

# MARSH MASTER® RENTAL (KOHLER ENGINE)

## OPERATING & MAINTENANCE MANUAL



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# SAFETY

The Marsh Master® is an amphibious track vehicle designed for wetland terrain. It should not be used in rocky terrain. It is a powerful machine that should be operated and maintained with respect and caution. Misuse or carelessness can result in serious personal injury or death, damage to the machine, or both. Safety precautions must be observed at all times.

This section outlines basic safety procedures that apply to operation, maintenance, and machine adjustment.

## OPERATOR QUALIFICATIONS



Inexperienced personnel should not operate the Marsh Master®. It is important that qualified personnel study and understand this manual before attempting to operate the machine. Particular attention should be given to the **PRE-OPERATION CHECKS** and **AMPHIBIOUS OPERATION** sections.







## SAFETY WARNINGS







The following symbol is used throughout this manual as indicated to warn of hazards or unsafe practices that could result in property damage, personal injury, or death.







The table below lists warnings that must be read, understood, and followed prior to and during any activity that involves direct or indirect use and/or interaction with the Marsh Master®. Many of these warnings are shown both here in this table and in the applicable sections throughout this manual.








	<b>WARNING</b> SERIOUS INJURY OR DEATH CAN OCCUR!	<b>WHAT CAN HAPPEN</b>	<b>HOW TO AVOID</b>
<b>PRE-OPERATION SAFETY (SEE PRE-OPERATION CHECKS SECTION)</b>			
	READ AND UNDERSTAND THIS MANUAL IN ITS ENTIRETY PRIOR TO OPERATING THE MARSH MASTER®.	The risk of accident, injury, and equipment damage is greatly increased if the operator does not fully understand how to properly operate the Marsh Master® in different situations.	New or inexperienced operators should read and understand this manual, and then regularly practice the operating techniques described in this manual.






	<p>PERFORM A PRE-TRIP ASSESSMENT OF THE AREA IN WHICH THE MARSH MASTER® IS TO BE OPERATED AND IDENTIFY ALL POTENTIAL HAZARDS (OBSTACLES, IMPEDIMENTS, HIGH WATER, STRONG CURRENTS, SUBMERGED OBJECTS, STEEP BANKS, ETC...)</p>	<p>Not fully understanding the operating environment greatly increases the risk of accident, injury, and equipment damage AND increases the chance of leaving the operator and personnel stranded in a remote location.</p>	<p>When performing a pre-trip assessment, consult weather resources, people familiar with the area that you are operating the machine in, and when possible, practice with an experienced operator in similar environments prior to embarkment.</p>
	<p>ENSURE ALL DRAIN PLUGS ARE IN PRIOR TO OPERATING MACHINE.</p>	<p>Failure to do so may lead to swamping the machine, increasing the chance of property damage, injury, or death.</p>	<p>Prior to starting the machine, visually verify that the drain plugs are installed.</p>
	<p>ENSURE THAT THE OPERATOR AND ALL PASSENGERS HAVE ON THE REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR THE JOB-AT-HAND INCLUDING BUT NOT LIMITED TO LIFE JACKETS, HARD-HATS, GLOVES, EYE-PROTECTION, LONG-SLEEVES, FOOT PROTECTION, EAR-PROTECTION, ETC...</p>	<p>Not being equipped with proper PPE increases the chance of severe injury or death in the event of an accident.</p>	<p>Prior to starting the machine, visually and verbally confirm with all crew members that the required PPE is being worn for the task at hand.</p>
	<p>NEVER WEAR CHEST OR HIP WADERS OR ANY CLOTHING THAT MAY IMPEDE ONE'S ABILITY TO SWIM DURING OPERATION.</p>	<p>Clothing that prevents or impedes crew members ability to swim increases the chance of severe injury or death if the crew members become separated from the machine while in a body of water.</p>	<p>Prior to entering a body of water, visually and verbally confirm that all crew members are clothed such that their swimming ability is not impeded.</p>
	<p>WEAR LIFE JACKETS PRIOR TO SWIMMING THE MACHINE.</p>	<p>Failure to wear life jackets prior to swimming the machine greatly increases the risk of injury or death if the crew members become separated from the machine while in a body of water</p>	<p>Prior to entering a body of water, visually and verbally confirm that all crew members are wearing life jackets and are able to swim.</p>
	<p>IT IS THE OPERATOR'S RESPONSIBILITY TO ENSURE THAT A FIRE EXTINGUISHER IS ON BOARD THE MARSH MASTER® PRIOR TO OPERATING THE MACHINE.</p>	<p>If the machine were to catch fire, not having a fire extinguisher on board increases the risk of property damage and injury.</p>	<p>Prior to starting the machine, visually confirm that a properly rated fire extinguisher is on board and located in an area that is easily accessible.</p>





	<p>IT IS THE OPERATOR'S RESPONSIBILITY TO ENSURE THAT A FIRST AID KIT IS ON BOARD THE MARSH MASTER® PRIOR TO OPERATING THE MACHINE.</p>	<p>If an injury were to occur, not having access to a sufficient first aid kit may compromise the crew's ability to complete the job and, in some cases, may escalate to a more serious health situation.</p>	<p>Prior to starting the machine, visually confirm that a sufficient first aid kit is on board and located in an area that is easily accessible.</p>
	<p>IT IS THE OPERATOR'S RESPONSIBILITY TO ENSURE THAT THE MARSH MASTER® IS BEING OPERATED IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL LAWS.</p>	<p>Failure to do so might result in legal consequences and may increase the risk of injury or death, depending on the equipment required.</p>	<p>Check the local, state, and federal laws with regards to your operating environment and if any special equipment is required by law for your specific application.</p>
	<p>IT IS THE OPERATOR'S RESPONSIBILITY TO STAY WITHIN THE CONFINES OF THE LOAD LIMIT STAMPED ON THE MARSH MASTER® DATA PLATE.</p>	<p>Failure to do so will adversely affect the machine's performance which will greatly increase the risk of injury or death.</p>	<p>See load capacity section of this manual.</p>
	<p>DO NOT CARRY HEAVY OBJECTS (OVER 100 POUNDS) IN THE CARGO RACK/BASKET. NEVER ALLOW PASSENGERS TO RIDE ON THE CARGO RACK/BASKET.</p>	<p>Failure to do so will adversely affect the machine's performance and stability, increasing the risk of rolling or capsizing the machine, resulting in injury or death.</p>	<p>Visually confirm that the cargo rack/basket is not overloaded with equipment weighing greater than 100 lbs. When in doubt, move objects to the bed of the Marsh Master®.</p>
	<p>STORE GEAR IN REAR BED AREA TO CENTER THE LOAD PRIOR TO ENTERING WATER, DO NOT STOW ANY GEAR ON THE DECKS WHEN OPERATING IN OR NEAR WATER.</p>	<p>Failure to do so will adversely affect the machine's performance and stability increasing the risk of rolling or capsizing the machine resulting in injury or death.</p>	<p>Visually and verbally confirm the decks are clear of equipment and that equipment is stored in the rear bed area.</p>
	<p>WHEN THE MACHINE IS BEING USED TO TRANSPORT PERSONNEL IN THE REAR BED AREA, ANY REAR ATTACHMENTS SUCH AS THE ANCHOR MASTER®, BACKHOE, CUTTER, SPRAY RIG, ETC. SHOULD BE REMOVED.</p>	<p>Failure to do so may cause the machine to become overloaded. This will adversely affect the machine's performance and stability, increasing the risk of swamping the transom which could lead to capsizing the machine. Overloading the rear bed area increases the risk of injury or death.</p>	<p>Visually and verbally confirm that all crew members are safely seated, and the rear attachments are removed from the machine when using the machine for personnel transport.</p>





	<p>THE OPERATOR IS RESPONSIBLE FOR ENSURING THAT THE LOAD IS DISTRIBUTED PROPERLY FOR SAFE OPERATION BY LOADING THE MACHINE SUCH THAT THE PAYLOAD IS AS CLOSE TO THE MACHINE'S CENTER OF GRAVITY AS POSSIBLE (SEE <b>LOAD DISTRIBUTION</b> SECTION). THE MARSH MASTER'S® SAFETY AND PERFORMANCE IS DEPENDENT UPON HOW THE MACHINE IS LOADED; THEREFORE, THE OPERATOR MUST UNDERSTAND WHAT TYPE OF ENVIRONMENT THE MARSH MASTER® WILL BE OPERATING IN (OBSTACLES, IMPEDIMENTS, HIGH WATER, STRONG CURRENTS, SUBMERGED OBJECTS, STEEP BANKS, ETC...).</p>	<p>Failure to do so can adversely affect the machine's performance and stability, increasing the risk of rolling or capsizing the machine, resulting in injury or death.</p>	<p>Visually confirm that all equipment and crew members are loaded as described in the <b>LOAD DISTRIBUTION</b> section of this manual.</p>
	<p>DO NOT ADD SEAT BELTS TO THE MARSH MASTER®.</p>	<p>Seat belts can impede a passenger's ability to escape from the cab of the machine in the event of rolling or capsizing the machine, which greatly increases the risk of injury or death.</p>	<p>Visually confirm that no seatbelts or harnesses have been installed or are being used when operating the Marsh Master®.</p>
	<p>DO NOT ADD ANY TYPE OF HARD CAB DOOR TO THE MARSH MASTER® OTHER THAN CAB DOORS SUPPLIED BY COAST MACHINERY, LLC.</p>	<p>Addition of any other hard cab doors could cause the operator or passenger to become trapped in the cab if the machine were to capsize during operation, which greatly increases the risk of injury or death.</p>	<p>Read and understand the design features prior to operating the machine with these installed.</p>
	<p>REMOVE ANY CAB DOORS PRIOR TO OPERATING THE MACHINE IN A SITUATION WHERE CAPSIZING IS POSSIBLE.</p>	<p>Failure to remove the doors prior to operating in a situation where capsizing is possible increases the risk of injury or death, due to the ability to escape being impeded.</p>	<p>Consult Coast Machinery, LLC, regarding door removal.</p>







**OPERATION: DRIVING SAFETY (SEE OPERATION: DRIVING SECTION)**





	<p>ALWAYS MOVE THE CONTROL LEVERS SLOWLY. NEVER JERK THEM FROM FORWARD TO REVERSE OR REVERSE TO FORWARD.</p>	<p>Failure to do so can cause damage to the machine and increases the risk of injury or death for the operator and passengers.</p>	<p>Prior to loading the machine with personnel and/or equipment, practice running the Marsh Master® on level ground to familiarize yourself with the control's sensitivity.</p>
	<p>DO NOT OPERATE THE MACHINE FROM ANY POSITION OTHER THAN THE FRONT SEATS.</p>	<p>Failure to do so can cause damage to the machine and increases the risk of injury or death for the operator and passengers.</p>	<p>Visually confirm that the operator is seated properly in the cab prior to operating the machine.</p>
	<p>MAKE SURE ALL PASSENGERS ARE SEATED BEFORE PUTTING THE MACHINE IN MOTION.</p>	<p>Failure to do so increases the risk of injury or death for the passengers.</p>	<p>Visually and verbally confirm that all passengers are properly seated and braced prior to putting the machine into motion.</p>
	<p>DO NOT STAND WHILE THE MACHINE IS IN MOTION.</p>	<p>Failure to do so can contribute to a loss of balance or an unstable machine, which increases the risk of injury or death for the passengers.</p>	<p>Visually and verbally confirm that all passengers are properly seated and braced prior to putting the machine into motion.</p>
	<p>KEEP HANDS AND FEET CLEAR OF THE TRACKS WHILE UNDER WAY.</p>	<p>Failure to do so greatly increases the risk of injury or death as the track cleats are metal and tend to grab items that encounter them.</p>	<p>Visually confirm that all passengers keep their limbs inside the machine and clear of the tracks when in motion.</p>
	<p>MAKE PERIODIC CHECKS FOR HYDRAULIC OR FUEL LEAKS.</p>	<p>Failure to do so increases the risk of equipment malfunction and may lead to injury or death, as hydraulic fluid and fuel may be hot and flammable.</p>	<p>Visually check hoses, connection points, and the floor of the Marsh Master® before, during, and after operations. If a leak is noticed, repair leak prior to continuing to operate the machine.</p>
	<p>DO NOT OVERFILL FUEL TANKS.</p>	<p>Overfilling the fuel tanks increases the risk of leakage due to expansion and may lead to injury or death, as the fuel is flammable and a skin irritant.</p>	<p>Visually confirm that an air space of at least 2 inches is left at the top of the tank.</p>





