

	REGISTRO <i>RECORD</i>	REVISÃO <i>REVISION</i> 0
CÓDIGO CODE IAS-RG-0223	FICHA DE SERVIÇOS <i>Service Sheet</i>	PÁGINA <i>PAGE</i> 1/9

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	73-20-33	TLN02351	December 8th, 2015 Temporary Revision 73-12
		CONJUNTO MAIOR MAIN PART	
		P/N	S/N

TESTE APLICÁVEL AOS PART NUMBERS TEST APPLICABLE TO PART NUMBERS
3244791-3

TESTE DA UNIDADE DE CONTROLE DE COMBUSTÍVEL FUEL CONTROL UNIT TEST				
ITEM <i>Item</i>	PROCEDIMENTOS TOLERÂNCIAS <i>Procedures Serviceable limits</i>	Resultado <i>Result</i>	Data <i>Date</i>	Executante <i>Performed by</i>
A	Monte a FCU na bancada de teste, usando o adaptador estriado e o adaptador de montagem. <i>Assemble the Main Fuel Control Unit to the test stand, using spline adapter and mounting adapter, or equivalent.</i>			
B	Remova o plugue e instale o acessório especial de teste. Remova o plugue e instale um adaptador padrão nas portas. <i>Remove plug and assemble, special testing fixture. Remove plug and install a standard adapter into ports.</i>			
C	Remova o contra pino, porca e espaçador do eixo de aceleração. Instale o Quadrante de Aceleração na extremidade do eixo de aceleração e torqueie de 40-45 lb.in. <i>Remove cotter pin, nut, and spacer from throttle shaft. Assemble throttle quadrant and pointer on the end of throttle shaft and tighten to 40-45 lb.in.</i>			
D	Mantenha uma pressão Po de 10-30 psig na conexão de Po, exceto quando houver outra especificação. Mantenha a pressão P2 dentro de ± 10 psi do valor especificado em pressões abaixo de 300 pph e dentro de ± 25 psig em pressões mais altas, usando a válvula reguladora de contrapressão Pn. <i>Maintain a Po pressure of 10 - 30 psig on Po pressure gage, except where otherwise specified. Maintain P2 pressure within ± 10 psi of the value specified at pressures below 300 pph and within ± 25 psig at higher pressures, using Pn back pressure regulator valve.</i>			
E	Ajuste o parafuso de pressão diferencial P1-P2 para uma pressão de 26 – 42 in.Hg. Ajuste 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 for a pressure of 26 - 42 in.Hg. Adjust 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	Torquee as porcas de 35 – 40 lb.in e 25 – 35 lb.in respectivamente. Registre todas as pressões diferenciais de P1-P2 e o fluxo de injeção e adicionalmente, as pressões diferenciais de Pc-Px e Px-Py. <i>Torque nuts to 35 – 40 lb.in and 25 – 35 lb.in respectively. Record all P1-P2 differential pressures and nozzle flows and additionally, Pc-Px and Px-Py differential pressures.</i>			
G	Ajuste a porca até que o fluxo de injeção leia 13 – 17 pph. <i>Adjust nut until the nozzle flow reads 13 – 17 pph.</i>			
H	Se o fluxo do injetor não estiver de acordo com os limites especificados, troque o fluxo de ar Py. Torquee o fluxo de ar Py de 9 – 11 lb.in. <i>If the nozzle flow is not within the specified limits, change Py air flow jet. Torque air flow jet to 9 – 11 lb.in.</i>			
I	Após ajustar o parafuso de ajuste da velocidade de marcha lenta, torquee a porca de 20 – 25 lb.in. <i>After adjustment of idle speed adjustment screw, torque nut to 20 – 25 lb.in.</i>			

