DOCKET NO. SA-510

EXHIBIT NO. 11H

NATIONAL TRANSPORTATION SAFETY BOARD

CAMPAIGN DIRECTIVE 29X00810

USAir

CAMPAIGN DIRECTIVE

CD No. 29X00810

ATA 29-00

DATE: 10/25/94

AIRCRAFT/ENGINE TYPE	TITLE: HYDRAULICS - FILTER ELEMENT REPLACEMENT - POWER TRANSFER UNIT (PTU) PRESSURE	
737-200/300/400 Weight Change N/A Est. Manhours 2.0 Est. Downtime 2.0	Reason for Request: This CD provides for a one time removal and replacement of the power transfer unit (PTU) pressure filter element (one per A/C). The removed elements will be gathered by Engineering for laboratory analysis.	AD/FAR No. N/A ☐ ETOPS Requirement PROJECT No. 44723 References: CD 29X00800 & 29X00809 737 AMM 29-22-21-01 737 IPC 29-22-21-02 item 10

SPECIAL INSTRUCTIONS

1. PLANNING: Accomplish this CD no later than December 31, 1994. This CD may be accomplished at any maintenance station where parts and labor are available.

2. RECORDS: This CD is not eligible for logbook only sign-offs. Track accomplishment of this CD by aircraft tail numbers.

3. MATERIAL SERVICES: A parts requisition form has been completed and sent to order parts.

4. MAINTENANCE PROGRAMS: Create a job card based on the work instructions from this CD to comply with MPD item B29-22-21-2A. This job card should be accomplished at every "C" check.

Prepared by Jason R. Krasny 10/26/94

Checked by W. T. Winkler 10/26/94

Approved by M. Rudo 10/27/94

Material Req'd to Accomplish:

Quantity	CCN	Description
1	147-0167	Element, Filter
1	731-7877	O-ring
1	143-0062	Retainer, Back-up Ring
1	731-7831	O-ring
1	731-1398	Retainer, Ring
A/R	830-0342	Hydraulic fluid, Skydrol

Parts Removed:

Quantity	CCN	Description	Disposition
1	147-0167	Element, Filter	Retain, label and ship to Engineering Attn: Jason Krasny PIT Hanger 3 Room 346

PRIORITY		NO LATER THAN :			
USAir Requirement [X]		_____CHECK	_____FLIGHT HOURS	_____CYCLES	
FAA Mandatory [ ]	See Note to Planning	_____DAYS	_____MONTHS	_____YEARS	

WORK INSTRUCTIONS

Accomplished By	Checked By

Special CD Copies to : N/A

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WORK INSTRUCTIONS (continued)

1. Depressurize the system "B" hydraulics and make sure the following switches on the P5 Panel are OFF: a. HYD PUMPS B ENG 2 b. HYD PUMPS B ELEC 1 c. FLT CONTROL B d. ALTERNATE FLAPS		NOT REQ'D
2. Release the air pressure in the system "B" hydraulic reservoir.		NOT REQ'D
3. <u>FILTER ELEMENT REMOVAL (Refer to Figure 1 and 2):</u> 1. Gain access to the filter in the main wheel well. 2. Place a container below the filter to catch the hydraulic fluid. 3. Remove the filter bowl from the filter head <u>Note:</u> **Careful labeling and shipment to the proper destination are important.** 4. Remove the filter element. **Label the filter element with the A/C TAIL NUMBER, CD 29X00810 and the DATE. Package the removed filter element and send it to Engineering Attn: Jason Krasny, PIT Hanger 3, Mail stop PIT/D346.** 5. Discard the O-rings and backup rings and rinse the filter bowl with a small amount of hydraulic fluid only.		NOT REQ'D
4. <u>FILTER ELEMENT INSTALLATION (Refer to Figure 1 and 2):</u> 1. Lightly apply hydraulic fluid to the backup rings and O-rings. 2. Install the O-rings and the backup rings in the filter head and the filter element. 5. Place the filter element in the filter bowl. 4. Apply hydraulic fluid to the threads of the filter bowl and install the bowl in the filter head 5. Tighten the filter bowl to 25 +/- 5 foot pounds.		NOT REQ'D
5. Service the "B" hydraulic reservoir to replenish fluid and air pressure.		NOT REQ'D
6. Supply electric power and turn ON the switches on the P5 Panel that were turned OFF in step 1. a. HYD PUMPS B ENG 2 b. HYD PUMPS B ELEC 1 c. FLT CONTROL B d. ALTERNATE FLAPS		NOT REQ'D

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WORK INSTRUCTIONS (continued)

