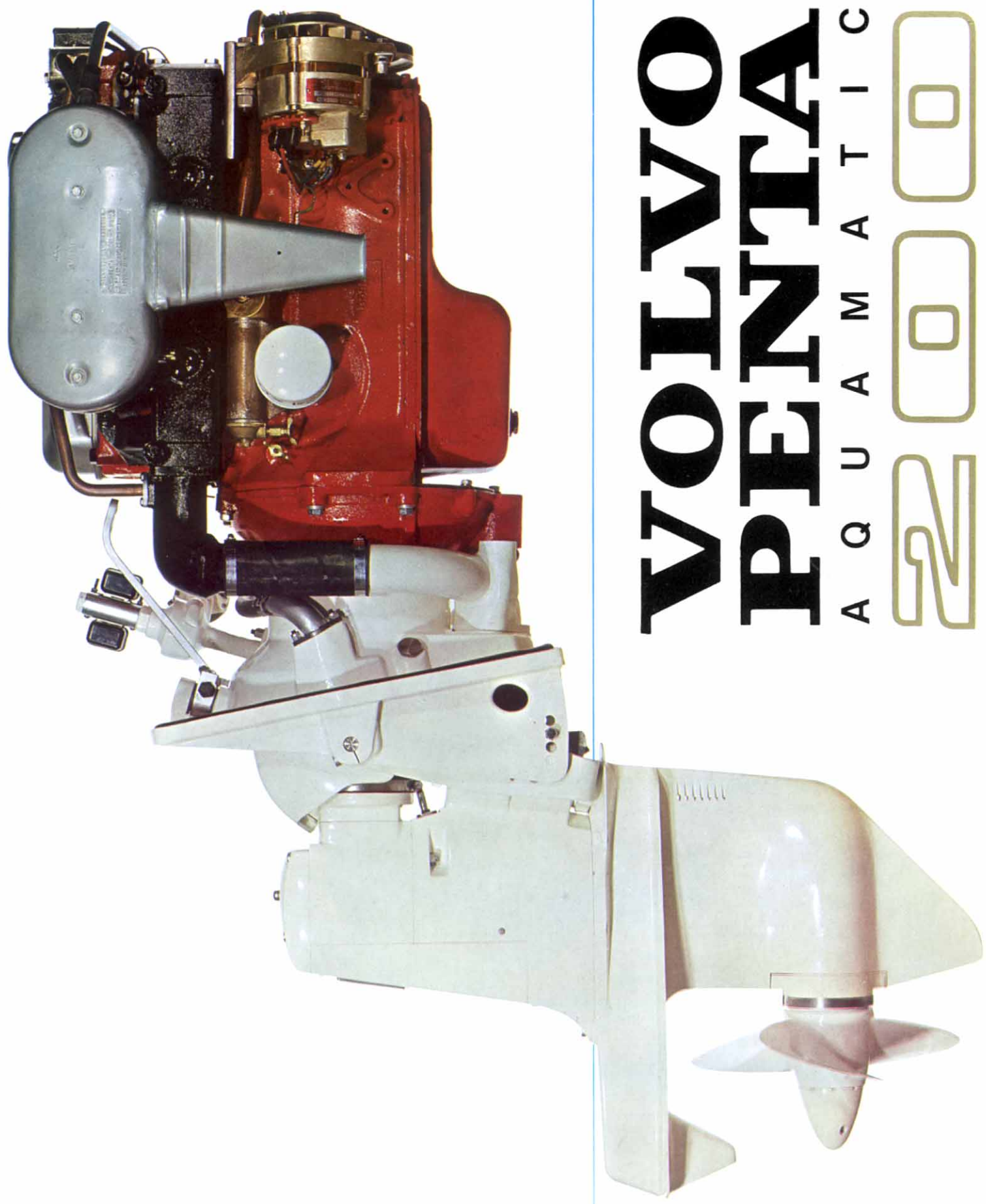




# VOLVO PENTA

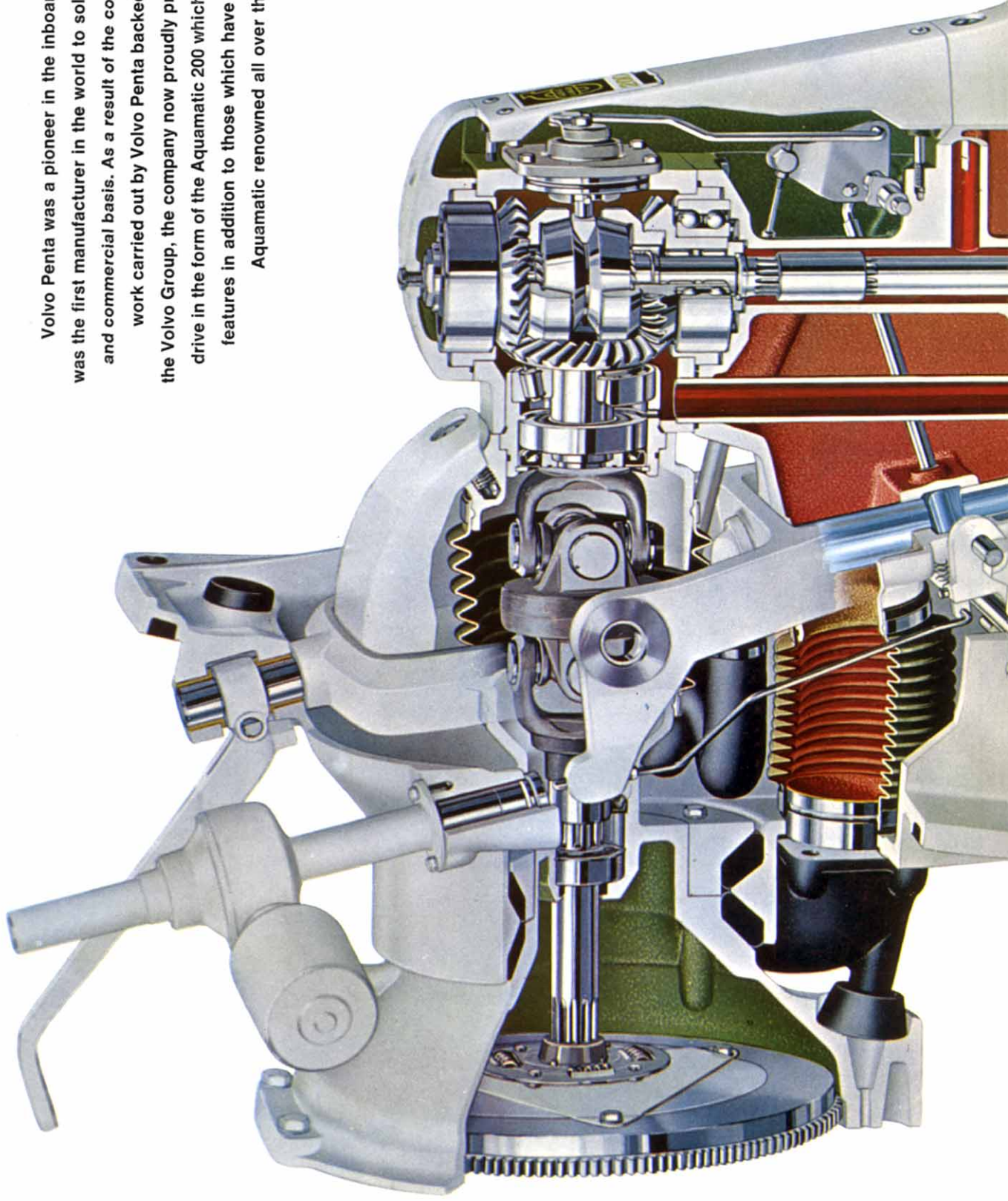
A Q U A M A T I C

2000

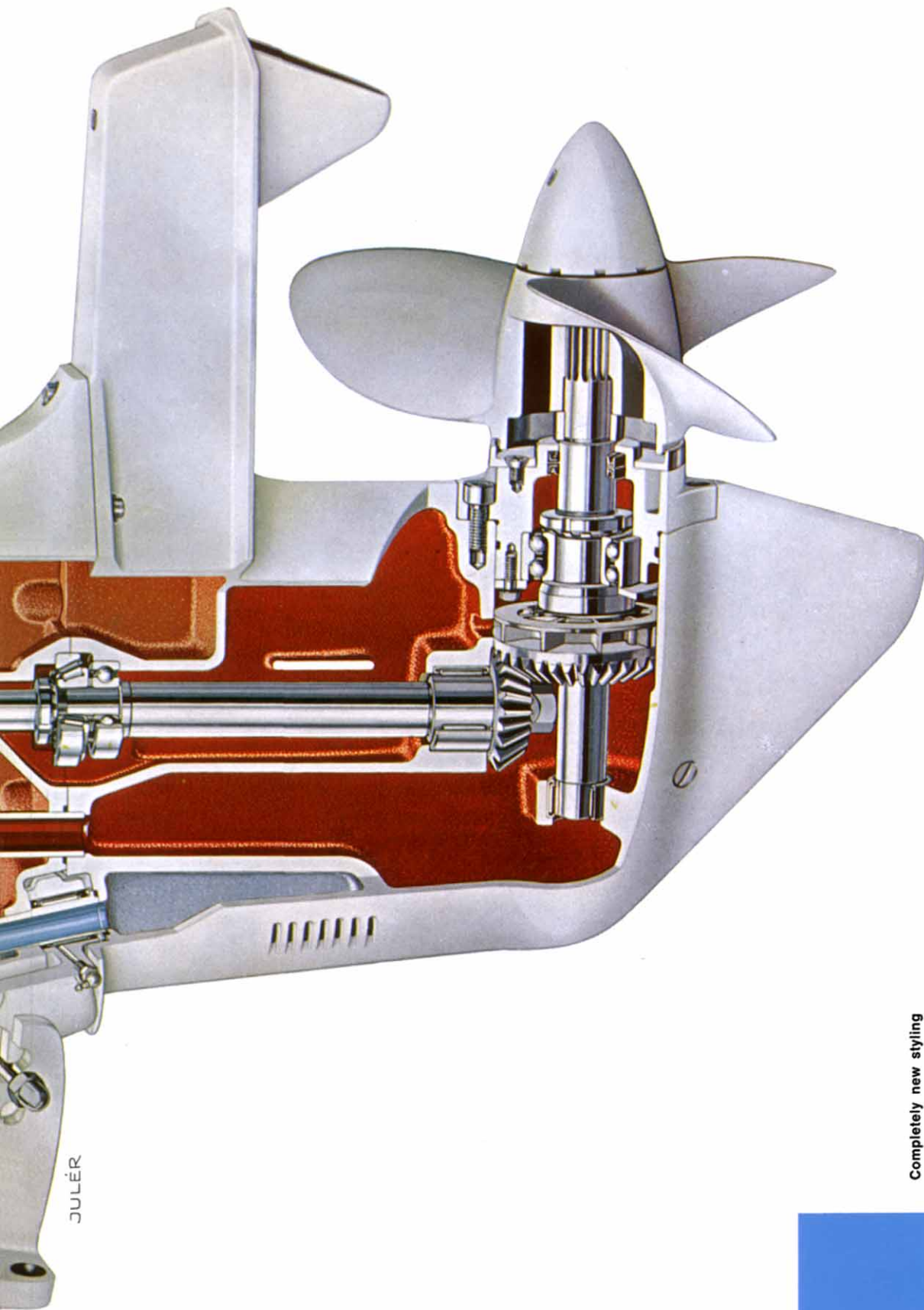
# VOLVO PENTA AQUAMATIC

Volvo Penta was a pioneer in the inboard engine/outboard drive concept and was the first manufacturer in the world to solve this problem on a technical and commercial basis. As a result of the continuous research and development work carried out by Volvo Penta backed up by the extensive resources of the Volvo Group, the company now proudly presents a new, even stronger outboard drive in the form of the Aquamatic 200 which embodies many new and advanced features in addition to those which have already made the Volvo Penta

Aquamatic renowned all over the world.







#### Completely new styling

The new outboard drive has been completely re-styled. In addition to its modern and attractive appearance, this also means many technical advantages in the form of enclosed controls and steering system, integral gill-type water intake, underwater exhaust outlet in the form of a trim rudder and, consequently, even quieter running.

