GEK-36378D

# INSTRUCTIONS

# STATOTROL* JR DC DRIVE
## (Up thru 2 Horsepower)
## 3SJRB AND 3SJRC SERIES

*Registered trademark of General Electric Company, USA

GENERAL ELECTRIC

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*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 General Electric Company.*

# STATOTROL JR DC DRIVE

## INTRODUCTION AND DESCRIPTION

This manual contains general information on General Electric Statotrol JR DC drives. Additional information and diagrams may be supplied with the equipment when necessary. The Statotrol JR drive is a compact, reliable, full wave DC motor control specially designed for applications requiring only the basic start, stop, and speed control functions. The motor is either a shunt wound or permanent magnet field DC motor designed for use with a full wave phase controlled SCR power supply. Standard features of the Statotrol JR drive include speed control, protective current limit, line fuse, stop-start switch, and maximum speed and minimum speed adjustments.

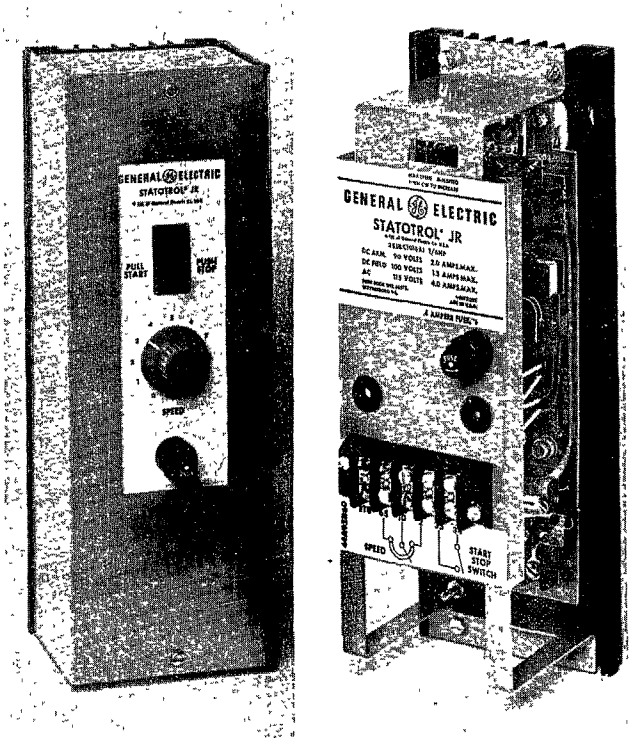



Figure 1. Enclosed 3SJRB (left) and chassis mount 3SJRC (right) models of the Statotrol JR motor control

## RECEIVING AND STORAGE

As soon as the equipment is received, it should be unpacked and examined for damage sustained in transit. If damage is evident, a damage claim should be filed immediately with the transportation company, and the local General Electric Co. Sales Office should be promptly notified.

If the equipment is not to be used as soon as it is unpacked, it should be stored in a clean, dry place and protected against accidental damage. Avoid storage in a location where construction work is in progress.

## INSTALLATION

### CONTROLLER INSTALLATION

The Statotrol JR Control should be wall mounted in a location which will allow free flow of cooling air over the fins on the heat sink. Maximum ambient temperature around the controller must not exceed 40°C (104°F). Figures 2 and 3 give mounting dimensions and outline dimensions. It is recommended that two or more inches of clearance be provided all around the controller to assure adequate air flow for cooling.

### MOTOR INSTALLATION

The motor must be firmly mounted and properly aligned to prevent vibration. Excessive vibration causes rapid wear and audible noise. Heat dissipated by the motor will raise the ambient temperature around the motor if the motor is installed in an enclosed space. Since a lower ambient temperature will extend the motor life, it is always desirable to mount the motor in a well ventilated location. The motor should never be used where the ambient temperature exceeds 40°C (104°F) unless an oversized motor has been specially selected. An instruction book provided with 1 1/2 and 2 HP motors gives additional information for these motors.

**WARNING**

If the motor is accessable while it is running, a protective guard should be installed around all exposed rotating parts.

## ELECTRICAL CONNECTIONS

### PROPER LINE VOLTAGE CONNECTION

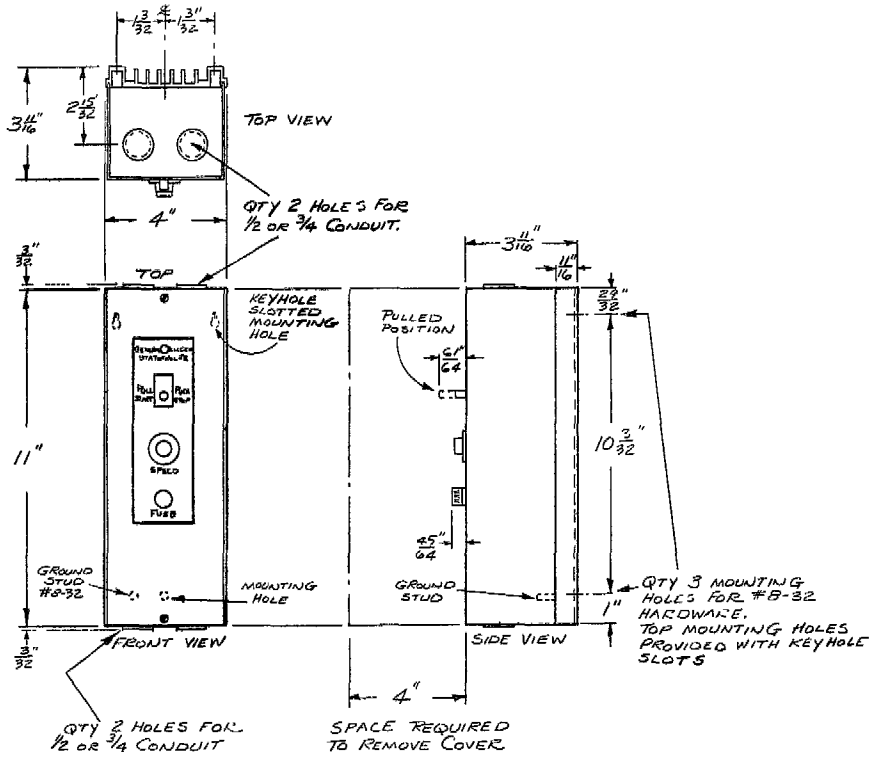
The controller operates on 50/60 cycles AC. Input voltage rating is either 115 volts or 230 volts, not both. Check the nameplate to determine proper input ol voltage. A transformer is required where supply voltage deviates more than 10% from the controller rating.

