increments (one tap = 1.6 km/h (1 mph) decrease). The accelerator pedal assembly may be depressed at any time to override the cruise system. Release of the accelerator pedal assembly will return the vehicle to the previously set cruise speed.

CAUTION: To keep the vehicle under control, and to prevent possible personal injury and vehicle damage, the cruise control should not be used on slippery or winding roads or in traffic of heavy or varying volume. When traveling down a steeply graded hill, the cruise control should be disengaged by depressing the brake pedal assembly lightly. The automatic transmission assembly can then be shifted into a lower gear range to help control vehicle speed.

ON-VEHICLE SERVICE

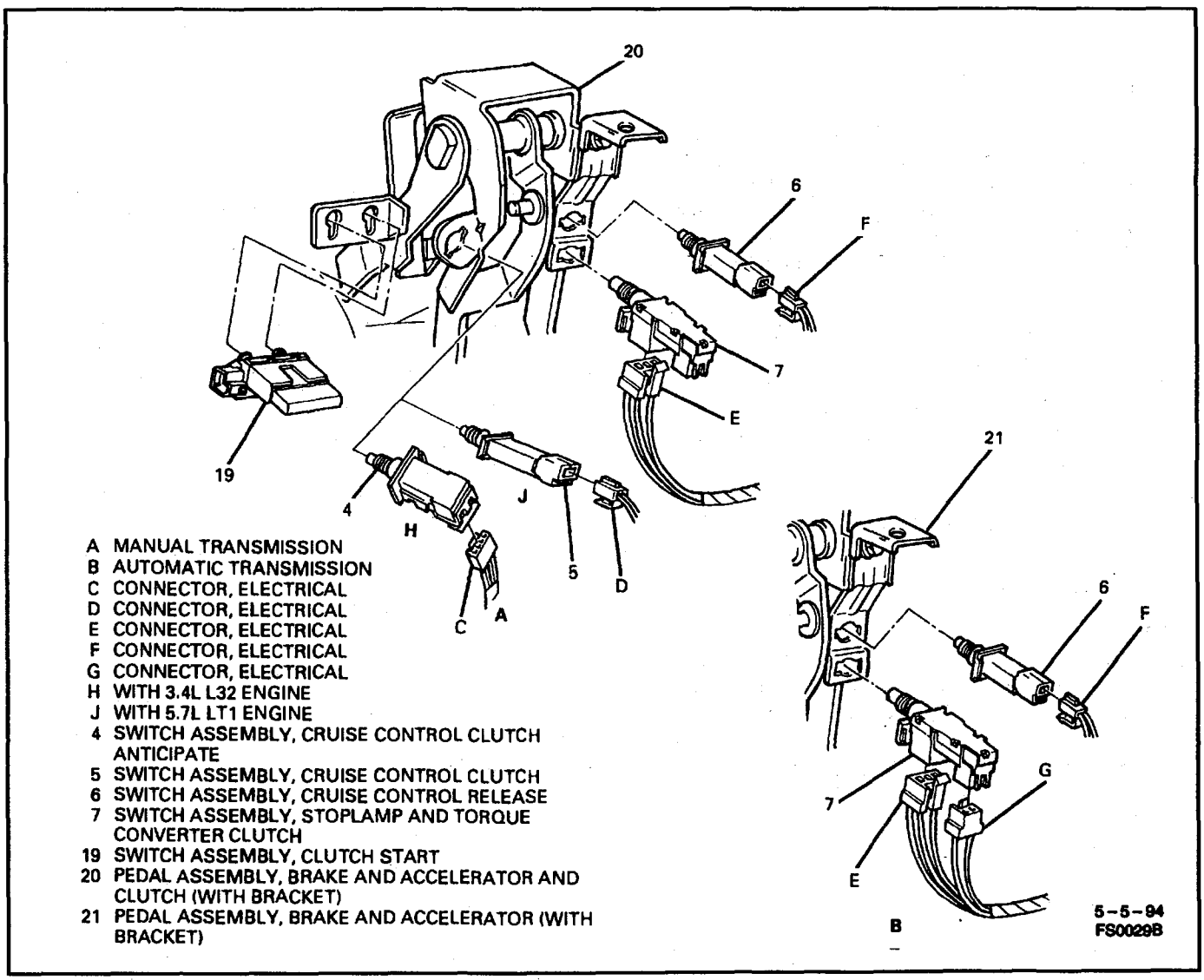
CRUISE CONTROL SWITCH ASSEMBLIES

Figure 2

Adjustment

The release switch assembly (6) must be adjusted at the same time the stoplamp and torque converter clutch (TCC) switch is adjusted. The clutch switch assembly (5) or clutch anticipate switch assembly (4) cannot be adjusted until after clutch pedal assembly (20) is installed.

