

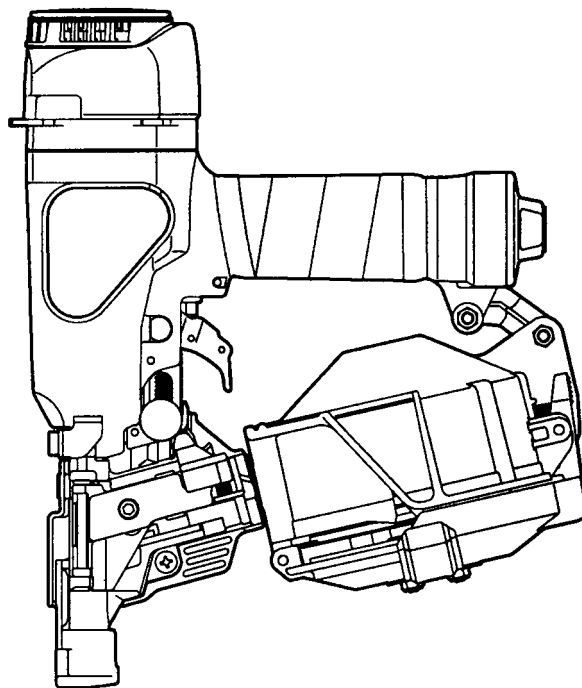
MODEL

**NV 45AC**

**HITACHI**  
**POWER TOOLS**

**COIL NAILER**  
**NV 45AC**

**TECHNICAL DATA**  
**AND**  
**SERVICE MANUAL**



**N**

LIST No. 1098

Nov. 2000

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

#### Notice for use

Specifications and parts are subject to change for improvement.

Refer to Hitachi Power Tool Technical News for further information.

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## 1. PRODUCT NAME

Hitachi 1-3/4" Coil Nailer, Model NV 45AC

## 2. MARKETING OBJECTIVE

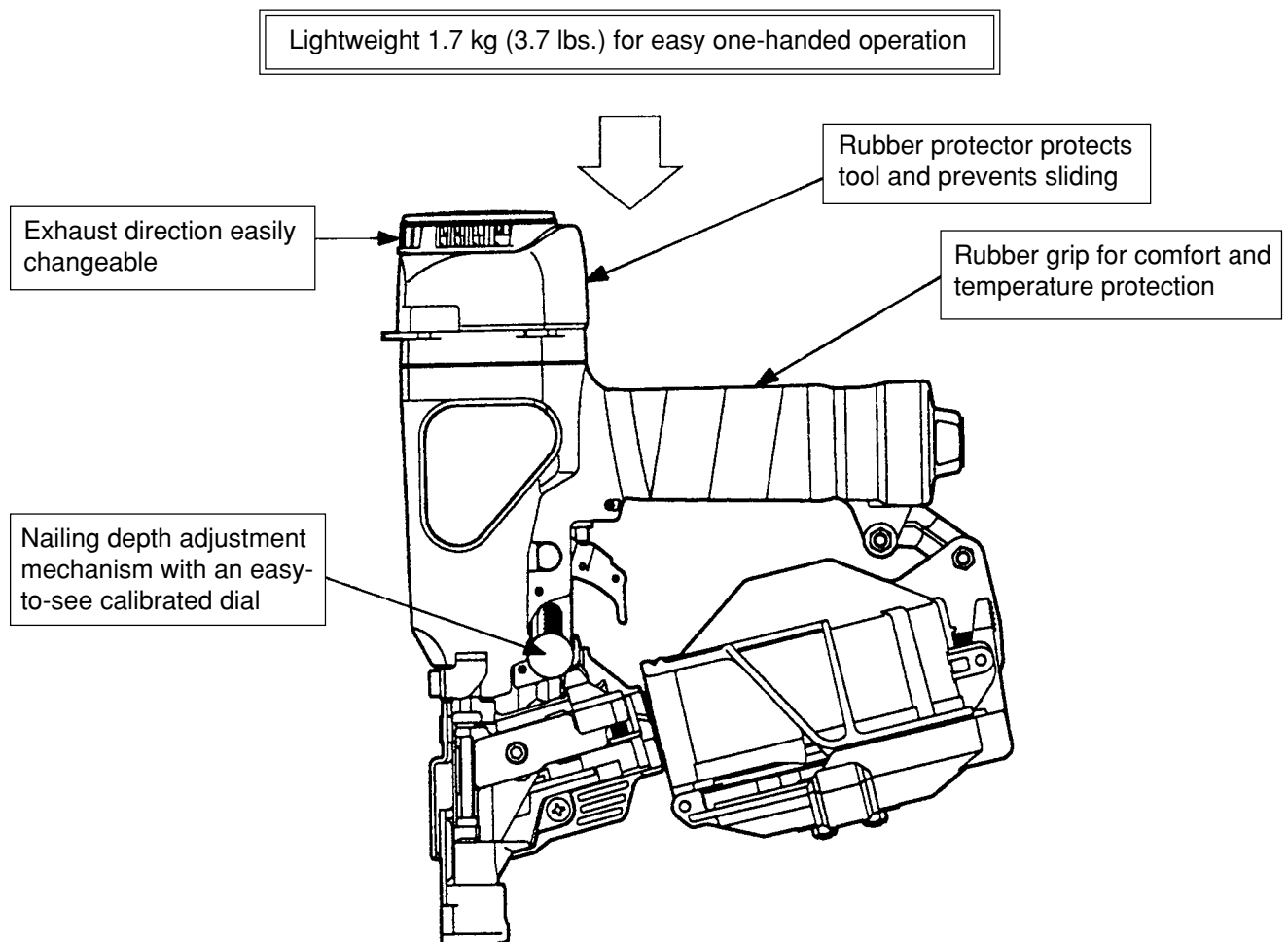
The current Model NV 45AB coil nailer is well-reputed in the U.S.A. market as a roofing nailer suitable for roofing asphalt shingles in building construction. However, competitively priced roofing nailers have been put on the U.S.A. market recently. The newly developed Model NV 45AC is specifically designed for roofing asphalt shingles and weighs just 1.7 kg (3.7 lbs.). Please expand our market share with the new Model NV 45AC.

The Model NV 45AC is a medium-duty roofing coil nailer capable of asphalt shingles with 25 – 45 mm length nails after heavy-duty Model NV 45AB for 22 – 45 mm length nails.

## 3. APPLICATIONS

Installation of asphalt roofing shingles in building construction

## 4. SELLING POINTS



## 5. SPECIFICATIONS

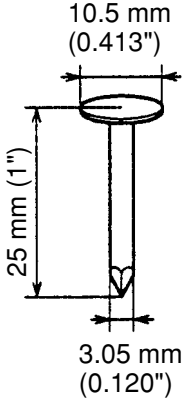
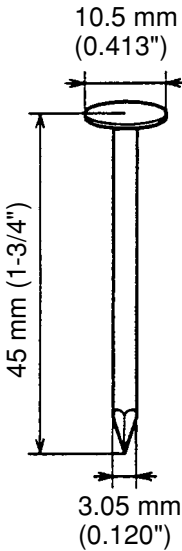
### 5-1. Specifications

Model	NV 45AC
Driving system	Reciprocating piston type
Operating pressure	4.9 – 8.3 bar (5 – 8.5 kgf/cm <sup>2</sup> , 70 – 120 psi) (Gauge pressure)
Driving speed	3 nails/sec.
Weight	1.7 kg (3.7 lbs.)
Dimensions (Length x Height x Width)	241 mm x 269 mm x 124 mm (9-1/2" x 10-19/32" x 4-7/8")
Nail feed system	Spiral spring
Nail capacity	120 nails (1 coil)
Air consumption	1.0 ltr/cycle at 6.9 bar (1.0 ltr/cycle at 7 kgf/cm <sup>2</sup> ) (0.035 ft <sup>3</sup> /cycle at 100 psi)
Air inlet	3/8 NPT thread
Packaging	Corrugated cardboard box
Package dimensions (Length x Height x Width)	280 mm x 290 mm x 150 mm (11-1/32" x 11-13/32" x 5-29/32")
Standard accessories	Eye protector (Code No. 875769) ..... 1 Hex. bar wrench for M6 screw (Code No. 944459) ..... 1 Hex. bar wrench for M5 screw (Code No. 944458) ..... 1
Optional accessories	Sequential trip mechanism kit (Single-shot) (Code No. 881973) Muffler (Code No. 881835) Shingle guide <ul style="list-style-type: none"> <li>• Shingle guide (Code No. 878175)</li> <li>• Guide base (Code No. 878176)</li> <li>• Washer (Code No. 949424)</li> <li>• Plate nut (Code No. 878213)</li> <li>• Hexagon socket hd. bolt M5 x 16 (Code No. 949819)</li> </ul> Pneumatic tool lubricant (1 oz oil feeder) (Code No. 877153) Pneumatic tool lubricant (4 oz oil feeder) (Code No. 872042) Pneumatic tool lubricant (1 quart can) (Code No. 876212)

**5-2. Nail Selection**

The Model NV 45AC utilizes roofing nails which are common round-head nails collated by wire into coils from 120 nails. Applicable nail dimensions are shown below. However, it is recommended to use genuine HITACHI nails to ensure satisfactory driving quality. For nail length 22 mm (7/8"), recommend the Model NV 45AB instead of this Model NV 45AC.

**CAUTION:** Ensure that nails are as specified in Fig. 1. Other nails will cause clogging of nails and subsequent damage to the nailer.

	Wire-collated nails	
	Min.	Max.
		

**Fig. 1 Dimensions of nails**

### 5-3. Nail Driving Force

Fig. 2 shows by type of wood and nail the nailer output energy provided by the supply pressure and the nailing energy required for driving the nail flush. Air pressure which exceeds the intersecting point between the nailer output energy and the required nailing energy for driving the nail allows the nail to be fully driven.

For example, when driving a nail of 3.05 mm dia. x 45 mm length (0.120" x 1-3/4") into a workpiece of hemlock with the Model NV 45AC, a pressure of about 6.9 bar (7 kgf/cm<sup>2</sup>, 100 psi) allows the nailer to drive the nail flush with the wood surface. A pressure beyond this value causes the nail head to be driven below the wood surface. Fig. 2 should be used as a reference only because those values vary depending on the type of wood, moisture content, and grain of wood.

