Holley Installation and Reference

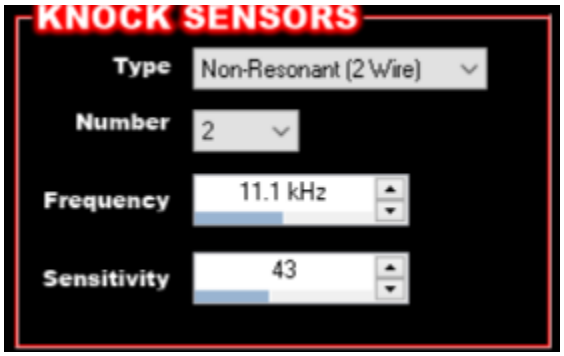
Contents

Tune Settings

Knock Sensor Settings (LS1)

AC Delco PN 213-3521, GM PN 12589867 – Commonly used on 1998-2006 GM LSx engines.

Baseline Frequency – 11.1 kHz



Converting Gas to E85 Tune

From Danny on the Holley forums:
"Load Sensing" (in Engine Parameters) must be selected as Speed Density, not VE Based!
Changing a tune from Gasoline to E85 requires increasing these four fuel lb/hr scales by 35%:
• Base Fuel Table (lb/hr)
• Cranking Fuel (lb/hr)
• AE vs. TPS Rate of Change (lb/hr)
• AE vs. MAP Rate of Change (lb/hr)
Entering E85 lb/hr values (from gasoline): highlight the entire lb/hr table or scale, right click Offset Selected and multiply by 1.35 (*1.35).

Changing the Fuel Type parameter (Engine Parameters) only necessitates the AFR changes the user must program into the Target A/F Ratio Table.
Changing the Fuel Type to E85, means E85 AFR values must be entered. Changing it to Gasoline, means gasoline AFR values must be entered.
Entering E85 AFR values (from gasoline): Highlight the entire Target A/F Ratio Table, right click Offset Selected and multiply by .65 (*.65).

If you're more familiar with Gasoline air/fuel ratios, the Fuel Type parameter can remain at Gasoline (even running E85); use 14.7:1 AFR as stoichiometric and input Gasoline AFRs as you normally would. (LINK) It's highly recommended to get a good baseline tune with Gasoline before converting to E85 fuel.

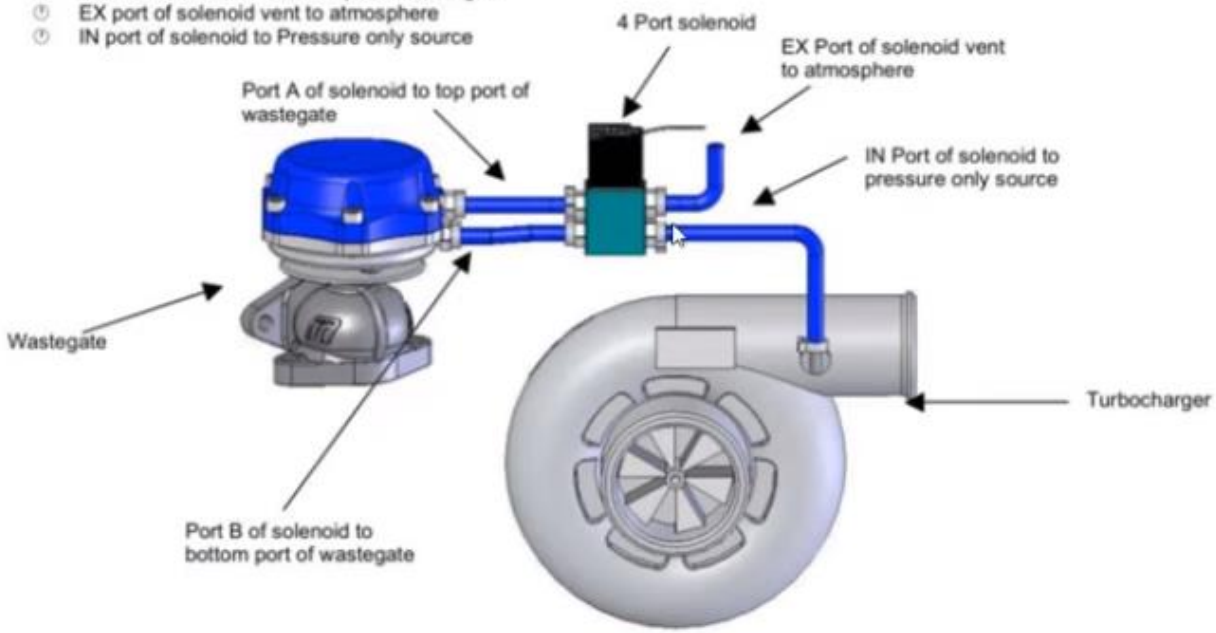
Changing a tune from E85 to Gasoline requires dividing the four fuel lb/hr scales by (/1.35), and reprogramming the Target A/F Ratio Table by dividing the entire E85 table values by .65 (/.65).
Afterwards, click "Save" on the top Toolbar and cycle the ignition key off & on.

Boost Control with Terminator

One way to do it..From Sloppy Mechanics Boost video… https://www.youtube.com/watch?v=kWex1Tx80NY

Two port connection Method (3) *(For obtaining a wide range of boost pressures e.g. 5 – 40 PSI)*

- Port A of solenoid to Top port of wastegate
- Port B of solenoid to Bottom port of wastegate
- EX port of solenoid vent to atmosphere
- IN port of solenoid to Pressure only source



Holley Wiring

Connector Info

Avenger, Terminator, HP & Dominator ECUs:

The ECU connectors are Tyco/AMP sealed 1.0 mm SuperSeal connectors.

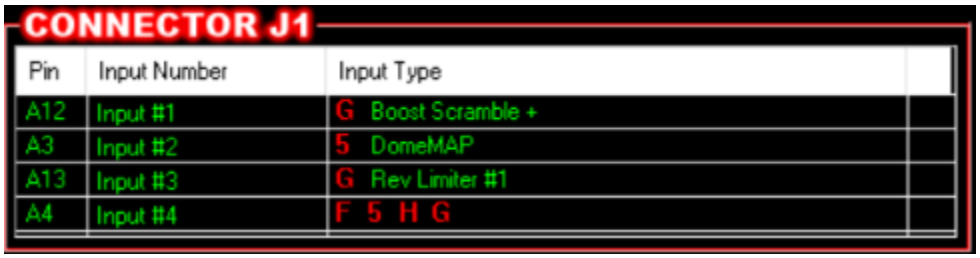
Individual ECU Connector Plugs:

The J1A connector plug is Tyco 4-1437290-0
The J1B connector plug is Tyco 3-1437290-7
The J3 connector plug is Tyco 3-1437290-8
The J4 connector plug is Tyco 1473416-2
ECU connector terminals: Tyco/AMP 3-1447221-4 (20/22 AWG), 3-1447221-3 (16/18 AWG)
White cavity plugs: Tyco/AMP 4-1437284-3. (TE Connectivity is Tyco Electronics)

Input/Output Wiring

Inputs:

Wired Boost Scramble and Rev Limiter #1 (2 Step) to Steering Wheel Buttons. Input 4 wire (Green/Black is run to steering wheel but not connected.



Pin	Input #	Color	Connection	Circuit
A12	1	White/Blue→Dk Blue	Boost Scramble – Steering Wheel	G
A3	2	White/Red	DomeMap (Split MAP Sensor)	5
A13	3	White/Black→White	2 Step – Steering Wheel	G
A4	4	White/Green→Grn/Blk	Not Used	G

(F) “Frequency” - A digital input typically used for a speed input

(5) “0-5 Volt” – Used for any 0-5 volt sensor input

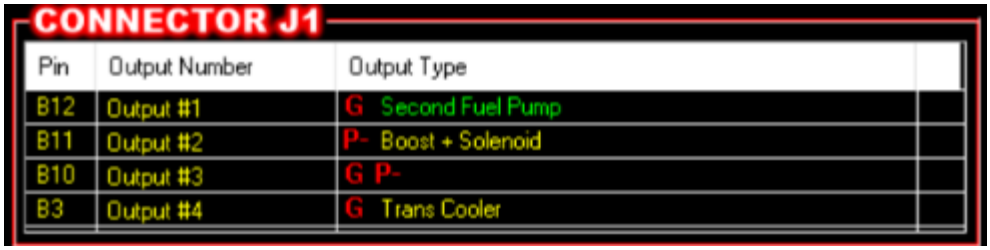
(2) “0-20 Volt” – Used for any 0-20 volt sensor input

(T) “Thermistor” – Used for thermistor type sensor inputs (2 wire coolant/air temperature sensors)

(H) “High” – Used for +12v switched inputs

(G) “Ground” – Used for ground switched inputs

Outputs:



Pin	Output #	Color	Connection	Circuit
B12	1	Grey/Yellow	Second Fuel Pump	G
B11	2	Grey/Red	Boost Solenoid	P-
B10	3	Grey/Black		G P-
B3	4	Grey/Green	Trans Cooler Relay	G

(G) “Ground” – Used for switched ground outputs

(P-) “PWM – ” – Used for ground Pulse Width Modulated Outputs

Oil Pressure Sender (Autex 100 psi)

I used this sensor found on Amazon for about $28. They are much cheaper than the Holley but use the same equation so choose the Holley 100psi sensor in tune. You will need to wire these.
Autex Pressure Transducer/Sender/Sensor 100 Psi Stainless Steel for Oil, Fuel, Air, Water

Circuit	Sensor	Harness
Ground	Black	Black/White
+5V	Red	Orange
Signal	Green	Pink

Fuel Pressure Sender (Autex 100 psi)

Used Same sensor as above and put in fitting at fuel rail

Circuit	Sensor	Harness
Ground	Black	Black/White
+5V	Red	Orange
Signal	Green	Pink

Holley Specific Wiring when Removing ECM

I chose to remove all ECM wiring. BCM stays in place to control locks, AC, etc…
Connectors use Metri-Pack 150 pins. I re-used Connector C100 with my wires.

