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| Document Type (indicate): | <input type="radio"/> Bill of Material                        | <input type="radio"/> Drawings (may be attached) | <input type="radio"/> Specification |
|                           | <input checked="" type="radio"/> <b>Assembly Instructions</b> | <input type="radio"/> Operating Procedure        | <input type="radio"/> Other         |

## Autometer Gauges Installation Instructions

### I. Tools Required:

Mustang Wiring Diagrams  
Wire Stripper/cutter  
Wire Crimper  
Electrical tape  
Teflon Tape  
Philips Head Screw Driver  
Slotted Screw Driver  
 $\frac{5}{16}$ "",  $\frac{1}{2}$ "",  $\frac{11}{16}$ "",  $\frac{3}{4}$ "", 1" wrenches  
 $\frac{3}{8}$ " x 18NPT Pipe Tap  
Hack Saw  
Solder  
Soldering Iron  
Pliers  
 $\frac{1}{8}$ "",  $\frac{1}{2}$ "",  $\frac{7}{8}$ " Drill bits  
Drill  
Marker  
Ruler

### Note:

- Cover the dash and mount the gauges before connecting the gauges.
- The electrical hook-ups for the gauges referenced in these instructions are provided for all years, where there are differences the different years are indicated. For 5.0L cars, the pin numbers are for 1990-1993 donor cars only! 1989 or earlier cars have different wire positions within the gauge cluster plugs. If using an early donor, look-up the positions in a *Chilton's* manual. The wire colors change between years so do not just look at the colors. The notation for the wires as written in *Chilton's* are included in bold in the instructions to aid installation.
- Using a **87-98** Mustang harness **does not** require the use of the Mustang white instrument pod. However, familiarize yourself with the gray and brown plugs in the wiring harness that originally plugged into the pod. You will be splicing into some of these wires. Not using the white pod makes for a cleaner installation giving more room behind the dash for access and other items, such a heater ducts, radios, or other items you may want to install.

- Using a **99-04** Mustang harness **does** require the use of the Mustang gauge pod due to the anti theft features built into the computer.
- Read the instructions completely before starting the installation.
- See the individual gauge instructions for details on the gauge senders and calibration.
- **The wires and instructions included are for the standard street gauge layout provided with the cut dash.**

### **III. Installation Instructions:**

#### **Warning Light Placement**

The 3 colored lights can be placed anywhere but fit nicely between the Speedometer and Tach right above the steering column. Use a 1/2" drill bit for these holes.

#### **Wiring Harness**

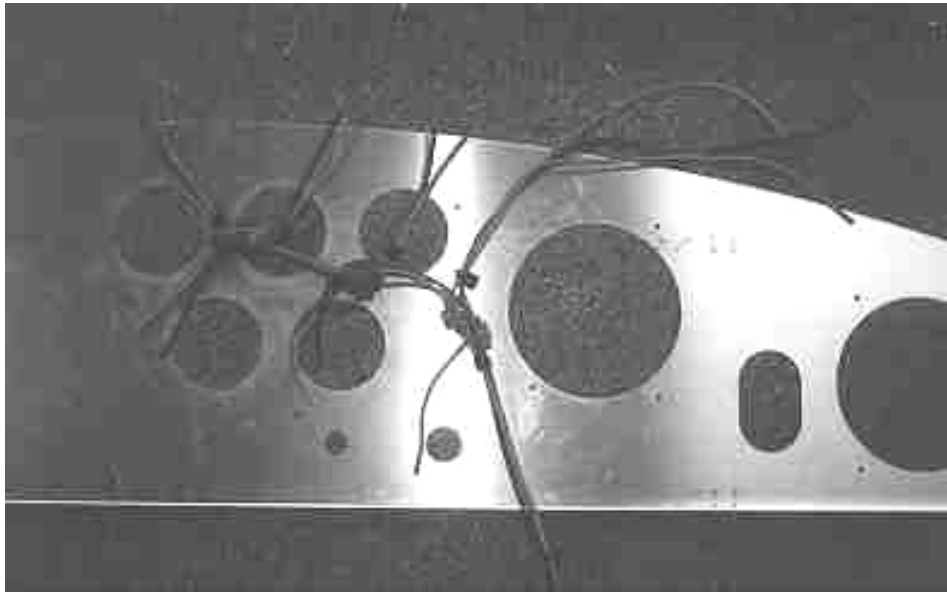
Included with the gauge kit are wires and connectors to create a simple wiring harness.