7. On the P6 Panel **OPEN & TAG** the following circuit breakers: a. PTU/LG BYP V CONT1 b. STANDBY HYD PUMP NORMAL c. STBY HYD PUMP (ALTERNATE) Make sure the following circuit breakers are closed on the P6 Panel: a. PTU/LG BYP V CONT 1 b. AUTOSLAT NO. 1 AC c. AUTOSLAT NO. 1 DC d. AUTOSLAT NO. 2 AC e. AUTOSLAT NO. 2 DC		NOT REQ'D
8. Pressurize the "B" hydraulic system and move the flap control lever to the UP position to fully retract the flaps and slats.		NOT REQ'D
9. Move the flap control lever to the 5 unit position to extend the leading edge slats to the intermediate position.		NOT REQ'D
10. Depressurize the "B" hydraulic system and pressurize the "A" hydraulic system.		NOT REQ'D
11. Using the gage above the EMDP in the main wheel well, assure that there is still system "B" hydraulic reservoir head pressure of 45-65 psi. Service if required.		NOT REQ'D
12. On the P6 Panel, **OPEN & TAG** the following circuit breaker: a. NOSE GEAR AIR/GND Make sure that the PTU starts.		NOT REQ'D
13. On the P6 Panel **CLOSE** the circuit breaker that was opened in the previous step. a. NOSE GEAR AIR/GND Make sure the PTU stops.		NOT REQ'D
14. Examine the hydraulic connections at the PTU filter module for leaks.		NOT REQ'D
15. Depressurize hydraulic system "A" and service the reservoirs with air and/or hydraulic fluid if necessary.		NOT REQ'D

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WORK INSTRUCTIONS (continued)

16. Restore the aircraft to its normal condition by accomplishing the following:		NOT REQ'D
a. Pressurize hydraulic system "B".		
b. Move the flap control lever to the UP position to fully retract the flaps and slats.		
c. Depressurize hydraulic system "B".		
d. Close the P6 Panel circuit breakers that were opened in work step 6.		
e. Remove electric power.		
f. Clean work are as required.		

All Campaign Directive Work Instructions accomplished, all sign-offs legible and information completed.

