

# **OPERATING INSTRUCTIONS AND PARTS LIST FOR CRAFTSMAN 1 H. P. CAPACITOR START TYPE MOTOR 115/230 Volts, 60 Cycles, 3450 R.P.M.**

## **MODEL NUMBER 113.12200**

This is the Model Number of Your Craftsman Motor. It will be found on the nameplate attached to the motor. Always mention the Model Number when communicating with us regarding your motor or when ordering parts.

## **SAFETY PRECAUTION**

Carefully read these instructions and observe all of the safety precautions included to obtain longest trouble-free service from your new Craftsman motor.

## **HOW TO ORDER REPAIR PARTS**

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. When ordering parts by mail from the mail order house which serves the territory in which you live, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

1. The PART NUMBER.
2. The PART NAME.
3. The MODEL NUMBER—113.12200.
4. The NAME of Item—1 H. P. Motor.

## **COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN MOTOR**

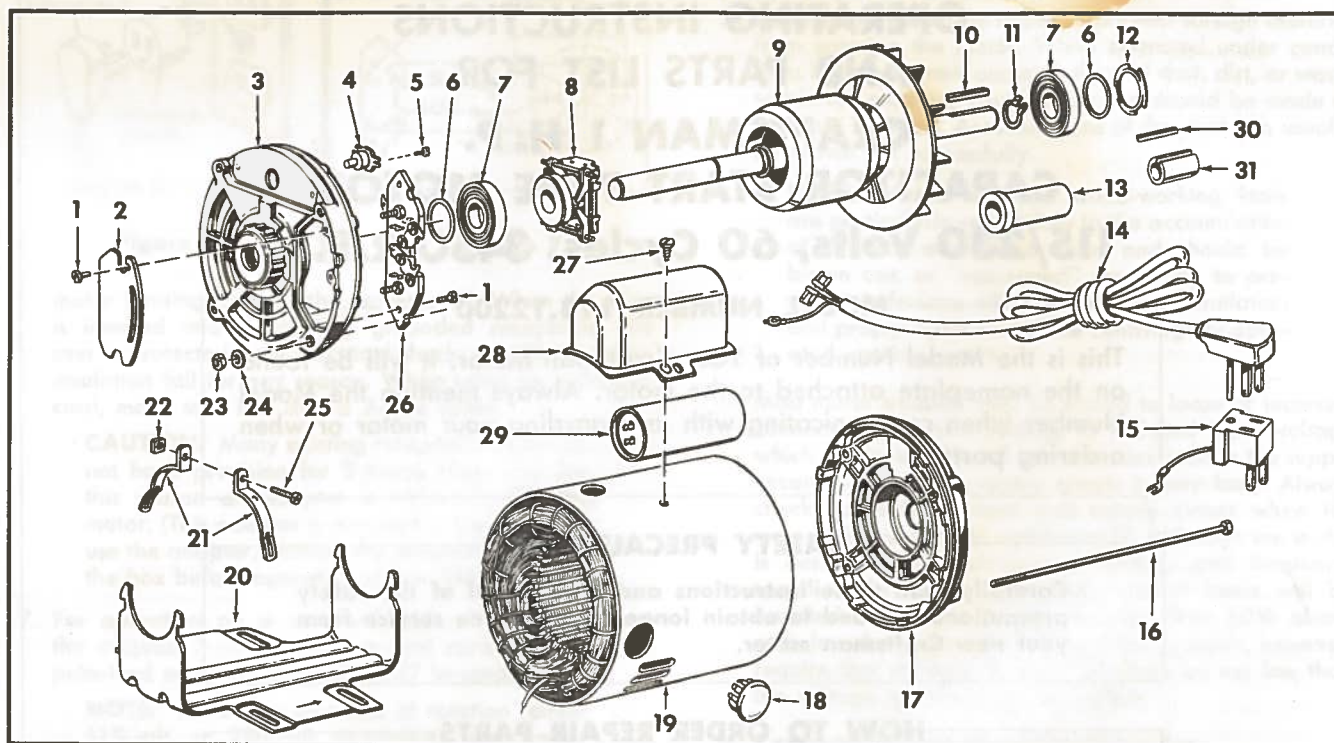


SEARS, ROEBUCK AND CO. backs up your investment with quick, expert mechanical service and genuine CRAFTSMAN replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

