COMPONENTE | *COMPONENT*	**O.S** | *W.O*	**MODELO** | *Model*	**P/N**	**S/N**
FUEL CONTROL UNIT		DP-F2 Main Fuel Control Unit		

IDENTIFICAÇÃO \| *IDENTIFICATION*

TÍTULO *TITLE* **FICHA PARA REGISTROS DE TESTE DA FUEL CONTROL UNIT** *FUEL CONTROL UNIT TEST SHEET*

PUBLICAÇÃO | *PUBLICATION*	**REFERÊNCIA** | *REFERENCE*	**TLN**	**DATA** | *DATE*
COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST	73-20-24	TLN02401	January 14th, 2019 Temporary Revision 73-18

CONJUNTO MAIOR | *MAIN PART*	
P/N	**S/N**

TESTE APLICÁVEL AOS PART NUMBERS | *TEST APPLICABLE TO PART NUMBERS*					
3029218	3244764-1	3244764-2	3244764-3	3244764-4	3244764-5

TESTE DA UNIDADE DE CONTROLE DE COMBUSTÍVEL \| *FUEL CONTROL UNIT TEST*

ITEM *Item*	**PROCEDIMENTOS | TOLERÂNCIAS** *Procedures | Serviceable limits*	**Resultado** *Result*	**Data** *Date*	**Executante** *Performed by*
A	Instale a FCU na bancada de teste, usando o adaptador estriado e o adaptador de montagem. *Assemble the fuel control unit to the test stand, using the spline adapter and mounting adapter.*			
B	Remova o contra pino, a porca e o espaçador do eixo de aceleração. Instale o quadrante de aceleração na extremidade do eixo e torqueie de 40-45 lb.in. *Remove cotter pin, nut, and spacer from throttle shaft. Assemble throttle quadrant on end of throttle shaft and torque to between 40-45 lb.in.*			
C	Mantenha uma pressão Po de 30-50 psig na conexão de Po, usando uma válvula de controle de pressão de retorno. A regulagem da pressão Po deve ser mantida em ± 5 psig. Mantenha a pressão P2 dentro de ± 10 psi do valor especificado para os fluxos de combustível abaixo de 200 pph e de ± 25 psi para fluxos mais altos, usando uma válvulva reguladora de retorno Pn. *Maintain a Po pressure of 30-50 psig using Po back pressure regulator valve, except where otherwise specified. Regulation of Po pressure shall be maintained within ± 5 psig of preset pressure.* *Maintain P2 pressures within ± 10 psi of value specified for nozzle flow below 200 pph and within ± 25 psi at higher flows, using Pn back pressure regulator valve.*			
D	Ajuste a pressão diferencial P1-P2 para um valor entre 30-47 in.Hg. *Adjust P1-P2 pressure differential adjustment screw to between 30 and 47 in.Hg.*			
E	Registre todas as pressões diferenciais de P1-P2, fluxo de injeção e pressão P2 e adicionalmente, a pressão no ponto de teste. *Record P1-P2 pressures, nozzle flows and P2 pressure, and additionally pressure at Test Point.*			

CALIBRAÇÃO E LIMITAÇÃO DOS TESTES | *CALIBRATION AND TEST LIMITATIONS*

Table 701 (Sheet 1 of 5)
Calibration and Test Limitations

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg.)	P2 (psig)	MISCELLANEOUS	NOTES
Relief Valve Opening Check											
SEQ.	1	4	2	3							
1.01	0	200/275	MAX.	120						P1-Po (psi) 1000 [ ] 1050	1.
Pressurizing Valve Opening Check											
SEQ.	1	4	2	3							
1.02	0	AR	MAX.	120						P1-Po (psi) 55 [ ] 68	2.
									Pn (psig)		
Metering Valve Orifice and Bypass Valve Differential Pressure Setting											
SEQ.	2	3,6	1	4					5		
* 2.01	5800	1300	MAX.	40.0	240	[ ]	250	[ ]	113		3.
* 2.02	2900	660	28-30	40.0	90	[ ]	93	[ ]	18		3.
									P2 (psig)		
* 2.03	5800	1300	MAX.	90.0	542	[ ]	562	[ ]	510	Pc-Py [ ]	3,4.
* 2.04	5800	1300	MAX.	120.0	714	[ ]	758	[ ]	860		
* 2.05	5800	1300	MAX.	135.0	749	[ ]	X	[ ]	860		

