

VEHICLE READINESS

On board diagnostic systems (OBD) on 1996 and newer vehicles are being checked as part of Vermont's annual vehicle inspection program. OBD technology benefits motorists, auto service technicians, and our environment. It's good for motorists because it monitors the vehicle's performance every time it is driven and identifies problems immediately, allowing repairs to be made before more serious problems develop. It's good for technicians as it helps them to accurately diagnose problems, allowing for efficient and proper repairs. And it's good for our environment and our health because it identifies problems that cause vehicle emissions to increase.

What is Readiness?

OBD II technology monitors all components of the engine management system and can detect a malfunction or deterioration of these components usually well before the driver becomes aware of any problem. Vehicles equipped with OBD II self-test their emission systems while the vehicle is being driven. Vehicles perform up to 11 system tests, depending on year, make and model of the vehicle. Readiness status identifies whether the vehicle's computer has completed the required tests since the last time the vehicle was serviced with a scan tool or had its battery disconnected.

If a system test has been completed, the readiness status for that system will be reported "ready." An uncompleted test will be reported "not ready." Inspection station test equipment checks readiness status as part of the vehicle's emissions inspection and the Vehicle Inspection Report will identify system tests that have not been completed. An OBD II vehicle will not pass the annual inspection unless the required system tests have been completed and reported as "ready."

Do All System Tests Need to be "Ready"?

Vermont's annual vehicle inspection program allows for up to two system tests to be incomplete and reported as "not ready".

What Can Cause System Tests to be "Not Ready"?

While an uncompleted system test does not necessarily mean that your vehicle has a problem, it does indicate that your vehicle's OBD system has not yet completed its tests, and problems may be present, but not yet identified. Causes of "not ready" include:

- ◇ Recent clearing of diagnostic trouble codes with an OBD II scan tool
- ◇ Recently disconnected or discharged (run down) battery
- ◇ A recent software update of the vehicle's computer
- ◇ A pending problem has not yet illuminated the "check engine" light

How do I Get My Vehicle "Ready"?

To allow your vehicle to perform its system tests and reset them to a "ready" state, your vehicle will have to be driven in a combination of normal operating conditions. These operating conditions include a mix of highway driving and stop and go, city type driving and at least one overnight-off period. To get the vehicle to reset its system tests to "ready" more quickly, it can be driven in a special way called a "drive cycle", in which a set of operating conditions must be met in a specific order. Your vehicle's specific drive cycle depends on the vehicle make and model, and which system tests need to be reset. In some cases, two drive cycles are required, separated by a cool down period.

Many vehicle manufacturers include these drive cycles in the vehicle's owner's manual, in Technical Service Bulletins (TSBs), or through other information sources commonly used by automotive repair facilities. A qualified automotive repair technician should be able to identify the specific drive cycle for your vehicle.

For More Info:

Visit the Vermont Air Quality & Climate Division website:

<http://dec.vermont.gov/air-quality/mobile-sources/vehicle-inspections>

In most cases, a few days of normal driving, both city and highway, will reset readiness status to “ready”.

When a specific drive cycle is not known, the following are some suggestions that may assist with resetting your vehicle to “ready” more quickly:

- Drive the vehicle at least three separate times in which it is turned on and off.
- After a cold start, allow vehicle to idle for approximately three minutes.
- One drive cycle should be local in-town driving.
- One drive cycle should be highway driving.
- One drive cycle should be after the vehicle has been parked for at least eight hours without starting the engine (e.g., overnight).
- The fuel tank should be $\frac{1}{4}$ to $\frac{3}{4}$ full.

NOTE: Do not use a scan tool or disconnect the battery to turn off the check engine light in an attempt to pass the OBD inspection. This practice is counterproductive, because it will lead to a readiness failure.

What Are My Options for Getting My Vehicle “Ready”?

- 1) Ask your repair shop to have a technician perform the drive cycles according to manufacturer specific guidelines, or
- 2) Drive the vehicle as directed by your owner’s manual (look under OBD); use the suggestions listed on the left side of this sheet to assist with resetting your vehicle’s system test to ready; or consult with a qualified auto repair technician who can tell you how to complete a drive cycle.

Once the drive cycle is completed and your vehicle is “ready”, an inspection technician can re-inspect your vehicle.

Are There Any Tips to Avoid Readiness Issues in the Future?

- 1) Inspect your vehicle early. If your vehicle fails the annual inspection, waiting until the end of the month to get your annual vehicle inspection does not allow for vehicle repairs, getting your vehicle “ready” and re-inspection of your vehicle before your inspection sticker expires. Remember, you have a full 60 days to have your vehicle inspected. When your vehicle passes inspection, it will receive an inspection sticker good for one year from the end of the 60-day inspection period, *so there is no advantage to waiting until the last minute.*
- 2) If your check engine light comes on, get your vehicle repaired as soon as possible. When an engine is not running as efficiently as possible, performance is lost, fuel is wasted, and air pollutants increase. Repair your vehicle before more serious and expensive problems develop.
- 3) If your vehicle’s check engine light does come on, make sure you bring your vehicle to a highly qualified emissions repair technician. Only qualified, trained technicians equipped with the appropriate diagnostic and repair equipment should conduct OBD II related service. With the population of modern technology cars growing, all dealerships and independent repair shops should have qualified personnel for this service. Vehicle owners should ask at their service facility if the technicians have received proper training, have access to the necessary equipment including access to emissions repair information and diagnostic support services to properly service OBD II equipped vehicles.
- 4) If possible, when repairing a vehicle, do not clear the Diagnostic Trouble Codes so that the check engine light remains on after the repair. This way, if it was the correct repair, the vehicle’s computer confirms the correct repair by turning off the check engine light while driving the vehicle through its drive cycle and signals to the driver that the vehicle is ready to be re-tested. If the check engine light does not turn off, then additional repair may be required. Remind your qualified auto repair technician that you prefer to keep the check engine light on after the repair(s) if possible.