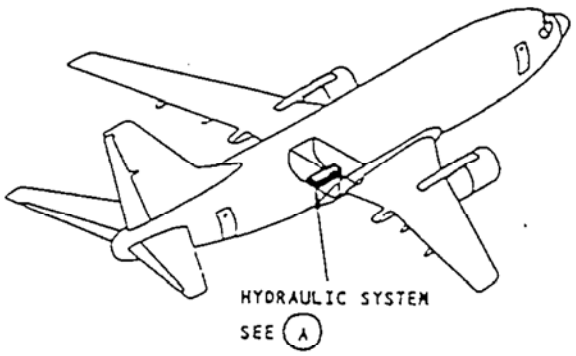
10/27/94

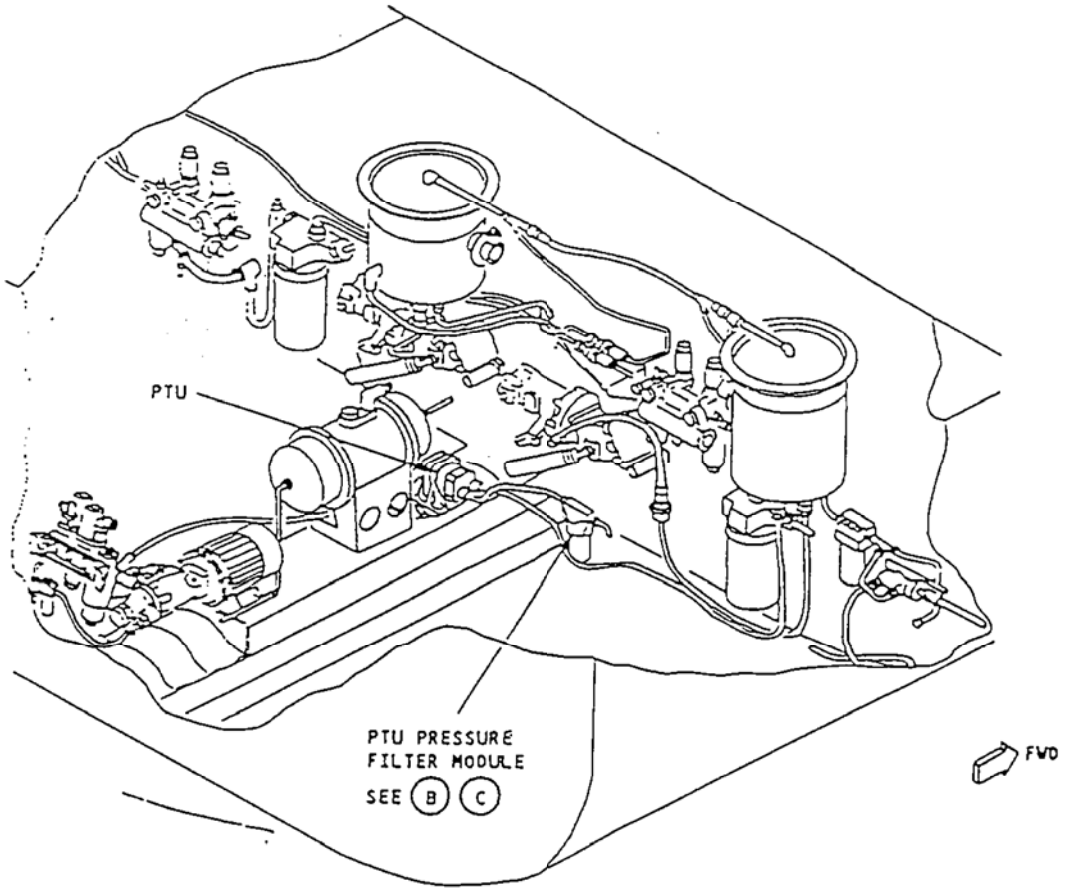
AIRCRAFT_____ STATION_____ DATE_____

Logbook Page Number_____

LEAD MECHANIC OR SUPERVISOR _____ EMP. #_____

WORK INSTRUCTIONS (continued)



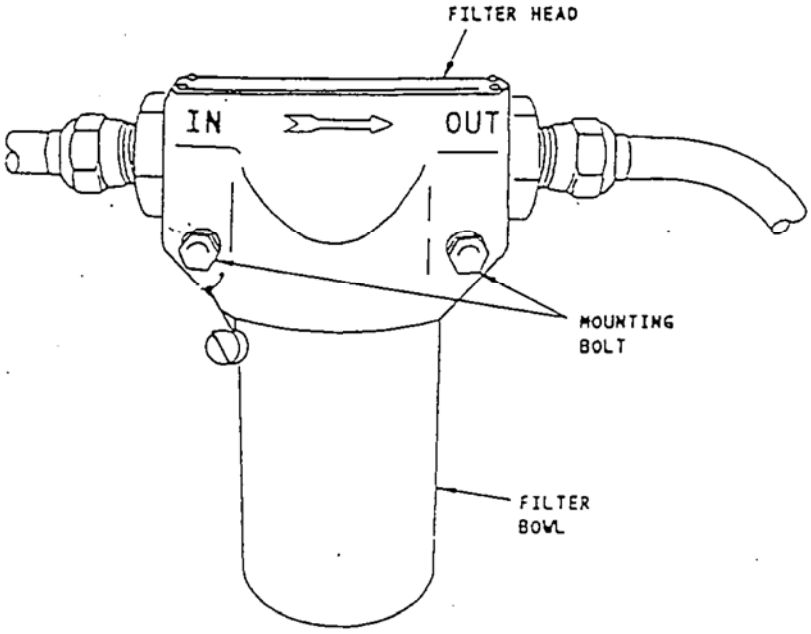


HYDRAULIC SYSTEM

(A)

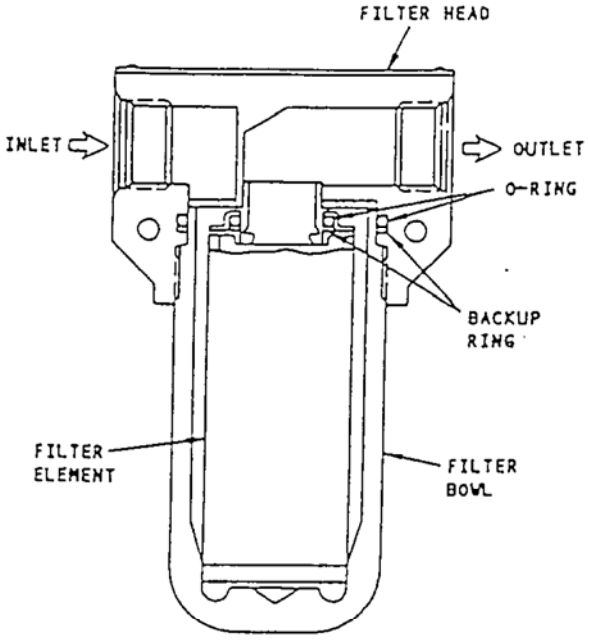
FIGURE 1 -PTU PRESSURE FILTER MODULE

WORK INSTRUCTIONS (continued)



PTU PRESSURE FILTER MODULE

(B)



PTU PRESSURE FILTER MODULE

(C)

FIGURE 2 - PTU PRESSURE FILTER INSTALLATION

AIRCRAFT EFFECTIVITY SHEET

TITLE: HYDRAULICS - FILTER ELEMENT REPLACEMENT - POWER TRANSFER UNIT (PTU) PRESSURE

DATE	EFFECTIVITY	No. of AIRCRAFT	ISSUE or REV
10-25-94	737-300:	100	Original
	300, 301, 302, 327, 329, 334, 335, 336, 337, 338, 339, 340, 341, 342, 346, 349, 350, 351, 352, 353, 354, 355, 356, 371, 372, 373, 374, 375, 376, 383, 384, 385, 387, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 558, 559, 560, 562, 563, 573, 574, 575, 576, 577, 578, 579, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592		
	737-400:	54	
	404, 405, 406, 407, 408, 409, 411, 412, 413, 415, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785	Total = 154	