

## Acronyms and Definitions

**Note:** This Acronyms and Definitions listing contains technical terms applicable to Ford Motor Company products. It is not intended to be an all-inclusive dictionary of components and their functions. If a detailed description of a particular system or component is desired, refer to the applicable section within this PC/ED Service Manual or consult the Workshop Manual for the specific vehicle being serviced.

**2V:**Two Valves per engine cylinder.

**3V:**Three Valves per engine cylinder.

**4V:**Four Valves per engine cylinder.

**4WDIWE:**Four Wheel Drive Integrated Wheel Ends.

**4WDL\_IL:**Four Wheel Drive Low Indicator Lamp.

**4WDMCS:**Four Wheel Drive Mode Command Switch.

**4WD\_POS1/2/3/4:**Four Wheel Drive Motor Position (1-4).

**4WDSWRN:**Four Wheel Drive Mode Command Switch Return.

**4WDT\_IL:**Four Wheel Drive Tow Indicator Lamp.

**4X4L:**4 Wheel Drive Low Switch.

**ABS:**Anti-lock Brake System.

**A/C:**Air Conditioning. A vehicle accessory system that modifies the passenger compartment air by cooling and dehydrating the air.

**ACC:**Air Conditioning Clutch. Indicates status of the A/C clutch.

**ACCR:**A/C Clutch Control Relay / WOT AC Cutoff (WAC).

**ACCS:**Air Conditioning Cycling Switch. Indicates status of the A/C cycling switch.

**ACD:**Air Conditioning Demand. A signal input to the PCM from the Air Conditioning control panel.

**ACDS:**Air Conditioning Diagnostic Switch (Refrigerant Containment Switch).

**ACET:**Air Conditioning Evaporator Temperature (may also be referred to as Evaporator Air Discharge Temperature).

**ACP:**Air Conditioning Head Pressure or A/C cycling switch input state.

**ACPSW:**Air Conditioning Pressure Switch.

**ACPT:**Air Conditioning Head Pressure Transducer Sensor.

**ACP V:**Air Conditioning Head Pressure Volts. A voltage input to the PCM from the ACP switch or sensor.

**ACR:**Air Conditioning Relay. Commanded output controlled by the PCM and acts as an A/C cutout control during heavy acceleration.

**A/D:**Analog-to-Digital. Analog-to-Digital signal conversion.

**ADC:**See ATDC.

**AFCM:**Alternative Fuel Control Module.

**AIR:**Secondary Air Injection.

**AIRB:**Secondary Air Injection Bypass.

**Air Diverter:**Air Diverter Valve. Part of the EAIR system. Diverts fresh air to the exhaust system when the electric air pump is commanded on.

**AIR EVAL:**Air System Evaluated. Displays a YES or NO status indicating whether the Air System has been evaluated for OBD (On-Board Diagnostic) II purposes.

**Air/Fuel Ratio:**Air to fuel mixture ratio. An air/fuel mixture that is 14.7:1 is also called stoichiometry.

**AIRM:**Secondary AIR pump monitor.

**ALTCOM:**Alternator Command.

**ALTMON:**Alternator Monitor.

**Ambient Air Temperature:**Temperature of the air surrounding an object.

**Analog (Electrical/Electronic):**An electrical signal that can obtain any value within the voltage limits of the signal.

**APP:**Accelerator Pedal Position

**ARB:**Air Resource Board.

**ARPMIDES:**Ancillary RPM Desired. RPM required to maintain the vehicle speed commanded by Speed Control Command Switch (SCCS) inputs.

**ASCII:**American Standard Code for Information Interchange.

**ATDC:**After Top Dead Center. The location of the piston after it has reached the top of its stroke. Measured in degrees of crankshaft rotation.

**AVOM:**Analog Volt-Ohm Multimeter. Readings are indicated by a sweep hand on a printed scale, rather than a digital display.

**AWD:**All—Wheel Drive.

**BARO:**Barometric Pressure.

**Base Idle:**Idle rpm determined by the throttle lever hardset on the throttle body with the IAC solenoid disconnected.

**Base Timing:**Spark advance in degrees before top dead center of the base engine without any control from the PCM or ICM.

**Battery Positive Voltage (B+):**The positive (+) voltage from the battery or any circuit connected directly to the battery. Compare "Vehicle Power (VPWR)."

**BATTEMP:**Battery Temperature.

**BJB:**Battery Junction Box.

**BOB:**Breakout Box. A test device which connects in series to the PCM and PCM harness.

**BPA:**Brake Pedal Applied switch. Typically located on the braking system master cylinder. Can be hydraulic or electric.

**BPP:**Brake Pedal Position. Indicates the position of the brake pedal, based on input from the Brake Pedal Position (BPP) switch.

**BPS:**Brake Pedal Switch\Speed Control Deactivation.

**BRAKE\_LMP or BRKL:**Brake Warning Lamp Status. Activates the Brake Warning Lamp by applying voltage to the control line.

**BTDC:**Before Top Dead Center. The location of the piston before it has reached the top of its stroke. Measured in degrees of crankshaft rotation.

