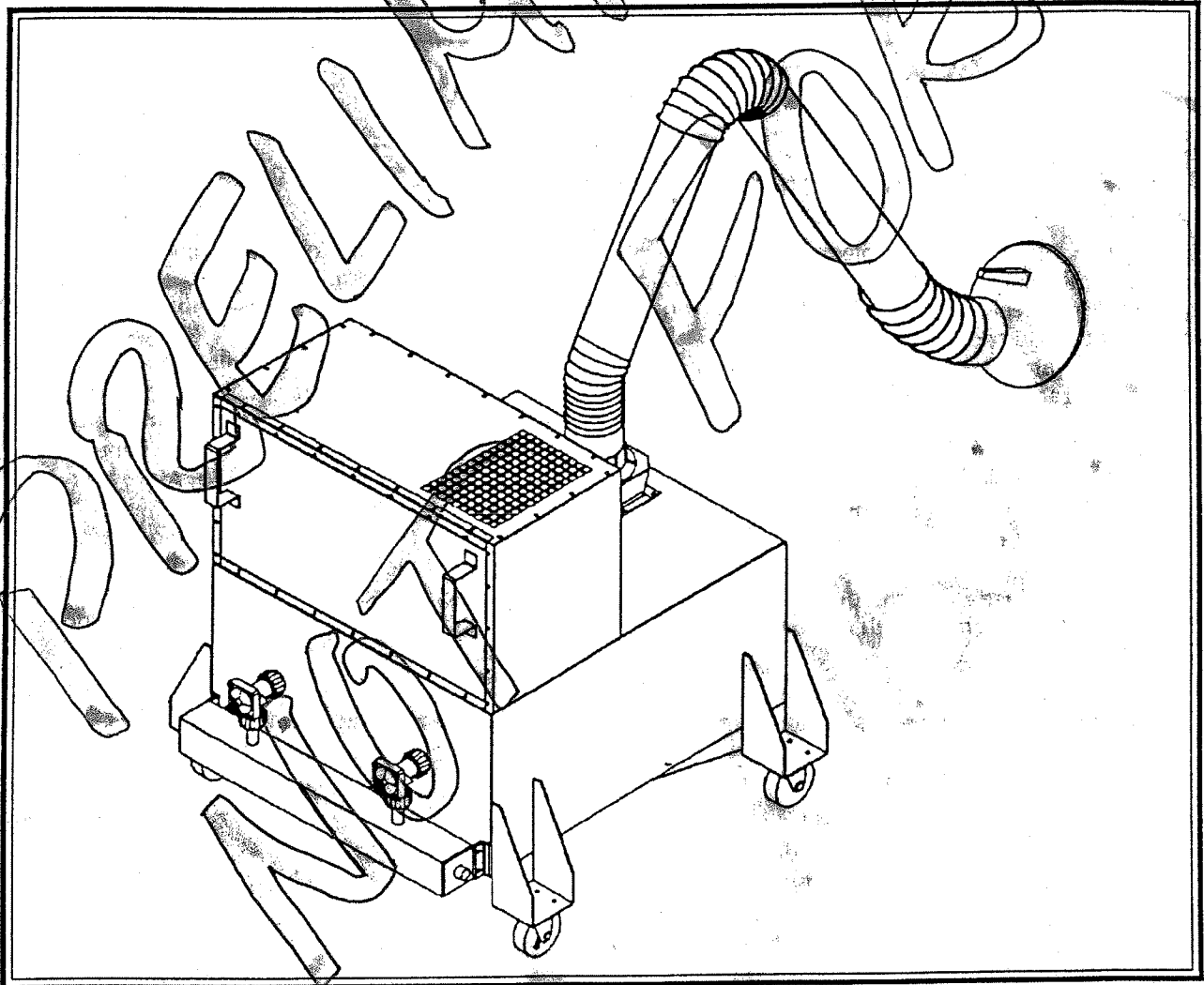


TORIT® INSTALLATION AND OPERATION MANUAL

Torit Pulse Cleaned Porta-Trunk™ Model PCPT-1100
Includes Installation, Operation, and Service Instructions



IMPORTANT

This manual contains specific precautionary statements relative to worker safety in appropriate sections. Read this manual thoroughly and comply as directed. It is impossible to list all of the potential hazards of dust control equipment. It is imperative that use of the equipment be discussed with a Torit representative. Personnel involved with the equipment or systems should be instructed to conduct themselves in a safe manner.

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Parts and Service Program

For genuine Torit replacement filters
and parts, call the Torit Express Line:

1-800-365-1331

PARTS ORDERING INFORMATION

When ordering parts, give model number and
serial number of dust collector, part number,
description and quantity of parts desired.

Data Sheet

Customer Name	_____
Address	_____
Shipping Date	_____
Installation Date	_____
Model Number	_____
Serial Number	_____
Filter Medium	_____
Accessories	_____
Other	_____

1.0 Introduction

The Pulse Cleaned Porta-Trunk PCPT-1100 Source Collector collects dust, smoke and welding fumes before they reach the breathing zone. A halogen lamp lights the work area. When the light is located to illuminate the workspace, the intake is also properly located.

The Pulse Cleaned Porta-Trunk collector operates with either a conventional 115 volts single phase 60 cycle or 208, 230, 460 volts 3 phase 60 cycle power supply.

The Porta-Trunk collector is mounted on wheels so that it is easy to move to different work areas using the push handles located on the motor plenum. Two of the casters mounted on the PCPT-1100 can be locked to hold the collector in position.

