The Engineering Society
For Advancing Mobility
Land Sea Air and Space®

A Product of the
Cooperative Engineering Program

SAE J1930 JUN88

Diagnostic Acronyms, Terms, and Definitions For Electrical/Electronic Systems

SAE Recommended Practice
Issued June 1988

Submitted for Recognition as an American National Standard

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space ®
400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096

HIGHWAY VEHICLE PRACTICE

SAE J1930

Issued June 1988

Submitted for recognition as an American National Standard

DIAGNOSTIC ACRONYMS, TERMS, AND DEFINITIONS FOR ELECTRICAL/ELECTRONIC SYSTEMS

1. INTRODUCTION:

As the number of sophisticated electrical and electronic (E/E) systems has increased on motor vehicles, the number of terms and acronyms to describe various components of these systems has increased enormously. To bring some order to the proliferation of such terms and acronyms, the Vehicle E/E Systems Diagnostic Committee has prepared this Glossary.

The Index provides an outline of three proposed parts to this document (Parts A, B, and D) and one existing Part C. Each part covers a specific major system on the vehicle. Body system terms and acronyms are covered in Part A (in process), chassis systems in Part B (in process), and powertrain in Part C. Terms relating to electronic communication are listed in Part D (in process). Each part will list a preferred acronym, a number of existing acronyms, the term, and a definition of the term (Format of Part D may be different). This information is organized in these documents by the preferred acronym listed in alphabetical order under each subsystem.

As a further aid, a cross reference table is provided in Section 4 of this document. The table lists all acronyms (existing and recommended) from the major system (Body, Chassis, and Powertrain). The acronyms are in alphabetical order, and the appropriate part and paragraph is provided for reference.

The structure of this SAE document is open ended by design. As the need arises, additional acronyms and terms could be added. Because of this flexibility, particular attention should be paid to the month and year publishing code contained in the full "J" number designation. It is possible that this document could be updated on a yearly basis which would be reflected in the complete "J" number designation.

Because of the urgent need for this document, the Committee has elected to proceed with the Part for the powertrain systems first (Part C). For this reason, the other Parts (Parts A, B and D) are listed as proposed at the present time.

2. SCOPE:

This document is applicable to all light duty gasoline and diesel vehicles (LDV), light duty gasoline and diesel trucks (LDT), and heavy duty gasoline vehicles (HDGV). Specific applications of this document include service and repair manuals, training manuals, repair data bases, under-hood emission labels, and emission certification applications.

Even though the use and appropriate updating of this document and its companion documents is strongly encouraged, nothing in these documents should be construed as prohibiting the introduction of a term or acronym not covered by these documents.

