

**P**ROPER CONTROL OF MASTERCRAFT BOATS EXTENDS BEYOND the steering wheel. Each boat is equipped with several gauges that provide information to guide the boat's operator in maintaining control of the boat. There are also a variety of switches and buttons within the boat that control various functions from comfort and enjoyment to safety-related features. It is important for the boat owner and/or operator to become familiar with all gauges and switches in the boat, their functionality, and how to respond to alarms and warnings that the instrument panel may provide.

In the side panel, you will find a listing of the locations of gauges and switches for the various model instrument panels. Operators should match up these listings with the actual panel. Prior to boating, owners and operators should also review and understand the following section

## INSTRUMENT GAUGES & SWITCHES

regarding the boat's electrical components and operations through the battery or batteries, as well as the circuit breaker system. A thorough understanding of these systems is critical to avoiding potential issues that may arise during an outing.

The following is an explanation of the functionality of the gauges and switches that are listed for the various models.



### Ignition Key Slot

MasterCraft boats come equipped with an ignition key, which must be inserted in the ignition key slot and used to activate the boat's electrical system. This, in turn, will allow the boat to be started and operated.



The key will be in one of four (4) positions:

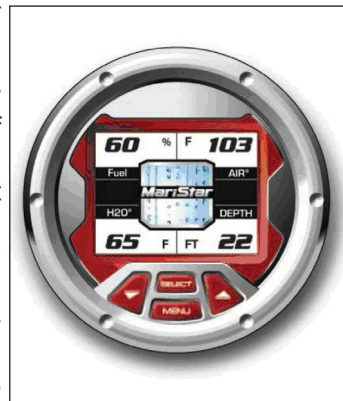
- Off
- Accessory (including running the stereo without the engine running)
- ON (engine is running)
- Start (turn the key to engage the engine starter, then release to allow the key to automatically return to the ON position)

Never leave the ignition switch in the ON position without the engine running, as this will cause the battery to discharge.

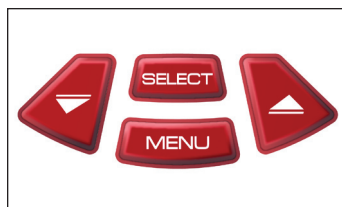
**Note:** The MariStar 280STS is equipped with two (2) ignitions, one (1) for each engine, allowing the engines to operate independently of each other. Be sure to turn both ignitions OFF when the engine is not in use.

### Video Display Gauge

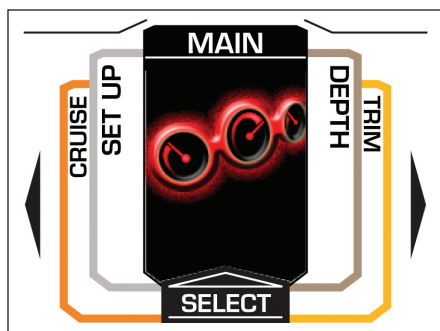
Many MasterCraft boats feature a color display gauge. The video display gauge is capable of displaying engine, boat, and Perfect Pass speed control information.



Information is divided into manageable pages or screens and organized into a straightforward menu structure for presentation to the driver. Display controls, conveniently located along the bottom of the gauge, allow rapid navigation of the menu structure to display any desired information.



*Display navigation buttons*



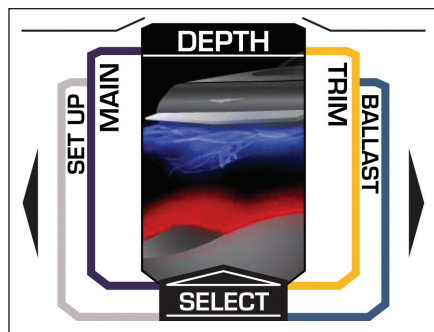
*Menu Display Screen*

Display navigation is intuitive. Pressing the **Menu** button brings up a display of the available information organized and illustrated as file tabs with each tab representing a screen of information. Repeatedly pressing the **MENU** button shuffles the tabs to bring a new tab to the top of the stack. Pressing the **SELECT** button initiates the screen represented by the tab on the top of the stack.

