

# INSTRUCTION MANUAL

FOR

STRAPPING TOOL

MODEL 【KATANA】






Rev.2.B

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## Safety instructions

- Before starting operation, maintenance or inspection of this device, carefully read this instruction manual.
- Contents shown in this instruction manual are described to assist safe operation and prevent danger and the damage to you and other people beforehand.
- For individual operation, observe the contents of this instruction manual. Although this device is designed and manufactured in consideration of safety, failure to follow this precaution may cause serious personal accidents such as the death or serious injuries.
- Before starting individual operation, understand the knowledge of the equipment, safety information, and all contents of this instruction manual.
- In this instruction manual, the ranks of the safety precautions have been divided with “Danger” , ”Warning” , ”Caution” ,and “Notes”.

 <b>DANGER】</b>	Indicates a hazardous situation which, if not avoided, will result in death or serious bodily injury.
 <b>WARNING】</b>	Indicates a hazardous or potentially dangerous situation which, if not avoided, could result in death or serious bodily injury.
 <b>CAUTION】</b>	Indicates a hazardous or potentially dangerous situation which, if not avoided, could result in minor or moderate bodily injury or property damage.
<b>【※ Notes】</b>	Indicates that mishandling may cause an operational mistake.

Even if the matter described to “Caution”, there is the possibility to relate to an important result according to the situation. Observe all safety precautions because the important contents have been described.

## 1. Safety Instructions

### 1-1. General precautions

- (1) Always keep “safety” in mind when using this tool.  
For proper use of this tool, sufficiently understand the safe use methods.
- (2) Please carefully read this instruction manual to understand proper usage before running, inspection, and maintenance of the tool.
- (3) Never remove any safety device such as a safety cover attached to the tool.
- (4) Do not remove or make illegible labels and indications affixed to the tool.
- (5) When not using the tool or during inspection or maintenance of the tool, shut off the air supply. And, do not touch the knife part (tip) with your bare hands.
- (6) If you notice any unusual movement or abnormality, stop using the tool.
- (7) Please inform us of any comments or questions you may have concerning safe use of our tools.

### 1-2. Application

This tool is designed to bind around various objects by using straps. Please do not use for purposes other than binding.

### 1-3. Work wear

When using this tool, wear protective equipment such as “protective glasses,” “protective mask,” “earplugs,” “leather gloves,” “protective footwear,” and a “helmet.”

In addition, make sure to wear long-sleeve outer wear and button the cuffs before use. Be careful so that neckties and long hair do not become tangled in the tool.

### 1-4. Protective equipment



#### (1) Protective glasses

If a strongly bound strap is cut by scissors, a rebound strap may damage the eyes of an operator and make the operator blind. Never fail to wear protective glasses.

Also, dust attached to the tool may enter your eyes when cleaning the tool by air blow. Never fail to wear protective glasses.

#### (2) Protective mask

Turbine oil is contained in exhaust air from the tool. Never fail to wear a protective mask.

#### (3) Earplugs

It is recommended to wear earplugs in order to protect ears from running noise and exhaust noise from the tool.

#### (4) Protective gloves

For handling straps and sharp objects, wear protective gloves because touching them accidentally or carelessly may cause an incision wound.

(5) Safety shoes

Wear protective footwear (safety shoes) as heavy objects may drop and injure your feet.

(6) Helmet (Protective cap)

Wear a helmet or hard hat as the strap after cutting may snap back and injure your head.

1-5. Precautions

(1) Never touch the cutter part with your fingertips, because doing so may cause injury or severing of fingers.

(2) Vibration

- 3-axis composite vibration value is measured based on the description in “JIS B 7761-2:2004 (ISO 5349-2:2001)” using a vibration meter specified in “JIS B 7761-1:2004” and “JIS B 7761-3:2007 (ISO 5349-1:2001).”
- Depending on the total operating time, operators may be at risk. Get a physical checkup based on “Guidelines for Preventive Measures against Vibration Hazards in Work with Vibratory Tools other than Chain Saws,” etc., and take measures, safety and health education, and exercise based on the checkup result.

