

DOCKET NO. SA-510

EXHIBIT NO. 11G

NATIONAL TRANSPORTATION SAFETY BOARD

CAMPAIGN DIRECTIVE 29X00809

AIRCRAFT/ENGINE TYPE	TITLE: HYDRAULICS - FILTER ELEMENT REPLACEMENT - GROUND SERVICE DISCONNECT	
737-200/300/400	Reason for Request: This CD provides for a one time removal and replacement of the hydraulic system ground service disconnect filter elements (one (1) per system A & B on the 737-300/-400 A/C and one (1) per A/C on the 737-200 A/C). The removed elements will be gathered by Engineering for laboratory analysis.	AD/FAR No.
Weight Change		N/A
N/A		<input type="checkbox"/> ETOPS Requirement
Est. Manhours <u>2.0</u>		PROJECT No. <u>44723</u>
Est. Downtime <u>2.0</u>		References: CD 29X00800 & 29X00810 737 AMM 29-15-08 737 IPC 29-15-08-01 item 125

SPECIAL INSTRUCTIONS

- 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. The material required for this CD differs in quantity for the 737-200 aircraft and the 737-300/-400 aircraft. The 737-300/-400 aircraft require twice the amount of parts as the 737-200 aircraft because there is only one (1) filter on the 737-200 aircraft and there are two (2) filters on the 737-300/-400 aircraft.
- RECORDS:** This CD is not eligible for logbook only sign-offs. Track accomplishment of this CD by aircraft tail numbers.
- MATERIAL SERVICES:** The material required for this CD differs in quantity for the 737-200 aircraft and the 737-300/-400 aircraft. The 737-300/-400 aircraft require twice the amount of parts as the 737-200 aircraft require because there is only one (1) filter on the 737-200 aircraft and there are two (2) filters on the 737-300/-400 aircraft. A parts requisition form has been completed and sent to order the proper quantity of parts.
- MAINTENANCE PROGRAMS:** Create a job card based on the work instructions from this CD to comply with MPD item B29-15-08-4A. This job card should be accomplished at a 2C check interval (i.e. everyother "C" check).

Prepared by Jason R. Krasny 10/25/94
 Checked by W. T. Winkler 10/16/94
 Approved by M. Rudo 12/26/94

Material Req'd to Accomplish:

Quantity	CCN	Description
<u>(737-200 / {737-300 & -400})</u>		
1 / {2}	147-0167	Element, Filter
2 / {4}	731-7950	O-ring
1 / {2}	731-2011	Retainer, Back-up Ring
1 / {2}	731-7831	O-ring
2 / {4}	731-2048	Retainer, Back-up Ring
1 / {2}	731-7877	O-ring
A/R	830-0342	Hydraulic fluid, Skydrol

USAir

CAMPAIGN DIRECTIVE

CD No. 29X00809

WORK INSTRUCTIONS (continued)

Parts Removed:				
<u>Quantity</u>	<u>CCN</u>	<u>Description</u>	<u>Disposition</u>	
(737-200 / {737-300 & -400})				
1 / {2}=	147-0167	Element, Filter	Retain, label and ship to Engineering Attn: Jason Krasny PIT Hanger 3 Room 346	
PRIORITY	USAir Requirement <input checked="" type="checkbox"/>	NO LATER THAN :	CHECK	FLIGHT HOURS
	FAA Mandatory <input type="checkbox"/>	See Note to Planning	DAYS	MONTHS
			CYCLES	YEARS

WORK INSTRUCTIONS

WORK INSTRUCTIONS	Accomplished By	Checked By
1. Open the access panels identified in Figure 1. There is one (1) panel for the 737-200 aircraft and two (2) panels for the 737-300/-400 aircraft.		NOT REQ'D
2. <u>FILTER ELEMENT REMOVAL (Refer to Figure 2 and 3):</u> a. Remove the filter bowl (with filter element in it) from the ground service disconnect filter module. b. Remove the filter element. <u>Note:</u> Careful labeling and shipment to the proper destination are important. c. Label the filter element with the following information: - A/C TAIL # - CD 29X00809 - DATE - HYDRAULIC SYSTEM ("A" is on the A/C left and "B" is on the A/C right) Send the filter element to Engineering Attn: Jason Krasny, PIT Hanger 3, Mail stop PIT/D345. d. Remove the O-rings and backup rings from the module and discard. Rinse the filter bowl with a small amount of hydraulic fluid only.		NOT REQ'D

