Steve Fish’s F/V Kariel Repowered by MER

Steve Fish tends to trust his gut, and the results speak for themselves. As a young man, he felt Alaska was a much better fit for him than college in the lower 48. Over the years Steve has become a recognized high-liner and leader in Alaska’s fishing industry. Photos of his boat, the Kariel, overloaded and literally awash with halibut adorn the walls of Chinook’s at Salmon Bay in Seattle. His boat and his equipment have taken him all over Alaska in his fishing career.

When it was time to replace his main and generator he wanted the right machinery manufacturer. He chose MER. “I like dealing with them; they’re very professional,” he explains. “If they didn’t have answers to my questions, they said so and got the information.” One key to Fish’s success is continually upgrading Kariel, keeping downtime to a minimum while maximizing efficiency on deck and in the engine room.

“We’re a family owned business”, says Tyler Allen, Operations Manager, and owner Bob Allen’s son. “We’ve been involved in the Alaskan fishing industry since the 30’s. A lot of us here have been, or are commercial fisherman. We get it. This equipment is your livelihood. It’s big, it’s complicated, and there are a lot of moving parts. We place a tremendous weight on reliability and making sure what we supply really fits the need.”

The result is a very successful repower of the 30-year-old 66’ x 20’ Ed Monk long liner design. The new John Deere main, a 6135AFM75 (425 HP) , and MG65-KS1 (65 kW) Genset configured by MER was installed without a hitch by Hansen Boat yard, and hasn’t missed a beat.

To read the full article and see other equipment Steve Fish purchased from MER visit www.merequipment.com/blog
Fifty years in the making - by Michael Hudson

SeaDrive PTOs are engine mounted systems that allows you to safely transfer power from your engine to various other equipment. Whether you want to power your pumps, hydraulics, transmissions, generators, or custom equipment the possibilities are endless.

The SeaDrive PTO has been meticulously engineered with ease of installation, safety, accuracy, durability, and serviceability in mind. It features an impressive heavy duty housing that is simply bolted on and includes a universal SAE pump mount; saving you time, money & frustration. It is pre-aligned and includes a built-in torsional coupling; making SeaDrive the most safe and accurate PTO available. SeaDrive can come direct drive or with any type of clutch for ultimate versatility & control.

The SeaDrive is easy to live with and easy to maintain. The thoughtful design includes a spare belt, loctite, spline grease, USCG compliant shrouds, and all hardware necessary to install. All SeaDrive models are marine epoxy powder coated for tough and durable corrosion resistance.

SeaDrive PTOs are built to last a lifetime of hard work to keep you running. These are what PTOs should be! For more information visit www.merequipment.com.

What is BOLLARD™?
Fifty years in the making - by Michael Hudson

Bollard [bol-erd] noun
a: A thick, low post, usually of iron or steel, mounted on a wharf or the like, to which mooring lines from vessels are attached.

Fifty years ago, MER Equipment was founded to provide marine machinery and support to commercial operators. Over time, we’ve learned a few things about how to build a machine that is dependable and provides the lowest possible operating cost. As you can imagine, we’ve gotten a lot of feedback from our valued customers on what works, and what doesn’t. Everything we’ve learned and everything we’ve been taught has been distilled into our engines and generators. The result of 50 years of refinement is our BOLLARD Engines & Generators line.

A Bollard generator set, propulsion engine, or hydraulic power unit is engineered for the most demanding applications. If you are an operator who makes your living with a Bollard, you have high expectations for dependability and strive for the lowest, long term operating costs. You want it to be quiet, smooth, and run like a top. It needs to be sized right and have the motor starting capacity to match whatever gets thrown at it. You want total solutions which consider

Featured Product

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This vibration is especially present in diesel back and forth slightly with each stroke. The crankshaft actually twists is caused by the pulsating torque applied torsional vibration effects all engines, and wear or catastrophic failure. Necessary to prevent premature equipment dampening devices are now often expecting it to work are over. Torsional bolting up an engine to a generator and building a new system. The days of just performing a Torsional Vibration Analysis deal, but it has put a greater emphasis on understanding of torsional incompatibility. That’s not a big driven machinery has increased the chance of resonance, since the engine speed can’t be lowered or raised to shift its frequency. Fortunately, hazardous frequencies can be identified through a TVA, and engine systems can be tuned to keep their frequency a safe distance from the preferred speed of the engine. We couple a lot of different equipment to the back and the front of our engines, and strive to make sure everything is compatible before we build it. Our TVA testing will help optimize design and will also identify the engine speeds to avoid, protecting engine components from harmful frequencies and ensuring years of reliable performance.