1-6. Inspection and repair

- (1) Remove the tool from the air hose or stop feeding compressed air before inspection or repair.
- (2) Check the attached portion of the tool to which a suspension (lifting component) is attached for looseness before operation.
- (3) Stop using the tool before inspection and repair any worn or damaged parts. Please contact us wherever necessary.

1-7. Disposal of the tool

“Steel,” “aluminum alloy,” “copper alloy,” “rubber,” or “plastics,” etc., is used for the tool. Please dispose of the tool according to the related ordinances etc., of the laws and regulations of the related national and local governments.

1-8. Inspection before work

- (1) Check the tool to confirm that there is no looseness or damage of the bolts before work every day. Clean the feed wheel for clogging by using a wire brush, etc.
- (2) Discharge the drain in the air supply piping.
- (3) Check if the air pressure is correct (0.6MPa) at the pipe end.
- (4) Check if oil level and drop amount of lubricant (turbine oil ISO VG32) in the lubricator are correct.
- (5) When connecting the air piping, do not push the valve button.

## 2. Specifications

Model	Notch		Steel Strap		Weight (kg)	Air Pressure (MPa)	3-axis composite vibration	Noise
	NO. of notch	Down or Up	Width (mm)	Thickness (mm)			(m/s <sup>2</sup> )	(dB)
KATANA-19se	2	Up	19	0.5-1.2	4.2	0.6 ※ Note.1	3.96 ※ Note.2	100
KATANA-25se	2	Up	25		4.2			
KATANA-32se	2	Up	32		4.2			

Note.1) ◇ Minimum operating pressure changes according to the Thickness of strap and seal etc.

Note.2) ◇ 3-axis composite vibration value is measured based on JIS B 7761-2:2004 (ISO5349-2:2001).

Daily vibration exposure limit: 5.0m/s<sup>2</sup> or less.

Note.3) ◇ Tightening force should be used within the elastic range of the strap.

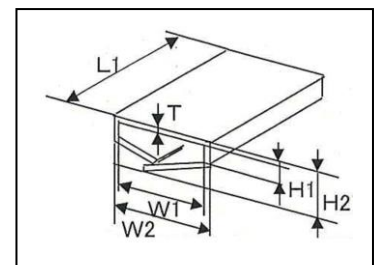
## 3. Standard seal

The strength of seal portion varies greatly depending on the seal shape.

Select seals meeting the standards in the table below. In addition, our seals are formed to optimum dimensions.

Model	W1	W2	H1	H2	L1	T
KATANA-19se	21.0	23.0	3.4	9.0	50.0	0.9
KATANA-25se	26.9	28.7	3.7	9.0	50.0	0.9
KATANA-32se	33.9	35.7	3.7	9.7	50.0	0.9

