

Patten



ELMHURST CORPORATE HEADQUARTERS
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630.279.4400
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DYNAMOMETER TEST SHEET

JOB # 50652
DATE 5/24/13
SERIAL # 2Wm01154
TEST# 17

CUSTOMER IMACS MODEL C-27 ARRANGEMENT # 3220314 END 2
SERVICE METER: BEGIN 2 END 2

SPECIFICATIONS

HIGH IDLE RPM (1) 2310 OIL TEMP @ FULL LOAD (4) _____
LOW IDLE RPM (1) 700 OIL PSI @ LOW IDLE (4) _____
FULL LOAD RPM (1) 1400 TORQUE VALUE @ STAB. RPM (2) _____
STABILIZATION RPM (1) _____ TORQUE VALUE @ T/C RPM (2) _____
SET POINT/BALANCE RPM (1) 1800 FUEL PSI @ FULL LOAD (3) _____
TORQUE CHECK RPM (1) 1400 OIL PSI @ FULL LOAD (4) _____
LIMITED SPEED RPM _____ BHP SPREAD _____

A/C WATER TEMP. (9) _____
EXHAUST STACK TEMP. (10) _____
FUEL RATE (11) _____
FUEL SETTING _____
AIR/FUEL RATIO SETTING _____
RPM SPREAD _____

FUEL API _____ CORRECTED _____
AIR TEMP. _____ CORRECTED _____
BAROMETER _____ CORRECTED _____
TOTAL _____

TESTED BY: EP 2800
INSPECTED BY: BOB

*ENGINE RUN IN SCHEDULE

NOTES

WARM-UP STAGE	(1)	(2)	(3)	(4)	(5)	(6)	(7)	OIL		AIR TO TURBO		MANIFOLD PRESS		JACKET WATER TEMP	
								ENG RPM	OBS BHP OR TORQUE	FUEL PSI	PSI	TEMP	TEMP	L	R
LOW IDLE (10 MIN)	700			71											
PART LOAD (15 MIN) 1/2 HP 3/4 RPM	1000	276 hp		71											
FULL LOAD (30 MIN)	2000	650		78					102					-181	

FINAL PERFORMANCE CHECK

SET POINT/STABILIZATION RPM*	1000	678		71					74						
FULL LOAD RPM	2000	650		78					102						
TORQUE CHECK RPM	1400	628													
HIGH IDLE	2310			78											
LOW IDLE	700			71											

*OVER

ENGINE INSPECTION: CHECK (✓) IF OK:

OIL LEAKS GENERATOR GOVERNOR VALVES SET
 FUEL LEAKS WATER LEAKS STARTER PINION & CLUTCH LIMITED SPEED RPM
 REGULATOR GAS ENG: START & RUN A/F RATIO/RACK

