

## DZ2FR1 Lug Kit

### For use with Telemecanique LR9-F Series Solid-State Overload Relays

Retain for future use.

#### INTRODUCTION

This bulletin contains hardware identification and assembly instructions for lugs used with the Telemecanique LR9-F series (Class 10 and Class 20) solid-state overload relay (SSOLR).

#### KIT CONTENTS

Ensure that the kit contains the contents listed in Table 1.

**Table 1: DZ2FR1 Lug Kit Contents**

Item	Quantity
Lugs <sup>1</sup>	3
Bus bars	3
Jam nuts (12 mm)	2
Lock washer	1
Anti-rotation plate	1

<sup>1</sup> Lug part numbers DZ2FL1 (left), DZ2FL2 (center), and DZ2FL3 (right).

#### ASSEMBLY INSTRUCTIONS

**⚠ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Read and understand this bulletin in its entirety before installing the lug kit. Installation, adjustment, repair, and maintenance of this lug kit must be performed by qualified personnel.
- The user is responsible for conforming to all applicable code requirements with respect to grounding all equipment.
- Disconnect all power supplying the equipment, including external control power that may be present, before installing the lug kit.

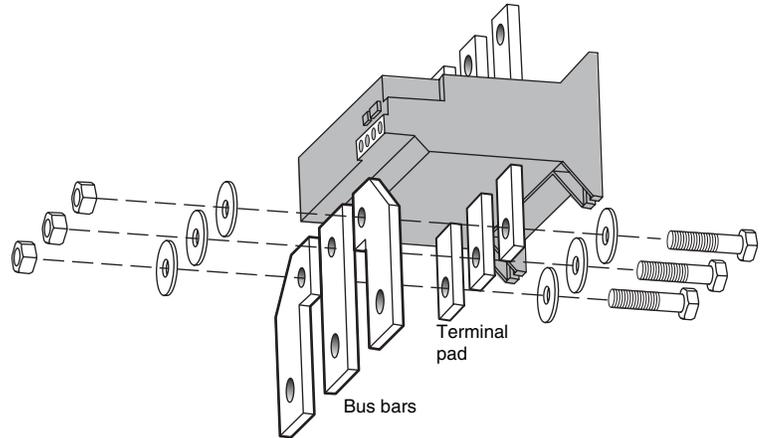
**Failure to follow these instructions will result in death or serious injury.**

*NOTE: Discard the bus bars that came with the LR9F series SSOLR. However, retain the mounting hardware (bolts, washers, and nuts) to complete the lug kit installation.*

## Installing the Bus Bars

Using the 10 mm bolts, washers, and nuts that came with the SSOLR, attach the bus bars in the lug kit to the terminal pad. Ensure that the bus bars are installed in the correct location. See Figure 1.

**Figure 1: Bus Bars Installation**



For bus bar installation:

1. Place a washer onto a bolt with its ridged side against the bolt head.
2. Insert the bolt assembly from Step 1 through the terminal pad of the SSOLR.
3. Place the bus bar onto the bolt so that it is flush against the terminal pad. Ensure that the bus bar is correctly positioned. See Figure 1.
4. Place a washer onto the bolt with its smooth side against the bus bar.
5. Thread a nut onto the bolt until it contacts the washer. Finger tighten the nut.
6. Repeat Steps 1–5 to install each bus bar.

## Installing the Left and Right Lugs

### **⚠ WARNING**

#### **INADEQUATE ELECTRICAL CLEARANCE**

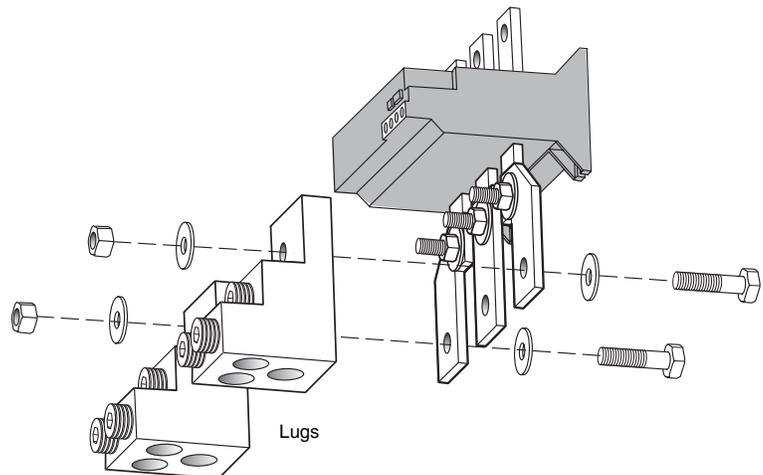
- Provide adequate electrical clearance. Inadequate electrical clearance can cause a short circuit.
- The lugs in the DZ2FR1 kit are different from those that came with the SSOLR. Select and install the lugs as illustrated in Figure 2 and as described in the instructions below.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Using the 12 mm bolts, washers, and nuts that came with the SSOLR, attach the lugs to the bus bars (see Figure 2):

