

## PCM Connector and Driveability Symptoms Identification

This PCM voltage chart is for use with a J 39200 to further aid in diagnosis. These voltages were derived from a known good vehicle. The voltages you get may vary due to low battery charge or other reasons, but they should be very close.

The "B+" symbol indicates a nominal system voltage of 12-14 volts.

### THE FOLLOWING CONDITIONS MUST BE MET BEFORE TESTING:

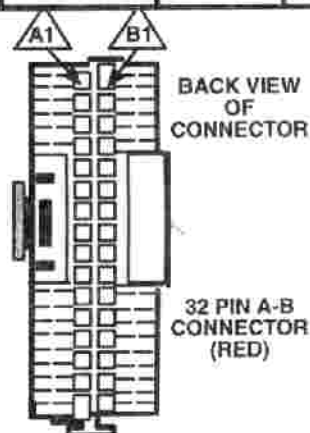
- Engine at operating temperature • "Closed Loop" • Engine idling (for "Engine Operating" column)
- Test terminal not grounded • Scan tool not installed

PIN	PIN FUNCTION	CKT #	WIRE COLOR	COMPONENT CONNECTOR	NORMAL VOLTAGE		DTC(s) AFFECTED	POSSIBLE SYMPTOMS
					IGNITION "ON"	ENGINE OPERATING		
A1	SYSTEM GROUND	451	BLK/WHT	ENGINE BLOCK	0*	0*	NONE	NO CHANGE
A2	SYSTEM GROUND	551	TAN/WHT	ENGINE BLOCK	0*	0*	NONE	NO CHANGE
A3	IAC "A" HIGH	1747	LT BLU/WHT	IAC VALVE	NOT USABLE	NOT USABLE	NONE	OPERATION UNSTABLE
A4	IC REF HIGH	430	PPL/WHT	DISTRIBUTOR	0*	1.2	NONE	NO RESTART
A5	IC REF LOW	453	RED/BLK	DISTRIBUTOR	0*	0*	NONE	NO CHANGE
A6	IAC "A" LOW	1748	LT BLU/BLK	IAC VALVE	NOT USABLE	NOT USABLE	NONE	OPERATION UNSTABLE
A7	IAC "B" LOW	444	LT GRN/BLK	IAC VALVE	NOT USABLE	NOT USABLE	NONE	OPERATION UNSTABLE
A8	IAC "B" HIGH	1749	LT GRN/WHT	IAC VALVE	NOT USABLE	NOT USABLE	NONE	OPERATION UNSTABLE
A9	INJECTOR "2" CONTROL	468	DK GRN	INJECTOR	B+	B+	NONE	STALL - ROUGH IDLE
A10	HO2S SIGNAL	412	PPL	OXYGEN SENSOR	(1)	(1)	13 44	EXHAUST ODOR, POOR PERFORMANCE
A11	NOT USED	-	-	-	-	-	-	-
A12	HO2S GROUND	413	TAN	ENGINE BLOCK	0*	0*	13 44	FIXED O2
A13	NOT USED	-	-	-	-	-	-	-
A14	DIAGNOSTIC TEST	448	WHT/BLK	DATA LINK CONNECTOR	5V	5V	NONE	NO CHANGE
A15	TP SIGNAL	417	DK BLU	TP	.6 (2)	.6 (2)	22	POOR PERFORMANCE, HARSH TRANSMISSION SHIFTS
A16	INJECTOR "1" CONTROL	467	DK BLU	INJECTOR	B+	B+	NONE	STALL - ROUGH IDLE

(1) VARIES.

(2) VARIES WITH THROTTLE MOVEMENT.

\* LESS THAN .5 VOLT (500 mV).



# PCM Connector and Driveability Symptoms Identification

This PCM voltage chart is for use with a J 39200 to further aid in diagnosis. These voltages were derived from a known good vehicle. The voltages you get may vary due to low battery charge or other reasons, but they should be very close.

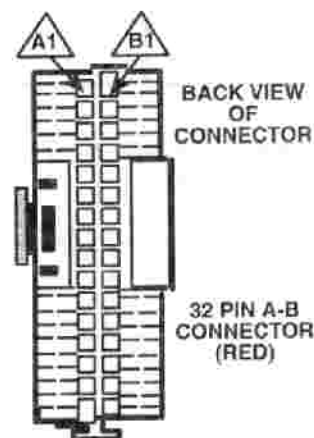
The "B+" indicates a nominal system voltage of 12-14 volts.

