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*	
3244791-1	3244791-2

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	Monte a FCU na bancada de teste, usando o adaptador estriado e o adaptador de montagem. *Assemble the Main Fuel Control Unit to the test stand, using spline adapter and mounting adapter, or equivalent.*			
B	Remova o plugue e instale o acessório especial de teste. Remova o plugue e instale um adaptador padrão nas portas. *Remove plug and assemble, special testing fixture. Remove plug and install a standard adapter into ports.*			
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. *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.*			
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. *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.*			
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.			

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*
	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.			
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, as pressões diferenciais de Pc-Px e Px-Py. *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.*			
G	Ajuste a porca até que o fluxo de injeção leia 13 – 17 pph. *Adjust nut until the nozzle flow reads 13 - 17 pph.*			
H	Se o fluxo do injetor não estiver de acordo com os limites especificados, troque o fluxo de ar Py. Torqueie-o de 9 – 11 lb.in. *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	Após ajustar o parafuso de ajuste da velocidade de marcha lenta, torqueie a porca de 20 – 25 lb.in. *After adjustment of idle speed adjustment screw, torque nut to 20 – 25 lb.in.*			

CALIBRAÇÃO E LIMITAÇÃO DOS TESTES PN: 3244791-1 | *CALIBRATION AND TEST LIMITATION PN: 3244791-1*

OVERHAUL MANUAL WITH ILLUSTRATED PARTS LIST

Table 701 (Sheet 1 of 4)
PART NUMBER 3244791
Calibration and Test Limitations For Units P/N 3244791-1

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg)	MISCELLANEOUS	NOTES
Relief Valve Opening Check										
SEQ.	1	4	2	3						
1.01	AR	200/275	MAX.	85.0					P1-Po (psi) 950 [ ] 1000	1.
Pressurizing Valve Opening Check										
SEQ.	1	4	2	3						
1.02	AR	AR	MAX.	85.0					P1-Po(psi) 55 [ ] 68	2.
Metering Valve Orifice and Bypass Valve Differential Pressure Setting										
SEQ.	2	3,5	1	4						
* 2.01	5800	1350	MAX.	40.0	203	[ ]	212			3.
* 2.02	2900	720	30-32	40.0	80	[ ]	84		Pn(psig) 75 [ ] 90	3.
* 2.03	5800	1350	MAX.	70.0	367	[ ]	373		P2(psig) 365 [ ] 415 Pc-Py [ ]	3,4,7.
* 2.04	5800	1350	MAX.	105.0	506	[ ]	520			3,5.
2.05	5800	1350	MAX.	40.0	-10	[ ]	+10			3,6.

1. Record relief valve opening pressure.
2. Record pressurizing valve opening pressure.
3. Set P1-P2 to between 26 and 42 inches Hg and record.
4. Record Pc-Py pressure. Max. 1.5 inches Hg.
5. Set max. metering valve adjustment screw
6. Hysteresis from test Point 2.01.
7. Record spacer (1490, IPL Fig. 1) disposition.

[ ] Standard spacer (0.054" - 0.058")

[ ] Oversize spacer (0.145" - 0.149")

[ ] No spacer

Table 701 (Sheet 2 of 4) PART NUMBER 3244791
Calibration and Test Limitations For Units P/N 3244791-1

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg)	MISCELLANEOUS	NOTES	NOTES
Speed Bias Spring Setting											8. Record nozzle flow.
SEQ.	2,6	3,5	1	4							9. Set governor break throttle angle to between 89 and 91 degrees [gap between throttle stop (620, IPL Fig. 1) and unmachined surface of throttle lever (565) must be 0.050 inch minimum (Ref. ASSEMBLY Fig. 514)].
3.01	5800	1350	MAX.	90.0	X		X			8.	
3.02	4920	1170	MAX.	90.0	-5		-10		Pn (psig)		
3.03	4000	1000	MAX.	40.0	186		206		100 [ ] 110		
Governor Spring Setting											
SEQ.	4	3,6	1	2,5							
* 4.01	6350	1440	[ ]	85.0	335		345			9.	10. Record nozzle flow difference (105 to 125 pph) from Test Point 4.01.
4.02	6500	1530	[ ]	85.0					pph diff. [ ] Bleed Size [ ]	10,11.	11. Record Py air flow jet (115, IPL Fig. 1) size finally installed (size 58D to 66D).
4.03		1440	[ ]	85.0	X		X			12.	
Speed Reset Adjustment											12. Observe that speed is not more than - 50 rpm of that at TP. 4.01 and record.
SEQ.	1	3	4	2							
5.01	6100	1400	AR	85	-	381	-			13.	13. Record throttle angle [ ] and maintain for TP. 5.02
5.02	6150	1420	-	85	380		394				
5.03	6350	1440	MAX.	85	325		355				
5.04	6350	1440	MAX.	85	X		X		pph diff. +1 [ ] +5	14.	14. Record nozzle flow difference from TP. 5.03.

