45532082
Edition 1
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Controller for Electric Screwdrivers

Model ESCB50

Maintenance Information

Save These Instructions

Ingersoll Rand

WARNING

Always wear eye protection when operating or performing maintenance on this tool.
Always turn off the air supply and disconnect the air supply hose before installing, removing or adjusting any accessory on this tool or before performing any maintenance on this tool.

WARNING

Maintenance procedures have the potential for severe shock hazard and should be performed by qualified personnel.

Note: *(When reading the instructions, refer to exploded diagrams in parts Information Manuals when applicable (see under Related Documentation for form numbers).*

Disassembly

Cover (1)

1. Using a phillips screwdriver, remove the four Cover Mounting Screws (2).
2. Lift the Cover off the Chassis (3).

Power Cord Assembly (4)

1. Using a thin bladed screwdriver, loosen the right rear screw in the Terminal Block (17) and remove the white wire.
2. Remove the heat shrink from the Power Switch (25) and unsolder the black wire from the Switch.
3. Loosen the two Ground Screw Nuts (12) and remove the green ground wire.
4. Using a thin bladed screwdriver, pry the Cord Stop (5) out of the Chassis (3) and remove the Cord Assembly.

Transformer (15)

1. Remove the heat shrink and unsolder the two yellow wires from the red and brown leads.
2. Using a thin bladed screwdriver, loosen the three screws at the front of the Terminal Block (17) and remove the brown, grey and white wires.
3. Using a phillips screwdriver, remove the two Transformer Mounting Screws (16).

Circuit Board (21)

1. Unplug the two Socket Assemblies (24).
   Important: Note the location of the Socket Assemblies for reassembly purposes.
2. Using a phillips screwdriver, remove the two Mounting Bracket Screws (20).

Fuse Holder (6)

1. Insert a thin bladed screwdriver into the slots in the fuse holder cap and rotate the cap counterclockwise. Remove the cap and the Fuse (7).
2. Remove the heat shrink and unsolder the two wires from the Holder.
3. Using a wrench, unscrew and remove the fuse holder nut. Pull the Fuse Holder out of the Chassis (3).

Soft Start Potentiometer (32)

1. Using a miniature thin bladed screwdriver, unscrew and loosen the setscrew in the Control Knob (30) of the Soft Start Potentiometer. Remove the Knob.
2. Unscrew and remove the potentiometer nut and pull the Potentiometer away from the Chassis (3).
3. Remove the heat shrink and unsolder the yellow and orange wires. **Important:** Note the location of these wires for reassembly purposes.

Speed Potentiometer (31)

1. Using a miniature thin bladed screwdriver, unscrew and loosen the setscrew in the Control Knob (30) of the Speed Potentiometer. Remove the Knob.
2. Unscrew and remove the potentiometer nut and pull the Potentiometer away from the Chassis (3). **Important:** Note the location of these wires for reassembly purposes.

Power Switch (25)

1. Using pliers, unscrew and remove the Switch Mounting Nut (26).
2. Remove the shrink wrap and unsolder the two wires from the Power Switch. **Important:** Note the colors and location of these wires for reassembly purposes.

Pilot Lamp (27)

1. Loosen and remove the nut and washer of the Pilot Lamp located on the back of chassis front panel.
2. Remove the heat shrink and unsolder the two wires on the Pilot Lamps. Important: Note the colors and location of these wires for reassembly purposes.

Receptacle (28)

1. Using a phillips head screwdriver, unscrew and remove the four Receptacle Mounting Screws (29).
2. Remove the heat shrink and unsolder the five wires at the Receptacle. **Important:** Note the color and location of these wires for reassembly purposes. To assist with reassembly, the plug face is numbered at each jack position.

Assembly

Receptacle (28)

1. Slip a small piece of heat shrink tubing (obtain from nearest Radio Shack) onto each of the five receptacle wires.
2. Pull the wires through the receptacle opening in the front face of the Chassis (3) and solder each colored wire to the same terminal it was removed from at disassembly.
3. Slide the five pieces of heat shrink tubing over the soldered connections and heat shrink the tubing.
4. Position the Receptacle against the face of the Chassis with the number one jack at one o'clock and the number five jack at eleven o'clock. Secure the Receptacle by installing the four Receptacle Mounting Screws (29).

Pilot Lamp (27)

1. Install the Pilot Lamp in the Chassis (3) and secure it with the nut and washer.
2. Slip a small piece of heat shrink tubing onto each of the two pilot lamp wires.
3. Solder each wire to the terminal it was removed from at disassembly.
4. Slide the two pieces of heat shrink tubing over the soldered connections and heat shrink the tubing.

Power Switch (25)

1. Slip a small piece of heat shrink tubing onto each of the two power switch wires.
2. Solder each wire to the terminal it was removed from at disassembly.
3. Slide the two pieces of heat shrink tubing over the soldered connections and heat shrink the tubing.
4. Position the Switch against the Chassis (3) and secure it with the Switch Mounting Nut (26).

Speed Potentiometer (31)

1. Slip a small piece of heat shrink tubing onto each of the three potentiometer wires.
2. Solder each wire to the terminal it was removed from at disassembly.
3. Slide the three pieces of heat shrink tubing over the soldered connections and heat shrink the tubing.
4. Position the Potentiometer against the Chassis (3) and secure it with the washers and nut.
5. Slide the Control Knob (30) onto the shaft of the Potentiometer and, using a miniature thin bladed screwdriver, tighten the knob setscrew against the shaft.

