

# Installing and using *Classic Speed*®

## Before you begin:

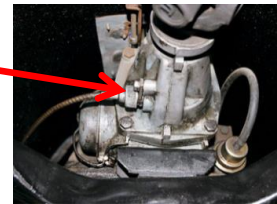
Thank you for your purchase of Classic Speed®. It's important to note that Classic Speed assumes that you have a good-working speedometer and cable. Should you have any concerns about either of them, please read the tips located on page 5 that will help you to determine their condition.

**Everything look good? Then you're ready to begin your installation of Classic Speed®...**

## Step 1: Installing the Classic Speed unit

1. Unscrew the vehicle's existing speedometer cable from the transmission.

Steps 1 and 2. Unscrew the cable end from the transmission and cap the exposed connection point with the provided red cap. This cable will connect to Classic Speed in Step 4 below.



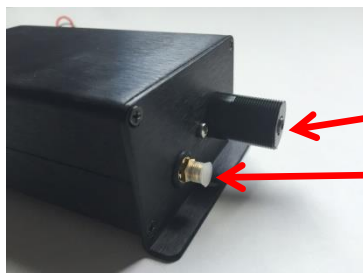
2. Use the provided red plastic cap to cover the exposed connection point on the transmission, and route the cable to where you would like to mount Classic Speed.

Please note: if you have purchased a new cable from us with your Classic Speed unit, you may be able to bypass this step.



3. Find a suitable place to mount the Classic Speed unit. This should be in a reasonably protected location away from road hazards (not in a wheel well), extreme heat (not right next to an exhaust manifold), and excessive moisture.

4. Ensure the speedometer cable connection is clean on both the cable and Classic Speed, and make the mechanical connection by screwing on the cable end to Classic Speed.



Step 4. Screw on the transmission end of your cable to the Classic Speed unit.

Step 8. Connection point for the antenna. Remove protective plastic cap and discard.

5. From the vehicle's wiring system, connect a fused switched supply of 12 volt DC positive to the red wire lead. Please do not pull power from the coil – pull it from the fuse block. Maximum draw is 3 amps. We have included an inline fuse holder (with the appropriate sized fuse) shipped loose in the box with your Classic Speed unit. Please use this if you are not sure of the fuse rating of the source. It's best to be certain that Classic Speed is protected from current overload!

6. Connect the black lead to 12 volt DC ground. Note: this unit is for negative ground vehicles only.

7. **Turn the car's key to "on"** (the engine does not have to be running at this point) to ensure you have Classic Speed wired correctly. **The LED will light up GREEN to indicate wiring is correct and Classic Speed is powered up.** Turn the key to "off" once you are done this step.

Steps 5 and 6. Red wire lead connects to fuse block – fused supply of 12 volt DC positive. Connect the black lead to 12 volt DC ground.



Step 7. LED will light up **green** to indicate wiring is correct and Classic Speed is powered up.

8. Find a suitable location to mount the external GPS antenna (i.e. on the dashboard where it has **line of sight to the sky**) and route the cable lead from the antenna to Classic Speed. Connect to the provided screw on connection point. NOTE: the external GPS antenna is magnetic. It may simply stick to some dashboards. It may also be attached via a small piece of Velcro. Experiment with antenna location to find the best mix of performance and acceptable visual.

Mount on dashboard. Antenna is magnetic. Can also attach with Velcro.



Screw-on to connection point on Classic Speed unit. Note: remove clear protective plastic cap from connection point and discard.

## Step 2: Calibrating Classic Speed to your speedometer

1. **Start the car up – the engine must be running in order to calibrate.** This ensures there is full voltage to Classic Speed.
2. With the hood open and car running, plug in the calibration dongle at the designated connection point on the Classic Speed unit.
  - This connection point is the middle hole in the end plate, and comes shipped with a rubber plug.
  - Remove the rubber plug, and save for when you have completed calibration.
  - Plug in the dongle, and this will put the unit into test mode.
  - You should see some speed reading on the speedometer (will vary depending on the TPM of your speedometer); however, the reading you see is not important at this point.

