**737-8/8200**
**Fault Isolation Manual**
**29-00-00-810-801**

**DA4 ALL**

# Hydraulic Pressure Indication Momentarily Below 2800 Psi (System A) - Fault Isolation

## *CORRECTIVE ACTION SUMMARY*

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|---|
| Do Fault Isolation Task for Observed Fault |
| Replace Air Pressure Filter Element |
| Replace Secondary Check Valve |
| Replace Cross Fitting Assembly |
| Repair Leak at Hydraulic System A Reservoir |
| Connect Quick Disconnect for EDP Pressure Hose |
| Connect Quick Disconnect for EDP Supply Hose |
| Connect Quick Disconnect for EDP Case Drain Hose |
| Replace EDP Supply Hose |
| Replace Nose Gear Steering Check Valves |
| Replace Engine-Driven Pump (Engine 1) |

## A. Description

(1) When selecting landing gear or high lift devices, hydraulic system pressures may drop for up to 10 seconds during normal operation. Momentary hydraulic pressure drops lasting from 10 to 40 seconds may be indications of a fault.

(2) The low pressure light illuminates when the pressure drops below 1200 psi.

(3) Hydraulic system pressure drop during high flow demand is usually caused by cavitation of the engine driven pump (EDP). Cavitation may be caused by a restriction in the EDP supply line or by reservoir pressurization system problems.

(4) The landing gear runs off of System A pressure.

(5) A hydraulic pump can be damaged if it operates during a momentary loss of pressure. If pressure is lost for an extended time, then check the applicable pressure and case drain filters. A contaminated filter can be an indication of a damaged pump.

## B. Initial Evaluation

(1) Do this check of the hydraulic system:

(a) Make sure that the FLT CONTROL A switch and SPOILER A switch are in the OFF position.

**WARNING**

MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES BEFORE YOU SUPPLY HYDRAULIC POWER. AILERONS, RUDDER, ELEVATORS, FLAPS, SPOILERS, SLATS, AND THRUST REVERSERS CAN MOVE QUICKLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Pressurize the hydraulic system A with the engine-driven pump (engine 1). This is the task: Hydraulic System A or B Pressurization with an Engine-Driven Pump (EDP), AMM TASK 29-11-00-860-804.

(c) If the system does not operate as specified in the AMM task, then do the Fault Isolation Procedure below.

(d) If the system operates as specified in the AMM task, then there was an intermittent fault.

## C. Fault Isolation Procedure

(1) Push the SYS button on the multi-function panel and look at the HYDRAULIC indications for PRESS.
   (a) If the system A indication is less than 2,800 PSI, then do these steps:
      1) Do the FIM task for the observed fault "Hydraulic pressure indication: too low system A".
      2) Do the AMM test that you did at the start of this task.
      3) If the system operates as specified in the AMM task, then you corrected the fault.
      4) Remove hydraulic power from system A. This is the task:
         Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.
   (b) If the system A indication is not less than 2,800 PSI, then continue.
(2) Do a check for continous airflow between the air pressure filter assembly and the reservoirs. Do a check to see if the air pressure filter assembly is plugged. This is the task:
   Hydraulic Reservoirs Pressurization, AMM TASK 29-09-00-860-801.
   (a) If airflow does not flow continously from the vents between the air pressure filter assembly and the reservoirs. Do a check to see if the air pressure filter assembly is plugged, then do these steps:
      1) Replace the air pressure filter element. These are the tasks:
         Air Pressure Filter Element Removal, AMM TASK 29-09-01-000-803,
         Air Pressure Filter Element Installation, AMM TASK 29-09-01-400-803.
      2) Do the AMM test that you did at the start of this task.
      3) If the system operates as specified in the AMM task, then you corrected the fault.
      4) Remove hydraulic power from system A. This is the task:
         Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.
   (b) If airflow does flow continously from the vents between the air pressure filter assembly and the reservoirs. Do a check to see if the air pressure filter assembly is plugged, then continue.
(3) Do a check for continous airflow between the air pressure filter assembly and the reservoirs. Do a check of the secondary check valve for corrosion or plugged passages. This is the task:
   Hydraulic Reservoirs Pressurization, AMM TASK 29-09-00-860-801.
   (a) If airflow does not flow continously from the vents between the air pressure filter assembly and the reservoirs. Do a check of the secondary check valve for corrosion or plugged passages, then do these steps:
      1) Replace the secondary check valve. These are the tasks:
         Secondary Check Valve Removal, AMM TASK 29-09-01-000-802,
         Secondary Check Valve Installation, AMM TASK 29-09-01-400-802.
      2) Do the AMM test that you did at the start of this task.
      3) If the system operates as specified in the AMM task, then you corrected the fault.
      4) Remove hydraulic power from system A. This is the task:
         Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.
   (b) If airflow does flow continously from the vents between the air pressure filter assembly and the reservoirs. Do a check of the secondary check valve for corrosion or plugged passages, then continue.
(4) Do a check for continous airflow between the air pressure filter assembly and the reservoirs. Do a check of the cross fitting assembly for corrosion or plugged passages. This is the task:
   Hydraulic Reservoirs Pressurization, AMM TASK 29-09-00-860-801.
   (a) If airflow does not flow continously from the vents between the air pressure filter assembly and the reservoirs. Do a check of the cross fitting assembly for corrosion or plugged passages, then do these steps:
      1) Replace the cross fitting assembly. These are the tasks:
         Cross Fitting Assembly Removal, AMM TASK 29-09-04-000-801,
         Cross Fitting Assembly Installation, AMM TASK 29-09-04-400-801.
      2) Do the AMM test that you did at the start of this task.
      3) If the system operates as specified in the AMM task, then you corrected the fault.

4) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) If airflow does flow continously from the vents between the air pressure filter assembly and the reservoirs. Do a check of the cross fitting assembly for corrosion or plugged passages, then continue.

(5) For the hydraulic system A reservoir, do this check for leaks:
Hydraulic Reservoir Pressurization System Leakage Test, AMM TASK 29-09-00-860-803.

(a) If you find a leak, then do these steps:
1) Repair the leak.
2) Do the AMM test that you did at the start of this task.
3) If the system operates as specified in the AMM task, then you corrected the fault.
4) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) If you do not find a leak, then continue.

(6) Do a detailed visual inspection of the EDP pressure hose and its quick disconnect at the pump and at the pylon. This is the task:
Power Plant - Installation, AMM TASK G71-00-02-400-801-G00.

(a) If you find a problem during the inspection, then do these steps:
1) Connect the quick disconnect correctly. Make sure that they are fully locked and engaged.
2) Do the AMM test that you did at the start of this task.
3) If the system operates as specified in the AMM task, then you corrected the fault.
4) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) If you do not find a problem during the inspection, then continue.

(7) Do a detailed visual inspection of the EDP supply hose and its quick disconnect at the pump and at the pylon. This is the task:
Power Plant - Installation, AMM TASK G71-00-02-400-801-G00.

(a) If you find a problem during the inspection, then do these steps:
1) Connect the quick disconnect correctly. Make sure that they are fully locked and engaged.
2) Do the AMM test that you did at the start of this task.
3) If the system operates as specified in the AMM task, then you corrected the fault.
4) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) If you do not find a problem during the inspection, then continue.

(8) Do a detailed visual inspection of the EDP case drain hose and its quick disconnect at the pump and at the pylon. This is the task:
Power Plant - Installation, AMM TASK G71-00-02-400-801-G00.

(a) If you find a problem during the inspection, then do these steps:
1) Connect the quick disconnect correctly. Make sure that they are fully locked and engaged.
2) Do the AMM test that you did at the start of this task.
3) If the system operates as specified in the AMM task, then you corrected the fault.
4) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(b) If you do not find a problem during the inspection, then continue.

(9) (a)

(b)

(c)

(d) 1)

2)

3)

4)

5)

(e) 1)

2)

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(10) Do this check for a hose-liner collapse in the EDP supply hose:

(a) Do the steps for "Prepare for the Removal" of this task:
Abex Hydraulic Systems A and B Engine-Driven Pump (EDP) Depressurization Valve Solenoid Removal, AMM TASK 29-11-11-000-803.

(b) Do an inspection of the hose lining for separation. Look for kinks in the hose.

(c) Do an inspection for a broken quick-disconnect connector of the hose and blockage. Look for the quick-disconnect halves being completely screwed together, or the center-body of the quick-disconnect being broken.

(d) If you find a problem during the inspection, then do these steps:

1) Replace the EDP supply hose.

2) Do the steps for "Engine-Driven Pump Test" and "Put the Airplane to Its Usual Condition" of this task:
Abex Hydraulic Systems A and B Engine-Driven Pump (EDP) Depressurization Valve Solenoid Installation, AMM TASK 29-11-11-400-803.

3) Do the AMM test that you did at the start of this task.

4) If the system operates as specified in the AMM task, then you corrected the fault.

5) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(e) If you do not find a problem during the inspection, then continue.

1) Re-install the EDP supply hose.

2) Do the steps for "Engine-Driven Pump Test" and "Put the Airplane to Its Usual Condition" of this task:
Abex Hydraulic Systems A and B Engine-Driven Pump (EDP) Depressurization Valve Solenoid Installation, AMM TASK 29-11-11-400-803.

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(11) Do a check of the nose gear steering check valves for high temperature:

**WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(a) Install landing gear downlock pins if they are not already installed.

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(b) Pressurize hydraulic system A. This is the task:
Hydraulic System Pressurization with an Electric Motor-Driven Pump (EMDP), AMM TASK 29-11-00-860-803.

(c) Set the landing gear control lever to UP.

(d) Set the landing gear control lever to DN.

(e) Do an inspection of the nose gear steering check valves for high-temperature.

(f) Depressurize hydraulic system A. This is the task:

Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(g) If you find a problem during the inspection, then do these steps:
1) Replace the nose gear steering check valves.
2) Do the AMM test that you did at the start of this task.
3) If the system operates as specified in the AMM task, then you corrected the fault.
4) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

(h) If you do not find a problem during the inspection, then continue.

(12) Replace the engine-driven pump (engine 1). These are the tasks:
Hydraulic Systems A and B Engine-Driven Pump (EDP) Removal, AMM TASK 29-11-11-000-801,
Hydraulic Systems A and B Engine-Driven Pump (EDP) Installation, AMM TASK 29-11-11-400-801.

(a) Do the AMM test that you did at the start of this task.

(b) If the system operates as specified in the AMM task, then you corrected the fault.

(c) Remove hydraulic power from system A. This is the task:
Hydraulic System A or B Power Removal, AMM TASK 29-11-00-860-805.

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