

1026S/1036S-1/1246S

#### 4.0 OPERATING INSTRUCTIONS

**NOTE:** Following is a general overview of the operation for the 1026S, 1036S-1, and 1246S. The 1026S **DOES NOT** have the Auto-Reverse and bag full Auto-Shutoff features.

The GBC Shredmaster 1026S, 1036S-1, and 1246S shredder can shred most office paper documents, staples, and standard paper clips. The shredding of other metal items will damage the cutting blades. Plastic materials such as charge cards, covers, inserts and film may be shredded on a very limited basis. However, extended shredding of such materials will prematurely dull the cutting blades.

The shredder control panel is shown in Figure 4-1. To start shredding, press the "ON" button then feed the material to be shredded into the throat of the shredder. Never exceed the maximum capacity of the shredder. To turn the shredder off press the "OFF/REVERSE" button.

When the shred bag becomes full, the bag full flap triggers a sensor which automatically turns the shredder off. To resume shredding, push the shreds down into the bag or install a new bag then press the "ON" button. It is necessary for the operator to monitor the fullness of the shred bag on the 1026S unit.

If too much paper is inserted into the feed throat of the 1036S-1 or 1246S, the shredder will automatically reverse ejecting the paper then turn off. The 1026S will shut off automatically but, the operator must manually reverse the unit by depressing the "OFF/REVERSE" button until the paper has been ejected.

To resume shredding, **REDUCE** the number of sheets in the lift then depress the "ON" button. To clear a severe jam that is not automatically ejected by the shredder, reverse the shredder by depressing the "OFF/REVERSE" button while pulling firmly on the paper in the throat. If there is not enough paper to grasp, rock the paper through the cutters by alternately depressing the "ON" and "OFF/REVERSE" buttons.

In case of a severe jam, the thermal overload circuit of the motor may be triggered causing the unit to appear to be "DEAD". Allow the motor to cool for a few minutes before attempting to clear the jam.

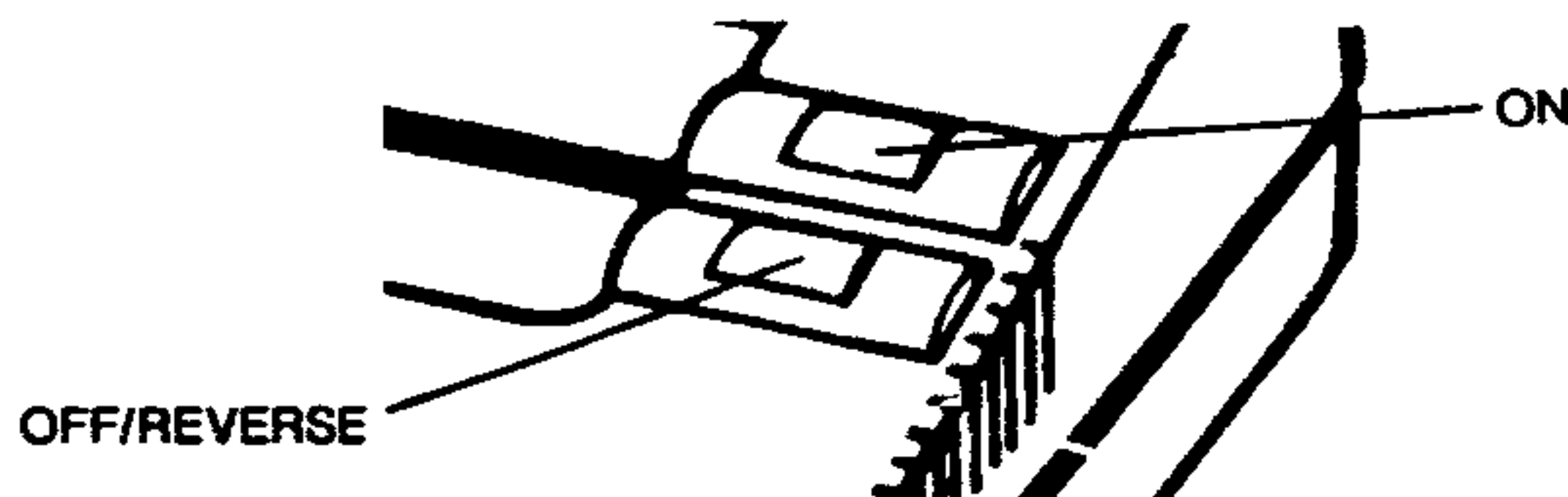


FIGURE 4-1

## 5.0 TROUBLESHOOTING

### 5.1 Principles Of Operation

The shredder uses rapidly rotating cutting shafts that are driven by an electrical motor to shred paper. Both electrical and mechanical principles are involved.

