

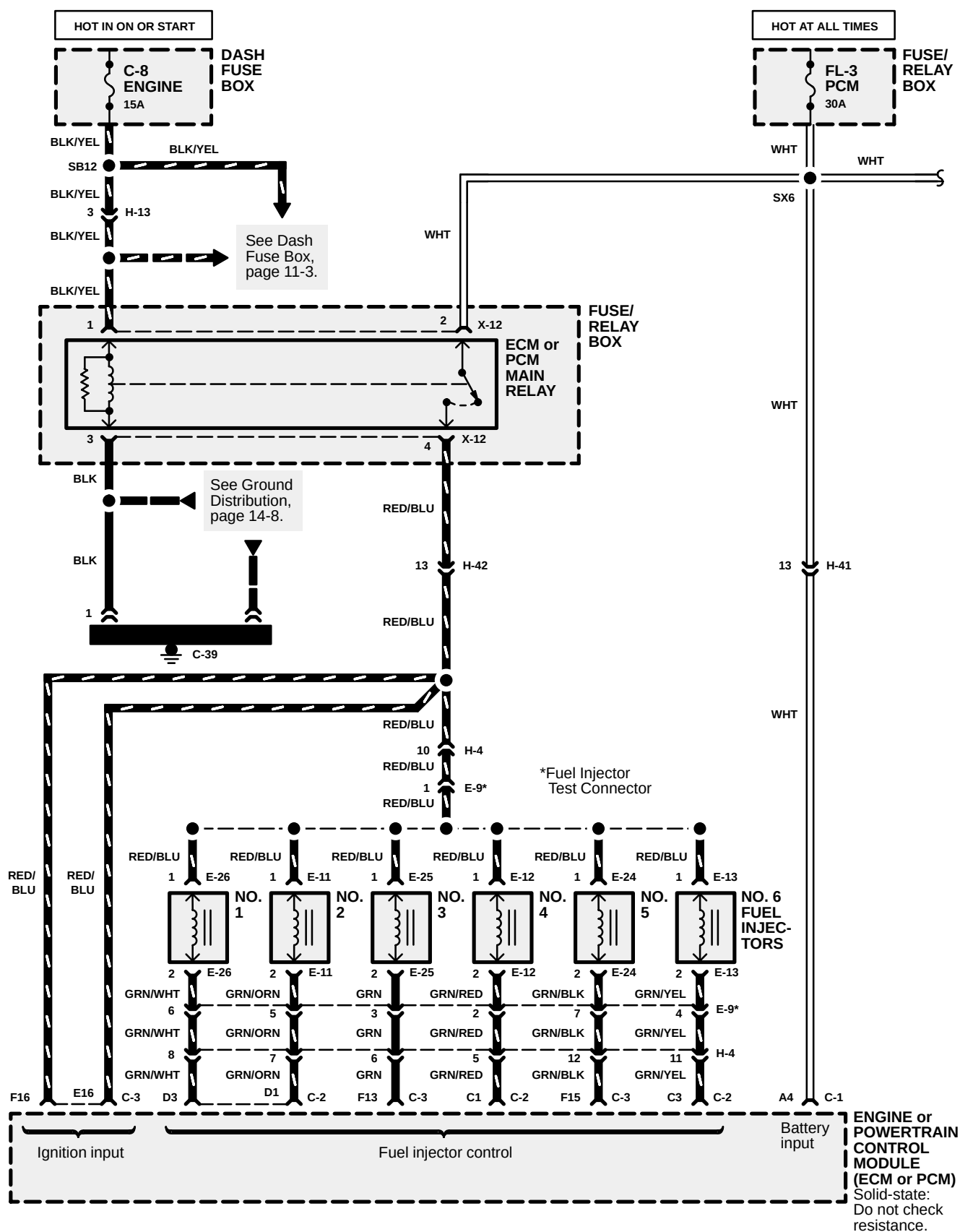
ENGINE CONTROLS

Component Index

Camshaft Position (CMP) Sensor	Fuel Pump	Manifold Absolute Pressure (MAP) Sensor
Clutch Switch	Fuel Pump Relay	Mass Air Flow (MAF) Sensor
Crankshaft Position (CKP) Sensor	Fuel Vapor Pressure Sensor	Power Steering Pressure (PSP) Switch
Dash Fuse Box	Fuse/Relay Box	Taillight Relay
Data Link Connector (DLC) C63 (16-BLK)	Heated Oxygen Sensor (HO2S) (B1S1)	Throttle Position (TP) Sensor
ECM or PCM Main Relay	Heated Oxygen Sensor (HO2S) (B2S1)	T.O.D. Control Unit
Engine Control Module (ECM)	Heated Oxygen Sensor (HO2S) (B1S2) (A/T)	Transmission Switch 1-2
Engine Coolant Temperature (ECT) Sensor	Heated Oxygen Sensor (HO2S) (B1S3) (M/T)	Transmission Switch 3-4
Engine or Powertrain Control Module (ECM or PCM)	Heated Oxygen Sensor (HO2S) (B1S2) (M/T)	Upshift Relay-1
Evaporative Emission (EVAP) Canister Cut Valve	Heated Oxygen Sensor (HO2S) (B2S2) (A/T)	Upshift Relay-2
Evaporative Emission (EVAP) Canister Purge Valve	Idle Air Control (IAC) Valve	Upshift Resistor
Exhaust Gas Recirculation (EGR) Solenoid Valve	Intake Air Temperature (IAT) Sensor	Variable Intake Manifold Vacuum Switching Valve
	Knock Sensor (KS)	

