

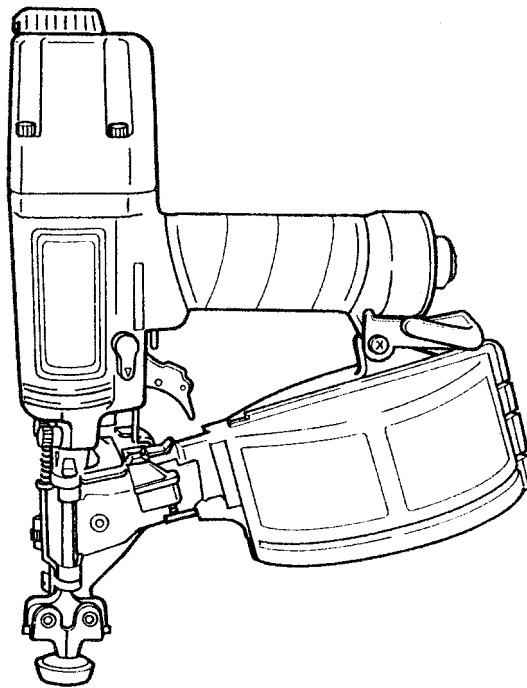
MODEL

**NV 50AG2**

# Hitachi Power Tools

**COIL NAILER  
NV 50AG2**

**TECHNICAL DATA  
AND  
SERVICE MANUAL**



**N**

LIST No.: E020

Jan. 2005



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## 1. PRODUCT NAME

Hitachi Coil Nailer, Model NV 50AG2

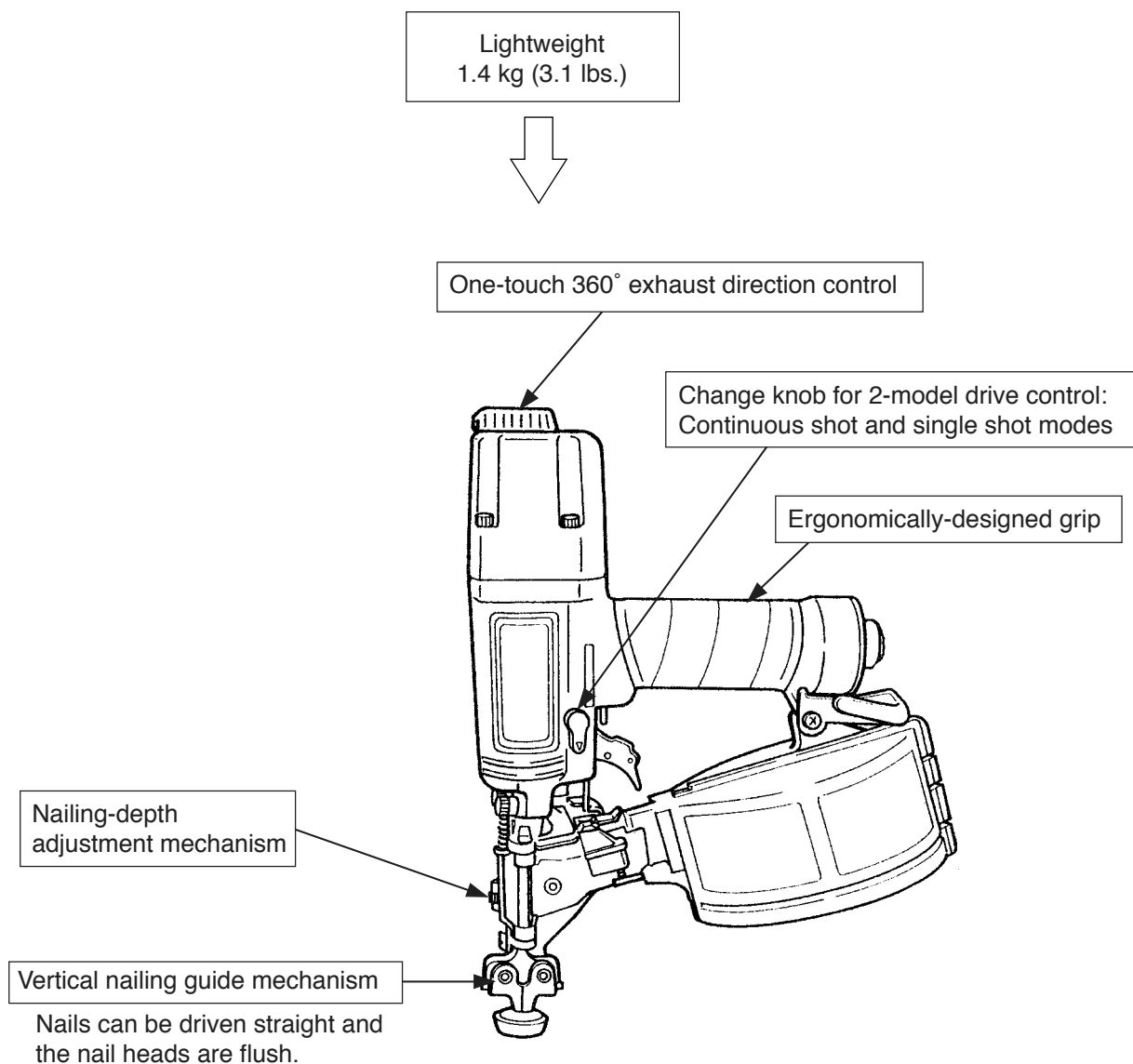
## 2. MARKETING OBJECTIVE

The Model NV 50AG2 is a coil nailer specifically designed for driving nails into plaster boards. It can drive nails of 50 mm (2") in length into plaster boards, and it is equipped with convenient functions such as the vertical nailing guide mechanism.

## 3. APPLICATIONS

- Installation of plaster board and similar materials in interior construction.

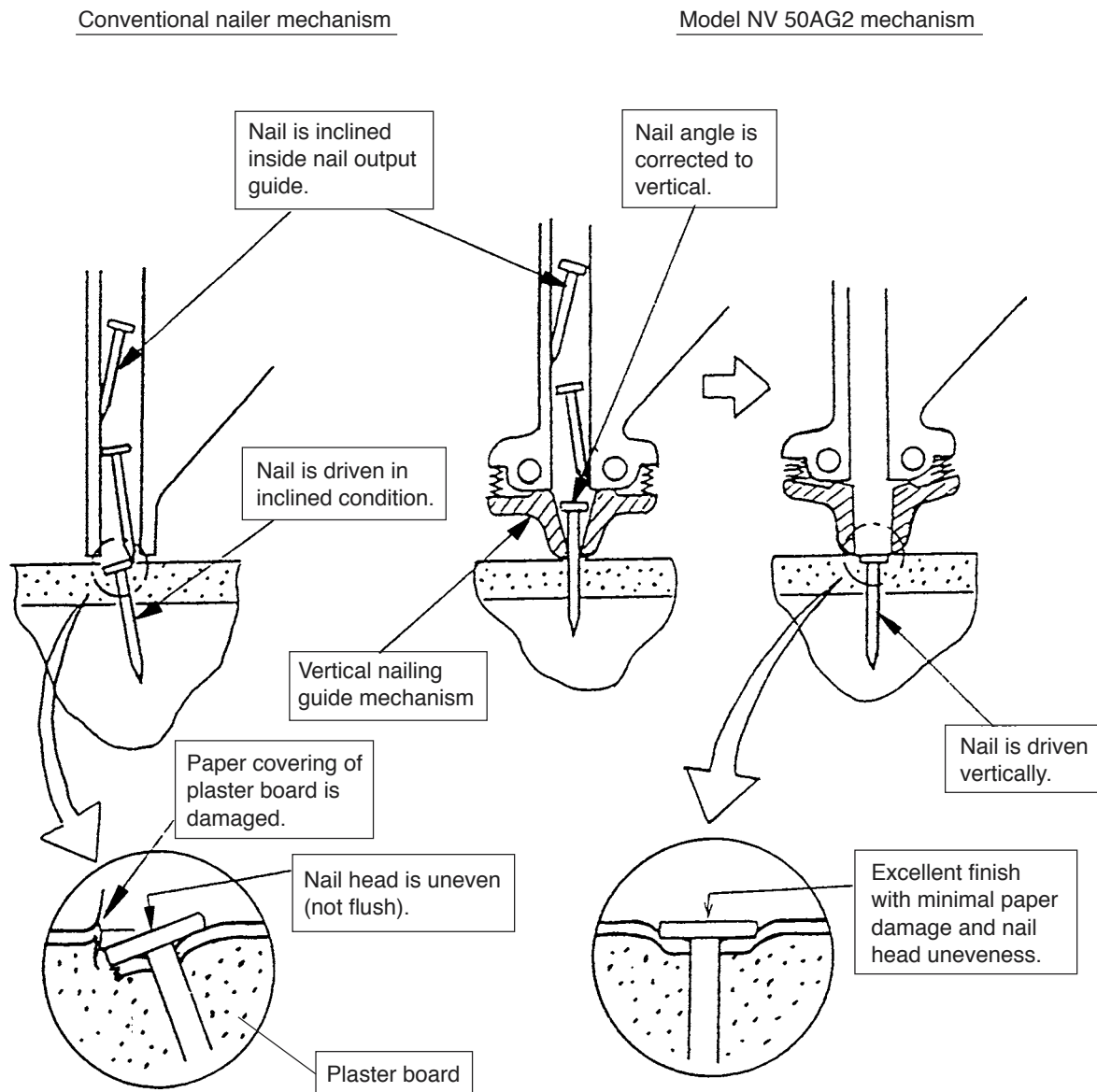
## 4. SELLING POINTS



## 4-1. Selling Point Descriptions

### (1) Vertical nailing guide mechanism

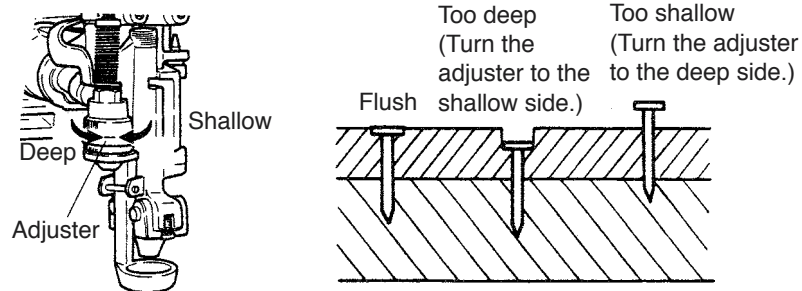
When installing plaster board with a nailer, it is important that nails be driven flush so that the finished surface is smooth. The nails must be driven as straight as possible so that the heads are even and the paper covering of the plaster board is not damaged. As illustrated below, the Model NV 50AG2, equipped with a unique vertical nailing guide mechanism, drives nails more vertically into the surface of plaster board than is possible with conventional nailers.



## (2) Nailing-depth adjustment mechanism

The nail-driving depth can be adjusted by turning the adjuster in the Model NV 50AG2. Be sure to adjust both the air pressure used and the adjuster.

- Turn the adjuster to the deepest point.
- Set the air pressure used to 4.9 bar (5 kgf/cm<sup>2</sup>, 70 psi) as a guide.
- Carry out test driving. If the nail depth is too deep, turn the adjuster to the shallow side.
- If the nail depth is too shallow, adjust the air pressure used to the higher.



## 5. SPECIFICATIONS

### 5-1. Specifications

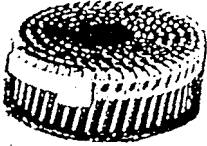
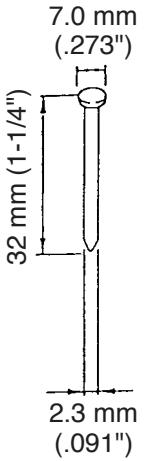
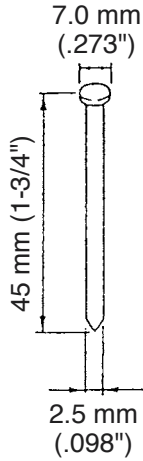
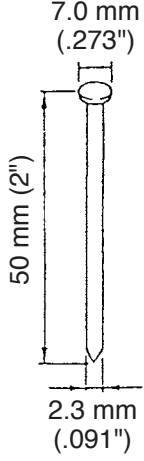
Model	NV 50AG2
Driving system	Reciprocating piston type
Applicable air pressure	4.9 — 8.3 bar (5 — 8.5 kgf/cm <sup>2</sup> , 70 — 120 psi) (Gauge pressure)
Driving speed	3 pcs./sec
Product weight	1.4 kg (3.1 lbs)
Main body dimensions (Length x Height x Width)	243 mm (L) x 288 mm (H) x 125 mm (W) (9-9/16" x 11-11/32" x 4-15/16")
Nail feed system	Reciprocating piston type
Loadable number of nails	200 nails
Air consumption	0.80 liter/cycle at 6.9 bar (0.80 liter/cycle at 7 kgf/cm <sup>2</sup> ) (0.28 ft <sup>3</sup> /cycle at 100 psi)
Air inlet	NPT 3/8 thread
Packaging	Corrugated cardboard box (Sleeve type)
Package dimensions (Length x Height x Width)	400 mm (L) x 165 mm (H) x 355 mm (W) (15-3/4" x 6-1/2" x 14")
Standard accessories	Safety glasses (Code No. 875769) ..... 1 Hexagon bar wrench for M4 screw (Code No. 943277) ..... 1 Hexagon bar wrench for M5 screw (Code No. 944458) ..... 1 Hexagon bar wrench for M6 screw (Code No. 944459) ..... 1 Case (Code No. 880444) ..... 1 Oiler (30 cc) (Code No. 877153) ..... 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

Choose a suitable nail from Fig. 1 "Dimensions of nails". Nails which are not shown in Fig. 1 "Dimensions of nails" cannot be driven with this tool.

