

Part 573 Safety Recall Report**15V-048****Manufacturer Name :** Grech Motors, L.L.C**Submission Date :** JAN 23,2015**NHTSA Recall No. :** 15V-048**Manufacturer Recall No. :** NR**Manufacturer Information :**

Manufacturer Name : Grech Motors, L.L.C

Address : 6915 Arlington Avenue
Riverside CA 92504

Company phone : 951.688.8347

Population :

Number of potentially involved : 118

Estimated percentage with defect : 100

Vehicle Information :

Vehicle : 2000-2010 Grech Model X

Vehicle Type :

Body Style :

Power Train : NR

Descriptive Information : None

Production Dates : JAN 01, 2015 - JAN 09, 2015

VIN (Vehicle Identification Number) Range

Begin : NR

End : NR

 Not sequential VINs

Vehicle : 2014-2015 Grech Motors, L.L.C. G40M2

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style : OTHER

Power Train : NR

Descriptive Information : The G40M2 is a shuttle bus conversion manufactured on a Freightliner M2 106 Truck chassis. The G40M2 can be configured in the following passenger capacities which are stated "XX/2" which accounts for the bus crew: 32/2, 33/2, 35/2, 37/2, 39/2 and 47/2. The G40M2 is available in the following GVWRs: 26,000; 28,520; 29,500; 30,020; and 33,000.

Production Dates : AUG 26, 2013 - DEC 10, 2014

VIN (Vehicle Identification Number) Range

Begin : NR

End : NR

 Not sequential VINs**Description of Defect :**

Description of the Defect : The primary defect is that the vehicle batteries are improperly oriented,

meaning the batteries' terminals are positioned opposite (clocked 180 degrees out) from their correct position. The recall population used the original Freightliner battery tray that requires the batteries to be mounted with their positive terminals, cable and connections on the left side of the battery tray. The primary defect in the G40M2 that Grech Motors installed the batteries with their positive terminals on the right side of the OEM battery tray (the defective orientation).

When the batteries are mounted in the defective orientation, the configuration exposes the positive terminals, clamps and exposed portions of cable to contact with the OEM battery retention bracket. The retention bracket, made of sheet-metal, is grounded. The battery tray positions the retention bracket across the top of all three batteries, between their terminals, with mounting holes positioned approximately 3/8 inches to the right of center. The batteries' positive terminals, cables and clamps are typically energized, and any unintended contact they may have with the bracket could create an electrical fault that could ignite a fire.

This recall also involves three secondary defects consisting of the absence of information alerting owners and users that: (1) the Freightliner M2 Truck chassis requires its batteries to be oriented within the battery box in a particular position; (2) improper clocking of the batteries within the box creates a risk of electrical fault and fire; and (3) the bolts used to secure the battery retention bracket must be positioned at a right-angle to the battery tray, i.e., vertical, and that failure to do so could create the illusion that the bracket is secured, i.e. "false torque." If the bolts are not mounted vertically, the battery can become unsecured, allowing the positive terminals to contact the bracket and create an electrical fault that could ignite a fire.

Description of the Safety Risk : The defective orientation of the vehicle's batteries exposes the positive terminals, cables and connections to contact with the battery retention bracket which is a grounded surface. This close proximity creates a risk of electrical fault if the positive terminal or cable should contact the retention bracket while the circuit is energized.

If this condition should cause an electrical fault, the fault would create a risk of fire. Fire can cause serious personal injury and death. Fire can also damage or destroy property.

Description of the Cause : Grech Motors converts the Freightliner M2 Truck into a shuttle bus. During this process Grech Motors removes the OEM battery tray, which is rectangle-shaped, rotates the tray 90 degrees and remounts the tray by bolting its long-side to the driver-side frame rail. Grech Motors also repositioned the batteries on the tray so their terminals were opposite (180 degrees out) from the OEM position.

Grech Motors did not realize, and it had no reason to believe, the M2 Truck chassis required the vehicle's batteries to be mounted in any particular orientation. Freightliner provided no labels or other information warning that changing the orientation of the battery terminals would create a risk of electrical fault and fire.

