

## System Description Section

### SWA ALL

# ANTISKID/AUTOBRAKE SYSTEM - ANTISKID VALVE - FUNCTIONAL DESCRIPTION

### General

**SWA 001-099, 101-162, 164-199, 251-299, 301-350, 352-360, 362, 364, 365, 367-387, 610-661, 673-685, 701-705, 708-715, 726, 727, 730, 750-765, 790, 794, 799-811, 818-822, 840-847, 901-903, 910-920, 970-975, 982-999; SWA 388-399, 401-499, 501-599, 601-609, 662, 663, 686, 688-700 PRE SB 737-32-1528**

Four antiskid valves in the normal hydraulic brake system control the brake pressure for each brake independently. Two antiskid valves in the alternate hydraulic brake system each control brake pressure for both brakes on one of the main landing gear. All six antiskid valves are the same.

**SWA 388-399, 401-499, 501-599, 601-609, 662, 663, 686, 688-700 POST SB 737-32-1528**

Two antiskid valves in the normal hydraulic brake system control the brake pressure for each brake independently. Two antiskid valves in the alternate hydraulic brake system each control brake pressure for both brakes on one of the main landing gear.

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The antiskid valves have these two stages of control:

- The first stage valve controls pressure in proportion to input current from the antiskid/autobrake control unit.
- The second stage keeps pressure to the brakes equal to the first stage control pressure.

### Filters

**SWA 001-099, 101-162, 164-199, 251-299, 301-350, 352-360, 362, 364, 365, 367-387, 610-661, 673-685, 701-705, 708-715, 726, 727, 730, 750-765, 790, 794, 799-811, 818-822, 840-847, 901-903, 910-920, 970-975, 982-999; SWA 388-399, 401-499, 501-599, 601-609, 662, 663, 686, 688-700 PRE SB 737-32-1528**

In-line screen filters remove contamination from the metered pressure as it goes into the antiskid valve and as it goes out of the valve and to the brake.

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In-line screen filters remove contamination from the metered pressure as it goes into the antiskid valve.

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#### First Stage Valve

The first stage valve uses a current controlled flapper between two nozzles to adjust the first stage pressure. One nozzle connects to the metered pressure and the other connects to the return.

When no current goes to the valve, the flapper moves against the return nozzle. In this position, control pressure is the same as metered pressure.

When full current goes to the valve, the flapper moves against the pressure nozzle. In this position, control pressure is the same as return pressure.

For each intermediate value of input current, the flapper moves between the two nozzles to adjust the control pressure.

#### Second Stage Valve

The second stage valve uses a spool valve. It moves with first stage control pressure and a spring on one end and brake pressure on the other end.

When there is no brake pressure, the spring holds the spool in position to send metered pressure to fill the brakes.



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When control pressure is more than brake pressure, the spool moves to send metered pressure to the brakes.

During antiskid operation, the spool operates to keep the brake pressure equal to first stage control pressure. It sends unwanted brake pressure to the system return.

#### Return Check Valve

If the return line has a blockage and return pressure is more than brake pressure, the return check valve releases brake pressure to metered pressure.

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#### Figure 1 ANTISKID/AUTOBRAKE SYSTEM - ANTISKID VALVE - FUNCTIONAL DESCRIPTION

