



## Factory Five Racing, Inc.

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Document Type (indicate):

Bill of Material

Drawing (may be attached)

Specification

**Assembly Instructions**

Operating Procedure

Other

## Coupe Windshield Wiper Installation Instructions



### I. Tools Required:

- Tubing cutter
- Tube flaring tool
- Wire crimper
- Volt meter
- Ruler/tape measure
- Drill
- Marker
- $\frac{3}{8}$ " ,  $\frac{25}{64}$ " ,  $\frac{5}{8}$ " drill bits
- Clamp
- Masking tape
- Wire cutter

Flat head screwdriver

## **II. Installation Instructions**



The wiper system is installed inside the car, not in the engine bay.

### **Wheelbox holes**

Drill  $\frac{3}{8}$ " holes pilot holes for the wheelboxes on the body locations then open the holes up to  $\frac{5}{8}$ ".

The wheelboxes should be perpendicular to the windshield so grind or cut the chrome bases and the underbody spacer to make this happen.

### **Test fit the wheelboxes**

Slide the rubber sleeve onto the wheel box and then slide the wheelbox through the hole in the body. You may need to test fit this in the body a few times to ensure the proper angle.

Place the gasket down then the chrome base followed by the nut.

Trim the flat side of the underbody spacer if necessary so that the nut will fully engage. The smooth part of the wheelbox should just stick out of the body.

### **Locate the Wiper motor**

Twist the wheel boxes so they are in line with each other and are pointing towards the wiper motor.

Drill a  $\frac{5}{8}$ " hole in the center dash mount for the cable tubing to pass through the same distance from the body as the under body spacer length.

Bend the tubing slightly to match the curve of the cowl. Do not allow the tube to touch the sides of the hole as this will transmit vibrations and amplify the noises made by the wheelboxes and motor.

Using the wiper cable as a guide, locate the motor location on the passenger side of the firewall.

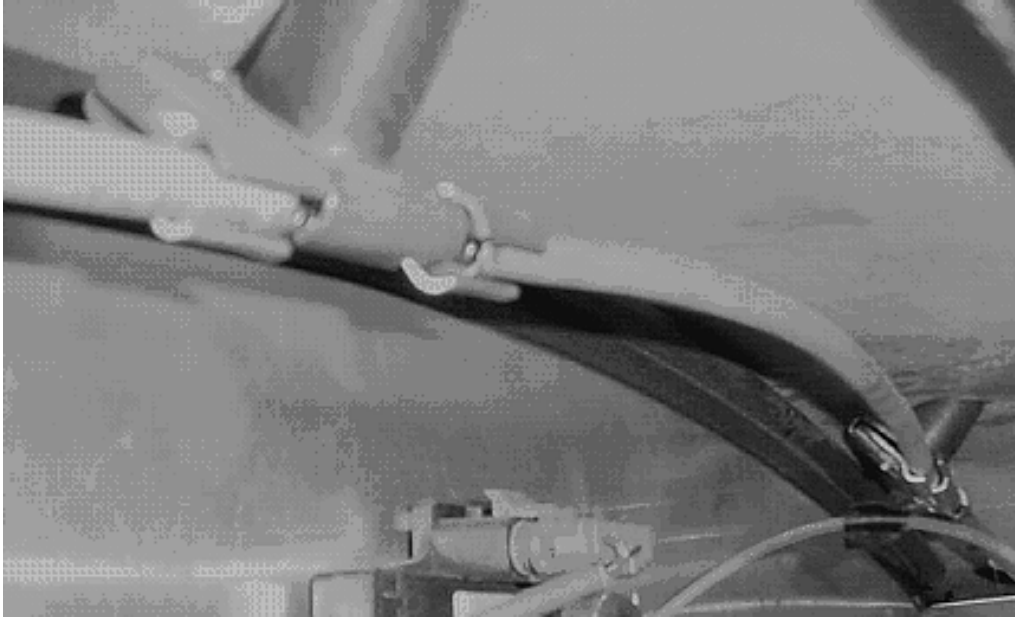
Mark the firewall for the wiper motor (Try to have the cable pointing up toward the wheel boxes.)

Drill the holes in the firewall.

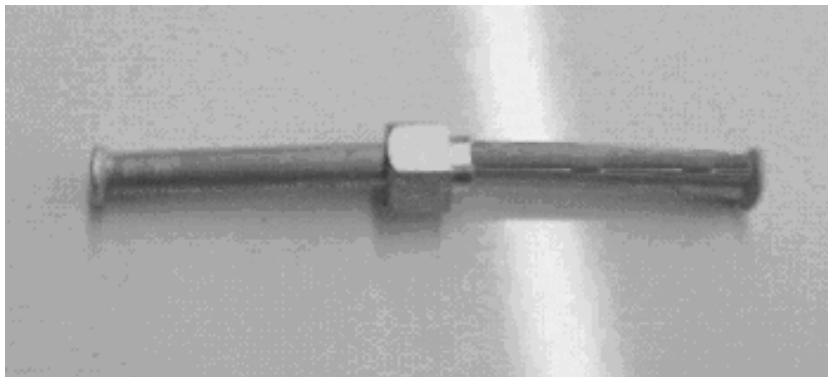
Mount the wiper motor with the clamp provided.

