SCREEN WIPER SOLUTIONS

INSTALLATION INSTRUCTIONS

80NM COMPACT SINGLE STATION MARINE UNIT

INTRODUCTION

These instructions are meant as a guide, and apply to the majority of installation requirements typically found on board vessels.

If you experience any difficulty in the fitting of these units, please do not hesitate to contact us for advice.

FITTING THE 80Nm MOTOR UNIT

For Pendulum and Pantograph Units

Establish a suitable area to install the Motor Unit.

1) NOTE the Motor Unit is MOUNTED from INSIDE the bulkhead.

2) Drill 1 hole Dia 30mm, for the Main Drive Liner/Spindle, position on bulkhead as shown on the SWS drawing if supplied. Contact SWS if you are unsure about hole positions.

3) Drill 1 hole Dia 30mm, for the Idler Liner/Spindle, at 60 Crs to the Drive Liner/Spindle. (Pantograph Units only.)

4) Drill 5 fixing holes 8.5mm dia, using the pre-drilled hole in the Motor Mounting Bracket as a template. (It is normal to mount the bracket at right angles to the window.)

NOTE - for points 2), 3) and 4) above - use the drilling template. (Drawing Drilling Template)

5) ENSURE a proprietary sealant is used around all points of entry through the bulkhead. (Not supplied)

6) Fit the Motor Unit inside the bulkhead and fix in place. (Fixing bolts not supplied.)

For Pendulum Units Only

7) Fit the Rubber Washer over the Main Drive Liner, next to the bulkhead, then the Stainless Steel Washer. Fit the Nuts and the Weather Caps.

For Pantograph Units Only

7) Fit the Rubber Gasket over both the Liners, next to the bulkhead, then the Stainless Steel Idler Plate. Fit the Washers, the Nuts and finally the Weather Caps.

TO ADJUST THE ARC OF WIPER (VARI ARC UNITS ONLY)

1) Loosen the Securing Nut on the Vari Arc Lever.

2) Slide the Bearing / Tie Bar Assembly pivot towards the Liner / Spindle Assembly to increase the arc to 120¡ max or away from the Liner/Spindle Assembly to decrease the arc to 35¡ min. Note the markings on the lever when correct arc reached.

IMPORTANT: Pantograph Systems MUST NOT EXCEED 90¡ ARC OF WIPE

3) Adjust arc until the Blade parks approximately 2Ó (50mm) from the edge of the glass when the glass is dry. Test on wet glass to prove the clearances.

4) Tighten the Securing Nut on the Vari Arc Lever.

ELECTRICAL CONNECTION

The 80Nm Marine Motors are available in either 12v or 24v DC, and are both, two speed self-parking motors with Insulated Earth Return as standard.

The motor should be connected through a two speed self-park toggle switch, or a multi speed control switch (not supplied - Can be ordered separately).

For Ships Supply's of nominal 110/120v AC 1 Phase a PSU / 115 / 12v or 24v DC/6 or 12amp Unit will be required. Note the 6amp unit will power 1 Motor Units and the 12amp will power 2 Motor Units.

For Ships Supply's of nominal 220/2420v AC 1 Phase a PSU / 230 / 12v or 24v DC / 6 or 12amp Unit will be required. Note the 6amp unit will power 1 Motor Units and the 12amp will power 2 Motor Units.

WIRING THE POWER SUPPLY UNIT (PSU)

AC Primary Side

Connect the Live, Earth and Neutral wires on the AC Primary side of the Power Supply Unit to the Ships Supply -110 / 120v AC 1 Phase to a PSU / 115 Unit, or 220 / 240v AC 1 Phase to a PSU / 230 Unit (Drawing PSU / 115 & PSU / 230)

DC Secondary Side

Connect the 12v or 24v DC (+ ve) to the Toggle or Multi Speed Control Switch as the positive ship's supply Connect the 0v DC (- ve) to the Toggle or Multi Speed Control Switch as the negative ship's supply (Drawing PSU / 115 & PSU / 230)

