

# 430/DP—431/DP

## *V6 4-stroke carburettor engines with DP or SP drive.*

The Volvo Penta V6, 430—431 are 4.3 litre engines which matched with the unique properties of the DP drive become power packages providing top performance in terms of speed, acceleration and fuel economy.

The engines can also run on lead-free petrol. Both cylinder block and cylinder head are made of cast iron, which reduces the risk of corrosion. Materials used in piston rings and valves have been especially developed for marine use.

The intake system provides a perfectly balanced fuel/air mixture which is evenly distributed to the cylinders. This contributes to high performance and low fuel consumption.

The breakerless ignition system ensures easy starting in damp weather. The flame arrestor has been extended with a "rain hat" to protect the ignition system from splashes. And ignition timing has been very carefully set to correspond over the entire engine speed range.

The exhaust pipe is fully immersed in water to reduce temperatures in the engine room.

Power Trim allows you to adjust the drive to its most

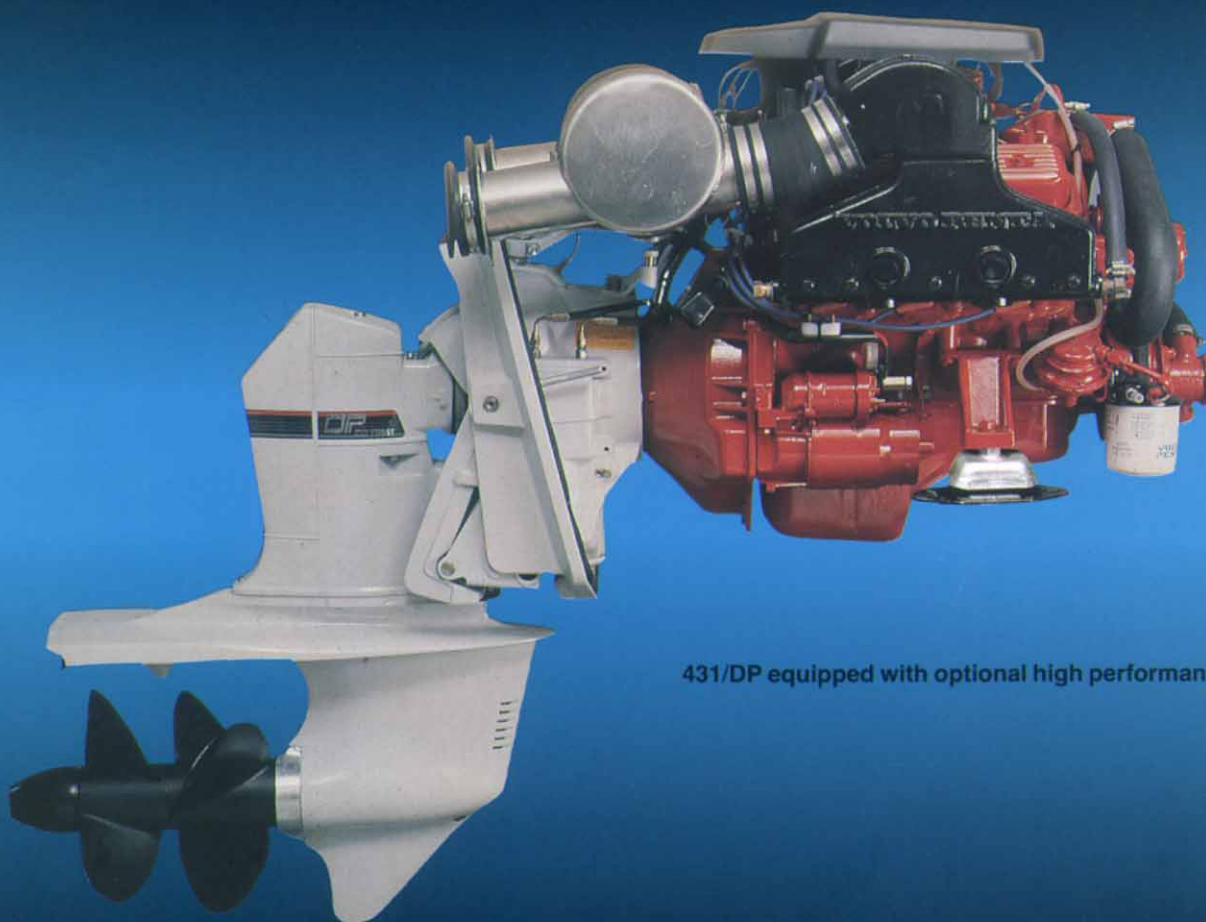
efficient angle. This gives you better acceleration, a higher top speed and lower fuel consumption at cruising speeds.