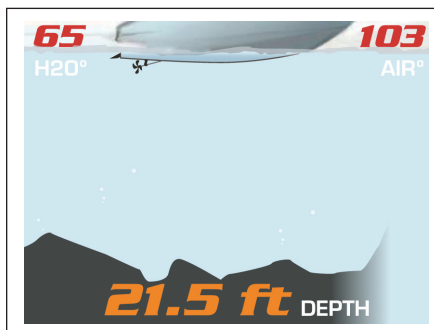
The system anticipates the need to display information and automatically brings up certain screens when they are necessary. For example, the system automatically displays a related screen when it senses any of the following events:

- Adjusting the trim brings up the Trim screen
- Adjusting the ballast brings up the Ballast screen
- Pushing the Perfect Pass button brings up the Perfect Pass screen
- Any alarm condition brings up a warning screen

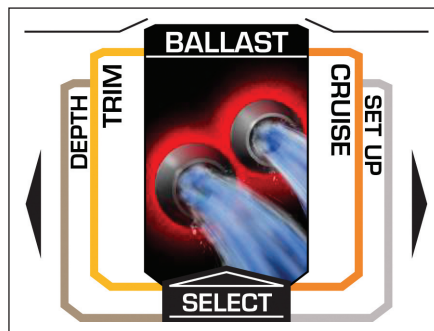
Selecting the **DEPTH** tab goes to the screen illustrated following. This screen digitally displays depth, water temperature, air temperature, and illustrates the depth trend. The system also has a user adjustable depth alarm that can be adjusted from the **SETUP** tab.



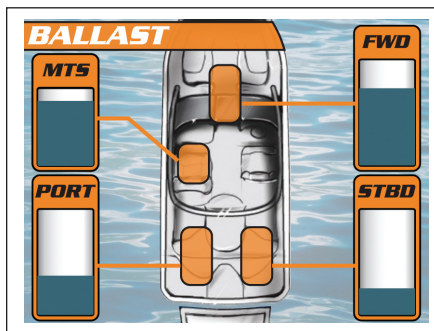
*Menu Display Screen*



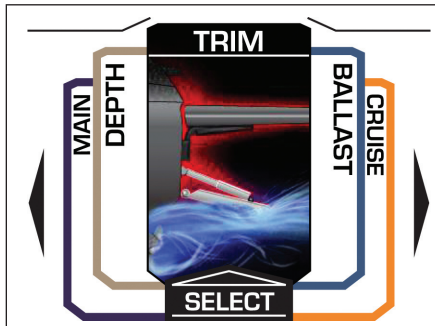
Selecting the **BALLAST** tab goes to the screen illustrated below. It allows the driver to see the status of all the ballast tanks installed in the boat. This tab is a plug and play tab so uninstalled ballast tanks do not appear on the screen.



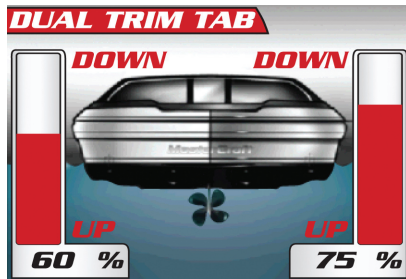
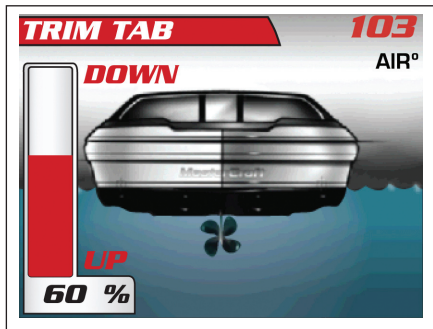
*Menu Display Screen*



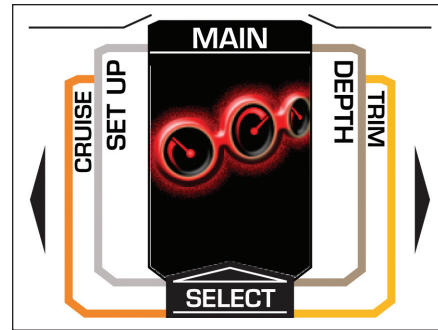
Selecting the **TRIM** tab goes to one of the screens illustrated below. These screens display the position of the installed single-trim tab or dual-trim tabs.



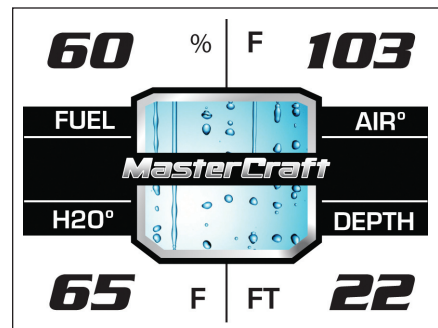
*Menu Display Screen*



Selecting the **MAIN** tab goes to the screen illustrated in the next column. Any information available to the instrumentation system may be selected by the driver to be displayed in this screen. This screen is organized into four (4) quadrants with the user-selected information digitally displayed in each quadrant.