3. INDEX:

3.1 Body Systems (Part A draft):

3.1.1 Convenience Features:

3.1.1.1 Subsystems:

3.1.1.1.1 Power Accessories:

3.1.1.2 Computers:

3.1.1.3 Sensors, Switches, Solenoids and Valves:

3.1.2 Driver Information:

3.1.2.1 Subsystems:

3.1.2.1.1 Collision Avoidance:

3.1.2.1.2 Gauges/Instruments/Warning Lights:

3.1.2.1.3 Navigation:

3.1.2.2 Computers:

3.1.2.3 Sensors, Switches, Solenoids and Valves:

3.1.3 Entertainment:

3.1.3.1 Subsystems:

3.1.3.2 Computers:

3.1.3.3 Sensors, Switches, Solenoids, and Valves:

3.1.4 Heating, Ventilation, Air Conditioning (HVAC):

3.1.4.1 Subsystems:

3.1.4.2 Computers:

3.1.4.3 Sensors, Switches, Solenoids and Valves:

3.1.5 Lighting:

3.1.5.1 Subsystems:

3.1.5.2 Computers:

3.1.5.3 Sensors, Switches, Solenoids, and Valves:

3.1.6 Personal Communications:

3.1.6.1 Subsystems:

3.1.6.1.2 Citizens Band Radio:

3.1.6.1.1 Computer Data Link:

3.1.6.1.3 Phone:

3.1.6.2 Computers:

3.1.6.3 Sensors, Switches, Solenoids and Valves:

3.1.7 Security:

3.1.7.1 Subsystems:

3.1.7.1.1 Alarm Systems:

3.1.7.1.2 Door Locks:

3.1.7.2 Computers:

3.1.7.3 Sensors, Switches, Solenoids and Valves:

3.2 Chassis Systems (Part B draft):

3.2.1 Brakes:

3.2.1.1 Subsystems:

3.2.1.1.1 Anti-lock Brake Systems (ABS):

3.2.1.1.2 Automatic Traction Control (ATC/TC):

3.2.1.2 Computers:

3.2.1.3 Sensors, Switches, Solenoids and Valves:

3.2.2 Steering:

3.2.2.1 Subsystems:

3.2.2.1.1 2 Wheel Electronic:

3.2.2.1.4 4 Wheel Electronic:

3.2.2.2 Computers:

3.2.2.3 Sensors, Switches, Solenoids and Valves:

3.2.3 Suspension:

3.2.3.1 Subsystems:

3.2.3.2 Computers:

3.2.3.3 Sensors, Switches, Solenoids and Valves:

3.2.4 Tires/Wheels:

3.2.4.1 Subsystems:

3.2.4.2 Computers:

3.2.4.3 Sensors, Switches, Solenoids and Valves:

3.3 Powertrain (Part C):

3.3.1 Engine:

3.3.1.1 Subsystems:

3.3.1.1.1 Air Induction:

3.3.1.1.2 Auxiliary Emissions Control:

3.3.1.1.3 Cooling:

3.3.1.1.4 Fuel Delivery:

3.3.1.1.5 Ignition:

3.3.1.1.6 Starting/Charging:

3.3.1.2 Computers:

3.3.1.2.1 Engine:

3.3.1.2.2 Memory Components:

3.3.1.2.3 On-Board Diagnostics:

3.3.1.3 Sensors, Switches, Solenoids and Valves:

3.3.2 Transmission System:

3.3.2.1 Subsystems:

3.3.2.2 Computers:

3.3.2.3 Sensors, Switches, Solenoids and Valves:

3.4 Communications (Part D draft):

4. CROSS REFERENCE TABLE:

Recommended and existing acronyms are listed in alphabetical order below with the section (Part A, B, C or D) containing the definition associated with the acronym. Recommended acronyms are indicated with an asterisk. Note also that there may be some duplication in existing terms. In that case, the definitions from both sources should be examined to determine the appropriate meaning and recommended acronym.

	Acronym	Source
	AC	Part C-3.1.3.1
*	ACH	Part C-3.1.1.1.1
*	ACS	Part C-3.1.3.1
	ACT	Part C-3.1.3.11
	AFC	Part C-3.1.3.2
*	AFS	Part C-3.1.3.2
	After Cooler	Part C-3.1.1.1.2
	AI	Part C-3.1.1.2.1
	AIP	Part C-3.1.1.2.1
*	AIR	Part C-3.1.1.2.1
	AIR	Part C-3.1.1.2.7
	Air Flow Meter	Part C-3.1.3.2
	AIV	Part C-3.1.1.2.7
	ALCL	Part C-3.1.2.3.1
	ALDL	Part C-3.1.2.3.1
*	ALT	Part C-3.1.1.6.1
	AP	Part C-3.1.1.2.7
	APS	Part C-3.1.3.3
	ATS	Part C-3.1.3.11
*	B+	Part C-3.1.1.6.2
	Backpressure transducer	Part C-3.1.3.6
*	BARO	Part C-3.1.3.3
	C3I	Part C-3.1.1.5.1
*	CAC	Part C-3.1.1.1.2
*	CARB	Part C-3.1.1.4.1
	Carb	Part C-3.1.1.4.1
*	CFC	Part C-3.1.1.3.1
	CFI	Part C-3.1.1.4.9

