

MASTERCRAFT BOATS ARE EQUIPPED WITH A HIGHLY innovative fuel system. This system is designed to provide you with years of trouble-free service. Some of the latest innovations related to fuel handling safety are also incorporated into the fuel delivery system.

The system uses a fuel pump mounted in a capsule that is installed directly in the fuel tank. A similar system has been used in automotive vehicles for many years and has demonstrated reliable service. The pump system in your boat was specifically designed for the marine environment and contains a number of added safety components that are unique to the marine environment. Because of the special nature of the design, there are no user-serviceable parts. Any parts in need of service or maintenance will need to be addressed by an authorized MasterCraft dealer. The technical team there is equipped with the special tools necessary to disassemble and service the fuel capsule and associated parts.

USING CARE WHEN FUELING

The fuel line that travels in the boat's bilge area from the tank to the engine is a special multi-layer armored line that is covered with a special material known as a fire sleeve. The fire sleeve affords protection to the fuel line in the unlikely event of a boat fire.

The sleeve is colored orange in order to afford easy identification of the fuel line. MasterCraft recommends daily inspection of the bilge for foreign materials and the possibility of gas or oil leakage detection. As part of your daily inspection, include a visual check of the orange



fire-sleeved fuel line. If you see damage to the sleeve or line or in any way suspect damage or fuel leakage, **DO NOT START YOUR BOAT!** Immediately call an authorized MasterCraft servicing dealer and let him or her assess the situation.

Indmar Engines

The following information applies to boats equipped with Indmar engines:

What Type of Gasoline To Use

All standard Indmar EFI engines run on unleaded fuel of 89 octane or higher. Indmar recommends purchasing fuel from a supplier that advertises that their fuel meets "TOP TIER" specifications. This fuel has additives and detergents that will reduce the build-up of deposits in the engine.

The intention of the TOP TIER detergent gasoline standards is to create a winning situation for gasoline retailers, engine manufacturers and boat operators. Currently, many gasoline retailers provide fuels with lower-quality additive packages that can build up deposits on fuel injectors and intake valves. Others can build up deposits in combustion chambers and may lead to intake valves sticking. These lower levels of additives can have a negative impact on engine performance and vehicle responsiveness.

For a current list of gasoline retailers supplying TOP TIER gasoline, go to www.toptiergas.com and click on RETAILERS.

When the Boat Is Not Used for a While

Indmar recommends the regular use of Sta-Bil® fuel stabilizer for boat users whose outings consume less than a tank of fuel every two (2) weeks. Today's fuels are more susceptible to degradation, and the use of a quality stabilizer will help ensure fewer problems for the occasional boater.

If the boat has not been used for more than thirty (30) days and fuel remains in the tank (even stabilized fuel), the engine may run poorly until the "old" fuel is used up. The manufacturer will not pay for repairs to components that are inoperable or damaged from old and/or poor quality fuel, as this is not covered under the engine warranty.

Using Oxygenated Fuels or Fuels with Alcohol

MBTE (methyl butyl tertiary ether) is an oxygenate and octane enhancer. This compound may be blended with fuel. Fuel that is no more than 15% MBTE is acceptable for use in the Indmar engine.

Ethyl alcohol, ethanol or grain alcohol is acceptable as long as it is a blend and the blended fuel contains no more than 10% ethanol.

Fuels in Other Countries

If the Indmar-equipped boat is operated outside the USA or Canada, unleaded fuels may be difficult to obtain. Leaded fuels are not recommended as engine components will last longer using unleaded fuel.

Crusader Engines

The following information applies to boats equipped with Crusader Engines:

The ignition timing set by the factory requires the use of a high-quality, lead-free regular gasoline with the following octane specification:

Pump Octane Number (R+M/2) (PUMP) – 87

NOTICE: Most Crusader fuel-injected engines are calibrated to operate on 87 octane fuel, and maximum performance is obtained when using this fuel. Some applications may require a higher octane fuel.

If a slight pinging is heard during acceleration and the proper octane fuel is being used, it is considered normal. If a constant, heavy knock occurs, the engine should be evaluated by an authorized MasterCraft service technician.

Gasoline Containing Alcohol

Ethanol blended fuel rated E10 or less is acceptable to use. Fuels rated higher than E10 SHOULD NOT BE USED. Ethanol fuels rated higher than E10 could potentially damage the engine and/or present an unsafe boating condition. Damage to the engine resulting from the use of ethanol fuel rated higher than E10 IS NOT covered by the warranty.

Do not use any gasoline that contains METHANOL. This fuel is very corrosive and will create unsafe operating conditions. Serious damage will result from

the continued use of fuel containing METHANOL. Any resulting engine damage will not be covered by the warranty.

If ethanol-blended fuel rated E10 or less is used, or if the presence of alcohol is uncertain, more frequent inspections and service of the complete fuel system are required. Any sign of fuel leakage or deterioration must be repaired immediately before further engine operation.



It is important to note that ethanol-blended fuel will act as a solvent and will attract and hold moisture. **Without proper fuel stabilization and fuel filtration, ethanol blended fuel may cause the following:**

- Excessive moisture (water) may cause lean operation to include hard starting and operating difficulties such as: vapor lock, low speed stalling, and shortened fuel shelf life.
- Acting as a solvent, ethanol blended fuel may cause gum, sediment, sludge, and other particles to be loosened and carried through the fuel system to the engine.

Fuel system or engine damage caused by contamination from water, foreign particles, sludge, or gums entering or forming in the fuel system is not covered by the Crusader Limited Warranty.

NOTICE: Some gasolines contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). These should not be used. These fuels may reduce spark plug life, and engine performance may be affected.

Fuel Stabilizer Recommendations for Ethanol Blend Fuel

The use of a commercially available fuel stabilizer, such as STAL-BIL®, is recommended when storing ethanol-blended fuel for more than two (2) weeks.

Volkswagen Diesel-Powered Engines

See the fuel restrictions and information provided in the Volkswagen engine manual.



General Information

The following Dangers and Cautions apply to ALL engines and fueling systems, regardless of manufacturer:

CAUTION

Fuels that are blended to contain methanol or wood alcohol should not be used. These fuels can corrode metal parts in the fuel system and engine. Fuels that contain methanol will damage the engine. Damage caused by the use of unapproved fuels is not covered by warranty.

CAUTION

Extended storage with fuel in the system can affect the fuel's stability and may require system inspection and fuel filter replacement when the unit is placed back into service.

CAUTION

Damage to the engine by use of low-quality gasoline or gasoline with an octane rating below the minimum level listed will void the warranty on the boat.

! DANGER

Gasoline is extremely flammable and highly explosive under certain conditions. Always stop the engine and never smoke or allow open flames or sparks within fifty (50) feet of the fueling area when fueling.

! DANGER

Take care not to spill gasoline. If gasoline is spilled accidentally, wipe up all traces of it with dry rags immediately and dispose of properly on shore.

CAUTION

Allowing the fuel level in the fuel tank to fall below one-quarter of a tank full may affect the reliability of the fuel pump or result in damage to the fuel pump, which is not covered under warranty.