

Avoid GM Fuel Pump Failure

By Steven Head

There seems to be quite a bit of confusion in the industry about the GM fuel pump harness connectors failing, but here is the simple truth; the leading cause is installer error. Think about how these fuel pumps fail. They fail because the brushes wear out. Worn brushes will not cause the amperage draw to increase. Therefore the only way for the pump to damage the plug is if it shorts out (almost never happens).

Also think about how we all test this condition. If the vehicle does not run and the fuel pump is not heard, we apply power to the pump and beat the heck out of the bottom of the tank. Then the pump comes on and/or the vehicle will crank up. Finally the fuel pump is diagnosed as faulty due to worn brushes, not a shorted pump.

What happens to cause this connection to fail is heat damage. The heat damage is caused by a combination of amperage draw and vibration. Yes, this can happen in normal use with the fuel filter not being serviced (increases amperage draw) and excessive vibration (causes mechanical failure of the spring tension built into the terminals), but most failures are caused by the installer not following a logical procedure.

As a responsible installer you must do several things to ensure that you are not the cause of the next failure. First, closely inspect the plug after the tank has been removed. If any of the terminals are not clean and shiny the plug must be replaced. If the terminals are clean and shiny they must be checked to see if the spring tension of the terminal is weakened. (This can be done by using a factory terminal which can be found on our part number 3909).

If the tension is weakened the connector will fail and at this point it is up to the installer to decide if the tension can be returned using a very sharp pick to pry it back in (safety glasses must be worn while doing this), or if the connector should be replaced (most of the time it can be restored). Make sure the outer

sealing ring is not worn out. This ring not only seals the connector but it adds stability and vibration dampening to the final connection.

Next is perhaps one of the most important steps in reinstalling the connector to the pump—wipe a *very thin* layer of dielectric grease across the end of the terminals and around the seal on the plug. Make sure it is a very thin layer of grease because too much will cause even more problems. The grease helps everything slide together squarely and completely. If the plug does not come to rest in the pump housing completely it will fail.

Be sure to install the lock no matter how much of a pain in the rear it can be. Failure to install the lock will result in the connection vibrating and subsequently failing due to heat build up at a loose terminal. If there are any harness clips make sure to reattach them and also examine to see if some added harness restraints should be added to vehicles that are subjected to excessive vibration.

Follow these steps and any extra that you may think of every time you replace a fuel pump, whether you reuse the original plug or install a new one.

Make sure you charge the customer for your professional services. We recommend a half hour to service the plug and an hour to replace the plug, in addition to the normal service charges for diagnosis and replacement of a faulty fuel pump.

Steven Head is owner of SJS Enterprises, Moncks Corner, S.C.