	<p>IF ANY FUEL IS SPILLED IN THE MARSH MASTER®, CLEAN UP IMMEDIATELY.</p>	<p>Spilled fuel could potentially migrate into the pontoons, creating an explosive atmosphere.</p>	<p>Always check for leaks around the fuel tank and engine. Consult Coast Machinery, LLC, if you plan to do any body work on the Marsh Master®.</p>
	<p>AVOID EXTREME GRADES: 30° MAXIMUM ANGLE WHEN ASCENDING OR DESCENDING AND 25° MAXIMUM ANGLE ON A SIDE HILL.</p>	<p>Failure to do so greatly increases the risk of rollover and reduced machine stability, which increases the risk of serious injury or death.</p>	<p>Prior to embarking on your journey familiarize yourself with the topography of the terrain ahead. When encountering grade changes, do so slowly with extreme caution.</p>
	<p>WHEN APPROACHING A LEVEE, A DROP OFF, OR ANY OTHER TYPE OF GRADE CHANGE, IT IS IMPERATIVE THAT THE OPERATOR APPROACH AND CROSS OVER THE TRANSITION POINT SLOWLY AND WITH EXTREME CAUTION.</p>	<p>Failure to do so may cause the machine to generate excessive momentum in the longitudinal or lateral directions increasing the risk of rollover and reduced machine stability, which increases the risk of serious injury or death.</p>	<p>Prior to entering the transition point where the terrain grade changes, bring the machine to idle, assess the slope to determine if it is within the machines operating limits, SLOWLY track the machine over the transition point. See the <b>CLIMBING OR DESCENDING A STEEP GRADE</b> section of this manual.</p>
	<p>THE MACHINE IS NOT EQUIPPED WITH A PARKING BRAKE.</p>	<p>If machine is stopped on a sloping surface the machine may shift or slowly creep down the slope. Failure to chock the machine when parking on a slope may lead to property damage.</p>	<p>Do not park on a slope. If parking on a slope is unavoidable, properly chock the machine prior to leaving the machine unattended.</p>
	<p>AVOID RAIN-SWOLLEN RIVERS, AND ANY RIVER WITH ANYTHING OTHER THAN A SLOW-MOVING CURRENT.</p>	<p>Entering a swiftly moving river greatly increases the risk of rolling or capsizing the machine due to the force of the current, which increases the risk of property damage, serious injury, or death.</p>	<p>Before entering a body of water, it is the operator's responsibility to assess the water current strength and make a "go / no-go" decision. When in doubt, err on the side of caution by finding another route, or aborting the mission.</p>




	<p>EXTREME CAUTION SHOULD BE TAKEN WHEN ENTERING, EXITING, OR OPERATING IN A BODY OF WATER.</p>	<p>Serious injury or loss of life could occur if the machine turns over when entering, exiting, or operating in water. Overloading, improper load distribution, wrong angle of entry or exit, a leaking pontoon, or failure to install drain plugs could cause the machine to turn over.</p>	<p>Follow the recommended practices in the <b>AMPHIBIOUS OPERATION</b> section of this manual. Always maneuver slowly and precisely when transitioning from water to land and land to water operations.</p>
	<p>NEVER PUT THE MACHINE IN A POSITION WHERE THE WEIGHT OF THE MACHINE IS TRANSFERRED TO A SINGLE, FLOATING PONTOON.</p>	<p>A single pontoon does not provide sufficient flotation to safely support the full weight of the machine. Capsizing may occur in the event that one of the pontoons is operated in water and the other pontoon is on a solid surface, OR where one pontoon drops below the water surface greatly increasing the risk of serious injury or death.</p>	<p>Always maneuver slowly and precisely in situations where this potential exists. Always keep at least ½ the machine's width away from an edge or drop-off.</p>
	<p>DO NOT OPERATE THE MARSH MASTER® ON FROZEN WATERWAYS.</p>	<p>Operating a Marsh Master® on frozen waterways is not recommended due to the potential for the machine to break through on one side, put all the load on one pontoon, and roll over; greatly increasing the risk serious injury or death.</p>	<p>Always maneuver slowly and precisely when operating the machine near frozen waterways. Familiarize yourself with the terrain and weather conditions prior to embarking on your journey.</p>
	<p>EXTREME CAUTION SHOULD BE USED WHILE OPERATING A MARSH MASTER® ON THE EDGE OF A WATER BODY.</p>	<p>If a pontoon were to slip off a steep drop this would put the machine in an adverse situation greatly increasing the risk of rolling or capsizing the machine, which may result in serious injury or death.</p>	<p>Always maneuver slowly and precisely when operating near a steep bank. Always keep at least ½ the machine's width away from an edge or drop-off.</p>




	<p>EXTREME CAUTION SHOULD BE USED WHILE OPERATING A MARSH MASTER® IN A BODY OF WATER WITH SUBMERGED LOGS OR STUMPS.</p>	<p>If a single pontoon were to run up on a log or stump this would put the machine in an adverse situation greatly increasing the risk of flooding the back of the machine, rolling, or capsizing the machine, which may result in serious injury or death.</p>	<p>Always maneuver slowly and precisely when operating in a body of water with submerged obstacles. If you run up on a log or stump, stop the machine, evaluate the situation, and slowly maneuver the machine such that the risky situation is mitigated.</p>
	<p>IT IS THE OPERATOR'S RESPONSIBILITY TO USE GOOD JUDGEMENT AND FOLLOW THE RECOMMENDED BEST PRACTICES WHEN TOWING EQUIPMENT WITH THE MARSH MASTER®.</p>	<p>Failure to do so may put the machine in an adverse situation greatly increasing the risk of serious injury or death.</p>	<p>Consult Coast Machinery, LLC, regarding best practices when towing equipment with the Marsh Master®.</p>
<p><b>TRAILERING THE MARSH MASTER® SAFETY (SEE <i>TRAILERING THE MARSH MASTER®</i> SECTION)</b></p>			
	<p>FOLLOW ALL THE RECOMMENDED BEST PRACTICES OUTLINED IN THE <b><i>TRAILERING THE MARSH MASTER®</i></b> SECTION OF THIS MANUAL.</p>	<p>Failure to follow any and/or all of the recommended practices in the <b><i>TRAILERING THE MARSH MASTER®</i></b> section of this manual may lead to serious injury or death.</p>	<p>If there are any questions regarding towing a Marsh Master® do not hesitate to contact Coast Machinery, LLC.</p>
	<p>EXTREME CAUTION SHOULD BE USED WHEN LOADING THE MARSH MASTER® ONTO A NON-TILT-DECK TRAILER USING STEEL LOADING RAMPS.</p>	<p>The operator should be cautious when approaching the “break-over point” where the angle of the steel ramps level off to the trailer. At this point, the machine will pitch up and the metal track cleats may start to slip on the steel ramps, causing the machine’s stability to be less than when using a tilt-deck trailer. This situation increases the risk of property damage and serious injury.</p>	<p>Prior to loading the Marsh Master® on a non-tilt-deck trailer using steel loading ramps, the operator should ensure that a strip of rubber (or other type of tractive material) is placed between the tracks and deck to minimize the possibility of slipping. The operator must slowly track the machine straight onto the trailer past the “break over point.” The operator should keep slowly tracking straight even when the machine pitches up. <b>DO NOT PANIC AND JERK THE CONTROLS.</b></p>






	<p>THE MARSH MASTER® IS NOT EQUIPPED WITH A PARKING BRAKE.</p>	<p>If the machine is not properly secured on the trailer, the machine could shift or move unexpectedly, leading to serious injury or death.</p>	<p>See the <b>TRAILERING THE MARSH MASTER®</b> section of this manual.</p>
	<p>THE MM-2LX XL GALVANIZED HEAVY-DUTY CUSTOM TRAILER IS DESIGNED SOLELY FOR HAULING THE MARSH MASTER®.</p>	<p>Hauling any other payload or equipment may cause the trailer to be operated outside of the design parameters, which may lead to serious injury or death.</p>	<p>Do not haul anything other than a Marsh Master® on said trailer without contacting a Coast Machinery, LLC, representative first.</p>
<p><b>OPERATION: AUXILIARY HYDRAULIC SYSTEMS SAFETY</b></p>			
	<p>FAMILIARIZE YOURSELF WITH THE WINCH OPERATION AND FEATURES SPECIFIC TO THE MARSH MASTER®.</p>	<p>Failure to do so greatly increases the risk of property damage, serious injury, or death.</p>	<p>Consult Coast Machinery, LLC. for best practices regarding winch use.</p>
	<p>THOROUGHLY INSPECT THE WINCH HOOK, SPOOL, AND CABLE PRIOR TO LOADING THE WINCH.</p>	<p>Failure to do so may result in the winch system failing while under load, greatly increasing the risk of serious injury or death.</p>	<p>Always inspect the condition of the winch system prior to embarking on a journey. Make note of any weak spots and repair winch as necessary.</p>
	<p>DO NOT ADJUST THE RELIEF VALVE ON THE WINCH CONTROLS WITHOUT FIRST CONSULTING COAST MACHINERY, LLC.</p>	<p>Adjusting or tampering with the relief valve could adversely affect the performance and safe operation of the auxiliary hydraulic system, resulting in an increased risk of property damage, serious injury, or death.</p>	<p>If experiencing problems with the winch and/or winch valve, contact Coast Machinery, LLC, prior to making any adjustments to the valve.</p>
	<p>NEVER HOOK THE WINCH CABLE TO ITSELF WHEN PUTTING THE WINCH CABLE UNDER LOAD.</p>	<p>Hooking the winch cable to itself while under load may create unacceptable strain on the cable strands causing the wire rope to break without warning, resulting in an increased risk of property damage, serious injury, or death.</p>	<p>Always use a separate strap, rope, or other rigging to tie off to the object that is being used when winching.</p>







