Mastercraft

For ”1987″ - ”1990″

ProStar Owner's Manual
Construction and Standards

All MasterCraft boats are constructed of the highest quality fiberglass materials and resins available. We take pride in producing boats with the highest standards of quality and workmanship. Our commitment to excellence is evident in every part of the production process and continues to the owner with our 10 year limited warranty.

The hull, deck and inner liner are 100% hand-laid with up to 12 layers of fiberglass matting at major stress points. All major hardware is anchored in 1/4" steel inlaid into hull and liner. All fasteners, hardware, handrails, and lifting rings are high-grade stainless steel. All parts running in water are bronze alloy. Every boat is water tested and quality checked at the factory and a permanent record is kept for future reference.

Standard Features

All MasterCraft boats come equipped with many standard features. Skiing features include platforms, mirrors, storage, tow bars, and recreational ski tow. Amenities include drink holders, color coordinated upholstery, and acoustical insulated motor box; safety features such as passenger handrails, tethered engine stop switches, and rear facing observer seats; performance features such as full instrumentation, and the customized MasterCraft Power V-8 engine.

Certification

As a member of the National Marine Manufacturers Association (NMMA), every MasterCraft boat and trailer meets the rigid specifications for certification. This certification exceeds the federally mandated USCG requirements and is backed by the 600 member NMMA. Inspections are performed by a nationally recognized independent testing organization; inspectors visit the plant before the model year begins to check all models for conformance. The inspectors return unannounced during the year to insure continued compliance with certification requirements.

Certification checks are developed by the NMMA engineering staff and the Marine Service Practices Committee to help guard against overpowered, overloading, fire, explosion, sinking and collisions. All parts used in the construction of MasterCraft boats meet or exceed all USCG and American Boat and Yacht Council (ABYC) standards. Never use automotive or parts of unknown quality. Insist on only genuine MasterCraft replacement parts from your dealer.

Serial Number Locations

NOTE

The removal, tampering, alteration, or obliteration of any or all identification numbers will relieve MasterCraft from all obligations to make warranty repairs or replacements.

Hull - The Hull Identification Number (HIN) can be found at the top, outside, starboard corner of the transom. The HIN is molded into the transom and federal law prohibits removal or tampering in any way.

Engine - The engine identification plate can be found at the rear, inside of the starboard valve cover.

Transmission - The transmission identification plate can be found on the top, port side of the housing.

The identification numbers of your boat are important to you. Record the serial and model numbers of your boat in the spaces provided for future reference. Keep a copy of these numbers on a separate sheet of paper and store in a safe place other than your boat. In case of theft, report these numbers in writing to your local authorities, insurance agent, and MasterCraft, c/o Customer Service, MasterCraft Boat Co., Rt. 9 Box 152, Maryville, TN 37801.

HULL

Registration Number/State ____________________________

HIN ____________________________

Date Purchased ____________________________

Dealer/Phone ____________________________

Ignition Key Number ____________________________

ENGINE

Model ____________________________

Serial ____________________________

TRANSMISSION

Model ____________________________

Serial ____________________________
Safety Equipment

Federal law requires certain safety equipment to be on board at all times. In addition, responsible boaters carry other equipment in case of emergency. Check with the local boating authorities for any additional requirements over and above federal requirements.

REQUIRED EQUIPMENT - Your MasterCraft has been equipped at the factory with most federally required (Class 1, 16' to 26') safety equipment for inland waters. This equipment includes:

- U.L. Approved Marine Fire Extinguisher. Type A-BC (2 lbs.) good for solids, liquids, and electrical fires
- ABYC Approved Marine Mufflers with water injection
- USCG Approved Marine Flame Arrestor
- USCG Approved Engine Box Ventilation with sparkless power blower
- ABYC Approved Electric Horn sound warning device
- USCG Approved Inland Lighting

Federal law also requires at least one Type I, II or III Personal Flotation Device (PFD) for each person on board or being towed on water skis; and, in addition, one throwable Type IV PFD. As the owner, obtaining PFD's is your responsibility, your MasterCraft dealer can assist you.

NOTE
Requirements for coastal waters and inland waters differ; check with the local authorities for more information.

RECOMMENDED EQUIPMENT - A good captain will avoid potential problems on an outing by having additional equipment on board. Normally, this equipment is dependent on the body of water and the length of the trip. We suggest the following as a minimum, your MasterCraft dealer can assist you:

- Anchor with at least 75' of line
- Bailing (dewatering) device (scoop, bucket, handpump, etc.)
- Combination oar/boat hook
- Day/night visual distress signal (check local restrictions)
- First aid kit and manual
- Waterproof flashlight
- Local charts
- Mooring lines and fenders
- Extra engine oil
- Tool kit
- Portable AM/FM radio
Skiing Safety

Skiers, like operators, must be aware of the fundamental safety rules of water skiing. If you are new to the sport, seek certified training before going out for the first time. Join the local ski club and AWSA if possible. Always remember that the majority of water ski injuries are the result of impacts with other objects so always look where you are going and be aware of what is going on around you.

⚠️ WARNING

The skier(s) must always wear a USCG approved personal flotation device. Failure to do so may cause serious injury or death.

⚠️ WARNING

Keep at least 100' away from all other objects including other boats, piers, rafts, mooring and navigational buoys, pilings, abutments, etc. Failure to do so may cause serious injury or death.

⚠️ WARNING

Always have an experienced driver and observer in the boat when skiing. Failure to do so may cause serious injury or death.

⚠️ WARNING

Never ski in shallow water, close to shore, or in water where you do not know the depth or what is beneath the surface. Doing so may cause serious injury or death.

⚠️ WARNING

Never put your arm, head, or any other part of your body through the handlebride of the ski line or wrap the line around any part of the body at any time. Doing so may cause serious injury or death.

⚠️ WARNING

Never jump from a boat that is moving at any speed, or enter or exit the water when the engine is running (ON). Doing so may cause serious injury or death.

⚠️ WARNING

Make sure that everyone knows and uses approved skiing hand signals and common skiing courtesy. Failure to do so may cause serious injury or death.

**Warning Plates and Labels**

**WARNING**

LIFT RINGS ARE NOT DESIGNED FOR LONG PERIODS OF SUSPENSION.

**DANGER!**

KEEP AWAY FROM REAR OF BOAT WHILE ENGINE IS RUNNING TO AVOID PERSONAL INJURY.

**WARNING!**

TOW EYE NOT DESIGNED FOR LIFTING RING

**BOATMAN'S CHECK LIST**

- For maximum enjoyment and safety, check each of these items BEFORE you start your engine:
  - DRAIN PLUG (is it there?)
  - LIFE-SAVING DEVICES (Are there for everyone on board?)
  - STEERING SYSTEM (Is it working smoothly and properly?)
  - FUEL SYSTEM (Is the fuel tank empty?)
  - ELECTRICAL SYSTEM (Is the battery charged?)
  - CARTRIDGE PLATE (Is it reusable?)
  - ENGINE (is it running?)
  - WEATHER CONDITIONS (Is it safe to go out?)
  - ELECTRICAL EQUIPMENT (Lights, horn, pump, etc.)
  - EMERGENCY GEAR (Fire extinguisher, ladder, paddle, anchor, etc.)

**DANGER**

DO NOT START ENGINE WHILE SOMEONE IS BOARDING BOAT!
attached to the switch before starting.

Ensure that the switch is firmly

hooked on and properly attached to your cap.

The emergency engine switch is designed to

stop the engine in the event of an

emergency or other situations.

The emergency engine switch must be actuated

causing serious injury or death.

WARNING

Engine Oil Pressure Gauge - Indicates the

engine oil pressure. Failure to do so may

tear the engine over time.

The engine oil pressure must be at

30 psi at idle.

