

	REGISTRO RECORD	REVISÃO REVISION 01
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COMPONENTE Component	O.S W.O	MODELO Model	PN	SN
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	73-20-79	TLN02389	Mar. 23,2022 Revision 03
		CONJUNTO MAIOR MAIN PART	
		PN	SN

TESTE APLICÁVEL AOS PART NUMBERS TEST APPLICABLE TO PART NUMBERS	
3244896-2	3244896-3

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 MFCU na bancada de teste usando o adaptador estriado e adaptador de montagem, ou equivalente. <i>Assemble the MFCU to the test stand, using spline adapter and mounting adapter, or equivalent.</i>			
B	Remova o plug da porta e instale o dispositivo de configuração da válvula. Remova o plug e instale um adaptador padrão nas portas. <i>Remove plug from port and assemble valve setting fixture. Remove plug from port and install a standard adapter.</i>			
C	Remova o contra pino, porca e espaçador do eixo de aceleração. Instale o quadrante de aceleração na extremidade do eixo de aceleração. <i>Remove cotter pin, nut, and spacer from throttle shaft. Assemble throttle quadrant onto end of throttle shaft.</i>			
D	Mantenha uma pressão P _o de 60-90 psig na conexão de P _o , exceto quando houver outra especificação. Mantenha a pressão P _n dentro de ± 10 psi do valor especificado em pressões abaixo de 200 pph e dentro de ± 25 psi em pressões superiores a 200 pph. <i>Maintain a P_o pressure of 30-50 psig on P_o pressure gage, except where otherwise specified. Maintain P_n pressure within ± 10 psi of the value specified at pressures below 200 pph and within ± 25 psi of value specified for nozzle flows above 200 pph.</i>			
E	Ajuste o parafuso de pressão diferencial, o orifício da sleeve da metering valve até a pressão diferencial P1-P2 e o fluxo de injeção estarem de acordo com os limites especificados. <i>Adjust P1-P2 pressure differential adjustment screw and metering valve sleeve assembly orifice until P1-P2 pressure differential and nozzle flow are within the limits specified.</i>			

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ITEM Item	PROCEDIMENTOS TOLERÂNCIAS Procedures Serviceable limits	Resultado Result	Data Date	Executante Performed by
F	Torqueie as porcas e registre todas as pressões diferenciais de P1-P2 e o fluxo de injeção e a pressão diferencial Px-Py no Ponto de Teste. <i>Torque nuts and record all P1-P2 differential pressures and nozzle flows, and the Px-Py differential pressure at Test Point.</i>			
G	Se o fluxo de injeção for maior ou igual aos valores especificados, ajuste o tensor para reduzir o fluxo de injeção abaixo dos níveis especificados. <i>If nozzle flow is greater than or equal to specified value, adjust turnbuckle to reduce nozzle flow below specified value.</i>			
H	Se o fluxo do injetor não estiver de acordo com os limites especificados, troque o fluxo de ar Px. Registre o tamanho instalado no final. <i>If the nozzle flow is not within the specified limits, change Px air flow jet. Record size finally installed.</i>			

TESTE AETS 71059 | AETS 71059 TEST

		TEST SPECIFICATION		Number AETS 71059	Rev. F
Orig By: G. Chan		Chk By: W.H. Foster	Project Leader: W.H. Foster	MFG Approval:	
Date:		Test Stand No.:	Operator:	SN:	
Unit: Automatic Fuel Control		Model: DP-F2	P/N: 3244896		
REL DATE	REV	A	B	C	D
27 MAY 97	1				
31 JUL 97	2				
14 DEC 98	3				
30 APR 99	4				
18 MAY 99	5				
04-23-04	6				
		SAT REV	STATUS	SAT REV	SAT REV
		1	F	2	F
		3	F	4	F
		5	F	6	F
		7	F	8	F
		9	F	10	F
		11	F	12	F
		13		14	
		15		16	
		17		18	
		19		20	
		21		22	
		23		24	

Calibration Specification

A. See AEEI 68923 for location of adjustments and pressure taps.

B. Index throttle quadrant to 60° T.A. by inserting alignment pin thru throttle lever and throttle rig. Torque throttle quadrant fixture to 40-45 in.lb.

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

D. Maintain Po pressure to 60 - 90 PSIG at control by-pass tap.

E. Pn pressure shall be set within ± 10 PSI of specified value at pressure below 200 PSIG and ± 25 PSI of specified value at pressure above 200 PSIG.