<p>3. <u>FILTER ELEMENT INSTALLATION (Refer to Figure 2 and 3):</u></p> <ol style="list-style-type: none"> Make sure the adapter in the filter module is tight. If it is not tight, remove the adapter and replace the O-ring (c/c 731-7950). Tighten the adapter to 50-200 inch-pounds upon re-installation. Lubricate the O-ring and backup ring (c/c 731-7831 and c/c 731-2011) with hydraulic fluid and install them on the filter element. Install the backup ring below the O-ring. Lubricate the O-ring and the backup rings (c/c 731-7877 and c/c 731-2048) with hydraulic fluid and install them in the filter module. Fill the filter bowl approximately 1/3 full with hydraulic fluid and place the filter element inside. It is important to put the hydraulic fluid inside the bowl prior to putting the filter element inside. Air below the filter element can cause damage to element. Install the filter bowl on the module. Tighten the filter bowl to 50-75 inch-pounds and install lockwire. <p><u>Note:</u> Normal aircraft operations do not pressurize this installation and only the use of a hydraulic cart will, therefore, a leak check of the filter housing will not be accomplished.</p>		NOT REQ'D
<p><u>737-300/-400 A/C ONLY (N/A this step for 737-200 A/C)</u></p> <ol style="list-style-type: none"> Repeat work steps 2 and 3 for the other hydraulic system ground service disconnect filter. <p><u>Note:</u> The 737-300/-400 aircraft have both an "A" and "B" hydraulic system ground service disconnect filter and both require replacement per this CD. The 737-200 aircraft are equipped with only a "B" hydraulic system ground service disconnection, therefore, this step is not applicable for the 737-200 aircraft and should be marked "N/A".</p>		NOT REQ'D
<p>5. Close the access panels that were removed in work step #1.</p>		NOT REQ'D

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

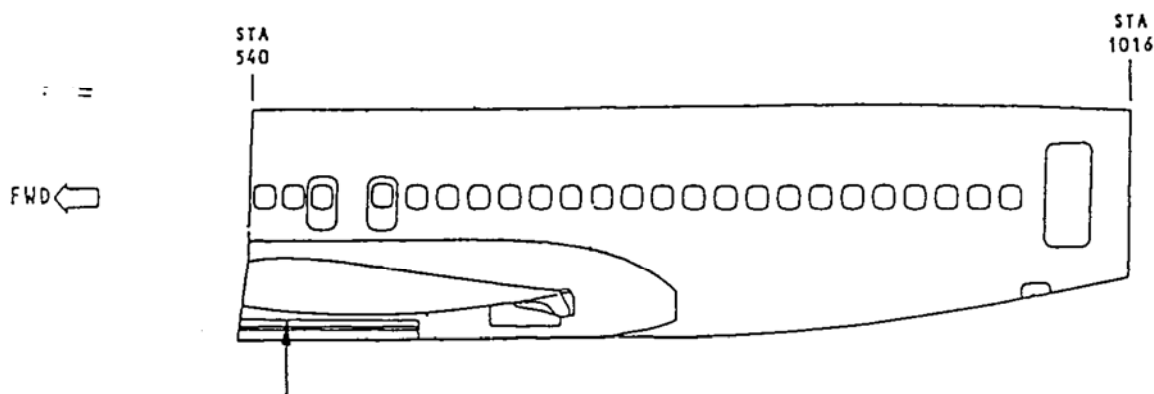
AIRCRAFT _____ STATION _____ DATE _____

Logbook Page Number _____

LEAD MECHANIC OR SUPERVISOR _____ EMP. # _____

[Signature]
10/26/11

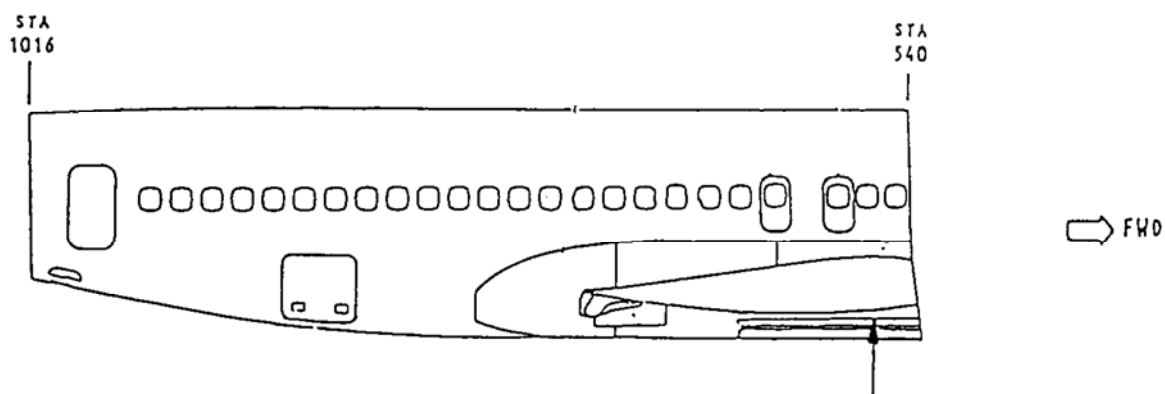
WORK INSTRUCTIONS (continued)