Table 701 (Sheet 2 of 5)
Calibration and Test Limitations

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg.)	P2 (psig)	MISCELLANEOUS	NOTES
Metering Valve Orifice and Bypass Valve Differential Pressure Setting (Cont'd)											
SEQ.	2	3,6	1	4					5		
* 2.06	5800	1300	MAX.	135.0	703	[ ]	723	[ ]	815		5.
									Pn (psig)		
* 2.07	5800	1300	MAX.	40.0	-10	[ ]	+10	[ ]	113		6.
* 2.08	1700	400	MAX.	25	149	[ ]	159		48		
Governor Spring Setting and Speed Reset Adjustment											
									P2 (psig)		
SEQ.	4	3,7	1	2,5					6		
* 3.01	6646	1575	[ ]	95	492	[ ]	504		420		7.
* 3.02	6796	1575	[ ]	95	X	[ ]	X		280	pph Diff. Bleed Size [ ] [ ]	8,9.
* 3.03	[ ]	1575	[ ]	95	X	[ ]	X		420	rpm Diff. -50 [ ] 0	10.

1. Record relief valve opening pressure.
2. Record pressurizing valve opening pressure.
3. Set P1-P2 to 30 to 47 inches Hg and record.
4. Record Pc-Py pressure. Max. 3.9 inches Hg.
5. Set maximum metering valve stop.
6. Hysteresis from TP. 2.01.
7. Set governor break throttle angle at 89 to 91 degrees.
8. Record nozzle flow difference (100 to 130 pph) from TP. 3.01.
9. Record (Py) air flow jet (45, IPL Fig. 2) size finally installed (Size 58D to 62D).
10. Observe that speed is less than that at TP. 3.01 by not more than 50 rpm. Record speed and difference. Nozzle flow same as for TP. 3.01.

Table 701 (Sheet 3 of 5)
Calibration and Test Limitations

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	Pr (psig)	P2 (psig)	MISCELLANEOUS	NOTES
Governor Spring Setting and Speed Reset Adjustment (Cont'd)											
SEQ.	4	2	1	3,6					5		
3.04	6540	1575	88	95	X		X	0	420		
3.05	6620	1575	88	95	X		X	30	420	pph Diff.	11.
3.06	6646	1575	MAX.	95	492		504	0	420		
3.07	6686	1575	MAX.	95	X		X	30	420	pph Diff.	12.
Idle Speed Stop Setting and Throttle Pick-Up Angle									Pn (psig)		
SEQ.	4	1,7	5	2,6					3,8		
4.01	3250	740	28-30	30.0	115		125		30		
4.02	3250	740								pph Incr.	13.
										Spring Stripe	14.
Low End Acceleration and Throttle Movement Effect											
SEQ.	2	5	3	1					4,6		
5.01	815	200	40	Ambient	85		X		18		
5.02	1700	400	40	25.0	149		159		48	pph Decr.	15.

11. Record nozzle flow difference (+ 5 pph) from TP. 3.04.
12. Record nozzle flow difference (+ 5 pph) from TP. 3.06.
13. Move throttle angle to 31 to 35 degrees. Observe that maximum nozzle flow increase is not more than 4 pph from Test Point 4.01 and record. Record throttle angle.
14. Record spring installed.
15. Move throttle angle to 30 degrees. Observe that maximum nozzle flow decrease is not more than 5 pph and record.

Table 701 (Sheet 4 of 5)
Calibration and Test Limitations

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (psig)	Pn (psig)	MISCELLANEOUS	NOTES
Maximum Idle Reset Stop Adjustment											
SEQ.	1	3,5		2					4		
6.01	4380	990		70	262		274		130		16.
Cut-off Modulation and Cut-off Leakage											
SEQ.	2	3,6	1	4					5,7		
7.01	2200	500	20	A.R.	160		170		55	pph Incr.	17.18.
7.02	2200	500	8-10	A.R.	0		0.5 cc/min.			P1 pressure	19.
SEQ.	2	3,5	1	4							
7.03	2200	500	-5	A.R.							20.
7.04	2200	500		Ambient						Throttle Torque	21.
7.05	2200	500	8-10	Ambient	0		20.0 cc/min.			P1 pressure	
7.06	6646	1575	MAX.	135	0		85			0.375 X.	22.

16. Record throttle angle.
17. Move throttle angle to 30 degrees. Observe that maximum nozzle flow increase is not more than 2 pph and record.
18. Record P1-P2 pressure.
19. Observe P1 pressure does not exceed 250 psig and and record.
20. P1 pressure to be equal to, or less than, P1 at TP. 7.02. Record P1.
21. Observe that throttle torque does not exceed 15 lb. in. maximum and record.
22. Reconnect nozzle outlet. Set throttle angle to -5°. Move cut-off lever assembly (225, IPL Fig. 3) to contact stop screw (250). Measure distance between centres of pin (220) and throttle lever link (185) (Ref. Fig. 509B). If this distance is below 0.375 inch, change linkage parts to obtain minimum distance of 0.375 inch. Observe and record nozzle flow which must be less than 85 pph.

