HYDRAULIC FILTERS DIFFERENTIAL PRESSURE INDICATORS (DPIS) - ADJUSTMENT/TEST

EFFECTIVITY: ALL

1. General

A. This section gives the procedures to do a check of the hydraulic filters differential pressure indicators (DPIs).

B. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	*DESCRIPTION*	*EFFECTIVITY*
29-30-03-700-801-A ♦	HYDRAULIC FILTERS DIFFERENTIAL PRESSURE INDICATOR (DPIS)- FUNCTIONAL CHECK	ALL

TASK 29-30-03-700-801-A
EFFECTIVITY: ALL

2. HYDRAULIC FILTERS DIFFERENTIAL PRESSURE INDICATOR (DPIS)- FUNCTIONAL CHECK

A. General

(1) This procedure is applicable to the hydraulic filters differential pressure indicators of hydraulic systems 1 and 2.

(2) To prevent incorrect indications, do not operate the differential pressure indicators (DPI) at a temperature of less than 15.5°C. At temperatures higher than 32.2°C, they operate correctly.

B. References

REFERENCE	*DESIGNATION*
AMM MPP 06-41-01/100	-
AMM TASK 12-13-01-600-801-A/300	HYDRAULIC SYSTEM RESERVOIR - FLUID LEVEL CHECK
AMM TASK 29-10-08-000-801-A/400	FILTERING ELEMENT - REMOVAL
AMM TASK 29-10-08-400-801-A/400	FILTERING ELEMENT - INSTALLATION
IPC 29-10-07	MANIFOLD

C. Zones and Accesses

ZONE	*PANEL/DOOR*	*LOCATION*
193	193BL	Hydraulic compartment of system 1
193	193CR	Hydraulic compartment of system 2

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 087	Dummy filter element	To make a condition equivalent to a blocked filter	
Commercially available	Heat gun	To increase the temperature of the differential pressure indicator	
Commercially available	Pressure gage (200 psi)	To do a check of the operation of the DPI and by-pass valve	
Commercially available	Hand pump (200 psi)	To pressurize the return line	
Commercially available	Hose	To connect the hand pump and the reservoir refill port together	
Commercially available	Filter with 5-micron (absolute) mesh	To filter the hydraulic fluid before its supply to the hand pump	
Commercially available	Reservoir	To supply the hydraulic fluid to the hand pump	
MS21916-6-4 or MS21916V6-4P	Reducer	To connect the hand pump hose to the pressure pump port of the manifold	
MS21913J6	Plug	To seal the disconnected tubes	

(Continued)

ITEM	DESCRIPTION	PURPOSE	QTY
MS21913J4	Plug	To seal the disconnected tubes	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rubber Gloves, Resistant to Phosphate Ester-Base Fluid	Protection for the hands	1
Commercially available	Rubber Goggles, Resistant to Phosphate Ester-Base Fluid	Protection for the eyes	1

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
SAE AS 1241A Type IV	Phosphate ester-base hydraulic fluid	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
O-ring	IPC 29-10-07	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	Hydraulic system compartments

I. Preparation (Figure 501)

SUBTASK 841-002-A

(1) Remove access panels 193BL (SYS 1) and 193CR (SYS 2) (AMM MPP 06-41-01/100).

(2) Connect the pressure gage (2) to the outlet of the hand pump (1). Refer to Figure 501.

(3) Connect one end of the hose (3) to the pressure gage (2).

(4) Connect a hose (4) with a filter (5) to the inlet of the hand pump (1). Refer to Figure 501.

(5) Put the other end of the hose (4) in the reservoir (6) with hydraulic fluid.

J. Functional Check of Hydraulic Filters Differential Pressure Indicators (DPIs) (Figure 501) (Figure 502)

SUBTASK 720-002-A

(1) Do a check of the DPI of the RETURN filter of hydraulic system 1 as follows:

(a) Remove the return filter element (8). Refer to AMM TASK 29-10-08-000-801-A/400.

(b) Install the dummy filter element and the filter bowl to make a condition equivalent to a blocked filter.

(c) Connect the hose (3) to the refill port of the reservoir (7). Refer to Figure 501.

(d) Increase the temperature of the DPI (11) with a heat gun to approximately 40°C. Refer to Figure 501, DET.B.

