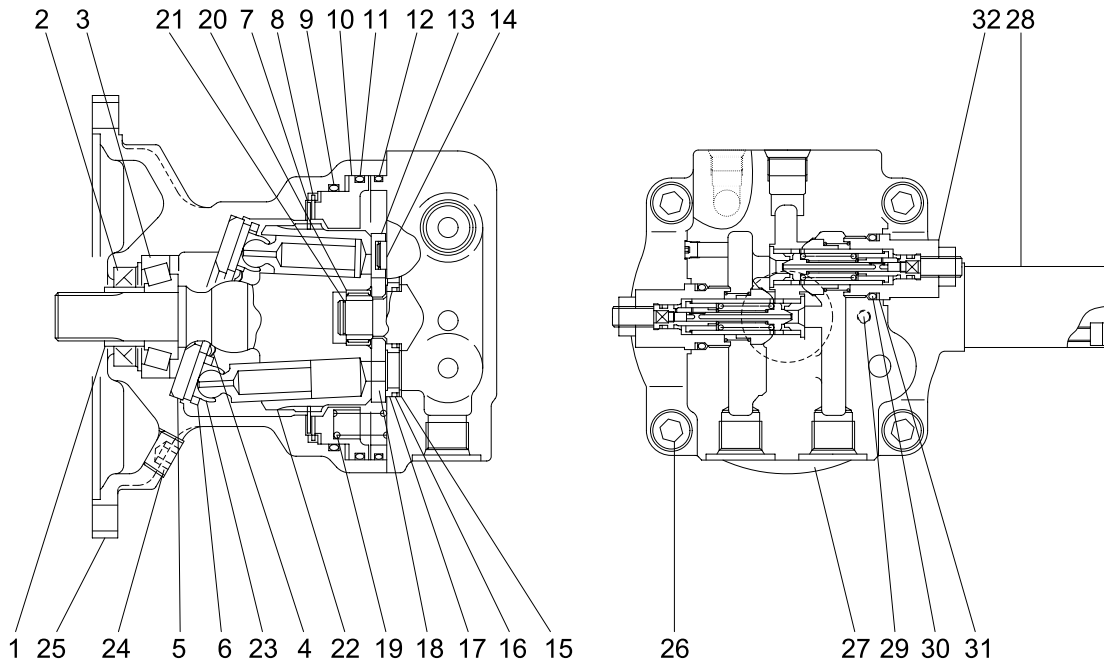


GROUP 5 SWING MACHINERY

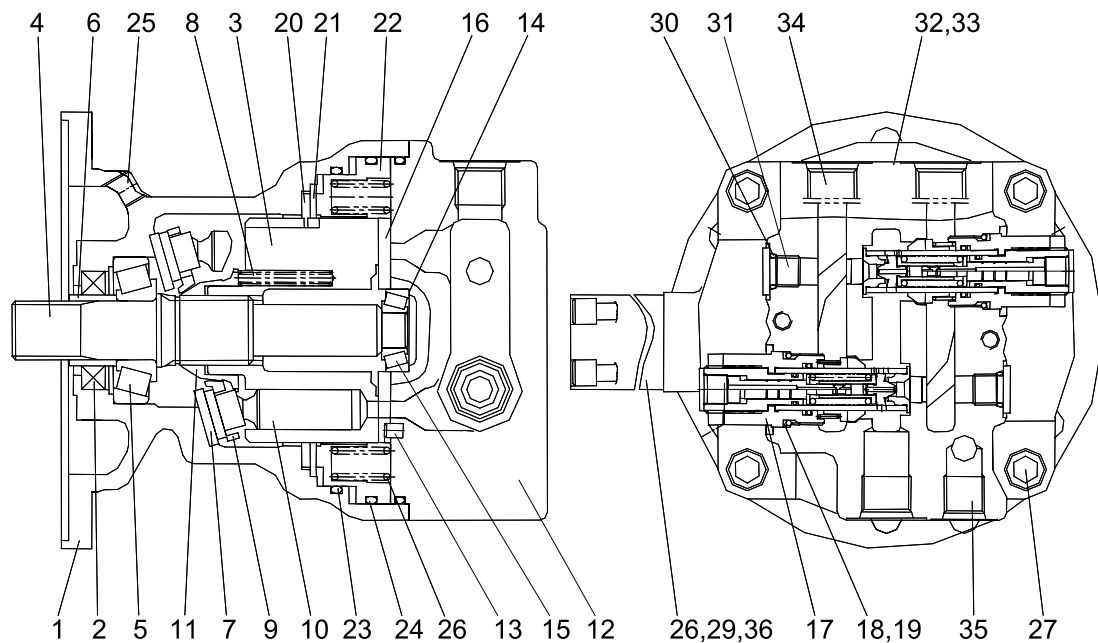
A. SWING MOTOR (SG015E, UP TO #1447)



