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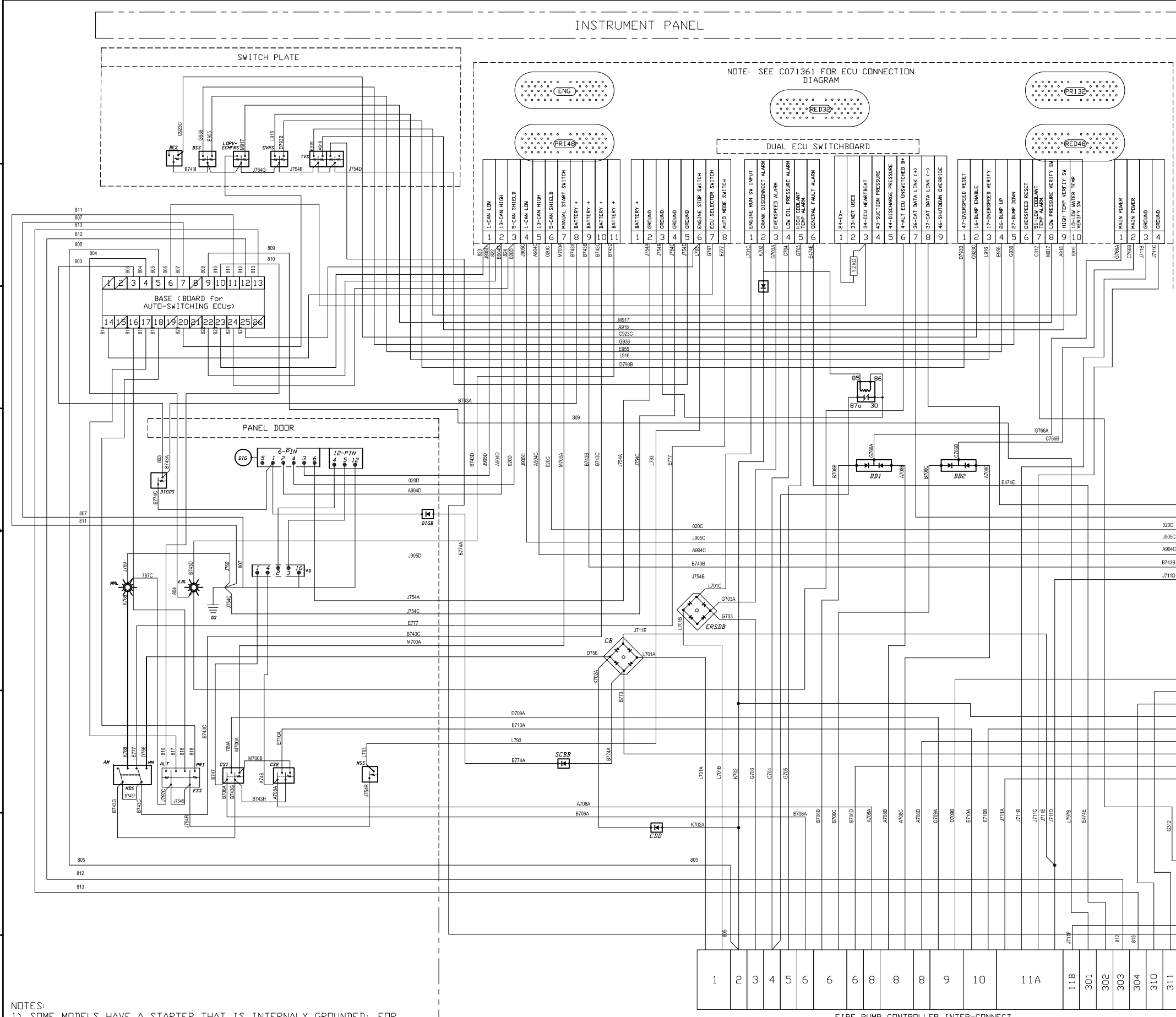
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INSTRUMENT PANEL