Nails are collated and coiled as shown in Fig. 2.

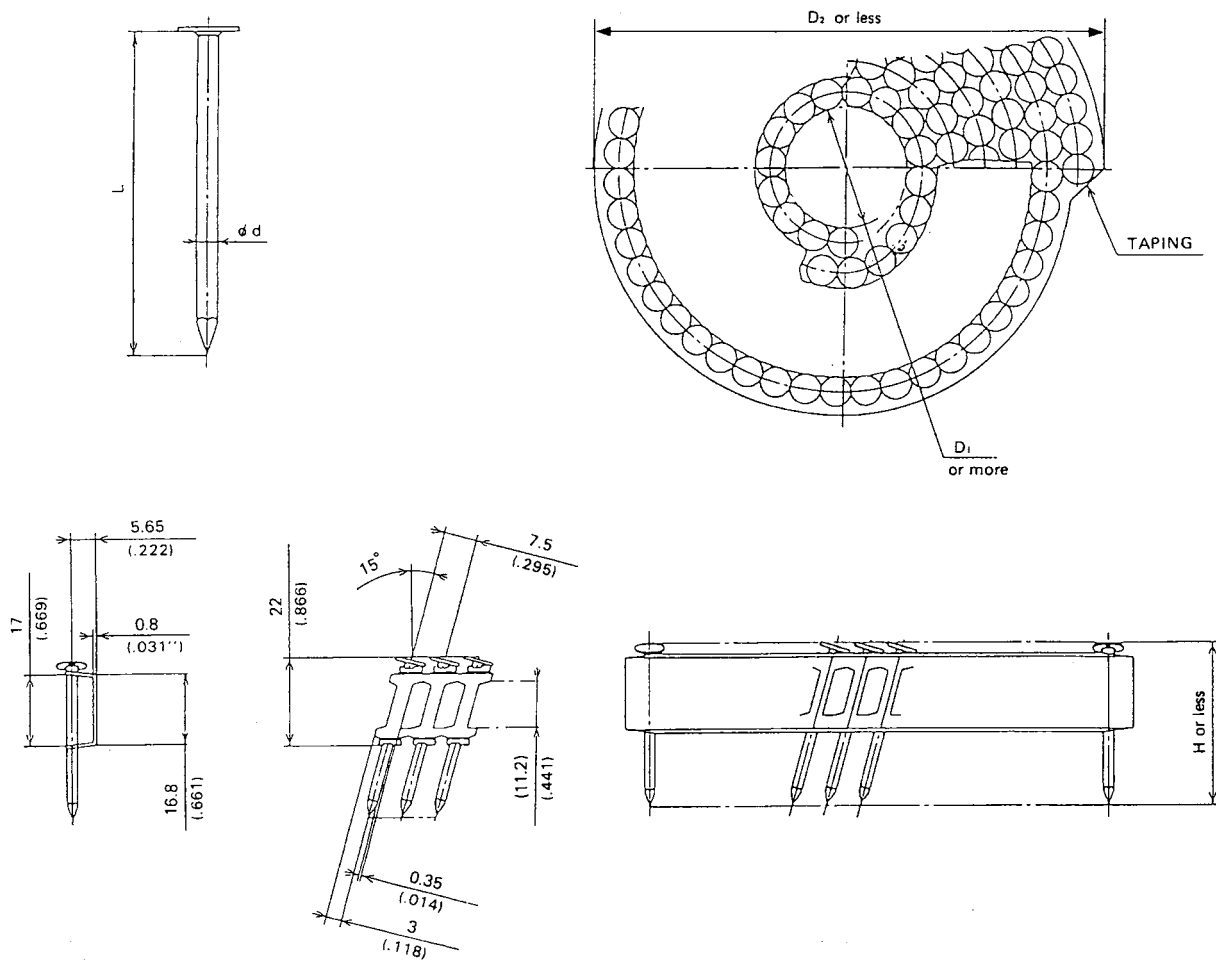
**NOTE:** There are nails very similar to those illustrated below in local markets. However, since dimensions other than those shown will cause jamming, faulty nail feeding, and/or damage to the tool mechanism, it is important that the customer be cautioned to ensure that only Hitachi approved nails are utilized.

		
Min.	Max.	
		

**Fig. 1 Dimensions of nails**

The nail connecting dimensions and coil sizes after winding are shown below.

Unit: mm (inch)



#### Sheet-collated nails

L	d	D <sub>1</sub>	D <sub>2</sub>	H
32 – 45 (1-1/4" – 1-3/4")	2.39 – 2.5 (.091" – .098")	20 (.787)	118 (4.646)	52 (2.047)

**Fig. 2 Collated and coiled nails**



### 5-3. Nail Driving Force

When the Model NV 50AG2 is used with 2.3 mm dia. x 50 mm (.091" x 2") length smooth nails to fasten two sheets of plaster board (9 mm (3/8") in thickness) onto a soft wood material, approximately 5.9 bar (6 kgf/cm<sup>2</sup>, 85 psi) of air pressure will drive the nails so that the nail heads become flush with the surface of the outer sheet of plaster board.

However, while the above figures may be utilized as a handy reference, actual air pressure requirements will vary in accordance with the type, moisture content and grain of the wood material, and other variable factors.

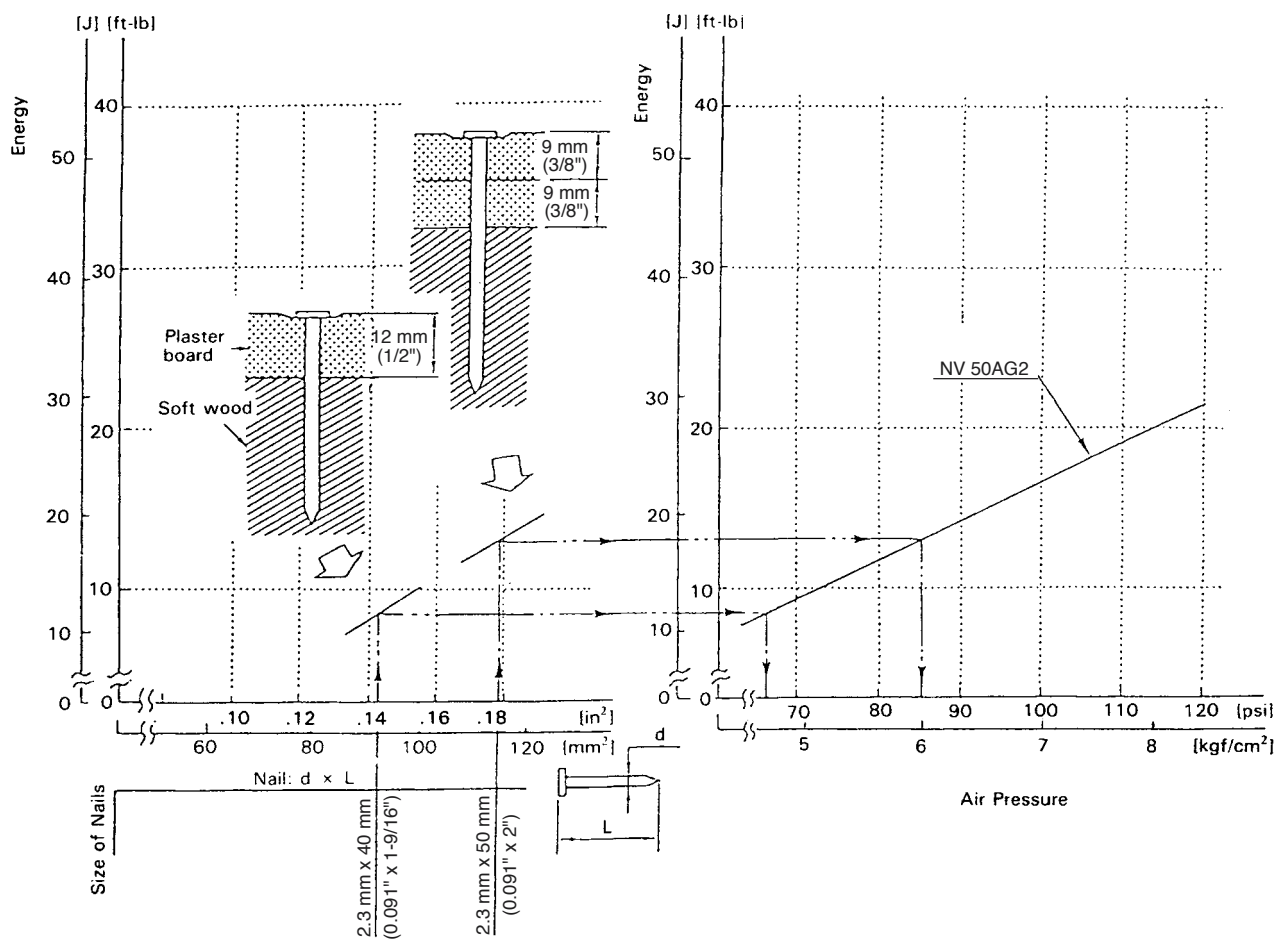
#### Required nailing energy

Graph is based on use of smooth nails.

Required energy for screw nails is approximately 1.2 times larger.

#### Nailer output energy

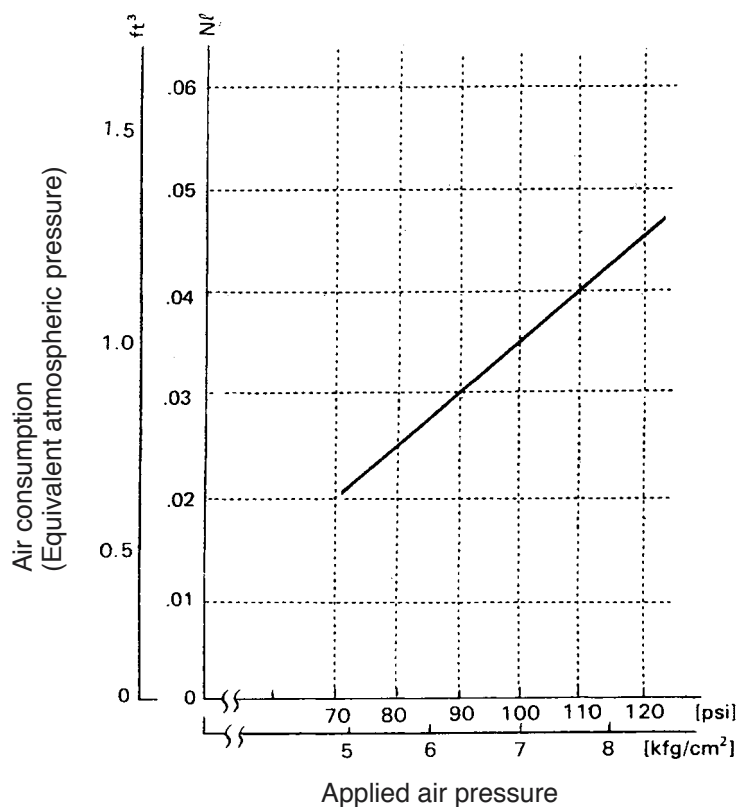
Output energy shown is based on maximum nailing depth adjustment.



**Fig. 3 Required nailing energy and nailer output energy**

#### 5-4. Air Consumption

Based on actual tests, Fig. 4 illustrates the amount of air consumed in driving a single nail.



**Fig. 4 Air consumption in driving one nail**

#### 5-5. Optional Accessory

Sequential fire parts set:

The sequential fire parts set is provided as an optional accessory for the Model NV 50AG2. By using this optional accessory, a nail is driven by pressing the push lever first against a workpiece and then pulling the trigger, and no nail is driven when pulling the trigger first and then pressing the push 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 50AG2 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 50AG2 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.

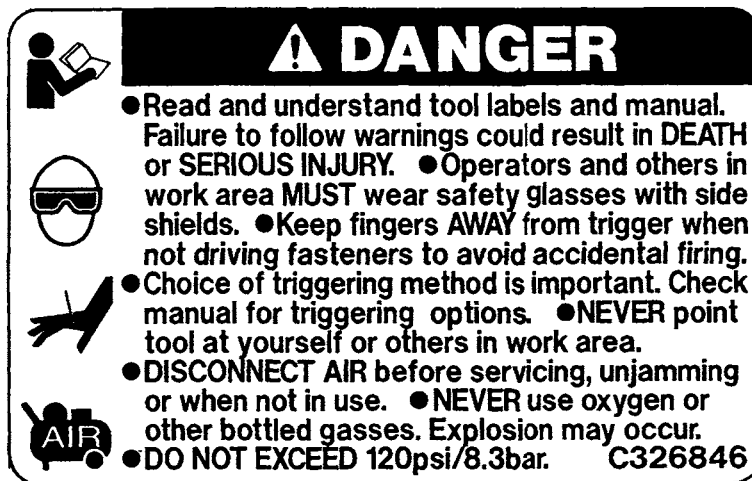
#### (1) Handling Instructions

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 50AG2 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 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/cm<sup>2</sup>, 63 psi) or more than 7.8 bar (8 kgf/cm<sup>2</sup>, 112 psi) can affect the performance, service life and safety of the Model NV 50AG2. 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/cm<sup>2</sup>, 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/cm<sup>2</sup>, 112 psi) or less].
- (2) To protect the Model NV 50AG2 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 50AG2 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

As indicated in Fig. 5, the structure of the Model NV 50AG2 can be generally divided into four sections: the output section, the control valve section, the driving section, and the magazine section.

