



U.S. Department
of Transportation

**Federal Transit
Administration**

SA-22-3

Safety Advisory

11/28/2022

Office of Transit Safety and Oversight
Washington, DC

Subject: Steering Gearbox Bolt Failure

Purpose: The Federal Transit Administration (FTA) issues Safety Advisory (SA) 22-3 to recommend that transit agencies identify Nova Bus models manufactured in 2018 or later that are equipped with a mounting plate to accommodate a Bosch steering gearbox and perform inspections, as recommended by Nova Bus. In addition, FTA recommends that any transit agencies that identify buses equipped with these mounting plates submit a summary of their findings to FTA.

Background:

FTA has become aware of a steering gearbox mounting plate bolt failure on some new buses manufactured by Nova Bus that are equipped with Bosch steering gearboxes. Bolts that secure the power steering gearbox mounting plate assembly to the vehicle frame may come loose and, in some cases, fall out.

FTA is working with Nova Bus to mitigate the issue and identify the potential users of the affected Nova Bus models that use the Bosch steering gearbox configuration. Those transit agencies identified by Nova Bus are listed below; however, FTA asks all transit agencies to review their fleet to determine if they have any buses that could be affected:

- Chicago Transit Authority (Chicago, Illinois)
- Metropolitan Transportation Authority New York City Transit (New York, New York)
- Milwaukee County Transit System (Milwaukee, Wisconsin)
- Niagara Frontier Transportation Authority (Buffalo, New York)
- Puerto Rico Metropolitan Bus Authority (Autoridad Metropolitana de Autobuses) (San Juan, Puerto Rico)
- Tri-County Metropolitan Transportation District of Oregon (Portland, Oregon)
- University of Vermont Campus Area Transportation System (Burlington, Vermont)

Nova Bus confirmed that the affected buses are equipped with a smaller Bosch steering gearbox that requires an additional mounting plate to secure it to the subframe. Please see *Figure 1*.

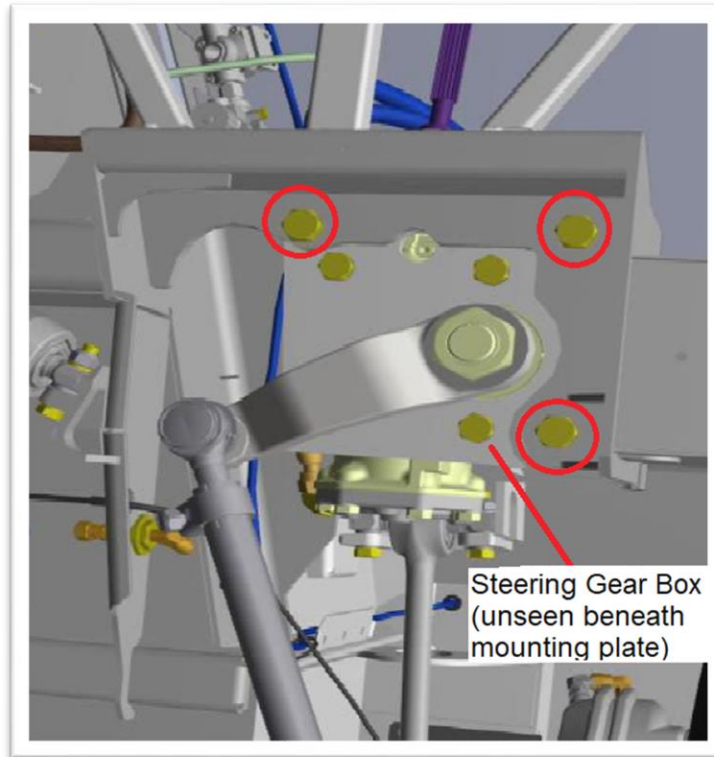


Figure 1 – Bolts that secure the steering gearbox mounting plate assembly to the vehicle frame are circled in red. (Image Source: Nova Bus)

FTA’s preliminary assessment suggests that, if the power steering gearbox is not secured to the mounting plate or the mounting is not secured to the vehicle frame, an operator may not be able to control the steering of the bus.

Nova Bus issued an initial notification for this issue on November 14, 2022, (please see the attached document) and is expected to issue a formal service bulletin to their customers upon completion of their investigation and testing of corrective actions.

On November 15, 2022, Nova Bus voluntarily submitted a [Vehicle Recall Report](#) to the National Highway Traffic Safety Administration, generating Safety Recall 22V845. Nova Bus determined that a defect which relates to motor vehicle safety exists in certain Nova Bus Low Floor Series (LFS) and LFS Artic model year 2018-2022 vehicles manufactured from June 2018 to November 2022 and equipped with a Bosch steering gear box configuration.

Recommended Actions:

In accordance with [Safety Recall 22V845](#), you are advised not to drive a vehicle covered by the recall notice until a remedy is performed.

In addition, FTA recommends transit agencies perform the following actions within 15 days of the publication of this Safety Advisory:

- Identify any Nova Bus models owned or operated by the agency manufactured in 2018 or later that use the Bosch steering gearbox mounting plate assembly;
- Follow the recommended actions described by Nova Bus in the November 14, 2022, notification and any further corrective actions identified by Nova Bus; and
- Evaluate whether any buses should be removed from service.

FTA also recommends that any transit agency that owns or operates any Nova Bus models that use the Bosch steering gearbox mounting plate assembly, submit a summary of their findings to FTA (FTASystemSafety@dot.gov) within 45 days of the publication of this Safety Advisory.

FTA recommends the summary of findings include, at a minimum:

- The number of buses identified as using Nova Bus's mounting plate assembly for the Bosch steering gearbox;
- Inspection results, including the observation of missing or loose bolts; and
- Mitigations taken by the transit agency, including the application of procedures recommended by Nova Bus.

Contact: Please direct questions or comments regarding this Safety Advisory to Joe DeLorenzo, Associate Administrator for Transit Safety and Oversight and Chief Safety Officer at (202) 366-1783 or Joseph.DeLorenzo@dot.gov.

FTA encourages transit agencies to report any safety concerns regarding bus or rail transit to FTA at FTASystemSafety@dot.gov.

November 14, 2022

All targeted transit authority

Object: Communication regarding Bosch steering gearbox mounting plate installation bolts

Dear Sir/Madam,

An issue was recently found on some Nova Bus vehicles equipped with a Bosch steering gearbox. The issue concerns the 7/8" bolts (3) that secure the steering gearbox mounting plate assembly to the vehicle frame.

We have identified that you have some vehicles equipped with this configuration. We recommend that an inspection be performed on these specific vehicles to confirm that the suspected bolts are not found loose:

- Visual inspection to confirm the presence of the three (3) bolts;
- Visual inspection to confirm the torque seal marks are not broken on these bolts;
- Torque inspection and retorque of these bolts to the nominal value of 452 N.m.
- Apply new torque seal marks to the bolts.



If you identify any non-conformity during inspection, we that request pictures, location and any other relevant information be communicated to Nova Bus for further analysis. All results should be reported back to your Nova Bus service representative (see pictures above for inspection numbering).

Nova Bus is currently completing its investigation and testing potential corrective actions. Further documentation and instructions will be provided shortly to correct this potential issue.

We apologize for the inconvenience, and thank you for your cooperation as we work through this,

Robert Létourneau
VP Product Development

Dominic Boies
Quality Director