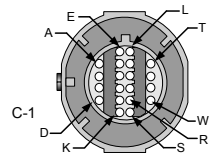


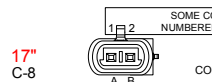
TCM-2800
C-1

- 1 0 BRN/LT.BLU CLASS 2 SER DATA
- 2 0 GRY/BLK DIG IN 1
- 3 0 GRY/RED DIG IN 2
- 4 0 GRY/LT.GRN DIG IN 3
- 5 0 GRY/LT.BLU DIG IN 4
- 6 0 GRY/WHT DIG IN 5
- 7 0 GRY/ORN DIG IN 6
- 8 0 GRY/YEL DIG IN 7
- 9 0 BLK/WHT GND 1
- 10 0 GRY/PNK DIG IN 8
- 11 0 VIO/BLK PWM1
- 12 0 VIO/RED PWM2
- 13 0 VIO/LT.GRN PWM3
- 14 0 VIO/LT.BLU PWM4
- 15 0 WHT/RED CAN1 HI
- 16 0 WHT/BLK CAN1 LOW
- 17 0 ORN/WHT SPEEDO OUT
- 18 0 YEL (OUT) SW +12V OUT
- 19 0 YEL (IN) SW +12V
- 20 0 RED +12V BATT
- 21 0 RED/WHT +5V REF
- 22 0 BLK/WHT SIG GND
- 23 0 BLK/WHT SIG GND
- 24 0 ORN/BLK SPEED 3
- 25 0 ORN/RED SPEED 2
- 26 0 BLK COM TX
- 27 0 RED COM RX
- 28 0 WHT COM GND
- 29 0 BRN/BLK DIG IN 9
- 30 0 BRN/RED DIG IN 10
- 31 0 BRN/LT.GRN DIG IN 11
- 32 0 BRN/LT.BLU DIG IN 12
- 33 0 BRN/WHT DIG IN 13
- 34 0 BRN/ORN DIG IN 14
- 35 0 BRN/YEL DIG IN 15
- 36 0 BRN/PNK DIG IN 16
- 37 0 BLK/WHT SIG GND
- 38 0 ORN/LT.GRN SPEED IN 1
- 39 0 ORN/LT.BLU SPEED IN 4
- 40 0 PNK/LT.GRN PWM 9
- 41 0 PNK/LT.BLU DIG OUT 4
- 42 0 BLK GND 2
- 43 0 YELLOW CAN 2 HIGH
- 44 0 GREEN CAN 2 LOW
- 45 0 YEL/BLK ANA IN 1
- 46 0 YEL/RED ANA IN 2
- 47 0 YEL/LT.GRN ANA IN 3
- 48 0 YEL/LT.BLU ANA IN 4
- 49 0 YEL/WHT ANA IN 5
- 50 0 YEL/ORN ANA IN 6
- 51 0 VIO/WHT PWM 5
- 52 0 VIO/ORN PWM 6
- 53 0 PNK/BLK PWM 7
- 54 0 PNK/RED PWM 8
- 55 0 PNK/WHT DIG OUT 5
- 56 0 PNK/ORN DIG OUT 6

