

This document serves as a guide for inspecting, cleaning, and possibly replacing the air management sensors found in the aftertreatment system of the PACCAR MX-11 and MX-13 engines. There are seven sensors which make up the air management system that should be checked periodically, cleaned if possible, or replaced if necessary. Below is a list of the sensors; including pictures to show what a dirty sensor looks like compared to a clean one. In most cases, using contact cleaner and a microfiber cleaning cloth is sufficient to clean the exterior of the sensors. If the sensor appears to be plugged, it is recommended to replace the sensor rather than attempt to remove the plug from the sensor.

**CAUTION:**

Do not use cleaners such as carburetor or brake cleaners. The chemicals in these cleaners will damage the sensors.

Refer to Repair & Maintenance (RMI) for sensor removal and replacement procedures, locations, and resistance values. Check the resistance values in the event the integrity of a sensor is in question.

### Boost Pressure Sensor (F802)

Below are three pictures of a boost pressure sensor. The photo on the far left is a sensor that is completely clogged, the middle picture shows a partial clog, and the right photo is a clean sensor. If the sensor is found to be partially clogged, it is possible for it to create an in-range failure. A partially clogged sensor with an in-range failure may or may not affect drivability.

The sensor electrical connection should be cleaned prior to disconnecting. The sensor has a port in the connector that is open to atmosphere and the sensor can be damaged if the connector is contaminated with oil or water.

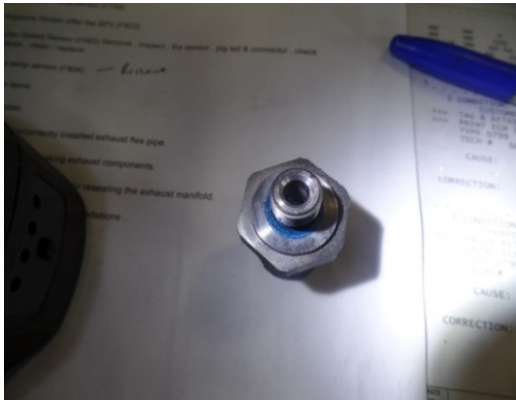


## Before Turbine Pressure Sensor (F826) and Supply Tube

Pictured below is a clean before turbine pressure sensor. Typically, this sensor is not susceptible to clogging. It is recommended, however, that the sensor be removed and inspected periodically. If it is found to be restricted or plugged, it should be replaced.

The supply tube to the sensor should be inspected for obstruction by inserting mechanic's wire through the tube to check for a midstream obstruction. If an obstruction is found, it must be cleared.

The sensor electrical connection should be cleaned prior to disconnecting. The sensor has a port in the connector that is open to atmosphere and the sensor can be damaged if the connector is contaminated with oil or water.



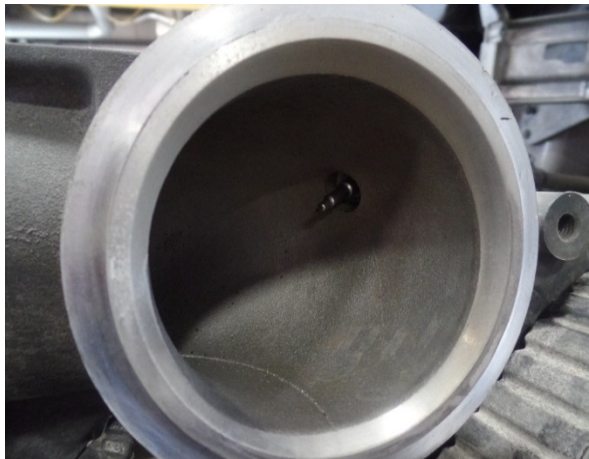
## EGR Temperature Sensor (F749)

The figures below show an EGR temperature sensor before and after cleaning. Use contact cleaner and a microfiber cleaning cloth to clean the sensor of soot and debris. Check sensor resistance per the sensor temperature chart in RMI. Clean the sensor or recommend replacement of the sensor.



### Intercooler Temperature Sensor (F750)

The figures below show a clean intercooler temperature sensor. When dirty, the probe looks much like the EGR temperature sensor above, and can be cleaned with a contact cleaner and a microfiber cleaning cloth.



### Pressure Sensor after BPV (F823)

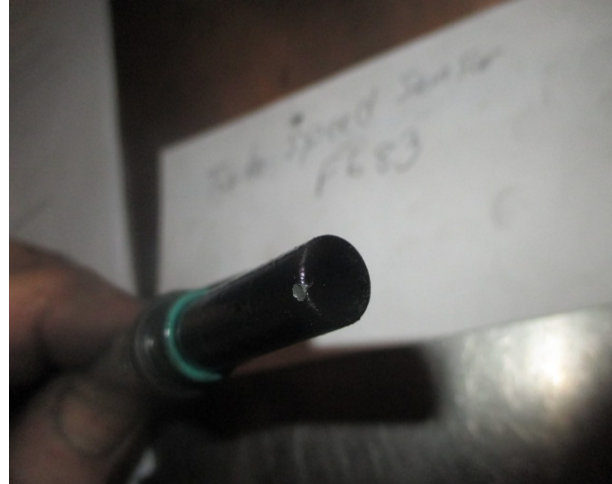
The figures below show before and after pictures of the pressure sensor after BPV. Use contact cleaner, a microfiber cleaning cloth, and shop air to clean the sensor.





### **Turbo Speed Sensor (F683)**

The figures below show before and after pictures of the turbo speed sensor. It is a probe style similar to the boost temperature and EGR temperature sensors, and can be cleaned with contact cleaner and a microfiber cleaning cloth.