**Bus + or Bus — :**Multiplex circuits that carry SCP data from module to module and to the DLC.

**BVREF:**Buffer Voltage Reference. A dedicated circuit that provides approximately a 5.0 volt signal used as a reference by certain sensors.

**CAC:**Charge Air Cooler. Formerly known as Intercooler. A device which lowers the temperature of pressurized intake air.

**CAFE:**Corporate Average Fuel Economy. A set of federal requirements and regulations which govern fuel economy standards.

**CANVNT:**Canister Vent Solenoid.

**Catalyst:**Catalytic converter. An in—line exhaust system device used to reduce the level of engine exhaust emissions.

**CAT EVAL:**Catalyst System Evaluated. This item indicates YES when the Catalyst Efficiency Monitor has successfully completed.

**CCM:**Comprehensive Component Monitor.

**CCRM:**Constant Control Relay Module. A relay module that provides ON—OFF control of various EEC components.

**CD A through J:**Coil Driver 1 through 10.

**Centralized Testing Facility:**State government operation. Provides Inspection/Maintenance (IM) and safety inspections.

**CGND or CSE GND:**Case Ground. Provides a ground source for the PCM or ECU case.

**CHT:**Cylinder Head Temperature. Units are displayed in either degrees Fahrenheit or Centigrade.

**CHTIL:**Cylinder Head Temperature Indicator Lamp.

**CHTV:**Cylinder Head Temperature Voltage. The actual voltage drop across the CHT sensor thermistor.

**CID:**Cylinder Identification. PCM input signal from Camshaft Position Sensor.

**CKP:**Crankshaft Position. Senses the position of the crankshaft.

**CKP+, CKP—:**CKP+ is the Crankshaft Position (CKP) sensor signal wire. CKP— is the signal return.

**CL:**Closed Loop. An operating condition or mode which enables operation based on sensor feedback.

**CMCVM:**Charge Motion Control Valve.

**CMP, CMP1, CMP2:**Camshaft Position. Indicates camshaft position.

**CMPFM:**Camshaft Position Failure Mode. Indicates when the PCM identifies a CID/CMP fault.

**CMS:**Catalyst Monitor Sensor. Downstream HO2S.

**CMVSS:**Canadian Motor Vehicle Safety Standards.

**CNG:**Compressed Natural Gas.

**CO:**Carbon Monoxide. A colorless, odorless and toxic gas that is a component of auto exhaust emissions.

**CO<sub>2</sub>:**Carbon Dioxide. A colorless, odorless gas that is a normal by—product of the combustion of fuel.

**Coil:**A device consisting of windings around an iron core. In a spark ignition system, designed to increase voltage.

**Cold Soak:**Time given to a vehicle to sit at a low temperature (typically below 68° F / 20° C) until the temperature of external and internal components stabilize.

**CONT:**Continuous Memory. The portion of KAM (keep alive memory) used to store DTCs generated during Continuous Memory Self—Test.

**Continuous Memory Self—Test:**A continuous test of the EEC system conducted by the PCM whenever the vehicle is operating.

**COP:**Coil On Plug. Ignition coil on plug assembly.

**CPP:**Clutch Pedal Position. Indicates clutch pedal position.

**CPP Switch:**Clutch Pedal Position Switch. Located on the clutch pedal and detects when the clutch pedal is depressed.

**CQIS:**Common Quality Indicator System.

**CSE GND:**Case Ground.

**CT:**Closed Throttle Mode. A mode when the PCM varies the pulse width of the fuel injectors to obtain the air/fuel mixture appropriate for closed throttle operation.

**CTO:**Clean Tach Output. Signal used to drive the instrument panel tachometer.

**Data Communications Link:**A communication path between various in—vehicle electronic modules. Accessed by scan tools through the Data Link Connector (DLC).

**DC:**1. Direct Current. Electric current flowing in one direction. 2. Duty Cycle. The voltage measurement of ON time versus the full cycle period, expressed in percent.

**DCL:**Data Communication Link.

**DI:**Distributor Ignition. A system in which the ignition coil secondary circuit is sequenced by a distributor.

**Digital:** Controls process information by switching the current or voltage ON and OFF.

**DIS:**Distributorless Ignition System. A system in which the ignition coil secondary circuit is sequenced without a distributor.

**DLC:**Data Link Connector. J1962 connector providing access to vehicle diagnostic information.

**DOHC:**Dual Overhead Cam. An engine configuration that uses two camshafts positioned above the valves.

**DOL:**Data Output Line. A circuit that sends certain information from the PCM to the instrument cluster.

**DPFEGR:**Differential Pressure Feedback Exhaust Gas Recirculation. System that uses a pressure transducer to control the operation of the EGR Vacuum Regulator Valve.

**DRI:**Deposit Resistant Injector. A fuel injector designed to prevent build—up of carbon and other unwanted deposits.

**DRL:**Daytime Running Lamps. A system that keeps the vehicle running lamps on at all times while the vehicle is operating.

