The new Bollard 40!

Finally, at long last, we’re about to roll out a brand-spanking-new 40 kW marine generator set. It’s been a grind to find the perfect block that we can build a bullet proof marine package around. We built our first 40 kW-ish set just about 50 years ago, and with the new 40 about to launch, a little nostalgia has set in and it felt like time to look back at 50 years of 40 kW gen-sets.

Over 50 years, our 40 kW has had a lot of reincarnations. It’s a popular size for the fishing fleet and commercial tugs alike. There are units from every generation we’ve built still out there working, all the way back to the sets we built with the Isuzu DA220 in the 1960s.

The 1970s brought in the 4BB block with its bomb proof, dry fit chromium liners. The 4BB was an off-road, short stroke industrial engine which was really better suited for a 35 kW than a 40. The 4BB evolved into the 4BD, an off-road engine, by the early 80s. It wasn’t until the 4BG rolled out in the 90s that the engine hp was high enough we felt we could jump the continuous rating from 35 to 40 kW. There were a couple other generator packagers out there who’d been badging them that way for years, but we’ve always been really conservative in our ratings. There were also turbo charged versions of the BD and the BG as well, which were good for up to a 50 kW prime rating. Eventually the engines went out of compliance, and we sold our last new 4BG in ’08.

At the end of the Isuzu dynasty, Deere had the closest thing that could match them for durability, and so we started marinizing the 5030, 4045TF275, 280, and 285 industrial blocks. Where the 4BB had been a bit light for a 40, the Deere’s were a touch big, and we sized them from 45-65 kW, depending on the block. Along the way we also marinized a few Yanmar 4TNV98s. Those were turbocharged with an aggressive EGR system. We had more issues with the EGR valves sticking than we would have liked, so that program was short lived. It was a compact package though, and we sold a lot of those to the squid fleet.

Eventually those became unavailable for marine, and we transitioned over to the Kubota 3.8 liter turbo in 2009. The 3.8 has been a rock solid engine, even if it was a little loud. There was full power available from the front as well, and we hung quite a few SeaDrive front PTOs off those engines. We’ve known that engine was going away for a couple of years now, so we planned ahead, and have been developing our new 40.

After an exhaustive search, we feel the best engine on the market for our new 40 is the Deutz, DT2.9. It’s a 4 cylinder, high pressure common rail, J1939, turbocharged engine. It’ll be our first marine package with a Deutz, but we’ve had good luck with them for radiator cooled sets going back to the 80s. Now that we’re living in a tier 4 emissions world, the fact that it isn’t aftercooled, and only has a catalytic converter for after treatment, is refreshing. There is no DPF or SCR required, which keeps the engine simple and cost effective. The package will have a cast, water-jacketed exhaust manifold and live PTOs for power take off or driving a RWP. Full power can be taken off the front of the crank, so a front PTO can provide up to 150 ft-lbs of torque, or 50 hp @ 1800 RPM. We’re pushing hard to have a prototype at PME this year so come by and check out our next 40kw edition.

Contact our sales department for pricing, sizing, and specifications
Exhaust Development Update

The history and evolution of SuperFlex™ Exhaust Systems

Buying an exhaust system, as anyone who has tried to will tell you, can be a complicated and time consuming headache. This is due to the fact that most companies specialize in only one or two specific components of the system - leaving you to do all the heavy lifting in terms of measuring, designing, and sourcing parts.

About 5 years ago, a unique opportunity arose as emission requirements advanced and our 3D CAD & fabrication capabilities improved; we were finally capable of being a one stop shop for the entire system. We could design, engineer, and fabricate complete dry and wet exhaust assemblies as a finely tailored solution for your unique vessel.

It's no wonder that one of the fastest growing products at MER is our SuperFlex exhaust product line. The SuperFlex brand started as a humble 5 ply SS flex section selection, but quickly evolved to encompass fittings, pipes, tubes, elbows, flanges, reducers, silencers, custom blanketing, and an engineering service to configure your entire exhaust system from start to finish exactly how you want it.

While we love a custom engineered setup, there is still a demand for many off the shelf plug and play components. Two common requests, for Deere engines in particular, is a flanged flex section with a concentric reducer and a more wallet-friendly (and configurable) version of the factory elbow. For this reason we still carry a large supply of off the shelf solutions as well as individual components for a more modular setup.