Product name: OVERLAP SEAL



## 4. Pneumatic Information

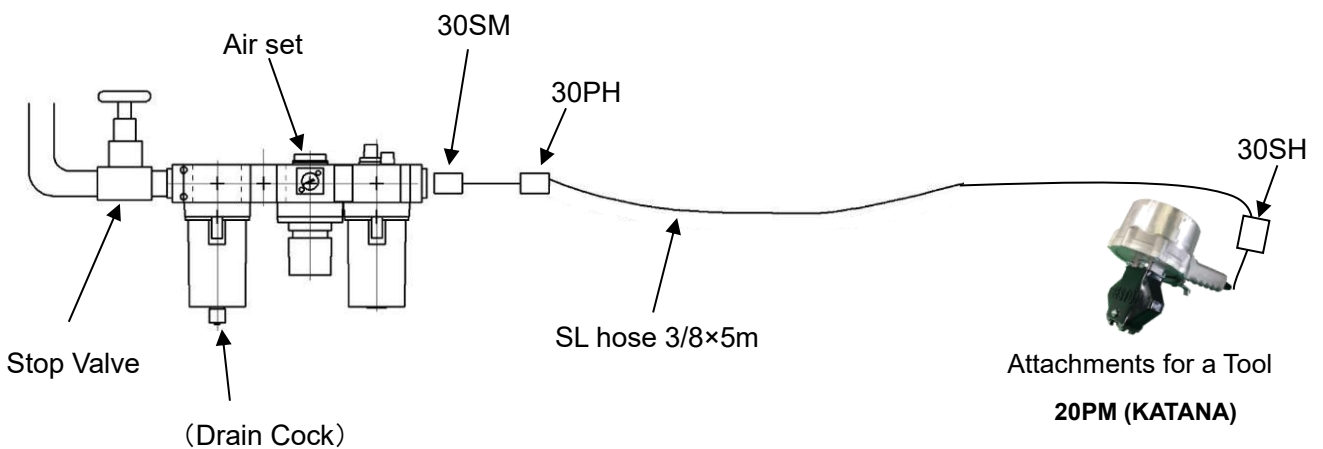
### 4-1. Air source

As an air source of this tool, use a compressed air source of which the air pressure (source pressure) is 0.6MPa or more in the plant with a piping diameter of 3/8B (10A) or more, air flow rate of 1Nm<sup>3</sup>/min or more.

### 4-2. Used air component

The following components are recommended for this tool.

SL hose: WS18Z-06(3/8)×5m (Yokohama Rubber), Plug 30SH, 30SM, 30PH (Nitto Kohki)