*Menu Display Screen*



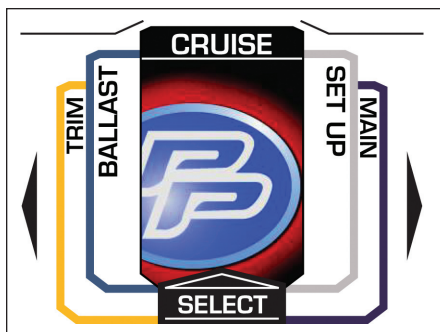
To change the information displayed simply:

- Press the **UP** or **DOWN** arrows to highlight the quadrant that you wish to change
- Press **SELECT** to access the pull down menu
- Using the **UP** or **DOWN** arrows highlight the desired information.
- Press **SELECT** again to store the change

MasterCraft boats equipped with the video display gauge feature integrated Perfect Pass Wakeboard Pro speed control software.



The Perfect Pass application can be entered by selecting the **CRUISE** tab on the **MENU** screen or pressing the remote Perfect Pass button. **Perfect Pass is turned on and off by pressing the remote perfect pass button.** Please refer to the Perfect Pass manual for detailed operating instructions.

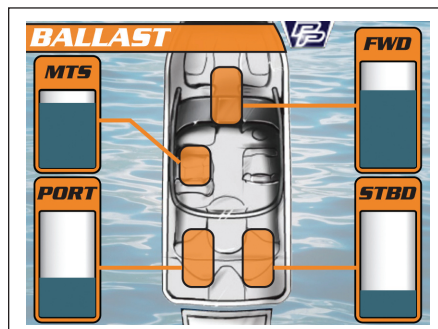


*Menu Display Screen*

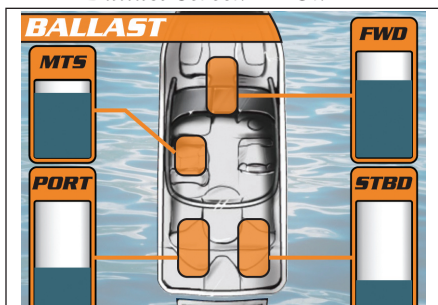


*Remote Perfect Pass Button*

All screens display a Perfect Pass icon when the Perfect Pass system is turned on.

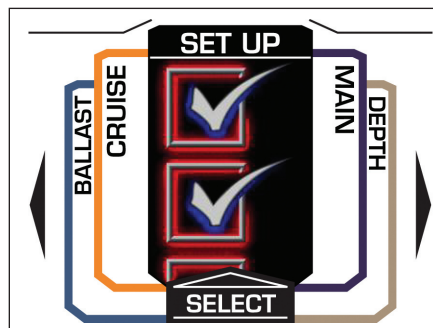


*Ballast Screen PP On*



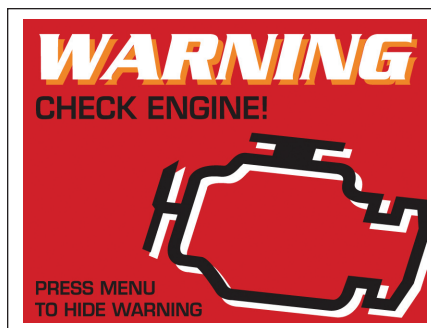
*Ballast Screen PP Off*

Selecting the **SET UP** tab goes to the pick list illustrated below. It contains all the system controls of the video display gauge. This tab permits control of alarms, speedometer calibration, brightness and contrast adjustment to name a few. Using the **UP** and **DOWN** arrows highlight the desired item and press **SELECT**. Make the desired changes and press **MENU** to save and exit.



Reset Factory Settings  
Contrast & Brightness Control  
Adjust Fuel Alarm  
Adjust Shallow Alarm  
Set Clock  
**Set Alarm**  
Speedometer Calibration  
Set Units (English or Metric)  
Reset Perfect Pass to Factory  
Instrument System Diagnostics

All system Warning Messages are displayed on the video display gauge. They will stay on for a minimum of 10 seconds but, can be acknowledged and hidden by pressing the **MENU** button. Once acknowledged after 10 seconds the alarm will go away for 5 minutes. If the alarm is still active it will return after the 5 minutes.





## Multi-Function Gauge

(ProStar 190, ProStar 197, X-7, X-1 models only)

This gauge provides several functions of interest and support to the boater. As a **tachometer**, it indicates the engine speed in crankshaft revolutions per minute (RPM).

As you toggle to the **hourmeter**, it registers the accumulated engine operating time. Use the hourmeter to keep accurate logs for scheduled maintenance. (See also the *Maintenance Section* and *Service Log*.) Replacing the computer (known as the MMDC) will erase the registered hours. The hourmeter counts hours only when the engine is above 300 rpm.



The option exists to change the display to metric from the hours screen. This is done by holding down the gauge selection display button for three (3) seconds. When prompted, select English or metric display. Wait an additional three (3) seconds and the display will return to normal operation.

Toggle to the **air temperature gauge** (optional) to get an approximate reading of the ambient air temperature above the water's surface.