#### New Silent-Shift mechanism

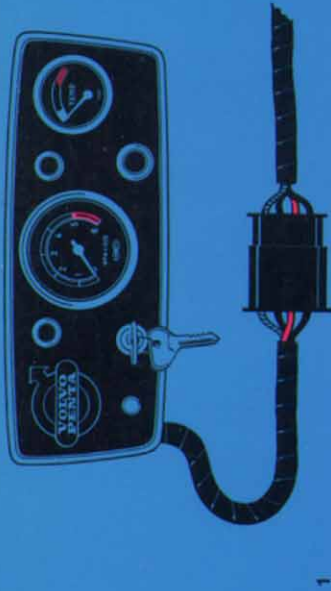
The new power transmission system utilizes the same revolutionary cone clutch system as on the model "100" and a new, more effective and patented disengaging mechanism is fitted. In addition to this the power transmission also includes a new double universal joint. Since the complete power transmission has been designed for use with larger engines with 70-80% higher output than the Aquamatic 110, the outboard drive has an extremely long life when used together with this engine.

#### Designed for larger propeller diameter, higher tilt angle, new locking device

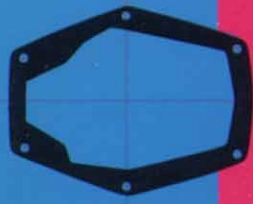
Since the Aquamatic 200 is designed for large engine outputs, the unit can be used with propellers of up to 15" diameter. The propeller shaft, which is made of stainless steel where it comes into contact with the water, carries the propeller on robust 1 1/8" splines. The standard electric-mechanical lift now tilts the outboard drive up to a full 65° out of the water. A new locking device prevents the outboard drive from kicking up when the throttle is pulled back yet will permit the drive to swing up should it come into contact with underwater obstacles. When this happens, the sudden tilt movement is effectively stopped by sturdy rubber dampers. In addition to this, the new lift permits the boat to be run at speeds of up to 10 knots in shallow water with the outboard drive partially tilted up.



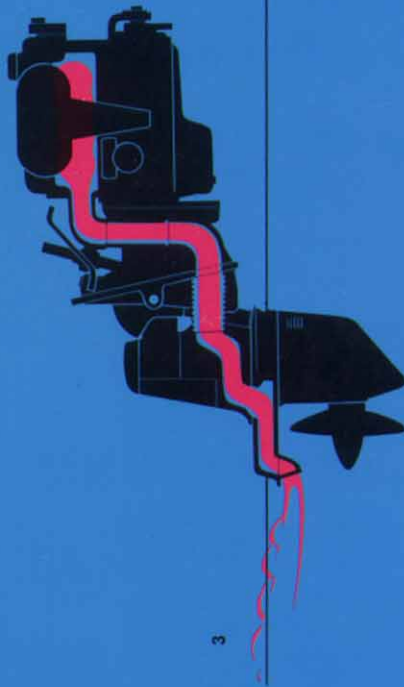
**1** Eight-point plug-in cable harness between the engine and the instrument panel.



**2** An additional new feature which is very important to the boat-builder is the fact that the new Aquamatic 200 outboard drive only requires one single hole in the transom since the connections, to the steering and shifting systems, exhaust system, water cooling system, etc. are now completely enclosed in the outboard drive itself.



**3** New underwater exhaust in the form of a trim rudder, ensuring the shortest possible exhaust system and quiet running.



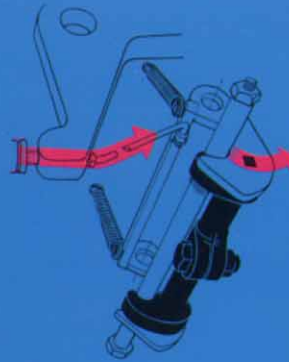
**4** Robust double universal joint for transmission of high engine output.



