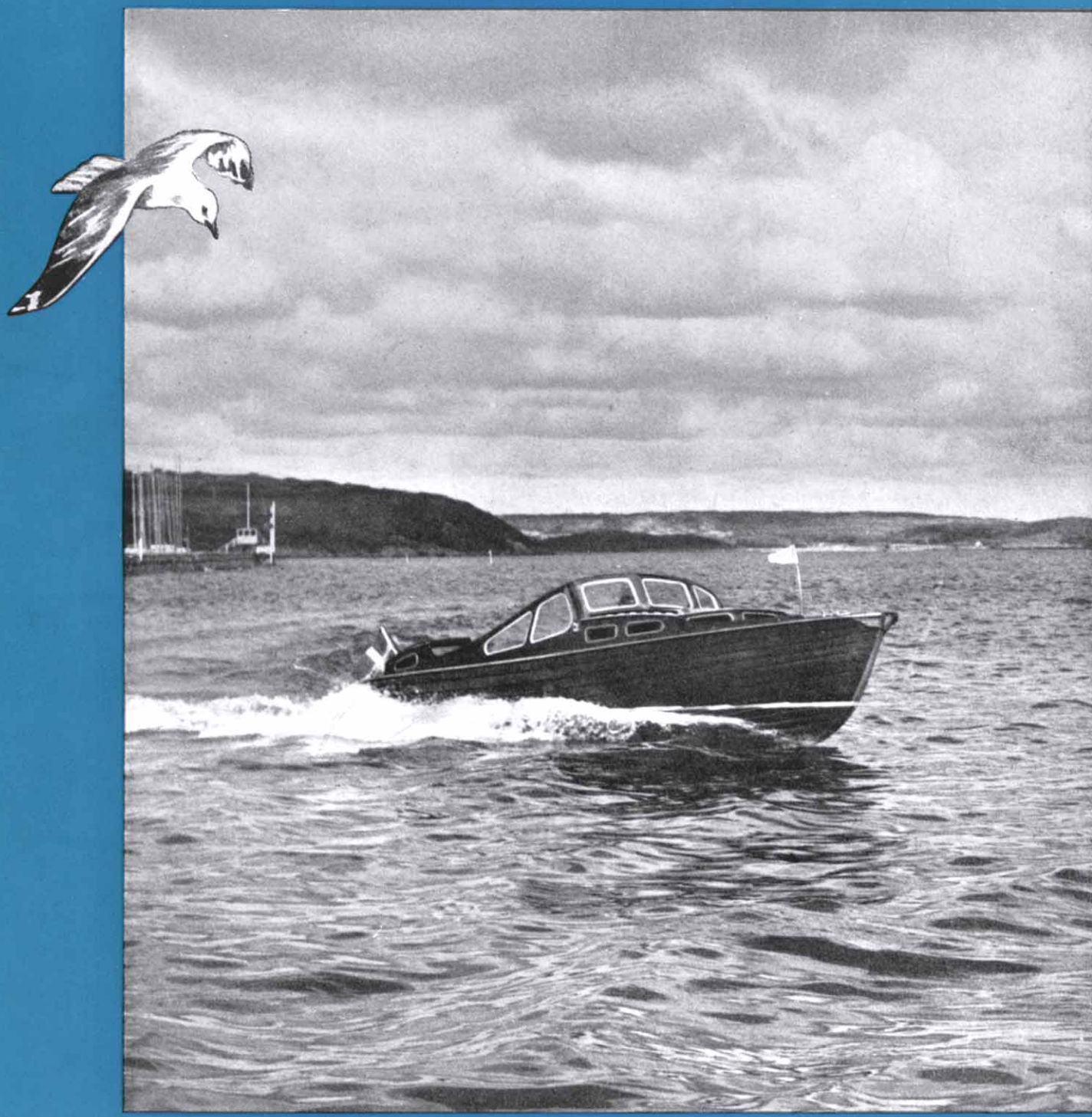
PENTA

MARINE ENGINE MODEL BB41

16—35 H. P.



