How to modify a 1994-1998 Mustang V8 cluster for use in a V6 car

Rev. 1.0

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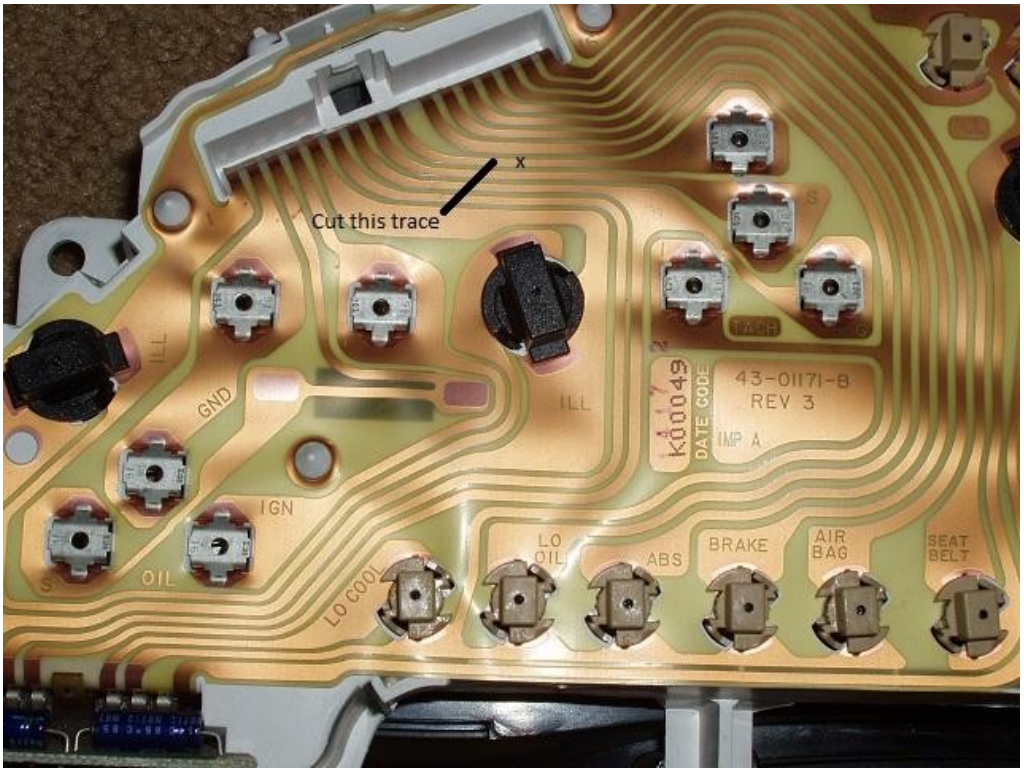
Some people with V6 Mustangs would like to have a 150 lor 160 MPH speedometer and/or an 8000RPM tachometer. With a slight cluster modification, a V8 Mustang cluster can be used in a V6 car.

All of the gauges in a Mustang instrument cluster work in any Mustang of the the same year, with some years being interchangeable across years, except for the tachometers. V6 and V8 tachometers are not interchangeable, without a small cluster modification and tachometer recalibration.

Clusters are completely interchangeable between 94 & 95 model years. Clusters are interchangeable between 96 & 97 model years, unless you are using the Accutach Gauge upgrade circuit, due to differences in how the oil pressure gauges are implemented betweeen 96 and 97 (98 clusters have the same oil pressure gauge as the 97, FYI).

There is a pin on the input to the tachometer that selects V8 operation if it is grounded and V6 operation if it is left disconnected. That pin is the top pin of the tachometer. In order to convert a cluster from V8 operation to V6 operation, all you need to do is cut the trace that goes from that pin to the cluster connector. Using an Exacto knife, carefully scrape the copper off the plastic substrate until the circuit is broken. Here is a picture of the trace that needs to be cut:



After you have cut the trace, the tachometer will operate in V6 mode. However, the tachometer will not be properly calibrated for a V6 since it was calibrated for a V8. You can calibrate the tachometer by providing it with power and a reference signal that you know corresponds with a known V6 RPM, and adjust the tachometer calibration potentiometer until the needle points to that RPM.

Assuming you have access to a calibration signal, you will need to remove the speedometer/ tachometer unit from the cluster to get access to the calibration potentiometer.