Identification of Any Warning that can Occur : Prior warnings may include smoke, the smell associated with electrical faults or shorts and possibly intermittent operation of electrical equipment such as lights blinking or the sound of static in audio equipment.

Supplier Identification :**Component Manufacturer**

Name : NR

Address : NR

FOREIGN STATES

Country : NR

Chronology :

The chronology of principal events began on August 26, 2013 when Grech Motors began manufacturing its G40M2 shuttle bus conversion using the Freightliner M2 106 Truck chassis. The G40M2 has been well received from the time it entered the market. On October 1, 2014 a 2015 Grech Motors G40M2 shuttle bus experienced a fire. This was the first reported incident involving a fire or the battery system of any Grech Motors bus. Grech Motors had no complaints, warranty claims, field or service reports, or any other information that would have suggested a problem with the batteries of a Grech Motors product.

Grech Motors' personnel and lead engineer examined the vehicle that experienced the fire. No cause of the fire was readily apparent. Nothing on the vehicle appeared to explain the fire's origin or to identify a potential defect, and they were unable to identify any aspect of the vehicle that had failed to perform as it was intended. Manning Buske Forensics (Tracy California) was retained to conduct a forensic investigation to determine the cause of the fire. Scott E. Buske M.Sc., P.E., P.I., CFI, worked as the Principal Engineer. Mr. Buske concluded his investigation and he submitted his Preliminary Report to Grech Motors' insurance company. Grech Motors received a copy of Mr. Buske's Preliminary Report on December 4, 2014. That Preliminary Report provided Grech Motors with the information necessary to identify the source of the fire. Moreover, it provided the information necessary for Grech Motors to determine that a defect existed within its G40M2 Model shuttle bus that related to public safety and to identify the scope of the defect. Grech Motors initiated this recall based on Mr. Buske's Preliminary Report.

Description of Remedy :

Description of Remedy Program : The remedy for this recall involves removing the vehicles' three batteries, rotating each battery 180 degrees and returning each battery to the battery tray. The remedy will orient the batteries' positive terminals to the left side of the battery retention bracket, which is also the OEM orientation as originally made by Freightliner. This remedy will provide sufficient space between the positive battery terminals (including cables) and potentially grounded surfaces, including the battery retention bracket. This remedy will prevent inadvertent contact between the positive terminals and the retention bracket, and this will eliminate the risk of electrical faulting.

Most of Grech Motors' customers are owners of vehicle fleets that maintain in-house service departments. Grech Motors intends to offer owners the option of changing the batteries' orientation within their own facilities. In which case, Grech Motors would pay for the service cost, which it has determined to be .5 hours (thirty minutes). For those owners that do not employ in-house service departments, Grech Motors will arrange for the

remedy service to be provided by service providers local to the owner. Grech Motors would also reserve the right to send its own factory technicians to owners' facilities where practicable. In all cases, Grech Motors will provide its remedy at no cost to the vehicle owner.

How Remedy Component Differs from Recalled Component : The vehicles' batteries are repositioned so that their positive terminals are positioned to the left side of the OEM battery retention bracket, which is the original equipment configuration that Freightliner used. This orientation will provide sufficient space between the positive battery terminal (including cables) and potentially grounded surfaces, including the battery retention bracket, to prevent contact and electrical faulting.

Identify How/When Recall Condition was Corrected in Production : The condition was corrected in production beginning December 4, 2014. The correction was made by implementing a design change that specified the batteries were to remain positioned in their original equipment orientation. Grech Motors enhanced its quality assurance program to confirm the terminals of the batteries are correctly oriented ("clocked") with the batteries positive terminals, clamps and cables positioned on the left side of the battery retention bracket.

Grech Motors intends to add warning labels disclosing that the vehicle's batteries must be mounted in the original equipment orientation, with the positive terminals on the left side of the battery retention bracket and warning that failure to properly orient the battery terminals can create a risk of electrical faulting (causing a short circuit) and create a risk of fire.

Grech Motors also intends to add warning labels specifying that the mounting bolts must be in a vertical position. This warning will also disclose that, failure to position these bolts properly can release the batteries from the mount, allowing them to move, and that such a circumstance could create a risk of electrical fault and fire.

