TSP Cover Sheet

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Control Item Number: **8290-194**

Control Item Revision: **F**

Serial Number: **21758295**

Production Order Number: **B192827**

Test Date: **Apr-25-2019**

TSP Number: **TSP-9981**

TSP Revision: **D**

Test Equipment: **551052; 505775; 508082; 508060; KRK-004036; KRK-003826**

Test Personnel: **Mateusz Zelaszczyk**

Note: This cover sheet supersedes all information blanks on the attached TSP with the exception of the test data blocks. (i.e. all blanks duplicated by this cover sheet, COI/Customer P.O. blanks etc. are no longer valid)

Dual Dynamic EPG (CE Mark)

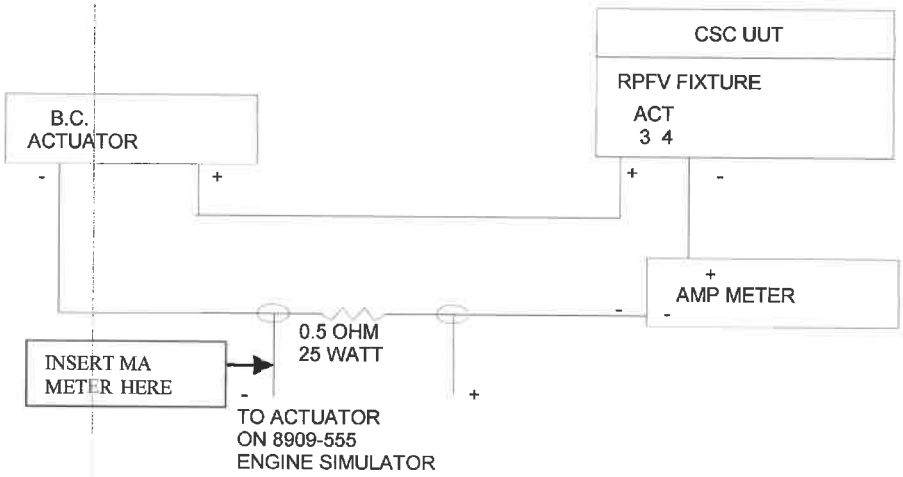
PRODUCTION ORDER NO. :	
ITEM NO. & REVISION :	
SERIAL NO. :	
DATE :	
TEST EQUIPMENT :	
TEST PERSONNEL :	

REF DWG(s) :9933-729,9931-675

Dual Dynamic EPG (CE Mark)

	SPEC	ACTUAL
0.0 **Equipment Required:**		
Multimeter		
8909-555 Engine Simulator		
32Vdc 3A DC power supply		
Function generator		
3Vdc power supply		
Actuator Barber Colman 3085220 or DYNC 10200-002-0-24		
Test fixture labeled RPFV (optional)		
1.0 **Pretest and Set-Up**		
Measure the resistance from terminal 2 to all other terminals except 3,5,8 and 12. Record lowest value.	>2kΩ	>2k
Measure the resistance from terminal 2 to chassis.	>.8MΩ	.8M

1.1 Wire the control and test equipment per diagram. Use a 3085220 or DYNC 10200-002-0-24 Barber Colman actuator. Place a DC current meter in line with the connection between the 0.5 ohm resistor and the 8909-555 Engine Simulator Actuator minus connection.



Dual Dynamic EPG (CE Mark)

		SPEC	ACTUAL
1.2	Install jumpers on the CSC UUT from terminals 7 to 8, 9 to 10, and 11 to 12.		
	Preset control adjustments as follows: Speed CCW Stability (fast and slow) MID Gain (fast and slow) MID Start fuel CW		
	Set the DC power supply to 32 ± 0.2 volts on 8290-194 or 16 ± 0.2 volts on 8290-193. From this point forward Power supply values in () will be for 8290-193s.		
2.0	**OPEN LOOP TEST** Apply a 500 ± 25Hz @ 0Vrms signal to the MPU inputs of the control.		
2.1	Turn on the input DC power supply. The Actuator should be at min fuel position. Record the actuator current.	0 ± .1A	0.0
2.2	Short terminals 9 and 10. Measure and record the voltage at terminals 9(+) and 2(-).	3.15 ± .2V	3.14
2.3	Set the DC power supply to 24 (12V) ± 0.2Vdc. Increase the MPU input amplitude until the actuator goes to max fuel. Record the MPU amplitude and actuator limiting current.	0.5± 0.3Vrms 1.8 ± .18A	0.4 1.74
2.4	Turn the start fuel limit pot CCW and record the current. Turn the start fuel pot CW.	.28 ± .03A	0.30

	Dual Dynamic EPG (CE Mark)	**SPEC**	**ACTUAL**
2.5	Measure the pulse width modulator frequency by placing a frequency. counter across terminals 3 and 4. If using a 3085220 Barber Colman actuator expect a frequency of 850 +/- 250 Hz. If using a DYNC 10200-002-0-24 Barber Colman actuator expect a frequency of 1650 +/- 250 Hz. (NOTE: freq. will drop as the actuator warms up)	OK	OK
2.6	Reduce the power supply to 20 (10v) ± .2Vdc. Record the actuator limiting current. Return the power supply to 24 (12V) ± 0.2Vdc.	1.8 ± 0.3A	1.74
2.7	Set the MPU signal to 2.0 ± 0.2 Vac. Reduce the MPU frequency until the actuator moves from maximum fuel and record this frequency.	70 ± 21Hz	87
2.8	Turn off the signal generator and set the test simulator to the closed loop mode.		
2.9	Set the engine simulator for 5ma actuator current at rated speed and 15ma with the load on. (This is the current going to the simulator from the 0.5 ohm resistor wired in series with the actuator coil.)		
3.0	**OPERATIONAL TEST** Start the control and record the speed.	2180 ± 300Hz	2186
3.1	Adjust the speed pot CW and record the speed.	5300 ± 600Hz	5078
3.2	Set the speed to 4000Hz ± 2Hz and record.	4000 ± 2Hz	4000
3.3	Turn on load; speed must return to rated speed. Record speed. Turn load off.	4000 ± 3Hz	4000
3.4	Open terminals 7 and 8 for Fast Dynamics. Verify R47 and R49 have an effect on the stability.	OK	OK
3.5	Short terminals 7 and 8 for Slow Dynamics. Verify all dynamics pots have an effect on the stability. Set all dynamics pots to mid position.	OK	OK
3.6	Replace jumper between TB9 and TB10 with a 50kohm resistor (Idle). Readjust the simulator actuator current for 5 milliamps if necessary. Record the speed. Jumper TB9 to TB10.	1044 ± 50Hz	1031

Dual Dynamic EPG (CE Mark)

		SPEC	ACTUAL
3.7	With speed at rated, raise power supply to 32 (16V) ± .2Vdc. Note speed. Lower power supply to 20 (10V) ± .2Vdc. Record difference in speed. Return power supply to 24 (12V) ± 0.2Vdc.	≤ 8Hz	<8
3.8	Open lead to terminal 6; actuator will go to minimum fuel position. Reconnect lead to terminal 6 and start test stand.	OK	OK
3.9	Remove the short from terminals 11 and 12 and apply 3.0 ± 0.05Vdc to terminals 11(+) and 12(-). Record the speed.	4360± 50Hz	4357
3.10	Turn off all power supplies and remove all test equipment. Install jumpers as required by the BOM.		

END-OF-TEST