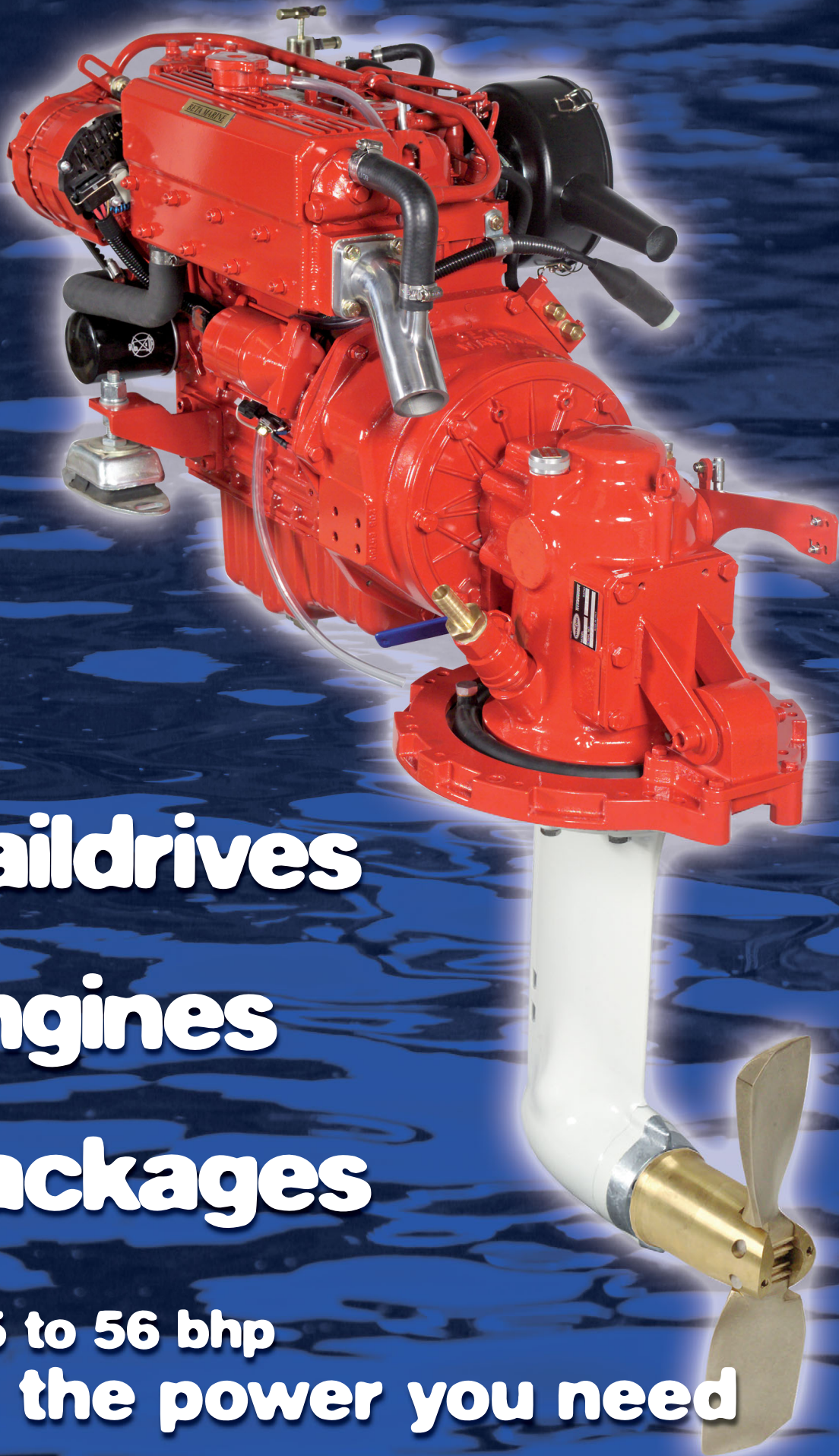

BETA MARINE



**Saildrives
Engines
Packages**

**13.5 to 56 bhp
All the power you need**

Why Beta?

Because:

- We have a superb heat exchanger cooled diesel engine range especially engineered for the yachtsman at an affordable price with our unique 3 year 'self service' warranty scheme.
- With our International Dealer network and sales team, we are ready to help you with installation and service support. Ask for details!
- We offer our **Special Engine Feet** option - we can design and manufacture them to suit your existing saildrive feet position.
- Easy maintenance with mounted sump pump and optional polyvee belt and pulley drive to high output alternators.
- Low carbon foot print - these clean engines meet all current and projected EPA exhaust emission regulations - both **RCD** (Recreational Craft Directive 94/25/EC as amended by 2003/44/EC) and **EPA** (U.S. Environmental Protection Agency) exhaust emission compliant.
- Our engine range is based upon the most technically advanced Kubota diesels that give you very smooth, quiet power, right through the speed range. The engine design includes reliable gear driven injection pump and camshaft.
- Beta Engines are built in Gloucestershire, U.K.
- See our website for more details:
www.betamarine.co.uk

Beta's Gloucester manufacturing facility

Solution 1 Specification

Beta Marine's Saildrives engines are:

- Heat Exchanger cooled, indirect injection, naturally aspirated marine diesel engines based on Kubota.
- Multi cylinder with high inertia flywheel for smooth running.
- Three vortex combustion for quiet running, low emissions and excellent fuel consumption.
- Quiet gear driven camshaft for engine reliability and easy servicing - no timing chains or tooth belts to replace.
- Water cooled exhaust manifold.
- Battery charging alternator 45/65 amps - giving full power at cruising speed with 12 volt electric starting as standard.
- Heater plugs for cold start below 5°C.
- Standard 'ABV' Control Panel.
- Fuel filter and mechanical fuel lift pump.
- Lubricating oil filter and sump drain pump.
- 'Morse' type engine speed and gearbox control cable support and end fittings.
- Installation angles up to 15° maximum when static, and 25° when heeling.
- Standard saildrive feet and flexible mountings.