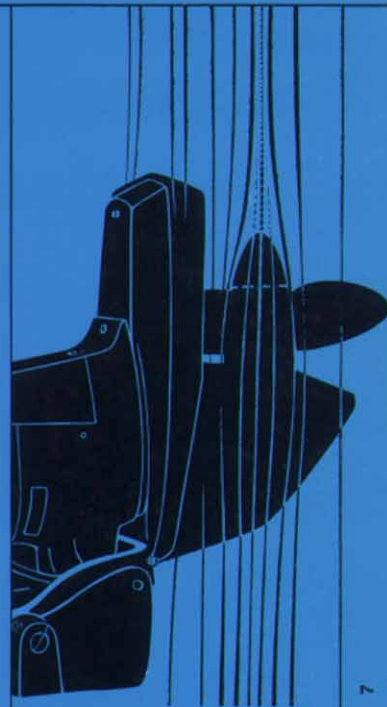
**5** Counter-rotating propeller drive system for dual installation.



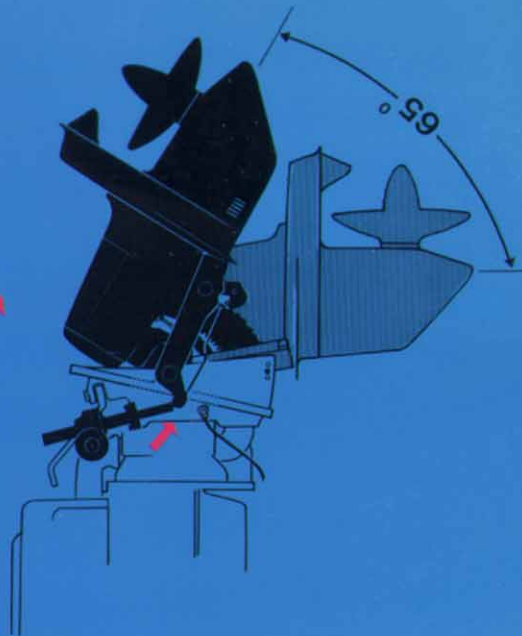
**6** New locking device for running astern and to prevent kick-up caused by throttle being suddenly closed.



**7** Outstandingly good hydrodynamic design for minimum resistance and freedom from cavitation.



**8** 65° electro-mechanical tip which also permits low speed running partly tilted for shallow water.





# NEW VOLVO PENTA 110 ENGINE – EVEN MORE ADVANCED TECHNICAL FEATURES

Research and development work has also resulted in several significant new features on the 110 engine.

One of the most interesting of these is the 12V, 38A alternator which is now fitted as standard equipment in place of the previous D.C. dynamo. This alternator ensures charging even at idling speed and has a maximum output of about 450 W. The slip rings are entirely enclosed to eliminate the hazards of sparking.

The regulator system is also completely transistorized to exact current and voltage control. This means that one or more alternators can be run on the same battery or system of batteries – an important feature with a thought to the large number of electricity consuming equipment on a modern boat.

The engine is also now fitted with two Zenith-Stromberg carburettors with a new combined intake silencer flame arrestor. These carburettors give the engine a lower profile, this meaning even more compact installation dimensions.

Other new engine features include a new moisture-proof coil, a plug-in connector on the cable harness between the instrument panel and the engine, standard master switch on the engine and increased water pump capacity.

Hand primer on fuel pump which is fitted with a hanging glass bowl to facilitate rapid check of fuel flow and cleaning.