- PNK/BLK SHIFT SOL A
- PNK/RED SHIFT SOL B
- 18 AWG YEL LINE PRES (+)
- VIO/BLK LINE PRES (-)
- 18 AWG YEL POWER
- GRY/BLK IMS A
- GRY/RED IMS C
- GRY/LT.GRN IMS B
- GRY/LT.BLU IMS P
- ORN/BLK TURB SPEED +
- YEL/ORN TFT
- BLK/WHT SENSOR GND
- BLK/WHT IMS GND
- VIO/LT.GRN FWD CL
- VIO/LT.BLU REV CL
- VIO/RED TCC ON/OFF
- VIO/RED TCC PWM PRES
- BLK/WHT TURB SPEED -
- ORN/LT.GRN TACH IN
- BLK/WHT SENSOR GND
- ORN/RED TOSS
- BLK/WHT SENSOR GND
- RED SERIAL RX
- WHT RS232 GND
- BLK SERIAL TX
- BRN/BLK SEAT SW
- BRN/RED PARK BRAKE
- RED/WHT +5V SENSOR
- BLK/WHT SENSOR GND
- YEL/BLK TPS SENSOR
- WHT/BLK CAN LOW
- YEL/LT.GRN ENG. TEMP
- YEL/RED COOLANT LEVEL
- YEL/LT.BLU OIL P/PRES
- PNK/LT.BLU ENG. SHUTDOWN
- NC
- NC
- 20 AWG RED +12V BATTERY
- 16 AWG YEL +12 VOLTS IGNITION
- 18 AWG BLK CHASSIS GND
- WHT/RED CAN HIGH
- WHT/BLK CAN LOW
- GRY/WHT BRAKE LIGHT INPUT



TRANSMISSION CONNECTOR FRONT VIEW



RPM CONNECTOR



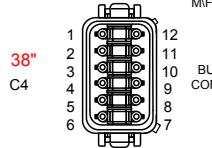
OUTPUT SHAFT SPEED SENSOR FRONT VIEW



OPTIONAL COM NOT REQUIRED FOR USE FRONT VIEW



THROTTLE POSITION SENSOR



BULKHEAD CONNECTOR



CAN TERM PLUG CONNECTOR

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-2000	
16	TERMINAL	CON-2804	20-22 AWG.
2	TERMINAL	CON-2805	16-18 AWG
1	BLOCKING PINS	CON-1044	BLUE
1	SEAL	CON-3309	LT.GREEN
1	CONDUIT CLIP	CON-2008	
1	TPA	CON-2003	GRY

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-1071	F/M
2	PIN	CON-1088	
1	SEAL	CON-1093	GRN
1	LOCK	CON-1072	

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-1070	M/F
2	TERMINALS	CON-1084	20 AWG
2	CABLE SEAL	CON-1093	GRN
1	TPA	CON-1072	GRY

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-1070	M/F
2	TERMINALS	CON-1084	20 AWG
2	CABLE SEAL	CON-1093	GRN
1	TPA	CON-1072	GRY

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-3416	
3	TERMINALS	CON-1038	
1	TPA	CON-3417	CREAM
3	CABLE SEALS	CON-1027	WHT

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-2328	
3	TERMINALS	CON-2329	

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-5542	GRY M/F
5	TERMINAL	CON-5504	
1	WEDGE	CON-5506	GRN

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-5001	F
2	TERMINALS	CON-5201	MALE
1	WEDGE	CON-5003	BLK WEDGE

QTY	DESCRIPTION	P/CN	NOTES
1	CONNECTOR	CON-5056	

PROVIDE A LAPTOP CALIBRATION CONNECTOR PROTECTIVE CAP

QTY	DESCRIPTION	PIN	NOTES
1	CONNECTOR	12129615	
3	CAVITY PLUG	12059168	DK RED
1	SECONDARY LOCK	12052845	
1	PIN BLOCKING PLUG		

Print Date: 9/12/2016 1700

APPLICABLE STANDARDS: ASME Y14.100-200, ASME Y14.5M-1994, IPC/WHMA-A-620A-CLASS 2, MARK IAW MIL-STD-130.

NOTES: 1) WIRE LENGTH TOLERANCE +/- .12 INCH, 2) WIRE GAUGE IS 20 AWG UNLESS OTHERWISE STATED, 3) TAPE ALL LOOM JOINTS UNLESS OTHERWISE STATED, 4) TWIST INDICATED WIRES AT LEAST 10-12 TURNS PER FOOT, 5) PLACE TAGS NO MORE THAN 2" FROM CONNECTOR. PLACE TAGS FOR UNTERMINATED WIRES NO MORE THAN 2" FROM UNTERMINATED END, 6) WIRE TYPE IS TXL UNLESS OTHERWISE STATED.