## THE FOLLOWING CONDITIONS MUST BE MET BEFORE TESTING:

- Engine at operating temperature • "Closed Loop" • Engine idling (for "Engine Operating" column)
- Test terminal not grounded • Scan tool not installed

PIN	PIN FUNCTION	CKT #	WIRE COLOR	COMPONENT CONNECTOR	NORMAL VOLTAGE		DTC(s) AFFECTED	POSSIBLE SYMPTOMS
					IGNITION "ON"	ENGINE OPERATING		
B1	NOT USED	-	-	-	-	-	-	-
B2	IC BYPASS	424	TAN/BLK	DISTRIBUTOR	0*	4.5V	42	FIXED TIMING, LACK OF POWER
B3	SENSOR GROUND	452	BLK	TP, ECT	0*	0*	14, 15, 21	HIGH IDLE
B4	SENSOR GROUND MAP, EGR TRANSMISSION	470	BLK	MAP TRANSMISSION LINEAR EGR	0*	0*	58, 59, 33, 32	IDLE SURGE, TRANSMISSION EXHAUST ODOR
B5	TFT SIGNAL	1227	YEL/BLK	TRANSMISSION	3.5V	3.5V	58, 59, 33	EARLY TCC
B6	NOT USED	-	-	-	-	-	-	-
B7	NOT USED	-	-	-	-	-	-	-
B8	ECT SIGNAL	410	YEL	ECT	(4) 2.4V	(4) 2.4V	14, 15	POOR PERFORMANCE
B9	NOT USED	-	-	-	-	-	-	-
B10	CRUISE SIGNAL	396	LT BLU/BLK	CRUISE	B+	B+	NONE	NO CHANGE
B11	NOT USED	-	-	-	-	-	-	-
B12	FUEL PUMP SIGNAL	120	GRY	FUEL PUMP RELAY	0* (1)	B+	54	NO CHANGE
B13	MAP SIGNAL	432	LT GRN	MAP	4.9V	1.46V (3)	33, 34	POOR PERFORMANCE
B14	NOT USED	-	-	-	-	-	-	-
B15	KNOCK SENSOR	496	DK BLU	KNOCK SENSOR	2.4V	2.4V	43	KNOCK RETARD
B16	PINTLE POSITION SIGNAL	1456	BRN	EGR	(2) .85	(2) .85	32	EGR INOP

- (1) BATTERY VOLTAGE FOR FIRST TWO SECONDS.  
 (2) VARIES WITH EGR MOVEMENT.  
 (3) VARIES WITH MANIFOLD VACUUM.  
 (4) VARIES WITH TEMPERATURE.  
 \* LESS THAN .5 VOLT (500 mV).



## PCM Connector and Driveability Symptoms Identification

This PCM voltage chart is for use with a J 39200 to further aid in diagnosis. These voltages were derived from a known good vehicle. The voltages you get may vary due to low battery charge or other reasons, but they should be very close.

The "B+" symbol indicates a nominal system voltage of 12-14 volts.

THE FOLLOWING CONDITIONS MUST BE MET BEFORE TESTING:

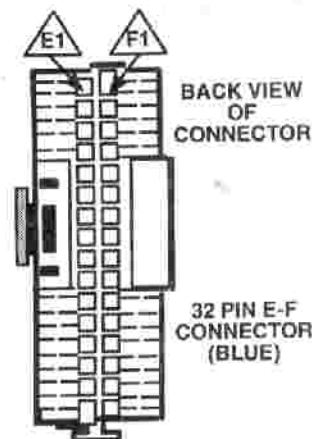
- Engine at operating temperature • "Closed Loop" • Engine idling (for "Engine Operating" column)
- Test terminal not grounded • Scan tool not installed

