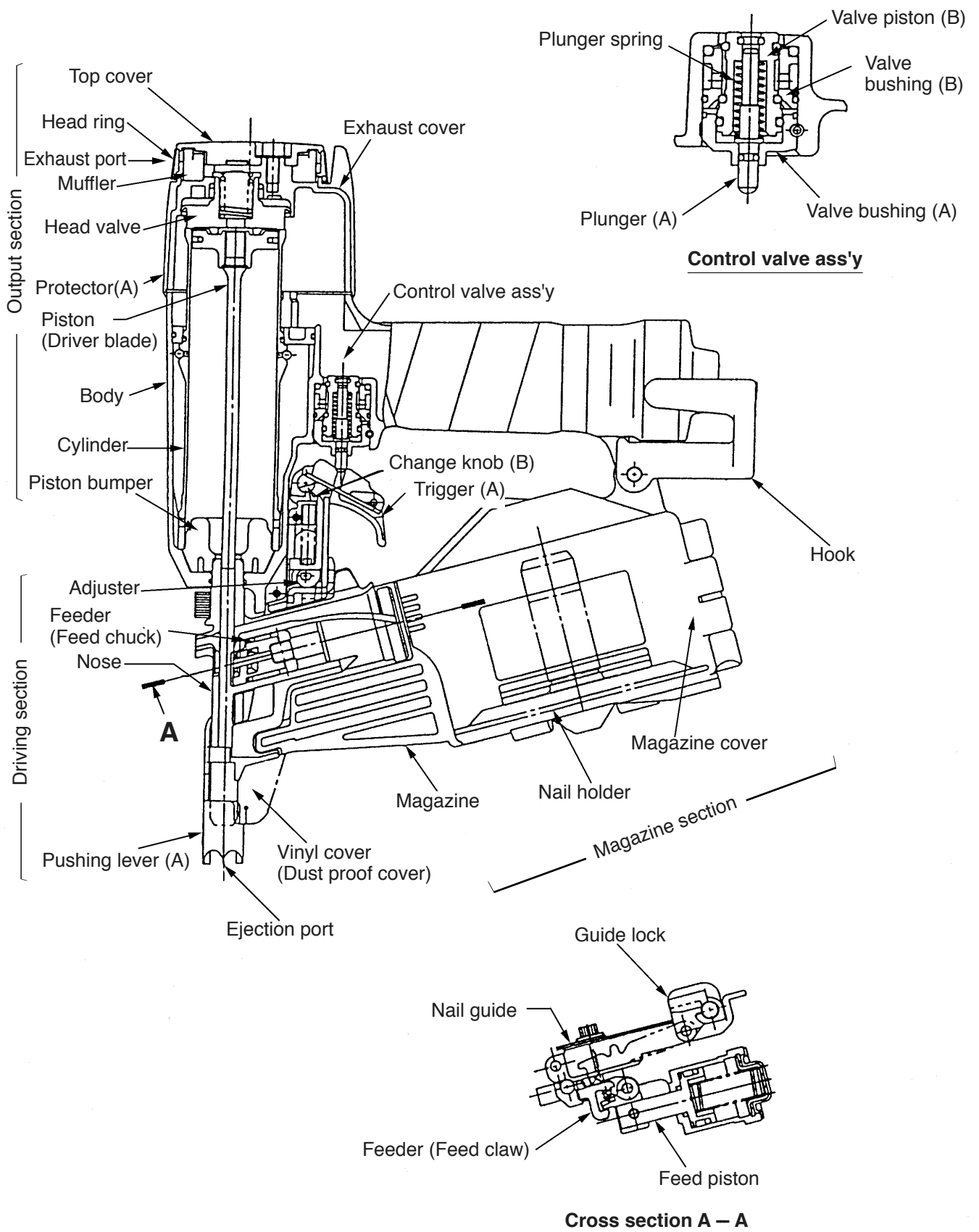


Fig. 5 Construction

7-2. Operation Principle

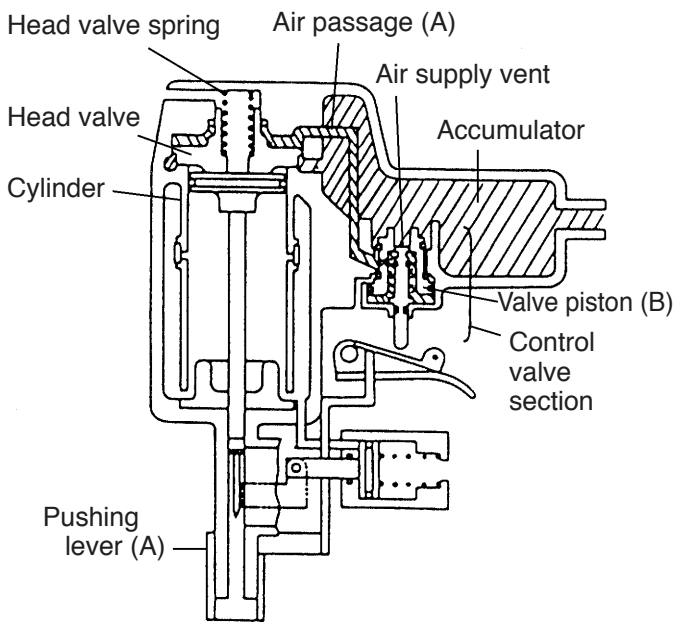


Fig. 6 Prior to nailing

(1) Prior to nailing (See Fig. 6.)

1. When compressed air is supplied to the main body, it fills the accumulator (see diagram).
2. At the same time, the compressed air flows into the valve piston lower chamber of the control valve section, and pushes up the valve piston. Also, the compressed air flows from the air supply vent, through air passage (A), and into the head valve upper chamber where it simultaneously pushes down the head valve and the head valve spring to seal the upper surface of the head valve and the cylinder.

(2) During nailing (I) (See Fig. 7.)

1. When plunger (A) is pushed up by operating both the pushing lever and trigger (A), the compressed air in the valve piston lower chamber is exhausted from the lower part of plunger (A). Then, the valve piston is pushed down by the compressed air from the accumulator so that it shuts off the air supply vent and releases the exhaust valve.
2. When the exhaust valve opens, the compressed air in the head valve upper chamber is exhausted into the atmosphere through air passage (A).
3. The air pressure applied against the lower surface of the head valve soon exceeds the force of the head valve spring, and pushes the head valve up. The head valve is pushed fully upward by the compressed air, and seals the upper surface of the exhaust cover and the head valve.
4. When the head valve is pushed up, the compressed air flows rapidly into the cylinder and pushes down the piston to drive a nail. At this time, the compressed air flows through the cylinder hole, into the return air chamber, through air passage (B), and into the chamber at the left side of the feed piston in the nail feeder section. When the air pressure exceeds the force of the feed spring, the feeder moves to the right.

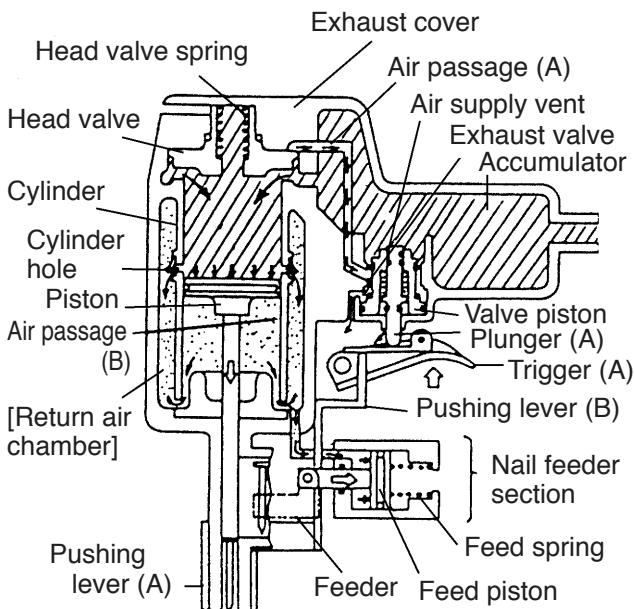


Fig. 7 During nailing (I)

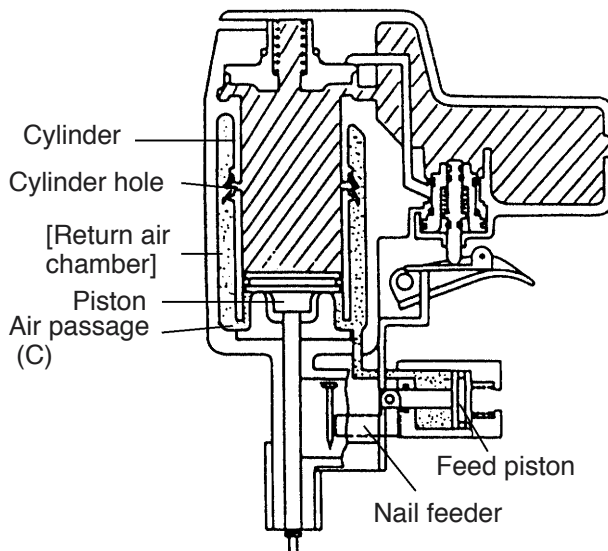


Fig. 8 During nailing (II)

(3) During nailing (II) (See Fig. 8.)

1. When the piston moves down inside the cylinder, the air below the piston flows through air passage (C) under the cylinder and is accumulated in the return air chamber together with the compressed air flowing through the cylinder hole.
2. When the compressed air in the left chamber of the feed piston moves the feed piston fully to the right, the nail feeder (feed pawl) engages the next nail.

(4) After nailing (See Fig. 9.)

1. When the trigger is released, the plunger goes down, the air supply vent opens, the valve piston goes up, and the compressed air in the accumulator passes through air passage (A) into the head valve upper chamber. The head valve is then pushed down by the head valve spring and the air pressure against the upper surface of the head valve. At the same time, the exhaust valve opens and the upper chamber of the cylinder is opened to the atmosphere.
2. When the head valve seals the upper surface of the cylinder, the compressed air accumulated in the return air chamber passes through air passage (C), presses on the lower surface of the piston, and forces the piston to return upward to its original position. Also, the compressed air above the piston is exhausted through the head valve hole.
3. The compressed air accumulated in the left chamber of the feed piston passes through air passage (B), goes into the return air chamber, and is then exhausted through the nose hole. The feed piston is then moved to the left by the force of the feed spring, and the feed pawl feeds the next nail into the ejection port. This completes one full nailing cycle.