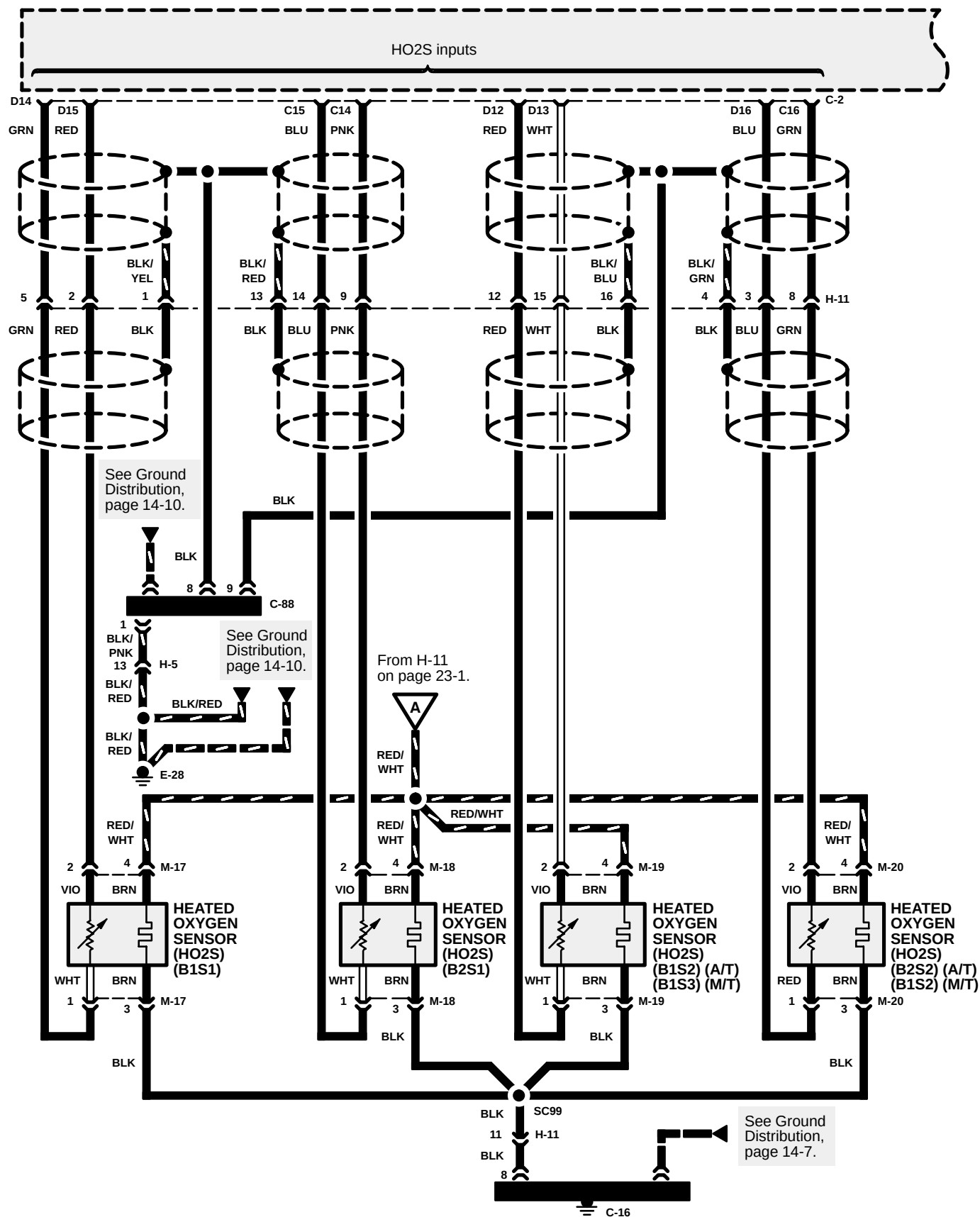
ENGINE CONTROLS

Circuit Schematic



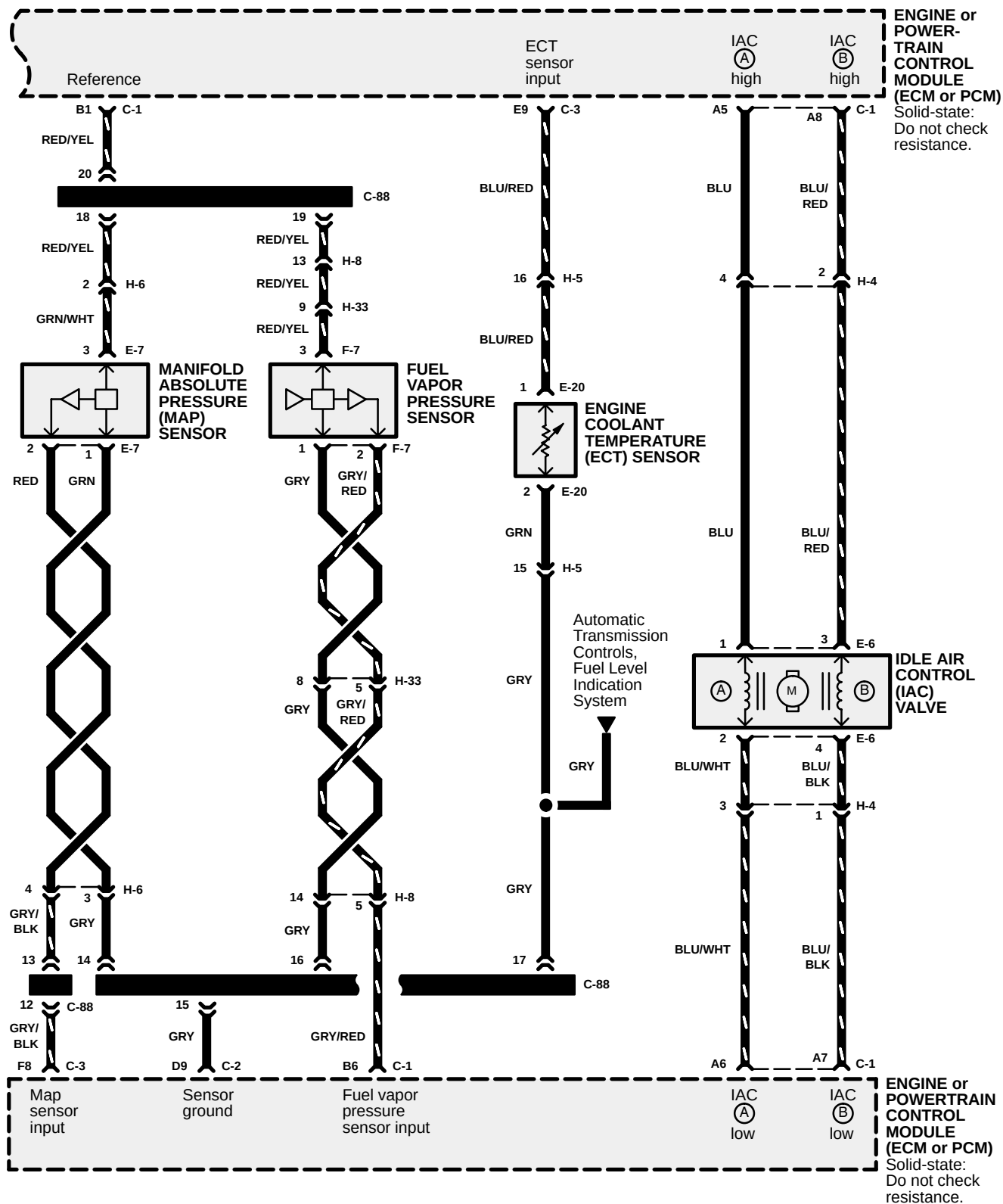
ENGINE CONTROLS

Circuit Schematic



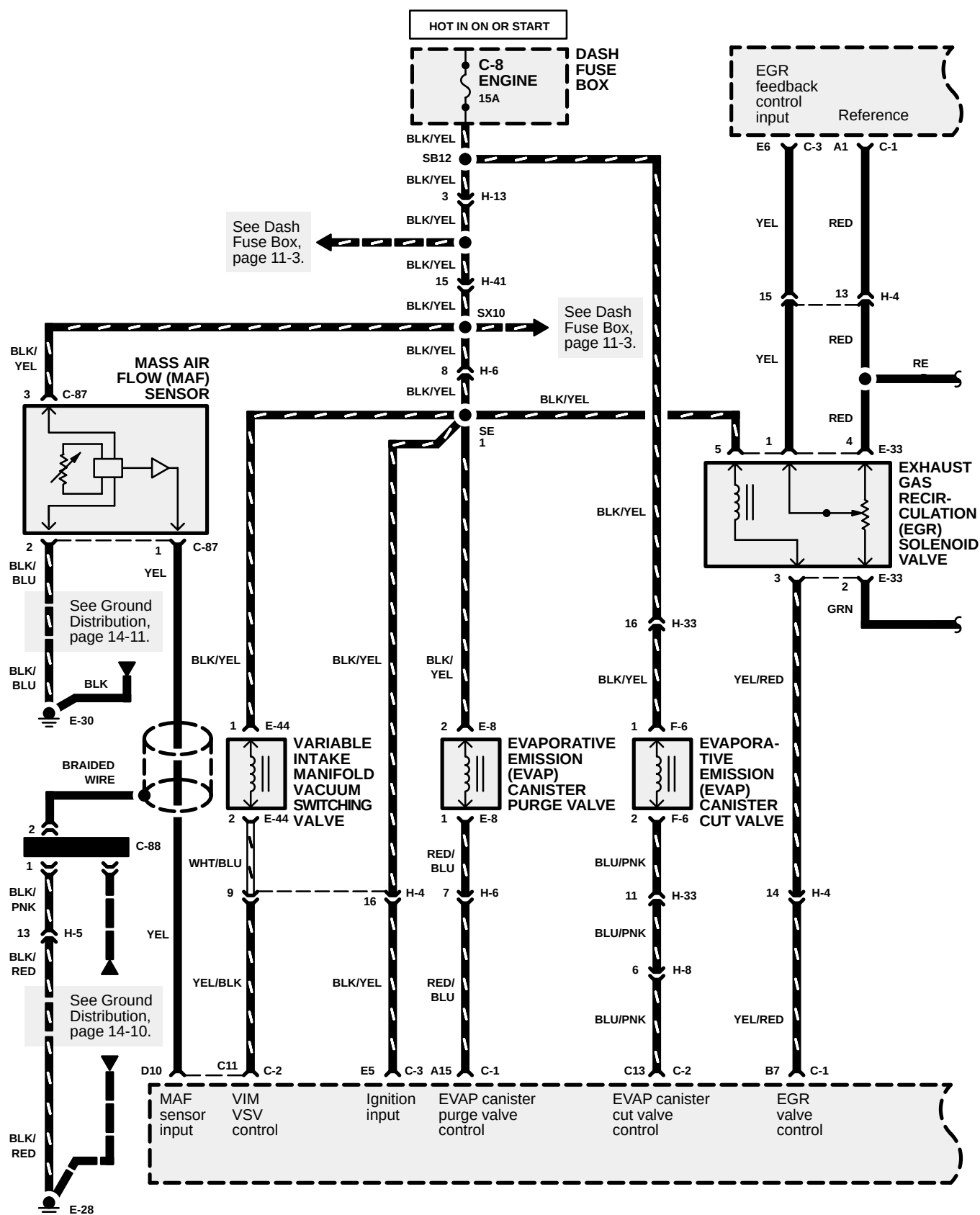
ENGINE CONTROLS

Circuit Schematic



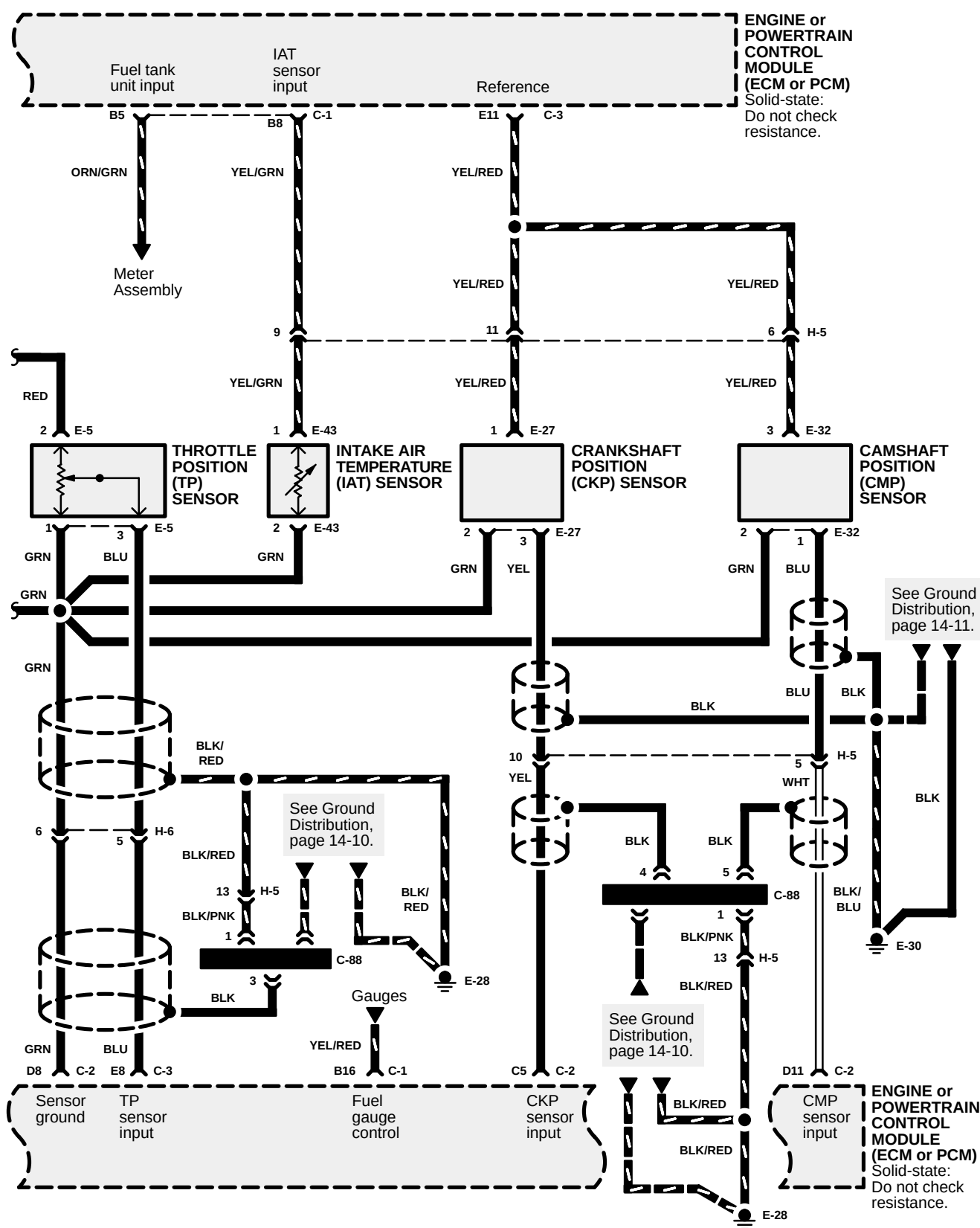
ENGINE CONTROLS

Circuit Schematic



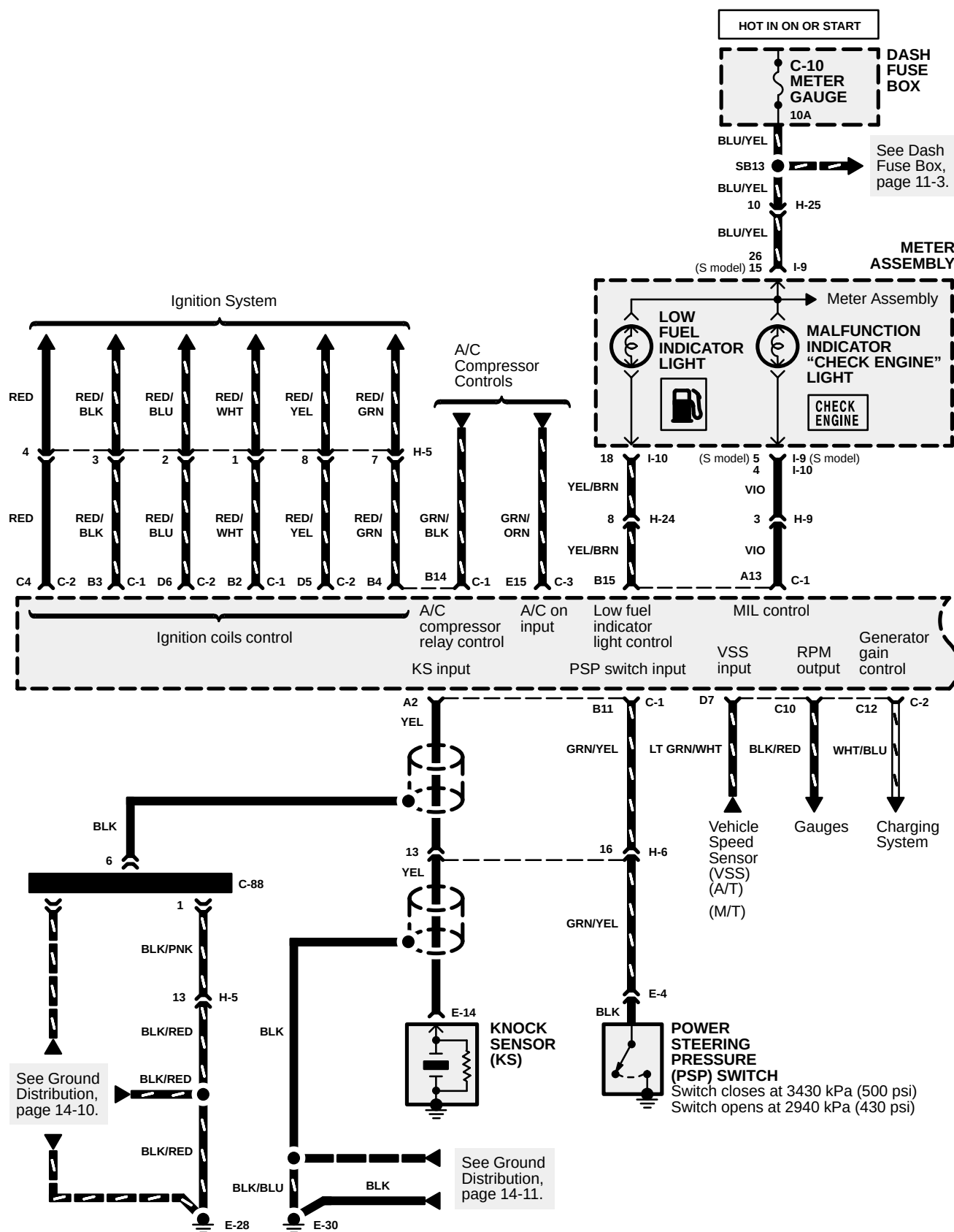
ENGINE CONTROLS

Circuit Schematic



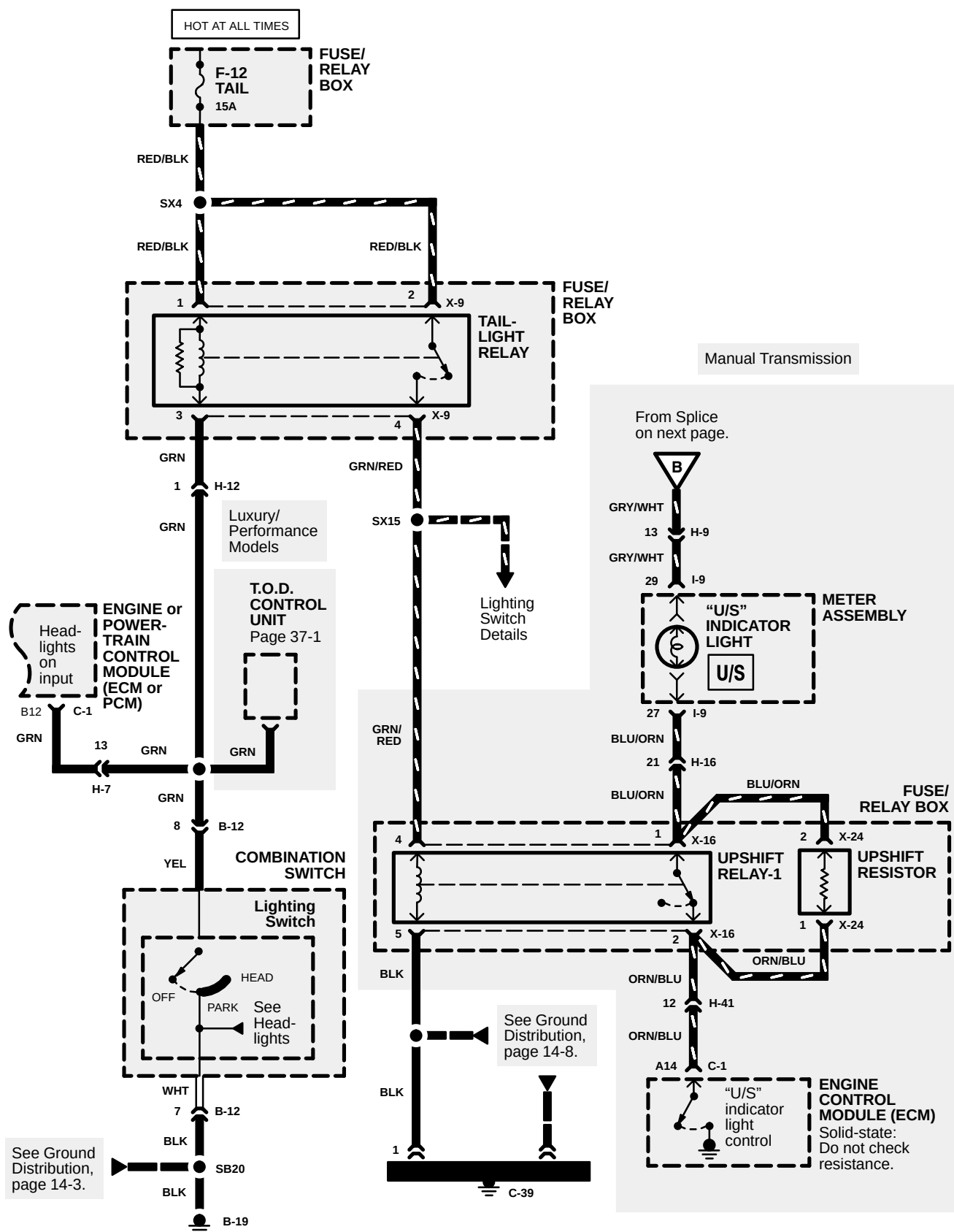
