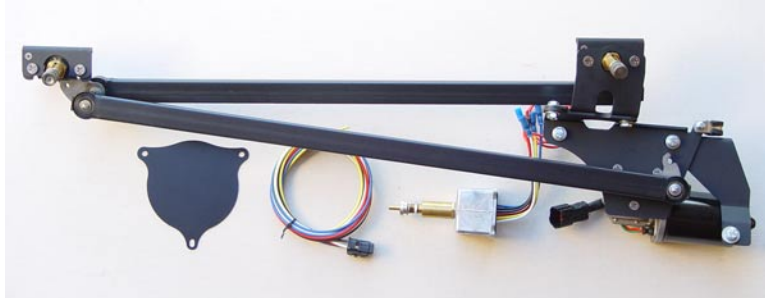
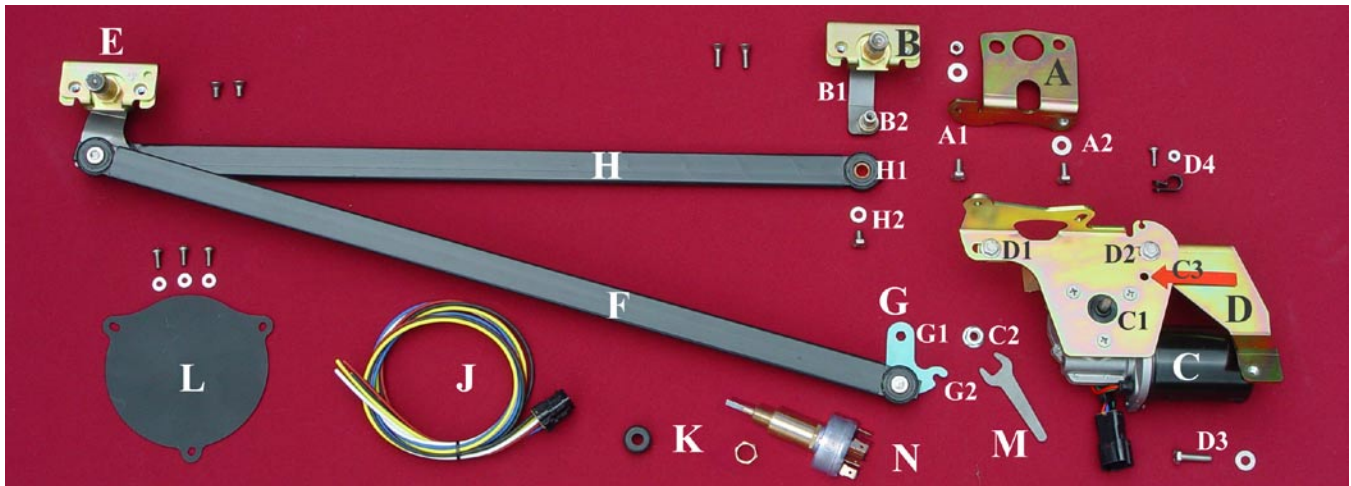


## Windshield Wiper System Installation Instructions

### For 1964-1967 GM A-Body (All including Chevelle, Tempest, Cutlass, Skylark)



*Photo ABO-1a: This is the assembled unit. Also shown is the optional 2-speed/variable delay wiper switch. A 2-speed only switch is standard.*