Solution 2 Specification

As solution 1 but including:

- Technodrive SeaProp 60 saildrive leg with 2.15:1 reduction ratio. Output rotation can be either clockwise or anticlockwise.
- Shallow sump.
- Special engine feet with flexible mountings to match your existing installation.

Solution 3 Specification

As solution 1 but including:

- Technodrive SeaProp 60 saildrive leg with 2.15:1 reduction ratio. Output rotation can be either clockwise or anticlockwise.
- GRP moulded base with stainless steel inserts.
- Engine feet and flexible mountings to suit the GRP base.

Options & Accessories

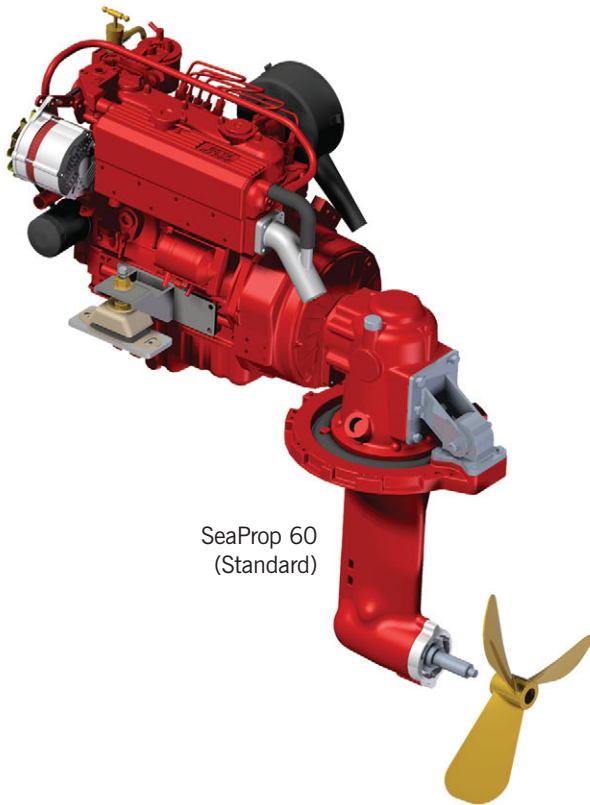
- ABVV, B and C control panel options with gauges and alarms.
 - Larger 70/100 amp battery charging alternators.
 - Solid or Folding propeller
 - Calorifier connections for hot water systems.
- Many more – see our price list!**

Saildrive Solutions

We can offer you three different Saildrive solutions:

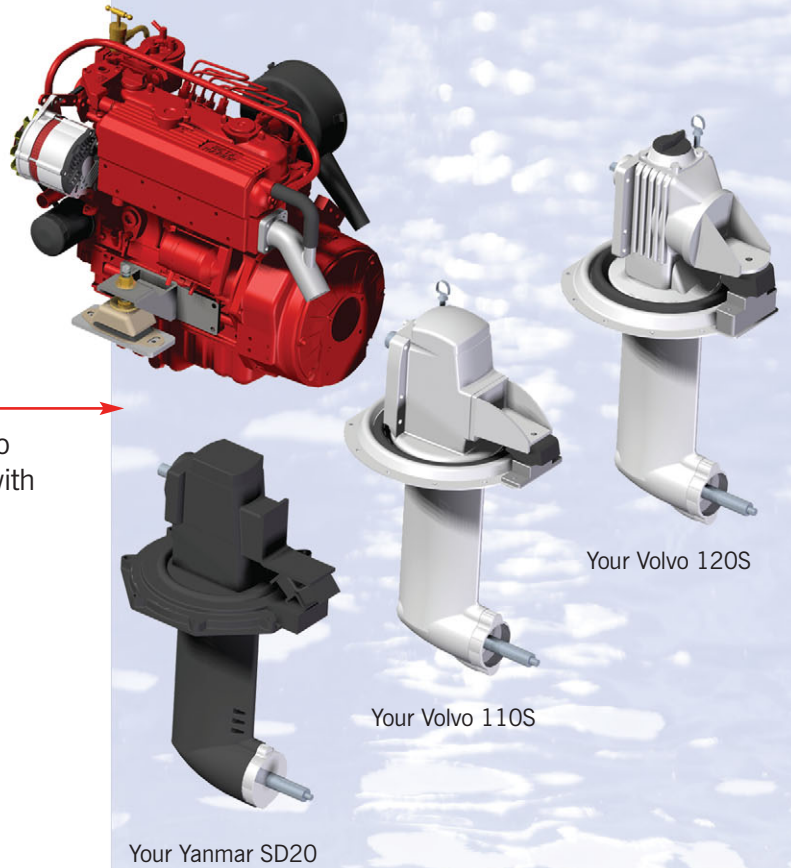
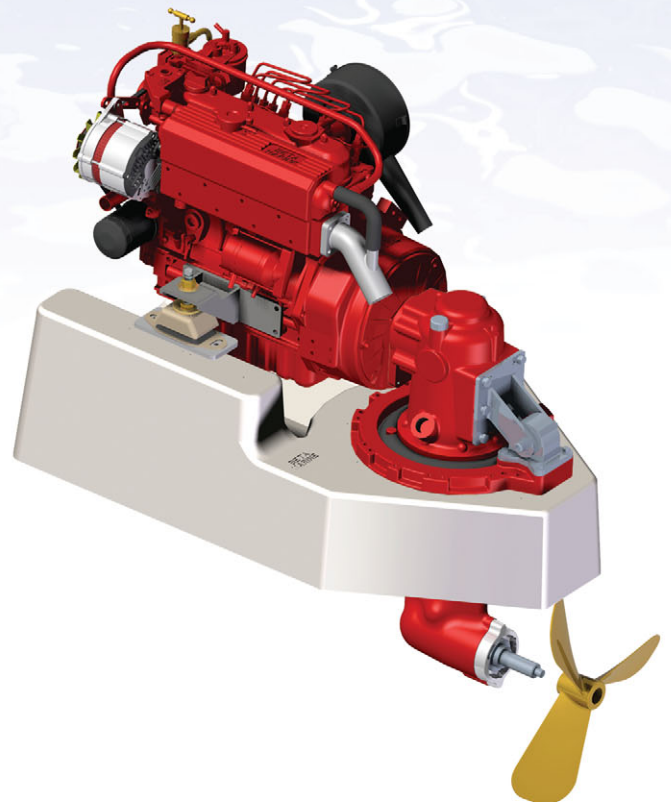
Solution 1:

A new Beta Engine - fitted to your existing Volvo 110S or 120S, or Yanmar SD20 saildrive leg with optional special feet.