PIN	PIN FUNCTION	CKT #	WIRE COLOR	COMPONENT CONNECTOR	NORMAL VOLTAGE		DTC(s) AFFECTED	POSSIBLE SYMPTOMS
					IGNITION "ON"	ENGINE OPERATING		
E1	EGR CONTROL	435	GRY	EGR	B+	B+	32	DETONATION
E2	3-2 CONTROL SOLENOID CONTROL	687	WHT	TRANSMISSION	B+	B+	66	TIC UP OR FLAIR 3-2 DOWNSHIFT
E3	NOT USED	-	-	-	-	-	-	-
E4	RANGE SIGNAL "B"	1225	DK BLU	TRANSMISSION	0*	0*	28	ERRATIC MANUAL DOWNSHIFTS
E5	RANGE SIGNAL "C"	1226	RED	TRANSMISSION	"B"	B+	28	ERRATIC MANUAL DOWNSHIFTS
E6	MIL	419	BRN/WHT	I/P	0*	B+	NONE	MIL INOP
E7	NOT USED	-	-	-	-	-	-	-
E8	2-3 SHIFT SOLENOID CONTROL	1223	YEL/BLK	TRANSMISSION	B+	.4V	81	INCORRECT GEAR STATE
E9	1-2 SHIFT SOLENOID CONTROL	1222	LT GRN	TRANSMISSION	B+	.4V	82	INCORRECT GEAR STATE
E10	TCC SOLENOID CONTROL	422	TAN/BLK	TRANSMISSION	B+	B+	67, 69	POOR FUEL ECONOMY
E11	PWM TCC SOLENOID CONTROL	418	BRN	TRANSMISSION	B+	B+	83	POOR FUEL ECONOMY
E12	A/C SIGNAL	59	DK GRN	A/C SWITCH	0* (1)	0* (1)	NONE	INCORRECT IDLE
E13	BRAKE SIGNAL	420	PPL	SPLICE	B+ (2)	B+ (2)	37, 38	NO TCC
E14	MAP, LINEAR EGR REFERENCE	474	GRY	MAP	5V	5V	34, 32	POOR PERFORMANCE ROUGH IDLE
E15	IGNITION FEED	439	PNK	SPLICE	B+	B+	NONE	NO START MIL INOP
E16	BATTERY FEED	440	ORN	SPLICE	B+	B+	NONE	NO START MIL INOP

(1) 0 VOLTS A/C "OFF" B+ "ON."

(2) B+ BRAKE NOT APPLIED 0 VOLTS BRAKE APPLIED

\* LESS THAN .5 VOLT (500 mV).



4-18-94  
MS 13413

## PCM Connector and Driveability Symptoms Identification

This PCM voltage chart is for use with a J 39200 to further aid in diagnosis. These voltages were derived from a known good vehicle. The voltages you get may vary due to low battery charge or other reasons, but they should be very close.

The "B+" symbol indicates a nominal system voltage of 12-14 volts.

## THE FOLLOWING CONDITIONS MUST BE MET BEFORE TESTING:

- Engine at operating temperature
- "Closed Loop"
- Engine idling (for "Engine Operating" column)
- Test terminal not grounded
- Scan tool not installed

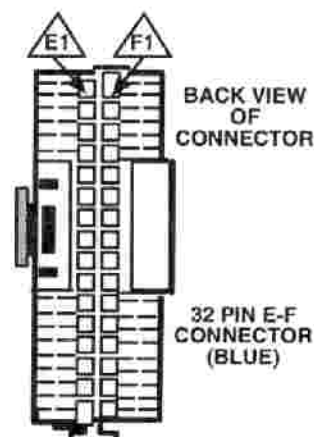
PIN	PIN FUNCTION	CKT #	WIRE COLOR	COMPONENT CONNECTOR	NORMAL VOLTAGE		DTC(s) AFFECTED	POSSIBLE SYMPTOMS
					IGNITION "ON"	ENGINE OPERATING		
F1	RANGE SIGNAL "A"	1224	PNK	TRANSMISSION	B+	B+	28	ERRATIC MANUAL DOWNSHIFTS
F2	NOT USED	-	-	-	-	-	-	-
F3	NOT USED	-	-	-	-	-	-	-
F4	NOT USED	-	-	-	-	-	-	-
F5	NOT USED	-	-	-	-	-	-	-
F6	FUEL PUMP RELAY CONTROL	465	DK GRN/ WHT	FUEL PUMP RELAY	0* (2)	B+	54	LONG CRANK TIME BEFORE STARTING
F7	PCS "LOW"	1229	DK BLU/ WHT	TRANSMISSION	0*	1.5V	73	POOR SHIFT QUALITY
F8	FWD LOW RANGE SIGNAL	1694	GRY/BLK	4WD INDICATOR	B+ (3)	B+ (3)	NONE	ERRATIC SHIFT PATTERNS
F9	SERIAL DATA	800	TAN	DATA LINK CONNECTOR	5V	5V	NONE	NO SERIAL DATA
F10	PCS "HIGH"	1228	RED/BLK	TRANSMISSION	0*	7.0V	73	POOR SHIFT QUALITY
F11	IC SIGNAL	423	WHT	DISTRIBUTOR	0*	1.2V	42	RESTART FIXED TIMING
F12	TRANSMISSION OUTPUT SPEED	437	BRN	VSS BUFFER	0* (1)	0* (1)	72, 24	ERRATIC SHIFT PATTERNS, POOR SHIFT QUALITY
F13	VEHICLE SPEED SIGNAL	1716	DK BLU	VEHICLE SPEED SIGNAL BUFFER	0* (1)	0* (1)	16	FUEL CUTOFF
F14	TP REFERENCE	416	GRY	TP	5V	5V	22	LACK OF POWER HARSH SHIFTS
F15	IGNITION FEED	439	PNK	SPLICE	B+	B+	NONE	NONE
F16	EVAP CANISTER PURGE CONTROL	428	DK GRN	EVAP CANISTER PURGE SOLENOID	B+	B+	NONE	EVAP CANISTER PURGE INOP