#### 5.1.1 Electrical Operation; 1026S

The 1026S electrical schematic diagram is shown in Figure 5-1 and the electrical wiring diagram is shown in Figure 5-3. The electrical circuit is comprised of the following components.

**1. ON Switch (S1).** This momentary push button switch controls the forward mode of the shredder operation.

**2. OFF/REVERSE Switch (S2).** This momentary push button switch controls the OFF mode of the shredder operation when depressed once then released. When the switch is depressed and held down the current is reversed causing a reverse rotation of the motor.

**3. Capacitor (C1).** This capacitor is wired in parallel with the motor and assists in both forward and reverse mode of operation.

**4. Capacitor (C2).** This capacitor is wired in series with C1 and the motor and assists in the reverse mode of operation.

**5. Motor (M1).** The motor is a single phase, 1/6 horsepower, 1650 RPM, continuous duty, AC motor. It is a permanent split capacitor three wire reversible motor with a no-load current draw of 1.3 Amps nominal and 5.8 Amps maximum. The motor is thermally protected.

**6. Resistor (R1).** The 20K, 5 watt resistor is wired in series with the coil of the relay and the forward capacitor and helps to protect the coil.

**7. Resistor (R2).** The 10 Ohm, 5 watt resistor is wired between the common of the relay and the normally open contact of the reverse switch.

**8. Relay (K1).** The relay latches the forward mode operation of the motor.

When the "ON" button is depressed, contacts A and B of S1 close to momentarily complete a circuit between the normally closed contacts of S2, the coil of K1, and C1 causing the motor to run forward.

## 5.0 TROUBLESHOOTING

### 5.1.1 Electrical Operation; 1026S (Continued)

When the "OFF/REVERSE" button is momentarily depressed, the normally closed contacts of S2 opened removing current from the coil of K1 and the motor.

When the "OFF/REVERSE" button is held down, the normally closed contacts of S2 open and the normally open contacts close. Current is now supplied to C2 causing the motor to run in reverse.

When too much paper is inserted into the throat opening of the shredder, the nominal voltage across the reverse windings in the motor drop. At the same time, the voltage on the coil of K1 also drops de-energizing K1 which turns the unit off.

### 5.1.2 Electrical Operation; 1036S-1 and 1246S

The 1036S-1 and 1246S electrical schematic diagram is shown in Figure 5-2 and the electrical wiring diagram is shown in Figure 5-4. The electrical circuit is comprised of the following components.

**1. ON Switch (S1).** This momentary push button switch controls the forward mode of operation. In the "ON" position, current is applied to the motor by the Printed Circuit Board (PCB1).

**2. OFF/REVERSE Switch (S2).** This momentary push button switch controls the OFF mode of the shredder operation when depressed once then released. When the switch is depressed and held down the current is reversed causing a reverse rotation of the motor.

**3. Flap Switch (S3).** This switch is opened and power removed from the motor and circuit board whenever the shred bag becomes filled enough to raise the Bag Full Flap.

**4. Capacitor (C1).** The 1036S-1 contains a 12.5 MF capacitor while the 1246S contains a 20 MF capacitor. These capacitors are wired in series with the motor and assists the motor in both running and starting.

**5. Motor (M1).** The 1036S-1 motor is a single phase, 1/6 horsepower, 1650 RPM, continuous duty, AC motor. It is a permanent split capacitor three wire reversible motor with a no-load current draw of 1.3 Amps nominal and 5.8 Amps maximum. The motor is thermally protected.

## 5.0 TROUBLESHOOTING

### 5.1.2 Electrical Operation; 1036S-1 and 1246S (Continued)

The 1246S motor is a single phase, 1/4 horsepower, 1650 RPM, continuous duty, AC motor. It is a permanent split capacitor three wire reversible motor with a no-load current draw of 2.1 Amps nominal and 6.0 Amps maximum. The motor is thermally protected.