Table 701 (Sheet 5 of 5)
Calibration and Test Limitations

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg)	Py AIR SUPPLY (psig)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg.)	Pn (psig)	MISCELLANEOUS	NOTES
Spill Valve Setting											
SEQ.	1	3	2	4							
8.01	1530	370	28-30	1.0	X		X		32		21,23.
8.02	1530	370	28-30	1.0	82		86		25		21,23.
8.03	2400	550	28-30	9.0	X		X		60		21,23.
8.04	2400	550	28-30	9.0	X		X		60	0 pph Diff. 1	21,22,23.

NOTES

21. Record nozzle flow.
22. Record difference in flow from TP. 8.03.
23. During spill valve setting, check spill valve Pa port for leakage. (Ref. Paragraph 4.L.(9).)

TESTE AETS 15721 | *AETS 15721 TEST*

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

Number AETS 15721 Rev. K
Sheet 1 of 9

Orig By: W.H. Foster	Chk By: M. Letourneau	Project Leader: W.H. Foster	MFG Approval:
Date:	Test Stand No.:	Operator:	S/N:
Unit:		Model: DP-F2/A-45A	P/N: 3244764

REL. DATE	REV.
RELEASED FOR PRODUCTION	K

SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV	SHT	REV
STATUS		K		K		K		K		K		K		K		K		K		K			
		1		2		3		4		5		6		7		8		9		10		11		12
		13		14		15		16		17		18		19		20		21		22		23		24

A. See AEEI 15717 for location of adjustments and pressure taps.

B. (1) Install throttle quadrant fixture with a 4.0 lb. load applied to throttle lever to hold lever against maximum throttle stop.

(2) Index throttle quadrant to 90° T.A. Torque throttle quadrant fixture to 40-45 in. lb.

C. Control rotation CW as viewed from control shaft end.

D. Maintain Po pressure to 30 to 50 psig at control by-pass tap except where otherwise specified.

E. P2 pressure shall be set within ± 10 psi of specified value at pressures below 200 psig and ± 25 psi of specified value at pressures above 200 psig.

F. Set test conditions (speed, supply, Pc, etc.) in the sequence indicated by numbers 1, 2, 3, etc.

a) When two numbers are listed, set and then trim test condition in the sequence indicated.

b) Approach all speeds, total fuel supplies, and Pc settings from a lower value, except at hysteresis points.

G. All adjustments are to be properly torqued.
Test points indicated (*) require special attention and are to be checked below following proper torquing.

1.	Metering valve orifice torque	35		40 in. lbs.
2.	By-pass setting torque	25		35 in. lbs.
3.	Min. flow M.V. stop (breakaway) torque	4		20 in. lbs.
4.	Max. flow M.V. stop torque	20		25 in. lbs.
5.	Max. gov. eccentric lock-nut torque	7		7.5 in. lbs.
6.	Max. throttle stop torque	20		25 in. lbs.
7.	Idle speed stop torque	20		25 in. lbs..
8.	Flow body to drive body torque	20		25 in. lbs.
9.	Drive body adapter to drive body torque	25		30 in. lbs. – in 5 in. lbs. Increments
10.	Bleeds torque	9		11 in. lbs.
11.	Max. speed stop torque	4		X in. lbs.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 2 OF SHEETS 9 REV. K

TEST POINT	SPEED RPM	SUPPLY - PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

H. Speed for test points 3.01 to 3.07, 4.01, 4.02 and 6.01 is to be set to ± 2 RPM of specified value. All other points are to be set within ± 20 RPM of specified value.

I. Total supply is to be set to ± 20 PPH of the specified value or within limits when shown. When aircraft pump is used, ignore total supply and Po pressure settings, except at T.P. 1.02 and 7.02 adjust boost pressure to obtain specified Po values.

J. Valve in spill valve outlet to be kept in closed position unless otherwise specified.

K. Close cut-off valves to Pn and Py gauges.

L. Before calibration, check for external air leakage using "Lec-Tec". Slow bubbling is permitted at the joint of drive body and drive body adapter, at the torsion shaft cover and at the bellows and torsion shaft locknuts. No leakage is permitted at any other point. Pc = 100 psia. If leakage is considered excessive, measure Px-Py when Pc = 100 psia, RPM = 0 and T/A = Max. Px to be measured at the bellows ratio lever cover.