*Photo ABO-1.*

- A Body Bracket
    - A1 1/4-28 x 1/2" bolt, washers, hex nut
    - A2 1/4-28 x 1/2" bolt and washer
  - B. Left ( driver side ) Pivot Shaft Assembly
    - B1 Pivot Shaft Lever
    - B2 Pivot Pin
  - C. Motor Assembly
    - C1 Motor Spindle
    - C2 Spindle Nut
    - C3 "Park Feature" 1/4" hole
  - D. Motor Brace Tab
    - D1 & D2 Motor Brace to Motor Bracket bolts
    - D3 Motor Brace to air box bolt
    - D4 Wire Loom bolt & clip
  - E. RH, passenger side, Pivot Shaft Assembly
  - F. First Link
  - G. Drive Arm
    - G1 Tapered Hole
    - G2 "Park Feature" slot
  - H. Cross Link
    - H1 Bearing
    - H2 1/4-28 x 3/8" Cross Link Retainer Bolt
  - J. Wire Harness
  - K. Grommet
  - L. Cover Plate and Screws
  - M. Spindle nut wrench
  - N. Standard 2 speed switch & nut
- (Not shown: Knob and optional Delay Switch & wiring pack.)*

#### **PLEASE TRY OUR WAY FIRST.**

*This system is designed to fit in your car without modification. If you think you need to modify the parts you are doing something wrong. Please re-read the instructions or call us at 800 686 1955 before proceeding. For technical questions etc., please call us directly. Your dealer does not have spare parts and is unlikely to be able to trouble shoot.*

**Designers note:** Developing this windshield wiper assembly was challenging. Space inside the GM A-body air box is limited and the resulting design is a tight fit. A couple of the fasteners may try your patience.

**Note:** If your car is equipped with a later model GM steering column with a wiper switch, that switch will not work with this system.

**Note:** The RAINGEAR A-body windshield wiper system does not reuse any of the original GM parts except the arms and blades. You can also use the stock switch knob in place of the one provided.

**Caution:** You will be working in an area of your vehicle that contains the largest concentration of electrical wires and components. **Please disconnect your battery.**

1. As noted above, all original wires from the wiper switch to the wiper motor are useless to this installation. Therefore, remove the switch, and the entire OEM wiper harness, to the wiper motor and washer pump. If You like, you can re-use the original switch knob in place of the one supplied.
2. Remove the wiper arms and blades. You can reuse them or purchase aftermarket.
3. Remove the cowl vent or fresh air grill from in front of the windshield. The windshield washer hoses and nozzles will come away with the cowl.



*Photo ABO-2: This is the fresh air grille and cowling in front of the windshield opening. Note: in this photo the OEM wiper assembly has already been removed.*

4. Remove the OEM wiper motor.
5. Remove the OEM wiper pivot shafts and link assembly.

**Installation:**

The Raingear, A-body Windshield Wiper System attaches to the same sheet metal “intercoastal” that held the original pivot shafts. See photo: ABO-2a

1. Orient the LH Pivot Shaft Assembly ( B ) with the Body Bracket ( A ). See photo: ABO-3.
2. Insert both under the Left or driver side intercoastal. Raise the knurled head (at the tip of the brass pivot shaft) through the large hole. Use two 1/4-20 x 3/4” countersunk screws to join these pieces to the intercoastal. Run the bolts in but leave them about a turn from tight. See photo: ABO-4
3. Locate and remove the OEM plastic hole plug ( about 3/4” dia with a dimple in the middle) directly adjacent to the Fender Bolt in the cowl. The hole will be used later as a mounting point for the motor. See photo: ABO-5.
4. Remove and set aside the Spindle Nut (C2) from the Electric Motor output spindle (C1).

*Note: If you have previously installed a smooth firewall you will want to connect the wire harness (J) to the electric motor at this time.*

5. To the inboard side of the left intercoastal, Insert the Motor Assembly (C) into the cowl opening. Slide it under the intercoastal, and align the matching holes on the Body Bracket with the Motor Assembly. Refer to photo ABO-1 for the positioning of the Motor Assembly to the Body Bracket. Use a 1/4-28 x 1/2” hex bolt, washer and nut (A1) to loosely hold these parts together. Bolt tightening comes later. See photo ABO-6

*Note: If you were to place a mirror into the air box you would notice a lot of different body parts spot welded together in this area. Sheet metal flanges and tabs abound here. Occasionally it may seem like something may be blocking the Motor Assembly from sliding into place. Persistence may be needed. Although there may be some cars that might require grinding clearance in the body in this area, we have yet to encounter a car that will not clear the motor assembly.*

6. Refer to the nomenclature photo, ABO-1; The frame of the Motor Assembly is made up of two main parts. One holds the electric motor. The other is a Motor Brace. This part is held to the assembly with two 1/4” hex head bolts ( D1 and D2 ) in slotted holes. Temporarily loosen these bolts so that the Motor Brace can slide freely. Tightening comes later.