F. Set test conditions (RPM, Supply, & Pc) in the sequence indicated by numbers 1, 2, 3, etc.

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

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

G. Speed for Tests Points indicated by (#) 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.

I. Before calibration, check for external air leakage using M73/9. Slow bubbling is permitted at the joint of drive body and flow body, at the joint of drive body and air adaptor, 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 with Pc = 100 PSIA, RPM = 0, and T/A = 60°. Px to be measured at the bellows ratio lever cover.

Px - Py = + 1.2
- 2.0 in. Hg. maximum

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			TEST SPECIFICATION			AETS 71059				
						SHEET 2		SHEETS OF 12		REV. E
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 *Hg	Pn psi
						MIN	REC	MAX		
K. All adjustments are to be properly torqued.										
Test point indicated (*) require special attention and are to be checked below following proper torquing.										
1.						35			40 in. lb.	
2.						25			35 in. lb.	
3.						4			20 in. lb.	
4.						20			25 in. lb.	
5.						7			7.5 in. lb.	
6.						20			25 in. lb.	
7.						20			25 in. lb.	
8.						20			25 in. lb.	
9.						25			30 in. lb.	
10.					Py	9			11 in. lb.	
11.						10			15 in. lb.	
12.						20			25 in. lb.	
13.						10			15 in. lb.	
14.						10			15 in. lb.	
15.						5.5			6 in. lb.	

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					TEST SPECIFICATION		AETS 71059			
							SHEET 3 OF 12		REV. F	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 *Hg	Pn psi
						MIN	REC	MAX		
<u>CHECK RELIEF VALVE OPENING</u>										
(a) Cap outlet port.										
(b) Increase P1 pressure until fuel supply is within supply limits specified and observe P1-Po differential.										
(c) If P1-Po differential is out of limits, shim as required. Add shims to increase differential.										
(d) If valve has been re-shimmed, torque plug 15 20 in-lb.										
Locknut 70 80 in-lb.										
1.01	1 0	4 200-275	2 60		3 85.0				Relief valve opening P1-Po 950 1000 psig	
<u>CHECK PRESSURIZING VALVE OPENING</u>										
(a) Open outlet port.										
(b) Increase P1 pressure and observe start of nozzle flow.										
(c) If P1-Po differential is out of limits, shim as required. Add shims to increase differential.										
(d) If valve cover has been removed and re-assembled, torque screws to 4.5-5.0 in.lb. in 1 in.lb. increments maximum, while alternating between the screws.										
1.02	1 A.R.	4 A.R.	2 60		3 85.0				Pressurizing valve opening P1 - Po 55 68 psig	
<u>METERING VALVE ORIFICE AND BY-PASS HEAD (P1-P2) SETTING</u>										
(a) Test point 2.01 thru 2.04 are interrelated and should be recorded after all four (4) adjustments have been made.										
(b) At T.P. 2.02, if P1-P2 is higher than 33 in. Hg and lower than 41 in. Hg, remove by-pass valve cover and install spacer P/N 3240905. If P1-P2 is higher than 41 in. Hg, install P/N 3240905-1 thicker spacer.										
(c) Torque the by-pass valve retaining screws to 22-24 in-lb in increments of 5 in-lb and re-calibrate T.P. 2.01 to 2.04. After 20 minutes minimum re-torque to 22-24 in-lb and re-verify T.P. 2.01 to 2.04.										
2.01*	2 5800	3-5 1750	1 60		4 40	290		302		6 180
Adjust head and metering valve sleeve to meet flow limits. P1 - P2 = 26-46 in. Hg.										

