

# DAIMLER

On August 24, 2020 DTNA identified an issue affecting Freightliner, Western Star and FCCC models equipped with ConMet flat rotor disk brakes and aluminum hubs. Rotor mounting studs installed on steer and drive hubs on vehicles with flat rotors built from May 1, 2020 through August 24, 2020 may fracture due to hydrogen embrittlement. Initial inspection data indicates approximately 1% of the mounting studs may fail. Table 1 lists the affected hub assemblies.

On August 24<sup>th</sup> DTNA initiated a hold on all vehicles at our plants and facilities to inspect and replace faulty rotor mounting studs with validated stock before releasing the vehicle. Vehicles will be released once fully verified. Target date to have all held vehicles completed is September 18, 2020. Due to the number of vehicles held there may be delivery delays. DTNA will be releasing a Field Service Campaign within the next few weeks/months to address affected vehicles in the field that shipped before being inspected. Due to the nature of a hydrogen embrittlement the failure may be identified on units in the field before the campaign has been released.

When hydrogen embrittlement affects the rotor mounting stud fracture of the stud occurs 1 to 24 hours after torqueing of the stud - see Figure 1. Fracture of the stud occurs approximately 1.7 inches (43.2 mm) below the rotor mounting surface. A fractured stud could dislodge from the hub mounting hole however the stud will be captured by the ABS tone ring - see Figure 2. As damage progresses damage to the ABS tone ring, ABS sensor, and caliper anchor plate may occur. Drivers may notice wheel end noise, vibration, or an ABS indicator light - see Figure 3. Based on engineering, test and field information vehicle safety is not compromised.

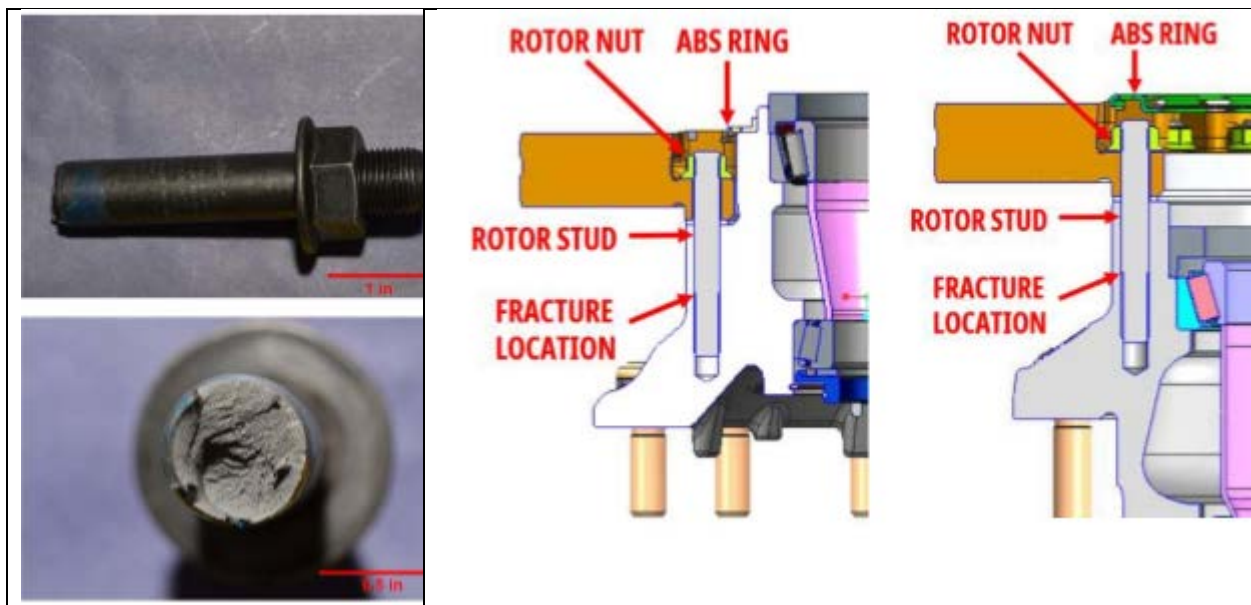


Figure 1. Rotor mounting stud fracture due to hydrogen embrittlement

Figure 2. Cutaway of steer (left) and drive (right) wheel hubs showing rotor mounting stud and position of ABS Tone Ring