The Ultra-Web®FR (Flame Retardant) elements have a proprietary surface coating on the filter medium. This special barrier filters submicron size fume or dust particles and retains them on the surface. The elements are pulse cleaned with compressed air when required.

1.1 Operational Explanation (See Figures 1 and 2)

NOTE

The Porta-Trunk collector is intended for intermittent duty, not continuous duty.

1.1.1 Normal Operation

To start the the PCPT-1100, turn the on-off switch that is mounted in the handle of the Flex-Trunk hood. The on/off switch also controls the 75 watt halogen worklight mounted in the Flex-Trunk hood.

Fume or dust enters through the Flex-Trunk hood and then onto the filter element where it is collected on the outside surfaces of the pleated filter cartridge. Clean air flows up through the center of the filter cartridge into the blower fan, through the silencer section of the cabinet and exits through the top clean air outlet.

The hood is usually located 12 to 18 inches above the arc zone, depending upon the type of welding. With the hood in this general location, the lamp at the end of the trunk should be positioned to light the work area. The air intake is now in a good position to collect fumes and smoke being generated by the welding operation.

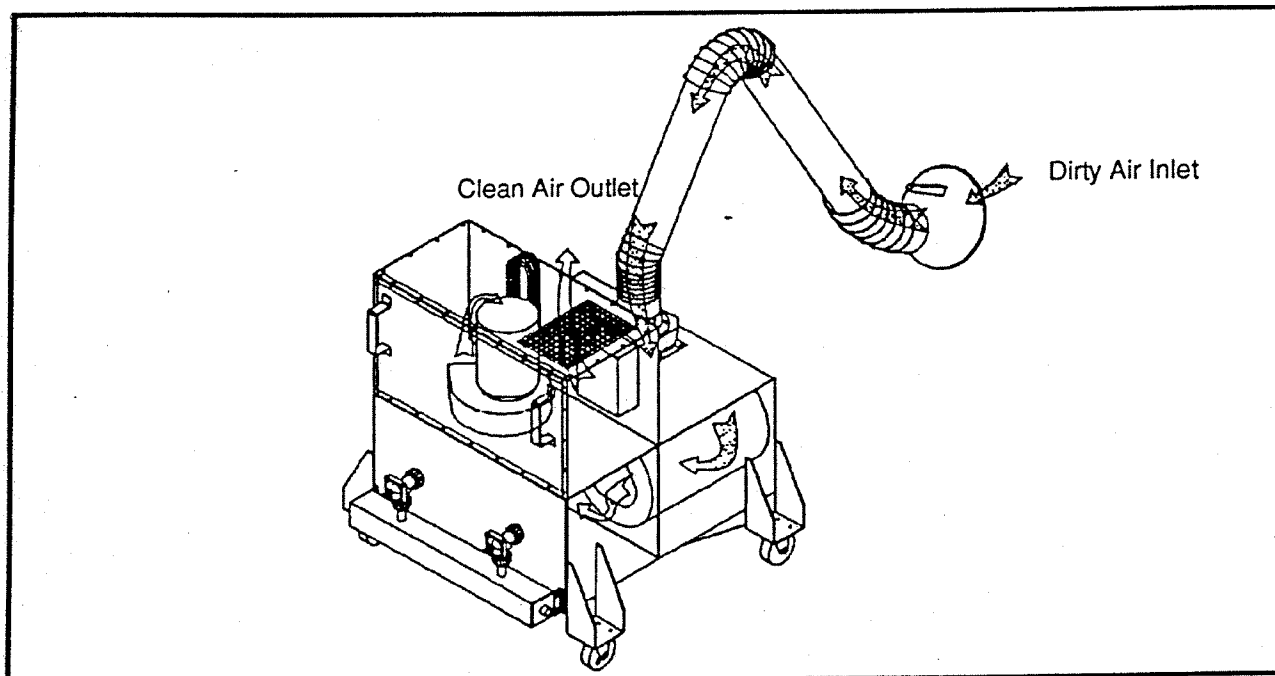


Figure 2
Operational Schematic

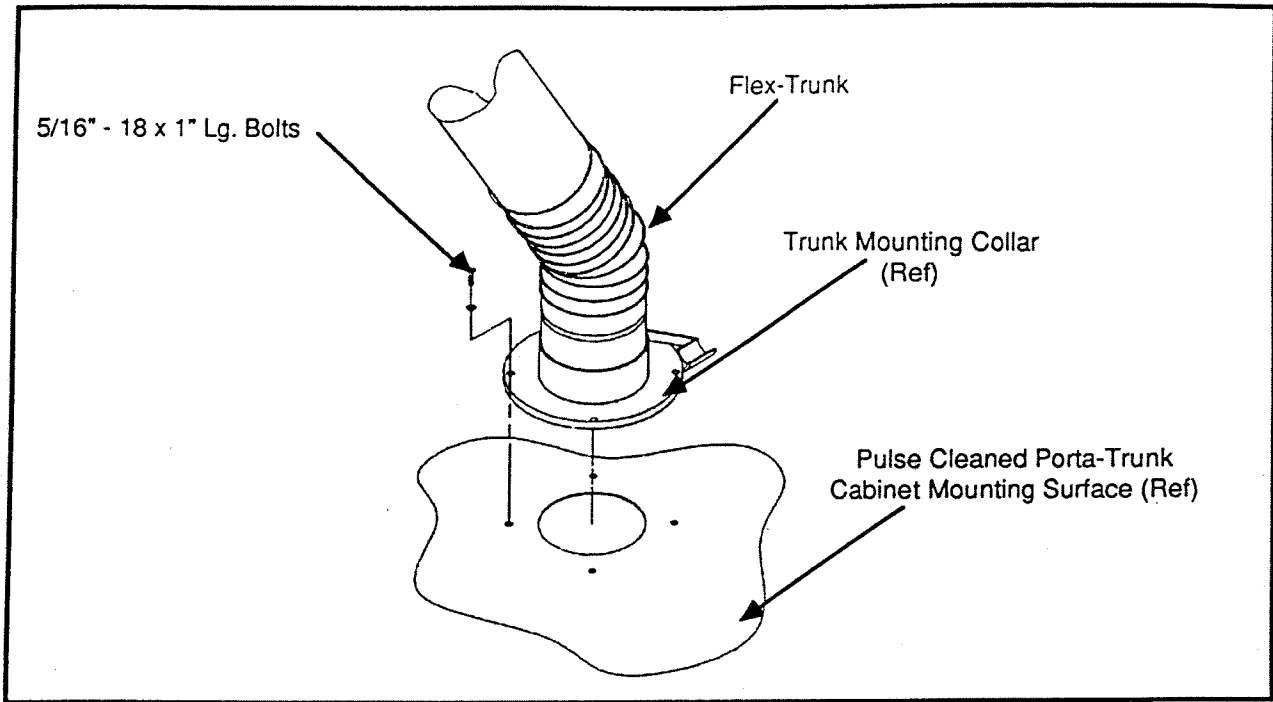


Figure 3
Flex-Trunk Mounting (Bench Mount)

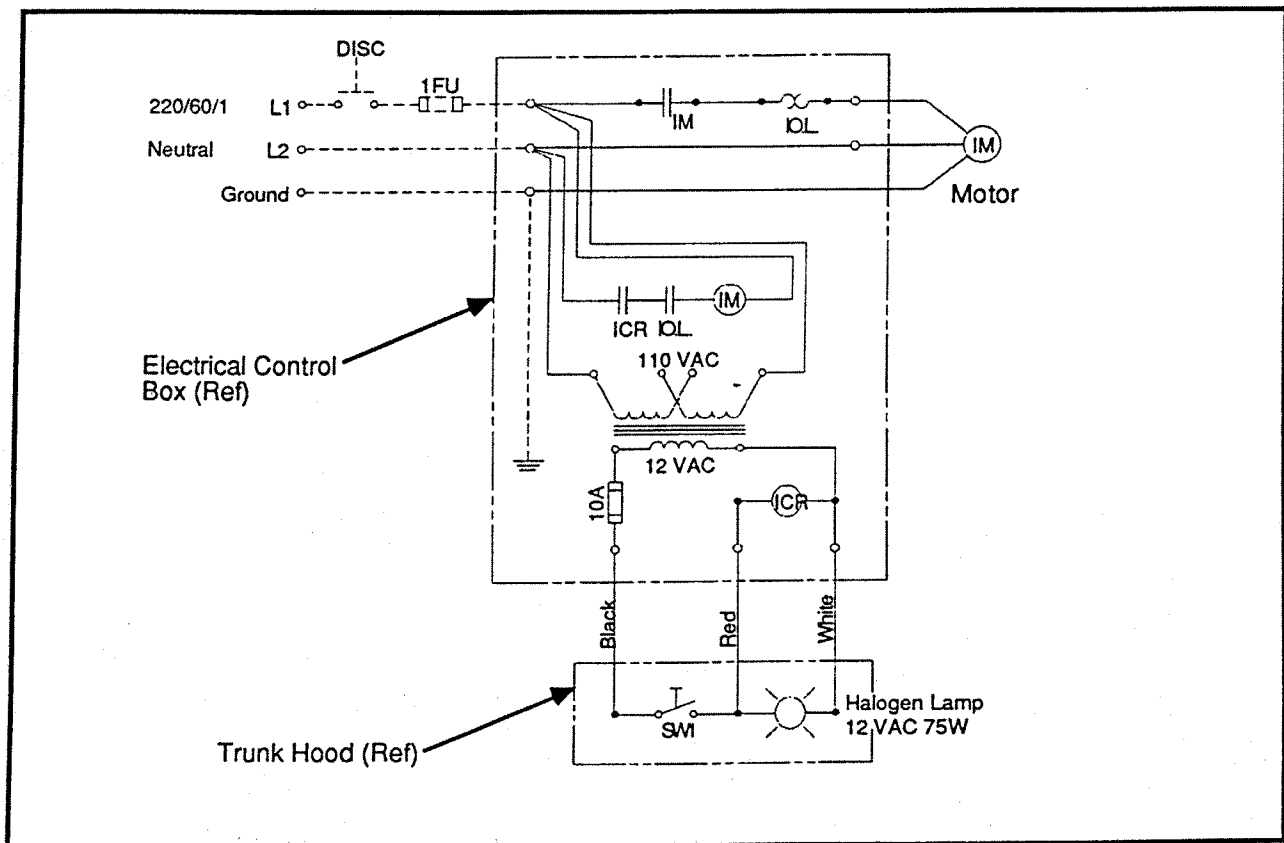


Figure 4
Wiring Diagram - Single Phase

2.5.1 Electrical Operation - Single Phase Only (See Figures 4, 5, 6, and 7)

The Pulse Cleaned Porta-Trunk requires only a 120V single phase 15 amp circuit to operate. The 75 watt Halogen light and the on/off switch operate on a 12V circuit. The 1-1/2HP motor is rated at 14 amps or less at 120V and is also supplied with an automatic thermal overload protection.

NOTE

Use of any other type of motor may cause the unit not to start or experience electrical component damage.