This is a
ruff est. ~~2310~~
2310
↓
950



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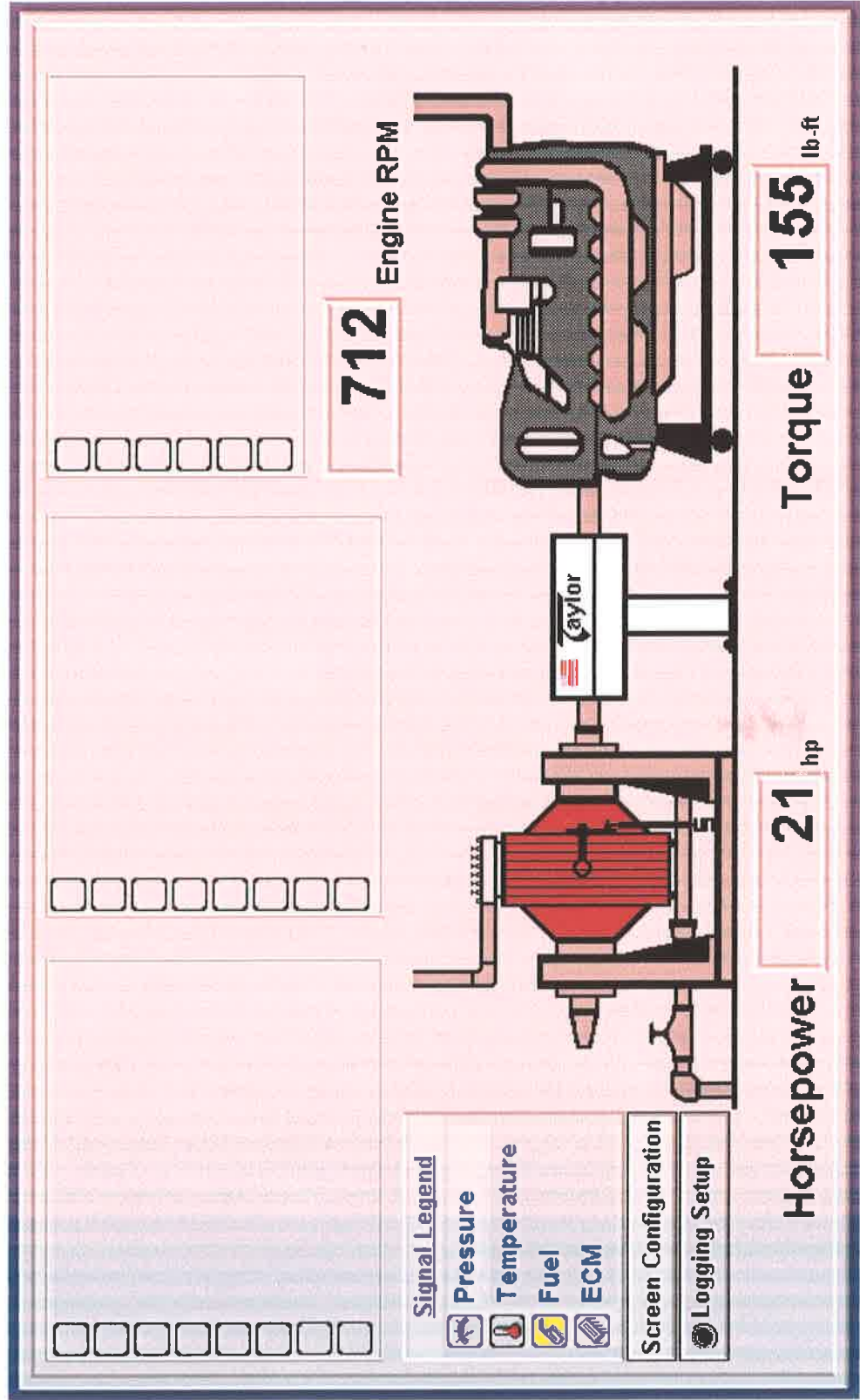
Inv. customer for IMACS 060cc
twm01154 test #17
c-27 05-23-13 3220314

The screenshot displays a software interface for a dynamometer. At the top, there are three large data fields: "700 Engine RPM", "1 hp", and "11 lb-ft Torque". Below these fields is a central illustration of a red dynamometer unit connected to a blue engine. The dynamometer has a white label with the "Taylor" logo. To the left of the illustration are three rows of small, empty square boxes. At the bottom of the interface, there is a "Signal Legend" section with icons for Pressure, Temperature, Fuel, and ECM. Below that are two menu sections: "Screen Configuration" and "Logging Setup", each with a radio button. The "Logging Setup" option is currently selected.