The design of the drive shield makes installation work easy, problem-free and fast.

The DP drive with its two contra-rotating propellers is designed to provide enhanced, smooth running at speeds of 18 to 47 knots. The unique features of the DP result in the absence of propeller cavitation, lower noise levels and a low planing threshold, plus improved acceleration and better fuel economy.

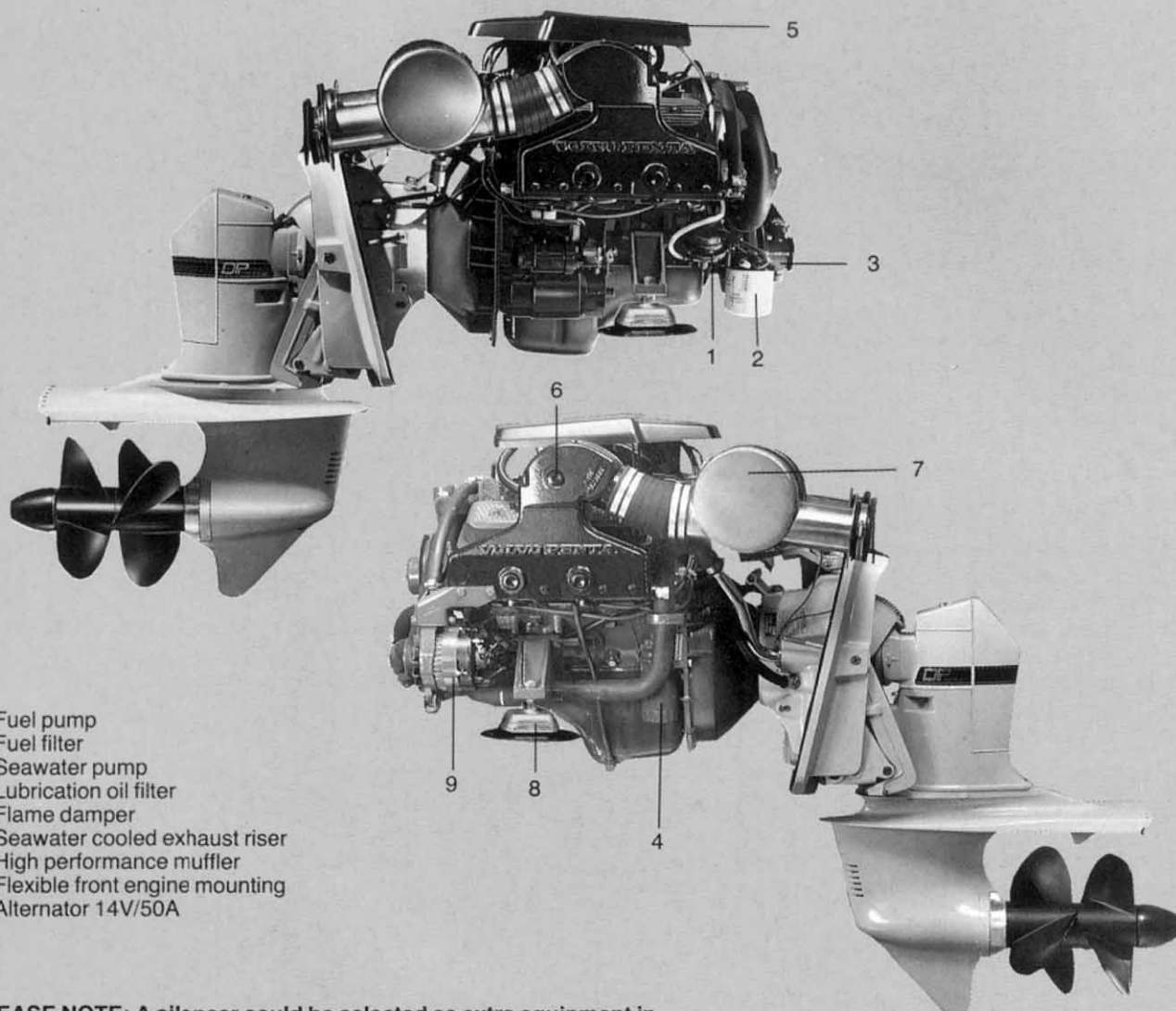
The Volvo Penta drives are renowned for their long service life and excellent resistance to salt water corrosion. Together, the engine, drive and shield form a compact and reliable power unit.

