



# **SPARTAN**

## **Model 100**

### **Air Switch Conversion Kit**

The Air Switch Conversion Kit is intended to update your older Spartan Tool Model 100 to the current electrical design of Spartan Tool sewer cleaning machines. The new design uses a switch actuated by an air bulb to keep electrical connections away from wet floors. The kit includes an outlet box assembly with switches, a new power cord, an air bulb actuator with hose and a motor ground wire. Though this is a relatively simple change, it is important to follow installation instructions provided below for safe operation. This kit will not eliminate shorts or other problems in a faulty electric motor. If your machine is presently has a short or current leak, the motor should be “hi-pot” and leakage current tested at a local electrical repair shop and replaced or repaired, if necessary. In all cases, motor testing is recommended for the safest machine upgrade.

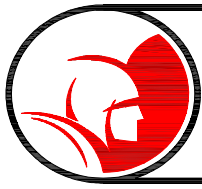


We have also included in this kit a safety decal to be applied to the machine frame for a continual reminder of the importance of correct operation and a detailed instruction booklet to be reviewed by all operators on a regular basis.

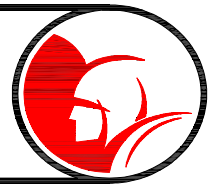
**Spartan Tool L.L.C.**

**800.435.3866**

**[www.spartantool.com](http://www.spartantool.com)**



# Installation Instructions



1. Unplug machine from outlet, remove drum unit and electric foot switch cord. Position Model 100 power unit on convenient, well lit, work bench.
2. Remove electric outlet box cover by removing 2 screws on side of cover. Disconnect all motor cable terminal connections.
3. Remove motor wires for outlet box by loosening side box connector clamp. Inspect motor wires for damage. If insulation is cracked or cut or wire ends frayed, the motor should be replaced or repaired before proceeding. Contact Spartan Tool for instructions.
4. Remove outlet box by removing 2 philips head screws that attach box to machine frame.
5. Remove cover from new box. Mount new box on machine with screws provided so that the hole in the outlet box is toward the rear of the machine (see Fig. 1).
6. If your motor has 4 rather than 5 wires, it is a "Lamb" or an early "C" motor. For extra ground protection on "4 wire" motors only, attach new blue jumper wire provided to the motor 90 cable connector (see Fig. 1). Use electrical tape to attach jumper wire along full length of motor cable.

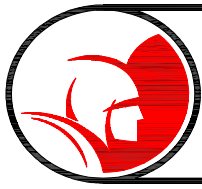
Insert motor cable into box through box connector on side of box. Pull wire through connector until cable has no slack but is not "tight". Tighten screws on box connector to clamp wires firmly.

7. Your Model 100 has one of 2 different motors. "Lamb" motor wires are color coded differently than "C" motors. You must use the correct colors for your machine for proper operations. Note that "Lamb" motors had 4 wires before you added a blue wire. Though some "C" motors have only 4 wires, they all have an orange wire and have serial numbers beginning with "C". To avoid confusion, determine now which motor you have and cross out the incorrect column in the table below and the incorrect diagram of Fig. 2. Use both the table and Fig. 2 to wire your machine in order to double check your work. Hold the box cover so that, when mounted, it will fit as shown in Fig. 1 without twisting the wires. Wire as follows:

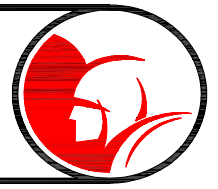


Wire From	Wire Color		Wire To
	"Lamb"	"C"	
Motor Ground	Blue (from Step 7)	Green or Blue	Green ground terminal of "male" flush base receptacle.
Motor Field	Black	White or Yellow	Silver terminal on "male" flush base receptacle.
Motor Field	Green	Orange	Center terminal of toggle switch across from air switch connection wire.
Motor Armature	White	Black	Corner terminal of toggle switch on air switch wire side of toggle switch on "R"* side.
Motor Armature	Red	Red	Corner terminal of toggle switch on air switch wire side of toggle switch on "F"* side.