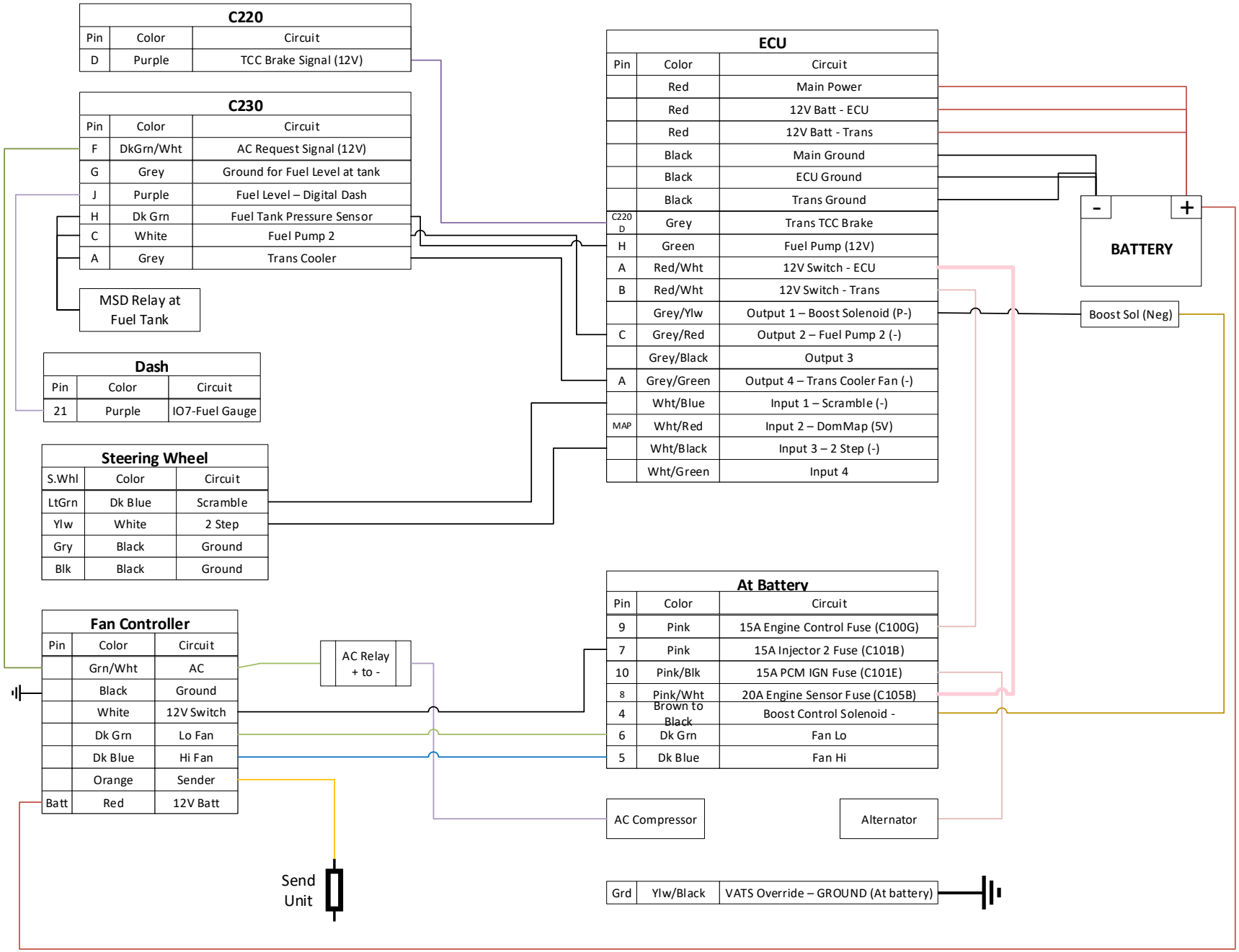
Ignition Circuits (Pink)

Connector-Pin	Circuit Number	Color	Circuit
C100-A	639	Pink/White	15A Injector 1 Fuse Hot Run and Start
C100-G	239	Pink	15A Engine Control Fuse Hot Run and Start
C101-B	839	Pink	15A Injector 2 Fuse Hot Run and Start
C101-E	439	Pink/Black	15A PCM Ignition Fuse Hot Run and Start
C105-B	539	Pink	20A Engine Sensor Fuse Hot Run and Start
Instrument Cluster	39	Pink	10A Gauges Fuse 9

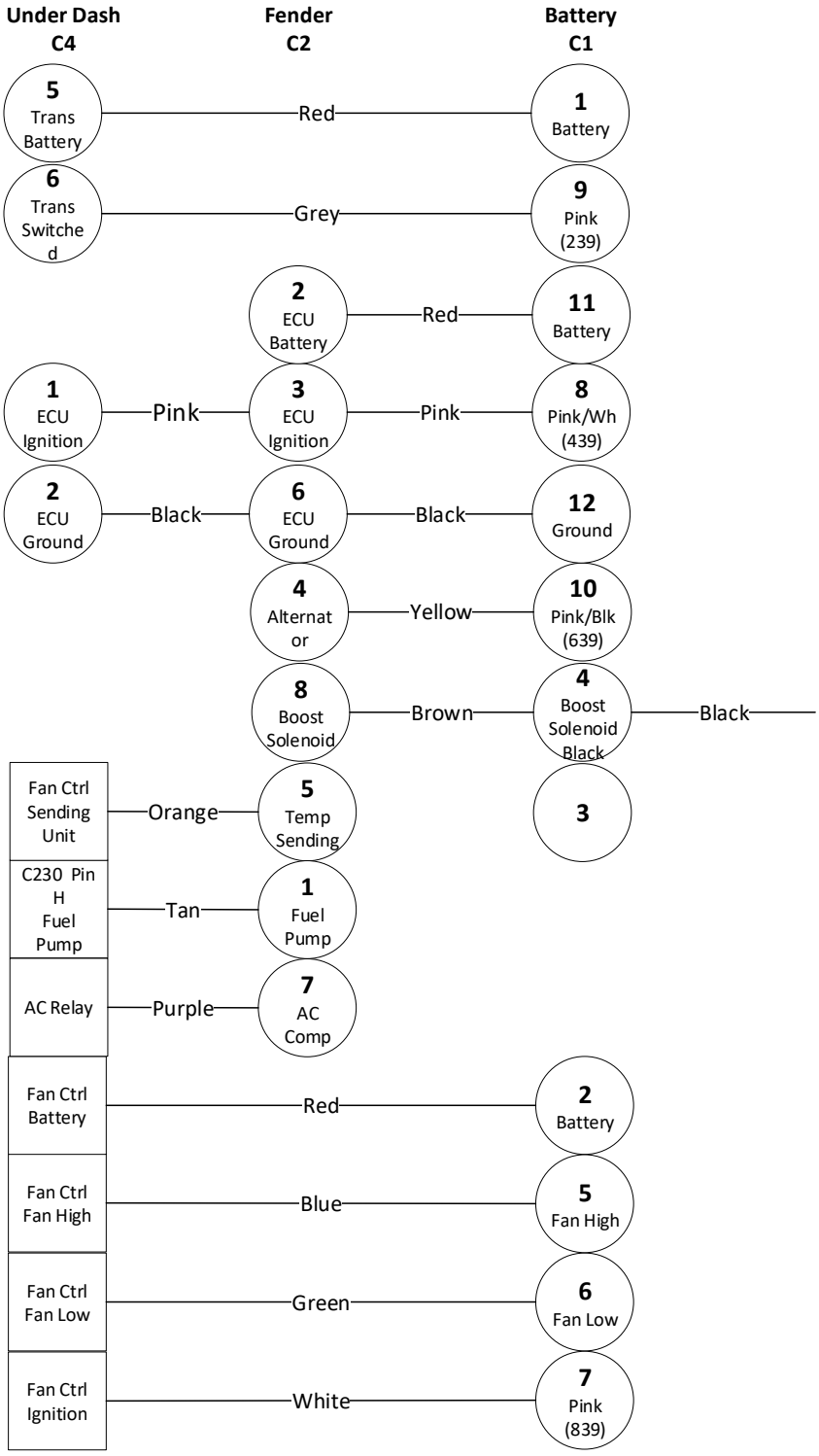
Battery Circuits (Orange)

Connector-Pin	Circuit Number	Color	Circuit
C101-G	340	Orange	10A PCM Fuse
C105-H	1440	Orange	30A Air Pump Fuse
Instrument Cluster	649	Orange	15A Pwr Accy Fuse 7

Wiring Diagrams



My Connectors



Dash Wiring Diagram

C230		
Pin	**Color**	**Circuit**
F	DkGrn/Wht	AC Request Signal (12V)
G	Grey	Ground for Fuel Level
J	Purple	Fuel Level – Digital Dash
H	Dk Grn	Fuel Tank Press. Sensor
C	White	Fuel Pump 2
A	Grey	Trans Cooler

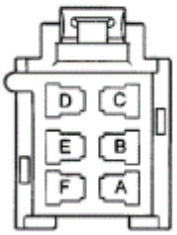
Dash		
Pin	**Color**	**Circuit**
21	Purple	IO7-Fuel Gauge
22	DkBlue/Wh	I09-Rt Turn
30	LtBlue/Wh	I08-Lt Turn
19	Lt Green	I03-Brights
2	Orange	Battery
25	Pink	12V Switch
1	Black	Ground
11	Or/Bll	IO11
12	Red/Blk	IO12
10	Pk/Blk	1O10
1	Ylw/Blk	SSR1
2	Pur/Wht	SSR2

Loop tied up under Glove Box for Future Use

Connector Diagrams

BCM Connector

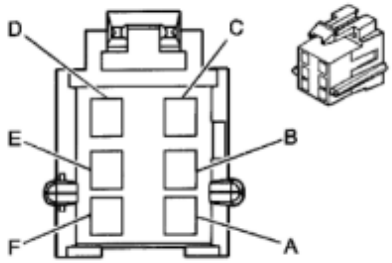
Body Control Module (BCM) C1



62480

Connector Part Information	• 1208-9527 • 6-Way F Metri-Pack 280 Series (GRN)		
Pin	**Wire Color**	**Circuit No.**	**Function**
A	TAN	694	Driver Door Lock Actuator Unlock Control
B	GRY	295	Door Lock Actuator Lock Control
C	RED/BLK	780	Driver Door Lock Switch Lock Signal
D	ORN/BLK	781	Driver Door Lock Switch Unlock Signal
E	GRY/BLK	1663	Passenger Door Lock Actuator Unlock Control
F	—	—	Not Used

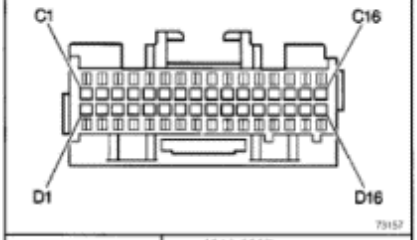
Body Control Module (BCM) C2



62456

Connector Part Information	• 1206-4752 • 6-Way F Metri-Pack 280 Series (BLK)		
Pin	**Wire Color**	**Circuit No.**	**Function**
A	BLK	650	Ground
B	ORN	40	Battery Positive Voltage
C	DK BLU	75	RAP Relay Switch Supply Voltage
D	BRN	4	Accessory Voltage
E	DK BLU/ WHT	149	Courtesy Lamp Supply Voltage
F	RED	102	Battery Positive Voltage

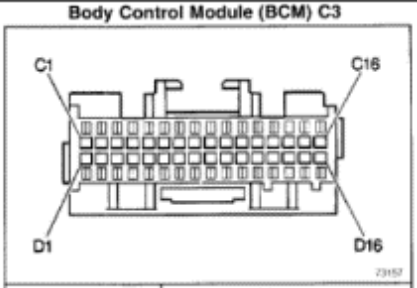
Body Control Module (BCM) C3



73157

Connector Part Information	• 1211-0207 • 32-Way F Metri-Pack 100 Series (BLU)		
Pin	**Wire Color**	**Circuit No.**	**Function**
C1	BLK	650	Ground
C2	PPL/WHT	1074	Ignition Key Resistor Low Reference
C3	—	—	Not Used
C4	PPL/WHT	237	Instrument Panel Lamp Control
C5	DK GRN	220	Starter Enable Control (V6 VIN K)
C6	DK GRN/ WHT	817	Vehicle Speed Signal (Gulf States)
C7	GRY	157	Interior Lamp Control
C8	BLK/WHT	624	Park Lamps Relay Control (Domestic)
C8	YEL	1977	Rear Fog Lamp Relay Control (Europe)
C9	BLK	28	Horn Relay Control
C10	—	—	Not Used
C11	YEL/BLK	625	Starter Enable Relay Control (Domestic)
C12	GRY	728	Security Indicator Control
C13	BLK/WHT	238	Seat Belt Switch Signal - Left
C14	LT GRN	80	Key In Ignition Switch Signal
C15	—	—	Not Used
C16	DK GRN	1376	Alarm Armed Signal

