

**MARINCO®**

# 1.5 WIPER MOTOR

## INSTALLATION INSTRUCTIONS

(ITEM #'S: 71081, 71011, 71082, 71012, 71182, 71112)



### **The Marincó 1.5 Wiper Motor features:**

- Fully sealed base and housing which allows installation in wet locations.
- Adjustable sweep angle settings of 45°, 60°, 80° or 110°.
- Adjustable left (counter-clockwise to park) or right (clockwise to park) self parking.
- Two speed operation (can be wired as single speed).
- 12 or 24 volt versions
- Full two-year warranty

### **Tools (Not Included):**

- Drill
- 5/8" Drill bit (16 mm)
- 1/2" Round file
- 5A Fuse and holder (retail packaging only)
- #10 size stainless steel round head self tapping screw (for mounting bracket)
- 3/4" Open end box wrench or adjustable wrench
- Safety glasses
- Phillips head screw driver
- 16 Gauge wire
- 3-Position windshield wiper switch: Off/Park-Low-High (12 or 24 volt rating depending on motor)
- Optional: 2-Position (On-Off) switch for single slow speed operation

***Please read through all instructions prior to assembly***

### **Mounting Precautions**

- Mount wiper motor on a flat surface.
- For optimum performance, keep the wiper shaft at a 90° angle to the windshield.
- Blade and arm should be installed approximately 1" (25.4 mm) away from windshield molding. Energize the motor for short intervals to make certain the wiper blade does not interfere at either end of the wiping arc. If the blade interferes, it will be necessary to shorten the arm and blade length and/or reduce the sweep angle.

### **Mounting and Wiring**

- 1) Locate proper mounting position of wiper assembly. Determine whether adequate space is available and see that the blade will wipe the desired area of the windshield.
- 2) Distance between shaft hole and mounting bracket screw hole should be 6-1/2" (165 mm) - see illustration under "Changing Wiping Angle and Parking Position".
- 3) Drill wiper shaft hole first, using a 5/8" (16 mm) drill bit. It may also be necessary to slightly enlarge hole after drilling using a 1/2" round file to facilitate ease of installation.
- 4) The mounting bracket screw hole may now be drilled. If needed, use motor as a template to drill a hole for the mounting bracket screw. A #10 size , stainless steel, round head screw is required (not supplied).
- 5) The wiper motor may now be placed in position and the wiper shaft attaching nut

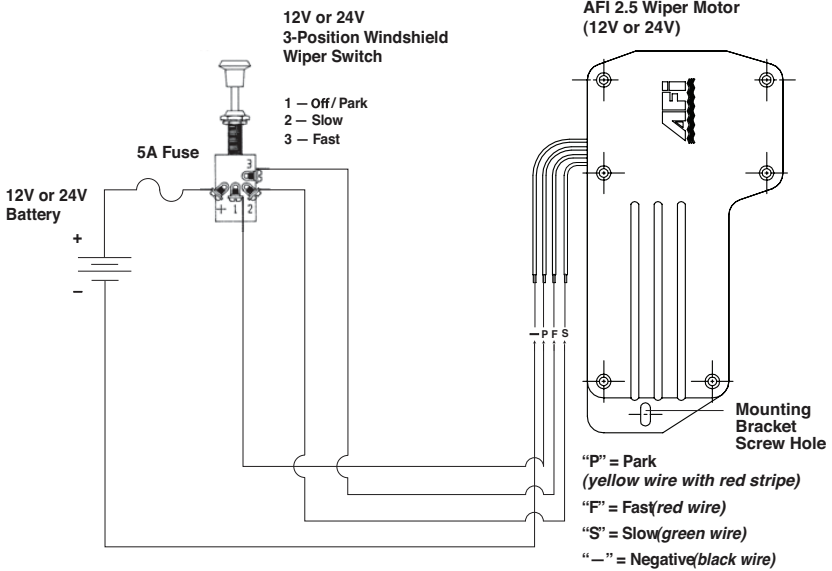
and washers installed. This nut should be tightened to 30-50 in-lbs (35-58 kg-cm) using a 3/4" open end box wrench, or adjustable wrench.

**Caution:** Do Not Over Tighten.

NOTE: When fastening the motor into position, make sure the motor wires are routed through one of the two wiring cut-out notches in the base of the wiper motor so the wires do not get pinched and the motor can rest against the mounting surface.

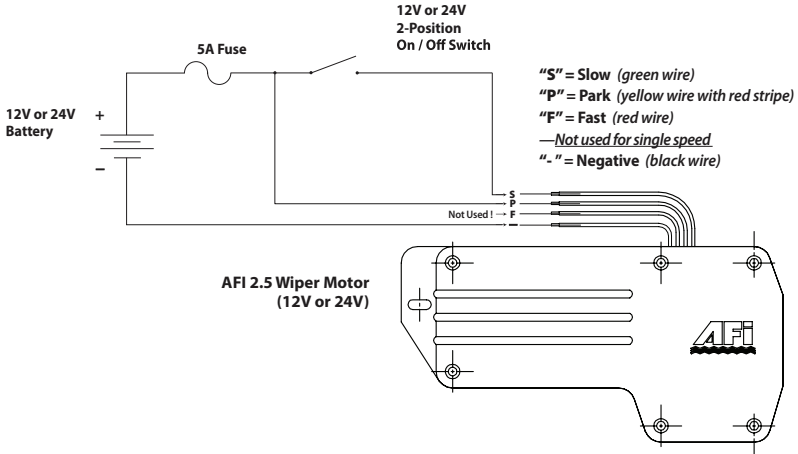
- 6) Attach the #10 size mounting bracket screw and fasten to about 15 in-lbs (17 kg-cm) until it is snug.
- 7) Wire up the motor as shown in Diagram #1 or #2.