Step 2. Remove the rubber stopper on Classic Speed and plug in the calibration dongle at the designated connection point on the Classic Speed unit.



3. Pass the long cable over the windshield or through the window so that you can see your speedometer. Note: using the calibration dongle is only a short, temporary step so the cable does not have to run anywhere special. **DO TAKE CARE TO ENSURE THE CABLE IS CLEAR OF HAZARDS LIKE THE ENGINE COOLING FAN!**

4. Now it's necessary to adjust the reading on your vehicle's speedometer to read **40 mph or 65 kph depending on if you have a MPH or KPH speedometer** (this is the pre-programmed calibration speed). Adjust the reading by pushing and holding the UP or DOWN buttons accordingly on the handheld fob. You may have to go either up or down to ensure you dial in 40 mph/65 kph.

Step 4. Press and hold UP or DOWN buttons until you dial-in 40 mph/65 kph on your speedometer.



5. **Let the car and unit run for a full minute** to ensure the system has equalized. If necessary, you might have to make minor adjustments using the fob to ensure it's reading 40 mph/65 kph.
6. **With the car still running, unplug the calibration dongle** and store it someplace safe in your car for future use. Plug the rubber stopper back into the middle hole of the Classic Speed unit.

7. Once you unplug the dongle (remembering to keep the car running), it may take a minute or so to acquire satellites. You may see your speedometer go to 30 mph/48 kph – that is okay! It's a pre-programmed speed that simply indicates GPS is not locked onto satellites yet.

8. Once satellites are acquired, your speedometer needle will drop to zero (0 mph/0 kph). That's good – because you are most likely still in your garage and going 0 mph/0 kph! You are now ready to test drive your car. Close the hood and go for a drive...

9. When you first take off after installing Classic Speed, you may see the needle on your speedometer jump for a second. This is okay – the system is simply warming up. After a few seconds, it will settle into the speed you are going. Get the speed over 25 MPH to allow the program to make adjustments as needed. These adjustments will ensure low speed accuracy.

10. Check the speedometer against known distance markers (usually found along the highway in the US), or against a hand-held GPS unit to ensure Classic Speed is driving your speedometer accurately.

11. If you find that your speedometer's speed is off by a few mph/kph's after 5-10 minutes of driving - **simply pull over, keep the car running, re-calibrate using the simple steps above, and then re-check the speedometer** again against a handheld GPS, etc.

### Step 3: Everyday use in the vehicle

1. Once you have successfully calibrated Classic Speed to the speedometer system, there should be no reason to re-calibrate unless the speedometer or speedometer cable are removed from the car or moved to a different location in the car.

2. However, a periodic check against known mileage markers or a hand-held GPS unit is recommended as the speedometer and cable wear over time and may affect the speedometer reading.

3. Many classic car owners disconnect the battery when the car is not being used. This will not affect Classic Speed.

### A word on acquiring GPS Satellites:

1. There is no cost for using satellite GPS services.

2. As noted, the first time you power up Classic Speed it may take a few minutes to acquire satellites in your geographic location. This is only done once and those satellites are remembered for quick reference.

3. Each time you start your car, Classic Speed will find those satellites again. It may take about 30-45 seconds to lock onto those satellites. During this time, you may see your speedometer read 30 mph/48 kph (a pre-programmed speed). This is totally normal.

4. If you transport the car a significant distance (across a time zone for example) the system may have to re-acquire satellite locations again; however, this is transparent to you as the user except for a possible few minute delay in operation while re-acquiring satellites..

## Tips to check current Speedometer and Cable condition:

Thank you for your purchase of a Classic Speed® unit. ***It's important to note that Classic Speed assumes that you have a good-working speedometer and cable.*** Before you begin, please read these DIY tips that will help you to determine their condition.