**DTM:**Diagnostic Test Mode. A level of capability in an On—Board Diagnostic (OBD) system.

**DTC:**Diagnostic Trouble Code. An alpha/numeric identifier for a fault condition identified by the On—Board Diagnostic System.

**DVOM:**Digital Volt—Ohm Meter.

**E—85:**Fuel containing 85% ethanol alcohol.

**EAIR:**Electric Secondary Air Injection. A pump—driven system for providing secondary air using an electric air pump.

**EAIRM:**Electric Secondary Air Pump circuit Monitor.

**ECT:**Engine Coolant Temperature. Displayed in either Fahrenheit or Centigrade.

**ECTV:**Engine Coolant Temperature Voltage. The actual voltage drop across the ECT sensor thermistor.

**ECU:**Electronic Control Unit. A module that handles the control strategy and monitors system inputs or outputs.

**EEC:**Electronic Engine Control system.

**EEC—V:**Fifth generation EEC system.

**EFT:**Engine Fuel Temperature.

**EFTA:**Bank 1 input. EFTA is displayed in either Fahrenheit or Centigrade.

**EFTAV:**Voltage drop across the EFTA (Bank 1) sensor thermistor.

**EFTB:**Bank 2 input. EFTB is displayed in either Fahrenheit or Centigrade.

**EFTBV:**Voltage drop across the EFTB (Bank 2) sensor thermistor.

**EGR:**Exhaust Gas Recirculation. A process in which a small amount of exhaust gas is routed into the combustion chamber.

**EGR EVAL:**Exhaust Gas Recirculation System Evaluated. EGR EVAL will display YES when the monitor is complete.

**EGRMC (1-4):**Electric Exhaust Gas Recirculation Motor Control Valve. Four EGRMC outputs control four coils in the stepper motor and the corresponding movement in the EGR valve. The PCM energizes two coils for a full step and one coil for a half step, controlling both the amount and the direction of rotation (open or close).

**EGRMDS:**Electric Exhaust Gas Recirculation Motor Desired position. The PID name used to operate the EEGR valve with scan tool's output state control.

**EGRS:**EGR Shutoff. A normally closed solenoid that applies vacuum to the EGR valve when energized by the PCM.

**EGRT:**Exhaust Gas Recirculation Valve Temperature Sensor. A temperature sensor that is threaded into the bottom of the intake plenum.

**EGR Vacuum Regulator:**Controls vacuum to the EGR valve by a duty cycle signal from the PCM.

**EGRVR:**Exhaust Gas Recirculation Vacuum Regulator. Solenoid which varies the vacuum to the EGR valve by varying the duty cycle to the regulator.

**EGRVRA:**Exhaust Gas Recirculation Vacuum Regulator Actual (volt). The actual state of the commanded output.

**EGRVRF:**Exhaust Gas Recirculation Vacuum Regulator Fault. Represents whether a fault exists in the EGRV circuit.

**EI:**Integrated Electronic Ignition. An Electronic Ignition system that has the Ignition Control Module (ICM) integrated into the PCM.

**EI—HDR:**Electronic Ignition, High Data Rate. Formerly known as Electronic Distributorless Ignition System.

**EI—LDR:**Electronic Ignition, Low Data Rate. Formerly known as Distributorless Ignition System.

**EMI:**Electromagnetic Interference. Usually caused by ignition voltage spikes, solenoids, relay operation or noisy generator contacts.

**EOL:**End Of Line. A system designed specifically for use at assembly plants to make sure all new vehicles perform to design specifications.

**EOT:**Engine Oil Temperature Sensor.

**EPA:**Environmental Protection Agency (U.S. Government).

**EPROM:**Erasable Programmable Read—Only Memory. An electronic component in the PCM that requires the electronic storage of information.

**ESM:**EGR System Module.

**ESOF:**Electronic Shift—on—the—Fly.

**ETC:**Electronic Throttle Control .

**ETCVREF**:Voltage Reference (5V) for ETC (APP BVREF, TP BVREF).

**EVAP**:Evaporative Emissions. A system to prevent fuel vapor from escaping into the atmosphere.

**EVAPCP**:Evaporative Canister Purge Solenoid. Controls a solenoid which allows venting of the evaporative purge canister.

**EVAPCPF**:Evaporative Canister Purge Solenoid Fault. Identifies whether an electrical fault exists for the current commanded state.

**EVAPCV**:Evaporative Canister Vent Solenoid. Controls a solenoid which seals the EVAP system canister from atmospheric pressure during the EVAP OBD II Monitor test.

**Evaporative Emissions Canister**:An evaporative emission canister, containing activated charcoal which absorbs and holds fuel vapors.

**EVAPPDC**:Evaporative Canister Purge Duty Cycle. The duty cycle commanded to the Evap Canister Purge Solenoid by the PCM.

**EVO**:Electronic Variable Orifice.

**EVMV**:Electric Vapor Management Valve also known as the EVAP Canister Purge Valve.

**EWP**:Electric Water Pump.

**Exciter Ring**:A toothed or notched iron or steel disk, which is the moveable part of a wheel speed sensor.

**FAN**:Fan Speed. Used in conjunction with vehicles having multiple fan speed control. Displays OFF, LOW, or HIGH status.