COMPANY: POWERTRAIN CONTROL SOLUTIONS

TITLE: 4L70E 2010+ TRANSMISSION MOUNTED TO TCU-2801

SIZE: C CUSTOMER DRAWING NO. XXXXX-XXXXX PCS PART NUMBER TCM-4870 REV. 001

DRAWN BY: FRED D. DATE: 8/4/2016 APPROVED BY: XXXXX DATE: SHEET 2 OF 8

S-#	FUNCTION	COLOR
S1	12 VOLTS SWITCHED	YEL
S2	TCC CONTROL	VIO/RED
S3	SIGNAL GND	BLK/WHT
S6	CAN HIGH	WHT/RED
S7	CAN LOW	WHT/BLK

LEVEL	DESCRIPTION	DATE	DRN	APP
1	Release	8/18/16	FD	
1a	Title block Cleanup	9/19/16	FD	
1B	ADDED CHECK TRANS LIGHT	8/26/16	FD	
1C	DRAWING CLEANUP AND REDLINE	9/12/16	FD	

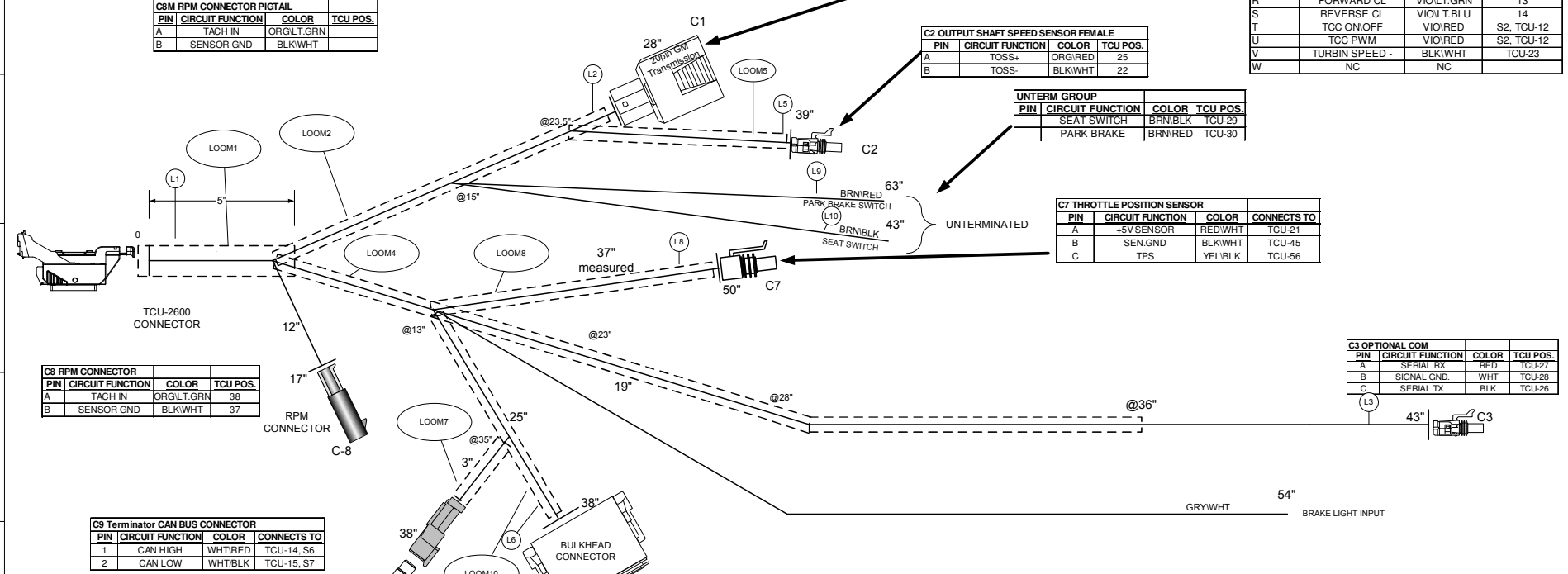
PROVIDE A RPM PIGTAIL CONNECTOR WITH 4" LEADS