NOTE: SEE C071361 FOR ECU CONNECTION DIAGRAM

DUAL ECU SWITCHBOARD



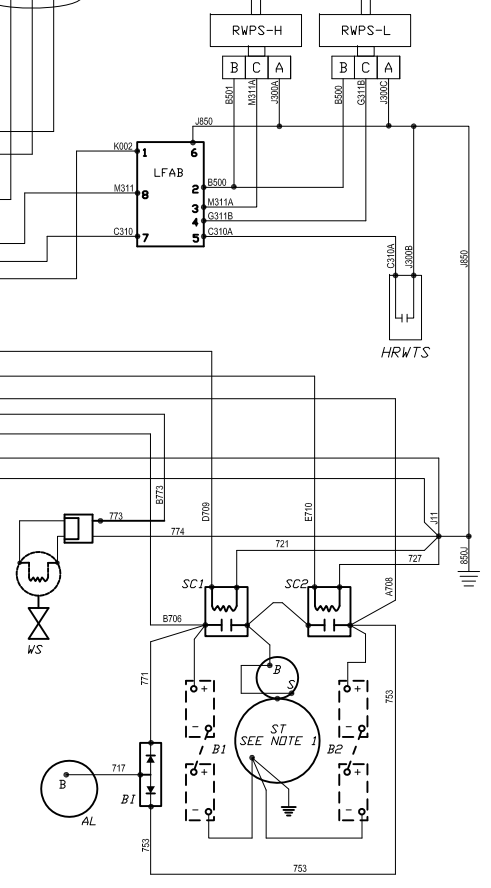
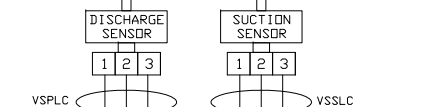
REV	DESCRIPTION	ECN#	DWN	APVD	DATE
--	ADDED CONTROLLED DRAWING NOTE	6309	MAL	MJD	24MAY21
B	CORRECTED TERMINATION OF OVERSPEED RESET WIRE, ADDED C13 ENGINES TO DESCRIPTION	6640	MJD	MJD	06JAN23

- AB - ALTERNATOR BRIDGE
- AL - ALTERNATOR
- AM - AUTOMATIC MODE POSITION
- B1 - BATTERY #1
- B2 - BATTERY #2
- BB1 - BATTERY BRIDGE #1
- BB2 - BATTERY BRIDGE #2
- BES - BUMP ENABLE SWITCH
- BSS - SPEED BUMP SWITCH
- BI - BATTERY ISOLATOR
- CS1 - CRANK (MANUAL) SWITCH - BATT#1
- CS2 - CRANK (MANUAL) SWITCH - BATT#2
- CB - COOLANT BRIDGE
- CDD - CRANK DISCONNECT DIODE
- DIA - DIAGNOSTIC GAUGE
- DIGB - DIAGNOSTIC GAUGE DIODE BRIDGE
- DIGDS - DIAGNOSTIC GAUGE DISPLAY SWITCH
- EBL - ALTERNATE ECU INDICATING LAMP
- ERSDB - ENGINE RUN SIGNAL DIODE BRIDGE
- ESS - ECU SELECTOR SWITCH
- GS - GROUND STUD
- HRWTS - HIGH RAW WATER TEMPERATURE SENSOR
- LFAB - LOW FLOW/TEMP ALARM BOARD
- LOPVS - LOW OIL PRESSURE VERIFY SWITCH
- MDS - MODE SELECTOR SWITCH
- MM - MANUAL MODE POSITION
- MML - MANUAL MODE INDICATING LAMP
- MP - MAGNETIC PICK-UP
- MSS - MANUAL STOP SWITCH
- OCB - OVER-CURRENT BREAKER
- DVRS - OVERSPEED VERIFY @ 67% / RESET SWITCH
- RWPS-H - RAW WATER PRESSURE SENSOR HIGH
- RWPS-L - RAW WATER PRESSURE SENSOR LOW
- SC1 - STARTER CONTACTOR BATT#1
- SC2 - STARTER CONTACTOR BATT#2
- SCB - SOLENOID CONTROL BOARD
- SCBB - SOLENOID CONTROL BOARD DIODE
- ST - STARTER
- THR - SCB THERMISTOR (COMPRESSOR INLET)
- TVS - TEMPERATURE ALARM VERIFY SWITCH
- VBS - BATTERY VOLTAGE SELECTOR
- VD - VOLTAGE DIVIDER
- VMG - VOLTMETER GAUGE
- WS - WATER TEMPERATURE VALVE
- WT - WATER TEMPERATURE N.O. SW 205°F