Photo ABO-2a: Right and left intercostals.



Photo ABO-3: Place the Body Bracket on top of the Pivot Shaft Assembly.



Photo ABO-4: Install the Body Bracket and Pivot Shaft Assembly under the left, driver side, intercoastal.



Photo ABO-5: Remove the OEM hole plug.

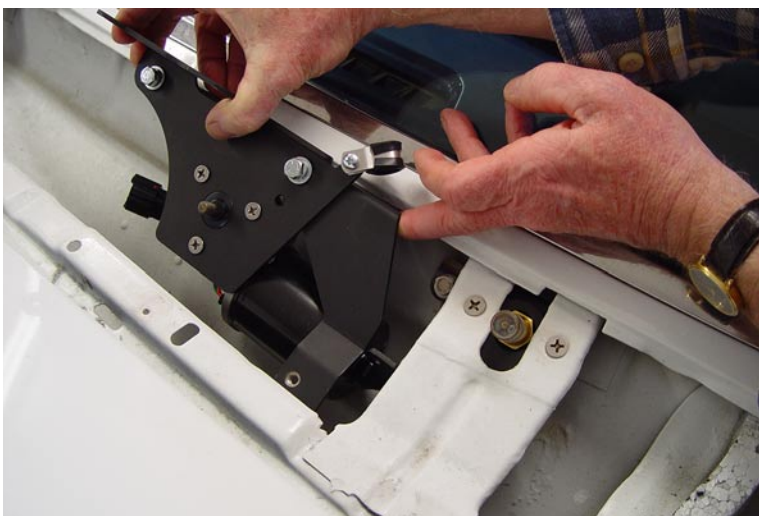


Photo ABO-6: Insert the Motor Assembly into the air box.

7. With one hand on the Motor Assembly, align the threaded hole in the Motor Brace tab (D) with the hole on the body (the one that last held the hole plug) . Use the 1/4-28 x 3/4” hex bolt (D1) and larger washer at this position. Run the bolt into the brace so that the tab comes up and touches the body. Do Not Tighten yet. See photo ABO-7.
8. By now you should suspect that the final fastener that joins the Motor Assembly (C) and the Body Bracket (A) is a nasty little cuss hidden under the left intercostal. Use a 1/4-28 x 1/2” bolt and flat washer (A2). Do not tighten quite yet. See photo ABO-8



Photo ABO-7: Motor Brace bolt.

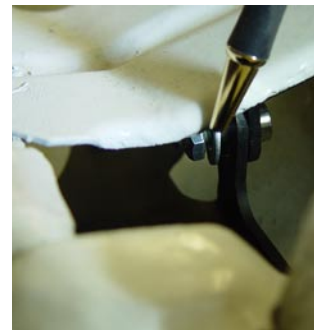


Photo ABO-8: (nasty little cuss) Motor Mount bolt located under the intercostal.

Another note: This bolt is difficult to install. You can access the bolt head with a 7/16ths socket and extension via the vacant wiper motor hole on the firewall, assuming that you don't have a smooth firewall.

9. Now you can tighten the 1/4-20 x 1/2” countersunk bolts, the 1/4-28 x 3/4” motor brace hex bolt and the two 1/4” motor bracket bolts.
10. To insert the passenger side Pivot Shaft and Links Assembly (E, F, H ) into the air box, orient the knurled head at the tip of the brass pivot shaft aft (aft: towards the back of the car) See photo ABO-9. Slide the brass Pivot Shaft under the passenger side intercostal, rotate the knurled head up and through the intercostal. See note below

**NOTE:** Before rotating the Pivot Shaft Assembly up and into the right, passenger side, intercostal you need to place the First Link ( F ) (the one with the Drive Arm (G) attached) on top of the horizontal, flat surface of the Motor Assembly (C). Just place it there for now.