Note: To reduce wiper motor noise you can wrap the motor where it contacts the clamp and firewall with a piece of sheet rubber (available in the plumbing department of home depot and Lowes).

Cut the tubing to the lengths required to connect the motor and the wheelboxes together. The tubing will need to be cut a little long as you will be flaring the ends. (The tubing that we supply is longer than needed so it is ok if you make a mistake on the first cut. Save this piece and mount it on the end.)



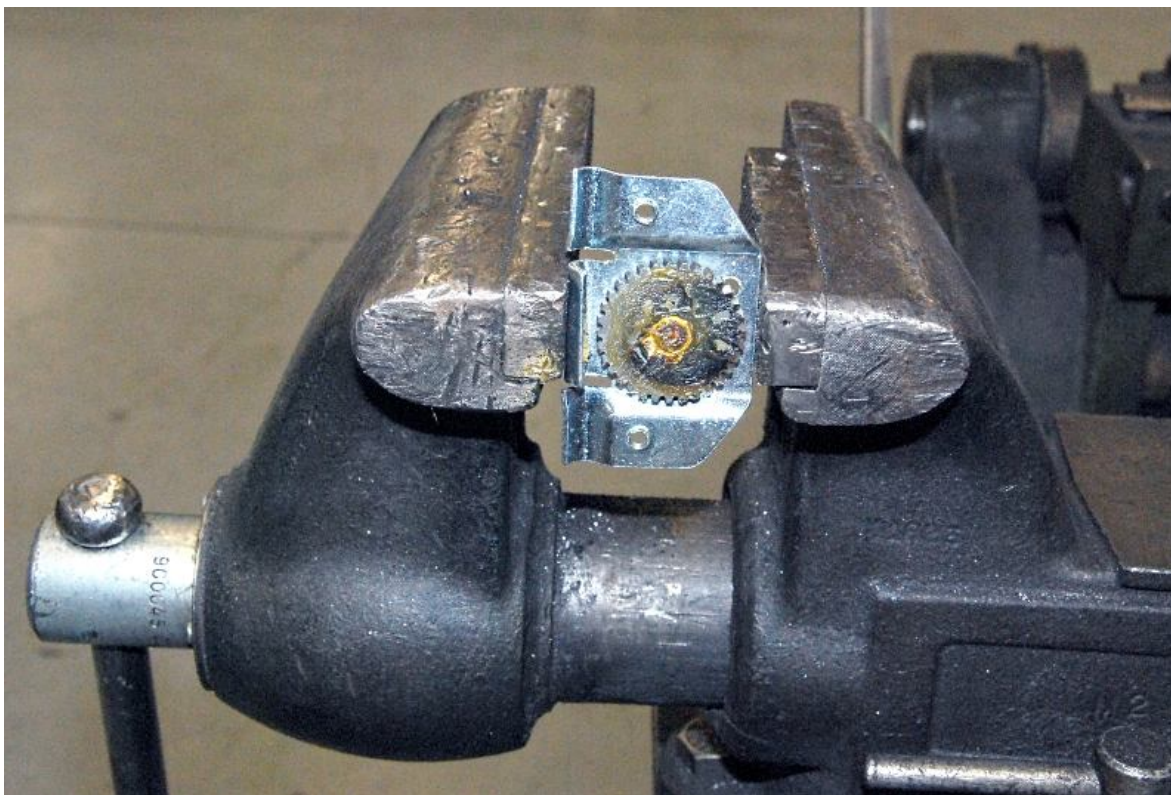
(The tubes are not flared at this point this step is just for pre-fitment.)  
Drill the ferrule nut to  $\frac{25}{64}$ ". Go slow, the ferrule nut drills very easily.  
Place the Ferrule nut on the tubing for the wiper motor.  
Flair the ends of the tubing going into the wiper wheel boxes and the wiper motor.