**FANSS**:Fan Speed Sensor.

**FC, FC1, FC2, FC3**:Fan Control.

**FCS**:Fuel Control Solenoid.

**FCIL**:Fuel Cap Off Indicator Lamp. Indicates that the fuel filler cap was not properly installed.

**FCV**:Fan Control — Variable.

**FEAD**:Front End Accessory Drive.

**FEPS**:Flash EEPROM Programming Signal. 18 volt DC signal sent by the scan tool to initiate PCM reprogramming.

**FFV**:Flexible Fuel Vehicle.

**FIFO**:First In First Out.

**FILO**:First In Last Out.

**FIM**:Fuel Indicator Module.

**FLI**:Fuel Level Input. Used by the Evap monitor to calculate fuel tank vapor volume. Displayed as a percentage.

**FLI V**:Fuel Level Input Voltage.

**FMEM**:Failure Mode Effects Management. Operating strategy that maintains limited vehicle function in the event of a PCM or EEC component failure.

**FP**:1. Fuel Pump. Indicates whether the pump has been commanded ON or OFF by the PCM. 2. Fuel Pump (Modulated). Fuel pump duty cycle percentage.

**FPC**:Fuel Pump Control. See FP.

**FPDM**:Fuel Pump Driver Module. A module that controls the electric fuel pump.

**FPF**:Fuel Pump Fault. Identifies whether a fault exists in the FP circuit.

**FPM**:Fuel Pump Monitor. Monitors the Fuel Pump / circuits for faults.

**Freeze Frame**:A block of memory containing the vehicle operating conditions at a specific time.

**FRP**:Fuel Rail Pressure. Based on FRP V.

**FRP V**:Fuel Rail Pressure Voltage. A voltage input to the PCM from the Fuel Rail Pressure Sensor.

**FRT**:Fuel Rail Temperature Sensor.

**FSC**:Fail—Safe Cooling.

**FSV**:Fuel Shut—Off Valve. A component of Natural Gas Vehicles. This valve either allows or prevents Natural Gas flow to the fuel rail.

**FSVF**:Fuel Shut—Off Valve Fault. Indicates if there is a fault in the FSV circuit. Displayed as YES or NO.

**FSVM**:Fuel Shut—Off Valve Monitor. Monitors operation of the Fuel Shut—Off Valve / circuit.

**FTP**:Fuel Tank Pressure. Displayed as inches of water, kPa, or volts.

**FTP V**:Fuel Tank Pressure Voltage. From the FTP transducer.

**FUEL PR**:Fuel Pressure. Measurement of the force of the fuel delivered via the fuel pump.

**FUEL PW**:Fuel Pulse Width. Displays the commanded pulse width at time of last data update.

**FUEL PW1**:Fuel Injector Pulse Width #1. Corresponds to injectors normally affected by O2S1 (HEGO1).

**FUEL PW2**:Fuel Injector Pulse Width #2. Corresponds to injectors normally affected by O2S2 (HEGO2).

**FUELSYS**:Fuel System Status (OPEN/CLOSED Loop). Formerly known as LOOP.

**Fuel Tank Vapor Valve**:A valve mounted in the top of the fuel tank that vents excess vapor and pressure from the fuel tank into the Evaporative Emission Control System.

**FWD**:Front Wheel Drive.

**GEM**:Generic Electronic Module.

**GEN:**Generator.

**GENF:**Generator output fault.

**GENFDC:**Generator field control output.

**GFS:**Generator field signal monitor.

**GND:**Ground.

**GPM:**Grams Per Mile. Also known as Gallons Per Minute.

**GPS:**Global Positioning Satellite.

**Green State Vehicle:**Formally known as California Emissions. A vehicle that is equipped with California on—board diagnostics.

**GSS:**Gear Select Solenoid.

**GVW:**Gross Vehicle Weight.

**Hall Effect:**A process where current is passed through a small slice of semi—conductor material and a magnetic field to produce a small voltage in the semi—conductor.

**Hard Fault:**A fault currently present in the system.

**HC:**1. Hydrocarbon. A by—product of combustion and a component of auto exhaust emissions. 2. High Compression.

**HFC:**High Fan Control.

**HFCF:**High Fan Control Fault. Identifies if there is a fault in the HFC circuit.

**HFP:**High Fuel Pump.

**HLOS:**Hardware Limited Operating Strategy. A mode of operation where the PCM replaces output commands with fixed values in response to internal PCM malfunctions.

**HO:**High Output.

**HO2S:**Heated Oxygen Sensor. Formerly known as Heated Exhaust Gas Oxygen (HEGO) Sensor. Provides information on rich or lean exhaust conditions to the PCM.

