

# Tomco Techtips

TM

ISSUE 7

## MIXTURE CONTROL SOLENOIDS

Mixture Control Solenoids are now available for Rochester 2SE, 2ME and 4ME computer controlled carburetors. These solenoids only fine tune the fuel mixtures supplied by otherwise conventional low and high speed circuits. However, when these controls fail, they will affect both mileage and performance.

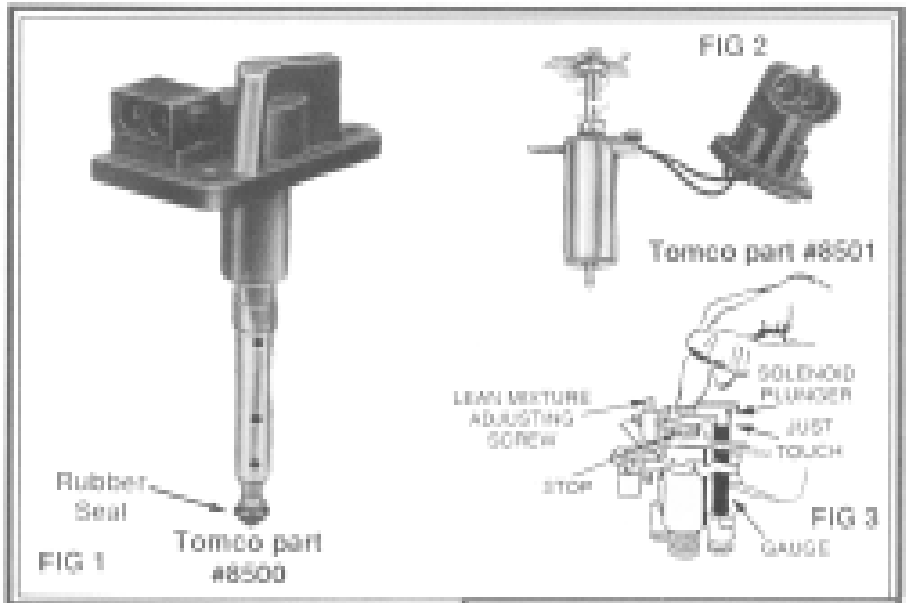
The Mixture Control Solenoid on 2SE carburetors is accessible from the top of the carburetor. TOMCO part #8500 fits all computer controlled 2SE model carburetors used on AMC 4 cyl. and GM 4 and 6 cyl. models from 1982 through 1986.

The small donut shaped rubber seal used on the 2SE mixture control solenoid is easily damaged, so care is required to install the solenoid without damaging the seal. Use a few drops of oil on the seal so it slips into place. (Fig 1)

Rochester 2ME dual and 4ME quadrajet carburetors are computer controlled by this type of solenoid. (Fig 2)

To avoid unnecessary re-adjustment, count the number of turns to bottom the lean stop screw before removing. It can then be put back in the same position when the new solenoid is installed. (Fig 3)

TOMCO part #8501 fits all computer controlled 2ME and 4ME model carburetors used on Chrysler 8 cyl. and GM 6 and 8 cyl. models from 1981 through 1990.

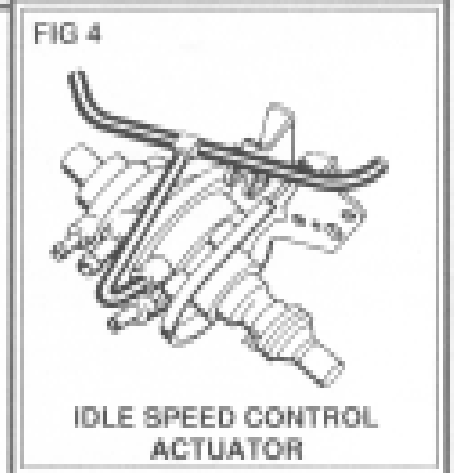


Both style solenoids should be checked on performance and mileage complaints and at every tune-up or 25 to 30,000 miles.

## HIGH IDLE SPEEDS ON NISSAN SENTRA'S

Late model Nissan Sentra's (1987-84) with Hitachi carburetors may develop an extremely high idle condition. This may be caused by a collapsed hose on the Idle Speed Control. (Fig 4)

These cars use a large vacuum actuated Idle Speed Control unit to adjust idle speed for varying load conditions. As the vacuum hoses leading to the speed control deteriorate with age, they tend to collapse and the vacuum won't bleed off. This causes the car to remain at higher than normal idle speeds.