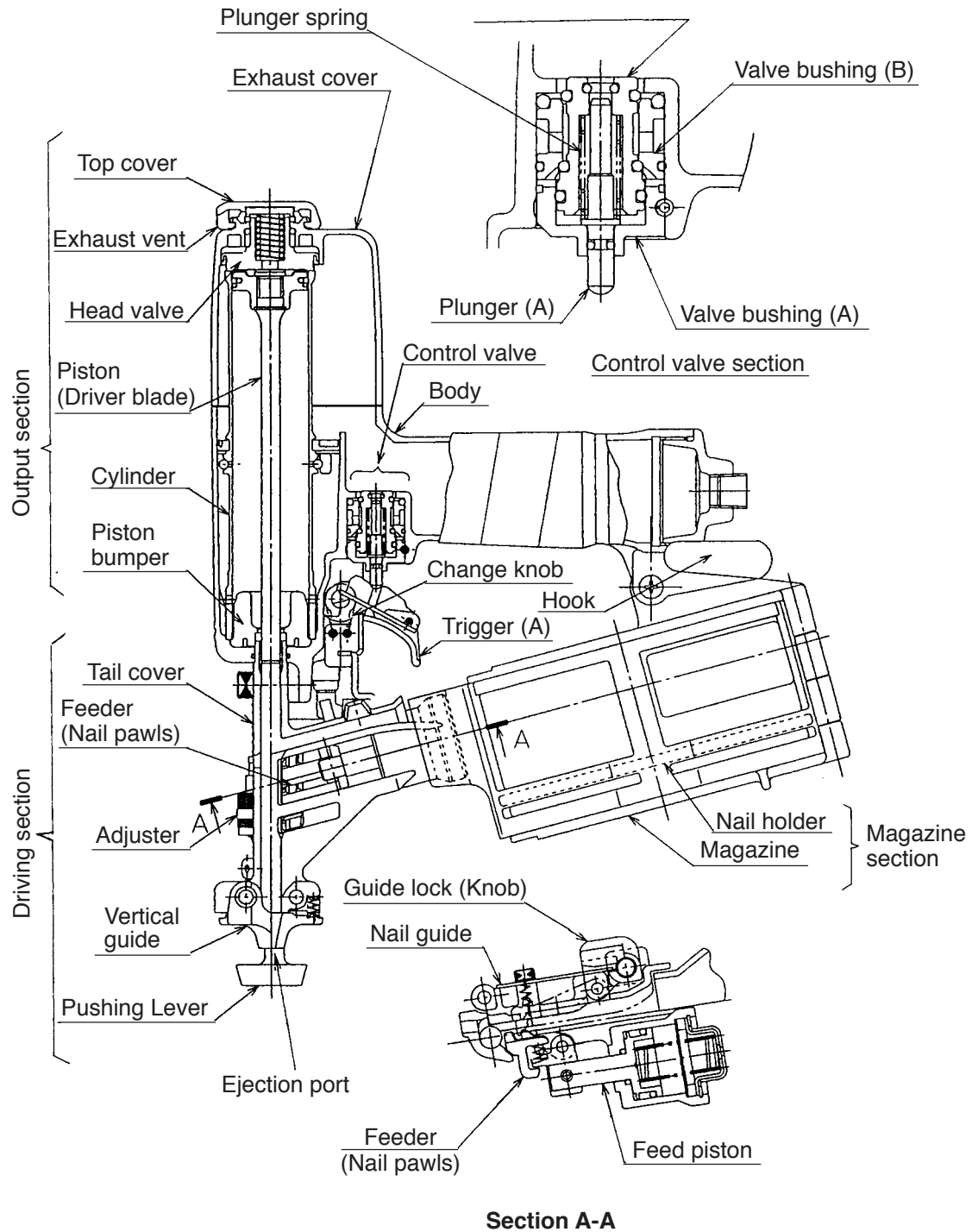
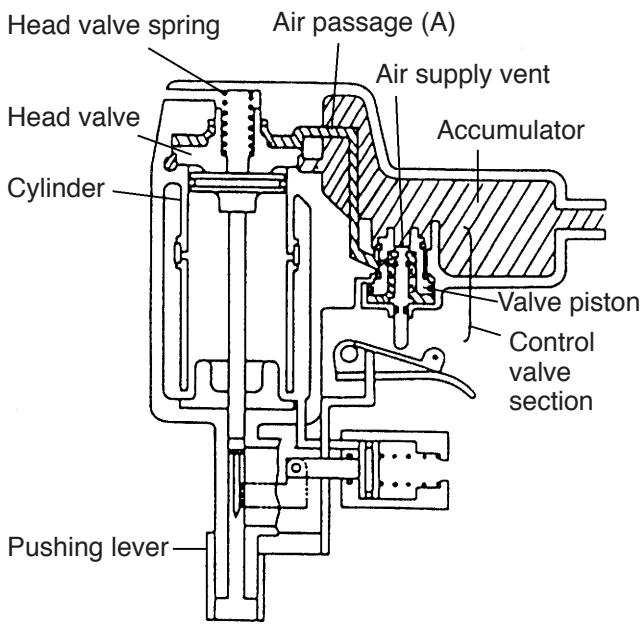
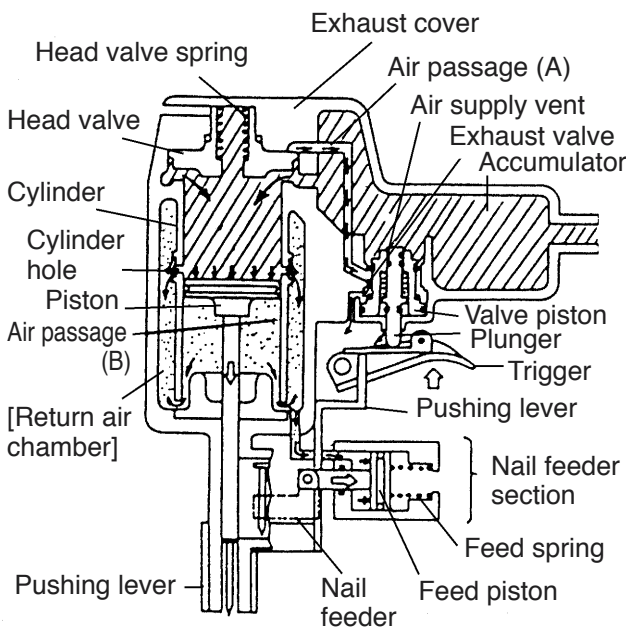


Fig. 5 Construction

## 7-2. Operation Principle



**Fig. 6 Prior to nailing**



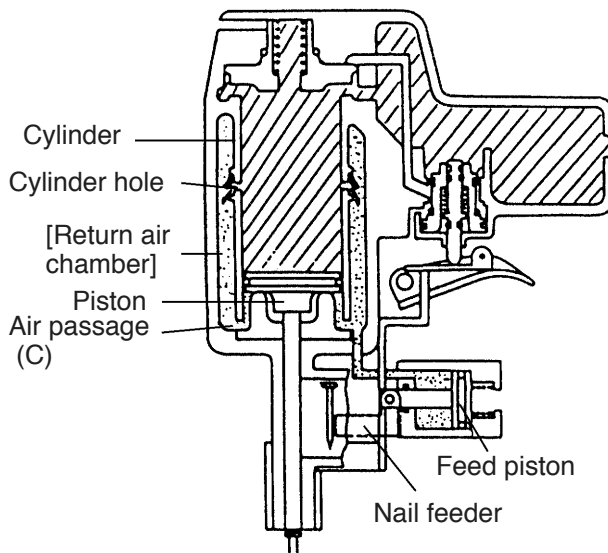
**Fig. 7 During nailing (I)**

(1) Prior to nailing (Fig. 6)

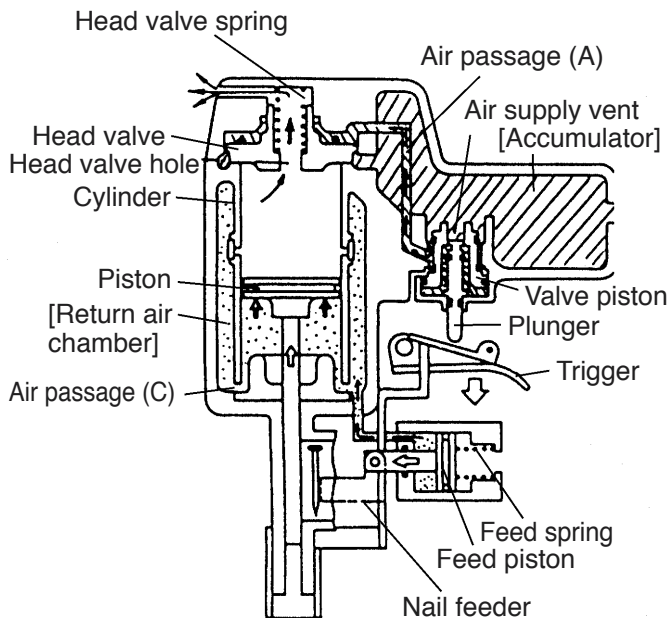
- ① When compressed air is supplied to the main body, it fills the accumulator ( // ).
- ② At the same time, the compressed air flows into the valve piston lower chamber of the control valve section, and pushes up the valve piston. Also, the compressed air flows from the air supply vent, through air 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) (Fig. 7)

- ① When the plunger is pushed up by operating both the pushing lever and the trigger, the compressed air in the valve piston lower chamber is exhausted from the lower part of the plunger. Then, the valve piston is pushed down by the compressed air from the accumulator ( // ) so that it shuts off the air supply vent and released the exhaust valve.
- ② When the exhaust valve opens, the compressed air in the head valve chamber is exhausted into the atmosphere through air passage (A).
- ③ The air pressure applied to the lower surface of the head valve exceeds the force of the head valve spring, and pushes up the head valve. 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. 8 During nailing (II)**



**Fig. 9 During return**

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

- ① When the piston moves down inside the cylinder, the air under the piston flows through air passage (C) under the cylinder and is accumulated in the return air chamber together with the compressed air flowing in 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 (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 applied on 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), is applied to the lower surface of the piston, and forces the piston to return upward to its original position. Also, the compressed air at the upper surface of 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 tail cover 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.



## 8. TROUBLESHOOTING

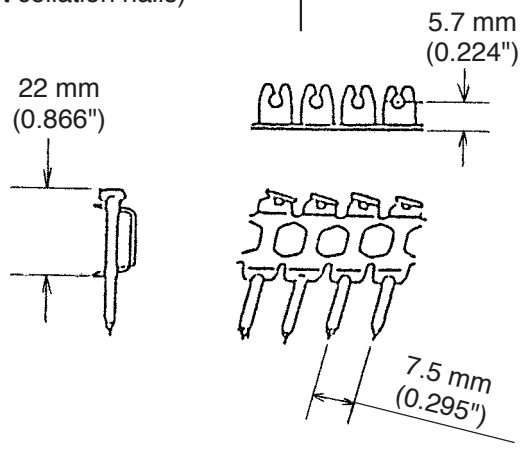
### 8-1. Troubleshooting and Correction

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
(1) Nails fail to eject.	<b>&lt; Nail &gt;</b> <ul style="list-style-type: none"> <li>The nailer is loaded with nails not approved by Hitachi.</li> <li>The nailer is loaded with abnormal nails (bent nails, nail heads too large, or too small, abnormally collated nails, deformed sheet).</li> <li>Nails or link pieces are jammed.</li> <li>Deformation and breaking of collated nails</li> </ul>	<ul style="list-style-type: none"> <li>Check whether or not the nailer is normally loaded with nails approved by Hitachi.</li> </ul>	<ul style="list-style-type: none"> <li>Use specified nails.</li> <li>Remove abnormal nails and load the nailer with proper nails.</li> </ul>
	<b>&lt; Nail feeding section: nose, feeder, feed piston, etc. &gt;</b> <ul style="list-style-type: none"> <li>The sliding resistance of the feed piston is too great.</li> <li>The nail guide face of the nose is abnormal (deformed, jagged, damaged and/or worn).</li> <li>The feed spring and/or feeder spring is abnormal (damaged and/or fatigued).</li> <li>The feeder is abnormal (damaged and/or worn).</li> </ul>	<ul style="list-style-type: none"> <li>Remove the feed piston, and examine the feed piston slide surface of the nose.</li> </ul>	<ul style="list-style-type: none"> <li>Apply grease.</li> <li>Polish the scratched section with abrasive paper.</li> <li>Replace parts.</li> </ul>
		<ul style="list-style-type: none"> <li>Check whether or not the nail feeding section is abnormal (jagged, deformed, damaged or worn).</li> </ul>	<ul style="list-style-type: none"> <li>Replace parts.</li> <li>Smooth jagged areas.</li> <li>Correct the deformed part.</li> </ul>
	<ul style="list-style-type: none"> <li>The nose is not correctly loaded with nails in the groove.</li> </ul>	<ul style="list-style-type: none"> <li>Check whether or not the nailer is correctly loaded with nails in the specified groove.</li> </ul>	<ul style="list-style-type: none"> <li>Load the nailer with nails in the correct position in the nose.</li> </ul>
	<ul style="list-style-type: none"> <li>Insufficient oil and/or dust sticking in the chuck groove's slide of the nose.</li> </ul>	<ul style="list-style-type: none"> <li>Open the nail guide and inject air to check the feeder's action.</li> </ul>	<ul style="list-style-type: none"> <li>Remove dust and then apply oil.</li> </ul>
	<ul style="list-style-type: none"> <li>Air pressure is too low.</li> </ul>		<ul style="list-style-type: none"> <li>Adjust air pressure in a range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm<sup>2</sup>, 70 – 120 psi).</li> </ul>
	<ul style="list-style-type: none"> <li>* The air passage is jammed (with pieces of broken piston bumper etc.).</li> <li>* The feed piston chamber contains foreign matter such as pieces of broken bumper etc.</li> </ul>		<ul style="list-style-type: none"> <li>Remove foreign matter. Replace the piston bumper with new one.</li> <li>Body....Remove foreign matter in the return air chamber.</li> <li>Nose....Remove foreign matter in the air passage and the feed piston chamber.</li> </ul>