WIRING THE 80Nm MOTOR UNIT

To a Toggle Switch

Position 8 on the switch to terminal 31b on the motor (SELF PARK REVERSAL FEED)

Position 4 on the switch to terminal 53 on the motor (LOW SPEED)

Position 6 on the switch to terminal 53a on the motor (SELF PARK FEED)
and the positive shipÕs supply - 12v or 24v DC (+ ve)

Position 2 on the switch to terminal 53b on the motor (HIGH SPEED)

The negative ship's supply - 0v DC (- ve) to terminal 31 on the motor

To a Multi Speed Control Switch

Both RED wires on the switch to terminal 53a on the motor (SELF PARK FEED)
and the positive ship's supply - 12v or 24v DC (+ ve)

The WHITE wire on the switch to terminal 53b on the motor (HIGH SPEED)

The YELLOW wire on the switch to terminal 53 on the motor (LOW SPEED)

The BLUE wire on the switch to terminal 31b on the motor (SELF PARK REVERSAL FEED)

The BLACK wire on the switch to terminal 31 on the motor
and the negative ship's supply - 0v DC (- ve)

The BROWN wire on the switch to the Washer Pump (+ ve)

FITTING THE WIPER ARM

1) INSIDE THE BULKHEAD. Connect the power to the Motor, run the Unit and switch off..

OUTSIDE THE BULKHEAD. While the Unit is being run, it is IMPORTANT to observe the direction the drive spindle rotates in immediately before it stops. This direction will give the PARK POSITION.

2) Fit the Arm onto the Spindle(s) allowing the Blade to lie approx. 50mm from the edge of the glass in the PARKED POSITION. NOTE: which is the Drive Spindle to fit the Main Side of the Arm on.

3) Fit the Flat Washer on to the spindle, next to the Arm Head, then the Nylock Nut.

4) Only tighten the Nylock Nut sufficiently to allow the Arm and Blade to travel across the glass when the Motor is run to see if the positioning is correct.

5) If incorrectly positioned - **DO NOT ATTEMPT TO ROTATE OR TWIST THE ARM ON THE SPINDLE** this will damage the splined end of the drive spindle, resulting in the Arm and Blade slipping in operation.

6) To correct alignment errors, - loosen the Nylock Nut and gently pull the Arm up the Spindle, realign and repeat stage 6) above. (Arm Extractor is available)

7) When correctly aligned, tighten the Nylock Nut, on the Spindle and Flat Washer.

FITTING THE WIPER BLADE

1) Remove the Blade Retaining Screw and Nut from the Blade Clip. (Fit the Spacer over the Blade if required.)

2) Push the Spacer and/or the Blade into the Blade Clip on the Wiper Arm.

3) Ensure that all the fixing holes align. Secure in place with the Blade Retaining Screw and Nut. Important DO NOT over torque the Blade Screw and Nut, as the Blade is required to pivot on the glass.

MAINTENANCE INSTRUCTIONS

80Nm COMPACT SINGLE STATION MARINE UNIT

NOTE: Retain all items removed in a safe place, as they will be required on reassembly. If you experience any difficulty in fitting these units, please do not hesitate to contact us for advice. Use the 80Nm exploded drawing for reference.

TO REPLACE THE DRIVE CRANK ASSEMBLY

IMPORTANT: Ensure distance between the Bearing CENTRES is 180mm EXACTLY.

1) INSIDE THE BULKHEAD. Slacken Bearing Nut (LH) at Drive Crank Assy; unscrew the Drive Crank Bearing (LH) from the Tie Bar.

2) Unscrew the Motor Nut and remove Drive Crank / Bearing Assy carefully from Motor Drive Shaft.

IMPORTANT: Please make a note of the Drive Crank POSITION relative to the SPINDLE LEVER, as this will affect the PARK position for ARMS and BLADES, i.e. SPINDLE LEVER facing towards the motor or away from the motor.