Destructive Vibration & Natural Frequencies
Understanding Torsional Vibration & the Importance of TVA - by Spencer Bailey

Destructive torsional vibration occurs when different pieces of rotating equipment don’t get along. When designing or building a piece of engine driven equipment, it’s important to consider the torsional properties of the different components being joined. Failing to account for these internal forces can lead to rattling, excessive noise, poor performance, and even catastrophic failure. Torsional Vibration has become more common in diesel driven equipment than in years past. The large, slow turning, diesel of the past has been replaced by smaller, high RPM, engines. However, the equipment being driven has largely remained unchanged. This shift in the relationship of size and displacement between the engine and driven machinery has increased the chance of torsional incompatibility. That’s not a big deal, but it has put a greater emphasis on performing a Torsional Vibration Analysis (TVA) to ensure compatibility before building a new system. The days of just bolting up an engine to a generator and expecting it to work are over. Torsional dampening devices are now often necessary to prevent premature equipment wear or catastrophic failure. Torsional vibration effects all engines, and is caused by the pulsating torque applied to the crankshaft from the firing of each cylinder. The crankshaft actually twists back and forth slightly with each stroke. This vibration is especially present in diesel engines, due to their high compression ratios. The pulsating output of the engine can be calculated as a frequency that changes with RPM. The higher the RPM, the higher the frequency. Problems start to occur as the firing frequency of the engine begins to match the natural frequency of the driven equipment. Typically the natural frequency of the driven equipment is so much higher than the engine’s that it isn’t an issue. However, with faster turning engines, it becomes a concern. Natural frequency is the same phenomenon that allows a singer to break a wine glass. If a singer matches the natural frequency of the glass with enough volume, vibration in the glass will amplify to the point of shattering. This harmonic frequency is determined by factors including an object’s mass and spring rate. That is why wine glasses with different weights will break at different frequencies, requiring a singer to change their pitch to match the unique frequency of the glass.

Engine components have natural frequencies too, which are influenced by their inertia, mass, spring rate and twist. Like wine glasses, smaller engines have lower inertias and therefore lower natural frequencies. This may bring the system’s natural frequency to within the firing frequency of the engine at typical RPMs. Running equipment within this range can sometimes be heard as a “groan” which goes away when the RPM is increased. Operating within these frequencies puts added stress on engine components, and can cause oil leaks, premature failure of pumps, bearings and drive shafts. In worst cases a crank shaft can literally snap, just like a singer breaking a wine glass. Fixed speed engines, such as generators, can be more susceptible to resonance, since the engine speed can’t be lowered or raised to shift it’s frequency.

Mike to help you get the job done right.

People You Need To Know - by Spencer Bailey

Damian Clarke - Certified Electrician

Have an electrical problem? Building a new boat and need some electrical advice? MER has a certified electrician on board and his name is Damian Clarke. Many of you will recognize him as he has been a vessel sparky for years. He has worked designing, installing, and maintaining electrical systems in mega-yachts, 900 foot container ships, US Coast Guard Ice Breakers, Navy towboats and catcher processors. Damian holds numerous electrical certifications and licenses including Washington EL01/AD01 Journeyman/Admin General and ABYC marine electrical certifications. Call Damian for help or just to say hello!

Michael Hudson - Sales Manager

Sooner or later, you will need to talk to an engine specialist about a Bollard engine, generator or HPU. Give Mike Hudson a call. He has several decades of experience working with operators, shipyards, and naval architects developing specifications for propulsion engines, generators and hydraulic power units. Mike is a boat owner and holds a USCG 100 Ton license with many offshore miles under his keel. As our new Sales Manager he will continue to ensure the sales team consistently delivers the MER promise of performance and support. You can count on Mike to help you get the job done right.
As most of you know, Ivan Fox passed away March 10 of 2013. It’s been over a year now since he’s gone over the bar and we’ve not printed a newsletter since. This section of the letter was always my favorite part. It involved the telling, the writing, and the printing of Ivan’s stories of the “Fish Business”, of men in boats, stories of courage, tragedy, good times, historical events, and innovation. Ivan was blessed with an uncanny memory for people, places, and deeds. When his grandson Tyler recorded his last interview, they talked about the early days in Kodiak salmon processing when Alaska was still a US Territory. Ivan was able to name the 13 Seafood processing companies operating on Kodiak Island at that time from memory. He then told a little story about each of the cannery managers by name and reputation. He was such a treasure of history, knowledge, and wisdom. I miss him every day and have resolved to continue to tell his stories of “The Fish Business” of men in ships, stories of courage, and accomplishments of ordinary men in extraordinary circumstances.

We will carry on his tradition, his values, his sense of duty and responsibility to be the best we can be and to be good to each other. We are a family of fishermen and work boat owners. We know what it means to lose a day on the water in the height of the season. Ivan founded this company in 1964 the year of the great Alaska earthquake because people needed help putting their boats back on the water for the coming season. Our ongoing mission in business is to support the work boat industry and to build the best equipment we can because lives and livelihoods depend on us.

Even in the best application, engines fail, by their nature they consume themselves, and everything has its season. We exist to give them the best chance we can to work hard for you for many years. Planned obsolescence isn’t in our vocabulary. We don’t sell anything we wouldn’t put in our own boats and we work hard to build them worthy of yours.

The next newsletter won’t be so long in the making and there will be a story here about courage, circumstances, rare birds, a wise man - or a fool, so stay tuned.

Don’t forget “Luck” is the result of meticulous preparation and hard work. We are lucky people, and we are all in this boat together.

Cheers,
Bob Allen

From The Founder

Passing the Torch - by Bob Allen

Ivan Fox with his great grandson Ivan Allen!