*	CIS	Part C-3.1.1.4.2
*	CL	Part C-3.1.2.1.1
	CL	Part C-3.1.2.1.2
*	CLS	Part C-3.1.2.1.2
*	COLS	Part C-3.1.1.3.2
	CP	Part C-3.1.3.4
*	CPS	Part C-3.1.3.4
	CTS	Part C-3.1.3.5
*	DI	Part C-3.1.1.4.3
	DID	Part C-3.1.1.4.3
	DIS	Part C-3.1.1.5.1
*	DLC	Part C-3.1.2.3.1
*	DLI	Part C-3.1.1.5.1
*	DTC	Part C-3.1.2.3.2
*	DTM	Part C-3.1.2.3.3
	Dual Bed	Part C-3.1.1.2.12
	EAC	Part C-3.1.3.21
	EAS	Part C-3.1.3.23
	ECA	Part C-3.1.2.1.5
	ECM	Part C-3.1.2.1.5
	ECT	Part C-3.1.3.5
*	ECTS	Part C-3.1.3.5
	ECU	Part C-3.1.2.1.5
	EEC	Part C-3.1.2.1.5
	EECS	Part C-3.1.1.2.5
	E2PROM	Part C-3.1.2.2.1
*	EEPROM	Part C-3.1.2.2.1
*	EFE	Part C-3.1.1.2.2
	EFI	Part C-3.1.1.4.9
	EGO	Part C-3.1.3.19
	EGOS	Part C-3.1.3.19
*	EGR	Part C-3.1.1.2.3
	EGR	Part C-3.1.3.8
	EGR Diagnostic Valve	Part C-3.1.3.7
*	EGRC	Part C-3.1.3.6
*	EGRS	Part C-3.1.3.7
*	EGRV	Part C-3.1.3.8
	EGRVC	Part C-3.1.3.6
	EGS	Part C-3.1.3.19
*	EI	Part C-3.1.1.5.2
*	EM	Part C-3.1.1.2.4
	EOS	Part C-3.1.3.19
*	EPROM	Part C-3.1.2.2.2
	ESAC	Part C-3.1.1.5.2
*	EVAP	Part C-3.1.1.2.5
	EVRV	Part C-3.1.3.6
	Fan Control Relay	Part C-3.1.1.3.1
	Fan Control Module	Part C-3.1.1.3.1
	FBC	Part C-3.1.1.4.1
	FBC	Part C-3.1.3.15
*	FPR	Part C-3.1.1.4.4
	Fuel Charging Station	Part C-3.1.1.4.8
	Full	Part C-3.1.3.27

*	GND	Part C-3.1.1.6.3
	Ground	Part C-3.1.1.6.3
	HEGO	Part C-3.1.3.9
	HEI	Part C-3.1.1.5.2
	Hot Wire Anemometer	Part C-3.1.3.2
	HOS	Part C-3.1.3.9
*	HO2S	Part C-3.1.3.9
	IAC	Part C-3.1.3.10
*	IACV	Part C-3.1.3.10
*	IATS	Part C-3.1.3.11
*	IDI	Part C-3.1.1.4.6
	Idle Air Bypass Control	Part C-3.1.3.10
*	IFSS	Part C-3.1.1.4.5
	InterCooler	Part C-3.1.1.1.2
	Input	Part C-3.1.2.3.6
*	ISC	Part C-3.1.3.12
*	KS	Part C-3.1.3.13
	Lambda	Part C-3.1.3.19
	Light Off Catalyst	Part C-3.1.1.2.13
	Light Off Catalyst	Part C-3.1.1.2.14
	MAF	Part C-3.1.3.2
*	MAP	Part C-3.1.3.14
	MAPS	Part C-3.1.3.14
	MAT	Part C-3.1.3.11
	M/C	Part C-3.1.3.15
*	MCS	Part C-3.1.3.15
	MCU	Part C-3.1.2.1.5
	MFI	Part C-3.1.1.4.7
	Modes	Part C-3.1.2.3.3
	Monotronic	Part C-3.1.1.4.9
*	MPI	Part C-3.1.1.4.7
	MST	Part c-3.1.3.16
*	MSTS	Part C-3.1.3.16
*	MVS	Part C-3.1.3.17
*	MVZS	Part C-3.1.3.18
	Neutral Safety Switch	Part C-3.2.3.1
	NDS	Part C-3.2.3.1
*	NOVRAM	Part C-3.1.2.2.3
	NVM	Part C-3.1.2.2.3
	O2	Part C-3.1.3.19
*	O2S	Part C-3.1.3.19
*	OBD	Part C-3.1.2.3.4
*	OC	Part C-3.1.1.2.6
*	OL	Part C-3.1.2.1.3
	OS	Part C-3.1.3.19
	Output	Part C-3.1.2.3.5
*	PAIR	Part C-3.1.1.2.7
*	PCMx	Part C-3.1.2.1.4
*	PCME	Part C-3.1.2.1.5
*	PCMT	Part C-3.2.2.1
	PFI	Part C-3.1.1.4.7
	PG	Part C-3.2.3.5