**SEARS, ROEBUCK AND CO. — U. S. A.  
IN CANADA, SIMPSON'S - SEARS LIMITED**

# **PARTS LIST FOR 1 H. P. CAPACITOR START TYPE ELECTRIC MOTOR—MODEL NUMBER 113.12200**



WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN ON THIS LIST:

- |                    |                                     |
|--------------------|-------------------------------------|
| 1. THE PART NUMBER | 3. THE MODEL NUMBER — 113.12200     |
| 2. THE PART NAME   | 4. THE NAME OF ITEM — 1 H. P. MOTOR |

Always order by Part Number — not by Key Number

| Key No. | Part No. | Description                                         |
|---------|----------|-----------------------------------------------------|
| 1       | 448011   | *Screw, No. 8-32 x 3/8, Type 23                     |
| 2       | 37576    | Cover, Terminal                                     |
| 3       | 37577    | Shield Assy. End (Terminal Plate End)               |
| 4       | 37639    | Protector, Thermal                                  |
| 5       | 448005   | *Screw, No. 6-32 x 1/2, Type 23C, Pan Hd., Cad. Pl. |
| 6       | 37160    | Washer, End Play (Steel)                            |
| 7       | 37161    | Bearing, Ball                                       |
| 8       | 37579    | Actuator Assy., Centrifugal                         |
| 9       | 37640    | Rotor Assembly                                      |
| 10      | 23428    | Key, Shaft                                          |
| 11      | 30783    | Ring, Retaining                                     |
| 12      | 37163    | Washer, Spring                                      |
| 13      | 37574    | Guard, Shaft                                        |
| 14      | 37567    | Cord and Plug                                       |
| 15      | 37568    | Plug, Adapter                                       |
| 16      | 37631    | Stud, Stator                                        |
| 17      | 37583    | Shield Assy., End (Opposite Terminal Cover End)     |
| 18      | 37189    | Plug, Conduit                                       |

| Key No.   | Part No. | Description                                                                      |
|-----------|----------|----------------------------------------------------------------------------------|
| 19        | 37641    | Stator Assembly                                                                  |
| 20        | 37633    | Base                                                                             |
| 21        | 37180    | Clamp, Base                                                                      |
| 22        | 120611   | *Nut, Square, No. 10-32 x 3/8 x 1/8                                              |
| 23        | 120614   | *Nut, Hex., No. 10-32 x 3/8 x 1/8, Cad. Pl.                                      |
| 24        | 9417373  | *Washer, Flat, No. .203 x 7/16 x 1/32, Steel                                     |
| 25        | 132128   | *Screw, Mach., No. 10-32 x 7/8, Fil. Hd.                                         |
| 26        | 37586    | Switch, Starting                                                                 |
| 27        | 169752   | *Screw, No. 10-32 x 3/16, Type C, Pan Hd.                                        |
| 28        | 37587    | Cover, Capacitor                                                                 |
| 29        | 37588    | Capacitor                                                                        |
| 30        | 30789    | Key, Shaft                                                                       |
| 31        | 30790    | Bushing (to Adapt Shaft from 1/2" to 5/8" Diameter with Shaft Key)               |
| Not Shown | 37642    | Operating Instructions and Parts List for Craftsman 1 H.P. Motor Model 113.12200 |

\* Standard Hardware Items — May be Purchased Locally.

## **MOUNTING, CONNECTION AND MAINTENANCE INSTRUCTIONS FOR CRAFTSMAN MOTOR—MODEL No. 113.12200**

**EXTRA SAFETY PRECAUTIONS:** Connect to proper voltage, using correct fuse rating. Ground motor frame. Disconnect power supply before making or changing connections, or removing capacitor cover or terminal cover. Keep unused shaft extension covered with shaft guard. Keep hands and clothing away from moving parts.

This Craftsman Motor is of the capacitor-start type designed for use on a single-phase, 60-cycle, alternating-current supply of 115 or 230 volts, with a simple means of reversing the direction of rotation provided. The motor may be operated in any position.

### **MOUNTING THE MOTOR**

1. This motor was given a thorough electrical and mechanical inspection before it was shipped from the factory. In order to make sure that no damage has occurred dur-

ing shipment, the following check procedure should be made before mounting the motor in the particular application for which it was purchased.

