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New Exact Reproduction OEM-Style Mopar Tach Board Installation Instructions

Introduction

Thank you for purchasing our *New Exact Reproduction OEM-Style 1967-1969 Mopar Console Tach Board* from Mr. Heaterbox and Interior / PremiumDashDecals.com. These boards are designed to be an exact drop in replacements for OEM tach boards found in 1967-1969 Dodge and Plymouth Console tachometers. Your new reproduction tach board is manufactured from new components only and uses component of both higher voltage ratings and tighter tolerances for improved performance and reliability. Each board has been connected to and tested on a real Mopar OEM tach mechanism before shipping to you. This way you can have full confidence in knowing that you have received a fully working circuit board.

Please note that this tachometer board has been configured to be used on Chrysler POINTS/ELECTRONIC ignition. This means that the input signal to the tach must come from the ignition coil NEGATIVE terminal. This board is not compatible with the 1966 and earlier tach sender (a circular metal can mounted under the dash) installations. If this board is used to convert a 1966 and earlier tach mechanism, you must remove the tach sender from the car and wire the input terminal of the tach directly back to the coil NEGATIVE terminal on the ignition system.

Please follow the instruction below in order to replace your old tach board

Installation Procedure:

This procedure shows the installation of our *New Exact Reproduction OEM-Style Mopar Console Tach Board* into a Console Tach.

Tools Required:

- 11/32" nutdriver (or 1/4" drive 11/32" socket on a handle)
- low wattage soldering iron (NOT a soldering gun) and solder
- small Phillips' screwdriver
- medium-large Phillips' screwdriver
- small flat blade screwdriver
- small needle nose pliers

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small wire cutters
small wire strippers
steel wool or fine sandpaper to clean tach terminals
digital camera for documentation (optional)
digital multimeter (ohms and volts) (optional for troubleshooting)

- Unhook Console Tach from console harness and remove Tach from console top plate .
- Optionally take a series of pictures before you start of the front and back of the tach unit.
- Using a flat blade screwdriver push in the locking tangs on each of brass terminals (the thinner half of the terminal) in the 3-pin and 1-pin console connectors. This will release the brass terminals from the plastic insulators. Make yourself a diagram or use the Factory Service Manual for connector termination.
- Remove the screws around the front chrome trim ring of the tach (small Phillips Head). The Chrome Ring, glass lens and gasket, and the black metal light shroud will fall out. Set these pieces aside.
- Remove the one Phillips screw from the rear of the housing and the whole tach assembly can pull out of the housing. You will have to feed the wires through the hole in the bottom of the tach while pulling the movement out the front. Remove each of the wires one at a time through the hole to completely separate the housing from the movement. Once all the wires are pulled through the hole, set aside the housing.
- Using the 11/32" socket or nutdriver and remove the two nuts and lockwashers from the rear plate to pull the plate off the brass studs.
- Before the rear plate can be completely removed the wiring grommet must be pushed out of the plate so the plate can be separated. Using a small flat blade screwdriver, push edges of the grommet through the hole
- Once the plate is free and set aside, two brass standoff collars will slide off the brass studs, this will free the tach circuit board and make it ready to remove.
- It might be a wise idea at this point to snap a few more digital pictures of the tach's internal configuration and wiring.

- The only thing holding the old board in now is the two soldered tach movement drive wires which are soldered to the front and rear clockspring mount. Using a soldering iron carefully, with minimal heat, desolder each of these wires at the clockspring terminal. Take care to make note of how the wires are routed. You will want to use the same routing path for the clockspring wires once you reinstall your new tach board from this kit.
- Remove the old tach board. You can now snip off the three wires that lead to the +12V power in, ground and tach signal in (coil -ve) with small diagonal side cutters. Cut the wires as close to the circuit board as possible.
- Now is a great time to reface the tach if you also purchased our **Premium Dash Decals Console Tach Face Decal**. Follow the instructions for installing our decals for this step.
- Get the new tach board out of the kit. Strip off 1/8"-1/4" of insulation off each of the 3 wires and twist each of the wires tightly.

- Solder the GREEN BLACK and PURPLE wires IN PLACE of the RED WHITE and BLACK wires as follows:

Wires	Old Tachboard	New Tachboard
12V power	Purple	Red
Ground	Black	Black
Signal	Green	White

- Next install your *New Exact Reproduction OEM-Style Mopar Console Tach Board* into the tach frame, correctly oriented the board on the two brass studs, and the flat side of the tachboard facing down. Run the wires to the clockspring terminals using the identical routing paths as before. The black wire is the rear clockspring (when viewing the tach mechanism from the face) and the yellow (or green) wire connects to the front clockspring terminal.
- Solder each wire to the respective clockspring terminal. Carefully move the plastic coil/needle assembly so that the tach needle travels the full range of motion to verify the neither of the wires is inhibiting its motion. This is a common problem that is easily avoidable! If you are concerned that the front clockspring wire may change position over time and interfere with the mechanism movement, feel free to use a few dabs of CA / Crazy Glue, to tack the wire permanently into place.
- Reinstall the two standoff collars to hold the *New Exact Reproduction OEM-Style Mopar Console Tach Board*, and feed the wiring and grommet back through the back plate so it can be installed on the standoffs and with the two 11/32” nuts and lock washers.
- Optional: Take this moment to replace the light bulb in your console tach, The light bulb socket is secured to the movement frame just by its grounding prongs and just pulls out. Replace the light bulb (sold separately) using a #53 Lightbulb only. Inspect the socket and wiring for corrosion or damage and clean or repair as necessary
- You are now ready to fine tune the calibration of your tach.