A calibration resistor, 140R must be removed from the main component board if 50 Hz power is to be used. Refer to Figure 5.

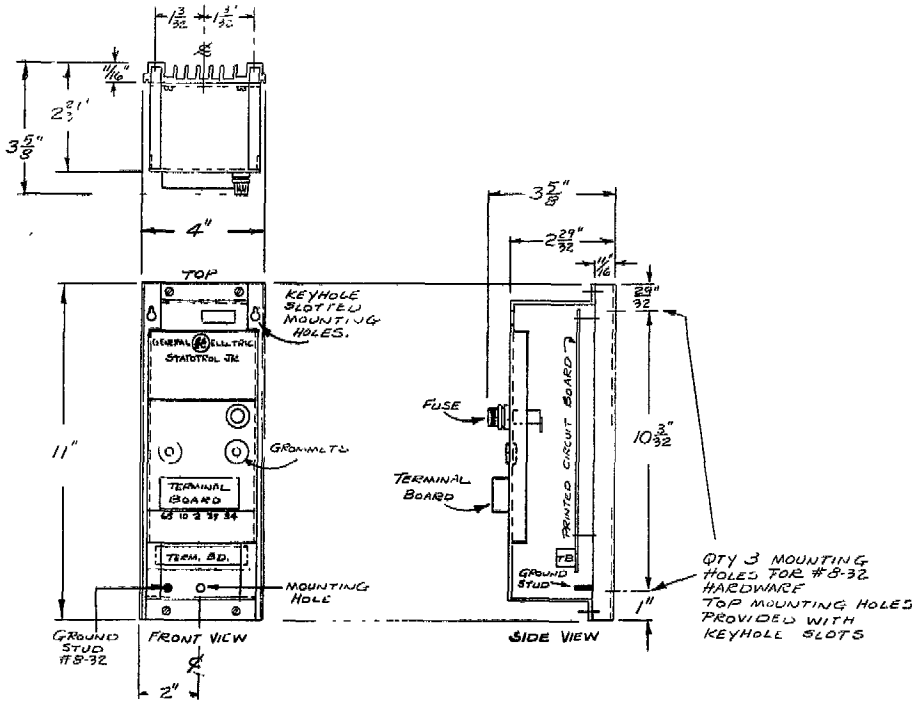
### GROUNDING

**WARNING**

Personnel safety considerations and the National Electric Code require that electrical apparatus enclosures be solidly connected to building ground.