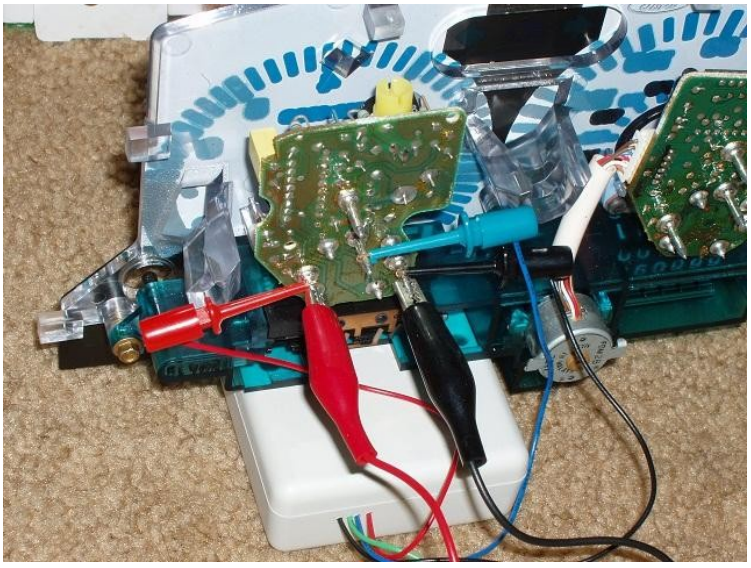
Assuming you have removed the cluster from the car, remove the 8 Torx T-10 screws that hold the cluster cover on,

and remove the cluster cover.

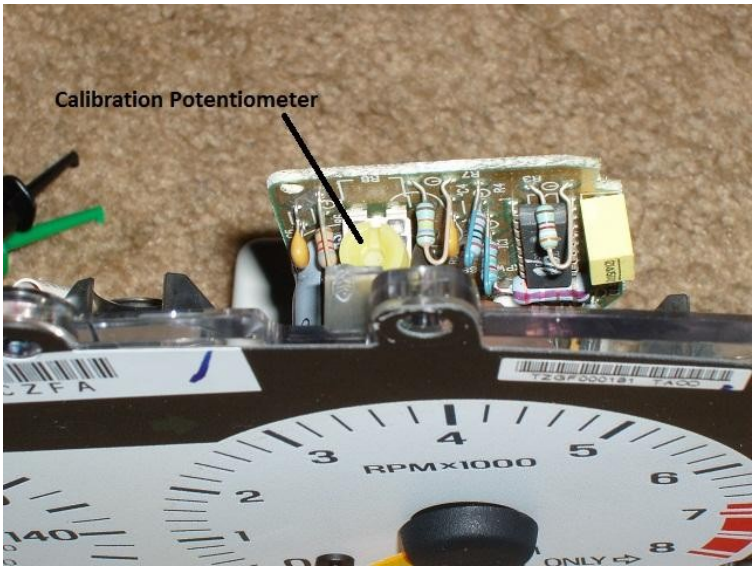
Unplug and place aside the dual minor gauge assemblies from either side of the speedometer/ tachometer assembly.

Remove the Torx T-10 screw that holds the speedometer/tachometer assembly in the cluster and remove the speedometer/tachometer assembly.

Connect 12V DC power and ground to the bottom power and ground signals as shown below. If you are using the Accutach calibration device, connect its power (red) and ground (black) wires to 12V power and ground as well. Connect the calibrator signal generator to the tachometer signal pin.



UsIng a flat-bladed screwdriver, turn the tach calibration potentiometer knob until the needle points to the RPM point being generated by the calibration signal generator.



Your cluster is now ready for installation in your V6 Mustang. To ensure you keep the correct mileage on your odometer, check out How to Swap Odometers between clusters. (https://websites.godaddy.com/blob/1975f84f-4935-4131-8404-5a914da1afb7/downloads/1bgeurlge_130807.pdf?7e711c31) The next page has a table for how to use an audio signal generator to calibrate Mustang V6 and V8 tachometers. Or you can use a simple old fashioned automotive battery charger to calibrate your tachometer. (https://websites.godaddy.com/blob/1975f84f-4935-4131-8404-5a914da1afb7/downloads/1bget8n5o_114329.pdf?2089e5c1)

BTW, if anyone ever wanted to put a V6 cluster in a V8 car, the reverse swap is also possible to do by jumpering the signal that is cut above, and then recalibrating the tachometer.

In order to calibrate a 94-98 Mustang tachometer, you will need an audio function generator (AKA signal generator) capable of generating a square wave. Set the amplitude to 9-12 volts and set the offset to zero volts. The following table shows the audio frequencies that will drive the tach to a known RPM:

RPM	V6 Tach	V8 Tach
0	0	0
500	25	33
1000	50	67
1500	75	100
2000	100	133
2500	125	167
3000	150	200
3500	175	233
4000	200	267
4500	225	300
5000	250	333
5500	275	367
6000	300	400
6500	325	433
7000	350	467
7500	375	500
8000	400	533