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Propeller Shaft Slip Ring Assembly

General Description:

1. Slip rings consist of two silver alloy bands per assembly held in place by type 316 stainless steel clamps. The bands are cut to the appropriate length for the diameter of the shaft on which they are to be installed and have the parting line (band ends) cut at a 45 degree angle. This minimizes brush bounce and allows for adjustment to achieve the minimum gap between the band ends.
2. The brush holder assembly consists of a 6063 aluminum frame with three adjustment points. The brush holder plates, which are made of G10 epoxy-glass laminate, insulate the brass brush holders from the aluminum frame.
3. The current side of the assembly has from two to five brush holders on it (depending on the calculated current the slip rings have to supply to the shaft) and should face aft. The "Sense" side of the assembly has two brush holders. The "Sense" brushes are prewired with yellow #14 AWG and the current brushes with red #12 AWG wire.

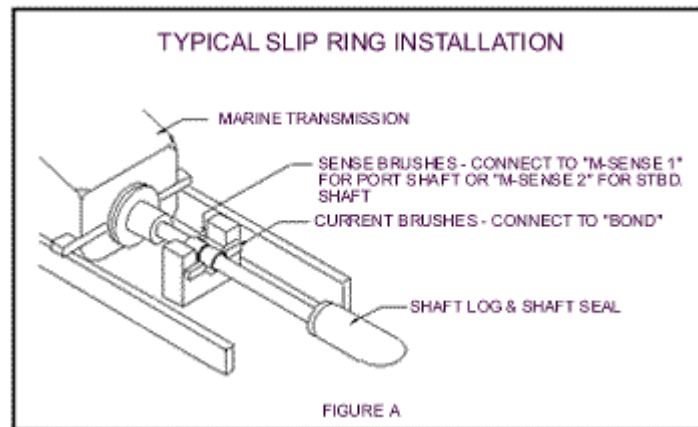
Location:

1. To the extent possible, locate the slip rings far enough away from shaft packing gland to minimize water splash on rings.
2. Locate on tail shaft or propeller shaft (the shaft that passes through the shaft seal or packing gland), not on an intermediate shaft. If the shaft material is high strength steel, not stainless steel, monel or bronze, special considerations for installation and maintenance of the slip rings are necessary -- contact your dealer or the Electro-Guard engineering department for recommendations.
3. Locate in an area where the slip rings will not likely be used as a step or be otherwise damaged or abused.

Installing Slip Rings:

1. Locate on propeller shaft as illustrated in Figure "A". The bands can be installed either before or after the brush holder mounting assembly is installed. However, it is easier to clean the shaft in the area where the bands will be located before the brush holder mounting assembly is installed.
2. Clean the propeller shaft with non-residue forming solvent cleaner. Lightly sand shaft with 600 grit emery paper or tape. The sanded area should extend beyond the area where slip rings will be located.
3. Handle the bands carefully while installing to avoid scratching.
4. The ring bands are cut to the correct length -- wrap each band to conform to the shaft at the approximate final location.

5. Using two clamps per ring as illustrated, tighten clamps on band sufficiently to hold on shaft, but not so tight that they can not be moved -- each clamp screw mechanism should be installed 180 degrees away from the other one on the same band to minimize shaft unbalancing -- Figure "C".
6. The clamp screw mechanisms should be located 90 degrees from the band parting line.
7. The final adjustment and tightening of the bands should be done after the brush mounting assembly is installed so they can be properly aligned.

