

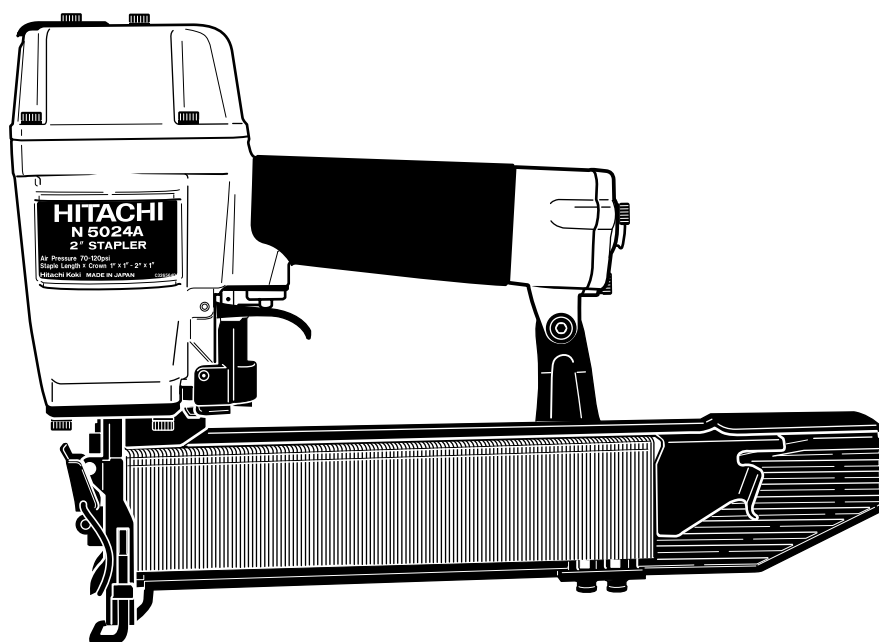
MODEL

**N 5024A**

# Hitachi Power Tools

**STAPLER  
N 5024A**

**TECHNICAL DATA  
AND  
SERVICE MANUAL**



**N**

LIST No. E014

Sep. 2003

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

| Symbols Utilized | Competitors  |            |
|------------------|--------------|------------|
|                  | Company Name | Model Name |
| R                | SENCO        | PW-2"      |
| Y                | PASLODE      | 3200-W16   |
| P                | BOSTITCH     | 450S2      |



## CONTENTS

|  | Page      |
|--|-----------|
| <b>1. PRODUCT NAME .....</b>   | <b>1</b>  |
| <b>2. MARKETING OBJECTIVE .....</b>  | <b>1</b>  |
| <b>3. APPLICATIONS .....</b>   | <b>1</b>  |
| <b>4. SELLING POINTS .....</b>   | <b>1</b>  |
| <b>5. SPECIFICATIONS .....</b>   | <b>2</b>  |
| 5-1. Specifications .....  | 2         |
| 5-2. Staple Selection .....  | 3         |
| 5-3. Staple Driving Force .....  | 4         |
| 5-4. Optional Accessories .....  | 4         |
| <b>6. COMPARISONS WITH SIMILAR PRODUCTS .....</b>                                      | <b>5</b>  |
| <b>7. PRECAUTIONS IN SALES PROMOTION .....</b>   | <b>6</b>  |
| 7-1. Handling Instructions .....   | 6         |
| 7-2. Warning Label .....   | 6         |
| 7-3. Related Laws and Regulations .....  | 7         |
| <b>8. MECHANISM AND OPERATION PRINCIPLE .....</b>                                      | <b>8</b>  |
| 8-1. Mechanism .....   | 8         |
| 8-2. Operation Principle .....   | 9         |
| <b>9. TROUBLESHOOTING GUIDE .....</b>  | <b>13</b> |
| 9-1. Troubleshooting and Correction .....  | 13        |
| 9-2. Possible Causes and Correction of Air Leakage .....                               | 15        |
| <b>10. DISASSEMBLY AND REASSEMBLY .....</b>  | <b>17</b> |
| 10-1. General Precautions in Disassembly and Reassembly .....                          | 17        |
| 10-2. Disassembly and Reassembly of the Output Section .....                           | 18        |
| 10-3. Disassembly and Reassembly of the Control Valve Section .....                    | 22        |
| 10-4. Disassembly and Reassembly of the Driving Section and the Magazine Section ..... | 24        |
| <b>11. INSPECTION AND CONFIRMATION AFTER REASSEMBLY .....</b>                          | <b>25</b> |
| <b>12. STANDARD REPAIR TIME (UNIT) SCHEDULES .....</b>                                 | <b>26</b> |
| Assembly Diagram for N 5024A   |           |

## 1. PRODUCT NAME

Hitachi Stapler, Model N 5024A [50 mm (2")]

## 2. MARKETING OBJECTIVE

The Model N 5024A wide crown stapler has been released following the current Model N 5008AC medium crown stapler. The new Model N 5024A is expected to expand our share of the stapler market in North America.

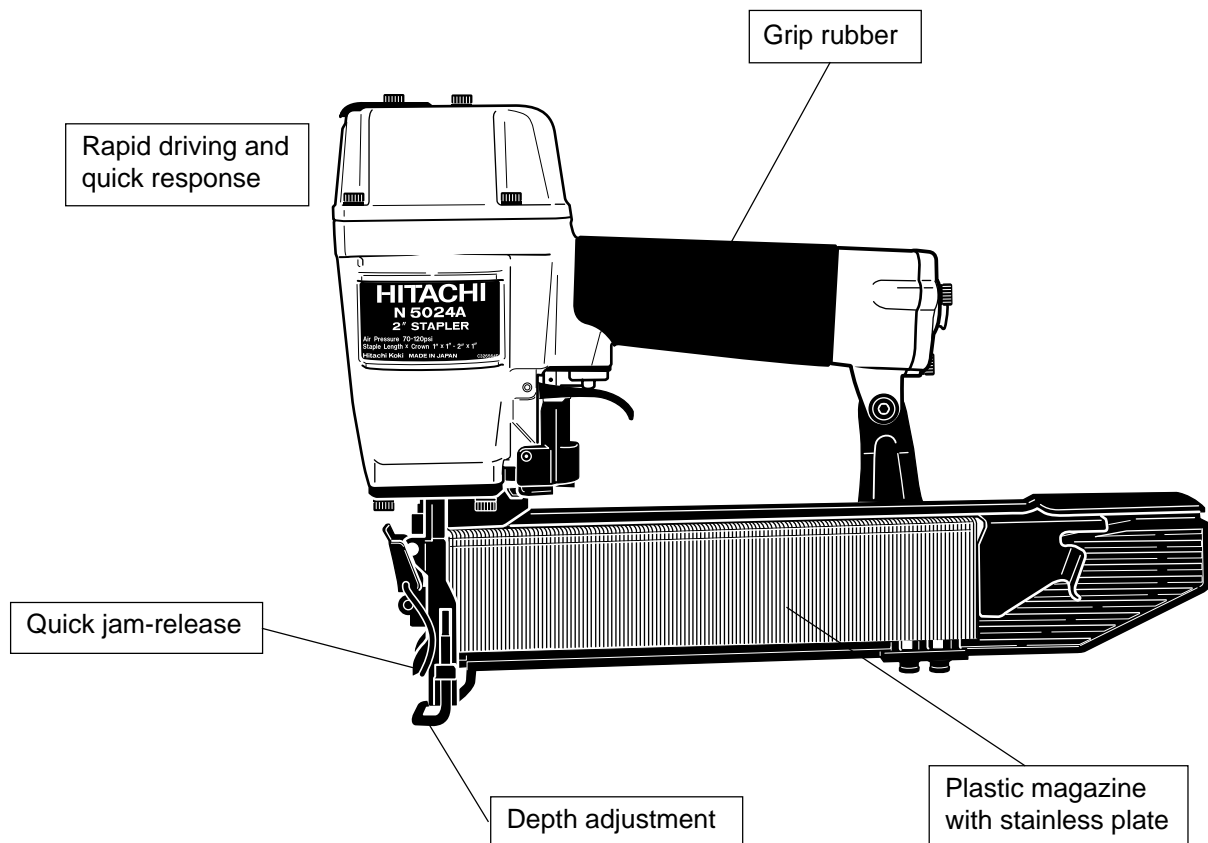
Primary differences from the Model N 5008AC are described below.

- (1) The weight of the Model N 5024A is 2.1 kg (4.7 lbs.) and it is lighter than our competitors, R, Y and P, thanks to the adoption of the plastic magazine. The staple shoulder sliding portion of the magazine is wear-resistant.
- (2) The driving speed is faster than our competitors thanks to the adoption of the 2-valve/cylinder drive system that is well reputed in the current Models NV 45AB2, N 5008AC and so on.
- (3) The handle is equipped with a cylindrical grip rubber for comfortable fitting and durability.
- (4) The driving depth is easily adjustable by tool-less adjuster.

## 3. APPLICATIONS

- Insulation sheathing
- Wire lathing

## 4. SELLING POINTS



## 5. SPECIFICATIONS

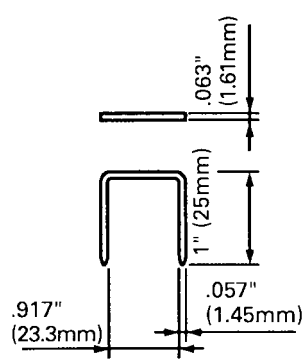
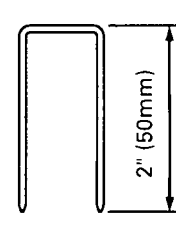
### 5-1. Specifications

|   |  |
|---|--|
| Model   | N 5024A  |
| Driving system                                    | Reciprocating piston type  |
| Operating pressure                                | 5 – 8.5 kgf/cm <sup>2</sup> (70 – 120 psi, 4.9 – 8.3 bar) (Gauge pressure)   |
| Driving speed                                     | Min. 3 staples/sec.  |
| Weight  | 2.1 kg (4.4 lbs.)  |
| Dimensions<br>(Length x Height x Width)           | 365 mm x 250 mm x 85 mm<br>(14-3/8" x 9-13/16" x 3-11/32")   |
| Staple feed system                                | Spiral spring  |
| Staple capacity                                   | 150 staples  |
| Air consumption                                   | 1.05 ltr/cycle at 7 kgf/cm <sup>2</sup> (0.037 ft <sup>3</sup> /cycle at 100 psi) (1.05 ltr/cycle at 6.9 bar)  |
| Air inlet   | 3/8" NPT thread  |
| Packaging   | Corrugated cardboard box   |
| Packaging dimensions<br>(Length x Height x Width) | 436 mm x 96 mm x 309 mm<br>(17-5/32" x 3-25/32" x 12-5/32")  |
| Standard accessories                              | <ul style="list-style-type: none"><li>• Hex. bar wrench for M5 screw (Code No. 944459)</li><li>• Safety glasses (Code No. 875769)</li></ul>  |
| Optional accessories                              | <ul style="list-style-type: none"><li>• Sequential trip mechanism kit (Single-shot) (Code No. 876762)</li><li>• Pneumatic tool lubricant (1 oz oil feeder) (Code No. 877153)</li><li>• Pneumatic tool lubricant (4 oz oil feeder) (Code No. 874042)</li><li>• Pneumatic tool lubricant (1 oz oil feeder) (Code No. 876212)</li></ul> |

## 5-2. Staple Selection

The Model N 5024A utilizes medium crown staples, gauge #16, 1" width crown collated by adhesive. Applicable staple dimensions are shown below.

**CAUTION:** Ensure that staples are as specified in Fig. 1. Other gauge staples and other crown width staples will cause clogging of staples and subsequent damage to the stapler.

| Staple gauge #16, 1" crown  |  |
|---|--|
| Minimum   | Maximum  |
|  |  |

**Fig. 1 Dimensions of staple**

### 5-3. Staple Driving Force

Figure 2 shows by type of wood and staples, the stapler output energy provided by the supply pressure and the stapling energy required for driving the staple flush. Air pressure which exceeds the intersecting point between the stapler output energy and the stapling energy required for driving the staple allows the staple to be fully driven.

