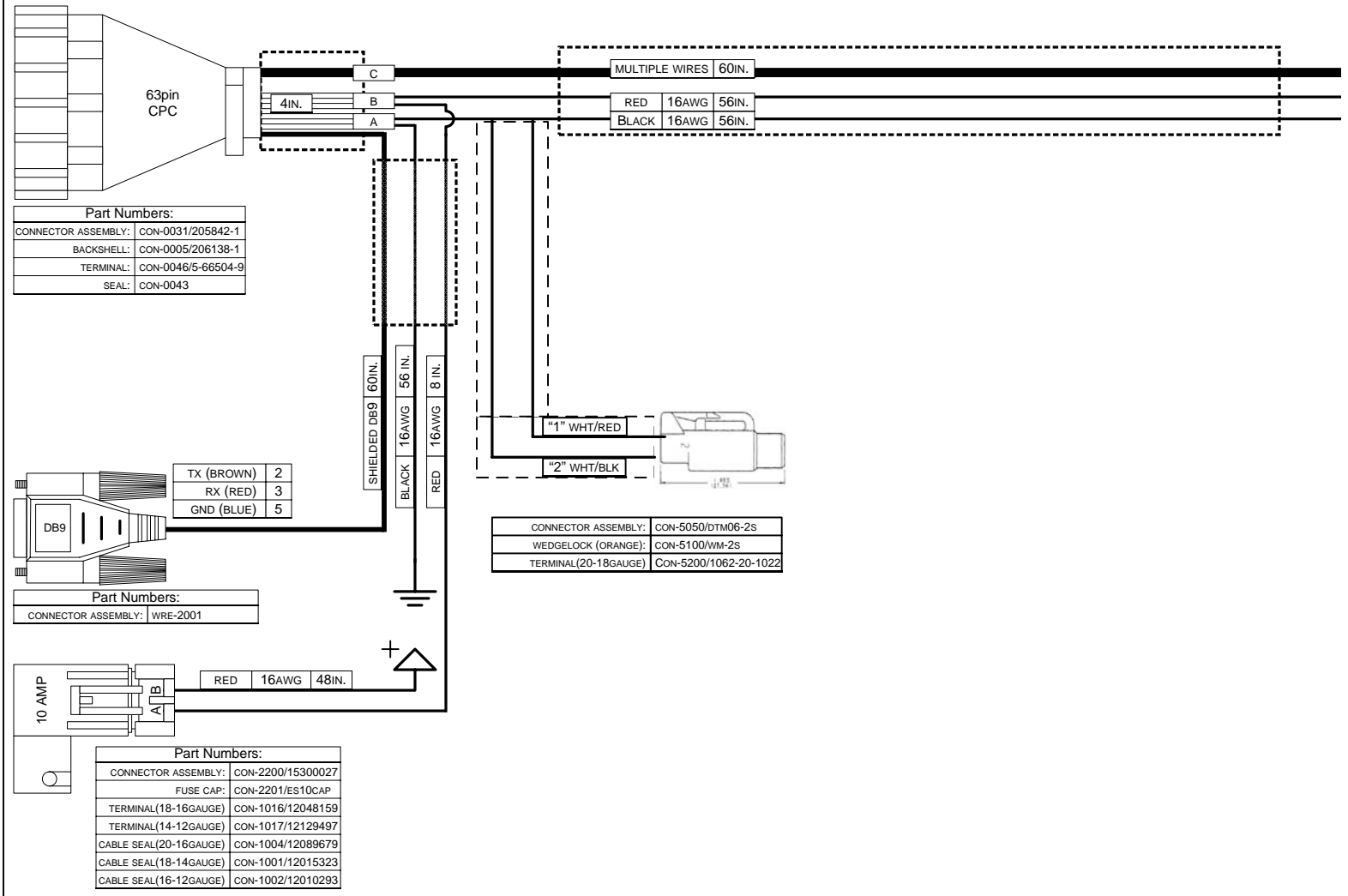
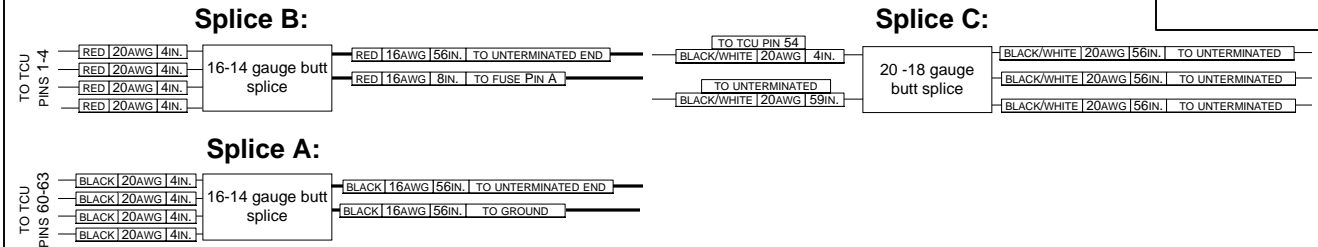