REASSEMBLY

1) INSIDE THE BULKHEAD. Carefully fit the Drive Crank over the Motor Drive Shaft, referring to the Note after operation 2) on ÔDisassemblyÕ for position. Tighten the central Motor Nut.

2) Screw Tie Bar on to Bearing (LH) of NEW Drive Crank Assy, tighten Bearing Nut (LH).

IMPORTANT: Ensure distance between the Bearing CENTRES is 180mm EXACTLY.

TO REPLACE THE TIE BAR

IMPORTANT: Ensure distance between the Bearing CENTRES is 180mm EXACTLY.

1) INSIDE THE BULKHEAD. Slacken the Bearing Nut (LH) on the Drive Crank Assy; unscrew the Bearing (LH) from the Tie Bar.

2) Unscrew the Motor Nut and remove the Drive Crank/Bearing Assy carefully from the Motor Drive Shaft.

IMPORTANT: Please make a note of the Drive Crank POSITION relative to the SPINDLE LEVER, as this will affect the PARK position for ARMS and BLADES, i.e. SPINDLE LEVER facing towards the motor or away from the motor.

3) Slacken the Bearing Nut (RH) at the Lever Spindle Assy; unscrew the Bearing (RH) from the Tie Bar.

REASSEMBLY

1) INSIDE THE BULKHEAD Screw the NEW Tie Bar onto the Bearing (RH) at the Lever Spindle Assy, tighten the Bearing Nut (RH).

2) Repeat operations 1) and 2) above from TO REPLACE DRIVE CRANK ASSY - REASSEMBLY

IMPORTANT: Ensure distance between the Bearing CENTRES is 180mm EXACTLY.

TO REPLACE THE LINER / SPINDLE ASSEMBLY

IMPORTANT: Please make a note of the PARKED position of the ARMS and BLADES.

1) OUTSIDE THE BULKHEAD. Remove the following parts ONLY; the Nylock Nut, on the Spindle, the Arm (refer to fitting instructions for removal), the Weather Cap, Liner Nut and Washers on the Liner.

2) INSIDE THE BULKHEAD. Remove the complete 80Nm motor unit from the bulkhead.

IMPORTANT: Please make a note of the Drive Crank POSITION relative to the SPINDLE LEVER, as this will affect the PARK position for ARMS and BLADES, i.e. SPINDLE LEVER facing towards the motor or away from the motor.

3) Slacken the Bearing Nut (RH) at the Lever Spindle Assy.

4) Unscrew the Motor Nut and remove the Drive Crank / Bearing Assy carefully from the Motor Drive Shaft. Note - leave attached to Tie Bar.

5) Unscrew the Tie Bar from the Bearing (RH) at the Liner / Spindle Assy.

6) Unscrew the entire Liner / Spindle Assy from the Bracket.

REASSEMBLY

1) INSIDE THE BULKHEAD. Screw the NEW Liner / Spindle Assy into the Bracket; ensure that protrusion length from the front of Bracket is same as prior to removal.

2) Screw the Tie Bar onto the Bearing (RH), at the Lever Spindle Assy.

3) To replace the Drive Crank Assy, carefully fit it over the Motor Drive Shaft, referring to the Note after instruction 3 on ÔDisassemblyÕ for position Tighten the Motor Nut.)

4) Tighten the Bearing Nuts (LH) and (RH) on the Tie Bar.

IMPORTANT: Ensure distance between the Bearing CENTRES is 180mm EXACTLY.

5) Refit the 80Nm motor Unit through the Bulkhead. Fix in place. (refer to fitting instructions for replacement)

6) INSIDE THE BULKHEAD. Replace the Washers, Liner Nut and Weather Cap on to the Liner.

7) Replace the Arm (refer to fitting instructions for replacement).

8) Replace the Flat Washer and Nylock Nut on the spindle.