For example, when driving a staple of 50 mm length (2") into a workpiece of hemlock with the Model N 5024A, a pressure of about 7.7 bar (7.8 kgf/cm<sup>2</sup>, 111 psi) allows the stapler to drive the staple flush with the wood surface. A pressure beyond this value causes the staple head to be driven below the wood surface. Figure 2 should be used as reference data because those values vary depending on the type, moisture content, and grain of wood.

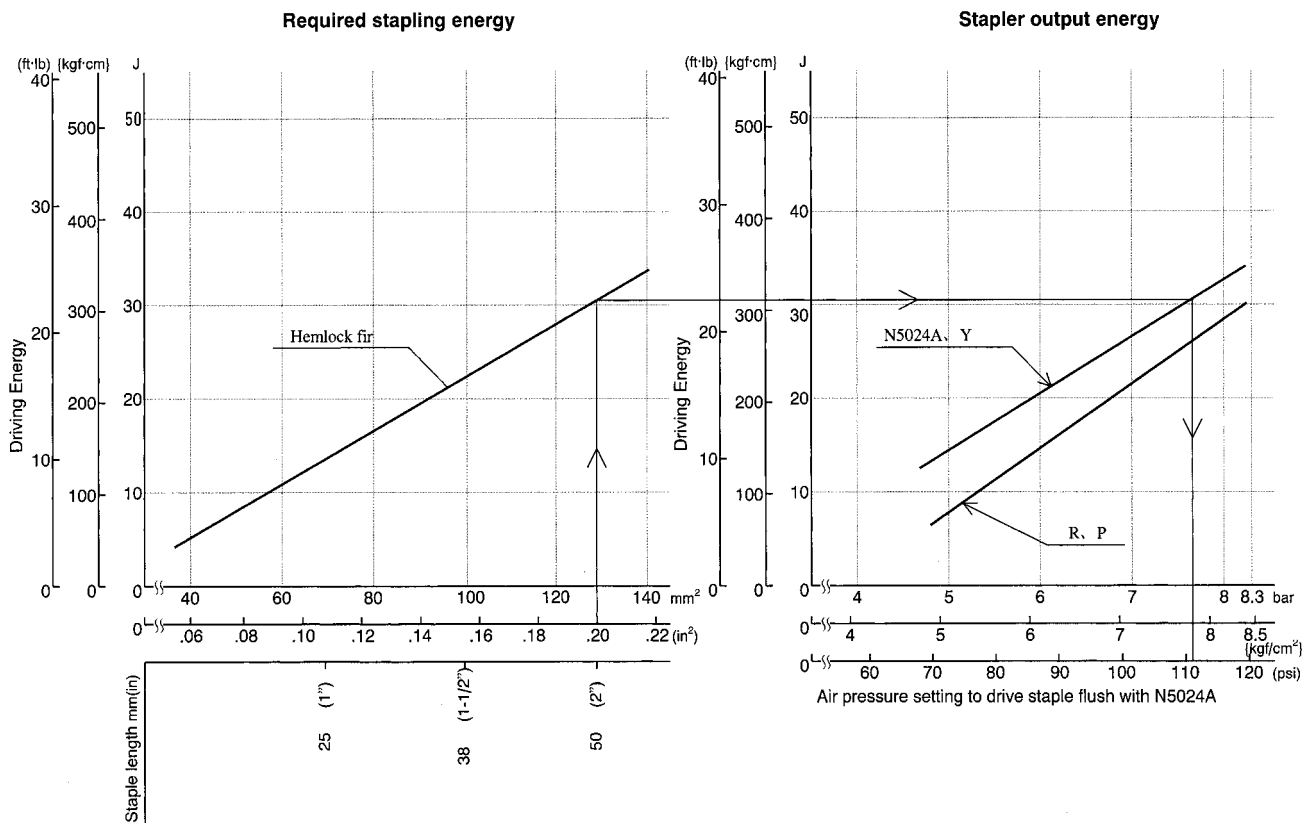


Fig. 2 Required stapling energy and stapler output energy

### 5-4. Optional Accessories

Sequential trip mechanism kit (Single shot) (Code No. 876762)

A sequential trip mechanism kit is provided as an optional accessory for the Model N 5024A. By using this optional accessory, a staple is driven by pressing the pushing lever first against a workpiece and then pulling the trigger (single-shot operation), and no staple is driven when pulling the trigger first and then pressing the pushing lever against a workpiece. Please recommend the sequential trip mechanism kit to the customers who want to use it. Salespersons must instruct the customers to read the Handling Instructions attached to the sequential trip mechanism kit and also the Handling Instructions of the Model N 5024A thoroughly for correct use.

## 6. COMPARISONS WITH SIMILAR PRODUCTS

| Maker   | HITACHI  | R  | Y  | P  |
|---|--|--|--|--|
| Model name  | N 5024A  |  |  |  |
| Operating pressure                                    | 5 – 8.5 kgf/cm <sup>2</sup><br>(70 – 120 psi)              | 5.6 – 7.7 kgf/cm <sup>2</sup><br>(80 – 110 psi)        | 4.2 to 8.4 kgf/cm <sup>2</sup><br>(60 to 120 psi)  | 5 to 8.5 kgf/cm <sup>2</sup><br>(70 to 120 psi)      |
| Weight  | 2.1 kgf (4.7 lbs.)   | 2.5 kgf (5.4 lbs.)                                     | 2.2 kgf (4.9 lbs.)                                 | 2.3 kgf (5.1 lbs.)                                   |
| Dimensions<br>(L x H x W)                             | 365 mm x 250 mm x 85 mm<br>(14-3/8" x 9-13/16" x 3-11/32") | 318 mm x 241 mm x 69 mm<br>(12-1/2" x 9-1/2" x 2-3/4") | 356 mm x 241 mm x 80 mm<br>(14" x 9-1/2" x 3-1/8") | 356 mm x 225 mm x 64 mm<br>(14" x 8-7/8" x 2-17/32") |
| Air consumption at<br>7 kgf/cm <sup>2</sup> (100 psi) | 1.05 ltr./cycle<br>(.037 ft <sup>3</sup> /cycle)           | 0.95 ltr./cycle<br>(.034 ft <sup>3</sup> /cycle)       | 0.99 ltr./cycle<br>(.035 ft <sup>3</sup> /cycle)   | 0.91 ltr./cycle<br>(.032 ft <sup>3</sup> /cycle)     |
| Staple capacity (Max.)                                | 150  | 140  | 150  | 160  |
| Jam-release   | Single-touch<br>operation by hand                          | With tool  | Single-touch<br>operation by hand                  | Single-touch<br>operation by hand                    |
| Driving depth<br>adjustment mechanism                 | Single-touch<br>operation by hand                          | None   | With wrench  | With wrench  |
| Applicable<br>staples<br>#16 gauge<br>wire            | Inside width   | 23.3 mm (.917")  | 20.4 mm (.803")                                    | 22.2 mm (.874")                                      |
|   | Outside width  | 1"   | 15/16"   | 1/2"   |
|   | Length   | 25 mm to 50 mm<br>(1" to 2")                           | 19 mm to 50 mm<br>(3/4" to 2")                     | 12.5 mm to 50 mm<br>(1/2" to 2")                     |

## 7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Model N 5024A Stapler 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.

The Model N 5024A Stapler is designed for continuous staple driving. At time of sale, the salesperson must inform the customer that the sequential trip mechanism kit which can change the Model N 5024A to a single-shot stapler is optionally available, and recommend it to the customers who want to use it. Refer to the leaflet attached together with the Handling Instructions for details.

### 7-1. Handling Instructions

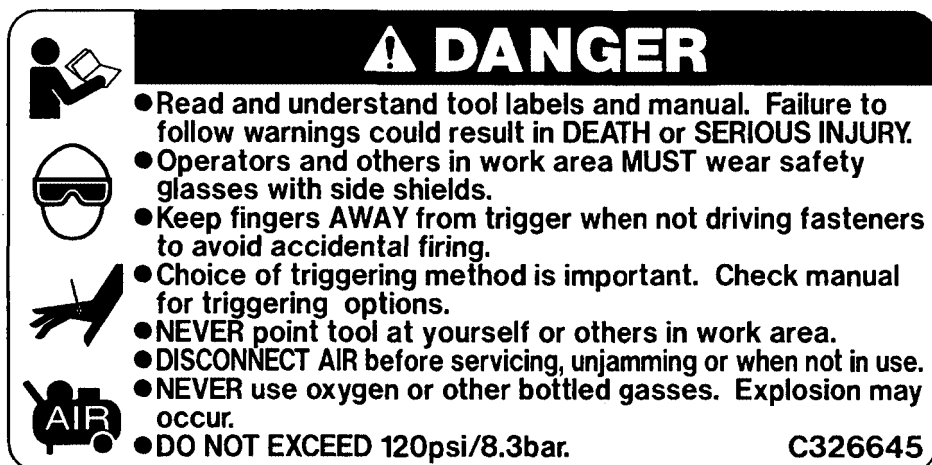
Although every effort is made in each step of design, manufacture, and inspection to provide protection against safety hazards, the dangers inherent in the use of any pneumatic tool cannot be completely eliminated.

Accordingly, general precautions and suggestions for use of pneumatic tools, and specific precautions and suggestions for the use of the pneumatic stapler are listed in the Handling Instructions to enhance the safe, 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 customers during sales promotion.

### 7-2. Warning Label

Each Model N 5024A 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 Handling Instructions provided with each unit.

While there are no specific safety regulations, there are related items in various general safety regulations with which the salespersons should be familiar in order to 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,<br>Fastener Driving Tools-Safety Requirements for |

## 8. MECHANISM AND OPERATION PRINCIPLE

### 8-1. Mechanism

As illustrated in Fig. 3, the Model N 5024A can be generally divided into four sections:

output section, control valve section, driving section and magazine section.

The driving section (nose and piston) and the magazine section have been newly designed though its basic construction is the same as that of the Model N 5008AC (valve section is common to the Model N 5008AC).

Primary differences from the Model N 5008AC are described below.

- Output section ..... The piston (driver blade) has been newly designed according to the shape of the staple firing gate. Owing to the enlargement of the driver blade, the piston bumper has been newly designed.
- Driving section ..... All the parts have been newly designed for driving staples.  
If staples are clogged in this section, they can be easily released simply by pulling the lock lever by hand.
- Magazine section .... All the parts have been newly designed for driving staples.  
The magazine cover is opened by pulling the staple feeder backward for easy loading or replacement of staples.

The **<Bold>** numbers in the figure below correspond to the numbers in "8-2. Operation Principle".

