System Description Section

SWA ALL

ANTISKID/AUTOBRAKE SYSTEM - ANTISKID GENERAL DESCRIPTION

Purpose

The antiskid system controls the metered brake pressure from the hydraulic brake system or the autobrake pressure from the autobrake system to prevent wheel skid. This gives maximum brake force to stop the airplane with any runway condition.

Components

These are the antiskid components:

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

- Antiskid valves (6)

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

- Antiskid valves (4)

SWA ALL

- Transducers (4)
- Landing gear lever up switch
- Alternate brake pressure switch
- Antiskid/autobrake control unit (AACU)
- Antiskid inoperative amber light.

Antiskid Valves

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 brake pressure to each wheel brake. Two antiskid valves in the alternate hydraulic brake system control brake pressure to the wheel brakes on each main landing gear.

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 brake pressure to each wheel brake. Two antiskid valves in the alternate hydraulic brake system control brake pressure to the wheel brakes on each main landing gear.

SWA ALL

Transducer

A transducer in each main landing gear wheel axle supplies wheel speed data to the AACU.

Landing Gear Lever Up Switches

The landing gear lever up switches sends the position of the landing gear lever to the AACU.

Alternate Brake Pressure Switch

The alternate brake pressure switch shows that the alternate hydraulic brake system has pressure.

Antiskid/Autobrake Control Unit

The AACU controls antiskid operation and monitors the system for faults.

System Description Section

Antiskid Inoperative Amber Light

The ANTI SKID INOP amber light comes on if there is a fault in the antiskid system.

General Description

The AACU gets wheel speed data from the transducers. The left and right ADIRUs supply ground speed data. The PSEU supplies air/ground signals from system 1 and system 2 to the AACU for touchdown/hydroplane protection. The parking brake system supplies a signal when there is a disagreement between the parking brake valve and the parking brake switch.

When a wheel skids, the AACU sends signals to the antiskid valves. If the normal brake system has pressure, the antiskid valve in the normal hydraulic brake system releases pressure for that wheel. This permits wheel speed to increase and stop the skid condition.

The normal antiskid valve releases unwanted brake pressure through the parking brake valve. The antiskid system monitors the correct operation of the parking brake valve to make sure the unwanted brake pressure can be released.

If the alternate hydraulic brake system has pressure, the antiskid system operates almost the same as the normal system. If a wheel on one main landing gear skids, the antiskid valve in the alternate hydraulic brake system releases the brake pressure to the two brakes on that main landing gear.

When the alternate brake pressure switch has pressure, it sends signals to the alternate antiskid sense relay and the flight data acquisition unit (FDAU).

The AACU sends signals to the auto speedbrake module when each wheel speed is more than 60 knots. The auto speedbrake module uses the wheel speed input to operate the auto speedbrake actuator during the RTO function.

See the air/ground system section for more information about the PSEU. (SECTION 32-09)

See the parking brake system section for more information about the parking brake system. (SECTION 32-44)

See the flight data recording system (FDRS) section for more information about the FDAU. (SECTION 31-31)

See the speedbrake control system section for more information about the auto speedbrake system. (SECTION 27-62)

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

Figure 1 ANTISKID/AUTOBRAKE SYSTEM - ANTISKID GENERAL DESCRIPTION

- Sheet 1

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

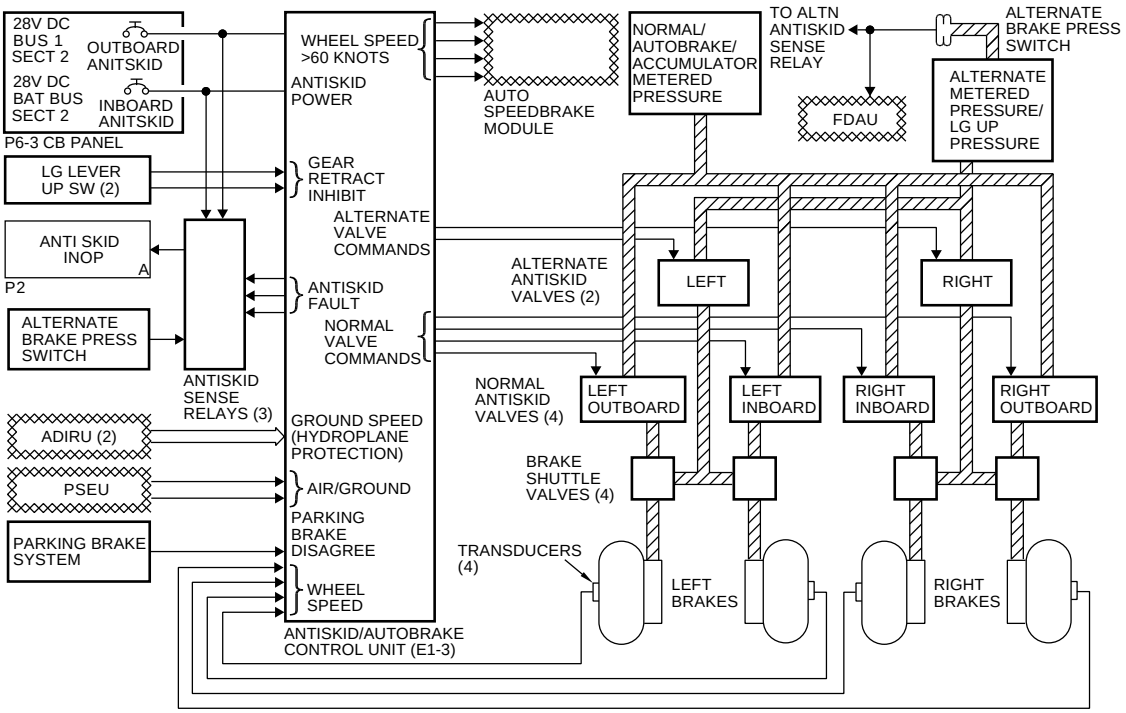
Figure 2 ANTISKID/AUTOBRAKE SYSTEM - ANTISKID GENERAL DESCRIPTION