If a fractured rotor stud is suspected the vehicle should be inspected at a dealer or service station when

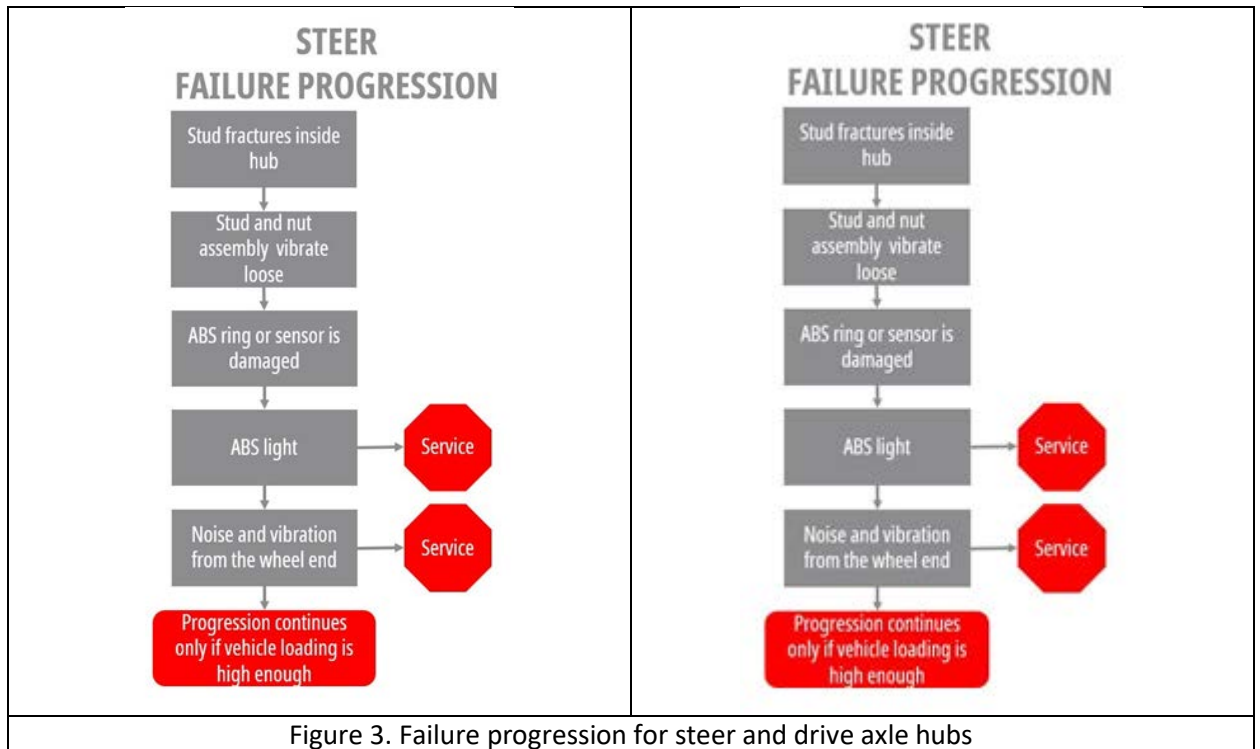


Figure 3. Failure progression for steer and drive axle hubs

possible. To check the stud a torque of 40 ft-lb (54.2 Nm) needs to be applied to the rotor mounting stud. If the rotor mounting nut or stud turn the stud has likely fractured. If a fractured rotor stud is discovered then the wheel end should be replaced. If no fractured studs are discovered then the wheel end may be reused.

Axle	Part Number
Steer Axle	CM 10084007
	CM 10084008
	CM 10085125
Rear Drive Axle	CM 10083164
	CM 10083166
	CM 10084651

Table 1. Affected Hub Assemblies