1. Cut the 5' long blue wire into sections. (1) 2' wire, (1) 1' wire, (3) 8" wires.
2. Cut the 6' long black wire into sections. (1) 2' wire, (1) 1' wire, (4) 8" wires.
3. Cut the 5' long red wire into sections. (1) 2' wire, (1) 16" wire, (2) 8" wires and (1) 4" wire.
4. Mark the red and blue 2' sections at 4", 7" and 10" from one end.
5. Using a 1/8" Drill bit, drill the wire blockage out of (7) of the tap connectors.

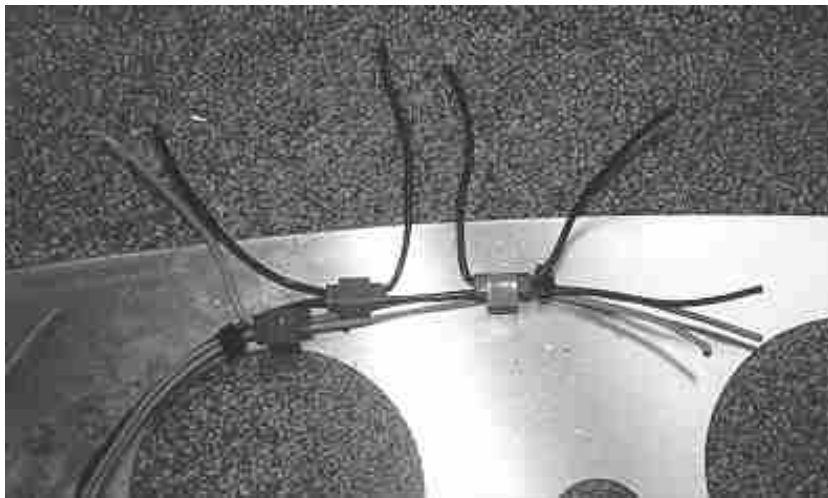


Upper connector has blockage, lower is drilled.

6. Lay the cut dash face down on a table.
7. Starting at the 4" mark, place one of the drilled tap connectors on the wire along with one of the 8" wires.
8. Center the 8" wire on the connector and squeeze the connector with a pair of pliers. Snap the cover on the connector with your fingers.
9. Repeat steps 4 and 5 for the 4" and 7" marks on the red, blue and the black wires.



10. For the black and blue wires at the 10" mark, use the 1' wire and an undrilled tap connector. This wire will run over the top of the speedometer to the tach.
11. For the red wire at the 10" mark, use the 16" wire and a drilled connector. Mark the 16" wire 4" from the end and connect the two wires at the 10" mark.
12. On the blue 1' wire, attach the remaining 8" wire using an undrilled connector above the speedometer.
13. On the black wire, attach the two remaining 8" wires using drilled connectors centering the 8" wire on the connector. Position the connectors over the steering column for the small lights and so that one lead will reach the speedo light.



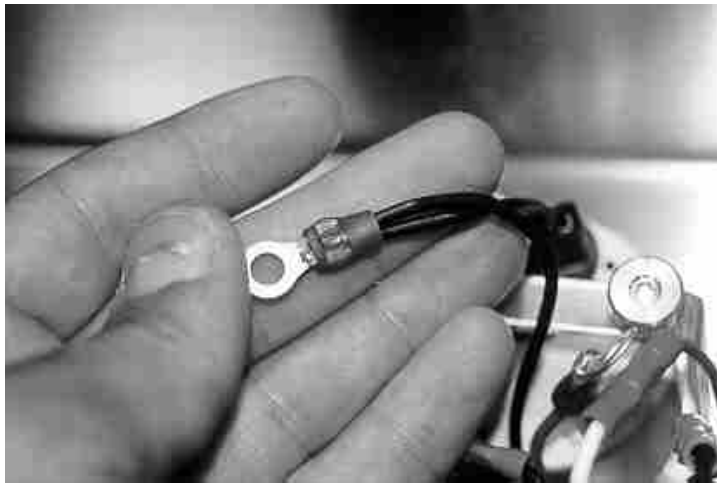
Wire leads for dash lights and Speedo

14. Use zip ties from the kit to tie all three wires together.
15. 90-93 Attach the loose end of the red wire to the Mustang gauge gray plug pin #7 (**Warning Lamps Feed**).
- 96-04 Attach the loose end of the red wire to **Voltage in Start and Run** wire.
16. 90-93 Attach the loose end of the blue wire to the Mustang brown gauge plug pin #11.
- 96-04 Attach the loose end of the blue wire to the **Instrument Illumination** wire.

