Subject: M2 Front Steer Arm – Drag Link Ball Joint Connection Inspection

Models Affected: Specific Freightliner M2 vehicles manufactured between April 1, 2018 and July 14, 2020.

DTNA's claim rate for loose drag link components on M2 vehicles within the specified build range continues to be very low. Nonetheless, out of an abundance of caution, we are investigating through other means and therefore request that you inspect and report back to DTNA regarding the status of the drag links on the above vehicles.

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Inspection Instructions

Inspection and Reporting of Castle Nut Tightness

The purpose of these instructions is to identify looseness of the castle nut, and, if such looseness is present, to promptly correct it and to report these findings to DTNA.

NOTE: This procedure will require two people, one turning the steering wheel and one observing the drag link steering arm joint as the steering wheel is turned.

1. Park the vehicle on a level surface, shut down the engine, and apply the parking brake. Chock the rear tires.
2. Raise the hood and rotate it to the fully raised rest position.
3. Log in to DTNAConnect and then click on the link to watch the **reference video.**[1] The video shows a drag link steering arm joint with movement present. Notice there is an audible knocking sound.
4. Observe the behavior of the drag link steering arm joint, shown in **Fig. 1.**

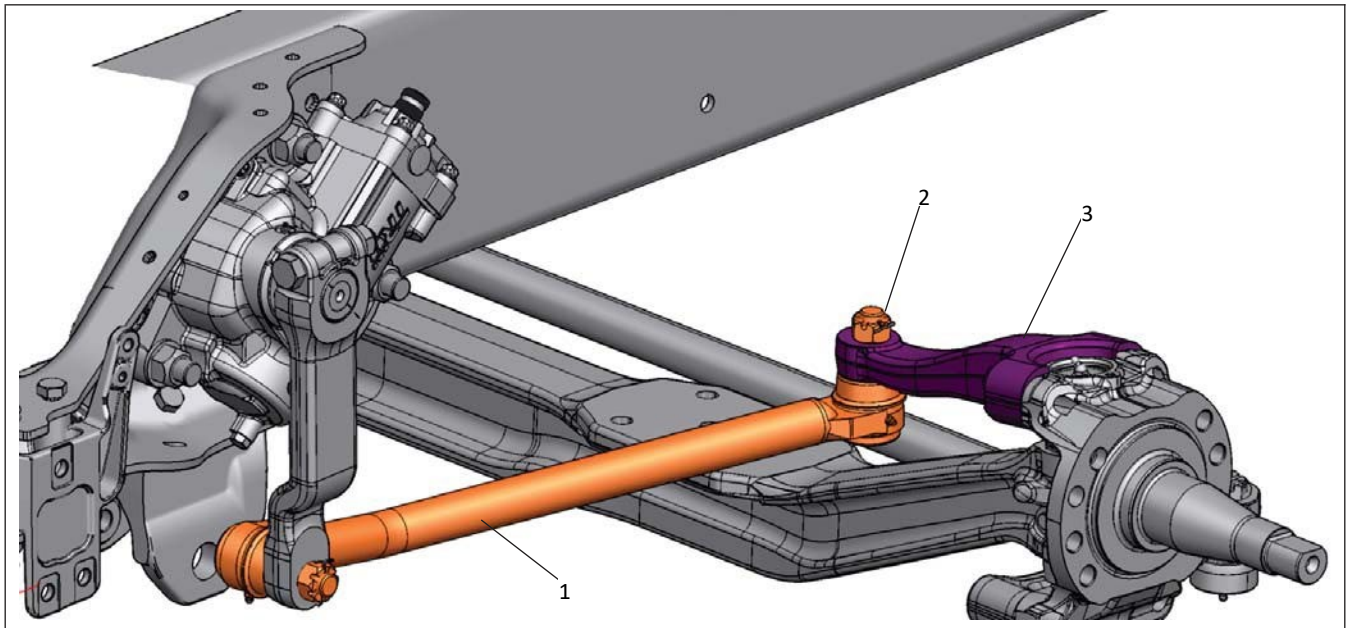
   4.1 With the engine running at idle and the parking brake still engaged, have one person turn the steering wheel in small increments from left to right and then back several times.

⚠WARNING

Maintain a safe distance from the front tire and moving steering linkage while observing. Failure to do so could result in personal injury.