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				TEST SPECIFICATION			AETS 71059				
							SHEET		SHEETS		REV
							4	OF	12	F	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi	
						MIN	REC	MAX			
2.02	5800	1750	60		70	508		529		360	
Retrim head and re-adjust 2.01 - 2.02 if out of limits.											
Px-Py 1.2 in. Hg. max.											
As per note (b), check appropriate box.											
No spacer											
P/N 3240905 spacer											
P/N 3240905-1 spacer											
2.03	4500	1360	60		55.0	396		407		260	
→ <u>Note:</u> Ng = 4500 RPM											
2.04	5800	1750	60		100	622		638		450	
Set maximum metering valve stop											
2.05	5800	1750	60		40	-10		+10		180	
Hysteresis of T.P. 2.01											
<u>THROTTLE RIG SETTING AND LINKAGE ADJUSTMENT</u>											
(a) Adjust eccentric shaft to meet flow limits.											
(b) If unable to set with eccentric, maintain eccentric on scribe line and determine amount of RPM off, split control and adjust governor spring as required. (CW adjustment of governor spring delays break, approximately 1 flat on adjustment nut per 50 RPM.											
3.01	2 6585	3-5 1950	1 60		4 100	510		550		6 365	
3.02*	(a) Rotate throttle lever from 60° to 65° and observe changes of nozzle flow or Px-Py differential, if flow increases by more than 3 PPH or Px-Py decreases by .2 in. Hg., the point of change will be designated as 60°. If no change is observed, go to "c". (b) Insert alignment pin thru throttle lever and throttle rig, tighten screws to 10-15 in-lb. and re-align quadrant to indicate 60°. (c) Return throttle lever to 60° and rotate from 60° to 55° and observe changes of nozzle flow or Px-Py differential, if flow decreases by more than 3 PPH or Px-Py increases by .2 in. Hg. the point of change will be designated as 60° and go to "b".										
<u>Note:</u> T.P. 3.01 and 3.02 are not to be tested during final calibration.											

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TEST SPECIFICATION		AETS 71059								
		SHEET		SHEETS		REV F				
		5 OF		12						
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi
						MIN	REC	MAX		
3.03	0	0	60		amb					
Rotate to 110°, if quadrant does not indicate 110°, adjust throttle max. stop screw. Rotate to -5°, if quadrant does not indicate -5°, adjust throttle min. stop screw.										
3.04*	5000	1500	105		amb	592		638		450
Adjust linkage to get flow into limits.										
3.05*	2900	900	60		amb	75		115		80
Adjust linkage to get flow into limits, if adjustment has been made, re-check T.P. 3.04 and T.P. 3.03.										
MINIMUM FLOW ADJUSTMENT										
(a) Connect Pc gauge to Py line and apply 8 psia to Py.										
(b) Prior to making minimum flow adjustment, nozzle flow must be seen to be below 63 pph.										
(c) If nozzle flow is above or at 63 pph prior to adjustment was made, adjust linkage to reduce nozzle flow to below 63 pph, then go back to "b". Recheck T.P. 3.04, 3.05, and 3.03 if linkage adjustment has been made.										
(d) Verify test point after cycling pressure Pc 8-14 PSIA 5 times with stop adjusted.										
4.01*	2 2900	3-5 900	1 60		4 amb	63		67		6 42
ENRICHMENT SPRING SETTING										
5.01	2 4500	3-5 1360	1 60		4 30.0	213		225	Pc-Px= in.Hg.	6 140
5.02#	3600	1100	60		30.0	-18		-22	Pc-Px= in.Hg.	140
Adjust enrichment spring to obtain 18 to 22 less than 5.01. To verify setting, approach enrichment speed from 3100 RPM.										
5.03	3125	1000	60		25.0	143		153	Pc-Px= in.Hg.	105
If fuel flow is not in limits, remove air adaptor and rotate enrichment sleeve as required (CW to reduce flow). Re-check T.P. 2.01 to 2.04, 4.01 and T.P. 5.01 to 5.03.										
5.04	3800	1150	60		34.0	241		253	Pc-Px= in.Hg.	150
5.05	2500	800	60		22.0	131		144	Pc-Px= in.Hg.	100

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TEST SPECIFICATION						AETS 71059				
						SHEET 6	SHEETS OF 12	REV. F		
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi
						MIN	REC	MAX		
<u>MAX. GOVERNOR SPRING SETTING & TRIM STOP ADJUSTMENT</u> (a) Adjust eccentric shaft to meet flow limits. (b) If unable to set with per "a", maintain eccentric on scribe line and determine amount of RPM off. (c) Split control and adjust gov. spring as required. (CW adj. of governor spring delays break, approximately 1 flat on adj. nut per 50 RPM). (d) At T.P. 6.02, (6.07), adjust speed until nozzle flow is as shown. Approach from lower speed. (e) At T.P. 6.03, (6.08), adjust speed until 150 RPM greater than recorded at T.P. 6.02, (6.07). If nozzle flow is not in limits, select Py bleed (higher number bleed to decrease flow). (f) If bleed size change is required, re-check T.P. 6.01, (6.06) and reset if necessary. (g) At T.P. 6.04, (6.09) decrease speed from T.P. 6.03, (6.08) until nozzle flow as shown is reached. Record speed. Speed to be less than that recorded at T.P. 6.02, (6.07) by 50 RPM max.										
	4	3-6	1		2-5				7	
6.01#*	6585	1950	60		100.0	519		541		365
6.02		1950	60		*		515			350
Record speed.										
6.03#*		1950	60		*	235		265		150
Flow to be within limits shown. BLEED SIZE to be recorded at T.P. 6.08.										
6.04		1950	60		*		515			350
	X		X	Hysteresis 50 RPM max. of T.P. 6.02.						
6.05		1950	60		100	X		X		365
(a) Turn off speed, rotate throttle lever to -5° to 5° and turn trim stop approximately 1/4 turn CCW. Return throttle lever to 60°, (CCW to decrease RPM). (b) Adjust speed to 6000 RPM, slowly increase speed until fuel flow is within fuel flow limits of T.P. 6.01 ± 2 PPH. The difference of speed between T.P. 6.01 and 6.05 must be between +160 to +180 RPM. If not, repeat "a" <u>Note:</u> Test points 6.01 to 6.05 are not be tested during final calibration.										

