AUTOMOTIVE

Mercruiser 228 Engine

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Introduction to the Mercruiser 228 Engine

For decades, the MerCruiser 228 engine has been a staple in the recreational boating world, known for its balance of power, reliability, and serviceability. Introduced during the heyday of stern drive propulsion, this V8 engine represents a sweet spot for many boat owners—offering enough horsepower to plane a family cruiser or a light sport boat without the fuel thirst and complexity of larger big-block engines. Whether you are considering a used boat with this powerplant or you already own one and want to understand its nuances, the MerCruiser 228 (often based on the General Motors 305 cubic inch small-block) deserves a close look.

Throughout this article, we will explore the technical specifications, common applications, maintenance requirements, and even performance upgrades for the **Mercruiser 228 Engine**. Understanding this engine's strengths and weaknesses will help you get the most out of your boating experience.

History and Development of the Mercruiser 228

The MerCruiser 228 traces its roots back to the 1970s and 1980s, when MerCruiser (the marine division of Mercury Marine) was heavily customizing automotive-based engines for saltwater use. The 228 designation typically indicates a 5.0-liter (305 cubic inch) V8 engine, configured with a four-barrel carburetor, producing around 228 horsepower at the crankshaft—hence the name. It was not a high-revving race engine but rather a torquey, durable workhorse ideal for planing hulls.

Over its production run, the Mercruiser 228 saw several revisions. Early models featured points-style ignition, which later gave way to electronic breakerless systems. The engine block and heads were cast iron, with a two-piece rear main seal in older iterations and a one-piece seal in later versions. The 228 was often paired with the MerCruiser Alpha One or earlier MR drive units, although some later installations used the Bravo series. Its popularity stemmed from a combination of adequate power, relatively compact size, and widespread parts availability.

Technical Specifications

To appreciate the Mercruiser 228, it helps to know the numbers:

- Displacement: 305 cubic inches (5.0 liters)
- Configuration: 90° V8, cast iron block and heads
- Horsepower: 228 HP at the crankshaft (typically around 200-210 at the propeller)
- Torque: Approximately 290–300 lb-ft at 3,200 RPM
- Compression Ratio: 8.5:1 or 9.0:1 depending on year
- Fuel System: Single four-barrel carburetor (Rochester Quadrajet or similar)
- Ignition: Electronic breakerless (later models) or points (early)
- Cooling: Raw water (sea water) or closed cooling with heat exchanger

- Weight: Approximately 1,000 lbs (complete with marine manifold and accessories)
- Recommended Fuel: 87 octane regular unleaded (avoid ethanol blends if possible)

These figures give the Mercruiser 228 a favorable power-to-weight ratio for boats in the 18- to 24-foot range. It does not deliver the raw horsepower of a 350 or 454, but its torque curve is well suited for planing hulls and moderate cruising speeds.

Common Boat Applications

Manufacturers such as Bayliner, Four Winns, Chris-Craft, Sea Ray, and Larson frequently offered the Mercruiser 228 as an option. It was especially popular in:

- Bowriders and runabouts (18–22 feet)
- Cuddy cabins and weekender cruisers (20–24 feet)
- Small to mid-size deck boats
- Light offshore fishing boats (center console or walkaround)

Because the 228 was mass-produced, finding parts and service is relatively easy. Many older boats still in service today rely on this engine, and a well-maintained example can provide years of dependable enjoyment.

Performance and Reliability

Owners of boats equipped with the **Mercruiser 228 Engine**often praise its predictable mid-range torque. Unlike high-strung high-performance engines, the 228 is comfortable cruising at 3,000 to 3,500 RPM, translating to 25–35 mph depending on hull and load. Fuel economy is moderate—about 2.5 to 3.5 miles per gallon at cruise—which is reasonable for a carbureted V8 of that era.

Reliability is generally good, provided the engine receives regular cooling system maintenance and proper winterization. The most common issues stem from neglected raw water systems (corrosion, impeller failures) and carburetor problems caused by ethanol-blended gasoline. When properly cared for, many 228 engines have racked up thousands of hours without major internal failures.

Maintenance and Care for Your Mercruiser 228

Keeping a Mercruiser 228 running smoothly requires attention to several key areas:

1. Oil and Filter Changes

Change the engine oil and filter every 50 hours or at the start of each season. Use a high-quality 20W-50 or 15W-40 marine engine oil. Regular oil analysis can detect early wear.

2. Cooling System

If your 228 uses raw water cooling, flush the engine with fresh water after every saltwater use. Replace the impeller annually. Inspect risers and manifolds every 2–3 years for corrosion, as failure can cause water ingestion into the cylinders.