Solution 3:

A complete Saildrive package with a new Beta Engine fitted to a new SeaProp 60 with engine feet matching the GRP base. We have an installation manual to help you install the GRP base.



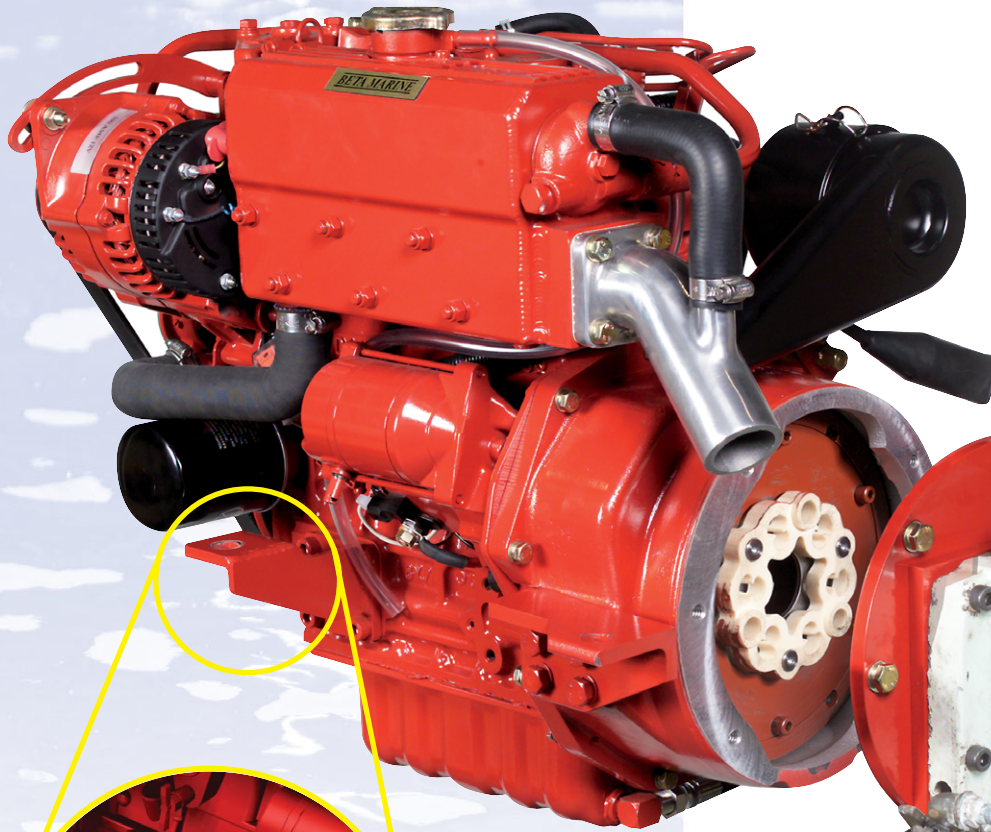
Solution 2:

A new Beta Engine fitted to a new SeaProp 60 with special feet, ready to drop into your existing GRP 'Saildrive' moulding.

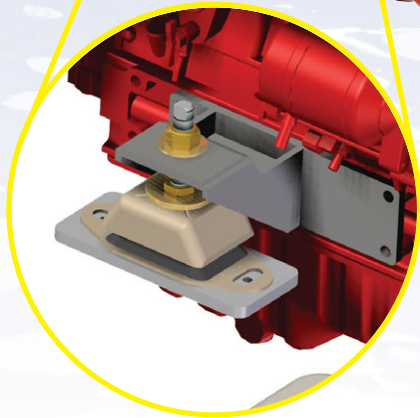
Solution 1: Replacement Engine to Existing Saildrive Leg

Many yachts have been built using the Volvo 110S, 120S and Yanmar SD20 saildrives - eventually the engines wear out; but the saildrive legs are still good.

Beta can provide a smooth, quiet new engine replacement that bolts directly to your existing leg with our shallow sump and special feet options it is an inexpensive solution to the problem, while adding value to your yacht.



New Beta Engine with special adaption and drive plate to suit your existing leg



Special feet option that will match the existing location positions in your GRP moulding