Underwing Fairing Access Panel

LEFT SIDE VIEW

737-300/-400 Aircraft Only



Underwing Fairing Access Panel

RIGHT SIDE VIEW

All 737-200/-300/-400 Aircraft

FIGURE 1 - ACCESS LOCATIONS

WORK INSTRUCTIONS (continued)

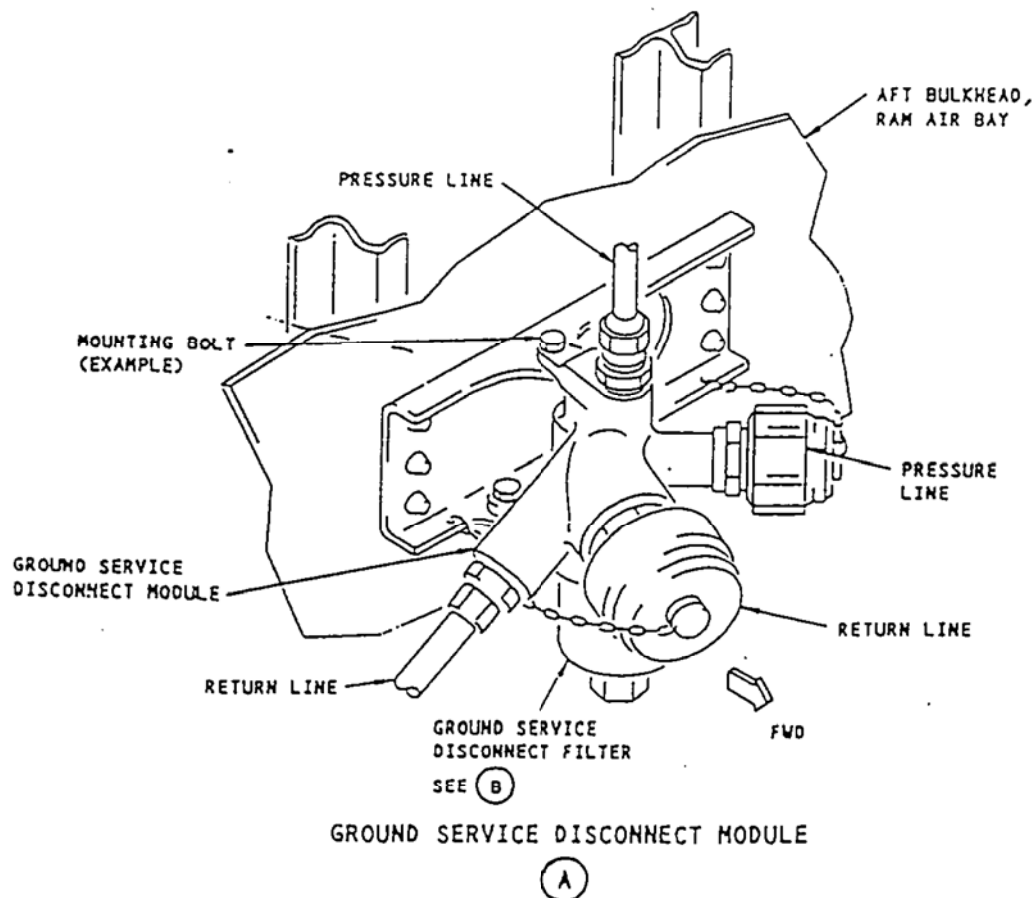
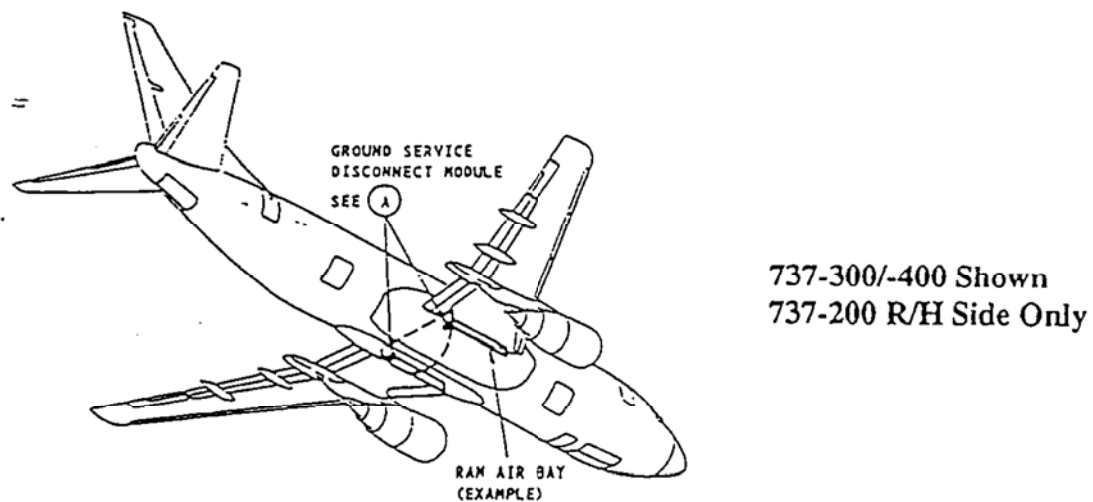
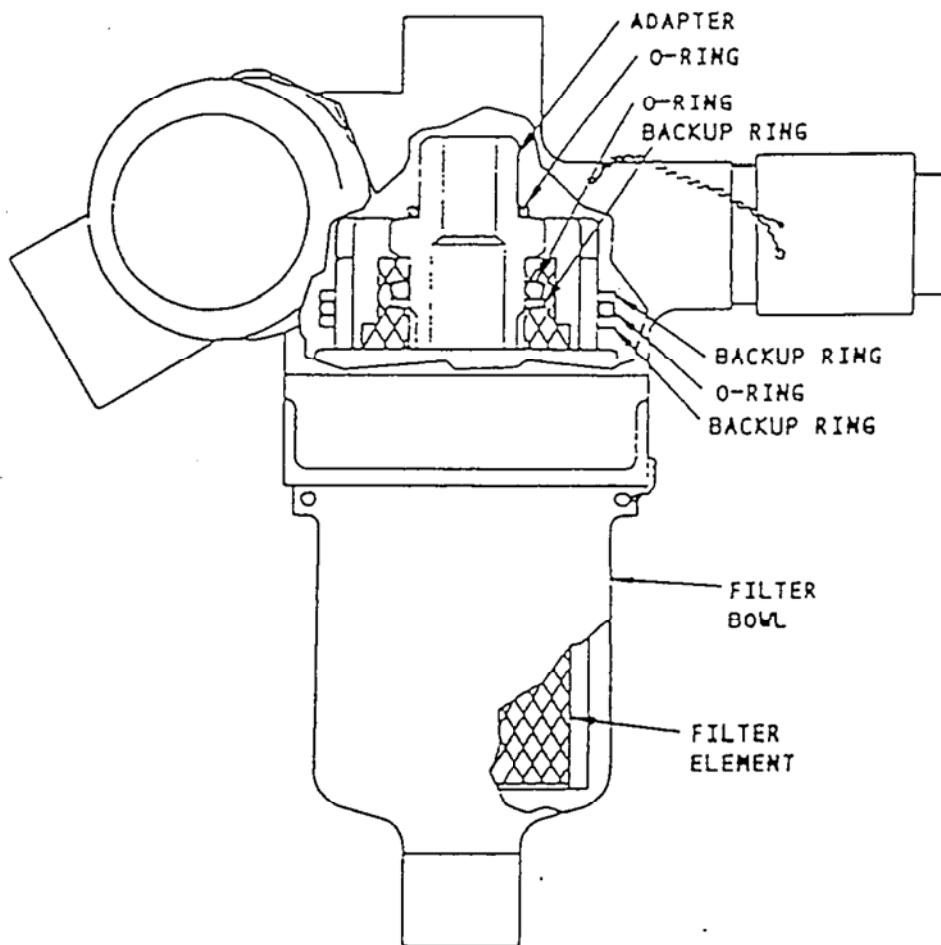


FIGURE 2 - HYDRAULIC GROUND SERVICE DISCONNECT MODULE

WORK INSTRUCTIONS (continued)

**FIGURE 3 - GROUND SERVICE DISCONNECT FILTER INSTALLATION**

AIRCRAFT EFFECTIVITY SHEET

TITLE: HYDRAULICS - FILTER ELEMENT REPLACEMENT - GROUND SERVICE DISCONNECT

DATE	EFFECTIVITY	No. of AIRCRAFT	ISSUE or REV
10-25-94	<p><u>737-200:-</u></p> <p>200, 203, 204, 205, 207, 208, 209, 211, 212, 213, 214, 215, 216, 217, 219, 220, 221, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 251, 252, 253, 254, 255, 256, 257, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288</p> <p><u>737-300:</u></p> <p>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</p> <p><u>737-400:</u></p> <p>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</p>	<p>81</p> <p>100</p> <p>54</p> <p>Total = 235</p>	Original