COLOR CODE

- A - WHITE
- B - RED
- C - ORANGE
- D - YELLOW
- E - GREEN
- F - GREEN
- G - BLUE
- G - BLUE
- I - PINK
- J - BLACK
- K - BROWN
- L - GRAY
- M - PURPLE

LEGEND



CONTROLLED DRAWING

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NOTES:
 1) SOME MODELS HAVE A STARTER THAT IS INTERNALLY GROUNDED; FOR THOSE THE BATTERY NEGATIVE CABLE (GRD) SHOULD BE ATTACHED TO THE ENGINE BLOCK (ALL PAINT SHOULD BE REMOVED TO BARE METAL)

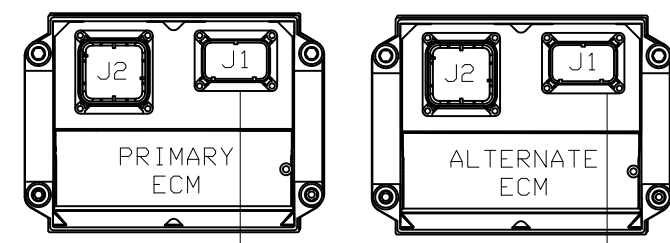
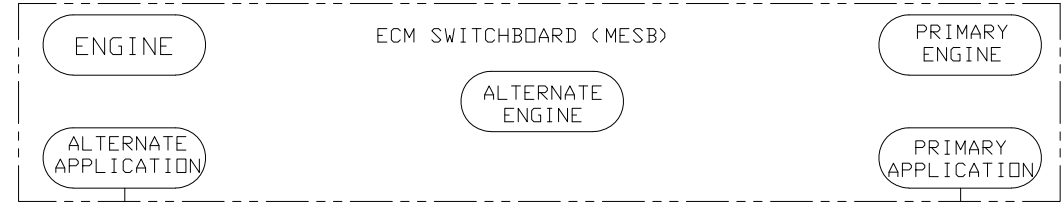
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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	DATE	DRAWN	NAME
DECIMAL: .125 IN	05APR18	MJDEMBKOWSKI	MJDEMBKOWSKI
FRACTIONAL: #1/32			
ANGULAR: ±.5°			
SIMILAR TO	USED ON / LAYOUT PART NO.	SCALE	UNITS
		NTS	MM [INCH]
		PAGE	OF
		1	1

CLARKE

WIRING DIAGRAM, C18 & C13 ENGINES

C072753

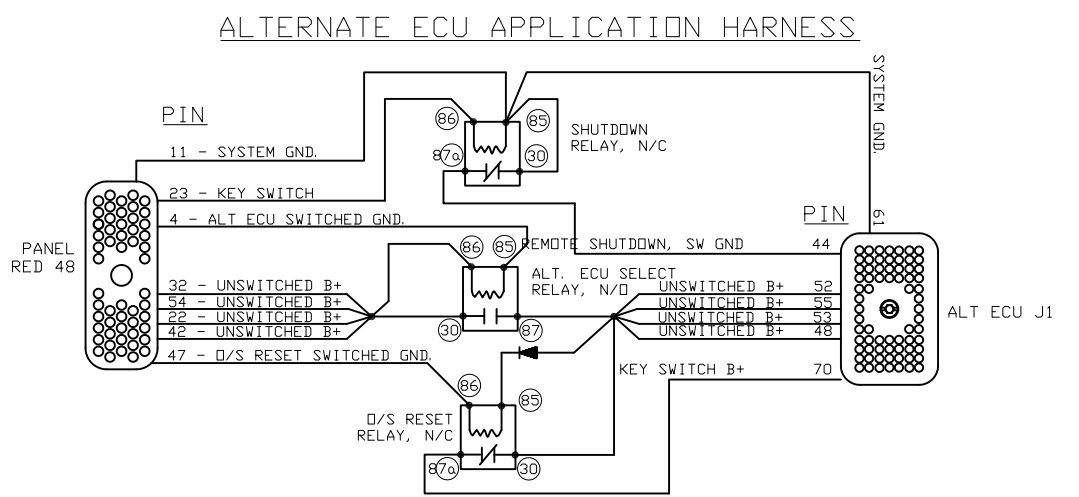
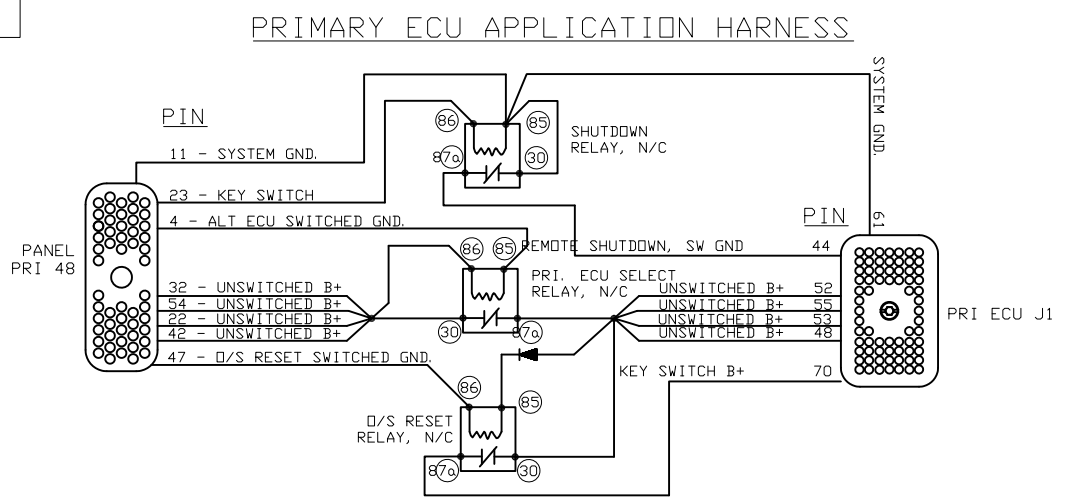
REV B