- Sheet 1

**SWA 388-399, 401-499, 501-599, 601-609, 662, 663, 686, 688-700 POST SB 737-32-1528**

#### Figure 2 ANTISKID/AUTOBRAKE SYSTEM - ALTERNATE ANTISKID VALVE - FUNCTIONAL DESCRIPTION

- Sheet 1

#### Figure 3 ANTISKID/AUTOBRAKE SYSTEM - NORMAL ANTISKID VALVE - FUNCTIONAL DESCRIPTION

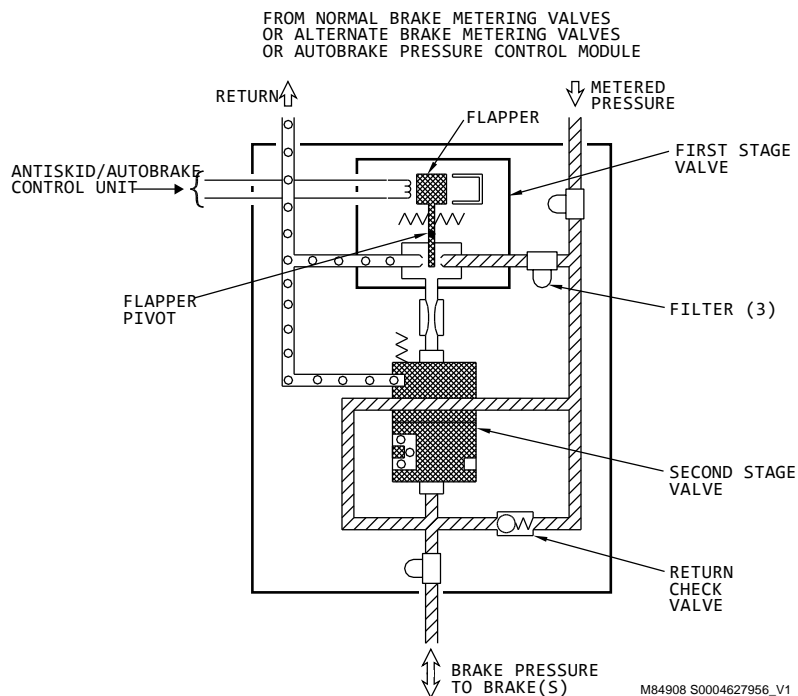
- Sheet 1

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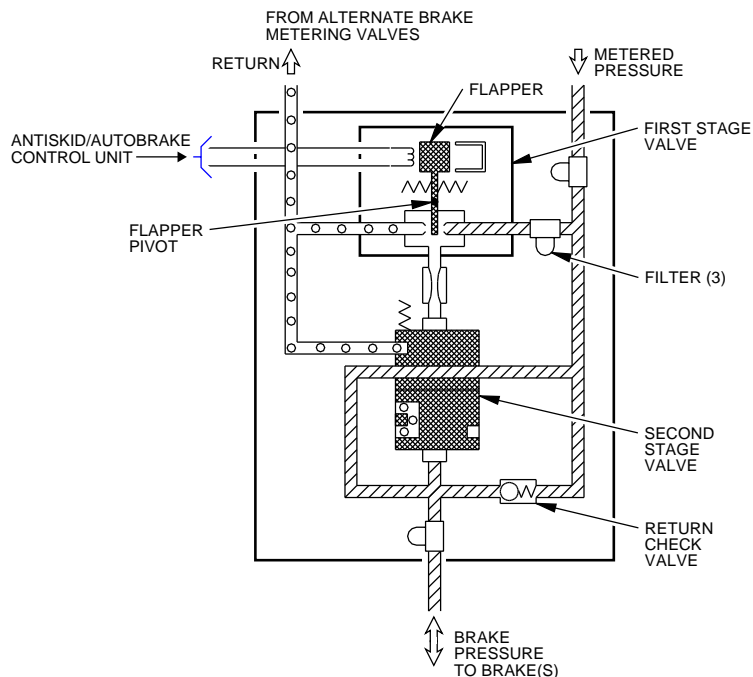


ANTISKID/AUTOBRAKE SYSTEM - ANTISKID VALVE - FUNCTIONAL DESCRIPTION  
Figure 1 (Sheet 1)  
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### ANTISKID/AUTOBRAKE SYSTEM - ALTERNATE ANTISKID VALVE - FUNCTIONAL DESCRIPTION

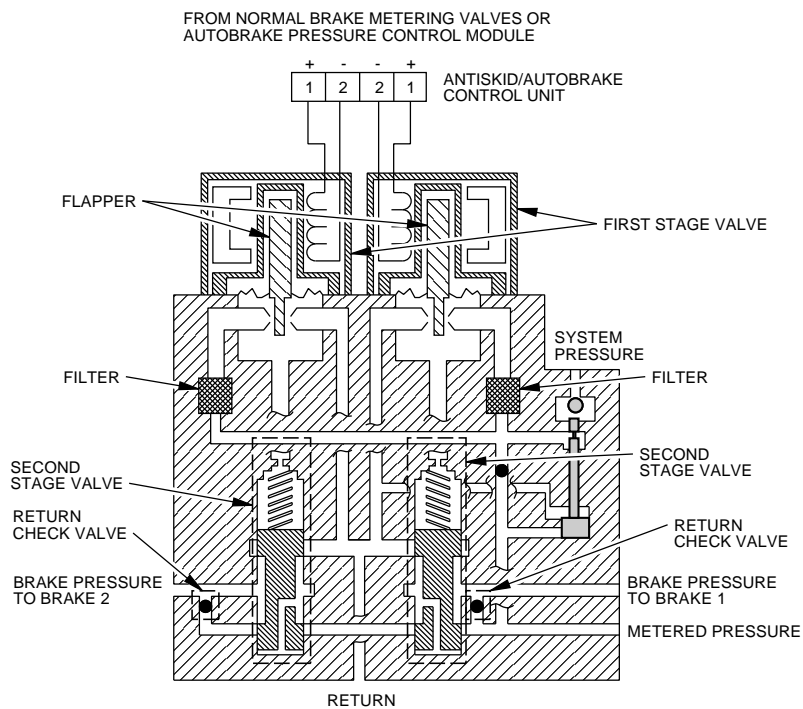
Figure 2 (Sheet 1)

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Effectivity : SWA 388-399, 401-499, 501-599, 601-609, 662, 663, 686, 688-700 POST SB 737-32-1528

### System Description Section



2894405 S0000689898\_V1

### ANTISKID/AUTOBRAKE SYSTEM - NORMAL ANTISKID VALVE - FUNCTIONAL DESCRIPTION

Figure 3 (Sheet 1)

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