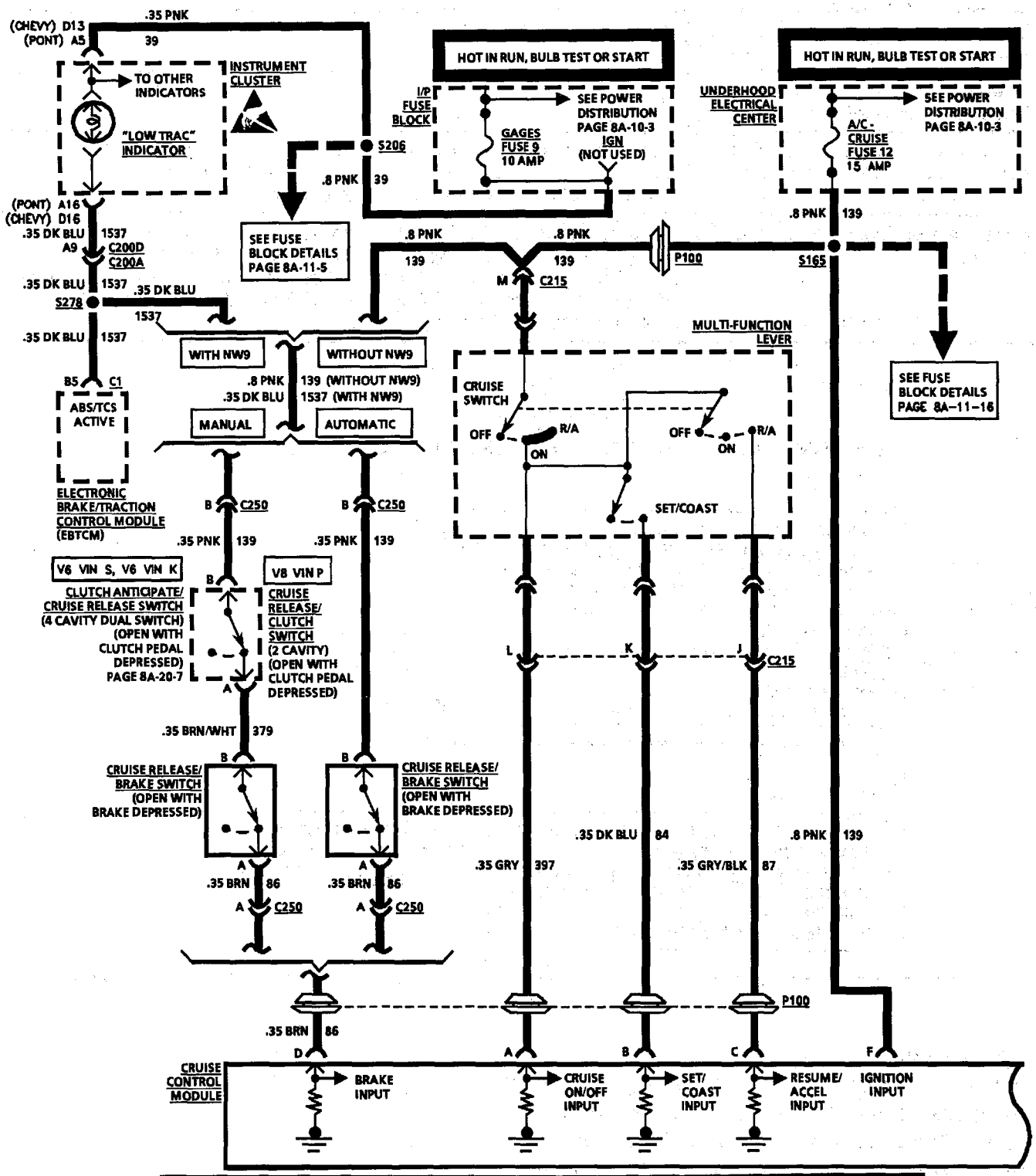
NOTICE: Proper stoplamp switch assembly adjustment is essential. Improper stoplamp switch assembly adjustment will cause brake drag and excessive brake lining wear.