	<p>ALWAYS KEEP A SAFE DISTANCE FROM THE WINCH AND CABLE WHILE UNDER LOAD AND WHEN POSSIBLE, REMAIN IN THE CAB BEHIND THE WINDSHIELD OR BRUSHGUARD DURING WINCH USE.</p>	<p>If a winch cable breaks under load the two ends may whip through the air and potentially strike any objects in its path. Failure to maintain a safe distance during winch operation greatly increases the risk of serious injury or death.</p>	<p>Only operate the winch from the cab of the Marsh Master®. If bystanders are outside of the confines of the Marsh Master® cab, the operator should ensure that they are at a safe distance from the winch cable, such that if the cable were to snap during operation all bystanders would be safely out of reach of the two cable ends. It is recommended to place a shirt or blanket over the cable prior to tensioning.</p>
	<p>IF YOUR MARSH MASTER® IS EQUIPPED WITH A FOLD-OUT FRONT WINDSHIELD, ENSURE THAT THE WINDSHIELD IS FULLY CLOSED DURING WINCH OPERATION TO PROTECT THE OPERATOR AND/OR PASSENGER FROM INJURY IF THE WINCH CABLE WERE TO SNAP.</p>	<p>Winching with the fold-out front windshield open presents an unsafe scenario by providing an uninhibited path for the winch cable to strike the cab inhabitants if the cable were to snap while under load; which greatly increases the risk of serious injury or death.</p>	<p>Visually and verbally confirm that the fold-out front windshield is closed and secured in place prior to using the winch.</p>
	<p>NEVER PUT YOUR HANDS IN THE SPOOL AREA WHEN WINDING OR UNWINDING THE CABLE. NEVER GRAB THE CABLE AT ANY POINT BEHIND THE HOOK.</p>	<p>Failure to keep all body parts and/or clothing out of the winch spool greatly increases the risk of serious injury or death. The winch is very powerful and can severely injure any body part that gets caught in the spool or other moving parts.</p>	<p>Always use a tool to knock the cable to the side when winding the winch back up after use.</p>
	<p>THE WINCH CABLE IS HARD AND MAY HAVE SOME SHARP POINTS ALONG THE CABLE. USE CAUTION AND PROPER PROTECTIVE EQUIPMENT WHEN HANDLING.</p>	<p>The cable can cut or burn hands when being handled. Failure to wear proper personal protective equipment (PPE) greatly increases the risk of serious injury.</p>	<p>The person handling the winch cable should always be wearing gloves and proper PPE.</p>







	<p>NEVER MANIPULATE THE REAR HITCH WITHOUT FIRST ENSURING THAT ALL PERSONNEL ARE CLEARLY OUT OF THE WAY OF THE REAR HITCH AND ATTACHMENT'S RANGE OF MOTION.</p>	<p>The rear hitch when equipped with an attachment presents a scenario where heavy equipment is moving in a specific range of motion. Failure to ensure that all personnel are safely out of the way prior to rear hitch operation greatly increases the risk for serious injury or death.</p>	<p>When manipulating the rear hitch, the operator must visually and verbally ensure that no personnel are near the rear of the machine.</p>
	<p>EXTRA CAUTION SHOULD BE TAKEN WITH FRONT-MOUNTED ATTACHMENTS SINCE THEY ARE MUCH CLOSER TO THE CAB THAN A REAR-MOUNTED ATTACHMENT.</p>	<p>A front-mounted attachment impacts debris/terrain before any other part of the machine and is closer to the cab than a rear mounted attachment; therefore, reckless operation with a front mounted attachment greatly increases the risk of property damage and serious injury.</p>	<p>The operator should use good judgement and slow movement when first encountering objects with a front attachment. The operator should visually and verbally confirm that the cab windshield is secured, and the cab is protected from any front debris produced during operation.</p>
	<p>IF YOUR MARSH MASTER® IS EQUIPPED WITH A DOWN PRESSURE FEATURE ON ONE OF THE HITCHES, IT IS IMPERATIVE TO MAKE SURE ALL PERSONNEL ARE SAFELY OUT OF RANGE WHEN USING THE DOWN PRESSURE FEATURE.</p>	<p>Down pressure mode lowers the hitch/attachment more quickly than float and may raise the end of the Marsh Master® where the down pressure is being used (front or rear). If personnel are near the hitch's range of motion during down pressure operation the risk of serious injury or death is greatly increased.</p>	<p>When using the down pressure feature the operator must visually and verbally ensure that no personnel are near the end of the machine where the down pressure is being applied.</p>
	<p>NEVER CONTINUOUSLY RUN THE HYDRAULIC CIRCUIT WITHOUT A TOOL ATTACHED (DEAD HEADING THE SYSTEM).</p>	<p>Continuously running the hydraulic circuit without a tool attached will overheat the hydraulic fluid and cause system damage.</p>	<p>The operator should always visually and verbally ensure that the hydraulic circuit is NOT engaged when a tool is not attached or in operation.</p>





	<p>NEVER OPERATE ANY ATTACHMENT THROUGH THE HIGH FLOW CIRCUIT WITHOUT FIRST ENSURING THAT NO PERSONNEL ARE NEAR THE ATTACHMENT.</p>	<p>When an attachment is engaged through the high flow circuit, parts of the attachment typically accelerate instantaneously. These rapidly moving components are typically bladed or parts with sharp points. Therefore, if personnel are near the attachment during operation the risk of serious injury or death is greatly increased.</p>	<p>Prior to engaging the high flow attachment, the operator should always visually and verbally ensure that no personnel are near the attachment.</p>
	<p>NEVER ATTEMPT TO RE-ALIGN A TRACK WITHOUT TWO PEOPLE. SPECIAL CAUTION SHOULD BE TAKEN TO NOT DAMAGE THE MARSH MASTER® BODY OR TRACK PARTS, AND TO RE-ALIGN THE TRACK IN A SAFE MANNER.</p>	<p>Safely re-aligning a thrown track requires a minimum of two people (one person to operate the cab controls and another person to guide the track onto the sprocket). The track re-aligner must be clear of the machine prior to the operator starting the engine. If the machine begins to move or slip off the jack, the operator must shut the engine off immediately. Failure to perform this procedure with extreme caution greatly increases the risk of serious injury or death.</p>	<p>See the <b>HOW TO REALIGN A THROWN TRACK</b> section of this manual. Follow each step closely and with extreme caution. If in doubt regarding any step of the procedure, contact Coast Machinery LLC before proceeding.</p>
	<p>USE EXTREME CAUTION WHEN USING ANY TYPE OF PRYING TOOL AROUND THE MARSH MASTER® TRACKS.</p>	<p>Failure to communicate and work cautiously and slowly will greatly increase the risk for the prying tool to get caught in the sprockets resulting in property damage, serious injury, or death.</p>	<p>If another method of aligning the track is available, it is recommended to use that method. If using a prying tool is the only option, the operator and prying tool handler must work together, <b>using extreme caution</b>, when applying a prying force on the track with a prying tool. The operator should <b>only</b> run the engine at <b>low idle</b> during this method of repair.</p>






	<p>NEVER WORK ON THE FUEL SYSTEM WITHOUT PROPER TRAINING AND SAFETY EQUIPMENT.</p>	<p>High pressure fluids can puncture skin and cause severe injury or death.</p>	<p>The operator should visually and verbally confirm that any personnel working close to high pressure systems are adequately trained and equipped with the proper PPE for the job at hand.</p>
<b>MAINTENANCE SAFETY</b>			
	<p>NEVER CUT, DRILL, WELD, OR PERFORM ANY HEAT OR SPARK GENERATING ACTIVITY UNTIL THE PONTOON CHAMBER ATMOSPHERE HAS BEEN TESTED BY A COMPETENT PERSON USING A PROPERLY CALIBRATED EXPLOSIVE GAS METER (FLAMMABLE GAS DETECTOR).</p>	<p>The heat from welding can generate gas fumes creating an explosive atmosphere inside the pontoon. The risk of property damage, serious injury, or death greatly increases if a monitoring device is not used throughout the entire duration of the pontoon maintenance.</p>	<p>The person performing the maintenance should visually and verbally confirm that a suitable gas monitoring device is being used while working on the pontoons. If the gas monitoring device alarms while working on the pontoon, stop immediately and flush the pontoon internally with air.</p>
	<p>THE TRACKS ARE HEAVY AND WILL FALL RAPIDLY!</p>	<p>When removing a machine's tracks, extreme caution should be taken as the tracks can fall resulting in serious injury or death.</p>	<p>The person performing the track maintenance or working with the tracks should ensure that all personnel are safely positioned such that the tracks will not impact them if they fall rapidly.</p>



	<p>TURN THE ENGINE OFF WHEN MAKING ANY ADJUSTMENTS ON THE TRACKS, CONTROL LINKAGES, OR HYDRAULIC COMPONENTS.</p>	<p>The hydraulic system (auxiliary and drive systems) is continuously under pressure while the machine's engine is running; therefore, it is best practice to always shut the engine off prior to working on the tracks, control linkages, or hydraulic components. Failure to do so may result in property damage, serious injury, or death.</p>	<p>The operator should ensure that the engine is off prior to performing any adjustments on the tracks, control linkages, or hydraulic components.</p>
	<p>USE EXTRA CAUTION WHEN CLIMBING ONTO OR WALKING ON MUDDY TRACKS.</p>	<p>When mud accumulates in the track cleats the tracks will become slick, creating a slip hazard situation. Failure to use extreme caution may result in serious injury or death.</p>	<p>The operator should try and keep the track cleats as clean as possible by running the machine in water prior to stopping. All personnel should wear appropriate non-slip footwear and move with caution when traversing over the tracks.</p>
	<p>DO NOT OPERATE THE MACHINE IN POORLY VENTILATED AREAS. NEVER RUN THE MACHINE IN A CLOSED BUILDING.</p>	<p>The Marsh Master® emits toxic gases. Operating the machine in a poorly ventilated area or closed building may lead to serious injury or death.</p>	<p>The operator should ensure that the area where the Marsh Master® is being operated is properly ventilated and should keep the engine properly tuned.</p>
	<p>NEVER OPERATE THE MARSH MASTER WITHOUT PROPER HEARING PROTECTION AS THE MACHINE CAN EMIT EXCESSIVE NOISE.</p>	<p>If proper hearing protection PPE is not worn by the operator or personnel on board, hearing loss may result.</p>	<p>The operator and personnel on board should consult with their regulatory agency for exposure limits and wear hearing protection as needed.</p>
	<p>HOT ENGINE COOLANT. NEVER OPEN RADIATOR CAP OR SERVICE COOLING SYSTEM UNTIL RADIATOR AND ENGINE IS COOL TO THE TOUCH.</p>	<p>If hot fluid contacts the skin, then scalding can result which may lead to serious injury.</p>	<p>Prior to servicing the radiator, the operator or person performing the maintenance should use a thermometer to visually ensure that the coolant is at a safe temperature.</p>

	<p>THE MARSH MASTER® SHOULD NEVER BE SOLELY SUPPORTED BY A JACK WHEN WORKING UNDERNEATH THE MACHINE.</p>	<p>When a machine is jacked up using only a jack (hydraulic or mechanical) the potential always exists for the machine to slip off the jack or the jack to release, which greatly increases the risk of property damage, serious injury, or death.</p>	<p>Always use proper supports (properly rated jack stands) to prevent the machine from slipping off the jack. Use multiple supports for redundancy such that the Marsh Master® is not supported only by one support.</p>
	<p>NEVER USE YOUR HANDS TO LOCATE A FLUID LEAK.</p>	<p>Leaking hydraulic fluid or fuel under pressure can penetrate skin causing severe infection resulting in serious injury or death.</p>	<p>Always use a suitable material (such as cardboard, paper, or plastic) to locate leaks.</p>
	<p>NEVER WORK AROUND THE BATTERY WITHOUT PROPER PPE.</p>	<p>Battery acid causes severe burns. Working around the battery without proper skin and eye protective equipment greatly increases the risk of serious injury.</p>	<p>Avoid skin and eye contact with battery acid. If contact does occur, wash immediately and get medical attention.</p>
	<p>USE CAUTION WHEN MANEUVERING OR WORKING AROUND THE FAN.</p>	<p>The fan is hydraulically powered and is immediately rotating when the Marsh Master® is started. Failure to use caution around the fan when the machine is running greatly increases the risk of serious injury or death.</p>	<p>If working near the fan area, the machine should be turned off. Maintain a safe distance from the fan when the machine is running.</p>
<b>OPTIONAL ACCESSORIES SAFETY</b>			
	<p>FOLD-OUT WINDSHIELD MUST BE FULLY OPEN WHEN OPERATING OVER WATER TO PROVIDE AN ADDITIONAL EXIT POINT FOR THE OPERATOR AND/OR PASSENGER TO ESCAPE IN THE EVENT OF CAPSIZING.</p>	<p>Failure to do so may result in the cab occupants becoming trapped if the Marsh Master® were to capsize, resulting in serious injury or death.</p>	<p>The operator should visually and verbally confirm that the fold-out windshield is fully open when operating over open water.</p>
	<p>FOLD-OUT WINDSHIELD MUST BE FULLY CLOSED DURING WINCH OPERATION TO PROTECT THE OPERATOR AND/OR PASSENGER FROM INJURY IF THE WINCH CABLE WERE TO SNAP.</p>	<p>Failure to do so may result in the winch cable backlashing upon snapping and contacting a cab occupant, resulting in serious injury or death.</p>	<p>The operator should visually and verbally confirm that the fold-out windshield is fully closed and secured when operating the winch.</p>