The second link is called the Cross Link (H). Without any help from you It will naturally want to lay on the floor of the air box. It will tuck itself under the Motor Assembly and that's OK. We will deal with the Cross Link later.



Photo ABO-9: Orient the Pivot Shaft head aft.

11. Use two 1/4-20 x 1/2” countersunk bolts to secure the Pivot Shaft to the intercostal. Tighten these bolts. See photo ABO-9a
12. Attaching the Cross Link

- a. Locate the free end of the Pivot Shaft Lever (B1) (driver side). See photo ABO-10. Swing the lever outboard so it's easy to get to.
- b. Reach into the airbox and locate the free end of the Cross Link (H).
- c. Place the open hole in the bronze bearing (H1) onto the Pivot Pin (B2) at the tip of the Pivot Shaft Lever (B1). Use a 1/4 - 28 x 3/8” hex bolt and thin stainless washer to retain the bronze bearing. Tighten. See photo ABO-10a.



Photo ABO-9a: Secure the passenger side Pivot Shaft Head to the Intercostal and tighten these bolts.



13. Locate the free end of the First Link (F). Locate the Drive Arm (G). Swing the open hole (G1) in the Drive arm over and onto the Motor Spindle (C1) DO NOT ADD THE SPINDLE NUT (C2 ) AT THIS TIME.

14. Go back to the Motor Assembly (C) and locate the Drive Arm (G).

- a. Locate the “U” shaped feature on the Drive Arm. This is the Drive Arm Park Slot (G2)
- b. Locate the 1/4” hole in the Motor Assembly (C3). These corresponding items make up the “Park Features”
- c. Rotate the Drive Arm (G) CCW until the Park Features (G2 & C3) align.



Photo ABO-10: Locate the driver side Pivot Shaft Lever under the driver side Intercostal.

Photo ABO-10a: Attach the Cross Link to the driver side Pivot Shaft Lever.

- d. Insert anything handy that's 1/4" dia between these features. A Phillips screw driver works well.
- e. Find the Spindle Nut (C2) and without dropping it into the air box, (Bad thing) thread the Spindle Nut onto the Motor Spindle (C1). This is made more difficult because the Motor Spindle is under the drive arm and air box sheet metal.
- f. Locate the special 13mm Wrench (M) supplied with the kit. With the Drive Arm park features aligned and held in place, tighten the Spindle Nut (C2) See Photo ABO-11 and ABO-11a.



Photo ABO-11:  
Align the "Parking Features, Tighten the Spindle Nut. In this photo the unit is not installed to better show what is needed.

**Wiring:**

- 15. Some later years of the GM A-body routed their wiper switch wires through a rubber grommet located under the power brake booster. For those who don't have this option you will need to drill a 5/8" dia hole through the floor of the air box to access the interior of the car. Use a step drill to make a 5/8" dia hole
- 16. Install the rubber grommet. Photo ABO-12 is an example of how to do this.
- 17. Plug the wire harness (J) into the socket coming from the wiper motor. Use the wire loop supplied to secure your wires and run the wires through the grommet. Seal the grommet after completing and testing the installation.
- 18. A Cover Plate (L) and three 10-24 x 1/2" machine screws with flat washers are provided to cover the gaping hole left in your firewall.



Photo ABO-11a:  
Shows the procedure with the unit installed and the intercostal sheet metal obscuring access to the Motor Spindle and Spindle Nut.

