



Pinout and Wire list for FAST Engine Harness (part #30-C001)

TEMPERATURE AND ENGINE LOAD SENSORS

A1 - MAP SIGNAL

Signal voltage from MAP sensor. Connect to pin B of green 3 pin male Weatherpack connector.

B1 - TPS SIGNAL

Signal voltage from throttle position sensor. Connect to pin B of 3 pin male Weatherpack connector.

C1 - CTS SIGNAL

Signal wire from coolant temperature sensor. Connect to pin A of coolant temp sensor connector.

D1 - ATS SIGNAL

Signal wire from air temperature sensor. Connect to pin A of air temp sensor connector.

E1 - +5V REF

5 volt signal generated by ECU used as a reference voltage for sensor measurements. Connect to pin C of MAP and TPS connectors described above.

E2 - SENSOR GROUND

Ground connection for the above listed engine sensors. Connect to pin A of MAP and TPS connectors and pin B of CTS and ATS connectors.

INDUCTIVE SENSOR INPUTS

A3 - CRK +

Positive lead of inductive crank sensor input. Connect to pin A of 2 pin female Weatherpack connector.

B3 - CRK RTN

Negative lead of inductive crank sensor input. Connect to pin B of 2 pin female Weatherpack connector.

C3 - CAM +

Positive lead of inductive cam sensor input. Connect to pin A of 2 pin female gray Weatherpack connector.

D3 - CAM RTN

Negative lead of inductive cam sensor input. Connect to pin B of 2 pin female gray Weatherpack connector.



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FACTORY IGNITION AND HALL-EFFECT CRANK SENSOR CONNECTIONS

J2 – DIST RTN

Connects to the ground pin of the ignition module. Also serves as the ground connection for a hall-effect crank sensor. Connect to pin D of the 4 pin male Weatherpack connector.

J3 – CRK REF

Connects to the reference signal output coming from the ignition module. Also serves as the signal input on a hall-effect crank sensor. Connect to pin B of the 4 pin male Weatherpack connector.

K2 – BYPASS

Only used when controlling a GM ignition with a bypass control (such as HEI or the Buick DIS ignition). In these applications, this wire connects to the bypass pin of the ignition module. Connect to pin C of the 4 pin male Weatherpack connector.

K3 – EST

Electronic Spark Timing. Connects to the ignition control input going back into the ignition module. Connect to pin A of the 4 pin male Weatherpack connector.

KNOCK SENSOR AND HALL-EFFECT CAM SENSOR CONNECTIONS

H1 – ESC

Electronic Spark Control. Unterminated black lead in FAST harness. Connects to the output of a GM knock sensor module. This input can also be configured as a hall-effect cam sensor input on sequential systems.



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WIDE BAND OXYGEN SENSOR (WBO2)

F1 – UEGOR-

Connect to pin F of the 7 pin female Metripack connector.

G1 – UEGOH-

Connect to pin G of the 7 pin female Metripack connector.

F2 – UEGOR+

Connect to pin E of the 7 pin female Metripack connector.

G2 – UEGOS+

Connect to pin C of the 7 pin female Metripack connector.

F3 – UEGOP+

Connect to pin B of the 7 pin female Metripack connector.

G3 – UEGOS-

Connect to pin A of the 7 pin female Metripack connector.

Pin D of the 7 pin female Metripack connector must be connected to a switched +12V source. This provides power for the heater in the oxygen sensor.

If you must create new wiring or modify existing wiring related to the wide band oxygen sensor, DO NOT CUT THE GRAY CONNECTOR OFF THE END OF THE SENSOR. This will create two problems if you do.

First, there is a calibration resistor inside this connector. This resistor is matched to the sensor and put in by the sensor manufacturer, not by FAST, and is necessary for the sensor to operate correctly. If the resistor is missing, the ECU will not attempt to read air/fuel mixture information from the sensor. If the resistor is replaced with a resistor from another sensor, the accuracy of the sensor will be compromised.

Second, this connector is very difficult to obtain individually and requires specialized tools to properly connect the wires and terminals. This connector is not available individually through FAST.



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POWER AND GROUND CONNECTIONS

L3 – SWITCHED IGN.

Connect to switched +12V source.

M1 – BATT+

Main 12 volt supply. Connect directly to positive battery terminal.

M2 – ANA RTN

Ground wire for analog ECU circuitry. Connect directly to negative battery terminal.

M3 – DIG RTN

Ground wire for digital ECU circuitry. Connect directly to negative battery terminal.

Y1 – PGND1

Connect directly to negative battery terminal.

Y2 – PGND2

Connect directly to negative battery terminal.

Y3 – PGND3

Connect directly to negative battery terminal.

Pins M2, M3, Y1, Y2, and Y3 are all ground pins for the ECU. While all these pins will ultimately connect together at the negative battery terminal, it is recommended that each pin is connected through its own wire all the way back to the battery terminal. This helps to minimize electrical noise conducted through the various grounds used inside the ECU.

RS-232 COMMUNICATION CABLE

N1 – PCTxD

"Transmit" wire from PC communication port. Connect to pin A of the 3 pin male Metripack connector.

N2 – PCRxD

"Receive" wire from PC communication port. Connect to pin C of the 3 pin male Metripack connector.

