

# VOLVO-PENTA • BB 70

## M a r i n e E n g i n e

### Main data BB 70

Type of operation	Four-stroke
Valves	Overhead
Number of cylinders	4
Max. output	85 h.p.
Marine output	75 h.p. at 4500 r.p.m.
Capacity, total	97.6 cu.in.
Bore	79.37 mm (3.125")
Stroke	80 mm (3.150")
Propeller	left-hand thread
Compression ratio	8.2: 1
Net weight, with reverse — reduction gear type RB, ratio 1.91: 1 approx.	430 lb.

### BB 70 R

Same as BB 70 but opposite rotation of engine and propeller.

### Specifications

**Cylinder block** of special-alloy cast-iron, cast integral with the crankcase.

**Cylinder head** of special-alloy cast-iron with high degree of heat resistance.

**Oil pan** of cast silumin, permits inclination of 18° while engine is running.

**Pistons** of chill-cast light-alloy each with two compression rings and one oil control ring. Upper compression ring chromed.

**Connecting rods**, drop-forged, case-hardened. Lead-bronze lined connecting rod bearings, easily replaceable.

**Crankshaft**, drop-forged, powerfully dimensioned, dynamically balanced and carried in three bearings. Lead-bronze lined main bearing shells, easily replaceable.

**Camshaft** of special cast-iron with flamehardened cams. Quiet-running fiber timing gears.

**Valves** of heat-resistant special steel.

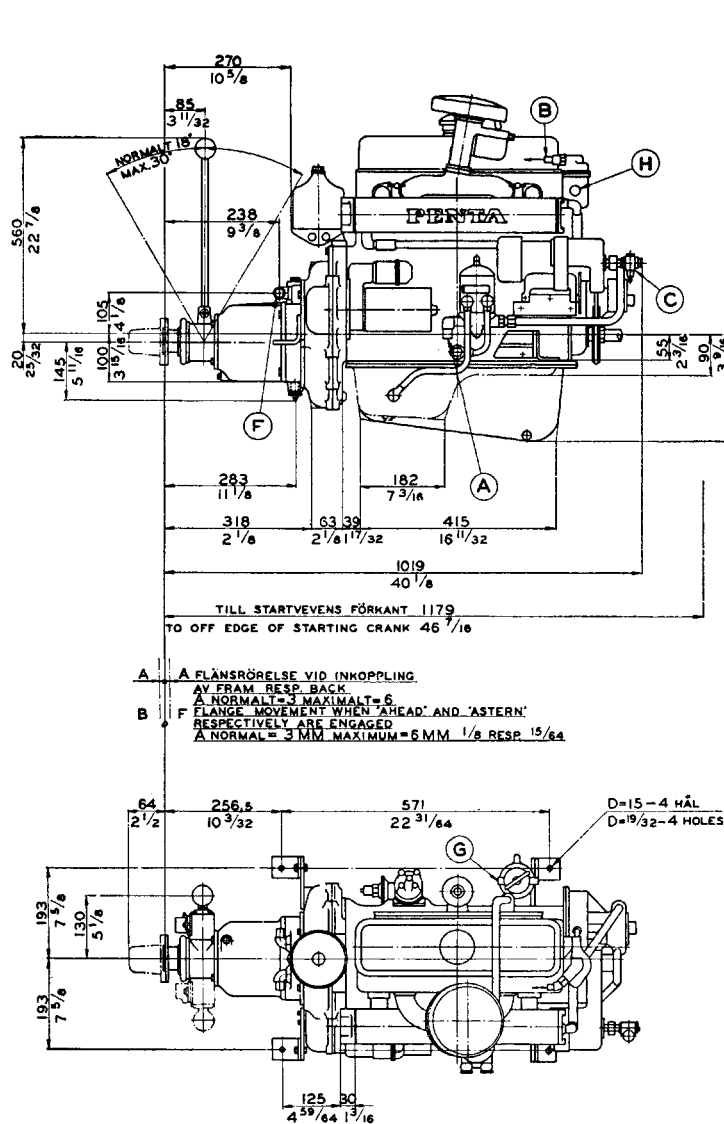
**Fuel system.** Down-draft carburetor. Fuel pump with filter and water deflector. Pump driven from camshaft. Max. lift 40".

**Lubricating system.** Pressure lubrication. Oil to all the lubricating points passes through a fullflow oil cleaner with a replaceable element. Tubular type oil cooler.