Px-Py [ ] ± 1.2" Hg. Max.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 3 OF SHEETS 9 REV. K

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

CHECK RELIEF VALVE OPENING

(a) Cap outlet port.
(b) Increase fuel flow until fuel supply is within limits specified and observe P1-Po differential.
(c) If P1-Po differential is out of limits, shim as required.
Add shims to increase differential.

	1	4	2		3
1.01	A.R.	200-275	MAX		120

Relief valve opening P1-Po 1000 [ ] 1050 psi

CHECK PRESSURIZING VALVE OPENING

(a) Increase supply pressure with outlet port open, observe start of nozzle flow. During this test adjust and maintain Po at 40 ± 2 PSIG.
(b) If P1 is out of limits, shim as required. Add shims to increase differential.

	1	4	2		3
1.02	A.R.	A.R.	Max.		120

Press valve opening P1-Po 55 [ ] 68 psi

If valve cover has been removed and re-assembled, torque screws to 4.5-5.0 in.lbs in 1 in.lb increments maximum while alternating between the screws.

METERING VALVE ORIFICE AND BYPASS HEAD (P1-P2"HG) SETTING

Test points 2.01 thru 2.03, 2.06 and 2.08 are interrelated and should be recorded after all five (5) adjustments have been made. At test points 2.01, 2.02, 2.07 and 2.08 open shut-off valve to Pn gauge. Close valve after tests.

	2	3-6	1	4					5
2.01*	5800	1300	MAX	40.0	240	[ ]	250	[ ]	Pn=113 psig
						Adjust head and orifice P1-P2 = 30-47"HG.			
2.02*	2900	660	28-30	40.0	90	[ ]	93	[ ]	Pn = 18 psig
	Set min. M.V. stop after removing Py line.								
2.03*	5800	1300	MAX	90	542	[ ]	562	[ ]	510

Pc-Py [ ] 3.9" Hg. Max.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 4 OF SHEETS 9 REV. K

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi
2.04*	5800	1300	MAX		120	714		758		860
2.05*	5800	1300	MAX.		135	749		X		860
2.06*	5800	1300	MAX.		135	703		723		815
	Set max. M.V. stop									
2.07*	5800	1300	MAX		40	-10		+10		Pn = 113 psig
	Hysteresis of T.P. 2.01.									
2.08*	1700	400	MAX		25	149		159		Pn = 48 psig

MAX. GOVERNOR SPRING SETTING AND POWER RESET ADJUSTMENT

(a) Adjust eccentric shaft to meet flow limits.
(b) If unable to set with eccentric, max. T.A. may be varied within T.A. limits.
(c) If unable to set with eccentric max. T.A. maintain eccentric shaft scribe line in position furthest away from drive body and determine amount of RPM off.
(d) Split control and adjust gov. spring as required (CALIBRATION ONLY) (CW adj. of gov. spring delays break approx. 1 flat on adj. nut per 50 RPM).
(e) If gov. slope is not in limits, select Py bleed per parts list, (Higher number bleed to increase difference in flow).
BLEED SIZE 58 [ ] 62

	4	3-7	1		2-5					6
3.01*	6646	1575	[ ]		95	492		504		420
	Set Gov. Break T.A. at 89° - 91°. Lever must be .050" min. away from stop plate, at the centerline of stop-screw.									
3.02*	6796	1575	"		95	X		X		280
			Diff from T.P. 3.01 (Gov. Slope)		100			130		
3.03*	[ ]	1575	"		95	X		X		420
			Hysteresis		-50	[ ]	RPM Hyst. of T.P. 3.01 (Max.)			
3.03a	6646	1575	30°-35°		95	X		225		Pn = 100 psig

If minimum schedule cannot be met select larger No. Py bleed and recheck T.P. 3.01 to 3.03a.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 5 OF SHEETS 9 REV.

TEST POINT	SPEED RPM	SUPPLY - PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi
	4	2	1		3-6					5
3.04	6540	1575	88		95	X		X		420
	Apply 30 psig to speed reset port.									
3.05	6620	1575	88		95	X		X		420
	Difference from T.P. 3.04		-5					+5 PPH		
	If difference is out of limits, adjust speed reset rod length. Rotate rod C.W. to increase flow. If adjustment was made, retest T.P. 3.04 and 3.05.									
	Adjust speed reset pressure to 0 psig.									
3.06	6646	1575	Max		95	492		504		420
	Apply 30 psig to speed reset port.									
3.07	6686	1575	Max.		95	X		X		420
	Difference from T.P. 3.06					-5		+5 PPH		
	If difference is out of limits, adjust max. speed stop screw. Rotate screw C.W. to reduce flow. If adjustment was made re-test T.P. 3.06 and 3.07.									
	Return speed reset pressure to 0 psig.									