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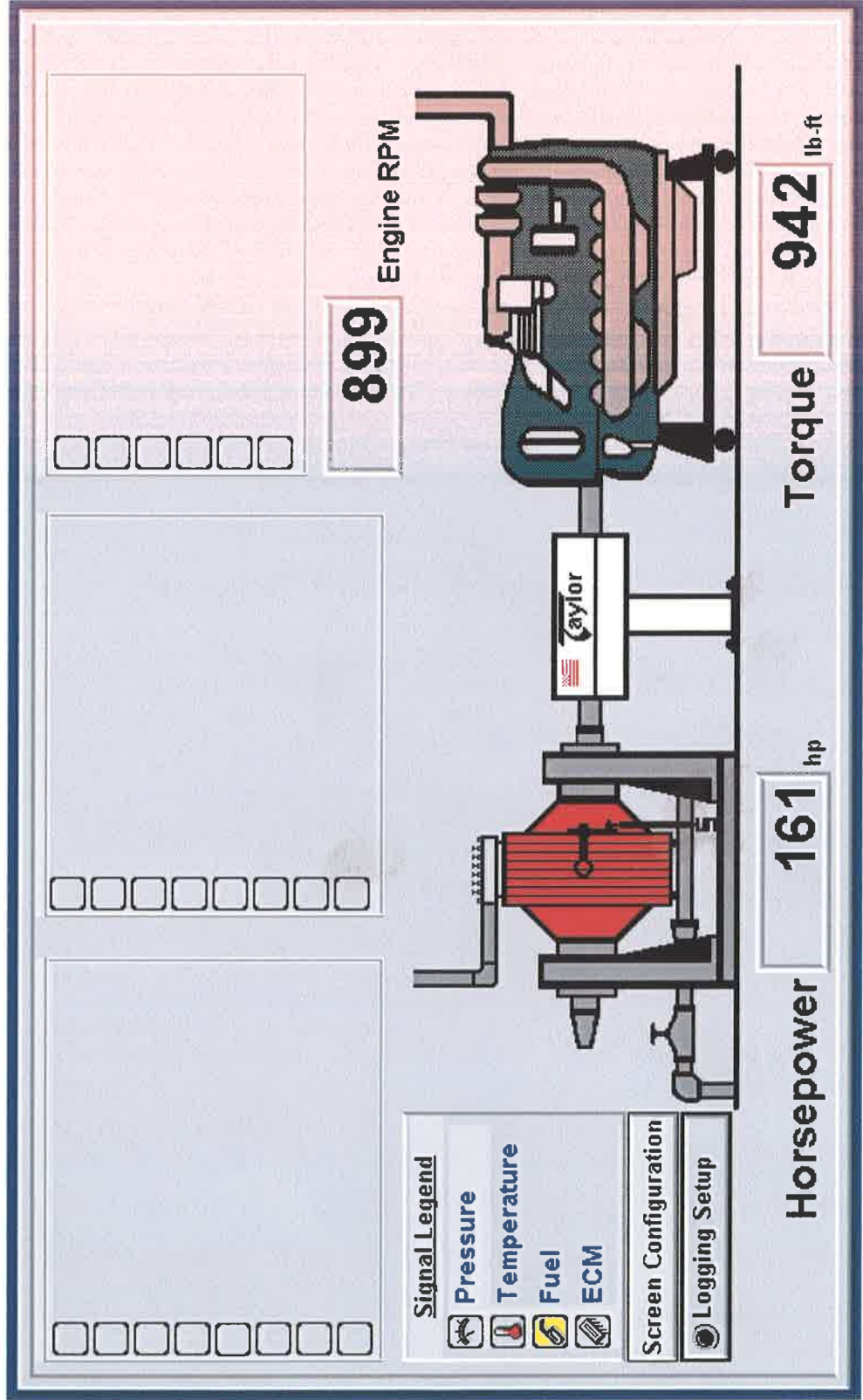
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