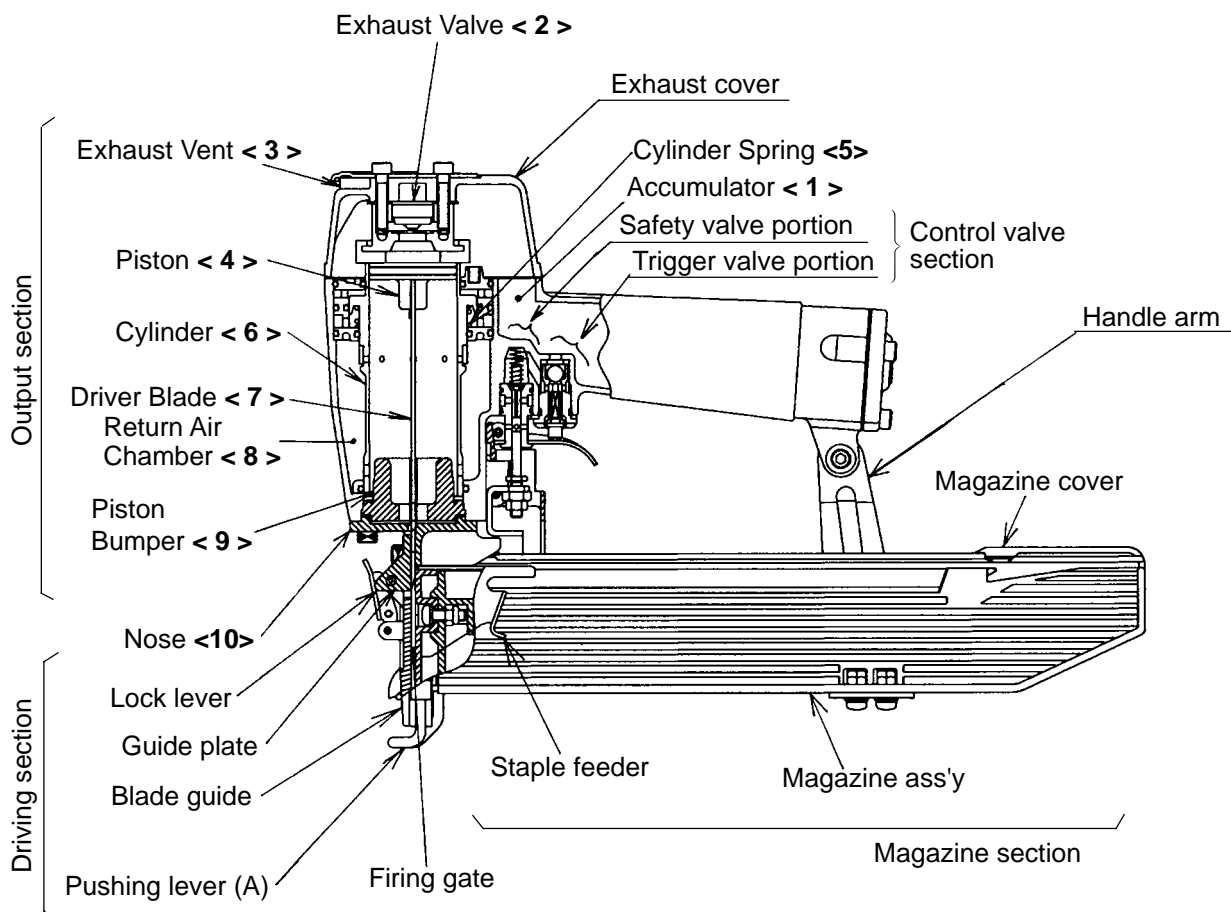
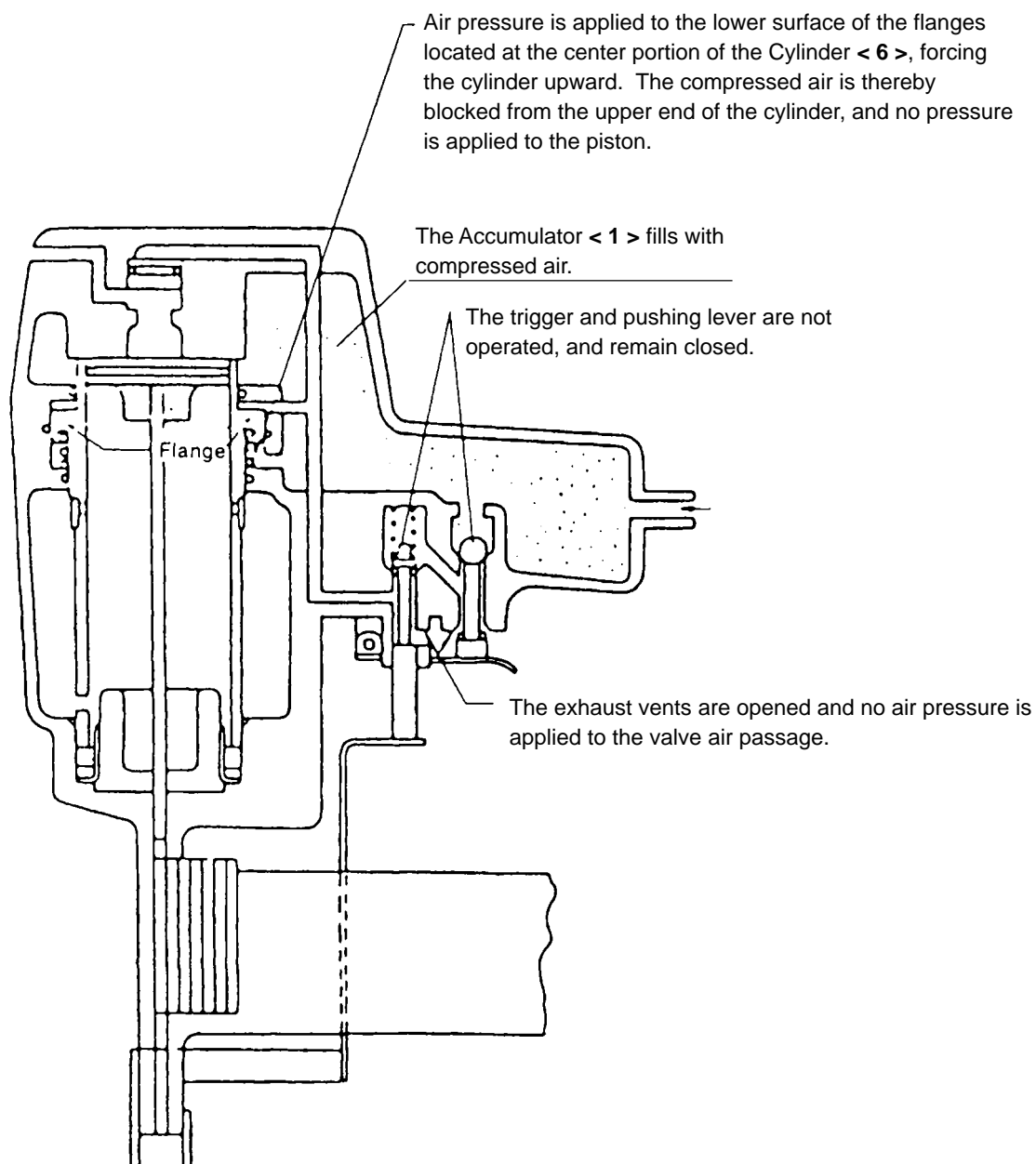


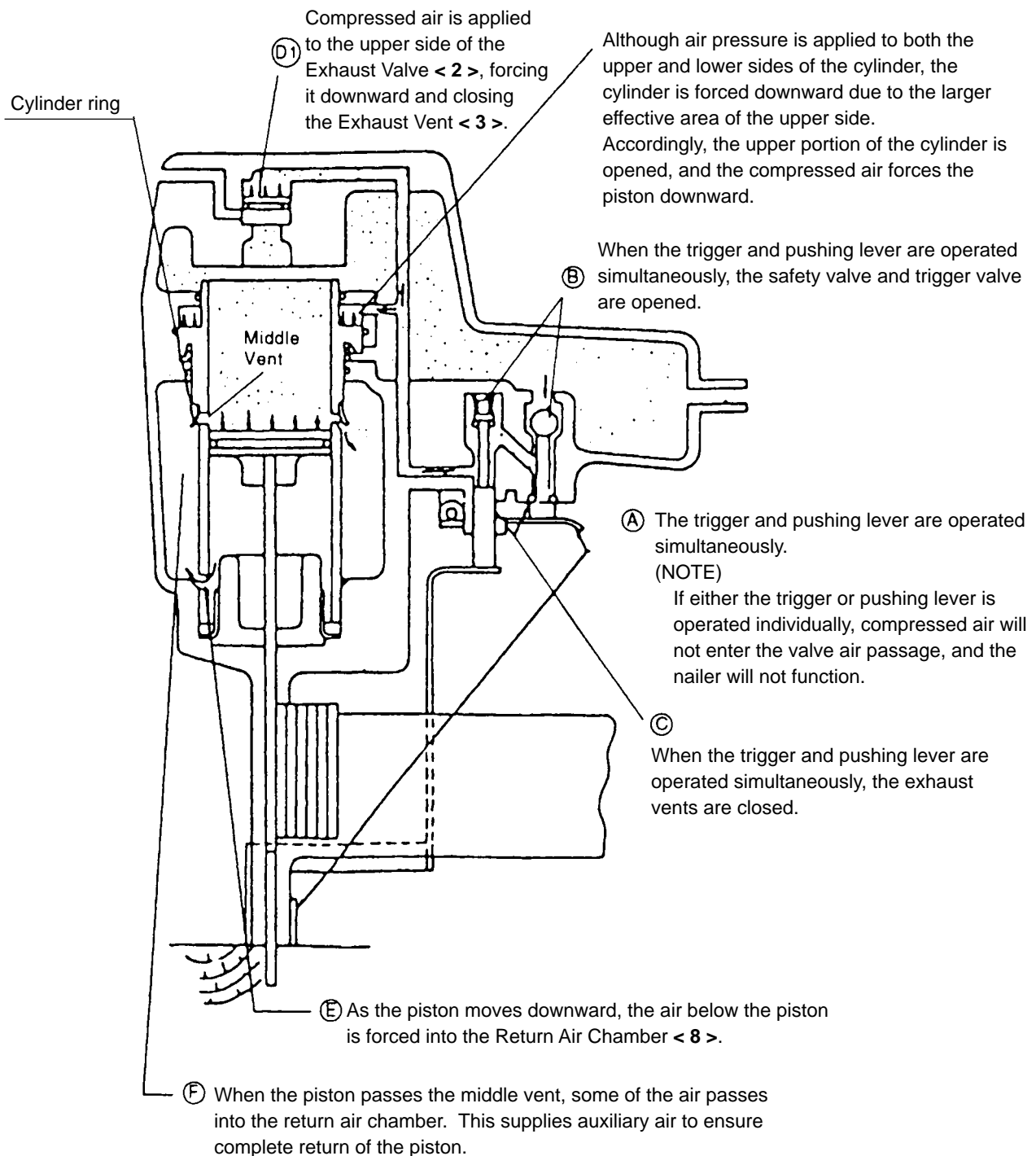
Fig. 3 Construction

## 8-2. Operation Principle

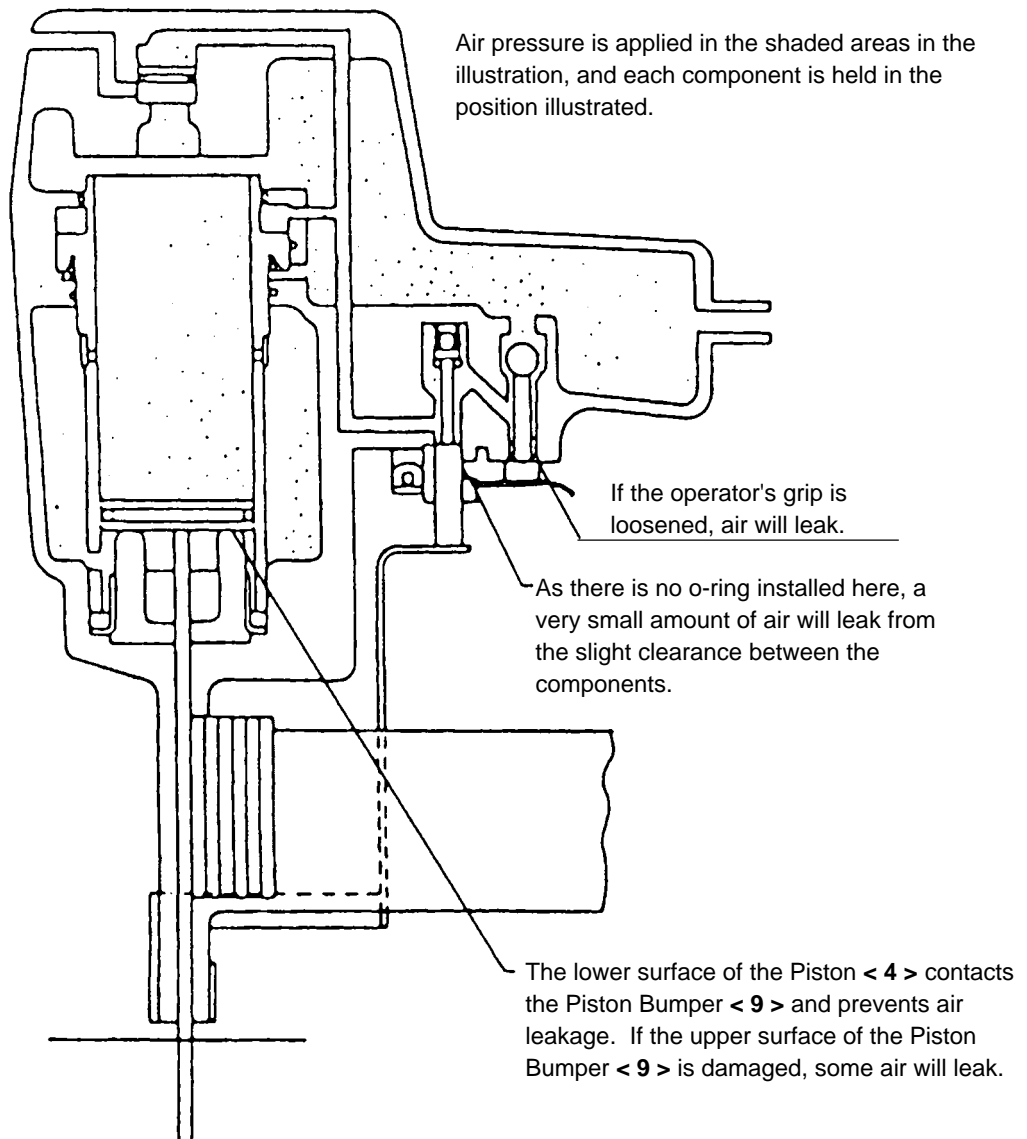
The operation of the Model N 5024A is illustrated and described in Fig. 4 through 7. The circled numbers in the descriptions correspond to the item numbers shown in the mechanism illustrated in Fig. 3. In Fig. 5 and Fig. 7, read the descriptions in alphabetical order.