- Rotate the shaft with the fingers to make sure it turns freely and smoothly.
  - Clamp motor base to work bench or table and remove key from shaft. Connect motor to the proper voltage supply temporarily in accordance with instructions under "Connecting the Motor". When energized, the motor should operate with only a small amount of electrical "hum" and very low bearing noise.
  - Notice direction of shaft rotation to make sure it is correct for the equipment to be driven. If direction of rotation is not correct, reverse rotation as outlined in instructions listed under "Connecting the Motor". Re-install the key in motor shaft.
- Disconnect the motor from temporary power source and mount it in the application for which it was purchased.
  - The motor should be installed in a location as cool and dry as possible and should be protected against excessive deposits of dust and dirt. (See figure 1 for mounting dimensions.) The motor must not be confined in a small space that will restrict the flow of cooling air over internal electrical windings.
  - Before tightening the motor mounting bolts, make sure all four mounting points of the base are in contact with the surface to which the motor is being attached. If the motor base does not contact the mounting surface properly, the base (or support) may be warped or cracked when mounting bolts are tightened.
  - Make sure all pulleys are tightened securely on their shafts and correctly aligned. Proper pulley alignment may be obtained by holding a straight edge across the flat sides of the pulleys and adjusting to it. (See figure 2.)
  - Adjust the belt tension so that pressure of fingers on the belt will deflect it readily as shown in figure 3. Excessive belt tension increases the load on the motor and decreases bearing life. Loose belts reduce operating efficiency and shorten belt life.
  - After the motor base has been properly adjusted to the mounting bracket, tighten all motor mounting bolts securely.

**NOTE:** In order to prevent accumulation of static electric charges due to belt friction, the motor frame or base should be grounded to a water or steam pipe. A metallic connection should also be provided between the motor and the device being driven.

- Included with this motor is a new molded shaft guard that can be easily twisted into place over the unused shaft extension as an extra safety feature.

## CONNECTING THE MOTOR

**CAUTION:** This motor will be damaged if connected to a current source other than 60-cycle alternating-current (ac).

- The motor may be operated from either 115-volt or 230-volt, 60-cycle a-c power when connected as outlined in instructions that follow. Wires are color coded to make connections easy to accomplish.
- Connections between motor and power source should be made through a switch and fuse block. Use a 20-ampere fuse for 115-volt operation and a 10-ampere fuse for 230-volt operation. Fuses of the delayed-action type, such as "Fustat" or "Fusetron" are recommended, as they are designed for best motor protection.

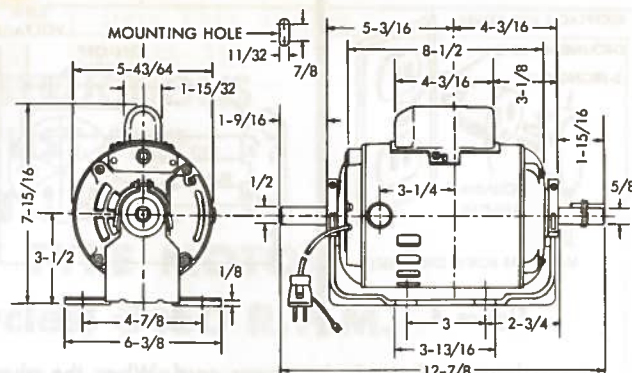


Figure 1

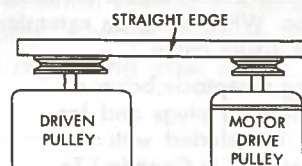


Figure 2

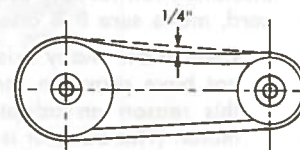


Figure 3

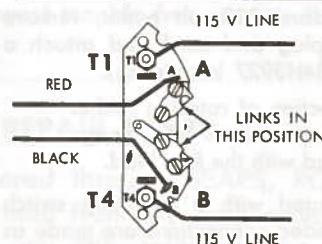


Figure 4

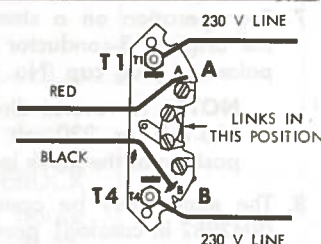


Figure 5

- The wire sizes listed below are recommended for circuit connections between motor and power supply, or extension cords (if used).