AKTIEBOLAGET

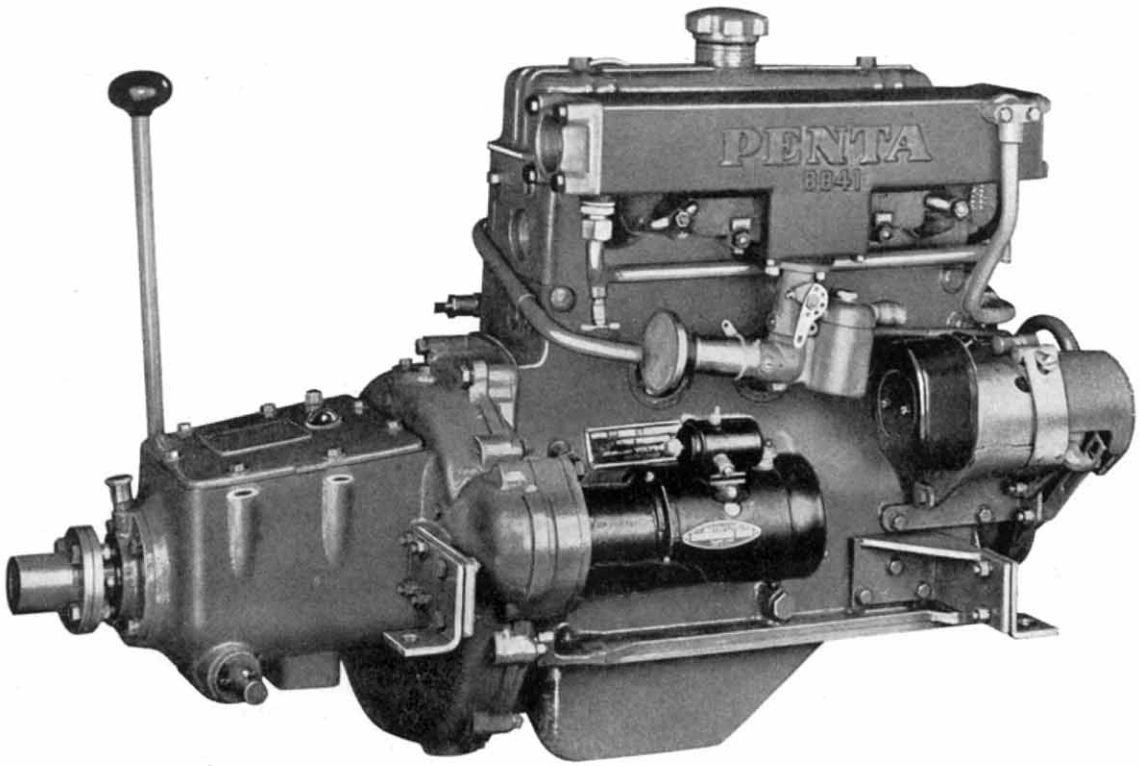
PENTA

GOTHENBURG SWEDEN

PENTA

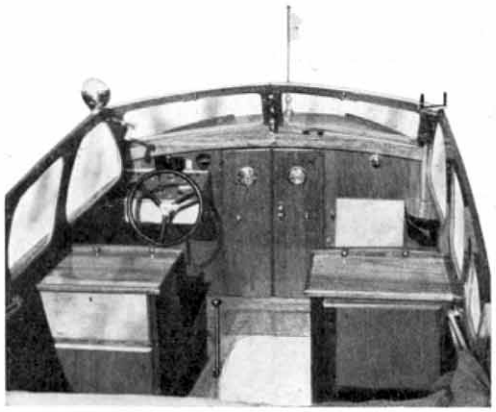
MARINE ENGINE MODEL BB41

16—35 H. P.



A modern superefficient four cylinder head valve engine having a cylinder capacity of 1,42 litres (86,6 cubic inc) and a wide range of power. A suitable engine not only for small utility craft but also for light patrol boats, where a good turn of speed can be attained at high number of revolutions. In the equipment with reduction gear 2 : 1 the engine can also be used in comparatively heavy boats. The net weight of the engine including electric starter, generator and reverse gear etc. is only about 185 kilos (415 lbs). The fuel consumption is extremely low — about 240 g/hph.

One does not buy, one invests in a PENTA.



Car comfort

Equipment consists of electric starter and generator as well as an attractive instrument panel fitted with starter button, choke, ignition switch, revolution counter oil pressure gauge and battery charging control lamp.

If it is possible to mount the instrument panel and the engine controls near the steering wheel, the helmsman can manoeuvre his boat with the same ease as a modern car.

