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CKD

CM－0370－A

INSTRUCTION MANUAL

02

PCD 03－47－1□

04

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

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For Safety Use

To use this product safely, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (to the level pursuant to JIS B 8370 Pneumatic System Rules).

We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents, read this operation manual carefully for proper operation.

Observe the cautions on handling described in this manual, as well as the following instructions :

⚠ Precautions

- Do not touch electric wiring connections (exposed live parts) : this will cause an electric shock. During wiring, keep the power off. Also, do not touch these live parts with wet hands.

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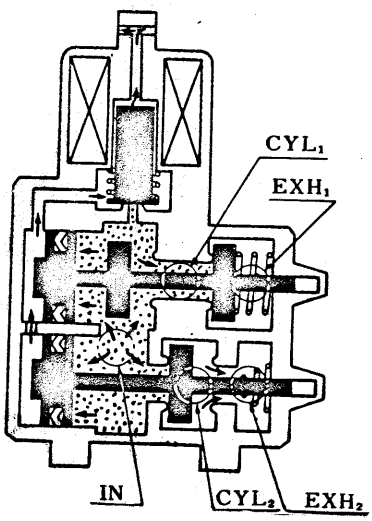
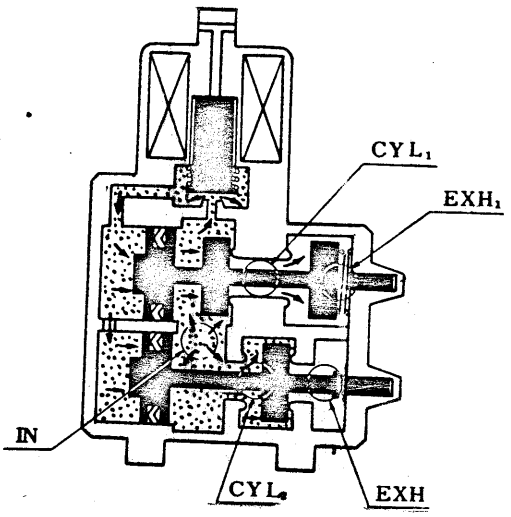
OPERATION:

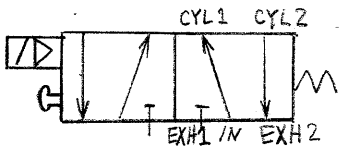
When dienergized (1)



When energized (2)



(JIS Symbol)



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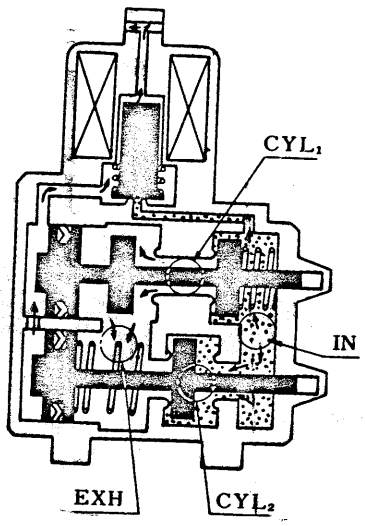
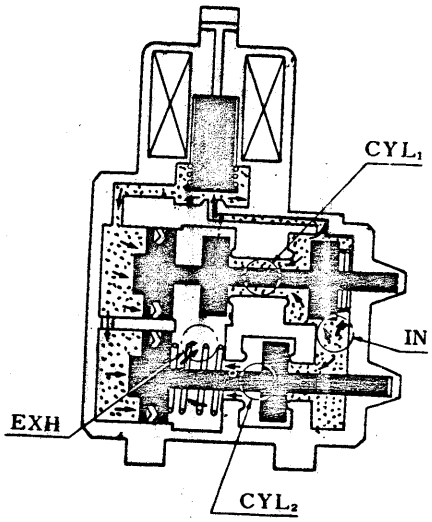
(1) IN-CYL1, CYL2-EXH2

(2) IN-CYL2, CYL1-EXH1

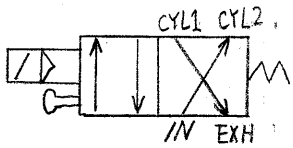
When dienergized (1)