Calibration Procedure

This procedure assumes that you will use your vehicle as the tach calibration setup. It also assumes that **you have sufficient mechanical knowledge to do so in a safe manner.**

If you are a professional shop who has access to a tach calibrator, simply follow the instructions that came with your calibrator setup. On the test vehicle you will need to use a clip on RPM meter as a reference. Most people use one of the combination tach/dwell testers that were commonly used when doing tune-ups on these old cars. We cannot stress how important it is to be careful with both your electrical connections and placement of all items. Keep clear of all rotating parts of the engine and cooling system when performing your calibration. Also do not work in a confined space due to risk of carbon monoxide poisoning. It is best to have a second person to help you and assist you in working safely.

- Hook up your reference RPM meter and ensure that it works by running the engine briefly in Park and with the emergency brake set. Turn off the engine.
- Using jumper wires, provide +12V to the long tach input terminal and to the short terminal of the set connect a signal from coil –ve. Ground the tach body to a solid unpainted engine or body part.
- Start up the vehicle and let idle. Compare what the tach is indicating, relative to the RPM meter that you installed as your reference. If it is off you typically rotate the front clockspring (the terminal swivels) to provide more or less spring pressure to get the tach to read correctly at this low RPM. (If the clockspring doesn't have much effect then adjust the potentiometer on the back lower portion of the tach board using a jeweller's screwdriver, but don't turn it too much as this is typically the high RPM adjustment point)
- With the aid of a helper rev the engine to no more than 3500 RPM and hold it there for a few seconds. Verify that your tach is reading correctly when compared to the reference RPM meter. If not there is a potentiometer on the circuit board to adjust the high calibration point. Use a jeweller's screwdriver to make the adjustment.
- Recheck your low setting is should be correct.
- If not, on some tachs you may have to go back and forth a couple of times between the low adjustment and the high adjustment until you get it just right. Most tachs will calibrate on the first attempt.
- When done shut off the vehicle and disconnect everything.

Final Reassembly

The rest of the assembly is basically reverse of the disassembly. Make sure to feed the wires one at a time through the hole in the bottom of the housing before stuffing the whole assembly all the way back in the housing.

- Install the phillips head screw
- Reinstall hardware including large insulating washer, brass terminal on the tach input terminal, copper lock washers and nuts. Tighten slug but not too tight. make sure that the red and white wires are still twisted together as they were shipped to you as this technique helps to reduce electrical noise.
- Carefully install the tach rear cover on the standoff terminals. Note due to spacing, it will only fit one way. Once oriented correctly install the copper lock washers and brass nuts.
- Visually verify that the tach input terminals (+12V and points) are nice and bright and shiny and free from any oxidation. If oxidized, use either the steel wool or a light sandpaper to clean. A Dremel rotary tool with a wire brush wheel also does an excellent job.(optional) Using an ohmmeter or continuity beep tester verify that there is no short circuit (or beep) between the +12V terminal and the metal tach housing. Likewise, verify that there is no connection between the points input terminal and the tach housing cover which is grounded. Should there be continuity it simply means that one of the wires is pinched or is there is too much wire exposed through where it is soldered in the circuit board.

This completes your upgrade of your tach. It can be reinstalled onto the center console of your car.

Troubleshooting

This section shows some of the common solutions to problems you may encounter. If you continue to have difficulties, Mr. Heaterbox and Interior offers full reasonably priced tachometer repair services. We offer several flat rate repair service levels, so please call for pricing. Purchases of our TachBoard Kit will automatically receive priority repair service for quick turnaround time, typically completed within 72 hrs of receiving your tach unit.

Tach Needle Not Moving:

- Verify correct tach input signal to coil –ve side
- Using a voltmeter between the metal body of the tach and the +12 volt terminal, verify that there is between 12.0 – 14.4 volts
- Verify that tach movement is good by carefully using an ohmmeter on the 0-200ohm scale and measuring the resistance between the two clockspring terminals. A good coil movement will measure approximately 135 ohms
- Verify that the needle moves freely and is not stuck or hung up on clockspring wiring
- Verify that both clockspring wires are properly soldered by checking that they are firmly attached and that the solder connection is bright and shiny (dully grey solder joints tend to indicate high resistance connections called cold solder joints) and that no wire strands are contacting the metal tach housing.
- Check wiring harness to tach.

Tach Needle Not Returning to Zero:

- Front and/or rear clockspring is out of adjustment.
- Clockspring electrical wire (usually the front) causing movement to hang up.
- Tach movement out of balance (must be sent in for service to be rehung and rebalanced).
- Tach movement/bearings dirty or oxidized (must be sent in for service for full disassembly and ultrasonic cleaning – DO NOT OIL OR LUBRICATE).

Tach Can't Be Adequately Calibrated At Both Hi and Lo Calibration Points

- Tach mechanism either dirty or out of balance (must be sent back for service)
- Repeat calibration process adjusting both front and rear clocksprings instead of front only

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