

WARRANTY INFORMATION

SERVICE INFORMATION

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## 496 CID / 8.1L Exhaust Installation

**IMPORTANT:** It is the responsibility of the boat manufacturer and/or the installing dealer to properly locate the engine and install the exhaust system. Damage caused by water in the engine will not be covered by the Mercury MerCruiser warranty, unless this damage is the result of defective parts or workmanship on the part of Mercury MerCruiser.

### CAUTION

Avoid severe engine damage. Improper installation of the engine and/or exhaust system may allow water to enter the exhaust manifolds and combustion chambers and severely damage the engine. Install the engine and exhaust system according to Mercury MerCruiser instructions and procedures, and according to recommended practices.

## Exhaust System

When designing and installing the exhaust system, the following points must be taken into consideration:

- System layout and construction must prevent the cooling system discharge water from flowing back into the engine and seawater from entering the engine through the exhaust system.
- The exhaust hoses and pipes must not be higher than the exhaust elbows at any point.
- The drop must be constant so that a low spot does not exist at any point in the exhaust hose or pipe.

| Continuous Downward Slope From Horizontal |                            |         |   |         |  |
|---|----------------------------|---------|---|---------|--|
| Model                                     | Engine Installation Angle* | Minimum |   | Maximum |  |
| Sterndrive                                | 0°                         | 9°      | 1-7/8 in. (48 mm)<br>per 12 in. (305 mm)  | 19°     | 4-1/8 in. (105 mm)<br>per 12 in. (305 mm)  |
| Down-Angle Inboard                        | Fore End Raised 2°         | 11°     | 2-5/16 in. (59 mm)<br>per 12 in. (305 mm) | 21°     | 4-5/8 in. (117 mm)<br>per 12 in. (305 mm)  |
|   | Fore End Raised 4°         | 13°     | 2-3/4 in. (70 mm)<br>per 12 in. (305 mm)  | 23°     | 5-1/16 in. (129 mm)<br>per 12 in. (305 mm) |
|   | ▲ Fore End Raised 7°       | 16°     | 3-7/16 in. (87 mm)<br>per 12 in. (305 mm) | 26°     | 5-7/8 in. (149 mm)<br>per 12 in. (305 mm)  |
| V-Drive Inboard                           | Fore End Lowered 2°        | 7°      | 1-1/2 in. (38 mm)<br>per 12 in. (305 mm)  | 17°     | 3-11/16 in. (94 mm)<br>per 12 in. (305 mm) |
|   | 0°                         | 9°      | 1-7/8 in. (48 mm)<br>per 12 in. (305 mm)  | 19°     | 4-1/8 in. (105 mm)<br>per 12 in. (305 mm)  |
|   | Fore End Raised 3°         | 12°     | 2-1/2 in. (64 mm)<br>per 12 in. (305 mm)  | 22°     | 4-7/8 in. (124 mm)<br>per 12 in. (305 mm)  |

\* Fore - End of engine closest to bow of boat.

- The first 18 in. (457 mm) of exhaust hose should drop the specified minimum relative to horizontal. Thereafter, 3° of drop or 1/2 in. (13 mm) of drop per 12 in. (305 mm) relative to horizontal is a MINIMUM requirement for the rest of the exhaust system.
- Exhaust hoses should not restrict the flow of discharge water from the elbow. The exhaust hose cannot be bent more than 5° relative to the exhaust elbow outlet as a hot spot in the hose will occur and burn through.
- ▲ For sterndrive packages using a through the transom or through the hull exhaust system, the use of internal shutters and external flappers is required. Mercury MerCruiser strongly recommends the use of exhaust resonators with this type of exhaust system.
  - ▲ For sterndrive packages using a through the prop exhaust system, do NOT use internal shutters, external flappers, or resonators.
  - ▲ For all inboard applications, do NOT use internal shutters or external flappers. Mercury MerCruiser strongly recommends the use of exhaust resonators with these applications.
- The exhaust resonator is positioned with the inside flat surface at the preferred distance of 17 in. (432 mm) from the front edge of the exhaust hose but no closer than 2 in. (51 mm) to the exhaust outlet on sterndrives. The 17 in. (432 mm) dimension can be reduced, if necessary, to a MINIMUM of 13 in. (330 mm). This dimension must be the same on both exhaust outlets.
- System must not cause excessive back pressure when measured 10 in. (254 mm) aft of the exhaust elbow outlets. Back pressure MUST NOT exceed 2 psi (14 kPa). Minimum exhaust hose sizes are given in the following chart:

| Minimum Exhaust Outlet Hose Size |                |                |
|----------------------------------|----------------|----------------|
| Model                            | Single Outlet  | Dual Outlet    |
| ALL                              | 5 in. (127 mm) | 4 in. (102 mm) |

- Exhaust hoses must be secured at each connection with 2 hose clamps.