Fuses are provided in the electrical control box to protect both the 120V and 12V circuits.

2.5.2 Electrical Operation - Three Phase Only (See Figures 5, 8 and 9)

The Pulse Cleaned Porta-Trunk requires a three phase circuit to operate the collector. The electrical supply cord does not come with a plug-in connector because of the many different types. When the electrical plug for your receptacle has been installed in the connector, check the fan rotation by looking down at the top of the fan motor. The rotation should be clockwise for proper fan performance. If the fan rotation is backwards - counterclockwise - interchange any two of the three supply leads. It is the customers responsibility to provide the proper protection for the supply circuit.

The motor control circuit is operated by the switch located on the hood of the Flex Trunk. This switch is a 12 VAC circuit that operates the halogen light in the Flex-Trunk Hood and the fan motor starter circuit. The 12 VAC and the 120 VAC circuits are protected by fuses in the electrical control box. The fan motor circuit has an adjustable thermal protection on the starter to protect the fan motor from overload.

2.6 Installation - Compressed Air Supply

NOTE

- It is important that the compressed air supply be both oil and moisture free. Contamination in the compressed air that is used to clean the filter elements will result in poor cleaning or cleaning valve failure and a loss in collector performance.
- Before connecting the air lines to the air manifold, purge the air lines to remove debris.

CAUTION

Shut off and bleed off compressed air supply before doing any service work.

Remove the plastic pipe plug from the end of the dust collector compressed air manifold and connect the compressed air supply line. Use thread-sealing tape or pipe sealant on all the compressed air connections. The compressed air shut-off valve, bleed-type regulator and gage, filter and automatic condensate valve (supplied by others) should be installed in the air supply line.

Be sure that all compressed air components are adequately sized to meet the maximum system requirements of 1.1 scf per pulse at 90 psig supply pressure.

Remove the plastic pipe plug from the end of the dust collector compressed air manifold and install a shut-off valve and a bleed-off valve before installing the compressed air supply. If the dust collector is moved frequently, quick disconnect air supply fittings can be installed after the compressed air shut-off and bleed-off valves are installed. A pipe plug will need to be installed on the opposite end of the compressed air manifold. Use thread-sealing tape or pipe sealant on all compressed air connections. The compressed air shut-off valve, bleed-type regulator with gage, filter and automatic condensate valve (supplied with others) should be installed in the air supply line.

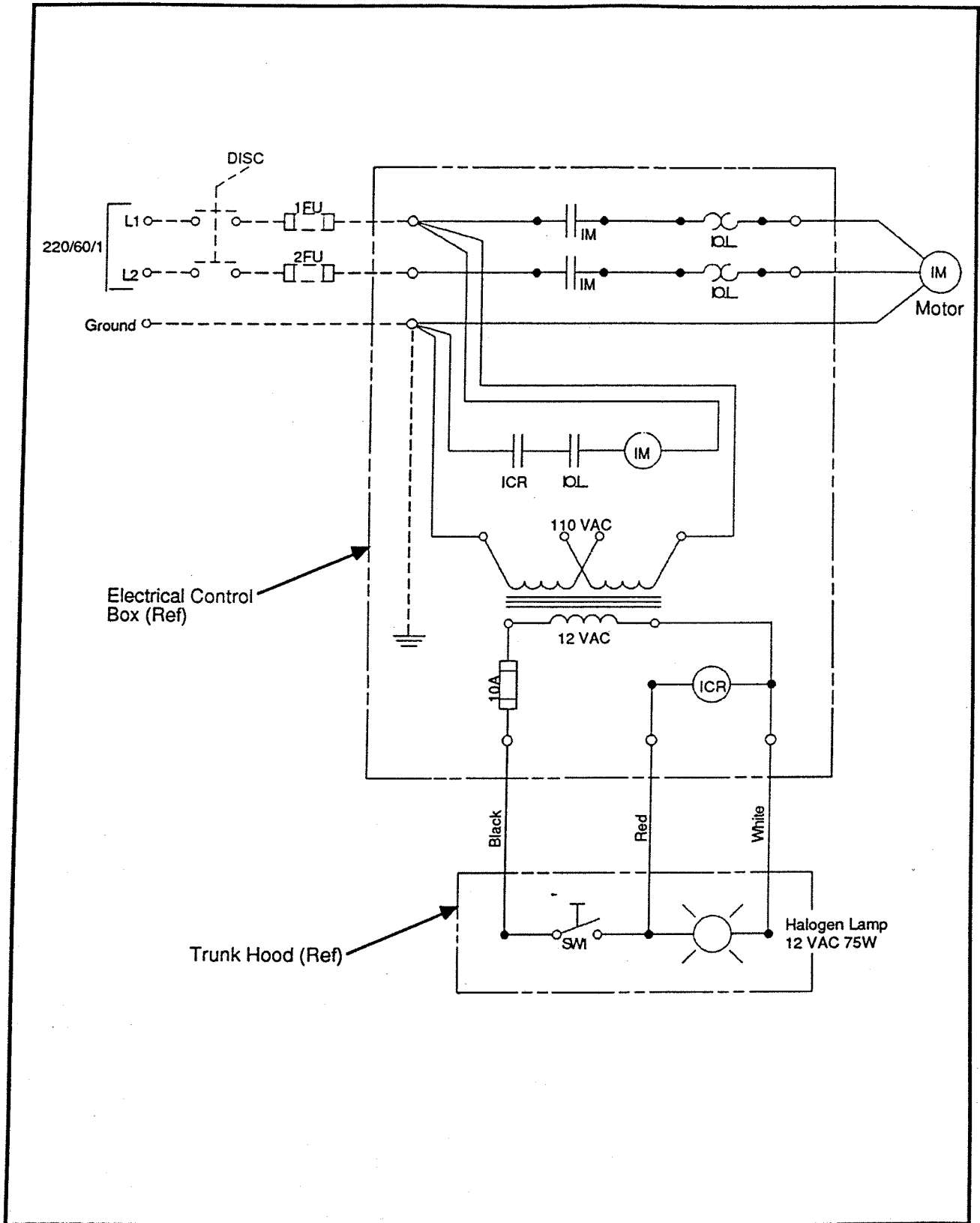
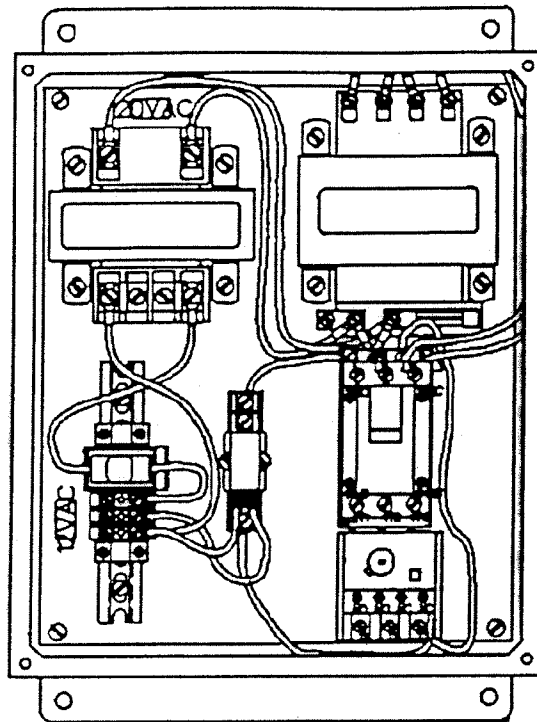