| Length of<br>Three-Conductor Extension | Wire Size Required<br>(American Wire Gauge No.) |                |
|----------------------------------------|-------------------------------------------------|----------------|
|                                        | 115 Volt Lines                                  | 230 Volt Lines |
| 100 feet or less                       | No. 10                                          | No. 12         |
| 100 feet to 150 feet                   | No. 8                                           | No. 10         |
| 150 feet to 200 feet                   | No. 6                                           | No. 8          |
| 200 feet to 400 feet                   | No. 4                                           | No. 6          |

**NOTE:** For circuits of greater length, the wire size must be increased proportionally.

- For operation on 115-volts, one power lead is connected to terminal post "T<sub>1</sub>" (or the quick connect tab next to it). The other power lead is connected to terminal post "T<sub>4</sub>" (or the quick connect tab next to it). The two movable links must be in position shown in figure 4. The Red motor lead is connected to terminal "A"; the Black motor lead to terminal "B".

**NOTE:** The movable links pivot on the centermost screws. After links have been correctly positioned, be sure to tighten these screws to insure a good electrical connection.

- For operation on 230 volts, the power leads are connected the same as for 115-volt operation. The two links, however, must be in position shown in figure 5 (one on top of the other, connecting the two centermost screws). Make sure screws are tight.

**WARNING:** Do not change any of these connections with current on.

- This motor is equipped with a 3-prong connector plug (Underwriters' Laboratory approved) as a safety measure. The longest of the three prongs is connected to the

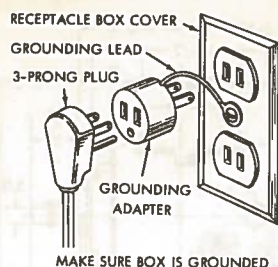


Figure 6

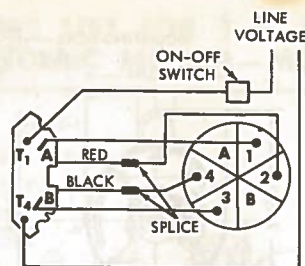


Figure 7

motor housing through the power cord. When the plug is inserted into a properly grounded receptacle, the user is protected from electrical shock, should the motor insulation fail for any reason. When using an extension cord, make sure it is also a 3-wire cable.

**CAUTION:** Many existing receptacle boxes do not have provision for 3-prong plugs and for this reason an adapter is included with the motor. (This adapter is not used in Canada.) To use the adapter, connect the grounding lead to the box before operating motor (See figure 6).

7. For operation on a standard 230-volt outlet, remove the original 3-conductor plug and cord and attach a polarized plug cap (No. 34H5927 in catalog).

**NOTE:** To reverse direction of rotation (either 115-volt or 230-volt operation) interchange position of the Black lead with the Red lead.

8. The motor may be operated with a reversing switch (9M2982 in catalog), provided connections are made as shown in figure 7. The motor must come to a complete stop before reversing can be accomplished. If motor rotation does not correspond to switch notations, interchange switch leads 2 and 4. (The reversing switch connection applies to both 115-volt and 230-volt operation and position of links should be for desired voltage, as shown in figures 4 and 5.)

**IMPORTANT:** In order to use this reversing switch with this motor, an additional "ON-OFF" switch must be connected into the supply line. (See figure 7.) This "ON-OFF" switch must be in the "OFF" position before motor rotation can be changed by the reversing switch. The "OFF" position of the reversing switch WILL NOT turn the power off and should be disregarded.

This motor is equipped with a manual reset, thermal overload protector, designed to open the line circuit when motor temperature exceeds a safe value. If this protector opens the line, it can be closed again after the motor has cooled by firmly pushing the red button on the end of motor until the protector snaps into running position. Do not tap or strike the reset button. This protector is not intended to make the use of a fuse unnecessary as the protector will not provide protection against overloads or short circuits in the lines leading to the motor. The motor should not be operated on a load that causes the protector to "kickout" frequently.

## MAINTENANCE

1. These motors are built so that no special owner maintenance is necessary. The fully sealed ball bearings are lifetime packed and require no additional lubrication. If disassembly of the motor is necessary, it should be returned to your nearest Sears retail or mail-order store in order to prevent voiding the guarantee.

**NOTE:** The speed of this motor cannot be regulated or changed.

2. Every effort should be made to prevent foreign material from entering the motor. When operated under conditions likely to permit accumulations of dust, dirt, or waste within the motor, a visual inspection should be made at frequent intervals. Accumulations of dry dust can usually be blown out successfully.