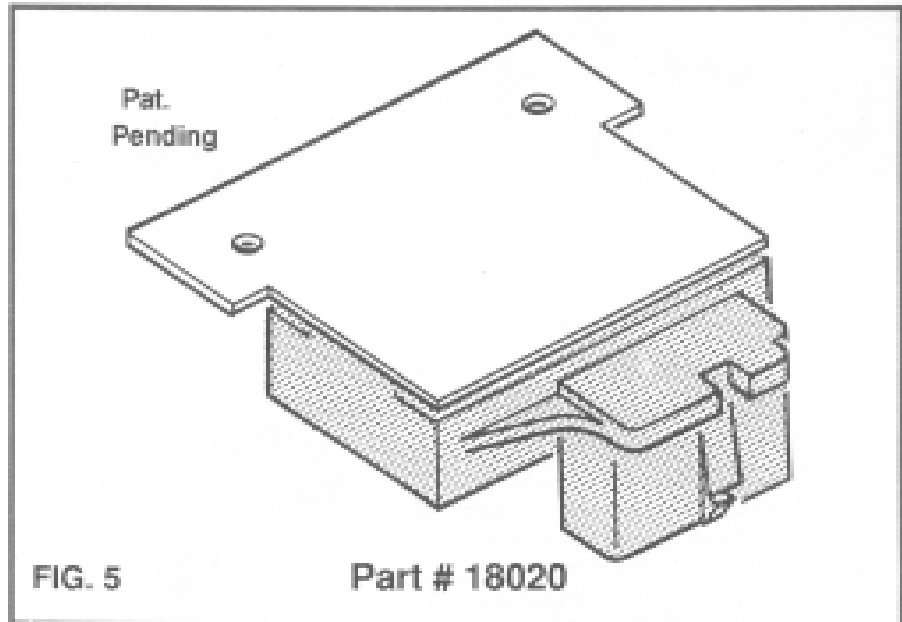
To check for this condition, pull the vacuum hoses off the speed control, one at a time, to see if the idle speed is affected. Be sure that all the accessories, like the air conditioning, are off before making this test.

If this cures the high idle problem, replace the vacuum hoses and follow the factory recommended procedure for resetting the speed control.

# CHRYSLER MAP SENSORS

Tomco's Engine Performance Control Catalog (form C11-90) now lists MAP Sensor #18000 for 1986-81 Chrysler products. Requests have been received for a MAP Sensor covering 1987 and later models. In 1987, Chrysler changed the physical size and mounting hole locations of their OE type MAP Sensors. A Tomco sensor was not cataloged since nothing was available that would bolt right on. The vacuum-electrical characteristics and electrical connection remained the same as the earlier models. We have reason to believe the OE type used in later years has a high failure rate.

Tomco's MAP Sensor #18020, as shown in Fig 5, is the replacement on the 1990 - 87, 2.2 and 2.5L models (except turbo). Tomco's design is an improvement over the high failure rate original design.



Failure of the original equipment type MAP Sensor sometimes involved melting of a plastic "potting" material that can clog the sensor's vacuum hose.

Always check for blockage, cracks, leakage or collapsing of any vacuum operated device on today's vehicles.