### ※Caution

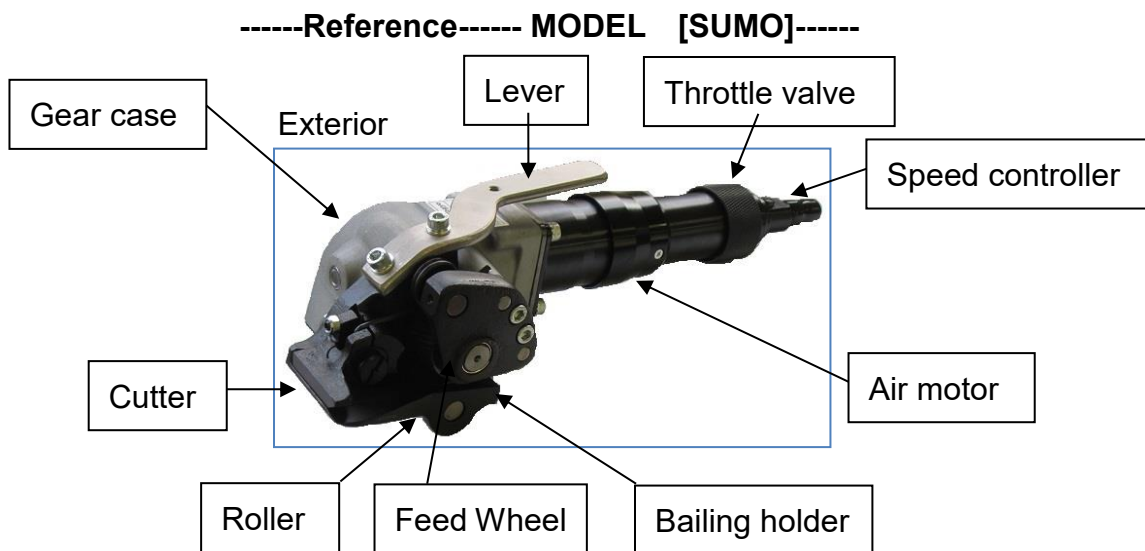
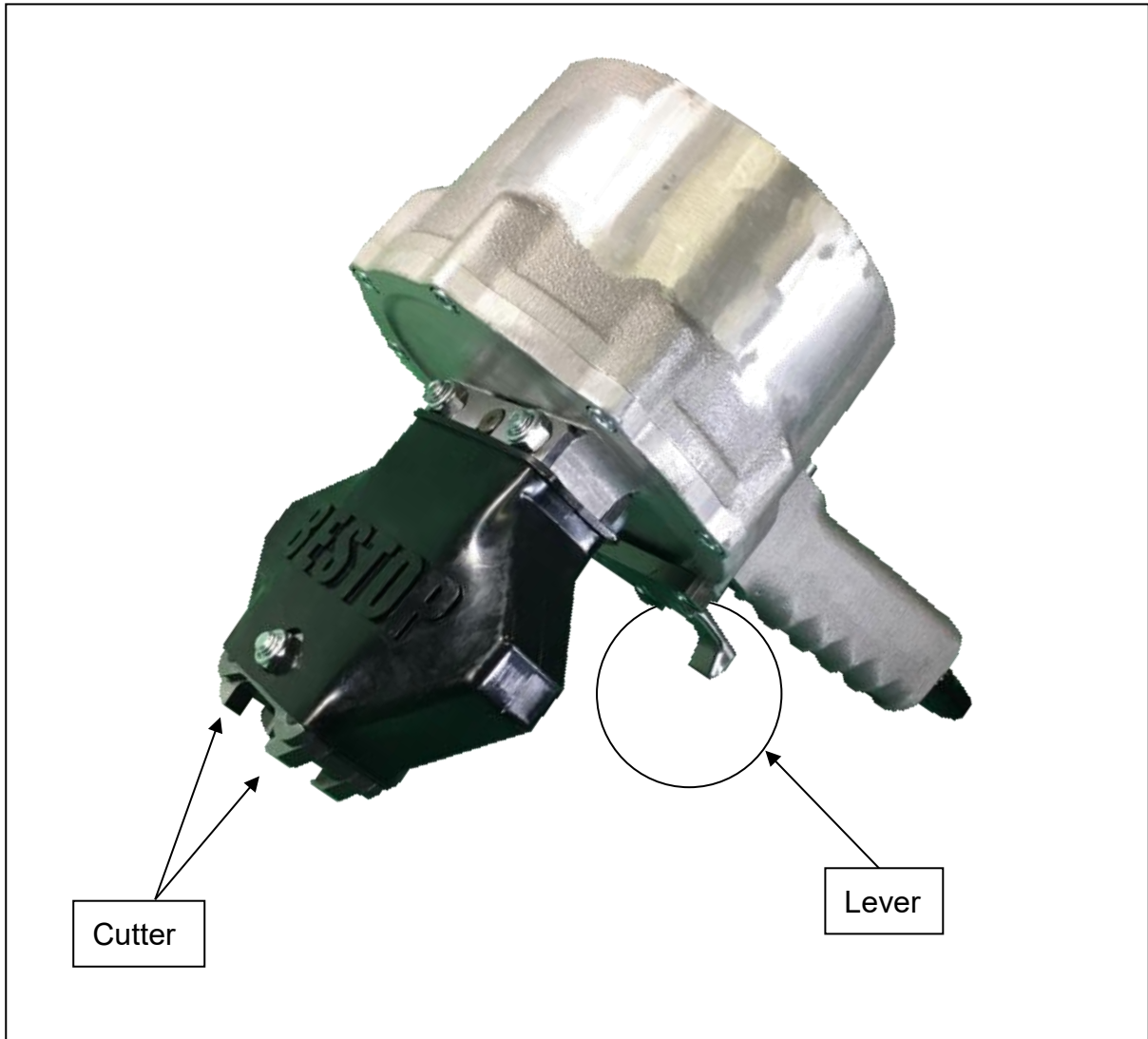
If you use hoses other than the specified hoses, use hoses at 9.5 or more in inner diameter and 5m or less in length. Use of hoses other than the above-specified hoses will cause a drastic reduction in pressure during operation. Please pay attention.

### 4-3. Precautions for piping

- (1) Attach an air set of 3/8B or greater (filter, regulator, and lubricator) to the air source.
- (2) To prevent a reduction in pressure during operation, completely use parts of 3/8B or greater for piping.