Volvo Penta has a well developed service network in more than 100 countries. Authorized workshops supplying Genuine Parts and staffed by expert personnel will ensure that you always receive good service.



431/DP equipped with optional high performance silencer.

**VOLVO  
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1. Fuel pump
2. Fuel filter
3. Seawater pump
4. Lubrication oil filter
5. Flame damper
6. Seawater cooled exhaust riser
7. High performance muffler
8. Flexible front engine mounting
9. Alternator 14V/50A

**PLEASE NOTE:** A silencer could be selected as extra equipment in connection with ordering of engine and transmission units.

## Engine and equipment

### ENGINE

Cylinder block and cylinder head of cast iron for best corrosion resistance and long service life. The engine can also run on lead-free petrol. The pistons are made of alloy with two compression rings and a single oil ring. Push-rods operate the overhead valves with hydraulic valve lifters. Exhaust valves are fitted with rotators. Four-bearing crankshaft.

### FUEL SYSTEM

4-port down-draught carburettor with automatic electric choke and accelerator pump. Fuel pump (1). Replaceable fuel filter (2). Fuel grade 91 octane RON, RON+MON/2, min 87 octane, or lead-free petrol.

### COOLING SYSTEM

Thermostatically controlled seawater cooling with easily accessible impeller

pump (3) plus a circulation pump for maintaining the engine block at a stable temperature. Seawater pump with neoprene pump impeller.

### LUBRICATION SYSTEM

Pressure lubrication system with full-flow lubrication oil filter of spin-on type (4).

### INTAKE SYSTEM

Approved flame arrestor (5) with "rain hat" to protect ignition system from splashes.

### EXHAUST SYSTEM

Seawater cooled exhaust pipe of cast-iron with high exhaust risers (6). Volvo Penta offers a new and unique high performance silencer system (7), which will meet stringent noise requirements. The exhaust system provides low back-pressure and thereby minimal performance losses.

Two different designs are offered; one for direct connection to the stern and another where the outgoing exhaust gases are either led out through the stern or the hull. For customers who prefer an under-water exhaust system through the drive, a Y-connector is available as an option.

### DRIVE

Complete with shield, flywheel housing and installation fittings. All gears are helical and the tensile strength of the lower gear is designed for running in either direction. The cone clutch provides effortless and reliable silent gear changing. Drive can be swung up 48°. Guard rings and zinc anodes for corrosion protection. Cooling water intake at leading edge of lower drive unit for reliable cooling water supply to engine. Reversing clutch provides excellent



reversing power at all trim angles and allows the drive to swing up in the event of impact. Power Trim with electrically driven hydraulics for trimming of drive angle when underway. (The electrically driven hydraulic pump is fitted either to the bulkhead or to the transom).

### DRIVE SP

Gear mechanism with simple-to-adjust articulated rod for changing direction of propeller from counter-clockwise to clockwise. Steering cable fitting on shield.

### ENGINE MOUNTINGS

Flexible mounts for effective insulation from noise and vibration. Two adjustable front rubber mounts (8) and a single rubber suspension between flywheel housing and back of shield.

### ELECTRICAL SYSTEM

12 V corrosion protected electrical system with instruments. A.C. generator (9) chargeable 14 V/50 A and designed for marine use. Sensor

charging regulator. Generator is prepared for fitting double-diode unit for automatic distribution of charging current to two battery systems independent of each other. Automatic 40 A fuse with resetting button on engine. Starting motor output 960 W (1.3 hp).

### TRIM INDICATOR (CD)



Trim angle indicated by five green LEDs and a digital display. Fixed red light shines when drive is in "beach" position. At "tilt" the red light starts to blink. Control panel with two switches, both with easily understood symbols, one for up/down, the other for "beach".

### INSTRUMENT PANEL



(Optional for some markets.) Instrument panel with key switch, rev-counter, oil pressure gauge, voltmeter, temperature gauge, fuses and switch for instrumentation lighting. 6 metre extension cable with prefitted "plug-in" connector.