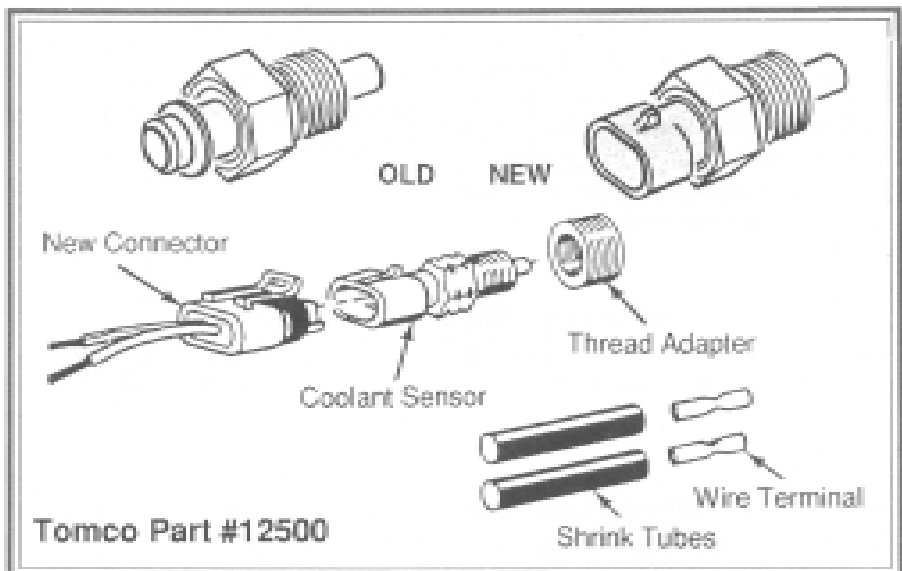
## GM ECT DESIGN CHANGE

Several of Tomco's customers have asked about the supersession of the early type Engine Coolant Sensor (ECT) Tomco part #12000.

This is the correct way to service these ECT's.

This early design ECT used a connector subject to corrosion that created resistance and a false signal to the computer (ECM). In some cases it was caused by leakage of antifreeze into the connector.

Several GM divisions issued a bulletin to their dealers announcing that this early sensor was to be replaced by a new style ECT with an oval connector. This change incorporated a connector kit.



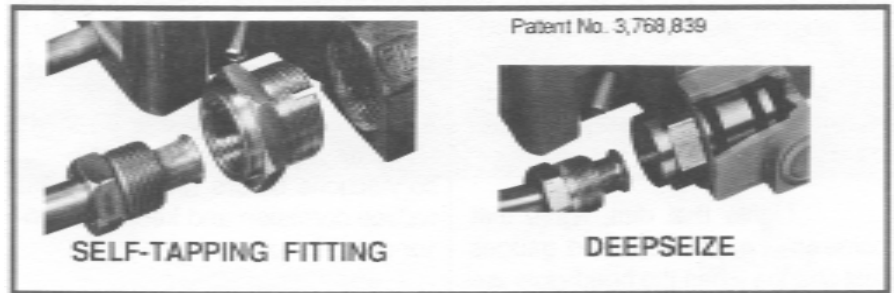
Tomco part #12500 contains the new style ECT, connector, wire terminals and heatshrink tubes needed to make this update. A thread adaptor bushing is included so part #12500 will cover several of the early sensors with different thread sizes.

Other factors that should be checked are the proper coolant level and proper temperature thermostat which should be operating correctly. Any of these factors that are out of specifications can adversely affect engine performance and fuel mileage.

# CARBURETOR PROBLEM SOLVERS

Computerized fuel systems can cause lots of headaches. Most TECH TIP articles have been and will be in the future aimed at pain relief for these problems. However, the need to service carburetors will be with us for years to come as the higher new car sticker prices have owners keeping their cars longer.

It's easy to strip the threads on the fuel inlet nut when changing the fuel filter on Rochester Q Jet or Dual Jet carburetors. We know of several cases where these threads went bad on carburetors that have never been serviced. Vibration of the long fuel line has been suspected of causing this damage.



The self-tapping repair fittings restore and deepen these threads. If the damage is too great, the "O" Ring type "Deepseize" Fitting will fix the leak. As the cost of new and rebuilt carburetors has increased, the use of these fittings can save the car owner over \$800 in some cases.

Tomco's problem solvers or "Fix It" parts are cataloged two ways. Form JB-15B covers Fuel System

Accessories. All 4 pages of this form appear in the Fuel System Parts Catalog form C8-90. Both forms are available from your Tomco supplier.

This page of the JB-15B Accessory Catalog also shows the "Deepseize" #584 Inlet Valve to fix those expensive Q Jet and Dual Jet carburetors that have stripped needle and seat threads.

## UPDATED FLOAT INFORMATION NOW AVAILABLE

Tomco's Float Weight and Identification Wall Charts have been updated to include identification photos and weight specifications for floats used on later model carburetors.

Floats for Domestic Carburetors are covered in Wall Chart Form M-298D, Import Carburetors Floats are on Chart Form M-423C.

Both the Domestic and Import Charts have Float Weight specifications necessary to check suspected fuel soaked plastic floats. Tomco Float Weight Scale Part No.13700 makes checking easy.

Float Catalog C4-90 has also been updated to include illustrations and weights of the new floats. Drawings of the brass replacement floats that replace the most troublesome plastic models are also included.

Order the M-298D, M-423C Charts or C4-90 Catalog from your Tomco supplier.