ENGINE CONTROLS

Circuit Schematic



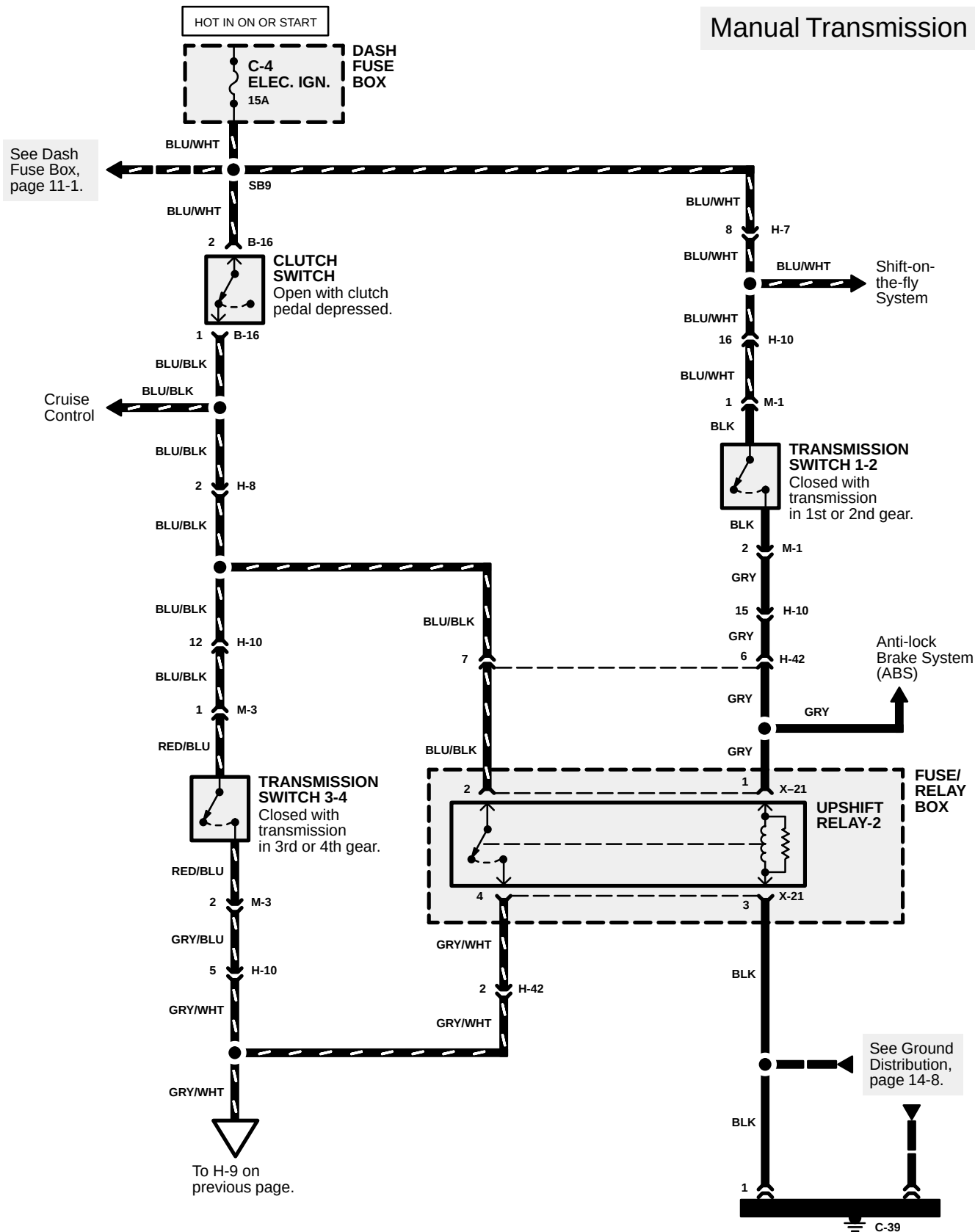
ENGINE CONTROLS

Circuit Schematic



ENGINE CONTROLS

Circuit Schematic



ENGINE CONTROLS

Component Location Index

(Refer to Section 201 for photographs.)

<u>Component</u>	<u>Photo No.</u>
Camshaft Position (CMP)	
Sensor	Left rear of engine 14
Clutch Switch	Below I/P, top of clutch pedal support 57
Crankshaft Position (CKP)	