A practical, economical and reliable carburetter

The carburetter is of the marine type, easily adjustable and equipped with a flame trap. A camshaft driven mechanical fuel pump which permits the fuel tanks to be placed low down in the hull is fitted as standard.

An officient lubrication system

Force feed lubrication by means of a gear pump. Pressure maintained by an oil pressure relief valve can be checked by an oil pressure gauge on the instrument panel.

The reverse gear has a separate lubrication system. Ordinary lubrication oil is used, which must not be exchanged but once a year under normal running conditions.

A separate dip stick is fitted for the reverse gear.

Automatic Cooling Water Regulation

In order to get the maximum output, economy and smooth running out of an engine, it is essential that it runs at a suitable temperature. The cooling water circulation is regulated by thermostat. Until the engine has reached the correct temperature only a small quantity of water is supplied to the engine in order to reach a quick warmig up. As soon as the engine has reached the proper temperature the thermostat opens so that a suitable quantity of water is passing through the engine, and this temperature is then kept constant.

Other Features and Improvements

The reverse gear has a positive neutral position.

Improved tachometer arrangements.

Generator with built-in relay.

The engine can also be delivered for running on

Paraffin (kerosene)

Output 12—25 hp at 1200/2500 r/m. Thanks of the efficient temperature regulation the combustion of the paraffin is total and there is no trouble with the dilution of the lubricating oil.

As the engine can be run up to 2500 r/m on paraffin corresponding to 25 hp it can thus be used with advantage also in light and speady patrol boats.

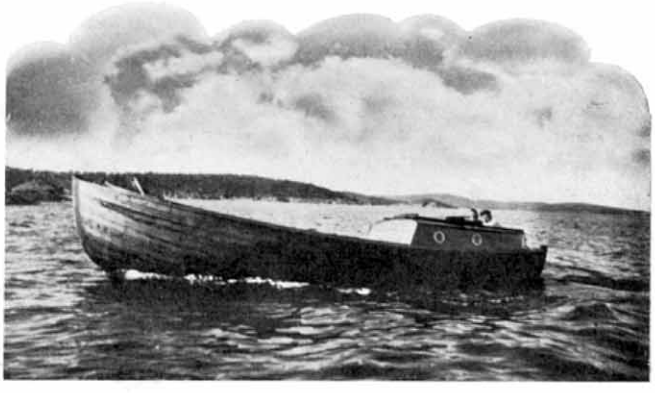
Reduction Gear increases the scope of application

The possibility to equip the engine with a reduction gear 2 : 1 increases the scope of application, as the higher output at higher number of revolutions can be utilized also in comparatively heavy boats.

Outstanding mechanical features

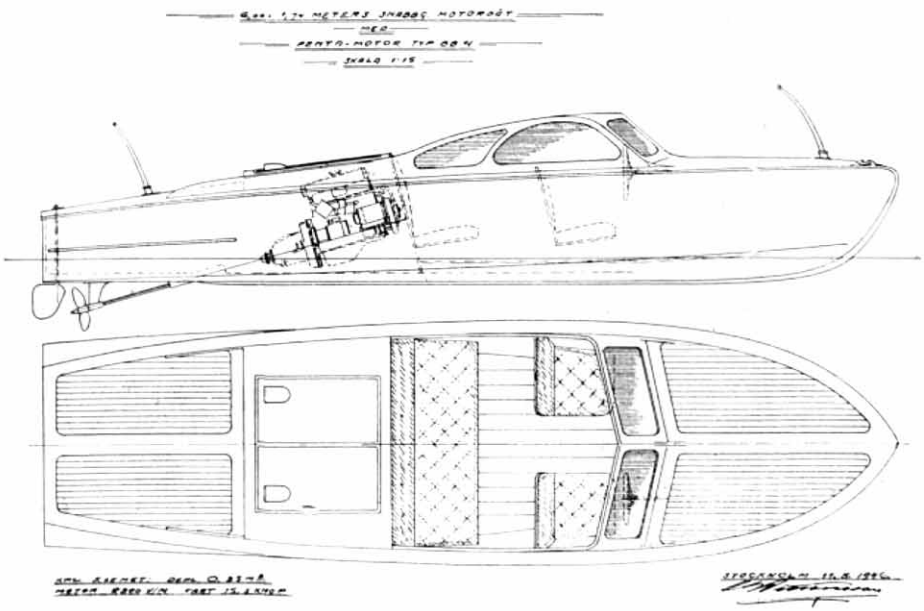
Three bearing crankshaft, statically and dynamically balanced. The camshaft is supported in three bearings and is driven by a silent running gear of textile re-inforced synthetic resin. Reverse gear with multiple disc clutch and silent epicyclic gears for reverse. Dimensions and weights of pistons are carefully checked at the factory.

