

TECHNICAL UPDATE # 002

“PROBLEM SOLVING EXPERIENCES”

It often transpires that in machinery that obtaining and maintaining perfect alignment for devices like driveshafts and couplings is near impossible to achieve. One may be able to initially setup the required tolerance of shaft axes required for a specific coupling however due to uncontrollable factors such as thermal expansion when in operation or flexure of the support frames these “go out the window” and vibration and/or premature failure occurs.

At other times a refit project may take place whereby a new prime mover (motor, engine etc) forcing the established axis alignment to be changed and no suitable coupling can be found to work.

A few years ago our engineers were presented with a sailing boat enquiry that had recently undergone a new engine refit. This new diesel engine had a shaft axis significantly higher than the previous engine hence the alignment with the existing fixed propeller shaft was compromised. If the traditional universal joints were to be installed the new angles were no longer compatible to provide constant velocity to the final drive.

Working closely with the boat owner and using his design drawings our team were able to calculate and offer him our unique Thompson Constant Velocity Joint (TCVJ 5B-15) to link the new engine and existing propeller shaft. The true constant velocity of the coupling provides near vibration free motion for the vessel and has since proved very reliable.

In his own words;

I can honestly say that your CV joint inexpensively solved a major problem during a refit of Route 66 done in 2011. We had decided to replace a finicky and high maintenance "saildrive" with a conventional propellor shaft and coupling. However, because of our engine placement and lifting keel we needed a true CV joint that could handle over 100 hp with an 8.5 degree change in shaft angle. Your brilliant joint allowed us to do this. The joint has been trouble free and functioning beautifully with minimal maintenance over several thousands of miles during this interval and I would certainly do it the same way over again and not hesitate to recommend it as a CV joint for any application given my experience.