\* "F" and "R" are shown on top side of outlet box cover.



## Installation Instructions (cont.)



NOTE: If armature wires were reversed, motor will run backwards.

Tighten terminals and inspect all wiring for cross contacting terminals.

8. Install box cover and fasten with screws provided. Reinstall drum unit in machine with cable completely in machine and cutters removed.
9. Test installation in a dry location by plugging electric cord connector body into outlet box receptacle and cord plug-in into well grounded 115 volt outlet. If you have a circuit tester, check for voltage between the machine frame and a good ground. With toggle switch in the center position, stepping on the air bulb should cause nothing to occur. Depressing bulb with toggle switch in “F” direction, should cause counter clockwise (from front) drum rotation. With toggle switch in “R” direction, depressing air bulb should cause clockwise rotation. If machine does not operate as described or if shocks occur, carefully go over wiring and wiring instructions to detect if an error was made. If not contact an electric repair service or Spartan Tool for aid.
10. After cleaning side trunnion support plate, peel back safety decal covering and apply to your machine.
11. Insert wiring diagram and attached parts list in your machine parts manual for future reference.



## Operation



Your machine now operates in the identical manner as before. If further operating instructions are required, contact Spartan Tool for a new operators manual or for further instructions.

Your machine is now safer in wet conditions. All operators should be aware of the inherent dangers involved in sewer cleaning. We have provided a set of Safety Instructions and ask that all operators review them monthly for their own protection.

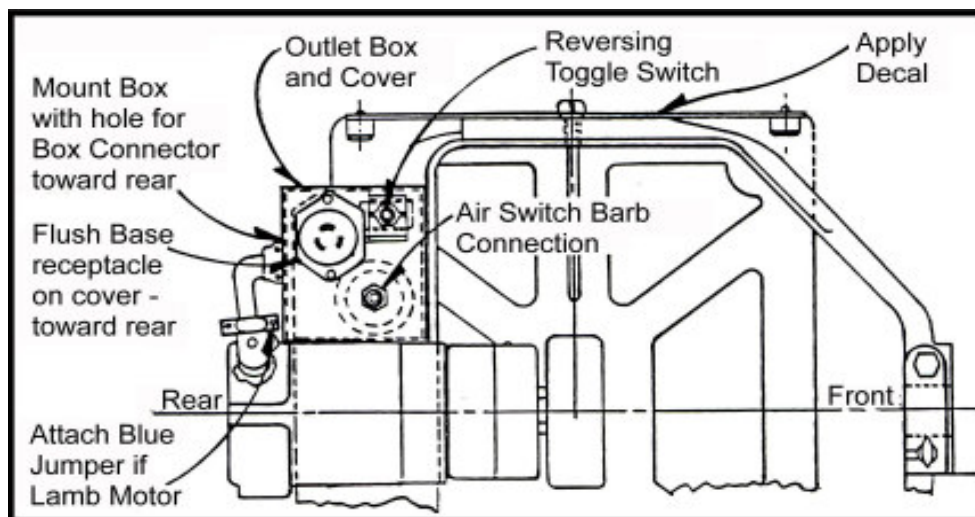
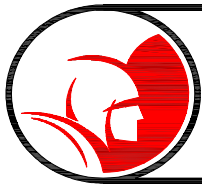