A MANUAL TRANSMISSION
B AUTOMATIC TRANSMISSION
C CONNECTOR, ELECTRICAL
D CONNECTOR, ELECTRICAL
E CONNECTOR, ELECTRICAL
F CONNECTOR, ELECTRICAL
G CONNECTOR, ELECTRICAL
H WITH 3.4L L32 ENGINE
J WITH 5.7L LT1 ENGINE
4 SWITCH ASSEMBLY, CRUISE CONTROL CLUTCH ANTICIPATE
5 SWITCH ASSEMBLY, CRUISE CONTROL CLUTCH
6 SWITCH ASSEMBLY, CRUISE CONTROL RELEASE
7 SWITCH ASSEMBLY, STOPLAMP AND TORQUE CONVERTER CLUTCH
19 SWITCH ASSEMBLY, CLUTCH START
20 PEDAL ASSEMBLY, BRAKE AND ACCELERATOR AND CLUTCH (WITH BRACKET)
21 PEDAL ASSEMBLY, BRAKE AND ACCELERATOR (WITH BRACKET)

Figure 2 - Cruise Control Switch Assemblies

CRUISE CONTROL (K34)



! IMPORTANT:

- THE "SET TO GET CRUISE" FEATURE REQUIRES THE OPERATOR TO SET AN INITIAL SPEED BY USING THE "SET/COAST" BUTTON BEFORE THE "RESUME/ACCEL" SLIDER SWITCH WOULD BE ACTIVE.
- THE "BRAKE BEFORE CRUISE" FEATURE REQUIRES THE CRUISE MODULE TO SEE BRAKE INPUT AT TERMINAL "D" TO CHANGE STATES ONCE EACH IGNITION CYCLE BEFORE ALLOWING CRUISE TO OPERATE. (LATER PRODUCTION VEHICLES REQUIRE BRAKE INPUT AT EITHER TERMINAL "D" or "G").

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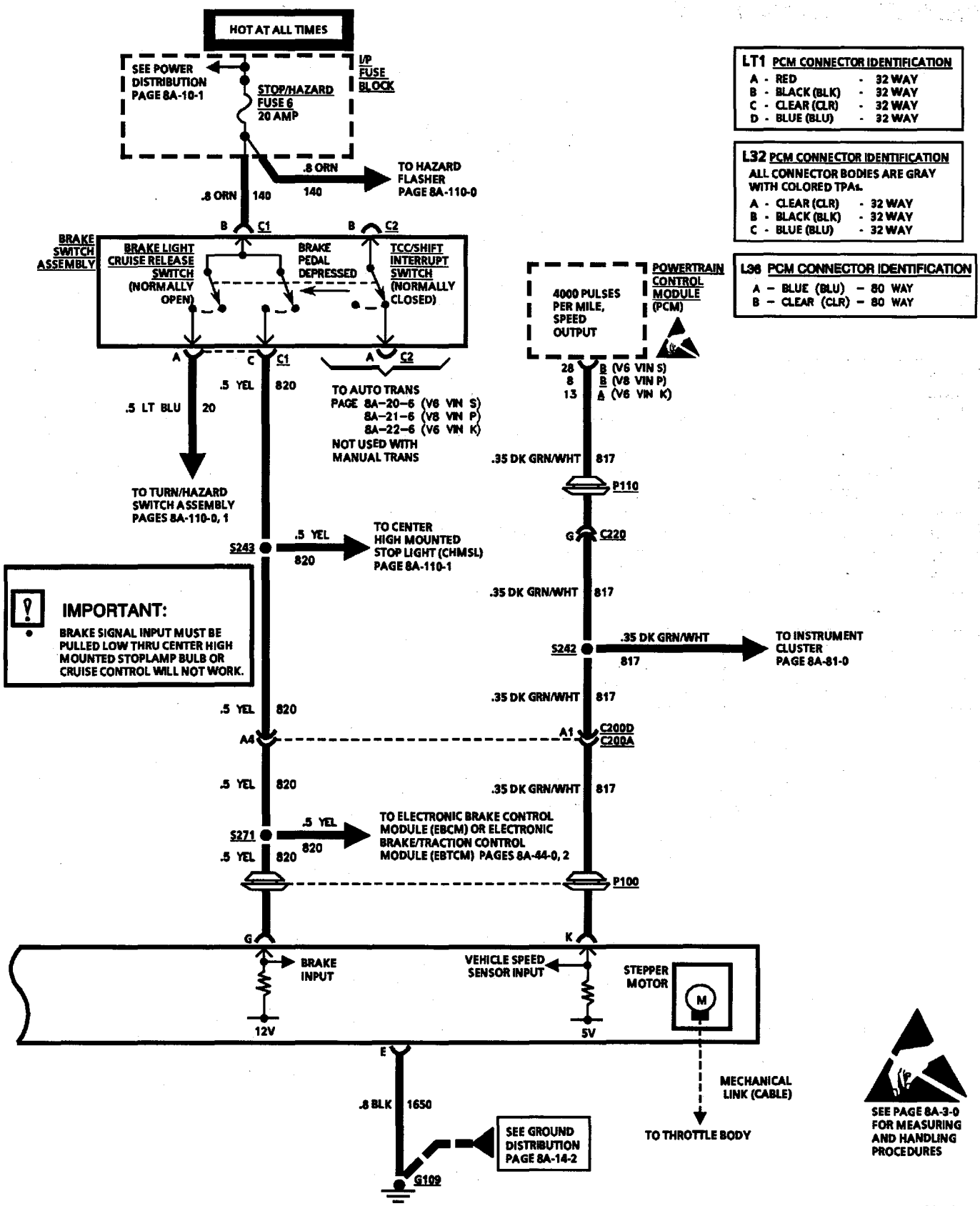