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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi
						MIN	REC	MAX		
	4	3-6	1		2-5					7
6.06#*	6585	1950	60		100.0	519		541		365
6.07		1950	60		*		515			350
Record speed.										
6.08# *		1950	60		*	235		265		150
Flow to be within limits shown. BLEED SIZE 63 67										
6.09		1950	60		*		515			350
X X Hysteresis 50 RPM max. of T.P. 6.07.										
IDLE SPEED STOP SETTING AND PICK-UP ANGLE										
(a) At T.P. 7.02, increase T.A. until 4 pph max. fuel flow from 7.01 is observed. (T.A. where flow starts to increase is pick-up angle).										
(b) If throttle angle is out of limits, replace governor spring.										
(1) Use a higher numbered spring if angle is too low.										
(2) Use a lower numbered spring if angle is too high.										
(3) Adjust spring tension to same load as set on spring removed.										
(4) Re-set governor break at T.P. 6.06 and re-run T.P. 6.07 to 6.09.										
(5) Re-set idle stop screw at T.P. 7.01.										
	3	1-6	4		2-5					7
7.01 #*	3875	1200	14-16	-	38.0	142		155		100
Set idle stop screw (CW adj. to increase flow). Decrease and re-set speed after adjustment.										
7.02 #*	3875	1200		-	38.0					
Pick-up angle 19° 25°										
Spring stripe 1 5										
LOW END OF ACCELERATION CURVE AND THROTTLE MOVEMENT EFFECT										
	2	3-5	1		4					6
8.01	815	230	22		Local	60		X		80
8.02	2100	650	22		25.0	127		149		100

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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 *Hg	Pn psi
						MIN	REC	MAX		
<u>BELLOWS STOP NUT ADJUSTMENT</u>										
9.01*	1 2900	3-5 900	2-7 14-16		4 80	185		195		6 115
Adjust bellows stop nut to meet flow limits. Rotate T.A. to 60° and back to 14° to 16° prior to recording fuel flow.										
<u>MANUAL OVERRIDE CHECK</u>										
10.01	1 5800	3-5 1750	2 60		4 100	622		638		6 450
10.02	5800	1750			100					
Decrease T.A. until 4 pph fuel flow drop from T.P. 10.01 is observed. Record T.A.										
					T.A.	50		57.5		450
10.03	5800	1750	110		100	622		638		450
10.04	2900	900	10		100	80		158		110
At T.P. 10.05 to 10.09, connect Pc gauge to Py line and apply 8 psia.										
10.05	2900	900	60		atm	63		67		42
10.06	2900	900	60		atm					
Increase T.A. until 4 pph fuel flow increase from T.P. 10.05 is observed. Record T.A.										
					T.A.	60		68		42
10.07	5000	1500	105		atm	592		638		450
10.08	5000	1500	110		atm	592		638		450
10.09	2900	900	10		atm	63		67		42

