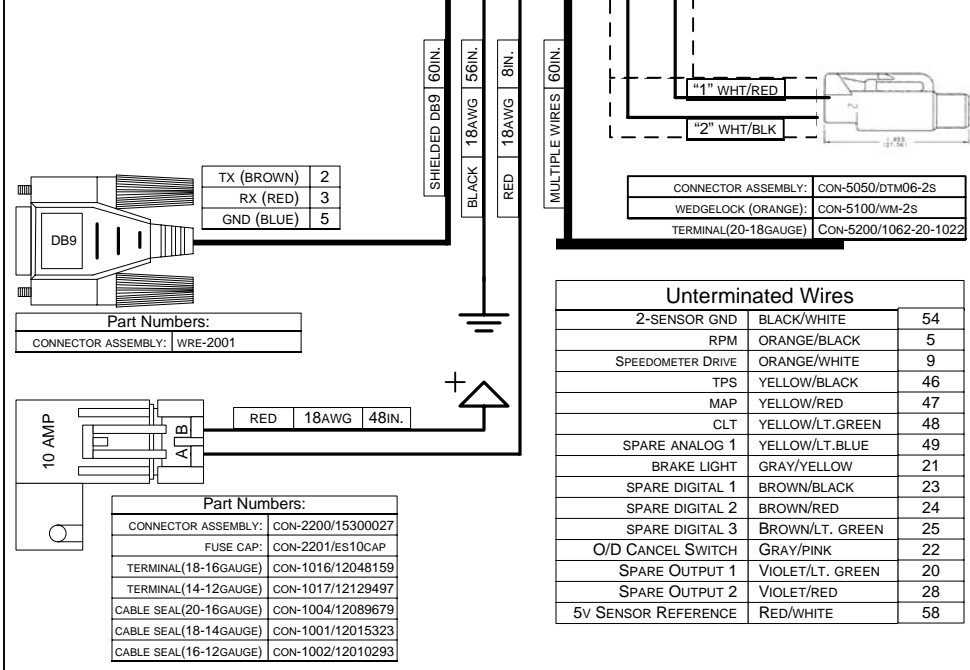
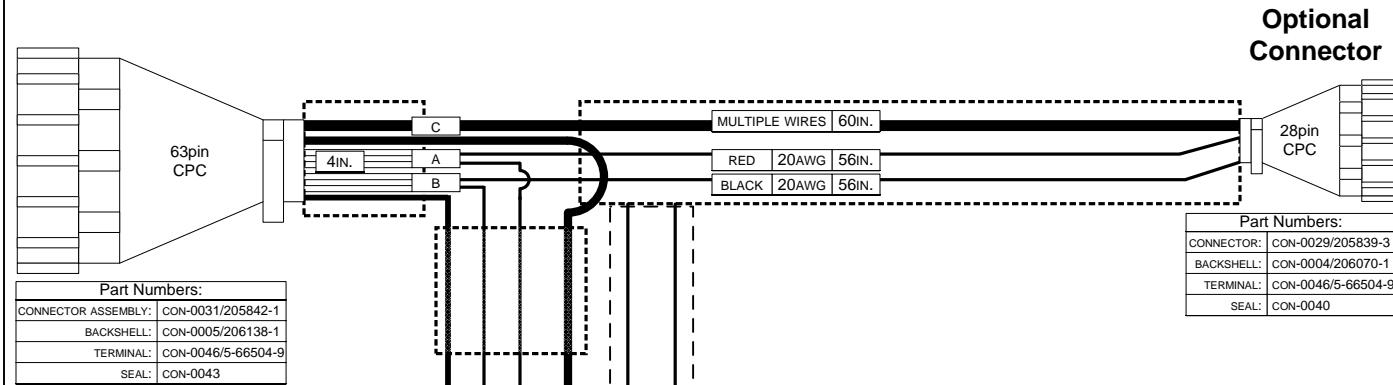
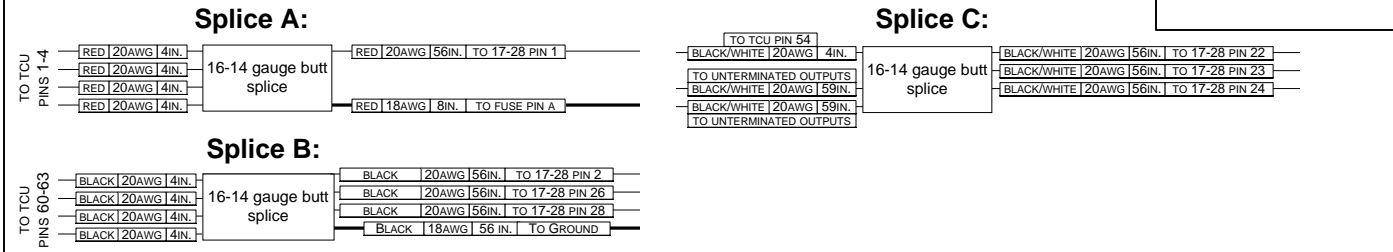