Soft Start Potentiometer (32)

1. Slip a small piece of heat shrink tubing onto each of the two potentiometer wires. Do not install the tubing on the jumper wire.
2. Solder each wire to the terminal it was removed from at disassembly.
3. Slide the two pieces of heat shrink tubing over the soldered connections and heat shrink the tubing.
4. Position the Potentiometer against the Chassis (3) and secure it with the washers and nut.
5. Slide the Control Knob (30) onto the shaft of the Potentiometer and, using a miniature thin bladed screwdriver, tighten the knob setscrew against the shaft.

Fuse Holder (6)

1. Slip a small piece of heat shrink tubing onto each of the two fuse wires.
2. Position the Fuse Holder against the Chassis (3) and secure it with the washer and fuse holder nut.
3. Solder each wire to the terminal it was removed from at disassembly.
4. Slide the two pieces of heat shrink tubing over the soldered connections and heat shrink the tubing.

Circuit Board (21)

1. Plug the two Socket Assemblies (24) into the Circuit Board in the same location as when disassembled.
2. Position the Board in the Chassis (3) and, using a phillips screwdriver, install the two Mounting Bracket Screws (20).

Transformer (15)

1. Position the Transformer on the Chassis (3) with the side having three leads toward the Potentiometer side of the Chassis. Using a phillips screwdriver, install the two Transformer Mounting Screws (16).
2. Slip a small piece of heat shrink tubing onto each of the two wires opposite the three lead side.
3. Solder the left yellow wire, when facing the front of the Controller, to the exact same red wire it was disassembled from in the Socket Assembly (24). Slide the heat shrink tubing over the solder connection and heat shrink the tubing.
4. Solder the right yellow wire, when facing the front of the Controller, to the exact same brown wire it was disassembled from in the Socket Assembly. Slide the heat shrink tubing over the solder connection and heat shrink the tubing.
5. When facing the front of the Controller and using a thin bladed screwdriver, install the brown wire from the Transformer into the right front connection on the Terminal Block (17). Install the grey wire from the Transformer into the center front connection.

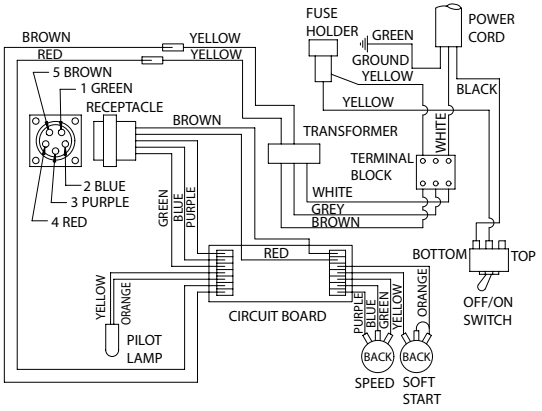
Power Cord Assembly (4)

1. Install the Cord Assembly and Cord Stop (5) into the rear panel of the Chassis (3).
2. Slip a small piece of heat shrink tubing onto the black wire of the Power Cord. Solder the black wire to the terminal of the Power Switch (25) it was removed from at disassembly. Slide the heat shrink tubing over the soldered connection and heat shrink the tubing.
3. Install the green ground wire on the Ground Screw (9) and tighten the Ground Screw Nuts (12).
4. When facing the front of the Controller and using a thin bladed screwdriver, install the white wire from the Power Cord into the right rear connection on the Terminal Block (17).

Cover (1)

1. Position the Cover on the Chassis (3) and secure it with the four Cover Mounting Screws (2).

WIRING DIAGRAM



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Troubleshooting Guide

Trouble	Probable Cause	Solution
No power	Fuse	Disconnect Power Cord. Replace fuse.
	Power Switch	Disconnect Power Cord. Use ohmmeter to check yellow and black leads at Switch. Reading should be 0 to full scale when switched from on to off.
	Power Cord	Use Voltmeter to check white lead at terminal block and black lead at Switch. Reading should be 115V AC.
	Transformer	Use Voltmeter to check the two yellow leads from the Transformer. Reading should be 24V AC.
	Circuit Board	Replace the Circuit Board.
Faulty braking	Circuit Board	Replace the Circuit Board.
Speed control does not work.	Speed Potentiometer	Disconnect Power Cord.
	Circuit Board	Unplug the Socket Assembly (24) from the Circuit Board. Using an ohmmeter, check the blue to purple or blue to green leads at the Potentiometer. Replace the Circuit Board.
Soft start does not work.	Soft Start Potentiometer.	Disconnect Power Cord. Unplug the Socket Assembly (24) from Circuit Board. Using an ohmmeter, check the yellow and orange leads at the potentiometer by rotating the knob. Reading should be 0 to 50,000 ohms.
	Circuit Board	Replace the Circuit Board.

Related Documentation

For additional information refer to:
Product Safety Information Manual 16573701.
Product Information Manual 45532074.
Parts Information Manual 45532090.

Manuals can be downloaded from www.irtools.com.

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