REV	DESCRIPTION	ECN#	DWN	APVD	DATE
A	ISSUED ENGINEERING DRAWING	5098	MJD	MJD	05APR18
B	ADDED DIODE TO APPLICATION HARNESSES	6050	MJD	MJD	17FEB20
C	ADDED HIGH COOLANT TEMP ALARM TO APPLICATION PIN CHART, C13 ENGINES TO DESCRIPTION	6179	MDM	CJR	06JAN23

MESB APPLICATION CONNECTORS TO PRIMARY & ALTERNATE ECU J1

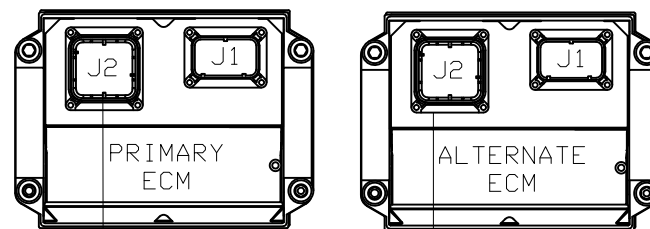
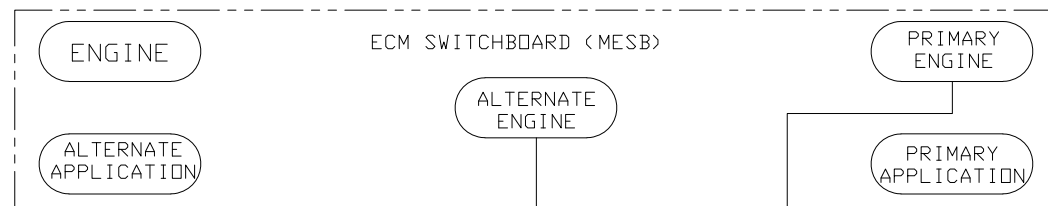
SWITCHBOARD CONNECTION (MESB BOTTOM LEFT AND BOTTOM RIGHT)	DESCRIPTION	CAT ECM CONNECTION - J1 (PRIMARY & ALTERNATE)
1	SAE J1939 Low	34
5	CAN Shield	42
8	High Coolant Temperature Alarm	19
10	Low Coolant Temperature Test Switch Input	18
13	SAE J1939 High	50
16	Bump Enable	56
17	Switch In 3 - Overspeed Verify Enable Input	54
18	Source Drv 3 - Low Oil Pressure Alarm	11
20	Switch In 2 - Full Throttle - Grounded	69
26	Bump Up	58
27	Bump Down	60
28	Source Drv 2 - Overspeed Alarm	20
31	System Ground	63
34	ECM Heartbeat	21
36	CAT Data Link +	8
37	CAT Data Link +	9
38	1000 rpm (Source Driver 1)	13
46	Intermediate speed	45
50	Warning Lamp	10
51	Low Coolant Temperature Alarm	12
53	System Ground	65