**See the wiring diagram for your application.**

«««««««« DO NOT INSTALL YOUR WIPER ARMS AND BLADES UNTIL YOU HAVE SUCCESSFULLY TEST RUN THE SYSTEM »»»»»»»»»»

- 19. Check all fasteners.
- 20. Install the switch and attach the wiring harness according to the wiring diagram.
- 21. The black wire in the wiper motor harness must be grounded. The black wire on the optional "2-Speed/Variable Delay Switch", MUST also be grounded for the system to operate.
- 22. **YOU CANNOT USE A BATTERY CHARGER** to test run a system with an optional 2-Speed/Variable Delay Switch. It will simply chatter. You must use a fully charged battery to run the system. Watch the First Link as it swings around. If it hits body sheet metal about the air box opening and/or Intercostal flanges you need to trim material away.
- 23. Test the wiper park position by wrapping tape around the knurled head of both Pivot Shafts, leaving roughly 6" flaps to act as simulated wiper arms. Turn the system on with the Wiper Switch, then off with the switch (not with the ignition switch or by disconnecting the battery) to make sure the arms will park in the proper position. The flaps of tape should stop at the end of their sweep, just as the direction reverses. If this is the case proceed to step 25.
- 24. **On rare occasions**, after correctly turning the system off with the Wiper Switch, the flaps may stop somewhere between the ends of the sweep. If this happens you'll also need to "park" the Wiper Motor.

**TO PARK THE WIPER MOTOR:**

- a. Hold the Drive Arm (G) with whatever you can find, as you loosen the Spindle nut (C2).



Photo ABO-12:  
Rubber grommet location.

- b. Pry the Drive Arm (G) off the spindle (C1) and move it to one side.
- c. Go inside your car and turn the Wiper Switch "on". Then "off". This will "Park" the Wiper Motor.
- d. Replace the Drive Arm using the parking procedure 14, above and re-test using procedure 23.

If this looks to be correct but the arms are still not parking correctly at the end of the sweep, something is wrong with the installation. **Call Us**, before installing the Wiper Arms and Blades.