R55NM2SF04

1	Inner ring	12	O-ring	23	Piston assembly
2	Oil seal	13	Teflon ring	24	Plug
3	Taper roller bearing	14	Piston	25	Housing
4	Backing spring	15	Coned disk spring	26	Socket bolt
5	Cam plate	16	Teflon ring	27	Cover
6	Return plate	17	Bush	28	Time delay valve
7	Lining plate	18	Balance plate	29	Parallel pin
8	Plate	19	Spring	30	O-ring
9	O-ring	20	Needle bearing	31	Back-up ring
10	Piston	21	Snap-ring	32	Relief assembly
11	O-ring	22	Cylinder		

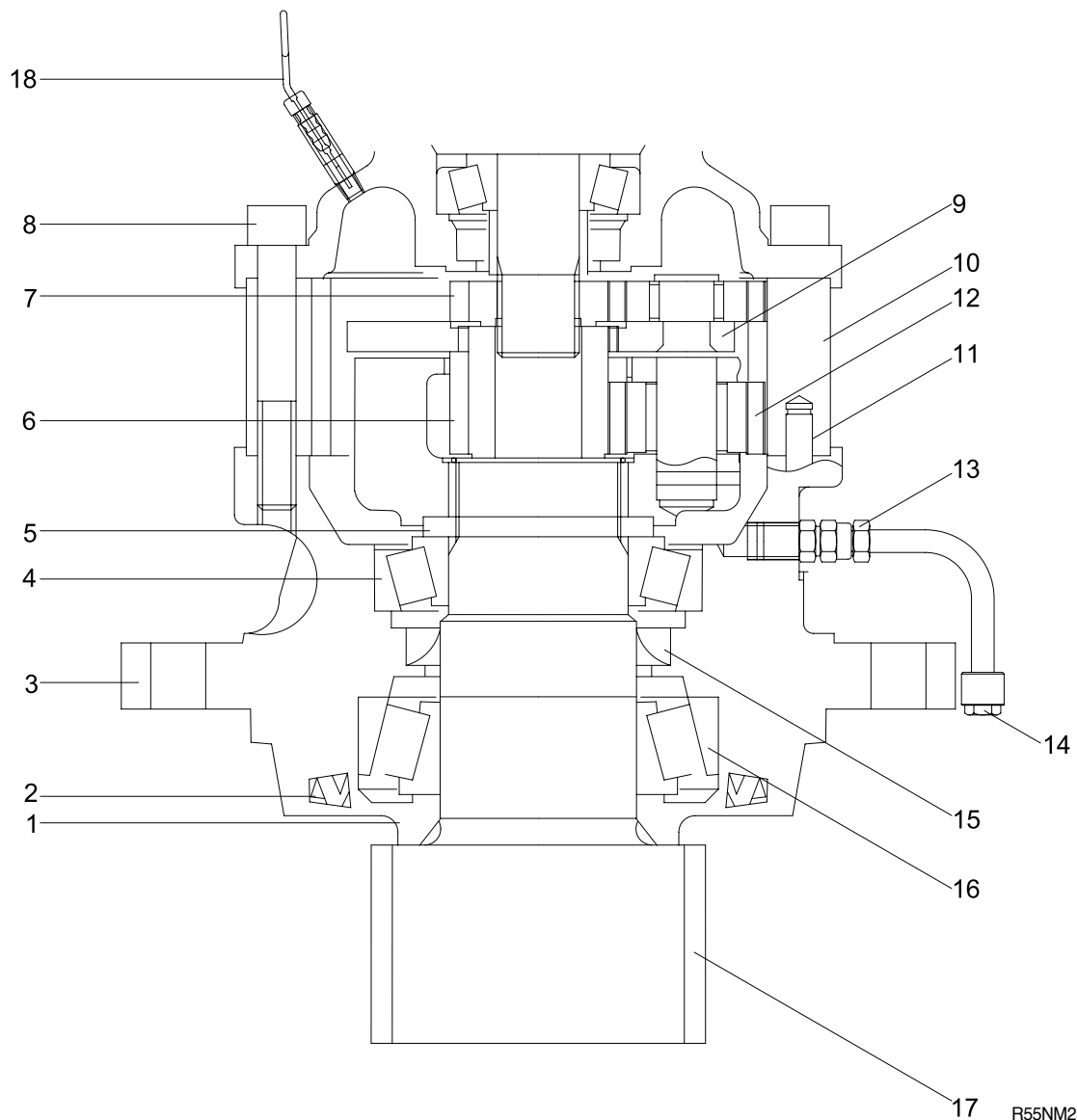
B. SWING MOTOR (JMF39, #1448 AND UP)



