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Tough Toys – Steve McNaught
Panhard Rod Brace

Introduction

Tough Toys have developed a panhard rod brace for Jeep Wranglers to strengthen the chassis mounting point which otherwise suffers from elongation of the pivot hole. The chassis brace uses the steering box bolts for mounting and overlaps the factory bracket to provide additional bearing strength for the pivot bolt. The brace also supports the steering box sector shaft using an additional bearing engaged on a revised Pitman arm nut.

Discussion

Engineering calculations show:

- The steering box bolts provide enormous strength due to their role in locating the steering. The panhard brace adds only minor loads to these bolts.
- The brace adds significant bearing load support for the panhard rod bolt and gives a safety factor of approximately three times the estimated maximum applied load.
- The brace welds are adequate for their purpose. Welded tabs locate the side plates and, allowing only 25mm of weld inside the assembly, provides sufficient joint strength.
- The Pitman arm shaft support is fit for purpose by inspection.

Conclusions

The panhard rod brace is suitable for its intended purpose and will be a good upgrade for Jeep Wranglers.

TJ Bartrop

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Tim Bartrop

Liability Statement

This report takes no responsibility for any product deviations in manufacturing quality from the sample provided for examination. Ongoing product quality remains the responsibility of the manufacturer.
This report takes no responsibility for the fitment of the unit into individual vehicles. It is the responsibility of the product installer to ensure that fitment into vehicles is in accordance with any installation guidelines and good engineering practice. The fitness and condition of the vehicle receiving the pedal assembly is also a risk to be assessed by the installer.