

## GROUP 5 EPPR(Electro Proportional Pressure Reducing) VALVE

### 1. CONSIST OF EPPR VALVE

EPPR valve is consists of electro magnet and spool valve installed at main hydraulic pump.

#### 1) ELECTRO MAGNET VALVE

Receive electric current from CPU controller and move the spool proportionally depend on the specific amount of electric current value.

#### 2) SPOOL VALVE

Is the two way direction control valve for pilot pressure to reducing hydraulic pump flow.  
When electro magnet valve activate, pilot pressure enter to flow regulator at hydraulic pump.  
So, pump flow decrease to prevent engine stall.

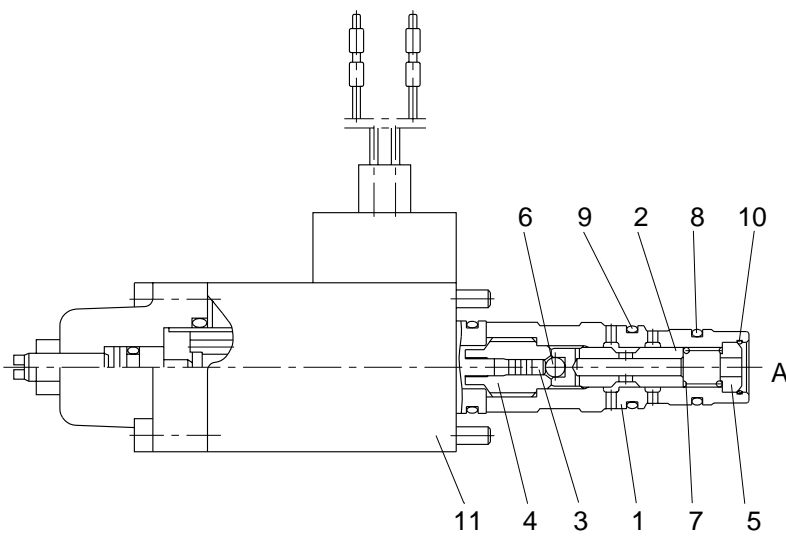
### 3) PRESSURE AND ELECTRIC CURRENT VALUE FOR EACH MODE

Mode	Pressure		Electric current (mA)	Engine rpm
	kg/cm <sup>2</sup>	psi		
H	11 ± 3	160 ± 40	(350 ± 30)	2050 + 50
S	15 ± 3	220 ± 40	(400 ± 30)	2050 + 50
L	20 ± 3	290 ± 40	(450 ± 30)	1850 + 50
F	33 ± 3	480 ± 40	(600 ± 30)	1550 + 50
★	13 ± 3	190 ± 40	(375 ± 30)	-

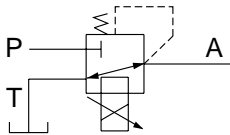
★ Manually operated condition when prolix switch is selected emergency position.

## 2. OPERATING PRINCIPLE

### 1) STRUCTURE



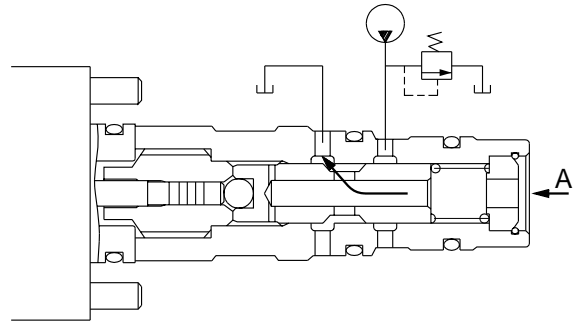
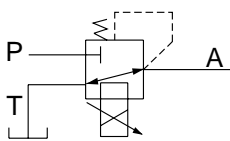
- 1 Sleeve
- 2 Spool
- 3 Piston
- 4 Bushing
- 5 Spring
- 6 Ball
- 7 Spring
- 8 O-ring
- 9 O-ring
- 10 O-ring
- 11 Solenoid valve
- 12 Lock nut
- 13 Adjusting screw



- P Pilot oil supply line(Pilot pressure)
- T Return to tank
- A Secondary pressure to flow regulator at hydraulic pump.

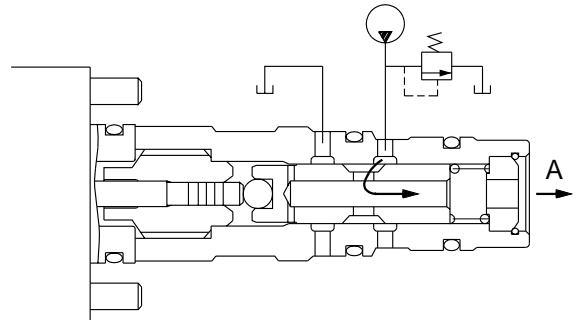
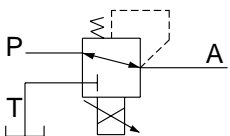
### 2) AT H MODE

Pressure line blocked so, A oil return to tank.



### 3) AT S, L, F MODE

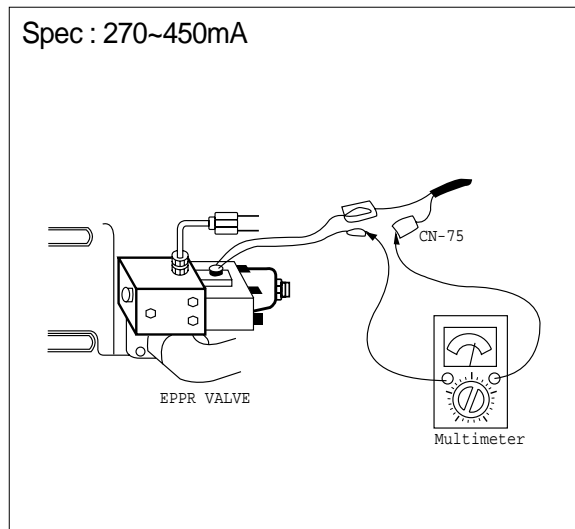
Secondary pressure enter to A.



### 3. EPPR VALVE CHECK PROCEDURE

#### 1) CHECK ELECTRIC VALUE AT EPPR VALVE

- (1) Start engine.
- (2) Set S-mode and cancel quick decel mode.
- (3) If tachometer show approx 2050+50rpm, disconnect one wire harness from EPPR valve.
- (4) Install multimeter as below.
- (5) Check electric current value at bucket circuit relief position.



#### 2) CHECK PRESSURE AT EPPR VALVE

- (1) Remove plug and connect pressure gauge as Fig.  
Gauge capacity : 0 to 40-50 kg/cm<sup>2</sup>  
(0 to 580-730 psi)
- (2) Start engine.
- (3) Set S-mode and cancel quick decel mode.
- (4) If tachometer show approx 2050+50rpm.
- (5) Check pressure at relief position of bucket circuit by operating bucket control lever.
- (6) If pressure is not correct, adjust it.
- (7) After adjust, test the machine.