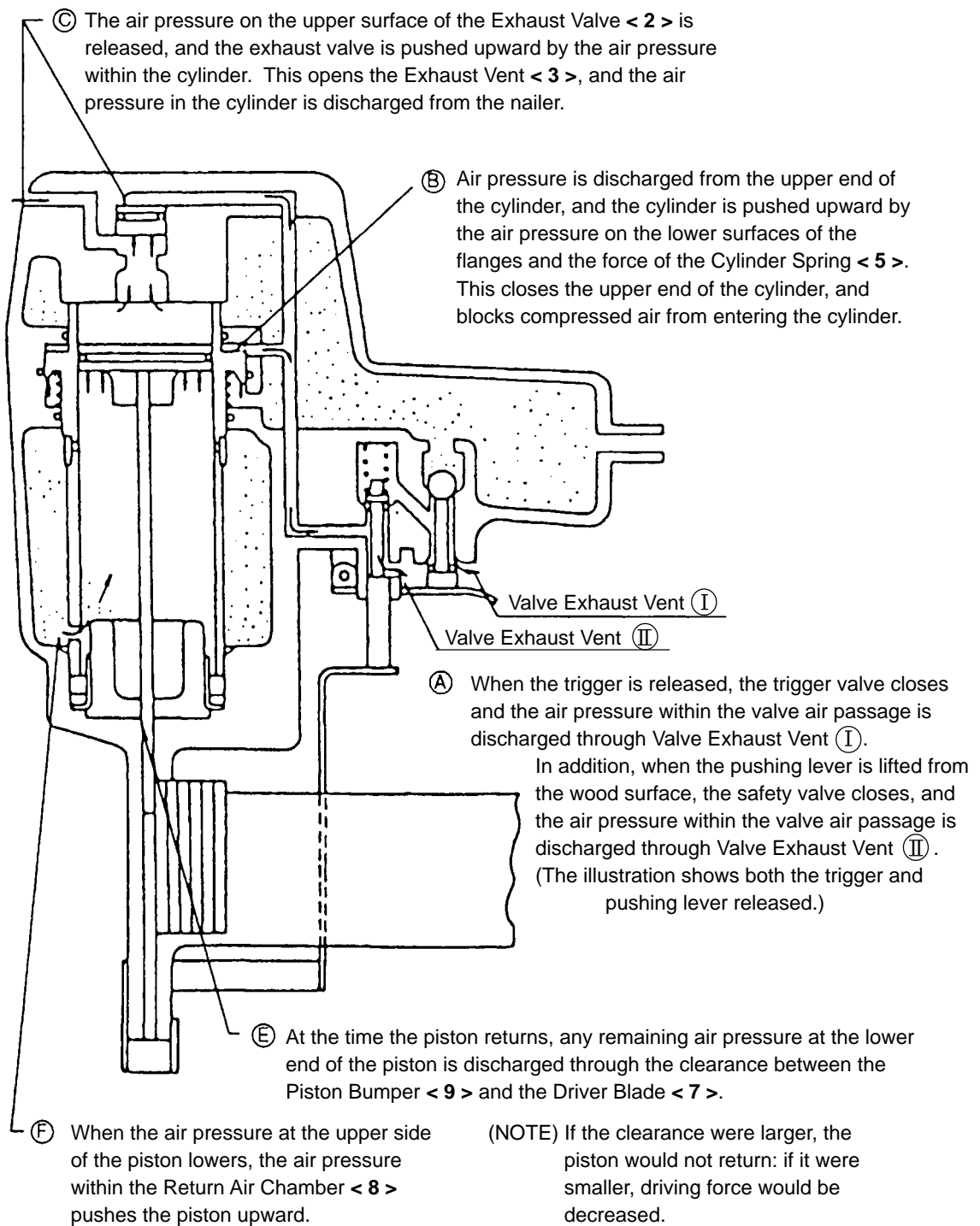
**Fig. 4 When the compressed air source (air hose) is connected to the nailer**



**Fig. 5 When the trigger and pushing lever are operated**



**Fig. 6 When the trigger and the pushing lever are kept pressed**



**Fig. 7 When the trigger and/or the pushing lever are released**

## 9. TROUBLESHOOTING GUIDE

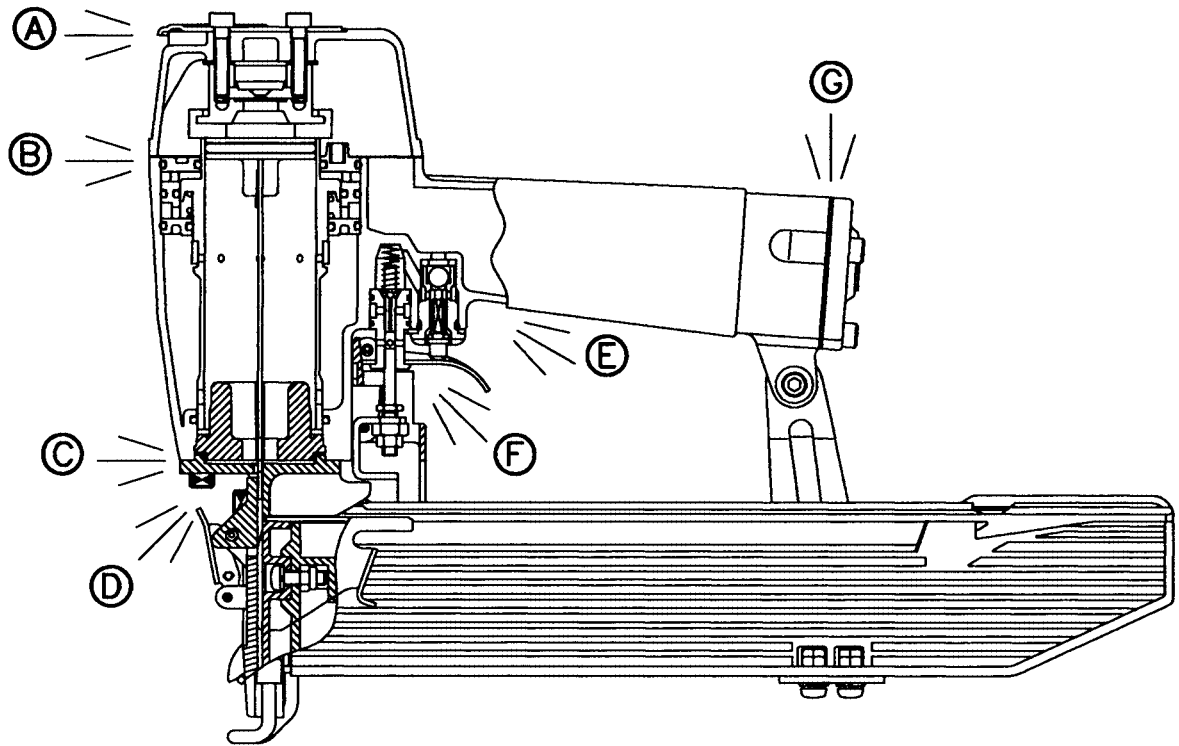
### 9-1. Troubleshooting and Correction

| Problem                      | Possible cause<br>(* : most-common cause)   | Inspection method  | Remedy  |
|------------------------------|---|--|---|
| 1) Staples cannot be driven. | <Staples> <ul style="list-style-type: none"> <li>The magazine is not loaded with specified genuine staples.</li> </ul>                    | <ul style="list-style-type: none"> <li>Check if the magazine is normally loaded with specified staples.</li> </ul>   | <ul style="list-style-type: none"> <li>Use specified staples.</li> </ul>  |
|                              | <ul style="list-style-type: none"> <li>The magazine is loaded with abnormal staples (bent staples, abnormal collation, other).</li> </ul> |  | <ul style="list-style-type: none"> <li>Remove the abnormal staples and load the magazine with normal staples.</li> </ul>                |
|                              | <Magazine> <ul style="list-style-type: none"> <li>Staple feeder abnormal (burrs, deformed, damaged).</li> </ul>                           | <ul style="list-style-type: none"> <li>Check the staple feeding section for abnormal conditions (burrs, fatigued, deformed, damaged).</li> </ul>   | <ul style="list-style-type: none"> <li>Correct the burred or deformed portion.</li> <li>Replace the defective part.</li> </ul>          |
|                              | <ul style="list-style-type: none"> <li>Ribbon spring abnormal (fatigued, damaged).</li> </ul>   |  | <ul style="list-style-type: none"> <li>Replace the defective part.</li> </ul>   |
|                              | <ul style="list-style-type: none"> <li>Staple rail width too wide.</li> </ul>   | <ul style="list-style-type: none"> <li>Check if they move smoothly after putting staples and check if the staple feeder operates smoothly.</li> </ul>  | <ul style="list-style-type: none"> <li>Replace the defective part.</li> </ul>   |
|                              | <ul style="list-style-type: none"> <li>Magazine cover abnormal (deformed, damaged).</li> </ul>  |  | <ul style="list-style-type: none"> <li>Replace the defective part.</li> </ul>   |
|                              | * <ul style="list-style-type: none"> <li>Adhesive fragments and wood chips are on the magazine, staple feeder or staple rail.</li> </ul>  |  | <ul style="list-style-type: none"> <li>After removing the adhesive fragments and wood chips, apply oil to the staple feeder.</li> </ul> |
|                              | <Output section: Piston, driver blade, etc.> <ul style="list-style-type: none"> <li>Air pressure too low.</li> </ul>                      | <ul style="list-style-type: none"> <li>Keep the staple feeder ass'y pulling backward and perform idle driving. Then check that the driver blade returns to its original position.</li> </ul> | <ul style="list-style-type: none"> <li>Adjust for 5 to 8.5 kgf/cm<sup>2</sup> (4.9 – 8.3 bar, 7 – 120 psi).</li> </ul>                  |
|                              | * <ul style="list-style-type: none"> <li>Piston O-ring worn.</li> </ul>   |  | <ul style="list-style-type: none"> <li>Replace the piston O-ring.</li> </ul>  |
|                              | * <ul style="list-style-type: none"> <li>Piston bumper abnormal.</li> </ul>   |  | <ul style="list-style-type: none"> <li>Replace the piston bumper.</li> </ul>  |
|                              | <ul style="list-style-type: none"> <li>Cylinder ring abnormal. (dislocated, deformed, damaged).</li> </ul>                                |  | <ul style="list-style-type: none"> <li>Reassemble or replace.</li> </ul>  |
|                              | <ul style="list-style-type: none"> <li>Driver blade abnormal (deformed, burrs, damaged).</li> </ul>                                       |  | <ul style="list-style-type: none"> <li>Touch up or replace.</li> </ul>  |
|                              | <ul style="list-style-type: none"> <li>Cylinder's internal surface abnormal (deposits of dirt, worn).</li> </ul>                          | <ul style="list-style-type: none"> <li>Check if staples can be driven at 5 kgf/cm<sup>2</sup> (4.9 bar, 70 psi).</li> </ul>  | <ul style="list-style-type: none"> <li>After removing the dirt, apply oil or replace.</li> </ul>  |
|                              | <Pushing lever> <ul style="list-style-type: none"> <li>Pushing lever incorrectly adjusted.</li> </ul>                                     | <ul style="list-style-type: none"> <li>Check adjustment.</li> </ul>  | <ul style="list-style-type: none"> <li>Adjust the protruded amount within 4 ± 0.5 mm (0.157" ± 0.02").</li> </ul>                       |