**Hot Soak:**Period of time after an engine operates where localized combustion heat dissipates throughout the engine.

**HTR, HTR11, HTR12, HTR21, HTR22, HTRX1, HTRX2:**HO2S Heater. Heater element for the HO2S sensor.

**Hydrogen:**Chemical symbol H. Highly flammable gas.

**Hz:**Hertz. Cycles per second.

**IAC:**Idle Air Control. Electrical control of throttle bypass air.

**IAT:**Intake Air Temperature.

**IATV:**Intake Air Temperature Voltage. Actual voltage drop across the IAT sensor.

**IAT2:**Intake Air Temperature 2. Displayed in either Fahrenheit or Centigrade. Used on supercharged vehicles.

**IAT2V:**Intake Air Temperature 2 Voltage. Actual voltage drop across the IATV2 sensor.

**IC:**Integrated Circuit. A small semi—conductor device capable of doing many separate circuit functions.

**ICM:**Ignition Control Module. The module that controls the ignition system.

**IFDM:**Integrated Fuel Delivery Module.

**IFS:**Inertia Fuel Shutoff.

**IGN GND:**Ignition Ground.

**Ignition:**System used to provide high voltage spark for internal combustion engines.

**IGN\_KEY (IGKY):**Ignition Key status.

**IGN\_SW (IGSW):**Ignition Switch Position.

**IMRC:**Intake Manifold Runner Control. Controls airflow through the high—speed runners in the intake manifold.

**IMRCM:**Intake Manifold Runner Control Monitor. Monitors the IMRC / circuits for faults.

**IMTV, IMTV1, IMTV2:**Intake Manifold Tuning Valve. Controls airflow through runners in a split intake manifold.

**INJ1, INJ2, INJ3, INJ4, INJ5, INJ6, INJ7, INJ8, INJ9, INJ10:**Injector number or its signal output from the PCM.

**Injector:**A device for delivering metered pressurized fuel to the intake system or the cylinders.

**Intake Air:**Air drawn through a filter and distributed to each cylinder for use in combustion.

**Intercooler:**See CAC.

**IPATS:**Integrated Passive Anti—Theft System.

**ISO:**International Standards Organization.

**KAM:**Keep Alive Memory. A portion of the memory within the PCM that must have power even when the vehicle is not operating.

**KAPWR:**Keep Alive Power. Dedicated, unswitched power circuit that maintains KAM.

**Key On Engine Off Self—Test:**A test of the EEC system conducted by the PCM with power applied and the engine at rest.

**Key On Engine Running Self—Test:**A test of the EEC system conducted by the PCM with the engine running and the vehicle at rest.

**KEYPWR:**Key Power. Battery voltage supplied when the ignition key is in the ON position.

**Knock:**The sharp metallic sound produced when two combustion pressure fronts collide in the combustion chamber of an engine.

**KOEC:**Key On Engine Continuous.

**KOEO:**Key On Engine Off.

**KOER:**Key On Engine Running.

**KPA:**Kilopascal. Unit of pressure. 3.386 kPa = 1 inch of mercury (Hg.).

**KPH:**Kilometers Per Hour.

**KS:**Knock Sensor. Detects engine knock.

**L:**Liters. The unit of volume in the metric measuring system. One liter equals 1.06 quarts.

**LEV:**Low Emissions Vehicle.

**LFC:**Low Fan Control.

**LFP:**Low Fuel Pump. Reduced operating speed for multi—speed fuel pumps.

**LIFO:**Last In First Out.

**LILO:**Last In Last Out.

**LONGFT1, LONGFT2:**Long—Term Fuel Trim. Fuel flow adjustment determined by the PCM.

**LOOP:**Indicates OPEN or CLOSED loop status.

**LPG:**Liquefied Petroleum Gas.

**LPLR:**Low Pressure Low Resistance fuel injector.

**M—85:**Fuel containing 85% methanol alcohol.

**MAF:**Mass Air Flow. Used to measure the mass (weight) of the air entering the engine.

**MAF RTN:**Mass Air Flow Return. A return circuit for the MAF sensor.

**MAP:**Manifold Absolute Pressure. The internal pressure of the intake manifold.

**MFC:**Medium Fan Control.

**MFI:**Multiport Fuel Injection. A fuel—delivery system in which each cylinder is individually fueled.

**MFP:**Modulated Fuel Pump.

**Microprocessor:**A digital processor on a chip which performs arithmetic and control logic.

**MIL:**Malfunction Indicator Lamp. An indicator lamp alerting the driver of an emission related malfunction. May also read "CHECK ENGINE" or "SERVICE ENGINE SOON."