As the engine is precision-built and only first class materials are used, it will stand up indefinitely to a tremendous amount of hard running without getting out of rhythm or becoming uneconomical. It therefore pays to install a Penta, as it increases the value of the boat, as well as being a source of enjoyment and utility.



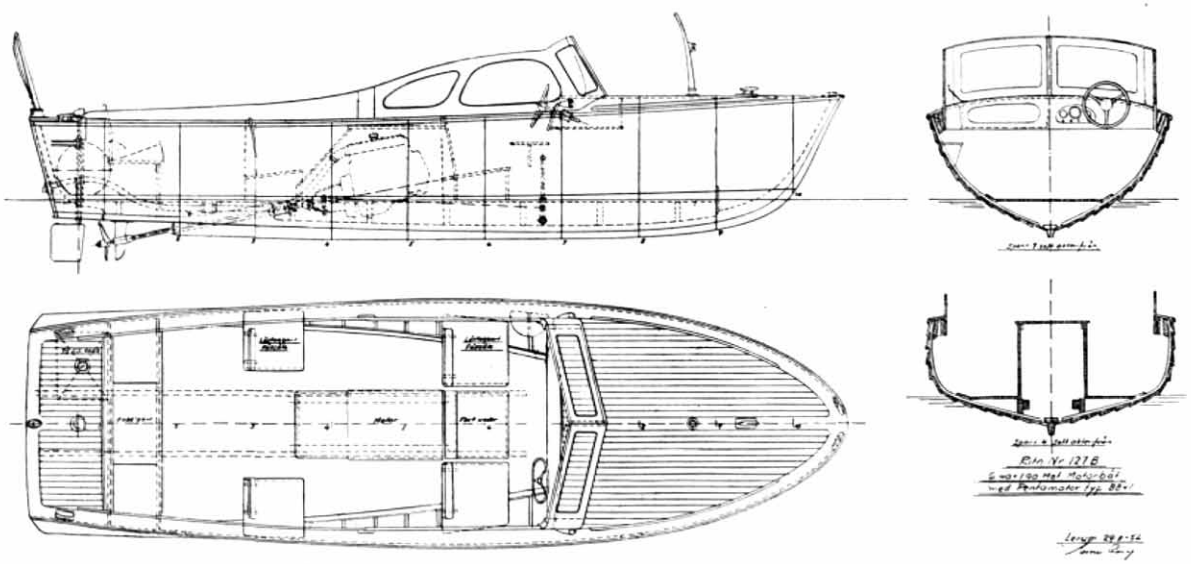
What boats . . . What Speeds . . .

There must be the correct relationship between hull, engine and propeller, and our Marine Technical Department will be only too pleased to advise and assist prospective buyers as to the choice of these details. This ensures the customer the right combination of these three factors, which not only means increased safety but also greater economy and ideal running conditions.