	<p>FOLD-OUT WINDSHIELD MUST BE FULLY CLOSED WHEN OPERATING IN AREAS WHERE THERE IS POTENTIAL FOR PROTRUDING OBJECTS (LIMBS, BRUSH, DANGEROUS INSECTS, ETC...) TO PENETRATE THE MARSH MASTER CAB.</p>	<p>Failure to do so may result in unwanted objects/insects entering the cab, resulting in serious injury or death.</p>	<p>The operator should use good judgement in determining when to close the fold-out windshield depending upon the hazards that exist in the operating environment.</p>
	<p>FOLD-OUT WINDSHIELD MUST BE FULLY CLOSED WHEN TOWING THE MARSH MASTER® DOWN THE ROAD.</p>	<p>Failure to do so may result in the windshield becoming detached resulting in property damage.</p>	<p>The operator should visually and verbally confirm that the fold-out windshield is securely closed prior to towing the Marsh Master® down the highway.</p>
	<p>DOOR WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE DOOR DATA PLATE ON DRIVER'S SIDE (INCLUDES BOTH DOORS).</p>	<p>Failure to account for the door weight in the load capacity may result in overloading the Marsh Master®, resulting in property damage, serious injury, or death.</p>	<p>The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.</p>
	<p>REMOVE CAB DOORS PRIOR TO ENCOUNTERING ANY FORESEEABLE HAZARDOUS SITUATION WHERE CAPSIZING OR ROLLING THE MACHINE IS POSSIBLE.</p>	<p>Failure to do so may result in the cab occupants becoming trapped in the cab during a capsizing event, resulting in serious injury or death.</p>	<p>The operator should use good judgement in determining when to remove the cab doors. It is always recommended to remove doors prior to operating the machine over open water.</p>
	<p>AIR CONDITIONING WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE AIR CONDITIONING DATA PLATE ON DRIVER'S SIDE OF THE PROTECTIVE SHROUD (INCLUDES THE A/C UNIT AND THE SHROUD WEIGHT).</p>	<p>Failure to account for the air conditioning unit weight in the load capacity may result in overloading the Marsh Master® resulting in property damage, serious injury, or death.</p>	<p>The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.</p>
	<p>CAUTION SHOULD BE USED WHEN WORKING ON OR AROUND THE AIR CONDITIONING UNIT.</p>	<p>The air conditioning unit is charged with high pressure toxic refrigerant. Failure to use caution</p>	<p>Only a qualified person should work on the a/c unit. The a/c unit should only be</p>

		when working on or around the unit may lead to property damage, serious injury, or death.	serviced by a licensed HVAC technician when charging or evacuating the system is required.
	DECK RAILING WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE DECK RAILING DATA PLATE.	Failure to account for the deck railing weight in the load capacity may result in overloading the Marsh Master®, resulting in property damage, serious injury, or death.	The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.
	CAUTION SHOULD BE USED WHEN LATCHING AND DE-LATCHING THE LADDER FROM THE DECK RAILING.	There is a pinch-point where the ladder folds and latches to the fixed deck railing. Failure to use caution when latching and de-latching the ladder may result in serious injury.	The user should carefully latch and de-latch the ladder wearing appropriate hand PPE to prevent pinching from occurring.
	CARGO RACK/BASKET WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE CARGO RACK/BASKET DATA PLATE.	Failure to account for the cargo rack/basket weight in the load capacity may result in overloading the Marsh Master®, resulting in property damage, serious injury, or death.	The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.
	DO NOT CARRY HEAVY OBJECTS (OVER 100 POUNDS) IN THE CARGO RACK/BASKET. NEVER ALLOW PASSENGERS TO RIDE ON THE CARGO RACK/BASKET.	Overloading the cargo rack/basket shifts the center of gravity upward which compromises the machine's stability, resulting in increased risk of property damage, serious injury, or death.	The operator should visually and verbally confirm that the cargo rack/basket is properly loaded such that the machine's load distribution does not impact the machine's stability. See the <b>LOAD DISTRIBUTION</b> section of this manual.

	<p>DECK INSERT WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY WHEN USING MORE THAN ONE INSERT. SEE DECK INSERT WEIGHT DATA PLATE (ACCOUNTS FOR 4 INSERTS).</p>	<p>Failure to account for the deck insert weight in the load capacity may result in overloading the Marsh Master®, resulting in property damage, serious injury, or death.</p>	<p>The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.</p>
	<p>THE DECK AND DECK INSERTS BECOME SLIPPERY WHEN WET. USE CAUTION WHEN WALKING/WORKING ON THE DECK AND DECK INSERTS.</p>	<p>Failure to do so greatly increases the risk of slipping and falling, resulting in serious injury or death.</p>	<p>All personnel should be equipped with proper non-slip PPE footwear and use extreme caution when traversing wet, slippery decks.</p>
	<p>REMOVE OR PROPERLY SECURE DECK INSERTS PRIOR TO TOWING DOWN THE HIGHWAY.</p>	<p>When being towed at highway speeds, deck inserts may become airborne, greatly increasing the risk for property damage, serious injury, or death.</p>	<p>The operator and/or the driver of the package in tow should visually and verbally ensure that the deck inserts are either removed or properly secured prior to towing the package down the highway.</p>
	<p>MARSH MASTER® JACK WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE JACK WEIGHT DATA PLATE.</p>	<p>Failure to account for the jack weight in the load capacity may result in overloading the Marsh Master® resulting in property damage, serious injury, or death.</p>	<p>The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.</p>
	<p>SECURE THE MARSH MASTER® JACK PRIOR TO TOWING DOWN THE HIGHWAY. FAILURE TO DO SO MAY LEAD TO SERIOUS INJURY OR DEATH.</p>	<p>When being towed at highway speeds, the jack may become airborne greatly increasing the risk for property damage, serious injury, or death.</p>	<p>The operator and/or the driver of the package in tow should visually and verbally ensure that the jack is either removed or properly secured prior to towing the package down the highway.</p>

	<p>FRONT BRUSH GUARD WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE FRONT BRUSH GUARD WEIGHT DATA PLATE.</p>	<p>Failure to account for the brush guard weight in the load capacity may result in overloading the Marsh Master®, resulting in property damage, serious injury, or death.</p>	<p>The operator should visually and verbally confirm that the Marsh Master® and all attachments, accessories, personnel, equipment, and gear are within the confines of the load capacity limits. See the <b>LOAD CAPACITY</b> section of this manual.</p>
	<p>CAUTION SHOULD BE USED WHEN OPERATING THE MARSH MASTER® WITH THE FRONT BRUSH GUARD AS IT WILL HELP PROTECT THE WINDSHIELD FROM BLUNT FORCE BUT MAY NOT PROTECT FROM SMALL SHARP PROTRUDING ITEMS.</p>	<p>Failure to use caution when operating the Marsh Master® with the front brush guard may result in property damage, serious injury, or death.</p>	<p>The operator should use good judgement regarding the environment in which the machine is being operated.</p>

## INSTRUMENT PANEL



1. Front Lights
  - a. Up: On
  - b. Down: Off
2. Rear Lights
  - a. Up: On
  - b. Down: Off
3. Hydraulic Fan
  - a. High
  - b. Automatic
  - c. Reverse (Momentary)
4. Hi Flow Auxiliary
  - a. Pushed In: High Flow Tool Circuit Off
  - b. Pulled Out: High Flow Tool Circuit Activated/ Marsh Master® Start Disabled
5. Low Flow Auxiliary
  - a. Pushed In: Low Flow Tool Circuit Off
  - b. Pulled Out: Low Flow Tool Circuit On/ Marsh Master® Start, Winch, and Hitch Disabled
6. Main Circuit Breaker (20A)
  - a. Push in to Reset
7. Key Switch
  - a. Off
  - b. Run
  - c. Start
8. Murphy® PowerView® PV380 (see next section for details)
9. Warning Lights
  - a. Low Engine Oil Pressure
  - b. Battery
  - c. High Flow Auxiliary System Hydraulic Oil Filter
  - d. Charge Pump Hydraulic Oil Filter
10. Rear 12V Accessory Outlet Switch
11. Cab 12V Accessory Outlet with 10A Circuit Breaker



**ENGINE TACHOMETER:** The tachometer registers engine speed in revolutions per minute (RPM).

**HYDRAULIC OIL TEMPERATURE:** This value indicates temperature of hydraulic fluid in the oil tank. Normal range is 110°F - 175°F.

**NOTE:** At no time should the machine be operated continuously above 180°F.

**ENGINE COOLANT TEMPERATURE:** This value registers the engine's coolant temperature. Normal engine coolant temperature ranges 175°F -200°F. Temperature above 220°F indicates an overheating engine.

**SYSTEM VOLTAGE:** This value indicates the condition of the charging system. Normal condition is 12 to 14 volts. Less than 12 volts indicates a discharging condition.

**ENGINE HOUR METER:** The engine hour meter records the number of hours the engine has been operated. This information is useful in determining when to service the machine.

**FUEL LEVEL:** Fuel level indicator. It is important to keep clean fuel in system and never allow fuel system to run dry. Allowing a diesel to run dry will require priming the engine.

**PERCENT LOAD:** Displays the percentage of available engine torque at the current engine speed.

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## PRE-OPERATION CHECKS

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### LOAD CAPACITY

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Marsh Master® load limits can vary depending on model, components and special options. Therefore, each Marsh Master® is equipped with a metal data plate on the driver's side console panel that has the load capacity stamped on it for that particular unit. The machine also has metal tags on the upper square tubing of the cab above the driver's head. It is imperative to stay within the confines of these load limits. The picture below demonstrates where the metal data plate is located on the Marsh Master®.



Maximum load capacity stated on the data plate accounts for the Marsh Master® class, model, and sub model package. The Maximum load capacity stated on the data plate also accounts for the selected Marsh Master® with a full capacity of diesel and hydraulic oil, **BUT WITH NO PERSONNEL, ATTACHMENTS, OR OPTIONAL ACCESSORIES ABOARD.** Any additional weight added to the selected Marsh Master® must be subtracted from the Maximum load capacity limit stated on the data plate.

The load capacity can be further restricted when certain attachments are installed on the Marsh Master®. Such restrictions may regulate where and how much weight may be added with the attachment as well as the number of passengers. Such restrictions shall be clearly marked on the specific machine.