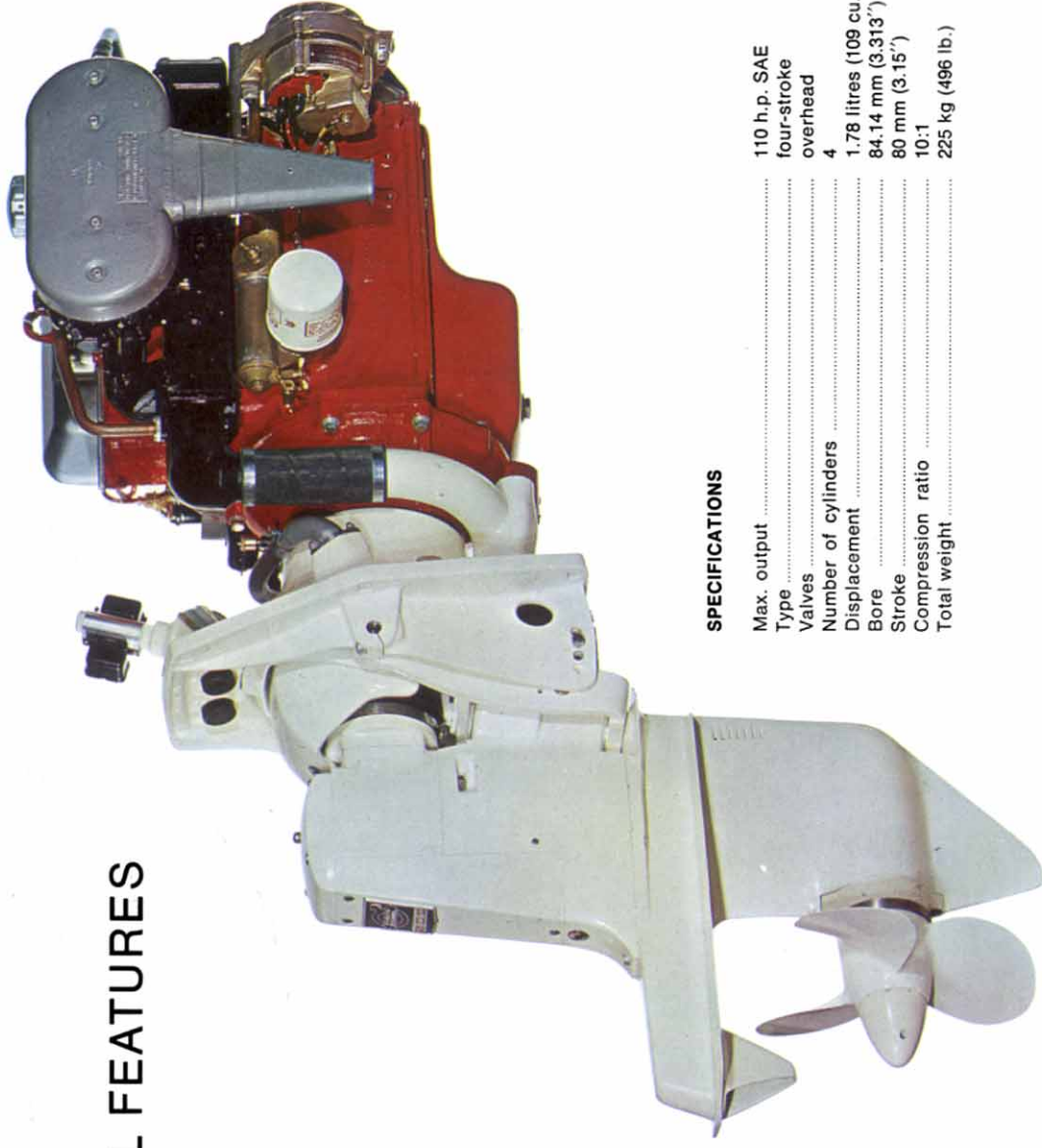
Five-bearing crankshaft for smooth running and minimum wear. Bearing surfaces have a precision tolerance of one micron (0.00004").

Combination of steel crankshaft gear meshing with fibre camshaft gear reduces noise and minimizes wear.

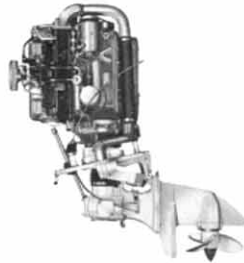
## Other inboard/outboard engines in the Volvo Penta Aquamatic range

### SPECIFICATIONS

|                           |                          |
|---------------------------|--------------------------|
| Max. output .....         | 110 h.p. SAE             |
| Type .....                | four-stroke              |
| Valves .....              | overhead                 |
| Number of cylinders ..... | 4                        |
| Displacement .....        | 1.78 litres (109 cu.in.) |
| Bore .....                | 84.14 mm (3.313")        |
| Stroke .....              | 80 mm (3.15")            |
| Compression ratio .....   | 10:1                     |
| Total weight .....        | 225 kg (496 lb.)         |