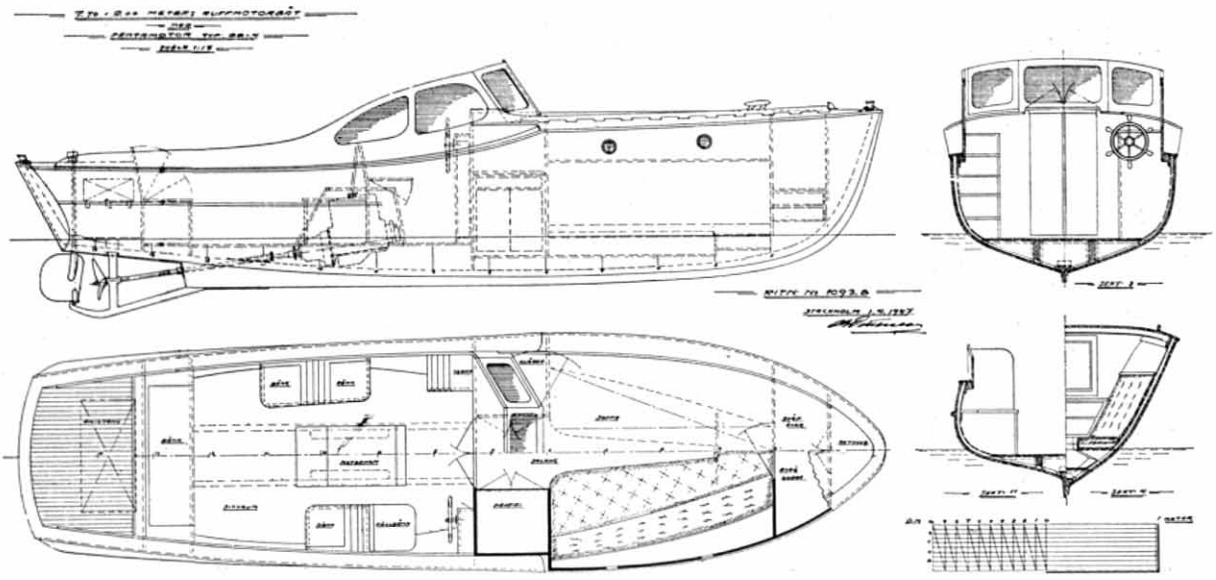
Speedy Launch

6,00×1,74 metres. A modern and speedy patrol boat. Speed with BB41 engine and light load about 17,5 knots.



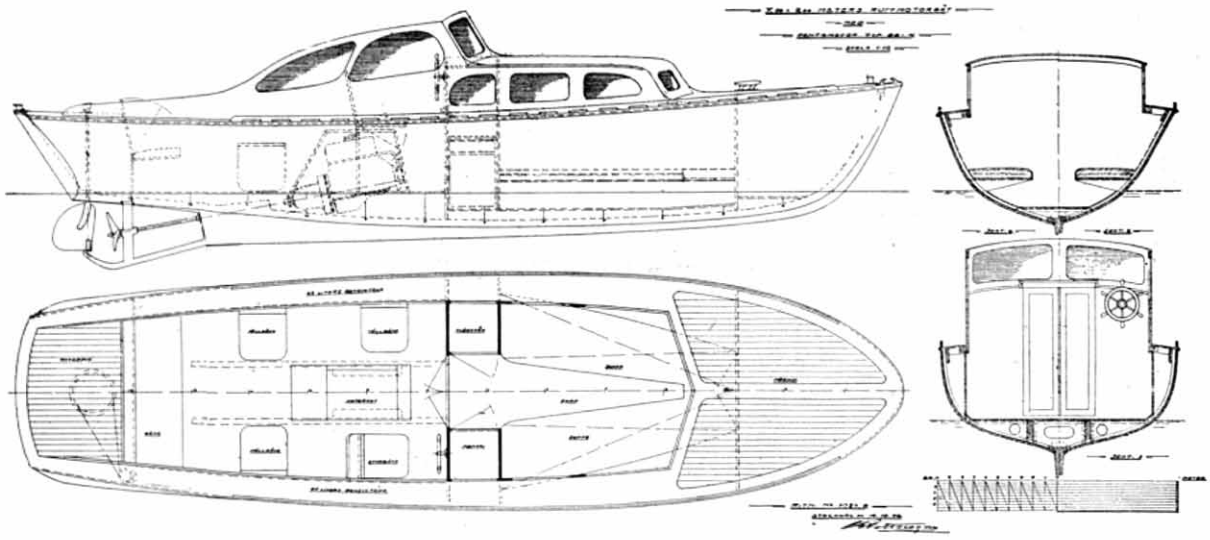
Speedy Launch

6,40×1,90 metres. A handy patrol boat. Speed with BB41 about 15 knots.



Cabin Boat

7,70×2,00 metres. A speedy and elegant cabin boat. Speed with BB41 engine about 9 knots. With reduction gear 2 : 1 about 11 knots.



Cabin Boat

7,50×2,00 metres. A modern, roomy and seaworthy cabin boat. Speed with BB41 engine about 9,5 knots. With reduction gear 2 : 1 about 12 knots.

The above drawings have been chosen to show the speeds that can be reckoned upon with the BB41 engine in hulls of both light and heavy design.

