

Bench Check Test Sheet

ATA: 73-11-01

WO#: 268163

END ITEM: 829500-4/-5/-7/-8

S/N#: ATC50680

DESCRIPTION: CF34-8 Fuel Pump

Employee #: 12006

Date: 10/17/17

MANUAL: Rev 2, Nov 30/15

TESTED AND ACCEPTED

This part is tested on Main Fuel Pump test Stand Serial Number 41053

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Secondary Break-In Test

C. Confirm no external leakage NONE

3. Record and Confirm seal drain leakage is not more than specified maximum 1 cm³/20 min 0.05 cc/min

Table 104 - Secondary Break-In Test

SHAFT SPEED rpm ±20		MAIN STAGE DISCHARGE PRESSURE ±10 psig (±69 kPa gage)		TIME (min)	SHAFT TORQUE (lb in.) (N m)	MAIN DISCH FLOW (gpm) (lb/h) (L/min)	MOTIVE DISCHARGE PRESSURE ±10 psig (±69 kPa gage)		MOTIVE DISCH FLOW (gpm) (lb/h) (L/min)	BOOST DISCH (psig) (kPa)
Reqd	Actual	Reqd	Actual				Reqd	Actual		
3000 Note (1)	3000	200 (1379)	200	1	26.9	10.5	200 (1379)	200	5.5	36.7
3000	3000	150 (1034)	150	2	33.1	10.5	150 (1034)	150	5.5	38.7
4000	4000	200 (1379)	200	1	25.9	14.3	200 (1379)	200	7.4	48.9
4670	4670	450 (3103)	450	2	11.0	16.6	300 (2068)	300	8.6	62.7
5000	5000	300 (2068)	300	1	14.3	17.9	300 (2068)	300	9.3	67.0
5000	5000	750 (5171)	750	2	3.5	17.7	400 (2758)	400	9.2	66.8
8319	8319	300 (2068)	300	1	2.3	30.2	300 (2068)	300	15.7	150.7
8319	8319	800 (5516)	800	2	32.9	30.0	700 (4826)	700	15.3	151.3
624	624	185 (1275)	185	2	31.8	1.9	100 (689.5)	100	1.0	20.8

Seal drain leakage

Collected fluid volume: 1 cm³
Elapsed sampling time: 20 minutes
Average leakage rate: 0.05 cm³/min

Joint leakage: 0

Other external leakage: 0

Test fluid
Type: 1024
Specific gravity: 76.4
Temperature: 74

Note (1) Stop test if torque increases past 70 lb in. (7.9 N m) or flow decreases below 9 gpm (3456 lb/h) (34.1 L/min) for the main stage or 1 gpm (1536 lb/h) (15.1 L/min) for the motive stage.

Collected fluid volume: N/A cm³ Test Fluid
Elapsed sampling time: N/A minutes Type: N/A
Average leakage rate: N/A cm³/min Specific gravity: N/A

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Pressure Relief Valve Actuation and Performance

A. Main Stage Pressure Relief Valve Testing

Table 102 - Main Stage Pressure Relief Valve Testing

TEST CONDITION	MAIN STAGE PRESSURE INLET psig (kPa gage)	MAIN STAGE DISCH PRESSURE psig (kPa gage)	MAIN GEAR STAGE PRESSURE RISE (1) psid (kPa gage)		DISCHARGE FLOW gpm (lb/h) (L/min)
			REQUIRED	ACTUAL	
NORMAL	120	900	775-785 (5343-5412)	780	29.6
CRACKING	124	954	825-975 (5688-6722)	830	Note 2 28.6
BYPASS	135	1022	975 max (6722 max)	890	8.0 ±1 gpm (3072) (30,3)
RECOVERY	121	898	775 min (5343 min)	780	Note 3 29.4

Test fluid

Type: 7024
Specific gravity: 264
Temperature: 24

- Notes
- 1: Main gear stage pressure rise = main stage discharge pressure - main stage inlet pressure.
 - 2: Must be within 0.5 to 1.0 gpm (192 to 384 lb/h) (1.9 to 3.8 L/min) less than setting condition discharge flow.
 - 3: Must be within 1.5 gpm (576 lb/h) (5.7 L/min) of setting condition discharge flow.

B. Motive Stage Pressure Relief Valve Testing

Table 103 - Motive Stage Pressure Relief Valve Testing

TEST CONDITION	BOOST INLET PRESSURE psig (kPa gage)	MOTIVE STAGE DISCH PRESSURE psig (kPa gage)	MOTIVE GEAR STAGE PRESSURE RISE (1) psid (kPa gage)		DISCHARGE FLOW gpm (lb/h) (L/min)
			REQUIRED	ACTUAL	
NORMAL	20	911	755-765 (5206-5274)	760	14.8
CRACKING	20	985	805-975 (5550-6722)	833	Note 2 13.8
BYPASS	20	1082	975 max (6722 max)	940	3.5 ±1 gpm (1344 ±384) (13,2 ±3,8)
RECOVERY	20	909	755 min (5206 max)	760	Note 3 14.2

Test fluid

Type: 7024
Specific gravity: 264
Temperature: 24

- Notes
- 1: Motive gear stage pressure rise = motive stage discharge pressure - boost stage discharge pressure.
 - 2: Must be within 0.5 to 1.0 gpm (192 to 384 lb/h) (1.9 to 3.8 L/min) less than setting condition discharge flow.
 - 3: Must be within 1.5 gpm (576 lb/h) (5.7 L/min) of setting condition discharge flow.

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9. **Fuel Pump Calibration and Evaluation Test**

D. Confirm no external leakage NONE

3. **Record and Confirm** seal drain leakage is not more than specified
maximum 0.05 cc/min

Table 105 - Fuel Pump Calibration

TEST CONDITION	SPEED SENSOR VOLTAGE (VOLTS) (PEAK TO PEAK) J23 AND J24	MAIN STAGE DISCH FLOW gpm (lb/h) (L/min)	MOTIVE STAGE DISCH FLOW gpm (lb/h) (L/min)
10% SPEED SIGNAL	0.76 0.5 min 0.90		
TAKE OFF	29.0 max 6.39 8.31	28.5 min (10 944 min) 29.9 (107,9 min)	14.7 min (5645 min) 15.3 (55,6 min)
MOTIVE STAGE COME ALIVE			8.2 min (3149 min) 8.7 (55,6 min)
CRANKING		1.7 min (653 min) 1.9 (6,4 min)	

NOTE: It is not necessary to record data in the shaded boxes.