

QUALITY MARINE ACCESSORIES

AFI 1.5 Wiper Motor Installation Instructions

This wiper motor has been designed to drive up to a 22" AFI Deluxe wiper arm and blade or up to a 20" AFI Premier arm and blade combination maximum.

The AFI 1.5 Wiper Motor Offers the Following Features:

- Fully sealed base and housing which allows installation in outdoor wet locations.
- Adjustable wiping sweep angle settings of 45°, 60°, 80° or a maximum of 110°.
- Adjustable left (counter-clockwise to park-CCW) or right (clockwise to park-CW) self parking. The standard factory pre-set parking position for the AFI 1.5 is to the left. (Park position is defined with the motor mounted at the bottom of the windshield and with the motor shaft facing towards you.)

- Two speed wiper motor (can be wired as single speed using the slow speed).
- 12 or 24 Volt versions
- Full Three-Year Warranty

NOTE: Please read all of the instructions before beginning this project.

Tools and Parts Needed

- Drill
- 5/8" Drill bit (16mm)
- 1/2" Round file
- 5A Fuse and holder (included in retail packaging only)
- #10 size stainless steel round head self tapping screw (for mounting bracket)
- 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 (12 or 24 Volt rating depending on motor).

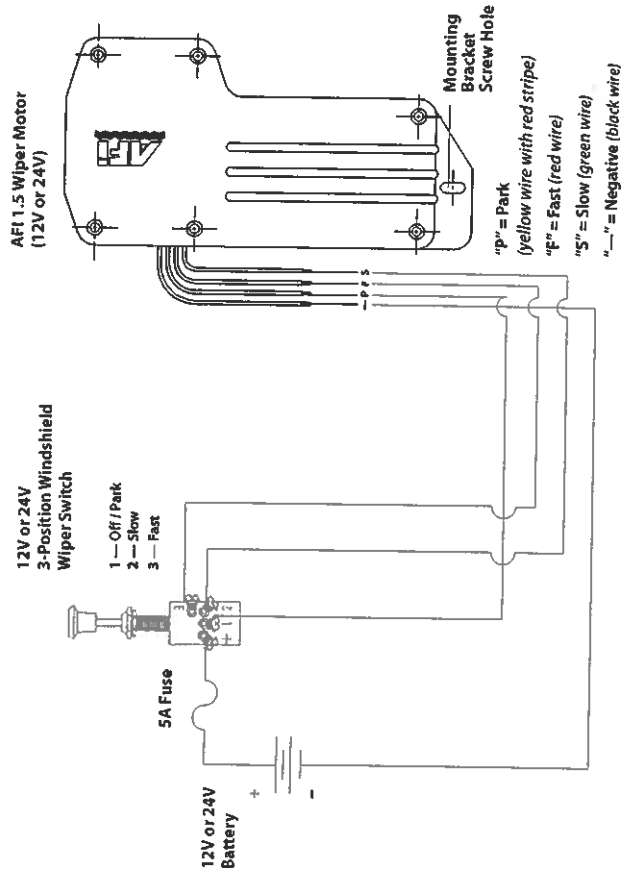
Mounting Precautions

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

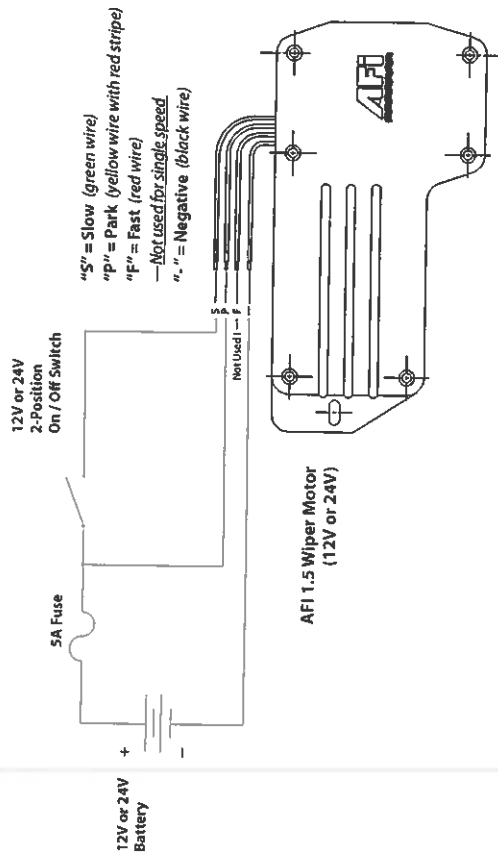
MOUNTING AND WIRING

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" (165mm) - see illustration under "Changing Wiping Angle and Parking Position".
 3. Drill wiper shaft hole first, using a 5/8" (16mm) 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 flat 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)



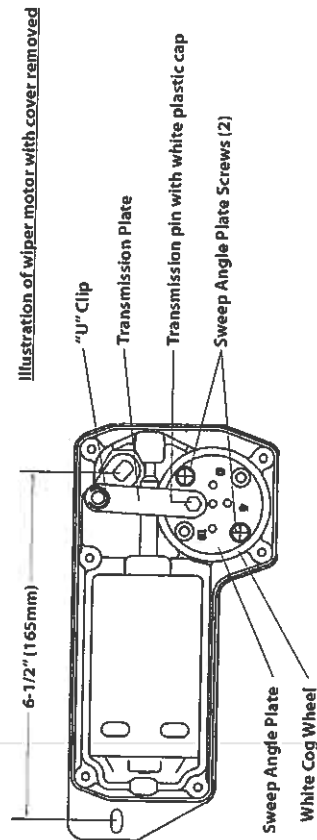
Wiring Diagram #2 (for optional one-speed operation)



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 the fast speed will ultimately cause the motor to over-heat and short out.

CHANGING WIPING ANGLE AND PARKING POSITION

Should a change of wiping angle or parking position be necessary, it can be performed as follows (see illustration below):



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. Using a flat blade screwdriver, remove the "U" clip on the shaft connecting the transmission plate to the main shaft.

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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 "parking 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 "wiping 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 off during normal operation of the motor.
8. If much of the lubricating grease is removed during the "parking position" or "wiping angle" adjustment process, replenish some.
9. Re-install the wiper motor cover taking care to snug the six cover screws without over-tightening. 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.
10. 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.

This AFI 1.5 Wiper Motor comes with a full 3-Year Warranty

This warranty does not extend to any product manufactured by AFI which has been subject to misuse, neglect, accident, improper installation or use in violation of instructions furnished by AFI. This warranty does not extend to, or apply to, any unit which has been repaired or altered at any place other than at AFI's factory or by persons not expressly approved by AFI, nor to any unit from which the identification has been removed or altered.

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