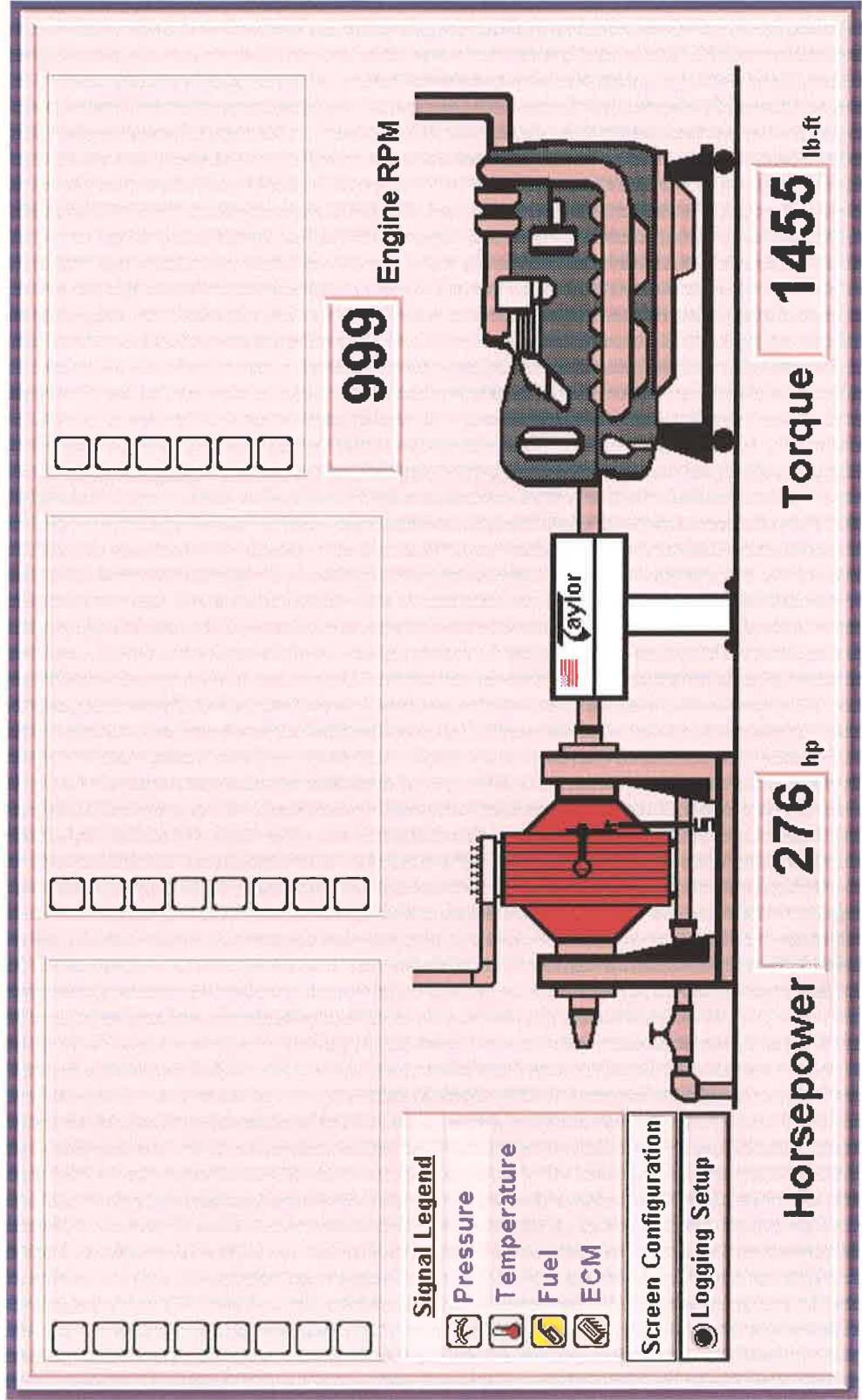
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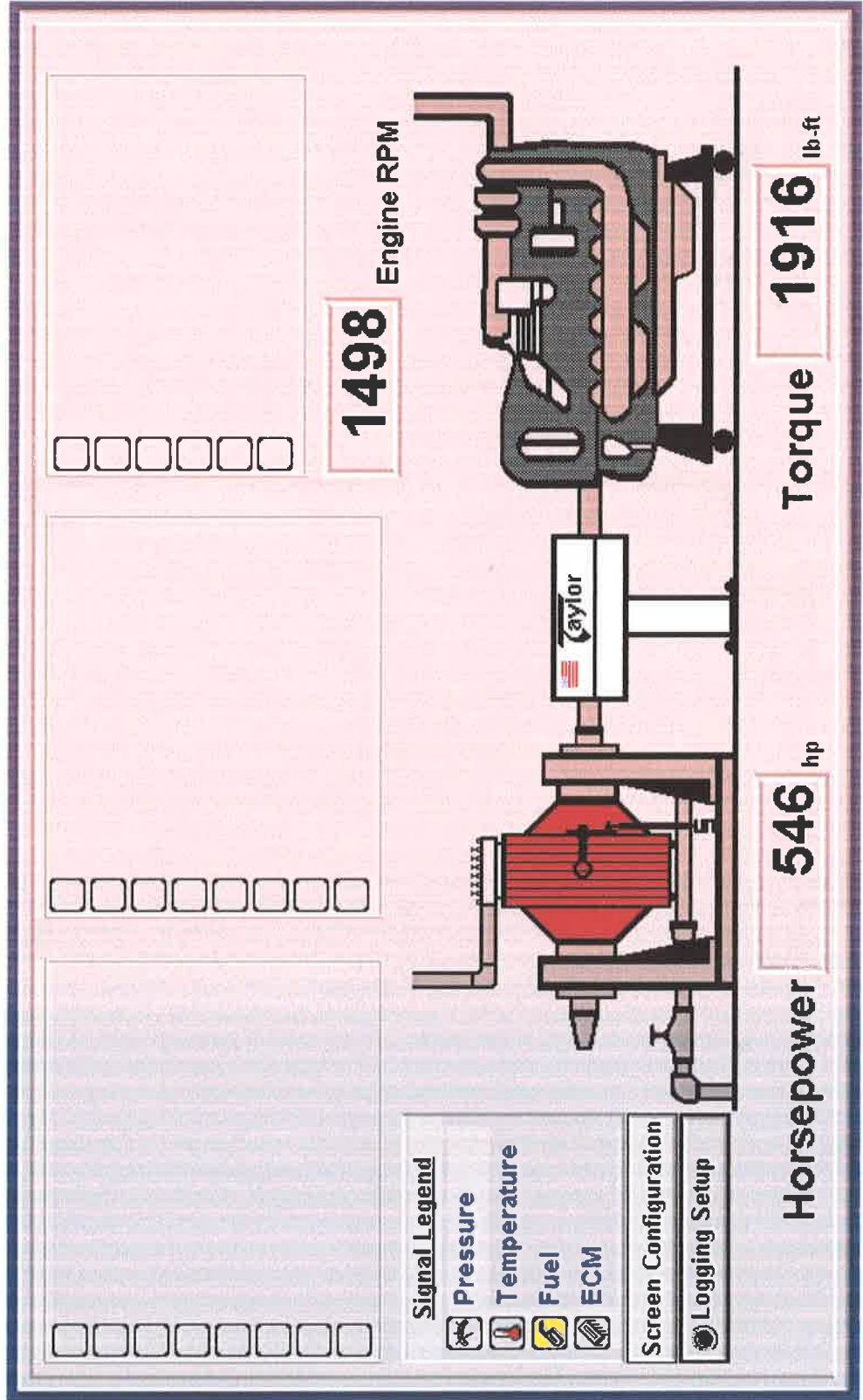