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						SHEET 9	SHEETS OF 12		REV. F	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi
						MIN	REC	MAX		
GOVERNOR RESET CHECK										
a) At T.P. 11.01 and 11.02, place calibrated 2529539-70X bleed fixture at the end of a pipe connected to the Pg port (side). Connect the (+) side of differential gauge to a tee in this pipe. <u>Note</u> : Connect Pg port (side) to Pg port (top) during the Governor Reset Check.										
b) At T.P. 11.03 to 11.05, place calibrated 2529539-70X Pg bleed in control. Connect a 1/4" needle valve downstream of the 2529539-70X bleed fixture referred to in "a" above. Connect the (-) side of differential gauge to a tee between the bleed fixture and the valve. The pressure at this point is designated Ps. The speed at T.P. 11.03 must be gradually increased above 6,585 RPM until required flow is obtained. Maintain this speed setting within ± 2 RPM for T.P. 11.04 and 11.05. Pg-Ps at T.P. 11.04 and 11.05 is to be approached from lower Pg-Ps value only.										
c) If unable to meet T.P. 11.04, replace reset spring. 1) Use shorter spring (unmarked) to decrease Pg-Ps. 2) Use longer spring (two stripes) to increase Pg-Ps.										
d) At T.P. 11.06, connect pipe with needle valve and tee to Pg port (side). Connect (+) side of differential gauge to tee. e) If unable to meet T.P. 11.06, readjust T.P. 11.01. Higher value Pr-Pa increases Pg-Pa. If T.P. 11.01 has been readjusted, recheck T.P. 11.02 to 11.05 inclusive.										
11.01*	Adjust air regulator				85.0	Pr-Pa	35		37 in. Hg.	
11.02					40.0	Pr-Pa	X		X in. Hg.	
	Difference from T.P. 11.01						X		2.0 in Hg max.	
	4	3	1		2-5					6
11.03	X	2000	60		100.0			485		325
	Needle valve closed.									
11.04*	X	2000	60		100.0			481		305
						Pg - Ps	2.3		3.3 in. Hg.	
11.05	X	2000	60		100.0			349		220
	Difference from T.P. 11.04					Pg - Ps	.40		.90 in. Hg.	

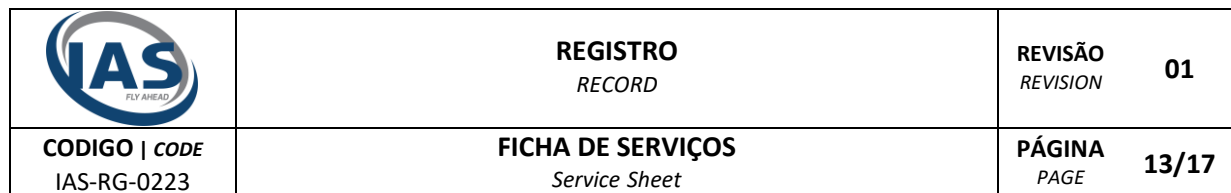
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi	
						MIN	REC	MAX			
11.06#	4000	1210	60		35.0	114		130		90	
						Pg - Pa	11.1		14.3 in. Hg.		
<u>Note:</u> Open needle valve fully. Adjust valve to meet the flow requirement of T.P. 11.06 as required (nozzle flow must be seen to increase a minimum of 1 PPH during this adjustment before re-cording actual PPH and Pg-Pa values).											
DECELERATION SCHEDULE											
a) Set-up test condition as per T.P. 11.06 and do not alter needle valve.											
b) Test Point 12.01 to 12.03 are interrelated and should be recorded after all (3) three adjustments have been made.											
c) Re-check T.P. 4.01.											
	4	3	1		2-5					6	
12.01*	5800	1750	60		100	171		179		120	
12.02	5800	1750	60		60	83		107		70	
12.03	5800	1750	60		40	63		80		50	
<u>Note:</u> Disconnect Gov. Reset pipings & remove 2529539-70X Pg bleed from control after test.											
						Check box to indicate Pg bleed removed. ☐					

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TEST SPECIFICATION						AETS 71059					
						SHEET	SHEETS		REV.		
						11	OF	12	F		
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi	
						MIN	REC	MAX			
CUT-OFF MODULATION AND CUT-OFF LEAKAGE											
(a) At T.P. 13.01, set test condition with 20° T.A.											
1) Move T.A. to 30° and observe nozzle flow change. 2) If nozzle flow change is excessive - a) Re-set T.A. to 20°. b) Back off override adj. nut on cut-off link. c) Adjust cut-off link longer to meet max. flow change limits.											
13.01	2000	600	20		A.R.	160		170		110	
Nozzle flow change							4 PPH max.				
(b) At T.P. 13.02, check cut-off leakage.											
1) Remove nozzle outlet line from control. 2) Set total supply with T.A. in cut-off position. (Highest T.A. position where no leakage is observed at outlet fitting). 3) Increase T.A. to permit flow out the outlet fitting. 4) Decrease T.A. as required until no leakage is observed at outlet fitting (Observe T.A.). 5) If T.A. is out of limits, shim cut-off valve seat by removing shims under C.O. valve seat, to increase T.A. (.002" thickness shim changes T.A. approximately 2°). 6) Same Pc as established for T.P. 13.01.											
13.02	2000	600	4-6		C.O. leakage	0		2.0 cc/min			
						P1		250 psig max.			
(c) At T.P. 13.03 (-5° T.A.)											
1) Observe P1 pressure. 2) Adjust override nut for .000" clearance between nut and bushing. 3) At 0° T.A. lower C.O. lever to be within ± 5° of horizontal.											
13.03	2000	600	-5		A.R.				P1	PSIG max	
Pc same as T.P. 13.01, P1 same or less than T.P. 13.02											
13.04			-5 to 110		Local						
Operate T.A. lever over full range. T.A. torque 20 in.-lb. max.											