Body Control Module (BCM) C3

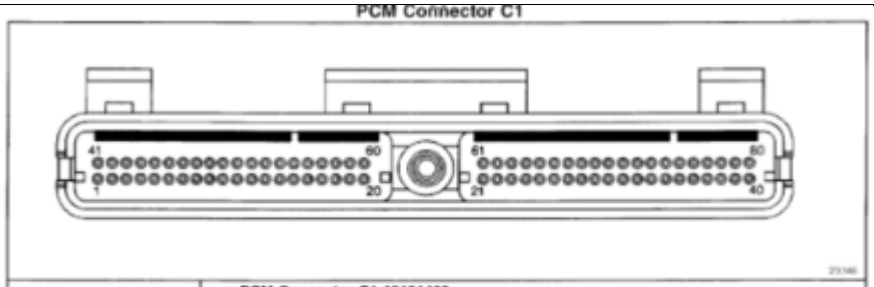


73157

Connector Part Information	• 1211-0207 • 32-Way F Metri-Pack 100 Series (BLU)		
Pin	**Wire Color**	**Circuit No.**	**Function**
D1	WHT	156	Courtesy Lamp Control
D2	LT BLU	263	Tamper Switch Signal
D3	BLK/WHT	1576	Rear Compartment Lid Release Signal
D4	BRN	253	Rear Compartment Lid Release Relay Control
D5	PNK	39	Ignition 1 Voltage
D6	YEL	43	Accessory Voltage
D7	WHT/BLK	1037	BCM Class 2 Serial Data
D8	DK BLU	229	Fuel Enable Control
D9	LT BLU	187	Rear Fog Lamp Switch Signal (Europe)
D10	—	—	Not Used
D11	GRY/BLK	745	Left Front Door Ajar Switch Signal
D12	BLK/WHT	746	Right Front Door Ajar Switch Signal
D13	ORN/BLK	737	Rear Compartment Lid Ajar Control
D14	LT GRN	1828	Shock Sensor Signal (Domestic)
D14	BLK	650	Ground (Europe)
D15	BRN	9	Park Lamp Supply Voltage
D16	—	—	Not Used

PCM Connector C1 (Blue) Pins 1-44

PCM Connector C1



Connector Part Information		• PCM Connector C1 12191489 • 80 Way Micro-Pack 100W Series Sealed (BLU)	
Pin	Wire Color	Circuit No.	Function
1	BLK	451	PCM Ground
2	LT GRN	1867	12 Volt Reference
3	PNK/BLK	1746	Fuel Injector 3 Control
4	LT GRN/BLK	1745	Fuel Injector 2 Control
5–7	—	—	Not Used
8	GRY	596	5 Volt Reference
9–10	—	—	Not Used
11	LT BLU	1876	KS 2 Signal
12	DK BLU/WHT	1869	CKP Sensor Signal
13–16	—	—	Not Used
17	DK BLU	1225	Transmission Fluid Pressure Switch Signal B
18	RED	1226	Transmission Fluid Pressure Switch Signal C
19	PNK	439	Ignition 1 Voltage
20	ORN	340	Battery Positive Voltage
21	YEL/BLK	1868	Low Reference
22	—	—	Not Used
23	GRY	720	Low Reference
24	—	—	Not Used
25	TAN	1671	HO2S Low Signal Bank 2 Sensor 2
26	TAN	1667	HO2S Low Signal Bank 2 Sensor 1
27	—	—	Not Used
28	TAN/WHT	1669	HO2S Low Signal Bank 1 Sensor 2
29	TAN/WHT	1653	HO2S Low Signal Bank 1 Sensor 1
30–31	—	—	Not Used
32	GRY	48	CPP Switch Signal
33	PPL	420	TCC Brake Switch Signal
34	ORN/BLK	434	Neutral Safety Switch Signal
35	—	—	Not Used
36	BLK	1744	Fuel Injector 1 Control
37	YEL/BLK	846	Fuel Injector 6 Control
38-39	—	—	Not Used
40	BLK	451	Ground
41	—	—	Not Used
42	DK GRN	335	Low Speed Cooling Fan Relay Control
43	RED/BLK	877	Fuel Injector 7 Control
44	LT BLU/BLK	844	Fuel Injector 4 Control

C1 - ECM

Pin 20 Battery Positive Voltage (Orange)

Pin 33 TCC Brake Switch Signal (Purple)

- This wire is in C220 under dash and can be connected there

Pin 42 Low Speed Cooling Fan Relay (Dark Green)

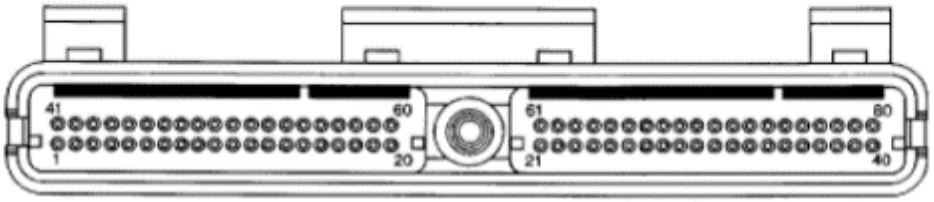
- This wire is in C230 Under Dash and can be connected there

Pin 34 Neutral Safety Switch (Orange/Black)

- (not used)

PCM Connector C1 (Blue) Pins 45-80

PCM Connector C1



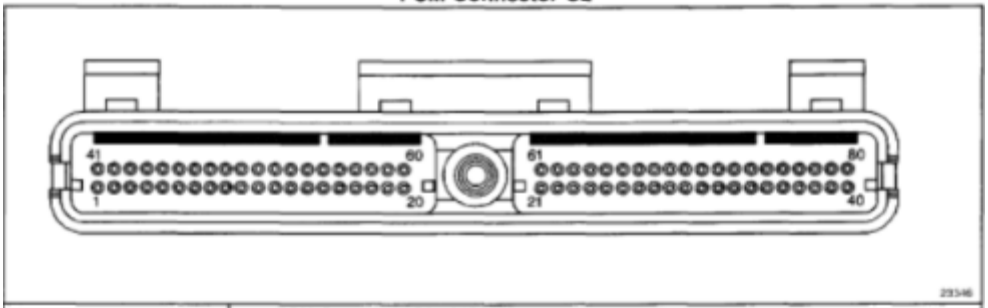
23346

Connector Part Information		• PCM Connector C1 12191489 • 80 Way Micro-Pack 100W Series Sealed (BLU)	
Pin	**Wire Color**	**Circuit No.**	**Function**
45	GRY	474	5-volt Reference A/C Refrigerant Pressure Sensor
46	GRY	474	5-volt Reference Fuel Tank Pressure Sensor
47	—	—	Not Used
48	GRY	416	5-volt Reference MAP Sensor
49-50	—	—	Not Used
51	DK BLU	496	KS 1 Signal
52	—	—	Not Used
53	BLK	407	Low Refereene Transmission Temperature Sensor
54	BLK	407	Low Reference MAP Sensor
55	—	—	Not Used
56	—	—	Not Used
57	ORN	340	Battery Positive Voltage
58	DK GRN	1049	ECM/PCM/VCM Class 2 Serial Data
59	—	—	Not Used
60	BLK	452	Low Reference
61	PNK/BLK	632	Low Reference Camshaft Position Sensor
62-64	—	—	Not Used
65	PPL	1670	HO2S High Signal Bank 2 Sensor 2
66	PPL	1666	HO2S High Signal Bank 2 Sensor 1
67	—	—	Not Used
68	PPL/WHT	1668	HO2S High Signal [Bank 1 Sensor 2
69	PPL/WHT	1665	HO2S High Signal Bank 1 Sensor 1
70	BRN	1174	Oil Level Switch Signal
71-72	—	—	Not Used
73	BRN/WHT	633	CMP Sensor Signal
74	YEL	410	ECT Sensor Signal
75	—	—	Not Used
76	BLK/WHT	845	Fuel Injector 5 Control
77	DK BLU/WHT	878	Fuel Injector 8 Control
78	—	—	Not Used
79	GRY or WHT	587 or 687	Skip Shift Solenoid Control M/T or 3-2 Shift Solenoid Control A/T
80	BLK	407	Low Reference

No Connections

PCM Connector C2 (Red) Pins 1-40

PCM Connector C2



Connector Part Information	• PCM Connector C2 12191488 • 80 Way Micro-Pack 100W Series Sealed (RED)		
Pin	**Wire Color**	**Circuit No.**	**Function**
1	BLK	451	Ground
2	BRN	418	TCC Solenoid - Output - PWM
3	—	—	Not Used
4	PNK/BLK	429	Air Injection Reaction Solenoid Relay - Coil - Control
5	—	—	Not Used
6	RED/BLK	1228	PC Solenoid Valve High Control Sol.A
7	—	—	Not Used
8	LT BLU/WHT	1229	PC Solenoid Valve Low Control Sol.A
9	DK GRN/WHT	465	Fuel Pump Relay Control Primary
10	WHT	121	Engine Speed Signal
11–12	—	—	Not Used
13	WHT	85	Cruise Control Engage Signal
14	RED/BLK	380	A/C Refrigerant Pressure Sensor Signal
15	RED	225	Generator Turn ON Signal
16	—	—	Not Used
17	DK GRN/WHT	762	A/C Request Signal
18	DK GRN	59	A/C Compressor Clutch Supply Voltage
19	—	—	Not Used
20	LT GRN/BLK	822	VSS Low Signal
21	PPL/WHT	821	VSS High Signal
22–23	—	—	Not Used
24	DK BLU	417	TP Sensor Signal
25	TAN	472	IAT Sensor Signal
26	PPL	2121	IC 1 Control
27	RED	2127	IC 7 Control
28	LT BLU/WHT	2126	IC 6 Control
29	DK GRN/WHT	2124	IC 4 Control
30	DK BLU	229	Fuel Enable Control
31	YEL	492	MAF Sensor Signal
32	LT GRN	432	MAP Sensor Signal
33	DK BLU	473	High Speed Cooling Fan Relay Control
34	DK GRN/WHT	428	EVAP Canister Purge Solenoid Control
35	—	—	Not Used
36	BRN	436	AIR Pump Relay Control
37	DK GRN	83	Cruise Control Inhibit Signal
38	—	—	Not Used
39	RED	631	12 Volt Reference
40	BLK	451	Ground

Pin 9 Fuel Pump Relay Control (Dk Grn/White)

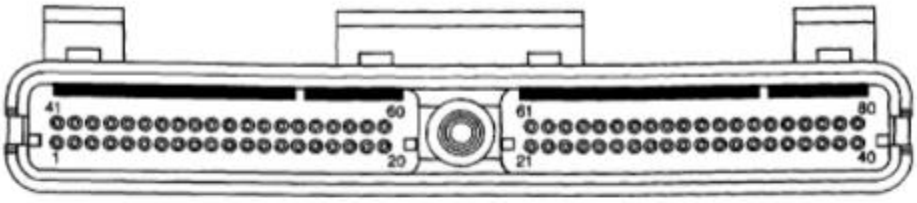
- This wire is in C230 Under Dash and can be connected there

Pin 33 High Speed Cooling Fan Relay (Dark Blue)

