Low Volume Vehicle Technical Association (inc)

SAFETY ALERT

 # 01 - 2025 (April 2025)

Helping New Zealanders Build & Modify Safe Vehicles

UNISTEER-BRAND WELDED STEERING RACK AND PINION

Some UniSteer-brand aftermarket manual (non-power) steering racks incorporate welding to the rack shaft. These racks are available online from various offshore retailers and are also being installed in some Australian-made independent suspension assemblies, such as those from Castlemaine Rod Shop. This welding poses a serious potential safety risk, does not meet LVV requirements, and cannot be LVV Certified.

Findings

These racks are supplied by American company UniSteer and appear to be modified versions of their short *Cross Steer* rack, designed for 1928-1934 Fords with a cross-steer setup. The modification extends the rack by welding an extension onto the shaft and lengthening the outer housing tube to match.

The presence of a butt-welded steering rack shaft is a serious concern, as the modification is not visible during an LVV Certification inspection unless the rack is dismantled, which is not normally part of an inspection. This makes detection difficult and increases the risk of unsafe components being unknowingly certified. LVVTA has inspected multiple examples of these racks and along with the obvious heat-affected zone around the weld, has found inconsistencies in the weld quality, misaligned and bent rack shafts, and ground and machined down welds.

The affected steering racks can be identified by their unique three-bolt mounting flange. Any rack and pinion assembly with a welded rack shaft is potentially unsafe and cannot be LVV Certified.

Guidance for Affected Owners and LVV Certifiers

Any rack of this style must be stripped for a full inspection of the rack shaft. Where a welded shaft is identified, either a new one-piece rack shaft must be installed, or a different steering rack must be used.

FOR FURTHER INFORMATION PLEASE CONTACT YOUR LVV CERTIFIER, OR LVVTA.