	PIP	Part C-3.1.3.4
	P/N	Part C-3.2.3.1
*	PNS	Part C-3.2.3.1
*	PROM	Part C-3.1.2.2.4
	PSPS	Part C-3.1.3.24
*	PTCS	Part C-3.1.2.3.5
*	PTIS	Part C-3.1.2.3.6
*	RAM	Part C-3.1.2.2.5
	Reed Valve	Part C-3.1.3.22
*	ROM	Part C-3.1.2.2.6
*	SABFV	Part C-3.1.3.20
*	SABV	Part C-3.1.3.21
*	SAPV	Part C-3.1.3.22
*	SASV	Part C-3.1.3.23
*	SC	Part C-3.1.1.1.3
	SEFI	Part C-3.1.1.4.10
	Self-Test	Part C-3.1.2.3.4
	Self Test Codes	Part C-3.1.2.3.2
	SFI	Part C-3.1.1.4.10
	SMEC	Part C-3.1.2.1.5
*	SMPI	Part C-3.1.1.4.10
	SPI	Part C-3.1.1.4.9
*	SPL	Part C-3.1.1.2.8
*	SPS	Part C-3.1.3.24
	TAB	Part C-3.1.3.21
	TAD	Part C-3.1.3.23
*	TB	Part C-3.1.1.4.8
*	TBI	Part C-3.1.1.4.9
	TBT	Part C-3.1.3.11
*	TC	Part C-3.1.1.1.4
*	TCC	Part C-3.2.3.2
*	TGSSy	Part C-3.2.3.3
	Thermac	Part C-3.1.1.2.1
	Thermac Air Cleaner	Part C-3.1.1.1.1
	Throttle Body	Part C-3.1.1.4.8
	Throttle Potentiometer	Part C-3.1.3.25
*	TOC	Part C-3.1.1.2.9
*	TOGSz	Part C-3.2.3.4
*	TOP	Part C-3.1.1.2.10
	TP	Part C-3.1.3.25
*	TPS	Part C-3.1.3.25
	Turbo	Part C-3.1.1.1.4
*	TVS	Part C-3.1.3.26
*	TWC	Part C-3.1.1.2.11
*	TWC+OC	Part C-3.1.1.2.12
	VAC	Part C-3.1.3.17
	Vacuum Switches	Part C-3.1.3.17
	Vacuum Switches	Part C-3.1.3.18
	VAF	Part C-3.1.3.2
	VAT	Part C-3.1.3.11
*	VR	Part C-3.1.1.6.4
	VSPG	Part C-3.2.3.5

	VSS	Part C-3.1.1.6.2
	VSS	Part C-3.2.3.5
*	VSS	Part C-3.2.3.6
	WOT	Part C-3.1.3.27
*	WOTS	Part C-3.1.3.27
*	WUOC	Part C-3.1.1.2.13
*	WUTWC	Part C-3.1.1.2.14

Part A Recommended Electrical/Electronic BODY System(s)
acronyms, terms, and definitions

(reserved)

Part B Recommended Electrical/Electronic CHASSIS System(s)
acronyms, terms, and definitions

(reserved)

Part C Recommended Electrical/Electronic POWERTRAIN System(s)
acronyms, terms, and definitions

1. INTRODUCTION:

This part is one of several parts on standard terms for vehicle diagnosis. Background, and the relationship of these parts can be found in the main body of this document. A cross reference table of acronyms can also be found in the main body (Section 4).

The focus of this part is POWERTRAIN systems. Engine and transmission related systems are the major systems covered in this report. Rear or front drive axle systems may be added in the future. Each major system contains a list of typical subsystems, a list of computers used in the major system, and a list of sensors, switches, solenoids, and valves for the major system. The recommended acronyms are listed alphabetically within these categories. Each recommended acronym is followed by a list of existing acronyms, the term, and a definition of the term.

