



# F Frame Snubber Resistor Replacement for 1336 PLUS, PLUS II, FORCE, IMPACT and REGEN Drives.

**Description**

These instructions cover the proper method of replacing Snubber Resistors in F Frame versions of the 1336 family of drives. Failure to properly prepare the mounting surface will result in decreased service life of the replacement components.

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**Safety Precautions**



**ATTENTION:** Some printed circuit boards and drive components may contain hazardous voltage levels. Remove and lock out power before you disconnect or reconnect wires, and before you remove or replace fuses and circuit boards. Verify bus voltage by measuring the voltage between +DC and - DC on Terminal Block TB1. Do Not attempt to service the drive until the bus voltage has discharged to zero volts.

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**ATTENTION:** This assembly contains parts and sub-assemblies that are sensitive to electrostatic discharge. Static control precautions are required when servicing this assembly. Component damage may result if you ignore electrostatic discharge control procedures. If you are not familiar with static control procedures, reference Allen-Bradley Publication 8000-4.5.2 Guarding Against Electrostatic Damage, or any other applicable ESD protection handbook.

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## Kit Contents

This kit contains the following components:

- Two (2) Resistors on mounting brackets, part no. 24708-501-08
- One (1) Wire, part no. 306237-Q01
- One (1) Wire, part no. 306237-Q02
- One (1) Wire part no. 306237-Q03
- One (1) Wire, part no. 306237-Q04
- Two (2) Tie wraps, part no. 103359
- Four (4) Screws, part no. 29164-251-02
- Two (2) Blister Packs, part no. 196261
- One (1) Publication, part no. 308433-P01

## Required Equipment

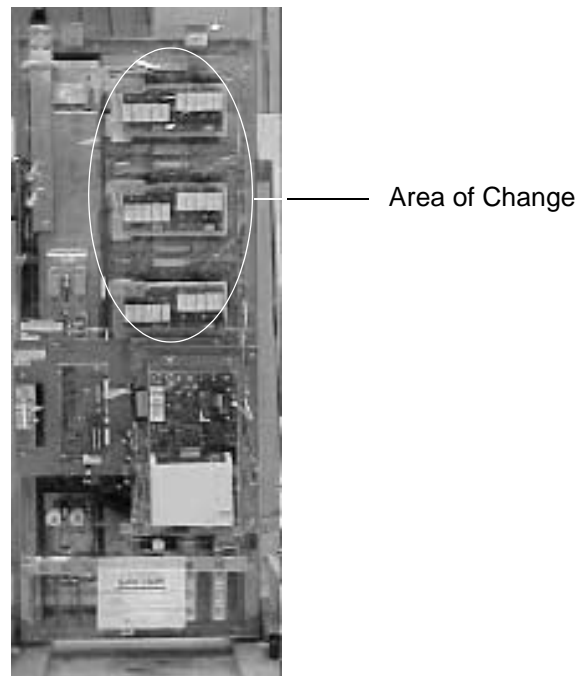
The following tools are required for disassembly and installation:

- Pliers
- Phillips #2 Screw Driver
- Side Cutters

## Removal

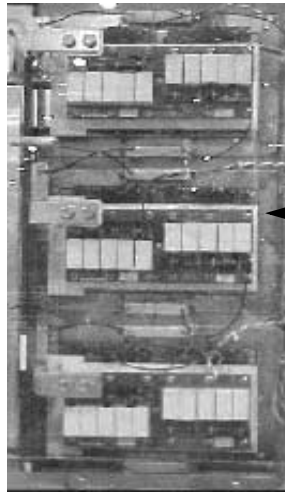
1. Turn off and lock out all power to the drive and verify bus voltage by measuring the voltage between the +DC/-DC Brake Terminals. Do Not attempt to service the drive until the bus voltage has discharged to zero volts.
2. Locate the half bridge assemblies on the upper-right side of the drive as shown in Figure 1.

Figure 1. Half Bridge Assembly Location F-Frame Drives.