**6. Main Printed Circuit Board (PCB1).** The P.C. Board causes the motor to run in a forward direction when the "ON" Switch is actuated and turn off when the "OFF/REVERSE" is momentarily depressed. When the "OFF/REVERSE" Switch is held down PCB1 reverses direction of the motor. If the motor stops due to a jam, PCB1 will reverse the direction of the motor then shut off after the jam has been ejected.

When the "ON" button is depressed, contacts A and B of S1 close momentarily completing a circuit between PCB1-1 and PCB1-3. At this time the coil of the forward relay on the board latches causing the motor to run in the forward direction. When the "OFF/REVERSE" button is momentarily depressed the circuit is broken causing the unit to shut off.

When the shredder becomes full, the "BAG FULL" flap pushes up opening the normally closed contacts of the flap switch. The motor is disabled until the shredded paper is either pushed down into the bag or the full bag is replaced.

If too much paper is inserted into the throat opening, the cutting head stalls forcing current on the reverse winding to drop. PCB-1 detects the change in current and activates the reverse relay on the board. The motor reverses direction to eject the paper. After the jam has been ejected the motor automatically shuts off.

When the "OFF/REVERSE" button is depressed and held a circuit is completed between PCB1-4 and PCB1-5. The motor will continue to run in reverse as long as the button is held down.

### 5.1.3 Mechanical Operation

During the shredding operation the motor drives the lower cutter shaft, via the cutter drive gear, which then drives the upper cutter shaft via the cutter gears.

The upper and lower cutter shafts are machined so that when mated, there is a nominal gap of .001 of an inch between the cutting surfaces.

## 5.0 TROUBLESHOOTING

### 5.1.3 Mechanical Operation (Continued)

Paper inserted between the cutting surfaces is sheared. If after use the gap exceeds .004 of an inch, light lifts of paper (1 to 2 sheets) may pass through the cutters folded instead of shredded. To correct the incomplete shred a cutting shaft adjustment will have to be performed as explained in Section 6.0

### 5.2 General Troubleshooting

Malfunction corrections are based on visual observations of the operator or technician. The cause of a malfunction can be isolated by noting at which point during the operating cycle the symptom occurs. The Principles of Operation paragraphs, electrical schematic diagrams, and electrical wiring diagrams will assist in pinpointing any malfunctions.

### 5.3 Troubleshooting Guide Chart

The Troubleshooting Guide Chart is arranged in order of normal operational sequence. When a malfunction occurs, read down the Symptom column until you reach the appropriate description for your symptom. Read the corresponding PROBABLE MALFUNCTION, then perform the recommended procedure in the CORRECTIVE ACTION column. When replacing electrical components which have push on type terminals, tag the electrical leads removed to ensure proper reconnection. Refer to the wiring diagrams in Figure 5-3 and 5-4 to resolve any wiring difficulties that may occur.

**WARNING:** Always unplug the shredder to avoid possible severe electrical shock before attempting any repairs.



## 5.0 TROUBLESHOOTING

### 5.3 Troubleshooting Guide Chart (Continued)

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Motor does not run. No indication of power.	Power cord disconnected.	Connect power cord to outlet.
	On switch defective.	Perform continuity check and replace if defective.
	Defective P.C. Board.	Replace PCB1.
	Motor overheated.	Allow motor to cool.
	Defective motor.	Check for shorted or open windings. Replace if necessary.
Motor hums but does not run.	Defective Bag Full Flap switch.	Check continuity and replace if necessary.
	Cutting head jammed.	Clear cutters.
	Defective wire termination.	Perform continuity checks and correct poor termination.
Motor does not run in reverse mode.	Defective motor capacitor.	Check and replace if necessary.
	Defective Reverse switch.	Check continuity and replace if necessary.
	Defective wire termination.	Perform continuity checks and correct poor termination.
Shred capacity has diminished.	Defective P.C. Board.	Replace PCB1.
	Shredded waste jammed in cutters.	Clean cutters.
	Cutters too tight.	Adjust spanner nut on top cutter shaft.

## 5.0 TROUBLESHOOTING

## 5.3 Troubleshooting Guide Chart (Continued)

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Shred capacity has diminished.	Cutters are bent.	Visually inspect for bent cutters, replace if necessary.
Shredder runs noisily.	Shredded waste jammed in cutters.	Clean cutters.
	Strippers damaged or rubbing on cutters.	Visually inspected for bent or rubbing strippers. Adjust or replace if necessary.
	Warped Cutter Drive Gear.	Visually inspect gear, replace if necessary.