When energized (2)



(JIS Symbol)



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(1) IN-CYL2, CYL1-EXH

(2) IN-CYL1, CYL2-EXH

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APPLICATIONS

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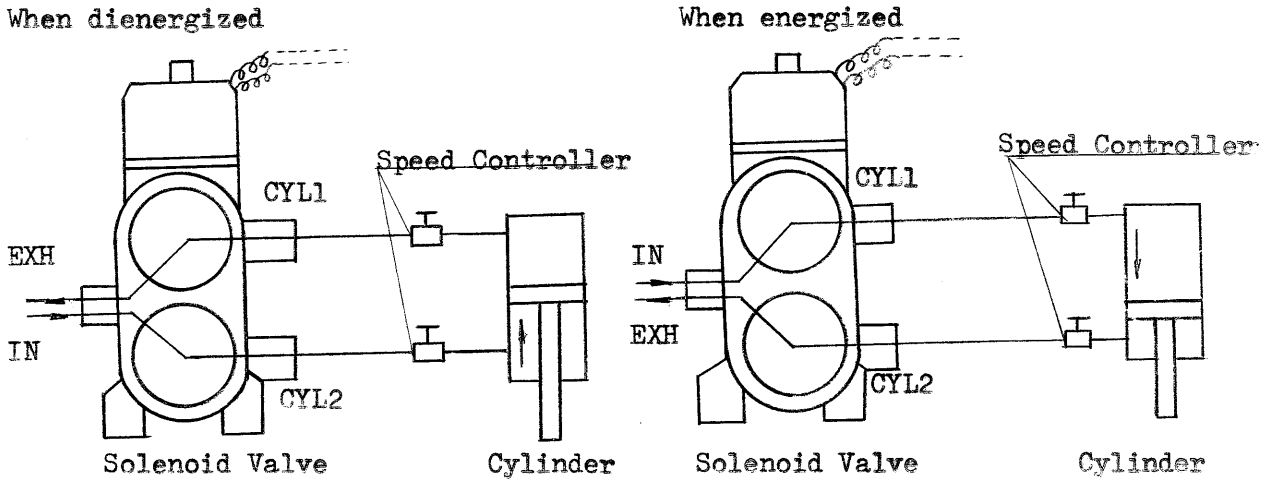

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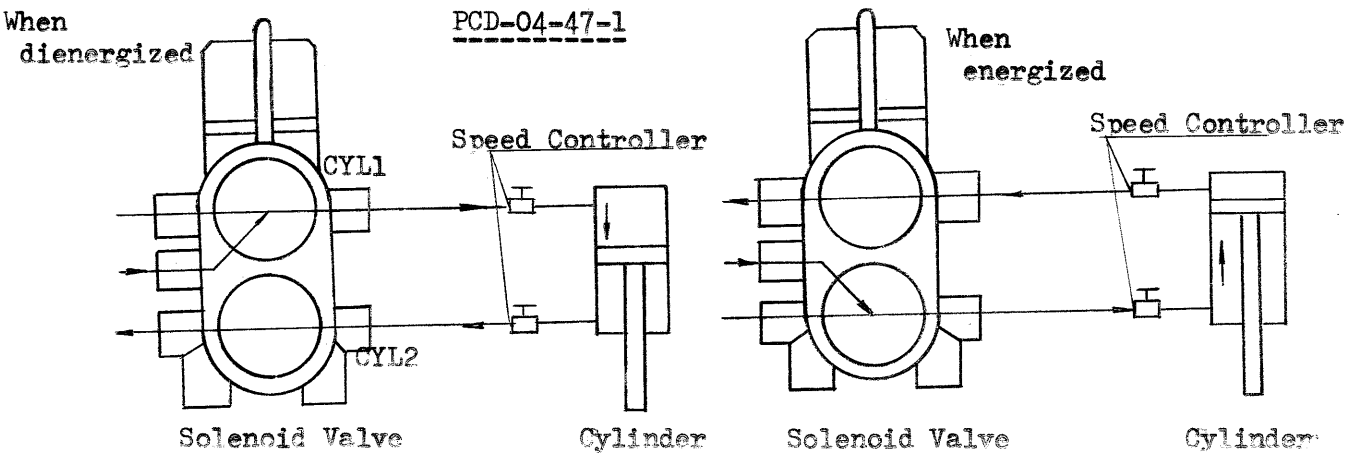

1. This Solenoid Valve is impossible for in neutral position.
2. The Speed Controllers must be provided at between CYL port and Cylinders.