Having a single company deliver complete, well made, and properly engineered exhaust systems for your vessel saves dollars on the bottom line and most importantly, your time.

Don't settle for the 5 company approach. Call MER today for all of your exhaust needs and talk to one of our engineers.

Expanded Service Network - Michael Hudson

In today's world at MER, our large fleet, tug, and seafood catcher / processor customers require service capabilities which cover the range and distance that their boats travel. As a factory OEM, we bring to the table more options for the operator to utilize in order to gain the service coverage they need.

The base engine manufacturers selected by MER to power Bollard generator sets enable us to bring the big guns to bear from their commitment of support by their distributors and the network of dealers. John Deere, for example, has developed an extensive and proven marine engine distributor / dealer network which is providing local support in the regions where our fleet customers' boats travel.

If we field a call for service, Deere is there for the operator and MER from the dealer, distributor, and factory levels to get the job done.

The third important support layer comes directly from MER Equipment. It is common that, in the event of a service need, the first call from the operator is fielded by us. Our support line is on call 24 / 7 for diagnostics, troubleshooting, and warranty support. If there is need for a technician on board, we develop the best plan to make that happen. We work with the operator to determine the vessel location, the problem, and best course of action. Technicians may be sent from factory engine dealers, Bollard dealers, or in some cases, direct from MER.

In the old days, as an engine dealer, instead of three layers of support, we took care our customers directly and with limited support from our friends in the engine service business. Our dedication to shift over to become a true OEM has brought so much more support for our customers, enhanced by the strong backing of our suppliers. Together, we get the job done.

Testimonials

“The last sea drive I bought from MER was an excellent product...fit well and was an easy install...I look forward to working with you on future projects...thanks”
- Glen Manchester

“I am very happy with my system from MER. After getting everything figured out it worked flawlessly. I put 550 hrs on the genset this year and it was easy to put away for the winter. Thanks again Bob for being available for phone calls and going the extra mile for this project.”
- Richard Wheeler
There is an infinite number of things that can end your season, cost you a barge load of freight or just plain ruin your day. So why wouldn’t you buy a little slice of insurance to take one thing out of the equation?

MER is constantly trying to develop new ways to help with one of the most destructive and costly aspects of any ship - the catastrophic failure of a diesel engine. Whether it’s new or used, work stops when there is no power or propulsion.

Today’s diesel engines are ECU controlled. Everything from starting to diagnostics pass through the ECU. When the ECU loses power the engine stops right? Yes and no. Without going into great detail as to how a diesel engine works, an alternate fuel source can cause a diesel engine to continue running even with a loss of power to the ECU. This can be provided any number of ways. Heavy fuel dilution, aerosols in the air, failed injector tips, oil build up in the CCV, and so on. This condition is called ‘Overspeed’ and if it’s not taken under control soon, catastrophic failure can occur. Many people are under the common misconception that an engine runs away. This is not true. Engines Overspeed, Mechanics run away.

When an engine picks up on a secondary fuel source, there is no governing of said fuel source so the engine speeds out of control to an RPM outside of normal operation. If not stopped, generator windings can expand causing complete alternator failure and beyond that, internal engine components can vacate the block resulting in non-repairable damage. At that point costly down time and the expense of a new engine or generator can take away any profit earned. Not to mention the cost of marine mechanics, shipyard fees and damage to vital electrical equipment from over voltage. So many times, we here “If I had only known”. Don’t be a victim. Add the insurance you need to prevent these types of failures.

MER has taken a pro-active approach to this problem. We have a product now available to all marine diesel engines, both electronic as well as mechanical. Engines Overspeed, in many cases this cannot be prevented unless you know the cause before it happens. We are proud to offer a Positive Air Shutdown system that is Marine rated, sealed and trouble free. Shutting air off is the only way to completely stop an engine that is approaching overspeed. Catching it before it does irreparable damage is the key. We have 3 different levels of the PASD to offer.