### **WARNING!**

**SERIOUS INJURY OR DEATH CAN OCCUR!**

**IT IS THE OPERATOR'S RESPONSIBILITY TO STAY WITHIN THE CONFINES OF THE LOAD LIMIT STAMPED ON THE MARSH MASTER® DATA PLATE.**

**If there are any questions regarding load limits, contact Coast Machinery, LLC.**

## LOAD DISTRIBUTION

On all Marsh Masters®, the total weight of personnel and cargo should be evenly distributed so that the Marsh Master® is as well-balanced as possible. Loads should be kept as low as possible to keep the center of gravity of the machine low and reduce the possibility of roll over.



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

**DO NOT CARRY HEAVY OBJECTS (OVER 100 POUNDS) IN THE CARGO RACK/BASKET. NEVER ALLOW PASSENGERS TO RIDE ON THE CARGO RACK/BASKET.**

The decks are intended to be used as a walking platform or a seating surface. Never transport materials on the rear decks or allow rear passengers to stand on the decks while the machine is in motion.

In a situation when a large amount of material must be transported to the jobsite (that may exceed the load capacity), we recommend using the Slick Sled™ transport system or additional Marsh Masters®. Trailers can also be used in some situations where the work area allows.



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

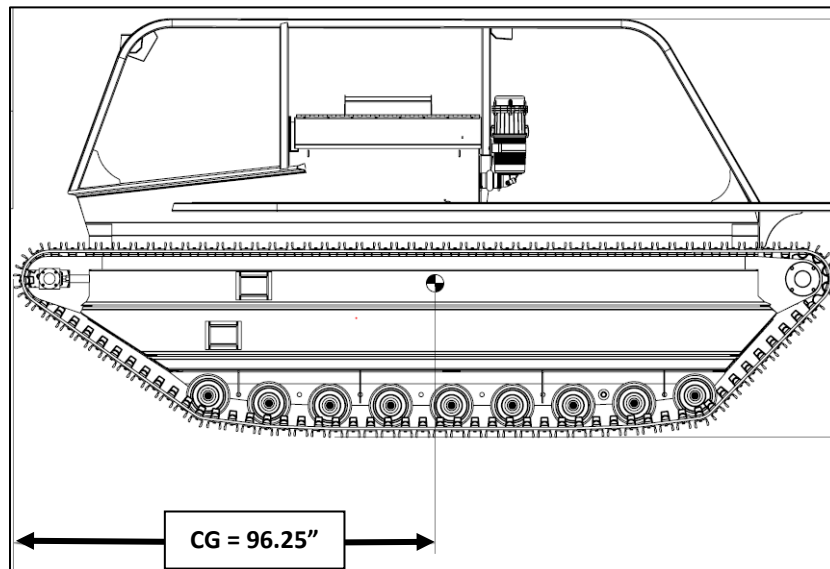
**WHEN THE MACHINE IS BEING USED TO TRANSPORT PERSONNEL IN THE REAR BED AREA, ANY REAR ATTACHMENTS SUCH AS THE ANCHOR MASTER®, BACKHOE, CUTTER, SPRAY RIG, ETC. SHOULD BE REMOVED.**



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

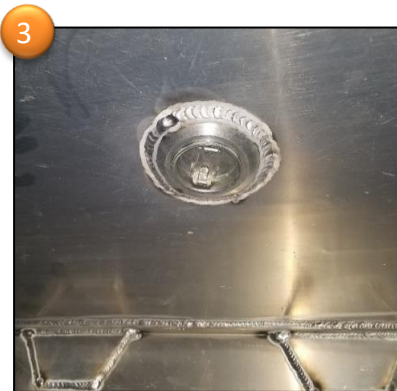
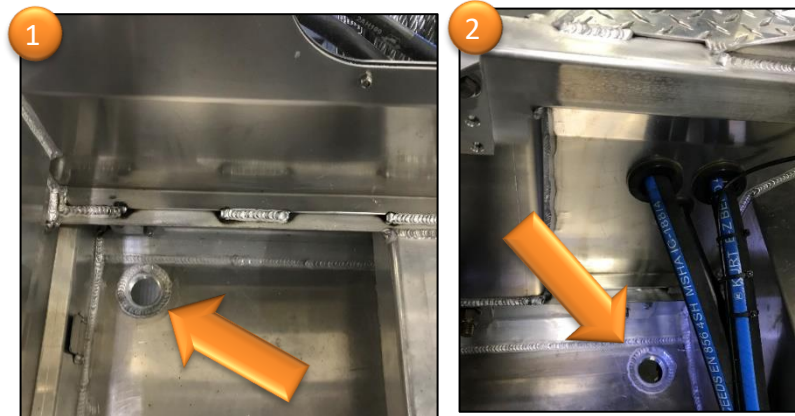
**THE OPERATOR IS RESPONSIBLE FOR ENSURING THAT THE LOAD IS DISTRIBUTED PROPERLY FOR SAFE OPERATION BY LOADING THE MACHINE SUCH THAT THE PAYLOAD IS AS CLOSE TO THE MACHINE'S CENTER OF GRAVITY AS POSSIBLE (SEE SKETCH BELOW). THE MARSH MASTER'S® SAFETY AND PERFORMANCE IS DEPENDENT UPON HOW THE MACHINE IS LOADED; THEREFORE, THE OPERATOR MUST UNDERSTAND WHAT TYPE OF ENVIRONMENT THE MARSH MASTER® WILL BE OPERATING IN (OBSTACLES, IMPEDIMENTS, HIGH WATER, STRONG CURRENTS, SUBMERGED OBJECTS, STEEP BANKS, ETC...).**



## DRAIN PLUGS

The Marsh Master® MM-2MX-K models have the following drain plugs that need to be installed before operation.

1. Front body drain plug
  - Access from inside Cab on Driver's side floor near front channel
2. Rear body drain plug
  - Access from inside rear bed area on Driver's side floor near rear channel
3. Engine oil pan access plug
  - Access from underneath machine in middle of the bottom floor
4. Motor cavity drain plug (Closed Rear Drive Machines Only)
  - Access under the rear of the machine where the drive motors are located
5. Driver side pontoon drain plug
  - Access between 2<sup>nd</sup> and 3<sup>rd</sup> bogey wheel from rear on outside of machine
6. Passenger side pontoon drain plug
  - Access between 2<sup>nd</sup> and 3<sup>rd</sup> bogey wheel from rear on outside of machine



## MARSH MASTER® PRE-OPERATION FIELD CHECKLIST

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### **Safety**

1. \_\_\_ Have the operator and all passengers been trained on proper technique for boarding, seating, and exiting of the Marsh Master® per this manual?
2. \_\_\_ Have the pontoon plugs been pulled, and the pontoons been checked for leaks in accordance with the procedure in this manual?
3. \_\_\_ Have all the body and pontoon drain plugs installed?
4. \_\_\_ Has the operator read this manual, and become fully familiar with the machine and its capabilities?
5. \_\_\_ Has the operator been trained & gained experience when operating the Marsh Master® in amphibious situations? Does the operator fully understand how to properly enter and exit the water, and swim the machine?
6. \_\_\_ Has the operator calculated all additional weight such as attachments, accessories, personnel, gear, hardware, etc., and ensured that the total is within the load limit stamped on the Marsh Master®?
7. \_\_\_ Has all gear been stowed in the rear bed area prior to entering the water?
8. \_\_\_ Has the operator done a pre-trip assessment of the area where the Marsh Master® is to be used?
9. \_\_\_ Have any potential hazards been identified, and a plan made to deal with those hazards? (such as a rain-swollen river with strong current, steep banks, stumps & logs)
10. \_\_\_ Does the operator and passengers have all their PPE?
11. \_\_\_ Have the operator and passengers been made aware of the situations in which they are required to wear a life jacket?
12. \_\_\_ Has the machine been equipped with a fire extinguisher and first aid kit? (Not supplied by Coast Machinery, LLC.)
13. \_\_\_ Has the operator been trained on the operating and safety procedures related to the use of the winch?
14. \_\_\_ Has the operator read and understood the procedure for reinstalling a jumped track?

### **Maintenance**

1. \_\_\_ Have all track bearings been greased?
2. \_\_\_ Do the track belts have proper tension?
3. \_\_\_ Have all fluid levels been checked?
4. \_\_\_ Has the machine been checked for any visible engine or hydraulic oil leakage?
5. \_\_\_ Have the radiator screens been cleaned?
6. \_\_\_ Has the winch been inspected and determined to be in good working order?
7. \_\_\_ Has the winch cable been checked for frays, rolled up properly on the drum, and ready for service?
8. \_\_\_ Has the machine been inspected for any broken or bent track cleats that need attention?
9. \_\_\_ Has it been confirmed that there is an operation manual box with this manual installed on the Marsh Master®?
10. \_\_\_ Has it been confirmed that the necessary tools to install a jumped track are on board?

***Recommended tools to bring on every trip***

1. \_\_\_ Marsh Master® Jack
2. \_\_\_ Boards for jack base
3. \_\_\_ Two 1-5/16" wrenches
4. \_\_\_ Two Come-along ratchet winches
5. \_\_\_ Long pry bar

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## ***OPERATION: DRIVING***

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Your Marsh Master® is primarily designed for wetland terrain. It is not intended for use on the following surfaces: sticky clay, gumbo mud, rock, cement, snow and ice, frozen ground, or gravel. The suspension system is rigid and depends upon the terrain for cushion. Rock and gravel can damage the wheels, sprockets, and other track components and should be avoided.

Your Marsh Master® can be used in swamp terrain and will crawl over stumps and logs. However, prudent operation in swamp terrain is required. When operating in this type of environment, travel slowly and lighten your load if possible.

Your Marsh Master® will perform best where it is soft and wet. Water helps the Marsh Master® perform. The machine will operate at its best when running in water about 1 to 3 feet deep where the Marsh Master® is almost floating, but still getting traction. In this condition, there is very little load on the undercarriage. Do not be afraid of deep water; the Marsh Master® is very stable in the full-float-mode and is designed to seamlessly transition from land to water. Water also keeps the tracks running clean and prevents mud from clogging the tracks. The Marsh Master® is an **AMPHIBIOUS** machine.

Your Marsh Master® will not operate well in sticky, heavy, clay soils. This type of mud builds up on top of the pontoon and will eventually clog the tracks and lift the tracks off of the pontoons. If the track raises high enough off the pontoon, it can scrape the side of the pontoon body and cause serious damage. If this situation occurs, the best solution is to find water or pour water on top of the tracks, and slowly work the machine until the packed mud begins to loosen and work out. This same situation can also occur with snow and ice.

Your Marsh Master® is not an ATV- it is a Marsh Master®. Experience and good judgment are required to know what terrains the machine is capable of handling.

## AMPHIBIOUS OPERATION

The Marsh Master® is an **AMPHIBIOUS** machine; therefore, the machine is **ALWAYS** considered to be in an amphibious mode of operation. Coast Machinery, LLC recommends the following best practices when operating the Marsh Master®.