TESTE AETS 48326 AETS 48326 TEST																																																			
TEST SPECIFICATION		Number AETS 48326	Rev. D																																																
		Sheet 1 of 8																																																	
Orig By: ESA Group	Chk By: M. Taylor	Project Leader: W. H. Foster																																																	
Date:	Test Stand No.:	MFG Approval: S. Graveline																																																	
Unit:	Model: DP-F2/A-36	S/N:																																																	
		P/N: 3244791																																																	
RECORDS & PREVIOUS REV. CHITTED D SIGNED	SIT REV STATUS D SIT REV STATUS	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>D</td><td>D</td><td>D</td><td>D</td><td>D</td><td>D</td><td>D</td><td>D</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td></td><td></td><td></td><td></td> </tr> <tr> <td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td></td><td></td><td></td><td></td> </tr> </table>		D	D	D	D	D	D	D	D									1	2	3	4	5	6	7	8	9	10	11	12					13	14	15	16	17	18	19	20	21	22	23	24				
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A. See AEEI 48383 for location of adjustments and pressure taps. B. Test with special elbow AET-3244791-A (P&WC 3014214) fitted in Pc inlet port. C. (1) Install throttle quadrant fixture with a 4.0 lbs. load applied to throttle lever to hold lever against max. throttle stop. (2) Index throttle quadrant to 90° T.A. Torque throttle quadrant fixture to 40-45 in.lbs. D. Control rotation CW as viewed from control shaft end. E. Maintain Po pressure to 10 to 30 psig at control by-pass tap, except where otherwise specified. F. P2 must conform to AEEI 48383 Fig. 3 at all nozzle flow test points, except where Pn limit is required. G. Set test conditions (RPM, 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. H. All adjustments are to be properly torqued. Test points indicated (*) require special attention and are to be checked following proper torquing. <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">1. Metering valve orifice torque</td> <td style="width: 10%; text-align: center;">35</td> <td style="width: 10%; border: 1px solid black;"></td> <td style="width: 40%; text-align: right;">40 in. lbs.</td> </tr> <tr> <td>2. Bypass setting torque</td> <td style="text-align: center;">25</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">35 in. lbs.</td> </tr> <tr> <td>3. Min. M.V. stop (breakaway) torque</td> <td style="text-align: center;">4</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">20 in. lbs.</td> </tr> <tr> <td>4. Max. flow M.V. stop torque</td> <td style="text-align: center;">20</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">25 in. lbs.</td> </tr> <tr> <td>5. Max. gov. eccentric lock-nut torque</td> <td style="text-align: center;">7</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">7.5 in. lbs.</td> </tr> <tr> <td>6. Max. throttle stop torque</td> <td style="text-align: center;">20</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">25 in. lbs.</td> </tr> <tr> <td>7. Idle speed stop torque</td> <td style="text-align: center;">20</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">25 in. lbs.</td> </tr> <tr> <td>8. Flow body to drive body torque</td> <td style="text-align: center;">20</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">25 in. lbs.</td> </tr> <tr> <td>9. Drive body adapter to drive body torque</td> <td style="text-align: center;">25</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">30 in. lbs. in 5 in. lbs. increments</td> </tr> <tr> <td>10. Bleeds torque</td> <td style="text-align: center;">9</td> <td style="border: 1px solid black;"></td> <td style="text-align: right;">11 in. lbs.</td> </tr> </table>				1. Metering valve orifice torque	35		40 in. lbs.	2. Bypass setting torque	25		35 in. lbs.	3. Min. 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.								
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		TEST SPECIFICATION				AETS 48326				
						SHEET 4	SHEETS OF 8		REV. D	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	P2 psi
						MIN	REC	MAX		
2.03*	5800	1350	Max	-	70	396		402		
Retrim head & re-adjust 2.01 & 2.02 if out of limits.										
					P2 = 445		455 psig	Pc-Py		5.0 in. Hg Max
As per note (b) Check appropriate box										
						Original spacer				
						Spacer removed				
						Spacer replaced				
2.04*	5800	1300	Max	-	105	506		520		
Set Max. M.V. stop										
2.05	5800	1300	Max	-	40.0	-10		+10		
Hysteresis of T.P. 2.0										
ENRICHMENT SPRING SETTING										
3.01	2-6 5800	3-5 1350	1 Max.		4 80	X		X		
Record nozzle flow.										
3.02#	4920	1170	Max.		80	-5		-10		
Set speed enr. -5 -10 PPH less than 3.01. Increasing spring tension (CW on adj. nut). Increases difference. (Re-check T.P. 3.01 & 3.02 after adj.).										
4.01	4000	1000	Max.		40	210		230		Pn 100 - 110 psig
MAX. GOVERNOR SPRING SETTING										
(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 or max. T.A., maintain eccentric on scribe line and determine amount of RPM off. (d) Split control and adjust gov. spring as required. (CW adj. of gov. spring delays break approximately 1 flat on adj. nut per 50 RPM). (e) If gov. slope is not in limits, select Py bleed. P/N 2525107 #56 #64 (Higher number bleed to increase difference in flow).										