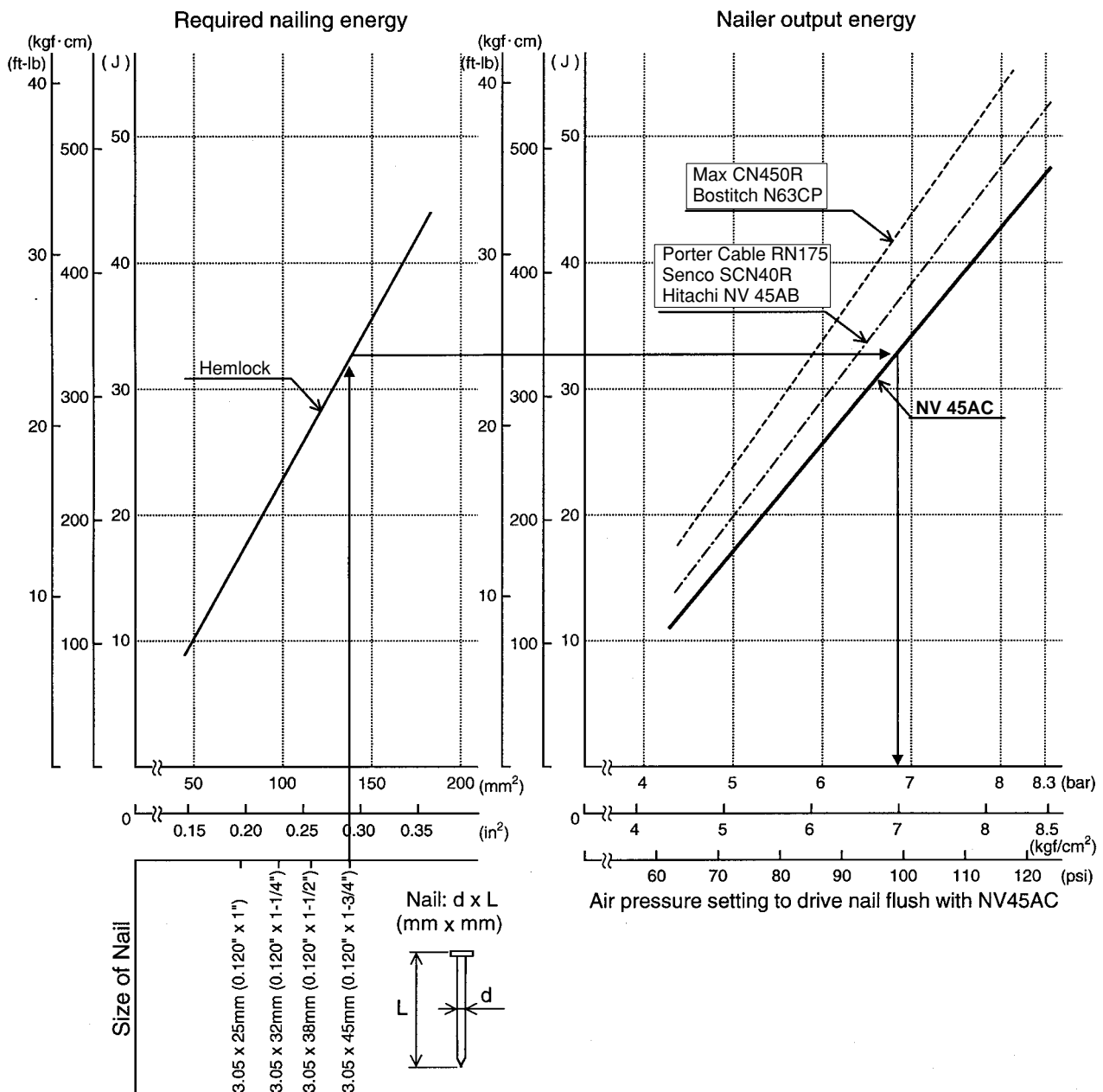


Fig. 2 Required nailing energy and nailer output energy

## 5-4. Optional Accessories

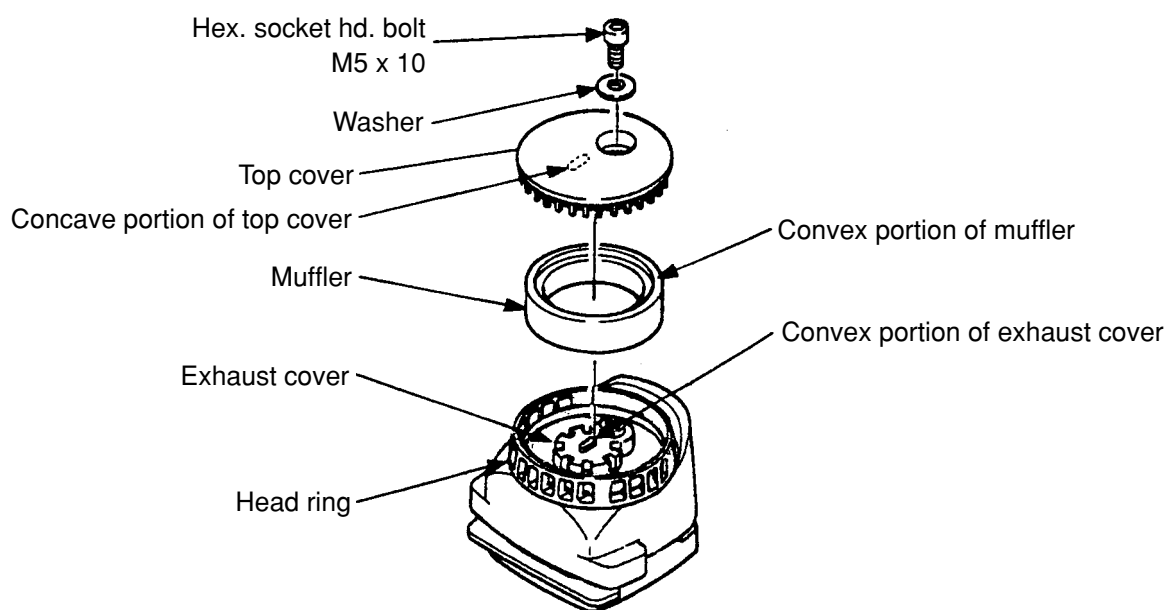
### (1) Sequential trip mechanism kit

The sequential trip mechanism kit is provided as an optional accessory for the Model NV 45AC. When 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 trip mechanism kit to customers who may want to use it. Salespersons must instruct the customers to read thoroughly the Instruction Manual attached to the sequential trip mechanism kit and also the Handling Instructions of the Model NV 45AC for correct use.

### (2) Muffler

The muffler is provided as an optional accessory for the Model NV 45AC. By mounting this muffler, the exhaust sound is reduced by about 10 dB (A). Please recommend the muffler to customers who may want to use it. The muffler can be mounted according to the following procedure as shown in Fig. 3.

1. Remove the hex. socket hd. bolt M5 x 10.
2. Put the muffler in the head ring with the convex side facing the top cover.
3. Fit the convex portion of the exhaust cover in the concave portion of the top cover.
4. Secure it with the hex. socket hd. bolt M5 x 10.



**Fig. 3 Mounting of muffler**



## 6. COMPARISONS WITH SIMILAR PRODUCTS

Maker	HITACHI		BOSTITCH	SESCO	PORTER CABLE	MAX
Model name	NV 45AC	NV 45AB	RN45B	SCN40R	RN175	CN450R
Operating pressure	4.9 – 8.3 bar (5 – 8.5 kgf/cm <sup>2</sup> ) (70 – 120 psi)		4.9 – 6.9 bar (5 – 7 kgf/cm <sup>2</sup> ) (70 – 100 psi)	4.9 – 8.3 bar (5 – 8.5 kgf/cm <sup>2</sup> ) (70 – 120 psi)	4.9 – 8.3 bar (5 – 8.5 kgf/cm <sup>2</sup> ) (70 – 120 psi)	4.5 – 6.9 bar (4.6 – 7 kgf/cm <sup>2</sup> ) (65 – 100 psi)
Weight	1.7 kg (3.7 lbs.)	2.5 kg (5.5 lbs.)	2.7 kg (6.0 lbs.)	2.4 kg (5.3 lbs.)	2.3 kg (5.1 lbs.)	2.5 kg (5.5 lbs.)
Dimensions (L x H x W)	241 mm x 269 mm x 124 mm (9-1/2" x 10-19/32" x 4-7/8")	250 mm x 264 mm x 124 mm (9-27/32" x 10-13/32" x 4-7/8")	277 mm x 269 mm x 117 mm (10-29/32" x 10-19/32" x 4-19/32")	248 mm x 264 mm x 117 mm (9-3/4" x 10-13/32" x 4-19/32")	300 mm x 257 mm x 110 mm (11-13/16" x 10-1/8" x 4-11/32")	275 mm x 268 mm x 111 mm (10-13/16" x 10-9/16" x 4-3/8")
Air consumption at 6.9 bar (7 kgf/cm <sup>2</sup> , 100 psi)	1.0 ltr/cycle (0.035 ft <sup>3</sup> /cycle)	1.2 ltr/cycle (0.042 ft <sup>3</sup> /cycle)	1.8 ltr/cycle (0.064 ft <sup>3</sup> /cycle)	1.3 ltr/cycle (0.046 ft <sup>3</sup> /cycle)	1.4 ltr/cycle (0.049 ft <sup>3</sup> /cycle)	2.0 ltr/cycle (0.070 ft <sup>3</sup> /cycle)
Nail capacity	120 nails		120 nails	120 nails	120 nails	120 nails
Magazine type (Material)	Bottom loading (Plastic)		Top loading (Plastic)	Top loading (Plastic)	Top loading (Plastic)	Top loading (Plastic)
Direction change of exhaust air	Tool not required	None	Tool required	None	Tool not required	None
Driving depth adjustment mechanism	Tool not required	Tool not required	None	Tool not required	Tool not required	Tool not required
Replaceable anti-slip protector	Provided	None	Provided	Provided	Provided	None
Trigger lock mechanism	None		None	None	None	Provided
Exhaust muffler	Optional	None	None	Provided	None	Provided
Handle grip	Racket grip (Comfortable grip)		Rubber (Not elastic)	Foam rubber (Apt to peel off)	Rubber (Not elastic)	Rubber (Not elastic)
Applicable nails	Collation	Wire	Wire	Wire	Wire	Wire
	Head dia.	10.5 mm (0.413")	10.5 mm (0.413")	10 mm (0.394")	9.8 mm (0.385")	10.5 mm (0.413")
	Shank dia.	3.05 mm (0.120")	3.05 mm (0.120")	3.05 mm (0.120")	3.05 mm (0.120")	3.05 mm (0.120")
	Length	25 mm – 45 mm (1" – 1-3/4")	22 mm – 45 mm (7/8" – 1-3/4")	19 mm – 38 mm (3/4" – 1-1/2")	22 mm – 45 mm (7/8" – 1-3/4")	19 mm – 45 mm (3/4" – 1-3/4")

## 7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Model NV 45 AC 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 Instruction Manual, and fully understands the meaning of the precautions listed on the Warning Label attached to each tool.

### 7-1. Instruction Manual

Although every effort is made in each step of the 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, general precautions and suggestions for use of pneumatic tools, and specific precautions and suggestions for the use of the pneumatic nailer are listed in the Instruction Manual to enhance the safe, efficient use of the tool by the customer.

Salespersons must be thoroughly familiar with the contents of the Instruction Manual to be able to offer appropriate guidance to the customers during sales promotion.

### 7-2. Warning Label

Each Model NV 45AC unit is provided with a Warning Label (illustrated below) which lists basic safety precautions in its use. Carefully ensure that customers fully understand and follow these precautions before using the tool.



### 7-3. 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 Instruction Manual 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 properly advise the customer. Please check your national and/or local regulations for applicable items. Some applicable items are outlined below.

The U.S.A:

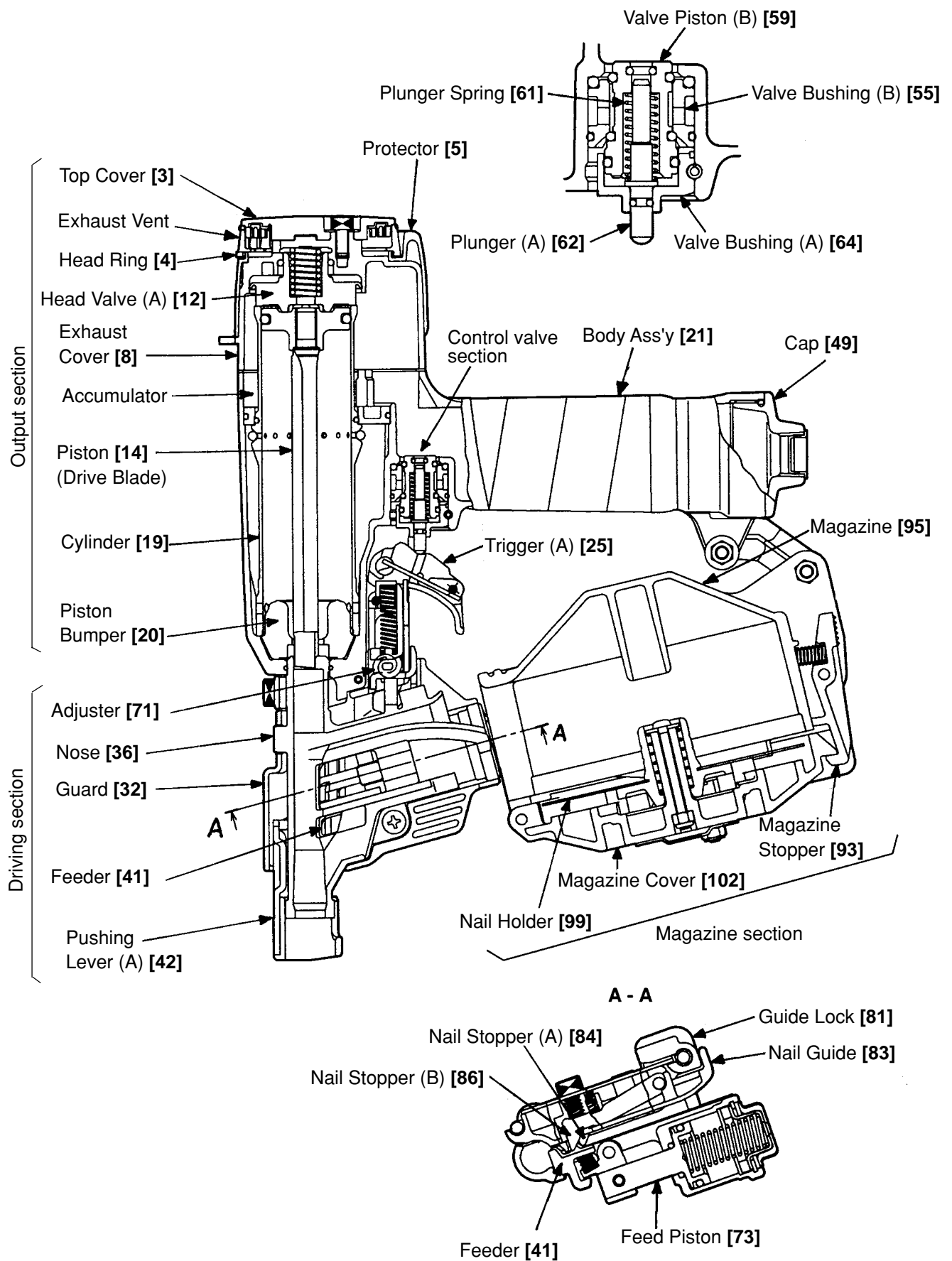
OSHA	1926.102 Eye and face protection 1926.302 Power-operated hand tools
ANSI SNT-101-1993	Portable, Compressed-Air-Actuated, Fastener Driving Tools-Safety Requirements for

## 8. MECHANISM AND OPERATION PRINCIPLE

### 8-1. Mechanism

As illustrated in Fig. 4, NV 45AC can be generally divided into four sections: output section, control valve section, driving section and magazine section. Most of the parts of the above sections have been newly designed, though its basic construction is the same as that of the Model NV 50AG. Primary differences from the Model NV 50AG are described below.


- Output section ..... Most of the parts have been newly designed, though its basic construction is the same as that of the Model NV 50AG. The piston unit employs O-rings at the sliding portion in the same manner as the Model NV 45AB instead of a piston ring. The protector has been newly designed to prevent slipping of tool.
- Control valve section ..... This section is common to the Models NR 90AC and NV 65AH.
- Driving section ..... The adjuster has been newly designed to improve operability in nailing depth adjustment.  
The plastic guard shielding the pushing lever and the feed piston has been newly designed to prevent adhesion of dust.
- Magazine section ..... This section is common to the Model NV 45AB, though the shingle guide is not provided. The shingle guide is interchangeable between the Model NV 45AB and the Model NV 45AC.




**Fig. 4 Construction**

## 8-2. Operation Principle

(1) Before nailing: (Fig. 5 and Fig. 6)

- 1) When compressed air is fed 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 forces Valve Piston (B) [59] upward. Also, the compressed air is fed through the air supply vent and air passage to the head valve chamber. As a result, the Head Valve Spring [10] is pushed down together to seal Head Valve (A) [12] and Cylinder [19].

(2) When nailing: (Fig. 5 and Fig. 6)

- 1) When Pushing Lever (A) [42] and Trigger (A) [25] are operated together and Plunger (A) [62] is pushed upward, the compressed air in the valve piston lower chamber is discharged from the bottom of Plunger (A) [62]. As a result, the compressed air in the accumulator (  ) pushes down Valve Piston (B) [59], blocking the air supply vent and opening the exhaust valve.
- 2) When the exhaust valve opens, the compressed air in the head valve chamber is discharged into the atmosphere through the air passage.
- 3) When the air pressure applied on the bottom surface of Head Valve (A) [12] overcomes the strength of the Head Valve Spring [10], Head Valve (A) [12] is pushed upward. At this time, Head Valve (A) [12] seals the Exhaust Cover [8], blocking the passage to the exhaust vent.
- 4) When Head Valve (A) [12] goes up, the compressed air in the accumulator flows rapidly into the Cylinder [19], forcing the Piston [14] downward to strike the nail. When the Piston [14] passes the cylinder hole, the compressed air flows into the return air chamber and is accumulated there.