- This wire is in C230 Under Dash and can be connected there

PCM Connector C2 (Red) Pins 41-80

PCM Connector C2



Connector Part Information		• PCM Connector C2 12191488 • 80 Way Micro-Pack 100W Series Sealed (RED)	
Pin	**Wire Color**	**Circuit No.**	**Function**
41	—	—	Not Used
42	TAN/BLK	422	TCC Solenoid Valve Control
43	DK GRN/WHT	459	A/C Clutch Relay Control
44	LT GRN	1652	Reverse Lock Out Solenoid Control
45	WHT	1310	EVAP Canister Vent Solenoid Control
46	BRN/WHT	419	MIL Control
47	YEL/BLK	1223	2 - 3 Shift Solenoid Valve Control
48	LT GRN	1222	1 - 2 Shift Solenoid Valve Control
49	—	—	Not Used
50	DK GRN/WHT	817	VSS Signal
51	YEL/BLK	1227	TFT Sensor Signal
52	—	—	Not Used
53	GRY/BLK	1687	Ignition Retard Signal
54	PPL	1589	Fuel Level Sensor Signal
55–56	—	—	Not Used
57	PPL	719	Low Reference
58–59	—	—	Not Used
60	BRN	2129	Low Reference
61	BRN/WHT	2130	Low Reference
62	—	—	Not Used
63	PNK	1224	Transmission Fluid Pressure Switch Signal A
64	DK GRN	890	Fuel Tank Pressure Sensor Signal
65	—	—	Not Used
66	PPL/WHT	2128	IC 8 Control
67	RED/WHT	2122	IC 2 Control
68	DK GRN	2125	IC 5 Control
69	LT BLU	2123	IC 3 Control
70–75	—	—	Not Used
76	LT GRN/WHT	1749	IAC Coil B High Control
77	LT GRN/BLK	444	IAC Coil B Low Control
78	LT BLU/BLK	1748	IAC Coil A Low Control
79	LT BLU/WHT	1747	IAC Coil A High Control
80	—	—	Not Used

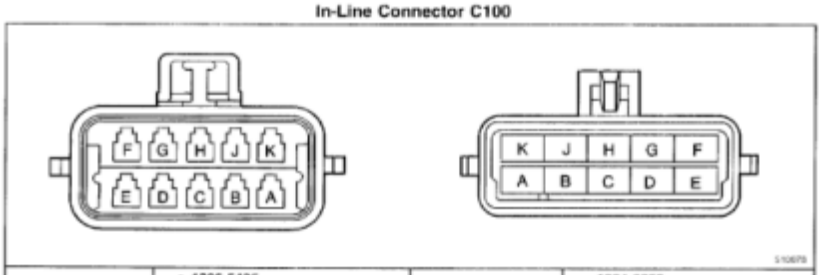
Pin 43 A/C Clutch Relay Control (Dk Grn/Wht)

- This wire is in C230 Under Dash and can be connected there

Pin 54 Fuel Level Sensor Signal (Purple)

- Using C230 instead as it is already under dash

Engine Bay Connector C100



In-Line Connector C100

Connector Part Information	• 1206-5425 • 10-Way F Metri-pack 150 Series (BLK)			Connector Part Information	• 1204-8253 • 10 - Way M Metri-pack 150 Series (BLK)		
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
A	PNK	639	Ignition 1 Voltage	A	PNK/WHT	639	Ignition 1 Voltage
B	DK GRN/ WHT	459	A/C Compressor Clutch Relay Control	B	DK GRN/ WHT	459	A/C Compressor Clutch Relay Control
C	DK GRN	59	A/C Compressor Clutch Supply Voltage	C	DK GRN	59	A/C Compressor Clutch Supply Voltage
D	GRY	596	5 Volt Reference (V8 VIN G) (+NW9)	D	GRY	596	5 Volt Reference (V8 VIN G) (+NW9)
E	DK BLU	417	TP Sensor Signal (V8 VIN G) (+NW9)	E	DK BLU	417	TP Sensor Signal (V8 VIN G) (+NW9)

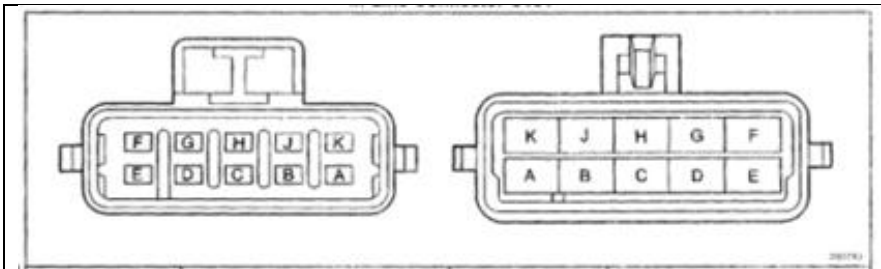
Pin A Ignition Voltage (Pink)

Pin B A/C Compressor Clutch Relay Control (Dk Grn/Wht) – Feed comes from C230 Pin F under dash. I used this wire to trigger a relay to compressor clutch wire. (eliminated factory relay)

Pin C A/C Compressor Clutch Supply Voltage (Dk Grn) From here to AC compressor - used my own relay circuit instead.

Pin G (not shown) – (Pink) – used for ECU 12V switched

Engine Bay Connector C101



Connector Part Information	• 1206-5426 • 10-Way F Metri-pack 150 Series (GRY)			Connector Part Information	• 1206-5648 • 10-Way M Metri-pack 150 Series (GRY)		
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
A	YEL/BLK	625	Starter Enable Relay Control	A	YEL/BLK	625	Starter Enable Relay Control
B	BLK/WHT	451	Ground (V6 VIN K)	B	BLK/WHT	451	Ground (V6 VIN K)
B	PNK	839	Ignition 1 Voltage (V8 VIN G)	B	PNK	839	Ignition 1 Voltage (V8 VIN G)
C	BRN	436	AIR Pump Relay Control (V8 VIN G)	C	BRN	436	AIR Pump Relay Control (V8 VIN G)
D	DK GRN/ WHT	465	Fuel Pump Relay Control [- Primary]	D	DK GRN/ WHT	465	Fuel Pump Relay Control [- Primary]

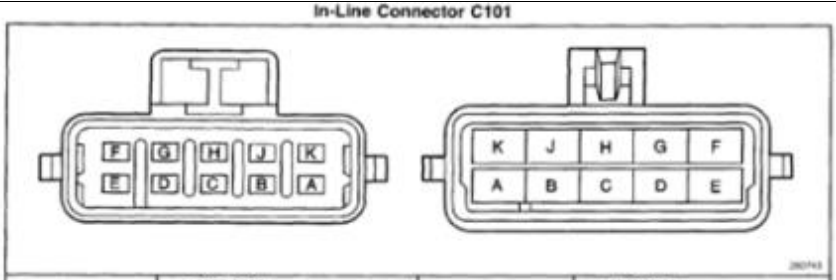
Pin A Starter Enable Relay Control (Yel/Blk)

- Ground for resistor key bypass

Pin B Ignition Voltage (Pink) – used for fan controller switched 12V

Pin D Fuel Pump Relay Control – hook to Holley fuel pump output (Green wire) (I chose to use C230 wiring and bypass factory relay.

In-Line Connector C101



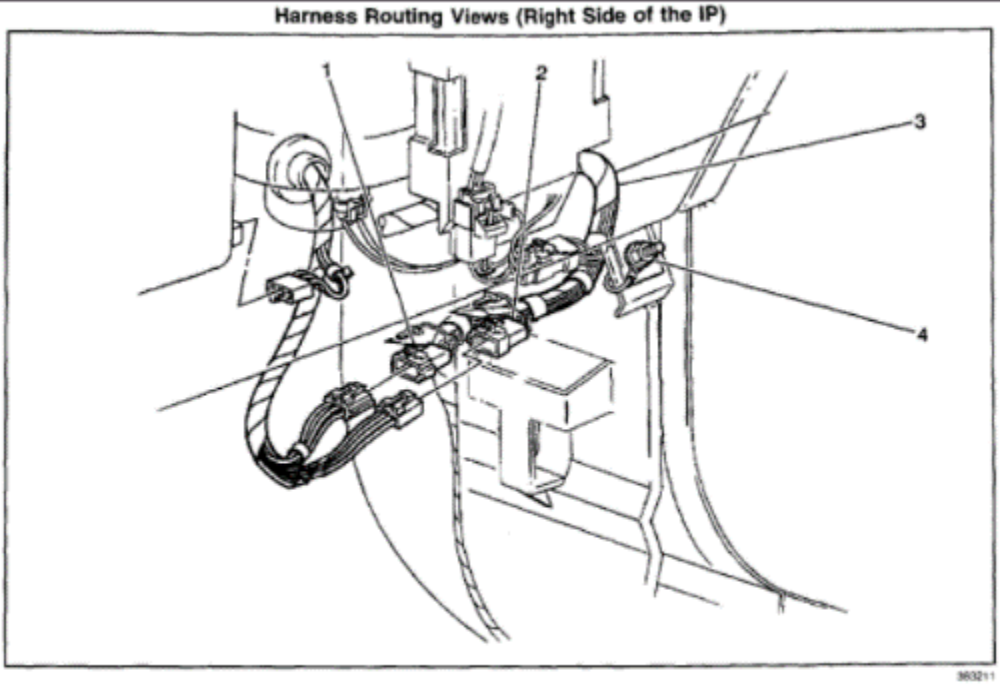
Connector Part Information		• 1206-5426 • 10-Way F Metri-pack 150 Series (GRY)		Connector Part Information		• 1206-5648 • 10-Way M Metri-pack 150 Series (GRY)	
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
E	PNK	439	Ignition 1 Voltage	E	PNK/BLK	439	Ignition 1 Voltage
F	—	—	Not Used	F	—	—	Not Used
G	ORN	340	Battery Positive Voltage	G	ORN	340	Battery Positive Voltage
H	BLK/WHT	451	Ground	H	BLK/WHT	451	Ground
J	PPL/WHT	1035	Starter Relay Coil Supply Voltage (V6 VIN K)	J	PPL/WHT	1035	Starter Relay Coil Supply Voltage (V6 VIN K)
K	DK GRN	220	Starter Enable Control (V6 VIN K)	K	DK GRN	220	Starter Enable Control (V6 VIN K)
K	GRY/BLK	1687	Ignition Retard Signal (V8 VIN G) (+NW9)	K	GRY/BLK	1687	Ignition Retard Signal (V8 VIN G) (+NW9)

Pin E Ignition Voltage (Pink) – Run to Alternator for switched 12V

Pin G Battery Positive Voltage (Orange)
I hooked my Holley Batt connections direct to the battery, but could use these if desired.

Pass Dash C220 and C230 Connectors

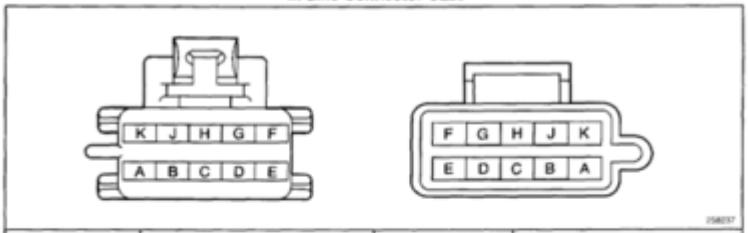
Harness Routing Views (Right Side of the IP)



Legend

(1) C220
(2) C230
(3) IP Wiring Harness
(4) G201

In-Line Connector C220



Connector Part Information		• 1206-4769 • 10-Way F Metri-pack 150 Series (NAT)		Connector Part Information		• 1206-4770 • 10-Way M Metri-pack 150 Series (NAT)	
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
A	TAN	31	Oil Pressure Indicator Control	A	TAN	31	Oil Pressure Indicator Control
B	GRY	48	CPP Switch Signal (With MM6/M49)	B	GRY	48	CPP Switch Signal (With MM6/M49)
C	PNK	539	Ignition 1 Voltage (With M30)	C	PNK	539	Ignition 1 Voltage (With M30)
D	PPL	420	TCC Brake Switch Signal (With M30)	D	PPL	420	TCC Brake Switch Signal (With M30)
E	BLK/WHT	451	Ground	E	BLK/WHT	451	Ground
F	ORN/BLK	1061	UART Serial Data [Secondary] (V6 VIN K)	F	ORN/BLK	1061	UART Serial Data [Secondary] (V6 VIN K)
G	BRN	141	Ignition 3 Voltage (With MM6/M49)	G	BRN	141	Ignition 3 Voltage (With MM6/M49)
H	ORN/BLK	434	Neutral Safety Switch Signal (With M30)	H	ORN/BLK	434	Neutral Safety Switch Signal (With M30)
H	LT GRN	24	Backup Lamp Supply Voltage (With MM6/M49)	H	LT GRN	24	Backup Lamp Supply Voltage (With MM6/M49)
J	YEL/BLK	625	Starter Enable Relay Control	J	YEL/BLK	625	Starter Enable Relay Control
K	DK GRN/WHT	817	Vehicle Speed Signal	K	DK GRN/WHT	817	Vehicle Speed Signal