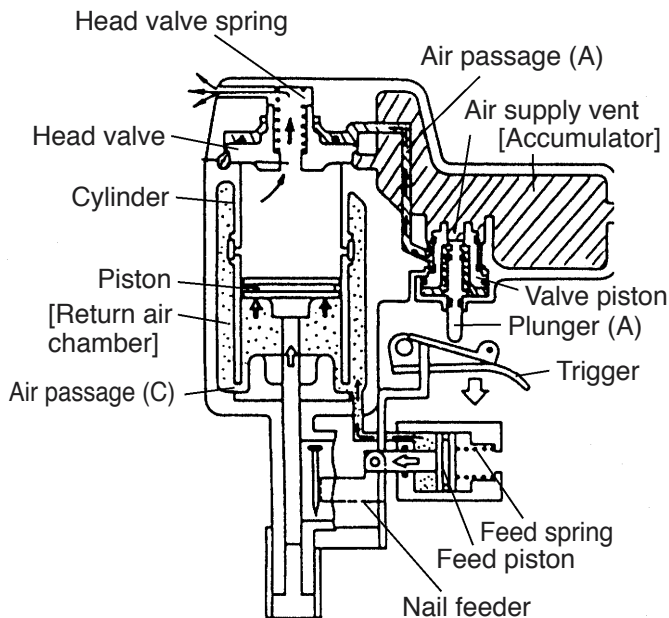


Fig. 9 During return

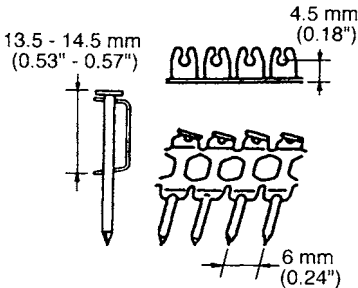
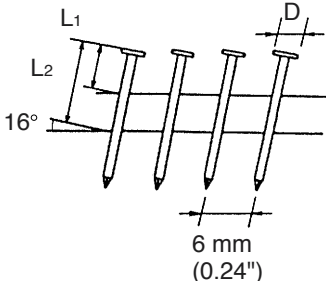
8. TROUBLESHOOTING

8-1. Troubleshooting and Correction

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
(1) Nails fail to eject.	< Nail > <ul style="list-style-type: none"> The nailer is loaded with nails not approved by Hitachi. The nailer is loaded with abnormal nails (bent nails, nail heads too large, or too small, abnormally collated nails, deformed wire). Nails or link pieces are jammed. Deformation and breaking of collated nails 	<ul style="list-style-type: none"> Check whether or not the nailer is normally loaded with nails approved by Hitachi. 	<ul style="list-style-type: none"> Use specified nails. Remove abnormal nails and load the nailer with proper nails.
	< Nail feeding section: nose, feeder, feed piston, etc. > <ul style="list-style-type: none"> The sliding resistance of the feed piston is too great. The nail guide face of the nose is abnormal (deformed, jagged, damaged and/or worn). The feed spring and/or feeder spring is abnormal (damaged and/or fatigued). The feeder is abnormal (damaged and/or worn). 	<ul style="list-style-type: none"> Remove the feed piston, and examine the feed piston slide surface of the nose. 	<ul style="list-style-type: none"> Apply grease. Polish the scratched section with abrasive paper. Replace parts.
		<ul style="list-style-type: none"> Check whether or not the nail feeding section is abnormal (jagged, deformed, damaged or worn). 	<ul style="list-style-type: none"> Replace parts. Smooth jagged areas. Correct the deformed part.
	<ul style="list-style-type: none"> The nose is not correctly loaded with nails in the groove. 	<ul style="list-style-type: none"> Check whether or not the nailer is correctly loaded with nails in the specified groove. 	<ul style="list-style-type: none"> Load the nailer with nails in the correct position in the nose.
	<ul style="list-style-type: none"> Insufficient oil and/or dust sticking in the chuck groove's slide of the nose. 	<ul style="list-style-type: none"> Open the nail guide and inject air to check the feeder's action. 	<ul style="list-style-type: none"> Remove dust and then apply oil.
	<ul style="list-style-type: none"> Air pressure is too low. 		<ul style="list-style-type: none"> Adjust air pressure in a range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm², 70 – 120 psi).
	<ul style="list-style-type: none"> * The air passage is jammed (with pieces of broken piston bumper etc.). * The feed piston chamber contains foreign matter such as pieces of broken bumper etc. 		<ul style="list-style-type: none"> Remove foreign matter. Replace the piston bumper with new one. Body....Remove foreign matter in the return air chamber. Nose....Remove foreign matter in the air passage and the feed piston chamber.

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
(1) Nails fail to eject. (Continued)	<ul style="list-style-type: none"> • Air leaks from a gap between the body and the nose. 	<ul style="list-style-type: none"> • Open the nail guide and inject air to check feeder's action. 	<ul style="list-style-type: none"> • Tighten screws and examine the O-rings (1AP-3).
	<ul style="list-style-type: none"> • O-rings are worn and deformed. 		<ul style="list-style-type: none"> • Examine the O-ring.
	<ul style="list-style-type: none"> • The O-rings need oil. 		<ul style="list-style-type: none"> • Apply grease or oil.
	< Nail guide section > <ul style="list-style-type: none"> • The nail guide face of the nail guide is abnormal (deformed, jagged, damaged and/or worn). 	<ul style="list-style-type: none"> • Check whether or not the nail guide is abnormal (jagged, deformed and/or damaged). 	<ul style="list-style-type: none"> • Correct and replace part.
	<ul style="list-style-type: none"> • Dust is stuck to the inside of the nail guide groove, and the oil in the groove has depleted. * A spring is abnormal (off, damaged and/or fatigued). • The claw ridge section of the nail stopper is abnormal (damaged, worn and/or jagged). 	<ul style="list-style-type: none"> • Examine the action of nail stopper (A) and nail stopper (B). 	<ul style="list-style-type: none"> • Remove dust and then apply oil. • Replace abnormal parts.
	< Magazine section > < Pushing lever (A) > <ul style="list-style-type: none"> • Magazine 	<ul style="list-style-type: none"> • Check whether or not a nail catches on another nail in the magazine. • Check whether or not a nail catches on some part of the magazine. • Check the nail holder for the height. 	<ul style="list-style-type: none"> • Collate the nails normally and reload the nailer with normally collated nails. • Remove burrs and deformed parts and replace parts. • Adjust the height of the nail holder correctly.
	<ul style="list-style-type: none"> • Pushing lever (A) 	<ul style="list-style-type: none"> • Examine the action of pushing lever (A). 	<ul style="list-style-type: none"> • Correct or replace parts.
	< Output section: Piston, driver blade, etc. > <ul style="list-style-type: none"> • Air pressure is low. 	<ul style="list-style-type: none"> • Open the nail guide and inject air to examine whether or not the driver blade is reset. 	<ul style="list-style-type: none"> • Adjust air pressure in the range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm², 70 – 120 psi).
	<ul style="list-style-type: none"> * Piston rings are worn. 		<ul style="list-style-type: none"> • Replace the piston ring with new one.
	<ul style="list-style-type: none"> * The piston bumper is abnormal. 		<ul style="list-style-type: none"> • Replace the piston bumper with new one.
	<ul style="list-style-type: none"> • The O-ring in the cylinder section is abnormal (off, jagged and/or damaged). 		<ul style="list-style-type: none"> • Reassemble or replace the O-ring with new one.
	<ul style="list-style-type: none"> • The driver blade is abnormal (deformed, jagged, damaged and/or worn). 		<ul style="list-style-type: none"> • Correct the driver blade or replace it with new one.
	<ul style="list-style-type: none"> • The inner face of the cylinder is abnormal (packed with dust and/or worn). 	<ul style="list-style-type: none"> • Examine whether or not nails can be driven at a pressure of 4.9 bar (5 kgf/cm², 70 psi). 	<ul style="list-style-type: none"> • Remove dust and then apply oil. Or replace the cylinder with new one.
	<ul style="list-style-type: none"> • The sliding face of the head valve is abnormal (seized, damaged, and/or oil has depleted). 	<ul style="list-style-type: none"> • Inject air to check nail driving action. 	<ul style="list-style-type: none"> • Replace parts. • Apply grease.

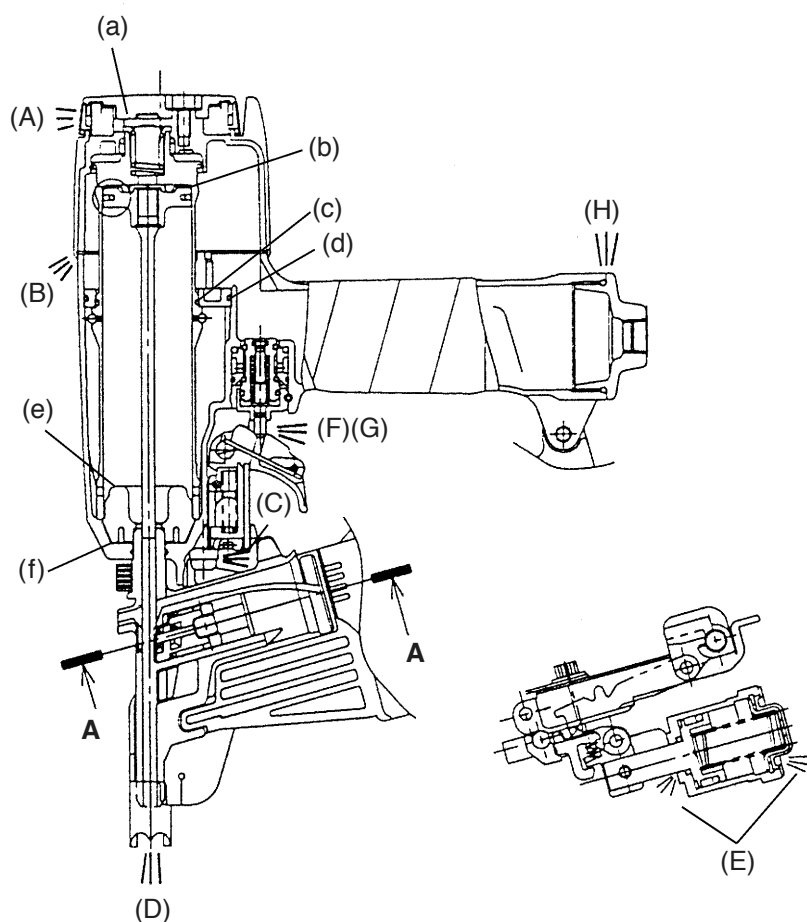
Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
(1) Nails fail to eject. (Continued)	<ul style="list-style-type: none"> The spring of the head valve is abnormal (fatigued and/or damaged). 	<ul style="list-style-type: none"> Inject air to check whether or not the driver blade is left lowered. 	<ul style="list-style-type: none"> Replace parts.
	< Control valve section > <ul style="list-style-type: none"> Plunger (A), valve piston (B), valve bushing (A) and valve bushing (B) are abnormal (seized and/or damaged). 	<ul style="list-style-type: none"> Inject air to check whether or not the driver blade is left lowered. 	<ul style="list-style-type: none"> Replace abnormal parts.
	<ul style="list-style-type: none"> O-rings are worn. 	<ul style="list-style-type: none"> Disassemble the control valve and check the O-rings. 	<ul style="list-style-type: none"> Apply grease or replace it.
(2) Nails are driven bent.	<ul style="list-style-type: none"> When driving a short nail, the adjuster set for insufficient depth. 	<ul style="list-style-type: none"> Check whether or not the adjuster is set for insufficient depth. 	<ul style="list-style-type: none"> Use the nailer with the adjuster set to greater depth. (Decrease the pressure.)
	<ul style="list-style-type: none"> Nails are not completely fed in the injection port. Nails not approved by Hitachi are used. 	<ul style="list-style-type: none"> Refer to Item 1. 	<ul style="list-style-type: none"> Refer to Item 1.
	<ul style="list-style-type: none"> * The driver blade is worn. 	<ul style="list-style-type: none"> Check whether or not the driver blade head is abnormally worn. 	<ul style="list-style-type: none"> Replace it.
	<ul style="list-style-type: none"> The wood being nailed is very hard. 	<ul style="list-style-type: none"> Check whether or not the nail is bent, even when it is driven into soft wood. 	<ul style="list-style-type: none"> The nailer cannot be used because the material is beyond its applicable range.
	<ul style="list-style-type: none"> Nails not approved by Hitachi are used. 	<ul style="list-style-type: none"> Check whether or not the nail is appropriate for metal reinforcing plates. 	<ul style="list-style-type: none"> Use nails approved by Hitachi.
(3) Nails cannot be driven into the wood completely: the heads cannot be made flush.	<ul style="list-style-type: none"> The adjuster is incorrectly set. 	<ul style="list-style-type: none"> Try to drive nails with the adjuster set to maximum depth. 	<ul style="list-style-type: none"> Adjust the adjuster to the optimum depth.
	<ul style="list-style-type: none"> Air pressure is low. 		<ul style="list-style-type: none"> Adjust air pressure in the range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm², 70 – 120 psi).
	<ul style="list-style-type: none"> The wood being nailed is excessively hard. 	<ul style="list-style-type: none"> Check whether or not the nail heads are flush with the surface when driven into soft wood. 	<ul style="list-style-type: none"> The nailer cannot be used because the material is beyond its applicable range.
	<ul style="list-style-type: none"> * The driver blade is worn. 	<ul style="list-style-type: none"> Inject air and check whether or not the driver blade sticks out from the nose. 	<ul style="list-style-type: none"> Replace it.
	<ul style="list-style-type: none"> * The piston ring is abnormal (worn and/or damaged). The inner face of the cylinder is abnormal (worn and/or rough). 	<ul style="list-style-type: none"> Disassemble the output section and check whether or not the piston ring, the O-ring and the cylinder are normal. 	<ul style="list-style-type: none"> Replace the abnormal parts.
	<ul style="list-style-type: none"> The cylinder plate or the O-ring is abnormal (dislocated, deformed and/or broken). 	<ul style="list-style-type: none"> Disassemble the cylinder plate section and check for abnormality. 	<ul style="list-style-type: none"> Replace the abnormal parts.
	<ul style="list-style-type: none"> The sliding face of the head valve is abnormal (seized, damaged, and/or oil has depleted). 	<ul style="list-style-type: none"> Check whether or not the sliding face is abnormal and oil has depleted. 	<ul style="list-style-type: none"> Replace the abnormal parts. Apply grease.

