MAGNUM ENERGY
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Sensata Technologies

## 1.0 Description

These service instructions provide information on removing and replacing the top cover of a MSH Series inverter/charger. It also provides illustrations to help identify major components inside these inverter/chargers.

***Note:*** *This document is part of a series of Service Instructions to help qualified personnel replace components that have failed or have been damaged.*

## 2.0 Installation Preparation

Before removing or replacing the top cover, read this entire document carefully and follow all instructions.

### 2.1 Safety Precautions

Follow all electrical safety precautions and the ESD prevention guidelines below, and in the *Electrical Safety Precautions and Electrostatic Discharge Prevention: Service Instructions: 64-1000*.

**Warning:** Hazardous voltages are present within the inverter when power is applied. Do not remove the inverter's top cover without first turning off and disconnecting all AC and DC power to the inverter. Always replace the top cover before reconnecting power.

**Warning:** The capacitors inside the inverter store electric energy even after all AC and DC power is removed. After disconnecting all AC and DC power to the inverter, wait 5 minutes for the energy in the capacitors to dissipate before working on the unit.

**Caution:** Observe all ESD safety precautions when working with the control and FET boards, and within the inverter. Failure to follow ESD safety precautions could result in damage to internal components and the inverter.

***Note:*** *If attempting to remove the cover while it is still installed, verify you have at least 6" of clearance above the top cover to pull the cover straight up.*

### 2.2 Required Tools and Equipment

You need the following equipment to remove and replace the top cover:

- T15 Torx head screwdriver – for #6-32 screw
- T25 Torx head screwdriver (≥6" shaft) – for #10-32 screws

## 3.0 Removing/Replacing the Top Cover

### 3.1 Removing the Top Cover

1. Locate and remove the six #10-32 screws (T25 head) (Figure 1, Item A) holding the cover to the inverter base and the #6-32 screw (T15 head) (Figure 1, Item B) on the front of the inverter.
2. After removing the seven Torx screws, remove the top cover by lifting it straight up out of the DC terminal plate (Figures 2 and 3, Item J).

   ***Note:*** *The DC terminal plate has slots on its side requiring the top cover to be lifted straight up. The top cover may seem tight as it is lifted out of these slots—this is normal.*

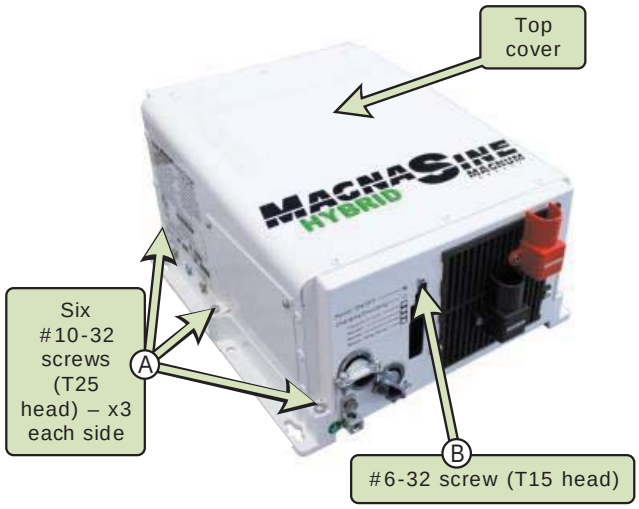


***Figure 1, Top Cover Screws***

### 3.2 Replacing the Top Cover

***Note:*** *If the top cover has been removed to replace any component, ensure all connections are correctly made before replacing the top cover.*

1. Align the front of the top cover to slide in the slots on the DC terminal plate, and then push down slowly on the cover—ensuring the slots on both sides are lined up—until it sits flush on the inverter base.
2. After verifying the screw holes in the top cover align with the holes in the base and in the front of the inverter, screw in the six #10-32 screws (T25 head) holding the cover to the base, and then the #6-32 screw (T15 head) on the front.
3. The top cover is now replaced, review all the connections a final time and ensure they are correct.

## 4.0 Identifying Internal Components

Although Sensata Technologies manufactures two MSH Series inverter models, the location of the major internal components within the different models is identical. Use the illustrations below—for your particular inverter model—to identify the major components inside the inverter.

***Note:*** *The illustrations below may not exactly match the inverter, and may include options not included on the inverter being serviced.*