**MISF:**Misfire. Any event in the cylinder that causes a sudden change in acceleration of the crankshaft.

**MON:**Motor Octane Number.

**Monolithic Substrate:**The ceramic honeycomb structure used in the catalytic converter.

**MSOF:**Manual Shift—on—the—Fly.

**MY:**Model Year.

**NA:**Naturally Aspirated. Engine that is not supercharged or turbocharged.

**NAAO:**North American Automotive Operations.

**NC:**Normally Closed.

**NG:**Natural Gas. A system capable of using natural gas for vehicle operation.

**NGS:**New Generation STAR (Self—Test Automatic Readout) tester.

**NGVM:**Natural Gas Vehicle Module.

**NO:**Normally Open.

**NO<sub>x</sub>:**Oxides of Nitrogen. Formed at high combustion temperatures.

**NVH:**Noise, Vibration, Harshness. A classification of vehicle concerns.

**O<sub>2</sub>S, O<sub>2</sub>S11, O<sub>2</sub>S12, O<sub>2</sub>S13, O<sub>2</sub>S21, O<sub>2</sub>S22, O<sub>2</sub>S23:**Oxygen Sensor. Provides information on rich or lean exhaust conditions to the PCM.

**OASIS:**On—line Automotive Service Information System.

**OBD, OBD—II:**On—Board Diagnostics, On—Board Diagnostics Second Generation. A system that monitors PCM input and output control signals.

**On—Demand Test:**Technician initiated "KOEO" and "KOER" tests performed by the PCM.

**OC:**Oxidation Catalytic converter. A catalytic converter system that reduces levels of HC and CO.

**OCT ADJ:**Octane Adjust. Compensating strategy that adjusts for changes in fuel octane.

**OEM:**Original Equipment Manufacturer.

**OHC:**OverHead Cam. An engine configuration that uses a single camshaft positioned above the valves.

**OWL:**Overheat Warning Lamp or its signal output from the PCM. Turns the TEMP warning lamp ON when engine oil temperature exceeds safe limits.

**Open Circuit:**A circuit which does not provide a complete path for flow of current.

**OL:**Open Loop. An operating condition based on instructions not modified by PCM feedback.

**OSC:**Output State Control.

**OSS:**Output Shaft Speed.

**Ozone:**A blue gaseous form of oxygen (O<sub>3</sub>) formed naturally by electric discharge or exposure to ultraviolet radiation.

**Particulate:**Small solid matter found in exhaust gases, especially prevalent in diesel engines.

**PATS:**Passive Anti—Theft System.

**PATSIL:**Passive Anti—Theft System Indicator Light.

**PATSIN:**Passive Anti—Theft System Receive Signal.

**PATSOUT:**Passive Anti—Theft System Transmit Signal.

**PATSTRT:**Passive Anti—Theft System Starter Relay Control

**PCM:**Powertrain Control Module. Formerly known as the EEC (Electronic Engine Control) Processor.

**PCV:**Positive Crankcase Ventilation. A system which allows the controlled flow of crankcase vapors into the combustion chamber.

**PF:**Purge Flow. Amount of fuel vapor burned in the engine.

**Photochemical:**Term describing the action of light on air pollutants which results in creating smog.

**PID:**Parameter Identifier. Identifies an address in PCM memory which contains operating information.

**Powertrain:**Engine and transmission/transaxle components.

**Pressure — Absolute:**A pressure referenced to a perfect vacuum.

**Pressure — Atmospheric:**The pressure of the surrounding air at any given temperature and altitude. Sometimes called Barometric Pressure.

**Pressure — Barometric:**Pertaining to atmospheric pressure or the results obtained by a barometer.

**Pressure — Differential:**The pressure difference between two regions, such as between the intake manifold and atmospheric pressure.

**Pressure — Gage:**The amount by which absolute pressure exceeds the ambient atmospheric pressure.

**PIP:**Profile Ignition Pickup. Provides crankshaft position information for ignition synchronization.

**Potentiometer:**An adjustable resistance component commonly used as a sensor (Example: TP Sensor).

**PPM:**Parts Per Million. A measure used in emission analysis.

**PROM:**Programmable Read—Only Memory. Similar to ROM except without program instructions.

**Protocol:**A set of rules for the exchange of information on a network.

**PSOM:**Programmable Speedometer/Odometer Module. A module that processes vehicle speed information.

**PSP:**Power Steering Pressure. Indicates the pressure in the power steering system.

**PSP V:**Power Steering Pressure Input Voltage.

**PSPT:**Power Steering Pressure Transducer

**PTEC:**PowerTrain Electronic Controller.

**PTO:**Power Take—Off.

**PW:**Pulse Width. The length of time an actuator, such as a fuel injector, remains energized.

**PWM:**Pulse Width Modulation. Controls the intensity of an output by varying the signal duty cycle.

**PWR GND:**Power Ground. The main ground circuit in the EEC system.

**Quick Test:**A series of diagnostic tests of the EEC system consisting of KOEO, KOER and Continuous Memory Self—Tests. Results are displayed as a series of DTCs.

**RABS:**Rear Antilock Brake System.

**RAM:**Random Access Memory. Memory into which information can be written as well as read.

**REDOX:**Reduction Oxidation Catalytic converter. A catalytic converter system designed to operate at high temperatures.

**Regulator:**Controls the alternator/generator field current to maintain proper battery charge. Contained within the PCM in smart charging applications.

**Relay:**An electromechanical device in which connections in one circuit are opened or closed by changes in another circuit.

**REM:**Rear Electronic Module.

**Repetitive Spark:**Multiple firings of individual spark plugs at engine speeds below 1000 RPM to improve idle quality and improve emissions.