NOTE: SEE PAGE 2 FOR ECU J2 CONNECTIONS

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MACHINE TOLERANCES DECIMAL .001" .001" .001" % ±1.5 ±0.8 ±0.08 .XX ±0.3 ±0.03 .XXX ±0.025 ±0.01 .XXXX ±0.01 ±0.001 ANGULAR: ±0.5°		DRWN MJDEMBKOWSKI DATE 29MAR18 ENGR MJDEMBKOWSKI	NAME WIRING DIAGRAM, C18 & C13 ECU PART NO. C072736 REV C	
FABRICATION TOLERANCES DECIMAL .03 .03 .03 % ±1.5 ±0.12 ±0.06 .XX ±1.5 ±0.12 ±0.06 .XXX ±1.5 ±0.12 ±0.06 ANGULAR: ±1.0°		MATERIAL SIMILAR TO C071361	USED ON/LAYOUT PART NO. C18 & C13 UNITS MM [INCH]	PAGE 1 OF 2



MESB ENGINE CONNECTORS TO 31 PIN ADAPTER TO PRIMARY & ALTERNATE ECU J2

DESCRIPTION	31 PIN DEUTSCH INTERCONNECT	SWITCHBOARD CONNECTION (MESB MIDDLE AND TOP LEFT)	CAT C18 ECM CONNECTION - J2 PRIMARY & ALTERNATE	CAT WIRE COLOR	CAT WIRE NUMBER	CAT AWG
Crank Speed	8	3	35	WHITE	E964	18
Coolant Temperature	1	4	13	BLUE	995	18
Fuel Temperature	15	5	62	YELLOW	F421	18
Injector Low 5 (cyl 4)	22	7	108	BLUE	T960	16
Injector Low 4 (cyl 2)	25	8	118	YELLOW	T958	16
Injector Low 2 (cyl 3)	20	9	106	BROWN	T959	16
Injector Low 1 (cyl 5)	21	10	107	GREEN	T961	16
Sensor Return 2	3	13	17	GREEN	G829	18
Cam Speed	11	14	46	YELLOW	E966	18
Intake Manifold Temperature	13	15	56	BLUE	C967	18
Oil Pressure	6	17	28	GRAY	994	18
Injector Low 3 (cyl 6)	19	18	105	WHITE	T962	16
Inject High 3,4	23	21	115	WHITE	T859	16
DeltaTemp Return	7	27	30	PINK	G833	18
TDC Service Probe (-)	9	28	36	YELLOW	G857	18
Injector Low 0 (cyl 1)	24	31	116	PURPLE	T957	16
Excitation Voltage 2	16	33	72	WHITE	G828	18
Crank Speed Return	4	35	25	BLACK	E963	18
Manifold Air Pressure	2	37	15	PINK	R746	18
Fuel Pressure	10	38	40	PINK	C991	18
Cam Speed Return	12	43	47	BLUE	E965	18
TDC Service Probe (+)	5	50	26	WHITE	G856	18
Atmospheric Pressure Sensor	14	52	57	GRAY	R747	18
Inject High 5, 6	17	53	99	ORANGE	T860	16
Inject High 1, 2	18	54	104	GRAY	T858	16