The philosophy used to determine the recommended acronyms included four principles. First, the term name should describe the subsystem or component adequately, or that common usage had become sufficiently prevalent within the manufacturing and service industry as to describe the subsystem or component. Second, any proposed acronym should not duplicate acronyms used in either Body or Chassis Systems. Obviously, duplication should not occur within the Powertrain system either as is the case for some existing terms (for example, Thermac meaning secondary air for one manufacturer and meaning air cleaner for another). Third, the recommended acronym should flow from or be easily associated with the term, and, where possible, recommended acronyms and terms for components within a given subsystem should be given similar acronyms and names. Fourth, the acronym should be as short as practical, preferably no longer than three or four characters for the more commonly used acronyms.

2. SCOPE:

This part (part C) is applicable to POWERTRAIN systems and components used in light duty gasoline and diesel vehicles (LDV), light duty gasoline and diesel trucks (LDT), and heavy duty gasoline vehicles (HDGV). Specific applications of this document include service and repair manuals, training manuals, repair data bases, under-hood emission labels, and emission certification applications.

Even though the use and appropriate updating of this document and its companion documents is strongly encouraged, nothing in these documents should be construed as prohibiting the introduction of a term or acronym not covered by these documents.

3. POWERTRAIN SYSTEMS:

3.1 Engine System:

3.1.1 Subsystems:

3.1.1.1 Air Induction:

	Recommended	Existing	Term	Definition
3.1.1.1.1	ACH	Thermac Air Cleaner	Air Cleaner Housing	An enclosure containing the intake air filter. The enclosure may or may not control the air temperature.
3.1.1.1.2	CAC	Inter Cooler, After Cooler	Charge Air Cooler	A heat exchanger that reduces the temperature of the intake air charge after a turbocharger or supercharger. The heat exchanger can be air to air, air to oil, or air to water.
3.1.1.1.3	SC	SC	Supercharger	A mechanically driven device that pressurizes the intake system.
3.1.1.1.4	TC	TC, Turbo	Turbocharger	An exhaust driven device that pressurizes the intake system.

3.1.1.2 Auxiliary Emissions Control:

3.1.1.2.1	AIR	AIP, AI, Thermac	Secondary Air Injection	A pump driven system for providing secondary air to the exhaust system.
3.1.1.2.2	EFE	EFE	Early Fuel Evaporation	A system used to aid air fuel vaporization during engine warm-up. Sometimes achieved by diverting exhaust gases to heat the intake manifold or by using an electrically heated grid under a carburetor or throttle body.

3.1.1.2.3	EGR	EGR	Exhaust Gas Recirculation	A system designed to reduce NOx emission levels by adding exhaust gas to the incoming air/fuel mixture.
3.1.1.2.4	EM	EM	Engine Modification	A method of lowering engine emissions through changes in basic engine construction or in fuel and spark calibration.
3.1.1.2.5	EVAP	EVAP, EECS	Fuel Evaporative System	A system used to prevent fuel vapors from escaping the fuel delivery system into the atmosphere. Typically includes a charcoal canister to store fuel vapors.
3.1.1.2.6	OC	OC	Oxidation Catalyst	A catalyst that reduces levels of primary constituents of HC and CO.
3.1.1.2.7	PAIR	AIV, AP, AIR, PAIR	Pulsed Secondary Air	A pulse driven system for providing secondary air without an air pump by using the engine exhaust system pressure fluctuations or pulses.
3.1.1.2.8	SPL	SPL	Smoke Puff Limiter	A system to reduce diesel exhaust smoke during vehicle acceleration or gear changes.
3.1.1.2.9	TOC	TOC	Trap Oxidizer-Continuous	A device for lowering diesel engine particulate emissions by collecting exhaust particulates and continuously burning them through oxidation.
3.1.1.2.10	TOP	TOP	Trap Oxidizer-Periodic	A device for lowering diesel engine particulate emissions by collecting exhaust particulates and periodically burning them through oxidation.