Figure 7
Wiring Diagram - 220/60/1



old style relay

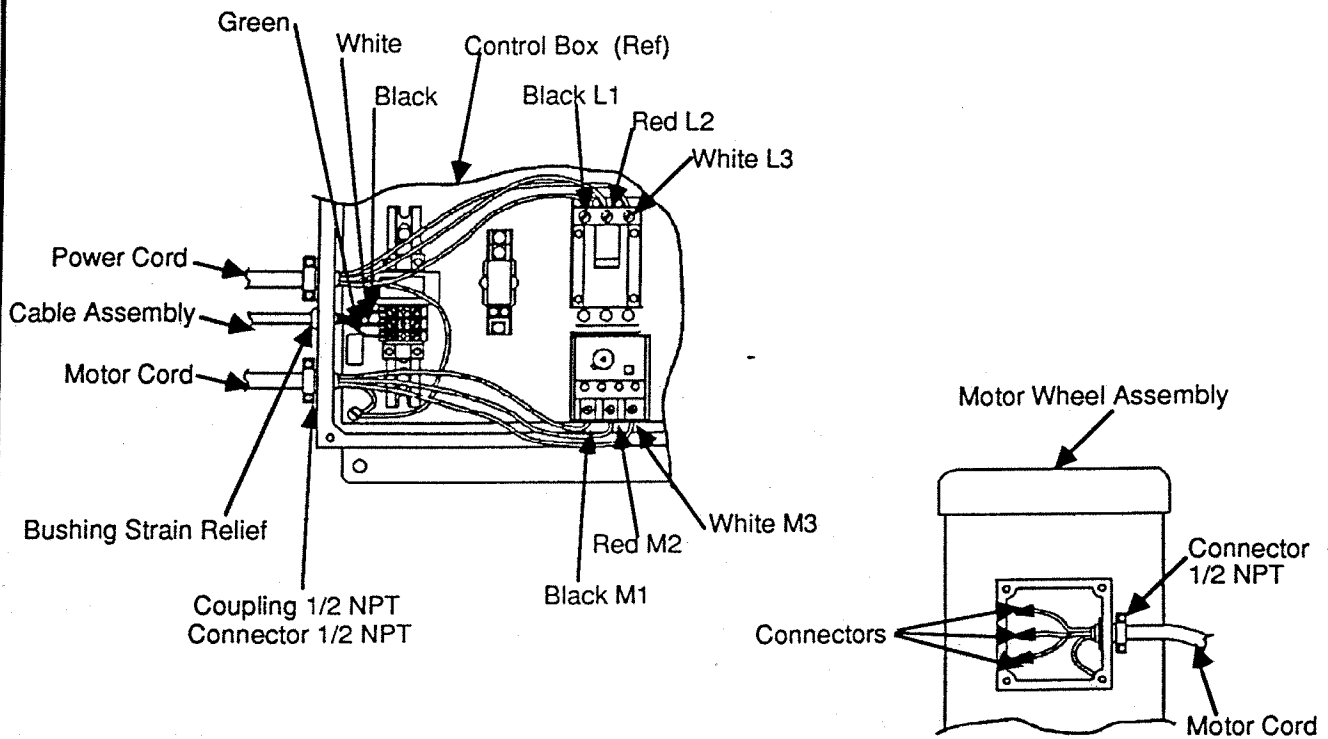


Figure 9
Control Box Modified - 460/60/3

4. Connect the tubing to the high pressure and low pressure port fittings located on the Magnehelic gage. The high pressure port tubing is attached to the pressure fitting mounted in the dirty air chamber (filter section). The low pressure port is attached to the fitting in the clean air chamber. See Figure 10.
5. Zero and maintain the Magnehelic gage per the operating and maintenance instructions provided by the manufacturer of the Magnehelic gage.