In my early career we would test Detroit and Cat factory PASD for the USCG. The industry got away from that with the advent of electronics. However, if there is a secondary fuel source in the air or in the engine, the ECU is not enough to shut the engine down. Air shutdown systems are not at all new to the industry but finding a product to withstand the rigorous marine environment is a task all its own. We have sourced, tested and finally found a product that works and works well. It can be retro fit to an existing engine, it’s a standalone system and does not rely on the ECU to operate, it has no external moving parts and it is completely water tight. To be quite honest, it’s made specifically for our marine industry.

How a positive air shutdown can save your bacon - Dustin Jones

Technical Bulletin

Subchapter M is here: Equipment Upgrades & Compliance

Subchapter M applies to all US Towing Vessels and is intended to raise safety standards across the entire industry. Engine room electrification, monitoring and automation is a painful compliance challenge many operators and engineers will tackle. We have some painless solutions for engine controls, automation and wiring that can remove some of the burden.

SeaStop™ Installed on John Deere 6068
From The Captain

The Kalakala - from iconic ferryboat to stuck in the mud at Kodiak-Gibson Cove

Many often think Ivan Fox turned the Kalakala into a shellfish processing plant in Kodiak. He did use it to develop a more efficient producer, but it was actually Bob Resoff who bought the ferry in 1967. Bob converted her into a shellfish processing plant with the intention of towing her to Dutch Harbor to be part of his American Freezership Co. He got her towed as far as Kodiak by the Andrew Foss and in partnership with WR Grace Co. she landed in Gibson Cove. They bought the land and trenched the head of the cove, beached the boat and built a rock levy around her with intentions to use her for shrimp and crab processing. Soon after her grounding, the WR Grace Co. was purchased by New England Fish Co. (NEFCO) and Ivan Fox was put in charge.

In the early 70s the shrimp fishing in Kodiak was phenomenal. There was a fleet of three draggers fishing for NEFCO made up of Bender built steel boats called "The Dawn Fleet". They were typical 86’ Bender shrimp draggers brought up from Louisiana to harvest in the Gulf of Alaska. Every three days the boats returned like clockwork, holds packed, iced, & deck loaded with the last tow of the day. They off loaded at the Kalakala where the shrimp were cooked, peeled, packaged, and shipped out on Sealand. The plant manager, Pete Harris, and his crew worked the 8 shrimp peelers in the hull, cut loading ramps, and installed conveyors to the cookers. Between a King Crab, Tanner Crab, and Shrimp fishery, the plant was always busy. In 1972, Ivan started building a loading dock and face dock in front of the Kalakala for easier access to the water. Even though the boat was dry behind the breakwater, she floated on the big tides so all the plumbing and electrical had to be flexible. I was working on the Beach Gang at Uganik on Buckwheat’s crew and at the end of the salmon season we towed the piledriver the 80 miles or so to town to drive the piles for the dock. The local pile buck union was upset to see a bunch of scabs show up with our own driver. Ivan with his consummate skills of negotiation got the issue resolved by hiring a couple of the local crew to give us a hand. The local union quoted Ivan 21 days to drive the piles and we did it in seven - mostly with the union guys watching.

The driver was the original San Juan Fishing & Packing driver built by Oldford and Wing of Seattle in 1944 to drive fish trap piles. She was a wooden barge, 115 tons, 70’ Long by 24’6 beam, by 4.45’ draft. The pile gins were 65’ tall - she swung a 4800lb hammer and 1700lb pile follower. She originally had a Coal fired boiler and steam engine built in Seattle by Washington Iron Works, but in 1972 the steam engine was replaced by a 671 GMC. While still an efficient driver, she never quite had the power of the ol’ steam engine. Today she sits on the ways at the old herring plant in Uganik, gradually being reclaimed by mother nature. The Kalakala had a more definitive end - scrapped and recycled in a Tacoma shipyard.

It was a rainy day as we finished up the project at Gibson Cove. Ivan flew into town and took us all out for drinks to celebrate. I had the bright idea to buy him a six pack of Tequila in Tony’s bar. Of course he returned the favor and by 5AM I was shit faced. No matter how much he drank, Ivan seemed to be unaffected by alcohol. It was that night he talked me into proposing to his daughter. He knew we had rented an apartment together and his wife was less than happy. He told me she had been walking about the house with his pistol in hand discussing her options. I wasn’t ready to get shot or married, but I was drunk and I loved his daughter. What’s a guy to say under those circumstances?