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy						
(4) Nail jamming	< Nail > * Nails not approved by Hitachi are used. * Abnormal nails are mixed. * The collation sheet is abnormal (deformed and/or broken). (Sheet collation nails) • Nails fall off. (Sheet collation nails) • Nails are missing from the sheet. (Sheet collation nails) • Abnormality in wire collation nails (Breakage, wrong welding, deformation and/or wrong welding position) (Wire collation nails) * Wire collated nails are deformed. (Deformation in collation angle, collation pitch, etc.) * The diameter of nail head is too small. (Wire collation nails whose head diameter is 4.3 mm (0.17") or less are liable to cause jamming)	<ul style="list-style-type: none">• Check whether or not nails approved by Hitachi are used.• Check nails referring to the following figures. <p>(Sheet collation nails)</p>  <p>(Wire collation nails)</p> 	<ul style="list-style-type: none">• Use the nails approved by Hitachi.• Remove abnormal nails and refill the nailer with normal nails.						
		<div>Unit : mm</div> <table><tr><td>Dimension L₁</td><td>7.6 (0.30")</td><td>12 (0.47")</td></tr><tr><td>Dimension L₂</td><td>19.2 (0.76")</td><td>24 (0.94")</td></tr><tr><td>Dimension D</td><td>4.6 – 4.7 (0.18" – 0.19")</td><td>4.8 (0.19")</td></tr></table>	Dimension L ₁	7.6 (0.30")	12 (0.47")	Dimension L ₂	19.2 (0.76")	24 (0.94")	Dimension D
Dimension L ₁	7.6 (0.30")	12 (0.47")							
Dimension L ₂	19.2 (0.76")	24 (0.94")							
Dimension D	4.6 – 4.7 (0.18" – 0.19")	4.8 (0.19")							

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
(4) Nail jamming (Continued)	< Body: Nail feeding is incomplete. > <ul style="list-style-type: none"> • The feeder is worn, and the sliding section is abnormal. • The nail guide face of the nose and the sliding section of the feeder are abnormal (deformed, warped and/or damaged). • The nail guide face of the nail guide is worn. • The driver blade head is worn. • The feed spring and the feeder spring are abnormal (damaged, fatigued and/or damaged). * The feed piston chamber contains foreign matter such as piston bumper pieces. 	<ul style="list-style-type: none"> • Open the nail guide to check the position of the feeder claw. Check whether or not the chuck of the feeder holds a nail, and the first nail is positioned in the injection port. (Check that the second claw chucks the nail shaft and feeds it.) 	<ul style="list-style-type: none"> • Replace abnormal parts. • Nose...Remove the foreign matter in the feed piston chamber.
	< Body: Abnormality in nail guide section > Refer to Item 1 < Nail guide section >		
	< The driver blade is not completely returned. > Refer to Item 1. < Output section: Piston, driver blade, etc.>	<ul style="list-style-type: none"> • Check whether or not when injecting air or actually injecting nails, the driver blade is completely returned. 	< Output section: Piston, driver blade, etc. >
	<ul style="list-style-type: none"> • Air pressure is too high. 	<ul style="list-style-type: none"> • When nails are driven at a high pressure and speed, nails can cause jamming. Check pressure and driving speed. 	<ul style="list-style-type: none"> • Adjust the air pressure in a range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm², 70 – 120 psi).
(5) Single shot is impossible.	<ul style="list-style-type: none"> * The O-ring of plunger (A) is worn. * The O-ring of valve piston (B) is worn. • The sliding face of plunger (A) of valve piston (B) is abnormal (seized and/or deformed). • Plunger (A), trigger (A) and pushing lever (B) are abnormal (worn and/or deformed). • The single shot/continuous shot switch lever is positioned incorrectly. 	<ul style="list-style-type: none"> • Disassemble the control valve section to check the O-rings of plunger (A) and valve piston (B). • Check for the abnormality (wear, damage and/or deformation) in each part. • Check where the single shot/continuous shot change knob is positioned. 	<ul style="list-style-type: none"> • Replace the abnormal parts. • Set the single shot/continuous shot change knob to a correct position.

8-2. Possible Causes and Corrections for Air Leakage

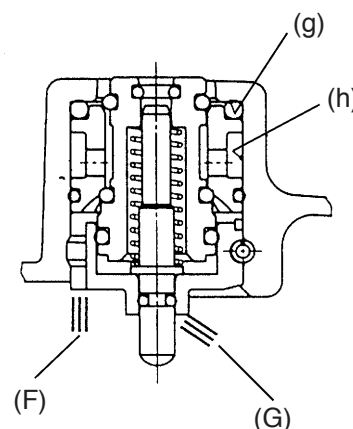
• Air leakage repairing position



Cross section A – A

• Repairing step

- (1) Check for abnormality in the parts marked * (asterisk) out of the following parts.
- (2) Check for wear, scratches and damage in the parts marked ○ (circle).
- (3) Next, examine other portions.
(The numbers in **[Bold]** correspond to the item numbers in Parts List and the exploded assembly diagrams.)



Control valve section

Air leakage portion	Cause	
	When the trigger is turned off	When the trigger is turned on
(A) Exhaust port	<ul style="list-style-type: none"> ○ Abnormality in Head Valve (A) [12] and the Cylinder [20] [Wear and deformation of the sealed face of the (b) section] ○ Abnormality in the Head Valve O-ring (I.D 16.8) [11] or wear, deformation and/or breakage of Head Valve (A) [12] • Abnormality (damage) in the Exhaust Cover [8] 	<ul style="list-style-type: none"> ○ Abnormality in Head Valve (A) [12] [Wear, deformation and/or breakage of the section (a)] * Abnormality in the inner face [the section (a)] in the Exhaust Cover [8] [Deformation and dust clogging in the section (a)]
(B) Exhaust cover	<ul style="list-style-type: none"> • Looseness of the Hex. Socket Hd. Bolt M5 X 20 [7] ○ Damage of Gasket (A) [9] • Abnormality in the sealed faces of the Body Ass'y [22], Exhaust Cover [8] and the Cylinder [20] 	
(C) Nose 1 (Feed piston passage)		<ul style="list-style-type: none"> • Looseness of the Hex. Socket Hd. Bolt M6 X 20 [34] ○ Scratched and/or broken O-ring (1AP-3) [32] • Abnormality in the sealed faces of the Body Ass'y [22] and the Nose [33]

Air leakage portion	Cause	
	When the trigger is turned off	When the trigger is turned on
(D) Nose 2	<ul style="list-style-type: none"> * Abnormality (breakage and/or scratches) in the O-Ring (1AS-50) [16] of the Cylinder Plate [17] • Abnormality in the sealing faces [the sections (c) and/or (d)] of the Cylinder Plate [17], Body Ass'y [22] and/or the Cylinder [20] 	<ul style="list-style-type: none"> ◦ Abnormality [deformation, crack and/or damage of the sections (e) and (f)] in the Piston Bumper [21] • Deformation of the Piston [15] (The deformation of driver blade abnormality in sealed faces) • The deformation of the face (f) of the Body Ass'y [22] ◦ Abnormality (wear, deformation, breakage and/or scratches) in the O-Ring (S-12) [24]
(E) Feed piston		<ul style="list-style-type: none"> ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (P-18) [73] of the Feed Piston [72], or wear and/or deformation of the Nose [33] on the sliding face ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (P-9) [71] of the Nose [33], or wear, deformation and/or scratches of the Feed Piston [72] on the sliding face
(F) Control valve 1	<ul style="list-style-type: none"> ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (I.D 11) [61] of Valve Piston (B) [60] ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (I.D 8.8) [58] (lower side) of Valve Piston (B) [60] ◦ Abnormality (breakage and/or scratches) in the O-ring (S-18) [57] of Valve Bushing (B) [56] * Abnormality in the inner face [the section (h)] of the valve chamber of the Body Ass'y [22] 	<ul style="list-style-type: none"> ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (I.D 8.8) [58] (upper side) of Valve Piston (B) [60] ◦ Abnormality (breakage and/or scratches) in the Head Valve O-ring (I.D 16.8) [11] of Valve Bushing (B) [56] * Abnormality in the upper face [the section (g)] of the valve chamber of the Body Ass'y [22]
(G) Control valve 2	<ul style="list-style-type: none"> ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (I.D 1.8) [64] of Plunger (A) [63] • Abnormality (deformation and/or scratches of the sliding face of Plunger (A) [63] in Valve Bushing (A) [65] 	<ul style="list-style-type: none"> ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (S-4) [59] inside Valve Piston (B) [60] ◦ Abnormality (deformation and/or scratches of the sliding face of Plunger (A) [63] in Valve Piston (B) [60]
(H) Cap	<ul style="list-style-type: none"> ◦ Abnormality (wear, breakage and/or scratches) in the O-ring (I.D 37.2) [45] • Looseness of the Cap [46] • Abnormality (damage, deformation and/or scratches) in the sealed faces of the Body Ass'y [22] and Cap [46] 	

9. DISASSEMBLY AND REASSEMBLY

The following describes procedures considered essential for proper disassembly and reassembly.

The numbers in **[Bold]** correspond to the item numbers in the Parts List and the exploded assembly diagrams.

The structure of the Model NV50AF3 can be generally divided into four sections: the output section, the control valve section, the driving section and the magazine section.

NOTE: Prior to disassembling and reassembling, be sure to remove the hose with your finger off the trigger and exhaust the internal compressed air completely.

When reassembling O-rings, be careful not to scratch them and not to let dust enter the tool.

Apply grease to the O-rings and O-ring sliding sections.

9-1. General Precautions in Disassembly and Reassembly

- Apply grease [Nippco SEP-3A (Code No. 930035) or Multemp PS No. 2 (Code No. 939536)] to the O-rings and the O-ring sliding area.

When installing the O-rings, exercise care to avoid scratches and dust.

- Lubricants 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 (1 liter) Can (Code No. 876212)

- Replace gasket (A) if broken, and make sure that there is no air leak after installation.
- Exercise care to protect the valve area from any foreign substance.
- Lubricate the sliding area of the feeder unit.
- Rated tightening torque for bolts and screws

Bolt/Screw	Tightening torque [N·m (kgf·cm, ft·lbs)]
Hex. Socket Hd. Bolt M6 x 20 [34]	12.7 ± 0.8 (130 ± 8, 9.4 ± 0.6)
Hex. Socket Hd. Bolts M5 [1] [7]	6.4 ± 0.5 (65 ± 5, 4.7 ± 0.4)
Nylock Hex. Socket Hd. Bolt M4 x 10 [104]	4.4 ± 0.3 (45 ± 3, 3.2 ± 0.2)
Machine Screw (W/Washers) M5 x 30 [49]	2.0 ± 0.5 (20 ± 5, 1.4 ± 0.4)
Cap [46]	24.5 ± 4.9 (250 ± 50, 18.0 ± 3.6)

- Before replacing the Piston Bumper **[21]**, make sure that anything, such as broken chips of the old Piston Bumper **[21]**, are not stuffed in the passages of the Body Ass'y **[22]** or the Nose **[33]**.