REV.	DESCRIPTION	DATE	BY
0	Original Revision	5/26/05	RC



	PCS WIRE COLOR	PCS FUNCTION	TCU POS	TOYOTA CONNECTOR	TOYOTA FUNCTION
1	RED	+12V	1-4	RANGE PIN 3	SWITCHED +12V
2	BLACK	GND	60-63	SOLENOID PIN 7	ENGINE GROUND
3	VIOLET/BLACK	PWM OUT1/FREQ1	37	SOL PIN 2	SLT+(LINE PRESSURE)
4	-	-	-	-	-
5	YELLOW/ORANGE	ANALOG INPUT6/TEMP	51	SOL PIN 1	TRANSMISSION TEMPERATURE
6	ORANGE/LT. GREEN	SPEED INPUT 3	7	T2-2	TCC SPEED
7	ORANGE/RED	SPEED INPUT 2	6	C3-2	DRIVESHAFT RPM
8	-	-	-	-	-
9	PINK/LT. BLUE	DIGITAL OUT 4	44	SOL PIN 3	DSL (TORQUE CONVERTER LOCKUP)
10	GRAY/BLACK	DIGITAL INPUT 1	13	RANGE PIN 1	PARK POSITION (PL)
11	GRAY/RED	DIGITAL INPUT 2	14	RANGE PIN 2	REVERSE POSITION (RL)
12	-	-	-	-	-
13	GRAY/LT. GREEN	DIGITAL INPUT 3	15	RANGE PIN 4	2L POSITION
14	PINK/RED	DIGITAL OUT 2	53	SOL PIN 4	SL2 (SHIFT SOLENOID B)
15	PINK/BLACK	DIGITAL OUT 1	59	SOL PIN5	SL1 (SHIFT SOLENOID A)
16	-	-	-	-	-
17	GRAY/WHITE	DIGITAL INPUT 5	17	RANGE PIN 5	NEUTRAL POSITION (NL)
18	GRAY/LT. BLUE	DIGITAL INPUT 4	16	RANGE PIN 7	DL POSITION
19	GRAY/ORANGE	DIGITAL INPUT 6	18	RANGE PIN 8	LL POSITION
20	PINK/LT. GREEN	DIGITAL OUT 3	36	SOL PIN 8	S4 (SHIFT SOLENOID C)
21	-	-	-	-	-
22	BLACK/WHITE	SENSOR GROUND	54	SOL PIN 6	SENSOR GROUND
23	BLACK/WHITE	SENSOR GROUND	54	C3-1	SENSOR GROUND
24	BLACK/WHITE	SENSOR GROUND	54	T2-1	SENSOR GROUND
25	-	-	-	-	-
26	BLACK	GROUND	60-63	SOL PIN 9	ENGINE GROUND
27	-	-	-	-	-
28	BLACK	GROUND	60-63	SOL PIN 10	ENGINE GROUND

Powertrain Control Solutions, LLC.

11139 Air Park Rd. Suite 2
Ashland, VA 23005

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

TITLE:

U140F HARNESS

PART NUMBER: TCM-4122

DESCRIPTION:
Toyota RAV4 Wiring Harness

DRAWN BY: R.Cutright DATE: 5/27/2005 PAGE: 2 OF 3

REV.	DESCRIPTION	DATE	BY
0	Original Revision	5/27/2005	RC

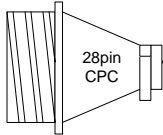
CPC	Pin Function	Harness Function	U140F	colors
1	+12v	Battery Connection	Switched +12v	red
2	+12v	Battery Connection	Switched +12v	red
3	+12v	Battery Connection	Switched +12v	red
4	+12v	Battery Connection	Switched +12v	red
5	Speed Input 1	Engine Speed Input	RPM (Tach Signal)	orange/black
6	Speed Input 2	Transmission Speed Input	Counter Gear Speed Sensor	orange/red
7	Speed Input 3	TCC Speed Input	Turbine Speed Sensor	orange/lt. Green
8	Speed Input 4	Optional Speed Input	-	orange/lt. Blue
9	Speed Output	Speedometer Drive Output	Speedometer Output	orange/white
10	unused	-	-	-
11	unused	-	-	-
12	PWM Out 4/freq2	PWM/Solenoid Driver	-	violet/lt. Blue
13	Digital Input 1	Digital Input	Park Position	gray/black
14	Digital Input 2	Digital Input	Reverse Position	gray/red
15	Digital Input 3	Digital Input	Neutral Position	gray/lt. Green
16	Digital Input 4	Digital Input	DL Position	gray/lt. Blue
17	Digital Input 5	Digital Input	2L Position	gray/white
18	Digital Input 6	Digital Input	LL Position	gray/orange
19	Digital Out 5	Digital Driver	-	pink/white
20	PWM Out 3/freq2	PWM/Solenoid Driver	Spare Output	violet/lt. Green
21	Digital Input 7	Digital Input	Brake Light Switch	gray/yellow
22	Digital Input 8	Digital Input	O/D Cancel Switch	gray/pink
23	Digital Input 9	Digital Input	Spare Digital Input	brown/black
24	Digital Input 10	Digital Input	Spare Digital Input	brown/red
25	Digital Input 11	Digital Input	Spare Digital Input	brown/lt. Green
26	Digital Input 12	Digital Input	-	brown/lt. Blue
27	Digital Out 6	Digital Driver	-	pink/orange
28	PWM Out 2/freq1	PWM/Solenoid Driver	Spare Output	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	S4 (Shift Solenoid C)	pink/lt. Green
37	PWM Out 1/freq 1	PWM/Solenoid Driver	SLT+ (Line Pressure)	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	DSL (Torque Converter Lockup)	pink/lt. Blue
45	PWM Out 6/freq1	PWM/Solenoid Driver	-	violet/orange
46	Analog Input 1	Analog Input	Throttle Position	yellow/black
47	Analog Input 2	Analog Input	Manifold Pressure	yellow/red
48	Analog Input 3	Analog Input	Coolant	yellow/lt. Green
49	Analog Input 4	Analog Input	Spare Analog Input	yellow/lt. Blue
50	Analog Input 5/temp	Analog Input	-	yellow/white
51	Analog Input 6/temp	Analog Input	Transmission Temperature ("THO")	yellow/orange
52	Pwm Out 5/freq1	PWM/Solenoid Driver	-	violet/white
53	Digital Out 2/PWM 8	Digital Driver	SL2 (Shift Solenoid B)	pink/red
54	Sensor/AD Gnd	Sensor or reference Gnd	Sensor Ground (E2)	black/white
55	unused	-	-	-
56	unused	-	-	-
57	unused	-	-	-
58	Ref Voltage (+5v Sensor Output)	Sensor/reference Voltage	5v Sensor Reference	red/white
59	Digital Out 1/PWM 7	Digital Driver	SL1(Shift Solenoid A)	pink/black
60	Gnd	Battery Connection	GND	black
61	Gnd	Battery Connection	GND	black
62	Gnd	Battery Connection	GND	black
63	Gnd	Battery Connection	GND	black

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

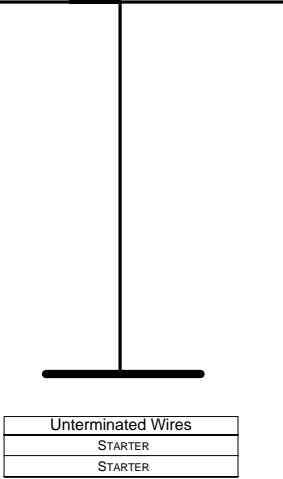
Extra wires list	
1	Orange/Lt. Blue
2	violet/lt. Blue
3	pink/white
4	brown/lt. Blue
5	pink/orange
6	brown/white
7	brown/orange
8	brown/yellow
9	brown/pink
10	violet/orange
11	yellow/white
12	violet/white

REV.	DESCRIPTION	DATE	BY
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Optional Connector