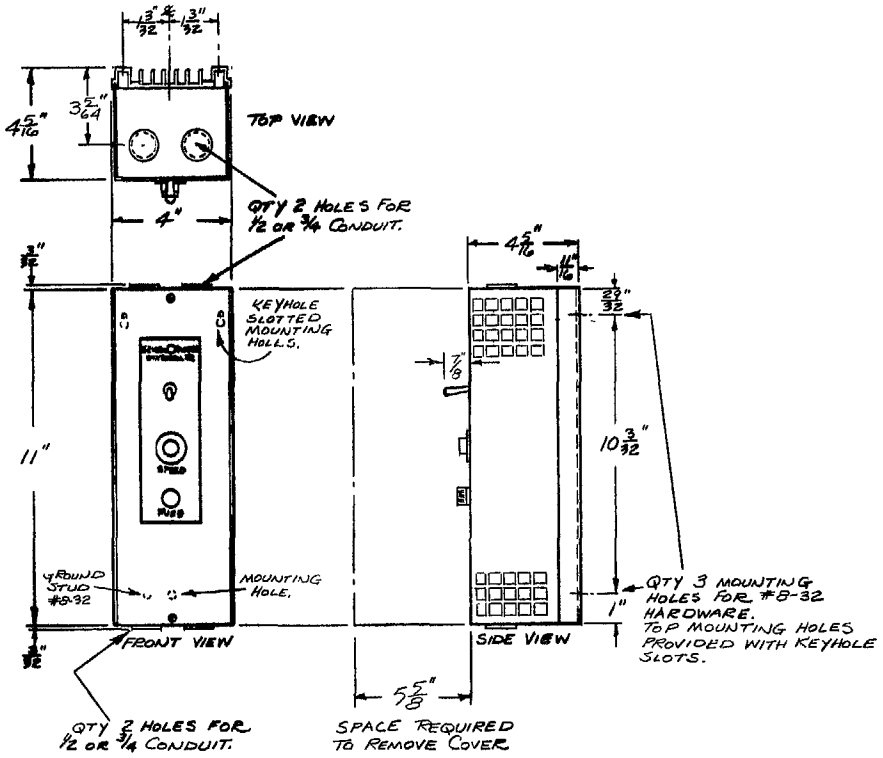



ENCLOSED MODEL WITH CONTROL STATION

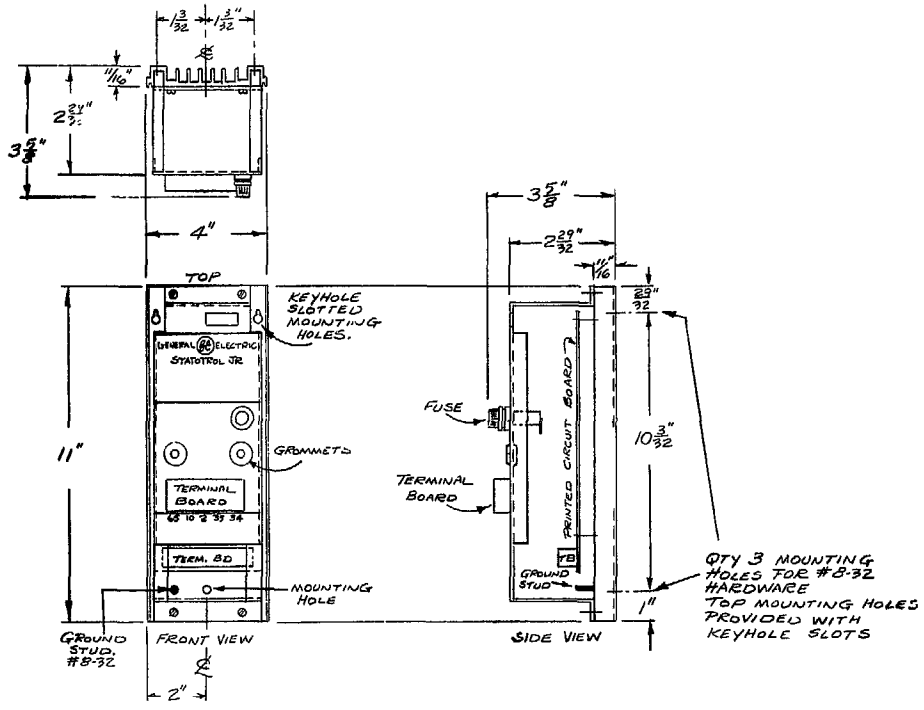



OPEN MODEL FOR USE WITH REMOTE CONTROL STATION

**Figure 2. Outline and Mounting Dimensions for Statotrol JR Controllers (1 Horsepower and Less)**




ENCLOSED MODEL WITH CONTROL STATION




OPEN MODEL FOR USE WITH REMOTE CONTROL STATION

Figure 3. Outline and Mounting Dimensions for Statotrol JR Controllers (1 1/2 and 2 Horsepower)

The necessary wire gauge of the ground wire is determined by the rating of the branch circuit breaker. Connect a suitably grounded lead to the ground connection terminal provided in the wire-well below 1TB in the controller enclosure. Do not rely or depend on mounting bolts for a ground connection.

**WARNING**

Proper Motor Grounding is Essential for Personnel Safety.

Do not depend upon motor mounting bolts to ground the motor frame. The ground connection provided in the motor depends upon the type, size, and enclosure of the motor. Each Statotrol motor has one of the following provisions for connecting a ground lead.

1. A 4 inch green wire inside the wire well.

2. A 1/4 -20 bolt in a tapped hole in the motor end shield.

3. A brass screw which serves as a ground terminal and also mounts the conduit box found on the side of TEFC motors.

4. A drilled hole in the motor end shield (inside the wire well near the electrical terminals) suitable for a self tapping screw.

## POWER WIRING

A six point terminal strip, 1 TB, is provided for connection to the AC power lines and the motor leads. Figure 4 shows the wiring diagram for the power connections. When the motor is connected as shown in Figure 4, the motor will rotate CCW as viewed from the end which has no shaft. Reverse leads A1 and A2 for clockwise rotation. All power wires should be kept away from the component board.

**CAUTION**

A connection error in the power wiring can damage the control. Recheck the connections before power is applied.

If there is any doubt about motor lead identification, the problem can be resolved with a simple resistance check. The motor armature resistance will be about 0.3 to 15 ohms, while field resistance will be about 75 to 1000 ohms. There must be no continuity between armature and field. Permanent magnet DC motors have armature leads, but no field leads. 1 1/2 and 2 HP motors may have leads labled C1 and C2. These leads should be well insulated and left unconnected.

1 1/2 and 2 HP motors may have four field leads, marked F1, F2, F3 and F4. In this case, connect motor leads F2 and F3 together and connect motor leads F1 and F4 to controller terminals F1 and F2.

**WARNING**

Since the Controller stop button and fuse do not remove voltage from the controller or the motor field, a branch circuit breaker or a fused disconnect switch must be used to disconnect the Controller whenever service work is to be performed on the drive.

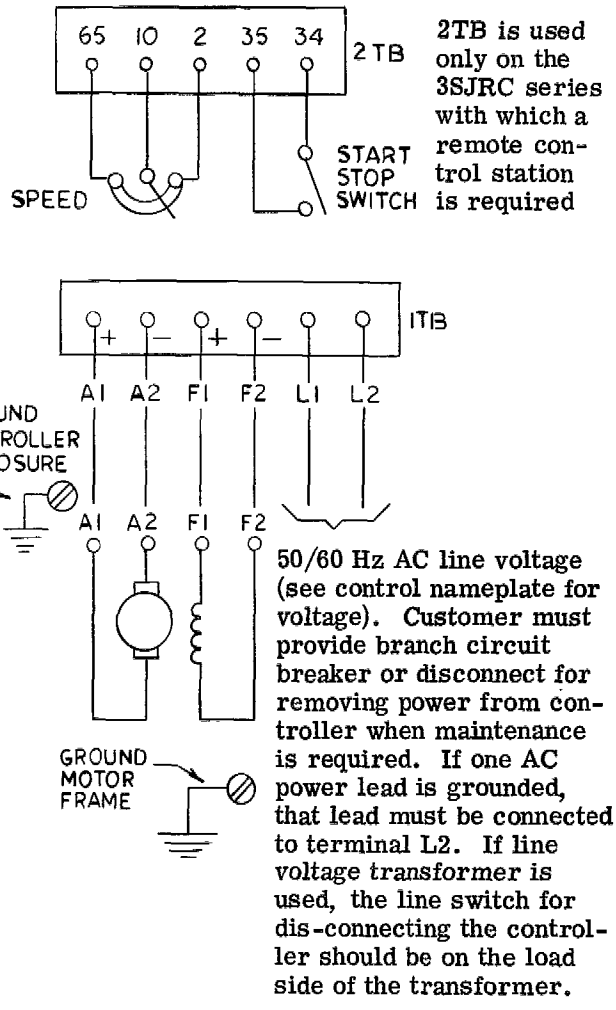



Figure 4. Statotrol JR Controller Connection Diagram

The branch circuit breaker must be large enough to eliminate nuisance tripping and small enough to protect the branch circuit and motor connection conductors. Refer to the National Electric Code (1971, section 310-20) and Table I below for minimum circuit breaker and wire sizes. Wherever local codes are more restrictive, the local codes take precendence over the National Electric Code. Special requirements exist for installations in hazardous locations and other special situations.