**NOTE:** Motors used on wood-working tools are particularly susceptible to the accumulation of sawdust and wood chips and should be blown out, or "vacuumed" frequently to prevent interference with normal motor ventilation and proper operation of the centrifugally-operated starting switch.

3. Most motor troubles may be traced to loose or incorrect connections; to overloading; to reduced input voltage which results when small size wires are used in the supply circuit, or when the supply circuit is very long. Always check connections, load and supply circuit when the motor fails to perform satisfactorily. Although the motor is designed for operation on voltage and frequency specified on motor nameplate, normal loads will be handled safely on voltages not more than 10% above or below the nameplate voltage. Heavy loads, however, require that voltage at motor terminals be not less than the voltage specified on nameplate.

## 4. Common Causes of Low Voltage Are:

- a. Overloading of house or shop circuits with lights, electrical appliances or other motors.
- b. Undersized wires in supply circuits or extension cords.
- c. General overloading of the power company's facilities. (In many sections of the country, demand for electrical power exceeds the capacity of existing generating and distribution systems. If it is suspected that voltage being supplied is low, request a voltage check from the power company.)

## 5. Some Effects of Low Voltage Are:

- a. Motor fails to develop full power. (The power output of motor decreases rapidly with decrease in voltage at motor terminals. For example: a reduction of 10% in voltage causes a reduction of 19% in maximum power output of which the motor is capable, while a reduction of 20% in voltage causes a reduction of 36% in maximum power output.)
- b. Motor starts slowly or fails to come up to full speed.
- c. Motor overheats.
- d. Motor burns out when operated for long periods of time when overloaded.
- e. Frequent opening of fuses or circuit breakers. (This may also result if motor is overloaded, or if the motor circuit is fused with a fuse other than those recommended. Do not use a fuse of greater capacity without consulting the power company.)

## GUARANTEE

During the first year we will replace the motor free of charge if defective in material or workmanship. This guarantee service is available by simply returning the motor to any Sears store throughout the United States.

## **WIRING INSTRUCTIONS FOR CRAFTSMAN NO. 2018 REVERSING SWITCH FOR USE WITH CRAFTSMAN MOTORS**

### **HOW TO ORDER REPAIR PARTS**

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WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

- |                     |                     |
|---------------------|---------------------|
| 1. The PART NUMBER. | 3. The MODEL NUMBER |
| 2. The PART NAME.   | 4. The NAME of item |

### **COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN SWITCH**



SEARS, ROEBUCK AND CO. and SIMPSON-SEARS LIMITED in Canada back up your investment with quick, expert mechanical service and genuine CRAFTSMAN replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

**SEARS, ROEBUCK AND CO.— U. S. A.  
IN CANADA, SIMPSON-SEARS LIMITED**

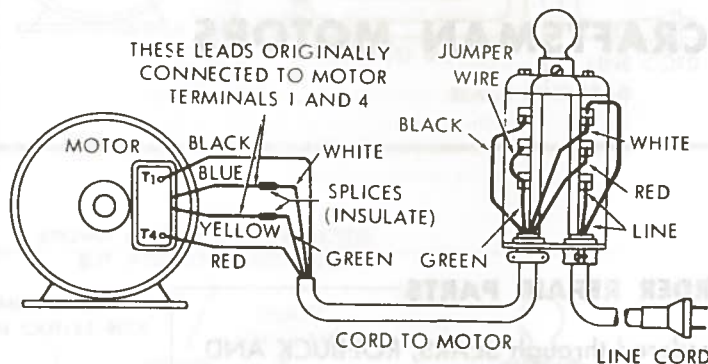
# WIRING INSTRUCTIONS FOR CRAFTSMAN NO. 2018 REVERSING SWITCH FOR USE WITH CRAFTSMAN MOTORS

This Craftsman Reversing Switch is used to reverse rotation of any of the Sears Motors listed in the connection diagrams shown on this sheet.

The Reversing Switch is shipped complete with an attached

line cord and service cord for connecting to motor leads. The motor service cord may be cut to any length desired, depending upon the distance from the switch mounting location and the motor to which it is connected.