The engine oil pressure is between 10 to

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Controls

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<td>35 AMP</td>
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Rating Location Breaker Name

Boat Circuit

Circuit Breakers

17 After boat circuits, except the accessory (heater and stereo option) circuit, are protected from
16 Automatic Bilge Pump Switch - A two-speed switch
15 Manual Bilge Pump Switch - A two-speed switch
14 Accessory Switch - A two position rocker switch
13 Switch on/off switch - A two position rocker switch
12 Accessory Lights - A two position rocker switch
11 Navigation Lights/Pilot Light - A two position rocker switch
10 Horn Switch - activates the horn
9 Fresh and hold to sound horn
8 All major boat circuits, except the accessory (heater and stereo option) circuit, are protected from
7 Accessory Circuit
6 Blower
5 Ventilation Blower
4 Pump
3 Navi. & Radio
2 Lighting and Radio
1 Engine

No. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

Radio

Accessory Circuit

Blower

Ventilation Blower

Pump

Navi. & Radio

Lighting and Radio

Ignition and Alarm

Engine

ENGINE AND SAFETY CIRCUIT

OFF OR ENGINE

Engine

Battery Gauge

Blower

Ventilation Blower

Pump

Navi. & Radio

Lighting and Radio

Ignition and Alarm

Engine
FUELING

The ignition timing as set by the factory requires the use of leaded or unleaded fuel with a minimum Research Octane Number (RON) of 93 or a minimum Anti-Knock Index Number (AKI) / Pump Octane Number of 89 octane. Most any high quality gasoline available for automotive use may be used without difficulty.

⚠ CAUTION

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

If fuels with 93 RON (89 AKI/Pump) octane are not available in your area, the ignition timing must be retarded so that low octane fuels, with a minimum of 90 RON (86 AKI/Pump) octane can be used; see your MasterCraft dealer. When the ignition timing is retarded, a decrease in engine power can be expected.

We do not recommend that you use low quality alcohol modified fuels in your MasterCraft because of the following side effects:

- **Moisture** - Alcohol blended fuels absorb and keep moisture. Moisture inside the fuel tank can cause many engine problems. Fuel tank inspection and cleaning must be done more often.

- **Performance** - Alcohol blended fuels cause the engine to operate on a leaner fuel/air ratio and may cause hard starting, stalling and vapor lock. Engine damage may result.

- **Deterioration** - Alcohol quickly deteriorates rubber and plastic components in the fuel system causing more frequent inspection and replacement of parts. This increases the potential for fire and explosion due to fuel leakage.

Fuel additives and treatments, other than conditioners for moisture absorption and winter storage, are not recommended for use in MasterCraft Power engines.

⚠️ WARNING

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

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

**Always tighten the fuel plate cap completely with the cap key after refueling.**

LAUNCHING/LOADING

Preparing to Launch

Before backing down to the ramp, perform the following on level ground:

1. Remove the boat cover, if equipped.
2. Perform daily **Before Operation** safety and maintenance checks and services, page 12.
3. Load and stow any additional equipment if necessary.
4. Check that bilge drain plug is in place.
5. Remove any additional trailering tie-downs from the boat.
6. Attach the bow and stern docking lines and fenders if necessary.
7. Disconnect the trailer lights from the car.
**CAUTION**

- Never leave the boat unattended. If you are launching by yourself, place the boat stop (bumper board) out of range and set a guard to prevent the boat from inadvertently colliding with other vessels.

- Always use a very tight taut on the tiller handle to prevent the boat from rolling over the bumper board causing excessive damage.

- Launching is normally accomplished with two people.

---

**Loading**

1. Back the trailer into the water until the top of the trailer is level.

2. Secure the boat to the trailer with a winch and attach any necessary safety harnesses.

3. Position the boat on the trailer and secure it.

4. Check to see that the boat is centered on the supports and that the propeller support brackets are properly installed.

5. Set the parking brake securely.

6. Pull the trailer up to the ramp and attach any additional tie-downs.

---

**Launching**

1. Check to see that the boat is centered on the supports and that the propeller support brackets are properly installed.

2. Secure the boat to the trailer with a winch and attach any necessary safety harnesses.

3. Position the boat on the trailer and secure it.

4. Check to see that the boat is centered on the supports and that the propeller support brackets are properly installed.

5. Set the parking brake securely.

6. Pull the trailer up to the ramp and attach any additional tie-downs.

7. Position the boat on the trailer and secure it.

8. Secure the boat to the trailer with a winch and attach any necessary safety harnesses.

---

**Maintenance**

- Always use a very tight taut on the tiller handle to prevent the boat from rolling over the bumper board causing excessive damage.

- Launching is normally accomplished with two people.
SAFETY CHECKS AND SERVICES

The following checks and services are essential to safe boating and must be performed. Get in the habit of performing these checks in the same order each time so that it becomes routine.

⚠️ WARNING

DO NOT launch the boat if any problem is found during the Safety Check. A problem could lead to an accident during the outing causing severe injury or death. Have any problem attended to immediately; see your MasterCraft dealer.

Before Each Operation

- Check that there is an adequate supply of fuel.
- Check that the steering system operates properly.
- Check that the required safety equipment is on board.
- Check that the fire extinguisher is fully charged.
- Check the weather report, wind and water conditions.*
- Check for recommended on board tools and parts.*
- Check that no fuel, oil or water is leaking or has leaked into the bilge compartment.
- Check all hoses and connections for leakage and damage.
- Check that bilge drain plug is installed properly.*
- Check the propeller and shaft for damage.*
- Check the cooling water intake pick-up for blockage.*
- Check that all required Scheduled Maintenance Checks and Services have been performed.

During Operation

- Check gauges frequently for signs of abnormal behavior.
- Check that controls operate smoothly.
- Check for excessive vibration.

After Operation

- Fill fuel tank to prevent moisture due to condensation.
- Check for fuel, oil and water leakage.
- Check the propeller and shaft for damage.*

* Best accomplished with boat out of water.

NEW BOAT BREAK-IN

NOTE

Failure to follow the break-in procedure exactly as stated will void the engine warranty.

The first 20 hours of operation are the most important to your boat. Proper break-in will ensure maximum performance and longest powertrain life. The break-in period allows moving parts within the engine and transmission to “wear-in” to one another and acts as the final fitting of parts. All MasterCraft boats are operated for a short period of time on the water before leaving the factory, but break-in must continue for the 20 hour period.

⚠️ CAUTION

To ensure proper break-in and lubrication, do not remove factory break-in oil until after the initial 10 hours of operation.
The First Hour of Operation

To a slower planned speed:

1. Start the engine and allow to warm-up to normal operating temperature (170°F or lower if 6600 RPM).

2. Plane the motor quickly. Once the propeller spins, increase the propeller's speed in an essential manner. Once the propeller spins, the propeller increases speed gradually, again in an essential manner. Do not accelerate suddenly from minimum to idle. Do not accelerate to run at idle speed for more than 30 seconds.

3. Reduce your speed to 2000 RPM. The throttle is back to minimum a hundred strokes after the propeller spins.

4. Operate the boat in neutral for 5 - 10 minutes at the propeller's speed. This will ensure proper lubrication.

5. Operate the boat in forward gear, accelerate to 1200 RPM (800 - 1200 RPM), then reduce the speed to your planned speed. Then reduce the speed to your planned speed. This will ensure proper lubrication.

The Next Four Hours

1. Continue operation at a speed up to the engine speed limit, which may change due to local and other factors.

2. Return the boat to your nearest dealer for a cool-down period.

3. Daily reduce the engine to idle speed for a cool-down period. Speed up to no exceed 400 RPM once every 20 minutes.

4. Installation of the engine into the boat requires at least 2000 RPM. Operate the boat in forward gear at an essential speed.

