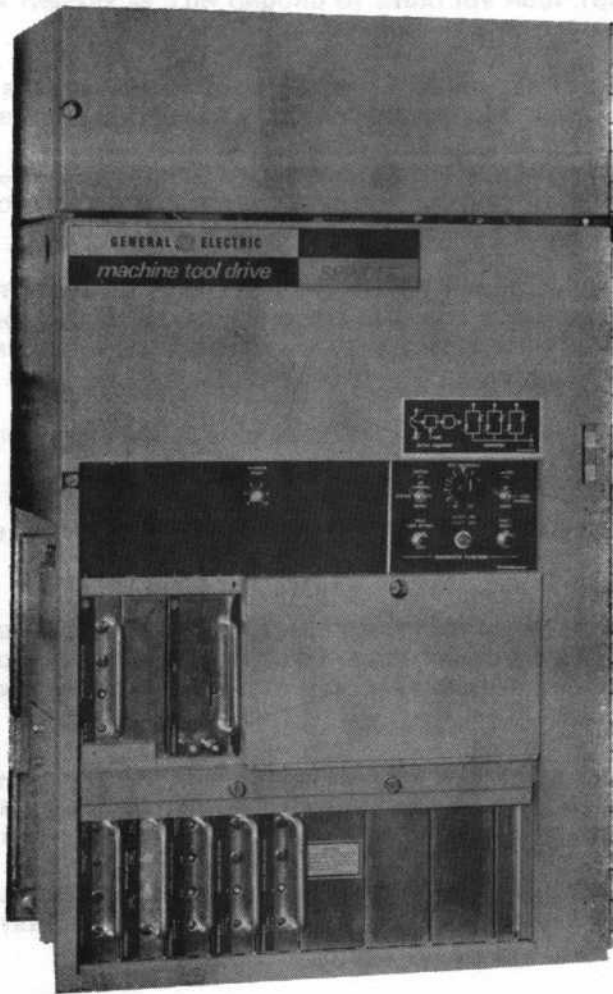




MACHINE TOOL DRIVE - SPINDLE

DC - 3031R

INSTALLATION - OPERATION - MAINTENANCE



These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.

SIMPLIFIED START-UP AND CHECKOUT PROCEDURE

IF ANY DIFFICULTIES ARE ENCOUNTERED DURING START-UP AND CHECKOUT, REFER TO SECTION 4 OF INSTRUCTION BOOK FOR DETAILED START-UP AND CHECKOUT PROCEDURE.

WARNING

ELECTRIC SHOCK CAN CAUSE PERSONAL INJURY OR LOSS OF LIFE. WHETHER THE A.C. SUPPLY IS GROUNDED OR NOT, HIGH VOLTAGES TO GROUND WILL BE PRESENT AT MANY POINTS THROUGHOUT THE DRIVE.

1. VERIFY THAT THE 3-PHASE A.C. POWER INPUT TO THE DRIVE IS OF THE PROPER VALUE AS LISTED ON THE EQUIPMENT DATA NAMEPLATE (-5, +10%).
2. SET TEST REFERENCE POTENTIOMETER TO ZERO, SWITCH No. 1 TO CENTER, SWITCH No. 2 TO CENTER; THIS DISCONNECTS POWER FROM SCR MODULE AND DISCONNECTS ALL REFERENCE INPUTS.
3. APPLY MAIN A.C. POWER TO THE DRIVE SYSTEM. "READY-ON/FAULT-OFF" INDICATOR ILLUMINATES (THE A.C. CIRCUIT BREAKER IN THE TOP HALF OF THE DRIVE SYSTEM MUST BE SWITCHED ON - WHEN SUPPLIED). THIS INDICATOR WHEN ILLUMINATED INDICATES THE FOLLOWING:
 - A. THREE PHASE POWER IS APPLIED AND IS IN THE PROPER PHASE SEQUENCE.
 - B. DRIVE FUSES ARE NOT OPEN.
 - C. MOTOR FIELD IS ENERGIZED AND FIELD LOSS RELAY IS PICKED-UP.

NOTE

IF THE INDICATOR FAILS TO ILLUMINATE, INTERCHANGE ANY TWO TRANSFORMER INPUT PHASES ONCE: IF INDICATOR IS STILL OUT PROCEED TO THE TROUBLE-SHOOTING TABLE 6-1.

4. VERIFY TEST REFERENCE POTENTIOMETER IS SET TO 0, PLACE SWITCH No. 1 TO DOWN AND SWITCH No. 2 TO UP SWITCH POSITION. USE TEST REFERENCE POTENTIOMETER IN CW AND CCW DIRECTION TO VERIFY PROPER MOTOR OPERATION.
5. SET TEST REFERENCE POTENTIOMETER TO 0, SWITCH No. 1 TO UP SWITCH POSITION, SWITCH No. 2 TO CENTER; THIS PROVIDES NORMAL SYSTEM OPERATION.