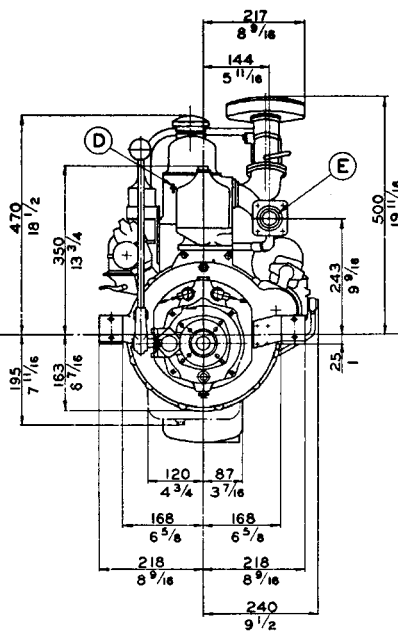
**Cooling system.** Sea-water cooled. Engine temperature automatically regulated by means of thermostat.

**Electrical system.** 6-volt battery ignition. 0.6 h.p. starter motor. Generator with built-in relay, continuous output 75 W.

**Instrument panel.** It has mechanical revolution counter, remote reading temperature gauge, ignition key, starter button, choke control, charging control lamp and switch for indirect instrument lighting. 10-foot cables and other components for connection to engine also included.



- A. FLÄNSRÖRELSE VID INKOPPLING.  
AV FRAM. RESP. BACK.  
A. NORMALT = 3 MAXIMALT = 6  
B. FLÄNSRÖRELSE VID INKOPPLING.  
AV FRAM. RESP. BACK.  
B. NORMALT = 3 MAXIMALT = 6  
RESPECTIVELY ARE ENGAGED  
A. NORMAL = 3 MM. MAXIMUM = 6 MM. 1/8 RESP. 15/64



- A. Cooling water inlet for rubber hose 5/8"  
B. Cooling water outlet for rubber hose 5/8"  
C. Tachometer connection  
D. Oil pressure gauge connection  
E. Exhaust outlet R 1 1/2" pipe tap  
F. Cooling water connection reduction gear, rubber hose 5/8"  
G. Fuel inlet copper pipe outer diam. 5/16"  
H. Remote mounted cooling water thermometer connection

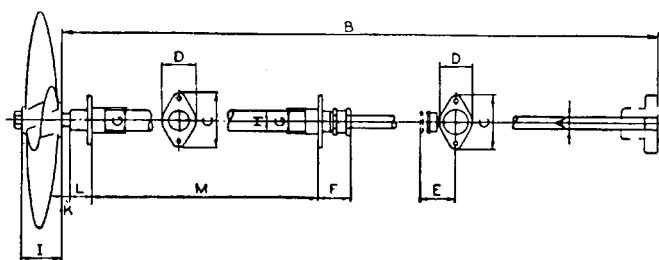
**Gears.** Standard equipment is either BS reverse gear or RB combined reduction and reverse gear.

The BS reverse gear is of the multi-disk type with a marked neutral position, ratio 1:1. Separate splash lubrication.

The RB combined reduction and reverse gear — a revolutionary new PENTA patent — has cone clutches to take care of operation ahead and astern. The design of this unit is so ingenious that a ratio of 1.91:1 is automatically provided without any increase in size or weight. The gear lever has three alternative installation positions in the boat. Separate splash lubrication.

**Direction of rotation.** The reverse gear and the reverse-reduction gear give both left-hand rotation to the propeller. As an optional feature, on special order, the BB 70 is available with opposite rotation for right-hand propellers and is then designated as BB 70 R.

The dimension drawing shows an engine with the combined reduction and reverse gear.



**Propeller equipment  
for left-hand thread propeller  
(BB 70 R right-hand thread propeller)**

#### Dimensions

Reduction	A	B	C	D	E	F	G	H	I	K	L	M
1:1 mm	25	2000	90	58	70	75	42	34	64	approx. 15	37	1000
inch	63/64	79	3 1/2	2 1/4	2 3/4	3	1 5/8	1 3/8	2 1/2	5/8	1 1/2	39 1/2
2:1 mm	30	2000	120	62	76	80	50	40	78	approx. 15	50	1500
inch	1 3/16	79	4 3/4	2 1/2	3	3 1/8	2	1 5/8	3 1/8	5/8	2	59 1/4

Without engagement

AKTIEBOLAGET

**PENTA**

Box 392, Göteborg 1  
Sweden

Cables: Penta

— a Volvo company