QTY	DESCRIPTION	PCS P/N	NOTES
1	CONNECTOR	CON-1070	M/F
2	TERMINALS	CON-1084	20 AWG
2	CABLE SEAL	CON-1093	GRN
1	TPA	CON-1072	GRY

PIN	CIRCUIT FUNCTION	COLOR	TCU POS.
A	TACH IN	ORGLT.GRN	
B	SENSOR GND	BLKWHT	

LOCATION	DISCRPTION	LENGTH	PART#
LOOM1	3/4" BLACK CONVOLUTED LOOM	5"	WRE-3005
LOOM2	1/2" BLACK CONVOLUTED LOOM	23"	WRE-3003
LOOM3	1/4" BLACK CONVOLUTED LOOM	37"	WRE-3000
LOOM4	1/2" BLACK CONVOLUTED LOOM	37"	WRE-3003
LOOM5	3/8" BLACK CONVOLUTED LOOM	15.5"	WRE-3001
LOOM6	NO LONGER USED		
LOOM7	1/4" BLACK CONVOLUTED LOOM	3"	WRE-3000
LOOM8	1/4" BLACK CONVOLUTED LOOM	79"	WRE-3000
LOOM9	1/4" BLACK CONVOLUTED LOOM	4"	WRE-3000
LOOM10	3/8" BLACK CONVOLUTED LOOM	24"	WRE-3001

PIN	CIRCUIT FUNCTION	COLOR	CONNECTS TO
A	SHIFT SOL A (1-2)	PNK/BLK	TCU-53
B	SHIFT SOL B (2-3)	PNK/RED	TCU-54
C	LINE PRESSURE +	YEL (18 AWG)	TCU-18
D	LINE PRESSURE -	VIO/BLK	TCU-11
E	TCC 1-2, 2-3, 3-2 +	YEL (18 AWG)	TCU-19, S1
F	IMS A	GRY/BLK	TCU-2
G	IMS C	GRY/RED	TCU-3
H	IMS B	GRY/GRN	TCU-4
J	IMS P	GRY/LT.BLU	TCU-6
K	TURBINE SPEED +	ORG/BLK	TCU-24
L	ATF TEMP +	YEL/ORG	TCU-50
M	ATF TEMP -	BLK/WHT	TCU-9
N	IMS GND	BLK/WHT	TCU-37, S3
P	NC	NC	NC
R	FORWARD CL	VIO/LT.GRN	13
S	REVERSE CL	VIO/LT.BLU	14
T	TCC ON/OFF	VIO/RED	S2, TCU-12
U	TCC PWM	VIO/RED	S2, TCU-12
V	TURBIN SPEED -	BLK/WHT	TCU-23
W	NC	NC	NC



PIN	CIRCUIT FUNCTION	COLOR	TCU POS.
A	TOSS+	ORG/RED	25
B	TOSS-	BLK/WHT	22

PIN	CIRCUIT FUNCTION	COLOR	TCU POS.
A	SEAT SWITCH	BRN/BLK	TCU-29
B	PARK BRAKE	BRN/RED	TCU-30

PIN	CIRCUIT FUNCTION	COLOR	CONNECTS TO
A	+5V SENSOR	RED/WHT	TCU-21
B	SEN.GND	BLK/WHT	TCU-45
C	TPS	YEL/BLK	TCU-56

PIN	CIRCUIT FUNCTION	COLOR	TCU POS.
A	SERIAL RX	RED	TCU-27
B	SIGNAL GND.	WHT	TCU-28
C	SERIAL TX	BLK	TCU-26

PIN	CIRCUIT FUNCTION	COLOR	TCU POS.
A	TACH IN	ORGLT.GRN	38
B	SENSOR GND	BLK/WHT	37

PIN	CIRCUIT FUNCTION	COLOR	CONNECTS TO
1	CAN HIGH	WHT/RED	TCU-14, S6
2	CAN LOW	WHT/BLK	TCU-15, S7

S-#	FUNCTION	COLOR
S1	12 VOLTS SWITCHED	YEL
S2	TCC CONTROL	VIO/RED
S3	SIGNAL GND	BLK/WHT
S4	CHASSIS GND 2	BLK
S5	RPM	ORN/LT.GRN
S6	CAN HIGH	WHT/RED
S7	CAN LOW	WHT/BLK
S8	SEAT SW RELAY	BRN/BLK