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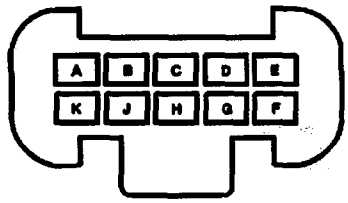
CRUISE CONTROL (K34)



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10 – WAY F METRI – PACK 150 SERIES
BLK
CRUISE CONTROL MODULE

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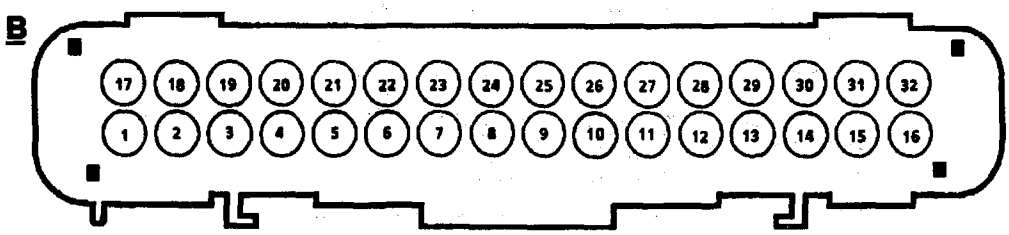
CAVITY	WIRE COLOR	CKT	DESCRIPTION	PAGE
A	GRY	397	CRUISE CONTROL SWITCH-ON	8A-34-0
B	DK BLU	84	CRUISE CONTROL SWITCH-SET/COAST	8A-34-0
C	GRY/BLK	87	CRUISE CONTROL SWTICH-RESUME/ACCEL	8A-34-0
D	BRN	86	CRUISE RELEASE/BRAKE SWITCH OUTPUT	8A-34-0
E	BLK	1650	GROUND	8A-34-1
F	PNK	139	POWER FEED FROM A/C-CRUISE FUSE #12	8A-34-0
G	YEL	820	BRAKE DEPRESSED INPUT	8A-34-1
K	DK GRN/WHT	817	VEHICLE SPEED SIGNAL	8A-34-1



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32 – WAY F MICRO – PACK 100 SERIES
NAT
POWERTRAIN CONTROL MODULE
(V6 VIN S) AND (V8 VIN P)

V6 VIN S
CONNECTOR ASSEMBLY BREAKDOWN

TPA	- 12129021 (BLK)
SEAL	- 12146093
STRAIN RELIEF	- 12129030
CONNECTOR	- 12129025

V8 VIN P
CONNECTOR ASSEMBLY BREAKDOWN

TPA	- 12129021 (BLK)
SEAL	- 12146093
STRAIN RELIEF	- 12129028
CONNECTOR	- 12129025

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C215

FORWARD LAMP HARNESS TO STEERING COLUMN HARNESS

06294509

11 – WAY F PACK – CON 1
BLK

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COMPONENT	LOCATION	201-PG	FIG.	CONN
Brake Switch Assembly	Mounted in lower hole of brake pedal bracket (2 conn with Automatic), (1 conn with Manual) same switch for both	0	1	
Clutch Anticipate/Cruise Release Switch (all V6 Manual)	Mounted in clutch pedal bracket (4 cavity conn)	0	1	202-12
Cruise Control Module	Front LH side of vehicle, mounted to frame rail, forward of wheelhouse	19	36	202-12
Cruise Release/Brake Switch all with K34)	Mounted in upper hole of brake pedal bracket 2 cavity conn)	0	1	
Cruise Release/Clutch Switch V8 Manual with K34)	Mounted in clutch pedal bracket (2 cavity conn)	0	1	
Electronic Brake/Traction Control Module (EBTCM)	Under I/P, next to LH hinge pillar, just above pass Thru Grommet	8	14	202-13
I/P Fuse Block	LH side of I/P Carrier, on the side	8	15	202-16
Instrument Cluster	LH side of I/P			202-16
Multi-Function Lever	Left Arm on Steering Column	27	53	
Powertrain Control Module (PCM) (V6 VIN S)	In Engine Compartment, rearward of RH Shock Tower	19	35	202-18
Powertrain Control Module (PCM) (V8 VIN P)	In Engine Compartment, rearward of RH Shock Tower	19	35	202-20
Underhood Electrical Center	LH side of Engine Compartment, forward of wheelhouse	19	36	202-22
C200A (17 cavities)	Forward Lamp to I/P Harn, between LH kick panel and Steering Column	25	49	202-2
C200D (48 cavities)	Part of I/P Harn, between LH kick panel and Steering Column	25	49	202-2
C215 (11 cavities)	Forward Lamp to Steering column Harn, Near base of Steering Column			202-4
C220 (10 cavities)	I/P to Engine Harn, Under RH side of I/P, behind kick panel	20	37	202-6
C250 (2 cavities)	Forward Lamp Harn to Clutch Jumper Harn, near brake/clutch pedal bracket	0, 1	1, 2	
G109	Bolted to left front frame rail (2 rings,1 wire and braided strap)	11	21	