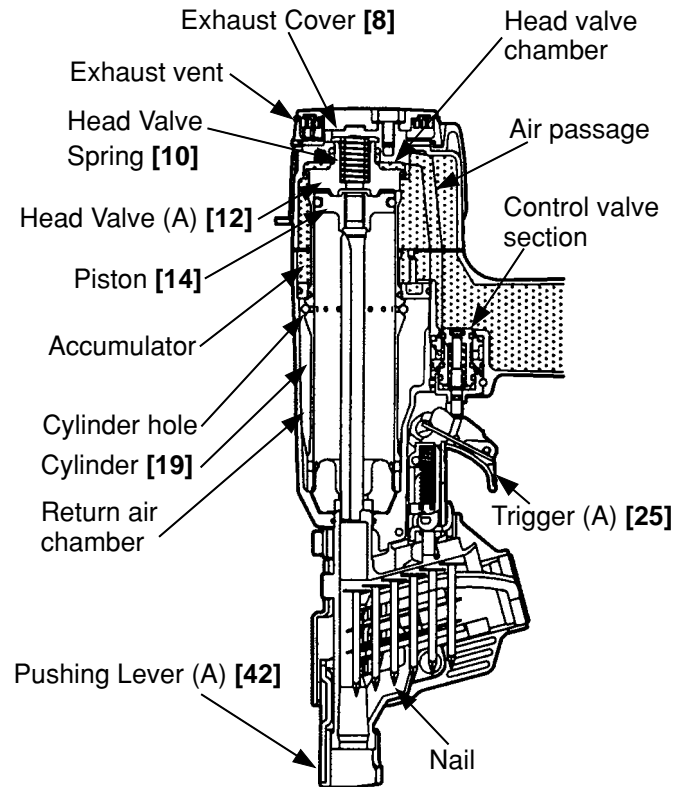


Fig. 5

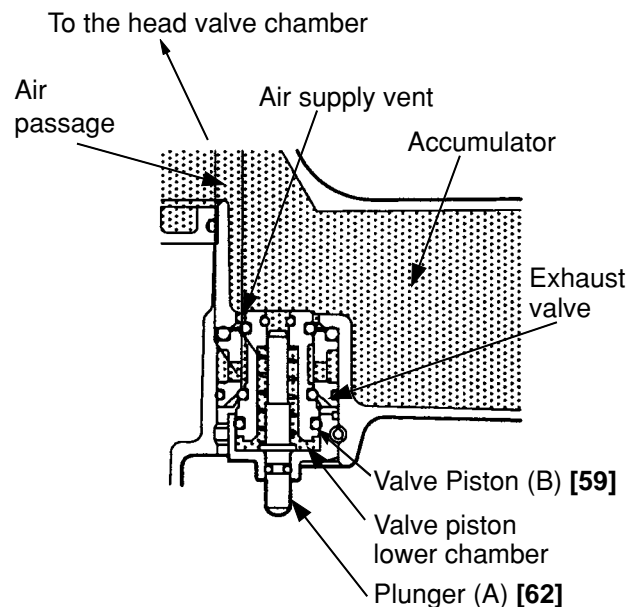
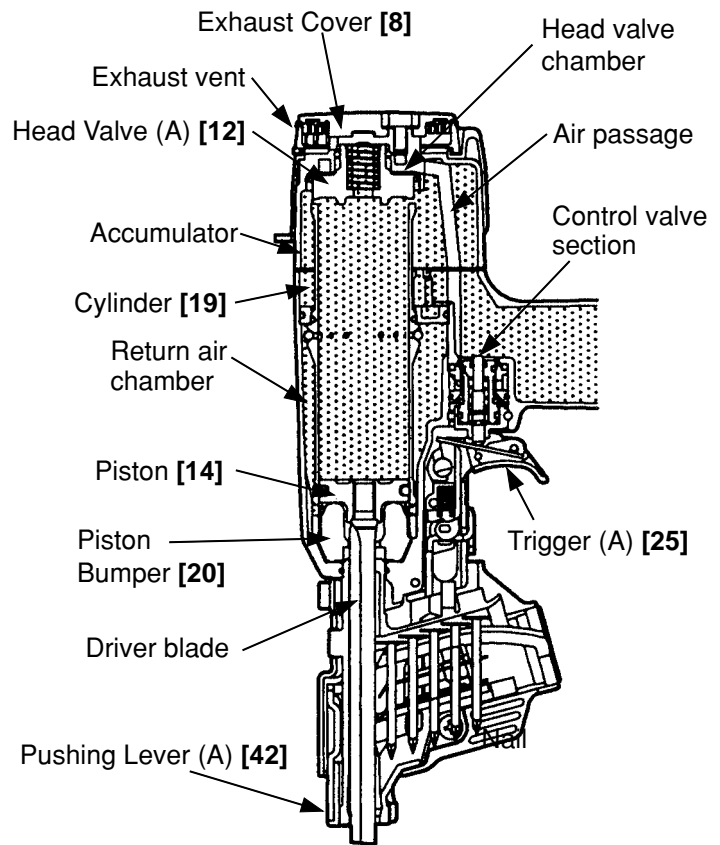


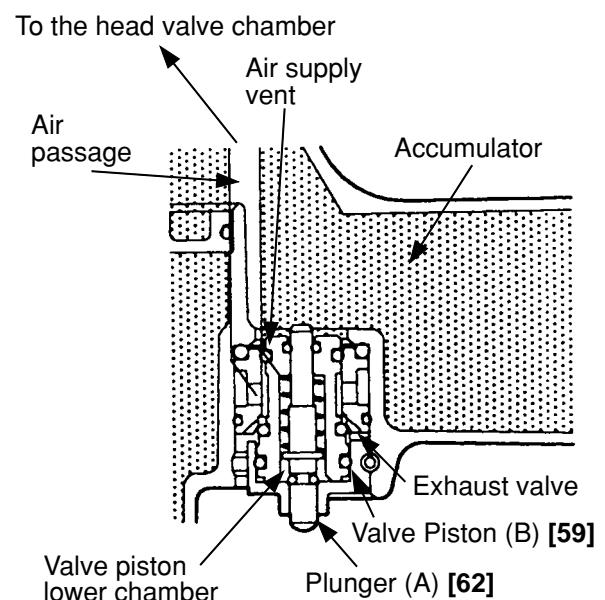
Fig. 6 Control valve section

(3) During return: (Fig. 7 and Fig. 8)

- 1) When either Pushing Lever (A) [42] or Trigger (A) [25] is released, Plunger (A) [62] goes down and the compressed air in the accumulator flows into the valve piston lower chamber.
- 2) As the air pressure in the valve piston lower chamber increases to overcome the air pressure applied on the upper portion of Valve Piston (B) [59], Valve Piston (B) [59] is forced upward. When this occurs, the exhaust valve is closed and the air supply vent is opened.
- 3) When the air supply vent opens, the compressed air in the accumulator ( : ) passes through the air passage and flows into the head valve chamber to push down Head Valve (A) [12]. As a result, Head Valve (A) [12] and Cylinder [19] are sealed and, at the same time, Head Valve (A) [12] and Exhaust Cover [8] are released to open the exhaust vent.
- 4) The compressed air at the upper portion of the Piston [14] is discharged into the atmosphere through the exhaust vent. In this way, the air pressure at the upper portion of the Piston [14] is reduced, and the greater pressure of the air accumulated in the return air chamber pushes the Piston [14] upward.
- 5) If the air pressure at the lower portion of the Piston [14] is higher than that of the atmosphere after the Piston [14] has fully returned, the excess air pressure is discharged into the atmosphere through the clearance between the Piston Bumper [20] and the driver blade.



**Fig. 7**



**Fig. 8 Control valve section**

## 9. TROUBLESHOOTING GUIDE

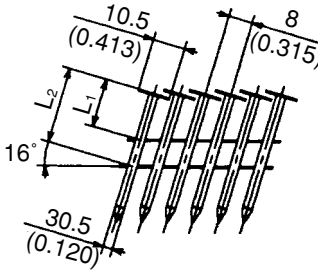
### 9-1. Troubleshooting and Correction

Problem	Possible cause (* : most-common cause)	Inspection methods	Remedy
1) Nails cannot be driven.	<b>&lt;Nails&gt;</b> <ul style="list-style-type: none"> <li>Magazine is not loaded with specified genuine nails.</li> <li>Magazine is loaded with abnormal nails (bent nails, too large or too small nail heads, abnormal collation, others).</li> <li>Nails or link pieces are jammed.</li> <li>Link pieces are deformed or broken.</li> </ul>	<ul style="list-style-type: none"> <li>Check that the magazine is correctly loaded with specified nails.</li> </ul>	<ul style="list-style-type: none"> <li>Use specified nails.</li> <li>Remove the abnormal nails and load the nailer with proper nails.</li> </ul>
	<b>&lt;Driving section: Nose, feeder, feed piston, etc.&gt;</b> <ul style="list-style-type: none"> <li>Sliding resistance of the feed piston is too high.</li> </ul>	<ul style="list-style-type: none"> <li>Remove the feed piston and check the feed piston sliding surface of the nose.</li> </ul>	<ul style="list-style-type: none"> <li>Apply grease to the sliding surface.</li> <li>Polish the scratched portion with sandpaper. Replace the parts.</li> </ul>
	<ul style="list-style-type: none"> <li>Nail guide face of the nose is abnormal (deformed, burrs or damaged).</li> <li>Spring or feeder spring is abnormal (damaged or fatigued).</li> <li>Feeder is abnormal (damaged or worn).</li> </ul>	<ul style="list-style-type: none"> <li>Check that the driving section is not abnormal (burrs, deformed, damaged or worn).</li> </ul>	<ul style="list-style-type: none"> <li>Deburr the nail guide face.</li> <li>Correct the deformed part.</li> <li>Replace the abnormal parts.</li> </ul>
	<ul style="list-style-type: none"> <li>Nails are not correctly loaded in the groove of the nose.</li> </ul>	<ul style="list-style-type: none"> <li>Check that nails are correctly loaded in the groove of the nose.</li> </ul>	<ul style="list-style-type: none"> <li>Load nails in the correct position in the nose.</li> </ul>
	<ul style="list-style-type: none"> <li>Dust sticks to the feeder sliding portion of the nose, or lubrication is needed.</li> </ul>	<ul style="list-style-type: none"> <li>Open the nail guide and perform idle driving to check the feeder's operation.</li> </ul>	<ul style="list-style-type: none"> <li>Remove dust and then lubricate the sliding surface.</li> </ul>
	<ul style="list-style-type: none"> <li>Air pressure is too low.</li> </ul>		<ul style="list-style-type: none"> <li>Adjust the air pressure to 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>* • Air passage is clogged with broken pieces of piston bumper, etc.</li> <li>* • Feeder piston chamber contains foreign matter such as broken pieces of piston bumper, etc.</li> </ul>		<ul style="list-style-type: none"> <li>Remove foreign matter.</li> <li>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>

Problem	Possible cause ( * : most-common cause)	Inspection methods	Remedy
1) Nails cannot be driven.	• Air leaks from the gap between the body and the nose.		• Tighten screws and check the O-rings.
	• O-rings are worn or deformed.		• Replace the O-rings.
	• O-rings need lubrication.		• Apply grease or lubricate.
	<Nail guide section> • Nail guide face is abnormal (deformed, burrs or damaged).	• Check that the nail guide is not abnormal (worn, deformed, damaged, etc.).	• Correct or replace the parts.
	• Dust sticks to the inside of the nail guide groove, or lubrication is needed.	• Check the operation of nail stopper (A) and nail stopper (B).	• Remove dust and then lubricate.
	*• Spring is abnormal (missing, damaged or fatigued). • The claw ridge section of the nail stopper is abnormal (damaged, worn or burrs).		• Replace the abnormal parts.
	<Magazine section> <Pushing lever> • Magazine	• Check that a nail does not catch on another nail in the magazine. • Check that a nail does not catch on some part of the magazine. • Check the height of the nail holder.	• Collate the nails correctly and reload the nailer with them. • Remove burrs or deformed part. Replace the parts. • Adjust the height of the nail holder correctly.
	• Pushing lever	• Check the operation of the pushing lever.	• Correct or replace the parts.
	<Output section:piston, driver blade, etc.> • Air pressure is too low.	• Open the nail guide and perform idle driving to check that the driver blade is returned.	• Adjust the air pressure to 4.9 – 8.3 bar (5 – 8.5 kgfcm <sup>2</sup> , 70 – 120 psi).
	*• O-ring in the piston is abnormal (worn or damaged).		• Replace the O-ring.
	*• Piston bumper is abnormal.		• Replace the piston bumper.
	• O-ring in the cylinder is abnormal (removed, deformed or damaged).		• Reassemble or replace the parts.
	• Driver blade is abnormal (deformed, burrs or damaged).		• Correct or replace the part.