IDLE SPEED STOP SETTING AND PICK-UP ANGLE

(a) At test point 4.01 insert .1875 Dia. Rigging pin and check T.A. if out of limits readjust rigging bracket position. At test point 4.02 increase T.A. until 4 PPH max. fuel flow from 4.01 is observed (T.A. where flow starts to increase is pick-up angle).

(b) If throttle cam pick-up angle is out of limits, replace gov. spring
- (1) Use a higher numbered spring to increase pick-up angle.
- (2) Use a lower numbered spring to decrease pick-up angle.
- (3) Adjust spring tension to same load as set on spring removed.
- (4) Re-set gov. break at test point 3.01 and rerun test points 3.02 to 3.07 inclusive.
- (5) Re-set idle stop screw at test point 4.01

	4	1-7	5		2-6				3-8
4.01	3250	740	28-30		30.0	115		125	Pn = 30 psig
	Open shut-off valve to Pn gauge. Set idle stop screw (CW adj. incr. flow) dec. and reset speed after adj. throttle cam pick-up angle.								

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TEST SPECIFICATION

AETS 15721

SHEET 6 OF SHEETS 9 REV. /

TEST POINT	SPEED RPM	SUPPLY - PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi
4.02	3250	740								

Idle throttle angle 31° [ ] 35°
Remove rigging pin
Spring [ ] Stripe

LOW END OF ACCEL FLOW AND THROTTLE MOVEMENT EFFECT

	2	5	3	1					4-6
5.01	815	200	40	Local	85	[ ]	X		Pn = 18 psig
5.02	1700	400	40	25.0	149	[ ]	159		Pn = 48 psig

Move T.A. to 30° [ ] 5 PPH maximum decrease

(a) After recording nozzle flow at test point 5.02 move throttle to 30° T.A. Close shut-off valve to Pn gauge.
(b) Observe nozzle flow change and record.

MAX. IDLE RESET STOP ADJ.

	1	3-5		2					4
6.01	4380	990		70	262	[ ]	274		Pn = 130 psig

Set max. idle reset stop. Record T.A. [ ]

Open Pn shut-off valve to Pn gauge.
Close valve after test.

CUT-OFF MODULATION AND CUT-OFF LEAKAGE

A. At test point 7.01 set test condition with 20° T.A.
(a) Move thro. to 30° T.A. and observe nozzle flow change.
(b) If nozzle flow change is excessive –
(1) Reset throttle to 20° T.A.
(2) Back off override adj. nut on cut-off link.
(3) Adjust cut off link longer to meet max. flow change limit.
(4) Open shut-off valve to Pn gauge.

	2	3-6	1	4					5-7
7.01	2200	500	20	A.R.	160	[ ]	170		Pn = 55 psig

Nozzle flow change [ ] 2 PPH max.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 7 OF SHEETS 9 REV. K

TEST POINT	SPEED RPM	SUPPLY - PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

B. At test point 7.02 check cut-off leakage
   (a) Remove nozzle outlet line from control.
   (b) Set total supply with throttle in cut-off position (highest T.A. position where no leakage is observed at outlet fitting).
   (c) Increase T.A. to permit flow out of the outlet fitting, and adjust Po pressure to 40 ± 2 psig.
   (d) Decrease T.A. as required until no leakage is observed at outlet fitting (observe T.A.)
   (e) If T.A. out of limits, shim cut-off valve seat.
      (1) Remove shims under C.O. valve seat to increase T.A. (.002" thickness shim changes T.A. approx. 2°).
   (f) Same Pc as established for T.P. 7.01
   (g) Record cut-off leakage
   (h) Record P1
   (i) Open valve in spill valve outlet.

7.02	2200	500	8-10	A.R.	0.0		0.5 cc/min.	

P1 pressure _____ 250 psig max.

C. At test point 7.03 (-5° T.A.)
   (a) Observe P1 pressure
   (b) Adjust override nut for; .000" clearance between nut and bushing
   (c) Adjust upper lever (idle reset lever) stop to just contact lever.
   (d) At 0° T.A. lower C.O. lever to be within ±5° of horizontal.

At test point 7.04
   (a) Observe throttle lever over full range of travel
   (b) Record throttle torque

	2	3-5	1	4
7.03	2200	500	-5	A.R.