Notes on Pressure:

1. The air pressure being supplied should be in 0.1 to 0.7 MPa.
2. Followings causes failure in operation even the pressure is at 0.2 – 0.3 MPa , because of it is pilot operated valve.
   1) When the INput pressure gets down (In case the piping at IN is thinner than OUT of it).
   2) The piping at EXH is thinner then 6mm dia.

Wiring:

1. Use the thick wire broader than 0.75mm^2 of its cross area.
2. Provide the Fuse (capacity: 1A) in the electric circuit.
3. Snap-action switch or Relay is recommended for the circuit.
4. Keep the voltage-drop away from the electric circuit.

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PIPING:

(Standard Piping)

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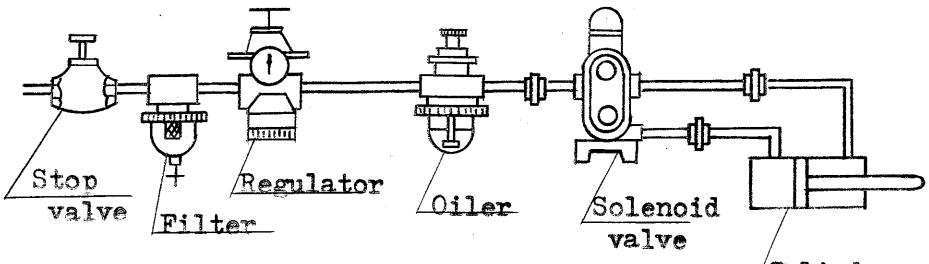

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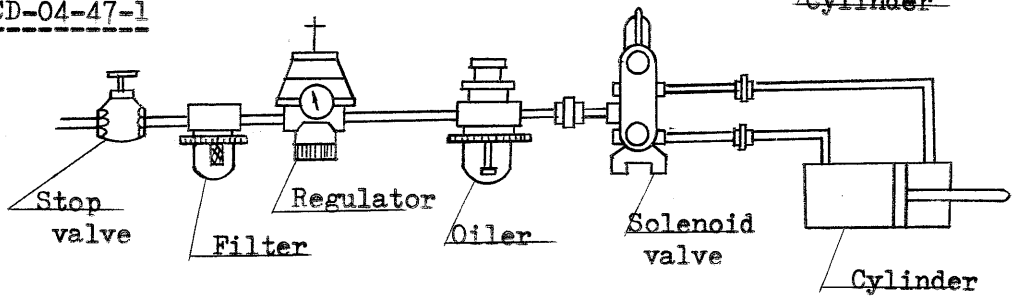

Notes on Piping:

1. Before install the Solenoid Valve, take off the all dusts inside of the valve.
2. Make sure the flow direction of the valve.
3. Provide the Straner or Lubrication Unit at the INLET side of the valve.
4. Keep out of the manner to install by gripping the Bonnet (Solenoid Coil) of the valve.
5. Install the valve vertically and/or horizontally as well as possible.
6. Keep the solenoid coil from the water (water spray).
7. Piping with using the union joints is recommendable, it makes ease to take off the valve when do so.
8. Don't remain the stress for the valve on piping.
9. Provide the pressure guage in the circuit.

Requirements on Test:

1. Check the rating voltage is reasonable or not.
2. Make sure the operation of the valve itself,before flowing of air,by switch ON-OFF several times. As the valve normally operates you can hear the sound "click click". If it does't click, failure on the electric circuit.
3. (When dienergized), check leakage of every part of the valve .
4. (When energized), check the leakage at "CYL" port.