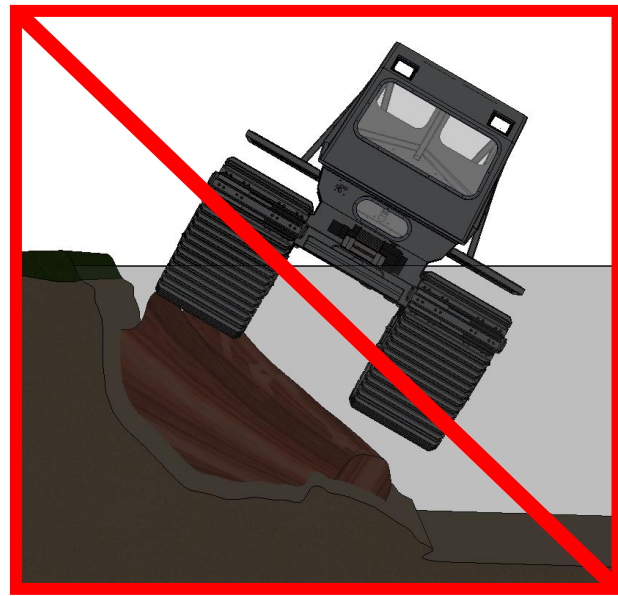
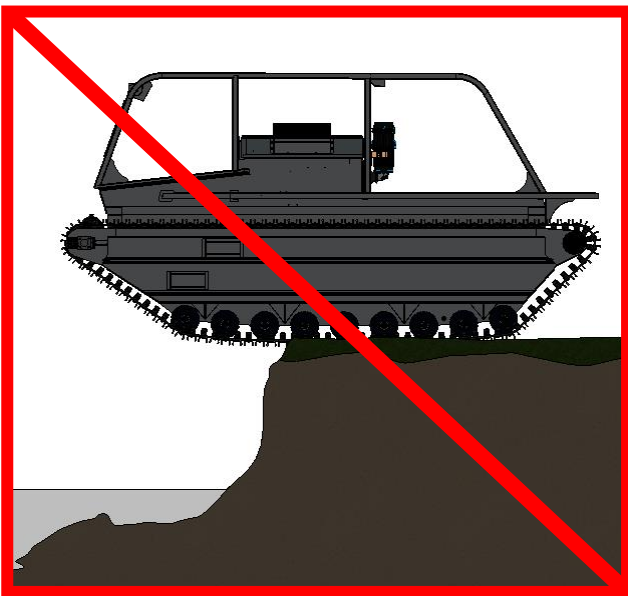
- The drain plugs should always be in when operating the Marsh Master®.
- The pontoons should always be checked prior to operating the Marsh Master®.
- A US Coast Guard approved flotation device must be available for everyone on board and worn when operating in or near bodies of water.
- Use extreme caution while operating the Marsh Master® near the edge of a body of water where there is a steep drop-off between the land and water.
- Never put the machine in a position where the weight of the machine is transferred to a single, floating pontoon.
- Never operate the Marsh Master® on a frozen waterway where the potential exists for the machine to break through on one pontoon leading to potential capsizing/roll-over.



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

**CAPSIZING MAY OCCUR IN THE EVENT THAT ONE OF THE PONTOONS IS OPERATED IN WATER AND THE OTHER PONTOON IS ON A SOLID SURFACE, OR WHERE ONE PONTOON DROPS BELOW THE WATER SURFACE.**



***SWIMMING THE MARSH MASTER®***

## **PRE-SWIMMING CHECKLIST**

1. \_\_\_ Confirm that all drain plugs have been installed correctly, see ***DRAIN PLUGS*** section of this manual.
2. \_\_\_ Check pontoons for leaks. See ***PROCEDURE TO CHECK PONTOONS FOR LEAKS*** section of this manual.
3. \_\_\_ Confirm that there are adequate US Coast Guard approved flotation devices available for everyone on board.
4. \_\_\_ Confirm that the Marsh Master® is below the Load Capacity that is stamped on the machine's data plate on the center console. See ***LOAD CAPACITY*** section of this manual.
5. \_\_\_ Confirm that the Marsh Master® is loaded such that the payload is as close to the machine's center of gravity as possible to maintain machine balance. See ***LOAD DISTRIBUTION*** section of this manual.
6. \_\_\_ When possible, lighten the load before swimming the Marsh Master®.
7. \_\_\_ If the Marsh Master® is equipped with cab doors by Coast Machinery, LLC. remove the doors.
8. \_\_\_ If the Marsh Master® is equipped with the fold-out front windshield, fully open the windshield.

## **BEST PRACTICES WHEN SWIMMING THE MARSH MASTER®**

Once the above checklist has been performed, the operator must select a suitable entry point into the body of water that allows the machine to go straight down the bank. Both tracks should enter the water at the same time. This allows both the left and right pontoon to provide equal flotation. Avoid entering the water at an angle, which puts much of the load on only one pontoon. When possible, the load should be lightened before entering the water, and the machine should be operated at slow speeds. Avoid high banks with steep drop-offs and select a suitable entry point with sloping banks.

When swimming the Marsh Master®, the operator should continue to use extreme caution. Running the tracks will propel the Marsh Master® through the water. There is a natural tendency to run the tracks at a fast speed to swim the machine faster; **however, running the tracks quickly will not make the machine swim faster.** The high speed causes the cleats to carry water on top of the pontoons and throw it forwards, generating a counteractive force. **Run the tracks at ¼ speed until the machine begins to move forward.** At this point, provided that the operator is confident that there are no underwater obstacles beneath the surface in the Marsh Master's® path, track travel speed can be increased to **half speed.**

Running the tracks to propel the machine must be done with caution because there are often many unseen objects below the surface of the water. When the machine encounters these objects, it will run up on the object. If only one track runs up on the object, then the machine will tilt at an angle. If the angle becomes too great, OR the momentum of the tilting motion becomes too great, the Marsh Master® can capsize. For this reason, the operator should not continue over such an object, but slowly back off of it and find a way around. If the operator is running the tracks too fast, this tilting action can happen quicker than the operator's ability to react, increasing the likelihood of capsizing the machine. **Good judgment and caution must be used if encountering such a situation.**

When swimming the Marsh Master® with a rear attachment it is always best to enter the body of water with the attachment entering first. The Marsh Master® swims best in reverse when operating with a rear attachment on the rear 3-point hitch. The weight and balance of the system with the rear attachment pitches the machine such that propulsion through the body of water is more effective in reverse as compared to forwards. Operating with any attachment impacts the machine's performance; therefore, if there is ANY current in the body of water, the operator should use extreme caution prior to entering the body of water.

When swimming the machine long distances, in slow-moving currents, or windy conditions, we recommend using a small outboard motor (4-40 hp), our patented hydraulic Prop Drive system (Patent # US 10,293,648 B2), or a sufficiently equipped boat for towing (see towing video in Marsh Master® PowerPoint training material). The Marsh Master® has a 21" transom.

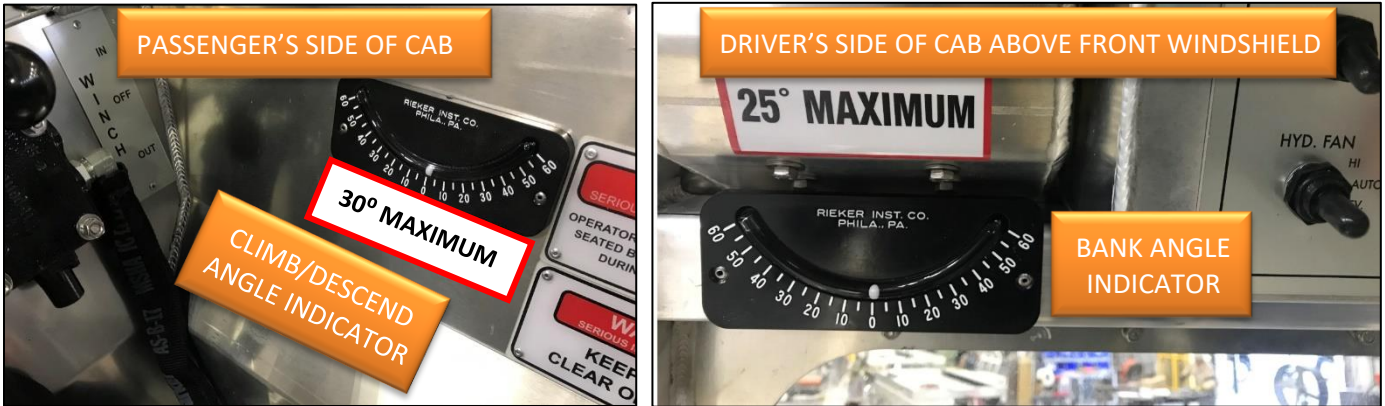


**AVOID RAIN-SWOLLEN RIVERS, AND ANY RIVER WITH ANYTHING OTHER THAN A SLOW-MOVING CURRENT.**

## CLIMBING OR DESCENDING A STEEP GRADE

### **BEST PRACTICES WHEN CLIMBING OR DESCENDING A STEEP GRADE**

Climbing or descending a steep grade must be performed with **EXTREME CAUTION**. The grade should not exceed a 30° maximum climb/descend angle. If travelling along the side of a hill, the maximum bank angle is 25°. The tracks should be positioned to go straight up or down the grade. Never approach a grade at an angle. Angle indicators have been mounted in the cab of the machine to show these two angles, see pictures below.



When climbing a steep grade, the machine should be operated at  $\frac{3}{4}$  to full engine RPM's, **BUT with very slow track speed**. This method of controlling the Marsh Master® allows for maximum torque and power which helps the machine successfully scale the embankment. The operator should avoid turning the machine sharply when ascending, descending, or running along a side hill, ditch bank, or uneven ground. Turn slowly to avoid plowing the downhill track. Failure to do so may cause the machine to throw a track.

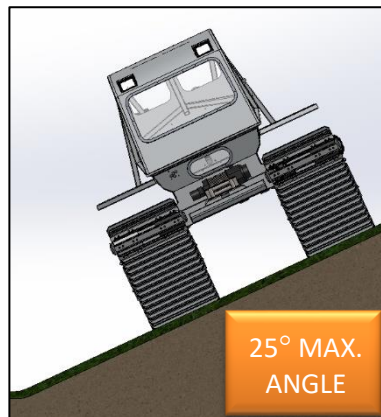
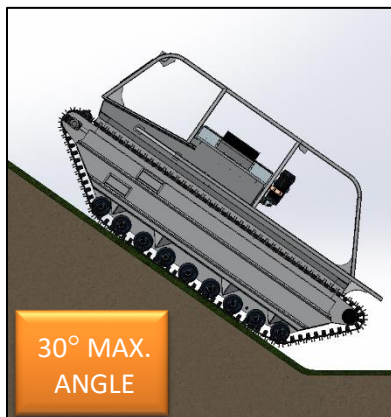


### **WARNING!**

SERIOUS INJURY OR DEATH CAN OCCUR!

SERIOUS INJURY OR LOSS OF LIFE COULD OCCUR IF MACHINE IS NOT OPERATED PROPERLY WHEN OPERATING ON A STEEP GRADE DUE TO LOSS OF TRACTION AND/OR A CHANGE IN CENTER OF GRAVITY.