Toggle to the **clock** for the convenience of determining the time. It can be adjusted by depressing the gauge selection display button when the clock is displayed. After three (3) seconds the colon will stop flashing. The hours are adjusted by pressing the button down, while minutes are adjusted by pressing up. After three (3) additional seconds the clock will return to normal operation.

### Alarms of the Multi-Function Gauge

In addition to the displays noted above, the multi-function gauge also displays several alarms. The following messages will be displayed if an alarm occurs:

**VOLT = Voltage falls below 11.5 volts.** This message indicates that the battery has discharged to an extent that may jeopardize engine cranking and starting if action is not taken. Start the engine to at least idle, and allow the battery to re-charge.

**OIL = Oil pressure is below 4 p.s.i. when the RPM is below 1000 RPM or the oil pressure is below 10 p.s.i. and above 1000 RPM.** This message will occur only

when the engine is running. Stop the engine and check the oil level as soon as this can be safely done.

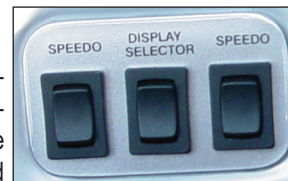
**TEMP = High engine temperature alarm.** This message will occur only when the engine is running. If the engine does not automatically reduce speed to the "limp home" level, manually reduce speed and return to the dock as soon as this can be safely done. It may be necessary to shut down the engine and seek a tow to the dock.

**TRAN = Transmission alarm.** This message will occur only when the engine is running. Stop the engine and check the transmission oil level as soon as this can be safely done.

While air temperature readings are an optional addition to the gauge, the **lake temperature** reading is standard on the gauge. This comes from the paddle wheel located under the boat. If the sensor becomes open or shorts out in the line to the battery, it will read 32 degrees F. If the sensor is shorted to the ground wire, it will read 150 degrees F. The SELF TEST feature of the multi-function gauge is located on the lake temperature gauge. With the lake temperature displayed, hold down the gauge selection display button for three (3) seconds or until the self test has started. During the self-test, all the segments on the display will light up. Also during the self test, the gauges will re-set, go to mid-scale and then to full-scale. After two (2) sweeps the system will return to normal.

## Speedometer

The speedometer indicates the forward speed of the boat in miles per hour (unless the boat is equipped with a speedometer that measures kilometers per hour, which is available in the optional European package.)



To calibrate the speedometer, you need an accurately measured course of 850 feet and a certified stopwatch, which is accurate to within one-hundredths (.01) of a second. (This can be done with GPS, when equipped.) To calibrate to A.W.S.A. official tournament rules:

- Approach the course at 36 miles per hour (MPH) as indicated on the speedometer. Hold the speed steady and have an observer check the course time with a stopwatch.

- If the course time is between 15.88 and 16.28 seconds, no adjustments are necessary.
- If the course time is not within that tolerance range, press up or down on the calibration rocker switch to adjust the speedometer's speed interpretation.

### Tachometer

On boats not equipped with a multi-function gauge, a separate tachometer gauge is found. The tachometer indicates the engine speed in crankshaft revolutions per minute (RPM).



### Perfect Pass or MC Cruise

Boats equipped with cruise control systems provide short manuals that describe how to operate and maintain the cruise control system. Refer to the appropriate manual prior to operation of the system.



### Fuel Gauge

Fuel gauge readings are only approximate. This gauge is activated with the ignition switch. The rocking motion of the boat during normal operation will cause the fuel gauge to fluctuate. For a more accurate reading, make sure that the boat is level and with little or no motion present.



MasterCraft recommends that operators do not run the boat below a quarter of a tank, except as necessary to return to shore, and not until the boat has been operated enough times to develop an understanding of how the fuel gauge readings relate to the visual inspection of fuel left in the tank. Extending fuel usage beyond the known capability of the boat may cause the boat to run out of fuel and may leave you stranded off-shore.

Although it may be possible to see fuel in the bottom of the fuel tank, you still may not be able to operate the

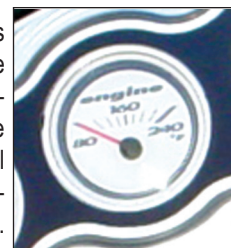
boat. The fuel pick-up system was designed to avoid introducing the small amount of water and debris that unavoidably accumulate in the bottom of the tank. Rather than relying on visual inspection, you should pay attention to the fuel gauge.

Further, it is not recommended to allow the fuel to fall below one-quarter of a tank full at any time as it may result in damage to the fueling system. (see the Fueling section of this Manual.)

### Temperature Gauge

The temperature gauge indicates the water temperature inside the engine's cooling system as measured in degrees Fahrenheit. The normal operating temperature will range from 140 degrees Fahrenheit to 190 degrees Fahrenheit. Engines with electronic fuel injection also have a control circuit inside the engine control module that will cause the engine to run at reduced speeds if the module senses that the engine is running too hot. If you notice that your speed has reduced during normal operation, but you have not manually slowed the throttle, monitor your temperature gauge.