<b>Fault</b>	<b>Cause</b> (The mark * refers to main causes.)	<b>Inspection method</b>	<b>Remedy</b>
<b>(1)</b> Nails fail to eject. (Continued)	<ul style="list-style-type: none"> <li>• Air leaks from a gap between the body and the nose</li> </ul>	<ul style="list-style-type: none"> <li>• Open the nail guide and inject air to check feeder's action.</li> </ul>	<ul style="list-style-type: none"> <li>• Tighten screws and examine the O-rings (1AP-3).</li> </ul>
	<ul style="list-style-type: none"> <li>• O-rings are worn and deformed.</li> </ul>		<ul style="list-style-type: none"> <li>• Examine the O-ring.</li> </ul>
	<ul style="list-style-type: none"> <li>• The O-rings need oil.</li> </ul>		<ul style="list-style-type: none"> <li>• Apply grease or oil.</li> </ul>
	<b>&lt; Nail guide section &gt;</b> <ul style="list-style-type: none"> <li>• The nail guide face of the nail guide is abnormal (deformed, jagged, damaged and/or worn).</li> </ul>	<ul style="list-style-type: none"> <li>• Check whether or not the nail guide is abnormal (jagged, deformed and/or damaged).</li> </ul>	<ul style="list-style-type: none"> <li>• Correct and replace part.</li> </ul>
	<ul style="list-style-type: none"> <li>• Dust is stuck to the inside of the nail guide groove, and the oil in the groove has depleted.</li> <li>* A spring is abnormal (off, damaged and/or fatigued).</li> <li>• The claw ridge section of the nail stopper is abnormal (damaged, worn and/or jagged).</li> </ul>	<ul style="list-style-type: none"> <li>• Examine the action of nail stopper (B).</li> </ul>	<ul style="list-style-type: none"> <li>• Remove dust and then apply oil.</li> <li>• Replace abnormal parts.</li> </ul>
	<b>&lt; Magazine section &gt;</b> <b>&lt; Pushing lever (A) &gt;</b> <ul style="list-style-type: none"> <li>• Magazine</li> </ul>	<ul style="list-style-type: none"> <li>• Check whether or not a nail catches on another nail in the magazine.</li> <li>• Check whether or not a nail catches on some part of the magazine.</li> <li>• Check the nail holder for the height.</li> </ul>	<ul style="list-style-type: none"> <li>• Collate the nails normally and reload the nailer with normally collated nails.</li> <li>• Remove burrs and deformed parts and replace parts.</li> <li>• Adjust the height of the nail holder correctly.</li> </ul>
	<ul style="list-style-type: none"> <li>• Pushing lever (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Examine the action of pushing lever (A).</li> </ul>	<ul style="list-style-type: none"> <li>• Correct or replace parts.</li> </ul>
	<b>&lt; Output section: Piston, driver blade, etc. &gt;</b> <ul style="list-style-type: none"> <li>• Air pressure is low.</li> </ul>	<ul style="list-style-type: none"> <li>• Open the nail guide and inject air to examine whether or not the driver blade is reset.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust air pressure in the range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm<sup>2</sup>, 70 – 120 psi).</li> </ul>
	<ul style="list-style-type: none"> <li>* Piston rings are worn.</li> </ul>		<ul style="list-style-type: none"> <li>• Replace the piston ring with new one.</li> </ul>
	<ul style="list-style-type: none"> <li>* The piston bumper is abnormal.</li> </ul>		<ul style="list-style-type: none"> <li>• Replace the piston bumper with new one.</li> </ul>
	<ul style="list-style-type: none"> <li>• The O-ring in the cylinder section is abnormal (off, jagged and/or damaged).</li> </ul>		<ul style="list-style-type: none"> <li>• Reassemble or replace the O-ring with new one.</li> </ul>
	<ul style="list-style-type: none"> <li>• The driver blade is abnormal (deformed, jagged, damaged and/or worn).</li> </ul>		<ul style="list-style-type: none"> <li>• Correct the driver blade or replace it with new one.</li> </ul>
	<ul style="list-style-type: none"> <li>• The inner face of the cylinder is abnormal (packed with dust and/or worn).</li> </ul>	<ul style="list-style-type: none"> <li>• Examine whether or not nails can be driven at a pressure of 4.9 bar (5 kgf/cm<sup>2</sup>, 70 psi).</li> </ul>	<ul style="list-style-type: none"> <li>• Remove dust and then apply oil. Or replace the cylinder with new one.</li> </ul>
	<ul style="list-style-type: none"> <li>• The sliding face of the head valve is abnormal (seized, damaged, and/or oil has depleted).</li> </ul>	<ul style="list-style-type: none"> <li>• Inject air to check nail driving action.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace parts.</li> <li>• Apply grease.</li> </ul>

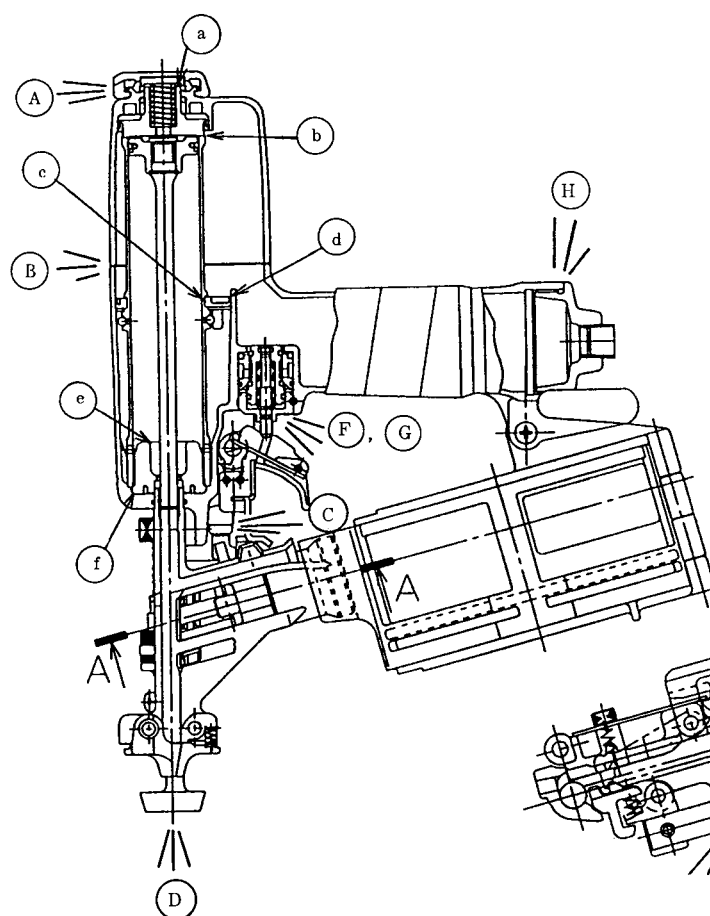
<b>Fault</b>	<b>Cause</b> (The mark * refers to main causes.)	<b>Inspection method</b>	<b>Remedy</b>
<b>(1)</b> Nails fail to eject. (Continued)	<ul style="list-style-type: none"> <li>The spring of the head valve is abnormal (fatigued and/or damaged).</li> </ul>	<ul style="list-style-type: none"> <li>Inject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

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
(4) Nail jamming	<p><b>&lt; Nail &gt;</b></p> <ul style="list-style-type: none"> <li>* Nails not approved by Hitachi are used.</li> <li>* Abnormal nails are mixed.</li> <li>* The collation sheet is abnormal (deformed or broken).</li> <li>• Nails fall off.</li> <li>• Nails are missing from the sheet. (Sheet collation nails)</li> </ul> <p><b>&lt; Body: Nail feeding is incomplete. &gt;</b></p> <ul style="list-style-type: none"> <li>• The feeder is worn, and the sliding section is abnormal.</li> <li>• The nail guide face of the nose and the sliding section of the feeder are abnormal (deformed, warped and/or damaged).</li> <li>• The nail guide face of the nail guide is worn.</li> <li>• The driver blade head is worn.</li> <li>• The feed spring and the feeder spring are abnormal (damaged, fatigued and/or damaged).</li> <li>* The feed piston chamber contains foreign matter such as piston bumper pieces.</li> </ul>	<ul style="list-style-type: none"> <li>• Check whether or not nails approved by Hitachi are used.</li> <li>• Check nails referring to the following figures.</li> </ul> <p>(Sheet collation nails)</p>  <ul style="list-style-type: none"> <li>• Open the nail guide to check the position of the feeder claw.</li> <li>Check whether or not the chuck of the feeder holds a nail, and the first nail is positioned in the injection port.</li> <li>(Check that the second claw chucks the nail shaft and feeds it.)</li> </ul>	<ul style="list-style-type: none"> <li>• Use the nails approved by Hitachi.</li> <li>• Remove abnormal nails and refill the nailer with normal nails.</li> </ul> <ul style="list-style-type: none"> <li>• Replace the abnormal parts.</li> <li>• Nose...Remove the foreign matter in the feed piston chamber.</li> </ul>
	<b>&lt; Body: Abnormality in nail guide section &gt; Refer to Item 1 &lt; Nail guide section &gt;</b>		
	<p><b>&lt; The driver blade is not completely returned. &gt;</b> Refer to Item 1.</p> <p><b>&lt; Output section: Piston, driver blade, etc.&gt;</b></p>	<ul style="list-style-type: none"> <li>• Check whether or not when injecting air or actually injecting nails, the driver blade is completely returned.</li> </ul>	<p><b>&lt; Output section: Piston, driver blade, etc. &gt;</b></p>
	<ul style="list-style-type: none"> <li>• Air pressure is too high.</li> </ul>	<ul style="list-style-type: none"> <li>• When nails are driven at a high pressure and speed, nails can cause jamming. Check pressure and driving speed.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust the air pressure in a range of 4.9 – 8.3 bar (5 – 8.5 kgf/cm<sup>2</sup>, 70 – 120 psi).</li> </ul>

Fault	Cause (The mark * refers to main causes.)	Inspection method	Remedy
<p>(5) Single shot is impossible.</p>	<ul style="list-style-type: none"> <li>* The O-ring of plunger (A) is worn.</li> <li>* The O-ring of valve piston (B) is worn.</li> <li>• The sliding face of plunger (A) of valve piston (B) is abnormal (seized and/or deformed).</li> <li>• Plunger (A), trigger (A) and pushing lever (B) are abnormal (worn and/or deformed).</li> <li>• The single shot/continuous shot switch lever is positioned incorrectly.</li> </ul>	<ul style="list-style-type: none"> <li>• Disassemble the control valve section to check the O-rings of plunger (A) and valve piston (B).</li> <li>• Check for the abnormality (wear, damage and/or deformation) in each part.</li> <li>• Check where the single shot/continuous shot change knob is positioned.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the abnormal parts.</li> <li>• Set the single shot/continuous shot change knob to a correct position.</li> </ul>

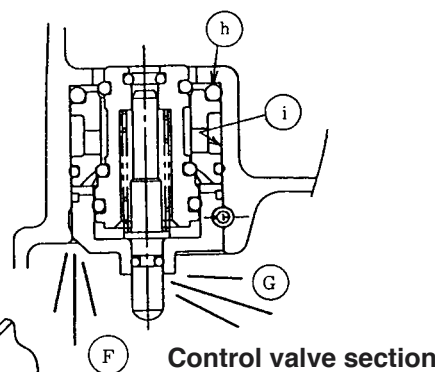
## 8-2. Possible Causes and Corrections for Air Leakage

### • Air leakage repairing positions



### Inspection priorities

- (1) First, check the items that are marked with an asterisk (\*) in the table below.
- (2) Next, check the items that are marked with a double circle (⊙) for any wear and/or damage.
- (3) Finally, check the remaining items (for part names and circled numbers, refer to the Parts List).