**Revised for Domestic & Imports**

Domestic M-298D, Imports M-423C

## BAD GROUNDS CAN MAKE A GOOD OXYGEN SENSOR LOOK BAD

Excessive resistance in ground circuits can create some of the most frustrating electrical problems. They produce a variety of strange symptoms that don't seem to have anything to do with the cause, once you finally find it.

Lights that dim, lights that come on when others should, gauges that change when the headlights are turned on or lights that don't come on at all, suspect a bad ground.

High resistance in ground wires and sensor leads can produce all sorts of problems in new computer systems.

Be suspicious if there is evidence of engine work such as a valve job or overhaul having been done. Very often ground straps are either left off or left loose or have corroded terminal connections.

We recently encountered a late model Chrysler product that originally checked out to have a bad Oxygen O2 Sensor.

When a new sensor didn't fix the problem, we checked further with a digital type ohm meter between the computer sensor ground terminals and engine ground. (Find these terminals by checking a wiring diagram.)

Cleaning the engine to chassis and battery to engine ground so we had a maximum of .02 ohm resistance made the new sensor work as a new one should.

It was necessary to disconnect the vehicles battery when testing as even the small current used by the electric clock affected readings.

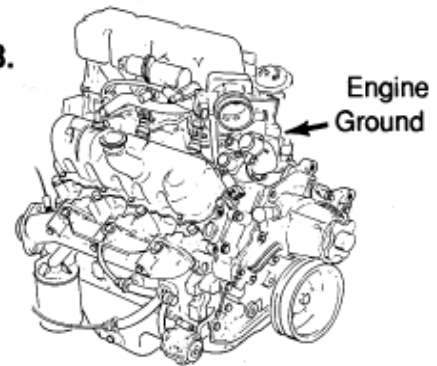
A fast check for computer ground on a GM vehicle can be made by checking from terminal A of the ALDL connector to engine ground.

An O2 sensor output is between .200 and .800 volts (a little less than 1/4 to a little more than 3/4 volt)

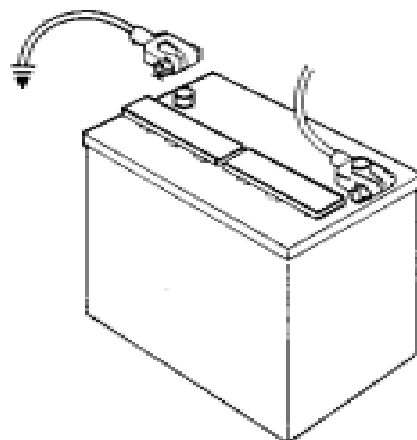
with very little current flow. Any resistance in either the ground or sensor output circuit can make a good sensor act like a bad one.

Conductive grease, available at radio supply stores, applied to connections before reassembly will reduce corrosion and keep the sensor doing its job.

3.

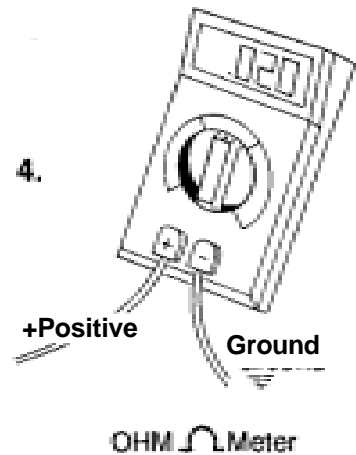


1. Disconnect Battery



Battery

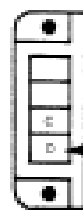
4.



### 5. GM. DIAGNOSTIC TERMINAL/ALCL CONNECTOR

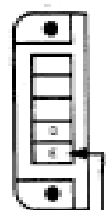
2. Check between the computer sensor ground terminals and engine ground. (Find these terminals by checking a wiring diagram.)

1980 1/2 4.3L



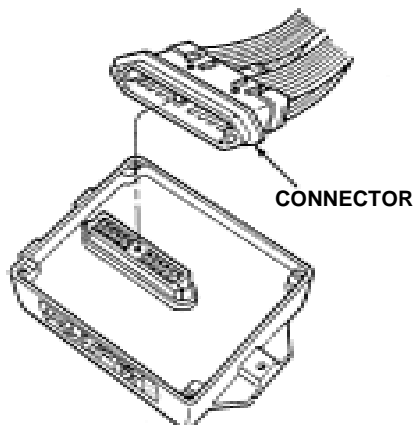
GROUND

1981



GROUND

1982 AND UP



CONNECTOR