PAPER AITS  
BAG FULL FLAP

~~OTHER~~ ~~STORMER~~  
CUT BASKET

# 5.0 TROUBLESHOOTING

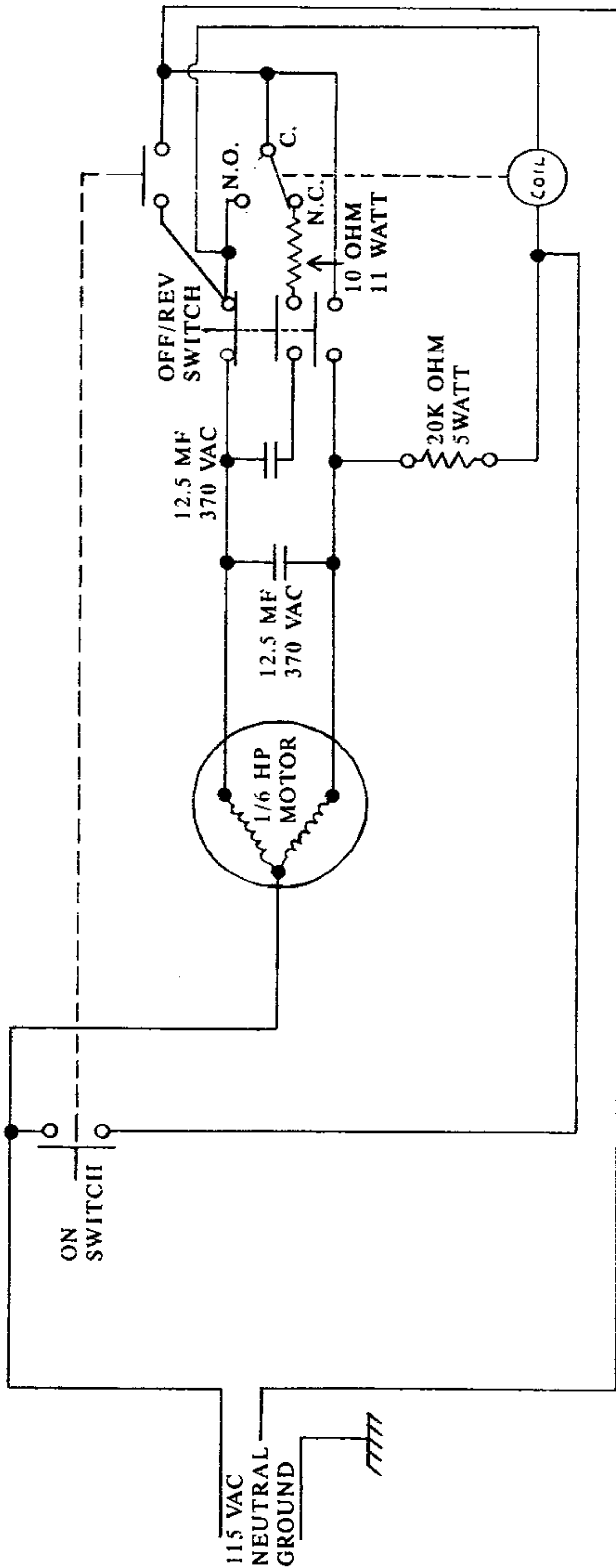