## Specifications

Designation	430	431
Crankshaft power <sup>1)2)</sup>	at 4500 r.p.m. 129 kW (175 hp)	at 4800 r.p.m. 151 kW (205 hp)
Prop. shaft power <sup>3)4)5)</sup>	at 4300 r.p.m. 114 kW (155 hp)	at 4600 r.p.m. 132 kW (180 hp)
Recommended max. r.p.m.	4100—4500 r.p.m.	4400—4800 r.p.m.
Working principle	4-stroke carburettor engine with overhead valves	4-stroke carburettor engine with overhead valves
Numbers of cylinders	V6	V6
Cylinder volume	4.3 litres	4.3 litres
Cylinder diameter/stroke length	101.6/88.4 mm	101.6/88.4 mm
Compression ratio	9.3:1	9.3:1
Fuel quality	min 87 octane RON	min 87 octane RON
Drive DP <sup>6)</sup> , ratio	2.30:1	2.30:1
Drive SP, ratio	1.89:1	1.61:1
Weight of dry engine with DP-drive approx	357 kg	357 kg
Weight of dry engine with SP-drive approx	353 kg	353 kg

<sup>1)</sup>Crankshaft power acc. to ISO 8665 or SAE J1228.

<sup>2)</sup>Usable power will be reduced by transmissions losses.

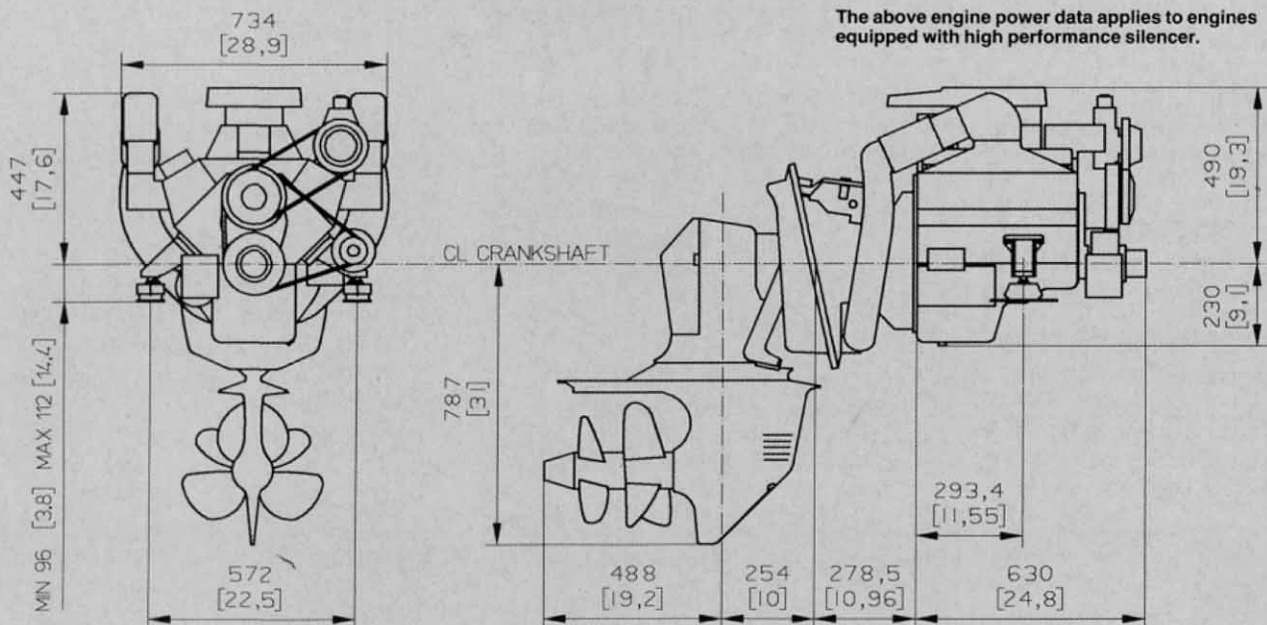
<sup>3)</sup>Prop. shaft power acc. to ISO 8665 or acc. to the technically identical standards SAE J1228 and ICOMIA 28-83.

<sup>4)</sup>Prop. shaft power indicated at mid of recommended speed range.