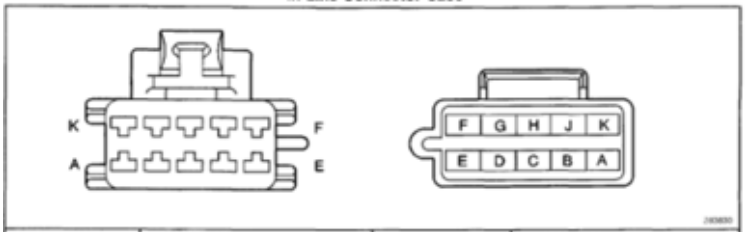
C220 – Under Dash

Pin D – This wire connects to Grey wire on Holley Transmission harness

Pin E – Ground this wire for BCM

Pin J – this is same wire we are grounding in C101 Pin A so not needed

In-Line Connector C230



Connector Part Information		• 1206-4871 • 10-Way F Metri-pack 150 Series (BLU)		Connector Part Information		• 1206-4872 • 10-Way M Metri-pack 150 Series (BLU)	
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
A	LT BLU/BLK	1688	5 Volt Reference (V6 VIN K)	A	GRY	1688	5 Volt Reference (V6 VIN K)
A	GRY	474	5 Volt Reference (V8 VIN G)	A	GRY	474	5 Volt Reference (V8 VIN G)
B	BRN/WHT	419	MIL Control	B	BRN/WHT	419	MIL Control
C	WHT	1310	EVAP Canister Vent Solenoid Control	C	WHT	1310	EVAP Canister Vent Solenoid Control
D	TAN	800	UART Serial Data [Primary] (V6 VIN K)	D	TAN	800	UART Serial Data [Primary] (V6 VIN K)
E	DK BLU	229	Fuel Enable Control	E	DK BLU	229	Fuel Enable Control
F	DK GRN/WHT	762	A/C Request Signal	F	DK GRN/WHT	762	A/C Request Signal
G	GRY	720	Low Reference	G	GRY	720	Low Reference
H	DK GRN	890	Fuel Tank Pressure Sensor Signal	H	DK GRN	890	Fuel Tank Pressure Sensor Signal
J	PPL	1589	Fuel Level Sensor Signal [-Primary]	J	PPL	1589	Fuel Level Sensor Signal [-Primary]
K	DK GRN	1049	PCM Class 2 Serial Data	K	DK GRN	1049	PCM Class 2 Serial Data

C230 Under Dash

Pin A – re-used to relay by gas tank for Transmission Cooler from Holley Grey/Green Output (mounted my cooler with fan in rear of car)

Pin C – re-used to relay by gas tank for Fuel Pump 2 from Holley Grey/Red Output

Pin F – AC request signal – split to Relay for AC compressor and Fan controller

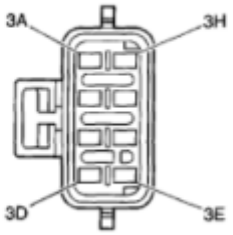
Pin G – Grounded sending unit at tank. Used this wire for feed to Relay by gas tank for future use. Dark Blue at tank.

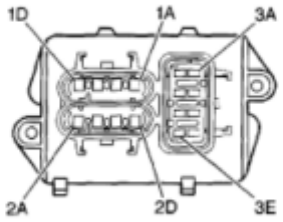
Pin H – re-used to relay by gas tank for Fuel Pump 1 from Holley Dark Green

Pin J – Fuel level signal – hooked to digital dash (make sure you ground the sending unit (not the purple) – I did it at the tank.)

Connector by Fuel Tank C405A/B/C/D

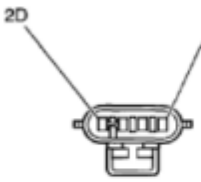
In-Line Connector C405A/C405B

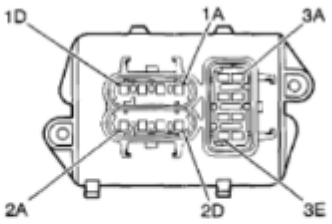




Connector Part Information		• 1531-7611 • 7-Way F Metri-pack 280 Series (NAT)		Connector Part Information		• 1532-6715 • 16-Way M Metri-pack Mixed Series (GRY)	
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
3A	PPL	30	Fuel Level Sensor Signal	3A	PPL	1589	Fuel Level Sensor Signal
3B	GRY	120	Fuel Pump Supply Voltage	3B	GRY	120	Fuel Pump Supply Voltage
3C	BLK	150	Ground	3C	BLK	1050	Ground
3D	GRY/BLK	416	5 Volt Reference	3D	GRY	474	5 Volt Reference
3E	—	—	Not Used	3E	—	—	Not Used
3F	BLK/WHT	651	Ground	3F	GRY	720	Low Reference
3G	ORN/BLK	469	Low Reference	3G	GRY	720	Low Reference
3H	DK GRN	890	Fuel Tank Pressure Sensor Signal	3H	DK GRN	890	Fuel Tank Pressure Sensor Signal

In-Line Connector C405D/C405B





Connector Part Information		• 1216-2144 • 4-Way F Metri-pack 150 Series (BLK)		Connector Part Information		• 1532-6715 • 16-Way M Metri-pack Mixed Series (GRY)	
Pin	Wire Color	Circuit No.	Function	Pin	Wire Color	Circuit No.	Function
2A	PNK	239	Ignition 1 Voltage	2A	PNK	239	Ignition 1 Voltage
2B	WHT	1310	EVAP Canister Vent Solenoid Control	2B	WHT	1310	EVAP Canister Vent Solenoid Control
2C–2D	—	—	Not Used	2C–2D	—	—	Not Used

Rewired connector:

Pin 1A – Fuel Pump 1 - Green

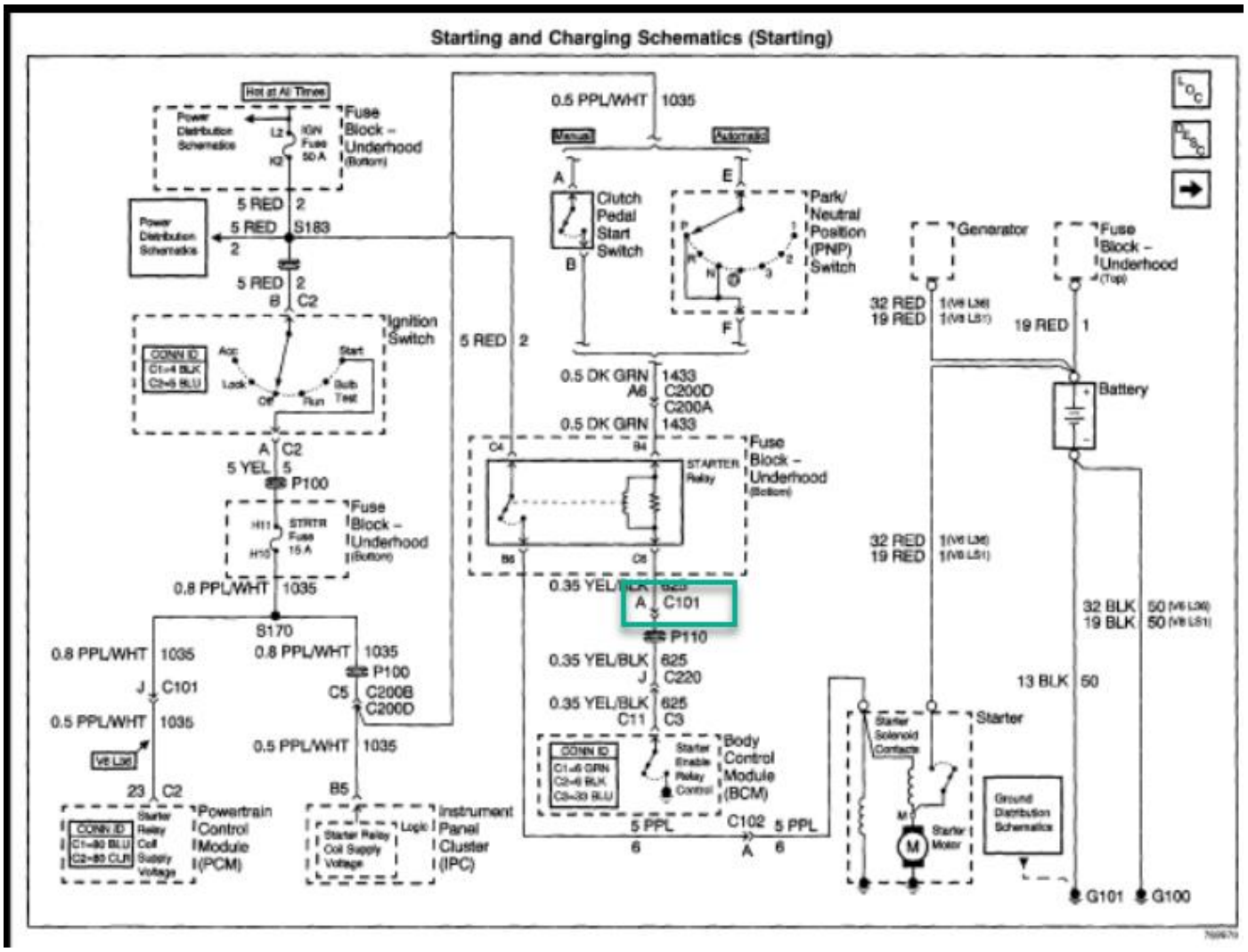
Pin 1B – Fuel Pump 2 - White

Pin 1C – Trans Cooler - Grey

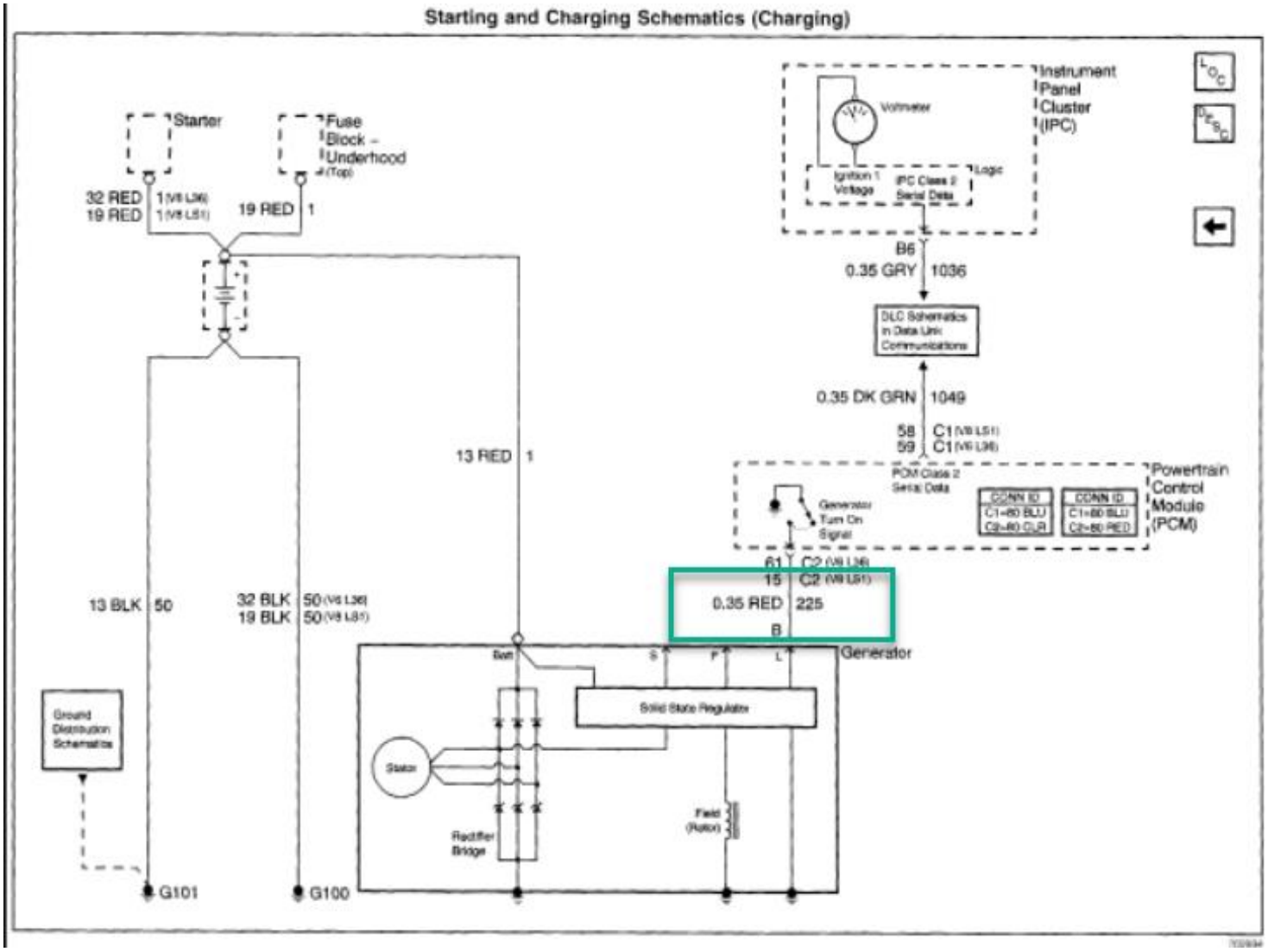
Pin 1D – Trans Cooler - Blue

Component and System Electrical Diagrams

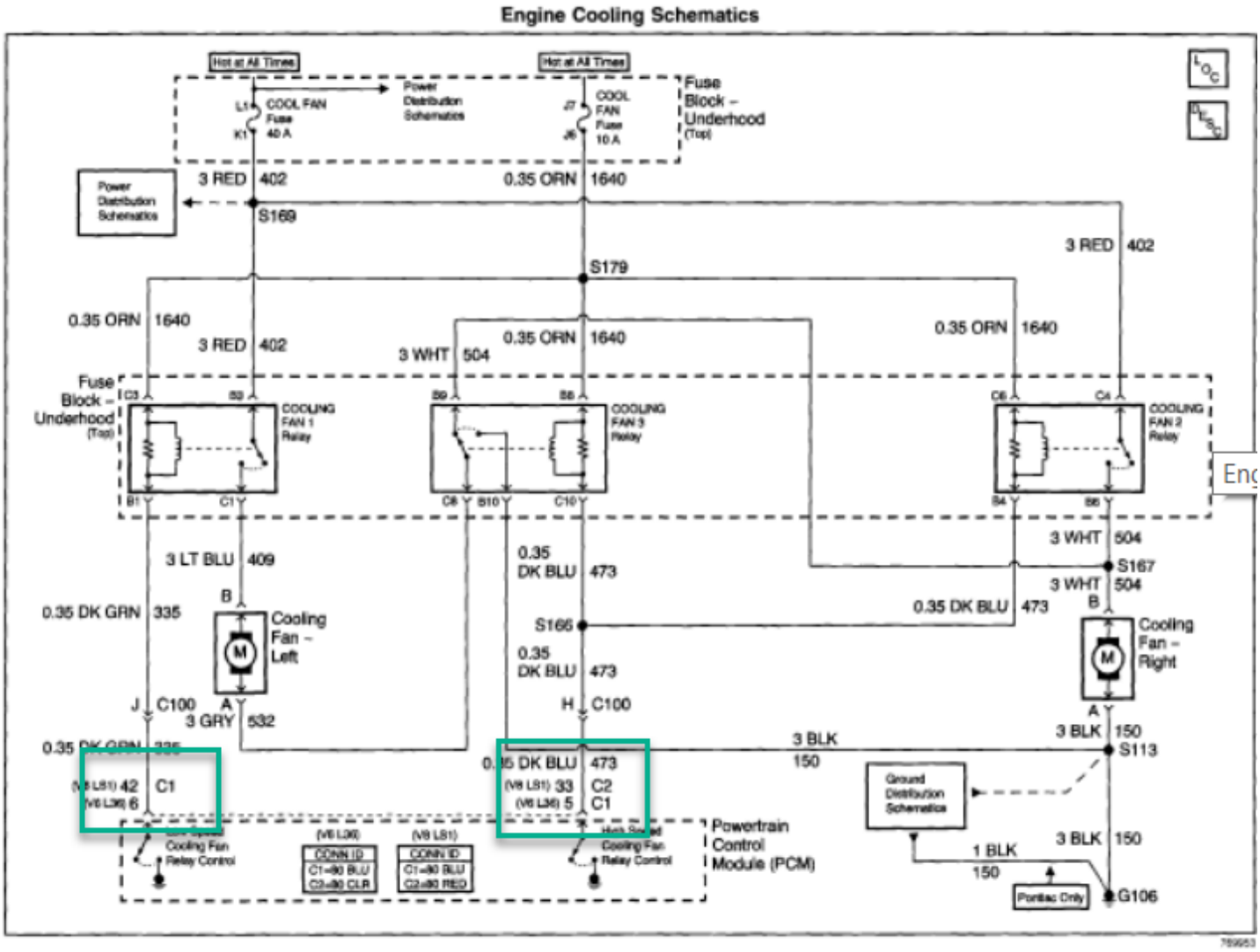
Starter



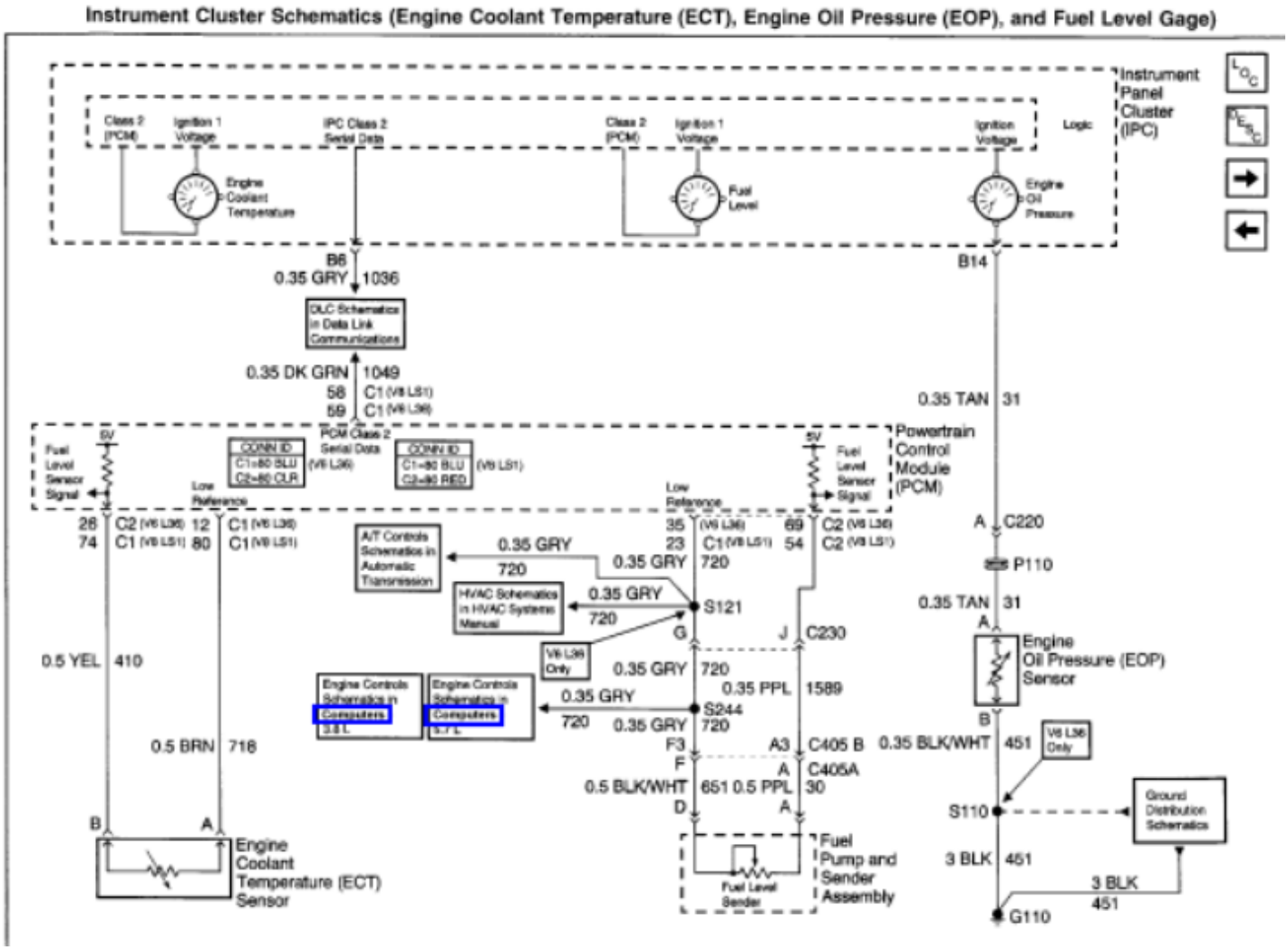
Alternator


Starting and Charging Schematics (Charging)
Starter
Fuse Block – Underhood (Top)
32 RED 1
19 RED 1
19 RED 1
Instrument Panel Cluster (IPC)
Voltmeter
Ignition 1 Voltage
IPC Class 2 Serial Data
Logic
B6
0.35 GRY 1036
DLC Schematics in Data Link Communications
0.35 DK GRN 1049
58 C1
59 C1
13 RED 1
PCM Class 2 Serial Data
Generator Turn On Signal
CONN ID
C1=60 BLU
C2=60 GLR
CONN ID
C1=60 BLU
C2=60 RED
Powertrain Control Module (PCM)
61 C2
15 C2
0.35 RED 225
B
13 BLK 50
32 BLK 50
19 BLK 50
Batt
S
F
L
Generator
Solid State Regulator
Ground Distribution Schematics
Stator
Rectifier Bridge
Field (Rotor)
G101
G100