N3 – PC RTN

Ground wire from PC communication port. Connect to pin B of the 3 pin male Metripack connector.



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IDLE AIR CONTROL MOTOR

P1 – IACALO

Connect to:

- Pin B of 4 pin square Weatherpack connector (GM screw-in type IAC)
- Pin C of 4 pin Metripack connector (late model GM IAC)
- Pin C of 4 pin Metripack connector (late model Chrysler IAC)

R1 – IACBLO

Connect to:

- Pin D of 4 pin square Weatherpack connector (GM screw-in type IAC)
- Pin A of 4 pin Metripack connector (late model GM IAC)
- Pin D of 4 pin Metripack connector (late model Chrysler IAC)

P2 – IACAH1

Connect to:

- Pin A of 4 pin square Weatherpack connector (GM screw-in type IAC)
- Pin D of 4 pin Metripack connector (late model GM IAC)
- Pin B of 4 pin Metripack connector (late model Chrysler IAC)

R2 – IACBHI

Connect to:

- Pin C of 4 pin square Weatherpack connector (GM screw-in type IAC)
- Pin B of 4 pin Metripack connector (late model GM IAC)
- Pin A of 4 pin Metripack connector (late model Chrysler IAC)

FUEL INJECTOR OUTPUTS

S1 – INJH

Injector output H. Connect to pin H of the 10 pin male Metripack connector.

T1 – INJG

Injector output G. Connect to pin G of the 10 pin male Metripack connector.

W1 – INJF

Injector output F. Connect to pin F of the 10 pin male Metripack connector.

X1 – INJE

Injector output E. Connect to pin E of the 10 pin male Metripack connector.

S2 – INJD

Injector output D. Connect to pin D of the 10 pin male Metripack connector.

T2 – INJC

Injector output C. Connect to pin C of the 10 pin male Metripack connector.



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W2 – INJB

Injector output B. Connect to pin B of the 10 pin male Metripack connector.

X2 – INJA

Injector output A. Connect to pin A of the 10 pin male Metripack connector.

OTHER INPUTS/OUTPUTS

L2 – N2O ENABLE

When connected to 12 volts, enables FAST ECU to activate nitrous controls. Connect to pin A of the 3 pin male Metripack connector.

R3 – FAN (-)

Unterminated black lead in FAST harness. Connect to negative side of coil on relay used to activate electric cooling fan. Also used to control relay used to activate third stage of nitrous oxide on sequential systems with nitrous oxide control option.

S3 – PUMP (-)

Unterminated black lead in FAST harness. Connect to negative side of coil on relay used to activate electric fuel pump.

T3 – N2O1 (-)

Triggers negative side of coil on relay used to activate first stage of nitrous oxide. Connect to pin B of 3 pin male Metripack connector.

W3 – N2O2 (-)

Triggers negative side of coil on relay used to activate second stage of nitrous oxide. Connect to pin C of 3 pin male Metripack connector.

X3 – POINTS (-)

Unterminated white lead in FAST harness. Connect to points input of aftermarket ignition system. If using an eDist Electronic Distributor with your system, connect to points input of eDist.



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CONNECTOR PART NUMBER LIST

If you need to purchase additional connectors to complete your wiring, the following part numbers should assist you in locating the parts you need. All part numbers are Delphi/Packard part numbers.

Connector	Part number	Terminal	Insulating seal
Weatherpack connectors			
1 pin male	1201 5791	1208 9188L	1201 5323
1 pin female	1201 0996	1208 9040L	1201 5323
2 pin male	1201 5792	1208 9188L	1201 5323
2 pin female	1201 0973	1208 9040L	1201 5323
2 pin male (gray)	1210 3784	1208 9188L	1201 5323
2 pin female (gray)	1203 4074	1208 9040L	1201 5323
3 pin male	1201 5793	1208 9188L	1201 5323
3 pin female	1201 0717	1208 9040L	1201 5323
3 pin male (green)	1202 0403	1208 9188L	1201 5323
4 pin male	1202 0832	1208 9188L	1201 5323
4 pin female	??????????	1208 9040L	1201 5323
4 pin male (square)	1201 5798	1208 9188L	1201 5323
4 pin female (square)	1201 5024	1208 9040L	1201 5323
Temperature sensor connectors			
Air temperature	1216 2198	1212 4075	Included
Water temperature	1216 2193	1212 4075	Included
Metripack connectors			
3 pin male	1211 0293	1204 8074	1204 8086
3 pin female	1212 9615	1204 5773	1204 8086
3 pin male (round)	1206 5287	1210 3881	Included
4 pin male	1216 2187	1212 4075	1204 8086
7 pin male	1204 7938	1204 8074	1204 8086
7 pin female	1204 7933	1204 5773	1204 8086
10 pin male	1206 5425	1204 8074	1204 8086
10 pin female	1204 5808	1204 5773	1204 8086
Other connectors			
30 pin male (rows A-K)	1203 4398	1210 3881	Included
30 pin male (rows L-Y)	1203 4400	1210 3881	Included
Inline fuse holder	1203 3769	*See note	Included
Relay socket	1206 5971	*See note	Included

**Note: Use terminal 1202 0156 for 12 gauge wire. Use terminal 1203 3997 for 16 gauge wire.*