Table 701 (Sheet 3 of 4)
Calibration and Test Limitations For Units P/N 3244791-1

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	Pn (psig)	MISCELLANEOUS	NOTES	NOTES
Idle Speed Stop Setting and Throttle Pick-Up Angle											15. Increase throttle angle until an increase of 4 pph maximum from that at TP. 6.01 is obtained. Record throttle angle and observe that throttle cam pick-up angle differential is within limits of 52 to 56 degrees of TP. 4.01.
SEQ.	3	1,6	4	2,5							
6.01	3200	800	28-30	30.0	104	[ ]	112	95 [ ] 105			
6.02	3200	800	[ ]	30.0				95 [ ] 105	Spring Stripe [ ]	15,16.	
Low End Acceleration and Throttle Movement Effect											16. Record spring stripe.
SEQ.	2	4	3	1							
7.01	815	200	40	Ambient	60	[ ]	X	75 [ ] X			17. Move throttle angle to 30 degrees. Observe that maximum nozzle flow decrease is not more than 5 pph and record.
7.02	2100	670	40	25.0	113	[ ]	124	95 [ ] 105	pph Dec. [ ]	17.	
Maximum Idle Reset Stop Adjustment											18. Record throttle angle.
SEQ.	1	3,5	4	2,6							
8.01	5000	1170	[ ]	55.0	188	[ ]	197	100 [ ] 115		18.	

Table 701 (Sheet 4 of 4)
Calibration and Test Limitations For Units P/N 3244791-1

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg)	MISCELLANEOUS	NOTES
Cut-off Modulation and Cut-off Leakage										
SEQ.	2	3,5	1	4						
9.01	2000	500	20	AR	160		170		pph Incr. 90 / Pn (psig) 105	19,20.
9.02	2000	500	8-10	-	0		0.5 cc/min.		P1 pressure	20,21.
9.03	2000	500	-5	AR					P1 pressure	22.
9.04	2000	500	0-MAX-0	Ambient					Throttle Torque	23.
Detent Cup Measurement										
11.01									Dim. 'X'	24.

NOTES

19. Move throttle angle to 30 degrees. Observe that maximum nozzle flow increase is not more than 4 pph and record.
20. Record P1-P2 pressure.
21. Observe that P1 pressure does not exceed 250 psig and record.
22. Observe that P1 pressure is same as or less than that at TP. 9.02.
23. Observe that throttle torque does not exceed 15 lb. in. maximum and record.
24. Measure dimension 'X' as per Figure 704 and record.

CALIBRAÇÃO E LIMITAÇÃO DOS TESTES PN: 3244791-2 | *CALIBRATION AND TEST LIMITATION PN: 3244791-2*

Table 702 (Sheet 1 of 4) PART NUMBER 3244791
Calibration and Test Limitations For Units P/N 3244791-2

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg)	MISCELLANEOUS	NOTES
Relief Valve Opening Check										
SEQ.	1	4	2	3						
1.01	AR	200/275	MAX.	85.0					P1-Po (psi) 950 / 1000	1.
Pressurizing Valve Opening Check										
SEQ.	1	4	2	3						
1.02	AR	AR	MAX.	85.0					P1-Po(psi) 55 / 68	2.
Metering Valve Orifice and Bypass Valve Differential Pressure Setting										
SEQ.	2	3,5	1	4						
* 2.01	5800	1350	MAX.	40.0	223		233			3.
* 2.02	2900	720	30-32	40.0	80		84		Pn(psig) 75 / 90	3.
* 2.03	5800	1350	MAX.	70.0	396		402		P2(psig) 445 / 455 Pc-Py	3,4,7.
* 2.04	5800	1350	MAX.	105.0	506		520			3,5.
2.05	5800	1350	MAX.	40.0	-10		+10			3,6.