(e) Operate the hand pump and make sure that you get this result:

Result:

1 The DPI of the RETURN filter moves out with 70 ± 10 psi.

(f) Set the heat gun to off.

(g) Slowly decrease the pressure of the hand pump.

(h) Set the DPI red pin (11) again. Refer to Figure 501, DET.B.

(i) Remove the filter bowl and the dummy filter element.

(j) Disconnect the hose (3) of the hand pump from the refill port of the reservoir (7). Refer to Figure 501.

(k) Install the return filter element (8). Refer to AMM TASK 29-10-08-400-801-A/400.

NOTE: Before you install the filter bowl, fill it with hydraulic fluid.

(2) Do a check of the DPI of the CS DR filter of hydraulic system 1 as follows:

(a) Remove the CS DR filter element (9). Refer to AMM TASK 29-10-08-000-801-A/400.

(b) Install the dummy filter element and the filter bowl to make a condition equivalent to a blocked filter.

(c) Disconnect the EMDP return hose (1) and install the plug (3) to its end. Refer to Figure 502.

(d) Connect the hose of the hand pump to the check valve (7) of the pump return line. Refer to Figure 502.

(e) Increase the temperature of the DPI (12) with a heat gun to approximately 40°C. Refer to Figure 501, DET.B.

(f) Operate the hand pump and make sure that you get this result:

Result:

1 The DPI of the CS DR filter moves out with 70 ± 10 psi.

(g) Set the heat gun to off.

(h) Release the pressure of the hand pump.

(i) Set the DPI red pin (12) again. Refer to Figure 501, DET.B.

(j) Remove the filter bowl and the dummy filter element.

(k) Disconnect the hose of the hand pump from the check valve (7) of the pump return line. Refer to Figure 502.

(l) Remove the plug (3) from the EMDP return hose (1).

(m) Connect the EMDP return hose (1) to the check valve (7), and torque it as given in Figure 502.

(n) Install the CS DR filter element (9). Refer to AMM TASK 29-10-08-400-801-A/400.

NOTE: Before you install the filter bowl, fill it with hydraulic fluid.

(3) Do a check of the PRESS filter of hydraulic system 1 as follows:

(a) Remove the PRESS filter element (10). Refer to AMM TASK 29-10-08-000-801-A/400.

(b) Install the dummy filter element and the filter bowl to make a condition equivalent to a blocked filter.

(c) Disconnect the EMDP pressure hose (2) and install the plug (6) to its end. Refer to Figure 502.

(d) Remove the fitting (5) and discard the O-ring (4).

(e) Install the new O-ring (4) on the reducer (9).

NOTE: Make the O-ring (4) wet with hydraulic fluid before you install it

(f) Install the reducer (9) to the pressure pump port (8).

(g) Connect the hose of the hand pump to the reducer (9). Refer to Figure 502.

(h) Increase the temperature of the DPI (13) with a heat gun to approximately 40°C. Refer to Figure 501, DET.B.

(i) Operate the hand pump and make sure that you get this result:

Result:

1 The DPI of the PRESS filter moves out with 70 ± 10 psi.

(j) Set the heat gun to off.

(k) Release the pressure of the hand pump.

(l) Set the DPI red pin (13) again. Refer to Figure 501, DET.B.

(m) Remove the filter bowl and the dummy filter element.

(n) Disconnect the hose of the hand pump from the reducer (9). Refer to Figure 502.

(o) Remove the reducer (9) and discard the O-ring (4).

(p) Install the new O-ring (4) on the fitting (5)

NOTE: Make the O-ring (4) wet with hydraulic fluid before you install it

(q) Install the fitting (5) to the pressure pump port (8) and torque it as given in Figure 502.

(r) Remove the plug (6) from the EMDP pressure hose (2).

(s) Connect the EMDP pressure hose (2) to the fitting (5) and torque it as given in Figure 502.

(t) Install the PRESS filter element (10). Refer to AMM TASK 29-10-08-400-801-A/400.

NOTE: Before you install the filter bowl, fill it with hydraulic fluid.

(4) Do steps (1) thru (3) for hydraulic system 2.