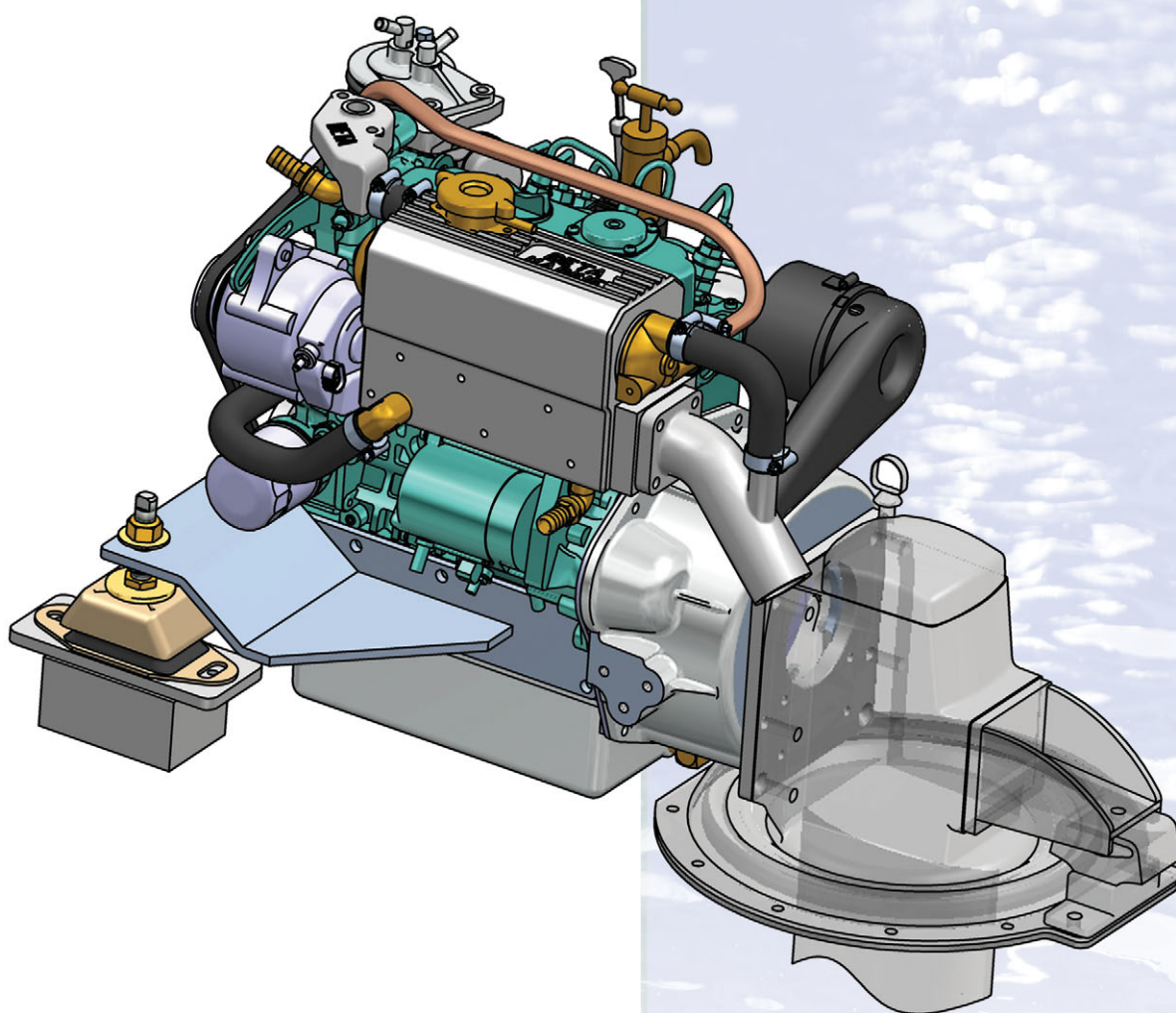
Special Feet

Are you replacing an old engine?

When replacing a Saildrive engine or complete Saildrive unit in an existing hull moulding, you will need special feet to match the existing positions in your boat. We can design/manufacture and supply these to suit your existing mounting positions.



Your Volvo or Yanmar leg



Saildrive Power Outputs

Beta 14SD	2 Cylinders	478 cc	13.5 bhp @ 3,600 rev/min
Beta 16SD	2 Cylinders	599 cc	16 bhp @ 3,600 rev/min
Beta 20SD	3 Cylinders	719 cc	20 bhp @ 3,600 rev/min
Beta 25SD	3 Cylinders	898 cc	25 bhp @ 3,600 rev/min
Beta 30SD	3 Cylinders	1,123 cc	30 bhp @ 3,600 rev/min
Beta 35SD	4 Cylinders	1,498 cc	35 bhp @ 2,800 rev/min
Beta 38SD	4 Cylinders	1,498 cc	38 bhp @ 3,600 rev/min
Beta 43SD	3 Cylinders	1,999 cc	43 bhp @ 2,800 rev/min
Beta 50SD	4 Cylinders	2,197 cc	50 bhp @ 2,800 rev/min
Beta 60SD	4 Cylinders	2,434 cc	56 bhp @ 2,700 rev/min

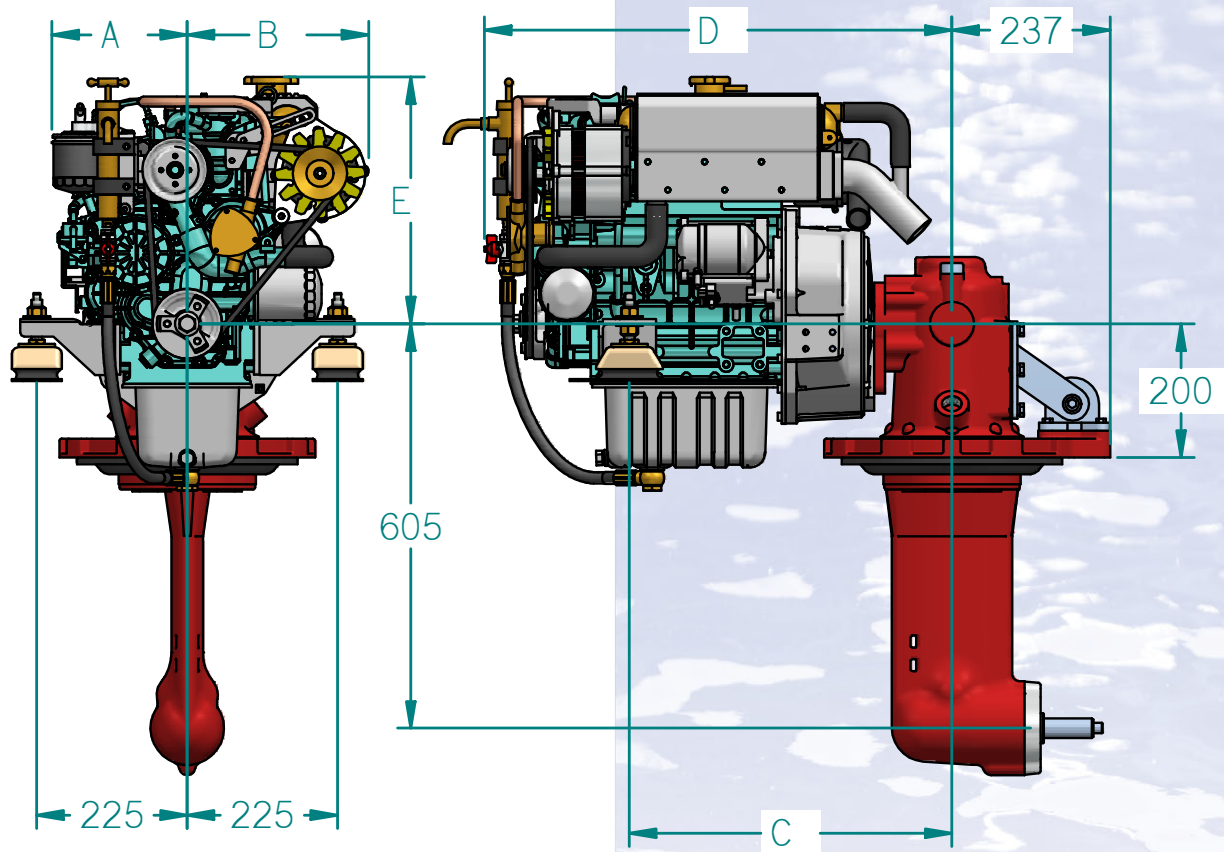
Solution 2: Replacement Engine and Saildrive to fit existing GRP Base



