

TOP VIEWS

PORT AND STARBOARD DRIVELINES ARE ANGLED OUTBOARD SO SHAFT CAN CLEAR RUDDER/SKEG WHEN REMOVED

ALTHOUGH THE BEARINGS WILL MAINTAIN THE APPARENT SHAFT LINE, ANGULAR ENGINE MISALIGNMENT WILL INDUCE BEND FORCES IN SHAFT, COMPOUNDING STRESSES WITHIN THE SHAFT, GENERATING RUNOUT AND CAUSING VIBRATION, POSSIBLE SEAL LEAKAGE, AND BEARING WEAR

ANGULAR MISALIGNMENT IN HORIZONTAL PLANE, USE ENGINE MOUNT SLOTTED BOLT HOLES TO ADJUST ENGINE POSITION TRANSVERSELY, MONITOR AND CORRECT AXIAL DISPLACEMENT CONSEQUENCES

SHAFT LINE IN VESSEL IS FIXED AND NOT ADJUSTABLE, MAKE SURE SHAFT REMAINS APPROXIMATELY CENTRED IN TUBE AT SHAFT SEAL, AXIAL MISALIGNMENT WILL DIRECTLY AFFECT THIS PARAMETER. CHECK WITH SEAL IN PLACE BY CENTERING SHAFT WITHIN ITS FREEPLAY IN BOTH PLANES WITH FLANGE DISCONNECTED

AXIAL MISALIGNMENT IN HORIZONTAL PLANE, USE ENGINE MOUNT SLOTTED BOLT HOLES TO ADJUST ENGINE POSITION TRANSVERSELY, MONITOR AND CORRECT ANGULAR DISPLACEMENT CONSEQUENCES

NOTE:
CORRECT SHAFT POSITION IS PERMANENTLY ESTABLISHED BY STRUT AND INTERMEDIATE TUBE BEARINGS, THE ENGINE POSITION IS ADJUSTED TO ACHIEVE ALIGNMENT

ANGULAR MISALIGNMENT IN VERTICAL PLANE, USE ENGINE MOUNT ELEVATION BOLTS TO ADJUST ENGINE POSITION VERTICALLY, MONITOR AND CORRECT AXIAL DISPLACEMENT CONSEQUENCES

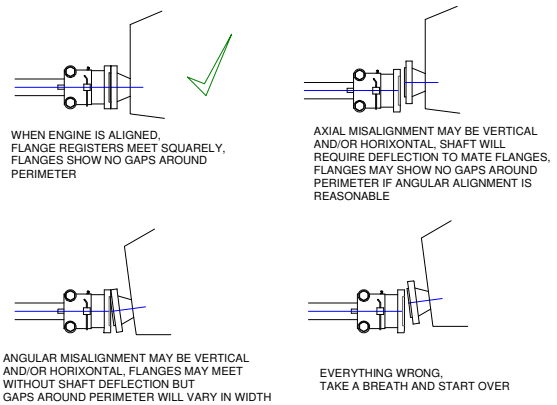
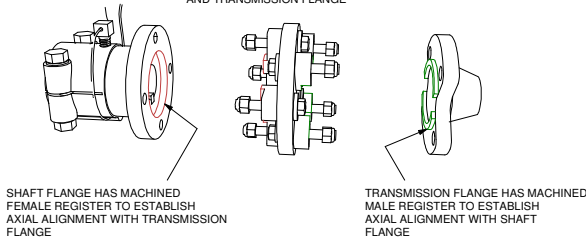
A BENT STRUT (RARE) CAN MISALIGN THE SHAFT BEARINGS

SIDE VIEWS

AXIAL MISALIGNMENT IN VERTICAL PLANE, USE ENGINE MOUNT ELEVATION BOLTS TO ADJUST ENGINE POSITION VERTICALLY, MONITOR AND CORRECT ANGULAR DISPLACEMENT CONSEQUENCES

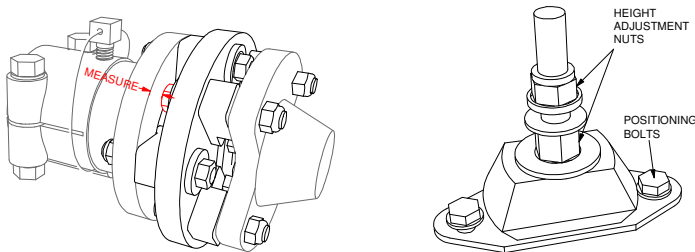
FLEXIBLE COUPLING HAS OPPOSITE REGISTERS ON BOTH FACES TO CORRESPOND WITH SHAFT AND TRANSMISSION FLANGE

TYPES OF ENGINE MIS-ALIGNMENT



A FLEXIBLE COUPLING WILL TOLERATE SOME MINOR ANGULAR MISALIGNMENT, R&D MODEL ILLUSTRATED WILL ACCEPT A .010" DIFFERENCE IN THE CLEARANCE BETWEEN THE RED PAINTED BOLT HEAD AND FLANGE FACE, MEASURED IN FOUR POSITIONS AS THE COUPLING IS ROTATED. THIS CAN BE MEASURED WITHOUT DISCONNECTING THE FLANGES. SEE ALSO THE R&D LITERATURE.