K. Follow-on

SUBTASK 842-002-A

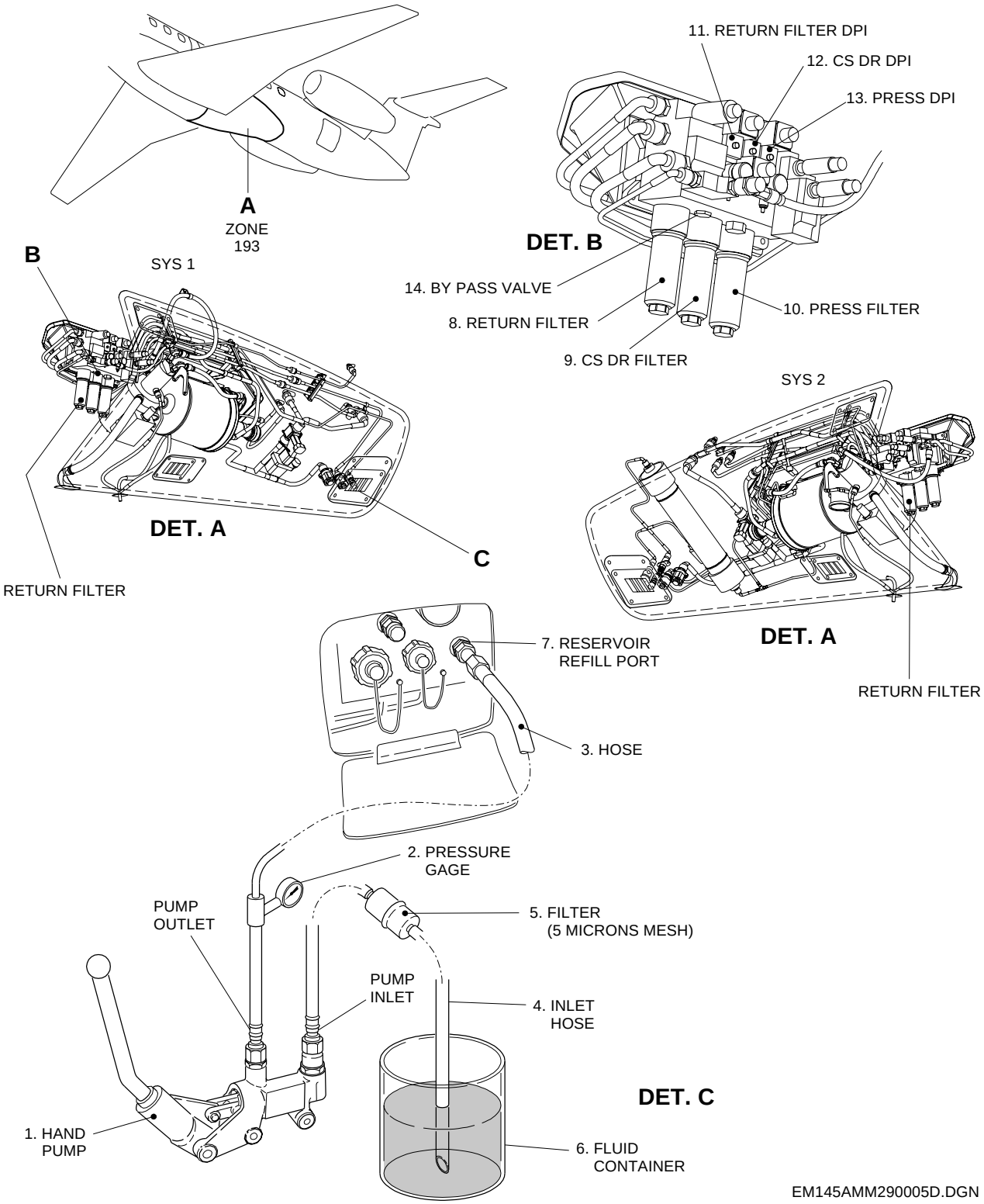
(1) Make sure that the reservoirs are full. If necessary, fill them (AMM TASK 12-13-01-600-801-A/300).

(2) Pressurize the hydraulic systems and make sure that there are no leaks.

(3) Install access panels 193BL (SYS 1) and 193CR (SYS 2) back (AMM MPP 06-41-01/100).