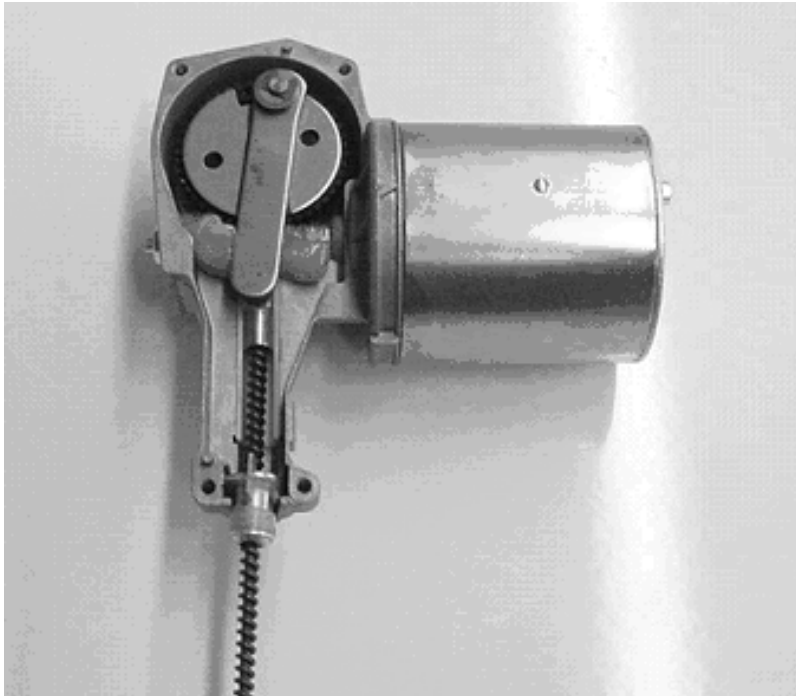
Remove the wheelboxes from the body.  
Test fit the tubing and wiper cable in the wheelbox by clamping the tubes in the wheelbox to see if the cable fully engages the wheelbox teeth and if there is a big gap between the cable and the bent wheelbox tab below the gear.



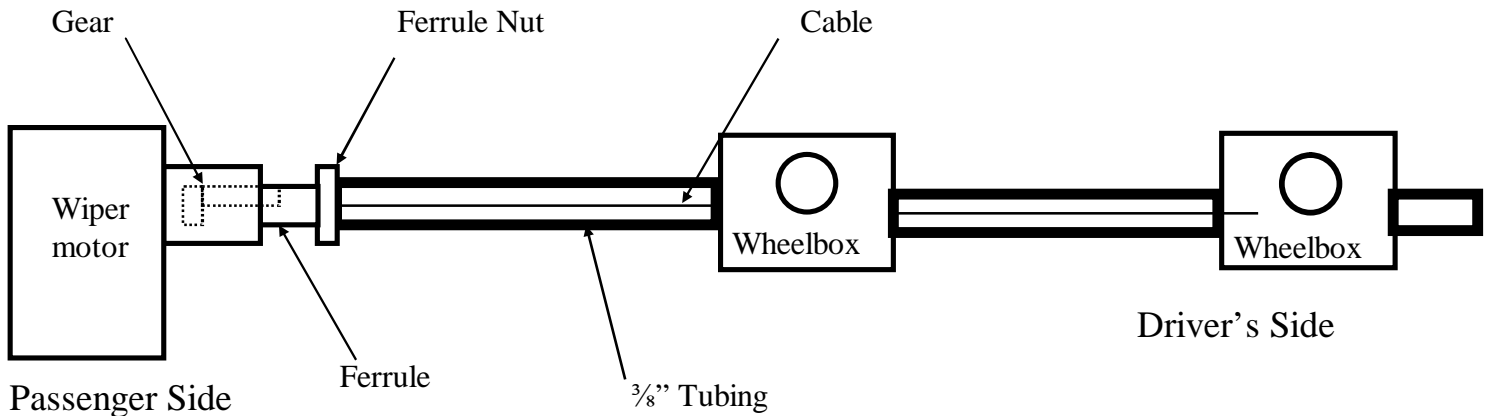
If the teeth and cable do not fully engage or if there is a large gap, greater than  $\frac{1}{16}$ " , squeeze the wheelbox tab below the gear to reduce the gap. This will prevent the cable from jumping wheelbox teeth.



Once the wheelbox gaps are set, remount them on the body.  
 Loosen up the clamp and remove the wiper motor.  
 Open up the back of the motor and connect the cable to the wiper gear.



Slide the ferrule down the cable and into the end of the motor. (It only fits in one way.)  
 Replace the cover on the wiper motor.  
 Install the tubing as shown in the diagram below with a 4" section on the far side of the second wheelbox so that the cable is always covered.



Lubricate the wiper cable with chassis grease and insert it into the tube and wheelboxes.