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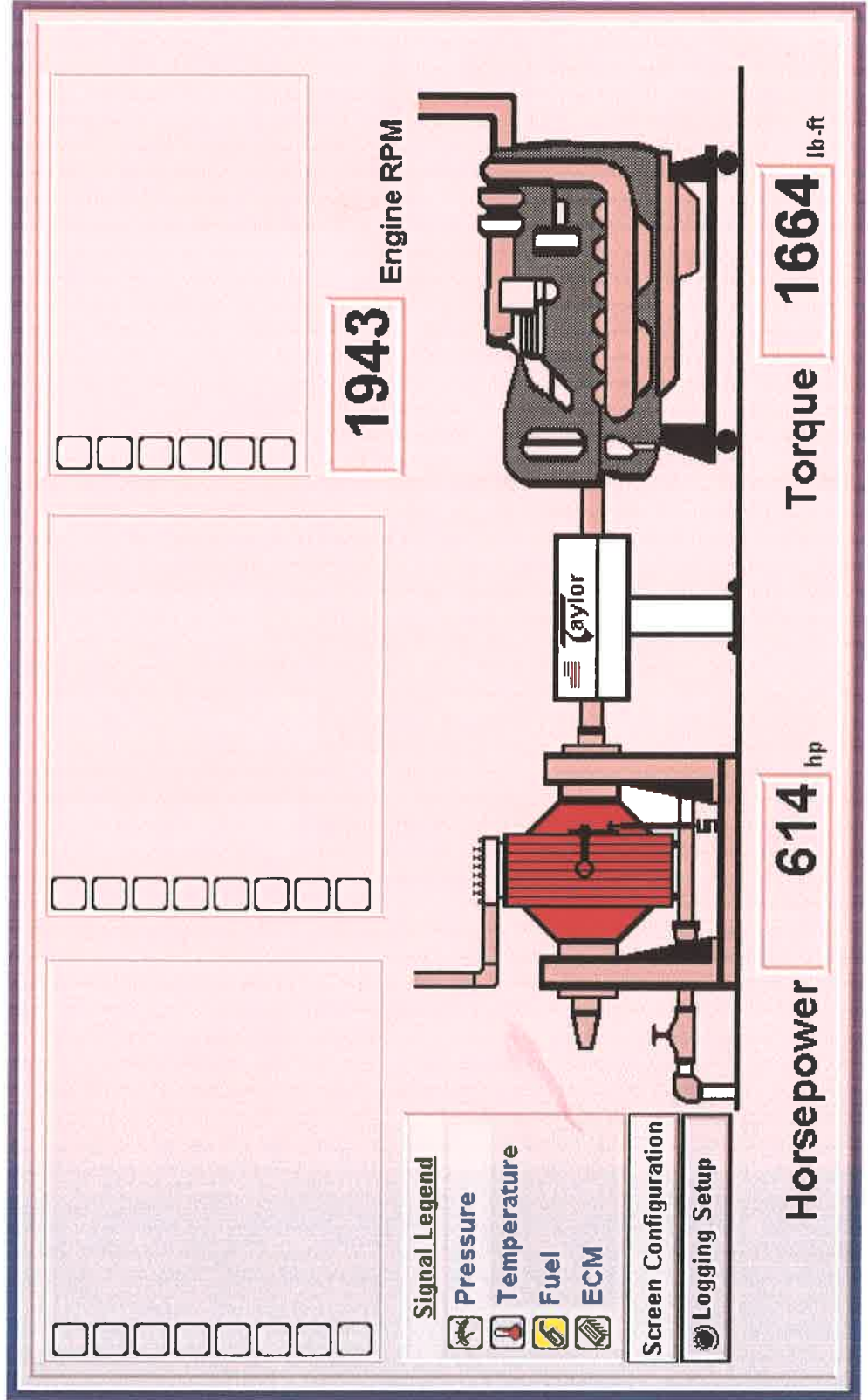
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