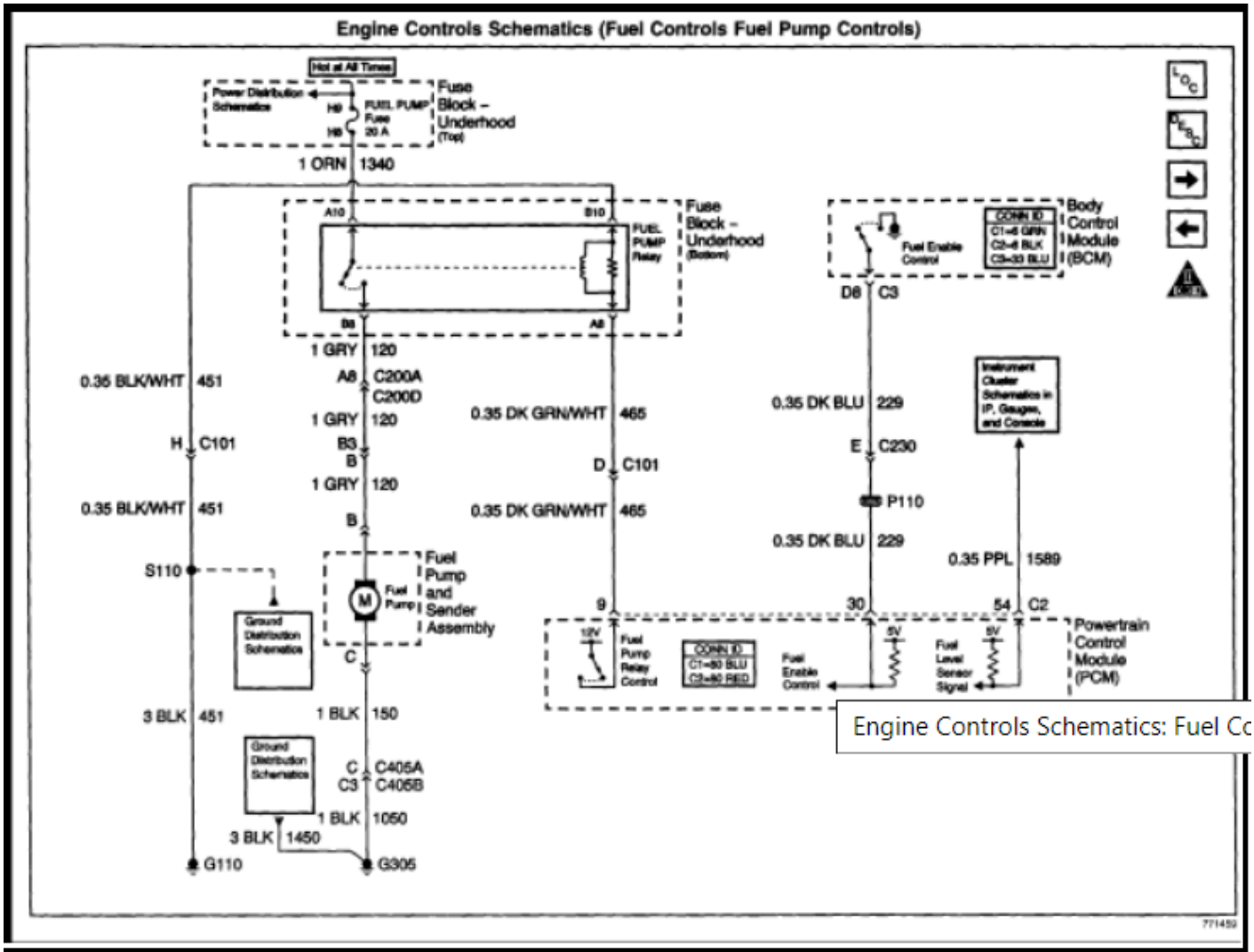
Cooling Fans



Fuel Level Sender

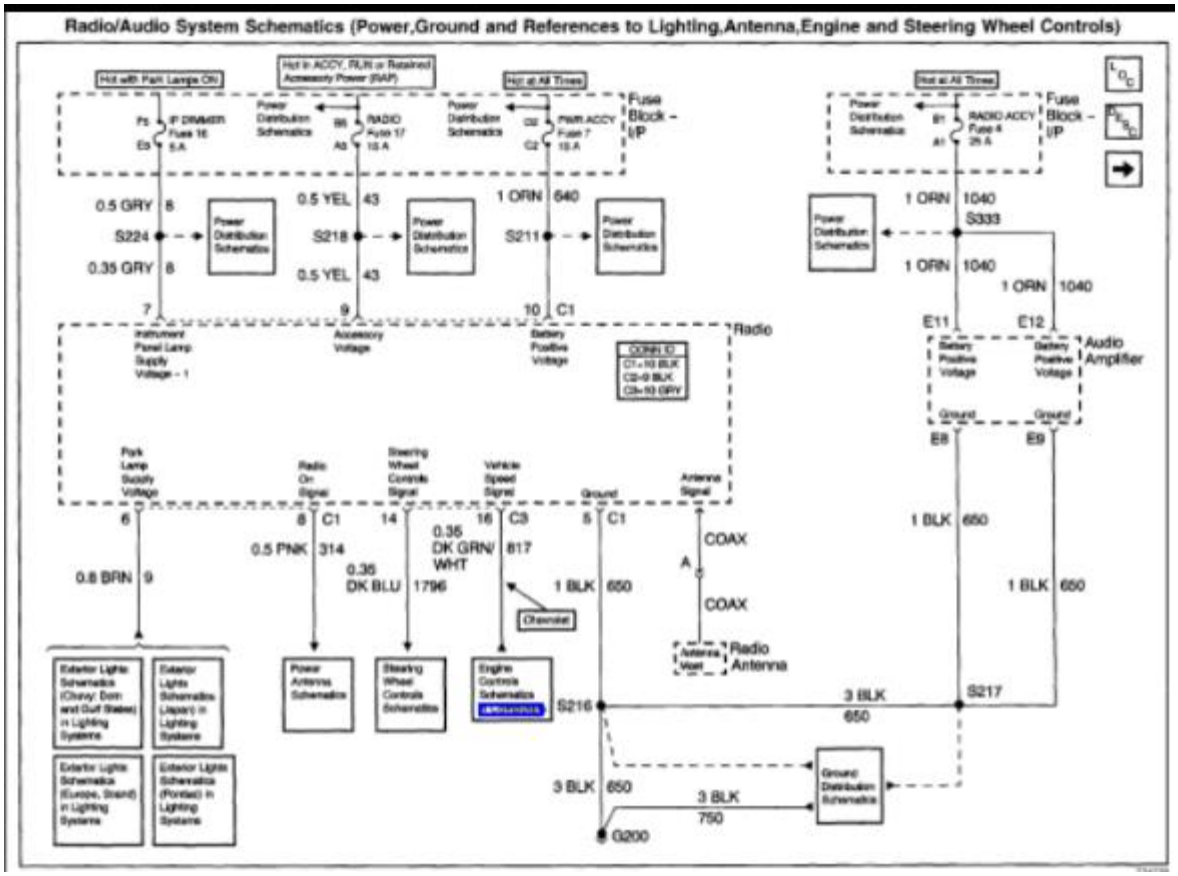


Fuel Pump



Engine Controls Schematics: Fuel Controls Fuel Pump Controls

Radio/Audio System Schematics (Power,Ground and References to Lighting,Antenna,Engine and Steering Wheel Controls)



Air Conditioning Info

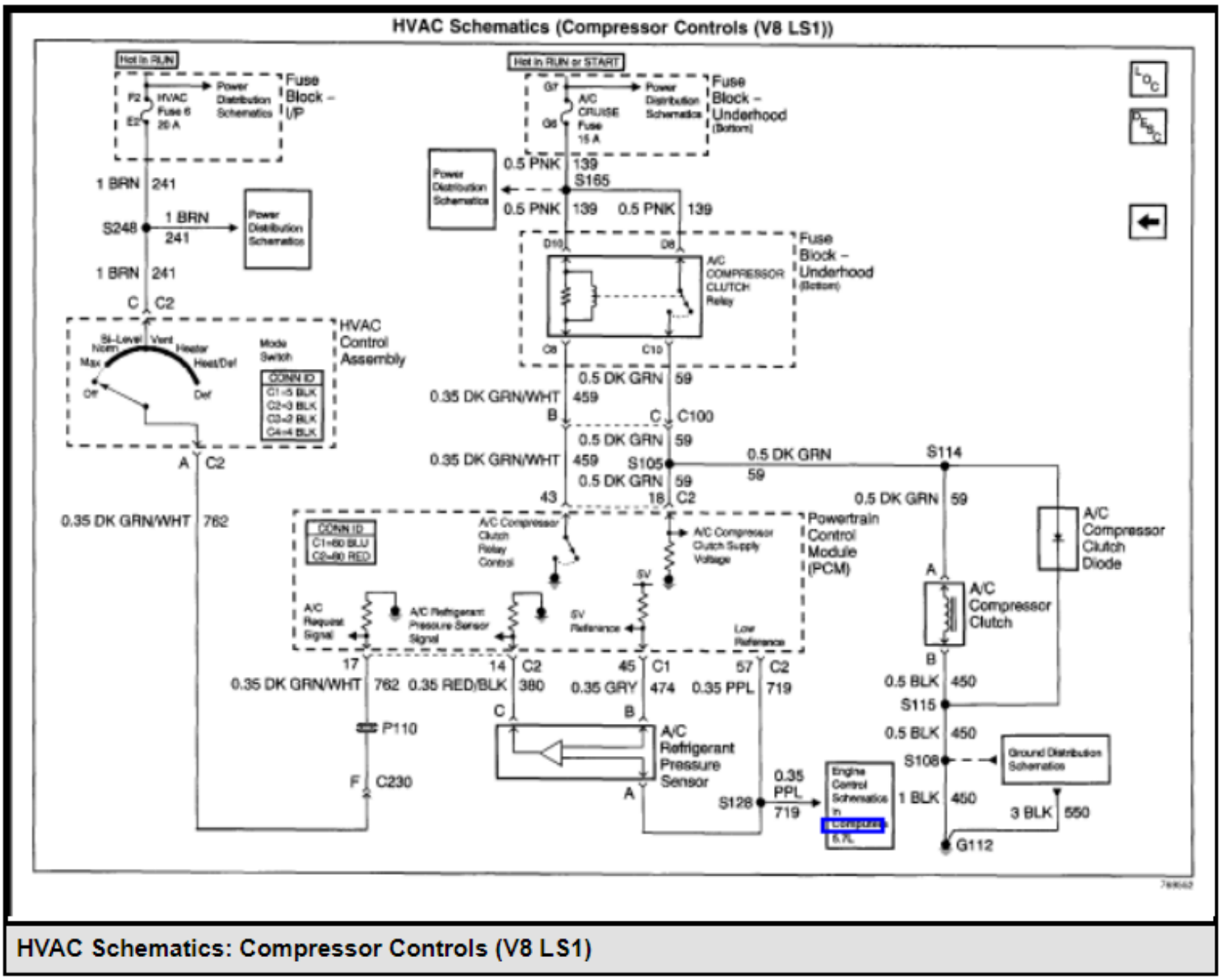
Female Pressure switch 10mm x 1.25

The A/C system is protected by the A/C refrigerant pressure sensor. The sensors output to the PCM is variable and is dependent upon pressure inside the line. A higher-pressure results in a higher voltage output. The A/C pressure is constantly monitored in order to allow the A/C compressor clutch to disengage as needed. If line pressures climb above **2826 kPa** (**410 psi**) or fall below **207 kPa** (**30 psi**), the PCM will turn off the A/C compressor clutch. When high side pressures drop back down between **1034-1724 kPa** (**150-250 psi**), the PCM will allow the A/C compressor to operate.

Trinary switches combine low and high pressure compressor clutch cut-off functions plus an electric fan engagement signal at 254 psi. The low pressure cut-off of these trinary switches is 30 psi and the high pressure cut-off is 406 psi. These are the replacement switches only for Vintage Air trinary switch kits.