**Arm and blade installation:**

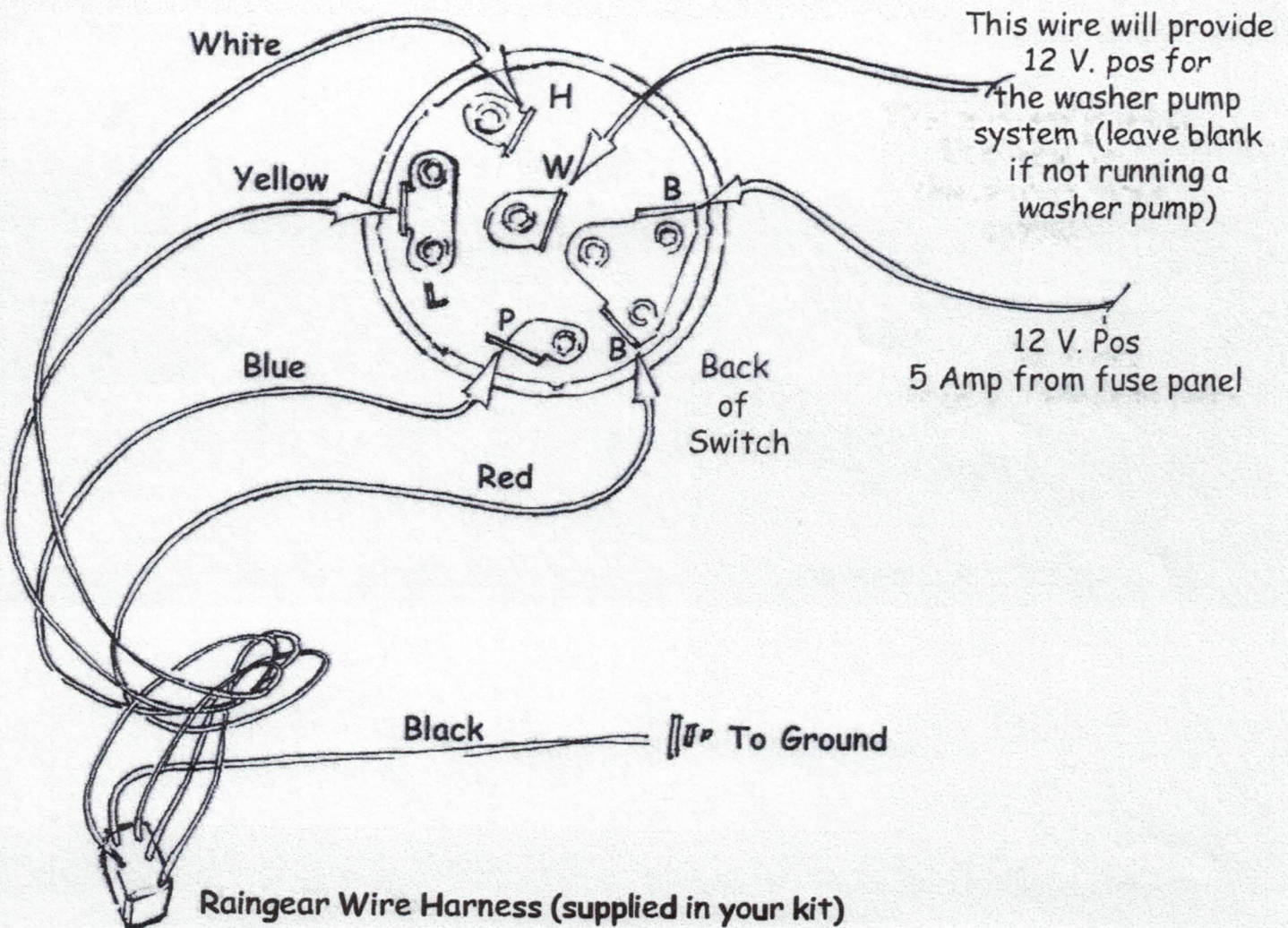
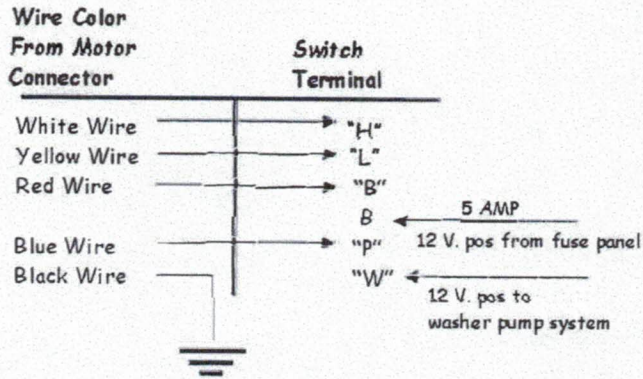
- 25. With the wiper turned off using the switch, so that the system is in the park position, install the arms and blades where they should be when parked. The original GM knurls were die cast with a taper at the top. Ours are made straight. As a result some arms can be difficult to start and seat. Make absolutely certain that the arm is not cocked against the knurl or you will never get it started. We suggest lubing the knurls before installing arms. Some arms may tighten on the knurls about 3/4 of the way down. We use a plastic faced hammer to gently tap the arms securely onto the knurls as necessary.

# RAINGEAR

## Wiring Diagram

### 2 Speed Switch

Turn knob to activate wipers.  
 If running a washer system, push knob to squirt washers. The wiper blades will cycle twice.