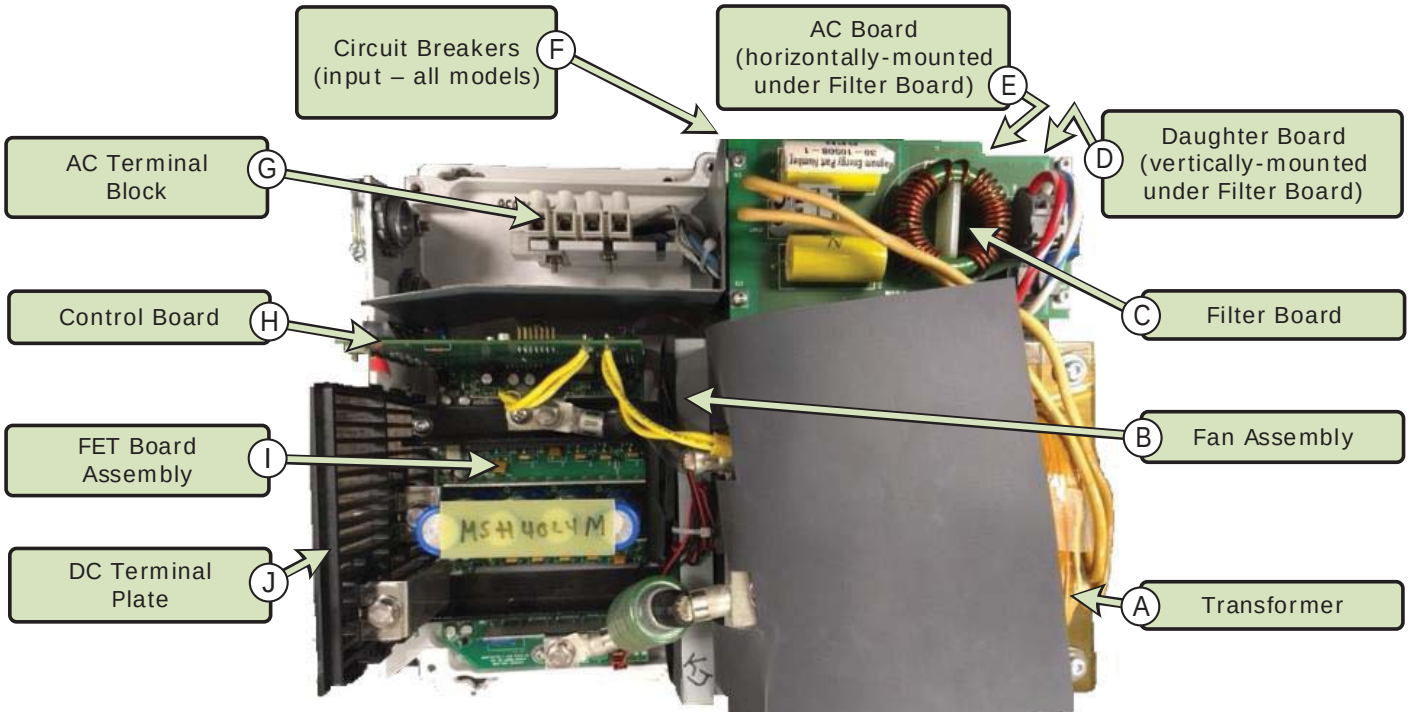


***Figure 2, MSH-M Series Inverters – Internal Components***

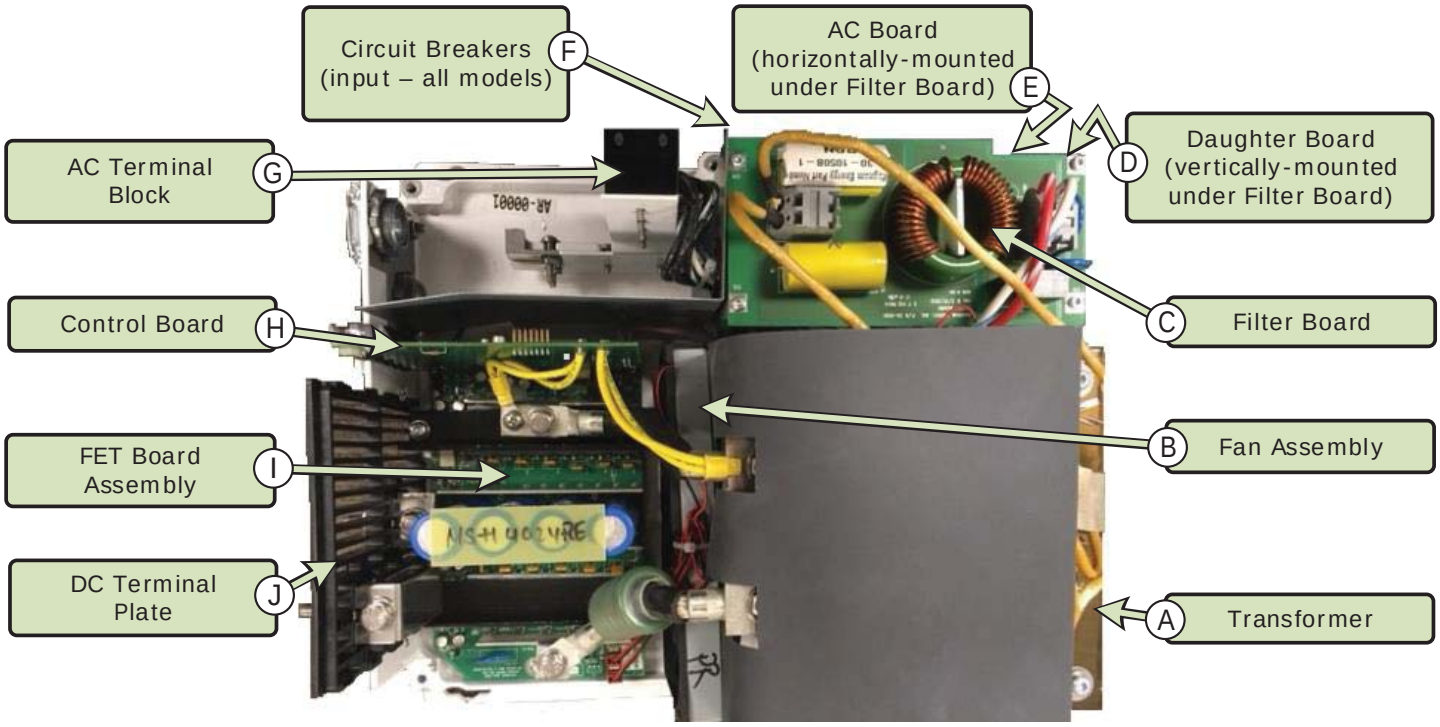


***Figure 3, MSH-RE Series Inverter - Internal Components***