17. 90-93 Attach the loose end of the black wire to the Mustang gray gauge plug pin #14.
- 96-04 Attach the loose end of the black wire to the **Ground** wire.
18. 90-93 Attach the short section of red wire on the 16" section to the horn button.
19. 90-93 Use the remaining short section of red wire to jumper over from the horn button to the fan switch. The connectors for the switch are packed with the fan.
20. 99-04 Run the long section of 4 conductor wire from the dash area over to the computer on the passenger side.

### **Instrument Lighting**

1. Attach positive leads from the gauges to the blue wire closest to the gauge using the red butt connectors.
2. The ring connector used to ground the gauge will also act as the ground for the light. Attach the negative lead from the gauges (**except Tach and Electric Speedometer**) to the black wire closest to the gauge using a small ring connector.



Ring connector attached to gauge light ground and wire harness ground.

3. Wire the Tach lighting when wiring the remainder of the Tach.
- 87-93 If after hooking everything up, there are no lights or they are dim, check the Mustang dimmer switch for adjustment. If dimmer switch is not connected, jumper the two brown wires in the connector or jumper the brown wire coming out of headlight switch and connect to the blue wire.

### **Water Temperature Gauge**

1. 87-95 Remove Ford water temperature gauge sending unit from the lower intake manifold located next to the distributor on the driver's side with an  $\frac{1}{16}$ " wrench.
- 96-98 Remove Ford water temperature gauge sending unit from the coolant crossover tube on the driver side.
- 99-04 Remove the plug in the block to the rear of the driverside engine mount.
2. Wrap the adapter threads with Teflon tape. Install the new water temp adapter (short end goes in the manifold) with a  $\frac{3}{4}$ " wrench.
3. 87-98 Use the existing wire from the old sending unit and attach a ring connector to the wire and then attach the connector to the sending unit.

- 99-04 Run a new wire from the gauge to the sending unit.
4. 87-98 Attach the ground ring connector and positive wire using a ring connector to the gauge. Pick a color wire for the sending unit wire and connect it to the gauge using a ring connector.
  5. 90-93 Attach the other end of the same color wire to the Mustang Gray plug #3 (**Water temp feed**).

### Oil Pressure Gauge

1. Remove the Ford Oil Pressure sending unit from the driver side of the engine in front of the header with a  $\frac{3}{4}$ " wrench.
2. Assemble the new sending unit per gauge instructions, wrap the threads with teflon tape and install in engine.
3. Attach the stock connector to the sending unit.
4. Attach the ground ring connector and positive wire using a ring connector to the gauge.
5. Pick a color wire for the sending unit wire and connect it to the gauge using a ring connector.
6. 90-93 Attach the other end of the same color wire to the Mustang Brown plug #8 (**Oil pressure feed**).
- 96-04 Attach the other end of the same color wire to the Oil pressure switch signal wire.

### Oil Temperature Gauge

- 87-95 There are many ways to mount the oil temperature sending unit. Use a "T" junction and put it inline somewhere in either of the hoses that run to the remote oil filter. Use an adapter to thread into the oil filter relocater on the block. The harder way is to drain the oil from the engine. Remove the oil level sender with a 1" wrench from the driver side of the oil pan. Drill out the sending unit with a  $\frac{5}{16}$ " drill. Tap the remaining piece with a  $\frac{3}{8}$ " x 18 NPT pipe tap just enough for the short end of the adapter to attach. Wrap the adapter with Teflon tape and attach the adapter (short section pointed in) to the tapped piece with the  $\frac{3}{4}$ " wrench. Attach the adapter and piece to the oil pan. Run the 8' blue wire from the gauge through the dash and firewall and attach to the adapter to ensure proper operation. **DON'T FORGET TO REFILL THE ENGINE WITH OIL.** Note: a machine/tool shop can do the above drill and tap for about \$25 if you don't have the tools. Attach the long blue wire to the sender and run it through the hole under the 2" x 2" crossmember on the inside drivers' wall. Run the wire to the signal input on the gauge. Attach ignition power and ground wires to the blocks and the backside of the gauge.
- 87-96 Remove one of the plugs in the back of the driver head using a  $\frac{5}{16}$ " hex key.  
Attach the oil temperature sending unit.  
Run a new wire from the gauge to the sending unit.