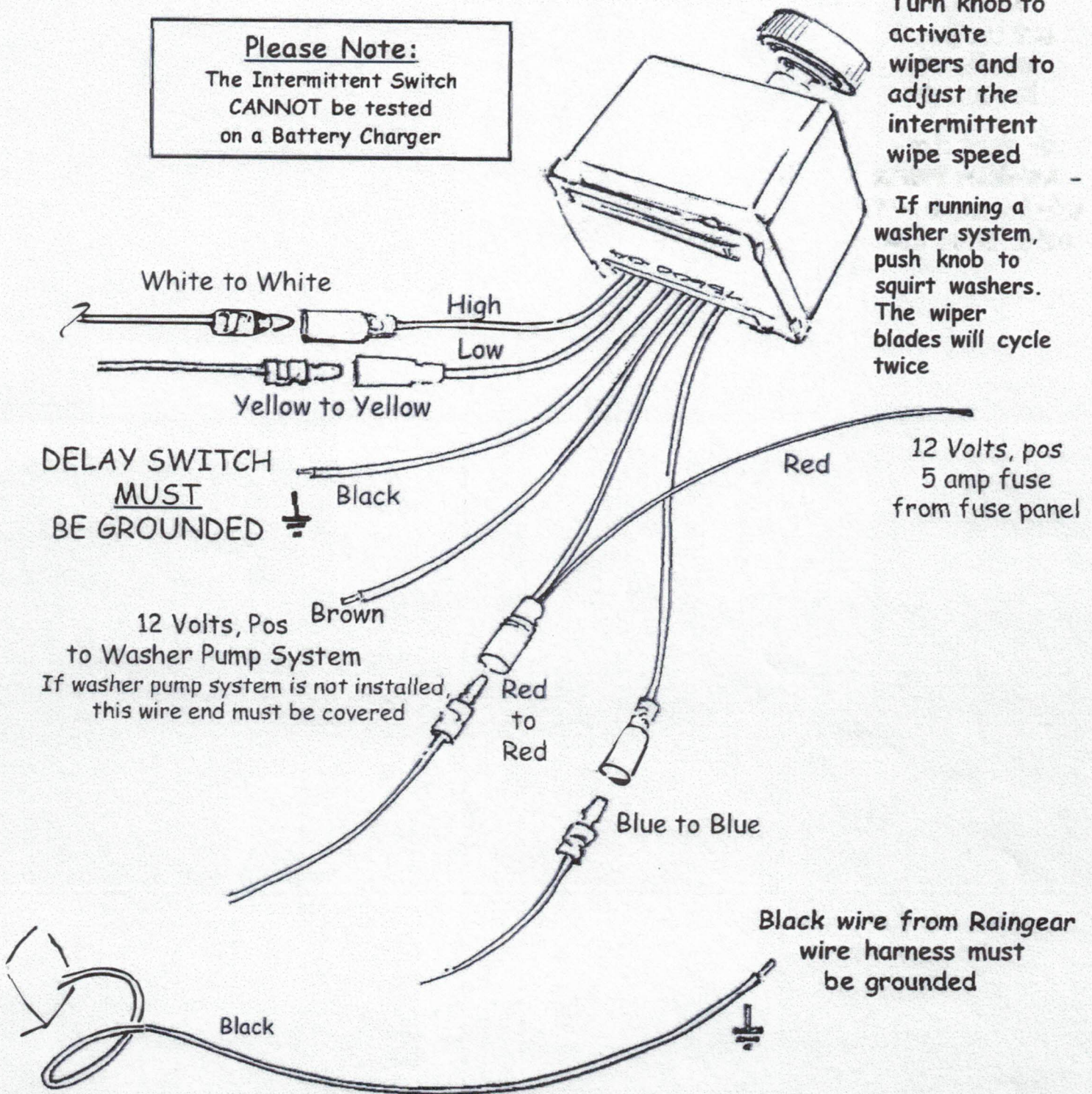


# RAINGEAR Wiring Diagram 2 Speed/Intermittent Switch

**Please Note:**  
The Intermittent Switch  
CANNOT be tested  
on a Battery Charger

Turn knob to  
activate  
wipers and to  
adjust the  
intermittent  
wipe speed

If running a  
washer system,  
push knob to  
squirt washers.  
The wiper  
blades will cycle  
twice



**NOTE:** The colors of the wires from the wiper motor and the colors of the wires on the harness do not match. This is correct.