Specification:

Number of cylinders 4
Bore ..... 75 mm ($2^{61}/_{64}$")
Stroke ..... 80 mm ($3^{9}/_{64}$")
Cylinder capacity ..... 1,42 litres (86,6 cubic ins)

Weight: Approximate weight of engine with reverse gear 185 kilos (415 lbs) and with reduction gear 205 kilos (452 lbs).

Cylinder head: Detachable of special cast iron.

Main casting. The cylinder block and crankcase are comprised of a single casting of cast iron nickel alloy, carrying the crankshaft, camshaft etc.

Pistons are of aluminium alloy and carefully ground to fine limits, fitted with three rings, one of which is a scraper ring. Top ring chromium plated to reduce cylinder wear. They are carefully checked and all variations in weight kept within small limits. This is of great importance with regard to smooth running.

Connecting rods are of high quality Swedish steel drop forged and of I section. As carefully checked as the pistons.

Gudgeon pins lubricated from drilled section in connecting rod.

Crankshaft liberally dimensioned, statically and dynamically balanced, supported in three bearings.

Camshaft. Drop forged and case-hardened with ground cams and bearings. It is of a sturdy design and supported on three large bearings, and driven by a silent running gear of textile re-inforced synthetic resin.

Valves. Inlet valves of nickel steel, exhaust valves of high quality Silichrome steel. This material increases heat-resisting properties and the life of the valves.

Lubrication. Oil is delivered under pressure from a gear driven pump to all vital parts. Oil pressure gauge fitted to instrument panel.

Cooling water pump, gear driven, large capacity.

Automatic temperature regulation by thermostat resulting in quickly warming up and keeping the proper temperature constant.

Carburetter. Reliable, easily adjustable marine carburetter fitted with flame trap.

Fuel pump. Mechanical camshaft driven fuel pump enabling fuel tanks to be placed well down in the hull.

Flame trap fitted to carburetter's air horn.

Coel ignition.

Electric starter and generator 6 volt standard.

Instrument panel fitted with following instruments: revolution counter, oil pressure gauge, starter button, ignition switch, battery charging control lamp, choke, indirekt panel lighting. Every instrument panel is delivered with wiring diagram, revolution counter transmission, wire for choke etc. as well as a pattern of the panel in order to facilitate mounting of same. (Designed on the wiring diagram.)

Battery. 6 volt, about 85 amp.hour.

Reverse gear with totally enclosed easily accessible multiple disc clutch. Fitted with silent and hardened gears of special steel. Main parts supported on SKF bearings. Clutch pressure on reverse gear lever taken up by SKF ball bearing. Clutch easily adjustable.

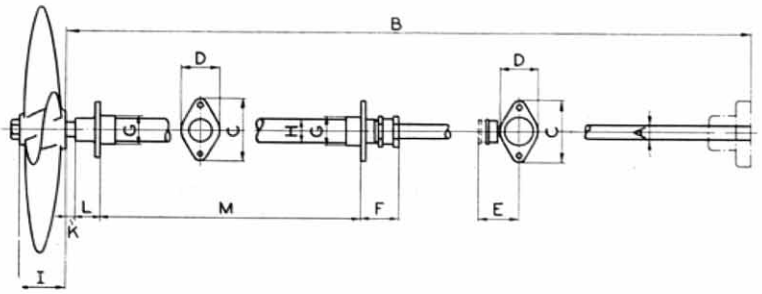
Propeller shaft thrust bearings SKF.

Flywheel. Located at the rear end of engine.

Extra equipment. Arrangement for paraffin (kerosene) fuel. Reduction gear 2 : 1.

Finish. The engine is particularly handsome with its close grained castings, clean lines and attractive colour.