**RF:**Radio Frequency.

**RFI:**Radio Frequency Interference.

**RFS:**Returnless Fuel System.

**RM:**Relay Module. A module containing two or more relays.

**ROM:**Read—Only Memory. Computer memory that can be accessed and utilized, but not altered.

**RON:**Research Octane Number.

**Routine:**A group of related tasks, such as a series of diagnostic tests.

**RPM:**Revolutions Per Minute.

**RS:**Reverse Switch.

**RTN:**Return. A dedicated sensor ground circuit.

**RWD:**Rear Wheel Drive.

**SAE:**Society of Automotive Engineers.

**SAIR:**Secondary Air.

**SBS:**Supercharger Bypass Solenoid or its signal output from the PCM.

**SC:**Supercharged or Supercharger.

**SBC:**Supercharger Bypass Control. A system that allows manifold vacuum to be bled away from the supercharger wastegate actuator to allow for maximum boost.

**SBCF:**Supercharger Bypass Control Fault. Identifies whether a fault exists in the Supercharger Bypass circuit.

**SCCS:**Speed Control Command Switch

**SCICP:**Supercharger Intercooler Pump Control.

**SCICPF:**Supercharger Intercooler Pump Control Fault.

**SCIPC:**The PID to monitor the operation of the Supercharger and Charge Air Cooler pump.

**SCP:**Standard Corporate Protocol.

**Self—Test:**See Quick Test.

**Sensor:**A device that detects the value or change in a physical quantity, such as temperature, pressure or flow rate, and converts the data into an electrical signal.

**SFI:**Sequential Multiport Fuel Injection. A multiport fuel delivery system where each injector is individually energized and timed relative to its cylinder intake event.

**Shield:**A conducting sleeve that surrounds wires to be electronically isolated from electromagnetic interference (EMI).

**Short Circuit:**An undesirable condition in a circuit where it is terminated at a point other than that intended.

**SHRT FT:**Short—Term Fuel Trim. Fuel flow adjustment in response to the HO<sub>2</sub>S sensor(s) input during closed—loop operation.

**SIG RTN:**Signal Return. A dedicated sensor ground circuit that is common to two or more sensors.

**SIL:**Shift Indicator Lamp.

**Smart Driver:**A PCM or ECU output driver that can detect faults (open or shorts) on its output circuit.

**SME:**Society of Manufacturing Engineers.

**SOF:**Shift—On—the—Fly.

**SOHC:**Single Overhead Cam.

**Solenoid:**A device consisting of an electrical coil which produces a magnetic field in a plunger and pulled to a central position.

**ST:**Scan Tool. A device that interfaces with and communicates information on a data link.

**Stoichiometry:**An air/fuel mixture that is neither too rich nor too lean. Stoichiometric ratio is 14.7 parts of air for every 1 part of fuel.

**Switch:**A device for making, breaking, or changing the connections in an electrical circuit.

**TA:**Traction Assist.

**TACH:**Tachometer.

**TACM, TACMP, TACMN, TACP (+/-)**Throttle Actuator Control Motor +/- used in the electronic throttle control system.

**TB:**Throttle Body. A device that controls airflow through the engine via a butterfly valve, and has an air bypass channel around the throttle plate.

**TC:**1. Traction Control. Combines anti—lock braking and axle torque reduction to control wheel slippage. 2. Turbocharger.

**TDC:**Top Dead Center.

**Tear Tag:**The two—piece adhesive label attached to the PCM to identify its calibration.

**Thermistor:**A temperature dependent resistor, like that used in CHT and ECT sensors.

**Timing:**Relationship between spark plug firing and piston position expressed in crankshaft degrees before (BTDC) or after (ATDC) top dead center of the compression stroke.

**TMAP:**Thermal Manifold Absolute Pressure Sensor. A MAP Sensor that includes a thermistor to measure intake air temperature.

**TP:**Throttle Position (sensor). A potentiometer that provides throttle angle and rate information for the PCM.

**TP V:**Throttle Position Sensor Voltage.

**Transducer:**A device that receives energy from one medium and transfers it to another. For example, thermal energy is converted to an electrical signal through a temperature probe.

**Transmissions/Transaxles:**

**Note:** *All related items are grouped under the general heading "TRANSMISSIONS" located at the end of this section.*

**TSB:**Technical Service Bulletin. Notifies service personnel of any known vehicle concerns, procedures, or general service information.

**Underspeed Mode:**A control mode that prevents the engine from stalling in the event it stumbles while running. Also used during engine crank.

**Vacuum:**Manifold pressure that is reduced below the ambient atmospheric pressure.

**Variable Reluctance:**A process of passing a varying magnetic field through wire windings and inducing a voltage.



**VCT, VCT1, VCT2:**Variable Camshaft Timing.

**VDF:**Visctronic Drive Fan.

**VECI:**Vehicle Emission Control Information label.

**VIN:**Vehicle Identification Number. A unique identification number given to every vehicle produced. Includes information about the year, model, engine, and plant origin of the vehicle.