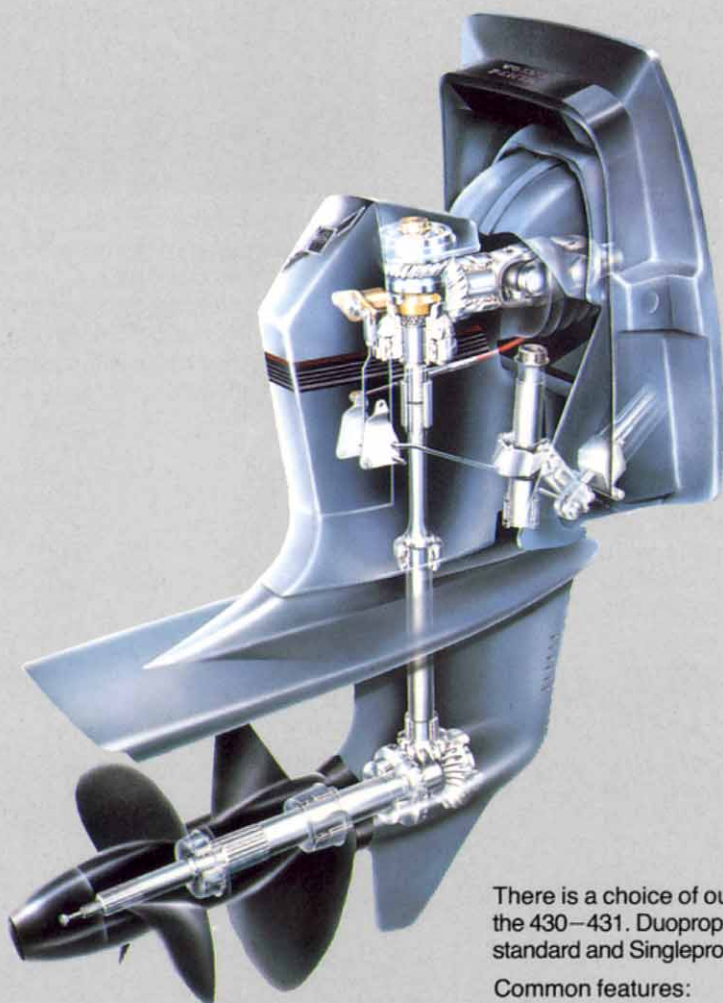
<sup>5)</sup>The power will be different for other optional configurations.

<sup>6)</sup>The DP drive enables utilization of about 10% higher propeller thrust at full throttle when compared with a SP drive.

The above engine power data applies to engines equipped with high performance silencer.



## Volvo Penta DP and SP



There is a choice of outdrives for the 430–431. Duoprop comes as standard and Singleprop as an option.

Common features:

- Robust steering arm on inside of shield prepared for steering cable connection.
- Robust, double universal joint.
- Quiet helical gears.

- Cone clutch works smoothly and silently with little effort.
- Stainless steel pipes connect trim cylinders to hydraulics.
- Cavitation plate at exhaust outlet.
- Zinc ring in front of propeller and extra zinc anode on shield for effective protection from corrosion.
- Cooling water intake.
- Reverse latch provides good astern capabilities while preventing the drive from swinging up due to sudden reverse acceleration. Also permits the drive to kick up if run aground or obstructed.
- Electric motor powered hydraulic pump fitted either to bulkhead or transom.

### DP

The DP drive removes propeller cavitation and provides lower noise levels and a low planing threshold, plus improved acceleration and better fuel economy.

One gear drives both propellers. The rear propeller shaft rotates inside the front propeller shaft.

### SP

Optional drive for 430–431. The SP-drive provides excellent corrosion protection in salt water. Together with the engine, this results in a stable and reliable power package with a long working life.

Space for a propeller of up to 16". Propeller rotation direction is easily altered by repositioning the articulated rod in the drive. Oil pump is of the impeller type.

## Accessories

### FUEL SYSTEM

Copper suction pipe. Water separator. Fuel stopcock. Separate stop valve for fuel tank.

### STEERING

Power steering (One unit serves twin installation).

### COOLING SYSTEM

Freshwater cooling.

### ELECTRICAL SYSTEM

Flybridge instrument panel. Flybridge T-connection. Extension cable for

instrument panel. Extension cable for trim equipment. Double-diode charging distributor. Main switch. Battery.

### POWER

Drive extension. Propellers.

### CONTROLS

Single lever for single installation. Single lever for twin installation. Control cables. Steering wheel including cables. Track rod.

### SAFETY

Submersible electric bilge pump. Engine room fan. Petrol engine safety switch.

### OTHER

Tool box. On-board kit. Bilge pump. Oil transfer pump. Touch-up paint. Oils. For other accessories see Accessories Catalogue.

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*Not all models, standard equipment, and accessories are available in all countries. All specifications are subject to change without notice.*