TEST SPECIFICATION						AETS 71059				
						SHEET	SHEETS		REV.	
						12	OF	12	F	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	Pn psi
						MIN	REC	MAX		
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. D. Set P1 pressure to 1000 psig. E. Observe leakage for 2-3 minutes. F. No leakage permitted.										
14.01						OK		REJ.		
14.02	Record shipping weight					X		7.0 lbs. max.		
						Checked				
						Inspected By:				



TESTE AETS 71060 | *AETS 71060 TEST*

TEST SPECIFICATION				SOUTH BEND, IN USA			
CAGE CODE NO:	07213			FURNISHED UNDER CONTRACT NO.			
BENCH NO:		SERIAL NO:		MODEL:	DP-F2	TEST SPEC NO.	AETS 71060
OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION	LATEST REV:	H
DATE RELEASED:	97-5-27	TEST DATE:		REV DATE:	05-7-22	PAGE NO:	1 OF 9

CURRENT DESIGN ACTIVITY

CAGE CODE 06848

HONEYWELL INTERNATIONAL INC.

ENGINE SYSTEMS & ACCESSORIES

SOUTH BEND, IN USA

AUDIT SPECIFICATION

A. See AEEI 68923 for location of adjustments and pressure taps.

B. Index throttle quadrant to 60° T.A. by inserting alignment pin through throttle lever and throttle rig. Torque throttle quadrant fixture to 40-45 in.lb.

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

D. Maintain Po pressure to 60 – 90 PSIG at control by-pass tap.

E. Pn pressure shall be set within ± 10 PSI of specified value at pressure below 200 PSIG and ± 25 PSI of specified value at pressure above 200 PSIG.

F. Set test conditions (RPM, Supply, & Pc) in the sequence indicated by numbers 1, 2, 3, etc.

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

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

G. Speed for Tests Points indicated by (#) 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.

I. Removing Py port fitting P/N 3244137 prior to auditing.

TEST SPECIFICATION									
				SOUTH BEND, IN USA					
CAGE CODE NO:	07213			FURNISHED UNDER CONTRACT NO.					
BENCH NO:		SERIAL NO:		MODEL:	DP-F2		TEST SPEC NO.	AETS 71060	
OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION		LATEST REV:	H	
DATE RELEASED:	97-5-27	TEST DATE:		REV DATE:	05-7-22		PAGE NO:	2 OF 9	

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
<u>CHECK RELIEF VALVE OPENING</u>										
(a) Cap outlet port.										
(b) Increase P1 pressure until fuel supply is within supply limits specified and observe P1-Po differential.										
1.01	1 0	4 200-275	2 60		3 85.0	Relief valve opening	P1-Po	950		1000 psig
<u>CHECK PRESSURIZING VALVE OPENING</u>										
(a) Open outlet port.										
(b) Increase P1 pressure and observe start of nozzle flow.										
1.02	1 A.R.	4 A.R.	2 60		3 85.0	Pressurizing valve opening	P1-Po	52		70 psig
<u>METERING VALVE ORIFICE AND BY-PASS HEAD (P1-P2) SETTING</u>										
2.01	2 5800	3-5 1750	1 60		4 40	288		304		6 180
P1-P2 = 26-46 in. Hg.										
2.02	5800	1750	60		70	504		532		360
Px - Py 1.2 in. Hg. Max.										