PIN	CIRCUIT FUNCTION	COLOR	GOES TO
1	CAN1 L	WHT/BLK	TCU-16
2	ENG. TRMP.	YEL/LT.GRN	TCU-47
3	COOLANT LEVEL	YEL/RED	TCU-46
4	OIL PRES	YEL/LT.BLU	TCU-48
5	ENG SHUTDOWN	PNK/LT.BLU	TCU-41
6	NC	NC	NC
7	CAN1 H	WHT/RED	TCU-15
8	CHECK TRANS	PNK/LT.GRN	TCU-40
9	NC	NC	NC
10	+12V BATTERY	RED	TCU-20
11	+12 VOLTS IGNITION	YEL	TCU-19, S1
12	CHASSIS GND	BLK	TCU-42

TXT	COLOR	NOTES
BLK	BLACK	
BRN	BROWN	
RED	RED	
ORN	ORANGE	
YEL	YELLOW	
LT.GRN	LIGHT GREEN	
GRN	GREEN	
LT.BLU	LIGHT BLUE	
BLU	BLUE	
VIO	VIOLET	
GRY	GRAY	
WHT	WHITE	
PNK	PINK	

NUM	NAME	PART #
L1	TCM-4870-001	WRE-8501 P-346
L2	TRANSMISSION CONNECTOR	WRE-8500 P107
L3	OPPTIONAL COM NOT REQUIRED	WRE-8500 P-004
L4	NOT USED	
L5	TOSS	WRE-8500 P-008
L6	BULKHEAD CONNECTOR	WRE-8500 P-035
L7	CAN CONNECTOR	WRE-8500 P006
L8	TPS SENSOR	WRE-8500 P002
L9	PARK BRAKE SW	WRE-8500 P-227
L10	SEAT SWITCH	WRE-8500 P226
L11	BRAKE LIGHT IN	WRE-8500 P038

Print Date
9/12/2016
1700

S-#	FUNCTION	COLOR
S1	12 VOLTS SWITCHED	YEL
S2	TCC CONTROL	VIO/RED
S3	SIGNAL GND	BLK/WHT
S6	CAN HIGH	WHT/RED
S7	CAN LOW	WHT/BLK

APPLICABLE STANDARDS
 • ASME Y14.100-200
 • ASME Y14.5M-1994
 • IPC/WHMA-A-620A-CLASS 2
 • MARK IAW MIL-STD-130.

NOTES:
 1.) WIRE LENGTH TOLERANCE +/- .12 INCH
 2.) WIRE GAUGE IS 20 AWG UNLESS OTHERWISE STATED
 3.) TAPE ALL LOOM JOINTS UNLESS OTHERWISE STATED
 4.) TWIST INDICATED WIRES AT LEAST 10-12 TURNS PER FOOT
 5.) PLACE TAGS NO MORE THAN 2" FROM CONNECTOR. PLACE TAGS FOR UNTERMINATED WIRES NO MORE THAN 2" FROM UNTERMINATED END.
 6.) WIRE TYPE IS TXL UNLESS OTHERWISE STATED.

COMPANY:
POWERTRAIN CONTROL SOLUTIONS

TITLE:
4L70E 2010+ TRANSMISSION MOUNTED TO TCU-2801

SIZE: C	CUSTOMER DRAWING NO. XXXXX-XXXXX	PCS PART NUMBER TCM-4870	REV: 001
DRAWN BY: FRED D.	DATE: 8/4/2016	APPROVED BY: XXXXX	DATE: SHEET 3 OF 8