R55NM2SF07

1	Body	13	Pin	25	Plug
2	Oil seal	14	Shim	26	Spring
3	Cylinder block	15	Taper bearing	27	Wrench bolt
4	Shaft	16	Valve plate	28	Time delay valve
5	Taper bearing	17	Relief valve assy	29	Socket bolt
6	Bushing	18	Back up ring	30	O-ring
7	Shoe plate	19	O-ring	31	Plug
8	Spring	20	Friction plate	32	Name plate
9	Set plate	21	Plate	33	Rivet
10	Piston shoe assy	22	Parking piston	34	Plug
11	Ball guide	23	O-ring	35	Plug
12	Rear cover	24	O-ring	36	Plug

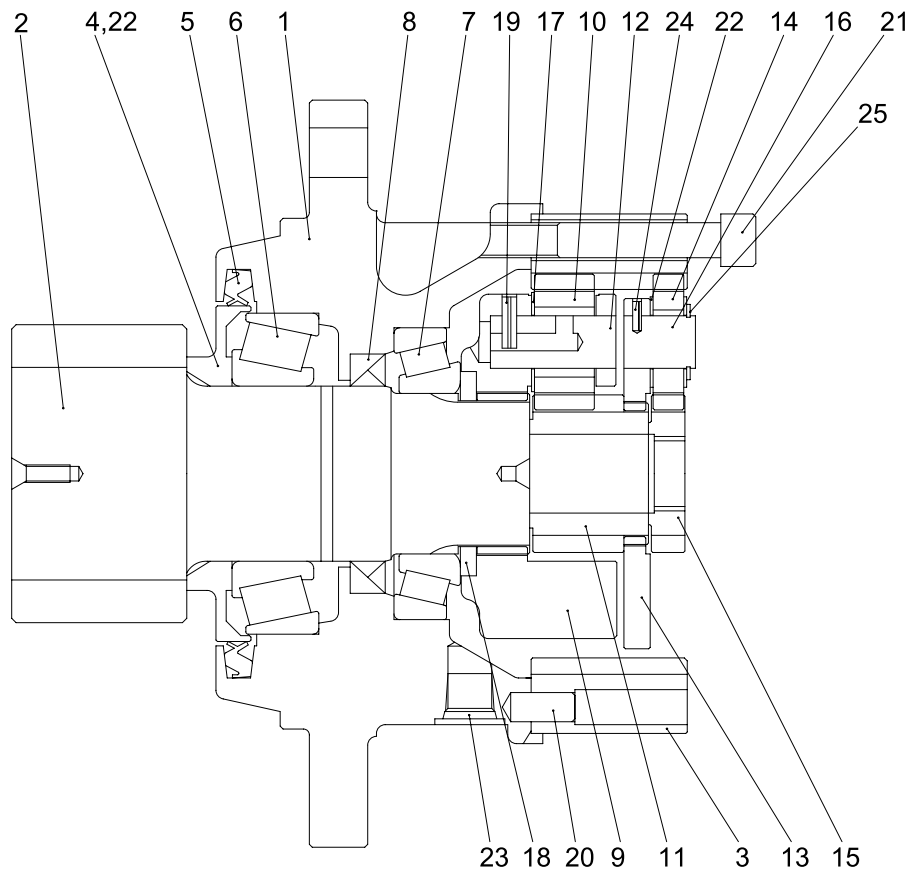
C. REDUCTION GEAR (SG015E, UP TO #0915)