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Notes on Overhaul:

1. Keep out of the manner to take off the valve by gripping the coil bonnet.
2. Keep out of the manner to take off the coil by pulling the lead wire.
3. Use the special tool provided instead of plyer or wrench to unscrew the packless pipe (core assembly).

On Valve Body

1) Remove (unscew) the Caps on the sides of the body.
2) Detract the valve piston assembly from the body, and disassemble it. (Unscrew the nut and take off the valve disc and packings).

On Solenoid Actuator

1) Unscrew the nut on the top and take off the bonnet along with solenoid coil.
2) Unscrew the Core assembly (packless pipe) with a special tool provided instead of the plyer and/or wrench.

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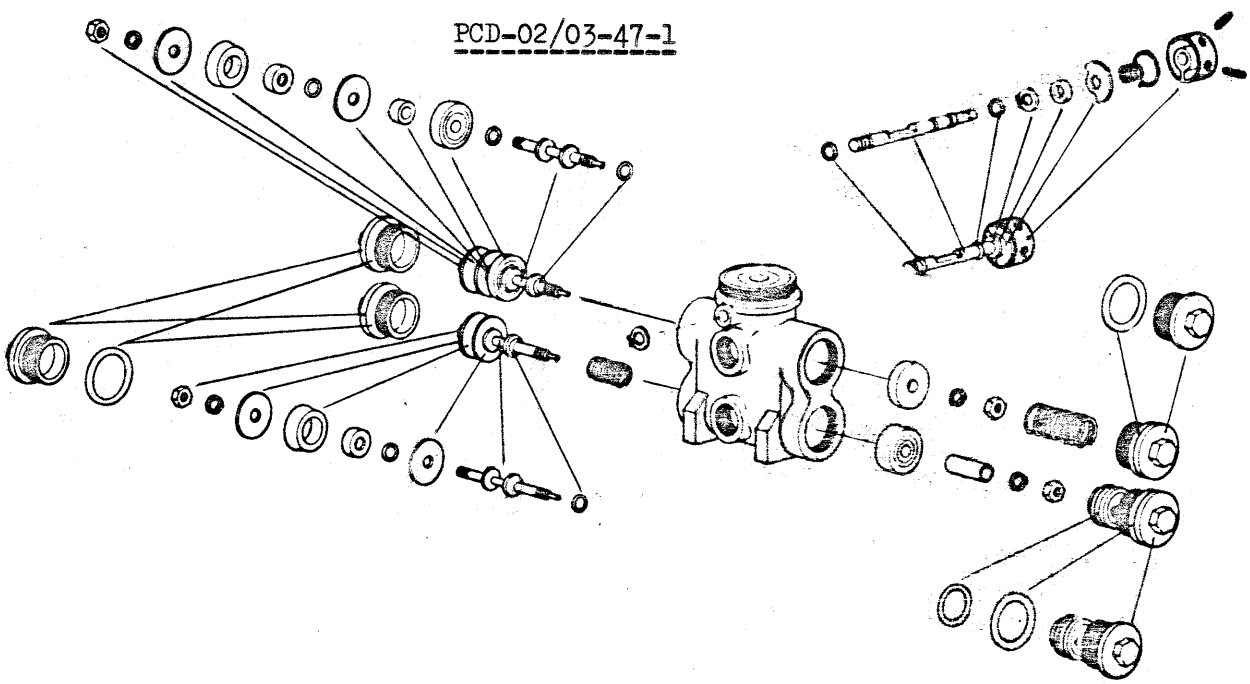

