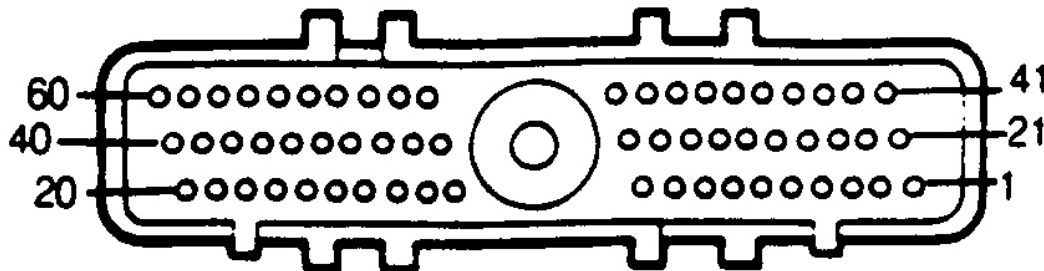


J - PIN VOLTAGE CHARTS**1993 ENGINE PERFORMANCE Ford Motor Co. Pin Voltage Charts****INTRODUCTION**

Pin voltage charts are supplied to reduce diagnostic time. Checking pin voltages at the Powertrain Control Module (PCM) determines whether it's receiving and transmitting proper voltage signals. Charts may also help determine if PCM harness has a shorted or open circuit.

NOTE: Perform voltage tests using EEC-IV Monitor (007-0047D) and Recorder (007-00021) or a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance. Perform all resistance checks with battery power removed from the circuit unless stated otherwise.

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** before disconnecting battery.

PCM CONNECTOR**EEC-IV 60-PIN CONNECTOR**

93A41335

Fig. 1: EEC-IV 60 Pin Connector
Courtesy of FORD MOTOR CO.

PCM CHECKS**PCM PIN VOLTAGE 4.6L**

1993 Lincoln Town Car Cartier

J - PIN VOLTAGE CHARTS 1993 ENGINE PERFORMANCE Ford Motor Co. Pin Voltage Charts

PCM PIN VOLTAGE

Sensors/Inputs					
Sensor/ Input	SignalPin #	KOEO	Hot Idle	30 MPH	55 MPH
TCS	41	0V ⁽⁵⁾	0V ⁽⁵⁾	0V ⁽⁵⁾	0V ⁽⁵⁾
OCT ADJ	29	0-.2V	0-.2V	0-.2V	0-.2V
TP	47	.9V	.9V	1.0-1.2V	1.1-1.4V
MAF	50	0V	.7V	1.2-1.5V	1.7-2.2V
PFE	27	.6V	.6V	.7-.9V	1.6-4.2V
ECT	7	.6V	.6V	.6-.7V	.6-.7V
IAT	25	1.9-3.5V	2.0-3.5V	3.0-3.9V	3.0-3.9V
IDM	4	55-75RPM	690-750 RPM	1140-1200 RPM	1550-1800 RPM
TOT	49	1.0-1.1V ⁽³⁾	1.0-1.1V ⁽³⁾	1.7-2.1V ⁽³⁾	.9-1.1V ⁽³⁾
PIP	56	4-9 RPM	690-750 RPM	1140-1200 RPM	1550-1800 RPM
HO2S-R	44	0V	Switching ⁽⁴⁾	Switching ⁽⁴⁾	Switching ⁽⁴⁾
BOO	2	0V	VBAT ⁽⁷⁾	0V	0V
ACCS	10	0-.2V	VBAT ⁽⁶⁾	0-.2V	0-.2V
VSS+	3	0 MPH	1 MPH	30 MPH	55 MPH
CID	24	8-10 RPM	8-10 RPM	145-160 RPM	200-235 RPM
HO2S-L	43	0V	Switching ⁽⁴⁾	Switching ⁽⁴⁾	Switching ⁽⁴⁾
MLP	30	4.4V	4.4V	2.2V	2.2V
FPM -red	8	0V ⁽³⁾	VBAT ⁽³⁾	VBAT ⁽³⁾	VBAT ⁽³⁾
OSS	5	.05V	.05-.06V	-.1V	-.3V
STI	48	5.0V	3.3-4.9V	3.3-4.9V	3.3-4.9V
Actuators/Outputs					
Act./ Output	SignalPin #	KOEO	Hot Idle	30 MPH	55 MPH
INJ 3	39	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS
INJ 5	15	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS
INJ 4	35	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS
INJ 2	59	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS
INJ 1	58	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS
SS2	52	VBAT ⁽³⁾	VBAT ⁽³⁾	.4V ⁽³⁾	.4V ⁽³⁾
EVR	33	VBAT ⁽³⁾	VBAT ⁽³⁾	11.0-VBAT ⁽³⁾	9.5-11.5V ⁽³⁾
EPC	38	7.0V ⁽³⁾	8.6-8.8V ⁽³⁾	9.3-9.5V ⁽³⁾	9.1-9.9V ⁽³⁾
STO/MIL	17	0-.2V	VBAT	VBAT	VBAT
WAC	54	.1-.2V	VBAT ⁽⁶⁾	.1-.2V	.1-.2V
IAC	21	VBAT	10.0-11.2V	8.4-9.6V	6.3-7.0V
INJ 7	13	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS

1993 Lincoln Town Car Cartier

J - PIN VOLTAGE CHARTS 1993 ENGINE PERFORMANCE Ford Motor Co. Pin Voltage Charts

FP	22	VBAT	.1-.2V	.1-.2V	.1-.2V
INJ 6	12	VBAT ⁽³⁾	4.0-4.4mS	4.8-5.8mS	6.8-8.4mS
SPOUT	36	4-9 RPM	690-750 RPM	1140-1200 RPM	1550-1800 RPM
INJ 8	14	VBAT ⁽³⁾	12V	12V	12V
SS1	51	.3-.4V ⁽³⁾	.3-.4V ⁽³⁾	VBAT ⁽³⁾	VBAT ⁽³⁾
TCIL	55	12V ⁽³⁾	12V ⁽³⁾	12V ⁽³⁾	12V ⁽³⁾
CANP	11	VBAT	VBAT	9.0-VBAT	.2-7.0V
TCC	53	VBAT	VBAT	11.8-VBAT	VBAT

OTHER

SignalPin #		KOEO	Hot Idle	30 MPH	55 MPH
IGN TIMING	TIMING	N/A	N/A	N/A	N/A

- (1) Monitor 60-pin adapter is required for this vehicle. Running KOER w/monitor 60-pin adapter connected will result in a TCS fault.
- (2) Referenced values shown may vary +/- 20% depending on operating conditions and other factors. RPM values are axle and tire dependent.
- (3) Monitor in DCV manual mode, reference pin to PWR GND (40/60).
- (4) HO2S should switch from rich (red LED) to lean (green LED), or lean to rich, at least once every 3 seconds. HO2S voltage should toggle above and below .450 DCV, but should never be a negative value.
- (5) Signal pin No. 41 (TCS) is not testable when using monitor 60-pin adapter.
- (6) A/C on.
- (7) Brake pedal on.