| Problem   | Possible cause<br>( * : most-common cause)  | Inspection method   | Remedy   |
|---|---|---|--|
| 2) Staples bent while being driven.   | • Staples are not fully fed into the injection port.  | • See item 1).  | • See item 1).   |
|   | • Unspecified staples used.   | • See item 1).  | • See item 1).   |
|   | * • Driver blade worn.  | • Check if the driver blade tip is abnormally worn.   | • Replace the part.  |
|   | • The material being driven into is very hard.  | • Check if a staple is bent even when driven into soft wood.  | • Unusable because the tool is not designed for such usage.              |
| 3) The staple is driven into the material but the head is raised above the surface. | • The adjuster is improperly adjusted.  | • Turn the adjuster to the lowest position, then drive.   | • Adjust the adjuster for the proper position.                           |
|   | • Air pressure too low.   |   | • Adjust for 5 to 8.5 kgf/cm <sup>2</sup> (4.9 — 8.3 bar, 70 — 120 psi). |
|   | • The material being driven into is very hard.  | • Drive the staple into soft wood and check if the head is raised or not.   | • Unusable because the tool is not designed for such usage.              |
|   | * • Driver blade worn.  | • Check if the driver blade tip is worn.  | • Replace the part.  |
|   | * • Piston O-ring abnormal (worn, damaged).   | • Disassemble the output section and check the piston O-ring and the internal surface of the cylinder for abnormal condition. | • Replace the defective part.  |
|   | • Cylinder's internal surface abnormal (worn, rough).   |   | • Replace the defective part.  |
| 4) Staples clog the mechanism.  | • Unspecified staples used.   | • Check if the staples are specified ones.  | • Use specified staples.   |
|   | < Improper staple feed ><br>• See <Magazine> in item 1).  | • Check if they move smoothly after putting staples, and check if the staple feeder operates smoothly.                        | • See <Magazine> in item 1).   |
|   | • Driver blade worn.  | • Check if the driver blade tip is worn.  | • Replace the part.  |
|   | < The driver blade has not returned completely. ><br>• See <Output section: Piston, driver blade, etc.> in item 1). | • Perform idle driving or actually drive with staples, and check if the driver blade has returned completely.                 | • See <Output section: Piston, driver blade, etc.> in item 1).           |

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

Air leakage repair location



Inspection priorities:

In the table below, possible causes of air leakage and their repair procedures are marked in accordance with the likelihood of possible failure.

(1) First priority items are marked with an asterisk (\*).

(2) Second priority items (seal portions) are marked with a double circle (⊙).

(3) Remaining items are marked with a single circle (○). (See Parts List and exploded assembly diagram for part name and location.)

| Air leak part   | Cause  |  |  |
|-----------------|--|--|--|
|                 | When trigger valve/safety valve are OFF  | When trigger valve/safety valve are ON   | When trigger valve ON/safety valve OFF   |
| Ⓐ Exhaust vent  | <ul style="list-style-type: none"> <li>* Cylinder [14] does not return.</li> <li>○ Swollen Cylinder O-ring (D) [12] (Use of unsuitable oil causes swelling. Advise the customer to use Shell Tonna Oil S32.)</li> <li>○ Deformed Cylinder [14] or Cylinder Guide [18].</li> <li>○ Yielded or broken Cylinder Spring [16].</li> <li>⊙ Defective Head Cap Ass'y [8] (worn rubber portion or broken)</li> <li>⊙ Broken Gaskets (C) [6]</li> <li>○ Loose Hex. Socket Hd. Bolt M5 x 25 [1]</li> <li>○ Broken Exhaust Cover [4]</li> </ul> | Defective Exhaust Valve [7] (worn, deformed, or broken)  |  |
| Ⓑ Exhaust cover | <ul style="list-style-type: none"> <li>○ Loose Hex. Socket Hd. Bolt M5 x 20 [3]</li> <li>⊙ Broken Gasket (B) [5]</li> <li>○ Damaged seal surfaces of Body Ass'y [21] and Exhaust Cover [4]</li> </ul>  |  |  |
| Ⓒ Nose          |  | <ul style="list-style-type: none"> <li>○ Deformed Nose [26]</li> <li>○ Loose Nylock Hex. Socket Hd. Bolt M5 x 16 [27]</li> <li>⊙ Broken Gasket (A) [25]</li> </ul> |  |
| Ⓓ Nose          | <ul style="list-style-type: none"> <li>○ Damaged Cylinder O-ring (B) [19] or O-ring of Cylinder Guide [18] (worn, deformed or broken)</li> <li>○ Defective Body Ass'y [21] (worn, corroded or deformed)</li> </ul>   | <ul style="list-style-type: none"> <li>* Broken or cracked Piston Bumper [23]</li> <li>○ Deformed Piston [10]</li> <li>○ Deformed Nose [26]</li> </ul>             |  |
| Ⓔ Trigger valve | <ul style="list-style-type: none"> <li>○ Defective Urethane Ball (C) D7.14 [62] (damaged or deformed)</li> <li>○ Defective ball sheet surface of Trigger Valve Bushing [64] (damaged, deformed or worn)</li> <li>○ Defective Valve Packing [61] (damaged, deformed or broken)</li> <li>○ Soiled or damaged valve packing sheet surface of Body Ass'y [21]</li> <li>⊙ Incursion of foreign materials</li> </ul>   |  | <ul style="list-style-type: none"> <li>○ Defective Plunger O-ring [57] (worn, deformed or broken)</li> <li>○ Defective outside O-ring (S-12) [58] of Trigger Valve Bushing [64]</li> </ul>   |
| Ⓕ Safety valve  | <ul style="list-style-type: none"> <li>* Defective Gaskets (B) (C) [5] [6] (damaged or yielded)</li> <li>* Discarded air vent of Gasket (B) [5]</li> <li>○ Defective O-ring (S-65) [11] or Cylinder O-ring (D) [12] of the Cylinder Plate [13] (worn, deformed or broken)</li> <li>○ Defective Cylinder O-ring (D) [12] (worn, deformed or broken)</li> </ul>  | ○ Air will leak slightly from the lower portion due to construction.   | <ul style="list-style-type: none"> <li>○ Defective outside O-ring (S-12) [58] of the Valve Bushing [59] (worn, deformed or broken)</li> <li>○ Defective Plunger O-ring [57] (worn, deformed or broken)</li> <li>○ Defective Plunger Spring [55] (deformed or broken)</li> <li>○ Defective safety Valve Bushing [59] (deflected, deformed or broken)</li> </ul> |
| Ⓖ Cap           | <ul style="list-style-type: none"> <li>○ Loose Hex. Socket Hd. Bolt M5 x 16 [42]</li> <li>⊙ Broken Gasket (D) [40]</li> <li>○ Defective seal surface of the Body Ass'y [21] or Cap [41]</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 remove all staples and disconnect the air hose from the stapler (with your finger released from the trigger) to exhaust all the compressed air.

#### 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 (B) **[5]** 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.
- Use the conventional grip tape for repair of the grip rubber because the grip rubber cannot be mounted without the specifically designed jig.
- Tightening torque for each part

| Bolt and screw   | Tightening torque<br>N•m (kgf•cm, ft-lb.) |
|--|---|
| Hex. Socket Hd. Bolt M5 x 25 ..... <b>[1]</b>                  | 8.3 ± 0.5 (85 ± 5, 6.1 ± 0.4)             |
| Hex. Socket Hd. Bolt M5 x 20 ..... <b>[3]</b>                  |   |
| Nylock Hex. Socket Hd. Bolt M5 x 16 ..... <b>[27]</b>          |   |
| Hex. Socket Hd. Bolt M5 x 10 ..... <b>[29]</b>                 |   |
| Hex. Socket Hd. Bolt M5 x 18 ..... <b>[34]</b>                 |   |
| Hex. Socket Hd. Bolt M5 x 16 ..... <b>[42]</b>                 |   |
| Machine Screw (W/Sp. Washer) M5 x 16 (Black) ..... <b>[47]</b> | 1.9 ± 0.5 (20 ± 5, 1.4 ± 0.4)             |
| Machine Screw (W/Washers) M5 x 14 (Black) ..... <b>[78]</b>    |   |

## 10-2. Disassembly and Reassembly of the Output Section

### (1) Piston [10], Cylinder [14] and the related parts

Tool required:

- Hexagonal bar wrench (4 mm)

#### (a) Disassembly (See Figs. 8, 9 and 10.)

- Remove the four Hex. Socket Hd. Bolts M5 x 20 [3], and take off the Exhaust Cover [4]. The Piston [10] can then be taken out.
- Next, as illustrated in Fig. 9, screw two of the previously removed Hex. Socket Hd. Bolts M5 x 20 [3] into the provided holes on the Cylinder Plate [13].
- Gripping these two bolts, simultaneously turn and pull upward to remove the Cylinder Plate [13]. When this has been accomplished, the Cylinder [14] and other parts which make up the output section can be removed, as illustrated in Fig. 10.
- If it is difficult to remove the Cylinder [14], remove the Nose [26] by referring para. 10-2-(3) procedures, and push out the Cylinder [14] from the lower part of the main body.

#### (b) Reassembly

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

- Reassembly of the Piston [10] can be most easily accomplished by inserting the Piston [10] into the Cylinder [14] as illustrated in Fig. 11, and inserting the Piston [10] into the grooves on the Nose [26] while pulling the piston out in a downward direction.
- When assembling Gasket (B) [5], ensure that its air vents are properly aligned with the air vents on Body Ass'y [21].
- Tighten the four Hex. Socket Hd. Bolts M5 x 20 [3] to specified torque ( $85 \pm 5 \text{ kg} \cdot \text{cm}$ ,  $6.1 \pm 0.4 \text{ ft} \cdot \text{lb}$ ).
- There is no directivity of Piston [10] in the assembly of Piston [10].