Fig. 1 Machine Top View



# Operation (cont.)

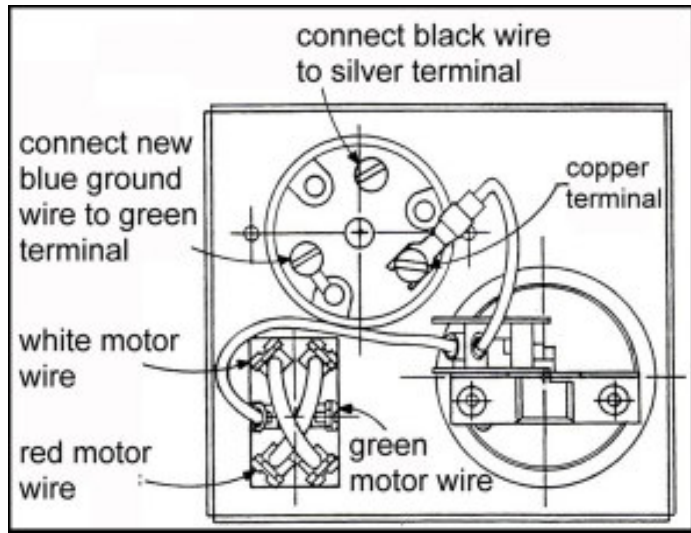
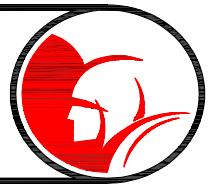


Fig. 2A "Lamb" Motor Wiring  
See Step 7 For Identification

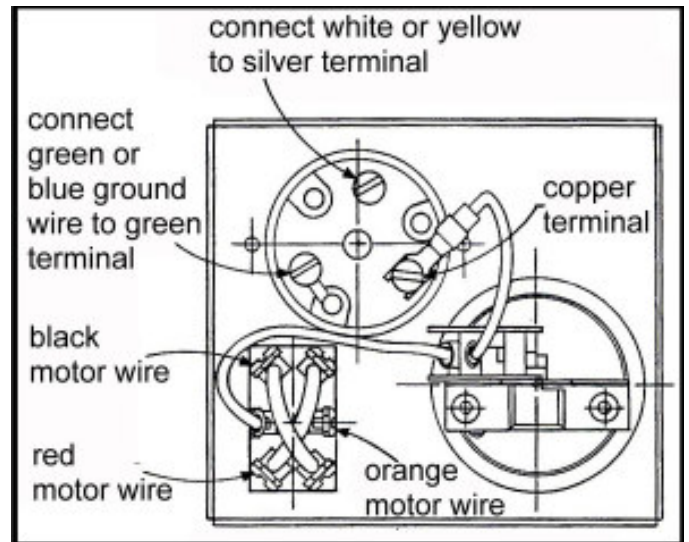


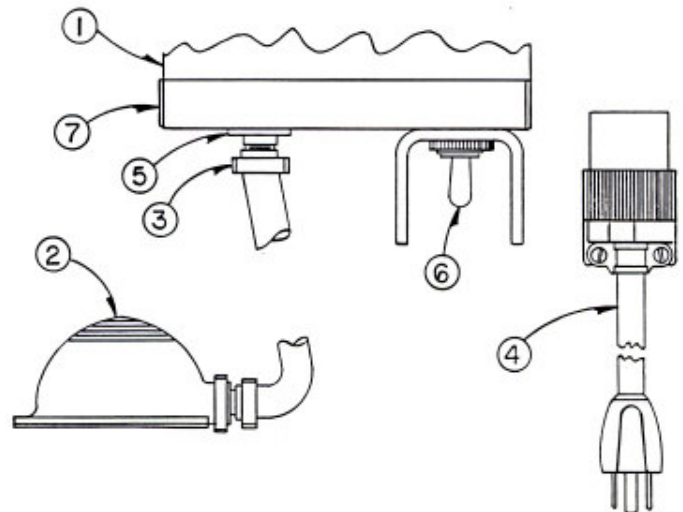
Fig. 2B "C" Motor Wiring  
See Step 7 For Identification



## Air Switch Conversion Kit - 44162100



Item	Part #	Description
1	44113200	Assembly Switch Box Complete
2	44055500	Air Foot Bulb Assembly (Incl. Hose)
3	04652700	Hose Clamp
4	44037900	Cord Assembly
5	44002600	Air Pressure Switch
6	44038800	Toggle Switch Assembly
7	44101600	Outlet Box Cover With Receptacle Only
	04220200	Decal Warning
	44163000	Spartan Safety Instructions



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