3.1.1.2.11	TWC	TWC	Three Way Catalyst	A catalyst that reduces levels of primary constituents of HC, CO and NOx.
3.1.1.2.12	TWC+OC	Dual Bed, TWC+OC	Three Way Catalyst + Oxidation Catalyst	A three way catalyst with the addition of a downstream oxidation catalyst. Usually secondary air is introduced between the two catalysts.
3.1.1.2.13	WUOC	Light Off Catalyst	Warm Up Oxidation Catalyst	A catalyst designed to lower HC and CO emissions during engine warm-up. Usually located in or near the exhaust manifold.
3.1.1.2.14	WUTWC	Light Off Catalyst	Warm Up Three Way Catalyst	A three way catalyst closely coupled to the engine.

3.1.1.3 Cooling:

	Recommended	Existing	Term	Definition
3.1.1.3.1	CFC	Fan Control Relay, Fan Control Module	Coolant Fan Control	A switching mechanism to control the coolant fan operation.
3.1.1.3.2	COLS	--	Coolant Level Sensor	A sensor that provides information on the coolant level.

3.1.1.4 Fuel Delivery: General engineering and design definitions for fuel delivery components and systems can be found in J1541 - Fuel Injection Nomenclature - Spark Ignition Engines. The following definitions (where indicated) have built upon and in some cases narrowed the scope of the general J1541 definitions for diagnostic purposes.

	Recommended	Existing	Term	Definition
3.1.1.4.1	CARB	Carb, FBC	Carburetor	A fuel delivery system of one or more throats (venturies) regulated by airflow and atmospheric pressure. The fuel delivery may or may not be electronically trimmed.

3.1.1.4.2	CIS	CIS	Continuous Fuel Injection System	A moderate pressure mechanical fuel injection system with the injector flow controlled by system pressure that may or may not be trimmed by electronic controls.[1]
3.1.1.4.3	DI	DI, DID	Direct Injection (Diesel)	A high pressure diesel injection system that supplies fuel directly into the combustion chamber.[1]
3.1.1.4.4	FPR	--	Fuel Pump Relay	A relay which controls fuel pump operation based on certain control conditions such as engine oil pressure and tachometer signals.
3.1.1.4.5	IFSS	--	Inertia Fuel-Shutoff Switch	An inertia switch that shuts off the fuel delivery system when activated by predetermined force limits.
3.1.1.4.6	IDI	IDI	Indirect Diesel Injection	A high pressure diesel injection system that supplies fuel into a combustion pre-chamber.[1]
3.1.1.4.7	MPI	MFI, PFI	Multipoint Electronic Fuel Injection	A fuel delivery system in which each cylinder is is fueled by at least one electronically controlled injector. The injector is normally located in the intake manifold or port close to the intake valve.[1]
3.1.1.4.8	TB	TB, Fuel Charging Station, Throttle Body	Throttle Body	A device used to vary the supply of intake air to the engine by means of one or more adjustable orifices and/or throttle plates.[1]

[1]See J1541.

3.1.1.4.9	TBI	TBI, EFI, CFI, SPI, Monotronic	Throttle Body Electronic Fuel Injection	An electronically controlled fuel injection system in which one or more more fuel injectors are located in a throttle body.[1]
3.1.1.4.10	SMPI	SFI, SEFI	Sequential Multipoint Electronic Fuel Injection	A multipoint fuel delivery technique in which each injector is individually energized and and timed relative to its cylinder intake event. Fuel is delivered to each cylinder once per two crankshaft revolutions in four cycle engines and once per crankshaft revolutions in two cycle engines.[2]

3.1.1.5 Ignition:

	Recommended	Existing	Term	Definition
3.1.1.5.1	DLI	C3I, DIS	Distributorless Ignition	An ignition system in which a computer distributes the secondary current (spark).
3.1.1.5.2	EI	HEI, EI ESAC	Electronic Ignition	An ignition system with an electronic module controlling primary current, and a mechanical distributor for the distribution of secondary voltage (spark). The timing of the secondary voltage (spark) may or may not be computer controlled.

3.1.1.6 Starting/Charging:

	Recommended	Existing	Term	Definition
3.1.1.6.1	ALT	ALT	Alternator	A unit that produces an AC current and changes AC current to DC current by using diodes and provides electricity for vehicle operation.

[1]See J1541
[2]Note: J1541 uses the acronym SFI to denote sequential injection.