When one side of the AC power line is grounded, that side must be connected to terminal L2 on 1TB. When a line power transformer is used, the line switch used to disconnect the controller should be on the load side of the transformer.

TABLE 1

| RATED VOLTAGE AND HORSEPOWER | WIRE AND CIRCUIT BREAKER SIZE |
|---|---|
| up to 1/2 HP 115 volt<br>up to 1 HP 230 volt | 75°C #14 AWG copper wire<br>and 15 amp circuit breaker |
| 3/4 HP 115 volt<br>1 1/2 and 2 HP 230 volt | 75°C #12 AWG copper wire<br>and 20 amp circuit breaker |

## REMOTE CONTROL STATION WIRING

If the controller is one of the 3SJRC series, it is intended for use with a remote control station. The remote control station should be connected to terminal strip 2TB as shown in Figure 4. If the input power to the controller is 115 volts AC, the three leads to the speed control potentiometer are Class II control circuits as defined in Article 725 of the National Electric Code (1971). If the input power is 230 volts, the speed control potentiometer conductors should be installed in accordance with the Class I control and signal circuit requirements of the code. Wherever local codes are more restrictive, the local codes take precedence. The leads to the start-stop switch should always be installed in accordance with the power wiring requirements and Table I. Do not run the switch leads in the same harness or conduit with the speed control potentiometer leads.

To avoid electrical noise pickup, it is necessary to keep the speed potentiometer wires separate from all other wires. Do not run these wires through conduits with power conductors or relay coil wiring. Do not allow any wiring to contact building ground unless a line power isolation transformer is used. In no case should more than one circuit point be grounded.

If speed potentiometer leads are run in shielded cable, the cable shield should be connected to circuit 2 at the controller only. The cable shield must be insulated and must not come into contact with plant ground at any point.

## CURRENT LIMIT SETTING

The current limit circuit is factory adjusted for low impedance motors. If a medium or high impedance motor is to be used, the current limit must be adjusted at the time of installation. To set the current limit, first refer to Table 2 and locate the motor which is to be used. After finding the relative impedance of the motor to be used, refer to Figure 5 for instructions on how to position the current limit setting jumper.

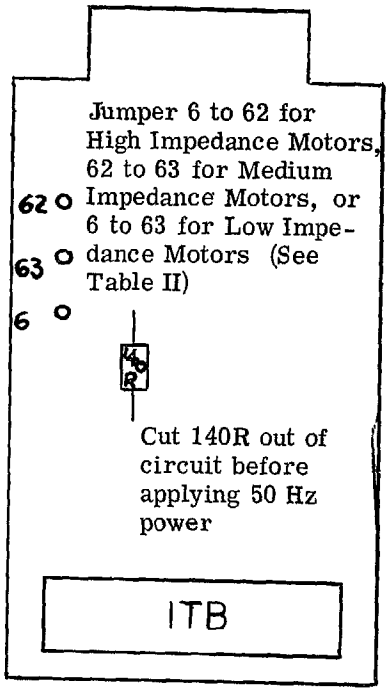



Figure 5. Current Limit Setting and 50 Hz Adjustment

# PREPOWER CHECKS AND ADJUSTMENTS

**WARNING**

This section contains cautions and warnings which must be observed during installation of the control. Failure to observe these cautions and warnings may lead to safety hazards or equipment damage. Read this section carefully and make all necessary checks and adjustments before power is applied to the control.

TABLE 2

CURRENT LIMIT SETTINGS FOR STATOTROL
MOTORS WITH "3SFM----" CATALOG NUMBER ON NAMEPLATE

| | |
|---|---|
| 1140 RPM Drip Proof and totally enclosed<br>1725 RPM Drip Proof* (Except 1 1/2 & 2 HP. See below) | High Impedance Motors (jumper 6 to 62) |
| 1725 RPM totally enclosed non ventilated & totally enclosed fan cooled 2500 RPM Drip Proof | Medium Impedance Motors (jumper 62 to 63) |
| 2500 RPM totally enclosed non ventilated & totally enclosed fan cooled<br>3450 RPM motors Drip Proof & totally enclosed | Low Impedance Motors (jumper 6 to 63) |
| Any motor which does not have 3SFM---- catalog number on nameplate | Refer to Factory for Instructions |

*CAUTION: 1 1/2 & 2 HP 1750 RPM Drip Proof Motors require jumper from 6 to 63.

## 50 CYCLE POWER ADJUSTMENT

The Statotrol JR controller is factory adjusted for use with 60 Hz AC power. If 50 Hz power is to be used, resistor 140R must be cut out of the circuit before 50 Hz power is applied. See Figure 5 for the location of 140R.

## MOTOR CHECKS

If the motor is accessable while running, a protective guard should be installed around all rotating parts. When installing 1 1/2 or 2 HP motors, read the "Inspection Before Starting" section of the motor instruction book.

## WIRING CHECK

Any connection error in the power wiring can damage the control as soon as power is applied. Any short to building ground in the wiring can cause damage as soon as power is applied, unless the controller is connected to a line power isolation transformer. If the controller is connected to any instruments or equipment which may be grounded, a line isolation transformer must be used. In no case should the circuit be grounded at more than one point. It is advisable to recheck all wiring before power is applied. Make certain that all screw terminals are tight. If an ohmmeter is available, the simple resistance checks shown in Table 3 should be performed to verify that the wiring is correct.