CRUISE CONTROL (K34)

COMPONENT	LOCATION	201-PG	FIG.	CONN
P100	Left side in dash panel, Engine to Passenger Compartment...	19	36	
P110	Right side in dash panel, Engine to Passenger Compartment	19	35	
S165	Forward Lamp Harn, approx 7 cm from Electrical Center breakout			
S206	I/P Harn, approx 18 cm from Convenience Center (Pont) or from Instrument Cluster (Chevy) breakouts			
S242	I/P Harn, approx 26 cm from Instrument Cluster Conn (Chevy) or 40 cm fron Convenience Center breakout (Pont)			
S243	I/P Harn, approx 14 cm from Fuel Pump Relay breakout	7	13	
S271	Forward Lamp Harn, approx 19 cm from breakout inboard of P100	8	14	
S278	Forward Lamp Harn, approx 9 cm from EBCM breakout			

For a Service Part Cross Reference List and Information, refer to SECTION 8A-200.

TROUBLESHOOTING HINTS

(Perform before beginning System Diagnosis)

1. Check that Cruise Control Module Linkage is connected and moving freely
2. Check Cruise Cable Adjustment
3. Check for poor connection at G109
4. Check connection at Cruise Control Module
5. Check Brake Switch Adjustments
   - Make sure ABS/TCS DTC(s) are diagnosed first. An open CHMSL Circuit or "LOW TRAC" Indicator Circuit will set a DTC and also disable the Cruise Control Module. Check for burnt CHMSL Bulbs or "LOW TRAC" Indicator Lamp.
   - Check for a broken (or partially broken) wire inside of the insulation which could cause system malfunction but prove "GOOD" in a continuity/voltage check with a system disconnected. These circuits may be intermittent or resistive when loaded, and if possible, should be checked by monitoring for a voltage drop with the system operational (under load).
   - Check for proper installation of aftermarket electronic equipment which may affect the integrity of other systems (see "Troubleshooting Procedures," page 8A-4-0).
   - Refer to System Diagnosis.

Important:

- Cruise will not control speed down large grades.
- Cruise Performance may degrade with heavy loads, such as trailering, depending on Powertrain capabilities.

Important:

- The "Set To Get Cruise" feature requires the Operator to set an initial speed by using the "Set/Coast" button before the "Resume/Accel" Slider Switch would be active.
- The "Brake Before Cruise" feature requires the Cruise Module to see brake input at terminal "D" to change states once each Ignition Cycle before allowing cruise to operate. (later production vehicles require brake input at either terminal "D" or "G").

SYSTEM DIAGNOSIS

- Perform the System Check and refer to the Symptom Table for the appropriate diagnostic procedure(s).
- If speedometer is inoperative, refer to "Vehicle Speed Sensor," page 8A-33-2.

SYSTEM CHECK

ACTION	NORMAL RESULTS
[1] • Drive vehicle above 25 mph. • Cruise Switch to "ON." • Depress Set Switch once and release. • Remove foot from accelerator pedal.	Vehicle maintains set speed (at time of button release).
[2] • Depress and hold Set Switch until vehicle speed decreases by 4 to 5 mph. • Release Set Switch.	Vehicle decelerates and maintains a new lower set speed, if speed is above 25 mph.
[3] • Depress and hold R/A Switch until vehicle speed increases by 4 to 5 mph. • Release R/A Switch.	Vehicle accelerates and maintains a new higher set speed.
[4] • Depress brake pedal slightly.	Cruise Control disengages. Memory unchanged.
[5] • Depress R/A Switch once (less than 3/4 second) and release.	Vehicle accelerates to and maintains previous set speed.
[6] • Depress R/A Switch once and release (less than 1/2 of a second).	Vehicle speed increases by 1 mph and maintains new set speed.
[7] • Depress Set Switch once and release (less than 1/2 of a second).	Vehicle speed decreases by 1 mph and maintains new set speed.
[8] • Depress Set and R/A Switches simultaneously.	Vehicle put in Non-Cruise mode with memory unchanged.
[9] • Depress R/A Switch once (less than 3/4 second) and release.	Vehicle accelerates to and maintains previous set speed.
[10] • Cruise Switch to "OFF."	Cruise Control disengages. Memory is lost.