3.0 Pre Start-Up Check (See Figures 1 and 2)

CAUTION

Check to be sure air exhaust plenum is free of tools, debris, etc. while checking fan rotation. Stand clear of exhaust.

4.0 Start-Up (See Figures 1 and 2)

1. Start the fan motor using the switch located on the Flex-Trunk and then shut off. Wait for the fan motor to slow down, then visually check rotation. Rotation should be clockwise when viewed from the top panel location (top of motor).
2. **Single phase fan motors only**
If the fan motor is rotating counterclockwise, the internal wiring of the fan motor will have to be changed. See the motor manufacturer's wiring diagram on the motor.
3. **Three phase motors only**
If the fan motor is rotating counterclockwise, switch any two supply wire leads.
4. Confirm that the damper control on the Flex Trunk is in line with the rigid ducting. This is the wide open setting.
5. Confirm that all the filter access covers, Flex-Trunk and hopper dust clean-out door are on and tightened securely.
6. Connect the compressed air supply and adjust to 90 psig. Turn on the shut-off valve. Push the pulse valves' manual push buttons to insure that they are working.

NOTE

- Do not increase the air pressure above 100 psig, as filter damage may result.
- Less than three seconds between pulse will cause a lack of compressed air supply to the manifold and a loss of cleaning pressure.
- Do not push the manual pulse button and hold it in. This will cause poor cleaning of the filter elements. The manual pulse button should be pressed and released rapidly for the optimum cleaning of the filter elements.

5.0 Routine Maintenance (See Figure 1)

CAUTION

Disconnect the collector from the electrical power supply source and shut off and bleed down the compressed air supply before servicing any portion of the collector.

CAUTION

- Respiratory equipment should be used when opening the dust collector for the removal of contaminants or filter elements.
- Dispose of contaminants in a safe and responsible manner.

Periodically clean out the dust hopper to avoid overfilling, which causes shortened filter life.

1. Remove the hopper access door by turning the two (2) knobs counterclockwise by hand and setting the access hopper door aside.

NOTE

- Do not drop or rap the element on the floor or other hard surface, as damage to the filter element will occur, resulting in leakage.
- It is necessary to clean the dust off the gasket sealing area to ensure a positive seal of the filter gasket.

3. Inspect the tube sheet to make sure the gasket sealing area is free of dust or contaminant.

6.2 Filter Element Replacement (See Figure 11)

NOTE

- The filter element gasket end on all filters must be inserted first, facing inward toward the clean air section or severe leakage will occur.
- Check to make sure that the knobs are securely tightened, as lack of compression of the filter gaskets can cause leakage.

1. Slide one new Torit Ultra-Web FR (Flame Retardant) filter element onto each suspension yoke.
2. Wipe off the access cover gaskets and re-install the access covers by turning the knob clockwise onto the suspension yoke threads until tightened securely by hand.
3. The PCPT-1100 is now ready to start up. Lock on the electrical power and turn on the compressed air supply before starting the PCPT-1100.

6.3 Original Equipment Filter Element (See Replacement Parts List Manual)

The Torit Ultra-Web FR is the only replacement filter that will provide the high level of performance that you expect from your investment in the PCPT-1100 Weld Fume Collector.

6.4 Flex-Trunk Service (Bench Mount)

6.4.1 Friction Joint Adjustment (See Figures 12 and 13)

Tools Required:

- (1) Slotted Screwdriver or 3/16" Nut Driver
- (2) 9/16" Box or Open Wrenches or (2) Adjustable Wrenches
- Torque Wrench - inch/lbs.

1. Determine which joint needs adjusting.
2. Using the screwdriver or the 3/16" nut driver, loosen the two band clamps that hold the flexible ducting onto the joint assembly being adjusted.
3. Using the screwdriver and holding down the cable on either side of the nylon cable clamp, pry up the center button on the nylon cable clamp until it is fully extended. Pull the electrical cable and nylon cable clamp out of the hole in the Flex-Trunk rigid tubing (See Figure 12).
4. Slide the flex ducting off the joint and onto the rigid ducting where the cable hold down clamp was removed.