9-2. Disassembly and Reassembly of the Output Section

(1) Disassembly and reassembly of the Exhaust Cover [8], Head Valve (A) [12], the Piston [15] and the Cylinder [20]

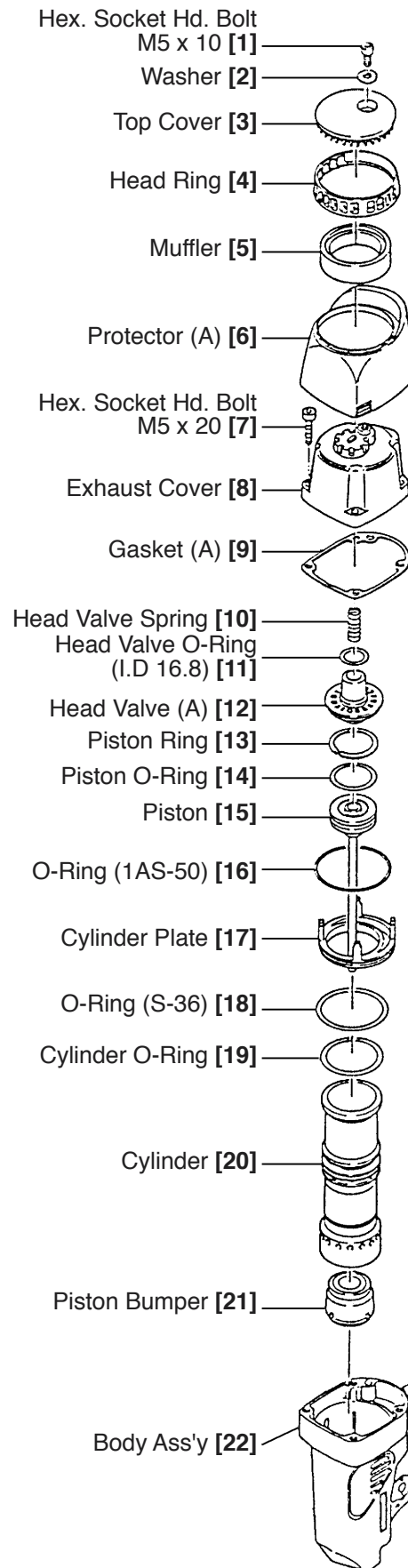


Fig. 10 Disassembly and reassembly of piston, cylinder and exhaust cover

[Tool required] 4 mm hex. bar wrench

(a) Disassembly (See Fig. 10.)

- Loosen the Hex. Socket Hd. Bolt M5 x 10 [1]. Then the Top Cover [3], the Head Ring [4], the Muffler [5] and Protector (A) [6] can be removed.
- Loosen the four Hex. Socket Hd. Bolts M5 x 20 [7] to remove the Exhaust Cover [8]. Then the parts forming the output section, such as the Piston [15], the Cylinder [20] and the Piston Bumper [21], can be removed.

(b) Reassembly

Proceed in reverse to the disassembly procedure, while taking care to observe the following procedures.

- Apply Shell Tonna Oil S32 to the Piston Ring [13], the Piston O-Ring [14] and the inside of the Cylinder [20].
- Apply grease to the O-Ring (S-36) [18] and the Cylinder O-Ring [19] and then install them.
- Mount the Cylinder Plate [17] to the Cylinder [20] facing the stopper portion of the Cylinder Plate [17] towards the Piston Bumper [21]. Locate the assembled Cylinder [20] so that the stopper portion of the Cylinder Plate [17] is positioned between the ribs of the Body Ass'y [22]. (Figs. 11 and 12)

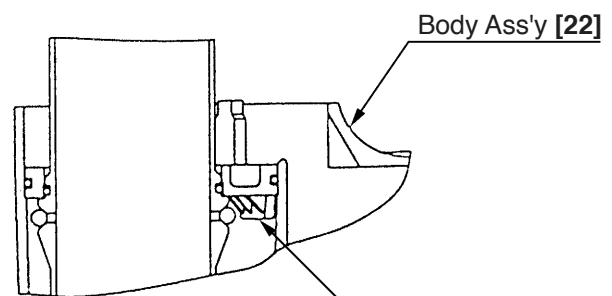


Fig. 11

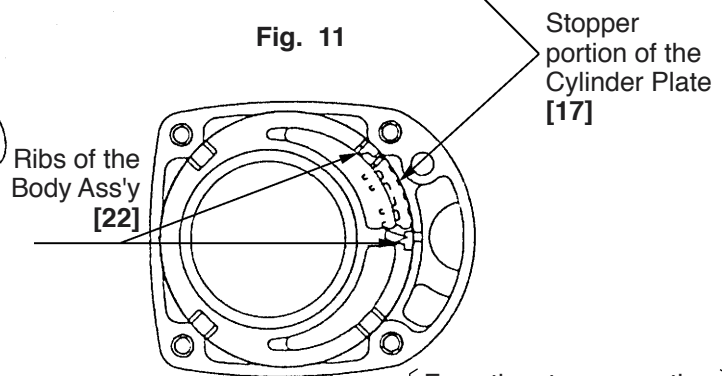


Fig. 12

Face the stopper portion of the Cylinder Plate [17] towards the Piston Bumper [21].

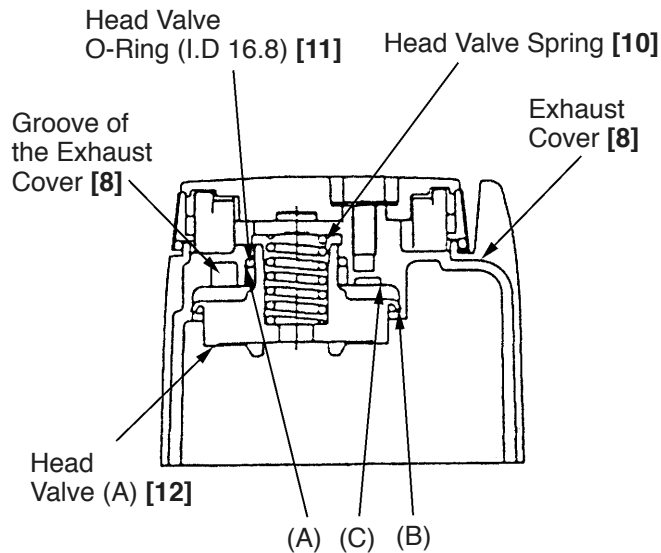


Fig. 13

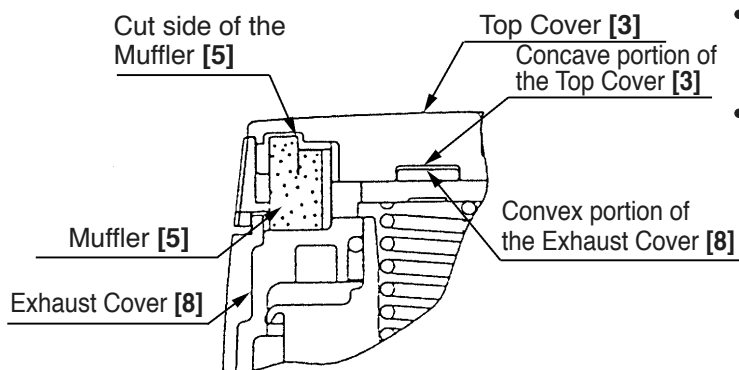


Fig. 14

- Before reassembly, apply grease to the sliding portion (A) of the Exhaust Cover [8] and Head Valve (A) [12], lip portions (B) and (C) of Head Valve (A) [12], and charge about 0.5 g of grease into the groove of the Exhaust Cover [8] (Fig. 13). Push Head Valve (A) [12] in the Exhaust Cover [8] together with the Head Valve O-Ring (I.D 16.8) [11].
- Matching the cut side of the Muffler [5] to the Top Cover [3], mount the Muffler [5] without curling it (Fig. 14).
- Apply Shell Tonna Oil S32 to the inside of the Cylinder [20] and mount the Cylinder [20].
- Mount Gasket (A) [9] so that its hole matches the blowhole of the Body Ass'y [22].
- Apply grease to the O-Ring (1AS-50) [16] and its sealing surface and mount it.
- Fit the convex portion of the Exhaust Cover [8] in the concave portion of the Top Cover [3].

9-3. Disassembly and Reassembly of the Control Valve Section

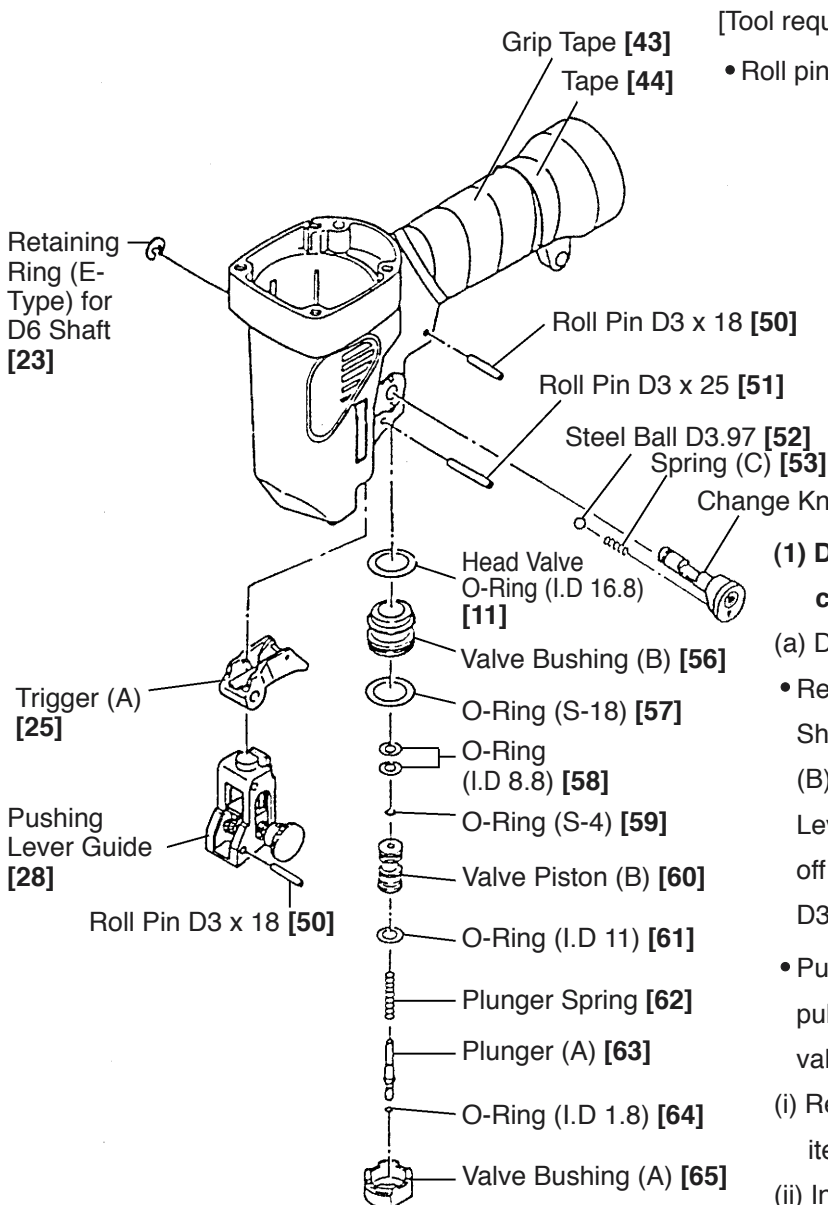


Fig. 15 Disassembly and reassembly of the control valve section

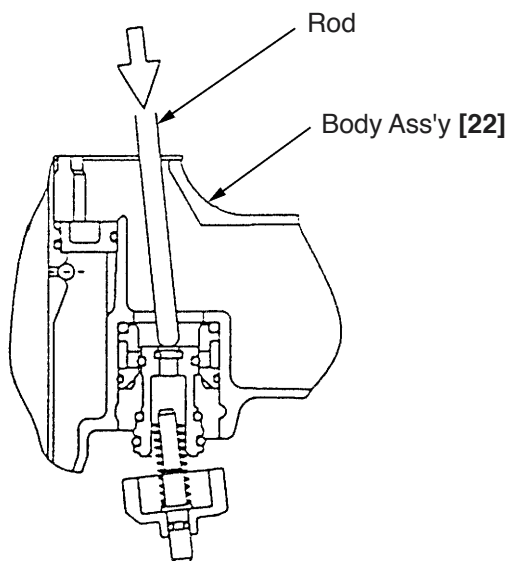


Fig. 16

[Tool required]

- Roll pin puller (3 mm dia. and 2.5 mm dia.)