Section A-A

Air leakage portion	Cause	
	When the trigger is turned off	When the trigger is turned on
Ⓐ Exhaust port	⊙ Abnormal Head Valve (A) [8] and Cylinder [16] (seal surface ⑥ worn or deformed) ⊙ Abnormal Head Valve O-ring [7] (Head Valve O-ring [7] or Head Valve (A) [8] worn, deformed or broken) ○ Abnormal Exhaust Cover [4] (damaged)	⊙ Abnormal Head Valve (A) [8] (section ① worn, deformed or broken) * Abnormal inner surface (section ① deformed or clogged with dirt)
Ⓑ Exhaust cover	○ Loose Hex. Socket Hd. Bolt M5 x 35 [2] ⊙ Damaged Gasket (A) [5] ○ Abnormal sealed surfaces of Body Ass'y [20], Exhaust Cover [4] or Cylinder [16]	
Ⓒ Nose 1 (Feed piston air passage portion)		○ Loose Hex. Socket Hd. Bolt M6 x 20 [31] ⊙ Scratched or broken O-ring (1AP-3) [24] ○ Abnormal sealed surfaces of Body Ass'y [20] or Nose [69]

Air leakage portion	Cause	
	When the trigger is turned off	When the trigger is turned on
④ Nose 2	<ul style="list-style-type: none"> <li>* Incorrect assembly of Cylinder Washer (A) [14] or Cylinder Packing [13]</li> <li>⊙ Abnormal sealed surfaces of Cylinder Packing [13], Body Ass'y [20] or Cylinder [16] (sections ③ and ④)</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Abnormal Piston Bumper [17] (sections ⑤, ⑥ deformed or cracked)</li> <li>○ Deformation of Piston [12] (deformed driver blade, abnormal sealed surface)</li> <li>○ Deformed section ⑥ of Body Ass'y [20].</li> <li>○ Worn, deformed, broken or scratched O-ring (S-12) [21].</li> </ul>
⑤ Feed piston		<ul style="list-style-type: none"> <li>⊙ Abnormal Feed Piston [72], O-ring (1AP-20) [71] (worn, broken or scratched), or the O-ring sliding surface on the Nose [69] is worn, deformed or scratched.</li> <li>⊙ Abnormal Nose [69], O-ring (P-9) [70] (worn, broken or scratched), or the O-ring sliding surface on the feed piston is worn, deformed or scratched.</li> </ul>
⑥ Control valve 1	<ul style="list-style-type: none"> <li>⊙ Abnormal Valve Piston (B) [63], O-ring (I.D 11) [64] (worn, broken or scratched)</li> <li>⊙ Abnormal Valve Piston (B) [63], O-ring (I.D 8.8) [61] (lower side) (worn, broken or scratched)</li> <li>⊙ Abnormal Valve Bushing (B) [59], Head Valve O-ring (I.D 16.8) [58]. (broken or scratched)</li> <li>* Abnormal Body Ass'y [20] valve chamber inner surface (section ①)</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Abnormal Valve Piston (B) [63], O-ring (I.D 8.8) [61] (upper side) (worn, broken or scratched)</li> <li>⊙ Abnormal Valve Bushing (B) [59], Head Valve O-ring (I.D 16.8) [58]. (broken or scratched)</li> <li>* Abnormal Body Ass'y [20] valve chamber upper surface (section ②)</li> </ul>
⑦ Control valve 2	<ul style="list-style-type: none"> <li>⊙ Abnormal Plunger (A) [66], O-ring (I.D 1.8) [67] (lower side) (worn, broken or scratched)</li> <li>○ Abnormal Valve Bushing (A) [68] (deformed or scratched plunger sliding surface)</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Abnormal Plunger (A) [66], O-ring (I.D 1.8) [67] (upper side) (worn, broken or scratched)</li> <li>○ Abnormal Valve Piston (B) [63] (deformed or scratched plunger sliding surface)</li> </ul>
⑧ Cap	<ul style="list-style-type: none"> <li>⊙ Abnormal O-ring (I.D 37.2) [47] (worn, broken or scratched)</li> <li>○ Loose Cap [48] fastening threads</li> <li>○ Abnormal Body Ass'y [20] and Cap [48] seal surfaces (damaged, deformed or scratched)</li> </ul>	

## 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 NV50AG2 can be generally divided into four sections: the output section, the control valve section, nail feeder section and the magazine section.

**NOTE: Prior to disassembling and reassembling, be sure to remove the hose with your finger off of 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 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

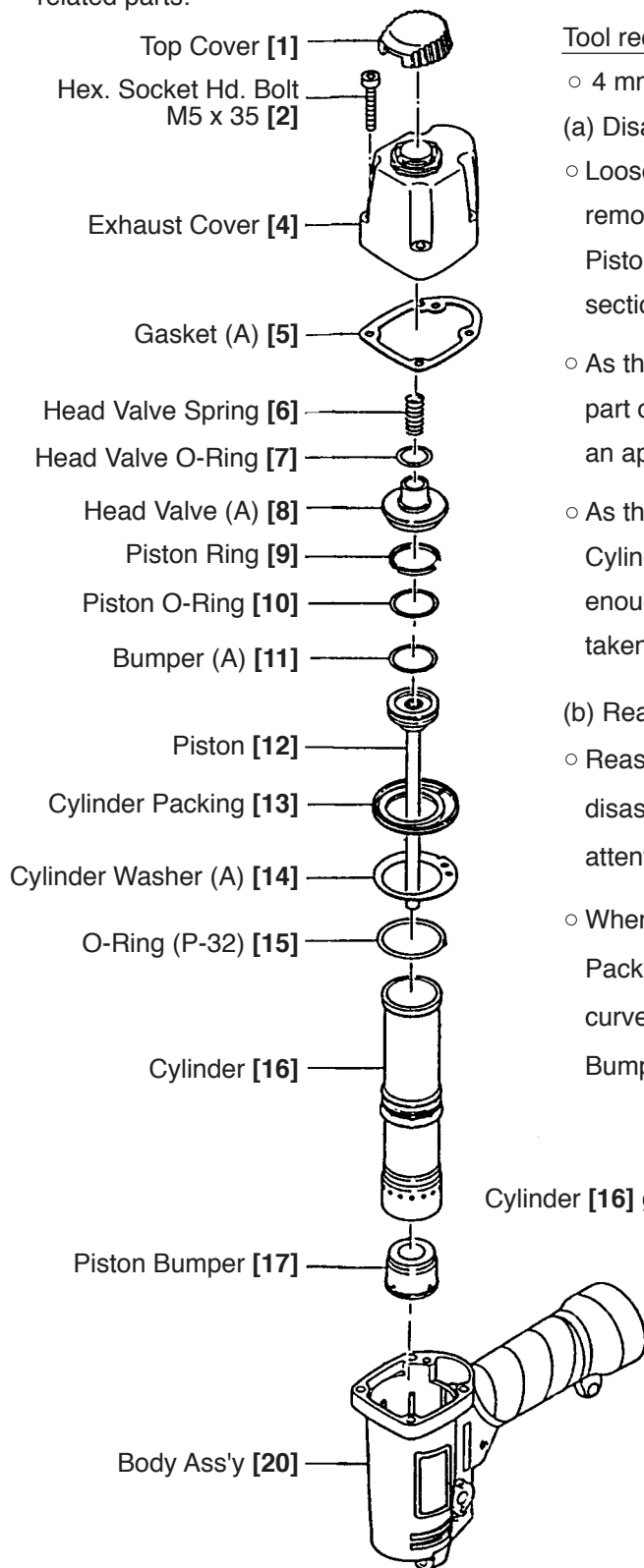
Bolt/Screw	Tightening torque [N·m (kgf·cm, ft-lbs)]
Hex. Socket Hd. Bolt M6 x 20 ..... <b>[31]</b>	12.7 ± 0.8 (130 ± 8, 9.4 ± 0.6)
Hex. Socket Hd. Bolts M6 x 14 ..... <b>[44]</b>	8.3 ± 0.5 (85 ± 5, 6.1 ± 0.4)
Hex. Socket Hd. Bolt M5 x 35 ..... <b>[2]</b>	6.4 ± 0.5 (65 ± 5, 4.7 ± 0.4)
Nylock Hex. Socket Hd. Bolt M4 x 10 ..... <b>[94]</b>	4.4 ± 0.3 (45 ± 3, 3.2 ± 0.2)
Machine Screw (W/Washers) M5 x 30 ..... <b>[57]</b>	2.0 ± 0.5 (20 ± 5, 1.4 ± 0.4)
Cap ..... <b>[48]</b>	24.5 ± 4.9 (250 ± 50, 18.0 ± 3.6)

- Before replacing the Piston Bumper **[17]**, make sure that anything, such as broken chips of the old Piston Bumper **[17]**, are not stuffed in the passages of the Body Ass'y **[20]** or the Nose **[69]**.



## 9-2. Disassembly and Reassembly of the Output Section

(1) Disassembly and reassembly of the Exhaust Cover [4], Head Valve (A) [8], Piston [12], Cylinder [16] and related parts:



### Tool required

- 4 mm hexagon bar wrench

(a) Disassembly (See Fig. 10.)

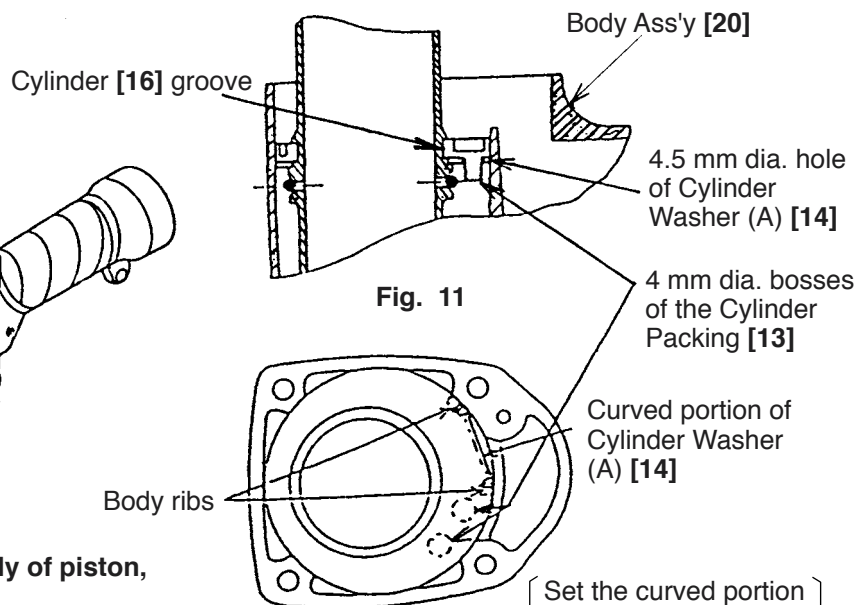
- Loosen the four Hex. Socket Hd. Bolts M5 x 35 [2], and remove the Exhaust Cover [4]. The Piston [12], Cylinder [16], Piston Bumper [17] and related parts that make up the output section can then be taken out.

- As the Top Cover [1] is press-fitted into the groove at the upper part of the Exhaust Cover [4], it can be removed by inserting an appropriate rod into the exhaust port.

- As the Cylinder Packing [13] is fitted into the groove of the Cylinder [16] by a pliable rubber fit, simply bend the rubber enough to slide over the side of the groove so that it can be taken out.

(b) Reassembly

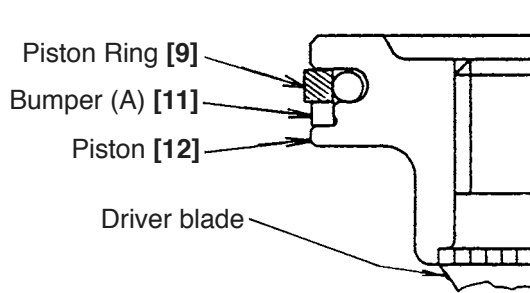
- Reassembly can be accomplished by following the disassembly procedures in reverse. However, particular attention should be given to the following points.
- When reassembling Cylinder Washer (A) [14] and Cylinder Packing [13] onto the Cylinder [16], assemble them so that the curved portion of Cylinder Washer (A) [14] is on the Piston Bumper [17] side.



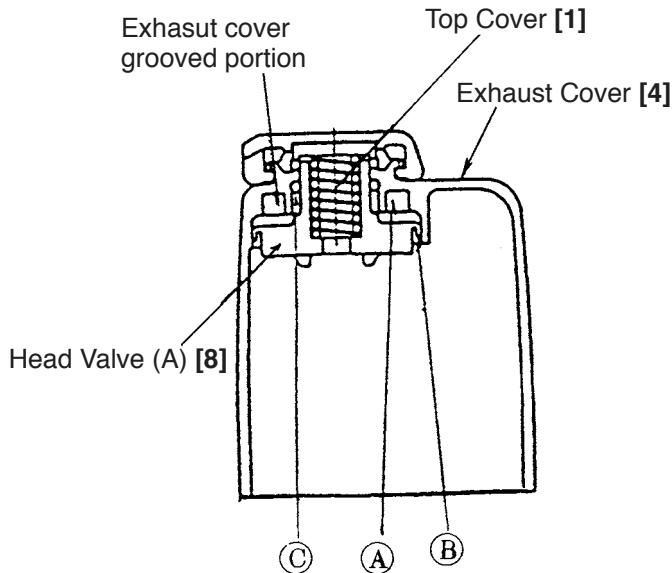
**Fig. 10 Disassembly and reassembly of piston, cylinder and exhaust cover**

**Fig. 12**





**Fig. 13**



**Fig. 14**

Next, align the 4.5 mm dia. holes (2 places) of Cylinder Washer (A) [14] with the matching 4 mm dia. bosses (2 pcs.) of the Cylinder Packing [13], and assemble them while confirming that they fit properly into the groove of the Cylinder [16]. Also, position the assembled Cylinder [16] by positioning the curved portion of Cylinder Washer (A) [14] between the ribs of the Body Ass'y [20]. (See Figs. 11 and 12.)

- Mount Bumper (A) [11] to the Piston Ring [9] at the driver blade side (lower) (Fig. 13).
- Reassembly of Head Valve (A) [8] is easier if it is pushed into the Exhaust Cover [4] together with the Head Valve Spring [6]. Prior to reassembly, liberally apply grease to the head valve sliding portion (A) of the Exhaust Cover [4] and rib portions (B) and (C) of Head Valve (A) [8], and insert grease (approx. 0.5 g) into the grooved portion of the Exhaust Cover [4]. (See Fig. 14.)