Problem	Possible cause ( * : most-common cause)	Inspection methods	Remedy
1) Nails cannot be driven. (continued)	<ul style="list-style-type: none"> <li>• Cylinder inside surface is abnormal (packed with dust, or worn).</li> </ul>	<ul style="list-style-type: none"> <li>• Check that nails can be driven at 4.9 bar (5 kgf/cm<sup>2</sup>, 70 psi).</li> </ul>	<ul style="list-style-type: none"> <li>• Remove dust and then lubricate.</li> <li>• Replace the part.</li> </ul>
	<ul style="list-style-type: none"> <li>• Head valve sliding surface is abnormal (seized or damaged, or lubrication is needed).</li> </ul>	<ul style="list-style-type: none"> <li>• Perform idle driving to check the driving operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the part.</li> <li>• Apply grease.</li> </ul>
	<ul style="list-style-type: none"> <li>• Head valve spring is abnormal (fatigued or damaged).</li> </ul>	<ul style="list-style-type: none"> <li>• Perform idle driving to check that the driver blade is not held in the down position.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the part.</li> </ul>
	<Control valve section> <ul style="list-style-type: none"> <li>• Plunger (A), valve piston (B), valve bushing (A) or valve bushing (B) is abnormal (seized or damaged).</li> </ul>		<ul style="list-style-type: none"> <li>• Replace the abnormal part.</li> </ul>
	<ul style="list-style-type: none"> <li>• O-ring or sliding surface is worn or needs lubrication.</li> </ul>	<ul style="list-style-type: none"> <li>• Disassemble the control valve section and check the O-rings.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the abnormal part.</li> <li>• Apply grease.</li> </ul>
2) Nails are driven but bent.	<ul style="list-style-type: none"> <li>* • Adjuster is raised too high for short nails.</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the adjuster is not raised too high.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn the adjuster lower (lower the pressure).</li> </ul>
	<ul style="list-style-type: none"> <li>• Nails are not completely fed into the injection port.</li> <li>* • Unspecified nails are used.</li> </ul>	<ul style="list-style-type: none"> <li>• See item 1).</li> </ul>	<ul style="list-style-type: none"> <li>• See item 1).</li> </ul>
	<ul style="list-style-type: none"> <li>* • Driver blade is worn.</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the driver blade tip is not abnormally worn.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the part.</li> </ul>
	<ul style="list-style-type: none"> <li>• Workpiece is too hard.</li> </ul>	<ul style="list-style-type: none"> <li>• Check if a nail is bent even when driven into soft wood.</li> </ul>	<ul style="list-style-type: none"> <li>• Nailer cannot be used because the material is beyond its applicable range.</li> </ul>
3) Nails cannot be driven into the workpiece completely: the heads cannot be made flush.	<ul style="list-style-type: none"> <li>• Adjuster is incorrectly set.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn the adjuster to the lowest position and then drive nails.</li> </ul>	<ul style="list-style-type: none"> <li>• Set the adjuster to the optimum position.</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 to 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>• Workpiece is too hard.</li> </ul>	<ul style="list-style-type: none"> <li>• Check if a nail is bent even when driven into soft wood.</li> </ul>	<ul style="list-style-type: none"> <li>• Nailer cannot be used because the material is beyond its applicable range.</li> </ul>

Problem	Possible cause ( * : most-common cause)	Inspection methods	Remedy
3) Nails cannot be driven into the workpiece completely: the heads cannot be made flush. (continued)	* • Driver blade is worn.	• Perform idle driving to check the driver blade is projected from the nose tip.	• Replace the part.
	* • O-ring in the piston is abnormal (worn or damaged). • Cylinder inside surface is abnormal (worn or rough).	• Disassemble the output section and check the O-ring and the inside of the cylinder for abnormality.	• Replace the abnormal part.
	• Cylinder plate or O-ring is abnormal (removed, deformed or damaged).	• Disassemble the cylinder plate and check for abnormality.	• Replace the abnormal part.
	• Head valve sliding surface is abnormal (seized or damaged, or lubrication is needed).	• Check the sliding surface for abnormality and lubrication.	• Replace the abnormal part. • Apply grease.
4) Nails jam.	<p>&lt;Nails&gt;</p> <ul style="list-style-type: none"> <li>* • Unspecified nails are used.</li> <li>* • Abnormal nails are mixed.</li> <li>* • Nail heads are too large or too small.</li> <li>• Collating wires are abnormal (broken, welding failed, deformed or welding position failed).</li> <li>* • Collating wires are deformed (deformed in collation angle or collation pitch).</li> </ul>	<p>• Check if the specified nails are used. Check the nails as follows.</p> 	<ul style="list-style-type: none"> <li>• Use specified nails.</li> <li>• Remove the abnormal nails and load the nailer with proper nails.</li> </ul>

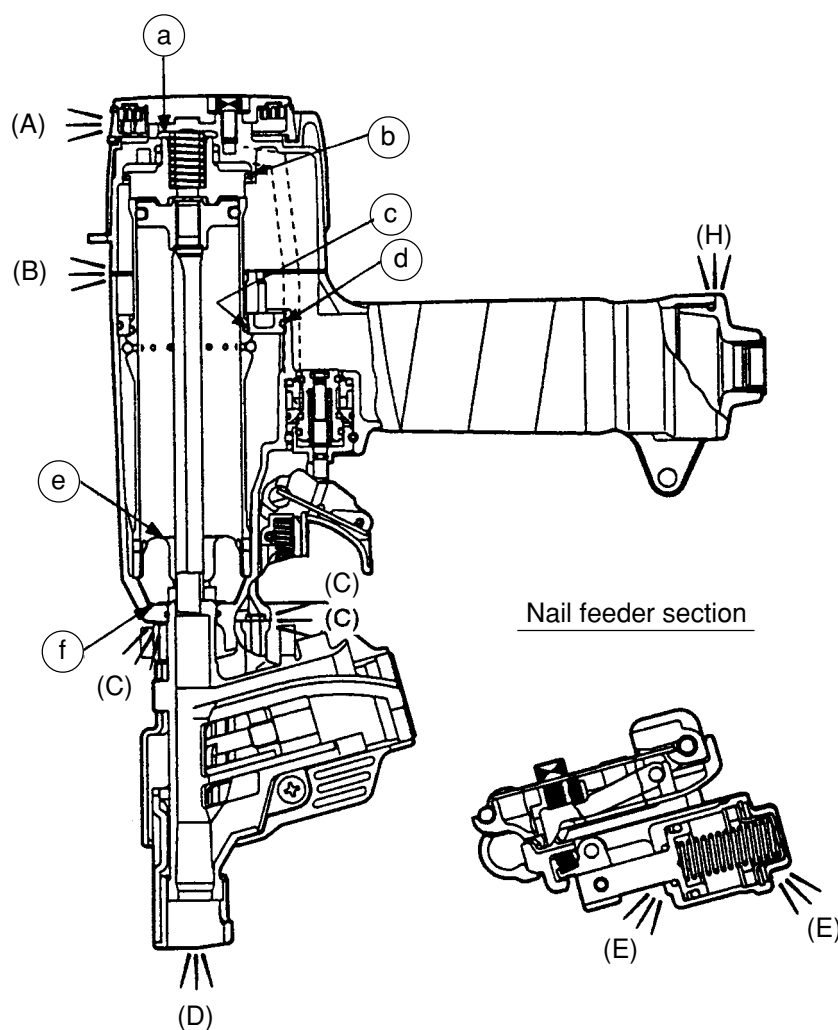
UNIT: mm (inch)

Type	L <sub>1</sub>	L <sub>2</sub>
Ⓐ	7 (0.276)	16 (0.630)
Ⓑ	7 (0.630)	25 (0.984)

Problem	Possible cause ( * : most-common cause)	Inspection methods	Remedy
4) Nails jam. (continued)	<Body: Nail feeding is incomplete.> <ul style="list-style-type: none"> <li>• Feeder is worn and the sliding section is abnormal.</li> <li>• Nail guide face of the nose or the sliding section of the feeder is abnormal (deformed, burrs or damaged).</li> <li>• Spring or feeder spring is abnormal (damaged, fatigued or removed).</li> </ul>	<ul style="list-style-type: none"> <li>• Open the nail guide and check the position of the feeder claw. Check that the feeder claw holds a nail, and the first nail is positioned in the injection port. (Check that the second claw holds the nail shaft and feeds it.)</li> </ul>	<ul style="list-style-type: none"> <li>• Replace the abnormal part.</li> </ul>
	<Body: Nail guide section> <ul style="list-style-type: none"> <li>• Nail guide section is abnormal.</li> </ul>	<ul style="list-style-type: none"> <li>• See item "1) Nail guide section".</li> </ul>	<ul style="list-style-type: none"> <li>• See item "1) Nail guide section".</li> </ul>
	<Driver blade is not returned completely.> <ul style="list-style-type: none"> <li>• See item "1) Output section: piston, driver blade, etc.".</li> </ul>	<ul style="list-style-type: none"> <li>• Perform idle or actual driving to check if the driver blade is returned completely.</li> </ul>	<ul style="list-style-type: none"> <li>• See item "1) Output section: piston, driver blade, etc.".</li> </ul>
	<ul style="list-style-type: none"> <li>• Air pressure is too high.</li> </ul>	<ul style="list-style-type: none"> <li>• Nails may be jammed if driven at a high pressure and high speed. Check pressure and driving speed.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust the air pressure to 4.9 – 8.3 bar (5 – 8.5 kgf/cm<sup>2</sup>, 70 – 120 psi).</li> </ul>

## 9-2. Possible Causes and Corrections of Air Leakage

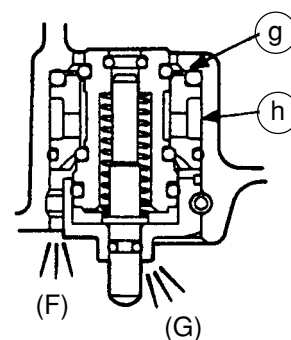
### Air leakage repair location



#### • Repair procedure

- (1) Check the points of the following parts marked by an asterisk for abnormal condition.
- (2) Next, check the seal parts (marked with a double circle) for wear, flaws or damage.
- (3) And then, check other places.

#### Control valve section



Air leakage points	Possible cause	
	With control valve OFF	With control valve ON
(A) Exhaust port	<ul style="list-style-type: none"> <li>⊙ Head Valve (A) [12] and Cylinder [19] are abnormal (seal surface of the (b) portion is worn or deformed).</li> <li>⊙ The Head Valve O-ring [11] is abnormal (worn, deformed or damaged).</li> <li>• Head Valve (A) [12] is abnormal (worn, deformed or damaged).</li> </ul>	<ul style="list-style-type: none"> <li>⊙ Head Valve (A) [12] is abnormal ((a) portion is worn, deformed or broken).</li> <li>* The Exhaust Cover [8] is abnormal ((a) portion is deformed or clogged with dust).</li> </ul>
(B) Exhaust cover	<ul style="list-style-type: none"> <li>• The Hex. Socket Hd. Bolt M5 x 22 [6] is loose.</li> <li>⊙ Gasket (A) [9] is damaged.</li> <li>• The seal surface of the Body Ass'y [21] or the Exhaust Cover [8] is abnormal.</li> </ul>	

Air leakage points	Possible cause	
	With control valve OFF	With control valve ON
(C) Nose (I)		<ul style="list-style-type: none"> <li>⊙ The O-Rings <b>[24]</b> <b>[31]</b> of the Body Ass'y <b>[21]</b> are abnormal (broken or damaged).</li> <li>• The Nylock Bolt (W/Flange) M6 x 25 <b>[35]</b> is loose.</li> <li>• The seal surface of the Body Ass'y <b>[21]</b> or the Nose <b>[36]</b> is abnormal (broken, deformed or scratched).</li> </ul>
(D) Nose (II)	<ul style="list-style-type: none"> <li>⊙ The Cylinder O-Ring (1AS-50) <b>[15]</b> of the Cylinder Plate <b>[16]</b> is abnormal (broken or damaged).</li> <li>⊙ The O-Ring (S-36) <b>[17]</b> of the Cylinder <b>[19]</b> is abnormal (broken or damaged). The seal surface of the Body Ass'y <b>[21]</b>,</li> <li>• Cylinder Plate <b>[16]</b> or Cylinder <b>[19]</b> is abnormal ( <b>Ⓒ</b> or <b>Ⓓ</b> portion).</li> </ul>	<ul style="list-style-type: none"> <li>⊙ The Piston Bumper <b>[20]</b> is abnormal ( <b>Ⓔ</b> or <b>Ⓕ</b> portion is damaged, deformed or cracked).</li> <li>• The Piston <b>[14]</b> is abnormal (driver blade or sealed face is deformed).</li> <li>• The <b>Ⓕ</b> surface of the Body Ass'y <b>[21]</b> is deformed.</li> </ul>
(E) Feed piston		<ul style="list-style-type: none"> <li>⊙ The O-Ring (P-18) <b>[74]</b> on the Feed Piston <b>[73]</b> is abnormal (worn, broken or damaged) or the Nose <b>[36]</b> is worn, deformed or scratched on the sliding surface.</li> <li>⊙ The O-Ring (P-9) <b>[72]</b> in the Nose <b>[36]</b> is abnormal (worn, broken or damaged) or the Feed Piston <b>[73]</b> is worn, deformed or scratched on the sliding surface.</li> </ul>
(F) Control valve (I)	<ul style="list-style-type: none"> <li>⊙ The O-Ring <b>[60]</b> on Valve Piston (B) <b>[59]</b> is abnormal (worn, broken or damaged).</li> <li>⊙ The lower O-Ring <b>[57]</b> on Valve Piston (B) <b>[59]</b> is abnormal (worn, broken or damaged).</li> <li>⊙ The O-Ring (S-18) <b>[56]</b> on Valve Bushing (B) <b>[55]</b> is abnormal (broken or damaged).</li> <li>* The inside surface of the valve chamber of the Body Ass'y <b>[21]</b> is abnormal.</li> </ul>	<ul style="list-style-type: none"> <li>⊙ The upper O-Ring <b>[57]</b> on Valve Piston (B) <b>[59]</b> is abnormal (worn, broken or damaged).</li> <li>⊙ The Head Valve O-Ring <b>[11]</b> on Valve Bushing (B) <b>[55]</b> is abnormal (broken or damaged).</li> <li>* The top surface of the valve chamber of the Body Ass'y <b>[21]</b> is abnormal ( <b>Ⓖ</b> portion).</li> </ul>
(G) Control valve (II)	<ul style="list-style-type: none"> <li>⊙ The O-Ring <b>[63]</b> on Plunger (A) <b>[62]</b> is abnormal (worn, broken or damaged).</li> <li>• Valve Bushing (A) <b>[64]</b> is abnormal (sliding surface of Plunger (A) <b>[62]</b> is deformed or scratched).</li> </ul>	<ul style="list-style-type: none"> <li>⊙ The inside of the O-Ring (S-4) <b>[58]</b> on Valve Piston (B) <b>[59]</b> is abnormal (worn, broken or damaged).</li> <li>• Plunger (A) <b>[62]</b> is abnormal (sliding surface is deformed or scratched).</li> </ul>
(H) Cap	<ul style="list-style-type: none"> <li>⊙ The O-Ring <b>[48]</b> is abnormal (worn, broken or damaged).</li> <li>• The Cap <b>[49]</b> is loose.</li> <li>• The seal surface of the Body Ass'y <b>[21]</b> or the Cap <b>[49]</b> is abnormal (broken, deformed or scratched).</li> </ul>	