ADDITIONAL SYSTEM CHECK

The following Procedure may be used as a System Check to verify operation of the Cruise Control System after repairs.

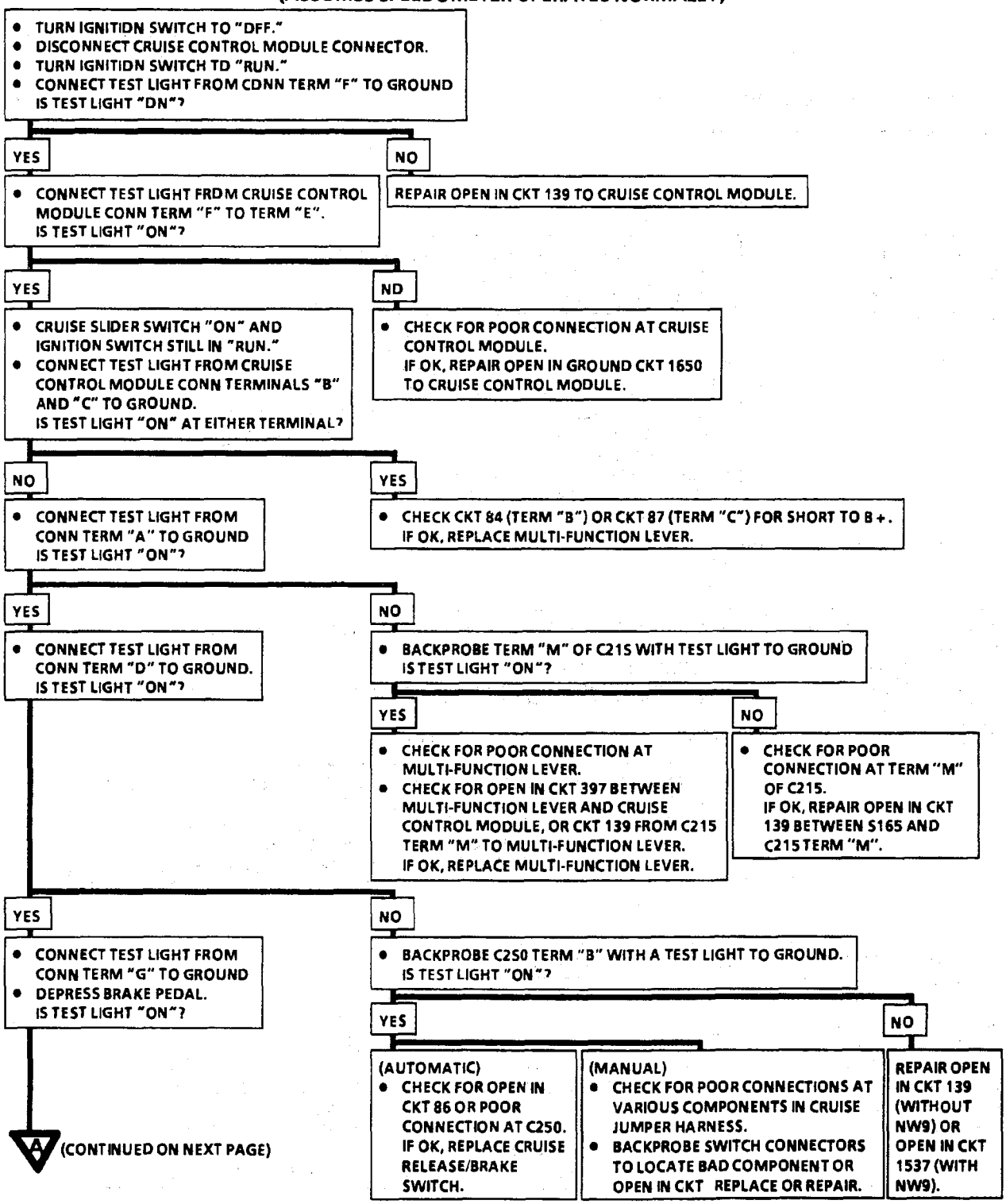
- Set Park Brake.
- Start Engine.
- Move Cruise Switch to "OFF."
- Move Cruise Switch to "ON" and then wait at least 3 seconds before doing next step.
- Fully depress and hold brake pedal.
- Push Cruise Set Switch in and hold.
- Hold Cruise Slider Switch in "R/A" position.
- After 10 seconds, release brake pedal while still holding R/A and Set Switches.
- Engine RPM should increase momentarily then return to normal.

