Number: FS-2016-02 Date: April 20, 2016

Model: ***All Non-Hybrid Buses With 480 Volt HVAC*** ***Approved:***

Robert L. Birdwell, Executive Director
Quality Control & Field Service

Subject: Lockout Of Battery Disconnect Switch

Because high voltage components can cause electric shock resulting in severe injury or death, we provide a padlock for every diesel-electric hybrid or electric bus.

After careful review of non-hybrid buses with the electric ThermoKing system, Gillig has determined that there should also be a lockout system to lock out the battery disconnect system should repairs or maintenance be needed on the HVAC system.

Gillig will provide the padlock needed to this system. You can order padlocks which are keyed alike or keyed differently. You will need to order these through "warrantyparts@gillig,com", or call Dominic at 510-264-4433. We will need the VIN and mileage on each bus you'll order the padlock for.

Padlocks Keyed Alike = 13-55437-001
Padlocks Keyed Differently = 13-55437-000

You should follow the instructions which are attached to this Field Service Bulletin.

You should determine if a tag is required, and what the configuration of that tag would be based on your region.

RLB:rlb

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Battery Disconnect Switch

The battery disconnect switch is mounted in the battery compartment near the voltage equalizer (see Figure 9-1). The double-pole switch is for 12 VDC and 24 VDC. The switch completely disconnects the batteries from the electrical system, however, the ground remains connected. All power to the electrical system is shut off, except for power to the memory circuits. To disconnect the batteries from the system, move the battery disconnect switch lever down to the OFF position. **Always make sure that the battery disconnect switch is in the "OFF" position before disconnecting cables from the batteries.**

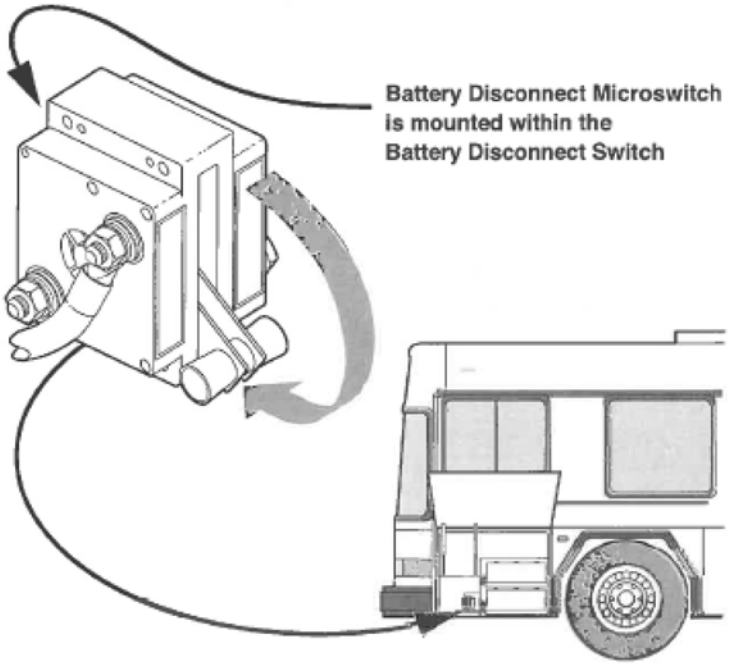

Figure 9-1, Battery Disconnect Switch (Street side, front of bus)

WARNING

Always turn off the battery disconnect switch before doing any work on any part of the electrical system. Use the battery disconnect switch safety padlock 13-55437-000 or 13-55437-001, included with your bus, so that power isn't inadvertently turned back on while you're working. (See Figure 9-2.)

CAUTION

Unless there is an emergency, never switch off the battery disconnect switch when the engine is running, or SEVERE ELECTRICAL DAMAGE CAN OCCUR! If possible, always switch the ignition switch off first.

CAUTION

Wait 60 seconds after the engine is turned off before switching off the battery disconnect switch! The ECM can lose important information if this practice is not followed.

NOTICE

If the bus is to be placed into storage, or if it is to be left standing for extended periods of time, the electrical systems should be protected by shutting off the battery disconnect switch and disconnecting the battery ground cable (see "Disconnecting/ Removing the Batteries").

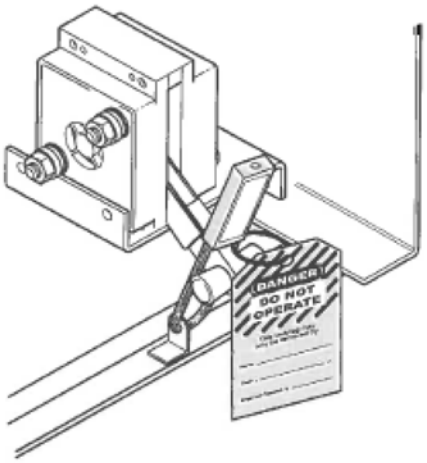

Figure 9-2, Battery Disconnect Switch Safety Padlock

Battery Disconnect Microswitch

When you turn off the battery disconnect switch, you are also turning off the battery disconnect ***micro***switch (see Figure 9-1). The battery disconnect microswitch, located within the battery disconnect switch, disables the charging system. This microswitch prevents the charging system from keeping the engine running after the batteries have been disconnected, making possible a complete emergency engine shutdown via the battery disconnect switch. The electrical system is protected from spikes that might occur if the charging system continued to generate power after the batteries were removed from the loop.

Lockout Disconnect Switch

Locking out the low voltage supply will prevent any inadvertent reapplication of power while maintenance personnel may be touching any of the high voltage electrical connections.

- Vehicle ignition must be turned OFF.
- Turn the battery disconnect switch to the OFF position.
- Install the lock and tag (if required) to the battery disconnect switch (see Figure 9-2).