

HOWELL ENGINE DEVELOPMENTS  
SUPPLEMENTARY INSTALLATION AND PARTS LIST POR  
UNIVERSAL DESIGN HARNESS, 1986-67 MODEL YEARS

The following list of components are typical of what is required to complete the installation of our TPI wiring harness using a TPI from model year 1986-1981 GM vehicles:

ECM (Computer) PN 1227165, (Paper label on ECM).

Mem-Cal for 350 PN 16068654, (87 Camaro 350 W/Auto Trans). For 305 PN 16071115, (87 Camaro 305 W/Manual Trans).

Mass Air Flow Sensor (MAF) PM 14094712. (PNs 14081243 and 10055877 will work equally well).

Electronic Spark Control Module (ESC), PN 16052391 or 16052401.

Fuel Pump Relay, PN 14078915 or 10094701.

MAF Power Relay, PN 10067925.

MAF Burn-off Relay, PN 14078915 or 10094701.

Oxygen Sensor, PM 8990741 or 25105901.

Knock (Detonation) sensor, PN 1997699. (Mts in RH block drain.)

Most or all of the above may have been salvaged from the Vehicle your TPI is from. If not, they are standard Chevy parts, available from any GM dealer. We also stock ECM's, mem-cals, and used MAP sensors.

In addition to the above, the following parts are mounted on your TPI manifold. In case you need replacements, the part numbers are also listed:

Connecting duct, Throttle body to MAF, PN 14094720 or 14081891, several other ducts are available, 88-89 Pontiacs used a 90 deg duct

Coolant Temp Sensor, PN 25036979 (lower front of manifold)

Cold Start thermo-time switch, PM 14084318 (next to coolant sensor)

Throttle Position Sensor, PN 17111606 (Rt end of throttle shaft)

Idle Air Control motor, PN 17111288 (lower Rt of throttle body)

Manifold Air Temp Sensor PN 25036979 (under side of plenum)

MAT sensor jumper, from sensor to harness, PN 12029463

Distributor, (coil in cap design) PN 10497134 (remote coil design) PM 1103749, Coil PM 19854139  
connector wire, PN 12073286.