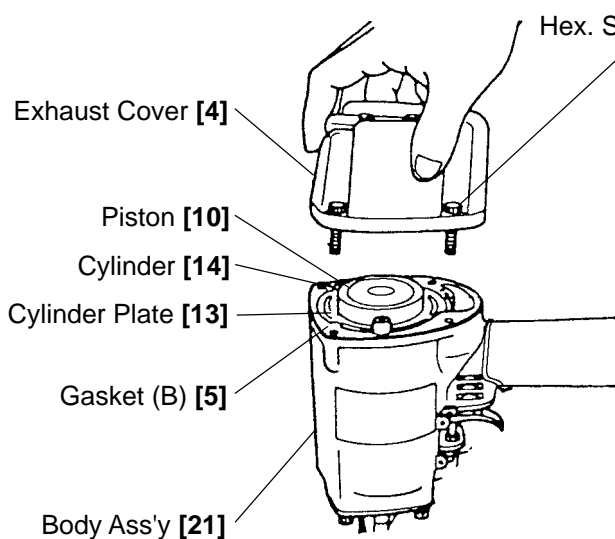


Fig. 8

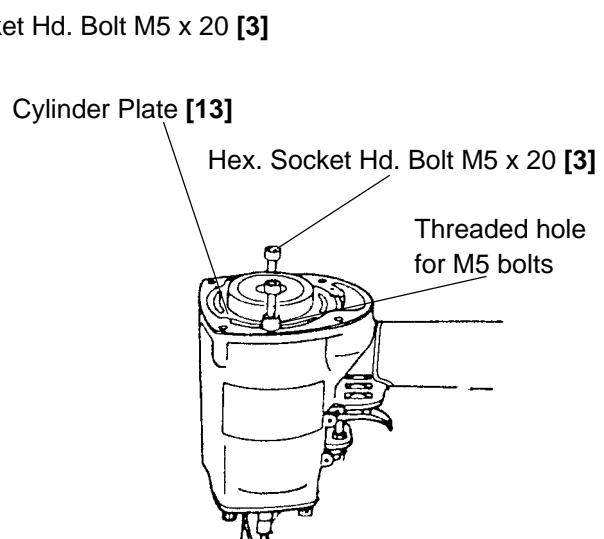
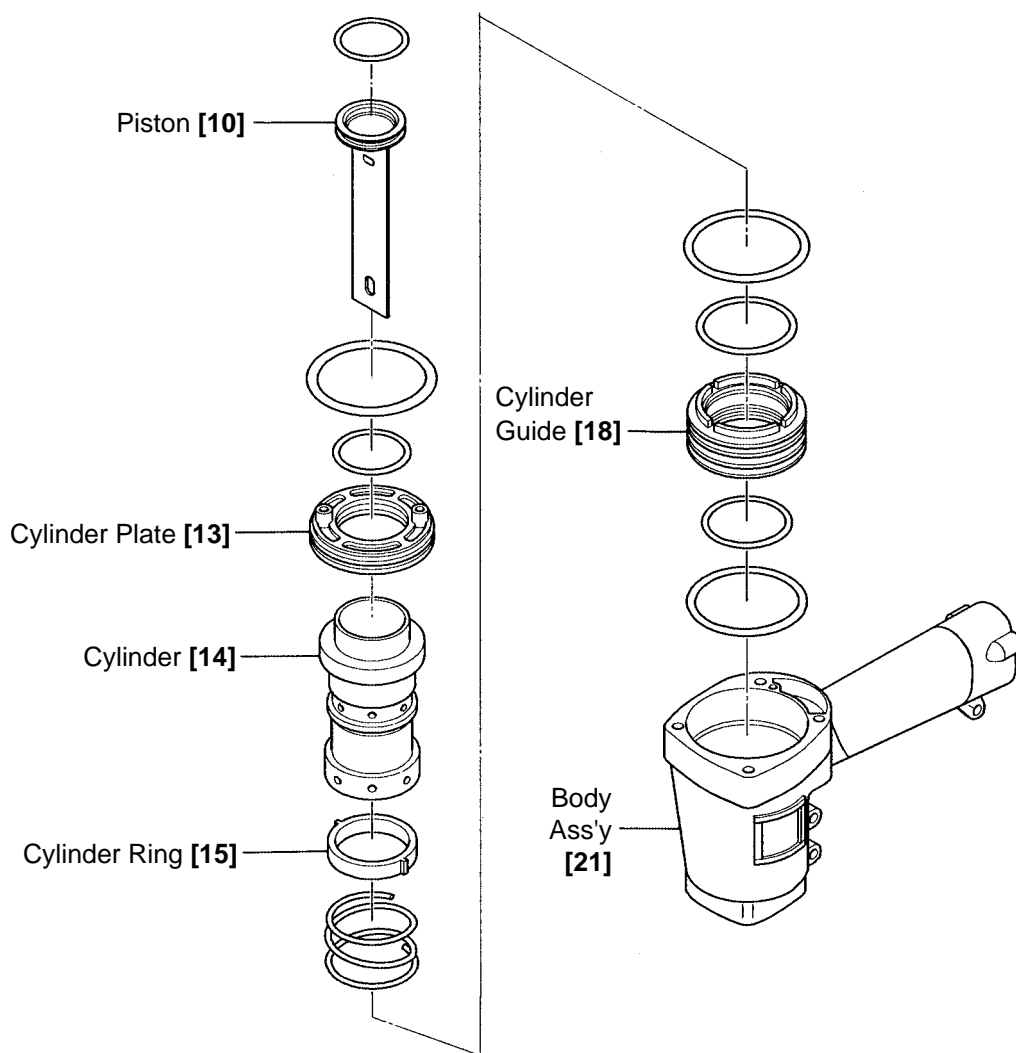
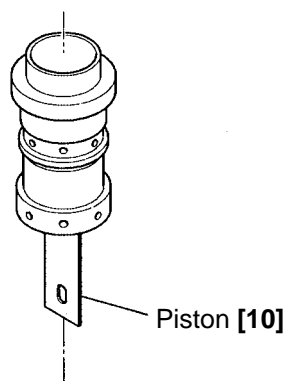


Fig. 9



**Fig. 10**



**Fig. 11**

(2) Head Cap Ass'y [8], Exhaust Valve [7] and the related parts (See Fig. 12.)

Tool required:

- Hexagonal bar wrench (4 mm)

(a) Disassembly

- As described in paragraph 10-2-(1), remove the Exhaust Cover [3].
- Remove the two Hex. Socket Hd. Bolts M5 x 25 [1] and, such as illustrated in Fig. 12, disassemble the Head Cap Ass'y [8], the Exhaust Valve [7] and Gasket (C) [6] in that order.

(b) Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. Ensure that the Hex. Socket Hd. Bolts M5 x 25 [1] are properly tightened to specified torque ( $85 \pm 5 \text{ kgf}\cdot\text{cm}$ ,  $6.1 \pm 0.4 \text{ ft}\cdot\text{lb.}$ ).

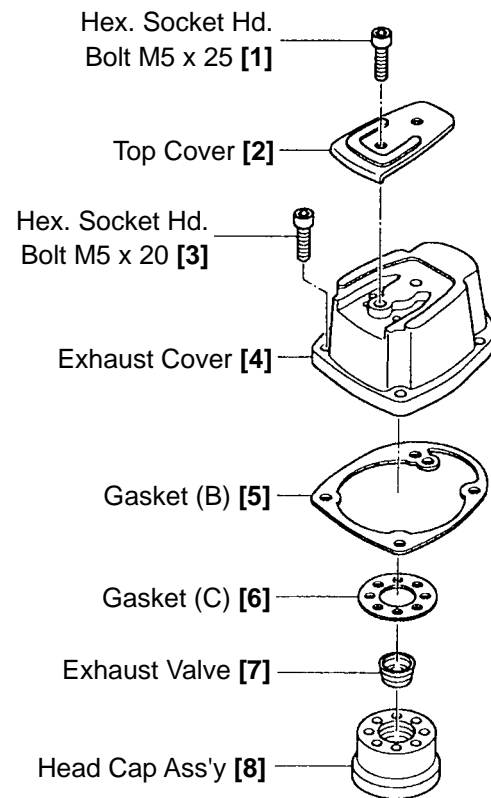


Fig. 12

(3) Piston Bumper [23] and the related parts (See Fig. 13.)

Tools required

- Hexagonal bar wrench (4 mm)
- Roll pin puller (3 mm (0.118") dia.)
- 8 mm (0.315") spanner

(a) Disassembly

- Pull out the Roll Pin D3 x 45 [46] and remove the Hex. Socket Hd. Bolt M5 x 18 [34] to remove the Guard [36].
- Remove the Machine Screw (W/Washers) M5 x 14 (Black) [78] and pull out the entire magazine section from the Handle Arm [69].
- Remove the Machine Screw (W/Sp. Washers) M5 x 16 (Black) [47] and pull out the entire magazine section from the Nose [26].
- Remove the four Nylock Hex. Socket Hd. Bolt M5 x 16 [27]. Then Piston Bumper [23] can be removed together with the Nose [26].
- Remove the Hex. Socket Hd. Bolts M5 x 10 [29]. Then Guide Plate [28], Blade Guide [31], etc. can be removed.

(b) Reassembly

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

- Plunger (B) [60] is apt to come off during disassembly. Be sure to check that Plunger (B) [60] is securely mounted during reassembly.
- Mount the Roll Pin D3 x 45 [46] without fail.

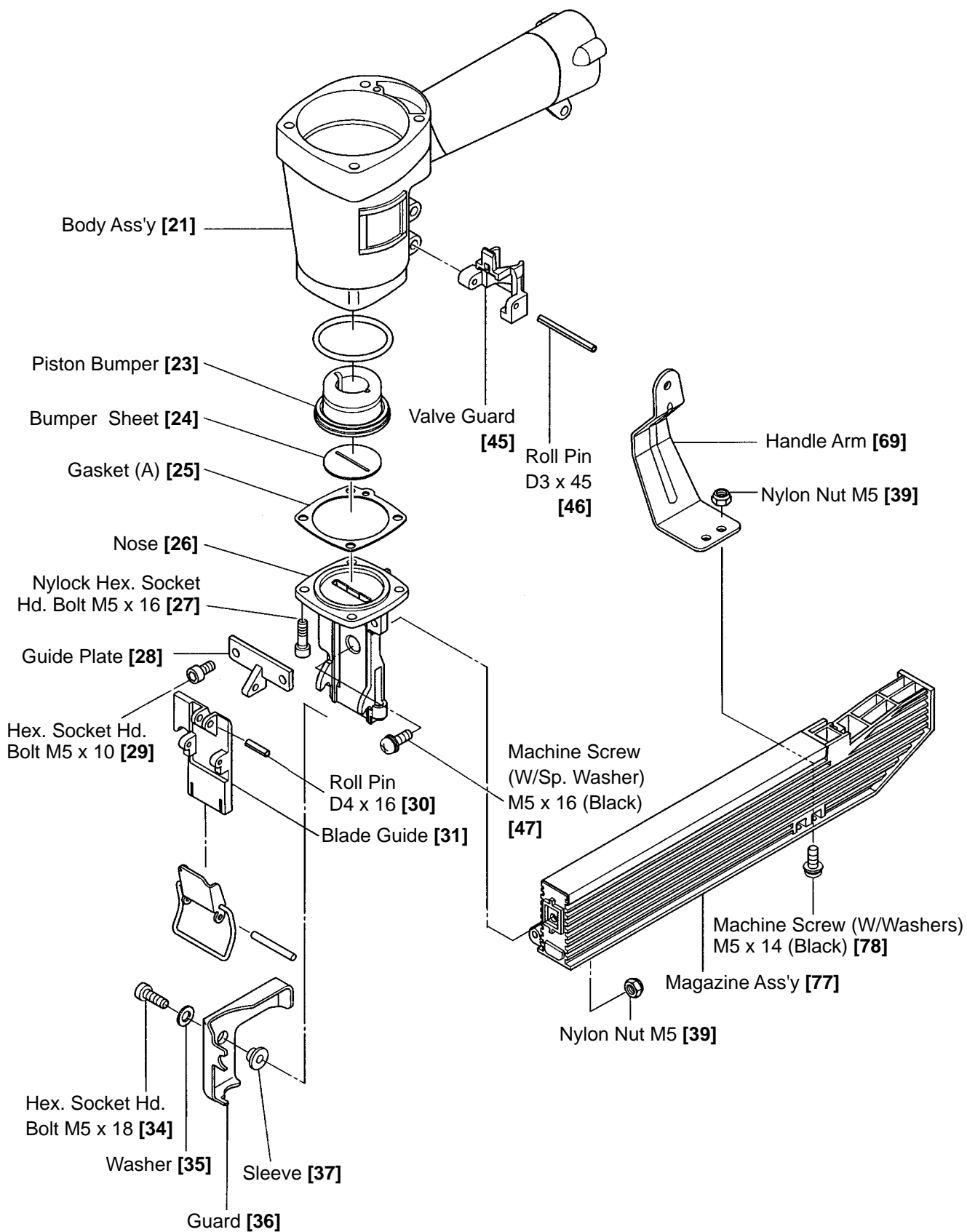


Fig. 13

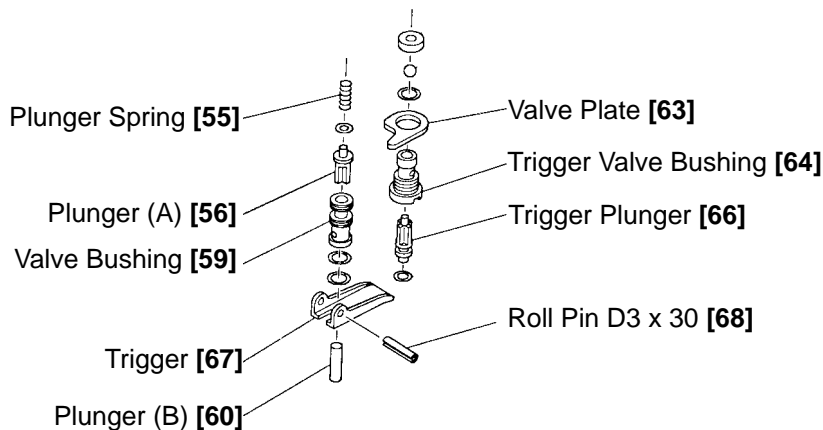
### 10-3. Disassembly and Reassembly of the Control Valve Section