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		TEST SPECIFICATION				AETS 48326			SHEET 5 OF 8 SHEETS REV. D	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	P2 psi
						MIN	REC	MAX		
5.01#*	4 6475	3-6 1440	1 		2-5 85	335		345		
Set Gov. Break T.A. at 89-91.										
5.02#	6625	1530			85	105		125		
Diff. From T.P. 5.01 (Gov. Slope)										
5.03		1440			85	X		X		
Hysteresis within -50 +0 RPM of test point 5.01.										
5.04	1 6100	3 1400	4 A.R.		2 85	-	381	-		
Set required conditions.										
Record throttle angle and maintain for T.P. 5.05										
Apply 30 psig to speed reset port.										
5.05	6125	1420			85	373		387		
If flow is out of limits, adjust speed reset rod length. Rotate rod C.W. to increase flow. If an adjustment is made, re-test T.P. 5.04 and 5.05.										
Adjust speed reset pressure to 0 psig.										
5.06	6475	1440	Max.		85	325		355		
Apply 30 psig to speed reset port.										
5.07	6475	1440	Max.		85	X		X		
Difference from T.P. 5.06 +1 +5 pph										
If flow out of limits adjust max. Speed stop screw. Rotate screw C.W. to reduce flow. If an adjustment is made, retest T.P. 5.06 and 5.07.										
Return speed reset pressure to 0 psig.										

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	TEST SPECIFICATION	AETS 48326	
		SHEET 6	SHEETS OF 8

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

IDLE SPEED STOP SETTING AND PICK-UP ANGLE

- (a) At test point 6.02 increase T.A. until 4 PPH max. fuel flow from 6.01 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 if pick-up angle exceeds 60° diff. from test point 5.01.
 - (2) Use a lower numbered spring if pick-up angle is less than 56° diff. from test point 5.01.
 - (3) Adjust spring tension to same load as set on spring removed.
 - (4) Re-set gov. break at test point 5.01 and rerun test points 5.02 and 5.03.
 - (5) Re-set idle stop screw at test point 6.01.

6.01*#	3	1-6	4		2-5					
	3200	800	28-30	-	30	104		112		Pn 95-105 psig

Set idle stop screw (CW adj. incr. flow) decrease and reset speed after adjustment.

6.02#	3200	800			30					Pn 95-105 psig
								60° of test point 5.01		
							Spring	Stripe		

LOW END ACCEL., CURVE AND THROTTLE MOVEMENT EFFECT

7.01	2	4	3		1					
	815	200	40	-	Local	60		X		Pn 75 - * psig
7.02	2100	670	40	-	25.0	125		137		Pn 100-110 psig

Move T.A. to 30° 5 PPH max. dec.

- (a) After recording nozzle flow at test point 7.02 move throttle to 30 T.A.
- (1) Observe nozzle flow change and record.

MAX. IDLE RESET STOP ADJ.

- (a) Adjust max. idle reset stop to meet flow limits.

8.01#	1	3-5	4		2-6					
	5000	1170	-	-	55	188		197		Pn 100-115 psig

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

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	TEST SPECIFICATION	AETS 48326	
		SHEET 7	SHEETS OF 8
		REV. D	

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

CUT-OFF MODULATION AND CUT-OFF LEAKAGE

A. At test point 9.01 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 thro. 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.

9.01	2 2000	3-5 500	1 20	-	4 A.R.	160		170	
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Pn 90 – 105 psig

Nozzle flow change 4 PPH max.

B. At test point 9.02 check cut-off leakage.

- (a) Remove nozzle outlet 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 the outlet fitting.
- (d) Decrease T.A. as required until no leakage is observed at outlet fitting (Observe T.A.).
- (e) If T.A. is 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. approximately 2°).
- (f) Same Pc as established for T.P. 9.01.

9.02	2 2000	3-5 500	1 8-10	-	4	0		0.5 cc/min
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Cut-off leakage

P1 pressure 250 psig max.

C. At test point 9.03 (-5° T.A.).

- (a) Observe P1 pressure.
- (b) Adjust override nut for .005" to .010" 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.

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HISTÓRICO DE REVISÃO / REVISION HISTORY

[illegible]