- During reassembly, apply oil (Shell Tonna S32 is recommended) to the inner portion of the Cylinder [16].
- When assembling Gasket (A) [5], ensure that its hole is properly aligned with the air hole on the Body Ass'y [20].
- During reassembly, liberally apply grease to the seal surface and the O-ring (P-32) [15].

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

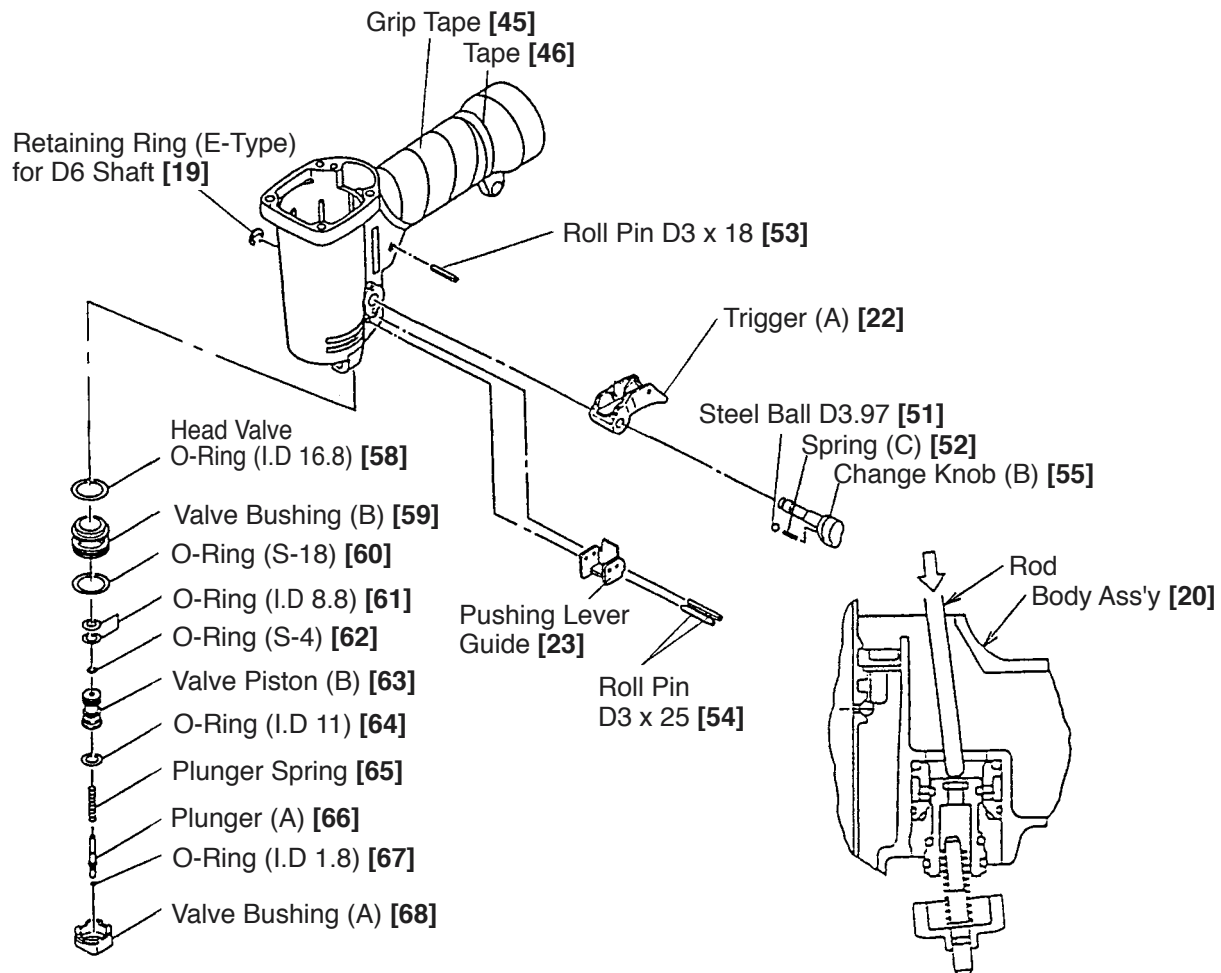
(1) Disassembly and reassembly of the control valve section:

#### Tools required

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

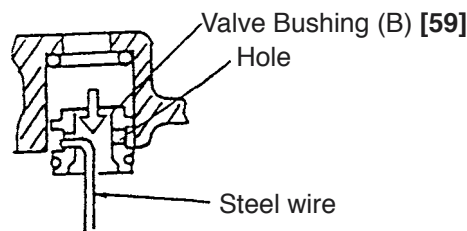
(a) Disassembly (See Fig. 15.)

- Remove the Retaining Ring (E-Type) for D6 Shaft **[19]**. Trigger (A) **[22]**, Change Knob (B) **[55]** and related parts can then be removed. Also, the Pushing Lever Guide **[23]** can be taken out by first extracting the Roll Pin D3 x 25 **[54]**.
- Extract the Roll Pin D3 x 18 **[53]** with the 3 mm dia. roll pin remover, and taken out the control valve section in accordance with the following procedures:
  - ① First, remove the Exhaust Cover **[4]** by following the procedure described in Item 9-2-(1) above.
  - ② Next, as illustrated in Fig. 16, insert a thin metal rod from the upper side of the Body Ass'y **[20]**, and push the upper surface of the Valve Piston (B) **[63]** to take out the parts that make up the control valve section, with the exception of Valve Bushing (B) **[59]** and the Head Valve O-ring (I.D 16.8) **[58]**.
  - ③ To take out Valve Bushing (B) **[59]**, insert a steel wire or similar device with a bent tip end, as illustrated in Fig. 17, hook it into the hole being careful not to damage the inner surface of Valve Bushing (B) **[59]**, and pull the unit out.
    - Be very careful not to damage the Valve Piston (B) **[63]** and Valve Bushing (B) **[59]**.
    - Do not pull out Plunger (A) **[66]** by gripping its tip end with pliers or some similar device.



**Fig. 15 Disassembly and reassembly of the control valve section**

**Fig. 16**

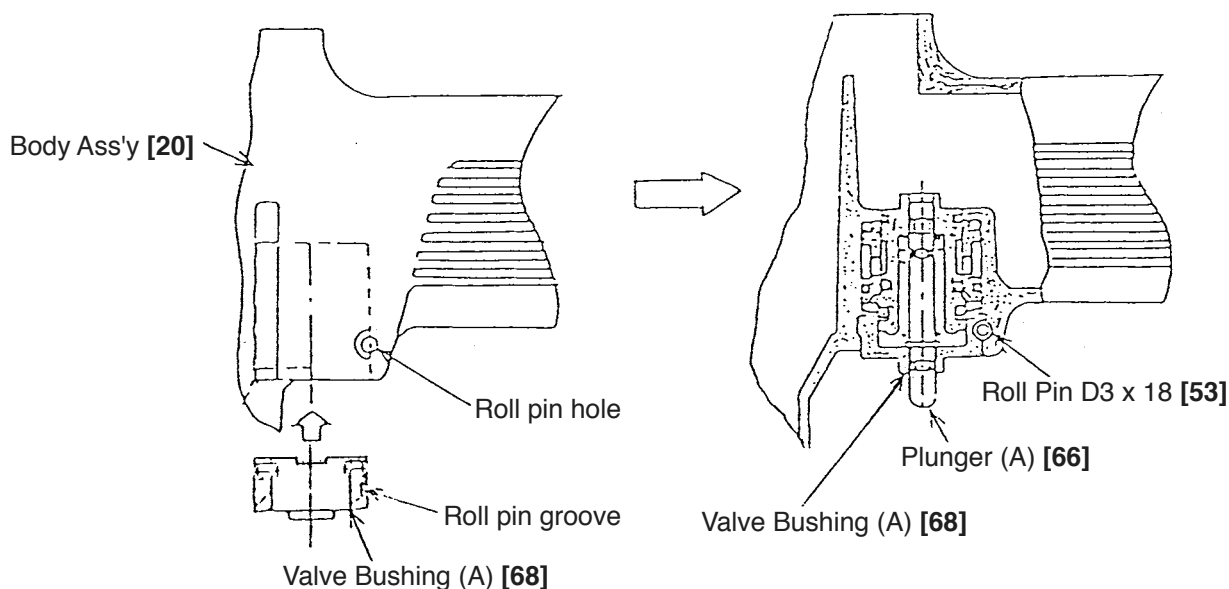


**Fig. 17**

#### (b) Reassembly

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

- Be very careful not to allow any foreign matter to get into the control valve section.
- Liberally apply grease to Plunger (A) [66], O-ring (I.D 1.8) [67], Valve Piston (B) [63], O-ring (I.D 8.8) [61] and O-ring (S-4) [62].
- As shown in the following illustrations, assemble Valve Bushing (A) [68] so that its roll pin groove is aligned with the matching roll pin hole in the Body Ass'y [20], insert the 3 mm dia. roll pin remover, and after ensuring that it passes smoothly through the roll pin hole, drive in the Roll Pin D3 x 18 [53]. If the Roll Pin D3 x 18 [53] is forcibly driven in when the roll pin grooves of Valve Bushing (A) [68] and the Body Ass'y [20] are not properly aligned, the outer circumference portion of Valve Bushing (A) [68] will be damaged, and further disassembly and reassembly will not be possible.

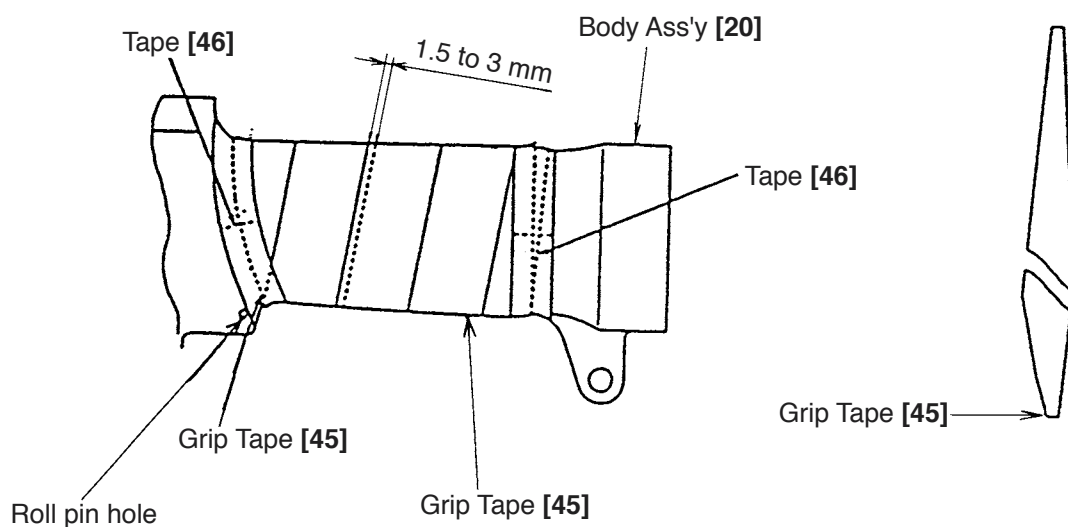


**Fig. 18**

- After reassembly, ensure that Plunger (A) [66] operates smoothly.

**(2) Application of the Grip Tape [45] and the Tape [46]:**

Peel off the back paper that seals the adhesive surfaces of the Grip Tape [45] and the Tape [46]. First, stick one end of the Grip Tape [45] to the roll pin hole portion of the Body Ass'y [20] and wrap the grip tape around the body, overlapping a little (1.5 mm to 3 mm) as illustrated in Fig. 19. After wrapping the Grip Tape [45], securely wrap both of its ends with the Tape [46]. (See Fig. 19.) As the Grip Tape [45] and the Tape [46] cannot be removed and reapplied once they have been applied, be very careful during applications.



**Fig. 19**

#### 9-4. Disassembly and Reassembly of the Cap and the Magazine Section (See Fig. 20.)

##### Tools required

- 23 mm-wide wrench
- Flat-blade screwdriver (tip thickness of 0.5 mm to 1 mm) or a similar steel plate.
- Philips screwdriver

##### (1) Disassembly and reassembly of the cap portion:

###### (a) Disassembly:

As the Cap [48] is a single-body unit equipped with M42 threads, simply fit a wrench across its diameter and turn it gently to loosen and remove it.

###### (b) Reassembly:

Reassembly can be accomplished by reversing the disassembly procedure. However, be sure to apply grease to the O-ring (I.D 37.2) [47] prior to reassembly.

##### (2) Disassembly and reassembly of the magazine

###### (a) Disassembly:

Loosen the Machine Screw M5 x 30 that fastens the Magazine Ass'y [85] to the Body Ass'y [20], and remove the Magazine Ass'y [85] and the Hook [56].

- Fit a flat-blade screwdriver or similar tool into the gap between the Magazine [80] and the Magazine Cover [84], and push it strongly to extract the Retaining Ring (E-type) for D3 Shaft [81]. Then, extract the Hinge Pin [82] to remove the Magazine Cover [84].

###### (b) Reassembly:

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

- Assemble the Retaining Ring (E-type) for D3 Shaft [81] while carefully aligning it with the Hinge Pin [82] groove, and confirm that it fits securely into the groove.
- Be very careful not to lose the small Retaining Ring (E-type) for D3 Shaft [81].