5. Operate the boat in neutral for 5 - 10 minutes at 2000 RPM, and then reduce the speed to your planned speed. Then reduce the speed to your planned speed. This will ensure proper lubrication.

The Final Ten Hours

1. Operate the boat in neutral for 5 - 10 minutes at normal operating temperature (170°F or lower if 6600 RPM).

2. Plane the motor quickly. Once the propeller spins, increase the propeller's speed in an essential manner. Once the propeller spins, the propeller increases speed gradually, again in an essential manner. Do not accelerate suddenly from minimum to idle. Do not accelerate to run at idle speed for more than 30 seconds.

3. Reduce your speed to 2000 RPM. The throttle is back to minimum a hundred strokes after the propeller spins.

4. Operate the boat in neutral for 5 - 10 minutes at the propeller's speed. This will ensure proper lubrication.

5. Operate the boat in forward gear, accelerate to 1200 RPM (800 - 1200 RPM), then reduce the speed to your planned speed. Then reduce the speed to your planned speed. This will ensure proper lubrication.

6. Installation of the engine into the boat requires at least 2000 RPM. Operate the boat in forward gear at an essential speed.

7. Operate the boat in neutral for 5 - 10 minutes at normal operating temperature (170°F or lower if 6600 RPM).
After Break-In

Once the break-in period is over, the boat may be operated continuously at any speed, but not beyond the maximum speed of 4600 RPM.

Always remember that during normal operation, allow the engine to warm-up gradually, be sure the engine is warm before accelerating, and pay careful attention to the gauges and engine safety warning horn. Also, check the oil level frequently during the first 50 hours of operation since the piston rings and cylinders take that long to seat properly.

After the initial 50 hours of operation, the engine oil and filter must be changed. This second oil change is very important to long engine life. After break-in, all maintenance is performed at regular intervals, see Scheduled Maintenance Checks and Services, page 21.

STARTING AND BASIC OPERATION

Before Starting

NOTE

If operating for the first time, you must follow the New Boat Break-In procedures as described on page 12. Failure to follow these procedures could result in serious engine damage and will void the warranty.

Familiarize yourself with the controls and indicators used on your MasterCraft.

Perform all Safety Checks and Services as described on page 12.

Perform all Scheduled Maintenance Checks and Services as described on page 21.

1. Operate the bilge blower for at least 4 minutes. Leave the bilge blower ON until the boat has planed.

WARNING

To prevent a possible explosion, operate the blower for at least 4 minutes before starting the engine and always when at idle and slow speed running. Explosive gasoline and/or battery fumes may be present in the engine compartment. Failure to do so may cause serious injury or death.

2. Open the engine compartment and check the fuel sight tube for traces of fuel or anything else adhering to the inside of the tube. If any traces are found, do not start the engine, see your MasterCraft dealer immediately!

3. Check the bilge compartment for fuel, oil or water leakage, and for fumes.
Starting the Engine

4. Adjust engine speed to idle between 800 and 1200 RPM and allow the engine to warm up for about 2 minutes. (Not required when using in water)

5. Release the throttle under the lever knob.

NOTE

Always start the engine with the control lever in neutral. Do not operate the starter motor and the engine, key after the engine has started may damage the starter motor and the engine. Key after the engine has started may damage the starter motor.

NOTE

Key as soon as the engine starts.

3. Turn the key switch to the starter position and hold until engine starts. If engine does not start, repeat procedure.

4. Adjust engine speed to high idle between 800 and 1200 RPM.

NOTE

Speed remains below 1500 RPM.

Remember always adjust the throttle so that engine speed remains below 1500 RPM.

NOTE

Set the idle speed to 800 RPM and adjust the control lever back into the first position. Do not operate the starter motor and the engine, key after the engine has started may damage the starter motor and the engine.
Once the shift has been completed, continue to move the control lever slowly in the desired direction to increase speed.

**NOTE**
When shifting from forward to reverse or reverse to forward, be sure to stop the control lever briefly in the neutral position and allow the engine RPM to fall between 600 - 800 RPM before completing the shift.

**Engine Warning Alarm**

Your boat is equipped with a warning alarm under the dashboard which will sound in the event that the engine overheats. If the warning alarm should sound while the engine is running, throttle back to idle speed and shift to neutral IMMEDIATELY, quickly observe the gauges, and STOP the engine IMMEDIATELY.

**CAUTION**
Continued operation after the warning alarm has sounded may cause severe engine damage and will void the warranty.

**OPERATIONAL HINTS**

**General**

We at MasterCraft urge you and all others operating the boat to seek certified instruction from the local boating authorities.

This section is designed to present the most basic operational principles. It is NOT intended to cover all conditions encountered during operation. Therefore, the principles presented in this manual are limited to the facts related directly to the operation of the boat, while the responsibility for the proper application of these principles belongs to you.

**Loading** - NEVER OVERLOAD YOUR BOAT. The Maximum Weight Capacity as listed on the certification plate includes all items added to the boat.

If the pressure gauge indicates low or no oil pressure, check the oil level. If the temperature gauge indicates overheating, check the raw water pick-up for blockage. DO NOT operate the boat until the cause for the warning alarm has been found and corrected.

**Stopping**

1. Slowly bring the control lever to the neutral position. If the boat has been driven for a long period of time at high speed, allow the engine a 2 - 3 minute cool-down period at low idle (600 - 800 RPM).

2. Turn the ignition key to the OFF position to stop the engine.

3. If any problems were encountered during the outing, have the boat inspected by your MasterCraft dealer and request any necessary repairs before the next outing.

(persons and gear). Also, proper distribution of weight is critical to boat performance. Distribute the load as evenly as possible.
BASIC MANEUVRING

1. A boat is not an automobilized piece of equipment. A boat is a watercraft and must be driven and handled with care.
2. Have a crew on hand: Hands ready with hands.
3. Keep the wind and current in mind while handling a boat.
4. Keep watch on the propeller and outboard motor at all times.
5. Remember the proper turn of the propeller.

FIRST TIME OPERATION

1. Keep a few general guidelines in mind when entering the water for the first time:
2. Always wear your life jacket.
3. Keep your distance from other boats.
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   bb. Keep a few general guidelines in mind when entering the water for the first time:
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When practicing maneuvering techniques, always do so in open water that is free of traffic; adequate practice may make the difference between a pleasurable or damaging (at least embarrassing) experience.

**High Speed Operation**

Your MasterCraft was designed to be a high performance ski boat. You may have seen professional drivers with advanced operating skills perform high speed maneuvers and "on-a-dime" turns. **DO NOT attempt maneuvers like these.** Paid, professional drivers log thousands of hours on the water and carefully choreograph every move; plans are made in advance if for some reason the routine must be aborted.

**Water Ski Towing** - Make sure the ski gear is in good condition. Know and use the approved hand signals. Stretch-out before skiing. Always have a competent observer. Use the stern ski tow. Pick a point on shore and drive in a straight line for that point if possible. Never "crack-the-whip" or intentionally cause the skier to fall. Make sure the engine is OFF whenever the skier enters or exits the water. Don't ski until exhausted. Try to find "good" water.

**Docking and Tie-Up** - Approach docks slowly with the starboard side of the boat to the dock if possible. The natural tendency to "torque steer" with the rotation of the propeller at slow speeds makes docking easier on that side. Also, use wind and current to your advantage when docking.

Before tying-up the boat, be sure to use enough fenders to protect the boat from damage. If possible, tie-up with the bow towards the waves. Use good quality double-braided nylon line. Tie-up only to the lifting or tie-down eyes, never use the handrails or ski pylon. If the boat is to be moored for a long period of time, use chafing protectors to protect the gelcoat finish. Leave a little slack in the lines, allow for some wave movement or tidal action if applicable.

