



CANRIG DRILLING TECHNOLOGY LTD

PRODUCT BULLETIN NUMBER: 25

DATE: January 11, 1994

SUBJECT: Storage and use of spare Top Drive drilling motors

SERIAL NUMBERS: All

DISCUSSION: Proper storage of spare Top Drive drilling motors will ensure they are in working condition when they are required for use.

RECOMMENDATION: Please follow the procedures as described on the attached sheets.

Recommended Storage Instructions For Top Drive Drilling Motors.

Removing Top Drive Drilling Motors From Storage.

Attachments:

1. Recommended Storage Instructions for Top Drive Drilling Motors
2. Removing Top Drive Drilling Motors for Storage

INFORMATION:

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INSTRUCTIONS
RECOMMENDED STORAGE INSTRUCTIONS
FOR
TOP DRIVE DRILLING MOTORS

When placing Canrig Top Drive Drilling Motors into storage, the following preparations should be undertaken to prevent damage to the equipment as a result of the storage.

1. Machines should be placed on a pallet and stored indoors if possible. A clean, dry ambient of 60°F is preferred. In a high humidity environment an ambient of 70°F is recommended. Every attempt should be made to avoid widely varying temperatures and high humidity.

A protective cover acting as an umbrella should be used to prevent entrance of rain, dust, etc.

2. The drilling motors are equipped with AC space heaters (220VAC,500W). These heaters should be energized to keep the internal machine temperature above ambient, preventing condensation and sweating.
3. All exposed-machined steel parts and surfaces should be slushed. These areas are slushed prior to shipment from the factory, but should be examined for rust. Rust should be removed using fine abrasive paper, after the old slushing compound has been removed with mineral spirits. Methanol should be used to remove all residue.

WARNING: *Cleaning solvents may be toxic and/or inflammable. They can cause serious or fatal injury if used without proper precautions. For safety:*

1. *Do not inhale solvent fumes.*
2. *Use solvents only in adequately ventilated areas.*
3. *Avoid contact of solvent with the skin.*
4. *Do not expose solvent to flame or sparks.*
5. *Observe caution statements issued by the manufacturer of the solvent.*

Extreme care should be exercised not to damage critical machined surfaces such as the tapered shaft surface while removing rust. The surfaces should be reslushed with slush compound Kendell Grade 5, or the equivalent.

Extra care should be taken with the pinion

4. Brushes should be removed from their holders and clamped under the spring clips to prevent corrosion of the commutator surface as a result of moisture absorption by the carbon.
5. Do not completely seal the motor, but cover major vent areas with a waterproof shipping tape. Leave enough opening so the machine can breathe - i.e., moist air is not trapped. The intention is to prevent entrance of water, dust, small animals, but not to seal airtight. We do not recommend use of a silica gel or dehydrating agent.
6. Since the lubricant drains from the top half of bearings during storage, this area is subject to corrosion. The shaft should be rotated periodically to redistribute a protective film. If stored inside, rotate every three months. If outside, every month. Before placing the machine back into service after prolonged storage (1 year or more) bearings should be inspected and repacked with new grease meeting the recommended GE lubrication specification.
7. The machine should be meggered when placed into storage and periodically while in storage (3-month intervals). Keep a record of these megger readings as a rapid decrease in insulation resistance indicates the machine condition is deteriorating and the storage conditions inadequate.

Before placing a stored motor back into service refer to the applicable instructions "Removing Top Drive Drilling Motors from Storage".



INSTRUCTIONS REMOVING TOP DRIVE DRILLING MOTORS FROM STORAGE

It is often customary for users of Top Drive Systems to retain spare motors which can be used for replacements. The spares might be new, rebuilt, or used. Even though new or recently rebuilt, it is possible the machine has been stored for an extended period of time and should be checked before being placed in service. The fact that a motor checked good when placed in storage does not exempt it from tests when needed for service. Storing location and atmospheric conditions (temperature and humidity) can cause the windings to become contaminated with dirt and/or moisture.

Storage conditions can help in avoiding dirt and moisture accumulation. Where possible, machines should be stored in a clean location where the temperature is kept above 60°F. In a generally high humidity climate, an even higher minimum temperature (70°F) will help keep windings dry. An accumulation of moisture or dirt and moisture causes electrical breakdown of windings.

Before placing a stored motor in use:

1. Blow dust and dirt accumulation out of windings with clean, dry air.
2. Visually inspect for spring corrosion, sticking brushes in brush holders, and general defects.
3. Check winding insulation continuity to ground with a 500 volt megger. If the megger reading is less than 2 megohm, the windings should be baked or dried until the moisture content is sufficiently reduced to raise the megger reading to 2 megohms.
4. An electrical source of heat is best for drying as it can be easily regulated and is clean. Proceed as follows:
 - a. Remove the armature from the frame and remove bearings from the armature shaft.
 - b. Heat the frame and armature until dried sufficiently to obtain the 2 megohm reading.
 - c. Pack bearings with new grease. Refer to instruction manuals for the proper grease and amount.
 - d. Reassemble the motor or generator.
 - e. If facilities are available, give the reassembled machine a running test to check bearings.

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