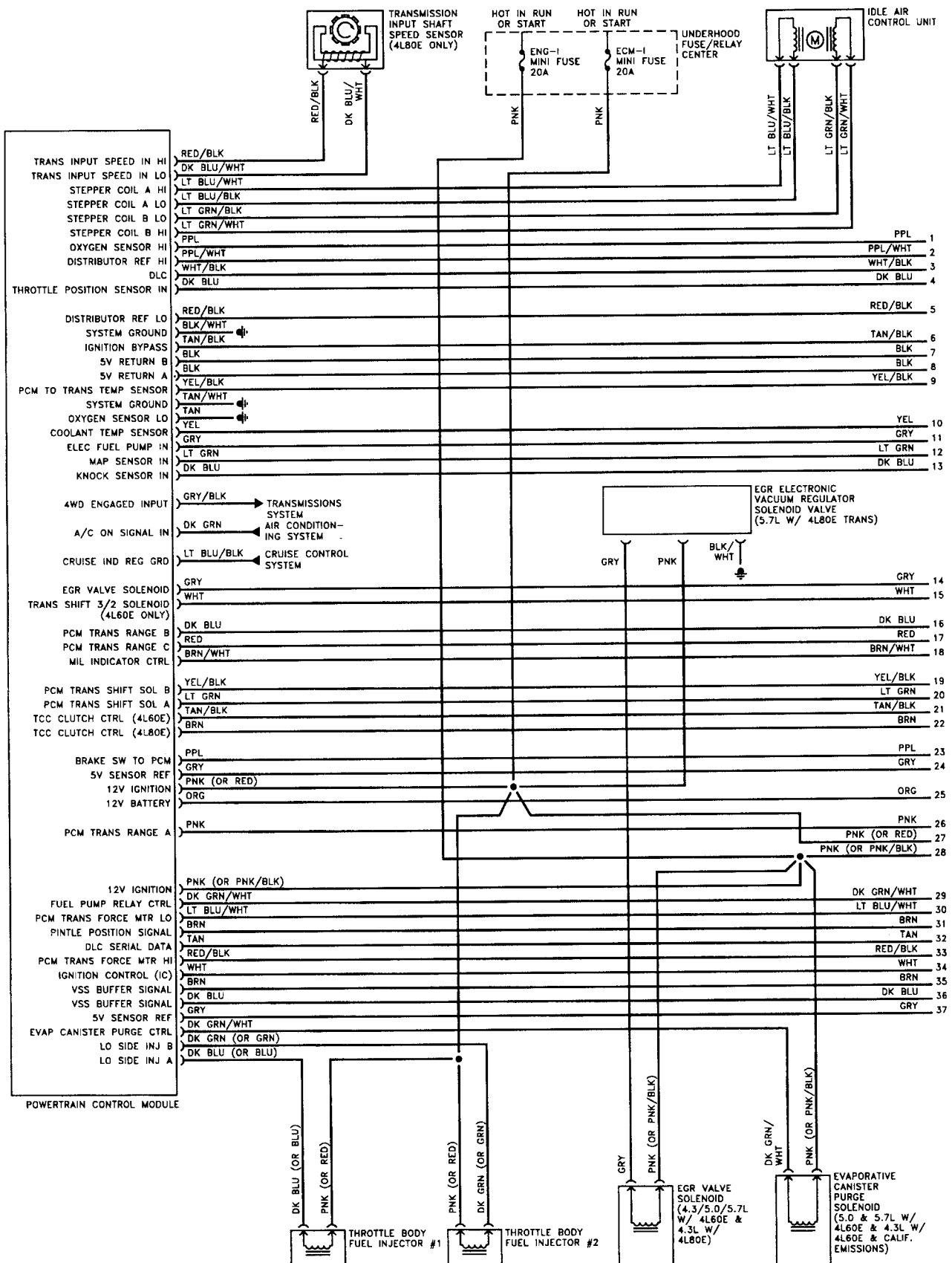
(1) VARIES FROM 0 TO 5 VOLTS, DEPENDING ON POSITION OF DRIVE WHEELS.