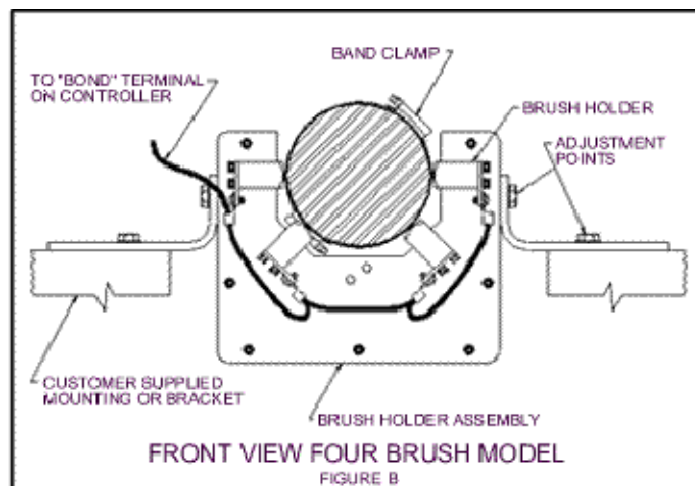
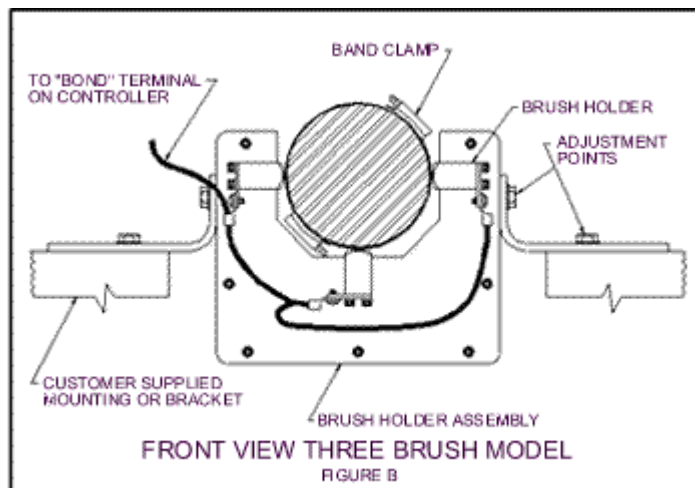
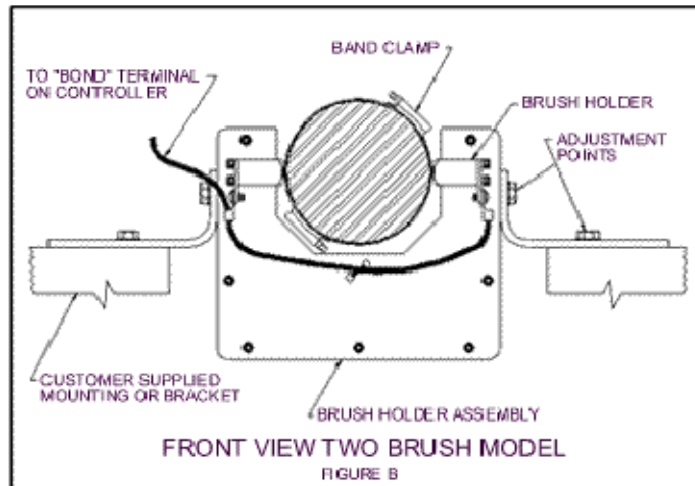


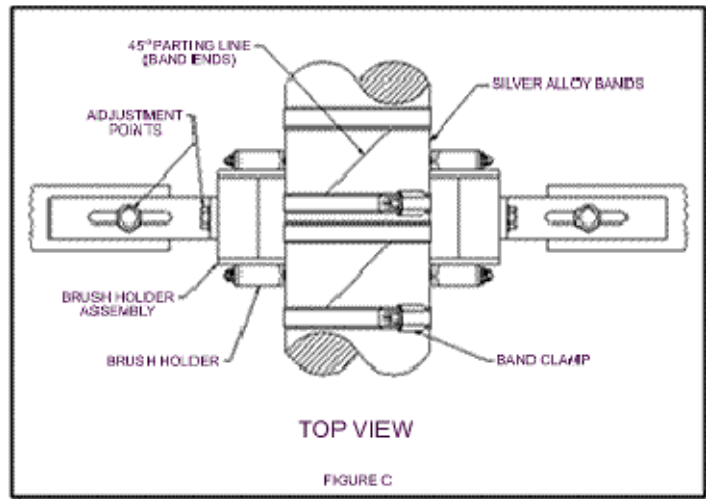
Installing Brush Assembly:

1. Install as illustrated in Figures "B" and "C".
2. Adjust the vertical, horizontal and tilt of brush assembly and tighten bolts.
3. Make final alignment of bands and tighten. Each band should be adjusted so that the parting line has the narrowest possible gap between its ends. The bands will tend to not conform to the shaft contour at the parting line (band ends). To correct this, use a wooden drift or a wooden hammer with a flat face to tap the band ends down into place. If this is not done, an edge will be encountered by the brushes on each rotation which can reduce brush life.
4. Check that the clearance between the brush holders and the bands is equidistant -- approximately 0.050".

Maintenance:

1. Do not clean slip rings unless indicted by the monitor system.
2. If cleaning is necessary, use a non-residue forming solvent cleaner. If hard deposits have formed on contact area of slip ring, remove with 1,500 grit "color" sand paper. This sandpaper is available through automotive paint suppliers.
3. If brushes need replacing, replace only with genuine Electro-Guard replacement brushes. The brushes are made of a special silver alloy. Do not attempt to substitute with carbon brushes as they will not perform properly and may damage the slip rings.





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