4.2 While the steering wheel is being turned, have the second person monitor the behavior of the drag link steering arm joint.

[1] URL: https://dtnacontent-dtna.prd.freightliner.com/content/dam/techlit/video/chassis/46_steering/Loose_Draglink_Unit32K_2.mp4



1. Draglink
2. Drag Link Steering Arm Joint
3. Axle Steering Arm

Fig. 1, Drag Link Steering Arm Joint

5. If the castle nut does not appear to be loose, the cotter pin is in place, and there is no movement in the drag link steering arm joint when the steering wheel is moved back and forth, continue with the following sub-steps. It is good maintenance practice to confirm that the castle nut has maintained clamp load and torque within specification.

   If there is movement in the drag link steering arm joint, continue to **step 6**.

   5.1 Remove the cotter pin, as shown in **Fig. 2**, and tighten the castle nut to the value listed in **Table 1**.

Torque Values	
Size	**Torque: lbf·ft (N·m)**
3/4–16	117 to 143 (159 to 194)
7/8–14	207 to 253 (281 to 343)

Table 1, Torque Values

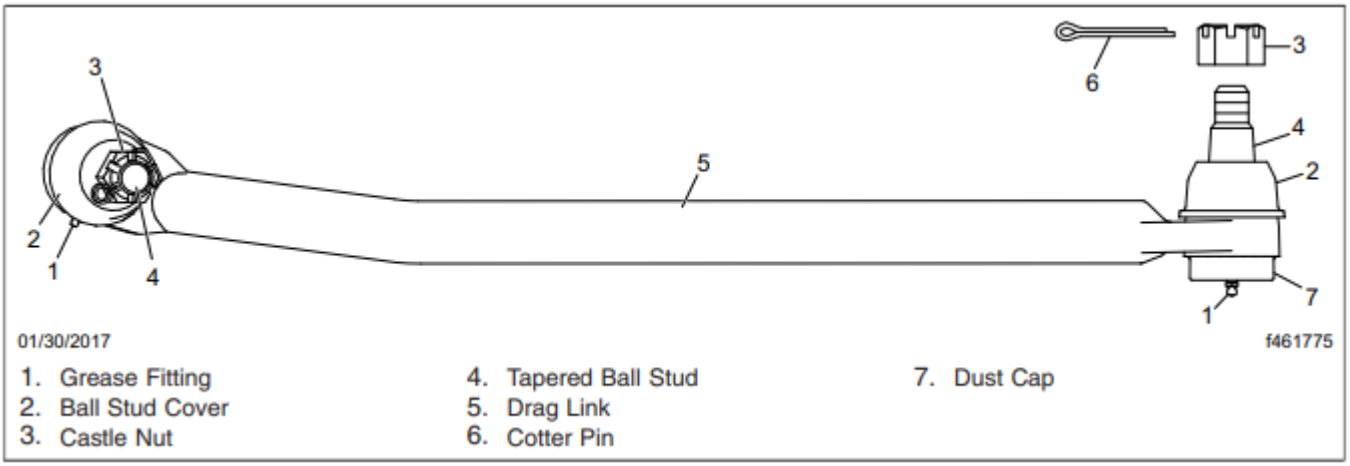


Fig. 2, Fixed-Length Drag Link Assembly

5.2 Once the castle nut is tightened, install a new cotter pin. If the new cotter pin does not align, continue to tighten the castle nut to achieve cotter pin alignment. ***Do not*** *loosen the castle nut to allow for alignment of the cotter pin.*

6. If relative movement is observed between the drag link ball stud and steering arm connection point, the drag link and steering arm will need to be replaced. Notify DTNA of the issue including the VIN of the vehicle on which the issue was found.

6.1 For steering arm replacement refer to the following manual sections:

- *Business Class M2 Workshop Manual***,** Section 33.03, Subject 110 Detroit Front Axles, Axle Removal and Installation.
- *Meritor Maintenance Manual 2* for Meritor Front Non-Drive Steer Axles, section 10.

6.2 For drag link replacement refer to the *Business Class M2 Workshop Manual***,** Section 46.01, Subject 100 Drag Link and Tie Rod, Drag Link Removal and Installation.

If replacing the drag link, tighten the castle nut to the value listed in **Table 1** and align the cotter pin according to the instructions in step 5.2.