With this option we supply a complete replacement saildrive unit, that just 'drops into your existing GRP moulding'.

Our range starts from 13.5 hp and extends to 56 hp comprising our Beta engine fitted to the very reliable Technodrive SeaProp 60 leg, with a shallow sump and special feet to match your existing GRP moulding.

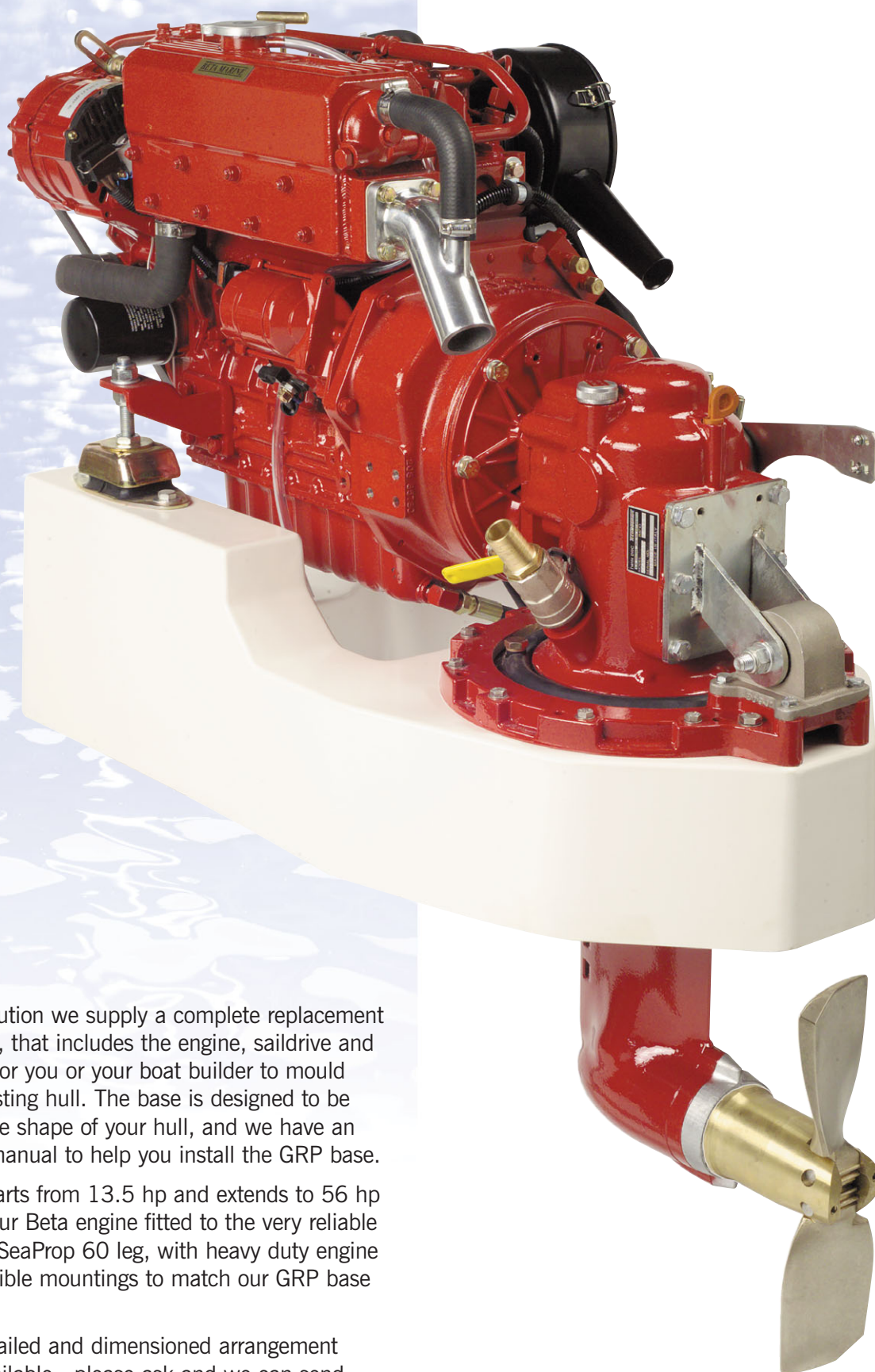
We have detailed and dimensioned arrangement drawings available - please ask and we can send them to you; or look on our website for drawings that can be 'downloaded'.