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TEST SPECIFICATION										
SOUTH BEND, IN USA										
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BENCH NO:		SERIAL NO:		MODEL:	DP-F2	TEST SPEC NO.	AETS 71060			
OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION	LATEST REV:	H			
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
2.03	4500	1360	60		55.0	396		407		260
→Note: Ng = 4500 RPM										
2.04	5800	1750	60		100	620		640		450
2.05	5800	1750	60		40	-10		+10		180
Hysteresis of T.P. 2.01.										
<u>MINIMUM FLOW ADJUSTMENT</u>										
Connect Pc gauge to Py line and apply 8 psia to Py.										
3.01	2	3-5	1		4					6
	2900	900	60		amb	62		68		42
<u>ENRICHMENT SPRING SETTING</u>										
4.01	2	3-5	1		4				Pc-Px = In. Hg.	6
	4500	1360	60		30.0	211		227		140
4.02#	3600	1100	60		30.0	-16		-24		140
Approach enrichment speed from 3100 RPM, fuel flow must be 16 to 24 less than 4.01.										
4.03	3125	1000	60		25.0	141		154		105
4.04	3800	1150	60		34.0	240		255		150
4.05	2500	800	60		22.0	130		145		100

TEST SPECIFICATION										
SOUTH BEND, IN USA										
CAGE CODE NO:	07213				FURNISHED UNDER CONTRACT NO.					
BENCH NO:		SERIAL NO:		MODEL:	DP-F2	TEST SPEC NO.	AETS 71060			
OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION	LATEST REV:	H			
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
<u>MAX. GOVERNOR SPRING SETTING</u>										
	4	3-6	1		2-5					7
5.01#	6585	1950	60		100.0	514		546		365
5.02		1950	60		"		515			350
Record speed.										
5.03#		1950	60		"	230		270		150
5.04		1950	60		"		515			350
	X		X		Hysteresis 50 RPM max. of T.P. 502.					
<u>IDLE SPEED STOP SETTING AND PICK-UP ANGLE</u>										
At T.P. 6.02, increase T.A. until 4 PPH max. fuel flow from 6.01 is observed.										
	3	1-6	4		2-5					7
6.01#	3875	1200	14-16	-	38.0	138		159		100
6.02#*	3875	1200		-	38.0					
					Pick-up angle	19°		25°		100

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TEST SPECIFICATION										
SOUTH BEND, IN USA										
CAGE CODE NO:	07213			FURNISHED UNDER CONTRACT NO.						
BENCH NO:		SERIAL NO:		MODEL:	DP-F2		TEST SPEC NO.	AETS 71060		
OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION		LATEST REV:	H		
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
<u>LOW END OF ACCELERATION CURVE AND THROTTLE MOVEMENT EFFECT</u>										
	2	3-5	1		4					6
7.01	815	230	22		Local	60		X		80
7.02	2100	650	22		25.0	124		152		100
<u>BELLOWS STOP NUT ADJUSTMENT</u>										
	1	3-5	2-7		4					6
8.01	2900	900	14-16		80	180		200		115
Rotate T.A. to 60° and back to 14° to 16° prior to recording fuel flow.										
<u>MANUAL OVERRIDE CHECK</u>										
	1	3-5	2		4					6
9.01	5800	1750	60		100	620		640		450
9.02	5800	1750			100					
Decrease T. A. until 4 PPH fuel flow drop from T.P. 10.01 is observed. Record T.A.										
					T.A.	50		57.5		450
9.03	5800	1750	110		100	620		640		450
9.04	2900	900	10		100	78		160		110
At T.P. 9.05 to 9.09, connect Pc gauge to Py line and apply 8 psia.										

TEST SPECIFICATION										
SOUTH BEND, IN USA										
CAGE CODE NO:	07213			FURNISHED UNDER CONTRACT NO.						
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OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION		LATEST REV:	H		
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
9.05	2900	900	60		atm	62		68		42
9.06	2900	900	60		atm					
Increase T.A. until 4 PPH fuel flow increase from T.P. 9.05 is observed. Record T.A.										
					T.A.	60		68		42
9.07	5000	1500	105		atm	590		640		450
9.08	5000	1500	110		atm	590		640		450
9.09	2900	900	10		atm	62		68		42
<u>GOVERNOR RESET CHECK</u>										
Note: Connect Pr outlet port to Pg inlet port during the Governor Reset Check.										
a) At T.P. 10.001 and 10.002, place calibrated 2529539-70X bleed fixture at the end of a pipe connected to the Pr outlet port. Connect the (+) side of the differential gauge to a tee in this pipe. The bleed fixture and the (-) side of the differential gauge must be vented to atmosphere.										
b) At T.P. 10.01 to 10.03, place calibrated 2529539-70X bleed in the Pr outlet port. Connect a ¼" needle valve downstream of the bleed fixture mentioned in "a" above. Connect the (-) side of the differential gauge to a tee between the bleed fixture and the valve. The pressure at this point is designated Ps. The speed at T.P. 10.01 must be gradually increased above 6,585 RPM until required flow is obtained. Maintain this speed setting within ± 2 RPM for T.P. 10.02 and 10.03. Pg-Ps at T.P. 10.02 and 10.03 is to be approached from lower Pg-Ps value only.										
c) At T.P. 10.04, connect pipe with needle valve and tee to Pr outlet. Connect (+) side of differential gauge to tee.										
10.001	Air regulator check			85.0	Pr-Pa	35		37 in. Hg		
10.002				40.0	Pr-Pa	X		X in. Hg.		
Difference from T.P. 10.001						X		2.0 in. Hg. Max.		