## 10. DISASSEMBLY AND REASSEMBLY

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

### [CAUTION]

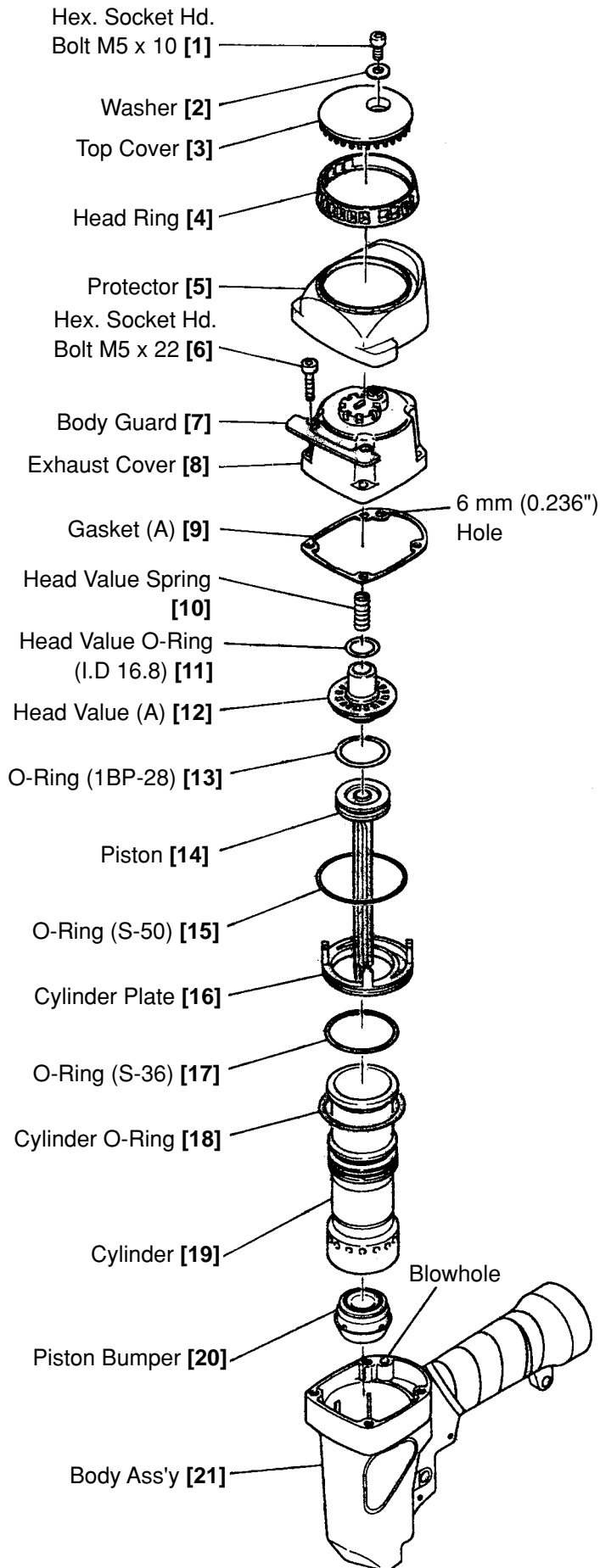
- Before disassembly or reassembly, be sure to disconnect the air hose from the nailer (with your finger released from the trigger) to exhaust all the compressed air and remove all nails.

#### 10-1. General Precautions in Disassembly and Reassembly

- Apply grease (Nippeco SEP-3A, Code No. 930035) to the O-rings and O-rings' sliding portions. When installing the O-rings, be careful not to damage the O-rings and prevent dirt entry.
- Oil required: Hitachi pneumatic tool lubricant
  - 1 oz (30 cc) Oil feeder (Code No. 877153)
  - 4 oz (120 cc) Oil feeder (Code No. 874042)
  - 1 quart (1 ltr) Can (Code No. 876212)
- If Gasket (A) **[9]** is damaged, replace it and check that no air is leaking.
- Be especially careful to prevent the entry of foreign particles into the control valve section.
- Tightening torque for each part

Bolt, screw and cap	Tightening torque N•m (kgf•cm, ft-lbs)
Nylock Bolt (W/Flange) M6 ..... <b>[35]</b>	14.7 ± 0.8 (150 ± 8, 10.8 ± 0.6)
Nylock Hex. Socket Hd. Bolt M5 ..... <b>[88]</b>	8.3 ± 0.5 (85 ± 5, 6.1 ± 0.4)
Hex. Socket Hd. Bolt M5 ..... <b>[43]</b>	8.3 ± 0.5 (85 ± 5, 6.1 ± 0.4)
Hex. Socket Hd. Bolt M5 ..... <b>[1][6]</b>	6.3 ± 0.5 (65 ± 5, 4.7 ± 0.4)
Hex. Socket Hd. Bolt M5 ..... <b>[100]</b>	2.0 ± 0.3 (20 ± 3, 1.5 ± 0.2)
Machine Screw (W/Sp. Washer) M5 ..... <b>[44]</b>	2.0 ± 0.5 (20 ± 5, 1.5 ± 0.4)
Machine Screw M4 ..... <b>[96]</b>	0.5 – 1.0 (5 – 10, 0.36 – 0.72)
Cap ..... <b>[49]</b>	24.5 ± 4.9 (250 ± 50, 18 ± 3.6)

## 10-2. Disassembly and Reassembly of the Output Section (See Fig. 9)



### [Tool required]

- Hex. bar wrench (4 mm)

#### (a) Disassembly

- Remove the Hex. Socket Hd. Bolts M5 x 10 [1] with a hex. bar wrench (4 mm). Then the Top Cover [3], the Head Ring [4], and the Protector [5] can be removed.
- Remove the four Hex. Socket Hd. Bolts M5 x 22 [6] with a hex. bar wrench (4 mm) and remove the Exhaust Cover [8]. Then the components of the output section such as the Piston [14], Cylinder [19] and the Piston Bumper [20] can be removed.

#### (b) Reassembly

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

- Apply grease to the inside of the O-ring (1BP-28) [13], O-ring (S-36) [17], O-ring (1AS-15) [15] and the Cylinder [19] before reassembly.
- Mount the Cylinder Plate [16] aligning the triangle mark with the mark on the Body Ass'y [21] as shown in Fig. 10.
- Mount the Gasket (A) [9] aligning the 6 mm (0.236") dia. hole with the blowhole of the Body Ass'y [21].

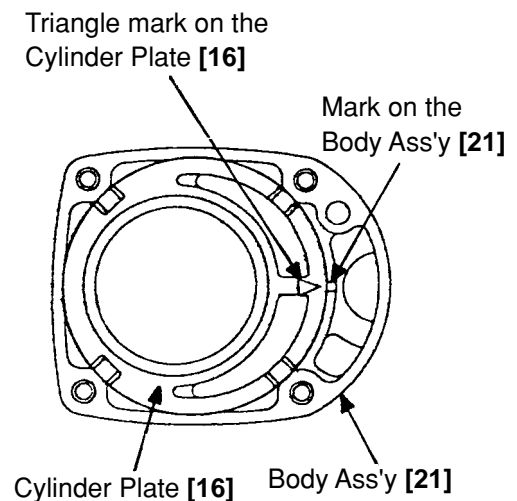
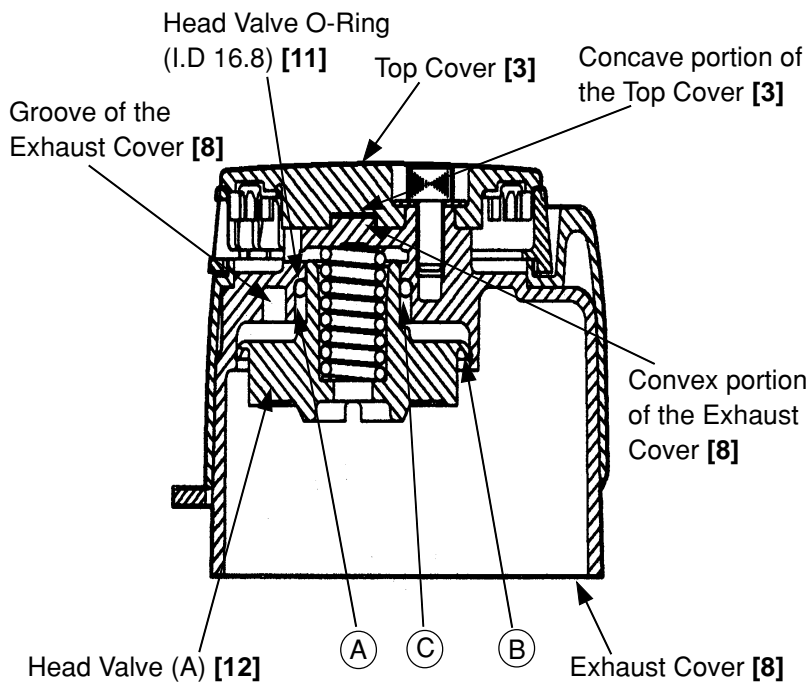


Fig. 9 Disassembly and reassembly of the output section

Fig. 10

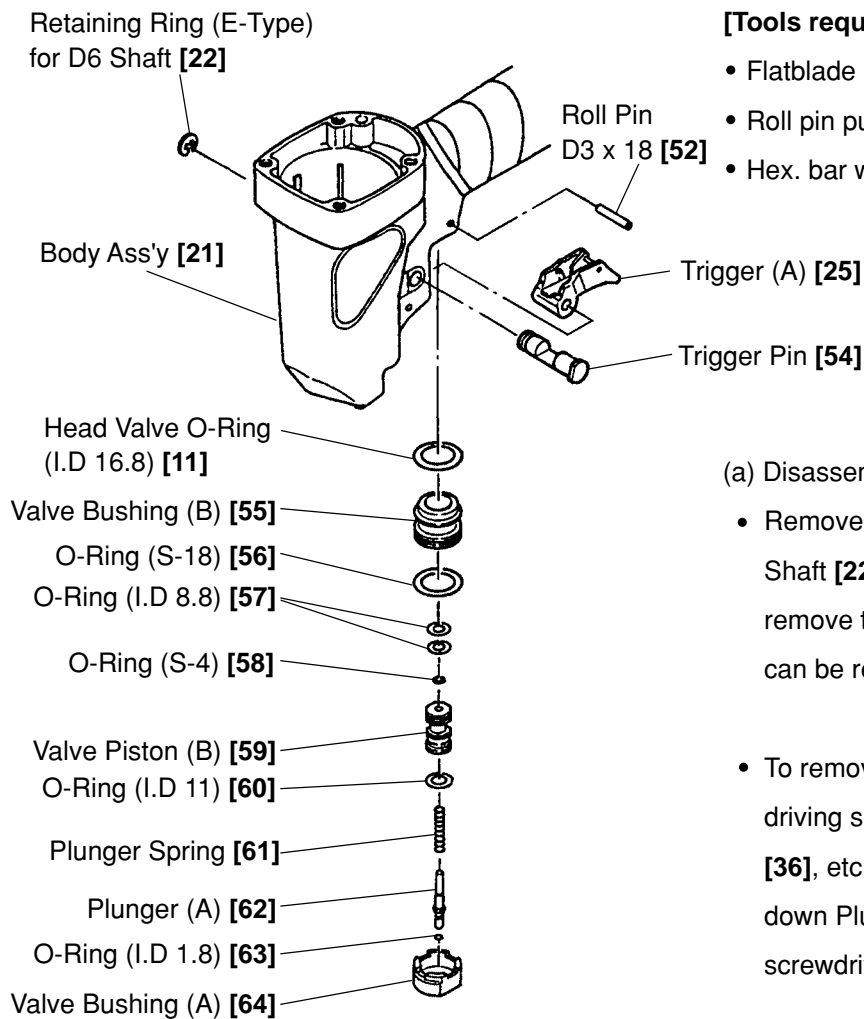


**Fig. 11**

- Apply grease to the sliding surface (A) of the Exhaust Cover [8] and Head Valve (A) [12] and charge about 0.5 g (0.018 oz) of grease in the groove of the Exhaust Cover [8] (Fig. 11).
- Apply grease to the lip portions (B) and (C) of Head Valve (A) [12] (Fig. 11).
- Apply grease to the Head Valve O-Ring (I.D 16.8) [11]. Mount the Head Valve O-Ring (I.D 16.8) [11] to Head Valve (A) [12], then mount it to the Exhaust Cover [8].
- Fit the convex portion of the Exhaust Cover [8] in the concave portion of the Top Cover [3] (Fig. 11).



### 10-3. Disassembly and Reassembly of the Control Valve Section (See Fig. 12)



#### [Tools required]

- Flatblade head screwdriver
- Roll pin puller (3 mm (0.118 ") dia.)
- Hex. bar wrench (4 mm)

#### (a) Disassembly

- Remove the Retaining Ring (E-Type) for D6 Shaft [22] with the blade of a screwdriver and remove the Trigger Pin [54], and Trigger (A) [25] can be removed.
- To remove Trigger (A) [25] together with the driving section (Pushing Lever (B) [70], the Nose [36], etc.), remove Trigger (A) [25] while forcing down Plunger (A) [62] with the blade of a screwdriver, as shown in Fig. 13.