R55NM2SF03

- | | | |
|-------------|--------------------|-----------------|
| 1 Collar | 7 Gear | 13 Drain pipe |
| 2 Oil seal | 8 Bolt (M12 x 80L) | 14 Plug |
| 3 Gear case | 9 Holder assembly | 15 Oil seal |
| 4 Bearing | 10 Ring gear | 16 Bearing |
| 5 Collar | 11 Parallel pin | 17 Pinion shaft |
| 6 Gear | 12 Holder assembly | 18 Level gauge |

D. REDUCTION GEAR (SB50, #0916 AND UP)



R55NM2SF06

- | | | | | | |
|---|-------------|----|----------------|----|------------------|
| 1 | Case | 10 | #2 Planet gear | 18 | Collar |
| 2 | Drive shaft | 11 | #2 Sun gear | 19 | Spring pin |
| 3 | Ring gear | 12 | #2 Pin assy | 20 | Knock pin |
| 4 | Spacer | 13 | #1 Carrier | 21 | Socket head bolt |
| 5 | Grease seal | 14 | #1 Planet gear | 22 | Thrust washer1 |
| 6 | Bearing | 15 | #1 Sun gear | 23 | Plug |
| 7 | Bearing | 16 | #1 Pin assy | 24 | Spring pin |
| 8 | Oil seal | 17 | Thrust washer2 | 25 | Stop ring |
| 9 | #2 Carrier | | | | |

1. SAFETY VALVE

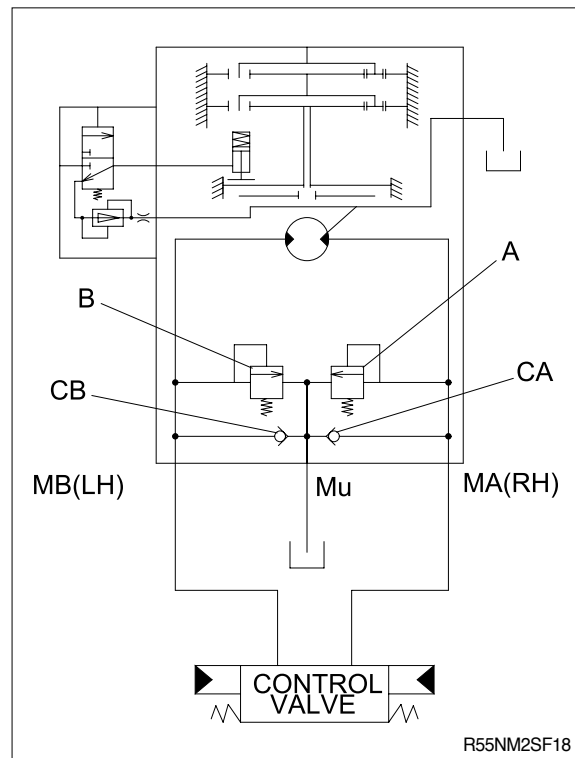
1) OUTLINE

The safety valve portion consists of a check valve and safety valve.

2) FUNCTION

When the swing is stopped, the output circuit of the motor continues to rotate because of inertia. For this reason, the pressure at the output side of the motor becomes abnormally high, and this will damage the motor. To prevent this, the oil causing the abnormal hydraulic pressure is allowed to escape from the outlet port (high-pressure side) of the motor to port Mu, thereby preventing damage to the motor.

Compared with a counterbalance valve, there is no closed-in pressure generated at the outlet port side when slowing down the swing speed. This means that there is no vibration when slowing down, so the ease of swing control is improved.



3) OPERATION

(1) When starting swing

When the swing control lever is operated to left swing, the pressurized oil from the pump passes through the control valves and is supplied to port MB. Because of this, the pressure at port MB rises, starting torque is generated in the motor, and the motor starts to rotate. The oil from the outlet port of the motor passes from port MA through the control valve and returns to the tank.

(2) When stopping swing

- When the swing control lever is returned to neutral, no pressurized oil is supplied from the pump to port MB.
The return circuit to the tank is closed by the control valve. So the oil from the outlet port of the motor increases in pressure at port MA. Resistance to the rotation of the motor is created, and the brake starts to act.
- The pressure at Port MA rises to the set pressure of safety valve A, and in this way, a high brake torque acts on the motor, and the motor stops.
- When safety valve A is being actuated, the relief oil from safety valve A and the oil from port Mu pass through check valve CB and are supplied to port MB. This prevents cavitation from forming at port MB.