***If the gauge indicates excessive temperatures during operation, slow down immediately and turn off the engine.*** This indicates an engine problem that needs to be checked by the dealer!



## CAUTION

**Continuing to operate the boat while the temperature is above normal operating parameters may cause serious damage to your engine. Damage to your engine resulting from operating the engine in an overheated condition can be costly to repair. Such damage is not covered by your warranty!**

### Engine Oil Pressure Gauge

The engine oil pressure gauge indicates the pressure of the lubricating oil inside the engine. The average pressure ranges are between six (6) pounds per square inch (PSI) at 1000 RPM to 40 PSI or more at cruise range speeds. A reading of pressure below 5 PSI at 1000 RPM may be caused by a low oil level or other potentially serious



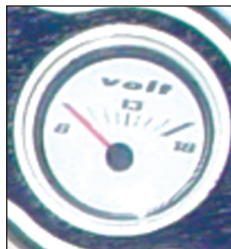
problems that result in low oil pressure. ***If you experience low oil pressure, stop your engine immediately and check your oil level before operating again.***



**Do not continue to run the engine if the oil pressure is low. If you do, the engine may become so hot that it, or surrounding components, could catch fire. You or others could be burned and the boat seriously damaged. Check your oil level and add an appropriate amount of approved motor oil before operating again or have your boat serviced by your local authorized MasterCraft service department. Note that damage to your engine from inappropriate oil levels can be costly to repair. Such damage is not covered by your warranty.**

### Voltmeter

The voltmeter registers the electrical activity necessary to operate your boat. If the battery (or batteries, in boat models requiring two [2]) is low or non-functional, or if various electrical items on the boat, such as stereo equipment, are draining the battery(ies) and impacting the boat's ability to function properly, the voltmeter will likely be the first gauge to indicate that you have an electrical problem. The voltmeter cannot tell you which battery is draining on boats with two (2) batteries, but rather functions as a general alarm to alert boaters regarding potential issues. On boats equipped with two (2) batteries, the alarm indicates severe drain on the engine starting battery. To determine which battery is the engine starting battery, read the markings on the battery cables.



### Low Voltage Battery Alarm

In the event that the stereo has been functioning when the boat is not ON and running, the voltage drain on the battery (or batteries) may result in difficulties with re-starting the boat. It may also cause intermittent erroneous or fluctuating gauge readings. When the voltage level reaches 11.5 volts or below, the system will shut off the stereo and sound the alarm for a period of two (2) minutes to give boaters sufficient time to adjust. Generally, the appropriate action is to leave the stereo OFF, as well as disengaging any other peripheral electrical components, and keying ON the engine. Running the engine at a moderate rate for several minutes without the ad-

ditional drain of stereo and unnecessary electrical equipment will allow the alternator to recharge the battery or batteries, unless the battery(ies) have been used to the extent of their life span.

### Other Alarms

Sensors check the oil pressure, engine and transmission temperatures. If the system detects readings outside the acceptable range, the system shuts off the stereo and sounds the alarm for a period of one (1) minute. This signals the need to return to shore as soon as possible and seek assistance from your authorized MasterCraft dealer's service department to diagnose and, if necessary, repair the problem.

### Emergency Engine Safety Switch

The emergency engine safety switch, called the lanyard, is an ignition cut-off switch designed to stop the engine in the event the operator is thrown or moves too far away from the helm.

The lanyard is equipped with a hook on one end that should be attached to your clothing or PFD, and the opposite end has a slide that fits over the ignition switch.

Be sure that the slide is firmly attached to the ignition switch before starting.



The ignition switch is located near the throttle control box, the armrest or on the instrument panel. If the slide is left off or is loose, the engine will crank but will not start. **Operators should NEVER attempt to override this safety system!**



**The safety switch lanyard must be attached to the operator whenever the engine is running. Failure to do so may result in death or serious injury!**

### Blower Switch

A two-position rocker switch activates the engine box ventilation blower. Push the top half of the switch to turn the blower ON.



**Note:** The blower must operate for a minimum of four (4) minutes before starting the engine at any time. The blower must also be operated during idle and slow-speed running, but is not necessary during cruising speed.



To prevent a possible explosion, operate the blower for at least four (4) minutes before starting the engine and always when at idle or slow-running speed. Explosive gasoline and/or battery fumes may be present in the engine compartment. Failure to operate the blower as instructed may cause improper ventilation of the boat engine and bilge areas, and fuel vapors can accumulate in this area, causing a fire or explosion which may result in death or serious injury!

### Horn

The horn is sounded by way of a button on the instrument panel. Pressing the button emits a loud and recognizable noise.