FIGURE 5-1 ELECTRICAL SCHEMATIC DIAGRAM 1026S

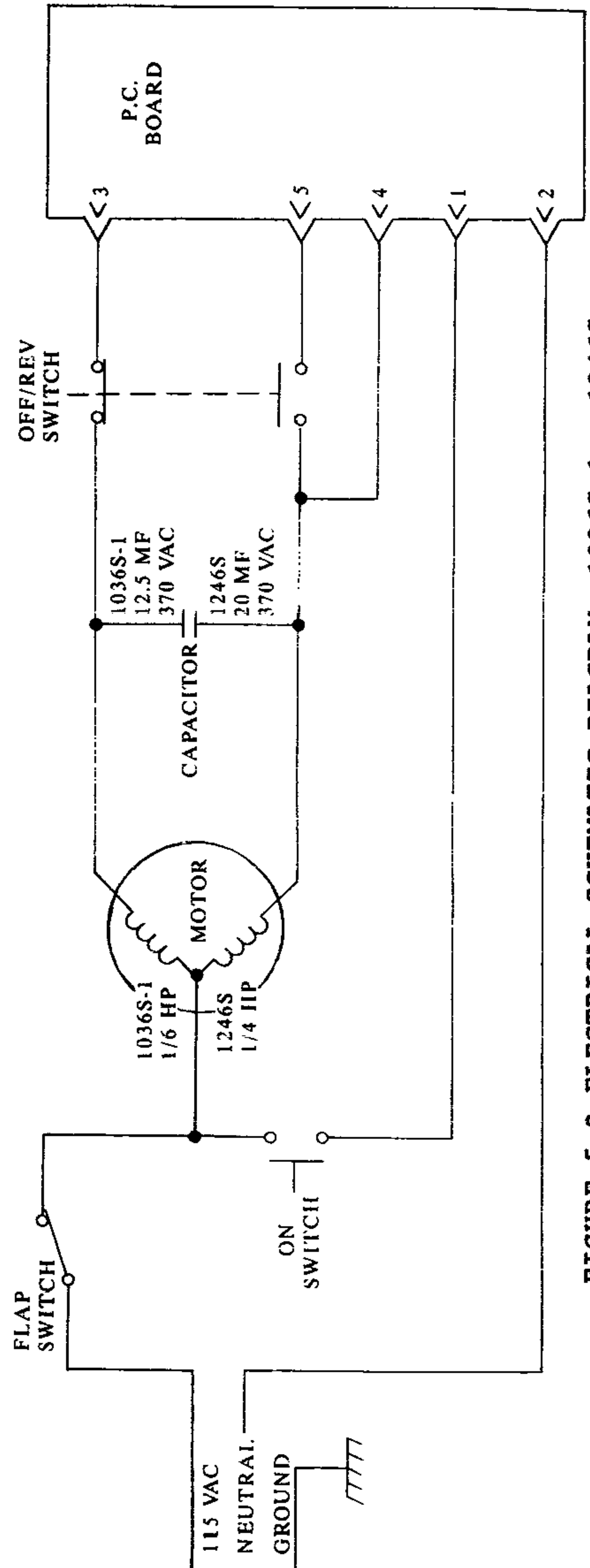


FIGURE 5-2 ELECTRICAL SCHEMATIC DIAGRAM 