

Geometrics Knowledgebase

General Guide For Testing System Cables And Connectors 50017-TI

This simple guide is meant to aid in verifying that all cables used for system interconnection are working properly. Whether the cables are built for the particular system or are purchased outside. Never assume the cables will function without first connecting them up and finding out. Trust but verify .

If the cable is a marine cable, it has water tight connectors. If these are wet-mateable types, they **MUST** be lubricated with silicon grease, before mating!

If the cable was purchased and is in a sealed package, open the package and connect it up to the correct part of the system to make sure it actually works. Never assume it will work.

Remember to test connector back-shells and strain-reliefs by applying torque and noting they are firmly connected. Also try to unscrew any mating connectors, which are supposed to be locked into panels and bulkheads. Some connectors are either Loctighted or torqued into their holes. These must be checked to make sure they are tight.

Preparation And Testing Watertight Cables For Marine Magnetometers INTRODUCTION TO WET-MATEABLE WATER TIGHT CONNECTORS:

Marine magnetometer cables must be prepared correctly before mating for electrical tests.

The female contacts can be damaged and the rubber cuffs on the male pins can also be damaged if mated improperly. This type of connector must be lubricated with approved silicone grease, before mating.

The recommended silicone grease is Dow-Corning DC-111, or equivalent.

Caution: Do not lubricate the connectors with any spray except for Food-Grade Silicone spray.

The connectors can be washed out with 100% Isopropyl Alcohol. Do not use any hydrocarbon solvent cleaner, as this will permanently damage the rubber parts of the connectors!

The female wet-mateable connectors are lubricated by wiping the surface of the connector with the silicone grease. If there is a small amount of grease in the mouth of each contact, this will be sufficient. Do not pack the female contacts with grease, as is necessary with Marshall or Electro-Oceanics type connectors! To do so may permanently distort the female contacts and make them intermittent.

TESTING THE MARINE CABLES: Refer to individual application and wiring of the cable to be tested.

ANOTHER CAUTION: When the cable is to be continuity tested, the female contacts are vulnerable to permanent damage, includes bending and loosening the contact. This can happen if a probe, which is too large in diameter is forced into the contact. The best is to use a mating connector, set up as a continuity circuit probe.

Do not mate and de-mate any connectors which are powered up and supplying current to an instrument, as this will damage the protective plating on the contacts.

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