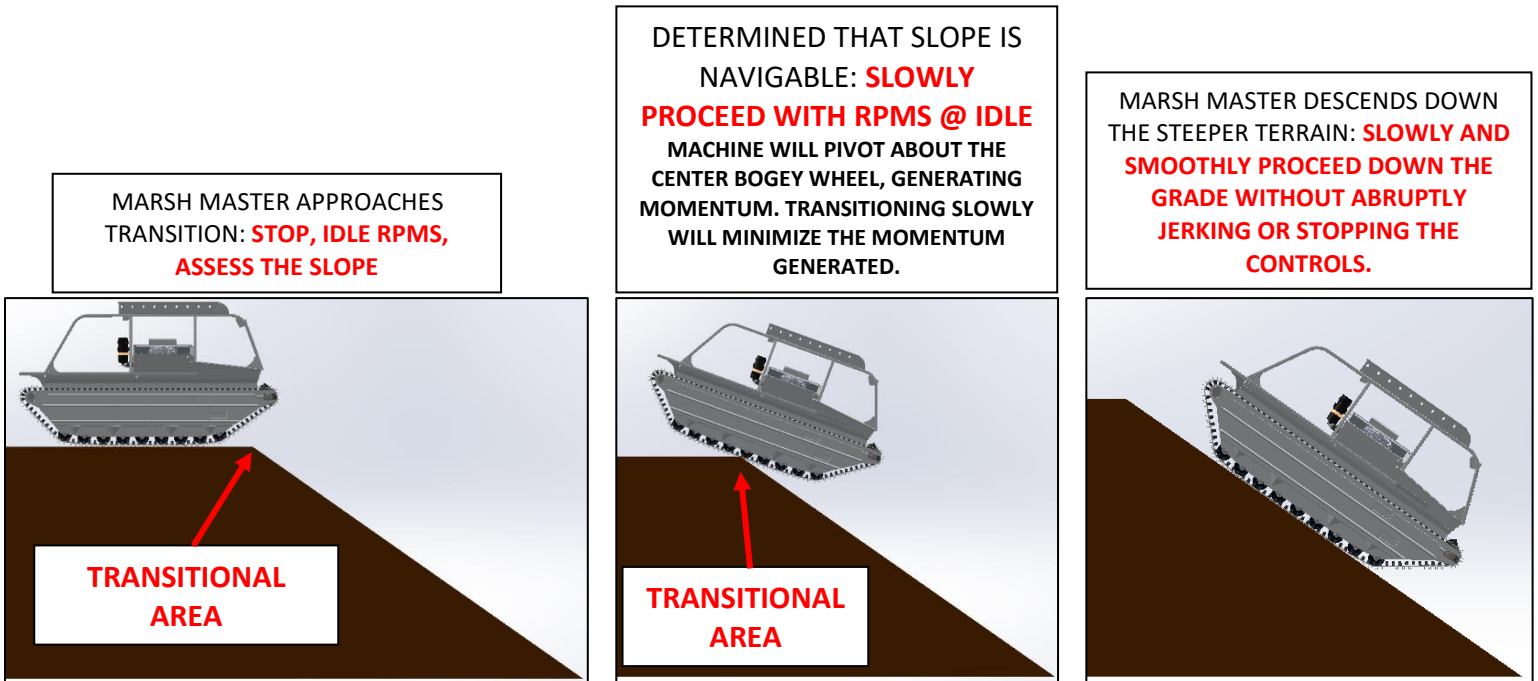
### **SAFE OPERATING ANGLES**



When operating at an angle of 30° or greater, special attention should be paid to the oil pressure light. The engine can be run at 30° for a maximum of 30 minutes. Exceeding these limits will cause insufficient oil pressure and damage the engine.

## APPROACHING A TRANSITION IN TERRAIN GRADE

When approaching a levee, a drop off, or any other type of terrain grade change, the operator must approach and cross over the transition point slowly and with **EXTREME CAUTION**. It is recommended that prior to entering the transitional area where the grade changes that the operator brings the machine to idle, assesses the slope to determine if it is within the machine's operating limits, and **SLOWLY** tracks the machine over the transition point. See pictorial below:



 **WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

FAILURE TO FOLLOW THE BEST PRACTICES DESCRIBED ABOVE WHEN OPERATING AROUND CHANGES IN TERRAIN GRADE MAY CAUSE THE MACHINE TO GENERATE EXCESSIVE MOMENTUM IN THE LONGITUDINAL OR LATERAL DIRECTIONS, INCREASING THE RISK OF ROLLOVER AND REDUCED MACHINE STABILITY, INCREASING THE RISK OF SERIOUS INJURY OR DEATH.

## HOW TO AVOID THROWING A TRACK

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When traveling through heavy brush, or stump-filled areas - track very slowly, take as direct a path as possible, and turn very slowly if necessary. This type of environment provides many obstacles that you will either have to climb over or straddle. Avoid thick stands of cypress knees or stumps that can bend or break track cleats and increase track-throw probability.

In a situation when climbing over or straddling an obstacle, avoid turning the machine until it has been crossed. When you are on an obstacle, the track is point-loaded, meaning that all of the weight of the machine is concentrated at one point. This point is where the track is engaging the obstacle. Turning under this condition will increase the risk of throwing a track.



To reduce the risk of throwing a track, avoid turning the machine sharply or quickly when ascending, descending, or running along a side hill, ditch bank, or uneven ground. Slow and gradual movements will help prevent plowing the downhill track when operating on uneven ground.



## THREE-POINT HITCH

Some Marsh Master® models come with a Category 1 three-point hitch on the rear, front, or both. The pull or push frame is designed specifically for the conditions that come with running in wetland terrain. When not using an attachment, the pull or push frame tucks neatly up against the bottom of the Marsh Master® to give maximum ground clearance. When the frame is down during attachment use operations, the angle of the frame creates a smoother contact with obstacles over which the Marsh Master® runs. While the hitch is designed to work optimally for the Marsh Master® Cutter, other Category 1 tools will mount on the hitch with little or no modifications to the attachment.

### *REAR 3 POINT HITCH ONLY*

The hitch is controlled by the lever on the left side of the driver seat. The valve is a spool valve, so it is sensitive to how far the lever is moved. This sensitivity allows for feathering the controls for lifting/lowering precision. The height of the pull frame is displayed by the pointer on the cutter box.

#### **RAISING THE HITCH**

Pull & hold the lever to the UP position to lift the hitch. Release the lever and it will spring-return to the HOLD position causing the hitch to stop at its current position.

#### **HOLD**

The hold position hydraulically locks the hitch in the current position.



#### **LOWERING/FLOATING THE HITCH**

Pushing the lever forward to this position allows the hitch to freely move up and down. When the hitch is up, the weight of the attachment pulls the hitch down. When the attachment is on the ground, the float mode allows the attachment to follow the contour of the terrain. The lever will detent in the down/float position, so the operator does not have to hold the lever in this position when running the machine.



**WHEN MANIPULATING THE REAR HITCH, THE OPERATOR MUST ENSURE THAT NO PERSONNEL ARE NEAR THE REAR OF THE MACHINE WHEN RAISING OR LOWERING AN ATTACHMENT. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.**



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

## REAR AND FRONT HITCH

Both hitches are controlled by the lever on the left side of the driver seat. The lift control valve is a spool type, so it is sensitive to how far the lever is moved. This sensitivity allows for feathering the controls for lifting/lowering precision. **The front hitch has a maximum load capacity of 400 lb.** Any attachments weighing more than this amount will make the Marsh Master® too front heavy.

Only one hitch can be operated at a time, so the operator must select between front and rear using the “Hitch Select” switch. Whichever hitch is not being used will be hydraulically locked in its current position. The operator should keep an eye on the frame position because it may creep down over time. The height of the rear pull frame is displayed either by the pointer in the cutter box (open rear drive) or the rear attachment camera (closed rear drive) depending on the Marsh Master®.



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

EXTRA CAUTION SHOULD BE TAKEN WITH FRONT-MOUNTED ATTACHMENTS SINCE THEY ARE MUCH CLOSER TO THE CAB THAN A REAR-MOUNTED ATTACHMENT.

### RAISING THE HITCH

Pull & hold the lever to the UP position to lift the hitch. Release the lever and it will spring-return to the HOLD position causing the hitch to stop at its current position.

### HOLD

The hold position hydraulically locks the hitch in the current position.

### LOWERING/FLOATING/DOWN PRESSURING THE HITCH

The DOWN/FLOAT position has two modes. When the lever is pushed to the end of its stroke, it will detent/lock into that position. Pulling back on the lever will release the detent/lock.

**FLOAT MODE:** This mode is the default mode for the fully forward lever position. If not already in this mode, flip the “Hitch Lower Mode” switch to the FLOAT position. When the hitch is up, the weight of the attachment pulls the hitch down. When the attachment is on the ground, the FLOAT mode allows the attachment to follow the contour of the terrain.

**DOWN PRESSURE MODE:** Flip the “Hitch Lower Mode” switch down to activate the DOWN PRESSURE mode. This mode uses hydraulic pressure to push the hitch down.



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

DOWN PRESSURE MODE LOWERS THE HITCH/ATTACHMENT MORE QUICKLY THAN FLOAT AND MAY RAISE THE FRONT OF THE MARSH MASTER®.

## ***AUTO-LIFT HITCH SYSTEM***

The MM-2MX-KC (model with rear 3 pt. hitch) is equipped with the ***Auto-Lift System***. This system is designed specifically for the Marsh Master® when equipped with the MM-2 Cutter attached on the rear 3-point hitch. The *Auto-Lift System* allows the operator to mow continuously without worrying about overloading the Hi-Flow hydraulic circuit (the circuit that drives the cutter) causing the Marsh Master® to “bog down” or continuously relieve when mowing in tough environments. The *Auto-Lift System* also protects the Marsh Master’s® hydraulic circuit by preventing heat buildup due to continually going over a relief when the cutter gets very high loads.

### **How Does it Work?**

The *Auto-Lift System* is a control system that utilizes the pressure from the Hi-Flow circuit to “automatically” start lifting the cutter just before the cutter “bogs-down” when cutting through a harsh environment (e.g., tall & thick material, flooded pockets of material, etc...). As soon as the hitch begins lifting the cutter, clogged material clears out, the pressure on the Hi-Flow system drops, and the hitch lowers the cutter back down.

### **How to Activate the System?**

To activate the *Auto-Lift System*, simply flip the switch located on the cutter instrument box. Once the system is activated, shift the hitch into the FLOAT position, activate the Hi-Flow circuit, and depress the foot pedal. It is imperative that the lift lever remains in FLOAT while mowing with the *Auto-Lift System* engaged. Note that the cutter may slightly lift when first starting up due to the pressure spike created upon start-up, this is normal, and the cutter should quickly return to ground level.

### **When to Utilize Auto-Lift?**

The *Auto-Lift System* is recommended to be used when mowing in most applications except for when mowing in continuously flooded material. When mowing in water over a couple of inches deep, the *Auto-Lift System* will constantly be engaged causing the hitch to continuously be raised and lowered. When operating in this this type of environment, it is recommended to turn the *Auto-Lift System* off and use the three-point hitch lever to manually maintain the desired cut height. Also, the system should be turned off when using any other rear attachment other than the MM-2 Cutter.



## TRAILERING THE MARSH MASTER®

The Marsh Master® can be loaded and unloaded on any trailer that is rated and suitable for hauling such a load. Coast Machinery, LLC recommends hauling the Marsh Master® on either the MM-2 or MM-2 XL Heavy Duty Custom Trailers designed and supplied by Coast Machinery, LLC. The following best practices should be followed when loading and unloading the Marsh Master.

### WHEN LOADING

- Bring the machine to idle rpm's (approximately 1000 rpm's).
- Lift all attachments to the fully raised position and ensure that all auxiliary hydraulic circuits are turned off.
- Line the center console up with the center of the trailer.
- Slowly track forward until the track cleats engage the end of the trailer.
- If loading on a non-Marsh Master® trailer the following is recommended:
  - If possible, do not use a trailer with steel ramps as there is very little friction between the aluminum track cleats and the steel ramps causing the machine to slip.
  - If using a steel ramp trailer, secure a strip of rubber (or other type of tractive material) between the tracks and deck to minimize the possibility of slipping.

