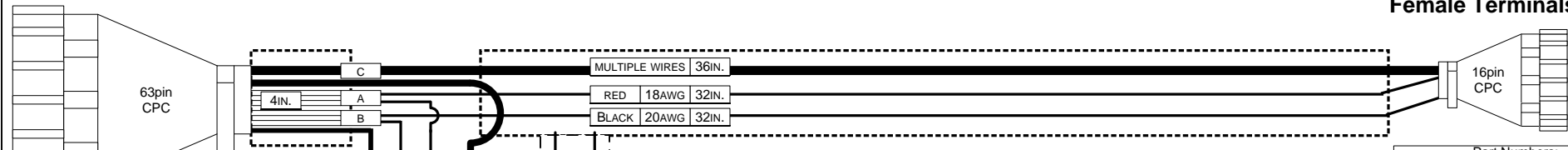
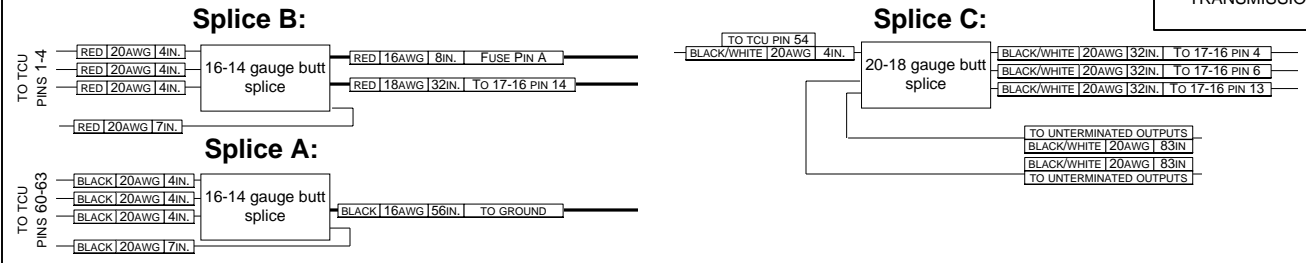


TITLE: **TCU 4R70/4R100 HARNESS**

PART #: TCM-4108 (98+ 4R100)
 TCM-4115 (98+ 4R70/AODE)
 DESCRIPTION: TCU 4R70/4R100 FORD TRANSMISSION HARNESS

REV.	DESCRIPTION	DATE	BY
0	ORIGINAL REVISION	8/26/2004	JB
1	NEW FORMAT	5/25/2005	RC
2	4R70 SUB-HARNESS CORRECTIONS	8/11/2009	JB



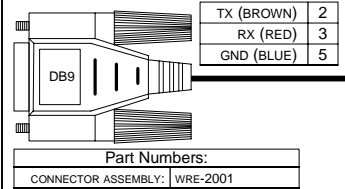
Male Plug w/ Female Terminals

Part Numbers:

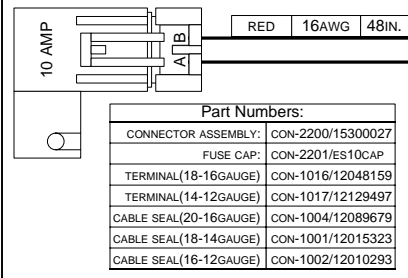
CONNECTOR:	CON-0022/206037-1
TERMINAL:	CON-0051/66100-7
SEAL:	CON-0039/213920-2
BACKSHELL:	CON-0004/206070-1

Part Numbers:

CONNECTOR ASSEMBLY:	CON-0031/205842-1
BACKSHELL:	CON-0005/206138-1
TERMINAL:	CON-0046/5-66504-9
SEAL:	CON-0043



CONNECTOR ASSEMBLY: CON-5050/DTM06-2S
 WEDGELock (ORANGE): CON-5100/WM-2S
 TERMINAL(20-18GAUGE) CON-5200/1062-20-1022



Unterminated Wires

2-SENSOR GND	BLACK/WHITE	54
RPM	ORANGE/BLACK	5
SPEEDOMETER DRIVE	ORANGE/WHITE	9
TPS	YELLOW/BLACK	46
MAP	YELLOW/RED	47
CLT	YELLOW/LT.GREEN	48
SPARE ANALOG 1	YELLOW/LT.BLUE	49
BRAKE LIGHT	GRAY/LT.BLUE	16
SPARE DIGITAL 1	GRAY/WHITE	17
SPARE DIGITAL 2	GRAY/ORANGE	18
SPARE DIGITAL 3	GRAY/YELLOW	21
+5 V	RED/WHITE	58

17-16 Connector	PCS Wire	PCS Function	Pin	
1	Shift Solenoid A	Pink/Black	Digital Out 1 / PWM 7	59
2	Shift Solenoid B	Pink/Red	Digital Out 2 / PWM 8	53
3	Output Shaft High	Orange/Red	Speed Input 2	6
4	Output Shaft Low	Black/White	Sensor/AD Ground	54
5	TFT High	Yellow/Orange	Analog Input 6 / Tmp	51
6	TFT/Range Low	Black/White	Sensor / AD Ground	54
7	EPC	Violet/Black	PWM Out 1/ Freq 1	37
8	-	-	-	-
9	TR1	Gray/Black	Digital Input 1	13
10	TR2	Gray/Red	Digital Input 2	14
11	TR4	Gray/Lt. Green	Digital Input 3	15
12	Turbine Speed High	Orange/Lt. Green	Speed Input 3	7
13	Turbine Speed Low	Black/White	Sensor / AD Ground	54
14	Solenoid power +12v	red 16AWG	+12V	1-4
15	CCS Sol	Pink/Lt. Green	Digital Out 3	36
16	TCC Sol	Violet/Red	PWM Out 2 / Freq 1	28

Powertrain Control Solutions, LLC.

11139 Air Park Rd. Suite 2
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Phone: (804) 752-6025
Fax: (804) 752-3516

TITLE:

TCU 4R70/4R100 HARNESS

PART #: TCM-4108 (98+ 4R100)
TCM-4115 (98+ 4R70/AODE)

DESCRIPTION:
TCU HARNESS DIAGRAM FOR 4R70/4R100
FORD TRANSMISSION HARNESS

DRAWN BY: J. Ballenger DATE: 8/26/2004 PAGE: 2 OF 4

REV.	DESCRIPTION	DATE	BY
0	ORIGINAL REVISION	8/26/2004	JB
1	NEW FORMAT	5/25/2005	RC
2	4R70 SUB-HARNESS CORRECTIONS	8/11/2009	JB