If the boat is to be kept in or near the water for the season, consider the purchase of a boat lift. Boat lifts prevent the build-up of marine growth on the hull as well as protecting from damage typical of on-water storage such as blistering. Make sure the boat lift supports the hull correctly, see **Lifting the Boat**, page 19.

**Unusual Operating Conditions**

If the body of water is unknown, talk to the local boaters about what obstacles are beneath the waters' surface. Rocks, tree stumps, sandbars, and wing dams are both dangerous and damaging. Be especially wary of rivers and man-made lakes, rapidly changing conditions can cause daily changes in underwater hazards. Stay well clear of floating debris; what looks to be a small branch in the water usually turns out to be a tree.

When travelling through weedy areas, keep an eye on the engine temperature gauge; weeds caught-up and blocking water flow through the raw water intake will cause trouble. Also, after leaving the weedy area, shift to neutral for a few seconds and then reverse for a few seconds to "unwind" any weeds that may have wrapped around the propeller.
**Using Lifting Slings**

- Ensure all lifting slings are capable of lifting the boat as specified by the manufacturer.
- Always use the correct lifting point as indicated by the manufacturer.
- Never use the incorrect lifting point or use it for another purpose.

**Using Lifting Bales**

- Ensure the bales are capable of lifting the boat as specified by the manufacturer.
- Always use the correct lifting point as indicated by the manufacturer.
- Never use the incorrect lifting point or use it for another purpose.

**Lifting the Boat**

- Before lifting the boat, ensure it is securely attached to the lifting equipment.
- Always follow the manufacturer's instructions for lifting and securing the boat.
- Never attempt to lift the boat without proper equipment and training.

**CAUTION**

- Always wear appropriate safety gear when lifting the boat.
- If the boat is to be hoisted from the water, ensure the water is clear of obstacles.
- Never lift the boat on a trailer or with a winch without proper training.

**NOTE**

- It is important to follow all safety guidelines when handling the boat.
**CORROSION**

**Galvanic Corrosion** - Galvanic corrosion (electrolysis) to the boater is the decomposition of metals, due to the effects of electrolytic action. When two dissimilar metals are immersed in a conductive fluid (salt water), an electric current is produced, much like a battery. As the current flows, it takes with it tiny bits of the softer metal. If left unchecked, a great deal of damage could occur.

If you operate in salt, polluted or brackish waters, your boat should be equipped with a transom mounted zinc anode to prevent damage to those metal parts coming in contact with the water. The zinc is, by design, self-sacrificing. It is slowly eroded away by electrolytic action and requires periodic inspection for deterioration. If the zinc shows extreme erosion, it must be replaced to continue protection or damage to other metal parts may result.

**Salt Water Corrosion** - Your boat has been designed for operation in fresh water. Fresh water internal flushing is required when used in salt, polluted or brackish waters. Flush the entire engine cooling system with fresh water for at least 5 minutes after use in these waters.

**Marine Growth** - If accelerated marine growth is a problem in your area, an anti-fouling bottom paint may be necessary to slow growth and prevent gelcoat damage. Before selecting a bottom paint, talk with other boaters and your MasterCraft dealer to determine which product works best in your area. Many local variables can affect the selection of paint. Be sure to follow the paint manufacturer’s directions exactly.

**CLEANING**

Periodic cleaning is the best way to keep your boat looking like new. Regular washing and waxing keep dirt and scum from building up and deteriorating the finish. Keeping your boat in a “showroom new” condition results in personal satisfaction and higher resale value.

Your boat is made of fiberglass, a plastic resin material that is easy to clean and care for. Several layers of resin material are chemically bonded together to form the hull. The smooth outside surface of the hull is a layer of gelcoat resin. While the gelcoat is solid color, the thickness of the layer is only a few mils thick; much like paint on a car but much tougher and chemically bonded. Beneath the gelcoat surface is a series of layers of chemical resin, fiberglass mat, and woven roving. It is these layers that give the boat its strength and keep the hull shape. The boat bottom also uses special core-mat material for its strength to weight and superior marine performance.

**Hull** - When washing the boat, be sure to use a mild detergent and warm water solution. DO NOT use abrasive cleaners, solvents, ammonia or chlorine as these will damage the gelcoat surface. Under extreme conditions, special cleaners may be used to remove marine growth from the hull; see your MasterCraft dealer.

Waxing the entire gelcoat surface at least twice a season is recommended for all climates. Use of a specially formulated marine gelcoat wax will prevent color fade and soil and scum adhesion. If the gelcoat has chalked or faded from lack of proper maintenance, buffing may be necessary to bring back the shiny appearance. Hand buffing with #7 rubbing compound or power buffing with glazing compound #1 will quickly restore the surface.

**Upholstery** - Regular washing with mild detergent and warm water or automotive vinyl cleaners is sufficient to keep the cushions and vinyl coverings in good condition. Keep the cushions from becoming soaked and dry off thoroughly after washing to prevent mildew accumulation after the boat is covered. Prop the cushions up in the boat when covered to allow air circulation and spray with mildew repellent.

**Carpet** - Occasional washing with mild detergent and warm water or household carpet cleaners will keep the carpet clean. Thoroughly hose the detergent out of the carpet and into the bilge. This is usually the best time to clean the bilge also. Allow the boat to set uncovered in the sun for several days to prevent any mildew or odor caused by moisture.

**Teak Wood** - Regular cleaning and oiling of teak wood will maintain its original appearance. Use an organic cleaner that can penetrate the pores of the wood and cleanse them of dirt and stains. Avoid caustic teak cleaners since they can damage the wood. Immediately after cleaning, an oil sealer should be applied with a soft cloth. Allow a couple of hours for the oil to soak into the wood and apply a second coat. Wipe off excess oil to prevent a varnished look.

**Windshield** - Cleaning the windshield when needed is an important safety precaution. The windshield is made of laminated plastic and tempered safety glass and requires special cleaning to prevent scratches to the surface. Use a mild soap solution and damp cloth only. Harsh detergents, solvents, chemicals or dry cloths will scratch the surface.
Never mix different types/brands of oil.

Never mix motor oils. See specifications on Page 57.

Cover base only the recommended and approved motor oil.

Add oil if necessary through oil filter in order.

1. Operate engine for about 5 minutes or until

2. Safety starting switch.

3. Remove dipstick and wipe off with a clean rag.

4. Add oil if necessary through oil filter in order.

Check engine oil level

Before each use (Every 8 Hours)

Mastercraft Power 351 With Fresh Water Cooling System Shown

Engine Mount

Fresh Water Exchanger

Exhaust Manifold

Circuit Breaker

Engine Oil Filter

Fuel Pump

Oil Drain Hose

Pump Pulley

Circulator

Alternator

Engine Oil Dipstick

Port Exhaust

Oil Filler Cap

Frame Arrester Cover

Engine Mount

Reservoir

Fresh Water

Starter

PCV Valve

Transmission

Oil Cooler

Transmission oil cooler
Stainless Steel and Chrome - Stainless steel and chrome plated parts are not totally resistant to corrosion. Occasional cleaning and polishing with a marine chrome and stainless polish will maintain and extend the useful life. In salt water areas, rinse all hardware with fresh water and apply a light coating of protective oil to enhance appearance.

Sun Top and Boat Cover - Occasional cleaning of the top and cover should be done with mild soap and warm water. Thoroughly wet the entire surface and use a soft bristled brush. Rinse completely and allow to drip dry, then allow it to lay in the sun until completely dry. Treat with a water repellent as necessary.

For heavy soil or mold, a solution of 1/2 cup bleach, 1/4 cup household soap and one gallon of water may be used for soaking. DO NOT allow to soak for more than 20 minutes to prevent deterioration of the stitching. Rinse completely and allow to drip dry, then allow it to lay in the sun until completely dry.