*NOTE: The center lug is installed last. For instructions, see "Installing the Center Lug and Anti-Rotation Plate."*

**Figure 2: Left and Right Lug Installation**



1. Place a washer onto a bolt with its ridged side against the bolt head.
2. Insert the bolt assembly from Step 1 through the bus bar.
3. Place the lug onto the bolt so that it is flush against the bus bar. Ensure that the lug is correctly positioned onto the adaptor bus bar. See Figure 2.
4. Place a washer onto the bolt with its smooth side next to the lug.
5. Thread a nut onto the bolt. Finger tighten the nut.
6. Repeat Steps 1–5 to install the remaining lug.

## Installing the Center Lug and Anti-Rotation Plate

### **⚠ WARNING**

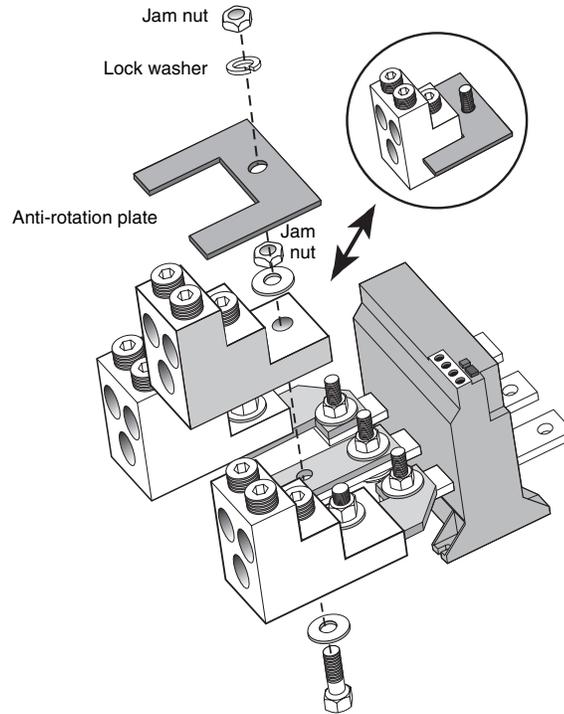
#### **INADEQUATE ELECTRICAL CLEARANCE**

- Provide adequate electrical clearance. Inadequate electrical clearance can cause a short circuit.
- The lugs in the DZ2FR1 kit are different from those that came with the SSOLR. Select and install the lugs as described in the instructions.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Using the 12 mm bolt and washer that came with the SSOLR and the mounting hardware supplied with the kit, attach the center lug and anti-rotation plate to the center bus bar:

**Figure 3: Center Lug and Anti-Rotation Plate Installation**



1. Place a washer onto a bolt (12 mm) with its ridged side against the bolt head.
2. Insert the bolt assembly from Step 1 through the center bus bar.
3. Place the center lug onto the bolt so that it is flush against the bus bar. Ensure that the lug is correctly positioned onto the adaptor bus bar. See Figure 3.
4. Place a washer onto the bolt with the smooth side next to the lug.
5. Thread a jam nut onto the bolt. Finger tighten the jam nut.
6. Place the anti-rotation plate onto the bolt. Refer to the inset in Figure 3.
7. With the left and right lugs snug against the anti-rotation plate, torque the previously installed hardware. Use a wrench to hold the bolt head and another wrench to torque the nut. Torque the 10 mm nuts to the value specified in the SSOLR instruction bulletin, and torque the 12 mm nuts to 515 lb-in (58 N•m).

*NOTE: The anti-rotation plate may be removed temporarily to torque the nuts.*

8. With the anti-rotation plate in position, place the lock washer, then the other jam nut, onto the bolt. Use a wrench to hold the bolt head and another wrench to torque the jam nut to 60 lb-in (6.77 N•m).

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