### Tachometer

1. Twist the Tach ground wire and the Tach light ground wires together, insert them into the same side of the Blue butt connector and crimp.
2. Attach the black wire to the other end of the Blue butt connector.
3. Connect the positive wires using a red connector.
4. 96-04 Connect the Tach Adapter to the Tach using the instructions provided with the adapter. Use one of the wires run over to the computer to connect to the computer pin.
5. 90-93 Pick a color wire for the sending unit wire and connect it to the gauge using a red connector.

6. 90-93 Attach the other end of the same color wire to the Mustang gray plug pin #11 (**SW to Ign. Coil (-)**).

### Volt Gauge

Attach the ground ring connector and positive wire using a ring connector to the gauge.

### Electric Speedometer

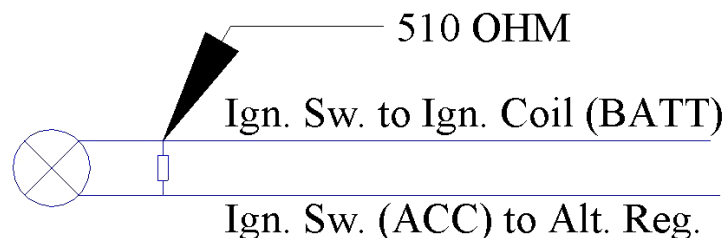
1. Twist the Speedo ground wire and the Speedo light ground wires together, insert them into the same side of the Blue connector and crimp.
2. Attach the black wire to the other end of the Blue butt connector.
3. Connect the positive wires using a red connector.
4. Use one of the wires that was run over to the computer and connect the wire to the wire in pin # 68 (96-04) or pin #3 (87-95), (**Vehicle Speed Sensor, +**) using a TAP connector.
5. Connect the other end of the wire to the Speedometer.

### Fuel Level Gauge

1. Attach the ground ring connector and positive wire using a ring connector to the gauge.
2. Pick a color wire for the sending unit wire and connect it to the gauge using a ring connector.
3. 90-93 Attach the other end of the same color wire to the Mustang Brown plug # 10 (**gas tank sending unit**).
- 99-04 Attach the other end of the same color wire to the fuel pump/fuel gauge sender wire using a TAP connector.

### Battery Charging

- 87-95 In order for the battery to charge, solder a 510 OHM resistor between the wires on the red light forming an H with the 2 wires. This resistor can be found on the Mustang white gauge pod. Carefully clip the resistor leads leaving them as long as possible. You may want to protect this junction with tape, etc. solder the wires (with resistor soldered together ahead of wire ends) on the red dash light to two of the wires on the second 4 conductor 2' section. Attach the other ends of the two wires to the Brown plug pin #2 (**Ign. Sw. to Ign. Coil (BATT)**) and brown plug pin #14 (**Ign. Sw. (ACC) to Alt. Reg.**) using red connectors. When starting the car, the light will turn on and then go off. The light is part of the circuit and MUST be present.



## **High Beam Indicator**

1. Connect one lead from the blue light to the black wire and the other lead to the second 4 conductor 2' section.
2. 90-93 Attach the other end of the same wire to the gray plug pin #2 (**Dimmer to High Beams**) using red connectors.
3. 96-98 Attach the other end of the same wire to the High beam indicator (+).
4. 99-04 Attach the other end of the same wire to the Power – Hot w/high beams on.
5. The blue light will light when the high beams are on.

## **Turn Signal Indicator**

In order for the green light to flash when either the right or left turn signals are turned on, a 3-prong turn signal indicator is used. Find the original 2-prong turn signal (probably round and light blue or aluminum) in the Mustang dash wiring harness in front of the passenger seat or near the center of dash. If it is not here, turn the turn signals on and follow the sound. Remove the original flasher from the wiring plug and carefully cut the two wire 90 degree wire connector in half leaving the wires connected to each piece. Put the wires on the left and right prongs of the 3-prong flasher. Run the four foot blue extension wire from the middle prong on the flasher to one of the wires on the green light. Attach the other wire on the green light to the black wire using a red connector.