

VOLVO PENTA

AQUAMATIC 225A/280



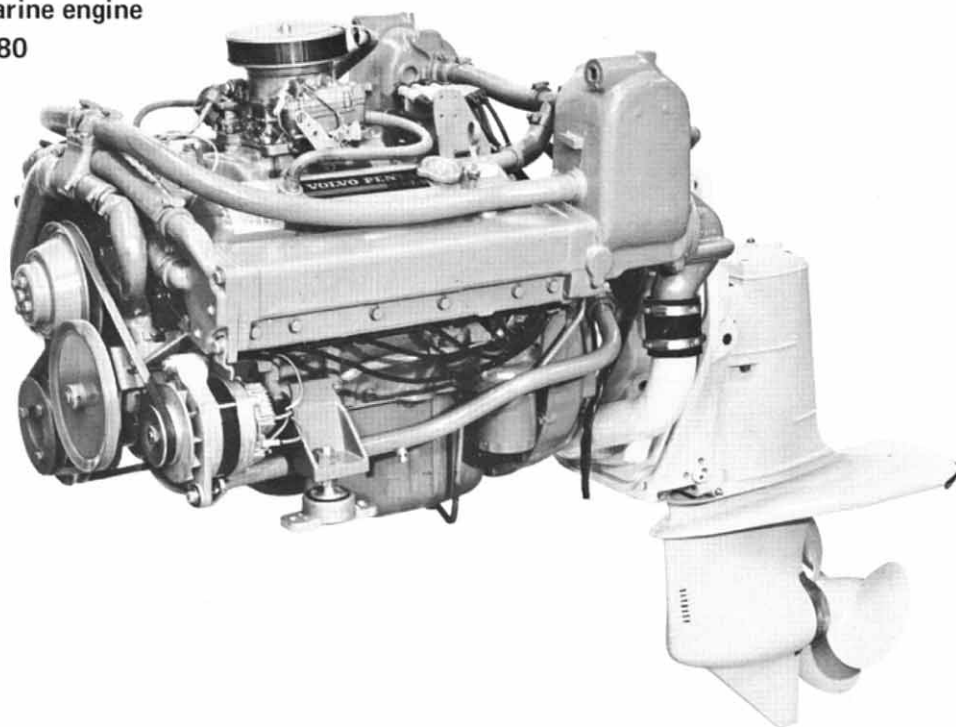
The Aquamatic 225A/280 is a modern hard-tested V8-engine which, together with the new 280-drive, more than satisfies the highest demands on performance required for large planing pleasure boats. An outstanding characteristic of this engine is its compact design and low weight. The V8-engine has very smooth and quiet operation: its high output combined with a high torque gives it first-class pulling power throughout the entire speed range. Since the engine has a low degree of compression, it can be run on standard grade gasoline, 92 octane Research Method.

Specifications and standard equipment

- Engine body — Cylinder block and heads made of special cast iron. Light alloy piston with two compression rings and one oil scraper ring. Crankshaft and camshaft journalled in five bearings with extra large bearing surfaces.
- Valve system — Hydraulic valve lifters assure quiet operation. No periodical valve adjustment. Self-rotating exhaust valves give good sealing and last a long time.
- Cooling system — Thermostat-controlled sea-water system of the by-pass type which uses a large volume of water. Two water pumps, a sea-water pump and a circulation pump, which take care of water distribution to the engine block and exhaust manifold.
- Fuel system — Downdraft, 4-barrel carburetors with automatic choke and approved flame arrester. Special economic nozzles provide extra low fuel consumption at max. cruising speed. Fuel pump with flexible fuel pipe connection. The engine requires only standard grade gasoline with minimum 92 octane Research Method.
- Lubricating system — Rotor type oil pump with full-flow lubricating oil filter of "Spin-On" type. Positive lubricating oil ventilation with discharge through the rocker arm casings to the carburetor flame arrester. Oil scavenging pipe placed high up facilitates scavenging when changing oil.
- Exhaust manifold and risers — Made of cast iron and fully water-cooled. Effective exhaust risers make it possible to install the engine low down in the boat without risk of water entering the exhaust pipes.
- Electrical system — Fully corrosionproof electrical system. Alternator 12 V 35 A system with maximum charging even at idle speed. The alternator is brushless, which together with a built-in transistor regulator ensures sparkfree operation. A common electric cable harness with a plug-in contact for the instrument panel's cable harness. Main fusing, installed on engine, with built-in spare fuses.
- Front engine mounting — Adjustable for front rubber mounting blocks facilitate installation and any subsequent adjustments.
- Outboard drive 280 complete with drive lift collar and installation parts — see description overleaf. A separate steering lever system for connection to the outboard steering arm is supplied as standard.
- Instrument panel — Easy-to-place ready-wired instrument panel for engine and drive lift — see picture overleaf.
- Tool kit — Contains tools minor adjustments and oil scavenging pump.