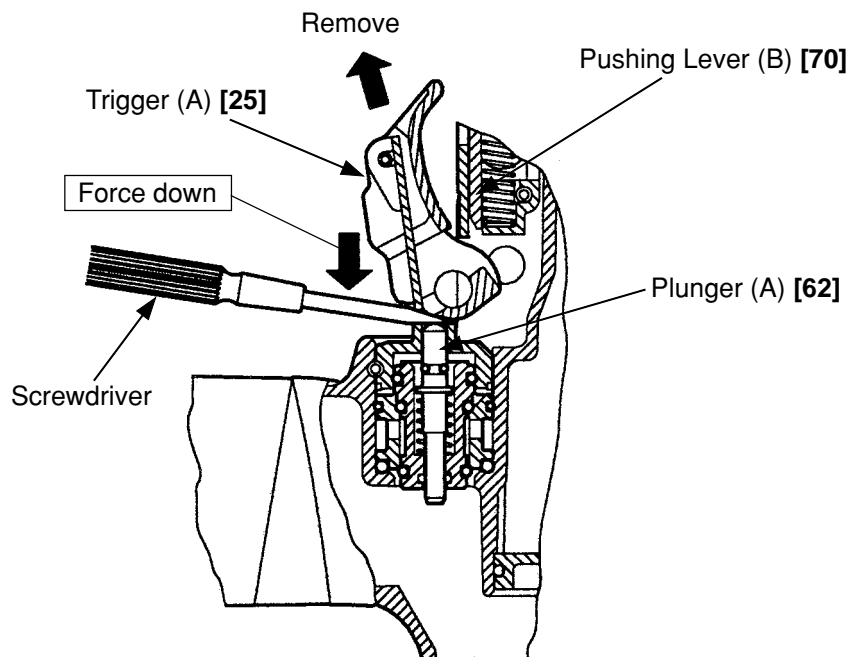


Fig. 13

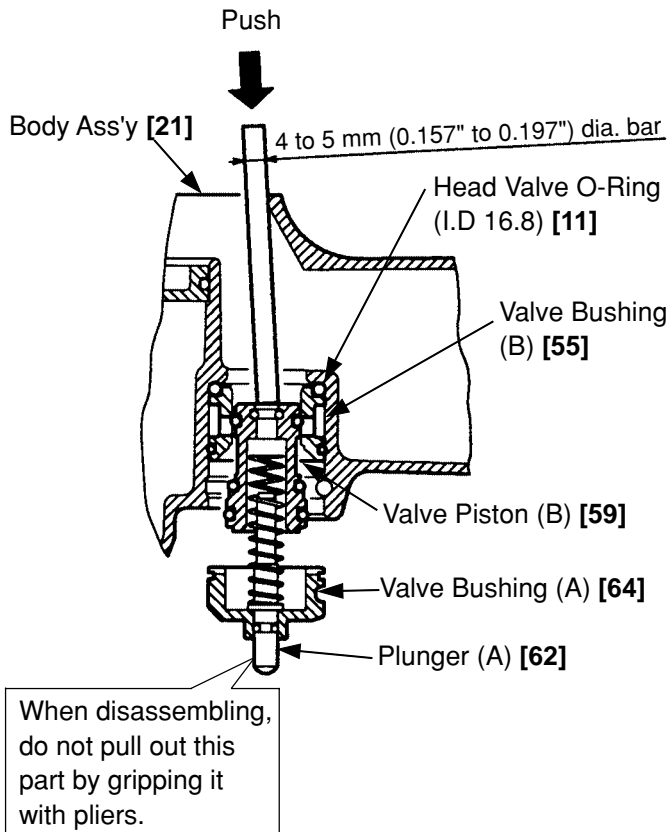


Fig. 14

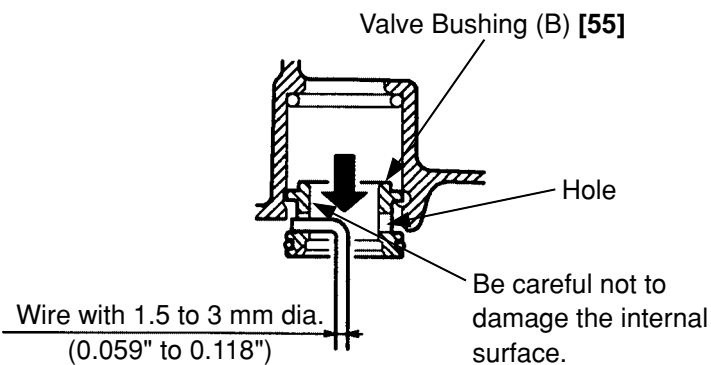


Fig. 15

- Pull out the Roll Pin D3 x 18 [52] with the roll pin puller (3 mm (0.118") dia.), and take out the control valve in the following manner.

- 1) Remove the Exhaust Cover [8] by following the procedure in (1), section 10-2.
- 2) As shown in Fig. 14, put a 4 to 5 mm (0.157 to 0.197") dia. bar in from the upper side of the Body Ass'y [21] and push the top of Valve Piston (B) [59]. Now, the parts forming the control valve can be taken out except Valve Bushing (A) [64] and the Head Valve O-Ring (I.D 16.8) [11].

#### [CAUTIONS]

- Be careful not to damage Valve Piston (B) [59], Valve Bushings (A) [64] and (B) [55], etc.
- Do not pull out the end of Plunger (A) [62] with pliers.

- 3) To take out Valve Bushing (B) [55], put a 1.5 to 3 mm (0.059 " to 0.118 ") dia. wire with its end hooked into the hole in the bushing and pull it out while being careful not to damage the internal surface of Valve Bushing (B) [55], as shown in Fig. 15.

(b) Reassembly

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

- Be extremely careful to prevent the entry of foreign particles into the control valve section.
- Thoroughly apply grease to the O-Ring (I.D 1.8) [63] on Plunger (A) [62], O-Rings (S-4) [58], (I.D 8.8) [57] and (I.D 11) [60] on Valve Piston (B) [59], and the shaft of Plunger (A) [62] as shown in Fig. 16.
- As shown in Fig. 16, install Valve Bushing (A) [64] so that the roll pin groove in Valve Bushing (A) [64] will be aligned with the roll pin hole in the Body Ass'y [21]. First, insert a roll pin puller (3 mm (0.118 ") dia.) into the roll pin hole. Then, upon confirming that the puller passes through the hole, drive in the Roll Pin D3 x 18 [52].

If an attempt is made to drive the roll pin with force when the roll pin groove in Valve Bushing (A) [64] is not aligned with the roll pin hole in the Body Ass'y [21], it will damage the periphery of Valve Bushing (A) [64] and prevent disassembly or reassembly.

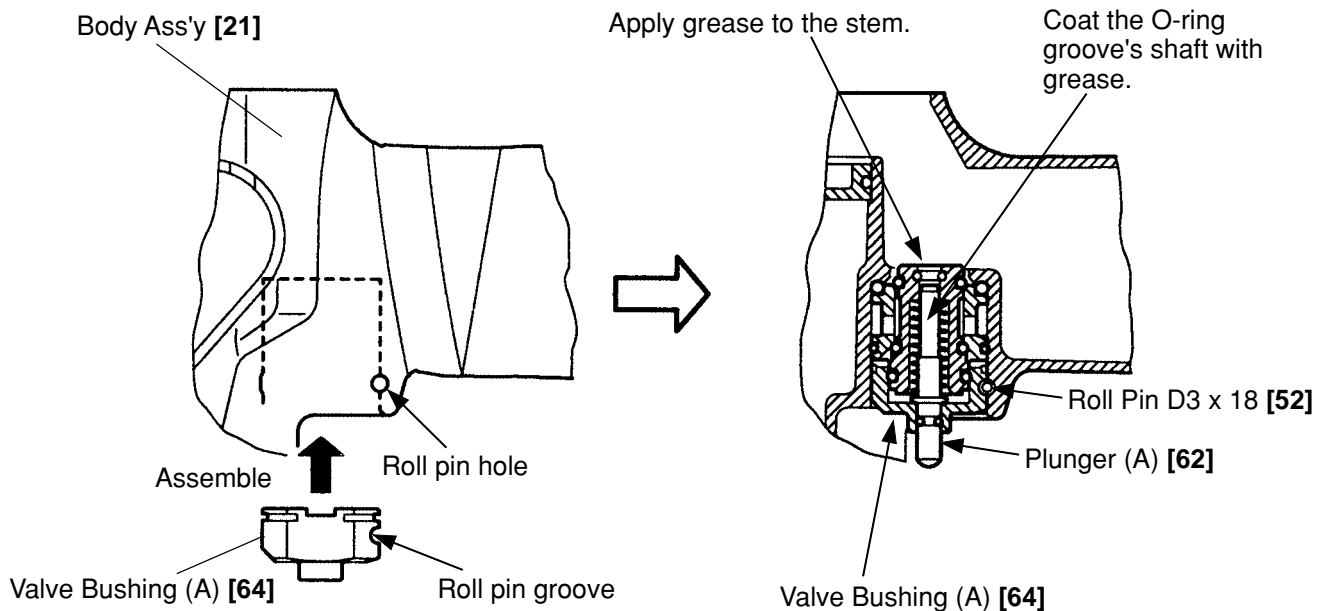


Fig. 16

- After assembling, check that Plunger (A) [62] moves smoothly.

#### 10-4. Disassembly and Reassembly of the Driving Section (See Fig. 17)

##### [Tools required]

- Hex. bar wrench (5 mm)
- Roll pin puller (1.5 mm (0.059"), 3 mm (0.118"), and 4 mm (0.157") dia.)
- Phillips screwdriver
- Puller for retaining ring (C-type) for hole

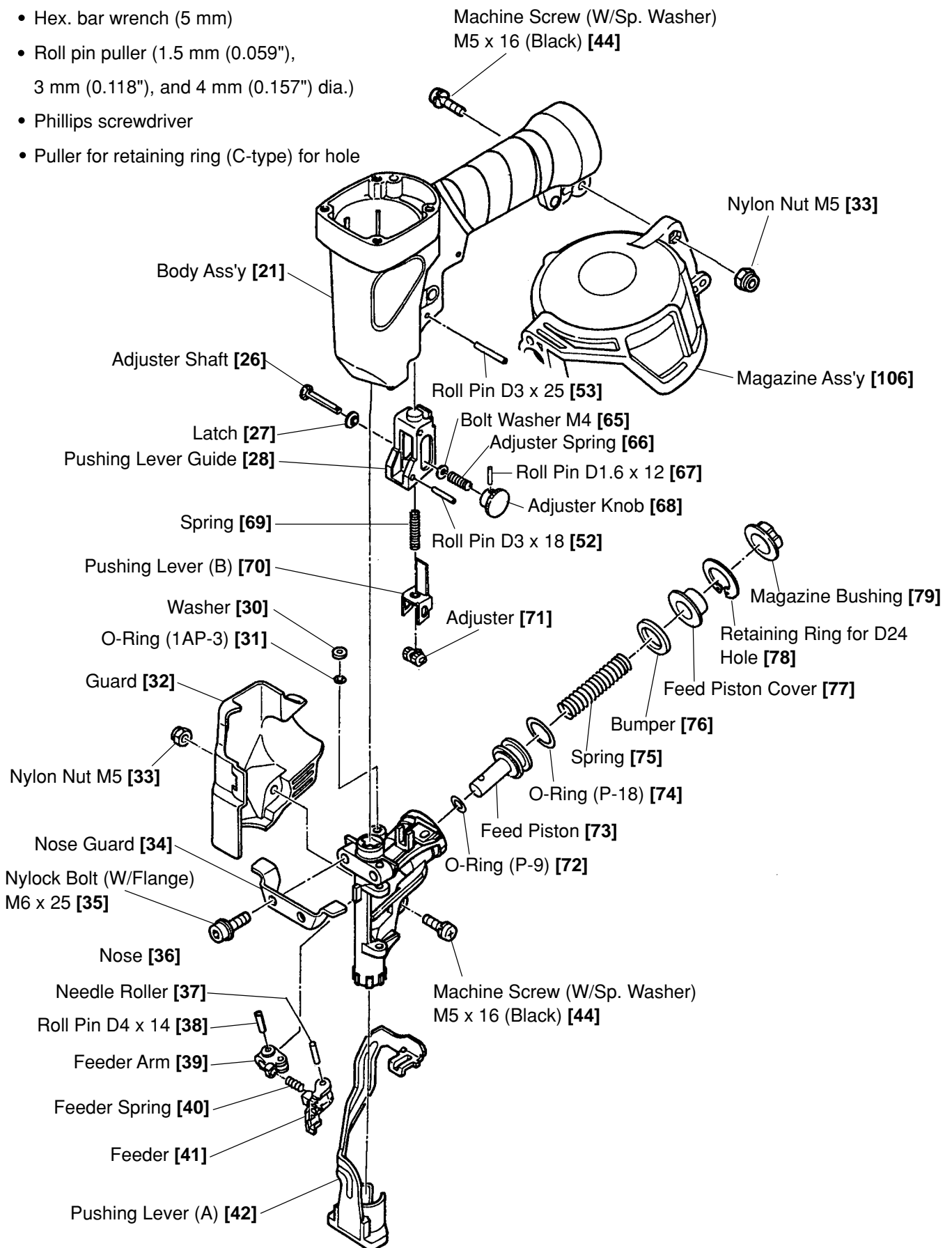


Fig. 17 Disassembly and reassembly of the driving section

(1) Disassembly and reassembly of the Nose [36], Pushing Lever (A) [42], Pushing Lever Guide [28], etc.

(See Fig. 17)

(a) Disassembly

- Remove the Machine Screw (W/Sp. Washer) M5 x 16 (Black) [44] with a Phillips screwdriver and then remove the Magazine Ass'y [106]. Remove the Machine Screw (W/Sp. Washer) M5 x 16 (Black) [44] with a Phillips screwdriver and then remove the Guard [32] from the Nose [36].
- Remove the two Nylock Bolts (W/Flange) M6 x 25 [35] from the Nose [36] with a hex. bar wrench (5 mm). Now, the Nose Guard [34], the Nose [36] and Pushing Lever (A) [42] can be removed.
- Pull out the Roll Pins D3 x 18 [52] and D3 x 25 [53] with a roll pin puller (3 mm (0.118") dia.). Then the Pushing Lever Guide [28] can be removed.

(b) Reassembly

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

- Before reassembly, check that the end of Pushing Lever (A) [42] is inserted in the opening of the Pushing Lever Guide [28] securely as shown in Fig. 18.
- After reassembly, check that Pushing Lever (A) [42] operates smoothly.

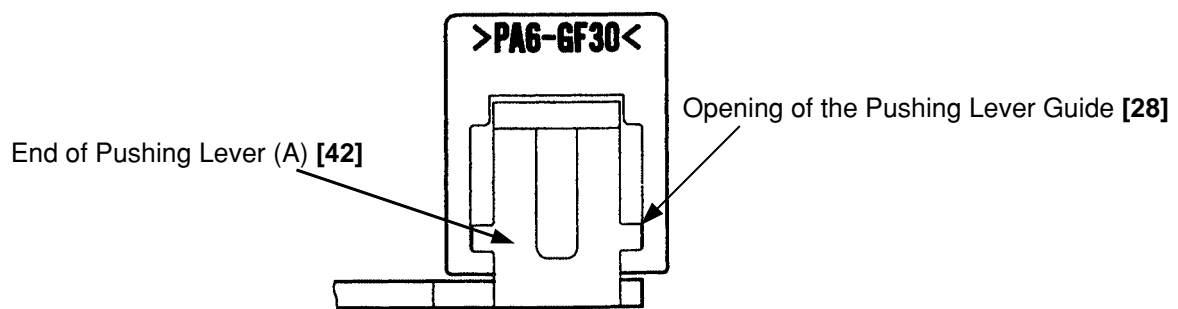


Fig. 18

(2) Disassembly and reassembly of the adjuster section (See Fig. 17)

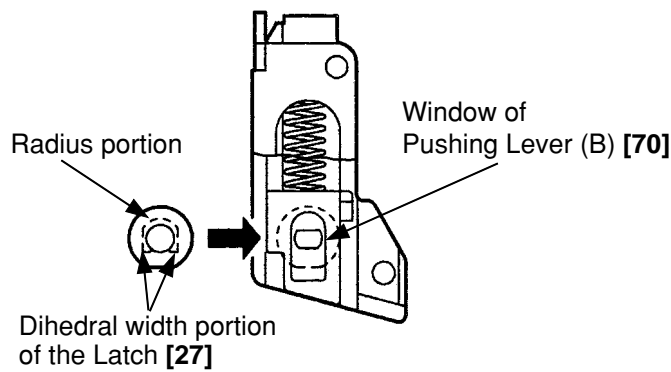
(a) Disassembly

- Remove the Pushing Lever Guide [28] by following the procedure in (1), section 10-4.
- Pull out the Roll Pin D1.6 x 12 [67] with a roll pin puller (1.5 mm (0.059") dia.). Then the Adjuster Knob [68], the Adjuster Spring [66], the Bolt Washer M4 [65], the Latch [27], the Adjuster Shaft [26], the Spring [69], Pushing Lever (B) [70] and the Adjuster [71] can be removed.