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TEST SPECIFICATION										
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OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION		LATEST REV:		H	
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
	4	3	1		2-5					6
10.01	X	2000	60		100.0		485			325
Needle valve closed.										
10.02	X	2000	60		100.0		461			305
					Pg-Ps	2.2		3.4 in. Hg.		
10.03	X	2000	60		100.0		349			220
					Pg-Ps	.30		1.0 in. Hg.		
10.04#	4000	1210	60		35.0	114		130		90
					Pg-Pa	11.0		14.4 in. Hg.		

Note: Open needle valve fully. Adjust valve to meet the flow requirement of T.P. 10.04 as required (nozzle flow must be seen to increase a minimum of 1 PPH during this adjustment before recording actual PPH and Pg-Pa values).

DECELERATION SCHEDULE

Set-up test condition as per T.P. 10.04 and do not alter needle valve.

TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
	4	3	1		2-5					6
11.01*	5800	1750	60		100	170		180		120
11.02	5800	1750	60		60	82		108		70
11.03	5800	1750	60		40	62		81		50

TEST SPECIFICATION										
SOUTH BEND, IN USA										
CAGE CODE NO:	07213				FURNISHED UNDER CONTRACT NO.					
BENCH NO:		SERIAL NO:		MODEL:	DP-F2		TEST SPEC NO.		AETS 71060	
OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION		LATEST REV:		H	
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
	2	3-5	1		4					6
12.01	2000	600	20		A.R.	160		170		110
Nozzle flow change 4 PPH max.										
At T.P. 12.02, check cut-off leakage.										
a) Remove nozzle outlet line from control. b) Set total supply with T.A. in cut-off position. (Highest T.A. position where no leakage is observed at outlet fitting). c) Increase T.A. to permit flow out the outlet fitting. 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. 12.01.										
12.02	2000	600	4-6		C.O. Leakage	0		3.0 cc/min		
						P1		250 psig max.		
At T.P. 12.03 (-5° T.A.)										
a) Observe P1 pressure. b) At 0° T.A. lower C.O. lever to be within ± 5° of horizontal.										

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TEST SPECIFICATION									
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CAGE CODE NO:	07213			FURNISHED UNDER CONTRACT NO.					
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OPERATOR NO:		PARTS LIST:	3244896	TEST SPEC TYPE:	PRODUCTION	LATEST REV:	H		
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TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	COND DEG.	Pc psia	NOZZLE FLOW, PPH			P1-P2 "Hg	Pn psia
						MIN	REC	MAX		
12.03	2000	600	-5		A.R.				P1	PSIG max.
Pc same as T.P. 12.01, P1 same or less than T.P. 12.02.										
12.04			-5 to 110		Local					
Operate T.A. lever over full range. T.A. torque 20 in-lb. max										
Re-install Py port fitting P/N 3244137 after auditing. Torque fitting per AEEL-15078.										
<u>EXTERNAL LEAKAGE CHECK</u>										
A. Cap Po at drive flange by-pass tap. B. Remove Po line to control and install Po plug. C. Cap outlet port. D. Set P1 pressure to 1000 psig. E. Observe leakage for 2-3 minutes. F. No leakage permitted.										
13.01					OK		REJ.			
13.02	Record shipping weight				X		7.0 lbs. max.			
					Checked					
					Inspected by:					

Observações <i>Remarks</i>	

Aprovação <i>Approval</i>	Nome <i>Name</i>	Data <i>Date</i>	Assinatura <i>Signature</i>
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