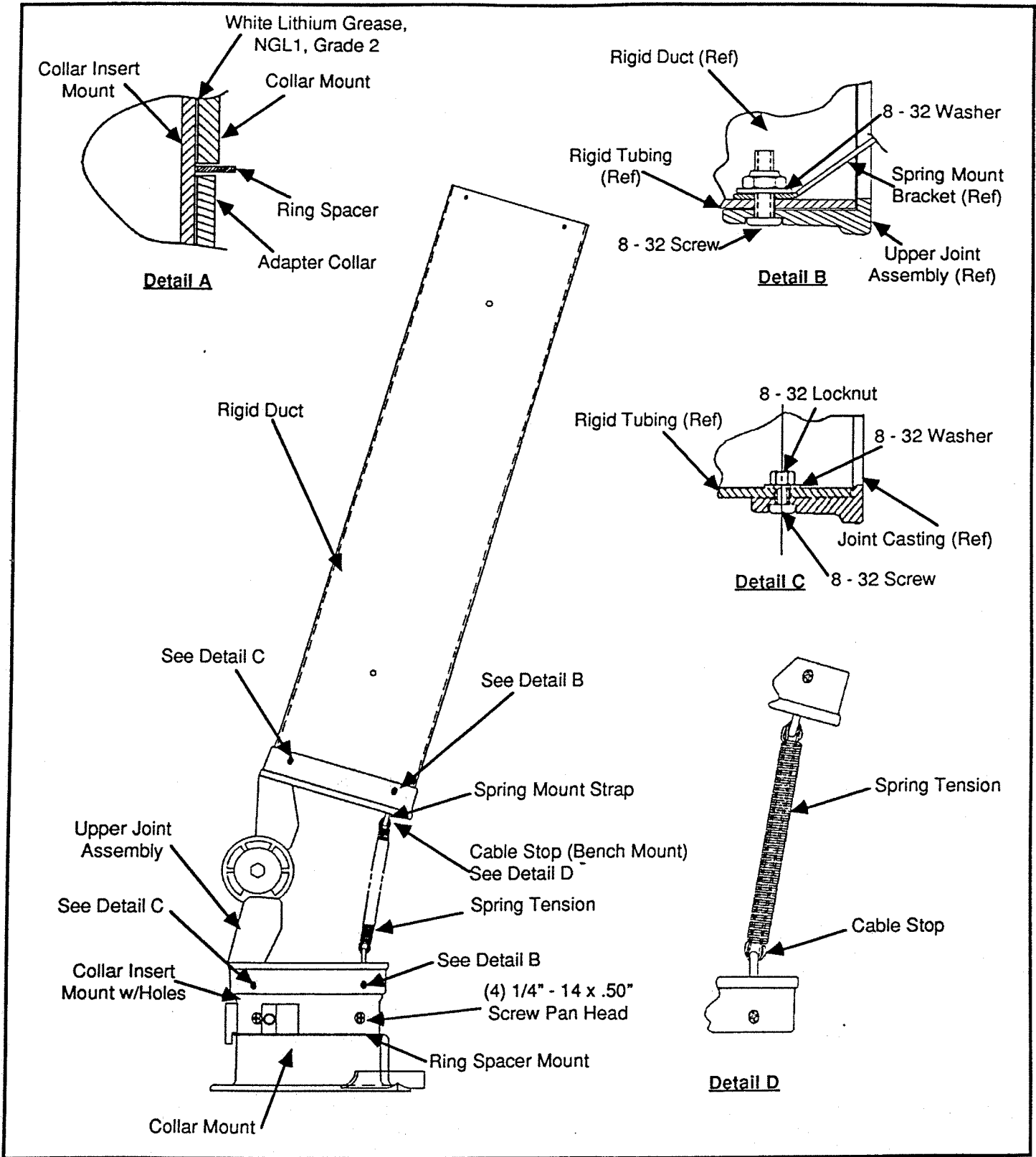


Figure 14
Collar Joint Assembly - 7 Foot Bench Mount

6.4.3 Swivel Friction Joint Replacement (Bench Mount) (See Figures 14 and 15)

Tools Required

- (1) Phillips Screwdriver
 - (1) 5/16" Hex Nut Driver
 - (2) 9/16" Open or Box End Wrenches
1. Follow instructions 2 thru 4 in the Friction Joint Adjusting Section 6.4.1 and disconnect electrical cable following instructions in Electrical Installation Section 2.7 (See Figure 5).

CAUTION
Remove the springs on the swivel joint before loosening the screws in Step 2.

2. First remove the spring(s) by stretching and then removing from the spring bracket mount. Remove the four (4) 8 - 32 X .75" lg. screws, washers and locknuts that hold the spring bracket mount to the friction joint assembly. Next remove the two (2) 8-32 X .7" lg. screws, washers and locknuts that retain the rigid plastic tubing. Remove the rigid plastic tubing, being careful of the electrical cable connections.

NOTE
Do not drop as damage to the Flex-Trunk parts may result.

3. Remove the remaining two (2) 8 - 32 X .75" lg. screws, washers and locknuts holding the friction joint assembly to the swivel base mounting. Remove the friction joint assembly.
4. Disassemble the friction joint assembly by removing the 3/8-24 jam nut, then remove the inner 3/8-24 jam nut and set them aside. Remove the spring washer and then remove the 3/8-24 bolt and spring washer from the opposite side. The friction disc material that is between the friction joints will fall out. Replace the friction joint material that requires replacement by aligning the friction disc material between the two friction joints and installing the 3/8-24 bolt and spring washer that were removed. Next

install the spring washer onto the 3/8-24 bolt on the opposite side. Install the first 3/8-24 jam nut and tighten to 60 to 80 in/lbs of torque. Install the outer 3/8-24 jam nut, but do not tighten to the other jam nut as adjustment will be required after assembly is installed.

5. Install the new friction joint assembly onto the swivel collar insert by aligning the holes opposite the side where the spring bracket mount is positioned and fastening in place using two (2) 8-32 screws, washers and locknuts. Tighten securely. Position the spring bracket mount with cable stop (See Figures 15 and 16) and fasten in place using two (2) 8-32 screws, washers and locknuts. Tighten securely. Install the spring by sliding the cable stop inside of the spring coils and hooking the spring eye onto the spring bracket mount.
6. Reposition the rigid plastic ducting onto the friction joint assembly by aligning all four (4) holes on the opposite side of where the spring bracket mount is located, fasten in place using two (2) 8 - 32 screws, washers and locknuts and tighten securely. Position the spring bracket mount and cable stop (See Figures 15 and 16). Fasten in place using the two (2) 8-32 screws, washers and locknuts and tighten securely.
7. Check Flex-Trunk arm movement and adjust if required by following the instructions in the Friction Joint Adjustment Section 6.4.1.
8. Position and secure flex duct back over friction joint.
9. Secure electrical cable back to the rigid tubing. (Refer to Step 7 in the Friction Joint Adjustment Section 6.4.1.)
10. Now install the electrical cable connections. (Refer to Electrical Installation Section 2.7 and See Figure 5).