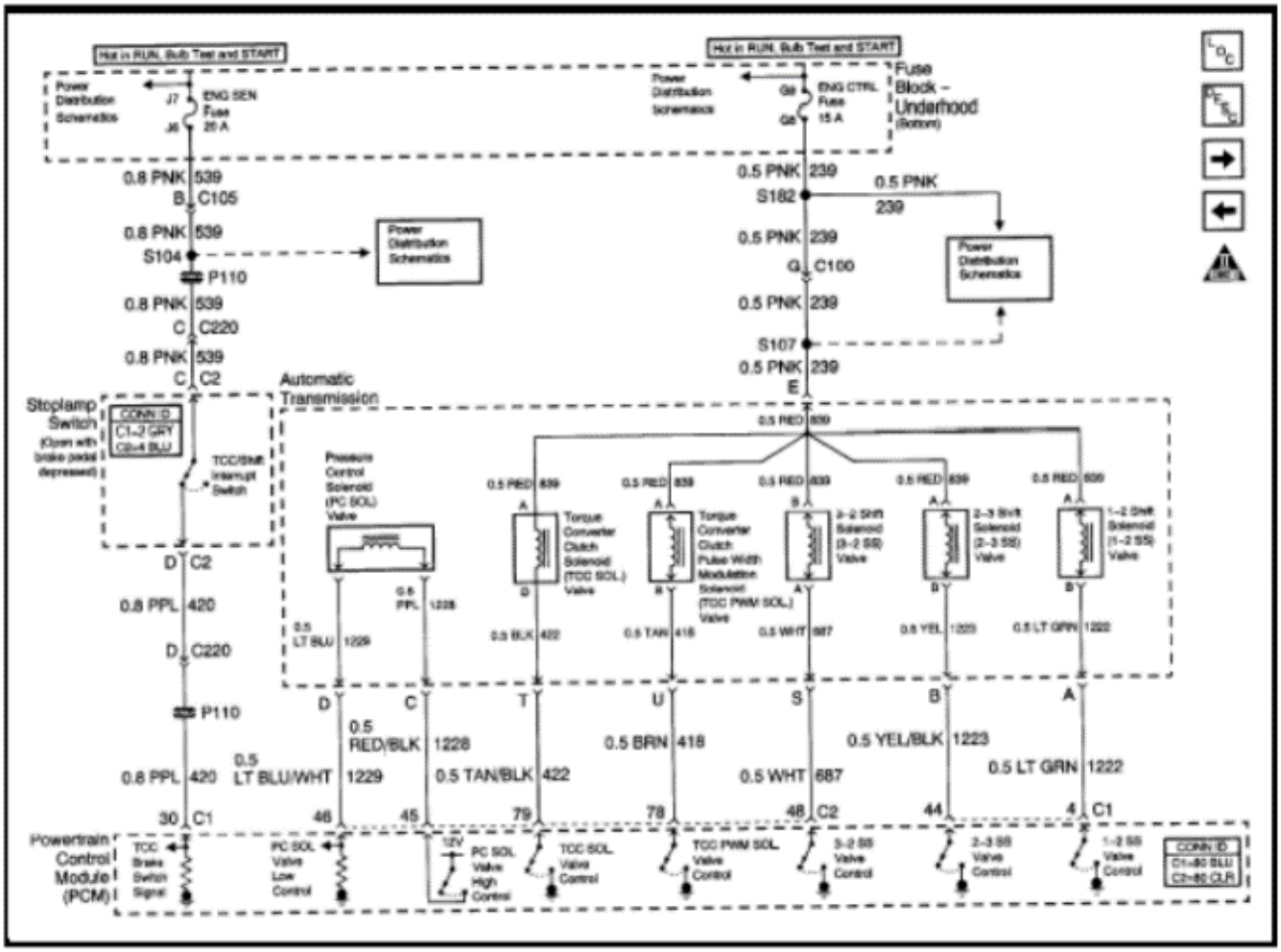
10mm Female Binary Switch Part #119-9886

From <https://coldhose.com/switches/10mm-female-binary-switch.html>

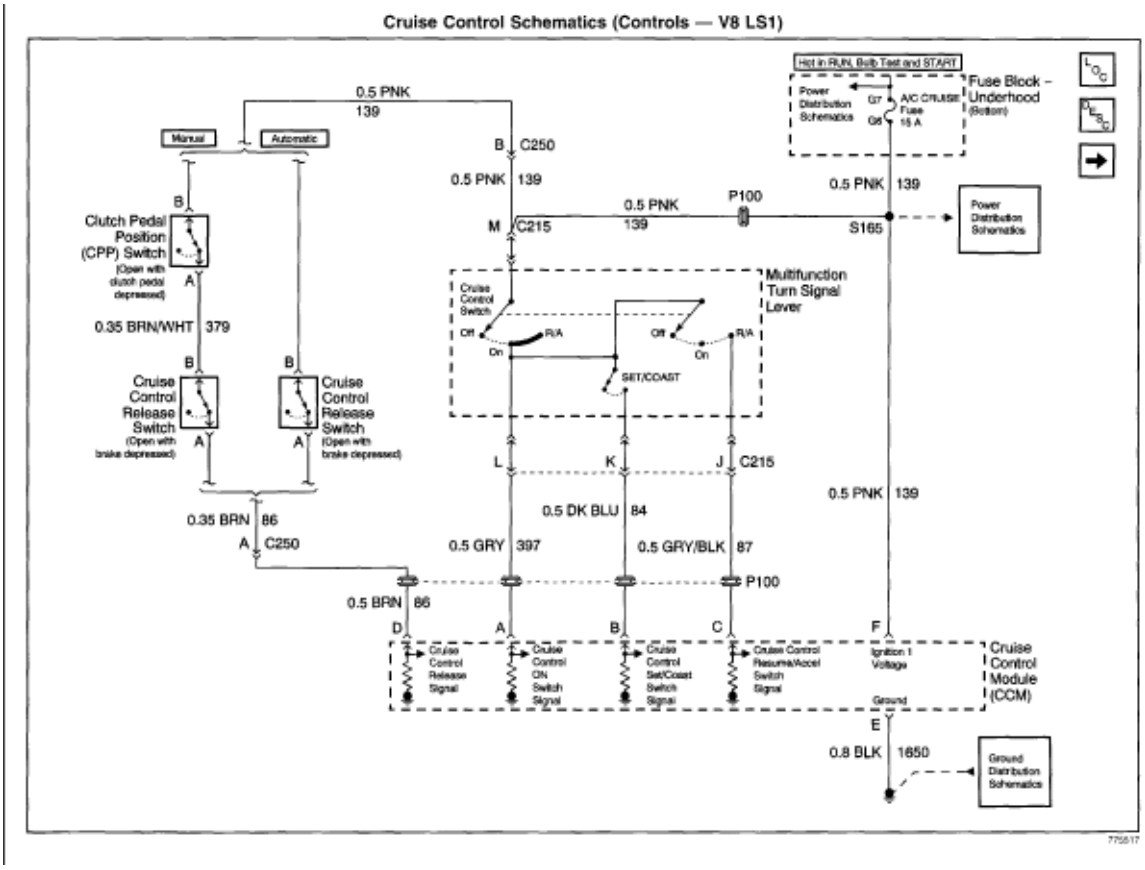


HVAC Schematics: Compressor Controls (V8 LS1)

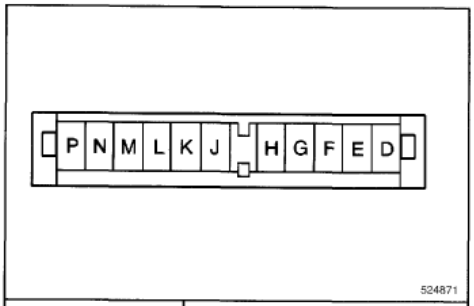
Torque Converter Brake Switch Diagram



Cruise Control Switch (used for line lock)



In-Line Connector C215

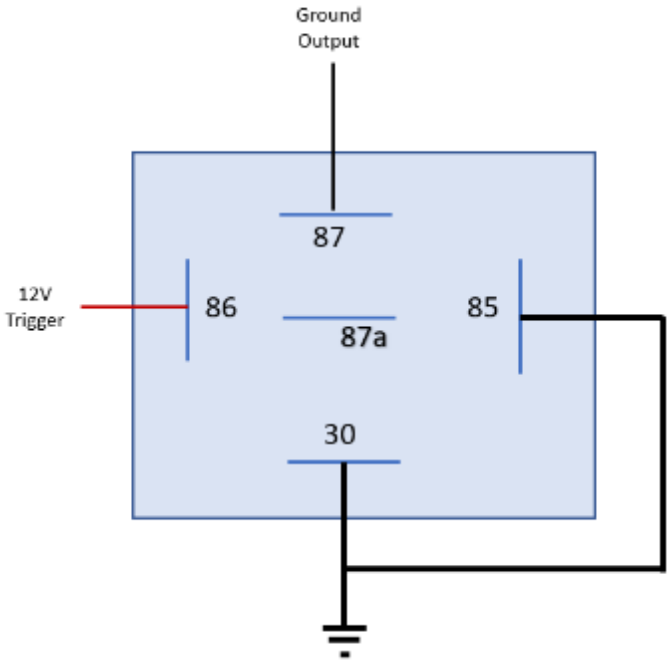


Connector Part Information	• 0629-4509 • 11-Way F Pack-Con (BLK)		
Pin	**Wire Color**	**Circuit No.**	**Function**
D	YEL	143	Accessory Voltage
E	DK GRN	113	Windshield Wiper Switch On Signal
F	GRY	112	Windshield Wiper Switch Low/Pulse Signal
G	PPL	92	Windshield Wiper Motor High Speed
H	PNK	94	Windshield Washer Switch Signal
J	GRY/BLK	87	Cruise Control Resume/Accel Switch Signal
K	DK BLU	84	Cruise Control Set/Coast Switch Signal
L	GRY	397	Cruise Control On Switch Signal
M	PNK	139	Ignition 1 Voltage
N	—	—	Not Used
P	—	—	Not Used

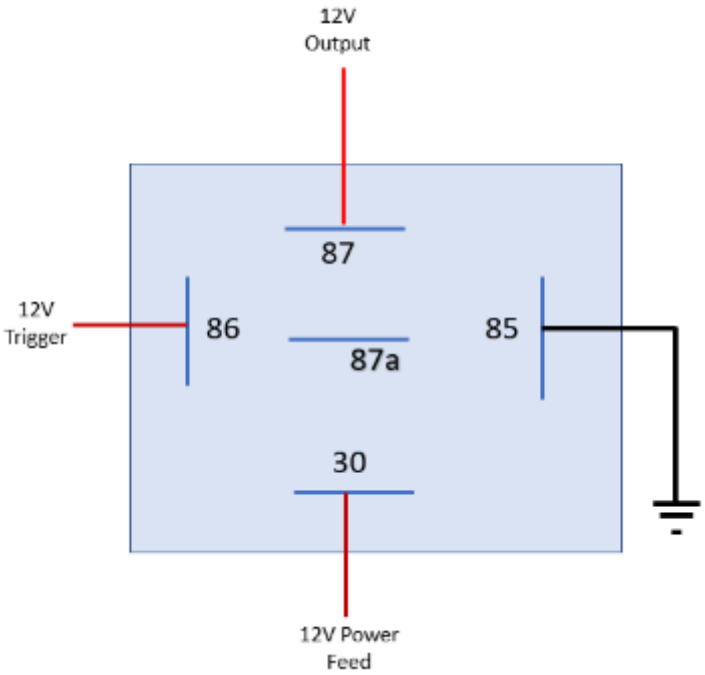
Pin K – +12V to Line Lock (Pin L has to be activated on switch for line lock to work -this is done by turning cruis on then the resume button activates line lock)

Relay Wiring

Changing 12V A/C Request signal to Ground for Relay



Positive Output



LS1 Holley Harness