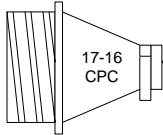
CPC	Pin Function	Harness Function	4R70/4R100	colors
1	+12v	Battery Connection	+12v	red
2	+12v	Battery Connection	+12v	red
3	+12v	Battery Connection	+12v	red
4	+12v	Battery Connection	+12v	red
5	Speed Input 1	Engine Speed Input	RPM	orange/black
6	Speed Input 2	Transmission Speed Input	VSS	orange/red
7	Speed Input 3	TCC Speed Input	Turbine Speed	orange/lt. green
8	Speed Input 4	Optional Speed Input	-	orange/lt. blue
9	Speed Output	Speedometer Drive Output	Speedometer In	orange/white
10	unused	-	-	-
11	unused	-	-	-
12	PWM Out 4/freq2	PWM/Solenoid Driver	-	violet/lt. blue
13	Digital Input 1	Digital Input	TR1	gray/black
14	Digital Input 2	Digital Input	TR2	gray/red
15	Digital Input 3	Digital Input	TR4	gray/lt. green
16	Digital Input 4	Digital Input	brake light	gray/lt. blue
17	Digital Input 5	Digital Input	Spare Dig1	gray/white
18	Digital Input 6	Digital Input	Spare Dig2	gray/orange
19	Digital Out 5	Digital Driver	-	pink/white
20	PWM Out 3/freq2	PWM/Solenoid Driver	-	violet/lt. green
21	Digital Input 7	Digital Input	Spare Dig3	gray/yellow
22	Digital Input 8	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	-	pink/orange
28	PWM Out 2/freq1	PWM/Solenoid Driver	TCC PWM Sol	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	CCS Sol	pink/lt. green
37	PWM Out 1/freq 1	PWM/Solenoid Driver	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	-	pink/lt. blue
45	PWM Out 6/freq1	PWM/Solenoid Driver	-	violet/orange
46	Analog Input 1	Analog Input	tps	yellow/black
47	Analog Input 2	Analog Input	map	yellow/red
48	Analog Input 3	Analog Input	clt	yellow/lt. green
49	Analog Input 4	Analog Input	Spare An1	yellow/lt. blue
50	Analog Input 5/temp	Analog Input	-	yellow/white
51	Analog Input 6/temp	Analog Input	fluid temp	yellow/orange
52	Pwm Out 5/freq1	PWM/Solenoid Driver	-	violet/white
53	Digital Out 2 / PWM 8	Digital Driver	Shift Sol B	pink/red
54	Sensor/AD Gnd	Sensor or reference Gnd	fluid temp/vss	black/white
55	unused	-	-	-
56	unused	-	-	-
57	unused	-	-	-
58	Ref Voltage (+5v)	Sensor/reference Voltage	-	red/white
59	Digital Out 1/ PWM 7	Digital Driver	Shift Sol 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	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	violet/lt. blue
3	pink/white
4	violet/lt. green
5	gray/pink
6	brown/black
7	brown/red
8	brown/lt. green
9	brown/lt. blue
10	pink/orange
11	brown/white
12	brown/orange
13	brown/yellow
14	brown/pink
15	pink/lt. blue
16	violet/orange
17	yellow/white
18	violet/white
19	red/white

REV.	DESCRIPTION	DATE	BY
0	ORIGINAL REVISION	8/26/2004	JB
1	NEW FORMAT	5/25/2005	RC
2	4R70 SUB-HARNESS CORRECTIONS	8/11/2009	JB

Female Receptacle w/Male Terminals



Part Numbers:

CONNECTOR:	CON-0069/206036-3
TERMINAL:	CON-0050/66098-7
BACKSHELL:	CON-0004/206070-1
SEAL:	CON-0039/213920-2

17-16	Ford Wire Color	Wire Termination
1	Orange/Yellow 33	C183 Pin 7
2	Violet/Orange 35	C183 Pin 8
3	Dk. Blue/Yellow 9	C187 Pin 2
4	Brown/Lt. Green 8	C187 Pin 1
5	Orange/Black 29	C183 Pin 5
6	Gray/Red 14	C183 Pin 2, C182 Pin 2
7	White/Yellow 37	C183 Pin 6
8	-	-
9	Yellow/Black 10	C182 Pin 4
10	Lt.Blue/Black 13	C182 Pin 5
11	White/Black (pin 25 on big ford connector)	C182 Pin 6
12	-	-
13	-	-
14	Violet/White 3	C183 Pin 4
15	-	-
16	Violet/Yellow 36	C183 Pin 3

PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	SIGNAL RETURN	BROWN/LT. GREEN	54	4
2	OUTPUT SHAFT SPEED SENSOR SIGNAL TO PCM	DARK BLUE/YELLOW	6	3