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SECTION I
GENERAL

1.1 SCOPE OF MANUAL

This instruction manual is a guide for the installation check-out operation and troubleshooting of the equipment of a basic system. Instructions for special purpose equipment, as requested on the requisition, will normally be covered in the elementary drawings included with the system. If special purpose equipment is added to the Troubleshooting or Equipment Description section, it will be so noted by an asterisk. These instructions do not purport to cover all details or variations in the equipment nor to provide for every possible contingency in connection with the installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purpose, the matter should be referred to the General Electric Company.

1.2 SAFETY, PERSONNEL AND EQUIPMENT

The following paragraphs list some general safety reminders and safety recommendations to be followed when operating this equipment.

Only trained electrical and electronics personnel should install and maintain this equipment. It is dangerous to the untrained or unskilled.

Definition of terms and colors of signs on the equipment:

WARNING: Denotes operating procedures and practices that may result in personal injury or loss of life if not correctly followed.

Color: Black or white lettering on red field.

CAUTION: Denotes operating procedures and practices that, if not strictly observed, will result in damage to, or destruction of, the equipment.

Color: Black lettering on amber field.

NOTE: Denotes an operating procedure or condition that should be highlighted.

Color: Black lettering on white field.

WARNING: HIGH VOLTAGE

ELECTRIC SHOCK CAN CAUSE PERSONAL INJURY OR LOSS OF LIFE. WHETHER THE AC VOLTAGE SUPPLY IS GROUNDED OR NOT, HIGH VOLTAGES TO GROUND WILL BE PRESENT AT MANY POINTS WITHIN THE SCR DRIVE. EXTREME CARE MUST BE EXERCISED IN THE SELECTION AND USE OF TEST INSTRUMENTS. OPERATOR SHOULD NOT STAND ON GROUNDED SURFACES OR BE IN CONTACT WITH GROUND WHEN APPLYING TEST INSTRUMENTS TO TEST POINTS. CONVENTIONAL TEST INSTRUMENTS SHOULD NOT HAVE CHASSIS GROUNDED WHILE TESTS ARE BEING MADE THUS THE CHASSIS CAN BE AT A HIGH VOLTAGE WITH RESPECT TO GROUND DURING TESTING. EXTREME CARE SHOULD BE TAKEN WHILE ATTEMPTING TO ADJUST, TROUBLESHOOT OR MAINTAIN ANY DRIVE SYSTEM DESCRIBED HEREIN.

When working on or near the equipment with power/voltage applied, it is recommended that all metal objects such as rings, watches and tie clasps be removed.

It is highly recommended that all personnel working on this equipment wear rubber soled shoes (insulated).

WARNING

WHEN WORKING AROUND ROTATING EQUIPMENT, DO NOT WEAR ANY LOOSE CLOTHING THAT COULD BECOME CAUGHT IN THE EQUIPMENT.

CAUTION

DO NOT INSERT OR REMOVE PRINTED CIRCUIT CARDS FROM THE EQUIPMENT WHILE POWER IS APPLIED OR OPERATING; THIS CAN DAMAGE THE EQUIPMENT.

NOTE

ALWAYS READ THE COMPLETE SUBSECTION (EXAMPLE 3-2) PRIOR TO ANY TURN-ON OR TROUBLESHOOTING OF THE EQUIPMENT, FOLLOW THE PROCEDURE STEP BY STEP.

READ AND HEED ALL WARNING, CAUTION AND NOTE SIGNS POSTED ON THE EQUIPMENT.

1.3 WARRANTY AND SHIPPING

1.3.1 Warranty Statement

The Company warrants to the Purchaser that the equipment to be delivered hereunder will be free from defects in material or workmanship and will be of the kind and quality designated or specified in the contract.

This warranty shall apply only to defects appearing within one year from the date of shipment by the Company. (For full "Conditions of Sale" and a complete statement of warranty, refer to your contract papers.)

1.3.2 Receipt of Shipment

All equipment is factory inspected before shipment and is shipped in good condition. Any damages or shortages evident when the equipment is received must be immediately reported to the commercial carrier who transported the equipment. If required, assistance may be received from the General Electric Company. but when seeking assistance, please provide the purchase order number, requisition number and model number to help us in assisting you.

1.4 RECEIVING, HANDLING AND STORAGE

1.4.1 Receiving

The equipment should be placed under adequate cover immediately upon receipt as packing cases are not suitable for out-of-doors or unprotected storage.

1.4.2 Handling

Smaller power units, wall mounted, can be transported by lift trucks with forks completely under the base. All smaller power units have two detachable screw-in eyelets at the top, for lifting by crane. The larger floor mounted power unit bases have two lifting holes on each side, so that a pipe may be slipped through each pair and crane hooks be used to pick up the unit by means of the pipes. The holes in the power unit may also be used for receiving crane hooks. Spreader bars should be used to spread the cables above the cabinet and bumpers should be used wherever hooks or cables may come into contact with the cabinet, to prevent damage to the cabinet metal and painted surfaces.

1.4.3 Storage

If the equipment is not to be installed immediately, it should be stored in a clean, dry location that is not subject to extreme temperatures. Precautions should be taken to prevent moisture from accumulating in the equipment. The entrance of moisture, dust or dirt during storage or installation is detrimental to the equipment insulation.