3. Fuel System

Use a water-separating fuel filter and replace it each season. Consider adding a fuel stabilizer if the boat sits for more than a few weeks. Ethanol fuels can cause phase separation and varnish buildup in the carburetor—rebuilding the carb every few years is common.

4. Ignition System

Points-style systems require periodic adjustment and replacement. Electronic ignition is more reliable but still needs spark plug and wire replacement every 2–3 seasons. Gap plugs at 0.035 inches for most applications.

5. Winterization

Before freezing weather, drain the block, manifolds, and raw water pump. Fog the engine through the carburetor to protect cylinder walls. Change oil and gear lube if needed. A well-winterized 228 will start right up next spring.

Upgrades and Modifications

For owners seeking a bit more from their Mercruiser 228, several cost-effective upgrades exist:

- Carburetor Upgrade: Replacing the stock Quadrajet with a modern marine 600 CFM four-barrel (e.g., Edelbrock or Holley) can improve throttle response and top-end power.
- Exhaust System: Installing high-flow stainless steel risers and through-hull exhaust may add 10–15 HP. Be aware of noise regulations.
- Ignition Upgrade: Swapping to a performance marine distributor and coil (e.g., Pertronix or Mallory) improves spark energy and reliability.
- Camshaft and Valvetrain: A mild marine camshaft (such as a Comp Cams 264) can enhance mid-range torque without sacrificing low-end driveability. Pair with roller rockers for reduced friction.
- Closed Cooling Conversion: Adding a heat exchanger system reduces internal corrosion and allows the engine to run at a more consistent temperature.

Note that any modifications should maintain a proper air-fuel ratio and cooling capacity to prevent overheating. Always consult a marine mechanic before performing major drivetrain changes.

Troubleshooting Common Issues

Even a well-maintained Mercruiser 228 can encounter problems. Here are the most frequent issues and how to address them:

Overheating

First, check the raw water impeller and strainer. Inspect the thermostat (typically 140°F or 160°F). If risers are hot to the touch and the engine is still overheating, the exhaust manifolds may be blocked or corroded internally. A pressure test of the cooling system can pinpoint leaks.

Hard Starting / No Start

Verify fuel delivery (pump diaphragm, filter, carburetor float bowl). Check for spark at the plugs—suspect a failed ignition module, coil, or trigger assembly in electronic ignitions. For carbureted engines, a squirt of starter fluid can help diagnose fuel-related issues.

Low Power / Bogging

A clogged fuel filter, dirty carburetor jets, or a partially stuck choke are common culprits. Also inspect the spark plugs for fouling. A compression test can reveal ring or valve problems—acceptable compression is 130–160 PSI across all cylinders with less than 10% variation.

Excessive Oil Consumption

Check for leaks at valve covers, intake manifold, and oil pan. If the engine smokes blue, valve seals or piston rings may be worn. A leak-down test is the best diagnostic tool.

Comparing the Mercruiser 228 with Other Engines

Understanding how the 228 stacks up against similar powerplants helps in evaluating its suitability for your needs:

- Mercruiser 260 (5.7L / 350 cid): The 260 offers 30 more horsepower and significantly more torque, making

it better for heavier boats. The 228 is lighter and slightly more fuel efficient at cruise.

- Mercruiser 190 (4.3L V6): The 4.3 is lighter and easier on fuel, but lacks the torque for planing larger hulls. The 228 is a step up in power.
- Mercruiser 350 (5.7L MPI): Fuel-injected large-displacement V8; the 228 cannot match its power or fuel economy. However, the 228 is simpler to maintain and cheaper to repair.
- Volvo Penta 5.0: A direct competitor of the Mercruiser 228. Both use similar GM blocks, but cooling and drive systems differ. Parts availability for MerCruiser is generally broader.

For a budget-conscious boater who enjoys tinkering, the Mercruiser 228 strikes a nice balance between performance and cost of ownership.

Conclusion

The Mercruiser 228 Engine holds a respected place in marine history as a dependable, straightforward V8 that powered countless family boats through decades of summer enjoyment. While it lacks the prestige of a big-block or the efficiency of a modern fuel-injected four-stroke, its simplicity, parts availability, and manageable power make it an excellent choice for entry-level or classic boat owners. By staying on top of winterization, cooling system maintenance, and fuel quality, you can keep your Mercruiser 228 running reliably for many seasons to come. Whether you are restoring an old boat or just looking to understand your current setup, the 228 remains a worthy marine workhorse.

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