3.1.1.6.2	B+	B+, VSS	Battery Positive Voltage	An acronym used to designate positive voltage at or near the battery level.
3.1.1.6.3	GND	Ground	Ground	Used to designate a reference with no voltage potential.
3.1.1.6.4	VR	VR	Voltage Regulator	A unit that controls alternator output voltage as needed for vehicle operation.

3.1.2 Computers:

3.1.2.1 Engine:

	Recommended	Existing	Term	Definition
3.1.2.1.1	CL	CL	Closed Loop	A condition, after the appropriate sensors have indicated that pre-determined conditions have been met, where the computer actively controls the fuel system and other functions based on exhaust gas conditions and other parameters.
3.1.2.1.2	CLS	CL	Closed Loop System	A computer controlled system which monitors the exhaust gas with a sensor and adjusts the fuel delivery, and may or may not adjust spark timing, transmission, and other devices to meet emission and driveability criteria.
3.1.2.1.3	OL	OL	Open Loop	A predetermined operating condition not based on exhaust gas conditions.

3.1.2.1.4	PCMx[3]	--	Powertrain Control Module	An electronics module or a computer which receives inputs from various powertrain related sensors to determine the operating condition of the engine and/or vehicle at a particular moment. The module or computer responds to signal inputs by sending various signals to powertrain controls to meet predetermined operating instructions.
3.1.2.1.5	PCME	ECA, ECU,[4] EEC, SMEC, MCU, ECM	Powertrain Control Module	An electronics module or a computer which receives inputs from various engine and/or powertrain related sensors to determine the operating condition of the engine and/or other powertrain components at a particular moment. The module or computer responds to these signal inputs by sending signals to various engine controls to meet predetermined operation instructions for "basic engine management." A PCME is the only PCM that could include all other PCMs in one unit.

3.1.2.2 Memory Components:

	Recommended	Existing	Term	Definition
3.1.2.2.1	EEPROM	EEPROM E2PROM	Electrically Erasable Programmable Read Only Memory	A type of non-volatile memory which can be used to store information permanently. This device can have all or selected parts of its memory erased electrically and reprogrammed.

[3]All PCM's are modules controlling powertrain functions. "x" refers to the Alpha Designator of the Powertrain Control Module. The Alpha Designator refers to the function of the PCM (for example, engine management, transmission, ignition, etc.).

[4]See J1541 for a definition of ECU relating only to fuel injection.

3.1.2.2.2	EPROM	EPROM	Electrically Programmable Read Only Memory	A type of non-volatile memory which is used to store information permanently. This device can have its contents changed if the entire contents are first "erased" through exposure to ultra-violet light (providing the device has a means of allowing light to reach the silicon level) and electronically repro-grammed.
3.1.2.2.3	NOVRAM	NVM	Non-Volatile RAM	A type of non-volatile memory which is used to store information for either short or long term usage. This type memory can be written to. If external energy is removed from the device, the contents in memory are not destroyed.
3.1.2.2.4	PROM	PROM	Programmable Read Only Memory	A type of non-volatile memory in which information is permanently stored. This type of memory can not be written to. Once programmed it cannot be altered.
3.1.2.2.5	RAM	RAM	Random Access Memory	A type of volatile memory which is used to store information for either short or long term usage. This type of memory can be written to. If energy is removed from the RAM device, the contents in memory are destroyed.
3.1.2.2.6	ROM	ROM	Read Only Memory	A type of non-volatile memory in which informa-tion is permanently stored. Information is placed into the memory at the time of manu-facture and cannot be altered after the manu-facturing process.