**Wiring Diagram #1 (for normal two-speed operation)**



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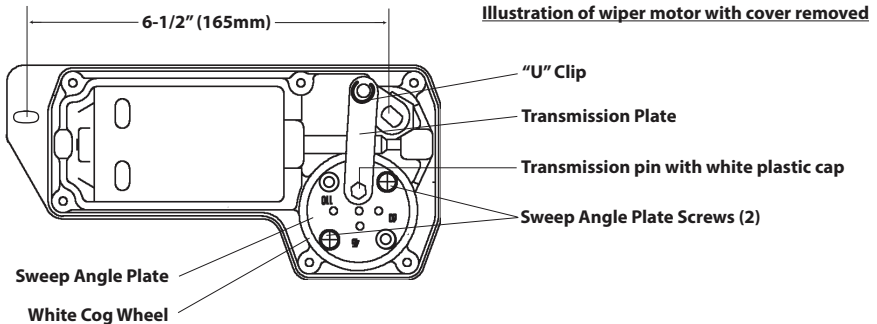
## Wiring Diagram #2 (for optional one-speed operation)



**Caution:** When wiring this two-speed motor as a single-speed you must use the slow speed as shown in the wiring diagram above and not the fast speed. Using slow speed will help to extend the life of the motor.

## Changing Wiping Angle and Parking Position

- 1) Remove the 6 wiper motor cover screws using a Phillips head screwdriver. Be careful not to lose the sealing o-rings around each of the cover screws. Lift up and remove the wiper motor cover exposing the inside of the wiper motor.
- 2) Use flat-head screwdriver to remove the "U" clip on the shaft that connects the transmission plate to the main shaft.



- 3) Lift and remove the transmission plate. Be careful not to lose the white plastic cap on the transmission pin (if the white plastic cap is missing, check the inside of the cover as grease may have caused it to stick to the inside of the cover during its removal).
- 4) Using a Phillips head screwdriver, unscrew the two sweep angle plate screws attaching the sweep angle plate to the white cog wheel. Underneath the sweep angle plate, there are two oblong holes in the white cog wheel positioned 180° apart.
- 5) If you want to change the park position, rotate the sweep angle plate so the current sweep angle hole is over the opposite oblong hole in the white cog wheel. Re-attach the sweep angle plate to the white cog wheel with the two sweep angle screws. Then place the transmission pin into the opposite oblong hole.
- 6) If you want to change the sweep angle, rotate the sweep angle plate so that the hole marked with the desired sweep angle is over the current oblong hole in the white cog wheel. Re-attach the sweep angle plate to the white cog wheel with the two sweep angle screws. Then place the transmission pin into the new sweep angle hole.
- 7) Re-install the transmission plate and “U” clip (if necessary, rotate the knurled nut at the end of the wiper motor shaft in order to get the transmission plate to insert properly again at both ends). Make sure the transmission plate is properly seated all the way down at both ends and that the “U” clip snaps properly into place so that it does not come on during normal operation of the motor.

NOTE: Additional grease may be required after changing sweep angle or park position.

- 8) Re-install the wiper motor cover taking care to snug the six cover screws without overtightening. Be sure to tighten screws evenly around cover and that the sealing o-rings around the screws and wiper motor base are still seated properly in place. The gap between the cover and base should be even all around.
- 9) After remounting wiper motor on the windshield, turn on motor and observe operation prior to reinstalling wiper arm. Verify that the wiper rotates through the correct number of degrees and parks in the correct position prior to installation of wiper blade. Failure to do this could cause damage to the wiper motor.

NOTE: When motor is paired with a pantographic arm, the sweep angle should not exceed 80°.





## **WARRANTY Statement**

### **LIMITED WARRANTY**

For three years from the date of purchase, Maringo will, at its discretion, repair or replace for the original consumer, free of charge, any part or parts found upon examination by Maringo to be defective in material or workmanship or both. All transportation charges under this warranty must be borne by the consumer. Proof of purchase is required. Proof of purchase must be a computerized receipt. Handwritten receipts are not accepted.

### **Warranty Claim**

Thank you for contacting Maringo regarding the product concerns as related to Form, Fit and Function. Maringo offers an online warranty (RMA) request form on our website. [www.marinco.com](http://www.marinco.com) in the resources tab. Please fill in the online form titled Maringo Warranty Request.

For more information visit our website: [www.marinco.com](http://www.marinco.com)