Saildrive Dimensions using SeaProp 60

	Beta 14SD	Beta 16SD	Beta 20SD	Beta 25SD	Beta 28/30SD	Beta 35/38SD	Beta 43/50/60SD
A	218	218	218	218	202	228	252
B	217	217	217	217	271	271	283
C	390	402	460	484	482	568	626
D	569	581	639	663	699	784	850
E	340	340	340	340	369	369	405
Weight	110 Kg	115 Kg	130 Kg	145 Kg	175 Kg	235 Kg	300 Kg

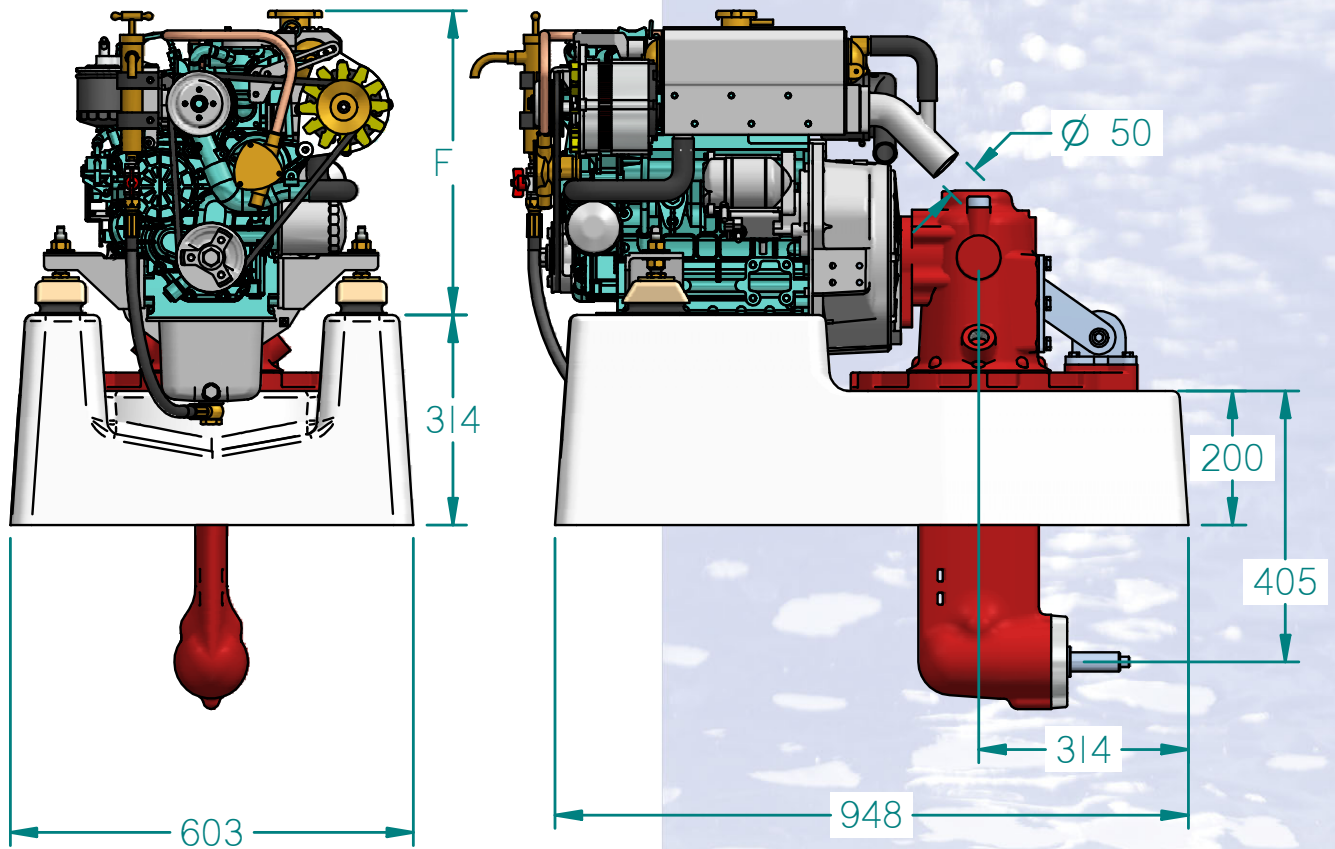
Solution 3: Complete Engine, Saildrive & GRP Base



With this solution we supply a complete replacement saildrive unit, that includes the engine, saildrive and GRP base - for you or your boat builder to mould into your existing hull. The base is designed to be cut to suit the shape of your hull, and we have an installation manual to help you install the GRP base.

Our range starts from 13.5 hp and extends to 56 hp comprising our Beta engine fitted to the very reliable Technodrive SeaProp 60 leg, with heavy duty engine feet with flexible mountings to match our GRP base moulding.

We have detailed and dimensioned arrangement drawings available - please ask and we can send them to you; or look on our website for drawings that can be 'downloaded'.