1036S-1 - 1246S



# 5.0 TROUBLESHOOTING

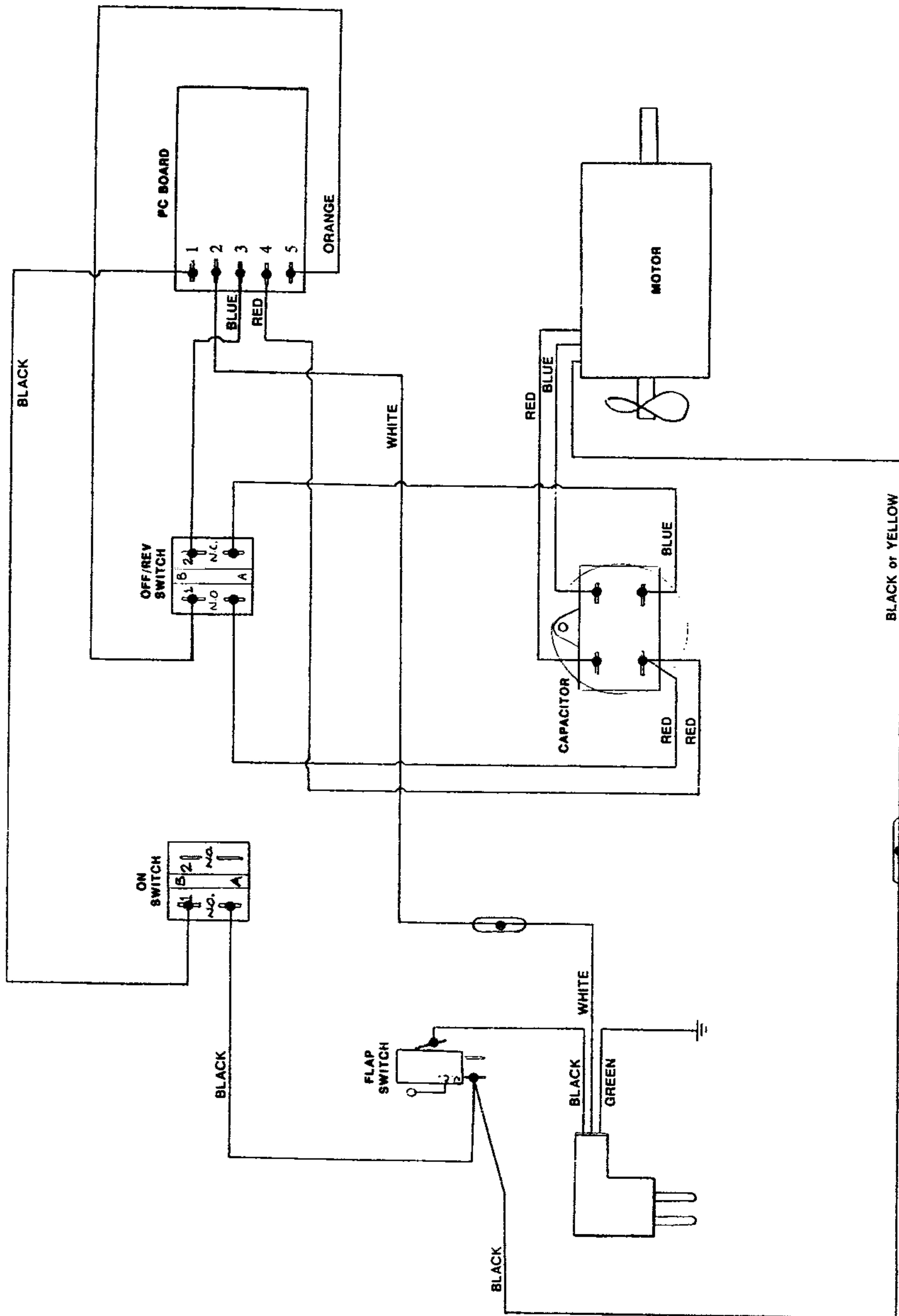
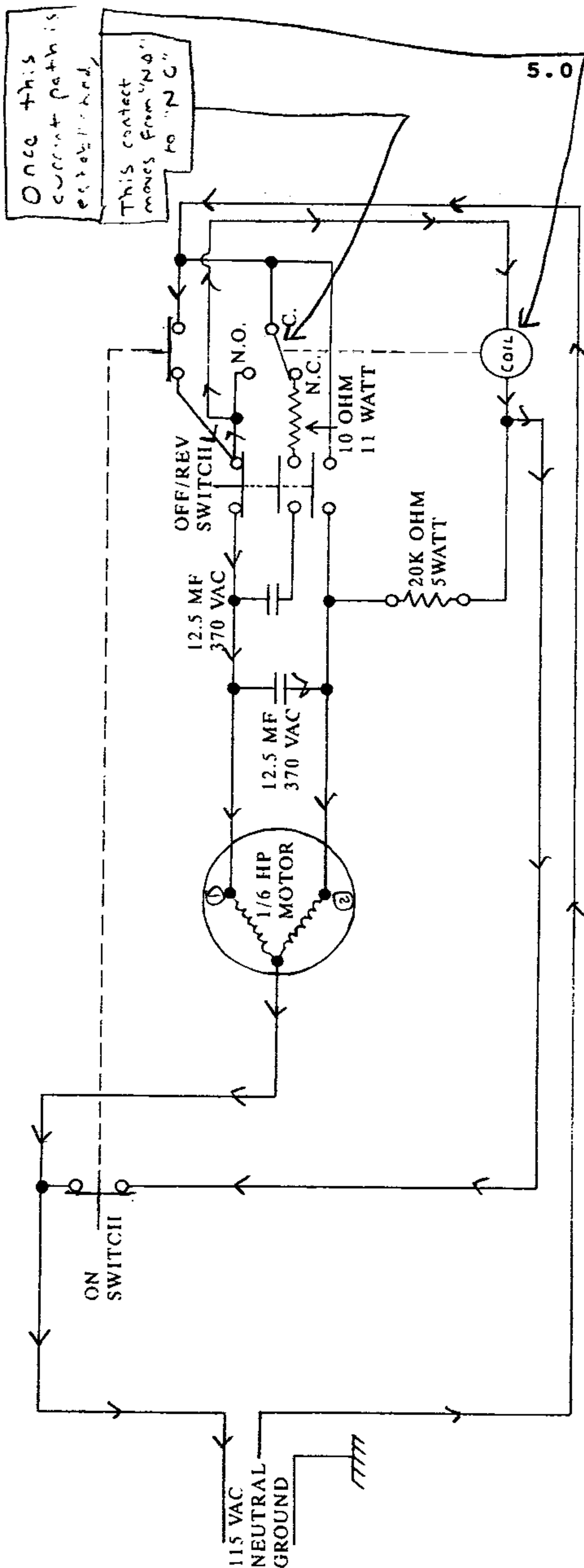