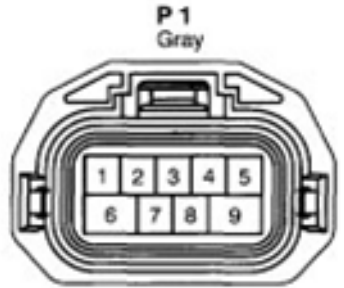


Part Numbers:	
CONNECTOR:	CON-0084/206152-1
BACKSHELL:	CON-0004/206070-1
TERMINAL:	CON-0045/66506-3
SEAL:	CON-0040



Turbine Speed		
PIN	TOYOTA FUNCTION	TCU Pos
1	SENSOR GROUND	54
2	TCC SPEED	7

Range Switch connector		
PIN	TOYOTA FUNCTION	TCU Pos
1	PARK POSITION (PL)	13
2	REVERSE POSITION (RL)	14
3	SWITCHED, FUSED +12V	1-4
4	2L POSITION	15
5	NEUTRAL POSITION (NL)	17
6	STARTER	UNTERMINATED
7	DL POSITION	16
8	LL POSITION	18
9	STARTER	UNTERMINATED



28 PIN CPC PINOUT & CORRESPONDANCE CHART					
	PCS WIRE COLOR	PCS FUNCTION	TCU POS	TOYOTA CONNECTOR	TOYOTA FUNCTION
1	RED	+12V	1-4	RANGE PIN 3	SWITCHED +12V
2	BLACK	GND	60-63	SOLENOID PIN 7	ENGINE GROUND
3	VIOLET/BLACK	PWM OUT1/FREQ1	37	SOL PIN 2	SLT+(LINE PRESSURE)
4	-	-	-	-	-
5	YELLOW/ORANGE	ANALOG INPUT6/TEMP	51	SOL PIN 1	TRANSMISSION TEMPERATURE
6	ORANGE/LT. GREEN	SPEED INPUT 3	7	T2-2	TCC SPEED
7	ORANGE/RED	SPEED INPUT 2	6	C3-2	DRIVESHAFT RPM
8	-	-	-	-	-
9	PINK/LT. BLUE	DIGITAL OUT 4	44	SOL PIN 3	DSL (TORQUE CONVERTER LOCKUP)
10	GRAY/BLACK	DIGITAL INPUT 1	13	RANGE PIN 1	PARK POSITION (PL)
11	GRAY/RED	DIGITAL INPUT 2	14	RANGE PIN 2	REVERSE POSITION (RL)
12	-	-	-	-	-
13	GRAY/LT. GREEN	DIGITAL INPUT 3	15	RANGE PIN 4	2L POSITION
14	PINK/RED	DIGITAL OUT 2	53	SOL PIN 4	SL2 (SHIFT SOLENOID B)
15	PINK/BLACK	DIGITAL OUT 1	59	SOL PIN5	SL1 (SHIFT SOLENOID A)
16	-	-	-	-	-
17	GRAY/WHITE	DIGITAL INPUT 5	17	RANGE PIN 5	NEUTRAL POSITION (NL)
18	GRAY/LT. BLUE	DIGITAL INPUT 4	16	RANGE PIN 7	DL POSITION
19	GRAY/ORANGE	DIGITAL INPUT 6	18	RANGE PIN 8	LL POSITION
20	PINK/LT. GREEN	DIGITAL OUT 3	36	SOL PIN 8	S4 (SHIFT SOLENOID C)
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23	BLACK/WHITE	SENSOR GROUND	54	C3-1	SENSOR GROUND
24	BLACK/WHITE	SENSOR GROUND	54	T2-1	SENSOR GROUND
25	-	-	-	-	-
26	BLACK	GROUND	60-63	SOL PIN 9	ENGINE GROUND
27	-	-	-	-	-
28	BLACK	GROUND	60-63	SOL PIN 10	ENGINE GROUND



Vehicle Speed		
PIN	TOYOTA FUNCTION	TCU Pos
1	SENSOR GROUND	54
2	DRIVESHAFT RPM	6



Solenoid Connector		
PIN	TOYOTA FUNCTION	TCU Pos
1	TRANSMISSION TEMPERATURE	51
2	SLT+ (LINE PRESSURE)	37
3	DSL(TORQUE CONVERTER LOCKUP)	44
4	SL2(SHIFT SOLENOID B)	53
5	SL1(SHIFT SOLENOID A)	59
6	SENSOR GROUND	54
7	ENGINE GROUND	60-63
8	S4 (SHIFT SOLENOID C)	36
9	ENGINE GROUND	60-63
10	ENGINE GROUND	60-63