

Engine Comparison

Comments in table are from Joe DeMers of Sound Marine Diesel LLC

| Engine Make and Model | Beta Marine BD1005 | Universal M-25XPB | Westerbeke 30B | Yanmar 3GM30 |
|-------------------------------------|---|---|--|---|
| Base Engine | Kubota | Kubota [Same Kubota model as Beta Marine] Universal is a division of Westerbeke. | Mitsubishi | engine & gearbox made by Yanmar. Either raw - or - fresh water cooled engine designation is 3GM30F. |
| Cylinders | 3 | 3 | 3 | 3 |
| Rated Power | 28hp @ 3600rpm | 26hp @ 3000rpm | 27hp @ 3600 rpm | 27.3hp @ 3600rpm |
| Displacement | 1 liter displacement | 1 liter displacement | .95 liter displacement | .95 liter displacement |
| Weight | 335 pounds, with gearbox | 295 pounds, without gearbox | 275 pounds, without gearbox | 300 pounds, with gearbox |
| Dimensions | 27.5" long, 25" tall, 20" wide | 28.5" long, 22" tall, 19" wide | 29" long, 19.75" tall, 17.25" wide | 29" long, 21.5" tall, 18" wide |
| Water Pump Location | gear driven raw water pump, faces fwd, easily serviced | gear driven raw water pump, faces fwd, easily serviced | gear driven raw water pump faces aft, is inconvenient to service. | V belt driven raw water pump, faces aft [has the most difficult access of all the engines for changing the impeller] The pump will most likely need to be removed for an impeller change. |
| Fuel Filter | spin on fuel filter | spin on fuel filter | disassembly required to change fuel filter | disassembly required to change fuel filter |
| Fuel Pump | mechanical fuel lift pump | electric fuel lift pump | electric fuel pump | mechanical fuel lift pump |
| exhaust | Combination exhaust manifold / header tank / heat exchanger. Heat exchanger core easily serviced, by removing 2 cap screws. Zinc very easily accessed. | Separate heat exchanger located over trans, with various hoses attached to it. | Separate heat exchanger located over transmission, with many hoses attached. | Combination exhaust manifold / heat exchanger / header tank, . Heat exchanger core takes 8 capscrews to remove, they are accessible. |
| service points | All routine service points located on front of engine [dipstick, oil & fuel filter, fuel pump, fuel bleed point, raw water pump.] Oil change pump mounted on engine. | Zinc is installed low on Heat exchanger. Heat exchanger will have to be removed for major cleaning. Engine dipstick & fuel filter low on starb'd side. lube oil drain hose. | Zinc installed low on heat exchanger. Will have to be removed for major cleaning. Dipstick, lube oil filter, fuel filter, & raw water pump located low on starb'd side. lube oil drain hose. | Dipstick, fuel lift pump, fuel filter located on starb'd side. lube oil change pump optional [I believe it's a portable type, for use via dipstick tube] |
| Coupling | Flexible coupling standard. | Flexible coupling optional | Flexible coupling optional | No mention of flexible coupling |
| Shut Down | Engine shut down by electric push button | engine shut down by pull cable. | engine shut down - "manual type" according to sales literature. | engine shut down by pull cable |
| Alternator | Standard 40 amp alt, optional 65 amp alt. Optional 100 amp alternator & "smart" regulator. | standard 51 amp alt, optional 72 amp. | standard 50 amp alt, no optional alt. | standard alt is 55 amp, no optional alt |
| Oil Pan | shallow, cast aluminum oil pan standard, sheet metal deep pan optional | No mention of an optional oil pan | No mention of an optional oil pan | No mention of an optional oil pan |
| Instrument Panel | 2 engine panels, with gauges, optional. Standard panel has tachometer & digital hourmeter. | 2 engine panels, with gauges, optional. Standard panel has no gauges. | 2 engine panels, with gauges, optional. Standard panel has no gauges. | 2 engine panels, with gauges, optional. Standard panel has no gauges. |
| PTO | Power take off optional, to drive refer compressor, bilge pump, etc. | No mention of a PTO. | No mention of a PTO | No mention of a PTO. |
| Transmission Parts | Transmission parts are available direct from the builder, aftermarket, or Beta Marine. | Transmission parts available from ZF / Hurth, or aftermarket. standard trans is ZF / Hurth, 2:1 ratio "other gear ratios" & "hydraulic transmission" optional. See notes below for details. | Transmission parts available from Westerbeke or trans builder, or aftermarket, I believe. standard trans ratio is 2.47:1, "other gear ratios" are optional | Only Yanmar built transmissions are available, including a V drive [they are copies of ZF / Hurth type] |
| Engine Parts | All Engine parts are available at a Kubota tractor dealer, marinization parts must be bought from Beta Marine. See notes below for details. | Marinization parts must be bought from Westerbeke. All Engine parts are available at a Kubota tractor dealer, if the Kubota engine model is known. | Engine & marinization parts must be bought from Westerbeke. | All engine, transmission, & marinization parts must be bought from Yanmar |
| Parts Price Cmparison (Winter 2003) | 1. Upper gasket set \$98 2. Thermostat \$22.80 3. Raw water pump [Jabsco] \$188 1. Upper gasket set (all gaskets needed for a valve job) 2. Thermostat 3. Raw water pump | 1. Upper Gasket Set \$220. 2. Thermostat \$43 3. Raw water pump \$248.20 (Sherwood) | 1. Upper Gasket Set \$235.50 2. Thermostat \$38.60 3. Raw Water Pump \$278.10 | 1. Upper Gasket Set - N/A, They only offer semi complete sets, total cost is about \$115. 2. Thermostat \$31.91 3. Raw Water Pump \$319.04 |
| Price (Winter 2003) | \$6710 standard engine & trans, no options \$ 7692 with ZF 15 MIV trans from Joe DeMers \$8150 with ZF 15 MIV v-drive with a 2.13:1 reduction from marinedieseldirect.com | \$8475 with ZF 15 MIV v-drive with a 2.13:1 reduction from marinedieseldirect.com | \$8375 with Hurth ZF 15 MIV v-drive with a 2.13:1 reduction costs from marinedieseldirect.com | |

Notes (from Joe DeMers)

All engines are 3 cylinders, non turbo charged, fresh water cooled, except for the raw water cooled version of the Yanmar. All engines include flexible mounts. All use a right hand [clockwise] rotating transmission & prop. The Beta Marine engine is available with a left hand rotating transmission. Westerbeke & Universal [really the same company since 1990] make no mention of a V drive, or a saildrive transmission. Yanmar does have saildrive transmissions and offers a V drive transmission

Beta Marine has optional 8 degree downangle, saildrive, & V drive transmissions, from 4 different builders, with assorted reduction ratios. An optional adapter plate to accept Velvet Drive brand [hydraulic] transmissions is available.

Yanmar engines do not use glow plugs, the other 3 engines do use them. The raw water cooled version of the Yanmar can be hand started.

Beta Marine & Universal can be ordered without a transmission.

Only Beta Marine has a replaceable paper air filter / intake air silencer. The others have a silencer only.

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