TABLE 3

PREPOWER WIRING CHECKS

| TERMINALS | APPROPRIATE RESISTANCE |
|---|---|
| L1 to L2 | 150 ohms or more (with branch circuit breaker open) |
| F1 to F2 | 75 to 1000 ohms |
| A1 to A2 | 0.3 to 15 ohms |
| F1 to A1 or F2 to A2 | 500,000 ohms or more |
| Control Circuit to Ground | 500,000 ohms or more (See exceptions in preceding paragraph) |

### GROUNDING

Safety considerations and the National Electric code require the motor frame and the controller enclosure to be connected solidly to building ground. Do not rely on mounting bolts for grounding. Refer to the "Electrical Connections section of this instruction book for ground lead connections.

### POWER LINE CONNECTIONS

If one AC power lead is grounded, that lead must be connected to terminal L2 since the controller fuse is connected to terminal L1.

The switch in the controller does not remove power from the controller or the motor field, so a branch circuit breaker or a fused disconnect must be used to disconnect the AC line whenever it is necessary to perform work on the motor or the controller. If a line power transformer is used, the circuit breaker or disconnect should be on the load side of the transformer.

## INITIAL OPERATION AND ADJUSTMENT

When the control has been mounted and connected, and the prepower checks and adjustments are complete, set the controller switch to "stop", apply power to the control, turn the speed control knob to zero, and operate the controller switch. Slowly turn the speed control knob until the motor starts to turn. Check the direction of motor rotation to be sure it is correct. If the motor turns the wrong way, disconnect power from the control and reverse the motor armature leads. When installing 1 1/2 or 2 HP motors, refer to the "Inspection After Starting" section of the motor instruction book.

The control is now ready for normal operation. Some applications may require special settings for maximum and minimum speed. Potentiometers for adjusting these functions are at the upper end of the main component board inside the controller. Remove the Statotrol JR controller cover and use a small screwdriver to adjust the potentiometers as described in the following instructions.

**WARNING**

AC power line voltage is exposed when the protective cover is removed. Use extreme care to avoid touching any exposed conductors inside the controller. Internal adjustments should be made only by qualified electricians.

### MINIMUM SPEED ADJUSTMENT

The minimum speed adjustment is factory set so that the motor will start to run when the speed control knob is turned just slightly off zero. To change this setting, first turn the speed control knob to zero and then rotate the minimum speed potentiometer until the motor runs at the desired minimum speed.

Adjusting the minimum speed will change the maximum speed setting, so the minimum speed potentiometer should be adjusted before the maximum speed potentiometer is adjusted.

### MAXIMUM SPEED ADJUSTMENT

The maximum speed adjustment is factory set to a speed slightly higher than rated motor speed. To change the maximum speed, first turn the speed control knob to its highest speed setting. Then adjust the maximum speed potentiometer until the motor runs at the highest speed needed for the particular application.

The Statotrol JR drive may not meet its performance specifications when the motor is run above its rated speed. It is, therefore, recommended that the maximum speed be set for rated motor speed or less.

## OPERATOR CONTROLS, NORMAL OPERATION

The operator controls have been made as simple and foolproof as possible. However, in certain applications, it may be necessary to warn the machine operator against operation sequences which may damage the machinery or process driven by the Statotrol motor. The following instructions apply only when the customer's load requires no special operating sequences.

The speed control knob may be at any desired setting when the drive is started. The motor will accelerate smoothly to the speed set by the speed control knob. Motor current is automatically limited to a safe value. No warmup is required, and motor response is immediate. The speed control knob may be turned to any desired setting at any time, and the motor will respond smoothly. Turning the speed control knob clockwise will increase the motor speed. The controller switch may be moved to "stop" at any time, regardless of the speed setting.

## MAINTENANCE

### CONTROLLER

The controller enclosure should be periodically inspected to prevent an accumulation of materials which might block the flow of cooling air through the heat sink fins. The 1 1/2 HP and 2 HP units also have air vent holes in the cover which must be kept clear.

### MOTOR

#### Bearings

In general, opening Statotrol motors for bearing maintenance will create more problems than it will prevent. However, if for some reason it is felt that bearing maintenance is necessary, the bearings should be relubricated or replaced after 5 years of normal service or 2 years of severe duty.

Brushes

Brushes should be inspected after every 1000 hours of operation. Replacement brushes should be installed before old brushes wear down to 3/8 of an inch in length. Replacement brushes must be preshaped to approximately conform to the curved commutator surface. The motor should be run near rated speed for about 12 hours with no load to seat the new brushes before the motor is returned to normal duty. Failure to seat the new brushes may cause commutator damage and rapid wear. Replacement brushes must be of the type recommended by the motor manufacturer.

Mounting

The motor should be inspected periodically to assure that the mounting bolts are tight. Loose mounting bolts can cause vibration, rapid wear, and misalignment. Proper alignment of motor couplings must be maintained.

Ventilation

Do not allow an accumulation of materials to block cooling air from flowing through self ventilated motors or over totally enclosed motors.

Gearbox

Periodic oil changes and bearing lubrication are necessary to prolong the life of most gearboxes. Refer to the instructions provided with the unit for recommended maintenance schedule and lubricants.

## TROUBLESHOOTING AND REPAIR

**WARNING**

Line voltage is exposed when the controller cover is removed. Use extreme care to avoid touching exposed conductors. Always disconnect the AC power before doing anything other than adjusting potentiometers. The "stop" switch does not remove power from the controller or the motor field.

If a newly installed drive will not run, it is most likely that a terminal is loose or a problem exists with a connection, line voltage, or an adjustment. Line voltage must be within ±10% of the nameplate rating of the controller, and the adjustments must be set as described in the "Prepower Checks and Adjustments" section of this book. If the drive operates normally for a while and then malfunctions, the problem may be line voltage, motor overload, motor failure, a loose terminal, an open fuse, or a component failure.

In the following discussions, each step of troubleshooting is based on the assumption that all preceding steps have been completed and no problems have been found.