(1) Disassembly and reassembly of the control valve unit

(a) Disassembly (See Fig. 15.)

- Remove the Retaining Ring (E-Type) for D6 Shaft [23]. Trigger (A) [25] and Change Knob (B) [54] can then be removed. The Pushing Lever Guide [28] can be removed by pulling off the Roll Pin D3 x 25 [51] and the Roll Pin D3 x 18 [50].
- Pull off the Roll Pins D3 x 18 [50] with a roll pin puller (3 mm dia.) and remove the control valve unit following the procedures below.
 - (i) Remove the Exhaust Cover [8] as indicated in item 9-2-(1).
 - (ii) Insert a small rod from top of the Body Ass'y [22] and push the top surface of Valve Piston (B) [60] as illustrated in Fig. 16, and then the parts forming the control valve unit excluding Valve Bushing (B) [56], the O-ring (S-18) [57] and the Head Valve O-ring (I.D 16.8) [11] can be removed.
 - (iii) Valve Bushing (B) [56] can be pulled out using a wire by hooking a bent end into the hole of Valve Bushing (B) [56]. Exercise care not to cause any damage to Valve Bushing (B) [56] interior with such a wire hooked portion.
- Exercise care not to damage Valve Piston (B) [60] and Valve Bushing (B) [56].
- Do not pull off plunger (A) end with pliers or a similar tool.

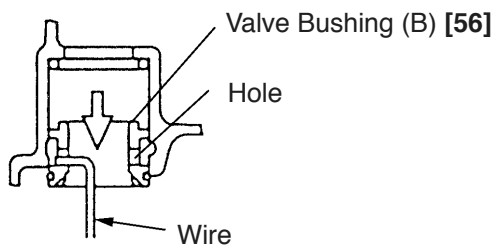


Fig. 17

(b) Reassembly

Proceed in reverse to the disassembly procedure, taking care of the following points.

- Exercise enough care to keep the control valve unit away from foreign substances.
- Apply enough lubricant to Plunger (A) [63], the O-ring (I.D 1.8) [64] and the O-ring (I.D 8.8) [58], O-ring (S-4) [59], O-ring (I.D 11) [61] of Valve Piston (B) [60].

- Fit Valve Bushing (A) [65] into the Body Ass'y [22] so that its roll pin groove is aligned with the roll pin hole of the Body Ass'y [22] as illustrated in Fig. 18. First insert a roll pin puller (3 mm dia.) and hammer in the Roll Pin D3 x 18 [50] after making sure that it can pass through the roll pin hole.

(If the roll pin is hammered in with the roll pin groove of Valve Bushing (A) [65] out of alignment with the roll pin hole at the Body Ass'y [22], the circumferential area of Valve Bushing (A) [65] may be damaged, resulting in difficulty of reassembly and disassembly.)

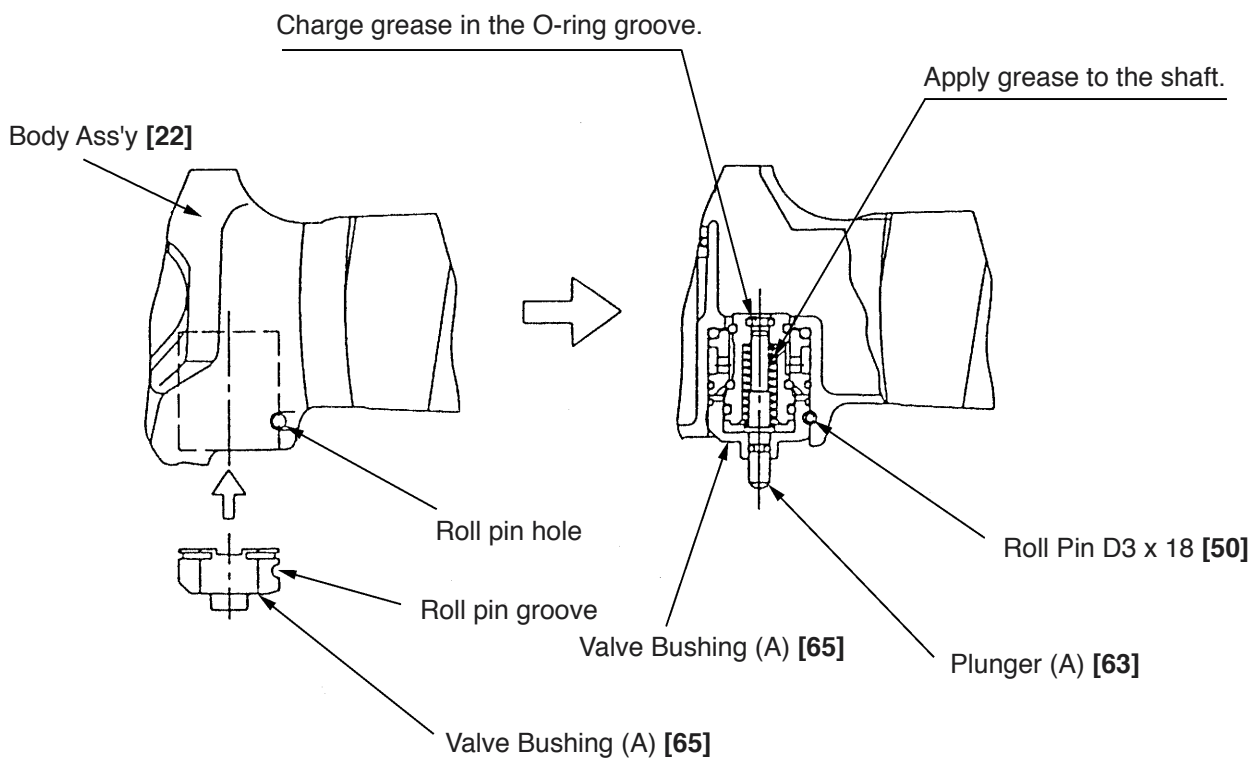


Fig. 18

- Make sure that Plunger (A) [63] moves smoothly after reassembly.

(2) Winding the Grip Tape [43] and the Tape [44]

The Grip Tape [43] and the Tape [44] are self-adhesive. Peel the backing sheets off the Grip Tape [43] and the Tape [44] before adhering them to the Body Ass'y [22]. First, adhere the end of the Grip Tape [43] near the roll pin hole of the Body Ass'y [22] and start to wind it around the Body Ass'y [22]. When the winding is completed, fix both wound ends of the Grip Tape [43] with the Tape [44] (Fig. 19). Be careful that the Grip Tape [43] and the Tape [44] cannot be peeled off once they are adhered.

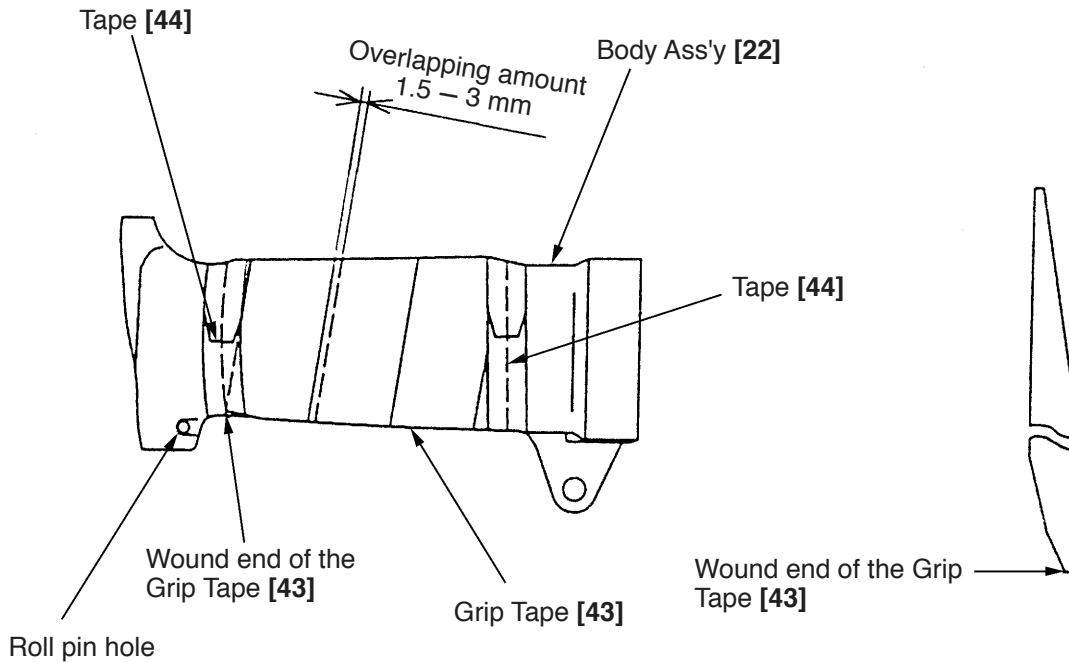


Fig. 19

9-4. Disassembly and Reassembly of the Cap and the Magazine Section

[Tools required]

◦ 21 mm-width wrench ◦ Phillips head screwdriver ◦ Roll pin pullers (2.5 mm dia. and 4 mm dia.)

(1) Disassembly and reassembly of the cap unit

(a) Disassembly

The cap [46], united with the M42 screw, can be removed by gripping and turning it with a wrench.

(b) Reassembly

Proceed in reverse to the disassembly procedure, with lubricant applied to the O-ring (I.D 37.2) [45].