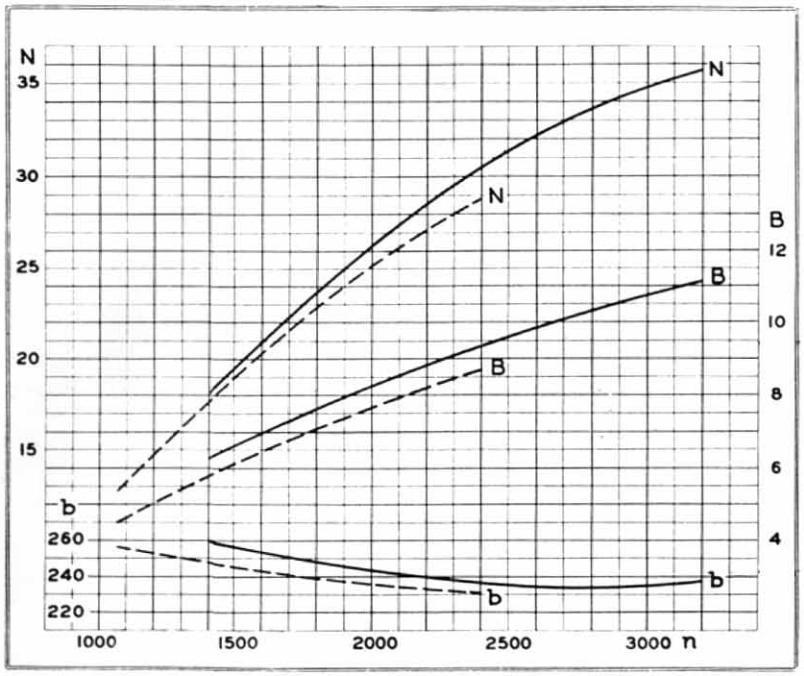
Stern gear for standard engine.



	A	B	C	D	E	F	G	H	I	K	L	M
mm.	25	2000	106	65	70	75	49	42	64	ca 15	43	1000

Brake test of

Penta Marine Engine
Model BB 41



N. Brake horse power.

n. Revolutions per minute.

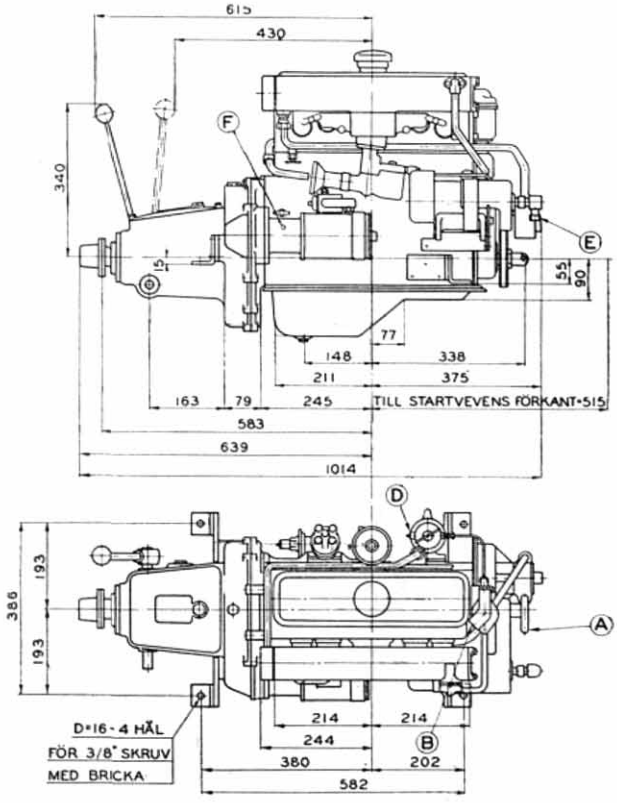
b. Fuel consumption in grams per horse power hour.

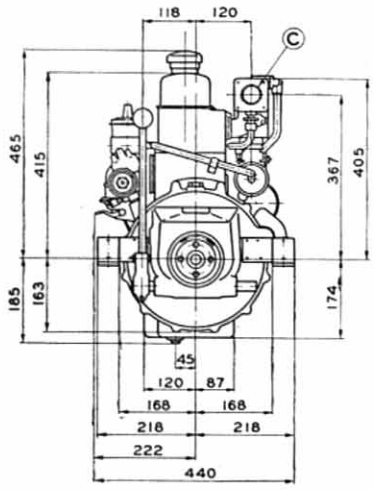
B. Fuel consumption in litres per hour.

The fuel line curves refer to the original jet of the carburetter, and the dotted ones to the smaller jet in the tool kit. We would like to point out that although all Penta engines are subjected to a rigorous bench test a longer running-in period is necessary before the power unit attains maximum output. On delivery, a 10 % allowance must be made with regard to the results recorded.