## 5. Operating Instructions and Adjustments

### 5-1. Exterior





## 5-2. Operating method

### 1) How to pass a seal through a strap and bind strap

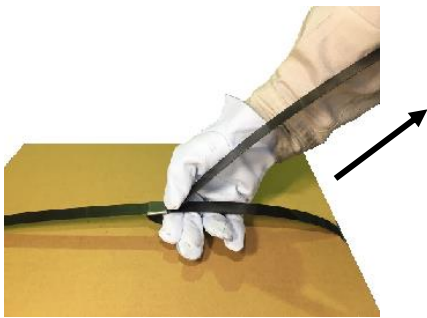


- ① Pass a strap through in a seal.  
Then, wind the strap around an object.

**【 ⚠ DANGER】**  
Wear protective gloves

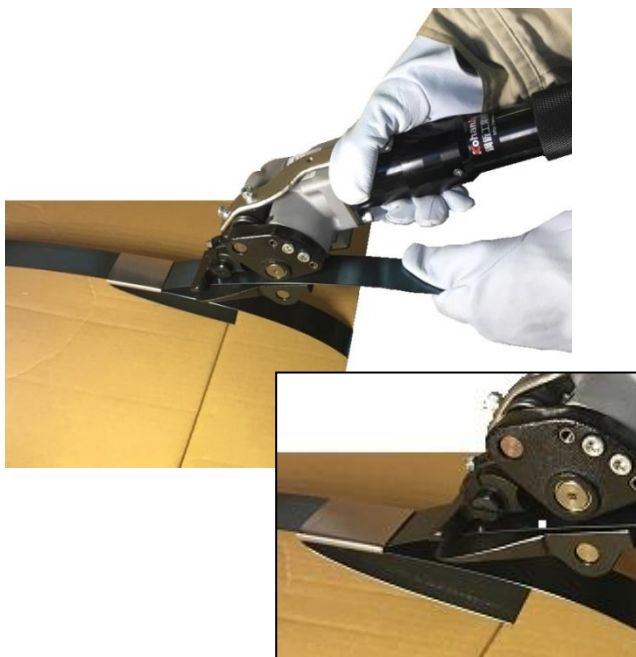


- ② Pass the end of the strap through in the seal.  
Then, fold the end of the strap under the seal  
(folding length is approximately 50mm)



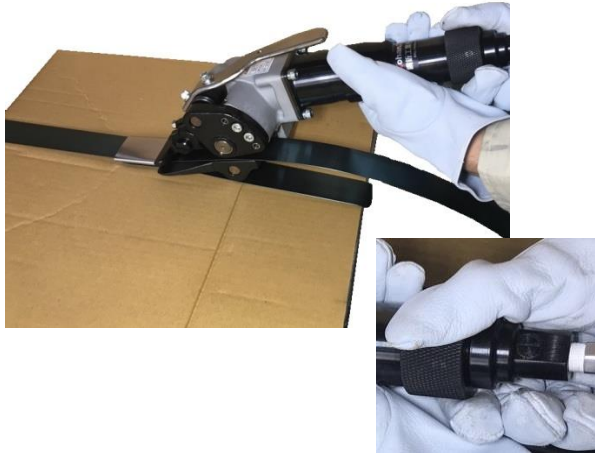
- ③ Tighten the strap passed through the seal in  
the arrow direction to remove excess  
looseness.  
At that time, locate the seal at the  
approximately final position.

### 2) Strap setting



Place your thumb on the lever and hold the air  
motor with other fingers and grip them.  
The gear case goes up, and put the upper strap  
between bailing holder and feed wheel.  
Then push Tightener against seal, and release  
the lever.

### 3) Tightening



Turn throttle valve counterclockwise.  
(Feed wheel rotates by air motor)  
Tightener fastens the strap and holds correct tension on it.