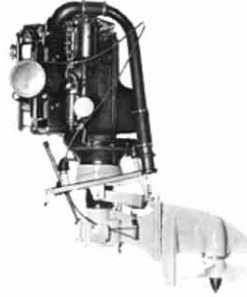


AQUAMATIC 60F/100



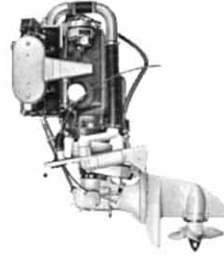
60 h.p. paraffin (kerosene) engine

AQUAMATIC 95/100



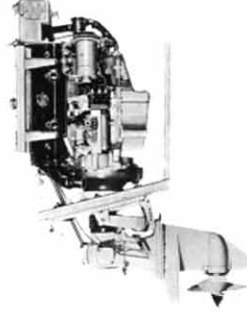
95 h.p. petrol engine

AQUAMATIC 110/100



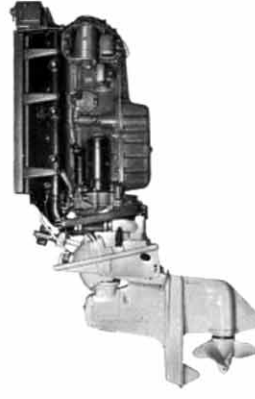
110 h.p. petrol engine

AQUAMATIC D19/100

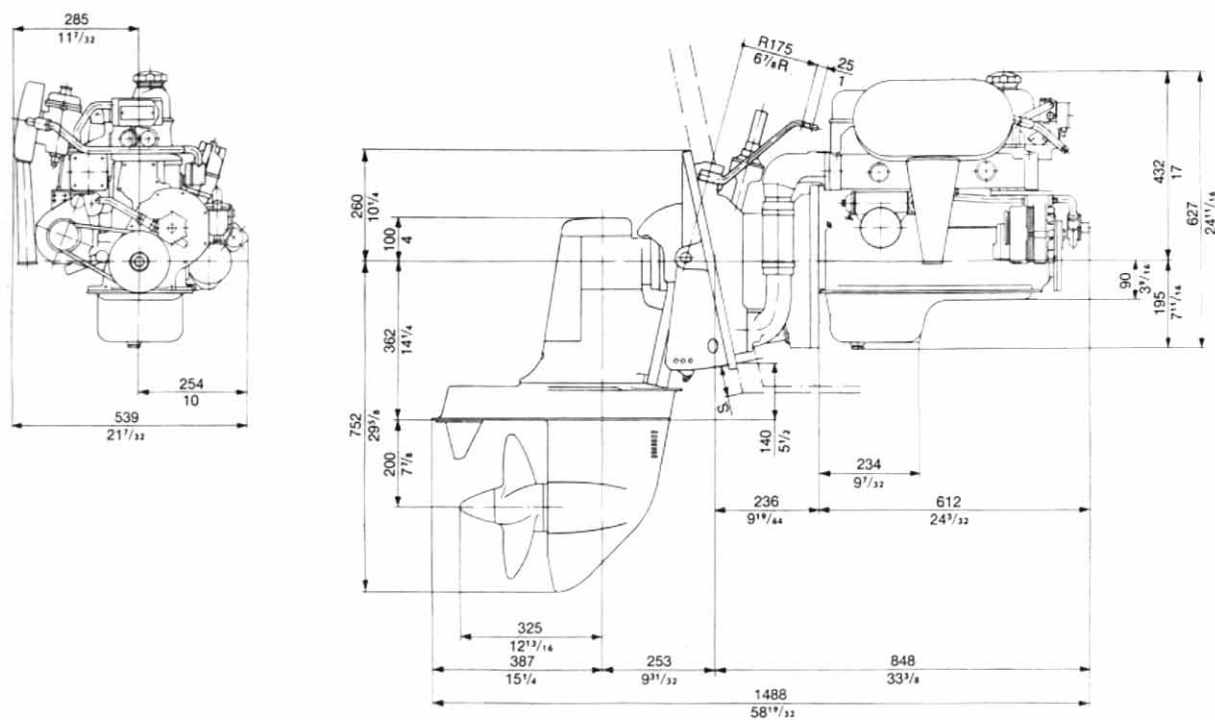


68 h.p. diesel engine

AQUAMATIC D27/200



83 h.p. diesel engine



**Dimension drawing showing Aquamatic 110/200**

## AB VOLVO PENTA

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