service bulletin



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CIRCULATE TO: SERVICE MANAGER PARTS MANAGER MECHANICS

CORROSION TROUBLESHOOTING

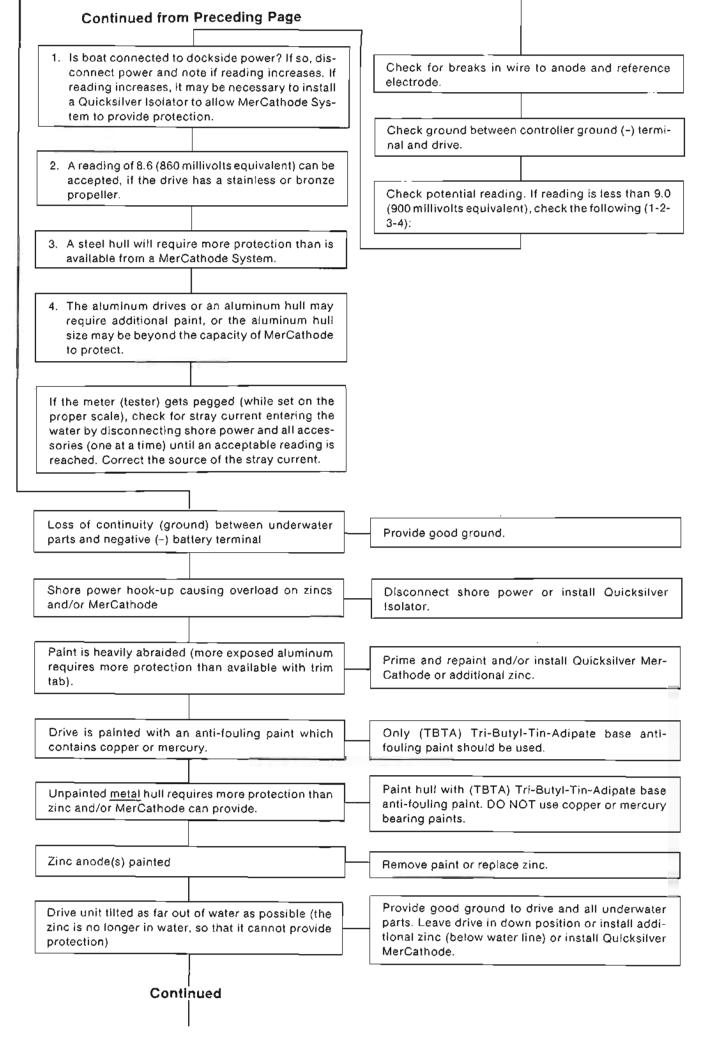
(Attach Bulletin Reference Sticker to Section 10 Index Page of Your Service Manual.)

The first signs of corrosion are paint blistering (starting on sharp edges) below the water line with white corrosion products forming on these exposed metal areas. As the corrosion becomes more advanced, the exposed metal areas start eroding away, thus causing pitting of the metal.

If these signs appear on the underwater parts of the drive unit, use the following troubleshooting chart to help find cause of corrosion and its remedy.

IMPORTANT: Paint blistering and white corrosion products, that form on sharp edges below the water line, should not be confused with calcareous (calcium carbonate) deposits which usually form uniformly over the entire surface (painted and unpainted) when the unit is receiving adequate cathodic protection. The deposits are related in part to the calcium and magnesium concentration levels in the water.

Corrosion on underwater parts Zinc anode(s) consumed (no longer affording pro-Replace anode(s) when 2/3 consumed. (NOTE: If tection) MerCruiser anode heads on transom mounting bolts have white powder on surface, replace them.) Stainless steel propeller has been installed (increas-Add MerCathode or additional zinc anodes. ing corrosion potential). Provide good ground to drive unit (ground path Standard zinc and/or additional zinc not grounded must continue to negative (-) battery terminal]. to drive unit MerCathode System not functioning Check fuse in controller (if applicable). Check power to controller. Continued Check for loose connection at controller. If equipped with bullet type connectors, check these connections for continuity. Continued (Continued, Over)



Continued from Preceding Page Stray current corrosion (if an electric current flow-With a MerCathode tester in the water, disconnect ing along a metallic conductor leaves the metal for a electrical components (one at a time) until tester water path, it will cause ionization of the metal, and indicates stray current has been eliminated. Elimian area of rapid corrosion is created) nate or repair electrical fault. Provide ground between trim cylinders and drive unit to receive protection from zinc or MerCathode; Power Trim cylinders only corroded all underwater parts must maintain a good ground path to battery negative (-) terminal. Multiple batteries wired incorrectly Make sure wiring is done in approved manner. Battery charger which uses shore base power (110v) Make sure charger is connected properly. improperly connected to batteries Corrosion in area of exhaust outlets (accumulated Deposits can be removed with marine or automotive exhaust gas deposits on the drive exterior may prowax which will also help protect the finish. mote paint blister and corrosion) Corrosion continues after unit is removed from Wash exterior and flush interior with fresh water. water (salt crystals remain on the surface and high (Closed Cooling System will protect internal surface humidity causes the electrolyte to form). of engine block.) Corrosion and/or salt buildup between mating Exclude moisture from between mating parts with parts Quicksilver Perfect Seal. Stainless steel shaft is corroding. (Fish line or other material tightly wrapped around shaft will eliminate Remove foreign material from shaft. oxygen from its surface, thus allowing corrosion.) This is known as crevice corrosion. Stainless steel propeller or shaft is corroding. (Fouling deposits (marine growth) or burying stainless in Remove fouling deposits and prevent wetted sursand or silt for a long period of time may cause faces from being covered by sand and/or silt. breakdown of protective oxide film, and rapid corrosion will occur.] Aluminum is corroding in area where lubrication is applied. (Lubricants containing graphite com-Use only approved Quicksilver Lubricants. pounds create a galvanic cell which causes aluminum to corrode.) DO NOT: Never clean an aluminum casting with a wire brush. (Steel particles become entrapped in the aluminum Use nylon or bristle brush. surface and set up small galvanic cells.) Never use magnesium anodes (this may over-Use only zinc anodes. protect aluminum).