### 115 VOLT WIRING HOOK-UP SEARS MOTOR CATALOG NOS. 1210, 1211, 1212, 1214



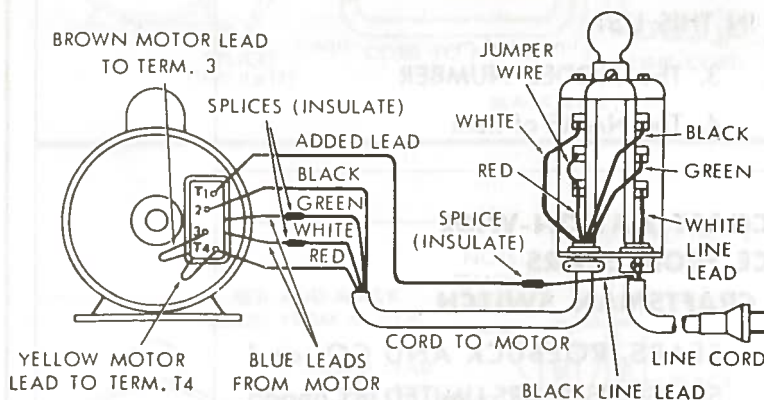
This figure shows the Reversing Switch connections as they are made at the factory. The following routine should be carried out when connecting the switch to the motor for which it was purchased:

1. Locate the catalog number of the motor on the nameplate.
2. Locate the catalog number of the motor in one of the diagrams on this instruction sheet.
3. Connect the Reversing Switch to the motor in accordance with the particular diagram on which the motor catalog number appears.

**NOTE:** When reversing motor rotation, always allow the motor shaft to come to a complete stop before actuating the Reversing Switch.

If motor rotation does not correspond to switch notations, interchange blue and yellow motor leads where they are spliced to white and green leads from the reversing switch.

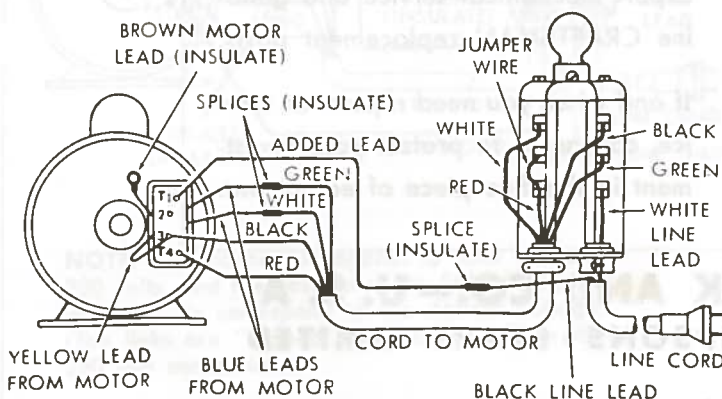
### 115 VOLT WIRING HOOK-UP SEARS MOTOR CATALOG NO. 1970



Added lead from motor terminal "T<sub>1</sub>" to black lead from line cord should be No. 18 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

If motor rotation does not correspond to switch notations, interchange blue motor leads where they are spliced to white and green leads from reversing switch.

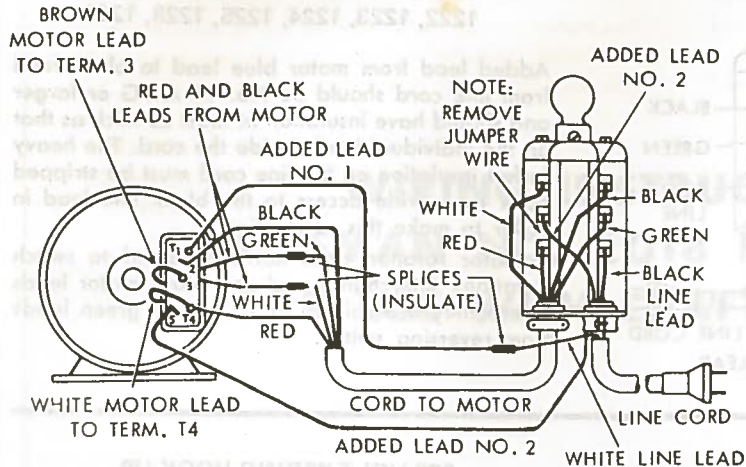
### 230 VOLT WIRING HOOK-UP SEARS MOTOR CATALOG NO. 1970



Added lead from motor terminal "T<sub>1</sub>" to black lead from line cord should be No. 18 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

If motor rotation does not correspond to switch notations, interchange blue motor leads where they are spliced to white and green leads from reversing switch.