### 4) Sealing

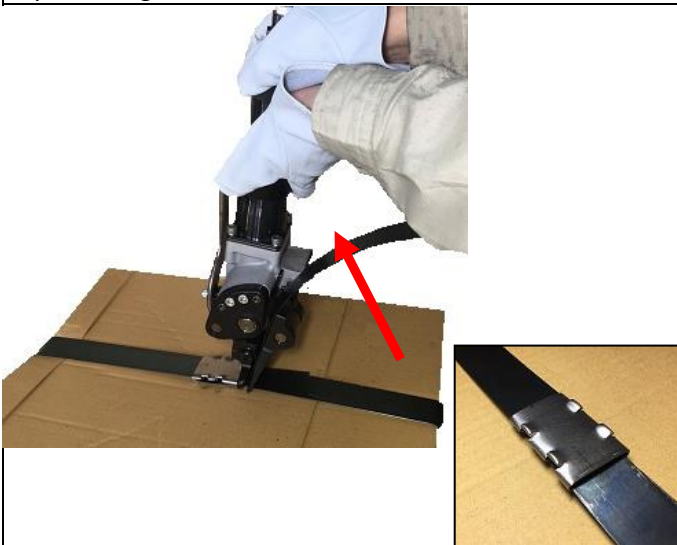


Place sealer over seal, press valve button.  
After sealing operation is finished,  
release valve lever and remove sealer from the seal.

**【 ⚠ DANGER】**

After sealing take your face away the body.

### 5) Cutting



Tilt tightener upward to vertical position while keeping throttle valve at full open position.

After strap is cut off, turn throttle valve clockwise to stop.

**【 ⚠ WARNING】**

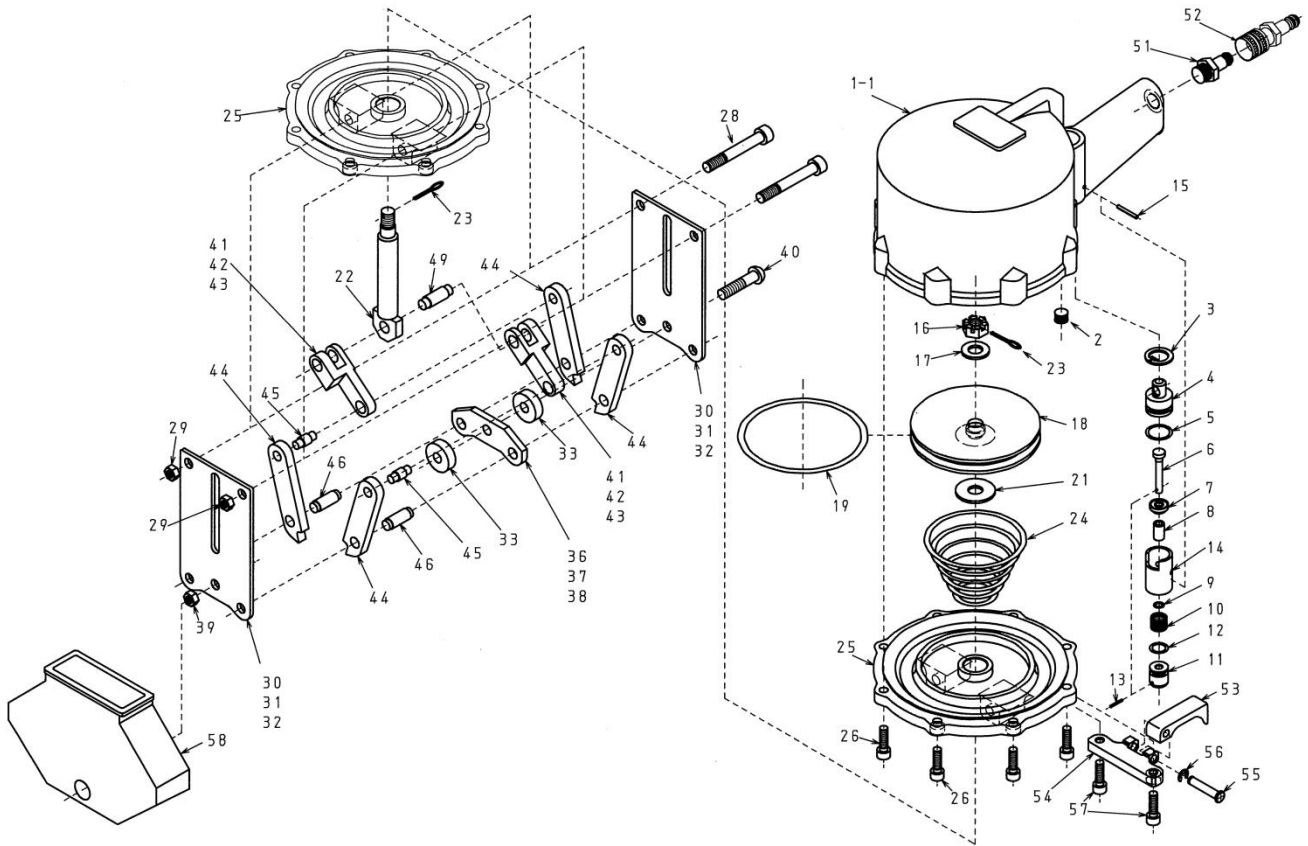
Do not insert the finger between the handle lever and the air motor at the cut-off the strap.