Tools required:

- Roll pin puller (3 mm (0.118") dia.)
- Flat-blade screwdriver

#### (a) Disassembly (See Fig. 14.)

- Remove the driving section and the magazine section as described in section 10-2-(3).
- With the roll pin puller (3 mm (0.118") dia.), take out the Roll Pin D3 x 30 [68], and remove the Trigger [67], Trigger Plunger [66] and Plunger (B) [60].
- Insert the flat-blade screwdriver into the groove of the Trigger Valve Bushing [64], and loosen it by turning it to the left, being careful not to damage the groove.
- After removing the Trigger Valve Bushing [64], pull down strongly on the Valve Bushing [59] to remove the Valve Bushing [59], Plunger (A) [56] and the Plunger Spring [55].



**Fig. 14 Disassembly of valve**

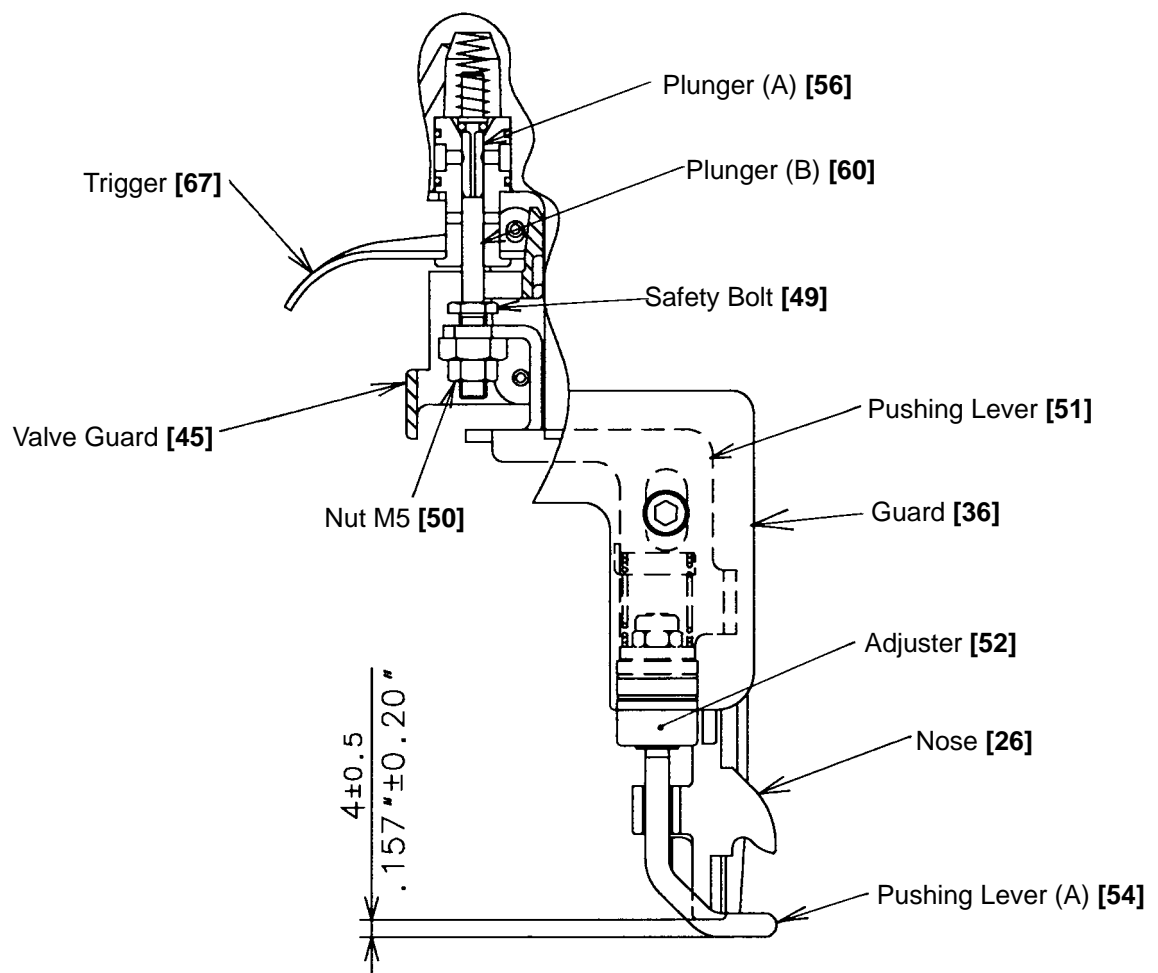
#### (b) Reassembly

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

- Be very careful in handling the Plunger Spring [55], as it can become twisted very easily.
- To prevent the two O-rings on the outside of the Valve Bushing [59] from being damaged when inserted into the body, carefully apply grease to the body hole and the outer circumference of the O-rings prior to assembly.

#### (c) Adjustment of the Safety Bolt [49] (See Fig. 15.)

- Adjust Pushing Lever (A) [54] to the highest position. (The position where a staple is driven in most deeply.)
- The Pushing Lever [51] can be adjusted by loosening the Nut M5 [50] and turning the Safety Bolt [49].
- Perform adjustment to a point where the resistance of Plunger (B) [60] pushing up Plunger (A) [56] is felt when the pushing lever is raised. At this point, the lower end of the Nose [26] should be separated from the lower end of the pushing lever by 4 mm  $\pm$  0.5 mm (.157"  $\pm$  .020").



**Fig. 15 Adjustment of safety bolt**

#### 10-4. Disassembly and Reassembly of the Driving Section and the Magazine Section

##### Tools required

- Hexagonal bar wrench (4 mm)
- Flat-blade screwdriver with small tip

##### (a) Disassembly (See Fig. 16.)

- Perform disassembly according to 10-2-(3) to remove the Nose [26], Guide Plate [28] and the magazine section.
- Continuously turn the Adjuster [52] in the direction in which the staple is raised when adjusting the driving depth so that Pushing Lever (A) [54] can be removed.
- Remove the two Ratchet Springs [53] from the Adjuster [52] with the small flat-blade screwdriver having while being very careful not to lose them. Now, the Adjuster [52] can be removed from Pushing Lever [51].
- Push out the Hinge Pin [76] with a flat-blade screwdriver as shown in Fig. 17. Holding the top of the Cover Spring [72] with fingers, pull out the Hinge Pin [76]. Then the Magazine Ass'y [77] and the Magazine Cover [70] can be removed.
- Pull out the Roll Pin D3 x 8 [73] using the roll pin puller (3 mm (.118") dia.). Then the Magazine Piece [74] can be removed.

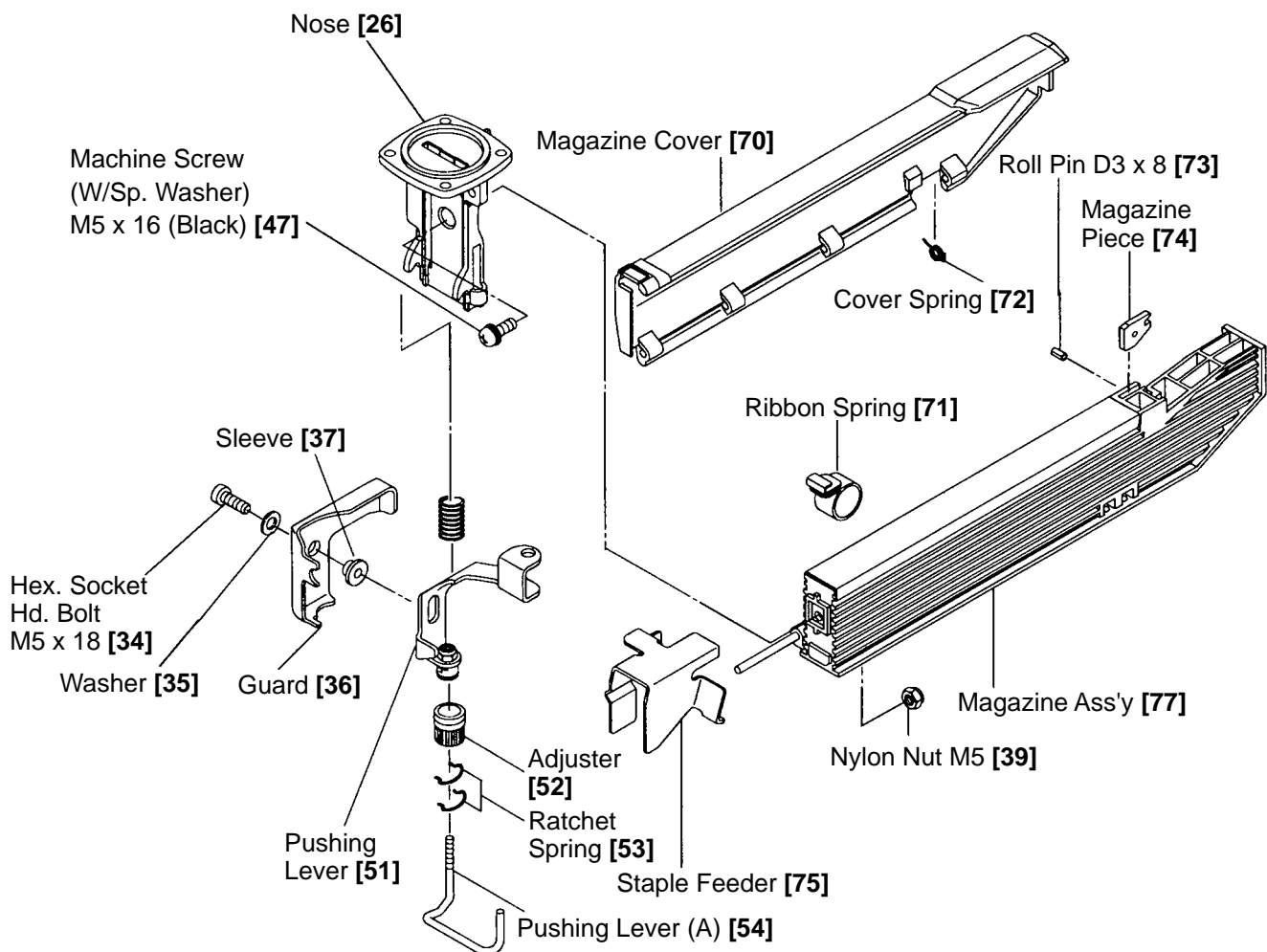


Fig. 16

(b) Reassembly

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

- Apply grease on the sliding portions of the Pushing Lever [51], Sleeve [37] and Nose [26].
- Insert the pointed end of the Hinge Pin [76].
- Mount the Cover Spring [72] facing the longer arm side toward the Magazine Ass'y [77] as shown in Fig. 17.

