

TECHNICAL DATA SHEET

DS 014

NON CONTROLLED UNLESS STATED OTHERWISE

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ISSUE	9
DATE	14 May 2019
APPROVED	A.N.M

TITLE.	In service maintenance and alignment checks for type TSC size T3 combined steel spring and rubber spring unit isolators.
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1. VISUAL INSPECTION

Regular checks should be made on the general condition of all isolators every 6 months until signs of deterioration are noted and then every month until corrective action is required. Every effort has been made during design to ensure that the load bearing components of Type TSC size T3 combined steel spring and rubber spring unit isolators are adequately protected but care should be taken to ensure that all isolators are kept clean, dry and free from oil contamination.

Special attention should be paid to any evidence of swelling, blistering or cracking of any of the four natural rubber elements that are just visible beneath the skirt of the isolator top casting.

At the first sign of any deterioration of the natural rubber elements it is only necessary to log the observation such that a careful check and future record of any further deterioration can be made. A check should also be made on the alignment. Any rapid deterioration of the natural rubber elements particularly if accompanied by rapid settlement of the isolator should be logged and reported immediately. **AT THIS STAGE IT IS IMPORTANT THAT ALL ISOLATORS ARE REPLACED AT THE EARLIEST OPPORTUNITY.** If an isolator failure results from anything other than age of service the source of the failure **MUST** be identified and corrected prior to reinstallation of new isolators. The most common causes of isolator failure in service are oil contamination of the rubber springs and salt water corrosion due to pipework leaks.

2. CENTRE BOLT ADJUSTMENT

During the inspection, check that the lock nut on the stud on the combined overload and rebound washer is still tight. The standard is 220 Nm torque.

Check that the clearance above the combined overload and rebound washer is maintained as previously advised by Christie & Grey. Any significant increase in this dimension would indicate a reduction in height of the isolator and a change in engine alignment to the gearbox. The alignment should therefore be checked and any adjustments necessary should be carried out in accordance with instructions as follows:

3. ALIGNMENT CHECKS

Every six months a check on engine alignment should be made unless it is suspected that rapid isolator settlement is occurring whereupon more frequent alignment checks will be required.

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The dimension from the machined underside of the top casting (or alignment indicator arm if fitted) to the top of the isolator soleplate should be measured with a vernier height gauge at each isolator position. On mountings manufactured before about February 1998 the top casting is not machined and the height must be measured between the top of the soleplate and the underside of the machine foot, before subtracting the thickness of any plate or shims.

Any significant reduction in this dimension when compared to the datum figure (stamped on each engine mounting foot or recorded separately) can be corrected by fitting additional shims between the engine mounting feet and the isolator tops using the jacking screws in the engine mounting feet.

A record of all additional shims used and the heights measured should be kept for each isolator on a sheet similar to our DS045. When the thickness of additional shims used for any isolator exceed 5 mm or the mounting height is less than shown below, provision should be made for overhaul of all isolators at the earliest opportunity.

The minimum heights under static load for the various types of the TSC Size 3 mountings are:

<u>Casting Material</u>	<u>Height (mm)</u>	<u>Part No Suffix</u>
Aluminium	172	/A
Aluminium base / iron top	171	/B
Iron - Mark 3 type	171	/ C or none
Iron - Mark 1 & 2 type	158	None

This should not occur before five years from the initial sea trials unless some failure as described earlier has occurred. For many applications, periods of 10 to 12 years before replacement is normal.

4. ISOLATOR REPLACEMENT

All isolators should be replaced in accordance with our instructions.

CAUTION : The mountings are pre-compressed with a load of 1 to 2 tonnes force. They should not be dismantled unless constrained by a suitable press.



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