View from Rear

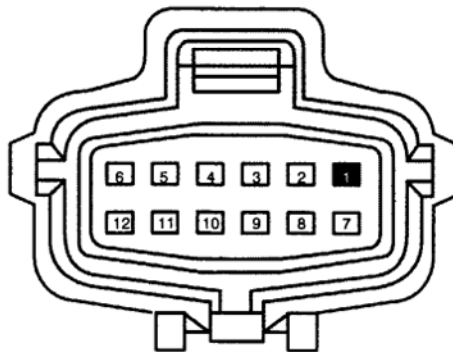
C187
OUTPUT SHAFT SPEED (OSS) SENSOR

PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	NOT USED	-	-	-
2	SIGNAL RETURN	GRAY/RED	54	6
3	TORQUE CONVERTER CLUTCH SOLENOID	VIOLET/YELLOW	28	16
4	VEHICLE POWER	VIOLET/WHITE	1-4	14
5	TRANSMISSION FLUID TEMPERATURE (TFT)	ORANGE/BLACK	51	5
6	ELECTRONIC PRESSURE CONTROL SOLENOID	WHITE/YELLOW	37	7
7	SHIFT SOLENOID A	ORANGE/YELLOW	59	1
8	SHIFT SOLENOID B	VIOLET/ORANGE	53	2
9	NOT USED	-	-	-
10	NOT USED	-	-	-

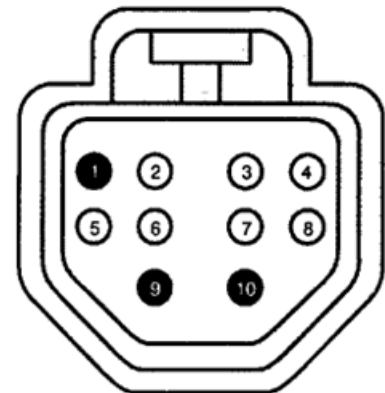
Labeled Unterminated Wires

Reverse Lamps(Reverse Active)	Lt. Blue/Pink Black/Pink
4x4 Switch	Black Red/White
Starter Relay(Park&NeutralActive)	Tan/Red Blue/Orange

View from Front



C182 (BLACK)
DIGITAL TRANSMISSION RANGE (DTR) SENSOR



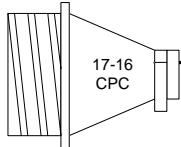
C183 (BLACK)
4R70W TRANSMISSION

PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	NOT USED	-	-	-
2	SIGNAL RETURN	GRAY/RED	54	6
3	TR3A	GREEN/YELLOW	NO CONNECTION	NO CONNECTION
4	TR1	YELLOW/BLACK	13	9
5	TR2	GREEN/BLACK	14	10
6	TR4	WHITE/BLACK	15	11
7	GROUND	BLACK	UNTERMINATED	UNTERMINATED
8	ELECTRONIC SHIFT CONTROL MODULE FEED	RED/WHITE	UNTERMINATED	UNTERMINATED
9	POWER (HOT IN RUN)	LT. BLUE/PINK	UNTERMINATED	UNTERMINATED
10	STARTER CONTROL	BLUE/ORANGE	UNTERMINATED	UNTERMINATED
11	REVERSING LAMP FEED	BLACK/PINK	UNTERMINATED	UNTERMINATED
12	STARTER MOTOR RELAY	TAN/RED	UNTERMINATED	UNTERMINATED

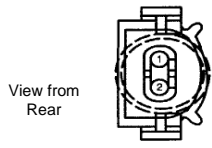
REV.	DESCRIPTION	DATE	BY
0	ORIGINAL REVISION	8/26/2004	JB
1	NEW FORMAT	5/25/2005	RC
2	4R70 SUB-HARNESS CORRECTIONS	8/11/2009	JB

Female Receptacle w/Male Terminals

Part Numbers:	
CONNECTOR:	CON-0069/206036-3
TERMINAL:	CON-0050/66098-7
BACKSHELL:	CON-0004/206070-1
SEAL:	CON-0039/213920-2