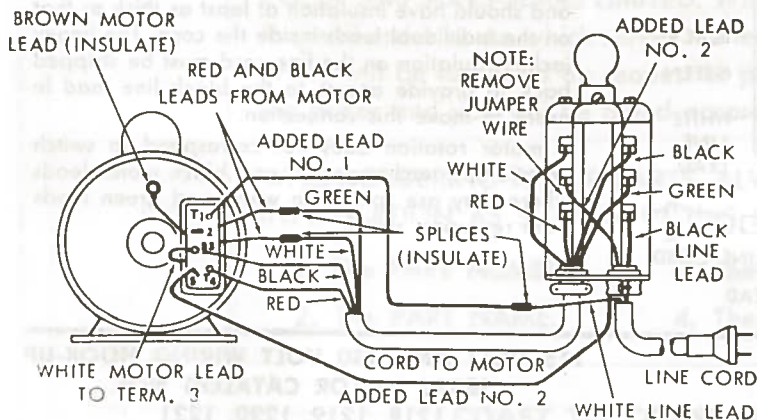
**115 VOLT WIRING HOOK-UP  
SEARS MOTOR CATALOG NOS.  
1213**



Added lead No. 1 from motor terminal "T<sub>1</sub>" to white lead from line cord and added lead No. 2 from motor terminal "5" to reversing switch post (previously occupied by jumper lead), should be No. 18 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

If motor rotation does not correspond to switch notations, interchange red and black motor leads where they are spliced to white and green leads from reversing switch.

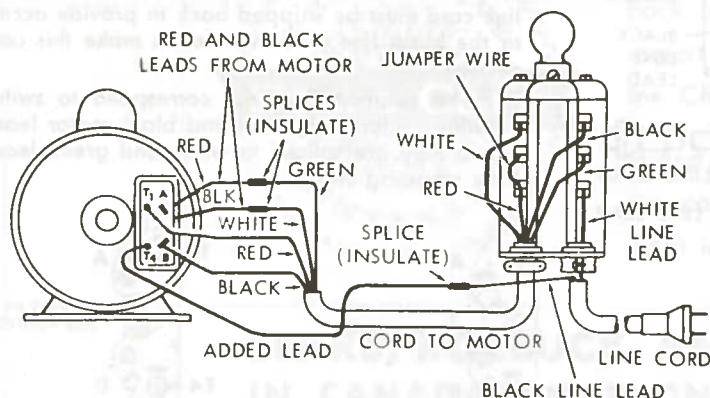
**230 VOLT WIRING HOOK-UP  
SEARS MOTOR CATALOG NO.  
1213**



Added lead No. 1 from motor terminal "T<sub>1</sub>" to white lead from line cord and added lead No. 2 from motor terminal "5" to reversing switch post (previously occupied by jumper lead), should be No. 18 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

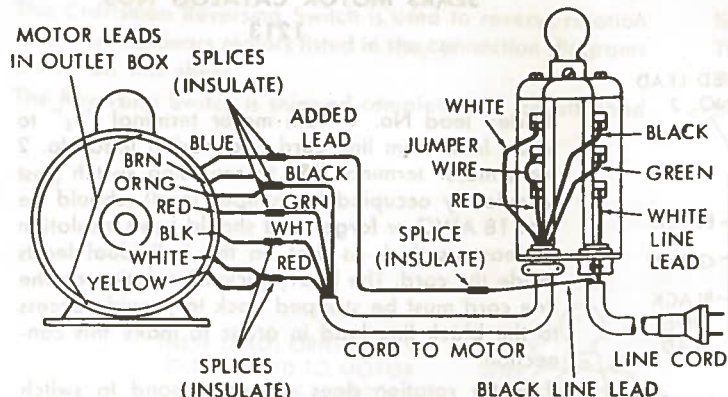
If motor rotation does not correspond to switch notations, interchange red and black motor leads where they are spliced to white and green leads from reversing switch.