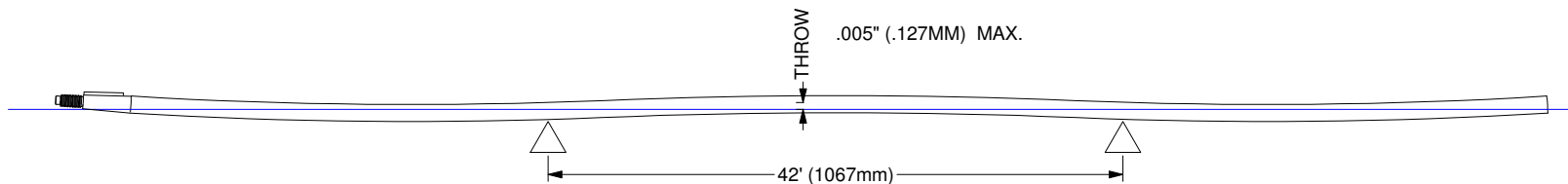
FOR SMOOTHEST RUNNING EVERY ATTEMPT SHOULD BE MADE TO ACHIEVE THE MOST ACCURATE ALIGNMENT REGARDLESS OF THE COUPLING TOLERANCE.



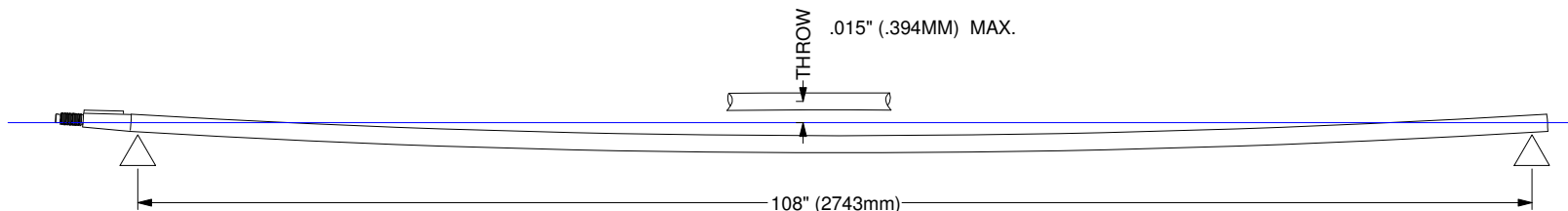
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ENGINE MOUNT POSITIONING BOLTS AND HEIGHT ADJUSTMENT NUTS MAY WORK LOOSE RESULTING IN MISALIGNMENT. CHECK ALL DRIVELINE FASTENERS FOR TIGHTNESS AT REGULAR INTERVALS.

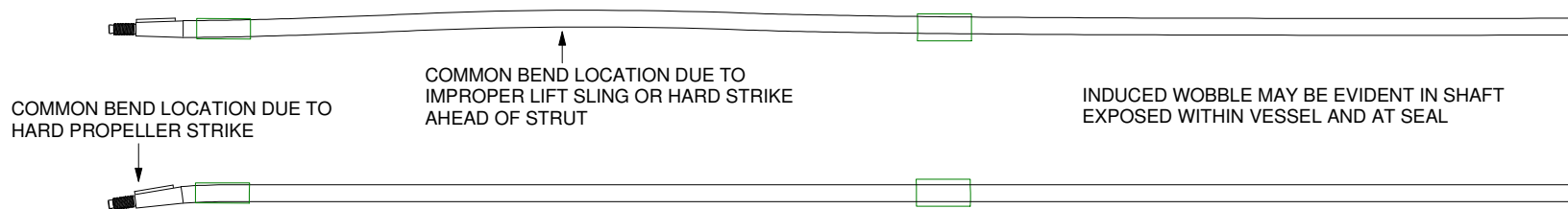
NEW SHAFT STRAIGHTNESS TOLERANCE GUIDELINES



NEW SHAFT RUNOUT TOLERANCE PER ABYC STANDARD,
(USUALLY .005" (.127MM) OR BETTER BY SHAFT MANUFACTURER'S STANDARD)



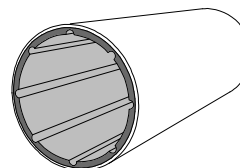
IF THEY GET BENT



NOTE:
RUNOUT DUE TO A BENT SHAFT OR DAMAGED COUPLING
IS READILY APPARENT WHEN ROTATED BY HAND,
MIS-ALIGNMENT INDUCED RUNOUT IS NOT

BEARINGS ARE COMPOSED OF BRONZE OUTER SHELL AND INNER GROOVED RUBBER ELEMENT. FIT TO SHAFT IS NEVER TIGHT, A MINIMUM RUNNING CLEARANCE OF .011" (3MM) IS REQUIRED TO PERMIT FLUID INTERFACE. NORMAL LONGEVITY IS SEVERAL SEASONS. REPLACE BY REMOVING SHAFT AND CUTTING THROUGH BEARING SHELL LONGITUDINALLY FROM THE INSIDE WITH HACKSAW BLADE. NEW BEARING PRESSES IN.

BEARINGS MAY BE QUICKLY DAMAGED BY FISHING LINE WRAP, RUBBER INSERT WILL BE CUT AWAY CREATING EXCESSIVE CLEARANCE AND VIBRATION.



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ISSUED MARCH 29, 2011
FIRST VESSEL USED 44XX