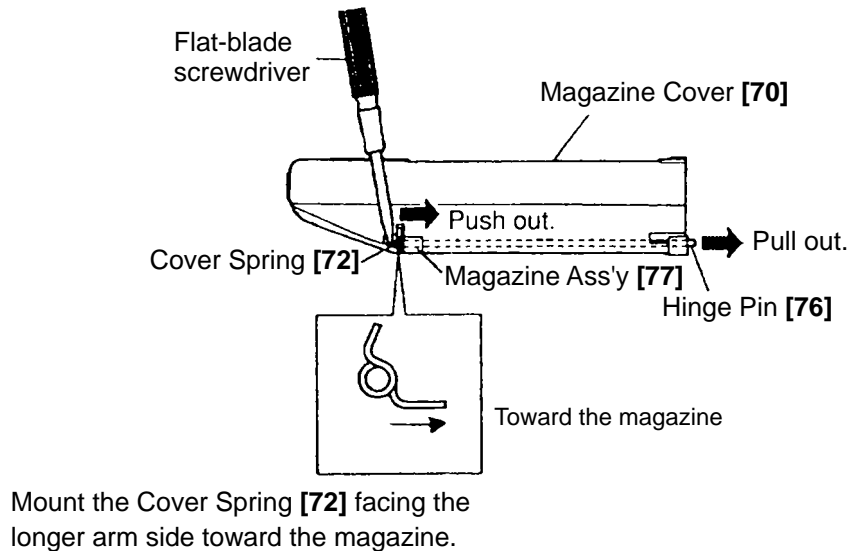


Fig. 17

## 11. INSPECTION AND CONFIRMATION AFTER REASSEMBLY

- Check that Plunger (B) [60] and Trigger Plunger [66] move smoothly.
- Check that there is no air leakage from each part.
- While driving staples with an air pressure of 4.5 kgf/cm<sup>2</sup> (63 psi), check that there is no idle driving and bending of staples.

Note: Before conducting the driving test, turn the Adjuster [52] to the deepest position.

- Recheck the tightening torque of each screw.
- Check that Pushing Lever (A) [54] and Pushing Lever [51] slides smoothly.
- Check that the machine will not operate only by actuating Trigger [67]. Also check that the machine will not operate only by depressing Pushing Lever (A) [54].

## 12. STANDARD REPAIR TIME (UNIT) SCHEDULES

| MODEL   | Variable         |           | 10  | 20  | 30 | 40 | 50 | 60 min.    |
|---------|------------------|-----------|---|---|----|----|----|------------|
|         | Fixed            |           |   |   |    |    |    |            |
| N 5024A |                  | Work Flow |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         |                  |           |   |   |    |    |    |            |
|         | General Assembly |           | Pushing Lever<br>Adjuster<br>Lock Lever<br>Valve Guard<br>Holder Spring<br>Piston Bumper<br>Bumper Sheet<br>Piston<br>Piston O-ring<br>Plunger (A)<br>Plunger Spring<br>Plunger O-ring x 2<br>O-ring x 3<br>Valve Bushing<br>Plunger (B)<br>Valve Packing<br>Trigger Valve<br>Bushing<br>Trigger Plunger<br>Adjustment<br>(Cylinder, Body, Valve) | Cylinder<br>O-ring x 3<br>Cylinder O-ring x 4<br>Cylinder Plate<br>Cylinder Ring<br>Cylinder Spring<br>Cylinder Guide |    |    |    | Body Ass'y |

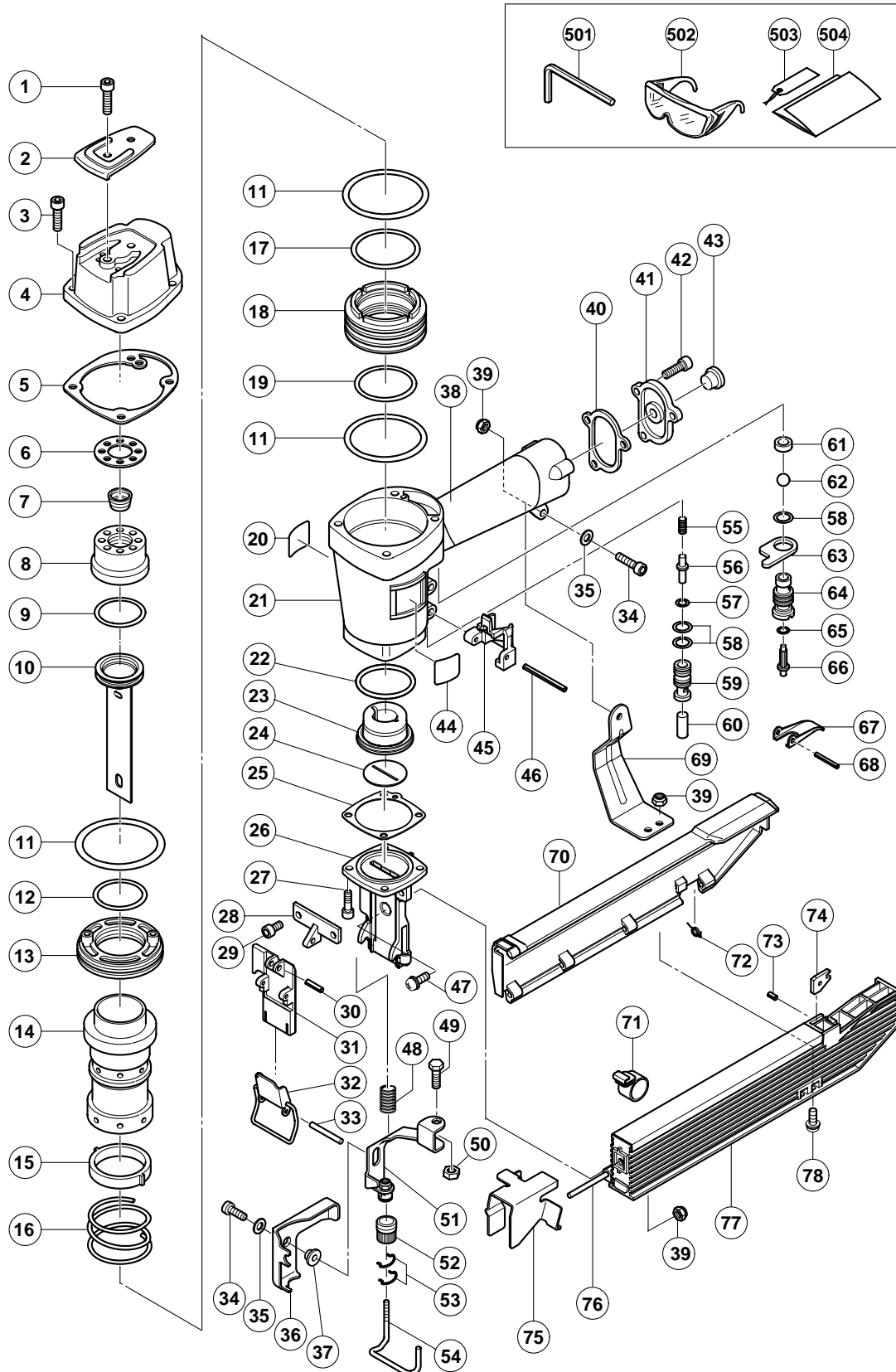
## PNEUMATIC TOOL PARTS LIST

### STAPLER

2003 • 9 • 20

Model N 5024A

(E1)



# PARTS

N 5024A

| ITEM NO. | CODE NO. | DESCRIPTION                                | NO. USED | REMARKS                         |  |
|----------|----------|--|----------|---------------------------------|--|
| 1        | 949-662  | HEX. SOCKET HD. BOLT M5X25 (10 PCS.)       | 2        |                                 |  |
| 2        | 876-179  | TOP COVER                                  | 1        |                                 |  |
| 3        | 949-757  | HEX. SOCKET HD. BOLT M5X20 (10 PCS.)       | 4        |                                 |  |
| 4        | 877-917  | EXHAUST COVER                              | 1        |                                 |  |
| 5        | 876-176  | GASKET (B)                                 | 1        |                                 |  |
| 6        | 876-178  | GASKET (C)                                 | 1        |                                 |  |
| 7        | 878-417  | EXHAUST VALVE                              | 1        |                                 |  |
| 8        | 877-129  | HEAD CAP ASS'Y                             | 1        |                                 |  |
| 9        | 876-174  | PISTON O-RING                              | 1        |                                 |  |
| 10       | 884-357  | PISTON                                     | 1        |                                 |  |
| 11       | 876-161  | O-RING (S-65)                              | 3        |                                 |  |
| 12       | 877-126  | CYLINDER O-RING (D)                        | 1        |                                 |  |
| 13       | 876-168  | CYLINDER PLATE                             | 1        |                                 |  |
| 14       | 877-486  | CYLINDER                                   | 1        |                                 |  |
| 15       | 876-167  | CYLINDER RING                              | 1        |                                 |  |
| 16       | 876-172  | CYLINDER SPRING                            | 1        |                                 |  |
| 17       | 877-123  | CYLINDER O-RING (A)                        | 1        |                                 |  |
| 18       | 877-122  | CYLINDER GUIDE                             | 1        |                                 |  |
| 19       | 877-124  | CYLINDER O-RING (B)                        | 1        |                                 |  |
| 20       | 884-070  | WARNING LABEL                              | 1        |                                 |  |
| 21       | 884-171  | BODY ASS'Y                                 | 1        | INCLUD. 38                      |  |
| 22       | 877-125  | CYLINDER O-RING (C)                        | 1        |                                 |  |
| 23       | 884-350  | PISTON BUMPER                              | 1        |                                 |  |
| 24       | 884-351  | BUMPER SHEET                               | 1        |                                 |  |
| 25       | 876-673  | GASKET (A)                                 | 1        |                                 |  |
| 26       | 884-352  | NOSE                                       | 1        |                                 |  |
| 27       | 878-181  | NYLOCK HEX. SOCKET HD. BOLT M5X16          | 4        |                                 |  |
| 28       | 884-360  | GUIDE PLATE                                | 1        |                                 |  |
| 29       | 949-819  | HEX. SOCKET HD. BOLT M5X10 (10 PCS.)       | 2        |                                 |  |
| 30       | 949-497  | ROLL PIN D4X16 (10 PCS.)                   | 1        |                                 |  |
| 31       | 884-361  | BLADE GUIDE                                | 1        |                                 |  |
| 32       | 884-362  | LOCK LEVER                                 | 1        |                                 |  |
| 33       | 949-866  | ROLL PIN D3X30 (10 PCS.)                   | 1        |                                 |  |
| 34       | 949-658  | HEX. SOCKET HD. BOLT M5X18 (10 PCS.)       | 2        |                                 |  |
| 35       | 876-205  | WASHER                                     | 2        |                                 |  |
| 36       | 884-364  | GUARD                                      | 1        |                                 |  |
| 37       | 884-366  | SLEEVE                                     | 1        |                                 |  |
| 38       |          | GRIP RUBBER                                | 1        | SUPPLIED WITH ITEM NO. 602, 603 |  |
| 39       | 877-371  | NYLON NUT M5                               | 4        |                                 |  |
| 40       | 877-131  | GASKET (D)                                 | 1        |                                 |  |
| 41       | 880-036  | CAP  | 1        |                                 |  |
| 42       | 949-821  | HEX. SOCKET HD. BOLT M5X16 (10 PCS.)       | 3        |                                 |  |
| 43       | 872-035  | DUST CAP                                   | 1        |                                 |  |
| 44       |          | NAME PLATE                                 | 1        |                                 |  |
| 45       | 884-356  | VALVE GUARD                                | 1        |                                 |  |
| 46       | 884-025  | ROLL PIN D3X45                             | 1        |                                 |  |
| 47       | 308-386  | MACHINE SCREW (W/SP. WASHER) M5X16 (BLACK) | 1        |                                 |  |
| 48       | 877-894  | HOLDER SPRING                              | 1        |                                 |  |
| 49       | 875-650  | SAFETY BOLT                                | 1        |                                 |  |
| 50       | 949-555  | NUT M5 (10 PCS.)                           | 1        |                                 |  |
| 51       | 884-353  | PUSHING LEVER                              | 1        |                                 |  |

## PARTS

**N 5024A**

[illegible]

## STANDARD ACCESSORIES

**N 5024A**

[illegible]

## OPTIONAL ACCESSORIES

[illegible]