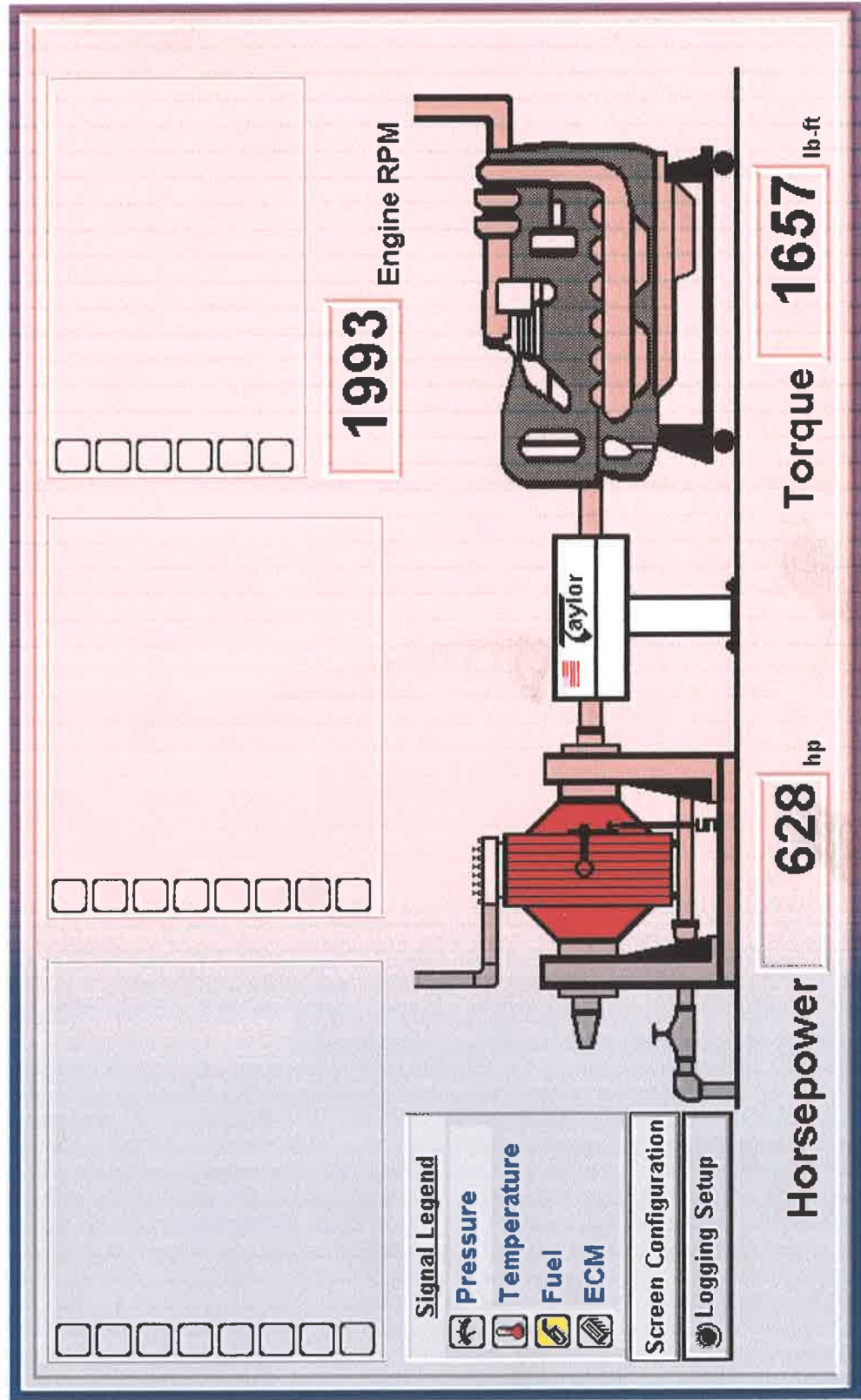
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Cat Electronic Technician 2013A v1.0 ECM Summary

