

Affixing External Equipment/ Accessories to Recreational Vehicles

November 2020



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This bulletin provides guidance on securing external equipment and accessories to Recreational Vehicles in order to ensure they can withstand the vibration and wind loads that may be encountered during road travel.

Background

There are often features on a Recreational Vehicle that are affixed to the exterior of the vehicle and are, therefore, subject to vibration and wind loading during vehicle travel as well as environmental exposure. It is important to ensure that the fixing of any such equipment or accessories is secure and suitable for the environment in which it is installed, considering both stationary and travelling situations. Furthermore, all relevant standards (e.g. ADRs) shall also be considered prior to affixing any external equipment to a vehicle. All external equipment fitted to a Recreational Vehicle should also be done so in line with the original vehicle manufacturers specifications.

Fixing Methods

It is important to utilise fixing methods that are appropriate for the expected conditions that may be encountered by the equipment over the life of the vehicle. This could include, but is not limited to, extremes of temperature, vibration inputs or other structural movement during road travel, wind load during highway travel.

Mechanical fixing is recommended in addition to any adhesives or sealant used to assemble/ affix external components. The use of adhesives/ sealants should be carefully completed in line with the manufacturer's instructions. Particular care should be taken to correctly prepare surfaces (where relevant) and to allow the correct curing times for adhesive or sealant products to ensure that the best possible adhesion is achieved. It is also important to confirm the compatibility of adhesives to the surface materials at contact points. Some adhesives may not stick to certain materials, e.g. plastics, metals, due to basic incompatibility, irrespective of how well the surfaces are prepared.

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Examples

Some examples of typical external equipment and some key areas to consider are included below. Please note that this is not an exhaustive list, but the principles can be applied to most common equipment.

Equipment Storage Boxes

- Secure attachment to chassis structure.
- Adequate strength of attachment points to restrain the expected weight of contents during vehicle motion, including sudden braking.

Solar Panels

- Adequate strength and durability of attachment points for expected vibration and wind loading during travel.
- Mechanical fastening (in addition to any adhesives and/or sealant).
- Correct preparation of surfaces for adhesive (where required).
- Correct curing times during application of adhesive products.

TV Aerials

- Adequate instruction to consumers for correct stowage of devices during travel.

Summary

- Review strength and durability of fixings for the intended location and expected loads.
- Consider lifetime vehicle environment – static and in motion.
- Carefully follow installation instructions for all components and fixings from both the component and vehicle manufacturer.

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