Symptoms and Their Probable Causes

Motor will not Run

First check the branch circuit breaker to be certain it is closed. Then open the branch circuit breaker and check the fuse in the controller. If necessary, replace it with a fuse of the same type and amperage rating as the original fuse. Next move controller switch to "stop", close the circuit breaker, and connect an AC voltmeter across terminals L1 and L2 on 1TB and verify that the voltage is within 10% of the line voltage rating on the nameplate of the control. Next connect a DC voltmeter from F1 to F2 on 1TB and verify that the voltage is within + 10% of the field voltage stated on the nameplate. If the field voltage is 1/2 of the rated value, one of the diodes in the field power supply has probably failed. These diodes are marked 16D, 17D, 18D, and 19D, and are mounted near 1 TB on the controller main component board. If the field voltage is zero, 2 or more diodes may have failed, or the fuse may be open. If the field voltage is correct, move the controller switch to start, turn the speed control knob to full speed, and read the DC voltage across terminals A1 and A2 on 1TB. If this voltage is about 10 or 20 volts, the motor is stalled due to an overload or there is an open in the motor leads, windings, or brushes. If this voltage is zero, turn the minimum speed adjustment slowly from one extreme to the other. If the motor now starts, the problem is probably in the control station and its plug-in contacts should be checked and then the control station should be replaced. If the motor does not start, the main component board along with the power semiconductor package, should be replaced.

Motor Runs at High Speed and Cannot be Controlled

The most probable cause for this symptom is a short circuit in the reference circuit. Turn off the AC power and inspect the wires to the speed control potentiometer. If no problem is observed, turn on the AC power and turn the maximum and minimum speed potentiometers full CCW. If the motor comes down to a very low speed, the speed control potentiometer may be shorted. If the motor still runs at a very high speed the main component board should be replaced.

Motor Operates Normally at no Load, But will not Deliver Adequate Torque to Drive a Load

If the motor has operated properly in the past and suddenly develops this symptom, the main component board and/or the power semiconductor package should be replaced.

If this problem is evident immediately upon installation, refer to the section of this book titled "Prepower Checks and Adjustments" and check the current limit setting of the control. If it is wrong, disconnect the AC power and correct the setting. If it was set per the table, then disconnect the AC power, connect AC & DC ammeters in series with the motor armature, and run the motor with the load connected. If the observed DC current is more than the nameplate rating

on the motor, either the motor has failed or the motor is overloaded. If the observed DC current is less than the nameplate rating of the motor, and if the AC current is less than 1.5 times the armature current nameplated rating of the motor, disconnect the AC power and reset the current limit adjustment to the setting appropriate to the next higher impedance group of motors in Table 2 and once again run the motor under load. If the DC armature current exceeds the nameplate rating on the motor, the motor is overloaded. If the DC armature current does not exceed rated current, but the AC current is greater than 1.5 times rated current, the main component board and/or the power semiconductor package should be replaced.

Motor Runs Very Fast For Speed Setting, But Very Little Torque is Produced:

Check the AC line voltage from L1 to L2 on 1TB. Verify that this voltage is within ± 10% of the value stated on the nameplate. Check the DC voltage from F1 to F2 on 1TB. If this voltage is less than 3/4 of the value stated on the nameplate, one or more of the field power supply diodes on the main component board has failed. These diodes are labeled 16D, 17D, 18D and 19D and are located near 1TB.

Fuse Blowing

If the control is being used with 50 Hz power, verify that resistor 140R has been cut out of the circuit as shown on Figure 5.

If the fuse blows within a few seconds after power is applied, there is probably a short circuit or a wiring problem. If the fuse blows after a few minutes or a few hours of steady running, the motor is probably overloaded. To check for an overload condition, measure the DC current in the motor armature. This current should not exceed the rated armature current which is stamped on the motor nameplate.

The fuses have been selected to provide the maximum possible protection for the drive. However, if the application requires the motor to start and stop repetitively, the starting current may eventually cause the fuse to blow since starting current is higher than running current. The most desirable remedy for this situation is to reset the current limit. Refer to Table 2 and Figure 5, disconnect AC power from the control, and change the current limit adjustment to the setting appropriate to the next lower impedance group of motors. If resetting the current limit prevents the motor from delivering adequate output torque, return the current limit to its original setting and select a new fuse rating from the following table. When a larger fuse is required, the drive is being overloaded, and while intermittent overload duty is acceptable, the drive must not be operated continuously in this manner.

FUSE TABLE

| Drive horsepower and line voltage rating | Standard fuse - Buss ABC or Littlefuse 314 | Oversize fuse for intermittent duty - Buss ABC or Littlefuse 314 |
|---|---|---|
| 1/6 HP 115V | 4 amp | 6 amp |
| 1/4 HP 115V | 5 amp | 7 amp |
| 1/3 HP 115V | 7 amp | 10 amp |
| 1/2 HP 115V | 10 amp | 15 amp |
| 3/4 HP 230V | 7 amp | 10 amp |
| 1 HP 230V | 10 amp | 15 amp |
| 1 1/2 HP 230V | 15 amp | 20 amp* |
| 2 HP 230V | 15 amp | 20 amp* |

*The 20 amp fuse is not listed by Underwriters Laboratories.

Motor Hunts

First verify that the motor is not being run at higher than rated speed. Then refer to the section of this book titled "Prepower Checks and Adjustments", and check the current limit setting of the control. If it was not set per Table 2, disconnect the AC power and correct it. If it was set per the table, then disconnect the AC power and change the current limit adjustment to the setting appropriate to the next lower impedance group of motors in Table 2 and retest.

## REPAIR

Motor Repair

**WARNING**

The controller switch does not remove voltage from the motor field. Always disconnect the AC power from the controller before attempting to service motor.

The motor can be repaired just as a standard DC motor by any competent motor repairman. For replacement parts or motor service, take the motor model number from the motor nameplate and contact the nearest service shop authorized by the motor manufacturer.

Controller Repairs

Normal field repairs should be limited to replacing component boards, fuses, the switch, speed potentiometer, and the SCR power module. The complexity of the test sequence required to verify proper operation of a component board after repair makes it advisable to return failed

component boards to the General Electric Co. for repair and retest by the trained personnel and automatic test equipment at the factory.

When emergency repairs are required in the field, the following cautions should be observed. Always disconnect AC power from the control before performing any work on any part of the circuit.

**WARNING**

The Controller switch does not remove voltage from the circuitry.