FIGURE 5-4 ELECTRICAL WIRING DIAGRAM 1036S-1 - 1246S



## 5.0 TROUBLESHOOTING

FIGURE 5-1 ELECTRICAL SCHEMATIC DIAGRAM 1026S

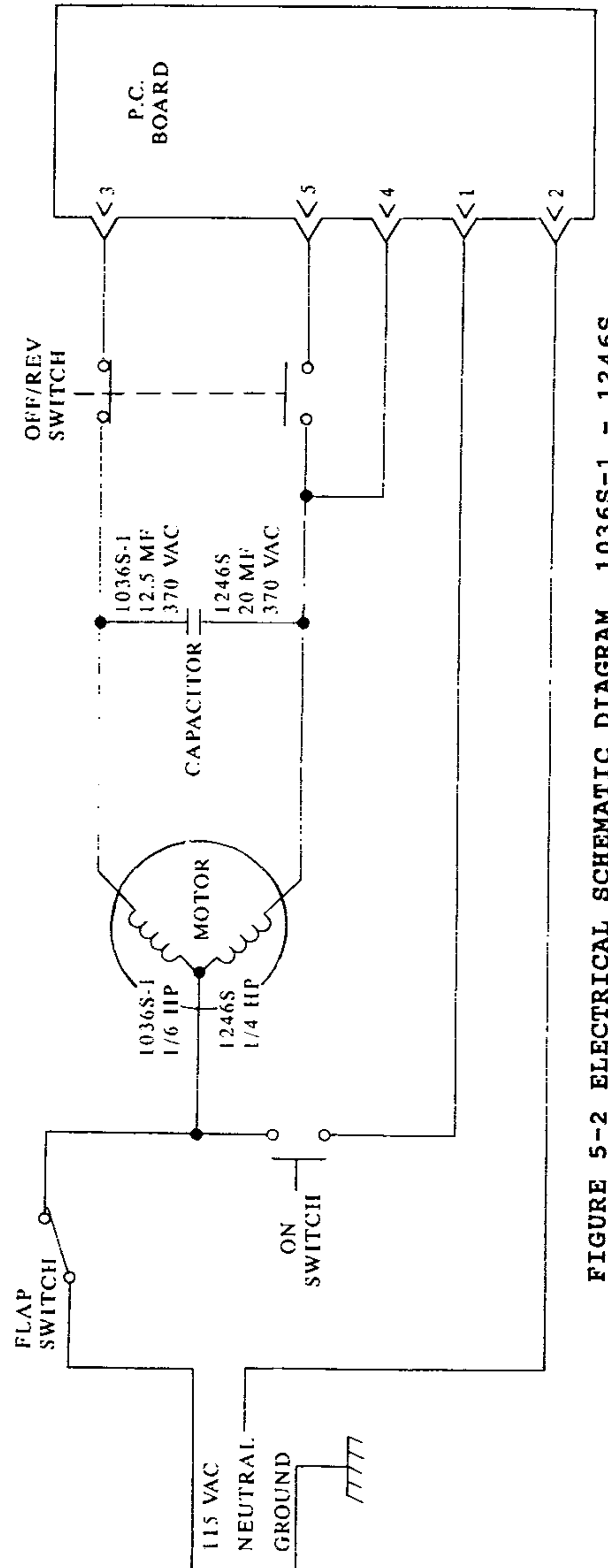


FIGURE 5-2 ELECTRICAL SCHEMATIC DIAGRAM 1036S-1 - 1246S