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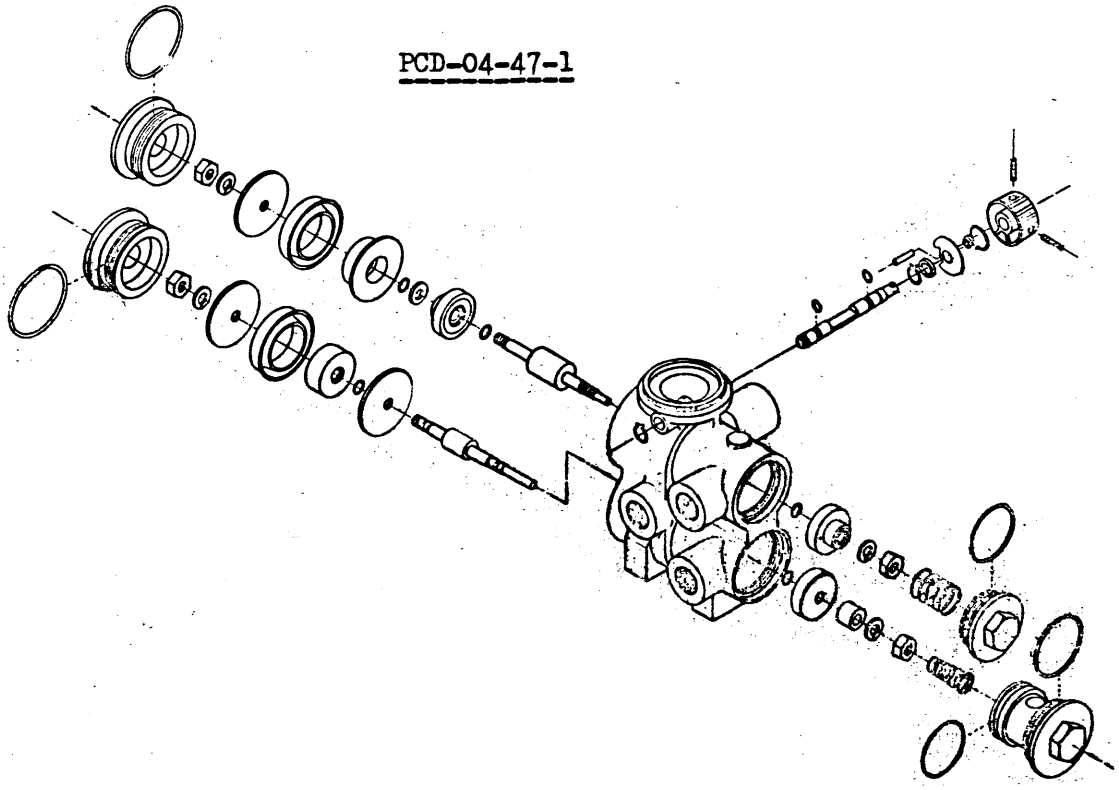

Notes on Reassemble:

1. Take the all dusts away from the parts disassembled before the reassemble.
2. Keep out the damages on the valve seat and all packings.
3. Don't fail to place the tiny parts such as springs and O-rings.