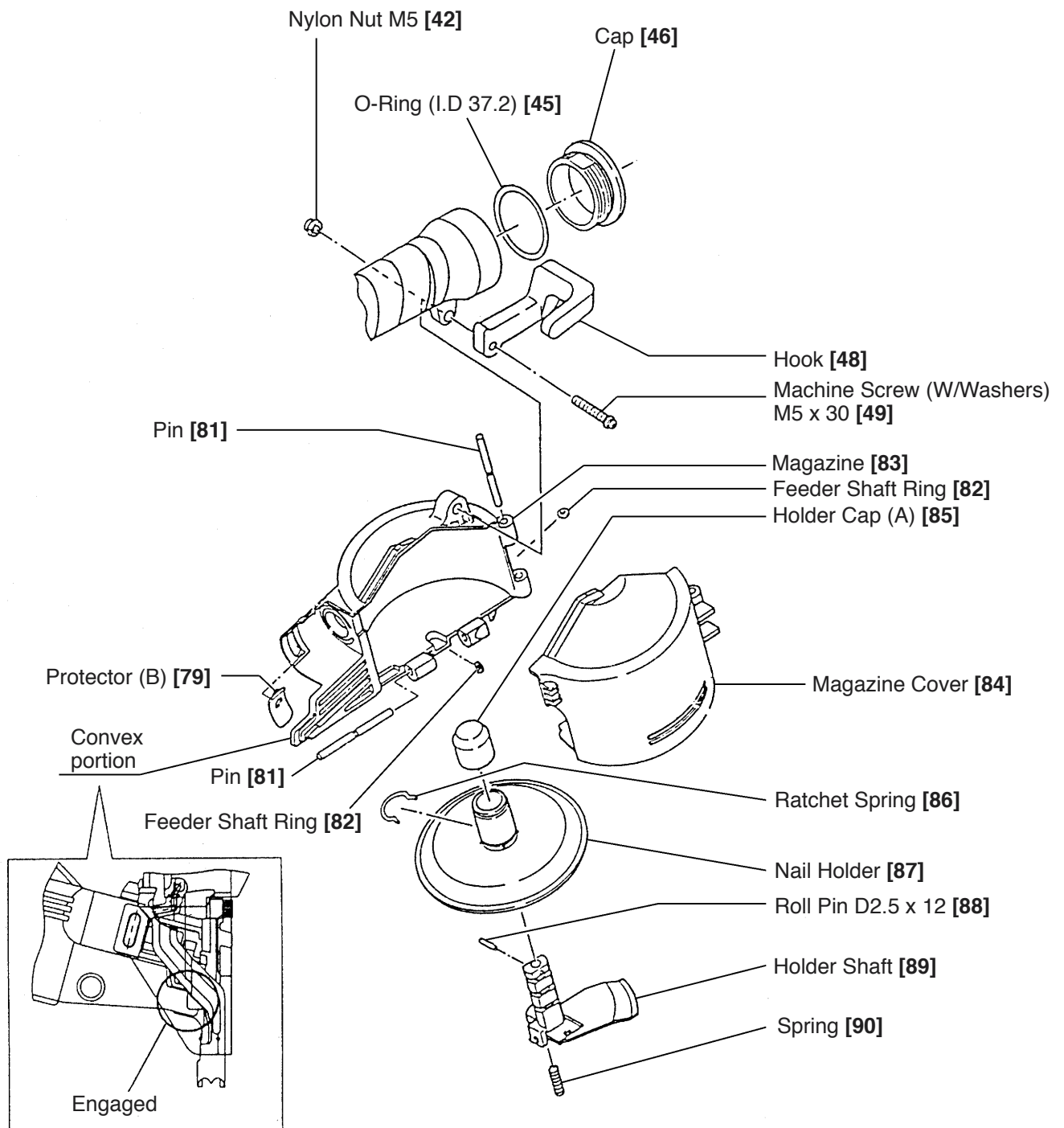


Fig. 20 Disassembly and reassembly of the cap and the magazine section

(2) Disassembly and reassembly of the Magazine Ass'y [105]

(a) Disassembly

Loosen the Machine Screw (W/Washers) M5 x 30 [49] securing the Body Ass'y [22]. Then the Magazine Ass'y [105], the Hook [48] and Protector (B) [79] can be removed.

(b) Reassembly

Proceed in reverse to the disassembly procedure, fitting the convex portion of the Magazine [83] into the Nose [33].

(3) Disassembly and reassembly of the Nail Holder [87], the Holder Shaft [89], etc.

(a) Disassembly

Remove the two Pins [81] with a roll pin puller (4 mm dia.). Then the Magazine [83] and the Magazine Cover [84] can be removed. Remove Holder Cap (A) [85], and remove the Roll Pin D2.5 x 12 [88] with a roll pin puller (2.5 mm dia.). Then the Nail Holder [87], the Holder Shaft [89] and the Spring [90] can be removed.

(b) Reassembly

Proceed in reverse to the disassembly procedure, taking care of the following points.

- Check that the Spring [90] is inserted between the concave portion of the Magazine [83] and the convex portion of the Holder Shaft [89]. Then insert the Pin [81] when mounting the Holder Shaft [89] to the Magazine [83] (Fig. 21).
- Check that the Feeder Shaft Rings [82] (2 pcs.) are fitted in the grooves of the Pins [81] (2 pcs.). Be careful not to lose the Feeder Shaft Rings [82].
- Check the following after reassembly.
 - The Nail Holder [87] tilts when the Magazine Cover [84] is opened.
 - The Nail Holder [87] moves smoothly in the Magazine [83] when the Magazine Cover [84] is closed.

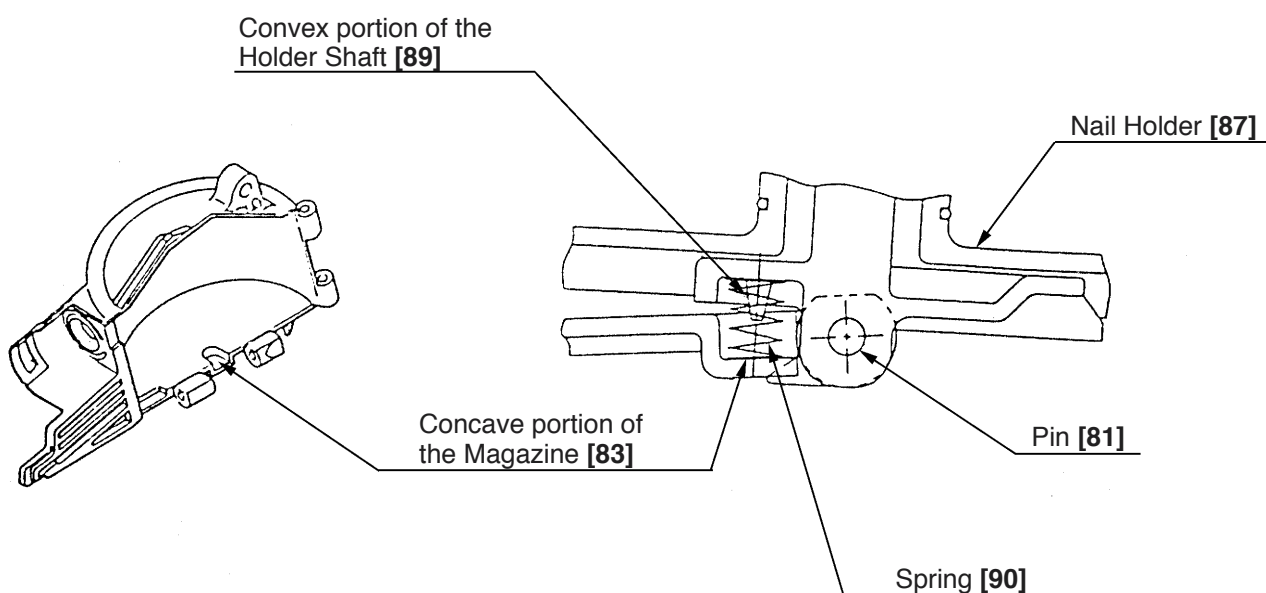


Fig. 21

9-5. Disassembly and Reassembly of the Driving Section

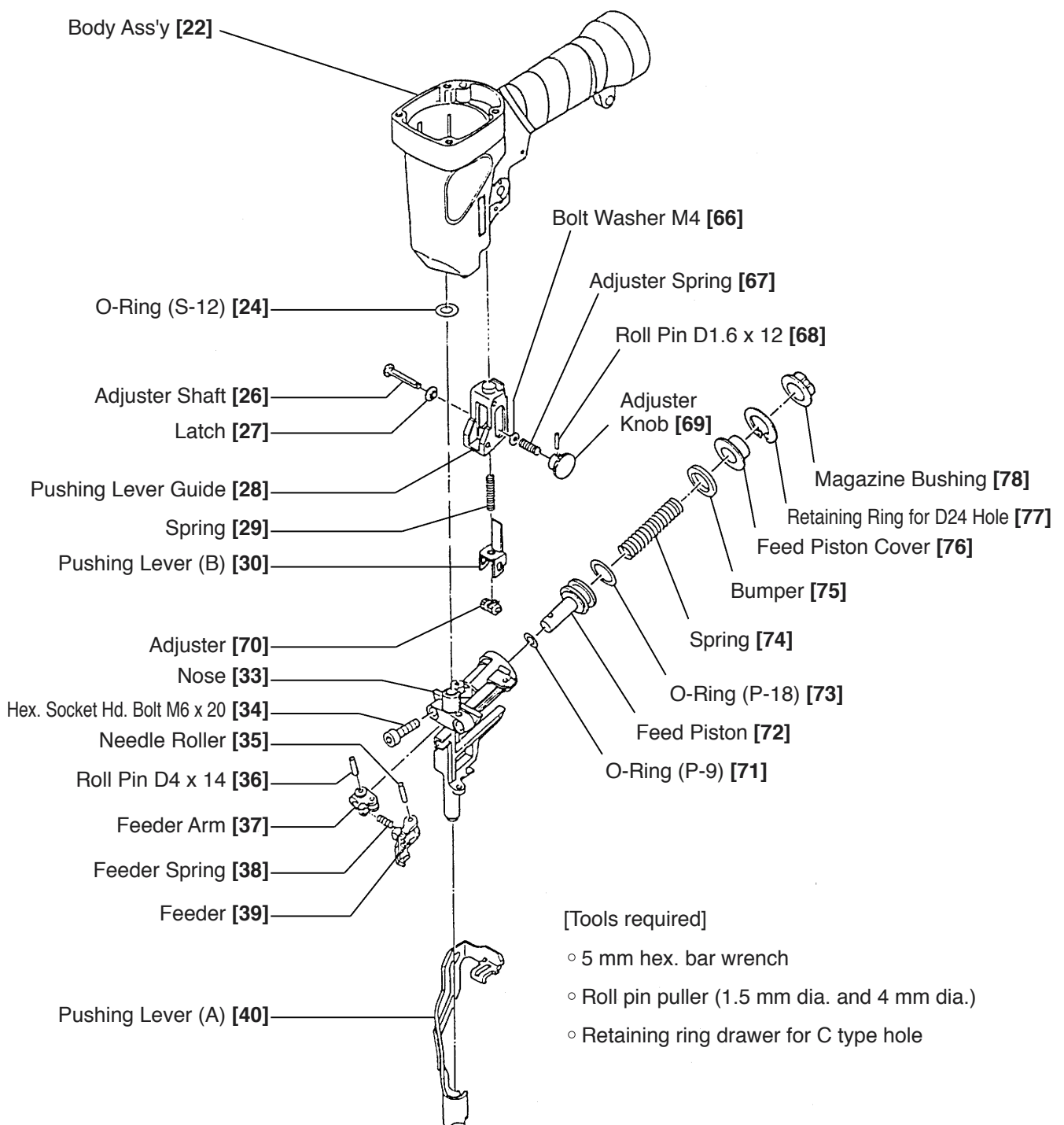


Fig. 22 Disassembly and reassembly of the driving section

(1) Disassembly and reassembly of the Nose [33] and Pushing Lever (A) [40]

(a) Disassembly

Remove the two Hex. Socket Hd. Bolts M6 x 20 [34]. Then the Nose [33] and Pushing Lever (A) [40] can be removed.

(b) Reassembly

Proceed in reverse to the disassembly procedure, taking care of the following points.

- Before reassembly, check that the end surface of Pushing Lever (A) [40] is fitted in the opening of the Pushing Lever Guide [28] (Fig. 23).
- After reassembly, check that Pushing Lever (A) [40] operates smoothly.