NOTE: SEE PAGE 1 FOR ECU J1 CONNECTIONS

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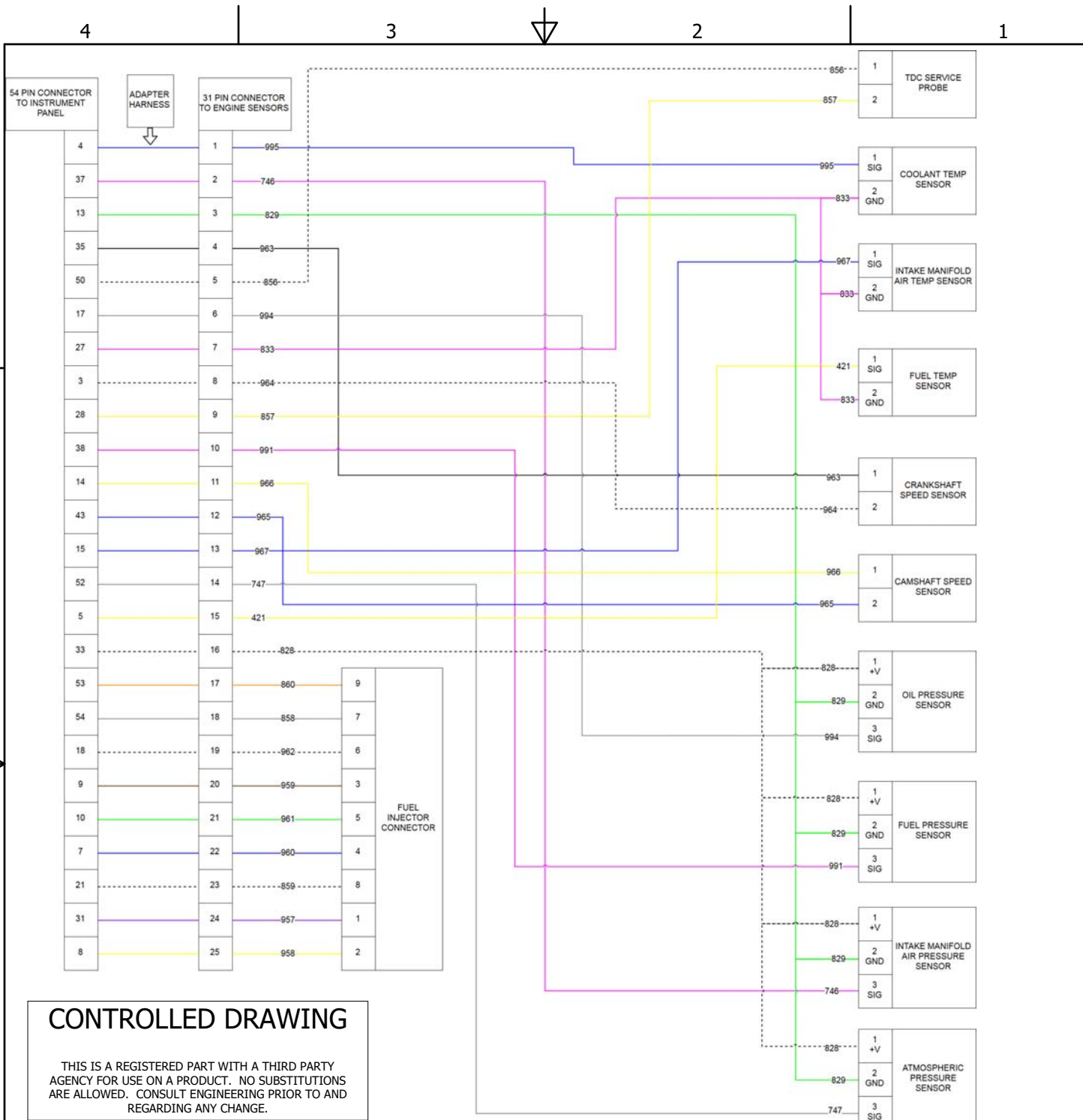
YES NO
CONTROLLED DRAWING

DRWN MJDEMBKOWSKI NAME
DATE 29MAR18
ENGR MJDEMBKOWSKI

CLARKE
WIRING DIAGRAM,
C18 & C13 ECU

MATERIAL PART NO. C072736 REV C

SIMILAR TO C071361 USED ON/LAYOUT PART NO. C18 & C13 UNITS MM [INCH] PAGE 2 OF 2



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REV	DESCRIPTION	ECN#	DWN	APVD	DATE
-	ADDED C13 ENGINES TO DESCRIPTION	6179	MDM	<i>CLR</i>	06JAN23

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	DECIMAL	mm	inch															
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DRWN MJDEMBKOWSKI DATE 4/5/2018 ENGR MJDEMBKOWSKI	<h2>WIRING DIAGRAM, ENGINE SENSORS, C18 & C13</h2>		PART NO. C072754 REV A															
MATL ASSM C18 & C13 SIMILAR TO ORIGINAL PART	SCALE NTS	UNITS MM [INCH]		PAGE 1 OF 1														

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