REV.	DESCRIPTION	DATE	BY
0	ORIGINAL REVISION	5/10/04	JB
1	NEW FORMAT	5/23/05	RC
2	ADDED INPUT/OUTPUT WIRES	12/21/05	JT



Pre - Populated Wires		
CPC	Wire	Color
5	Speed Input 1	orange/black
6	Speed Input 2	orange/red
7	Speed Input 3	orange/lt.green
9	Speed Output	orange/white
37	PWM Output 1	violet/black
28	PWM Output 2	violet/red
20	PWM Output 3	violet/lt.green
12	PWM Output 4	violet/lt.blue
52	PWM Output 5	violet/white
45	PWM Output 6	violet/orange
59	Digital Output 1/ PWM 7	pink/black
53	Digital Output 2/ PWM 8	pink/red
36	Digital Output 3/ PWM 9	pink/lt. green
44	Digital Output 4	pink/lt. blue
19	Digital Output 5	pink/white
27	Digital Output 6	pink/orange
46	Analog Input 1	yellow/black
47	Analog Input 2	yellow/red
48	Analog Input 3	yellow/lt.green
49	Analog Input 4	yellow/lt. blue
50	Analog Input 5	yellow/white
51	Analog Input 6	yellow/orange
13	Digital Input 1	gray/black
14	Digital Input 2	gray/red
15	Digital Input 3	gray/lt.green
16	Digital Input 4	gray/lt.blue
17	Digital Input 5	gray/white
18	Digital Input 6	gray/orange
21	Digital Input 7	gray/yellow
22	Digital Input 8	gray/pink
58	+5 V reference	red/white
1-4	+12 V Power	16AWG Red
60 - 63	Gnd	16AWG Black
54	Sensor Ground	black/white
54	Sensor Ground	black/white
54	Sensor Ground	black/white
54	Sensor Ground	black/white

Powertrain Control Solutions, LLC.

11139 Air Park Rd. Suite 2
Ashland, VA 23005

www.ptcs.us

Phone: (804) 752-6025
Fax: (804) 752-3516

TITLE:

UNIVERSAL HARNESS

PART NUMBER: TCM-4000

DESCRIPTION:
UNIVERSAL HARNESS

DRAWN BY: J.Ballenger DATE: 5/10/2004 PAGE: 2 OF 2

REV.	DESCRIPTION	DATE	BY
0	ORIGINAL REVISION	5/10/04	JB
1	NEW FORMAT	5/23/05	RC
2	ADDED INPUT/OUTPUT WIRES	12/21/05	JT

CPC	Pin Function	Harness Function	Universal Harness	Colors
1	+12v	Battery Connection	Battery Connection	red
2	+12v	Battery Connection	Battery Connection	red
3	+12v	Battery Connection	Battery Connection	red
4	+12v	Battery Connection	Battery Connection	red
5	Speed Input 1	Engine Speed Input	Engine Speed Input	orange/black
6	Speed Input 2	Transmission Speed Input	Transmission Speed Input	orange/red
7	Speed Input 3	TCC Speed Input	TCC Speed Input	orange/lt. Green
8	Speed Input 4	Optional Speed Input	-	orange/lt. Blue
9	Speed Output	Speedometer Drive Output	Speedometer Drive Output	orange/white
10	unused	-	-	-
11	unused	-	-	-
12	PWM Out 4/freq2	PWM/Solenoid Driver	PWM/Solenoid Driver	violet/lt. Blue
13	Digital Input 1	Digital Input	Digital Input	gray/black
14	Digital Input 2	Digital Input	Digital Input	gray/red
15	Digital Input 3	Digital Input	Digital Input	gray/lt. Green
16	Digital Input 4	Digital Input	Digital Input	gray/lt. Blue
17	Digital Input 5	Digital Input	Digital Input	gray/white
18	Digital Input 6	Digital Input	Digital Input	gray/orange
19	Digital Out 5	Digital Driver	Digital Driver	pink/white
20	PWM Out 3/freq2	PWM/Solenoid Driver	PWM/Solenoid Driver	violet/lt. Green
21	Digital Input 7	Digital Input	Digital Input	gray/yellow
22	Digital Input 8	Digital Input	Digital Input	gray/pink
23	Digital Input 9	Digital Input	-	brown/black
24	Digital Input 10	Digital Input	-	brown/red
25	Digital Input 11	Digital Input	-	brown/lt. Green
26	Digital Input 12	Digital Input	-	brown/lt. Blue
27	Digital Out 6	Digital Driver	Digital Driver	pink/orange
28	PWM Out 2/freq1	PWM/Solenoid Driver	PWM/Solenoid Driver	violet/red
29	unused	-	-	-
30	RS-232 Transmit	Communications Cable	db9	white/orange
31	RS-232 Receive	Communications Cable	db9	white/lt. Blue
32	CAN/RS-232 GND	Communications Cable	db9	white/lt. Green
33	CAN High	Communications Cable	-	white/red
34	CAN Low	Communications Cable	-	white/black
35	unused	-	-	-
36	Digital Out 3 / PWM 9	Digital Driver	Digital Driver	pink/lt. Green
37	PWM Out 1/freq 1	PWM/Solenoid Driver	PWM/Solenoid Driver	violet/black
38	unused	-	-	-
39	Digital Input 13	Digital Input	-	brown/white
40	Digital Input 14	Digital Input	-	brown/orange
41	Digital Input 15	Digital Input	-	brown/yellow
42	Digital Input 16	Digital Input	-	brown/pink
43	unused	-	-	-
44	Digital Out 4	Digital Driver	Digital Driver	pink/lt. Blue
45	PWM Out 6/freq1	PWM/Solenoid Driver	PWM/Solenoid Driver	violet/orange
46	Analog Input 1	Analog Input	Analog Input	yellow/black
47	Analog Input 2	Analog Input	Analog Input	yellow/red
48	Analog Input 3	Analog Input	Analog Input	yellow/lt. Green
49	Analog Input 4	Analog Input	Analog Input	yellow/lt. Blue
50	Analog Input 5/temp	Analog Input	Analog Input	yellow/white
51	Analog Input 6/temp	Analog Input	Analog Input	yellow/orange
52	Pwm Out 5/freq1	PWM/Solenoid Driver	PWM/Solenoid Driver	violet/white
53	Digital Out 2 / PWM 8	Digital Driver	Digital Driver	pink/red
54	Sensor/AD Gnd	Sensor or reference Gnd	Sensor or reference Gnd	black/white
55	unused	-	-	-
56	unused	-	-	-
57	unused	-	-	-
58	Ref Voltage (+5v Sensor Output)	Sensor/reference Voltage	Sensor/reference Voltage	red/white
59	Digital Out 1/ PWM 7	Digital Driver	Digital Driver	pink/black
60	Gnd	Battery Connection	Battery Connection	black
61	Gnd	Battery Connection	Battery Connection	black
62	Gnd	Battery Connection	Battery Connection	black
63	Gnd	Battery Connection	Battery Connection	black

	db9 pinout	DB9
1	none	none
2	transmit	brown
3	receive	red
4	none	none
5	gnd	blue
6	none	none
7	none	none
8	none	none
9	none	none

Extra Wires List	
1	orange/lt.Blue
2	brown/black
3	brown/red
4	brown/lt.Green
5	brown/lt.Blue
6	brown/white
7	brown/orange
8	brown/yellow
9	brown/pink