

## 8.1S HIGH OUTPUT (HO)

### ► Specifications

### 420 HP INBOARD FUEL-INJECTED



### ▼ Features

- MerCruiser® MPI engines with SmartCraft® feature the most sophisticated boat/engine data-management system available. This system monitors up to 64 internal and external functions and continuously adjusts the engine operations for optimum performance.
- PCM 555 engine control module uses a Motorola®-supplied microprocessor for unprecedented onboard computing power. The Mercury®-exclusive 555 control module serves as the central component of the SmartCraft Controller Area Network (CAN).
- Mercury-exclusive PCM 555 processor optimizes fuel mixture, knock control and ignition timing independently for each cylinder, resulting in improved, precise performance. PCM 555 also enables the connection of SmartCraft components.
- Distributorless ignition system improves timing accuracy and eliminates mechanical timing adjustments.
- Engine Guardian™ proactively monitors and protects your engine from the damaging effects of low oil pressure, high engine temperature, engine over-speed, or low cooling water pressure.
- The Engine Guardian system not only detects and alerts you of an engine problem, it automatically reduces power to a safe level that allows you to continue operating.
- The SmartCraft Digital Throttle & Shift (DTS) System brings digital precision to engine throttle and shift (optional).
- DTS provides unprecedented smooth shifting (compared to mechanical systems); precise throttle control; and superior, reliable performance. SmartCraft DTS offered as a boatbuilder option on the 8.1 models (single- and twin-engine applications).
- The 555 control module enables boat manufacturers to offer state-of-the-art digital information displays like the Mercury-exclusive SC5000 System View, a small computer screen that allows the driver to easily monitor and verify real-time engine and boat data.
- Dry-joint technology reduces the potential for water leakage in exhaust components and improves corrosion resistance in the exhaust system.
- MerCruiser ignition strategy optimizes exhaust temperatures. These optimized temperatures reduce water vapor condensation, thereby minimizing the potential for water ingestion and related exhaust corrosion.
- MerCruiser water-cooled and insulated fuel system, which eliminates the need for a return line to the fuel tank, helps keep fuel temperatures down and greatly reduces the potential for vapor lock with today's fuels.
- Maximized exhaust riser height within the available package envelope (additional two inches over previous big blocks) and increased down-angle improve resistance to water ingestion.

- MerCruiser-exclusive water drain system – an air-actuated, single-point interface to two drain points – provides a fast, convenient means of draining water from the engine.
- The innovative water drain system effectively enables boaters to extend their boating season into the cold months.
- Developed to increase durability particularly in saltwater environments, the 8.1S engine models feature closed-cooling with long-life coolant.
- Special profile camshaft with roller followers provides quiet operation and increased performance.
- One-piece serpentine belt means easier servicing, less maintenance, unsurpassed belt life, and requires fewer horsepower to drive the engine accessories.
- Remote water-separating fuel filter ensures dependable starts and performance by removing water and solid particles from fuel before they reach the fuel system.
- Neutral safety start switch permits starting only when transmission is in neutral.
- Platinum-tipped plugs and high-temperature spark plug wires are more durable and ensure trouble-free starting.
- Top-mounted starter is mounted up high away from bilge water for dependable starting and extended starter life.
- Heavy-duty water-circulating pump uses a stainless steel shaft, bronze impeller and special seal for long life.
- High-capacity seawater pump utilizes brass pump body and stainless steel end plate and shaft for increased durability and corrosion protection.
- Aluminum exhaust manifolds and stainless steel elbows provide extra saltwater durability and reliability.
- All MerCruiser gasoline engines (500 hp or less) are designed to run on regular 87-octane fuel, instead of premium, making them less expensive to operate.
- 3-year/300-hour maintenance interval for most scheduled maintenance on all gas models. Some scheduled and routine maintenance is required more frequently as specified in the engine owner's manual.
- All Mercury® engines include a 3-year limited corrosion failure warranty.

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► **Features**

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<b>HP</b>	420
<b>kW</b>	313
<b>SmartCraft</b>	Yes
<b>Displacement Liter/CID</b>	8.1/496
<b>Cylinder/Configuration</b>	V-8
<b>Bore &amp; Stroke (in)</b>	4.25 x 4.38
<b>Bore &amp; Stroke (mm)</b>	108 x 111
<b>Compression Ratio</b>	9.1:1
<b>Fuel Induction System</b>	MPI
<b>Full-Throttle RPM Range</b>	4400 – 4800
<b>Ignition System</b>	PCM 555 Distributorless
<b>Alternator Amp</b>	65
<b>Alternator Watt</b>	917
<b>Length (in/mm)</b>	47/1194
<b>Width (in/mm)</b>	33/838
<b>Height (in/mm)</b>	24/610
<b>Weight (lb/kg)</b>	1130/513 with Velvet Drive Transmission
<b>Transmission Options/Ratios</b>	Velvet Drive 72C 1.0:1 (Level-Mount Remote V-Drive Installation Only)
<b>Transmission Options/Ratios</b>	Velvet Drive 5000A: 1.5/2.0/2.5/2.8:1
<b>Transmission Options/Ratios</b>	Velvet Drive 5000V: 1.5/2.0/2.5:1
<b>Transmission Options/Ratios</b>	ZF Drive 63 A: 1.5/2.0/2.5/2.7:1
<b>Transmission Options/Ratios</b>	ZF Drive 63 IV: 1.5/2.0/2.5:1
<b>Aluminum Exhaust Manifolds</b>	Standard – Ceramic- and EDP-Coated
<b>Audio Warning System</b>	Standard (Engine Guardian)
<b>Closed-Cooling</b>	Standard
<b>Color-Coded Service Points</b>	Standard
<b>High-Mounted Starter</b>	Standard
<b>Knock Control</b>	Standard
<b>Platinum-Tipped Spark Plugs</b>	Standard
<b>Remote Oil Filter</b>	Standard
<b>Risers 2" and 6"</b>	Optional
<b>Serpentine Belt</b>	Standard
<b>Stainless Steel Exhaust Elbows</b>	Standard
<b>Water-Cooled Fuel System</b>	Standard
<b>Water Drain System</b>	Standard: Air-actuated, single-point drain system – hand air pump included with engine
<b>Water/Fuel Separator</b>	Standard

**EFFECTIVE JULY 2003**

Option availability determined by boat manufacturers within their boat model offerings. All models and specifications are subject to change without notice or incurring obligation to modify previously manufactured products.

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