Sensor	Lower right side of engine, above oil pan 18
Dash Fuse Box	Behind left dash side trim panel 55
Data Link Connector (DLC)	
C63 (16-BLK)	Left I/P lower cover, behind access cover 47
ECM or PCM Main Relay	In fuse/relay box 38
Engine Control Module	
(ECM)	Behind front console 63
Engine Coolant Temperature	
(ECT) Sensor	Top front of engine 28
Engine or Powertrain Control	
Module (ECM or PCM)	Behind front console 63
Evaporative Emission (EVAP)	
Vacuum Switching Valve	On left rear of engine 32
Evaporative Emission (EVAP)	
Canister Cut Valve	Underneath vehicle, above right side of rear axle 130
Evaporative Emission (EVAP)	
Canister Purge Valve	Top left front of engine 22
Exhaust Gas Recirculation	
(EGR) Solenoid Valve	Top right rear of engine 16
Fuel Pump	Beneath rear of vehicle, in top of fuel tank
Fuel Pump Relay	In fuse/relay box 38
Fuel Vapor Pressure Sensor	On top of fuel tank
Fuse/Relay Box	Right side of engine compartment, on inner fender panel 41
Heated Oxygen Sensor	
(HO2S) A (B1S1)	In right exhaust down pipe 21
Heated Oxygen Sensor	
(HO2S) B (B2S1)	In left exhaust down pipe 25
Heated Oxygen Sensor	
(HO2S) C (B1S2) (A/T)	In rear of right catalytic converter 29
Heated Oxygen Sensor	
(HO2S) C (B1S3) (M/T)	Rear of catalytic converter 121
Heated Oxygen Sensor	
(HO2S) D (B1S2) (M/T)	Forward of catalytic converter 6
Heated Oxygen Sensor	
(HO2S) D (B2S2) (A/T)	In rear of left catalytic converter 30
Idle Air Control (IAC) Valve	Top front of engine, on air intake assembly 10
Intake Air Temperature	
(IAT) Sensor	Top front of engine, in air intake hose 10
Knock Sensor (KS)	Top of engine, below common chamber 114
Manifold Absolute Pressure	
(MAP) Sensor	Top rear of engine 16
Mass Air Flow (MAF)	
Sensor	Left front corner of engine compartment 13

