

	REGISTRO <i>RECORD</i>	REVISÃO <i>REVISION</i> 01
CODIGO CODE IAS-RG-0223	FICHA DE SERVIÇOS <i>SERVICE SHEET</i>	PÁGINA <i>PAGE</i> 1/7

Componente <i>Component</i>	O.S <i>W.O</i>	Modelo <i>Model</i>	PN	SN
FUEL CONTROL UNIT		DP-F2 Main Fuel Control Unit		

Identificação <i>Identification</i>	
Título Ficha Para Registros de Teste da Unidade de Controle de Combustível <i>Title</i> <i>Fuel Control Unit Test Sheet</i>	

Publicação <i>Publication</i>	Referência <i>Reference</i>	TLN	Data <i>Date</i>
COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST	73-20-27	TLN02384	Aug 31,2021 Revision 04
		Conjunto Maior <i>Main Part</i>	
		PN	SN

Teste Aplicável aos Part Numbers <i>Test Applicable to Part Numbers</i>		
3244777-1	3244777-2	3244777-3
3244777-4	3244777-5	3244777-6

Teste da Unidade de Controle de Combustível <i>Fuel Control Unit Test</i>				
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	Instale a MFCU na bancada de teste usando o adaptador estriado PN 2550176 e adaptador de montagem PN 2550136, ou equivalente. <i>Assemble the MFCU to the test stand, using PN 2550176 spline adapter and PN 2550136 mounting adapter, or equivalent.</i>			
B	Remova o plug da porta e o dispositivo de teste do compensador de temperatura PN 2550120. Remova o plug e instale um adaptador padrão nas portas. <i>Remove plug from port and PN 2550120 temperature compensator test 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 (PN 2550131) na extremidade do eixo de aceleração e torqueie de 40 – 45 lb.in. <i>Remove cotter pin, nut, and spacer from throttle shaft. Assemble (PN 2550131) throttle quadrant on end of cam 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 psi 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 psi at higher pressures, using Pn back pressure regulator valve.</i>			

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Teste da Unidade de Controle de Combustível <i>Fuel Control Unit Test</i>				
Item <i>Item</i>	Procedimentos Tolerâncias <i>Procedures Serviceable Limits</i>	Resultado <i>Result</i>	Data <i>Date</i>	Executante <i>Performed By</i>
E	Ajuste o parafuso de pressão diferencial P1-P2 para uma pressão de 26 – 42 in.Hg. Ajuste o orifício da <i>sleeve</i> da <i>metering valve</i> 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>			
F	Torqueie 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, a pressão Pc-Px no Ponto de Teste. <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 pressure at Test Point.</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 Pa. Torqueie o fluxo de ar de 9 – 11 lb.in. <i>If the nozzle flow is not within the specified limits, change Pa air flow jet. Torque air flow jet to 9 – 11 lb.in.</i>			
I	Após o ajuste de parada de marcha lenta, torqueie a porca de 20 – 25 lb.in. <i>After adjustment of idle speed stop, torque nut to 20 – 25 lb.in.</i>			

TESTE AETS 48182 | *AETS 48182 TEST*

- A. See AEEI 48180 for location of adjustments and pressure taps.
- B. Connect TS-E2 Slave Sensor to control. Mechanical position sensor needle to dial indicator readings as designated on sensor for +105°, +59°, and -50° temp. stations. A fixture conforming to the requirements of AEEI 48418 may be used as an alternative.
- C.
 - (1) Install throttle quadrant fixture with a 4.0 lbs. load applied to throttle stop 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 of 10 to 30 PSIG at control by-pass tap.
- F. P2 must meet limits shown in Figure 2 of AEEI 48180.
- G. 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.
- H. 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 torque	4		20 in. lbs.
4. Max. flow M.V. stop torque	20		25 in. lbs.
5. Max. gov. eccentric 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 48182		
								SHEET 3 OF SHEETS 6		
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	P2 psi
						MIN	REC	MAX		

CHECK RELIEF VALVE OPENING

(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.
 (1) Add shims to increase differential.

1.01	1 0	5 200-275	2 Max.	3 +105	4 85.0	Relief valve opening			P1-Po 950	1000 psi
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METERING VALVE ORIFICE AND BY-PASS HEAD (P1-P2 "HG) SETTING

(a) Test point 2.01 thru 2.03 are interrelated and should be recorded after all three (3) adjustments have been made.