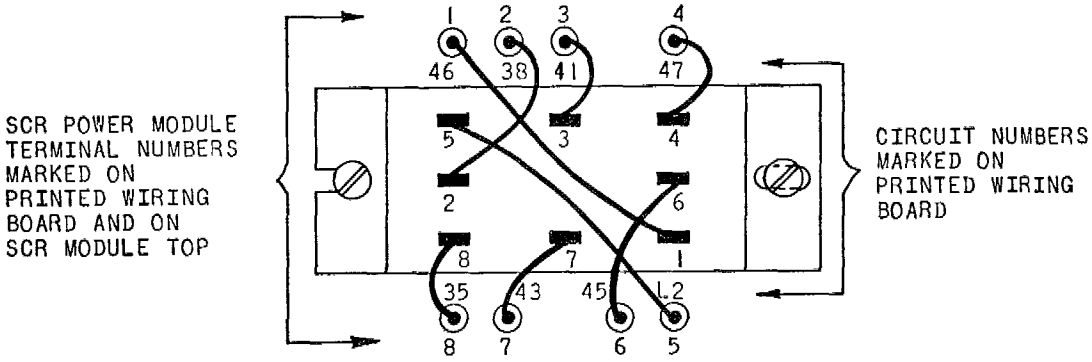
When soldering components to a printed circuit board, always use the smallest possible amount ofsolder. Do not overheat the leads of semiconductor components such as SCR's, diodes and integrated circuits. After soldering, inspect carefully to be certain that solder has not bridged between foil paths or reduced the electrical clearance between foil paths. Most solder flux is conductive, so flux accumulations must be cleaned from the component board when soldering is complete. Solder "icicles" and component leads must be trimmed from the bottom of the board to prevent short circuits to the heat sink. Many components on the board are fragile and must be protected from damage while the component board is being handled.

When replacing the SCR power module, be sure that the module mounting surface (on the heat sink) is clean and free of foreign material which would prevent a good thermal contact between the module mounting strap and the module mounting surface on the heat sink. Before installing the module, apply a thin coating of silicone grease to the surface of the module mounting pedestal. A recommended silicone grease is Dow Corning 3 Compound, available from the Dow Corning Corporation, Midland, Michigan.

The SCR power module you receive as a replacement unit may have a different terminal arrangement than the original.

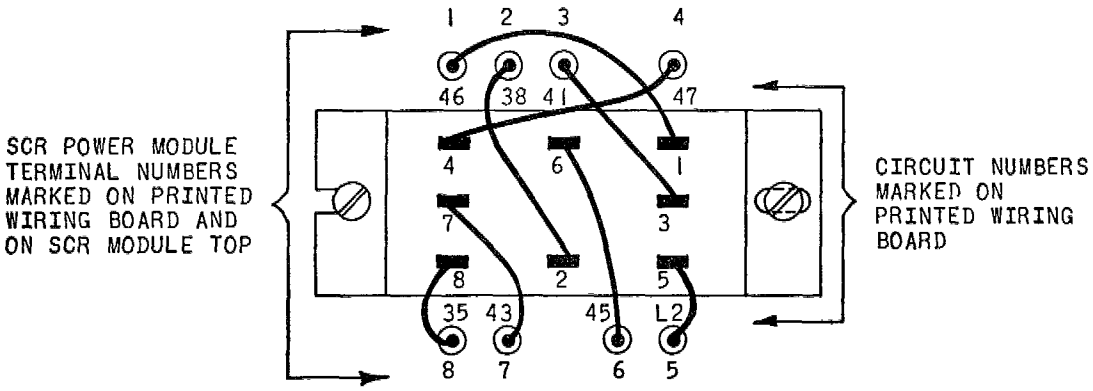
Refer to Figures 6 and 7. Compare terminal location on the replacement SCR module with the two figures. Connect the wires to the SCR terminals as shown in the appropriate figure.

The SCR terminal numbers are identified on the top of the module and also are marked on the printed wiring board, except that some early boards may not have the terminal numbers marked on them.




TOP VIEW - I. R. SCR MODULE WIRE CONNECTIONS

Figure 6




TOP VIEW - GENERAL ELECTRIC SCR MODULE WIRE CONNECTIONS

Figure 7

When returning component boards for repair, contact your local General Electric Sales office for return assistance, pack the units carefully to prevent additional damage from occurring in transit, and carefully describe the symptoms which were observed.

### RENEWAL PARTS

Replacement parts can be ordered from the nearest sales office of General Electric Company, Motor parts can be obtained from the nearest service shop authorized by the motor manufacturer.