CRUISE CONTROL (K34)

SYMPTOM TABLE

SYMPTOM	PROCEDURE	PAGE NUMBER
Cruise Control will not engage. Speedometer operates normally.	Chart #1	8A-34-7
Cruise Control will not resume, accelerate or tap-up.	Chart #2	8A-34-9
Cruise Control will not engage. Speedometer does not operate.	See"Vehicle Speed Sensor," page 8A-33-2.	
Cruise Control "Surges" around a set speed. Speedometer operates normally.	With DVM measure frequency at Cruise Control Module Conn Term "K". If fluctuating replace Vehicle Speed Sensor or Shaft as necessary. (Improper tolerance with Shaft causing a wobble.)	

CHART #1
CRUISE CONTROL WILL NOT ENGAGE
(ASSUMES SPEEDOMETER OPERATES NORMALLY)



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CRUISE CONTROL (K34)

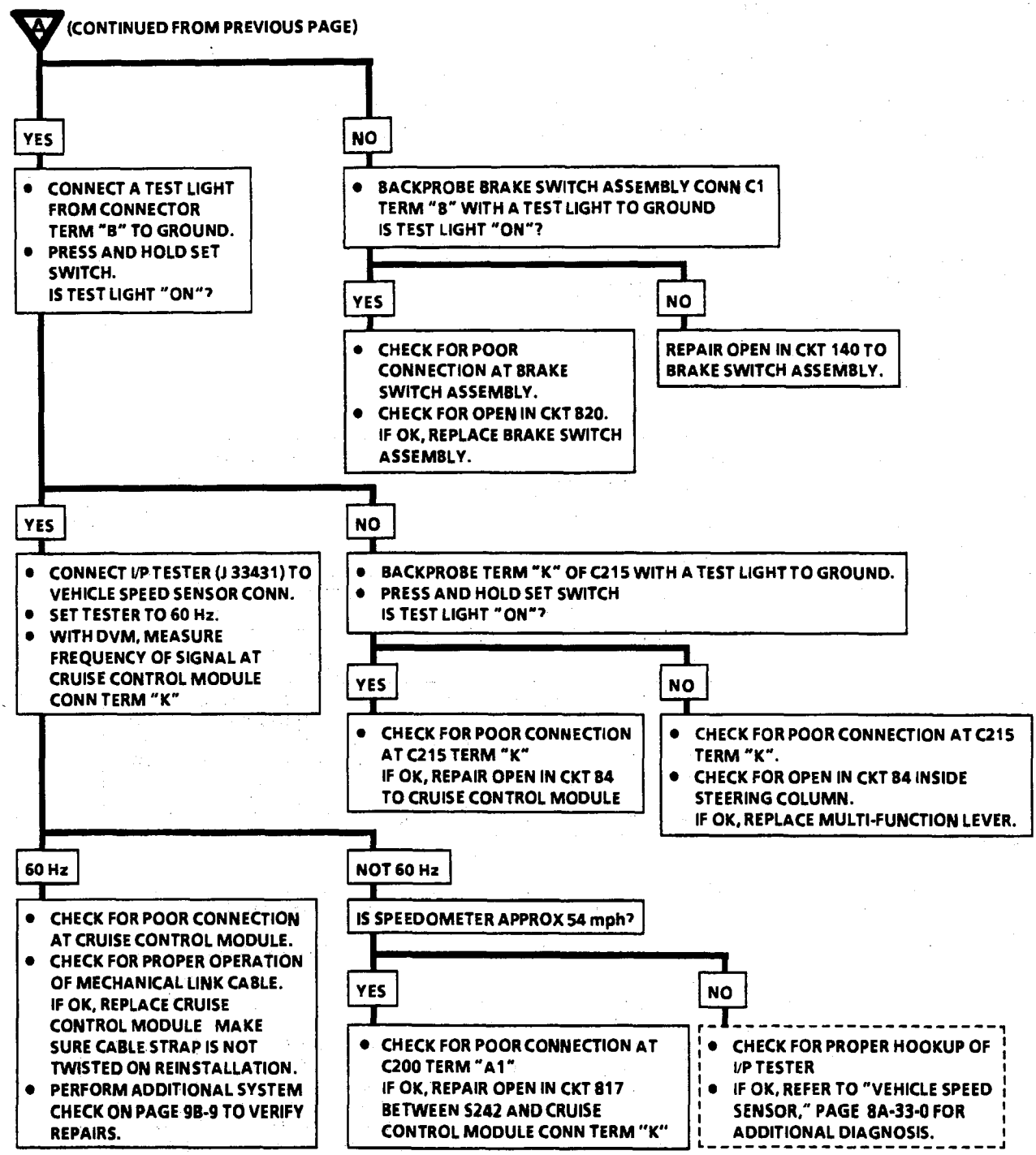

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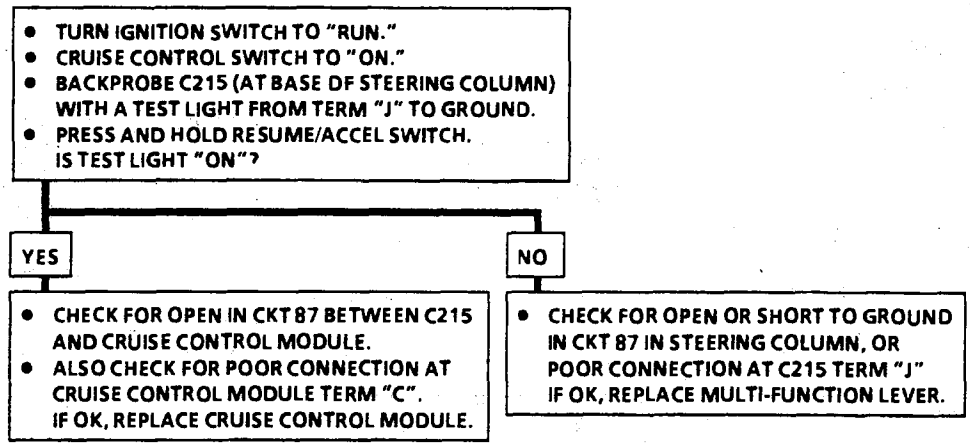
CHART #2
CRUISE CONTROL WILL NOT RESUME, ACCELERATE OR TAP-UP



C3680S

CIRCUIT OPERATION

The Electro-Motor Cruise Control is a speed control system which maintains a desired vehicle speed under normal driving conditions. The system has the capability to CRUISE, COAST, RESUME SPEED, ACCELERATE, TAP-UP, TAP-DOWN AND CANCEL (Depress "SET" and "R/A" simultaneously).

An Electronic Controller and Electric Motor are contained in the Cruise Control Module. The Controller monitors vehicle speed and operates the Electric Motor. In response to the Controller, the motor moves a connecting strap that is attached to the Cruise Control Cable. The Cable moves the Throttle Linkage to vary throttle position in order to maintain the desired cruise speed. The Cruise Control Module contains a low speed limit which will prevent system engagement below a minimum speed, about 25 mph. The module is controlled by mode control switches located on the Multi-Function Lever. The "Set To Get Cruise" feature requires the operator to set an initial speed by using the "Set/Coast" button before the "RESUME/ACCEL" Slider Switch would be active.