**VMV:**Vapor Management Valve. Controls the flow of fuel vapors out of the carbon canister.

**VOM:**Volt—Ohm Meter. Readings are indicated by sweep hand on a printed scale rather than a digital (DVOM) display.

**VBPWR:**Vehicle Buffered Power. A PCM supplied power source that supplies regulated voltage.

**VPWR:**Vehicle Power. A switched circuit that provides power to the EEC system. Compare "Battery Voltage (B+)."

**VREF:**Reference Voltage. A dedicated circuit that provides approximately a 5.0 volt signal used as a reference by certain sensors.

**WAC:**Wide Open Throttle A/C Cut—Off. Turns A/C system off during wide open throttle or certain other operating conditions.

**Wastegate Control:**A device that opens the wastegate in case of overboost from a turbocharger.

**WOT:**Wide Open Throttle. A condition of maximum airflow through the throttle body.

**Zip Tube:**Another name for "fresh air duct" or "air inlet duct".

## **TRANSMISSIONS:**

**Note:** *The transmission naming convention is as follows:*

- *The first character, a number, is the number of forward gears.*
- *The second character, either the letter "F" or "R," represents front (transaxle) or rear (transmission) wheel drive.*
- *The next set of characters, a grouping of numbers, represents the design torque capacity of the transmission/transaxle (for example, "27" represents 270ft./lbs. in the 4F27E transaxle).*
- *The last character, if used, is one of the following:*
  - *"E" for electronic shift*
  - *"N" for non—synchronous shift*
  - *"S" for synchronous shift*
  - *"W" for wide ratio*

**4F27E:**Also known as the FN Focus automatic transmission.

**4F44E:**Formerly known as the CD4E.

**4F46S:**Formerly known as the AX4S and regular—duty AXOD—E.

**4F50N:**Formerly known as the AX4N and heavy—duty AXOD—E.

**4R44E:**Formerly known as A4LD for 3.0L applications.

**4R55E:**Formerly known as A4LD for 4.0L applications.

**4R70W:**Formerly known as AOD—E.

**4R100:**Formerly known as E4OD.

**5R44E:**Formerly known as A5LD for 3.0L applications.

**5R55E:**Formerly known as A5LD for 4.0L applications.

**5R55N:**Lincoln LS automatic transmission.

**5R55W:**Wide—ratio truck transmission.

**4x4L:**4x4 Low.

**A/T:**Automatic Transmission.

**CCS:**Coast Clutch Solenoid.

**CCSF:**Coast Clutch Solenoid Fault. Displays a YES if fault exists.

**EPC, EPC1, EPC2:**Electronic Pressure Control.

**EPCV:**Electronic Pressure Control Volts.

**ESS:**Electronic Shift Scheduling.

**HCDSS:**High Clutch Drum Speed Sensor. PCM input from the 4R44E and 4R55E.

**ISS:**Intermediate/Input Shaft Speed Sensor.

**M5OD:**Manual 5—Speed transmission with overdrive (RWD).

**M/T:**Manual Transmission/Transaxle.

**NPS:**Neutral Pressure Switch or its signal input to the PCM.

**OCS:**Overdrive Cancel Switch.

**OSS:**Output Shaft Speed. Indicates rotational speed of the transmission output shaft.

**PNP:**Park/Neutral Position switch. Also known as Neutral Drive Switch (NDS), Neutral Gear Switch (NGS), and Transmission Switch Neutral (TSN).

**REVERSE or REV:**Transmission Reverse Switch Input.

**SIL:**Shift Indicator Lamp. A lamp that indicates the preferred shift points on select manual transmission/transaxle vehicles.

**SS1/SS2/SS3:**Shift solenoids. Devices that control the shifting in an automatic transmission.

**TCC/TCCH:**Torque Converter Clutch. When energized, causes a mechanical engagement and disengagement of the Torque Converter Clutch.

**TCIL:**Transmission Control Indicator Lamp. Indicates that the TCS has been activated.

**TCS:**Transmission Control Switch. Modifies the operation of electronically controlled transmissions.

**Torque converter:**A device which by its design multiplies the torque in a fluid coupling between an engine and transmission/transaxle.

**TFT:**Transmission Fluid Temperature. Indicates temperature of transmission fluid.

**Transaxle:**A device consisting of a transmission and axle drive gears assembled in the same case. Front—wheel drive applications.

**Transmission:**A device which selectively increases or decreases the ratio of relative rotation between its input and output shafts. Rear—wheel drive applications.

**TR, TR1, TR2, TR3, TR4:**Transmission Range. The range in which the transmission is operating.

**TR Sensor:**Formerly known as Manual Lever Position Sensor (MLPS). Provides information to the PCM on the transmission range selector position.

**TR V:**Transmission Range Voltage.

**TSS:**Turbine Shaft Speed. Indicates rotational speed of the transmission turbine shaft.

**VSS:**Vehicle Speed Sensor. A magnetic pickup device that generates an AC signal that is proportional to vehicle speed.