### Manual and Automatic Bilge Pump Switch

The bilge pumps on all V-drive models will be in the automatic mode when the ignition key is turned ON. Some models may have two (2) switches, one for the forward bilge and one for the aft. In these instances, the switches will be marked. The manual and automatic bilge discharge system is never completely off. When in the automatic (default) position, a sensor alerts the system to discharge water from the bilge area. Boat operators are advised to leave the switch in the automatic position, unless there appears to be excess water in the bilge. In that event, the bilge pump can be manually activated by turning the bilge pump switch to the manual ON position. Return the switch to the automatic position when finished emptying the bilge. Leaving the switch in



manual mode can result in damage to the pump and may not be covered by warranty!

### Ballast Empty/Fill Switches

On boat models equipped with a ballast system, a **separate** three-position switch will allow for the filling or emptying of the ballast tanks and/or bags. **Be aware that the engine must operate at 1500 RPM during the fill and empty processes.** Check engine specifications for related engine idle speed, which may be too low for the empty/fill operation to be properly accomplished; it is likely that the boat will need to be in motion during the filling and emptying of the ballast system. Failure to increase engine RPM to the required level may result in malfunction or permanent damage to the ballast pumps that force the water through the system. Such damage is not covered under your warranty. The ballast controls vary in location by model, and the operator should determine exact location prior to use. The three-position switches are clearly marked; FILL, OFF (in center), and EMPTY.



### Accessory Switches

Instrument panels may be equipped with Accessory Switches. In some instances, the indicator may be labeled with the name of the accessory, such as "Heater." Accessory switches are two-position switches. Turning the switch upwards will turn a connected accessory ON, while turning it down will turn the accessory OFF.



### Instrument Panel Gauge Backlighting Switch

A three-position switch allows the operator to change the instrument panel backlighting for the gauges. Pressing the top of the switch will cause the lights to brighten, the center position is OFF, and pressing down will dim the lights.





### Courtesy Lights Switch

This switch is a two-position switch that activates the courtesy lights within the boat. Turning the switch upwards will turn the lights ON, and turning it downwards will turn the lights OFF.



### Navigation/Anchor Lights Switch

A three-position switch serves to activate exterior lighting. Turning the switch in the up position will activate bow and stern lights, the middle position is OFF, and the down position is for stern-only lighting.



### Tower Lights Switch

The location of the tower lights switch (where equipped) vary by model and should be located by the operator. In some instances, there may be two (2) switches. In all instances, the lights operate by using two-position switches, one position for ON and the other for OFF.



### Aft Lights Switch

Where equipped, an aft light switch allows the operator to turn on lights located in the rear of the boat. The two-position switch is pressed up for ON and down for OFF.



### 12-Volt Receptacle

MasterCraft boats have one (1) or more 12-volt receptacles. Examine your boat to determine whether there are additional outlets. Prior to plugging any accessory into a 12-volt receptacle, ensure that the device is designed for use when connected to a 12-



volt receptacle and will not be damaged by the connection to the receptacle.

### Speedometer Adjustment Switch and Clock Adjustment Switch

Some models may be equipped with a three-position speedometer calibration adjustment switch. Its operation is explained elsewhere in this section. Where equipped, the models with a clock adjustment switch have a three-position switch which is pressed upward or downward to add or subtract time to the clock. The middle position is OFF.



### Display Selector Switch

On the models equipped with the Multi-Function gauge, this switch allows the operator to toggle between functions.

### Seat Heat Switches

A two-position switch allows heat to be turned ON for the driver's seat. In some models, an optional observer seat heat switch is available and will be found on the deck below the observer seat cushion.



### Heater Switch

Among the accessory options available for your boat is a heater function. The heater's three-position switch is turned up for ON LOW, or turned down for ON HIGH. The center position is OFF. Warmed air from an electrically powered heater box will be blown from vents within the boat deck.



### Wash Down Switch

A ten-gallon tank option within available models can provide a fresh-water wash of the boat interior. The two-position switch is pressed up for ON and down for OFF.



### Engine Hatch Switch

Where equipped, an engine hatch cover switch allows the cover to open and close electronically. The two-position switch is pressed up for ON and down for OFF.



### AM/FM Stereo, CD Player, Remote Control, iPod and MP3 Player Connections

Boats may be equipped with a range of entertainment opportunities from radios and CD players to connections for personal devices. Most radio and CD players will be located within the glovebox of the boat, but may also be in the console. Remotes may be in the armrest or on the transom.



The iPod interface option features a cable located inside the glovebox that allows the unit to simply be plugged in and run off the boat's electrical system. An optional plug-in location for MP3 players is available. Be aware that all such devices are a drain on the boat's battery and electrical system. Care should be taken to avoid excessive usage of such devices and by responding to any alarms that sound so that the boat's battery(ies) does not become fully discharged.