Dimension drawing

Standard engine
(All dimensions in millimetres)



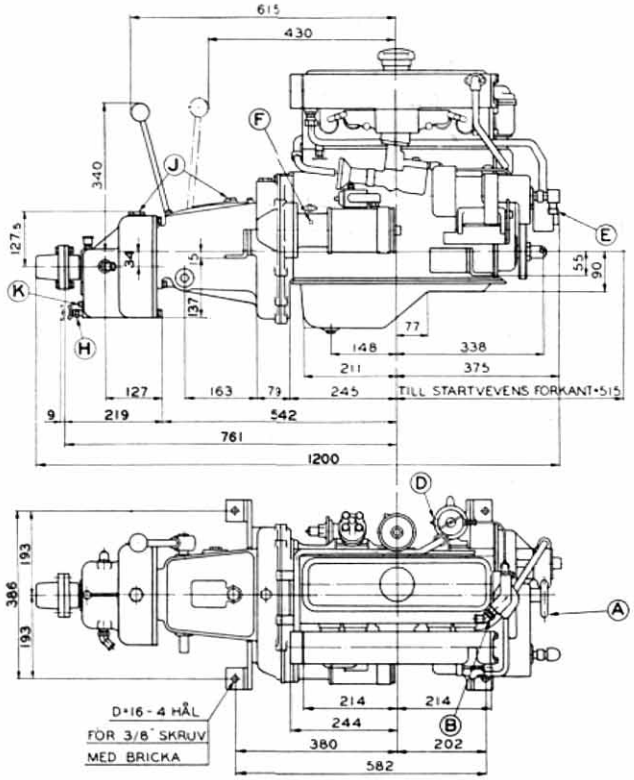


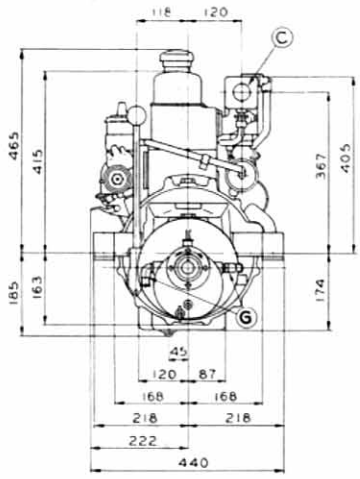
A. Cooling water inlet for rubber hose 5/8" and copper pipe 14×16 mm.
B. Cooling water outlet 1/2".
C. Exhaust outlet pipe 1 1/2".
D. Fuel pipe, copper, outer diam. 5/16".
E. Revolution counter connection.
F. Connection for manometer.

All specifications subject to change without notice.

Dimension drawing Engine with reduction gear.

(All dimensions in millimetres)



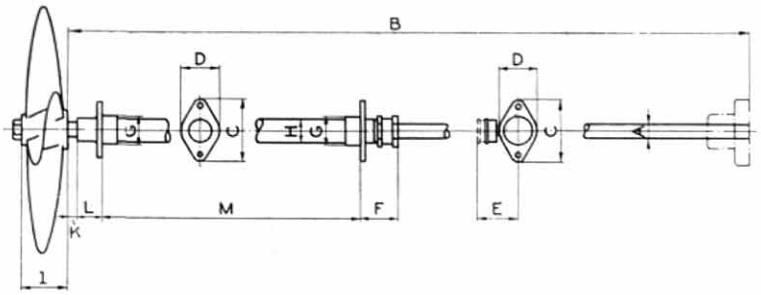


A. Cooling water inlet for rubber hose $^{5}/_{8}$" and copper pipe 14×16 mm.
B. Cooling water outlet for rubber hose $^{5}/_{8}$".
C. Exhaust outlet pipe $1^{1}/_{2}$".
D. Fuel pipe, copper, outer diam $^{5}/_{16}$".
E. Revolution counter connection.
F. Oil pressure gauge connection.
G. Cooling water in- and outlet for rubber hose $^{5}/_{8}$".
H. Cooling water drainage.
J. Oil replenishing.
K. Oil drainage.

The reduction gear can be delivered either with the propeller shaft 34 mm (abt $1^{21}/_{64}$") below the reverse gear shaft or 34 mm (abt $1^{21}/_{64}$") above the reverse gear shaft.

The above drawing is showing the first alternative.

Stern gear for Engine with reduction gear 2:1.



	A	B	C	D	E	F	G	H	I	K	L	M
mm.	30	2000	121	76	76	80	58	48	78	ca 15	56	1500

5012. 60. Nov. 1592.

STRÖKIRKS BOKINDUSTRI A.-B., SKÖVDE