

SAFETY ALERT

Modified 'Borgeson'-brand Steering Boxes

LVVTA has become aware that 'Borgeson' are selling modified left-hand drive Isuzu steering boxes with welded on mounting flanges as a bolt-in power-steering conversion to suit early Ford Mustangs. These often come into the country already fitted to vehicles out of the USA. 'Borgeson' also supply similarly-modified boxes for '55-'57 Chevy, '63-'82 Corvette, and possibly others (you can view their range at www.borgeson.com).

These steering boxes are welded and therefore cannot be LVV certified.

The company modifies the steering box by cutting away the cast bolt-flange which is incorporated into the steering box, and replacing it with a new, steel flange with the desired bolt-pattern. The replacement mounting plate is attached by welding onto the cast steering box housing (see photograph at right). The LVVTA Technical Advisory Committee have reviewed and rejected the modification. This decision is based on the welding of the critical mounting plate to the cast steering box housing, which, due to the box being power-assisted, is subject to very high loads at the mounting flange – akin to a hydraulic ram, and also due to the positioning of the plate significantly lower down the steering box leg, with removal of additional material between the mounting plate and the upper steering box.

Accordingly, these steering boxes cannot be LVV certified.

LVVTA recently became aware of a steering box which was modified in the same way failing at the weld, causing a critical steering failure. Due to the source of the information, LVVTA is confident that it was a failure of the welded steering box flange.



There are other options available and LVVTA has seen an increase in aftermarket steering component manufacturers having their own steering box housings manufactured using a casting process (the same as OEM manufacturers), thus completely eliminating the need for any welding.

For more information relating to the welding of castings and forgings, see the 'Useful Information' section in the 'Attachment Systems' chapter of the NZ Car Construction Manual, and LVVTA Information Sheet #01-2018 Welding Process for Cast or Forged Steel Components.