SCHEDULED MAINTENANCE CHECKS AND SERVICES

Proper care, maintenance and adjustment will contribute to the peak performance of the boat and extend the overall service life and resale value.

Use the table to the right to establish your maintenance routine. The instructions are grouped by the required service intervals. The pages that follow contain instructions and how to accomplish each of the required checks, inspections and services as listed in the table. The intervals are New Boat Break-In (first 50 hours), Daily (before each use or every 8 hours of operation), Quarterly (every 3 months or every 50 hours), and Annually (each year or every 100 hours) whichever occurs first. The following definitions apply to maintenance:

Check - To verify operational readiness by physical measurement i.e., measuring oil level with dipstick gauge or alignment with a feeler gauge.

Inspect - To determine operational readiness by examination i.e., by sight, sound, or feel.

Change - Tasks required periodically to keep the boat in proper operating condition i.e., to drain, replenish or service.

Frequency and Scheduled Maintenance Task Table

<table>
<thead>
<tr>
<th>New Boat Break-In</th>
</tr>
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<tbody>
<tr>
<td>. Change engine oil and filter after initial 10 and 50 hours of operation. (See</td>
</tr>
<tr>
<td>. Lubricate engine starter gear and shaft. (See Quarterly Maintenance)</td>
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<tr>
<td>. Check alignment of propeller shaft coupling. (See Annual Maintenance)</td>
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<tr>
<th>Before Each Use (Every 8 Hours)</th>
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<tr>
<td>. Check engine oil level.</td>
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<tr>
<td>. Check transmission fluid level.</td>
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<tr>
<td>. Check cooling system level (fresh water cooling equipped boats only).</td>
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<tr>
<td>. Check engine V-belts for looseness or damage.</td>
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<tr>
<td>. Check/service fuel filter/water separator.</td>
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<tr>
<td>. Inspect drivetrain for loose or missing hardware.*</td>
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<tr>
<td>. Inspect throttle and shift cables for kinks, wear and interference with other</td>
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<tr>
<td>components.</td>
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<tr>
<td>. Inspect battery connections and hold-downs.</td>
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<tr>
<td>. Inspect exhaust system for leaks.</td>
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<tr>
<td>. Inspect propeller shaft log for excessive water entry.</td>
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<tr>
<td>. Inspect fuel system lines and connections for leakage.</td>
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<th>Annually (Every 100 Hours)</th>
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<tbody>
<tr>
<td>. Change engine oil filter.</td>
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<tr>
<td>. Clean engine flame arrester.</td>
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<tr>
<td>. Clean carburetor fuel screen.</td>
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<tr>
<td>. Replace fuel filter element.</td>
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<tr>
<td>. Clean fuel tank pick-up.</td>
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<tr>
<td>. Perform engine tune-up.</td>
</tr>
<tr>
<td>. Change transmission fluid.</td>
</tr>
<tr>
<td>. Clean battery terminals.</td>
</tr>
<tr>
<td>. Check propeller shaft coupling alignment.</td>
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<tr>
<td>. Lubricate steering system.</td>
</tr>
<tr>
<td>. Lubricate shift and throttle cables.</td>
</tr>
<tr>
<td>. Inspect exhaust flaps for damage.*</td>
</tr>
<tr>
<td>. Check engine mounts.</td>
</tr>
<tr>
<td>. Inspect complete fuel system for leakage.</td>
</tr>
</tbody>
</table>

* Best accomplished with boat out of water.
inspect exhaust system for leaks

complete the positive terminal connections. rubber boot covers the positive terminal, and coat both terminals with a thin layer of anti-seize. tighten the terminals.

1. reconnect the positive terminal lead and hold-downs.

2. visually check the exhaust system from the engine area. check for any signs of damage.

3. check for properly connected and secured battery connections. check for any damage.

4. remove the drain plug from the bottom of the oil pan.

WARNING

Missing Hardware

Inspect engine for loose or missing hardware.

1. clean the engine thoroughly.

2. check all the hardware for missing or loose parts.

3. tighten any loose hardware.

4. remove the drain plug from the bottom of the oil pan.
Check Transmission Fluid Level

1. Operate the boat for about 5 minutes to warm transmission fluid. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral.

2. Open engine box and locate transmission fluid level dipstick.

NOTE
Transmission fluid level must be checked immediately after engine shut-down to prevent an incorrect reading. Oil drains back into the transmission from the cooler and cooler lines and could give a false reading if not done quickly.

3. Remove dipstick and wipe off with a clean rag. Quickly re-insert dipstick fully and immediately remove. Check that fluid level is at the “FULL WARM” mark on the dipstick.

4. Add or remove fluid as necessary to maintain level at the mark. Use only the recommended automotive transmission fluid, see Specifications on page 37. Never mix different types/brands of fluid.

Check Cooling System Level (Fresh Water Cooling Equipped Boats Only)

⚠️ CAUTION

Engine must be cool when checking the coolant level. Hot coolant and steam under pressure may cause personal injury.

1. Open engine box and remove reservoir cap.

2. Maintain coolant level to top of reservoir filler neck.

Check Engine V-Belts for Looseness or Damage

1. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral.

2. Open engine box and locate engine V-belts.

3. Check alternator belt tension on top midway between the circulating pump pulley and the alternator pulley. The belt should be tight enough so that it will deflect 1/4" - 1/2" when pressed with the thumb.

IMPORTANT
If the belt is too tight, excessive belt and bearing wear can occur. If the belt is too loose, slippage can occur resulting in low alternator output and rapid belt wear.

4. If the belt needs adjustment, loosen the alternator mounting hardware, pivot the alternator as needed, and tighten the hardware. Recheck belt tension.

Check/Service Fuel Filter/Water Separator

⚠️ WARNING

Gasoline is highly flammable, and its vapors may result in fire or explosion. Be particularly cautious when working on any part of the fuel system. Be sure that the engine has cooled completely and keep all sparks and flames well away from the area. Never smoke when working on the fuel system. Take care not to spill any gasoline; if gasoline is spilled accidentally, wipe up all traces of it immediately with dry rags and dispose of the rags properly on shore.

1. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral. Engine must be cool.

2. Open the engine box and locate the fuel filter/water separator.

3. Place a clean catch container beneath the fuel filter assembly.
Clean Carburetor Fuel Screen.

1. Turn engine OFF and disconnect fuel supply.
2. Open muffler box and locate the fuel supply.
3. If not in neutral, engine must be cool.
4. Disconnect the starter cord from the engine.
5. Remove the bolt securing the cover on the carburetor.
6. Remove the bulb securing the cover on the flame arrester.
7. Uninstall flame arrester, connect hoses and install.
8. Replace all.
9. Connect the flame arrester and reconnect hoses.
10. Press all.
11. Install flame arrester and reconnect hoses.
12. Clean the flame arrester and reconnect hoses.
13. Replace the flame arrester and inspect for dam-
14. Reconnect the spark plug cap and fuel pump vent.
15. Remove the fuel pump and inspect it for dam-
16. Check oil level and adjust if necessary.
17. Check the area around the filter for leaks.
18. After cleaning the engine with all, start the engine.
19. Clean the fuel filter by hand. DO NOT use a filter wrench.
20. Install screen, screen, filter, and filter body.
21. Secure the filter by hand until the filter feet.
22. Lift filter out of sight of the filter.
23. Lift up the filter, the sight, the filter, the filter.
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187. Spin of air filter out of sight of the filter.
4. Check the rubber coupling for leakage, no leakage is permissible. If leakage is apparent, see your MasterCraft dealer.

**Inspect Fuel System for Leakage**

![WARNING]

Gasoline is highly flammable, and its vapors may result in fire or explosion. Be particularly cautious when working on any part of the fuel system. Be sure that the engine has cooled completely and keep all sparks and flames well away from the area. Never smoke when working on the fuel system. Take care not to spill any gasoline; if gasoline is spilled accidentally, wipe up all traces of it immediately with dry rags and dispose of the rags properly on shore.

1. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral. Engine must be cool.

2. Open engine box and visually check the fuel system from the filter to the carburetor for obvious leakage.

![WARNING]

The engine box serves as a machinery guard. The engine must be OFF whenever the box is opened except for access during maintenance. Use extreme care whenever operating the engine with the box open. Clothing or body parts can get caught in moving parts causing extreme personal injury or death. Keep away from rotating parts.

3. Start the engine and look for leakage; stop engine immediately if leakage is seen. Leak must be repaired before the engine is re-started. See your MasterCraft dealer.

**QUARTERLY (Every 50 Hours)**

**Change Engine Oil**

1. Start and run engine until warm. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral.

2. Open engine box and locate the oil drain hose.

3. Remove the engine oil filler cap. This will speed up the oil draining process.

**IMPORTANT**

Never drain oil into the bilge or into the water. Wipe up spilled oil immediately and dispose of rags and drain oil properly on shore.

4. Attach a suction pump to the drain hose and remove oil completely.

5. Change oil filter if necessary.

6. Cap oil drain hose and refill crankcase through filler opening. See Specifications, page 37, for recommended oil type. Check oil level with the dipstick.
Replace Fuel Filter Element

1. Turn engine OFF and disconnect engine safety screen.

2. Open engine box and locate the fuel filter.

3. Drain fuel bowl, see Check/Service Fuel Filter. (Optional: Follow the instructions in the manual for this step.)

4. Remove head bolt and bowl housing.

5. Remove and discard filter element properly on the rag and dispose of.

6. Clean housing, gasket and gasket with gasket cleaner. If gasket is split or damaged, replace gasket.

7. Install new element into housing.

8. Install fuel housing and head bolt. Torque head bolt to 65 lb-in.

9. Install new feed hose and tighten with hose clamp.

10. Reconnect electrical connections when working on any part of the fuel system. Be sure that all traces of gasoline is spilled from the area. Keep smoke when working.

**Warning**

Gasoline is highly flammable and is a fire hazard. Do not smoke or use an open flame near fuel or fuel-related equipment.

Clean Fuel Tank Pick-Up

1. Turn engine OFF and disconnect engine safety screen.

2. Open engine box and locate the fuel filter.

3. Drain fuel bowl, see Check/Service Fuel Filter. (Optional: Follow the instructions in the manual for this step.)

5. Remove and discard filter element properly on the rag and dispose of.

6. Clean housing, gasket and gasket with gasket cleaner. If gasket is split or damaged, replace gasket.

7. Install new element into housing.

8. Install fuel housing and head bolt. Torque head bolt to 65 lb-in.

9. Install new feed hose and tighten with hose clamp.

10. Reconnect electrical connections when working on any part of the fuel system. Be sure that all traces of gasoline is spilled from the area. Keep smoke when working.

**Warning**

Gasoline is highly flammable and is a fire hazard. Do not smoke or use an open flame near fuel or fuel-related equipment.
4. Remove screws securing the sending unit to the cluster and remove sending unit.
5. Remove screws securing the cluster to the fuel tank and remove the cluster.
6. Clean screen at end of pick-up tube and inspect for damage.
7. Inspect inside tank for accumulations of dirt and debris. See your MasterCraft dealer if large amounts of dirt/debris are found.
8. Install the cluster and secure with screws.
9. Install the sending unit and secure with screws.
10. Connect fuel pick-up hose and secure with hose clamp. Tighten hose clamp.

**Engine Tune-Up**

A complete engine tune-up, which includes replacement of PCV valve, spark plugs, points, condenser, distributor cap, rotor, and ignition wires (if needed), and adjustments for spark, dwell and idle, requires special knowledge, tools and test equipment.

For this reason, we have not included step-by-step information in this manual as it is beyond the capabilities of most of our customers. For the convenience of those familiar with engine tune-ups, we have included the parameters in the Specifications section, page 37.

**Change Transmission Fluid**

1. Run boat to bring boat to normal operating temperature. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral.
2. Open the engine box and locate the propeller shaft coupling.
3. Remove the coupling bolts and slide the coupling apart only slightly so that the pilot flange on the propeller shaft side is still seated in the pilot bore of the transmission side.
4. Using a feeler gauge, measure the gap between the coupling halves at four places. Rotate the coupling flanges together one complete revolution, stopping every 90° to check clearance with the feeler gauge.
5. Alignment is satisfactory when the flanges are parallel within 0.003 inch.
6. If alignment is not satisfactory, an adjustment must be made. Special tools and techniques are required for proper adjustment and should only be made by a skilled mechanic; see your MasterCraft dealer.
7. If alignment is satisfactory, install flange bolts and tighten securely.
8. Water test to ensure that there is no vibration. If vibration is noticeable, see your MasterCraft dealer immediately.

**Lubricate Steering System**

1. Turn engine OFF and disconnect engine safety starting switch; be sure that throttle/shift control lever is in neutral. Engine must be cool.
2. Remove rear seat.
3. Remove screws securing floorboard behind engine. Remove floorboard.
4. Turn steering wheel so that the maximum amount of steering cable is seen.
5. Use solvent to clean old lubricant from cable end, pivot and rudder shaft.
WARNING

1. Replace all damaged components immediately.
2. Check that all nuts and bolts are tight and secure.
3. Check for any signs of leakage.
4. Check all electrical connections for tightness.
5. Check all fluid levels and add if necessary.
6. Check the exhaust pipes for damage.
7. Check the brake lines for leaks.
8. Check the fuel lines for leaks.
9. Check the air filter for damage.
10. Check the battery for corrosion.

1. Turn off the engine and remove the spark plugs.
2. Remove the battery and inspect the posts for corrosion.
3. Clean the battery terminals with a wire brush.
4. Apply a generous amount of petroleum jelly to the terminals.
5. Reinstall the battery and reconnect the wires.
6. Reinstall the spark plugs.
7. Start the engine and check for leaks.
8. Check that all electrical components are functioning properly.
9. Check that all fluids are at the proper levels.
10. Check that all lights are functioning properly.
UNSCHEDULED MAINTENANCE

Changing Propellers

Your boat has been fitted with a propeller that offers the best overall combination of performance. It may be necessary at times to change the propeller to meet certain operating conditions such as more speed (at the expense of torque) or more torque (at the expense of speed). In any case, consult your MasterCraft dealer for specific recommendations.

New propellers should be fitted to the shaft out of the water to assure good contact. To replace and fit a propeller, use the following procedure:

1. Turn engine OFF and disconnect engine safety starting switch. Place throttle/shift control lever in forward gear.

2. Remove and discard the cotter pin.

3. Remove the propeller nut.

4. Using a propeller puller, pull the old propeller off the shaft. Remove the key from the shaft keyway. Inspect key for damage; discard if damaged.

5. Use a honing stone to remove any small burrs or nicks from the tapered end of the propeller shaft.

6. Apply a thin layer of "Prussian Blue" to the tapered area of the propeller shaft.

7. Install the new propeller on the shaft and rotate it slightly from side to side. Remove the propeller.

8. Inspect the tapered area of the shaft. Where the propeller contacts the shaft the blueing will be gone. At least 60% contact is required. If the contact area is sufficient, go to step 11.

9. If the contact area is too small, apply a coat of coarse grinding compound to the taper area of the shaft. Install the propeller and rotate it on the shaft at least 100 times. Alternate every 10 revolutions between clockwise and counterclockwise rotation.

10. Remove the propeller and use solvent to clean the grinding compound from the propeller and shaft. Repeat steps 6, 7 and 8.