P1 pressure equal to or less than T.P. 7.02

Thro. Torque _____ 15 in. lbs. Max.

7.04	2200	500	Min-Max-Min	Local	

Thro. Torque _____ 15 in. lbs. Max.

D. At test point 7.05 test spill valve reverse flow leakage through its check valve
   (a) Remove nozzle outlet from control
   (b) Close valve in spill valve outlet
   (c) Adjust Po = 60 psig.

7.05	2200	500	8-10	Local	0		20 cc/min,

P1 pressure _____ 250 psig max.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 8 OF SHEETS 9 REV. K

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi
7.06	6646	1575	Max.	-	135					

Reconnect nozzle outlet. Set condition lever to -5°, distance between centres of idle reset lever shaft and Max. idle reset link must be .375 Min. [ ] X. Nozzle flow less than 85 pph.

OK [ ] Rej.

Note: Re-adjust Po to 40 psig.

	1	3	2	4			
8.01	1530	370	28-30	1.0	X	[ ]	X

Open shut-off valve to Pn and Py gauges. Set Pn to 32 psig. Valve in spill valve line closed.

8.02	1530	370	28-30	1.0	82	[ ]	86

Open spill valve outlet valve. Adjust screw so that nozzle flow is within limits at T.P 8.02.

8.03	2400	550	28-30	9.0	X	[ ]	X

Set Pn to 60 psig. Valve in spill valve line closed.

8.04	2400	550	28-30	9.0	X	[ ]	X

Open spill valve outlet valve. Observe nozzle flow. Difference from test point 8.03 to be 1 pph max. Difference 0 [ ] 1 pph. If difference is excessive remove spill valve cap and tap the valve Using a brass punch to obtain a good seal: Do not rotate valve stem when tapping. Ensure that valve stem is not rotated when spill valve cap is replaced.

8.05 Check spill valve Pa port.
Port may be wet but there must be no measurable leakage.
Close shut-off valve to Pn and Py gauges.

Note: Air pressure is Py in psig as shown in the appropriate column.

If piston '0' ring must be changed ensure that the replacement '0' ring is presoaked in test fluid for 2 hours minimum set T.P. 8.02 conditions and vary Py between 0 and 10 psig 10 times before proceeding with calibration of spill valve.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15721

SHEET 9 OF SHEETS 9 REV. K

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

EXTERNAL LEAKAGE CHECK

A. Cap Po at drive flange by-pass tap.
B. Remove Po line to control and install Po plug.
C. Cap outlet port and both spill valve ports.
D. Set P1 pressure to 1000 PSIG.
E. Observe leakage for 2-3 minutes.
F. No leakage permitted.

OK [ ] REJECT

TESTE AETS 15722 | *AETS 15722 TEST*

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

Number AETS 15722 | Rev. H

Sheet 1 of 7

Orig By: W.H. Foster	Chk By: M. Letourneau	Project Leader: W.H. Foster	MFG Approval:
Date:	Test Stand No.:	Operator:	S/N:
Unit:		Model: DP-F2/A-45A	P/N: 3244764

REL DATE	REV	SHT	REV STATUS	SHT	REV
13JULY98	H	1	H	13	
		2	H	14	
		3	H	15	
		4	H	16	
		5	H	17	
		6	H	18	
		7	H	19	
		8		20	
		9		21	
		10		22	
		11		23	
		12		24	

A. See AEEI 15717 for location of adjustments and pressure taps.

B. (1) Install throttle quadrant fixture with a 4.0 lb. load applied to throttle lever to hold lever against maximum throttle stop.

(2) Index throttle quadrant to 90° T.A.

C. Control rotation CW as viewed from control shaft end.

D. Maintain Po presure to 30 to 50 psig at control by-pass tap except where otherwise specified.

E. P2 pressure shall be set within ± 10 psi of specified value at pressures below 200 psig and ± 25 psi of specified value at pressures above 200 psig.

F. Set test conditions (supply and Pc) in the sequence indicated by numbers 1, 2, 3, etc.

a) When two numbers are listed, set and then trim test condition in the sequence indicated.

b) Approach all speeds, total fuel supplies, and Pc settings from a lower value, except at hysteresis points.

G. Speed for test points 3.01 to 3.07, 4.01, 4.02 and 6.01 is to be set to ± 2 RPM of specified value. All other points are to be set within ± 20 RPM of specified value.

H. Total supply is to be set to ± 20 PPH of the specified value or within limits when shown. When aircraft pump is used, ignore total supply and Po pressure settings, except at T.P. 1.02 and 7.02 adjust boost pressure to obtain specified Po values.