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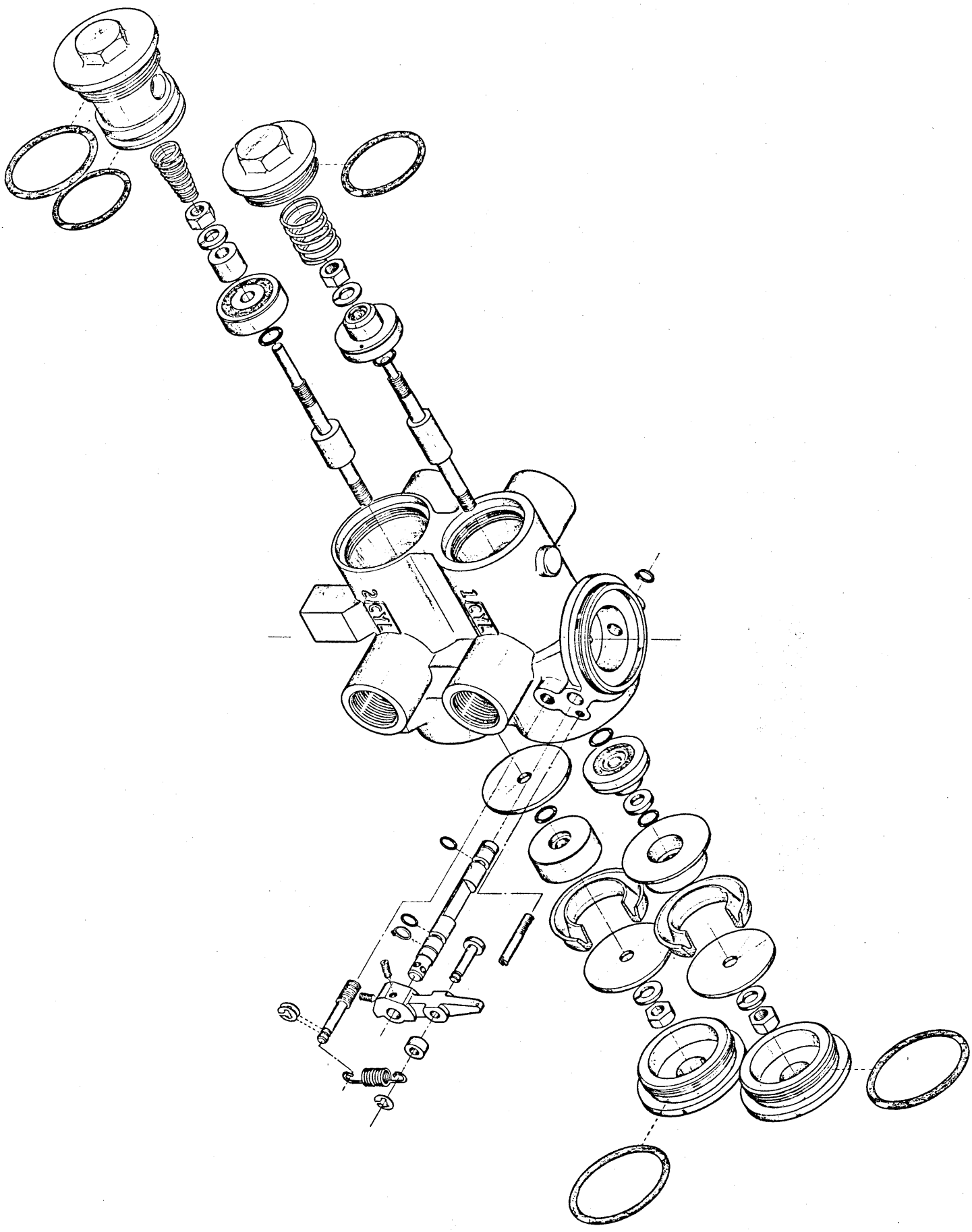

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(6) DISORDERS and COUNTERMEASUREMENTS:

Condition	Causes	Points of disorder	Countermeasure
No-action (when energised)	1.Failure on the elec. circuit	1.Power sourse * Disconnection *Voltage drop 2.Blown out fuse 3.Switch disconnection	Check Replace Replace
	2.Wrong coil	1.Inadequate voltage 2.Burned out (overload) 3.Disconnection	Check Replace Replace
	3.Lack of pressure	1.Under pressure than specified	Adjust
	4.Foreign particles	1. Plunger	Clean
	5.Lack of lubricant oil	1. Lubricator	Adjust
	6.Residual magnetism	1.Descrepitude of spring	Replace
	7.Piping distortion	1. Valve and pipe	Reinstall
Coil Burn	1.Failure on elec. circuit	1.Power sourse *Over/under voltage	Adjust
	2.Inadequate coil	1.Coil	Replace
	3.Wrong ass'y	1.Bonnet and core Plunger	Ressemble
	4.Failure of coil insulation	1 Coil	Replace
	5.Foreign particles	1.Plunger	Clean
Leak	*At "CYL" port	1.Damage of O-ring and packings 2.Valve body	Replace Replace
	*At the NUT at the top of valve (When de-energized)	1.Damage on the plunger 2.Descrepitude of spring 3.Damage on the pilot valve 4.Over pressure than specified. 5.Damage on the O-ring at packing 6.Damage on the Y-packing 7.Damage on the wall contacts with piston	Replace Replace Replace Adjust Replace Replace Replace

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Condition	Causes	Points of disorder	
Leak	*At other	1.Packings distortion	Replace
		2.Lack of packings	Place
		3.Insufficient tightening	Refasten
		4.Foreign particles	Clean
		5.Break	Replace
		6.Inadequate welding	Replace