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RV FRAME FAILURES

DANGEROUS TO THE UN-SUSPECTING, AND POTENTIALLY COSTLY TO REPAIR.

What are some of the causes of RV frame failure and what can an owner do if this happens to them? Frames are designed as the backbone of the vehicle. Every means of mechanical use depends on the stability of the frame. A properly designed, built and cared for frame will withstand many years of use. Let's examine some of the causes of frame failure and who may be responsible. When loads are placed



upon an RV frame and those loads are subjected to forces greater than the stand-alone area of design, it will flex, twist, bend and then normally return to the original designed shape. The degree of flex before the metal fractures depends upon many factors. Some are temperature, hardness of the metal and the plus and minus loads exerted (up and downward movement while driving on the highway). When frames fail it is generally due to an under design, fatigue, impact damage, corrosion, or

over loaded condition.

The fatigue of metal such as that of a flexing travel trailer frame can cause spider stress cracks, which in turn create a loss of structural strength and a failure to carry the load. For example, if you take a household wire coat hanger and stretch it out so that you are holding on to the ends it can easily be moved up and down many times before it will break. If you move your hands closer together and attempt the same degree of movement, the metal wire coat hanger will fracture from the flexing fatigue and break in two pieces in less than six attempts. If the wire was severely corroded the number of flexing attempts before failure would be even less. This investigator has experienced frame failures on travel trailers with over inflated tires while being towed on rough roads. The continuous shock and fatigue on the frame accelerated the failures. In other cases, the off balance over loading in a particular area of the recreational



vehicle created a disproportional weight condition. Generally the cause is a corroded frame that has lost some of its structural strength, or it has been subjected to greater loads than it can now carry. Only in rare occasions have the manufacturers been responsible for frame failures. In those instances thin frames with multiple slide-outs were most prevalent.

So what can be done if it happens to an owner? It really depends on the extent of damage, who is negligent, and the age of the RV. If it is not impact related then as far as most insurance policies are concerned, it becomes either a maintenance issue or a manufacturer's concern. If overloading and/or corroding are prevalent, then the owner must take responsibility the damage. So can the frame be repaired? In most cases yes, and it can be made stronger in the areas that have failed.

by Thomas G. Bailey

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