I. Valve in spill valve outlet to be kept in closed position unless otherwise specified.

J. Close cut-off valves to Pn and Py gauges.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15722

SHEET 2 OF SHEETS 7 REV. 4

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

CHECK RELIEF VALVE OPENING

(a) Cap outlet port.
(b) Increase fuel flow until fuel supply is within limits specified and observe P1-Po differential.

	1	4	2	3						
1.01	A.R.	200-275	MAX	120						

Relief valve opening P1-Po 1000 [ ] 1050 psi

CHECK PRESSURIZING VALVE OPENING

(a) Increase supply pressure with outlet port open, observe start of nozzle flow. During this test adjust and maintain Po at 40 ± 2 PSIG.

	1	4	2	3						
1.02	A.R.	A.R.	Max.	120						

Press valve opening P1-Po 55 [ ] 68 psi

METERING VALVE ORIFICE AND BYPASS HEAD (P1-P2"HG) SETTING

Note: At test points 2.01, 2.02 and 2.05 open shut-off valve to Pn gauge. Close valve after tests.

	2	3-6	1	4						5
2.01	5800	1300	MAX	40.0	235	[ ]	255	[ ]		
									Pn=113 psig	
									P1-P2 = 30-47"HG.	
2.02	2900	660	28-30	40.0	88	[ ]	93	[ ]		
									Pn = 18 psig	
	Remove Py line.									
2.03	5800	1300	MAX	90	530	[ ]	574	[ ]		510
					Pc-Py	[ ]	3.9" Hg. Max.			
2.04	5800	1300	MAX	135	700	[ ]	726	[ ]		815
	Max. M.V. flow.									
2.05	5800	1300	MAX	40	-10	[ ]	+10	[ ]		
									Pn = 113 psig	
	Hysteresis of T.P. 2.01.									

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15722

SHEET 3 OF SHEETS 7 REV. F

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi
MAX. GOVERNOR SPRING SETTING										
	4	3-7	1		2-5					6
3.01	6646	1575	Max.		95	473		523		420
3.02	6796	1575	Max.		95	X		X		280
				Diff from T.P. 3.01 (Gov. Slope)	95			135		
3.03		1575	Max.		95	X		X		420
				Hysteresis	-50		RPM Hyst. of T.P. 3.01 (Max.)			
3.03a	6646	1575	30°-35°		95	X		225		Pn = 100 psig
3.04	6540	1575	88		95	X		X		420
	Apply 30 psig to speed reset port.									
3.05	6620	1575	88		95	X		X		420
	Difference from T.P. 3.04		-7				+7 PPH			
	If difference is out of limits, adjust speed reset rod length. Rotate rod C.W. to increase flow. If adjustment was made, retest T.P. 3.04 and 3.05.									
	Adjust speed reset pressure to 0 psig.									
3.06	6646	1575	Max		95	473		523		420
	Apply 30 psig to speed reset port.									
3.07	6686	1575	Max.		95	X		X		420
				Difference from T.P. 3.06	-7		+7 PPH			
	If difference is out of limits, adjust max. speed stop screw. Rotate screw C.W. to reduce flow. If adjustment was made re-test T.P. 3.06 and 3.07.									
	Return speed reset pressure to 0 psig.									

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15722

SHEET 4 OF SHEETS 7 REV. 1

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

IDLE SPEED STOP SETTING AND PICK-UP ANGLE

At test point 4.01 insert .1875 Dia. Rigging pin and check T.A. at test point 4.02 increase T.A. until 4 PPH max. fuel flow from 4.01 is observed (T.A. where flow starts to increase is pick-up angle).

	4	1-7	5	2-6				3-8
4.01	3250	740	28-30	30.0	112	[ ]	128	Pn = 30 psig

Open shut-off valve to Pn gauge. Set idle stop screw (CW adj. incr. flow) dec. and reset speed after adj. throttle cam pick-up angle.

4.02	3250	740						

Idle throttle angle 31° [ ] 35°
Remove rigging pin

LOW END OF ACCEL FLOW AND THROTTLE MOVEMENT EFFECT

	2	5	3	1				4-6
5.01	815	200	40	Local	80	[ ]	X	Pn = 18 psig
5.02	1700	400	40	25.0	148	[ ]	160	Pn = 48 psig

Move T.A. to 30° [ ] 5 PPH maximum decrease

(a) After recording nozzle flow at test point 5.02 move throttle to 30° T.A. Close shut-off valve to Pn gauge.
(b) Observe nozzle flow change and record.

MAX. IDLE RESET STOP ADJ.