ENGINE CONTROLS

Component Location Index

(Refer to Section 201 for photographs.)

Component (cont'd)	Photo No.
Power Steering Pressure (PSP) Switch	Lower left front of engine compartment
Taillight Relay	In fuse/relay box 35
Throttle Position (TP) Sensor	Top front of engine, on air intake assembly 10
T.O.D. Control Unit	Below right front seat 125
Transmission Switch 1-2	Beneath vehicle, on right side of transmission 15
Transmission Switch 3-4	Beneath vehicle, on left side of transmission
Upshift Relay-1	In fuse/relay box 34
Upshift Relay-2	In fuse/relay box 34
Upshift Resistor	In fuse/relay box 34
Connector	
B-12 (16-WHT)	Below I/P, right of steering column 58
C-88 (20-BLU) Junction Connector	Behind lower cluster assembly, taped to ECM or PCM breakout 63
E-4 (1-GRY)	Left front of engine 20
E-9 (7-GRY)	Left side of engine compartment, taped to harness 12
F-4 (2-BLK)	Beneath rear of vehicle, right of fuel tank 124
H-4 (16-BLK)	Left side of engine compartment 33
H-5 (16-GRN)	Left side of engine compartment 33
H-6 (16-BLU)	Left side of engine compartment 33
H-7 (20-BRN/WHT)	Below I/P, above left dash side trim panel, on bracket 69
H-8 (16-WHT)	Below I/P, above left dash side trim panel, on bracket 70
H-9 (20-BLK)	Below I/P, above left dash side trim panel, on bracket 70
H-10 (16-BLU)	Left front of engine compartment 27
H-11 (16-BLK)	Left front of engine compartment 27
H-12 (20-WHT)	Below I/P, above right dash side trim panel, on bracket 100
H-13 (6-GRY)	Below I/P, above right dash side trim panel, on bracket 100
H-16 (22-WHT)	Behind right dash side trim panel 120
H-24 (18-YEL)	Below I/P, above left dash side trim panel, on bracket 70
H-25 (22-BLU)	Below I/P, above left dash side trim panel, on bracket 71
H-33 (20-WHT)	In floor, below right front seat 110
H-41 (16-BLU)	Right front of engine compartment 31
H-42 (16-BLK)	Right front of engine compartment 31
I-9 (30-GRN)	On left top of meter assembly 53
I-10 (22-GRN)	On right top of meter assembly 53
M-1 (2-GRY)	Beneath center of vehicle, top right side of transmission 15
M-3 (2-GRY)	Beneath center of vehicle, top left side of transmission
M-17 (4-BLK)	Near heated oxygen sensor (HO2S) A (B1S1)
M-18 (4-BLK)	Near heated oxygen sensor (HO2S) B (B2S1) 25
M-19 (4-BLK) (A/T)	Near heated oxygen sensor (HO2S) C (B1S2) 29
M-19 (4-BLK) (M/T)	Near Heated Oxygen Sensor (HO2S) C (B1S3) 121
M-20 (4-BLK) (A/T)	Near heated oxygen sensor (HO2S) D (B2S2) 30
M-20 (4-BLK) (M/T)	Near heated oxygen sensor (HO2S) D (B1S2) 30

ENGINE CONTROLS

Component Location Index

(Refer to Section 201 for photographs.)

Ground (cont'd)		Photo No.
B-19	Behind top of left dash side trim panel	71
B-26	Below rear of center console	67
C-16	Left rear corner of engine compartment, on inner fender panel	39
C-39	Right rear corner of engine compartment, on inner fender panel	45
E-28	Top left rear of engine	32
E-30	Top right rear of engine	16

Circuit Operation

The engine or powertrain control module (ECM or PCM) receives inputs from the engine sensors and switches, controlling the functions of the engine. The ECM or PCM also turns on the "CHECK ENGINE" malfunction indicator lamp whenever a malfunction or abnormal engine performance is detected, and allows for diagnostic testing through the data link connector (DLC).

Refer to Section 6 of Workshop Manual for further engine diagnosis.