5/23/2013 1:28 PM

Description	Value
C27 IND (TWM01154)	
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Cat Electronic Technician 2013A v1.0 Logged Event Code

5/23/2013 1:29 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Code	Description	Occur	First	Last
C27 IND (TWM01154) - Diagnostic Clock = 782 hours				
E096 (1)	High Fuel Pressure	1	782	782

Cat Electronic Technician 2013A v1.0

Status

5/24/2013 10:42 AM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	700	rpm	700	700	C27 IND (TWM01154)
Engine Speed	702	rpm	698	702	C27 IND (TWM01154)
Engine Load Factor	0	%	0	0	C27 IND (TWM01154)
Engine Oil Pressure	71	psi	71	71	C27 IND (TWM01154)
Engine Coolant Temperature	84	Deg F	84	84	C27 IND (TWM01154)
Fuel Pressure	114	psi	114	114	C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	69	Deg F	69	69	C27 IND (TWM01154)
Diagnostic Clock	782	hours	782	782	C27 IND (TWM01154)
Fuel Temperature	82	Deg F	82	82	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	85	psi	85	85	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0 Status

5/24/2013 10:54 AM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	750	rpm	750	750	C27 IND (TWM01154)
Engine Speed	761	rpm	733	764	C27 IND (TWM01154)
Engine Load Factor	0	%	0	0	C27 IND (TWM01154)
Engine Oil Pressure	68	psi	68	70	C27 IND (TWM01154)
Engine Coolant Temperature	126	Deg F	117	126	C27 IND (TWM01154)
Fuel Pressure	115	psi	115	116	C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	67	Deg F	67	67	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	97	Deg F	93	97	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	83	psi	83	84	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0

Status

5/24/2012 10:55 AM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	900	rpm	900	900	C27 IND (TWM01154)
Engine Speed	891	rpm	878	916	C27 IND (TWM01154)
Engine Load Factor	0	%	0	0	C27 IND (TWM01154)
Engine Oil Pressure	71	psi	71	71	C27 IND (TWM01154)
Engine Coolant Temperature	133	Deg F	133	133	C27 IND (TWM01154)
Fuel Pressure	121	psi	121	121	C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	68	Deg F	68	68	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	99	Deg F	99	99	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	85	psi	85	86	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0 Dyno Mode Test

5/24/2013 12:16 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit
Engine Speed	1001	rpm
Desired Engine Speed	1000	rpm
Boost Pressure	0	psi
Atmospheric Pressure	14.6	psi
Engine Coolant Temperature	176	Deg F
Engine Oil Pressure	66	psi
Active Diagnostic Codes Present	No	

Description	Value	Unit	Mode
Desired Engine RPM	1000.0	rpm	Override
Engine Rating Map Override	---		Normal

Cat Electronic Technician 2013A v1.0 Status

5/24/2013 12:10 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	1000	rpm	1000	1000	C27 IND (TWM01154)
Engine Speed	1000	rpm	998	1001	C27 IND (TWM01154)
Engine Load Factor	81	%	80	81	C27 IND (TWM01154)
Engine Oil Pressure	65	psi	65	65	C27 IND (TWM01154)
Engine Coolant Temperature	181	Deg F	180	181	C27 IND (TWM01154)
Fuel Pressure	123	psi	123	123	C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	74	Deg F	74	74	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	93	Deg F	93	93	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	80	psi	80	80	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0 Dyno Mode Test

5/24/2013 12:21 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit
Engine Speed	1505	rpm
Desired Engine Speed	1500	rpm
Boost Pressure	4	psi
Atmospheric Pressure	14.6	psi
Engine Coolant Temperature	180	Deg F
Engine Oil Pressure	72	psi
Active Diagnostic Codes Present	No	

Description	Value	Unit	Mode
Desired Engine RPM	1500.0	rpm	Override
Engine Rating Map Override	---		Normal

Cat Electronic Technician 2015A V1.0

Status

5/24/2015 12:22 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	1500	rpm	1500	1500	C27 IND (TWM01154)
Engine Speed	1499	rpm	1495	1506	C27 IND (TWM01154)
Engine Load Factor	93	%	91	94	C27 IND (TWM01154)
Engine Oil Pressure	71	psi	71	72	C27 IND (TWM01154)
Engine Coolant Temperature	181	Deg F	180	187	C27 IND (TWM01154)
Fuel Pressure	133	psi	133	133	C27 IND (TWM01154)
Boost Pressure	4	psi	3	4	C27 IND (TWM01154)
Inlet Air Temperature	81	Deg F	79	81	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	89	Deg F	89	89	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	86	psi	86	87	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0