(a) Hold idle reset lever against idle reset stop. Record fuel flow.

	1	3-5		2-4				6
6.01	4380	990		70	258	[ ]	278	Pn = 130 psig

Record T.A. [ ]

Open Pn shut-off valve to Pn gauge.
Close valve after test.

AlliedSignal AEROSPACE
CODE IDENT 07213

TEST SPECIFICATION

AETS 15722

SHEET 5 OF SHEETS 7 REV. H

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

CUT-OFF MODULATION AND CUT-OFF LEAKAGE

A. At test point 7.01 set test condition with 20° T.A.
(a) Move thro. To 30° T.A. and observe nozzle flow change.

	2	3-6	1		4				5-7
7.01	2200	500	20		A.R.	160		170	Pn = 55 psig

Open shut-off valve to Pn gauge

Nozzle flow change _____ 2 PPH max.

B. At test point 7.02 check cut-off leakage
(a) Remove nozzle outlet line from control.
(b) Set total supply with throttle in cut-off position (highest T.A. position where no leakage is observed at outlet fitting).
(c) Increase T.A. to permit flow out of the outlet fitting, and adjust Po pressure to 40 ± 2 psig.
(d) Decrease T.A. as required until no leakage is observed at outlet fitting (observe T.A.)
(e) Same Pc as established for T.P. 7.01
(f) Record cut-off leakage
(g) Record P1
(h) Open valve in spill valve outlet.

7.02	2200	500	8-10	A.R.	0.0		0.5 cc/min.	

P1 pressure _____ 250 psig max.

C. At test point 7.03 (-5 T.A.)
(a) Observe P1 pressure

At test point 7.04
(a) Observe throttle lever over full range of travel
(b) Record throttle torque

7.03	2200	500	-5	A.R.

P1 pressure equal to or less than T.P. 7.02

7.04	2200	Min-Max-Min	Local

Thro. Torque _____ 15 in. lbs. Max.

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TEST SPECIFICATION

AETS 15722

SHEET 6 OF SHEETS 7 REV. H

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

D. At test point 7.05 test spill valve reverse flow leakage through its check valve
(a) Remove nozzle outlet from control
(b) Close valve in spill valve outlet
(c) Adjust Po = 60 psig.

7.05 2200 500 8-10 Local 0 [ ] 20 cc/min,

P1 pressure [ ] 250 psig max.

7.06 6646 1575 Max. - 135

Reconnect nozzle outlet. Set condition lever to -5°, distance between centres of idle reset lever shaft and Max. idle reset link must be .375 Min. [ ] X. Nozzle flow less than 85 pph.

OK [ ] Rej.

Note: Re-adjust Po to 40 psig.

	1	3	2	4			
8.01	1530	370	28-30	1.0	X	[ ]	X

Open shut-off valve to Pn and Py gauges. Set Pn to 32 psig. Valve in spill valve line closed.

8.02 1530 370 28-30 1.0 80 [ ] 88

Open spill valve outlet valve. Set Pn to 25 psig.

8.03 2400 550 28-30 9.0 X [ ] X

Increase Pn to 6 psig. Valve in spill valve line closed.

8.04 2400 550 28-30 9.0 X [ ] X

Open spill valve outlet valve. Observe nozzle flow. Difference from test point 8.03 to be 2 pph max.
Difference 0 [ ] 2 pph. Port may be wet but there must be no measurable leakage.

8.05 Check spill valve Po port.

Close shut-off valve to Pn and Py gauges.

Note: Air pressure is Py in psig as shown in the appropriate column.

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CODE IDENT 07213

TEST SPECIFICATION

AETS 15722

SHEET 7 OF SHEETS 7 REV. H

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH MIN	NOZZLE FLOW, PPH REC	NOZZLE FLOW, PPH MAX	P1 - P2 "Hg	P_2 psi

EXTERNAL LEAKAGE CHECK

A. Cap Po at drive flange by-pass tap.
B. Remove P2 line to control and install P2 plug.
C. Cap outlet port and both spill valve ports.
D. Set P1 pressure to 1000 PSIG.
E. Observe leakage for 2-3 minutes.
F. No leakage permitted.

OK ☐ REJECT

Observações *Remarks*	

Aprovação *Approval*	**Nome** *Name*	**Data** *Date*	**Assinatura** *Signature*

HISTÓRICO DE REVISÃO / *REVISION HISTORY*

REV	*DATA (DATE)*	*MOTIVO DA REVISÃO (REVISION REASON)*	*NOME (Name)*
00	**Aug 2nd, 2022**	Original	Jean Andrade
	MM/DD/AAAA		
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