**【 ⚠ WARNING】**

Relief air pressure before remove Tightener from the air hose.

## 6. Exploded-view Drawing & Bill of Materials

### 6-1. Exploded-view Drawing : KATANA



KEY No.	Parts Name	(Parts No.)	DWG.No (Model No)	Q'ty	Expendable-parts
1	Cylinder	05541	BK4676-1	1	
2	Hexagon socket head plug	Purchase	(PT 1/8)	1	
3	C-type retaining ring for bore	Purchase	(R-20)	1	
4	Valve cap	0546	DK9225-1	1	
5	O-ring	Purchase	(P16)	1	○
6	Valve stem	0545	EK9070-1	1	
7	Valve	0544	EK8944-1	1	○
8	Stem sleeve	0538	EK9073-1	1	
9	O-ring	Purchase	JIS W-1516 AN6227-№3	1	○
10	Valve spring	0540	EK9071-1	1	○
11	Valve button	05412	DK17997-1	1	
12	O-ring	Purchase	(P10A)	1	○
13	Spring pin	Purchase	(Φ1.5×12)	1	
14	Valve bush	0537	DK9224-1	1	
15	Spring pin	Purchase	(Φ2.5×18)	1	
16	Hexagon castle nut low type	Purchase	(M10 )	1	○
17	Plain washer	Purchase	(M10)	1	
18	Piston	0555	SK14019-1	1	
19	O-ring	Purchase	(P130)	1	○
21	Piston collar	0557	EK9383-1	1	
22	Piston rod	0556	DK9346-1	1	
23	Split pin	Purchase	(Φ2×18)	1	○
24	Piston spring	0504	DK17981-1	1	○
25	Base	05581	DK17895-1	1	
26	Hexagon socket head cap screw	Purchase	(M6×20)	6	
28	Hexagon socket head cap screw	Purchase	(M8×45)	2	
29	U-nut	Purchase	(M8 P=1.25)	2	
30	Side plate (Type19 )	0561	DK16858-1	2	○
31	Side plate ( Type 25 )	0562	DK9348-1	2	○
32	Side plate ( Type 32 )	0563	DK9349-1	2	○

KEY No.	Parts Name	(Parts No.)	DWG.No (Model No)	Q'ty	Expendable-parts
33	Anvil spacer	0572	EK9339-1	2	
36	Anvil ( Type 19 )	0567	EK9382-1	1	○
37	Anvil ( Type 25 )	0568	EK9385-1	1	○
38	Anvil ( Type 32 )	0569	EK9386-1	1	○
39	U-nut	Purchase	(M8 P=1.25)	1	
40	Hexagon socket button head screw	Purchase	(M8×45)	1	○
41	Link ( Type 19 )	0564	EK9337-1	2	○
42	Link ( Type 25 )	0565	EK9384-1	2	○
43	Link ( Type 32 )	0566	EK9338-1	2	○
44	Cutter	0570	DK13172-1	4	○
45	Link pin	0560	EK9335-1	2	○
46	Cutter pin	0573	EK9336-1	2	○
49	Piston rod pin	0559	EK9388-1	1	○
51	Coupler (Plug )	Purchase	(20PM)	1	
52	Socket	Purchase	(200-30SH)	1	
53	Lever	05413	DK17995-1	1	
54	Bracket	05414	DK17996-1	1	
55	Lever pin	05415	EK19727-1	1	
56	E-type retaining ring	Purchase	( φ 5 )	1	
57	Hexagon socket head cap screw	Purchase	M6×30	2	
58	Link cover	0543	DK18150-1	1	