TO REPLACE THE WIPER BLADE

IMPORTANT: Please make a note of the PARKED position of the ARMS and BLADES.

1) OUTSIDE THE BULKHEAD. Remove the Blade Retaining Screw and Nut, then the Blade from the Arm.

REASSEMBLY

1) Replace the Blade (refer to fitting instructions for replacement).

TO REPLACE THE 80Nm MOTOR

IMPORTANT: Please make a note of the PARKED position of the ARMS and BLADES.

1) OUTSIDE THE BULKHEAD. Remove the following parts ONLY; the Nylock Nut, on the Spindle, the Arm (refer to fitting instructions for removal), the Weather Cap, Liner Nut and Washers on the Liner.

2) INSIDE THE BULKHEAD. Remove the complete 80Nm motor unit from the bulkhead.

IMPORTANT: Please make a note of the Drive Crank POSITION relative to the SPINDLE LEVER, as this will affect the PARK position for ARMS and BLADES, i.e. SPINDLE LEVER facing towards the motor or away from the motor.

3) Slacken the Bearing Nut (RH) at the Lever Spindle Assy.

4) Unscrew the Motor Nut and remove the Drive Crank/Bearing Assy carefully from the Motor Drive Shaft. Note - leave attached to Tie Bar.

5) Undo the three Bolts on the Motor, remove with the Washers, remove the Motor.

REASSEMBLY

1) INSIDE THE BULKHEAD. Fit the NEW Motor into the Bracket; replace and tighten the Bolts.

2) To replace the Drive Crank Assy, carefully fit it over the Motor Drive Shaft, referring to the Note after instruction 2) on ÔDisassemblyÕ for position. Tighten the Motor Nut.

3) Tighten the Bearing Nuts (RH), at the Lever Spindle Assy.

IMPORTANT: Ensure distance between the Bearing CENTRES is 180mm EXACTLY.

4) Refit the 80Nm motor Unit through the Bulkhead. Fix in place. (refer to fitting instructions for replacement)

5) OUTSIDE THE BULKHEAD. Replace the Washers, Liner Nut and Weather Cap on to the Liner.

6) Replace the Arm (refer to fitting instructions for replacement).

7) Replace the Flat Washer and Nylock Nut on the spindle.

TO REPLACE THE WIPER ARM

IMPORTANT: Please make a note of the PARKED position of the ARMS and BLADES.

1) OUTSIDE THE BULKHEAD. Remove the following parts ONLY; the Nylock Nut, on the Spindle, the Arm (refer to fitting instructions for removal), the Weather Cap, Liner Nut and Washers on the Liner.

REASSEMBLY

2) Replace the Arm (refer to fitting instructions for replacement).

3) Replace the Flat Washer and Nylock Nut on the spindle.

GENERAL

As we have no influence on the installation of complete windscreen wiper systems, we are unable to accept liability for installation errors.

The composition and installation of freely selected wiper systems lie within the sole responsibility of the customer. We are therefore unable to accept liability.

CAUTION! BEWARE OF INJURY!

**BEFORE WORKING ON THE WIPER SYSTEM,
OBSERVE THE FOLLOWING REMARKS WITHOUT FAIL!**

Most wiper systems have a park setting, which permits them to operate in the parked position if connected to the vessels electrical system, even if the wiper is switched off. **FOR THIS REASON, AT THIS POINT IN TIME, NEITHER MAY THE WIPER ARM BE MOUNTED, NOR MAY ANY PERSON HAVE HANDS, FINGERS ETC ANYWHERE NEAR THE WIPER SYSTEM.** Even small wiper systems can neither be braked nor stopped by hand.

NEVER REACH INTO THE AREA OF THE ROD LINKAGE WHEN THE SYSTEM IS RUNNING!

When putting into service (ie. when connecting the wiper motor to the vessels electrical system, even if the wiper switch is in the 0 position), never leave any loose items such as screwdrivers in the area of the wiper system, as flying objects could lead to injury.