EFFECTIVITY: ALL

Return-Filter By-Pass Valve - Functional Check
Figure 501



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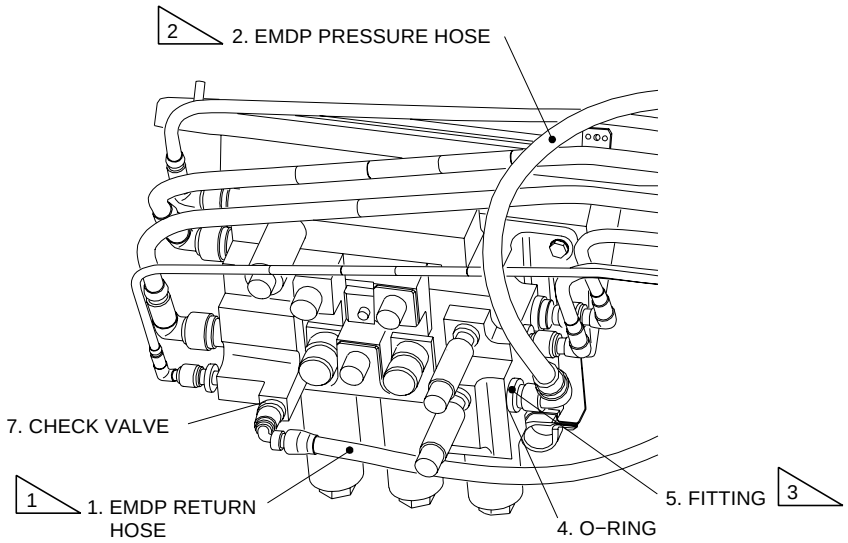
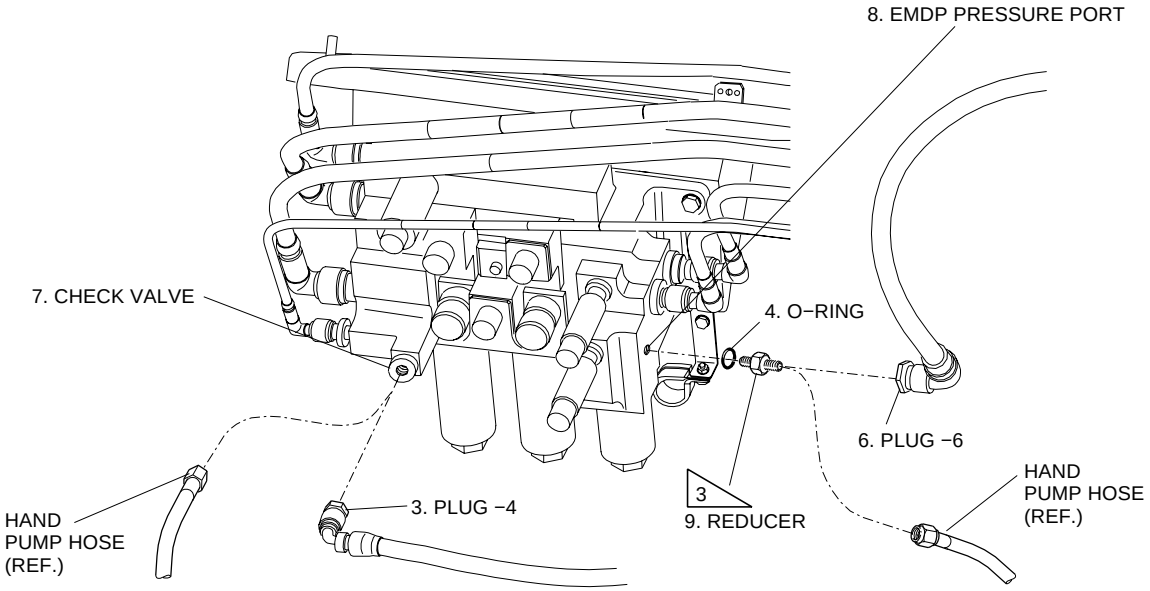
EFFECTIVITY: ALL
DPIs - Functional Check
Figure 502





1 TORQUE: 15.0 − 16.6 N.m (133 − 147 lb.in)

2 TORQUE: 29.0 − 32.0 N.m (257 − 284 lb.in)

3 TORQUE: 17.5 − 18.6 N.m (155 − 165 lb.in)

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