(b) If at T.P. 2.03 P1-P2 is higher than 41 in. Hg. remove by-pass valve cover and replace existing spacer P/N 3240905 with thicker spacer P/N 3240905-1. If P1-P2 is less than 33 in. Hg. remove and discard existing spacer.

(c) Re-torque the bypass valve retaining screws to 20 in. lb. in increments of 5 in. lb. and recalibrate T.P. 2.01 to 2.03.

2.01*	3 5800	4-6 1350	1 Max.	2 +105	5 40	223		233	
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Adjust head and orifice. P1 - P2 = 26-42 in. Hg.

2.02*	2900	720	30-32	+105	40	80		84	
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Set Min. M.V. stop after removing Py line.

2.03*	5800	1350	Max.	+105	70	396		402	
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Retrim head and re-adjust 2.01 & 2.02 if out of limits

Pc-Px 1.0" Hg. Max.

Px-Py 1.2" Hg. Max.

P2= 445 455 psig

As per note (b) check appropriate box

Original spacer

Spacer removed

Spacer replaced

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				TEST SPECIFICATION			AETS 48182			
							SHEET 4	SHEETS OF 6	REV. E	
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	P2 psi
						MIN	REC	MAX		
2.04*	3 5800	4-6 1350	1 Max.	2 +105	5 100	506		520		
Set max. M.V. Stop.										
2.05	5800	1350	Max.	+105	40	-10		+10		
Hysteresis of Pt. 2.01										
ENRICHMENT SPRING SETTING										
3.01	3-7 5800	4-6 1350	1 Max.	2 -50	5 55	X		X		
Record nozzle flow.										
3.02	5100	1170	Max.	-50	55	-13		-17		
Set speed enrichment 13 to 17 PPH less than 3.01 increasing spring tension (CW on Adj. nut) increases difference (decrease and reset speed after adj.).										
4.01	3 4000	4-6 1000	1 Max.	2 -50	5 40	190		202		
						Pc-Px	9.5		12.5 "Hg.	
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-approx. 1 flat on adj. nut per 50 RPM). (e) If gov. slope is not in limits, select Py bleed. P/N 2525107 #56 thru #64 (Higher number bleed to increase difference in flow). Py bleed size										
5.01#*	5 6475	4-7 1440	1 	2 +59	3-6 85	335		345		
Set Gov. Break T.A. at 89° - 91°						Px-Py		"Hg		
5.02#	6625	1530	"	+59	85	105		125		
Diff. From Pt. 5.01 (Gov. Slope)						Px-Py		"Hg		

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	TEST SPECIFICATION	AETS 48182	
		SHEET 5	SHEETS OF 6

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

5.03# 4-7 1440 1 " 2 +59 3-6 85 X X

Hysteresis of test point 5.01 -50 0

Px-Py "Hg

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 governor spring.

- (1) Use stronger spring (3 stripes) if pick-up angle exceeds 60° diff. From Pt. 5.01.
- (2) Use weaker spring (one stripe) if pick-up angle is less than 56° diff. From Pt. 5.01.
- (3) Adjust spring tension to same load as set on spring removed.
- (4) Re-set governor break at test point 5.01 and re-run test points 5.02 and 5.03.
- (5) Re-set idle stop screw at test point 6.01.

6.01#* 3200 800 28-30 +59 30 104 112

Px-Py " Hg

Set idle stop screw (CW adj. incr. Flow) dec. and reset speed after adjustment.

6.02# 3200 800 +59 30
Throttle cam pick-up angle 56° 60° of test point 5.01

Spring Stripe

LOW END OF ACCEL. CURVE AND THROTTLE MOVEMENT EFFECT

7.01 815 200 40 +59 Local 60 X

P2 75 psig minimum

7.02 2100 670 40 +59 25 125 137

Move T.A. to 30° 5 PPH max. decrease

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

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		TEST SPECIFICATION				AETS 48182				
						SHEET 6	SHEETS OF 6	REV. E		
TEST POINT	SPEED RPM	SUPPLY PPH	THRO DEG.	TEMP °F	Pc psia	NOZZLE FLOW, PPH			P1 - P2 "Hg	P ₂ 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.

OK ☐ REJ.

Observações Remarks			
Aprovação Approval	Nome Name	Data Date	Assinatura Signature