**115 VOLT WIRING HOOK-UP  
SEARS MOTORS CATALOG NOS.  
1216, 1217, 1226**



Added lead from motor terminal "T<sub>1</sub>" to black lead from line cord should be No. 16 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

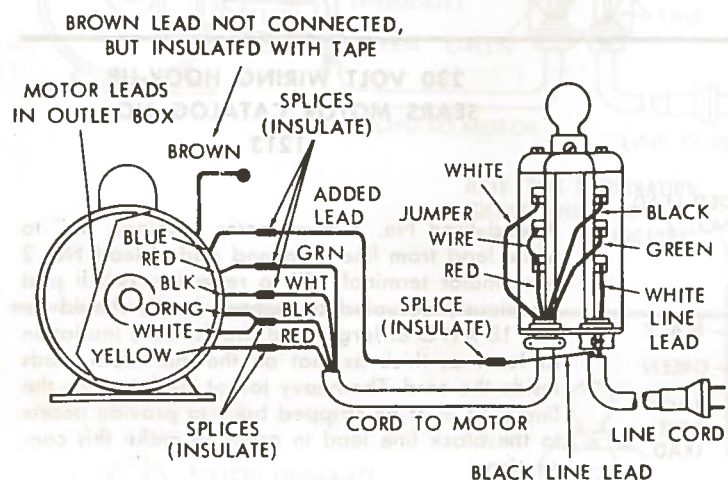
If motor rotation does not correspond to switch notations, interchange red and black motor leads where they are spliced to white and green leads from reversing switch.



**115 VOLT WIRING HOOK-UP**  
**SEARS MOTOR CATALOG NOS.**  
**1222, 1223, 1224, 1225, 1228, 1229**

Added lead from motor blue lead to black lead from line cord should be No. 16 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

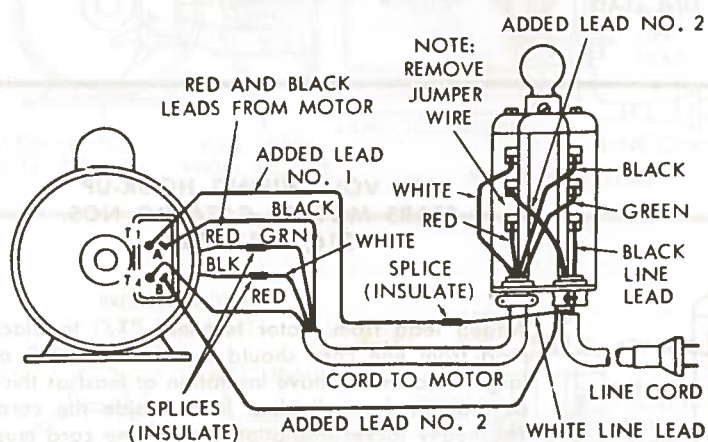
If motor rotation does not correspond to switch notations, interchange red and black motor leads where they are spliced to white and green leads from reversing switch.



**230 VOLT WIRING HOOK-UP**  
**SEARS MOTOR CATALOG NOS.**  
**1222, 1223, 1224, 1225, 1228, 1229**

Added lead from motor blue lead to black lead from line cord should be No. 16 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

If motor rotation does not correspond to switch notations, interchange red and black motor leads where they are spliced to white and green leads from reversing switch.

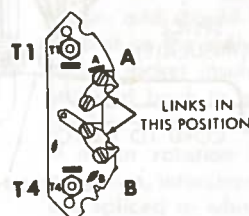


**115 VOLT AND 230 VOLT WIRING HOOK-UP**  
**SEARS MOTOR CATALOG NOS.**  
**1218, 1219, 1220, 1221**

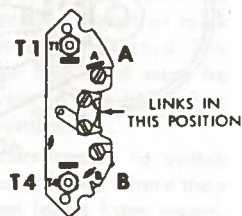
Added lead No. 1 from motor terminal "T<sub>1</sub>" to white lead from line cord and added lead No. 2 from motor terminal "B" to reversing switch post (previously occupied by jumper lead), should be No. 16 AWG or larger and should have insulation at least as thick as that on the individual leads inside the cord. The heavy jacket insulation on the line cord must be stripped back to provide access to the black line lead in order to make this connection.

If motor rotation does not correspond to switch notations, interchange red and black motor leads where they are spliced to white and green leads from reversing switch.

**NOTE:** This connection applies to both 115 and 230 volts, and the position of the links should be as shown to correspond to the desired voltage. (The links are "lapped" over each other in the 230 volt connection.)



**115 V. CONNECTION**



**230 V. CONNECTION**