## RENEWAL PARTS LIST
## FOR 3SJRB AND 3SJRC SERIES
## 1/6 HP THROUGH 2 HP STATOTROL JR CONTROLLERS

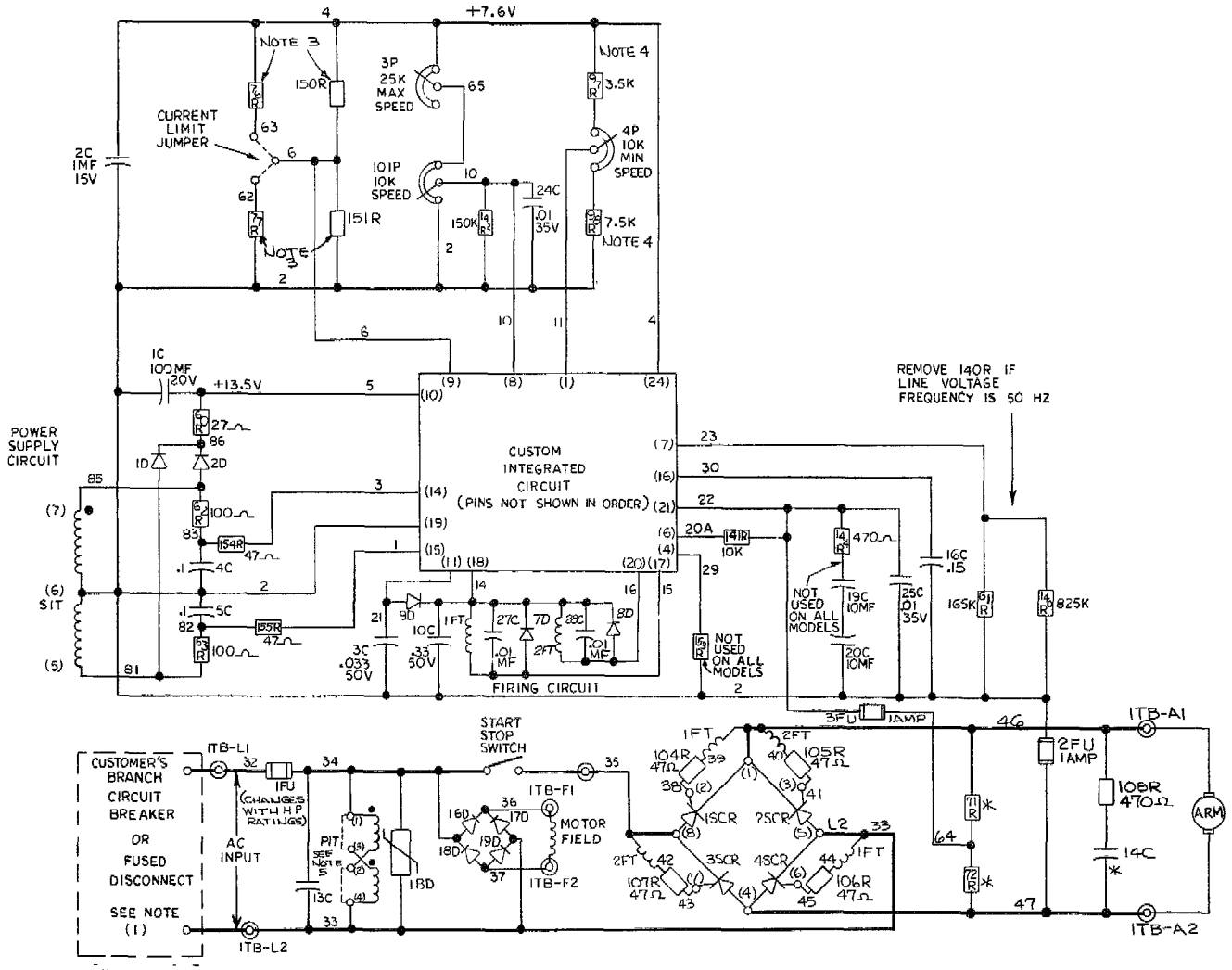
| DESCRIPTION OF PART OR ASSEMBLY | CATALOG NUMBER | 1016 (1/6 HP 115V) | 1025 (1/4 HP 115V) | 1033 (1/3 HP 115V) | 1050 (1/2 HP 115V) | 2075 (3/4 HP 230V) | 2100 (1 HP 230 V | 2150 ( 1 1/2 HP 230V) | 2200 (2 HP 230V) |
|---|---|---|---|---|---|---|---|---|---|
| Component Board | 44B336124-G10 | 1 | | | | | | | |
| Component Board | 44B336124-G11 | | 1 | | | | | | |
| Component Board | 44B336124-G12 | | | 1 | | | | | |
| Component Board | 44B336124-G13 | | | | 1 | | | | |
| Component Board | 44B336124-G21 | | | | | 1 | | | |
| Component Board | 44B336124-G22 | | | | | | 1 | | |
| Component Board | 44B336124-G23 | | | | | | | 1 | |
| Component Board | 44B336124-G24 | | | | | | | | 1 |
| Power Semiconductors | 44A370660-G01 | 1 | 1 | 1 | 1 | | | | |
| Power Semiconductors | 44A370660-G02 | | | | | 1 | 1 | | |
| Power Semiconductors | 44A370660-G03 | | | | | | | 1 | 1 |
| Fuse 4 Amp | K9774717-9 | 1 | | | | | | | |
| Fuse 5 Amp | K9774717-7 | | 1 | | | | | | |
| Fuse 7 Amp | K9774717-10 | | | 1 | | 1 | | | |
| Fuse 10 Amp | K9774717-2 | | | | 1 | | 1 | | |
| Fuse 12 Amp | K9774717-3 | | | | | | | 1 | |
| Fuse 15 Amp | K9774717-4 | | | | | | | | 1 |
| Switch* | 44A336700-001 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Potentiometer* | 44A335893-G10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Switch* | 44A336737-001 | | | | | | | 1 | 1 |

* Not used on 3SJRC Models.

**FOR FACTORY SERVICE AND APPLICATION ASSISTANCE CALL WAYNESBORO, VA.**

**703-942-7811**

**Before calling, list catalog numbers of the Controller, motor, operator's station and any plug-in options.**




NOTES:

1. IF ONE SIDE OF AC LINE IS CONNECTED TO GROUND THAT LEAD MUST BE CONNECTED TO ITB-L2.

*2. COMPONENTS WHICH CHANGE WITH LINE VOLTAGE ARE AS FOLLOWS:

| | 115V | 230V |
|---|---|---|
| 13C & 14C | .22MF 400V | 0.1MF 600V |
| 71R | 18K | 30K |
| 72R | 2K | 1.5K |

3. VALUES OF 76,77,150 AND 151R ARE SELECTED DURING TEST OF COMPONENT BOARD AND WILL VARY FROM BD. TO BD.

4. 97 & 98R ARE LOCATED ON THE MAX.-MIN. SPEED POT ASSEMBLY.

5. JUMPERS ARE ADDED DURING ASSEMBLY BETWEEN 1 & 3 AND 2 & 4 FOR 115 VOLT OPERATION. WHEN BOARD IS TO BE USED ON THE 230 VOLT LINE, A JUMPER IS ADDED BETWEEN 2 AND 3 ONLY.

Figure 8. Statotrol JR Drive, Elementary Diagram

Control Devices Operation and Speed Variator Products Department,
General Electric Company, Waynesboro, Virginia 22980