With the Ignition Switch in "RUN," battery voltage is applied to terminal "F" of the Cruise Control Module. When the Slider Switch is moved to the "ON" position, battery voltage is applied to terminal "A" of the Cruise Control Module. The Cruise Control Module needs to see Ignition Voltage at terminal "D" to change states once each ignition cycle before allowing Cruise to operate. (Later production vehicles require Brake Input at either terminal "D" or "G").

On vehicles with Traction Control (NW9) the voltage path is through the "LOW TRAC" Indicator, the normally closed Clutch Start Switch (Manual Transmission only) and Brake Switch. On vehicles without Traction Control (NW9) the voltage path is through the A/C CRUISE Fuse 12, the normally closed Clutch Start Switch (Manual Transmission only) and Brake Switch. If either switch is opened the voltage to the Cruise Control Module terminal "D" is interrupted. With Traction Control (NW9) if a low traction condition occurs the Electronic Brake/Traction Control Module (EBTCM) will ground CKT 1537 causing a ground potential at terminal "D" of the Cruise Control Module disabling the Cruise Control. Terminal "G" must see a ground path through the CHMSL bulb for cruise to operate properly. If the brake pedal is depressed, battery voltage is present at module terminal "G". When the Slider Switch is moved to the "R/A" position, battery voltage is applied to terminal "C" of the module. With the Set Switch depressed, battery voltage is present at Cruise Module terminal "B". Cruise Module Connector terminal "K" is the speed signal terminal. In operation, voltage will oscillate between a high of 4 to 5 volts and a low of near ground. Cruise Module terminals "H" and "J" are not used. Ground is at module terminal "E".