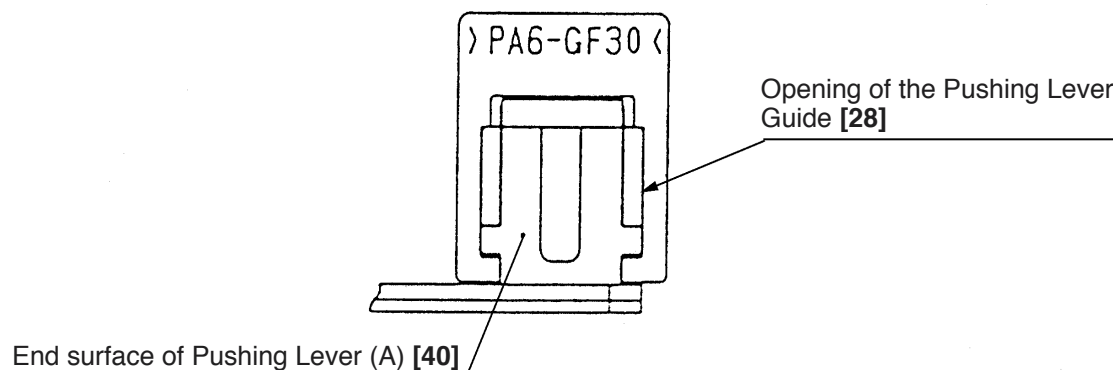


Fig. 23

(2) Disassembly and reassembly of the adjuster

(a) Disassembly

Remove the Roll Pin D1.6 x 12 [68]. Then the Adjuster Knob [69], the Adjuster Spring [67], the Bolt Washer M4 [66], the Latch [27], the Adjuster Shaft [26], the Spring [29], Pushing Lever (B) [30] and the Adjuster [70] can be removed.

(b) Reassembly

Proceed in reverse to the disassembly procedure, taking care of the following points.

- Align the dihedral width portion and the radius portion of the Latch [27] to the window of Pushing Lever (B) [30] when reassembling (Fig. 24).
- Mount the Adjuster [70] and the Adjuster Knob [69] as shown below (Fig. 25).
- Apply the provided oil (SHELL TONNA S32 Oil) to Pushing Lever (B) [30] and the Bolt Washer M4 [66] before reassembly.
- After reassembly, check that the Adjuster [70] and Pushing Lever (B) [30] operate smoothly.

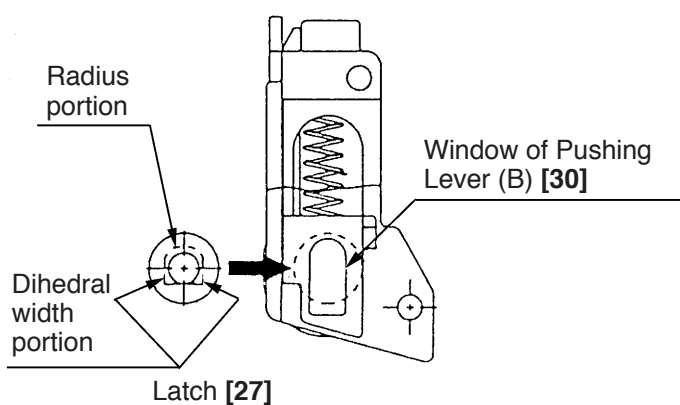


Fig. 24

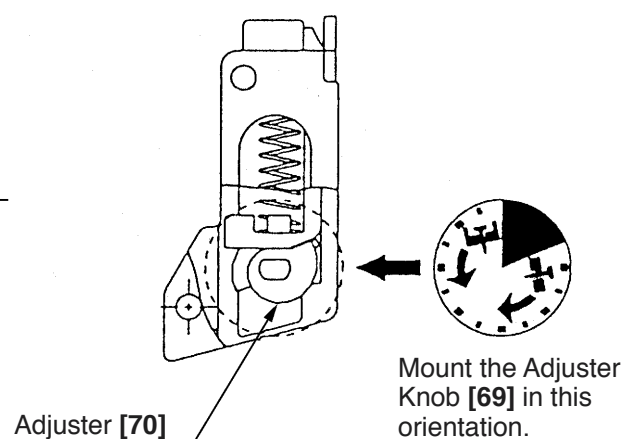


Fig. 25

(3) Disassembly and reassembly of the Feeder [39] and the Feed Piston [72]

(a) Disassembly

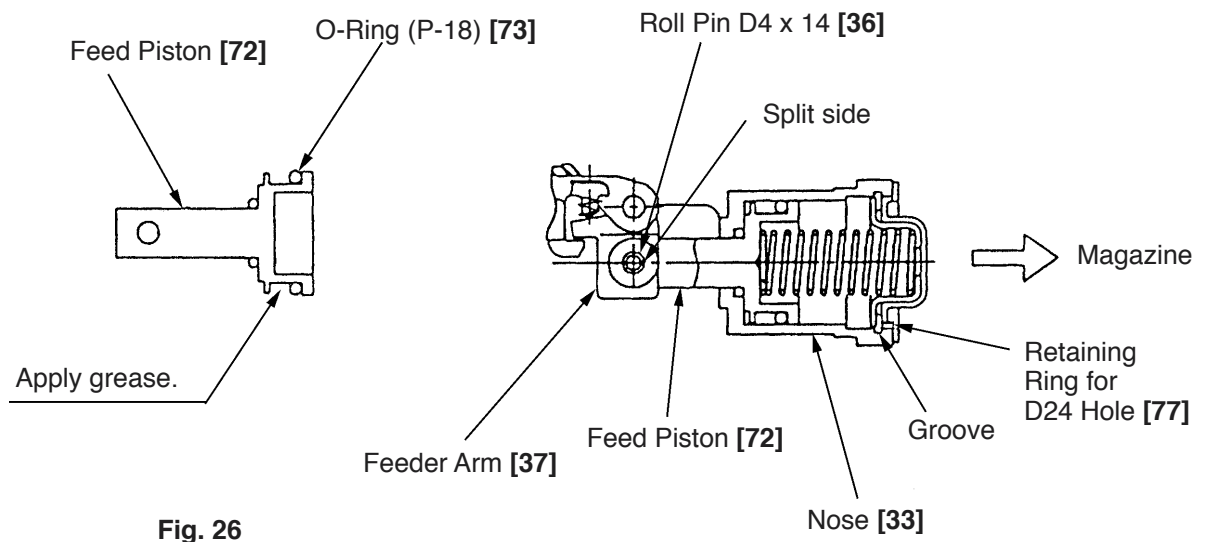
Remove the Magazine [83] from the Body Ass'y [22] as indicated in item 9-4-(2).

- Remove the Retaining Ring for D24 Hole [77] to take out the Feed Piston Cover [76], the Bumper [75] and the Spring [74].
- Pull out the Roll Pin D4 x 14 [36] to remove the Feed Piston [72] and the Feeder Arm [37].
- Remove the Needle Roller [35] to remove the Feeder Arm [37] and the Feeder [39].

(b) Reassembly

Proceed in reverse to the disassembly procedure, taking care of the following points.

- Broken chips from the Piston Bumper [21], if caught in the air passage of the Nose [33] and the feed piston chamber, may make the movement of the Feed Piston [72] dull. Carefully clean with a clean rag before reassembly.
- Lubricate the O-Ring (P-9) [71] and the O-Ring (P-18) [73] before reassembly.
- Move the O-Ring (P-18) [73] of the Feed Piston [72] toward right and fill the channel with lubricant.
- Apply grease to the O-ring sliding surfaces of the Feed Piston [72] and the Nose [33] before reassembly, though too much lubricant may make the feed piston movement sluggish.
- Make sure that the Retaining Ring for D24 Hole [77] is completely received in the Nose [33] groove.
- Push in the Roll Pin D4 x 14 [36] with its split end facing the magazine as indicated in Fig. 27.



(3) Disassembly and reassembly of the Nail Guide [96] (See Fig. 28.)

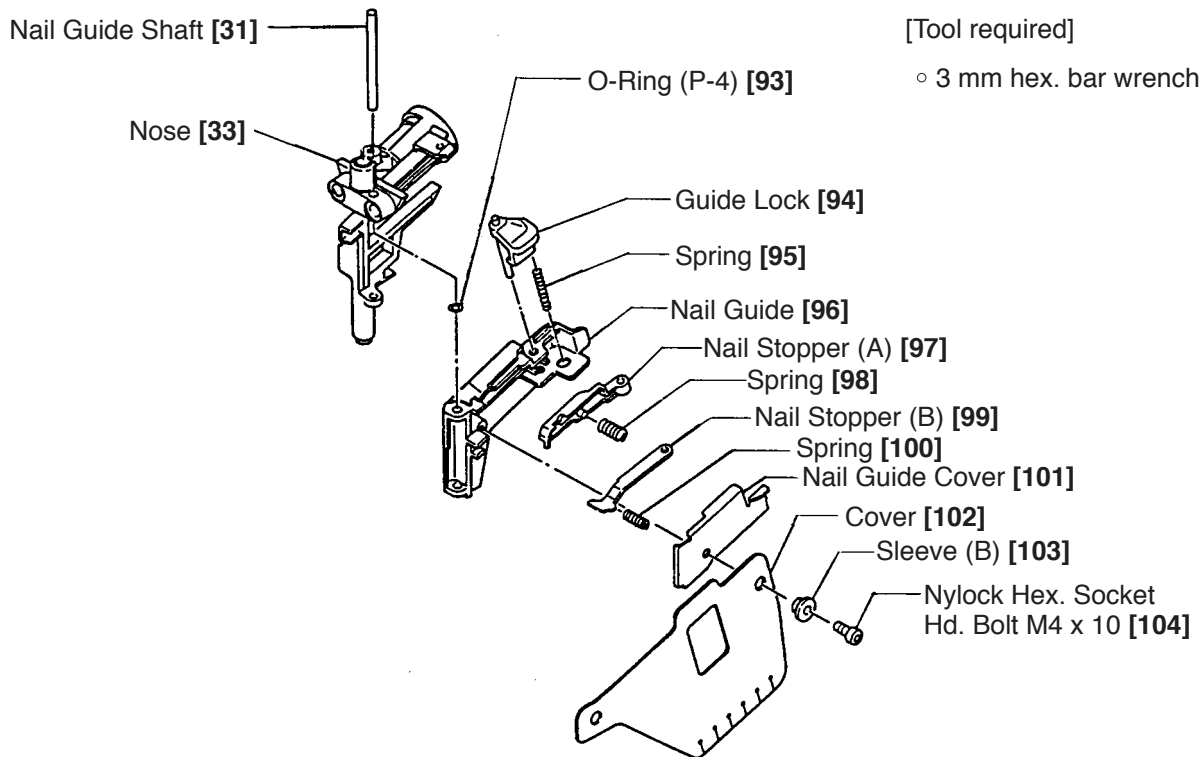


Fig. 28 Disassembly and reassembly of the nail guide

(a) Disassembly

- Remove the feeder unit from the output section as indicated in item 9-5-(1).
- Remove the Nail Guide [96] by pulling up the Nail Guide Shaft [31] beyond the Nose [33].
- Remove the Nylock Hex. Socket Hd. Bolt M4 x 10 [104] with the 3 mm dia. hex. bar wrench and remove the Nail Guide Cover [101], the Cover [102] and the Springs [98] [100].
- Then pull the Guide Lock [94] out of the Nail Guide [96] to remove Nail Stopper (A) [97] and Nail Stopper (B) [99].

(b) Reassembly

Proceed in reverse to the disassembly procedure, taking care of the following points.

- Carefully remove any dust stuck in the Nail Guide [96] before reassembly.
- Degrease the Nail Guide [96] screw before tightening the Nylock Hex. Socket Hd. Bolt M4 x 10 [104].
- After reassembly, push Nail Stopper (A) [97] and Nail Stopper (B) [99] with a finger and make sure that they quickly return to position.
- Mount the Nail Guide Shaft [31] facing the chamfered side upward.

10. INSPECTION AND CONFIRMATION AFTER REASSEMBLY

Make sure that:

- Plunger (A) [63] moves smoothly.
- Pushing Lever (A) [40] moves smoothly.
- Nail Stopper (A) [97] and Nail Stopper (B) [99] pushed with a finger completely return to position.
- There is no air leak at any part of the assembly.
- The main body is brought into operation by a simple pull on Trigger (A) [25] and by light pressure on Pushing Lever (A) [40].
- The Feed Piston [72] reliably operates with an air pressure of 4.9 bar (5 kgf/cm², 70 psi). (Open the Nail Guide and perform a nailing operation with no nail being fed.)
- Nails do not jam and are not bent when nailed with an air pressure of 4.9 bar (5 kgf/cm², 70 psi).