- Sheet 1

--------- END OF CONTENT ---------

Effectivity : 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

System Description Section



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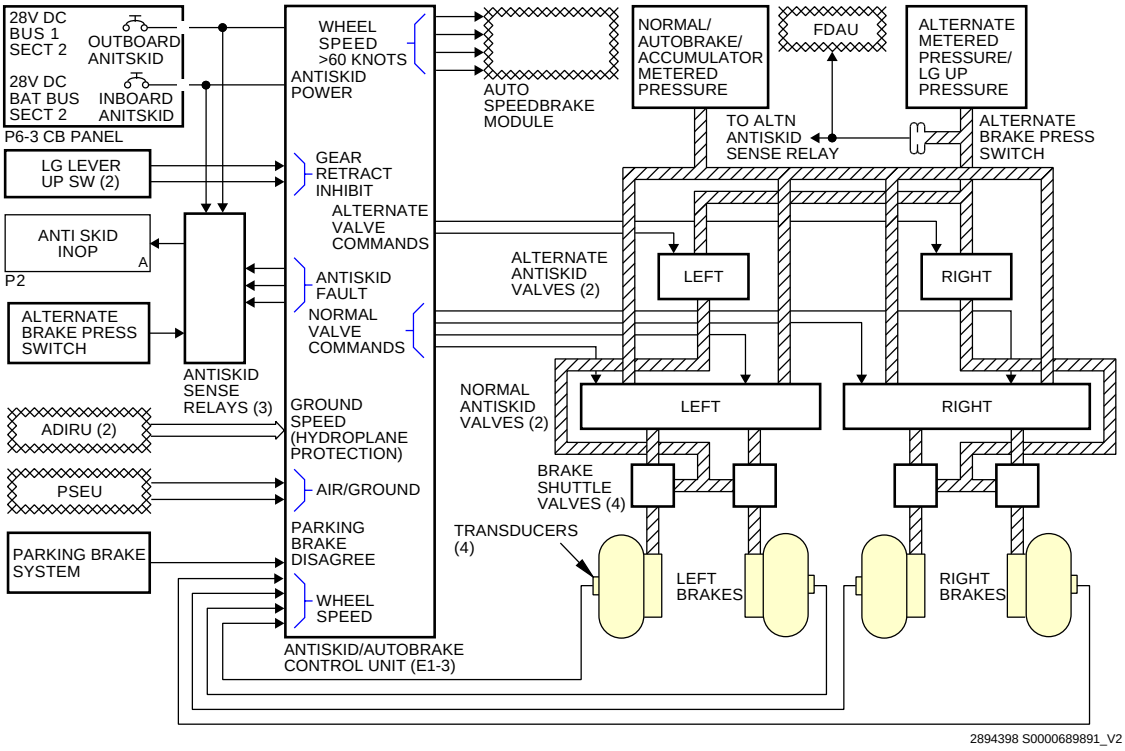
ANTISKID/AUTOBRAKE SYSTEM - ANTISKID GENERAL DESCRIPTION
Figure 1 (Sheet 1)
Graphic Rev Date: 15 Feb 2021

System Description Section



ANTISKID/AUTOBRAKE SYSTEM - ANTISKID GENERAL DESCRIPTION
Figure 2 (Sheet 1)
Graphic Rev Date: 15 Jun 2024