

Request 10:

10. Describe the following for the subject components:

a. How the load ratings were determined, including the towing capacity and the tongue weight capacity of the hitch receiver;

Response:

Thor Motor Coach, Inc. (TMC) defined the hitch load ratings.

Lippert Components (LCI) is the manufacturer of the hitch receiver; it designed and developed the hitch receiver.

TMC does not make any representation regarding towing capacities. Instead it instructs the owner to adhere to the GCWR, GVWR, GAWRs, and hitch ratings.

b. Any stress analysis or finite element analysis performed to ensure that the subject components will meet or exceed the tow rating as specified on the hitch receiver;

Response:

TMC did not perform stress analysis or finite element analysis on the subject components relating to the hitch receiver.

c. The specific location of the highest stress area within the hitch receiver;

Response:

LCI, as the designer of the hitch receiver, may have performed an analysis disclosing the highest stress area in design.

In the review of failed hitch receivers, the high-stress area of the hitch receiver during use is at the side plates, near where the sheet steel is formed at 90 degrees to provide the attachment points.

d. The highest stress area within the frame extensions if applicable;

Response:

The highest stress area on the frame extensions is at the rearmost lower corner, above the attachment point of the hitch receiver.

e. Any factor of safety established for each of the subject components;

Response:

There was no factor of safety established for the subject components.

f. Calculation and equation methodology employed to calculate the stresses in the subject components;

Response:

TMC did not perform stress analysis or finite element analysis on the subject components relating to the hitch receiver.

g. The design life of each subject component;

Response:

TMC has not established a design life for any of the components.

h. All static, quasi-static, dynamic, and field testing performed to ensure that the subject components will meet or exceed the towing capacity as specified on the hitch receiver;

Response:

See attached LCI SAE J684 Test Report for 8,000lbs Hitch Assembly Part No. 360232 dated 08/04/2014 located in R10 Appendix 1.

i. All corrosion related testing to ensure that the final protective coating meets Thor's specification; and

Response:

Because TMC did not require any anti-corrosion protective coating, there is no corrosion-related testing.

j. All material specifications (including revision histories) for the subject components.

Response:

TMC has established steel specifications for all added chassis parts, including frame extensions, as ASTM A1011 Grade 36.

MORryde, an independent company, confirmed that they use Grade 50 HSLA as a substitute for all Grade 36 specifications. These specifications became effective in June 2012.

Lippert, the manufacturer of the hitch receiver, uses ASTM A1011, CS type B steel for hitch receiver plates and HR Grade C class SH for the receiver tube.

Source: TMC Engineering

This information was gathered on October 10, 2024.