(2) BATTERY VOLTAGE 1<sup>ST</sup> 2 SECONDS.

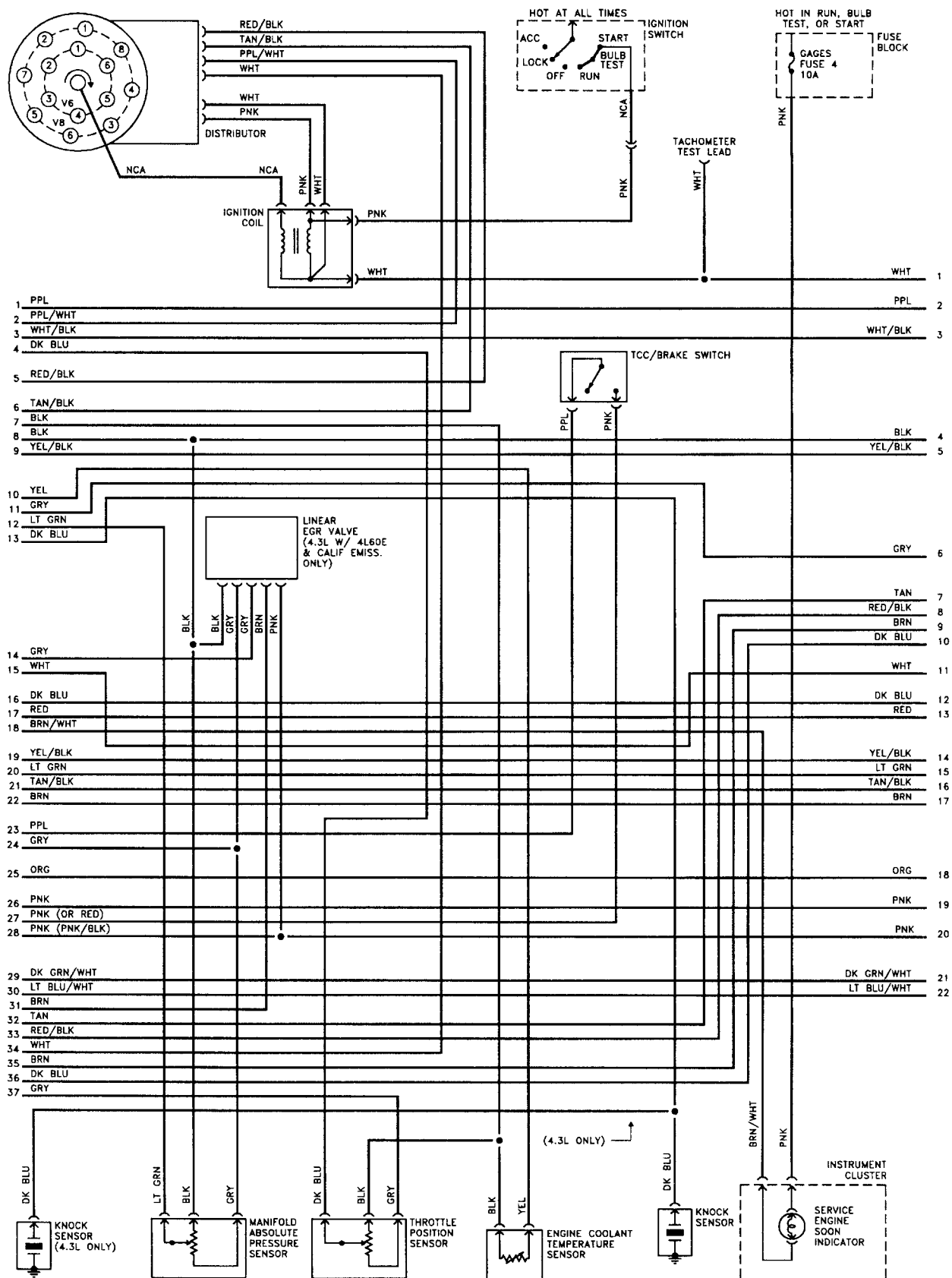
(3) 0 VOLTS IN 4WD

\* LESS THAN .5 VOLT (500 mV).

