TECHNICAL DATA SHEET
DS 061

NON CONTROLLED UNLESS STATED OTHERWISE

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TITLE.	Instructions for Installation of Type Genflex Marine Rubber Unit Isolators for Marine Propulsion Engines.

Details of isolators as Leaflet PL002.
For details of soleplate refer to Drawing No. S 084.

1. Introduction

These instructions are for aligning the engine to the driven equipment and installing the resilient mountings. Refer to the appropriate applications drawing for isolator positions and alignment information.

It is intended that a small offset is created across the shaft flexible couplings initially which will be corrected by the combination of engine rotation under load and primary creep of the mountings.

Flexible connections, such as the exhaust and water pipes, should be aligned in a neutral state once the engine has been correctly set on its jacks. If desired, the vertical offset (engine high) can be incorporated across these connections, but this is usually of no significance.

The driven equipment must be rigidly fixed to the ship seatings since rubber flexible shaft couplings do not support any weight (indeed half their weight will be supported by the drive flange). Any shear forces across the couplings due to the initial vertical offsets will disappear in service as the isolators creep.

2. Alignment of the Engines

a) Appropriate adjustment brackets and adjusting screws should be fabricated by the shipyard to control the vertical, fore and aft and transverse positioning of the engine to obtain proper alignment. These brackets may be attached to the engine feet or the seatings as is convenient. The engine, including fittings and attachments, is aligned initially to the driven shaft. The mountings will be clear of the seatings and weight is transferred to the mountings only after the coupling offsets have been correctly set. It may assist to first grind the ends of the soleplate jacking screws to a domed shape to reduce any tendency to shear the mountings.

b) The engine should be positioned with the coupling faces parallel and accurately spaced with the transverse and vertical offsets specified on our application drawing.

3. Mounting Installation

a) NOTE: Top fixing bolts (supplied by others) should be at least grade 8.8 and the thread must engage into the isolator by between 50 and 85 mm.

After the initial alignment is complete, the mountings and associated steel plates may be bolted to the underside of the engine mounting feet in the positions shown on our drawing. A clearance of between 10 and 25 mm should exist between the soleplate and the ships seating for the epoxy resin grout (Chock-Fast Orange or equivalent). The various screws and plates should be suitably greased to permit removal from the resin grout at a later stage.

b) The four jacking screws in each soleplate should be adjusted to be just in contact with the top of the seating. Each jacking screw is then turned by no more than 180 degrees in sequence around the engine until the weight on one of the jacking brackets is just relieved. Small adjustments are then made at the other positions until all of the engine weight is supported evenly by the mountings. The engine position should not have changed from the initial alignment in step 2b. Slacken off the jacking screws in the shipyard adjustment brackets by about 6 mm.

Note: No attempt should be made to re-position the engine transversely or longitudinally after weight has been transferred to the mountings. If changes to the horizontal alignment are required, the full engine weight must first be transferred back to the main jacking brackets.

c) Leave the engine and mountings for a minimum of 48 hours to allow most of the primary creep to occur. If the alignment has changed significantly, repeat step 3b to re-align and then remove the jacking brackets.

d) Pour the epoxy resin and allow to cure. Remove the jacking screws from the soleplates and tighten the various securing screws.

4. Mounting Installation

After sea trials, the coupling alignment should be re-checked. Some shakedown will have occurred, but a vertical offset of between 0.3 and 0.7 mm engine high should be measured to allow for subsequent creep. It may be necessary to add shims above the mountings to achieve this.

Due to hysteresis in the mountings and variations in the vessel trim, the isolator heights may not be as originally set in any case, but the coupling should not enter service with a negative vertical offset.

4. Mounting Installation (continued)

The mounting heights (averaged across a diagonal) and coupling alignment should be measured and recorded so that a subsequent history of these figures can be maintained. A sample blank record sheet is given on our DS 045 which may be copied and completed if desired. This will enable corrective action to be taken at a later stage when the mounting creep reaches the stage when shims or replacement rubber elements are required.

Please contact our Technical Department at the address below if you have any problems relating to installation or selection.

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