3.1.2.3 On-Board Diagnostics:

	Recommended	Existing	Term	Definition
3.1.2.3.1	DLC	ALDL, ALCL	Data Link Connector	A connector(s) providing access and/or control of the vehicle information, operating conditions, and diagnostic information.
3.1.2.3.2	DTC	Self Test Codes	Diagnostic Trouble Codes	A numeric identifier for a fault condition identified by the On-Board Diagnostic System.
3.1.2.3.3	DTM	Modes	Diagnostic Test Modes	Various levels of diagnostic capabilities in in OBD systems. These may include different functional states to observe signals, a base level to read diagnostic trouble codes, a monitor level which includes information on signal levels, bi-directional control with on/off board aids, and the ability to interface with remote diagnosis.
3.1.2.3.4	OBD	OBD, Self-Test	On-Board Diagnostic System	A system that monitors some or all computer input and control signals. Signal(s) outside of the predetermined limits implies a fault in the system or in a related system.
3.1.2.3.5	PTCS	Output	Powertrain Control Signals	Signals sent from a PCM to actuators, relays or solenoids to control the operations of those devices.
3.1.2.3.6	PTIS	Input	Powertrain Input Signals	Signals from sensors, switches, or solenoids sent to a PCM describing the operational state or condition of those devices at a particular moment.

3.1.3 Sensors, Switches, Solenoids and Valves:

In case more than one sensor, switch, solenoid, or valve is used requiring the same acronym, it is acceptable to add a numeric identifier after the acronym (for example, MCS1, MCS2, etc.).

	Recommended	Existing	Term	Definition
3.1.3.1	ACS	AC	Air Conditioning Sensor	A sensor which provides information that the air conditioning compressor is operating for idle speed control.
3.1.3.2	AFS	MAF, AFS, AFC, VAF, Hot wire anemometer Air Flow Meter	Air Flow Sensor	A sensor which provides information on the volume flow or mass flow rate of of the intake air to the engine.
3.1.3.3	BARO	BARO, APS	Barometric Absolute Pressure Sensor	A sensor which provides ambient atmospheric pressure information.
3.1.3.4	CPS	CPS, PIP, CP	Crankshaft Position Sensor	A sensor which provides information on the crankshaft rotational position.
3.1.3.5	ECTS	CTS, ECT	Engine Coolant Temperature Sensor	A sensor that provides an electrical output proportional to the engine coolant temperature.[5]
3.1.3.6	EGRC	EGRVC, EVRV, Backpressure transducer	EGR Function Control	A device that modifies or controls EGR valve position.
3.1.3.7	EGRS	EGR Diagnostic Valve	EGR Function Sensor	A device that identifies if the EGR system is functioning properly.
3.1.3.8	EGRV	EGR	Exhaust Gas Recirculation (EGR) Valve	A valve that admits exhaust to the incoming air/fuel mixture.
3.1.3.9	HO2S	HEGO, HOS	Heated Oxygen Sensor	An oxygen sensor (O2S) that is heated to improve sensor performance.

[5]Designated CTS in J1541.

3.1.3.10	IACV	IAC, Idle Air Bypass Control	Idle Air Control Valve	An electronically controlled device which controls idle speed on fuel injected vehicles by controlling bypass air.[6]
3.1.3.11	IATS	MAT, ACT ATS, VAT TBT, IATS	Intake Air Temperature Sensor	A sensor located in the induction system that provides an electrical output proportional to the temperature of the air or air/fuel mixture.[7]
3.1.3.12	ISC	ISC	Idle Speed Control	An electronically controlled device which maintains idle speed on vehicles by controlling throttle position at idle.[6]
3.1.3.13	KS	KS	Knock Sensor	A sensor which provides information on engine "knock" conditions.
3.1.3.14	MAP	MAP, MAPS	Manifold Absolute Pressure Sensor	A sensor which measures absolute air pressure in the intake manifold.
3.1.3.15	MCS	M/C, FBC, MCS	Mixture Control Solenoid	An electronically controlled device which regulates bleed air, fuel, or both, on carbureted vehicles.
3.1.3.16	MSTS	MST	Manifold Surface Temperature Sensor	A sensor which provides information on the surface temperature of the intake manifold.
3.1.3.17	MVS	VAC, Vacuum Switches	Manifold Vacuum Sensor	A sensor which senses the difference between barometric pressure and intake manifold pressure.

[6]J1541 combines the definitions here for IACV and ISC into a general idle speed control definition. For diagnostic purposes, it is preferred to split the J1541 definition into IACV and ISC.

[7]J1541 has made an engineering distinction between measuring the temperature of the intake air and the temperature of a mix of fuel and air. In J1541, the former is Intake Air Temperature Sensor (IATS), the latter is Manifold Charge Temperature Sensor (MCTS). For diagnostic purposes, the definition of IATS in this document (J1930) covers both functions.