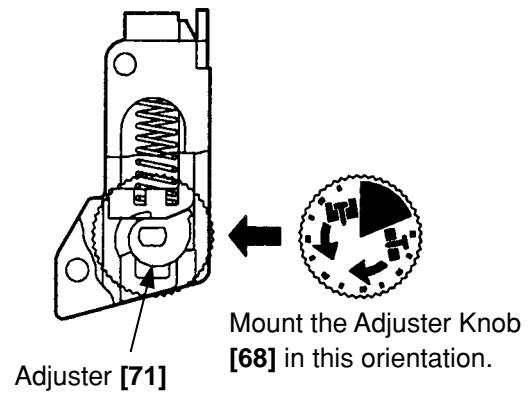
(b) Reassembly

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

- Align the dihedral width portion and the radius portion of the Latch [27] to the window of Pushing Lever (B) [70] when reassembling (Fig. 19).
- Mount the Adjuster [71] and the Adjuster Knob [68] as shown in Fig. 20.
- Apply the supplied oil (Hitachi pneumatic tool lubricant) to Pushing Lever (B) [70] and the Bolt Washer M4 [65] before reassembly.
- After reassembly, check that the Adjuster [71] and Pushing Lever (B) [70] operate smoothly.



**Fig. 19**



**Fig. 20**

(3) Disassembly and reassembly of the Feeder [41], Feed Piston [73], etc. (See Fig. 17)

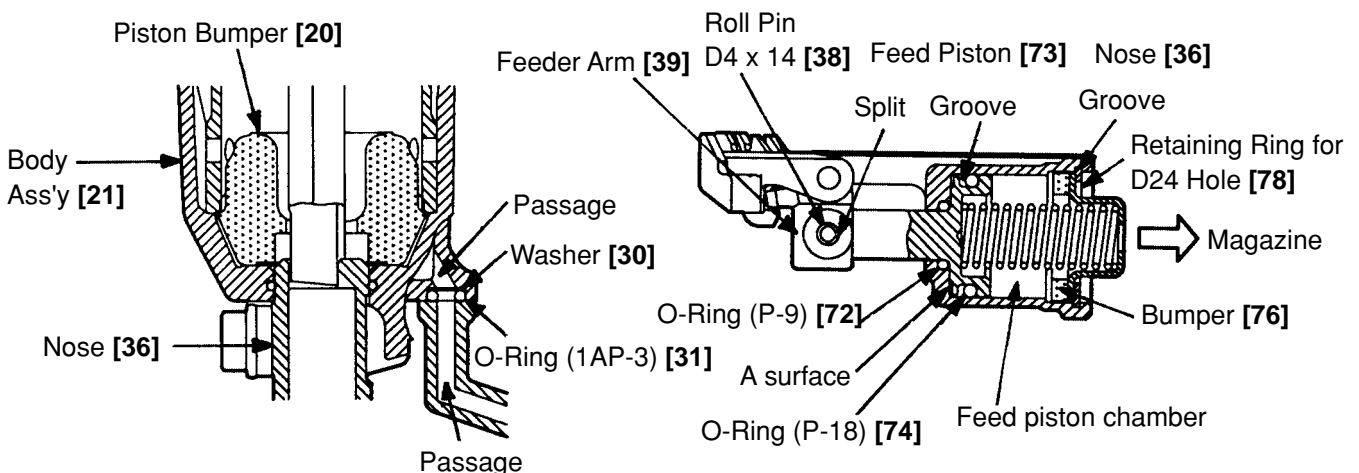
(a) Disassembly

- Remove the Magazine Ass'y [106] and the Guard [32] by following the procedure in (1), section 10-4.
- Holding the Feed Piston Cover [77] with a finger to prevent jumping of the Spring [75], remove the Retaining Ring for D24 Hole [78] with a puller for retaining ring (C-type) for hole. Then the Feed Piston Cover [77], the Bumper [76] and the Spring [75] can be removed.
- Pull out the Roll Pin D4 x 14 [38] with a roll pin puller (4 mm (0.157") dia.). Then the Feed Piston [73] and the Feeder Arm [39] can be removed.
- Push out the Needle Roller [37] with a roll pin puller (4 mm (0.157") dia.). Then the Feeder Arm [39], the Feeder [41] and the Feeder Spring [40] can be removed.

(b) Reassembly

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

- Before reassembly, remove foreign matter such as broken pieces of the Piston Bumper [20] from the passage between the Body Ass'y [21] and the Nose [36] (Fig. 21), and the feed piston chamber (Fig. 22) completely for smooth operation of the Feed Piston [73].



**Fig. 21**

**Fig. 22**

- Apply grease to the O-Ring (P-9) [72] and O-Ring (P-18) [74] before reassembly.
- Charge grease in the groove of the Feed Piston [73] (Fig. 22).

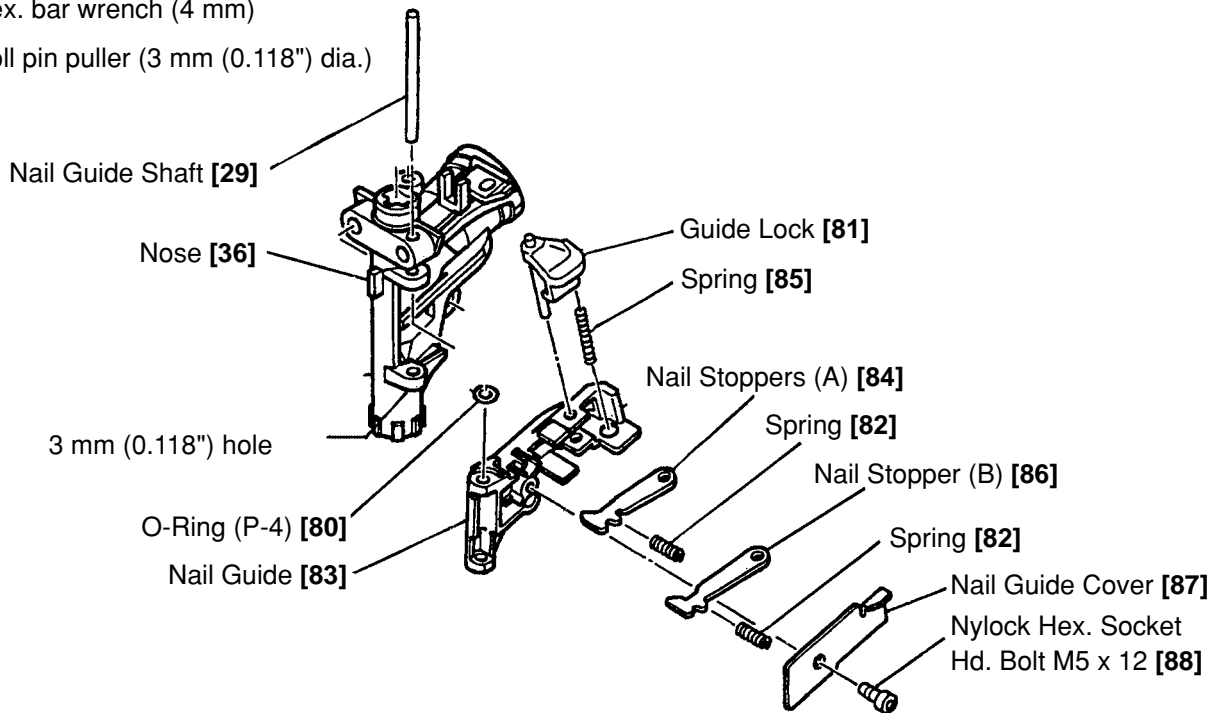
- Apply grease to the O-ring sliding surface of the Feed Piston [73] and Nose [36] before reassembly. Be careful not to apply too much grease to the A surface (Fig. 22). Too much grease can impair the operation of the Feed Piston [73] (at low pressure).
- Put the Roll Pin D4 x 14 [38] in the Feeder Arm [39] facing the split to the magazine as shown in Fig. 22.
- Check that the Retaining Ring for D24 Hole [78] fits securely in the groove of the Nose [36].

(4) Disassembly and reassembly of the Nail Guide [83], Nail Stoppers (A) [84] and (B) [86], etc. (See Fig. 23)

**[Tools required]**

Hex. bar wrench (4 mm)

Roll pin puller (3 mm (0.118") dia.)



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

**(a) Disassembly**

- Remove the Nose [36] by following the procedure in (1), section 10-4.
- Put a roll pin puller (3 mm (0.118") dia.) through the 3 mm (0.118") hole in the Nose [36] and pull out the Nail Guide Shaft [29]. Then the Nail Guide [83] and other parts can be removed in an assembly state.
- Holding the Nail Guide Cover [87] with a finger to prevent jumping of the Springs [82] and [85], remove the Nylock Hex. Socket Hd. Bolt M5 x 12 [88] with a hex. bar wrench (4 mm). Then the Nail Guide Cover [87] and the two Springs [85] can be removed.
- Pull out the Guide Lock [81] from the Nail Guide [83]. Then Nail Stoppers (A) [84] and (B) [86], and the Spring [82] can be removed.

**(b) Reassembly**

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

- Remove dust from the claw groove of the Nail Guide [83] and then assemble it.
- Securely engage the Spring [85] with the convex portions of Nail Stoppers (A) [84] and (B) [86] to assemble.
- After reassembly, push Nail Stoppers (A) [84] and (B) [86] with a finger and make sure that they smoothly return to position.

## 10-5. Disassembly and Reassembly of the Cap and the Magazine Section

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

### [Tool required]

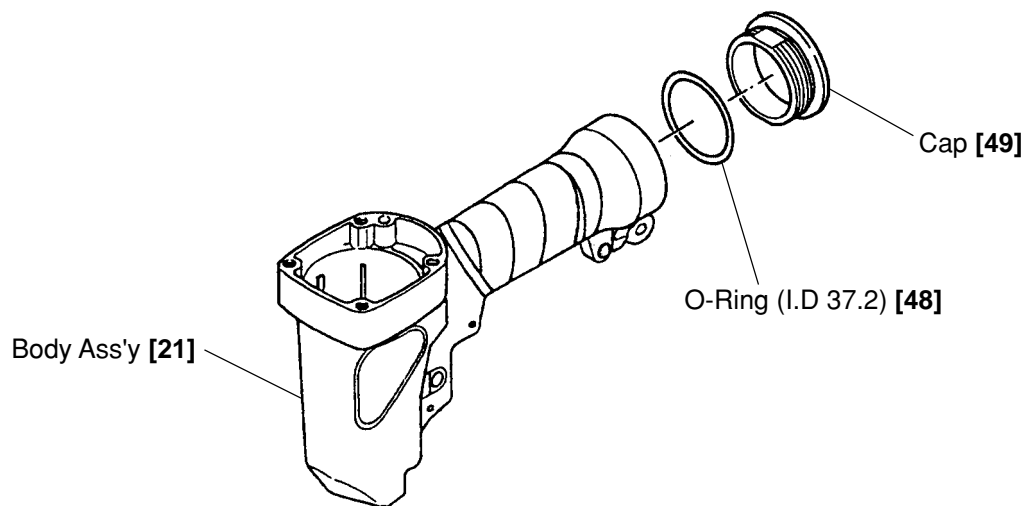
- Wrench (23 mm)

### (a) Disassembly

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

### (b) Reassembly

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



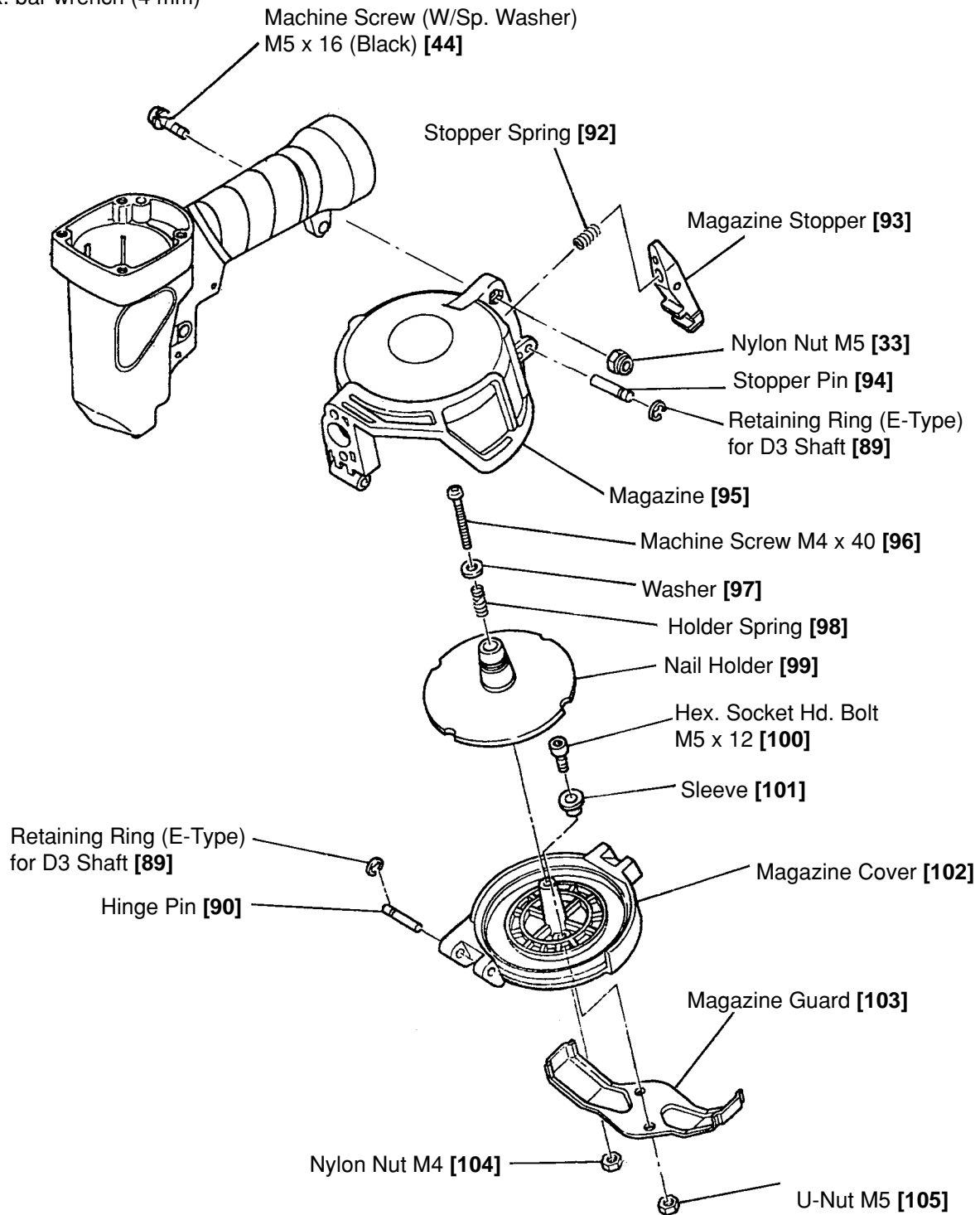
**Fig. 24 Disassembly and reassembly of the cap**



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

**[Tools required]**

- Phillips screwdriver
- Flatblade screwdriver
- Roll pin puller (3 mm (0.118") dia.)
- Socket wrench (8 mm)
- Hex. bar wrench (4 mm)



**Fig. 25 Disassembly and reassembly of the magazine section**

(a) Disassembly

- Remove the Machine Screw (W/Sp. Washer) M5 x 16 (Black) **[44]** with the Phillips screwdriver. Then the Magazine Ass'y **[106]** can be removed.