Status

5/24/2013 12:27 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	2000	rpm	2000	2000	C27 IND (TWM01154)
Engine Speed	1812	rpm	1808	1827	C27 IND (TWM01154)
Engine Load Factor	100	%	100	100	C27 IND (TWM01154)
Engine Oil Pressure	73	psi	73	73	C27 IND (TWM01154)
Engine Coolant Temperature	199	Deg F	198	199	C27 IND (TWM01154)
Fuel Pressure	Abnormal/Incorrect Data	psi			C27 IND (TWM01154)
Boost Pressure	6	psi	5	6	C27 IND (TWM01154)
Inlet Air Temperature	88	Deg F	88	88	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	93	Deg F	93	93	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	88	psi	88	88	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0 Status

5/24/2013 12:47 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	1900	rpm	1900	1900	C27 IND (TWM01154)
Engine Speed	1904	rpm	1897	1904	C27 IND (TWM01154)
Engine Load Factor	2	%	2	6	C27 IND (TWM01154)
Engine Oil Pressure	77	psi	77	77	C27 IND (TWM01154)
Engine Coolant Temperature	185	Deg F	185	192	C27 IND (TWM01154)
Fuel Pressure	Abnormal/Incorrect Data	psi			C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	85	Deg F	85	85	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	109	Deg F	107	109	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	92	psi	92	92	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0
Status

5/24/2013 12:48 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	2000	rpm	2000	2000	C27 IND (TWM01154)
Engine Speed	2002	rpm	2001	2004	C27 IND (TWM01154)
Engine Load Factor	4	%	3	5	C27 IND (TWM01154)
Engine Oil Pressure	79	psi	79	80	C27 IND (TWM01154)
Engine Coolant Temperature	178	Deg F	178	180	C27 IND (TWM01154)
Fuel Pressure	Abnormal/Incorrect Data	psi			C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	85	Deg F	85	85	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	109	Deg F	109	110	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	94	psi	94	94	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0 Status

5/24/2013 12:48 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	2000	rpm	2000	2000	C27 IND (TWM01154)
Engine Speed	2002	rpm	2001	2004	C27 IND (TWM01154)
Engine Load Factor	4	%	3	5	C27 IND (TWM01154)
Engine Oil Pressure	79	psi	79	80	C27 IND (TWM01154)
Engine Coolant Temperature	178	Deg F	178	180	C27 IND (TWM01154)
Fuel Pressure	Abnormal/Incorrect Data	psi			C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	85	Deg F	85	85	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	109	Deg F	109	110	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	94	psi	94	94	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0

5/24/2012 12:51 PM

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	2100	rpm	2100	2100	C27 IND (TWM01154)
Engine Speed	2105	rpm	2091	2105	C27 IND (TWM01154)
Engine Load Factor	99	%	97	100	C27 IND (TWM01154)
Engine Oil Pressure	78	psi	78	78	C27 IND (TWM01154)
Engine Coolant Temperature	187	Deg F	185	187	C27 IND (TWM01154)
Fuel Pressure	Abnormal/Incorrect Data	psi			C27 IND (TWM01154)
Boost Pressure	4	psi	4	5	C27 IND (TWM01154)
Inlet Air Temperature	102	Deg F	101	102	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	96	Deg F	96	96	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	92	psi	92	93	C27 IND (TWM01154)

Cat Electronic Technician 2013A v1.0**Status****5/24/2013 12:59 PM**

Cool Down

C27 IND (TWM01154)

Parameter	Value
Equipment ID	W2200.11.09
Engine Serial Number	TWM01154
ECM Serial Number	31786211JW
Personality Module Part Number	3537971-00
Software Group Release Date	SEP2009

Description	Value	Unit	Minimum	Maximum	ECM
Desired Engine Speed	700	rpm	700	700	C27 IND (TWM01154)
Engine Speed	684	rpm	681	719	C27 IND (TWM01154)
Engine Load Factor	0	%	0	11	C27 IND (TWM01154)
Engine Oil Pressure	35	psi	31	35	C27 IND (TWM01154)
Engine Coolant Temperature	181	Deg F	180	196	C27 IND (TWM01154)
Fuel Pressure	109	psi	109	110	C27 IND (TWM01154)
Boost Pressure	0	psi	0	0	C27 IND (TWM01154)
Inlet Air Temperature	98	Deg F	98	114	C27 IND (TWM01154)
Diagnostic Clock	783	hours	783	783	C27 IND (TWM01154)
Fuel Temperature	102	Deg F	96	102	C27 IND (TWM01154)
Engine Oil Pressure (absolute)	50	psi	46	50	C27 IND (TWM01154)