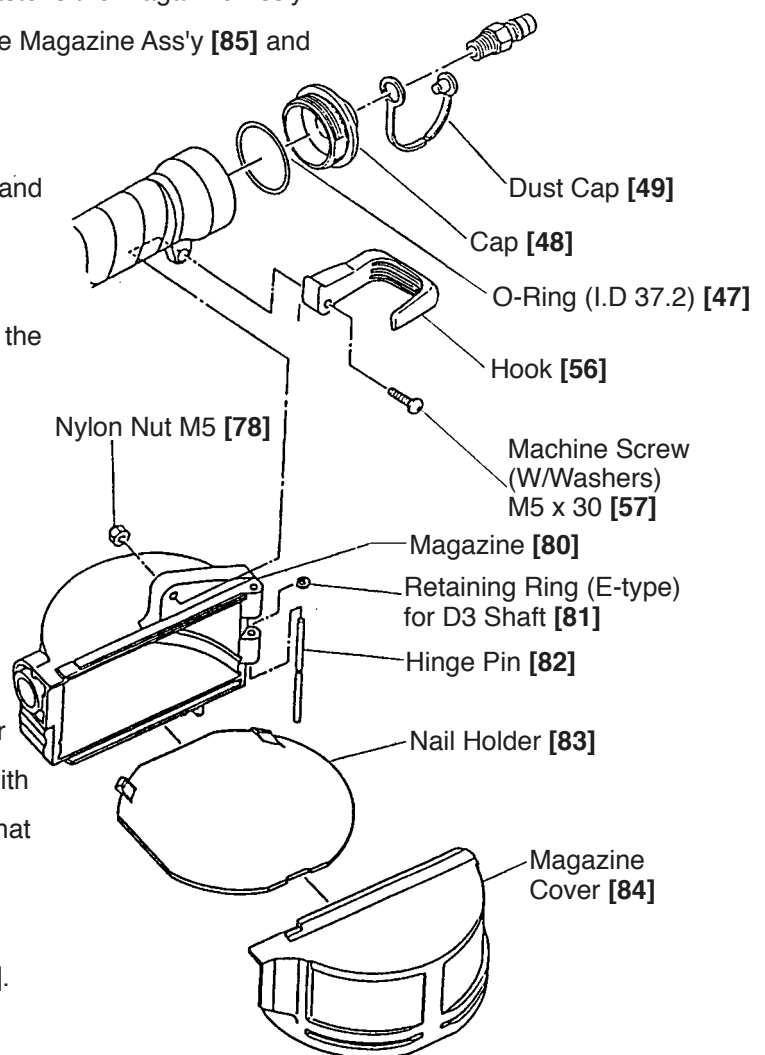
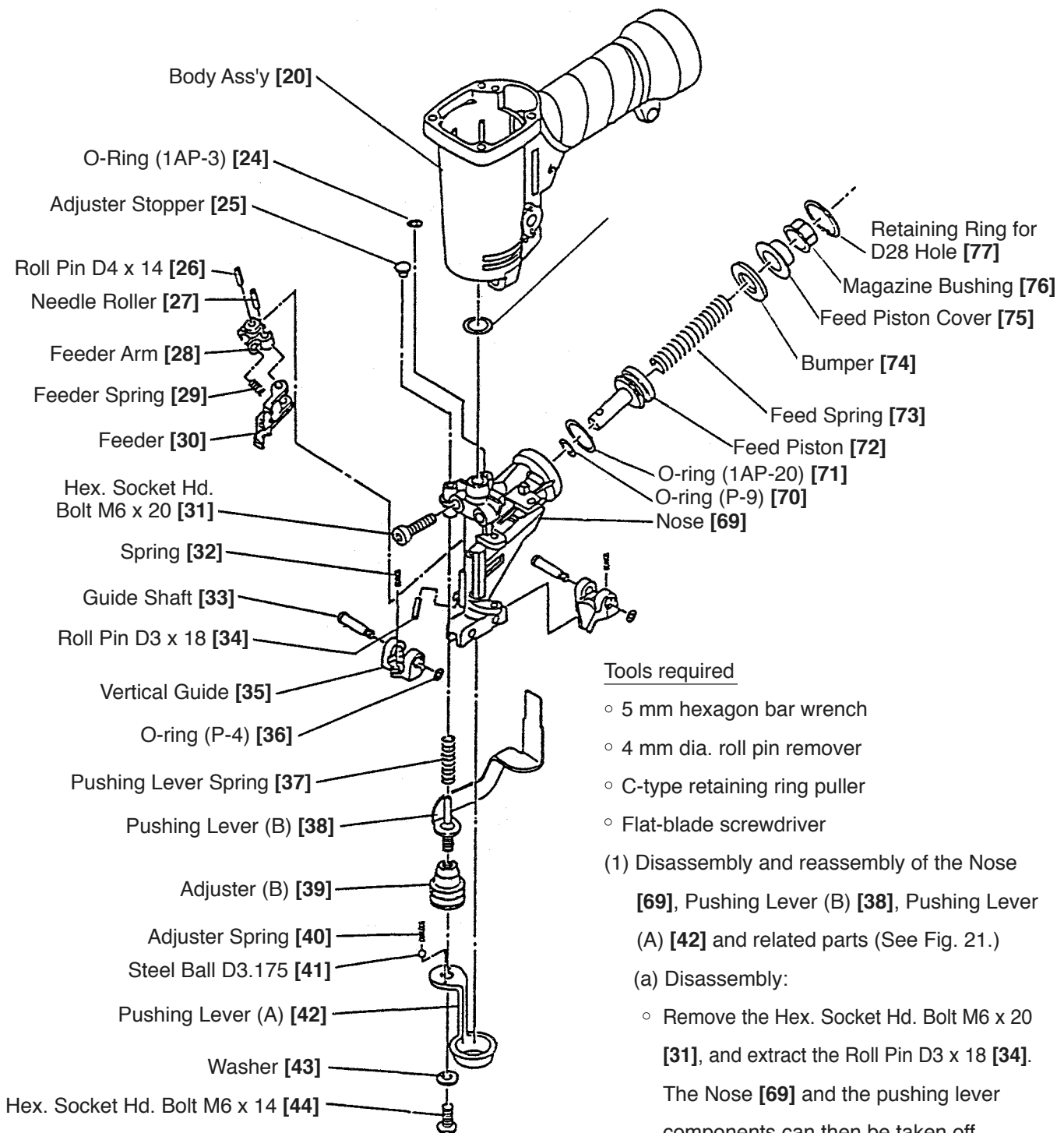


Fig. 20

## 9-5. Disassembly and Reassembly of Nail Feeder Section



### Tools required

- 5 mm hexagon bar wrench
- 4 mm dia. roll pin remover
- C-type retaining ring puller
- Flat-blade screwdriver

(1) Disassembly and reassembly of the Nose [69], Pushing Lever (B) [38], Pushing Lever (A) [42] and related parts (See Fig. 21.)

#### (a) Disassembly:

- Remove the Hex. Socket Hd. Bolt M6 x 20 [31], and extract the Roll Pin D3 x 18 [34]. The Nose [69] and the pushing lever components can then be taken off.
- Remove the Hex. Socket Hd. Bolt M6 x 14 [44], and take off Adjuster (B) [39] and Pushing Lever (A) [42].

#### (b) Reassembly:

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

- Prior to reassembly, apply grease to the Adjuster Spring [40].
- When reassembling the Nose [69], be very careful not to forget to install the Adjuster Stopper [25] in the 4.4 mm dia. hole between the Nose [69] and the Body Ass'y [20].
- After reassembly, confirm that the pushing lever components and Adjuster (B) [39] operate smoothly.

(2) Disassembly and reassembly of the Vertical Guide [35] and related parts (See Fig. 22.)

(a) Disassembly

- Using a flat-blade screwdriver, remove the O-ring (P-4) [36] and extract the Guide Shaft [33].

The Vertical Guide [35] and Spring [32] can then be removed.

(b) Reassembly can be accomplished by

following the disassembly procedures in reverse.

However, particular attention should be given to the following points.

- Ensure that the Guide Shaft [33] is assembled so that the O-ring (P-4) [36] is on the side toward you (the nail guide side), as illustrated in Fig. 22.
- Confirm that the Spring [32] is properly fitted onto the protruding portions of the Nose [69] and the Vertical Guide [35].

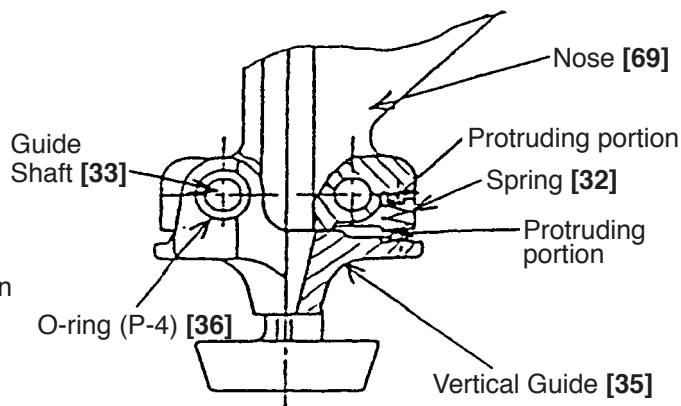


Fig. 22

(3) Disassembly and reassembly of the Feeder [30], Feed Piston [72] and related parts (See Fig. 21.)

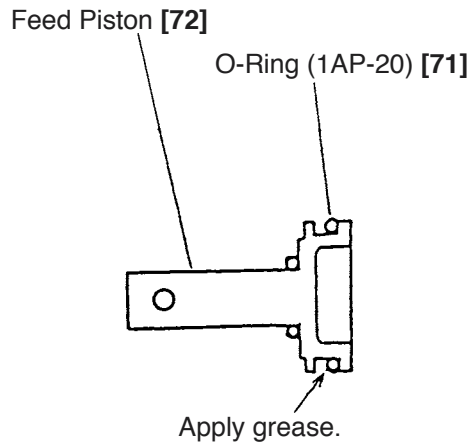
(a) Disassembly

- Remove the Magazine Ass'y [85] from the Body Ass'y [20] by following the procedures described in item 9-4-(2).
- After removing the Retaining Ring for D28 Hole [77], the Feed Piston Cover [75], Bumper [74] and Feed Spring [73] can be taken off.
- After extracting Roll Pin D4 x 14 [26], the Feed Piston [72] and the Feeder Arm [28] can be taken off.
- After extracting the Needle Roller [27], the Feeder Arm [28] and Feeder [30] can be separated.

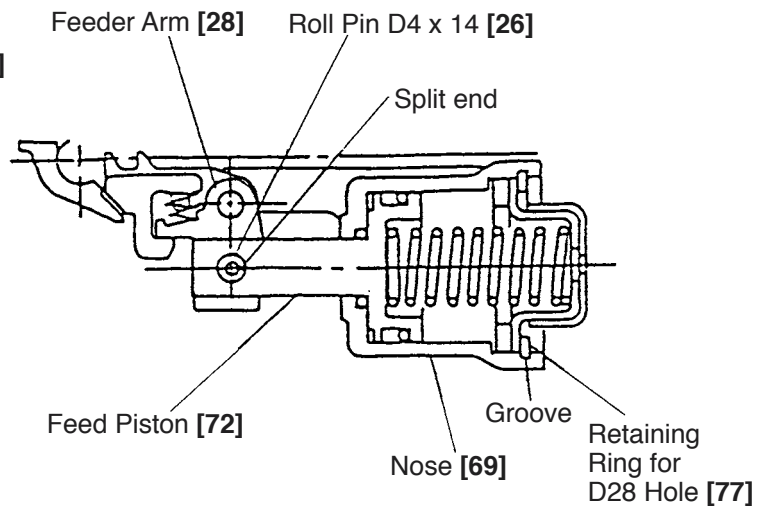
(b) Reassembly

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

- As the operation of the Feed Piston [72] becomes poor if the air passages in the tail cover and the feed piston chamber become clogged with pieces of the Piston Bumper [17] or other foreign matter, carefully clean them prior to reassembly.
- Prior to reassembly, apply grease to the O-ring (P-9) [70] and the O-ring (1AP-20) [71].
- As shown in Fig. 23, position the Feed Piston [72] and the O-ring (1AP-20) [71] on the right side, and apply grease to the groove section.
- Apply grease to the O-ring sliding portions of the Feed Piston [72] and the Nose [69], and to the O-ring. However, as excessive grease will cause poor movement of the Feed Piston [72], be very careful not to apply too much grease.
- Ensure that the Retaining Ring for D28 Hole [77] is properly fitted into the groove of the Nose [69].
- When driving in the Roll Pin D4 x 14 [26], ensure it is inserted so that its split end is on the magazine side, as shown in Fig. 24.