3. Remove the clear plastic protection cover to gain access to the 6 resistors located beneath (Figure 2).

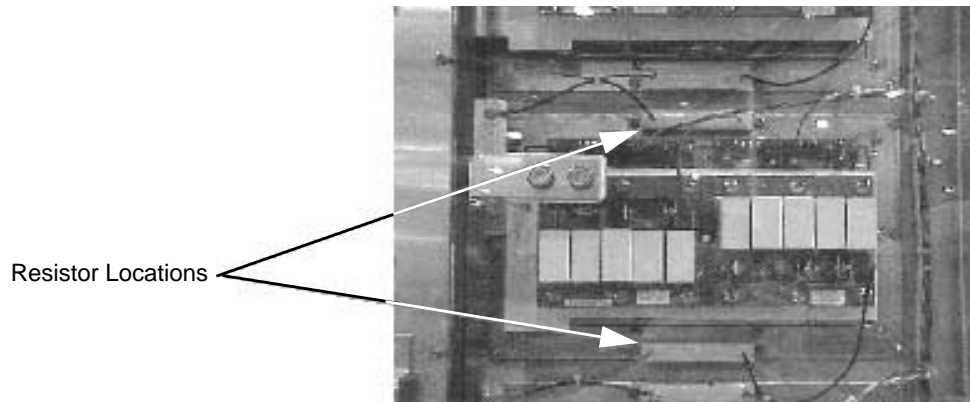
Figure 2. Protection Cover Removal.



Remove the Clear Plastic Safety Cover over the Half Bridge.

4. Use side cutters to remove any tie wraps attached to the resistor wires (Figure 3).
5. Use pliers to carefully remove the tabbed connections from the circuit boards (Figure 3).

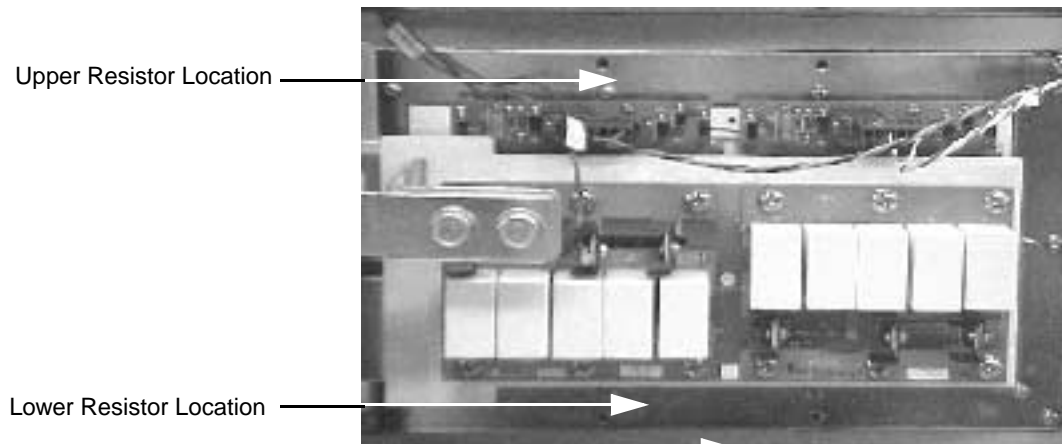
Figure 3. Resistor Removal.



6. Use the #2 Phillips screwdriver to remove the screw which holds each resistor wire to the bus structure. Retain these screws, you will have a total of two (2).
7. Remove the two (2) screws holding the resistor to the heat sink and remove the old resistor.
8. The heat sink surface will need to be properly prepared before installing the new resistors. Wipe off any accumulated thermal compound from sil pads or thermal grease.