Another option is a wireless stereo remote that will float if accidentally dropped overboard. The remote can also double as a key fob for a limited number of keys.

The stereo and components come with a separate manual explaining operation of the devices. Please review and become familiar with the equipment.

### Shower and/or Slick Boot Switch

A single three-position switch mounted in an aft position storage area controls the optional shower and optional Slick Boot functions. The switch is marked for each. Turn the switch toward the Shower marking to turn ON the shower. Return to center for OFF. Turn to the other direction to turn ON the Slick Boot. Return to center for OFF. These instructions work whether the boat is equipped with one (1) or both of the options, but will not be found in boats that are not equipped with either option.



### Attitude Adjustment or Trim Tab Switch

MasterCraft utilizes Lenco attitude adjustment plate kits on several models. Dual plate kits are available on the MariStar 280, X-80 and 280 STS models; a single plate kit is used on the MariStar 245 and X-45, as well as the MariStar 230 and X-30 (2006 models).

On the dual attitude adjustment plate system, the plates operate independently of each other to provide optimal performance by redirecting water flow near the transom of the boat. These plates have been designed to improve the overall attitude of a boat. If used properly, the plates will improve the ride, reduce drag, increase speed and improve the ride and fuel efficiency of the boat.



The operation of the attitude adjustment plates is basic. The plane or planes will be mounted with the actuator(s) on the transom of the boat. When the plate(s) is/are lowered, the water flow is redirected, creating an upward force at the stern of the boat. When the stern rises, the bow will lower.

Since these actuators are electromechanical, they provide an immediate response at the touch of the switch. The switch is based on the position of the bow. On the dual attitude adjustment plate system, the left side of the switch controls the starboard plate and the right side of

the switch controls the port plate. On the single plate system, there is only one switch control.

The system is set up this way to minimize the guesswork while underway. To lower the starboard bow, press the right (starboard) switch where it reads DOWN. To lower the port bow, press the left (port) switch where it reads DOWN. On the single plate system, press DOWN.

Since our models have different weights, lengths, speed and performance, it will take some practice for the operator to understand how your boat reacts with the attitude adjustment plates installed. The plates will allow your boat to get on plane faster and continue planing at lower speeds. This will improve visibility and the overall safety of your boat. **When making adjustments with the attitude adjustment plates, use short momentary taps of the switch.** Continued practice will help you become familiar with how the plates perform.

### **Special Conditions**

*Head Sea:* Lower both plates slightly by pressing BOW DOWN on both sides of a dual system, BOW DOWN on a single system. This will bring the bow down while maintaining speed. This also allows the hull of the boat to absorb the impact of the waves. This adjustment will result in a more efficient and smoother ride.

*Following Sea:* Make sure the plates are fully retracted by pressing BOW UP on both sides of a dual system, and BOW UP on a single system. This will bring the plate(s) up to a fully retracted position, decreasing lift in the stern and will allow the bow to rise. If the plate(s) is/are deployed, the bow may dig.

*Windy Chop:* To raise the windward side of the boat on dual systems, press BOW UP on that side. If this is not sufficient press BOW DOWN on the leeward side of the boat. Do not over-trim when attempting this. This will allow the windward side of the boat to rise and will minimize spray.

*Shallow Water/Hole Shot:* Lower both plates completely on a dual system by pressing BOW DOWN on both sides (the single plate on a single system). This provides lift in the stern of the boat and will keep the bow down. As you throttle up and speed increases, raise the tab(s) by pressing BOW UP on both sides of a dual system, and BOW UP on the single system.

*Uneven Load:* When equipped with a dual system, if one side of the boat is higher than the other while running, press BOW DOWN on the switch on that side. This will lower the tab on the listing side (low side) to bring the boat level.

*Porpoising:* To stop porpoising, press BOW DOWN on both sides of a dual plate system, BOW DOWN on a single system. The plate(s) needs only to be deployed slightly to correct this adverse situation.



**While operating attitude adjustment plates use caution. Improper use of plates can cause accidents, which may result in serious injury or death. These cautions apply to the MariStar 280STS, X-80 and 280 SST models only.**

**While the boat is underway do not move one plate up or down significantly as this may cause listing.**

**While at higher speeds do not over-trim, as this will cause the bow to lower quickly, resulting in a reduction of speed and may cause the boat to veer.**

**When in following seas or when running an inlet, the plates should be fully retracted. This will allow for optimal performance.**

**ELECTRO-MECHANICAL ACTUATORS PROVIDE AN INSTANT RESPONSE. WHEN MAKING ADJUSTMENTS, USE SHORT MOMENTARY TAPS OF THE SWITCH.**

### **Sink Switch**

On the face plate panel adjacent to the sink is a two-position switch. Turning the switch ON allows water to run through the faucet into the sink. The water comes from a ten-gallon freshwater tank that requires manual refilling when the water has run out. Be sure to turn OFF the switch after running water, and especially when the freshwater tank has run dry.

