

FITTING INSTRUCTIONS

05756 70mm TOWBALL

The Horizon Global 70mm Towball has been designed for on road towing of larger trailers in conjunction with an ADR 62 compliant (or equivalent) 70mm Ball Coupling. It has been tested to, and exceeds, the requirements of ADR62 12.3.3.2.

This Towball has been rated to

- D-Value – 38.0kN
- V-Value – 10.8kN
- S-Value – 1,200kg (Maximum permissible vertical mass imposed on the towball – commonly referred to as ball weight)

These ratings must never be exceeded. Refer page 2 of this instruction for guidelines on D and V-Value calculation.

It is the responsibility of the end user to ensure that all other components used in the tow vehicle to trailer towing connection are suitably rated, are fit for purpose, and are in compliance with all local legislation and/or regulatory requirements.

Installation Instructions

1. Ensure that the hole in the towball mount is of a suitable size for a 1-1/4" UNF shank towball (maximum hole diameter 33.0mm).
2. Ensure that the towball sits flush with the mating surface of the towball mount prior to assembly. This may require some relief of the hole chamfer at the mating face of the mount in order to clear the radius of the towball shank. Do not alter the condition of the towball.
3. Orient the towball so that the flats of the towball flange are in the direction of travel.
4. On the opposite side of the towball mount, install the flat washer on the towball shank, followed by the nut and hand tighten the assembly. Ensure that the washer and nut supplied with the towball are the parts used, and not substitute parts.
5. While using a tool to hold the flats of the towball flange, slowly torque the nut to 750Nm. **Warning** – achieving this torque will involve significant forces, and all care must be taken to avoid any injury during this procedure.

Inspection and Maintenance

It is recommended that the torque of the nut is regularly checked using step 5 of the installation instructions above.

The towball should also be regularly inspected for any damage or excessive wear. If any damage or excessive wear is noted, the towball including the washer and nut should be replaced.

WARNING – Failure to follow the instructions contained in this document could result in property damage, serious bodily injury or death.

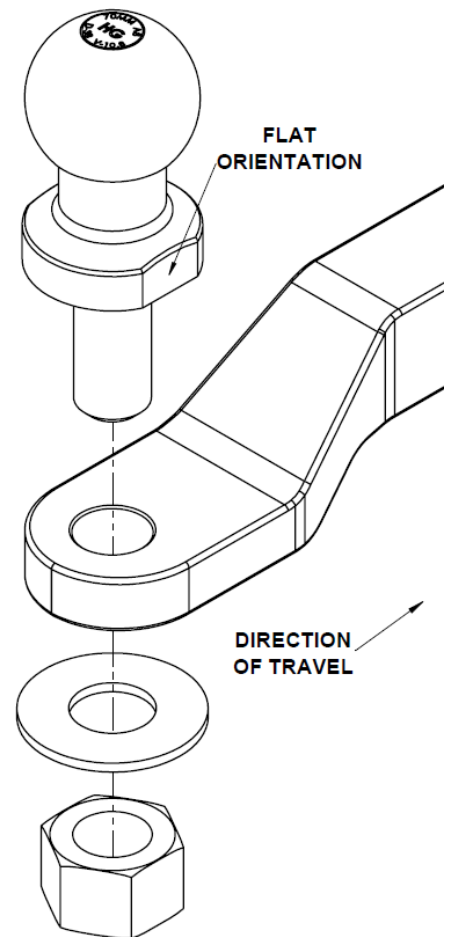


Figure 1: Installation of Towball on Mount

FITTING INSTRUCTIONS

The information below is intended as a guide only. Local legislation and/or regulatory requirements override any advice given in this document and should be consulted in regards to your specific circumstances. Correct use of this product, and compliance of your vehicle and trailer combination with local legislation and/or regulatory requirements remains the responsibility of the end user.

D-Value Calculation

To establish the D-Value of your vehicle and trailer combination, you will need to know the following :

- GVM - Maximum total mass of the towing vehicle as specified by the vehicle manufacturer (in kg or tonnes)
- ATM - Maximum towed mass as specified by the trailer manufacturer (in kg or tonnes)

Use the appropriate equation below to calculate the D-Value :

When mass is measured in kg :

$$D\text{-Value (kN)} = 0.009806 \times \left(\frac{GVM \times ATM}{GVM + ATM} \right)$$

When mass is measured in tonnes :

$$D\text{-Value (kN)} = 9.806 \times \left(\frac{GVM \times ATM}{GVM + ATM} \right)$$

For example, a vehicle with GVM of 10,000kg towing a trailer with ATM of 6,000kg will have a D-Value of 36.8kN :

$$D\text{-Value} = 0.009806 \times \left(\frac{10,000 \times 6,000}{10,000 + 6,000} \right) = 36.8 \text{ kN}$$

V-Value Calculation

To establish the V-Value of your vehicle and trailer combination, you will need to know the following :

- ATM - Maximum towed mass as specified by the trailer manufacturer (in kg or tonnes)
- X – Length of the loading area of the trailer (in metres) – Refer Figure 2
- L – Distance from the towball centre to the centre of the axle or axle group (in metres) – Refer Figure 2

Use the appropriate equation below to calculate the V-Value :

When mass is measured in kg :

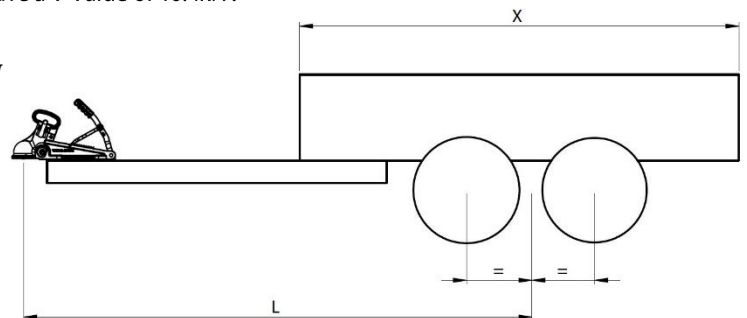
$$V\text{-Value (kN)} = \frac{0.0024 \times ATM \times X^2}{L^2}$$

When mass is measured in tonnes :

$$V\text{-Value (kN)} = \frac{2.4 \times ATM \times X^2}{L^2}$$

For example, a trailer with ATM of 3,000kg, X of 6m, and L of 5m, will have a V-Value of 10.4kN :

$$V\text{-Value} = \frac{0.0024 \times 3,000 \times 6^2}{5^2} = 10.4 \text{ kN}$$



For further information please contact Horizon Global Customer Support.

Figure 2: Illustration of X and L in V-Value calculations