11. Thoroughly clean and apply a light coat of waterproof marine multipurpose grease to the taper area of the shaft.

12. Install the key into the keyway of the shaft. The key should fit tight from side to side in both the shaft and the propeller.

13. Install the propeller on the shaft, aligning the keyway with the key in the shaft. There should be a small amount of clearance between the key and propeller keyway. If there is no clearance, the propeller may be forced off center causing vibration.

14. Install the propeller nut and torque to 50 lb ft. Install a new cotter pin and bend the ends around the shaft to lock the propeller on the shaft.

Checking/Repairing Propellers

Propeller damage is caused by striking solid objects. If the propeller is not rotating, usually only one blade is bent and is difficult to see. If the propeller is rotating, usually damage can be easily seen on all the blades. To check for a bent blade:

1. Clamp a small scale to the shaft strut parallel to the shaft so that the end of the scale is 3/32 inch from the leading edge of a propeller blade.

2. Rotate the propeller slowly. There should be no more than 3/32 inch variance between the blades. If the propeller is damaged, see your MasterCraft dealer.
### Replacing Lights

1. **Adjustment**
   - Push down and turn clockwise to install.
   - Push down and turn counterclockwise to remove.

2. **Instrument Lights**
   - Screw in new bulb.
   - Push down and turn clockwise to install.

3. **Steering Light**
   - Unscrew lens cover.
   - Remove screws securing lens cover.
   - Grasp lens and pull out.

### Speedometer Calibration

1. **Prepare Propeller**
   - Remove propeller from the boat.

2. **Use a Small Ball-Joint Armor and Line**
   - Carefully position the line to the original contact point of the blade.

3. **Fill Ice Area to Remove Rough Edges**
   - Remove the area to remove rough edges.

4. **Remold the Blade**
   - Carefully position the blade to the original contact point and line to the original contact point of the blade.
STORAGE

Storage or winter lay-up requires special preparation to prevent damage to the boat. Since winter lay-up is an annual event, it is wise to perform all annual maintenance at this time. The natural excitement of getting the boat in the water as soon as possible the next season will make any maintenance unbearable at that time.

Without proper preparation, storage for long periods of time may cause internal parts of the engine and transmission to rust because of lack of lubrication. Or, if the boat is stored in below freezing temperatures, water inside the bilge or cooling system may freeze causing damage. Damage to the boat due to improper storage will void the warranty. The following procedures will help keep your boat from damage for a period of 5 months.

1. WHILE BOAT IS STILL IN WATER
   a. Fill fuel tank and add the proper amount of fuel stabilizer and conditioner according to the manufacturer’s recommendations.
   b. Operate boat for at least 15 minutes to be sure that treated fuel has reached engine.

   **NOTE**
   If the boat is to be stored for more than 5 months, stored in a high moisture (humidity) environment, in temperature extremes or outdoors, "fog" the engine with a rust preventative fogging oil according to the manufacturer’s recommendations. See your MasterCraft dealer.
   c. Remove the attaching hardware from the propeller shaft coupling. Separate the flanges and coat flange surfaces with waterproof marine multipurpose grease.
   d. Apply a coat of wax to the entire surface of the boat and rust inhibitor on all metal parts. See General Care and Cleaning, page 20.
   e. Clean all traces of dirt, oil, grime and grease from the engine, transmission and bilge. Touch-up areas of engine and transmission where paint has been removed.

2. WHEN BOAT IS REMOVED FROM WATER

   **IMPORTANT**
   If you do not have an optional MasterCraft trailer for your boat, you should consider a storage cradle. When the hull is supported improperly for a period of time, a great deal of hull damage can occur. MasterCraft trailers are designed to give your boat proper support for long term storage. See Lifting the Boat for more information on storage cradles.

   **NOTE**
   Remove the bilge drain plug immediately after taking the boat out of the water. After washing, raise the bow of the boat high to allow as much water as possible to drain while performing other storage preparations.

   a. Flush the engine cooling system with clean water. DO NOT exceed 1500 rpm when flushing.
   b. Perform all scheduled maintenance. Of special importance is tuning the engine and changing the oil and fuel filters.
   c. Thoroughly clean the hull, deck and interior of the boat as soon as it is removed from the water. Cleaning at this time is easier because the marine growth is still wet. Be sure to allow for a couple of days of air drying to prevent mildew due to trapped moisture. See General Care and Cleaning, page 20.
   d. Apply a coat of wax to the entire surface of the boat and rust inhibitor on all metal parts. See General Care and Cleaning, page 20.
   e. Clean all traces of dirt, oil, grime and grease from the engine, transmission and bilge. Touch-up areas of engine and transmission where paint has been removed.
   f. Remove drain plugs from the exhaust manifolds.
   g. Open the engine block drain petcocks on each side of the engine.
   h. Remove both hoses from the raw water pump. Blow through the bottom hose until all water has been removed from the transmission oil cooler. Bend/shake hoses as necessary to remove water droplets.

   **NOTE**
   If your boat is equipped with an optional fresh water cooling kit, skip steps i and j. Check that the coolant will provide protection below the lowest expected ambient temperature with a hydrometer.
   i. Remove the bottom hose from the engine water circulation pump.
Check all hose clamps for tightness.

If hose burst:

1. Perform proper shut-down and install plug.
2. Insulate bilge drain pipe.
3. Grease propeller shaft later and install plug.
4. Check all hose clamps for tightness.

If damage to the engine:

**TROUBLESHOOTING**

The following charts will assist you in finding and correcting minor mechanical and electrical problems with your boat. Problems are listed in order of the most likely to the least likely.

To correct a problem, first determine what the problem is. Start with the first cause and eliminate the possibility of each until the problem is corrected. Because of the specialized skill and tooling needed to correct major damage, we have not included that information here; see your MasterCraft dealer.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
</table>
| Engine will not crank. | 1. Safety switch tether not connected.  
2. Throttle/shift control in gear.  
3. Main circuit breaker open.  
4. Battery terminals corroded.  
5. Battery weak or worn out.  
6. Loose or corroded battery wiring connections.  
7. Defective starter solenoid.  
8. Defective neutral safety switch.  
10. Defective ignition switch or wiring.  
2. Shift to neutral.  
3. Reset circuit breaker.  
4. Clean battery terminals.  
5. Charge or replace battery.  
6. Clean and tighten battery wiring connections.  
7. Replace starter solenoid.  
8. Replace neutral safety switch.  
9. Replace starter motor.  
10. Replace ignition switch or repair wiring.  
11. Remove spark plugs and look for water or gas in cylinders. See your dealer. |

| Engine cranks but won't start. | 1. No fuel in tank.  
2. Fuel filter clogged.  
3. Contaminated fuel.  
4. Weak or shorted ignition coil.  
5. Distributor problems. | 1. Fill fuel tank.  
2. Replace fuel filter.  
3. Replace fuel and filter.  
4. Replace ignition coil.  
5. See your dealer. |
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<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
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** Hurricane Warning **

Wind exceeding 73 mph:

** Storm Warning **

Winds 55 to 73 mph:
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<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
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<td>2. Rudder worn.</td>
<td>2. See your dealer.</td>
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<tr>
<td>Excessive vibration.</td>
<td>1. Fouled propeller.</td>
<td>1. Remove objects from propeller shaft and rudder.</td>
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<td></td>
<td>2. Damaged propeller.</td>
<td>2. Replace propeller.</td>
</tr>
<tr>
<td></td>
<td>3. Misaligned propeller shaft coupling.</td>
<td>3. Check alignment. See your dealer for realignment.</td>
</tr>
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<td></td>
<td>4. Bent propeller shaft.</td>
<td>4. See your dealer.</td>
</tr>
<tr>
<td>Electrical problems.</td>
<td>1. Open circuit breaker or blown fuse.</td>
<td>1. Reset circuit breaker or replace fuse.</td>
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<td>2. Loose wiring connections or corrosion.</td>
<td>2. Clean and tighten wiring connections.</td>
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<td></td>
<td>3. Defective sending unit.</td>
<td>3. Replace sending unit.</td>
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<td></td>
<td>4. Shorted wiring harness.</td>
<td>4. Repair wiring harness, see your dealer.</td>
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<td>5. Defective switch or gauge.</td>
<td>5. See your dealer.</td>
</tr>
<tr>
<td>No speedometer reading.</td>
<td>1. Disconnected, kinked or plugged tubing.</td>
<td>1. Repair or replace tubing.</td>
</tr>
<tr>
<td></td>
<td>2. Plugged pitot pick-up.</td>
<td>2. Remove objects from pitot pick-up.</td>
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<td></td>
<td>3. Defective pitot pick-up.</td>
<td>3. Replace pitot pick-up.</td>
</tr>
<tr>
<td></td>
<td>4. Defective speedometer.</td>
<td>4. Replace speedometer.</td>
</tr>
<tr>
<td>Incorrect speedometer</td>
<td>1. Blocked pitot gauge.</td>
<td>1. Remove blockage.</td>
</tr>
<tr>
<td>reading.</td>
<td>2. Water in tubing.</td>
<td>2. Disconnect tubing at speedometer and blow out tubing. Tighten nut finger tight, then 1/4 turn more.</td>
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<tr>
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<td>3. Improper calibration.</td>
<td>3. Recalibrate speedometer.</td>
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<tr>
<td></td>
<td>4. Defective speedometer.</td>
<td>4. Replace speedometer.</td>
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## Transmission

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<td>3.5 - 4.0</td>
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<td>M/A-25</td>
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<td>M/A-25</td>
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## Engine

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## Specifications

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OPTIONAL EQUIPMENT

**Power Slot Package**
The power slot package consists of a 1.5:1 transmission ratio for greater pulling power.

**Fresh Water Cooling System**
The fresh water cooling system is self-contained and consists of a water to water heat exchanger, reservoir and interconnecting hoses. Water supplied by the raw water system removes heat from engine coolant in the heat exchanger. The engine water pump circulates coolant throughout the system.

Although clean water alone could be used in this system, we recommend that a 50/50 solution of soft, clean water and automotive antifreeze be used to prevent corrosion. The only additional maintenance considerations are an annual check of antifreeze protection and the addition of water pump lubricant according to manufacturer's instructions.

**Removable Platform Brackets**
With the platform removed, the overall length of the boat shortens by two feet for easier storage and trailering restrictions. Whenever re-attaching the platform, be sure to use a thread locking compound.

**Boat Cover**
A boat cover is a must for all boats. Protection from rain, birds and the damaging effects of ultraviolet light will help keep the boat looking new for years. Keep the cover on during all periods of non-use except when trailering.

**Trick Release**
A trick release is mandatory equipment for all skiing involving the use of toe or leg holds. The release, permanently attached to the tournament tow bar allows the ski observer to quickly release the rope in the event of a fall.

**Heater**
The self-contained automotive type heater has two adjustable vents, for operator and observer. To use the heater, before starting the engine open the engine box and locate the heater valve on the engine intake manifold. Open valve fully. After engine has started, turn accessory switch ON for heat. Close heater valve fully when not using heater.

The heater is maintenance free except for the removal of any water from the core and hoses during winter storage.

**NOTE**

If the boat is equipped with both a heater and fresh water cooling; and if adequate antifreeze protection is used, the heater does not need to be emptied of coolant during winter storage.
Mastercraft does not guarantee or imply that the Mastercraft center will be able to help you meet these responsibilities. Your Mastercraft dealer will help you meet the first time. In many cases, your Mastercraft dealer may be able to help you, but only if you have certain responsibilities addressed in this manual. If you have any questions, contact your Mastercraft dealer immediately.

These responsibilities may include:

1. Ensuring that the water is properly maintained.
2. Ensuring that the pool is properly maintained.
3. Ensuring that the health and safety of all users are addressed.
4. Ensuring that all necessary repairs and replacements are made.

If you have any questions, contact your Mastercraft dealer immediately.

Warranty Registration

Warranty Registration

Owner's Warranty

Warranty Service

Warranty Claims

Dealership Service

Dealer Service
THE MASTERCRAFT LIMITED WARRANTY

MasterCraft warrants to the original retail purchaser that each new boat is free from structural defects in material and workmanship under normal use and when operated and maintained according to the operator’s instructions, for a period from date of purchase of:

I. Ten (10) years on the deck, hull, liner, and stringers.

II. One (1) year on component parts manufactured by MasterCraft.

Subject to the terms of the Limited Warranty, any covered boat or part with structural defects in material or workmanship that is returned to MasterCraft’s factory or authorized repair facility during the above stated warranty periods will, at MasterCraft’s option, be repaired or replaced without charge to the owner. The terms of this Limited Warranty are as follows:

I. MasterCraft shall repair or replace at its option, any item that proves defective upon examination by MasterCraft’s authorized personnel.

II. MasterCraft warrants said repairs or replacements for the remainder of the warranty period.

III. MasterCraft shall fulfill its obligation to repair or replace the defective item within 90 days of receipt of the defective item at its factory or authorized repair facility.

IV. MasterCraft’s obligation under this warranty shall be limited to the repair or replacement of any item judged defective by MasterCraft.

V. The owner shall be responsible for transportation of the boat or part(s) to the authorized MasterCraft facility and for any return transportation cost of said item.

MasterCraft boats are manufactured by trained craftsmen from high quality materials and components, however conditions outside MasterCraft’s control require specific exclusions from coverage under this warranty. The MasterCraft Warranty Does Not Include the following:

I. Any damage or repair required because of misuse, negligence, accident, collision, or impact, with any object; or any improper alteration or repair.

II. Any boat used for speed, commercial competition or performance demonstration.

III. Any boat which is: (a) used for rental or other commercial or industrial purposes; (b) used in boat racing, demonstrations, or similar events; (c) altered, modified, repaired, or replaced so as to increase the cubic inch capacity or horse-power output of the engine and boat as originally manufactured.

IV. All component parts and accessories not manufactured by MasterCraft, including but not limited to, engines, drive trains, transmissions, propellers, shift and throttle control levers and cables, pumps, blowers, windshields, canvas, upholstery, instrumentation and steering systems. However, where any such items are warranted by a component or accessory manufacturer, MasterCraft will, if possible, furnish the manufacturer’s warranty document to the owner.

V. The ten (10) year Warranty on the deck, hull, and liner covers only the named items and does not include hardware and other components fastened or adhered to the hull, deck, or liner.

VI. Paints, varnishes, gelcoat surfaces and colors, finish distortions, chrome plated or anodized finishes, floor and floor covers and any other surface coatings. IMPORTANT: MasterCraft has been made aware that an increasing number of owners are leaving their boats in the water for long periods of time. Although MasterCraft uses the high grade NPG gelcoat materials, a condition may develop where the bottom may show signs of discoloration and/or blisters. Should this condition occur, it will not be covered by warranty from MasterCraft or its suppliers. It is suggested that for boats required to stay in the water for long periods, that a good bottom paint be applied for additional protection.

VII. Liability for special or consequential damages, such as, but not limited to consequential relating to, for third party claims against the purchaser, or damages for loss of profit. Any implied warranty of merchantability, fitness for a particular purpose, or otherwise, are limited to the duration of the applicable express warranty.

VIII. Note: Some states do not allow limitation on how long an implied warranty lasts or a limitation of accidental or consequential damages; therefore, these limitations may not apply.

MASTERCRAFT BOAT COMPANY, INC.
Route 9, Box 152
Maryville, Tennessee 37801