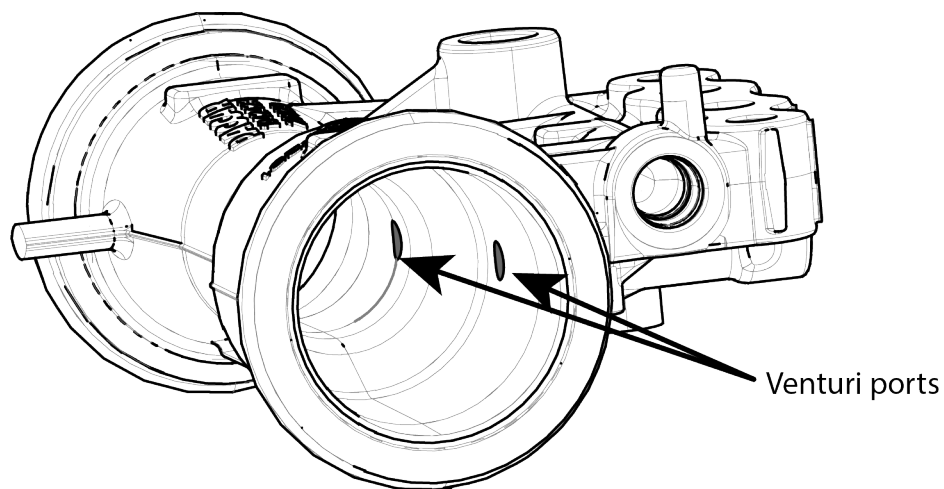
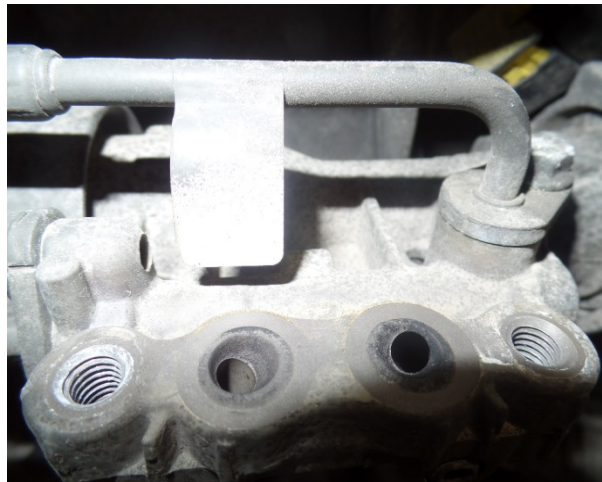
### **Boost Temp Sensor (F804)**

The figure below show before and after pictures the boost temperature sensor. Use contact cleaner and a microfiber cleaning cloth to clean the sensor.



## Venturi Tubes and Venturi

Check and clean the venturi tubes. Below are examples of clean and dirty tubes. Clean the tubes with a Scotch-Brite pad and shop air.



## EGR Differential Pressure Sensor (F751)

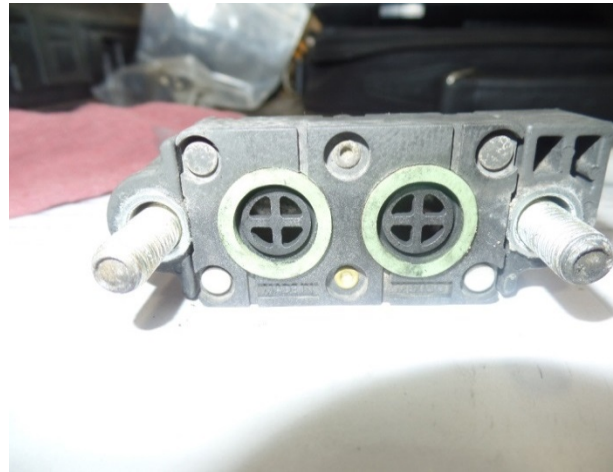
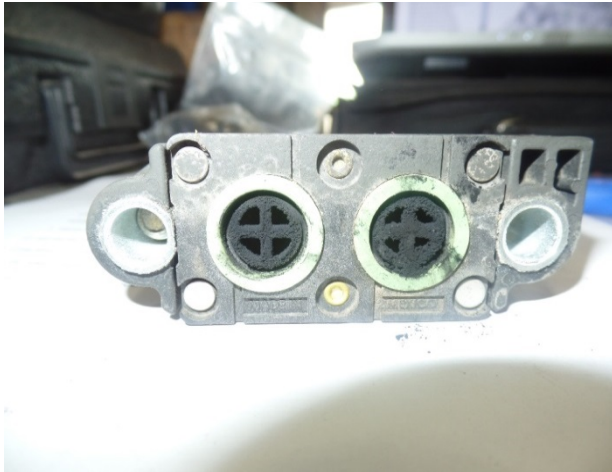
The EGR Differential Pressure Sensor has sensitive internal membranes and should only be cleaned if a faulty or incorrect measurement has been observed. If the sensor appears to still be giving erroneous readings after cleaning the tubes from the venturi then following procedure should be used.

The figures below show before and after pictures an EGR differential pressure sensor. Use contact cleaner and a microfiber cleaning cloth to clean the sensor.



### CAUTION

Shop air can be used afterwards but should be regulated down to 5psi to keep the internal membranes from damage.



## Hydrocarbon (HC) Doser

Inspect and clean. Use testing procedures found in RMI. DealerNet | Service | Repair & Maintenance (RMI) | add the chassis number, and then enter the following into the Search box "clean dosing module, fuel".

## DEF Doser Nozzle

Inspect and clean. Use testing procedures found in RMI. DealerNet | Service | Repair & Maintenance (RMI) | add the chassis number, and then enter the following into the Search box "clean DEF dosing valve".