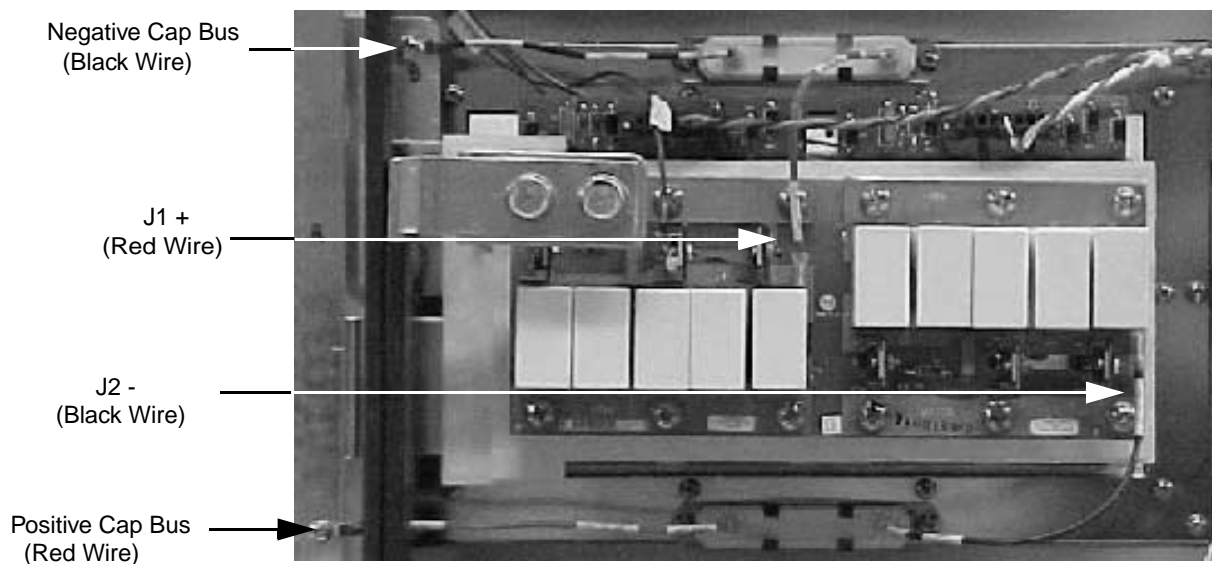
1. Locate the new resistor with the wire designations:  
 Red Wire = "Resistor Top Right" (P/N 306237-Q01)  
 Black Wire = "Resistor Top Left" (P/N306237-Q02)  
 Apply a thin layer of thermal grease from the supplied blister pack to the back side of the resistor mounting bracket to aid in heat conduction when the resistor is dissipating heat into the drive sheet metal.
2. Attach this resistor to the top of the half bridge assembly (red wire on right) using two new screws supplied in the kit (Figure 4).

Figure 4. Resistor Mounting Locations.



3. Attach the wires as indicated at their terminated ends:  
 Red wire = J1 (+) INV using pliers  
 Black Wire = NEG CAP BUS using the Phillips screwdriver and one of the screws you previously saved.  
 Refer to Figure 5.

Figure 5. Resistor Mounting Terminations.



4. Locate the new resistor with the wire designations:  
 Red Wire = "Resistor Bottom Left" (P/N 306237-Q03)

Black Wire = "Resistor Bottom Right" (P/N 306237-Q04)

Apply a thin layer of thermal grease from the supplied blister pack to the back side of the resistor mounting bracket to aid in heat conduction when the resistor is dissipating heat into the drive sheet metal.

5. Attach this resistor to the bottom of the half bridge assembly (red wire on left) using the two remaining new screws supplied in the kit.
6. Attach the wires as indicated at their terminated ends:  
Black wire = J2 (-) INV using pliers  
Red Wire = POS CAP BUS using the Phillips screwdriver and one of the screws you previously saved.  
Refer to Figure 5.
7. Tie any loose resistor wire using the tie wraps supplied in the kit.  
Cut off any excess with side cutters.
8. Reinstall the plastic protection cover before re-applying power to the drive.

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Publication Motors 1336FREST-5.16ML – May, 2001

P/N 308433 - P01

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