



Installation Guide for Cushyfloat™ Anti-Vibration Mounts

General Information

The Cushyfloat™ Mounting is a general-purpose unit designed to effectively isolate vibration and noise for many types of static and mobile equipment. Originally used for marine engines, the Cushyfloat™ was designed to withstand propeller thrusts and shock loads of up to 5g.

The mounting has been designed with an integral bump and rebound control feature to limit excessive movement under shock loading. The top cap has a protective finish to resist corrosion attack and also protect against oil contamination.

With three dissimilar stiffness in each direction, the Cushyfloat™ can be used with the stiffer longitudinal axis either parallel to the crankshaft longitudinal centre line, or at right angles to it.

Adjustable height versions are available for use when quick, simple alignment of the suspended equipment is required.

High thrust versions are also available high power to weight ratio engines.

The mountings are Lloyds Register of Shipping and Det Norske Veritas Type approved.



Installation

1. The deck seating and underframe should be checked for alignment before commencing with the installation. The mount should be fitted to the engine by means of the central hole in the top cap and to the deck by suitable bolts tightened to the nominal torque.
2. The equipment should be positioned carefully over the deck seating and made safe by using jacks and blocks. The seating face should be parallel to the mount underside face, within a $\pm 0.5\text{mm}$ over the length of the mount. Suitable shaped shims should be used if this tolerance is exceeded.
3. Individual chock dimensions can now be calculated for each position. Lower the installation onto the mounts and check alignment. Initial setting height should be approximately 1mm high to allow for settlement due to primary creep. The larger part of the total settlement occurs in the first 2 days. This is the datum point for creep measurements.
4. The mounts should now be checked to see how much the initial deflection (static) deflection is. The difference in deflections on all the mounts should be less than 1mm per 1m length of the equipment. Suitable shims should be used if the above criteria are not met.
5. We strongly recommend that minimum grade 8.8 bolts be used for all mount fixings.
6. The bolts should now be tightened to the correct torque* and the system is now ready for use.

* See appendix 1.



Maintenance

Under most service conditions the Cushyfloat™ should not require any maintenance or service; however in accordance with good engineering practice we recommend periodical inspection and checking of the mount.

Measuring the dimensions between the bottom face of the engine foot and the top surface of the foundation will check the loaded height.

The holding down bolts should be checked for tightness* similarly with the engine foundation bolts.

Any excess oil or contaminant fluid should be wiped away from the top cap and a visual inspection of the cap should be carried out.

* See appendix 1.



Mount Removal

1. The engine should be out of commission and all services (water, air and fuel) should be isolated. To speed up removal of the mounts the holding down bolts could be worked prior to shutting down. This should ensure quick and easy bolt release.
2. The holding down bolts should be removed. Jacks or forcing bolts should be situated, near the mount to be removed. The engine should be lifted sufficiently (approx. 5mm greater than the static deflection) to permit the mount to slide out. Forcing bolts can be used in place of the jacks. When lifting the engine care should be taken not to strain or damage the service connectors. Particular care should be taken with the driveline to ensure that they are kept within their deflection limits.
3. The mount can now be removed and temporary timber chocks will be inserted to secure the suspended equipment.
4. To install a replacement mount the above procedure is reversed.

Once the new mounts are in place the static deflection and alignment will need to be checked and any alterations done by shimming if required.

If a single mount is being replaced, the engine alignment does not need to be set high, but the alignment will need more frequent periodical inspections than normal.



Inspection

A periodical inspection should look at the following parameters:

1. Deflection – The loaded height should be monitored to examine the effects of creep, contamination, overloading. If the mount appears to have excessive deflection remove the mount and replace. Consultation with Trelleborg Applications staff would be advised at this stage.
2. Visual Inspection- A visual inspection of the metal is recommended. To aid inspection, clean the metal to remove any contaminants such as oil and grease. Any bent or cracked metal parts should be closely examined to see if the rubber section is not trapped and there are no sharp edges in contact with the free rubber surface.
3. Fixing Bolts and Height Adjusters- All fixing bolts and height adjusters should be checked for tightness and any signs of degradation i.e. cracks. The fixing bolts and height adjusters should be replaced if there is any signs of wear or fretting.

If there is any doubt about any aspect of installation, maintenance, or inspection contact the Trelleborg Applications Department.



APPENDIX 1

Tightening Torque.

The following table shows the recommended tightening torque for the Height adjusters for the Cushyfloat™ range.

Part Number	Height Adjuster	Recommended Torque (Nm)
17-1600	HA 12/16	25
17-1609	HA 16/16	50
17-1657	HAD 20/20	100
17-1841	HAD 24/24	200
17-1990	HAD 20/20	100
17-2182	HAD 20/20	100

Note: All marine applications with propeller thrust use HAD height adjusters.