Note: Perform test-nailing with the Adjuster Knob [69] turned to the lowermost position.

- The tightening torque for each screw is proper.

11. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
NV 50AF3	General Assembly	Work Flow						
			Exhaust Cover Gasket (A) Head Valve Spring Head Valve O-Ring Head Valve (A)	Cylinder O-Ring x 3 Cylinder Plate Cylinder O-ring Piston Bumper				
			Piston Piston O-Ring Piston Ring					
		Pushing Lever (A) Pushing Lever Guide Spring Pushing Lever (B) Adjuster	Valve Bushing (B) Head Valve O-ring O-Ring x 6 Valve Piston (B) Plunger Spring Plunger (A) Valve Bushing (A)					Body Ass'y
			Change Knob (B) Spring (C)					
		Feed Piston O-Ring x 2 Spring Bumper Feed Piston Cover	Feeder Arm Feeder Spring Feeder	Nose Magazine Ass'y Magazine Cover Nail Holder Guide Lock Nail Guide Nail Stopper (A) Nail Stopper (B) Nail Guide Cover				
			Adjustment (Cylinder, Body and Valve)					

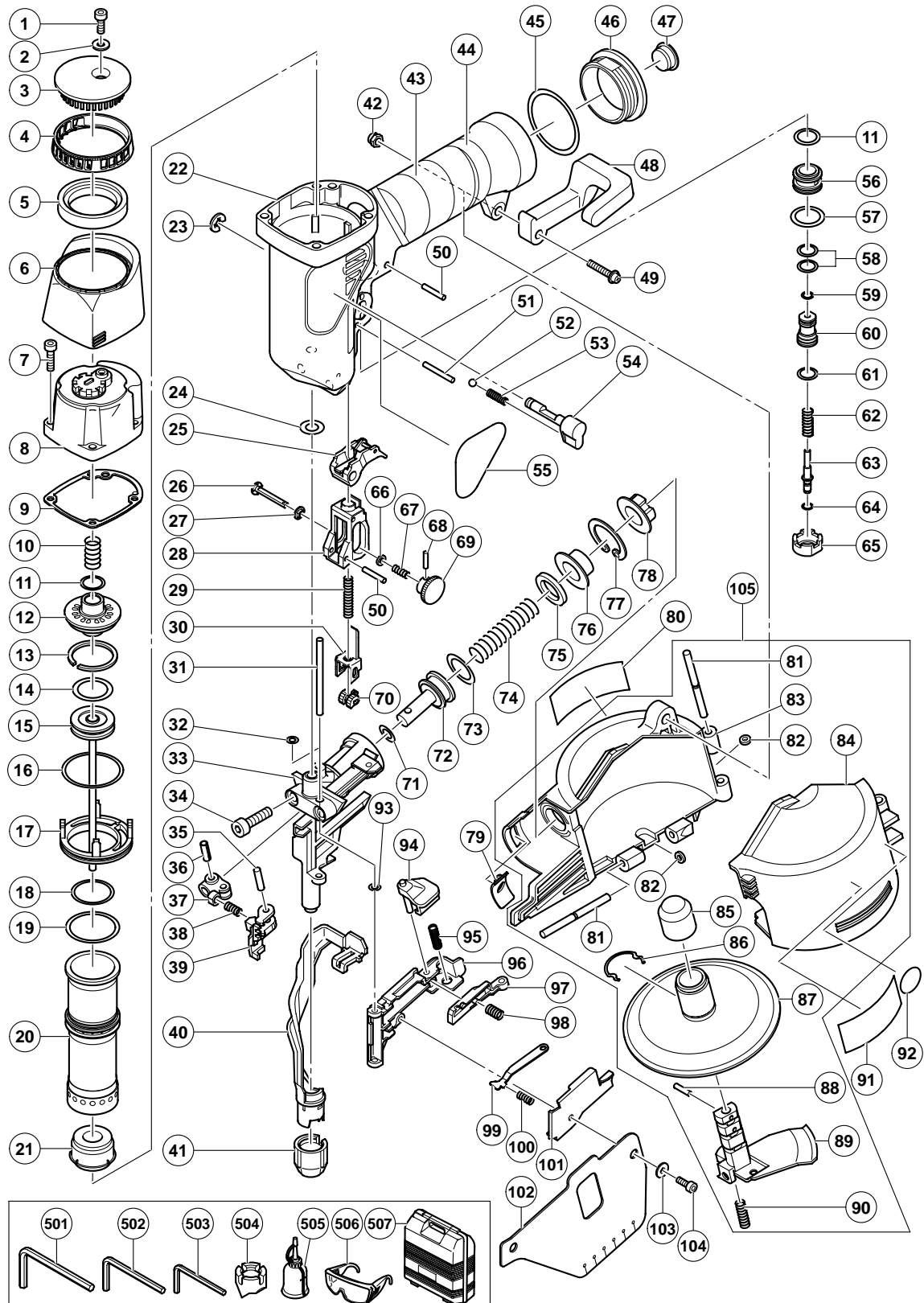
PNEUMATIC TOOL PARTS LIST

COIL NAILER

2005 • 1 • 20

Model NV 50AF3

(E1)



PARTS

NV 50AF3

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	949-819	HEX. SOCKET HD. BOLT M5X10 (10 PCS.)	1		
2	944-260	WASHER	1		
3	881-841	TOP COVER	1		
4	881-840	HEAD RING	1		
5	881-835	MUFFLER	1		
* 6	881-838	PROTECTOR (A)	1		
* 6	881-883	PROTECTOR (A)	1	FOR H/V	
7	949-757	HEX. SOCKET HD. BOLT M5X20 (10 PCS.)	4		
* 8	881-879	EXHAUST COVER	1		
* 8	881-865	EXHAUST COVER	1	FOR H/V	
9	881-839	GASKET (A)	1		
10	881-851	HEAD VALVE SPRING	1		
11	877-699	HEAD VALVE O-RING (I.D 16.8)	2		
12	881-837	HEAD VALVE (A)	1		
13	881-834	PISTON RING	1		
14	881-833	PISTON O-RING	1		
15	881-832	PISTON	1		
16	990-067	O-RING (1AS-50)	1		
17	881-831	CYLINDER PLATE	1		
18	984-483	O-RING (S-36)	1		
19	881-864	CYLINDER O-RING	1		
20	881-829	CYLINDER	1		
21	881-830	PISTON BUMPER	1		
* 22	881-877	BODY ASS'Y	1	INCLUD. 43, 44	
* 22	881-878	BODY ASS'Y	1	INCLUD. 43, 44 FOR H/V	
23	955-479	RETAINING RING (E-TYPE) FOR D6 SHAFT	1		
24	875-638	O-RING (S-12)	1		
25	880-674	TRIGGER (A)	1		
26	881-846	ADJUSTER SHAFT	1		
27	881-847	LATCH	1		
28	316-389	PUSHING LEVER GUIDE	1		
29	881-882	SPRING	1		
30	881-843	PUSHING LEVER (B)	1		
31	881-811	NAIL GUIDE SHAFT	1		
32	873-093	O-RING (1AP-3)	1		
33	881-810	NOSE	1		
34	949-660	HEX. SOCKET HD. BOLT M6X20 (10 PCS.)	2		
35	983-545	NEEDLE ROLLER	1		
36	949-770	ROLL PIN D4X14 (10 PCS.)	1		
37	878-132	FEEDER ARM	1		
38	878-340	FEEDER SPRING	1		
39	881-818	FEEDER	1		
40	881-819	PUSHING LEVER (A)	1		
41	881-092	NOSE CAP (A)	1		
42	877-371	NYLON NUT M5	1		
43	880-408	GRIP TAPE	1		
44	880-407	TAPE	2		
45	880-183	O-RING (I.D 37.2)	1		
* 46	880-379	CAP	1		
* 46	882-162	CAP	1	FOR H/V	
47	872-035	DUST CAP	1		

PARTS

NV 50AF3

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
48	881-827	HOOK	1		
49	880-881	MACHINE SCREW (W/WASHERS) M5X30 (BLACK)	1		
50	949-518	ROLL PIN D3X18 (10 PCS.)	2		
51	949-539	ROLL PIN D3X25 (10 PCS.)	1		
52	959-155	STEEL BALL D3.97 (10 PCS.)	1		
53	982-454	SPRING (C)	1		
54	880-086	CHANGE KNOB (B)	1		
* 55		NAME PLATE	1	EXCEPT FOR H/V	
56	878-881	VALVE BUSHING (B)	1		
57	878-885	O-RING (S-18)	1		
58	878-925	O-RING (I.D 8.8)	2		
59	981-317	O-RING (S-4)	1		
60	880-672	VALVE PISTON (B)	1		
61	878-887	O-RING (I.D 11)	1		
62	878-884	PLUNGER SPRING	1		
63	880-673	PLUNGER (A)	1		
64	878-888	O-RING (I.D 1.8)	1		
65	880-671	VALVE BUSHING (A)	1		
66	949-429	BOLT WASHER M4 (10 PCS.)	1		
67	881-853	ADJUSTER SPRING	1		
68	878-222	ROLL PIN D1.6X12	1		
69	881-848	ADJUSTER KNOB	1		
70	881-845	ADJUSTER	1		
71	872-645	O-RING (P-9)	1		
72	880-168	FEED PISTON	1		
73	873-570	O-RING (P-18)	1		
74	880-409	SPRING	1		
75	877-476	BUMPER	1		
76	880-170	FEED PISTON COVER	1		
77	983-748	RETAINING RING FOR D24 HOLE	1		
78	880-177	MAGAZINE BUSHING	1		
79	881-850	PROTECTOR (B)	1		
* 80	878-183	WARNING LABEL	1	EXCEPT FOR H/V	
81	881-825	PIN	2		
82	877-826	FEEDER SHAFT RING	2		
83	884-090	MAGAZINE	1		
84	881-822	MAGAZINE COVER	1		
85	881-003	HOLDER CAP (A)	1		
86	880-398	RATCHET SPRING	1		
87	881-824	NAIL HOLDER	1		
88	878-791	ROLL PIN D2.5X12	1		
89	881-823	HOLDER SHAFT	1		
90	881-826	SPRING	1		
* 91	884-070	WARNING LABEL	1	EXCEPT FOR H/V	
* 92	883-513	WARNING LABEL(A)	1	EXCEPT FOR H/V	
93	874-436	O-RING (P-4)	1		
94	878-103	GUIDE LOCK	1		
95	880-446	SPRING	1		
96	881-812	NAIL GUIDE	1		
97	881-813	NAIL STOPPER (A)	1		
98	881-817	SPRING	1		

PARTS

NV 50AF3

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
99	881-814	NAIL STOPPER (B)	1		
100	880-393	SPRING	1		
101	881-815	NAIL GUIDE COVER	1		
102	881-816	COVER	1		
103	878-337	SLEEVE (B)	1		
104	880-413	NYLOCK HEX. SOCKET HD. BOLT M4X10	1		
105	881-820	MAGAZINE ASS'Y	1	INCLUD. 81-90	

STANDARD ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
501	944-459	HEX. BAR WRENCH 5MM	1		
502	944-458	HEX. BAR WRENCH 4MM	1		
503	943-277	HEX. BAR WRENCH 3MM	1		
504	881-093	NOSE CAP (B)	1		
505	877-153	PNEUMATIC TOOL LUBRICANT (30CC)	1		
506	875-769	SAFETY GLASSES	1		
* 507	881-849	CASE	1		
* 507	881-881	CASE	1	FOR H/V	

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601	881-012	SEQUENTIAL TRIP MECHANISM SET	1		