(b) Reassembly

- Disassembly procedures should be followed in the reverse order.

(3) Disassembly and reassembly of the Magazine Stopper **[93]** (See Fig. 25)

(a) Disassembly

- Insert the tip of a flatblade screwdriver in the clearance between the Magazine **[95]** and the Magazine Stopper **[93]** and remove the Retaining Ring (E-Type) for D3 Shaft **[89]**.

Holding the Magazine Stopper **[93]** with a finger to prevent jumping of the Stopper Spring **[92]**, push out the Stopper Pin **[94]** by using a roll pin puller (3 mm (0.118") dia.). Then the Magazine Stopper **[93]** and the Stopper Spring **[92]** can be removed.

(b) Reassembly

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

- Check that the Retaining Ring (E-Type) for D3 Shaft **[89]** is securely fitted in the groove of the Stopper Pin **[94]**.

(4) Disassembly and reassembly of the Magazine Cover **[102]** (See Fig. 25)

(a) Disassembly

- Insert the tip of a flatblade screwdriver in the clearance between the Magazine **[95]** and the Magazine Cover **[102]** and remove the Retaining Ring (E-Type) for D3 Shaft **[89]**.

Push out the Hinge Pin **[90]** by using a roll pin puller (3 mm (0.118") dia.). Then the Magazine Cover **[102]** and other parts can be removed in an assemble state.

(b) Reassembly

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

- Check that the Retaining Ring (E-Type) for D3 Shaft **[89]** is securely fitted in the groove of the Hinge Pin **[90]**.

(5) Disassembly and reassembly of the Nail Holder **[99]** and the Magazine Guard **[103]** (See Fig. 25)

(a) Disassembly

- Open the Magazine Cover **[102]** and remove the Machine Screw M4 x 40 **[96]** with a Phillips screwdriver. Then the Nail Holder **[99]** and the Holder Spring **[98]** can be removed.
- Holding the U-Nut M5 **[105]** with a socket wrench (8 mm), remove the two Hex. Socket Hd. Bolts M5 x 12 **[100]** with a hex. bar wrench (4 mm). Then the Magazine Guard **[103]** can be removed.

(b) Reassembly

- Disassembly procedures should be followed in the reverse order.

## 11. INSPECTION AND CONFIRMATION AFTER REASSEMBLY

- Check that Plunger (A) **[62]** moves smoothly.
- Check that there is no air leakage from each part.
- While driving nails with an air pressure of 4.5 kgf/cm<sup>2</sup> (63 psi), check that there is no idle driving and bending of nails.

Note: Before conducting the driving test, turn the Adjuster Knob **[68]** to the deepest position.

- Recheck the tightening torque of each screw.
- Check that Pushing Lever (A) **[42]** slides smoothly.
- Check that the machine will not operate only by pulling Trigger (A) **[25]**. Also check that the machine will not operate only by depressing Pushing Lever (A) **[42]**.

## 12. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL			10	20	30	40	50	60 min.
	Fixed	Variable						
NV 45AC		Work Flow						
	General Assembly							
		Pushing Lever (A) Adjuster Pushing Lever (B) Spring Pushing Lever Guide	Valve Bushing (A) Plunger (A) Plunger Spring Valve Piston (B) Valve Bushing (B) O-Ring x 7					Body Ass'y
		Feed Piston O-Ring x 2 Spring Bumper Feed Piston Cover	Piston O-Ring  Trigger Pin					
		Magazine Bushings	Feeder Arm Feeder Feeder Spring	Nose Nail Guide Nail Stopper (A), (B) Guide Lock Nail Guide Cover Magazine Magazine Cover Nail Holder				
			Adjustment (Cylinder, Body and Valve)					

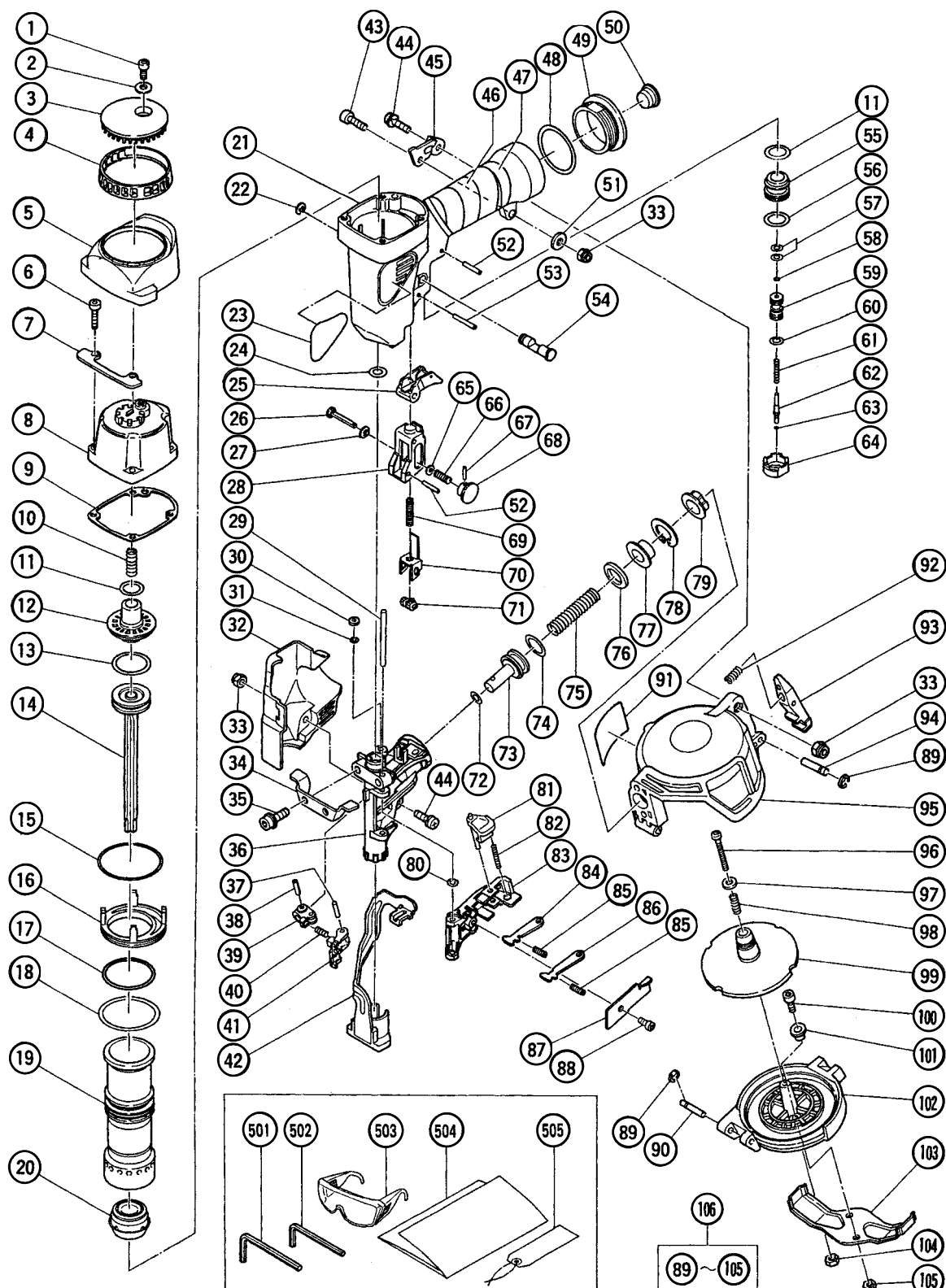
## PNEUMATIC TOOL PARTS LIST

### ■ COIL NAILER

2000・8・25

Model NV 45AC

(E1)



# PARTS

NV 45AC

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	883-369	PROTECTOR	1		
6	883-368	HEX. SOCKET HD. BOLT M5X22	4		
7	883-367	BODY GUARD	1		
8	881-879	EXHAUST COVER	1		
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	883-365	O-RING (1BP-28)	1		
14	883-364	PISTON	1		
15	990-067	O-RING (1AS-50)	1		
16	881-831	CYLINDER PLATE	1		
17	984-483	O-RING (S-36)	1		
18	881-864	CYLINDER O-RING	1		
19	881-829	CYLINDER	1		
20	883-366	PISTON BUMPER	1		
21	883-363	BODY ASS'Y	1	INCLUD.46,47	
22	955-479	RETAINING RING (E-TYPE) FOR D6 SHAFT	1		
23		NAME PLATE	1		
24	876-031	O-RING (S-16)	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	881-811	NAIL GUIDE SHAFT	1		
30	883-351	WASHER	1		
31	873-093	O-RING (1AP-3)	1		
32	883-362	GUARD	1		
33	877-371	NYLON NUT M5	3		
34	883-352	NOSE GUARD	1		
35	993-041	NYLOCK BOLT (W/FLANGE) M6X25	2		
36	883-350	NOSE	1		
37	983-545	NEEDLE ROLLER	1		
38	949-770	ROLL PIN D4X14 (10 PCS.)	1		
39	878-132	FEEDER ARM	1		
40	878-340	FEEDER SPRING	1		
41	883-357	FEEDER	1		
42	883-359	PUSHING LEVER (A)	1		
43	949-658	HEX. SOCKET HD. BOLT M5X18 (10 PCS.)	1		
44	308-386	MACHINE SCREW (W/SP. WASHER) M5X16 (BLACK)	2		
45	883-361	HANDLE ARM	1		
46	880-408	GRIP TAPE	1		
47	880-407	TAPE	2		
48	880-183	O-RING (I.D 37.2)	1		
49	880-379	CAP	1		
50	872-035	DUST CAP	1		
51	876-205	WASHER	1		

\* : ALTERNATIVE PARTS

8 - 00

# PARTS

NV 45AC

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
52	949-518	ROLL PIN D3X18 (10 PCS.)	2		
53	949-539	ROLL PIN D3X25 (10 PCS.)	1		
54	881-952	TRIGGER PIN	1		
55	878-881	VALVE BUSHING (B)	1		
56	878-885	O-RING (S-18)	1		
57	878-925	O-RING (I.D 8.8)	2		
58	981-317	O-RING (S-4)	1		
59	880-672	VALVE PISTON (B)	1		
60	878-887	O-RING (I.D 11)	1		
61	878-884	PLUNGER SPRING	1		
62	880-673	PLUNGER (A)	1		
63	878-888	O-RING (I.D 1.8)	1		
64	880-671	VALVE BUSHING (A)	1		
65	949-429	BOLT WASHER M4 (10 PCS.)	1		
66	881-853	ADJUSTER SPRING	1		
67	878-222	ROLL PIN D1.6X12	1		
68	881-848	ADJUSTER KNOB	1		
69	881-882	SPRING	1		
70	881-843	PUSHING LEVER (B)	1		
71	881-845	ADJUSTER	1		
72	872-645	O-RING (P-9)	1		
73	883-358	FEED PISTON	1		
74	873-570	O-RING (P-18)	1		
75	880-409	SPRING	1		
76	877-476	BUMPER	1		
77	880-170	FEED PISTON COVER	1		
78	983-748	RETAINING RING FOR D24 HOLE	1		
79	880-177	MAGAZINE BUSHING	1		
80	874-436	O-RING (P-4)	1		
81	878-103	GUIDE LOCK	1		
82	880-446	SPRING	1		
83	883-353	NAIL GUIDE	1		
84	883-354	NAIL STOPPER (A)	1		
85	880-393	SPRING	2		
86	883-355	NAIL STOPPER (B)	1		
87	883-356	NAIL GUIDE COVER	1		
88	880-830	NYLOCK HEX. SOCKET HD. BOLT M5X12	1		
89	872-971	RETAINING RING (E-TYPE) FOR D3 SHAFT	2		
90	877-152	HINGE PIN	1		
91	880-450	WARNING LABEL	1		
92	877-149	STOPPER SPRING	1		
93	880-146	MAGAZINE STOPPER	1		
94	877-150	STOPPER PIN	1		
95	878-158	MAGAZINE	1		
96	949-228	MACHINE SCREW M4X40 (10 PCS.)	1		
97	875-246	WASHER	1		
98	877-894	HOLDER SPRING	1		
99	878-159	NAIL HOLDER	1		
100	949-765	HEX. SOCKET HD. BOLT M5X12 (10 PCS.)	2		
101	878-164	SLEEVE	2		
102	878-161	MAGAZINE COVER	1		

**NV 45AC**

## STANDARD ACCESSORIES

## OPTIONAL ACCESSORIES

\* : ALTERNATIVE PARTS