### **1. First, let's do a quick check of your current cable condition:**

With the cable connected to the speedometer, but disconnected from the transmission, turn the inner cable with your fingers; it should turn very easily and freely with no spring back when you release it.

### **2. Next, let's diagnose your speedometer:**

**A 'bouncy' needle is the most common speedometer issue. This needs to be fixed before Classic Speed will work properly. We've gathered some of more typical causes of a 'bouncy' mechanical speedometer needle and some DIY solutions from various sources (although contacting a professional is also recommended for the more serious issues):**

- **DRY / DAMAGED INNER CABLE:**

Disconnect the cable from the back of the speedometer, remove the inner cable from its housing, degrease well, wipe clean, then lubricate with light lithium grease as you feed the cable back into its housing. Be careful when cleaning and lubricating the cable – if there are any broken piece of the cable sticking out, they can be sharp!

- **BENT, KINKED OR DAMAGED CABLE HOUSING AND/OR CABLE:**

Even subtle kinks in the sheath will cause a bouncy needle. Replace the complete cable assembly. Any broken piece of the cable sticking out (whiskers) will also cause a bouncy speedometer needle.

- **90 DEGREE ADAPTOR DRY OR WORN OUT:**

Not every car has one of these, but if you do, make sure it turns extremely well and with ease. Clean well and lube with light lithium or silicone spray.

- **WORN OUT OR DRY SPEEDO INPUT:**

The input end of the speedo (where the cable attaches) often has dried grease caked up causing a point of high resistance. You can CAREFULLY clean this with the speedo out of the car, holding the unit with the speedo face toward the ceiling, and carefully spray brake cleaner into it. Let drip out and use compressed air to gently dry. If this does not help, have the unit rebuilt by a trained professional.

- **WORN OR DAMAGED SPEEDOMETER:**

These are often decades old mechanical units and are just plain worn out. Best to have professionally rebuilt.

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**RMA (Returning Merchandise Authorization) Policy:**

NOTE: To return a product under the Return Policy or Warranty, please contact Classic Automotive Innovations for a Return Merchandise Authorization (RMA) number and follow the return of products Instructions below. The RMA is valid for 10 days from date of issuance. Returns will not be accepted without an RMA. (Purchasers returning products under the Return Policy, must also secure an RMA in advance.)

RMA and services are rendered by Classic Automotive Innovations only. Any shipping costs after 30 days (starting from the original date of shipment) on any item returned for repair under warranty is the purchaser's responsibility. All returned products must have an RMA number written clearly on the outside of the package along with a note detailing the problem(s) and a copy of the original proof of purchase. No COD packages will be accepted. No package will be accepted without an RMA number written on the outside of the package. RMA numbers are only valid for 10 days from the date of issue.

1. Pack the Classic Speed unit in its original box or a well-protected box. Classic Automotive Innovations will not be responsible for shipping damage/loss of any product under warranty outside the original 30-day Classic Automotive Innovations-paid service period. It is very important that you write the RMA number clearly on the outside of the package. Ship the Classic Automotive Innovations product, along with a copy of your invoice number or other proof of purchase, your name, address, phone number, email address, description of the problem(s), and the RMA number you have obtained to:

Classic Automotive Innovations Service Center  
c/o Induni  
RMA# \_\_\_\_\_  
19595 Kari Ann Ct  
Oregon City, OR 97045

2. Upon receiving the Classic Automotive Innovations product under warranty, Classic Automotive Innovations will repair or replace your product (at Classic Automotive Innovations' discretion) and will ship it back to you within 1-3 weeks (dependent on parts availability) via UPS, USPS or FedEx (Classic Automotive Innovations' choice).

3. For products being returned under warranty, Classic Automotive Innovations will pay for shipping to and from the customer only within the first 30 (thirty) days following the original product ship date. Following this 30-day period all shipping fees both for under warranty and post warranty repairs are the sole responsibility of the customer. The purchaser also assumes full liability for losses or damages resulting from shipping as well as all responsibility to pursue remuneration for such issues with their selected carrier.

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