### **Refrigerator Switch**

On the same face plate panel is a two-position switch that will run the refrigerator when turned ON. The refrigerator runs off the boat's electrical and battery system. Therefore, care should be given to ensure that the system is not drained to such an extent that the voltmeter alarm sounds.



## Engine Synchronizing Switch (280 STS and SST only)

This two-position switch allows the engines to operate in synchronization. **Do not engage the switch unless the engines are running!**



Step 1: Press up on the Synch switch to turn the synchronization function ON.

Step 2: Push the **port throttle** to wide-open throttle.

**Note:** In the MariStar 280, the boat is equipped with a four-lever control. The lever closest to the driver is the port engine shifter, which allows the boat to move forward when shifted forward, and backward when shifted aft. The next lever is the starboard engine shifter and performs the same function. If both engines are running and the boat is moving, the shifters should be shifted together and in the same direction. Doing otherwise can damage the system.

The next middle lever is the port engine throttle, which allows the boat to feed fuel into the engine and operate in motion. Pushing forward on it will signal the system that fuel should be sent to the port engine. The engines can be run at different levels of throttle **BUT NOT WHEN UTILIZING THE SYNCH FUNCTION!**

Step 3: Using the **starboard throttle**, run the boat up to the desired speed.

**Note:** The system is RPM-based, **NOT** speed (or miles per hour)-based.

Step 4: Press up on the Cruise switch adjacent to the Synch switch. This engages the MC Cruise function.

**Note:** **DO NOT** use the Cruise function without turning on the Synch function as directed. Doing so will cause erratic operation.

Step 5: Now push the starboard throttle to wide-open throttle also. The boat will run at the RPM level at which it was running when the Cruise was engaged. If further adjustment is required or desired, adjust by pressing up or down on the +/- switch adjacent to the Cruise switch.

**Note:** If the system is turned off (pressing

down on the Cruise or Synch switches), the operator **MUST** pull the throttles below the cruise RPM to regain control of the system. During operation, the starboard throttle must be beyond the set point of the cruise for the function to work properly. A light in the switch will blink if more throttle is required.

The port engine will have an RPM blip after the Synch switch is activated and the throttle is moved to wide-open throttle. If the engine actually accelerates to wide-open throttle, then the Synch function did not take control of the port engine. In this instance, reduce the speed and return to Step 1.

## Shift/Throttle Control

With the exception of the MariStar 280 STS and SST, a one-hand, single-lever control operates as both a gear shifter and a throttle. The lever automatically locks in the neutral position (straight up and down) for safety. The lever can be moved



from neutral only by raising the lifter under the ball knob. Shifting is accomplished by moving the lever forward or backward. Center (straight up) is neutral. Moving the lever forward engages the running gear; moving it back from center puts the drive train into reverse.

**Never attempt to shift without the engine running!**

In the MariStar 280 STS and SST, the boat is equipped with a four-lever control. The lever closest to the driver is the port engine shifter, which allows the boat to move forward when shifted forward, and backward when shifted





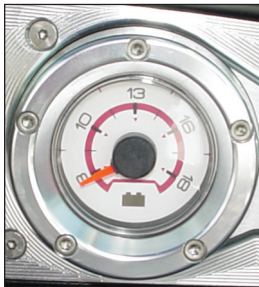
aft. The next lever is the starboard engine shifter and performs the same function. If both engines are running and the boat is moving, the shifters should be shifted together and in the same direction. Doing otherwise can damage the system.

The next middle lever is the port engine throttle, which allows the boat to feed fuel into the engine and operate in motion. Pushing forward on it will signal the system that fuel should be sent to the port engine. The engines can be run at different levels of throttle.

This system allows greater maneuverability in docking, as well as when the boat is in operation. **However, it requires more practice and skill in order to avoid potential damage to the boat.**

### Variations in Gauges and Switches

Please note that not every gauge or switch explained in this Manual found on every model. Some equipment is optional and not every option is available on all models of MasterCraft boats.



Also, MasterCraft utilizes a variety of gauge and switch styles. These differences are not in functionality. If a boat is equipped with a gauge or switch that is labeled as described above, it will operate in the same fashion as the description even if its appearance is different.



*Different  
voltmeter gauges*

If the owner and/or operators are uncertain about a gauge's or switch's purpose, do not operate the boat until consulting with an authorized MasterCraft dealer. Some gauges monitor information that is critical to safe and long-term usage of the boat. Some switches can affect maneuverability, as well as operations that impact long-term use of the boat.



*Different  
navigation and  
anchor lights switches*