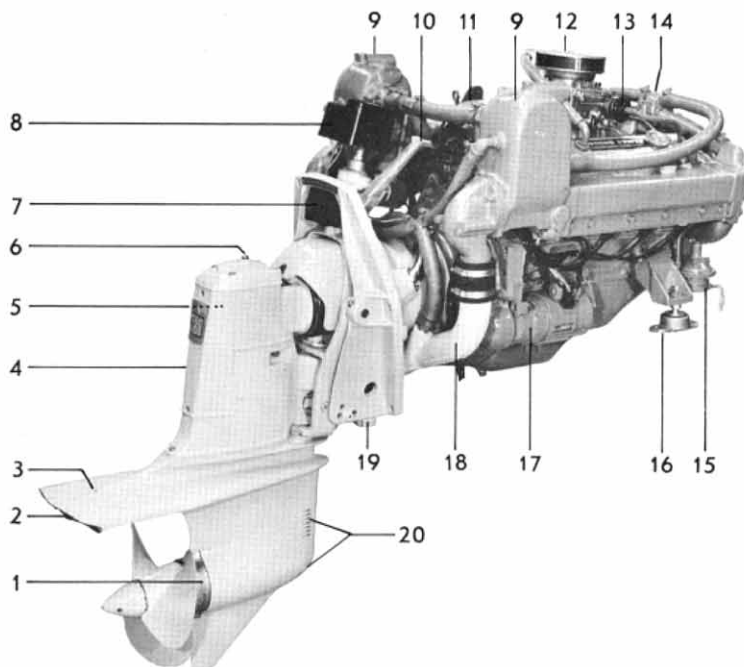
**Volvo Penta V-8, 4-stroke marine engine
with outboard drive model 280**

225 h.p.



AQUAMATIC 225A/280B

1. Anti-corrosion zinc ring
2. Exhaust outlet
3. Lock screw for trim tab
4. Casing over control units
5. Oil filler plug
6. Oil dipstick
7. Rubber damper for drive tip-up
8. Electro-mechanical lift
9. Exhaust system with raised exhaust elbows "Risers"
10. Steering arm for connection to a separate delivered steering lever system
11. Distributor
12. Four-port downdraft carburetor with flame arrester
13. Automatic choke
14. Thermostat housing
15. Fuel pump
16. Front engine mounting, adjustable
17. Starter motor
18. Exhaust pipe
19. Zinc plate
20. Cooling water intake



Outboard drive 280

Outboard drive 280 is a modification of the well-known 270-drive which has more than proved its outstanding operational reliability and durability. The lower gear housing on drive 280 has an entirely new design, which gives it low flow resistance, this resulting in better speed performance within the higher speed ranges. Drive 280 has also improved steering characteristics at the moment of planing, due to a new exhaust gas construction. Other unique qualities of the 280-drive common with the 270-drive:

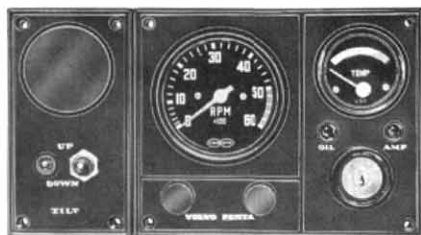
- Cone clutch (patented) of Silent Shift type assures smooth, quiet shifting with small manoeuvring forces.
- All gears are extra powerfully dimensioned in order to cope with maximum loads for long periods. The drive runs smoothly thanks to the bevel gearing.
- Easily readjustable linkage system in gear mechanism for changeover from left to right hand rotating propeller.
- Cooling water intake with gill protection and a extra intake in the bottom of the drive fully ensure that cooling water is supplied to the engine.
- Retaining pawl of patented design, provides full security when

reversing and prevents the drive from tilting up when quickly closing the throttle on forward. On the other hand, it also permits the drive to tilt up when striking underwater obstacles, e.g., logs, etc.

- Electro-mechanical lift for tilting up the drive and ready-wired electric cable harness are included in the standard electrical equipment. The electrical system is fully embedded in plastic, which makes it corrosion- and waterproof.

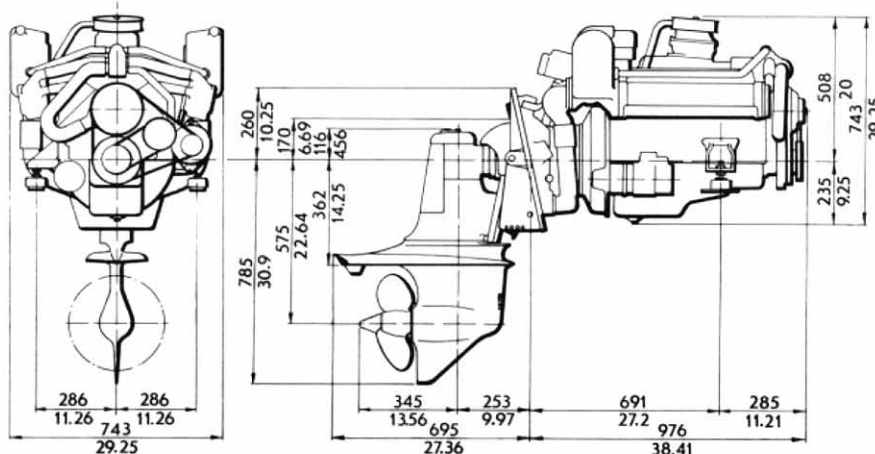
DATA

Type designation	AQ225A/280B
Max. output (SAE)	225 h.p.
Max. operating speed, r.p.m.	4400
Number of cylinders	V-8
Capacity, cm ³ (in. ³)	5032 (307)
Bore/stroke, mm (in.)	.98.4/82.4 (3.88/3.24)
Compression ratio	8.2:1
Carburetor	One 4-port with aut. choke
Fuel grade	min. 92 Octane
Outboard drive, type designation/ratio	280B/1.61:1
Total weight, kg (lb.), approx.	420 (925)



Instrument panel — can be supplemented with smaller panels for extra instrumentation. Electric revolution counter, electric temperature gauge, warning lamps for charging and oil pressure, switch and switch key are included as standard. Electric cable harness 7 m (23 ft.) in length with ready-connected joint contact.

DIMENSION DRAWING



AB VOLVO PENTA

Box 392, S-401 26 Göteborg 1, Sweden
 Telephone: 031/23 54 60
 Cables: Penta
 Telex: 207 55