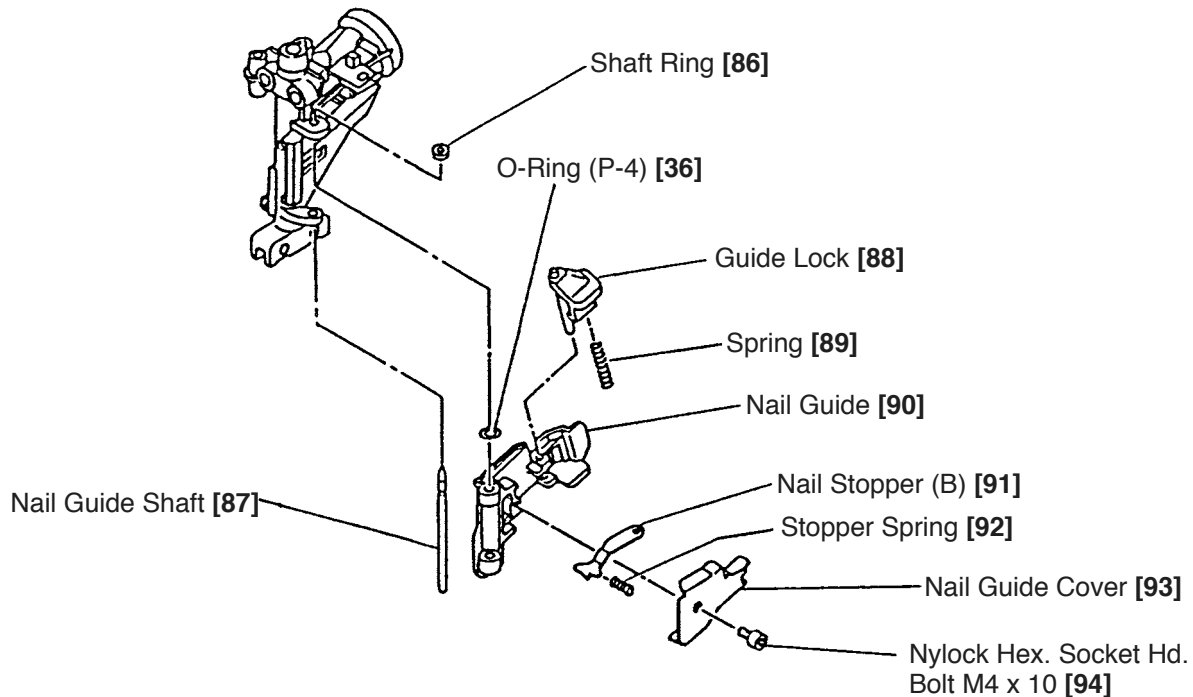


**Fig. 23**



**Fig. 24**

(4) Disassembly and reassembly of the Nail Guide [90] (See Fig. 25.)



**Fig. 25**

#### Tools required

- 3 mm hexagon bar wrench   ◦ Flat-blade screwdriver

#### (a) Disassembly:

- Using a flat-blade screwdriver or similar tool, remove the Shaft Ring [86] of the Nail Guide Shaft [87], and extract the Nail Guide Shaft [87]. The Nail Guide [90] and the related parts can then be removed together.
- With the 3 mm hexagon bar wrench, remove the Nylock Hex. Socket Hd. Bolt M4 x 10 [94]. The Nail Guide Cover [93] can then be removed.
- Next, extract the Guide Lock [88] from the Nail Guide [90]. Nail Stopper (B) [91] can then be taken off.



(b) Reassembly

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

- Prior to reassembly, thoroughly remove any foreign matter from the pawl groove of the Nail Guide [90].
- Before tightening the Nylock Hex. Socket Hd. Bolt M4 x 10 [94], thoroughly remove any grease from the threaded portion of the Nail Guide [90].
- After reassembly, push Nail Stoppers (B) [91] with a finger, and confirm that they return smoothly.

## 10. INSPECTION AND CONFIRMATION AFTER REASSEMBLY

- Ensure that Plunger (A) [66] moves smoothly.
- Push Nail Stopper (B) [91] with a finger and confirm that they return properly.
- Ensure there is no air leakage from each section.
- Check that the feed piston operates properly when the machine is operated with an air pressure of 4.9 bar (5 kgf/cm<sup>2</sup>, 70 psi). (Conduct check under idle operation, with the nail guide open.)
- Check that there is no idle operation or bent nails when nails are driven with an air pressure of 4.9 bar (5 kgf/cm<sup>2</sup>, 70 psi).
- Reconfirm proper tightening torques of bolts and screws in every section.

**NOTE: When performing idle operation, turn the adjuster to its maximum (deepest) driving position.**

- Confirm that the pushing lever slides smoothly.
- Confirm that the machine will not operate when the trigger is pulled, and that it will not operate when the pushing lever is pushed upward.

## 11. STANDARD REPAIR TIME (UNIT) SCHEDULES

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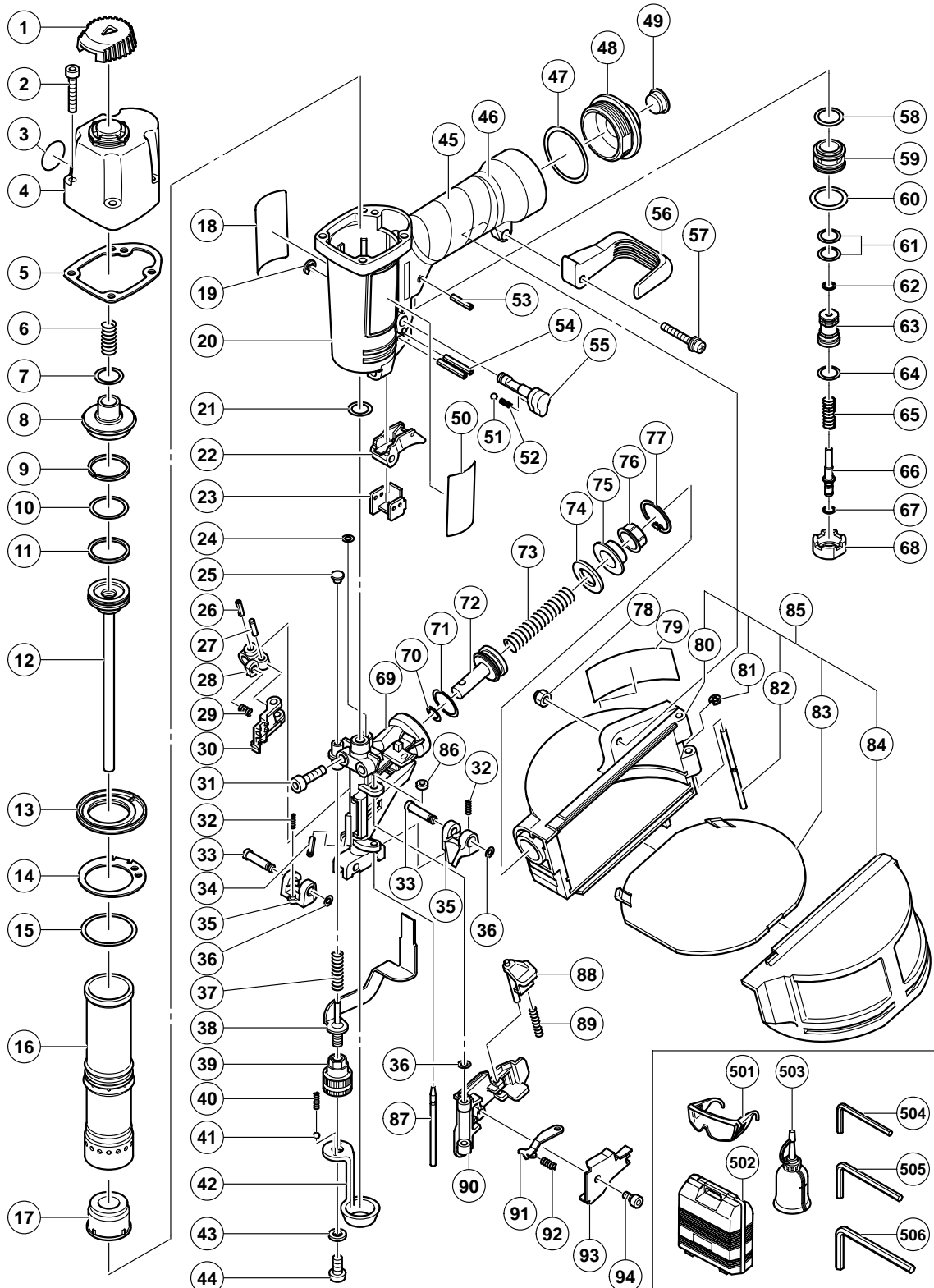
## PNEUMATIC TOOL PARTS LIST

### COIL NAILER

2005 • 1 • 20

Model NV 50AG2

(E1)



# PARTS

NV 50AG2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	880-191	TOP COVER	1		
2	949-822	HEX. SOCKET HD. BOLT M5X35 (10 PCS.)	4		
* 3	883-513	WARNING LABEL (A)	1	EXCEPT FOR H/V	
* 4	880-448	EXHAUST COVER	1		
* 4	880-441	EXHAUST COVER	1	FOR H/V	
5	880-196	GASKET (A)	1		
6	880-190	HEAD VALVE SPRING	1		
7	878-600	HEAD VALVE O-RING	1		
8	880-410	HEAD VALVE (A)	1		
9	878-596	PISTON RING	1		
10	880-195	PISTON O-RING	1		
11	880-867	BUMPER (A)	1		
12	882-101	PISTON	1		
13	881-103	CYLINDER PACKING	1		
14	880-187	CYLINDER WASHER (A)	1		
15	986-374	O-RING (P-32)	1		
16	880-402	CYLINDER	1		
17	880-403	PISTON BUMPER	1		
* 18	881-128	WARNING LABEL	1	EXCEPT FOR H/V	
19	955-479	RETAINING RING (E-TYPE) FOR D6 SHAFT	1		
* 20	885-251	BODY ASS'Y	1	INCLUD. 45, 46	
* 20	882-104	BODY ASS'Y	1	INCLUD. 45, 46 FOR H/V	
21	875-638	O-RING (S-12)	1		
22	880-674	TRIGGER (A)	1		
23	880-194	PUSHING LEVER GUIDE	1		
24	873-093	O-RING (1AP-3)	1		
25	880-176	ADJUSTER STOPPER	1		
26	949-770	ROLL PIN D4X14 (10 PCS.)	1		
27	983-545	NEEDLE ROLLER	1		
28	878-132	FEEDER ARM	1		
29	878-340	FEEDER SPRING	1		
30	880-433	FEEDER	1		
31	949-660	HEX. SOCKET HD. BOLT M6X20 (10 PCS.)	2		
32	880-447	SPRING	2		
33	880-443	GUIDE SHAFT	2		
34	949-518	ROLL PIN D3X18 (10 PCS.)	1		
35	880-442	VERTICAL GUIDE	2		
36	874-436	O-RING (P-4)	3		
37	880-204	PUSHING LEVER SPRING	1		
38	880-171	PUSHING LEVER (B)	1		
39	880-383	ADJUSTER (B)	1		
40	880-175	ADJUSTER SPRING	2		
41	959-148	STEEL BALL D3.175 (10 PCS.)	2		
42	880-434	PUSHING LEVER (A)	1		
43	880-081	WASHER	1		
44	878-633	HEX. SOCKET HD. BOLT M6X14	1		
45	880-408	GRIP TAPE	1		
46	880-407	TAPE	2		
47	880-183	O-RING (I.D 37.2)	1		
* 48	880-379	CAP	1		
* 48	882-162	CAP	1	FOR H/V	

# PARTS

NV 50AG2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
49	872-035	DUST CAP	1		
* 50		NAME PLATE	1	EXCEPT FOR H/V	
51	959-155	STEEL BALL D3.97 (10 PCS.)	1		
52	982-454	SPRING (C)	1		
53	949-518	ROLL PIN D3X18 (10 PCS.)	1		
54	949-539	ROLL PIN D3X25 (10 PCS.)	2		
55	880-086	CHANGE KNOB (B)	1		
56	880-560	HOOK	1		
57	880-881	MACHINE SCREW (W/WASHERS) M5X30 (BLACK)	1		
58	877-699	HEAD VALVE O-RING (I.D 16.8)	1		
59	878-881	VALVE BUSHING (B)	1		
60	878-885	O-RING (S-18)	1		
61	878-925	O-RING (I.D 8.8)	2		
62	981-317	O-RING (S-4)	1		
63	880-672	VALVE PISTON (B)	1		
64	878-887	O-RING (I.D 11)	1		
65	878-884	PLUNGER SPRING	1		
66	880-673	PLUNGER (A)	1		
67	878-888	O-RING (I.D 1.8)	1		
68	880-671	VALVE BUSHING (A)	1		
69	880-430	NOSE	1		
70	872-645	O-RING (P-9)	1		
71	944-486	O-RING (1AP-20)	1		
72	878-579	FEED PISTON	1		
73	880-445	FEED SPRING	1		
74	877-711	BUMPER	1		
75	880-331	FEED PISTON COVER	1		
76	878-305	MAGAZINE BUSHING	1		
77	939-555	RETAINING RING FOR D28 HOLE (10 PCS.)	1		
78	877-371	NYLON NUT M5	1		
* 79	878-183	WARNING LABEL	1	EXCEPT FOR H/V	
80	880-436	MAGAZINE	1		
81	872-971	RETAINING RING (E-TYPE) FOR D3 SHAFT	1		
82	880-439	HINGE PIN	1		
83	880-438	NAIL HOLDER	1		
84	880-437	MAGAZINE COVER	1		
85	880-435	MAGAZINE ASS'Y	1	INCLUD. 80-84	
86	880-319	SHAFT RING	1		
87	880-326	NAIL GUIDE SHAFT	1		
88	878-103	GUIDE LOCK	1		
89	880-446	SPRING	1		
90	880-431	NAIL GUIDE	1		
91	880-164	NAIL STOPPER (B)	1		
92	878-575	STOPPER SPRING	1		
93	880-432	NAIL GUIDE COVER	1		
94	880-413	NYLOCK HEX. SOCKET HD. BOLT M4X10	1		

## STANDARD ACCESSORIES

**NV 50AG2**

[illegible]

## OPTIONAL ACCESSORIES

[illegible]

