Equipment Handling and Care

Your FirstLook® threaded sensor is mounted inside a rigid plastic housing. While reasonably sturdy, use standard care when handling the sensor so as to not crack or break the housing.

The threads on the sensors make it easy to attach the sensors, or remove them from the various attachments: the exhaust pipe hose, the crankcase oil dipstick tube adapters, and the shepherd's hook vertical exhaust collector. To avoid causing damage or possible personal injury when changing hoses and attachments, grasp them near the open ends that attach to the sensor and **rotate the sensor to attach or remove** them.

Use standard care with the connector cables. Avoid driving or standing on them. Avoid kinking them during use and when coiling for storage. For ideas on how to coil up the cables with low frustration after a test, view the YouTube: *Ham Nation - Coiling Coax*: https://www.youtube.com/watch?v=TQCBixFhK1A

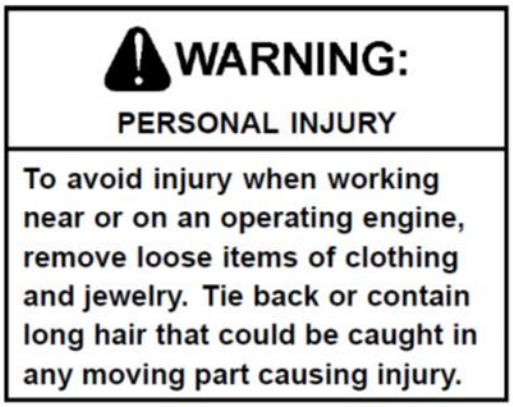
During use in Exhaust Tests, moisture in the exhaust air can condense inside the pulse sensor and exhaust hose. When done with Exhaust tests, store the pulse sensor and exhaust hose so that water can drain out.

ALLOW THE PULSE SENSOR TO AIR DRY NATURALLY! Using an air hose to blow out the sensor can damage it beyond repair. Cover the sensors when not in use to prevent dust and dirt from falling into the unit.

WARNING: Exhaust gases are hot so handle the sensor apparatus with care, touching rubber parts or parts not directly exposed to the exhaust, wipe off the parts inserted into the exhaust only after they have cooled.

Use gloves while inserting and removing the exhaust hose with clamp (for horizontal exhausts).

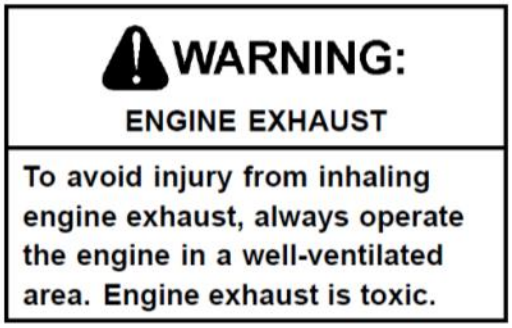
You will be working around engines running at various speeds so **be aware of long hair and clothing hazards**!



Prepare Vehicle / Engine for Testing

WARNING: Be sure to use wheel chocks to block the vehicle from rolling when the engine is running and the brakes are off!

IMPORTANT: The signatures of diesel engines change quite a bit between cold temperature and operating temperature. Warm the engine to above 150˚F to assure that the oil is flowing normally and that metal parts have expanded to be near normal operating conditions.



IMPORTANT: Many diesel engines have computer control modules to optimize the engine performance, especially at idle. The control module will intentionally not provide fuel to random cylinders, causing false misfires. Use your Owner's Manual for the manufacturer's procedures to start the engine in a way that the computer-controlled optimization is turned off. On many vehicles, this is done by starting the engine with the brakes off. **USE WHEEL CHOCKS!**

Use the manufacturer's procedure to capture the odometer mileage for documentation of the vehicle condition at the time of the test. Often, this requires turning the lights on before cranking the engine with the starter.

Keep the fan either OFF or ON during the test. Do not allow it to change while you are taking a pulse signature. The power requirements to run the fan may cause the pulses to change as it cuts in or out.

The turbocharger should not present any problem during the test since there should be no load on the engine to cause it to engage. [If the sensor is employed while the vehicle is pulling a load on the road, the additional airflow provided by the turbocharger would change pulse sizes or shapes in a pulse signature. This might lead to a misdiagnosis of engine problems.]