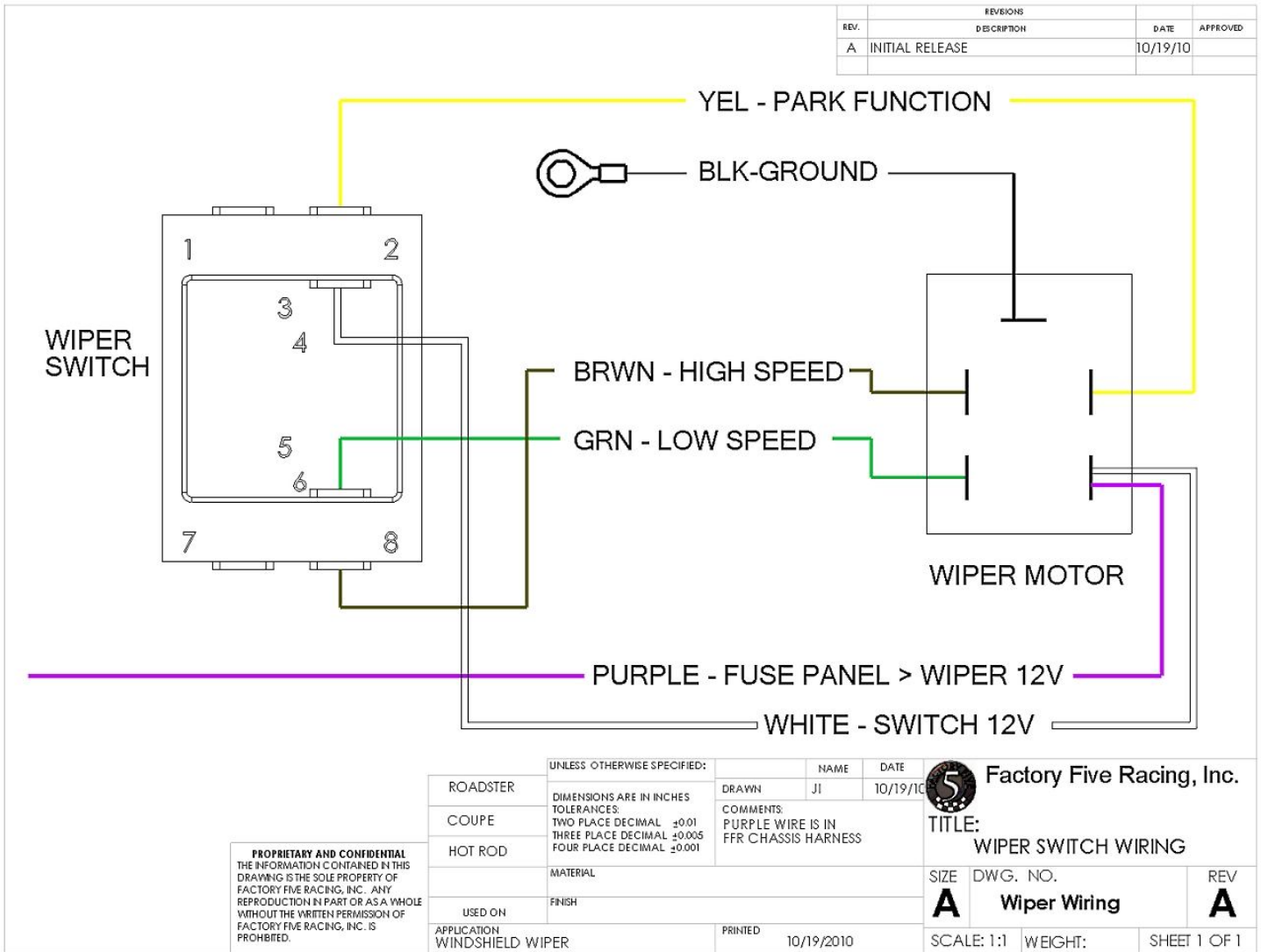
Note: The wiper cable is long and should be trimmed. Wait until after running the motor to trim the cable.

Mount the motor back on the firewall.

The wiper motor included in the kit has two speeds. Use the following wiring diagram to wire the switch and motor together. If using a Mustang harness, connect the "WIPER 12V" to the Mustang wiper power in the fuse



panel. At 12 volts, the low speed uses 1.5 amps and the high speed uses 2.0 amps.



Test run the motor without blades in low, high and park. Make sure the wheelboxes are turning the correct direction when starting from the parked position. If they are not, take the back cover off the wheelbox, remove the tubes and cable, loosen the wheelbox nut and turn the wheelbox around then reinstall the cable and tubes. Remove the cover of the left side wheelbox. With the motor parked, use a pair of wire cutters or a cut off wheel to cut the wiper cable so that it extends into the short tube section 0.50". Reattach the wheelbox cover. Adjust the length of the wiper arms so that measuring from the center of the arm mount to the center of the blade mount the driver arm is 12" long and the passenger arm is 11" long. Attach the wiper blades to the wiper arms. With the motor in the park position, push the wiper arms onto the wheelboxes so the blades are just on the glass at the bottom. Make sure the correct length arms are on the correct sides. Spray some water on the windshield and on the slow speed, test the wipers.