## 7. Troubleshooting

Trouble condition	Cause	Actions to take
1. Malfunction	1. Low air pressure	1. Check to see whether the pressure gauge attached to the pressure reducing valve indicates the correct pressure. If the pressure is too low, make adjustment to the correct pressure.
	2. Insufficient air pressure ( Hose size : 3/8B×5m Flow : Max1.1Nm <sup>3</sup> /min)	1. Check to see if the size of the hose supplying air to the tool is correct. If the size is not correct, replace the hose.
		2. Remove the main body and blow off compressed air through the air hose only, and check to see if the flow rate to the hose is correct. At this time hold the end of the hose firmly. Replace the rubber hose if the air supply amount is small due to the internal diameter having become small due to oil etc.
		3. Check each operation to see if the valve can be switched by lever operation.
		4. Check each part for air leakage and take action. If air leaks, it is considered that the packing is broken or tightening is poor, then repair is required.
3. Insufficient lubricant	1. If lubricator drop of the air set (F.R.L combination) is insufficiently adjusted, correct it. And inject some drops of turbine oil from the air supply port on the main body.	

Trouble condition	Cause	Actions to take
1. Malfunction	4. Looseness of joint screw	1. Looseness of the following screws or bolts results in a start failure, therefore, check and tighten them. <ul style="list-style-type: none"> <li>●Bolts for side plates and links, etc.</li> <li>●Mounting bolts for the cylinder and base.</li> <li>●Link pin for the lever part, and bolts.</li> </ul>
	5. If there is no improvement even by the above operation	1. Internal abnormality is considered. Therefore, contact our distributor or our company. <Example> ~Cylinder-related~ <ul style="list-style-type: none"> <li>●Malfunction due to rust (caused by inflow of moisture etc.), foreign substance. etc., in cylinder</li> <li>●Breakage or wear of piston rod pin, nut, O-ring and piston, etc.</li> </ul> ~Valve unit-related~ <ul style="list-style-type: none"> <li>●Air leakage or malfunction due to foreign substance etc., on spool valve rod</li> <li>●Breakage or wear of valve, spring, O-ring, etc.</li> </ul>
2. Poor sealing including poor strength of sealed part	1. Low air pressure	1. Low air pressure will cause a cutting failure of the straps. Check to see if the air pressure is as specified.
	2. Wear or chip of cutter	1. If the depth and height of the notch are insufficient, resulting in poor sealing, replace it. After replacement, confirm that the depth and height of the notch are normal by testing. It is recommended to keep new-product notch samples for notch confirmation use after maintenance.
	3. Wear spacer	
	4. Wear or break of cutter pin, link pin or piston rod pin	
	5. Wear or break of side plate	

Trouble condition	Cause	Actions to take
2. Poor sealing including poor strength of sealed part	6. Wrong shape of seal	1. Conduct seal sampling inspections to confirm conformity with the shape dimensions
	7. Nut of piston rod becoming loose	1. Internal abnormality is considered. Contact our distributor or our company.
	8. Wear or break O-ring of piston	
	9. Wear or break O-ring for the sealer valve	
	10. A foreign body being clogged between piston and cylinder cover	
11. Wear or break piston spring		
3. Other	1. Abnormal noise or heat is generated	1. If any abnormal noise or heat is generated during operation, immediately stop operation and inspect each part.





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