6.5.1 Light and Lens Replacement (See Figures 16 and 17)

Tools required:

- (1) Phillips Screwdriver

1. Remove the two (2) 8 - 32 grill retaining screws and set them aside.
2. Tip grill out. (Grill will remain attached to hood by the formed wires at back of the grill). Unplug light wires.
3. Remove the four (4) 8 - 32 screws holding the light and lens retaining ring in position. Remove the ring and the protective glass lens.
4. Plug the light bulb in using a clean glove or cloth.
5. Position the light, lens and retaining ring back into the grill and secure with four (4) 8-32 screws. Plug in light wires that were removed in Step #2.

NOTE

- Use only Torit Replacement Parts or electrical failure could occur. Reference Replacement Parts List.
- Do not touch the Halogen light bulb with your hands as it will significantly shorten the bulb life.

6. Replace the grill, light and lens back into the hood and fasten in place using the two (2) 8-32 retaining screws removed in Step #1.

6.6 Flex Ducting Replacement (See Figures 16 and 17)

Tools required:

- (1) Phillips Screwdriver
- Slotted Screwdriver or a 5/16" Hex Nut Driver

1. Loosen the two band clamps on the flex duct to be replaced.

2. Remove the plastic cable, hold down clamp as described in Friction Joint Adjustment Section 6.4.1 (See Figure 12).

3. Slide flex ducting off the friction joint assembly and onto the rigid ducting towards where the cable hold down clamp was located.

CAUTION

On the swivel joint assembly, remove the two springs before loosening the screws holding the rigid duct. Refer to the Swivel Friction Joint Replacement Section 6.5.3.

4. Remove the four (4) 8 - 32 screws, washer and locknuts holding the Flex-Trunk rigid duct to the friction joint casting. Remove the rigid ducting from the friction joint casting and set aside, being careful of the electrical cable connections.

NOTE

When removing these screws be careful to support the ducting so that it does not break out or fall and damage other Flex-Trunk components.

5. Slide the existing flexible duct off and then slide the new piece with duct clamps onto the friction joint casting.
6. Reposition the Flex-Trunk rigid ducting by aligning the holes and fasten into place using four (4) 8 - 32 screws, washers and locknuts. See Middle Friction Joint Replacement Section 6.4.4 (See Figures 15 and 16).
7. Now install the flex duct over the friction joint assembly and tighten the duct clamps.
8. Replace the electrical cable hold down clamp. See instructions in the Friction Joint Adjustment Section 6.4.1 (See Figure 12).

7.0 TROUBLESHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	REMEDY
<p>A. Blower wheel and motor do not start. (Cont)</p>	<p>4. Relay 12 volt AC has failed.</p>	<p>4. With the Flex-Trunk hood switch on, check with a volt ohm meter for 12 volts AC input to the relay. Next check for 120 volts AC input and output on the relay socket terminals. If there is no voltage output, replace the 12 volt AC relay. (Reference Figures 5, 6, 7, 8 and 9).</p>
	<p>5. Heater motor overload protection has failed.</p>	<p>5. With the Flex-Trunk hood switch on, check with a volt ohm electrical meter for voltage inputs and outputs on contactor through the heater terminals. Be sure before testing that the heater thermal protection has cooled to reset. or has been manually reset on phase 3. If there is no voltage output, replace the heater overload relay. (Reference Figures 5, 6, 7, 8 and 9).</p>
	<p>6. Starter contactor has failed.</p>	<p>6. With the Flex-Trunk hood switch on, check with a volt ohm meter for 120 volts AC input to starter coil. No input, check the thermal overload protection. Next check for supply voltage input and output out of the contactor terminals. If 120 volt AC input to coil relay is okay on starter contactor and it still does not function, replace the starter contactor. (Reference Figures 5, 6, 7, 8 and 9).</p>
<p>B. Blower wheel and motor start but do not keep running.</p>	<p>1. Supply circuit is not adequate.</p>	<p>1. Check for sufficient amperage to run the Flex-Trunk, (Reference Motor Manufacturer's nameplate for amperage, voltage requirements.) Also check to see that there is not too much other equipment on your supply circuit.</p>

7.0 TROUBLESHOOTING GUIDE

TROUBLE	POSSIBLE CAUSE	REMEDY
C. Insufficient air flow at hood. (cont.)	2. Flex-Trunk damper is closed.	2. Locate the Flex-Trunk damper control handle and move the handle to be inline with the rigid ducting. This will be the wide open setting (See Figures 16 and 17).
	3. Obstruction in ducting or hood.	3. Check the Flex-Trunk, hood, ducting, flex duct, and exhaust ducting (if used), for blockage. Remove any debris that is blocking airflow. (Reference the Flex-Trunk Service Section 6.5 located in this manual).
	4. Flexible ducting is torn or collapsed, or the rigid ducting is broken or collapsed.	4. Check the flexible ducting and replace any damaged parts. Check the rigid ducting on the Flex-Trunk or exhaust ducting (if applied) for cracks or collapsed section(s). (Reference Flex-Trunk Service Section 6.5 located in this manual).
	5. Fan exhaust area restricted.	5. Check the fan exhaust area for blockage. Remove debris that is blocking the fan exhaust area. Also remove all material that may be stored on top of the collector (such as boxes, tools, etc).
	6. Filter element plugged.	6. Replace filter element by following the Service Section 6.0.
	D. Visual discharge of dust or fume at collector exhaust.	1. Filter cartridge is leaking.

NOTES