NOTES

1. Record relief valve opening pressure.
2. Record pressurizing valve opening pressure.
3. Set P1-P2 to between 26 and 48 inches Hg and record.
4. Record Pc-Py pressure. Max. 5.0 inches Hg.
5. Set max. metering valve adjustment screw.
6. Hysteresis from Test Point 2.01.
7. Record spacer (1490, IPL Fig. 1) disposition.
   - ☐ Standard spacer (0.054" - 0.058")
   - ☐ Oversize spacer (0.145" - 0.149")
   - ☐ No spacer

Table 702 (Sheet 2 of 4)
Calibration and Test Limitations For Units P/N 3244791-2

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg)	MISCELLANEOUS	NOTES
Speed Bias Spring Setting										
SEQ.	2,6	3,5	1	4						
3.01	5800	1350	MAX.	80.0	X		X			8.
3.02	4920	1170	MAX.	80.0	-5		-10			
3.03	4000	1000	MAX.	40.0	210		230		Pn (psig) 100 [ ] 110	
Governor Spring Setting										
SEQ.	4	3	1	2,5						
* 4.01	6475	1440	[ ]	85.0	335		345			9.
4.02	6625	1530	[ ]	85.0					pph diff. [ ] Bleed Size [ ]	10,11.
4.03	[ ]	1440	[ ]	85.0	X		X			12.
Speed Reset Adjustment										
SEQ.	1	3	4	2						
5.01	6100	1400	AR	85.0	-	381	-			13.
5.02	6125	1420	-	85.0	373		387			
5.03	6475	1440	MAX.	85.0	325		355			
5.04	6475	1440	MAX.	85.0	X		X		pph diff. +1 [ ] +5	14.

8. Record nozzle flow.
9. Set governor break throttle angle to between 89 and 91 degrees [gap between throttle stop (620, IPL Fig. 1) and unmachined surface of throttle lever (565) must be 0.050 inch minimum (Ref. ASSEMBLY, Fig. 514)].
10. Record nozzle flow difference (105 to 125 pph) from Test Point 4.01.
11. Record Py air flow jet (115, IPL Fig. 1) size finally installed (size 56D to 64D).
12. Observe that speed is not more than -50 rpm of that at TP. 4.01 and record.
13. Record throttle angle [ ] and maintain for TP. 5.02.
14. Record nozzle flow difference from TP. 5.03.

Table 702 (Sheet 3 of 4)
Calibration and Test Limitations For Units P/N 3244791-2

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	Pn (psig)	MISCELLANEOUS	NOTES
Idle Speed Stop Setting and Throttle Pick-Up Angle										
SEQ.	3	1,6	4	2,5						
6.01	3200	800	28-30	30.0	104		112	95 [ ] 105		
6.02	3200	800	[ ]	30.0				95 [ ] 105	Spring Stripe [ ]	15,16.
Low End Acceleration and Throttle Movement Effect										
SEQ.	2	4	3	1						
7.01	815	200	40	Ambient	60		X	75 [ ] X		
7.02	2100	670	40	25.0	125		137	100 [ ] 110	pph Dec. [ ]	17.
Maximum Idle Reset Stop Adjustment										
SEQ.	1	3,5	4	2,6						
8.01	5000	1170	[ ]	55.0	188		197	100 [ ] 115		18.

15. Increase throttle angle until an increase of 4 pph maximum from that at TP. 6.01 is obtained. Record throttle angle and observe that throttle cam pick-up angle differential is within limits of 56 to 60 degrees of TP. 4.01.
16. Record spring stripe.
17. Move throttle angle to 30 degrees. Observe that maximum nozzle flow decrease is not more than 5 pph and record.
18. Record throttle angle.

Table 702 (Sheet 4 of 4) PART NUMBER 3244791

Calibration and Test Limitations For Units P/N 3244791-2

TEST POINT	SPEED (rpm)	FUEL SUPPLY (pph)	THROTTLE ANGLE (deg.)	Pc AIR SUPPLY (psia)	NOZZLE FLOW (pph) Min.	Recorded	Max.	P1-P2 (in. Hg)	Recorded	MISCELLANEOUS	NOTES
Cut-Off Modulation and Cut-Off Leakage											
SEQ.	2	3,5	1	4							
9.01	2000	500	20	AR	160		170			pph Incr. [ ] Pn (psig) 90 [ ] 105	19,20.
9.02	2000	500	8-10	-	0		0.5 cc/min.			P1 pressure [ ]	
9.03	2000	500	-5	AR						P1 pressure [ ]	22.
9.04	2000	500	0-MAX-0	Ambient						Throttle Torque [ ]	23.
Detent Cup Measurement											
11.01										Dim. 'X' [ ]	24.

19. Move throttle angle to 30 degrees. Observe that maximum nozzle flow increase is not more than 4 pph and record.
20. Record P1-P2 pressure.
21. Observe that P1 pressure does not exceed 250 psig and record.
22. Observe that P1 pressure is same as or less than that at TP. 9.02.
23. Observe that throttle torque does not exceed 15 lb. in. maximum and record.
24. Measure dimension 'X' as per Figure 704 and record.

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 3rd, 2022**	Original	Jean Andrade
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