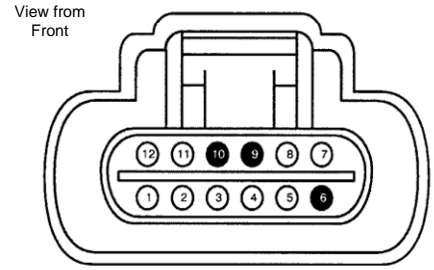


17-16	Ford Wire Color	Wire Termination
1	Orange/Yellow 33	C193 Pin 3
2	Violet/Orange 35	C193 Pin 2
3	Dk. Blue/Yellow 9	C187 Pin 1
4	Brown/Lt. Green 8	C187 Pin 2
5	Orange/Black 29	C193 Pin 7
6	Gray/Red 14	C193 Pin 8, C182 Pin 2
7	White/Yellow 37	C193 Pin 11
8	-	-
9	Yellow/Black 10	C182 Pin 4
10	Lt. Blue/Black 13	C182 Pin 5
11	White/Black (pin 25 on big ford connector)	C182 Pin 6
12	Dk. Green/White 24	C192 Pin 2
13	Pink/Black 23	C192 Pin 1
14	Violet/White 3	C193 Pin 1,12
15	Brown/Orange 4	C193 Pin 5
16	Violet/Yellow 36	C193 Pin 4



C187
OUTPUT SHAFT SPEED (OSS) SENSOR

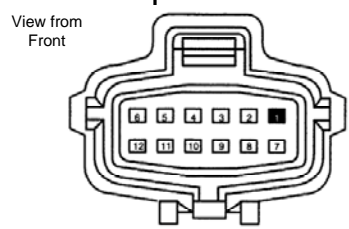
PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	OUTPUT SHAFT SPEED SENSOR SIGNAL TO PCM	DARK BLUE/YELLOW	6	3
2	SIGNAL RETURN	BROWN/LT. GREEN	54	4



C193 (BLACK)
4R100 TRANSMISSION

Unterminated Wires

Reverse Lamps(Reverse Active)	Lt. Blue/Pink
	Black/Pink
Neutral Indicator (Neutral Active)	Black
	Red/White
Starter Relay(Park&NeutralActive)	Tan/Red
	Blue/Orange



C182 (BLACK)
DIGITAL TRANSMISSION RANGE (DTR) SENSOR

PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	POWER FROM PCM RELAY	VIOLET/WHITE	1-4	14
2	SHIFT SOLENOID #2	VIOLET/ORANGE	53	2
3	SHIFT SOLENOID #1	ORANGE/YELLOW	59	1
4	TORQUE CONVERTER CLUTCH CONTROL SOLENOID	VIOLET/YELLOW	28	16
5	COAST CLUTCH SOLENOID	BROWN/ORANGE	36	15
6	NOT USED	-	-	-
7	TRANSMISSION FLUID TEMPERATURE SENSOR	ORANGE/BLACK	51	5
8	SENSOR SIGNAL RETURN	GRAY/RED	54	6
9	NOT USED	-	-	-
10	NOT USED	-	-	-
11	ELECTRONIC PRESSURE CONTROL SOLENOID	WHITE/YELLOW	37	7
12	POWER FROM PCM RELAY	VIOLET/WHITE	1-4	14



C192
TURBINE SHAFT SPEED (TSS) SENSOR

PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	TURBINE SHAFT SPEED SENSOR SIGNAL TO PCM	DARK GREEN/ WHITE	7	12
2	SIGNAL RETURN	PINK/BLACK	54	13

PIN	CIRCUIT FUNCTION	COLOR	TCU Pos	17-16 Pos
1	NOT USED	-	-	-
2	SIGNAL RETURN	GRAY/RED	54	6
3	TR3A	LT. BLUE/YELLOW	NO CONNECTION	NO CONNECTION
4	TR1	YELLOW/BLACK	13	9
5	TR2	LT. BLUE/BLACK	14	10
6	TR4	WHITE/BLACK	15	11
7	GROUND	BLACK	UNTERMINATED	UNTERMINATED
8	ELECTRONIC SHIFT CONTROL MODULE FEED	RED/WHITE	UNTERMINATED	UNTERMINATED
9	POWER (HOT IN RUN)	LT. BLUE/PINK	UNTERMINATED	UNTERMINATED
10	STARTER CONTROL	BLUE/ORANGE	UNTERMINATED	UNTERMINATED
11	REVERSING LAMP FEED	BLACK/PINK	UNTERMINATED	UNTERMINATED
12	STARTER MOTOR RELAY	TAN/RED	UNTERMINATED	UNTERMINATED