

The GearMaster II

Frequently Asked Questions (FAQ) and Answers

Just what is the GearMaster? – The GearMaster is a “Gear Availability and Synchronization Indicator,” also known as the “Shiftometer.” It is a computer-based electronic instrument that is normally mounted on top of your dashboard. With an instantaneous glance at the GearMaster’s easy-to-read display, you will immediately know:

- what gear you are in,
- what gears are available to you at your vehicle’s current speed,
- which gear is the most ideal, and
- how to synchronize your engine speed to your target gear.

No more guessing, hunting, grinding or bumping gears. No more mental calculations. The GearMaster continuously and graphically shows the relationships between vehicle speed, engine speed and the various gears in your transmission. Floating is a breeze.

The GearMaster also incorporates a digital tachometer and a digital speedometer, which in both cases are more accurate than most dash mounted instruments.

How complicated is the Installation? - A basic installation requires no tools or modifications to your truck. Simply place the display on your dashboard, plug the cable into your truck’s ECM Data Port and you are ready to go. Once on the road, it takes less than five minutes (one time only) for the GearMaster to be calibrated to your truck (see Calibration below).

Each GearMaster is shipped with a set of 3M Dual Lock™ pads which are similar to Velcro™ but the mounting is more secure. The instrument can then be easily and repeatedly “snapped” into place or removed.

If a more permanent installation is desired, the GearMaster can be screwed or bolted to the dashboard using the predrilled holes in the base plate. The connecting cable can also be run inside the dashboard and/or directly connected to the truck’s wiring harness.

What is the ECM Data Port? – Almost all heavy trucks made since 1994 have an Electronic Control Module or ECM. The ECM data port (also called a diagnostic port) is a receptacle, approximately one inch in diameter, usually located either: 1) under the dashboard or on the sidewall near the driver’s left knee or, 2) at the rear of the driver’s entry door just off the floor. The data port allows diagnostic instruments or other devices, such as the GearMaster, to read engine and vehicle operating data. There are two versions of ECM ports: six-pin and nine-pin. When ordering a GearMaster, please check your data port and advise us which version you have. A six-pin receptacle will have a center hole and five holes around it. A nine-pin receptacle will have a center hole and eight holes around it.

What about calibrating the gears? – The GearMaster will constantly read your engine and vehicle speed from the data port. But it also needs to learn the ratios associated with each gear in your transmission. When you install a GearMaster in your truck for the first time, you “teach” it these ratios by briefly driving in each gear and, while in each gear, pressing the “Set” button on the GearMaster. This takes about ten seconds per gear so you should be able to calibrate a ten-speed transmission in less than two minutes and an eighteen-speed transmission in about three minutes. Once calibrated, the GearMaster retains the settings for that truck even if the GearMaster is disconnected or removed from the truck.

Can I move the GearMaster from truck to truck? – Very definitely. If the trucks have similar engines, transmissions and data ports, the GearMaster can be simply unplugged from one truck and plugged into another truck. If the transmissions are different, you will need to recalibrate the GearMaster to the new truck as described above. If your new truck has a different data port, GearMaster offers a free exchange of plugs. If you are going to frequently move the GearMaster between trucks with different data ports, you should purchase an additional cable.

My truck does not have an electronically controlled engine. Can I still use the GearMaster? – In most cases, yes. The GearMaster II retains the original GearMaster’s capability to derive engine and vehicle speed data from electromagnetic sensors that drive the tachometer and speedometer. The connecting cable is different for this installation so please advise us of your truck’s make, model and year when you order.

Can I use the GearMaster to drive without a clutch? – Yes, and the effect is dramatic. Using your throttle, simply line up the Tach Arrow with your target gear and you can smoothly “float” into that gear. One caution: Until you have mastered the skill of “breaking torque,” you should always use the clutch to get out of your current gear. You can then either double-clutch or float to the new gear, even skipping gears if desired.

How many gears will the GearMaster handle? – The GearMaster will accommodate any transmission with up to twenty gears.

Can I change the Range Line settings? – Yes. It takes only a few seconds to reset the range lines.

What are some of the additional features on the GearMaster? – Additional features include:

- Display brightness levels can be adjusted and instantly changed between day and night settings.
- Digital speed can be displayed in miles per hour (MPH) or kilometers per hour (KPH).
- Digital speed and digital RPM can be displayed or hidden.
- Display can be set to automatically turn on and off with the engine.

What comes with the GearMaster? – Each GearMaster purchase includes:

- The GearMaster Instrument – approx. 9” wide, 2” high, and 2” deep - consisting of an electronic processor and display. The instrument is mounted on an adjustable base plate.
- Electrical cable connecting the GearMaster to the truck’s six-pin or nine-pin data port
- 3M Dual Lock™ mounting pads for holding the GearMaster to the top of the dashboard
- Wire ties for coiling excess cable and/or securing cable in place
- Complete Instruction Manual
- Informational Video showing the GearMaster in various driving situations

What are the differences between the original GearMaster and the GearMaster II? - The original GearMaster was designed to connect to the electromagnetic RPM and speed sensors located at the engine flywheel and at the transmission output shaft. The GearMaster II normally takes its data from the ECM data port, thus making installation much easier and quicker. In addition, the GearMaster II introduced:

- Second range line (“Sweet Spot” or best engine efficiency indication)
- Digital RPM and MPH indications
- Autosleep functions
- Improved brightness control

I am an experienced driver and am skilled at finding my gears. What can the GearMaster do for me? –

Here are some responses from drivers with decades-long over-the-road experience:

“The GearMaster makes it easier and faster for me to find the hole when I am skip-shifting – up or down.”

“When coming to a stop or near-stop, and especially when making tight turns, I can immediately identify the highest gear in my power range to engage when I am ready to accelerate.”

“Even though I am very competent at shifting by feel – and I have been doing it all my professional life – I now find it much easier and more convenient to merely glance at the GearMaster and ‘drop it in,’ rather than taking the time to feel it.”

“For twenty years, I have been shifting by sound and feel. Now I can have my radio turned up and still know precisely when to hit the right gear.”

What about other applications? – One of the more important applications to owner operators as well as to fleets is in team driving. When training a new team driver or one who has any trouble shifting gears, the GearMaster will prove to be an invaluable tool. It will contribute to lower maintenance costs as well as a much more relaxed atmosphere in the cab. The graphic display makes it much easier for instructors and trainers to explain how gears, engine speed and road speed relate to each other. Trainees pick up the skill of smooth shifting and become proficient at it in MUCH less time.

One husband and wife team recently made the comment that the GearMaster is not only saving wear and tear on their truck, but it is also saving wear and tear on their marriage ... ☺

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