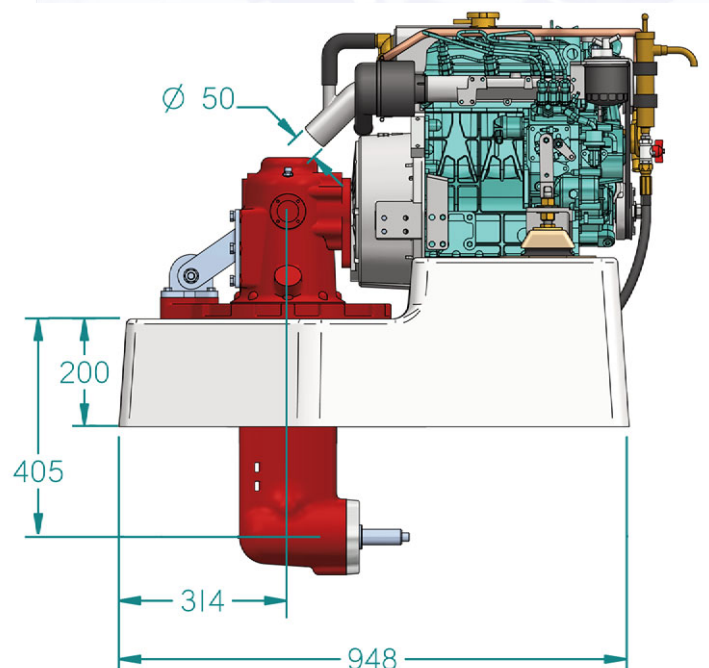


Saildrive Dimensions

	Beta 14SD	Beta 16SD	Beta 20SD	Beta 25SD	Beta 28/30SD	Beta 35/38SD	Beta 43/50/60SD
F	421	421	421	421	450	450	4915
Weight	110 kg	115 kg	130 kg	145 kg	175 kg	235 kg	300 kg

SeaProp 60 - Reverse Leg Output

If your hull design requires it, the saildrive leg can be turned through 180 degrees so that the engine is directly over the propeller. Please ask for details.



Control Panels



Standard 'ABV' Control Panel

Tachometer with running hour recorder, keystore switch, push button stop, green light for 'power on', red warning lights and audible alarm for: low oil pressure, high water temperature, domestic and engine alternators 'no charge; 3m interconnection cable with multi pin plug connector.



Optional 'ABVW' Control Panel

Tachometer with running hour recorder, waterproof push buttons for heat/start/stop, green light for 'power on', red warning lights and audible alarm for: low oil pressure, high water temperature, domestic and engine alternators 'no charge; 3m interconnection cable with multi pin plug connector.



Optional 'B' Control Panel

Tachometer with running hour recorder, water temperature gauge, keystore switch, push button stop, green light for 'power on', red warning lights and audible alarm for: low oil pressure, high water temperature, domestic and engine alternators 'no charge; 3m interconnection cable with multi pin plug connector.



Optional 'C' Control Panel

Tachometer with running hour recorder, oil pressure and water temperature gauges, voltmeter, keystore switch, push button stop, green light for 'power on', red warning lights and audible alarm for: low oil pressure, high water temperature, domestic and engine alternators 'no charge; 3m interconnection cable with multi pin plug connector.

Re-Engining? - Special Feet

Are you replacing an old saildrive or just the engine?

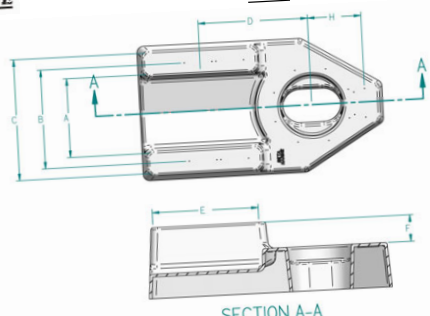
'Beta' saildrive engines have been fitted into hundreds of yachts around the world and this is usually done with our special saildrive engine feet. With this option we give you a unique service of designing and manufacturing "Special Feet" so that our saildrive engine just drops onto your existing engine feet position. They substantially reduce the time and installation costs.

The system works like this:

1. We have a standard drawing that you can download or we can send you. You just fill in the measurements of your existing engine bearers and send them to us.
2. We then prepare a finalised drawing for you to sign-off. You then check the drawing, and if correct 'sign it off' and return it to us.

1. MARINE

SPECIAL FEET SAILDRIVE FORM



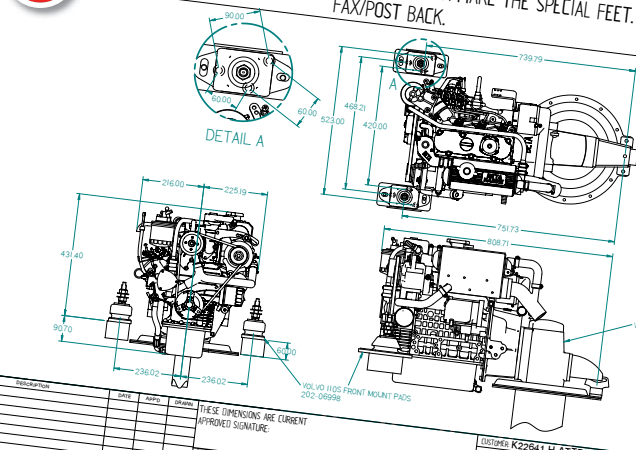
SECTION A-A

SAILDRIVE REAR MOUNT

A	BETWEEN BEARERS	NOTES
B	CENTER OF BEARERS	
C	OUTSIDE OF BEARERS	
D	CENTER OF LEG TO CENTER OF BEARER	
E	LENGTH OF BEARERS	
F	FROM SAILDRIVE SEAL TO TOP OF BEARERS	
G	HEIGHT OF SAILDRIVE REAR MOUNT	
H	CENTER OF SAILDRIVE TO BEAR MOUNT HOLES	