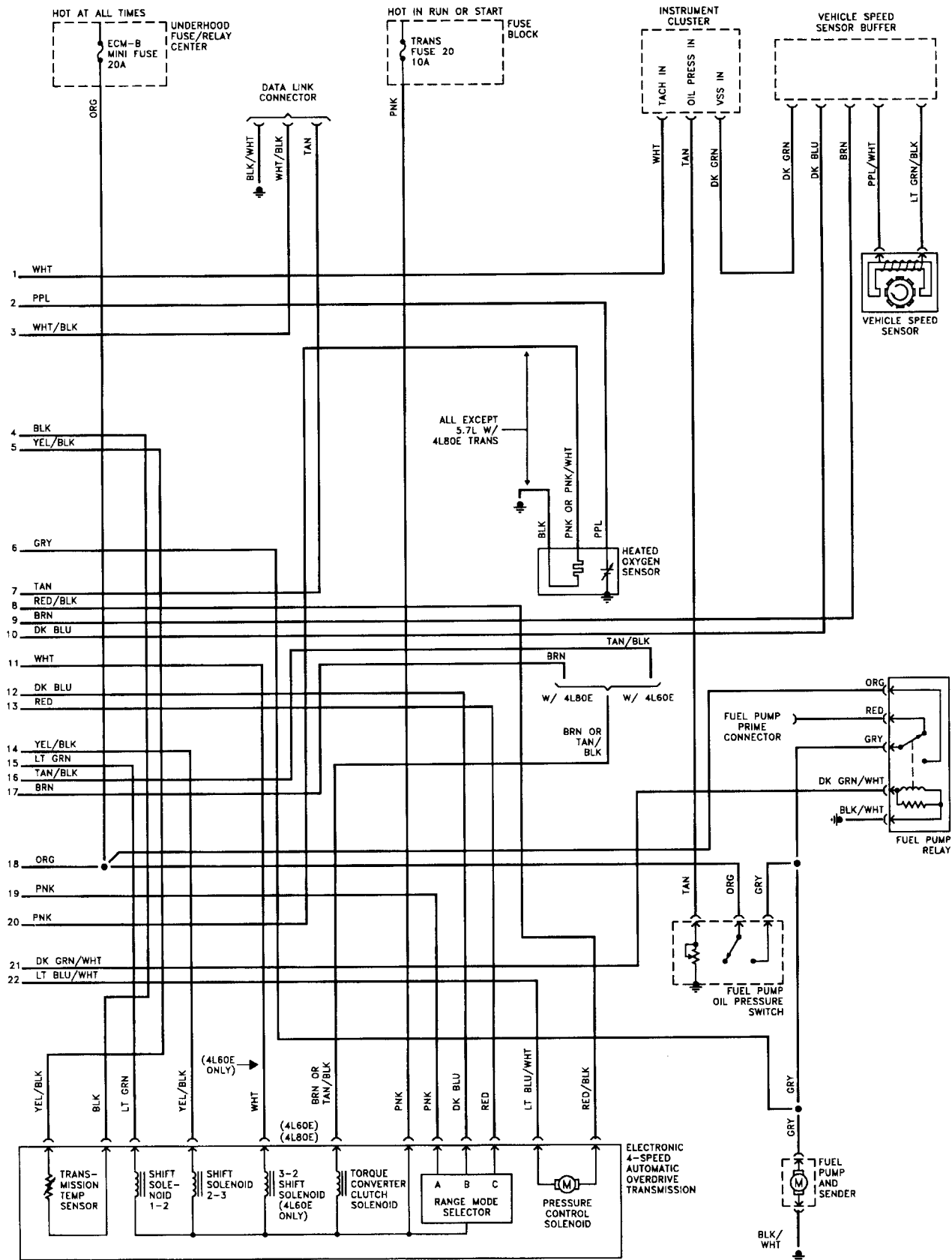




Typical 1988 through 1995 engine controls (1 of 3)



Typical 1988 through 1995 engine controls (2 of 3)



Typical 1988 through 1995 engine controls (3 of 3)