WOC NUMBER (IF KNOWN)
NAME
ADDRESS

2. CUSTOMER MUST APPROVE THIS DRAWING BEFORE BETA MAKE THE SPECIAL FEET. PLEASE SIGN AND FAX/POST BACK.



DETAIL A

VOLVO 110S FRONT MOUNT PADS
252-08627

VOLVO 110S

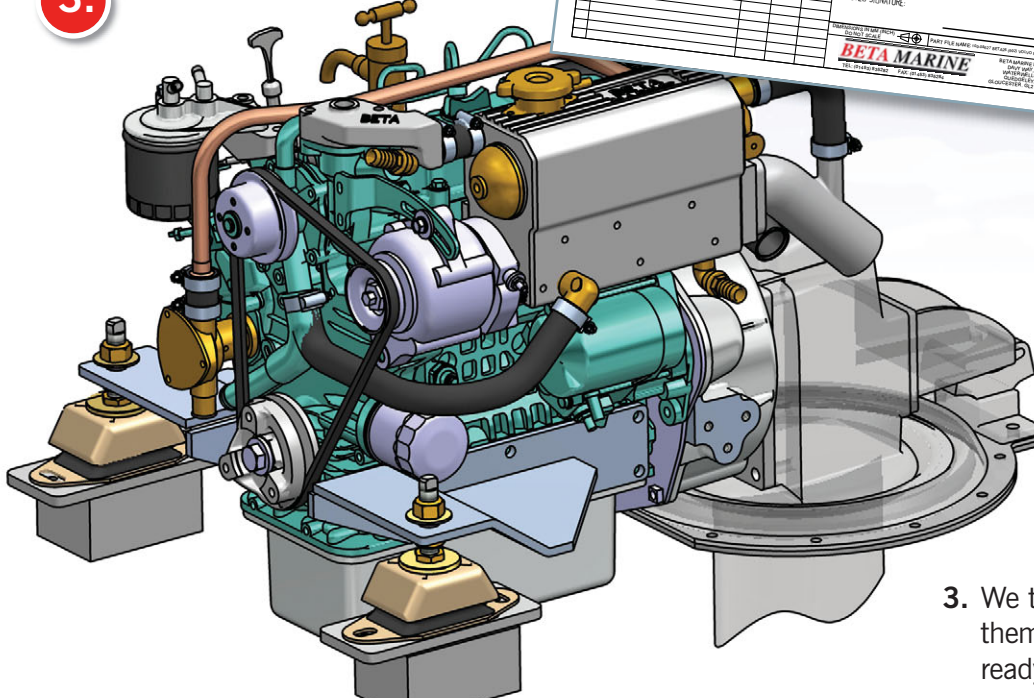
DATE	DESCRIPTION	DATE	APPROVED	SIGNATURE	

BETA MARINE

CUSTOMER: K22641 HATTRILL & SONS
ENGINE DETAILS
BETA 25 (902) HE VOLVO 110S (MD11C)

DRAWING NO: 100-08627
PROJ: LT
SHEET: 1 of 1
DATE: 2009/2009

3.



3. We then manufacture, fit and paint them so that your engine arrives ready to 'drop in'.

BETA MARINE

The Yachtman's Choice...

- Advanced engineering giving very low emissions
- Compact and quiet - they run like sewing machines
- National and International Dealer support
- Large 70 and 120 amp alternator options
- Special feet option - manufactured to suit your installation
- Heat exchanger cooled



Saildrives

Beta 145D, Beta 165D, Beta 205D,
Beta 255D, Beta 305D, Beta 355D,
Beta 385D, Beta 435D, Beta 505D
& Beta 605D



Beta 10
& Beta 14



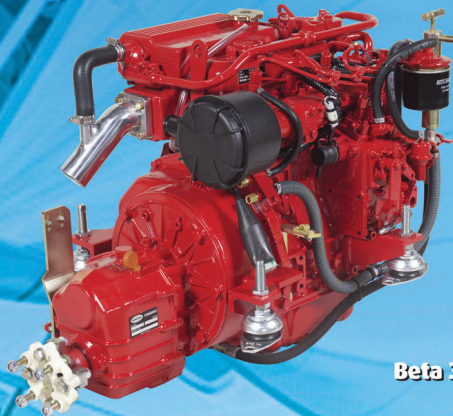
Beta 16



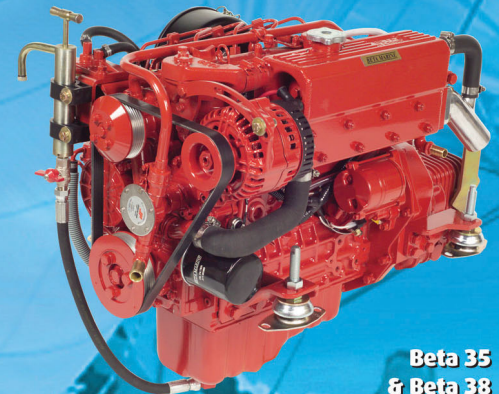
Beta 20



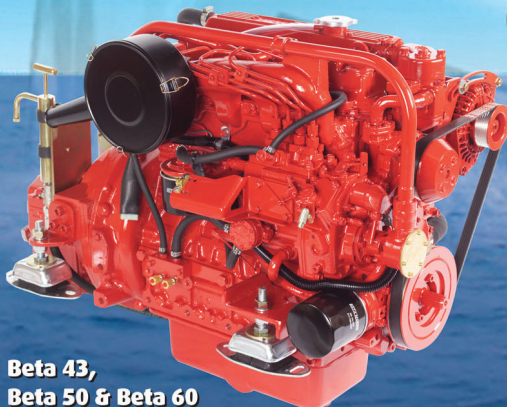
Beta 25



Beta 30



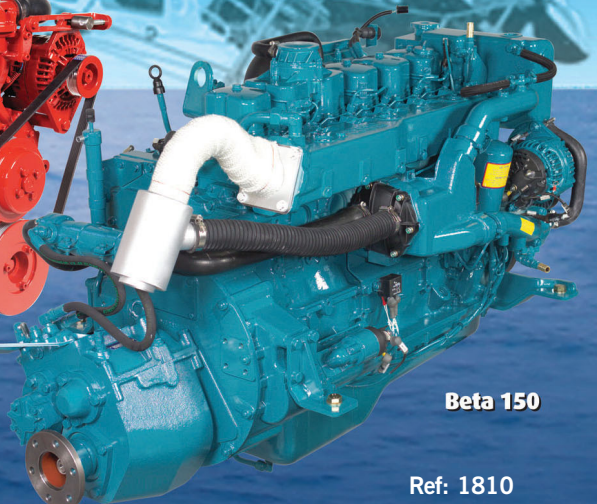
Beta 35
& Beta 38



Beta 43,
Beta 50 & Beta 60



Beta 75,
Beta 90 & Beta 105



Beta 150