**IF USING A NON-TILT-DECK TRAILER, THE OPERATOR SHOULD BE CAUTIOUS WHEN APPROACHING THE "BREAK-OVER POINT" WHERE THE ANGLE OF THE RAMP LEVELS OFF TO THE TRAILER. AT THIS POINT, THE MACHINE WILL PITCH UP AND MACHINE STABILITY WILL BE LESS THAN WHEN USING A TILT-DECK TRAILER. THE OPERATOR MUST SLOWLY TRACK THE MACHINE STRAIGHT ONTO THE TRAILER PAST THE "BREAK OVER POINT."**



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

- Slowly track forward such that the cleats "grab" the trailer one cleat at a time, pulling the machine up the trailer while keeping the center console centered on the trailer.
- Track up the trailer until the tilt deck portion of the trailer starts to close (when using a Marsh Master® trailer).
- Allow the tilt deck trailer to slowly drop to the "closed/level" position.
- Pull the Marsh Master® up until the track cleats engage the trailer chocks or the front bumper contacts the ladder bump stop (depending on the trailer, see picture below).



- The Marsh Master® is equipped with a 4-point tie down system for securing the machine to the trailer.
- Properly strap the Marsh Master® to the trailer using properly rated straps such that the straps (other than the hooks) do not contact any part of the Marsh Master® or attachment.
- Always cross-over the straps.



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**THE MARSH MASTER® IS NOT EQUIPPED WITH A PARKING BRAKE; THEREFORE, IF THE MACHINE IS NOT PROPERLY TRAIERED, THE MACHINE COULD SHIFT OR MOVE UNEXPECTEDLY LEADING TO SERIOUS INJURY OR DEATH.**

### **WHEN UNLOADING**

- If unloading from any type of tilting-deck trailer, ensure that the trailer tilt-deck latching mechanism is **UNLATCHED PRIOR TO BACKING THE MARSH MASTER® OFF THE TRAILER.**
- Un-hook the straps that are securing the Marsh Master® to the trailer.
- Start the Marsh Master.
- Lift all attachments to the fully raised position and ensure that all auxiliary hydraulic circuits are turned off.
- Slowly track the machine backwards keeping the center console aligned with the center of the trailer.
- If unloading from a non-Marsh Master® trailer the following is recommended:
  - If possible, do not use a trailer with steel ramps as there is very little friction between the aluminum track cleats and the steel ramps causing the machine to slip.
  - If using a steel ramp trailer, secure a strip of rubber (or other type of tractive material) between the tracks and deck to ensure the tracks do not slip.
- Track backwards until the tilt-deck portion of the trailer starts to open.
- Slowly track down the tilted trailer until the Marsh Master® contacts the ground.
- Slowly back the machine off the trailer until the machine is no longer contacting the trailer.



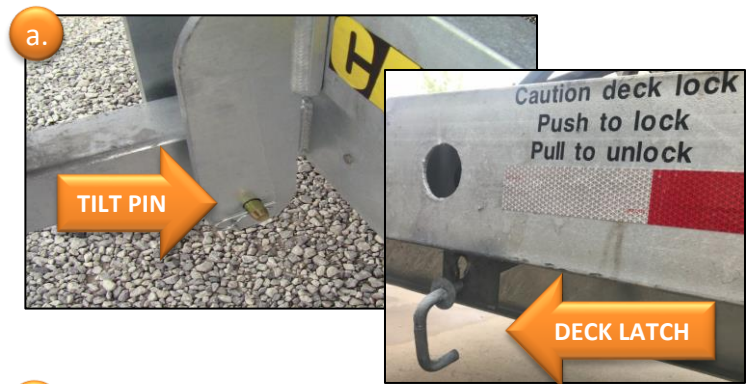
**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**PRIOR TO UNLOADING, THE TRAILER TILT-DECK LATCHING MECHANISM MUST BE UNLATCHED. FAILURE TO DO SO MAY RESULT IN PROPERTY DAMAGE AND/OR SERIOUS INJURY OR DEATH.**

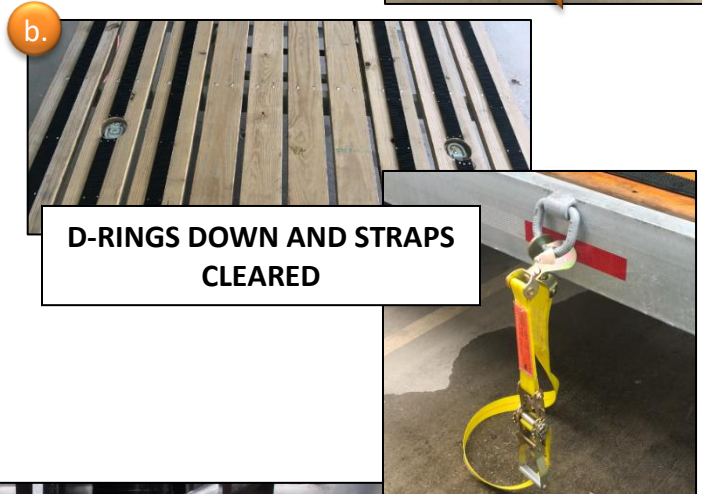
## MM-2 GALVANIZED HEAVY-DUTY CUSTOM TRAILER



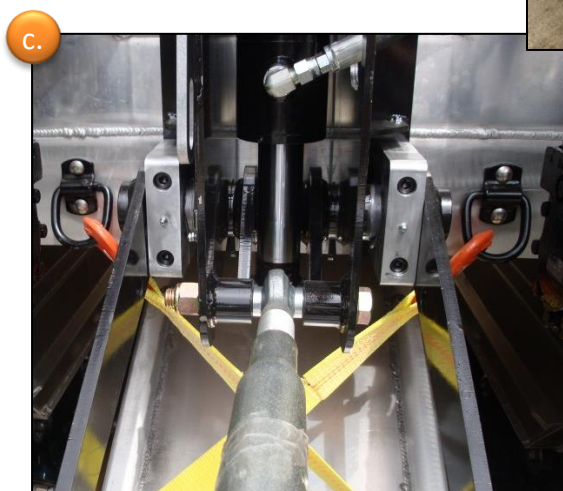
- a. Make sure that the tilt deck portion of the trailer has been properly unlatched prior to backing the machine down the trailer. Unlatching the trailer typically requires removing a pin or manipulating a rod & spring latch system.



- b. When unloading the Marsh Master® make sure that all D-rings, straps, and other objects are clear of the path by which the Marsh Master® tracks will traverse when descending the trailer deck.



- c. The MM-2 Galvanized Heavy-Duty Custom Trailer is equipped with a four-point tie down system to match the Marsh Master's® tie down system.
- Always cross over the straps.
  - Ensure straps (other than the hooks) are not contacting any of the surrounding equipment.



## HOW TO REALIGN A THROWN TRACK

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1. Re-aligning a thrown track requires two people: 1) cab operator, 2) track re-aligner



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**NEVER ATTEMPT TO RE-ALIGN A THROWN TRACK WITHOUT TWO PEOPLE. SPECIAL CAUTION SHOULD BE TAKEN TO NOT DAMAGE THE MARSH MASTER® BODY OR TRACK PARTS, AND TO RE-ALIGN THE TRACK IN A SAFE MANNER.**

2. Using a 1-5/16" wrench, loosen the bearing take-up nuts to allow as much slack as possible in the belts.
3. Jack up the machine, getting the load off the track.
  - a. Jacking the machine up is not absolutely necessary to put the track back on, but it will make the job easier.
  - b. Lift the machine using the jack plate at the center of the Marsh Master®.
4. Attach a come-along to the thrown track.
  - a. If the track is thrown to the outside:
    - i. Attach one hook of a come-along to the outside end of a track cleat in front of the sprocket.
    - ii. Attach the other hook to the outside end of a cleat on the other track.
  - b. If the track is thrown to the inside:
    - i. Attach one hook of a come-along to the inside end of a track cleat in front of the sprocket.
    - ii. Attach the other hook to some object, such as a tree or another Marsh Master®, which can serve as an anchor.
  - c. Avoid attaching the hooks to the belts, as this will likely damage them.
5. Tighten the come-along to put tension on the thrown track.



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

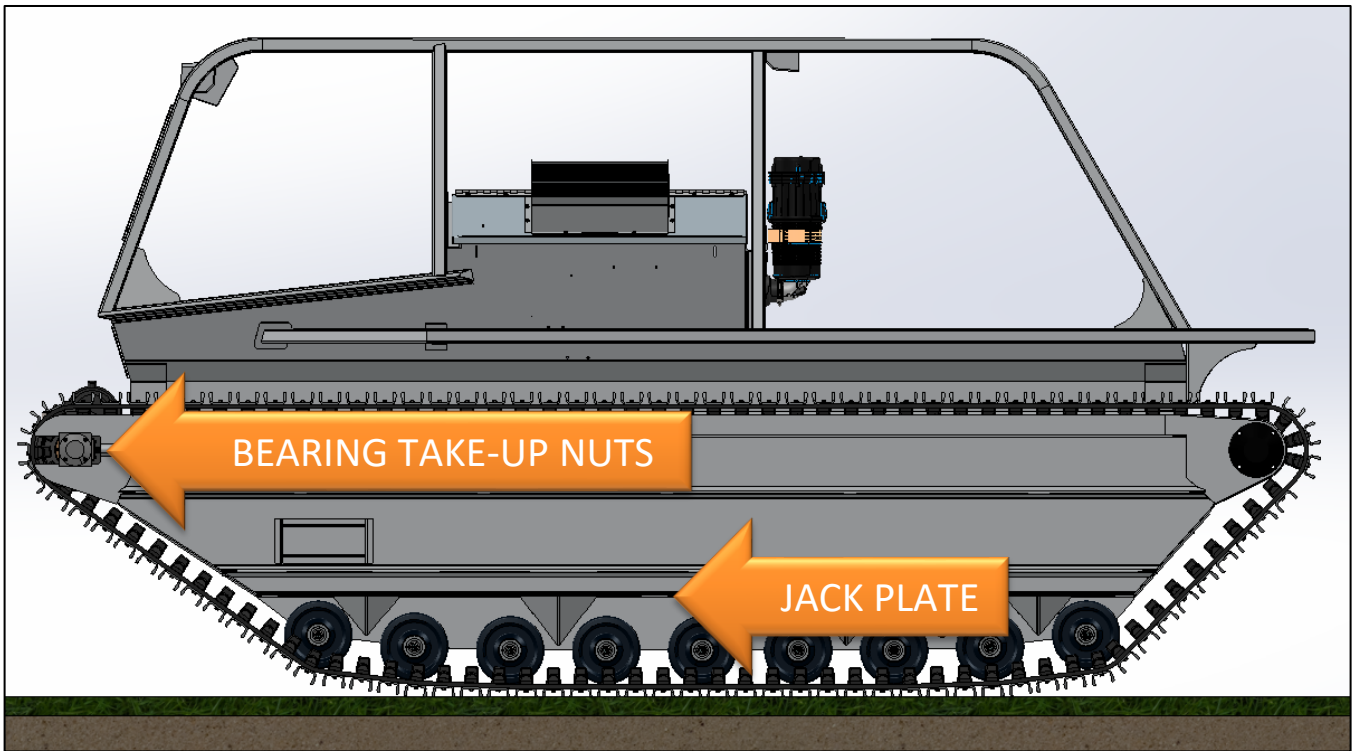
**THE PERSON ACTING AS THE TRACK RE-ALIGNER MUST BE CLEAR OF THE MACHINE PRIOR TO THE OPERATOR STARTING THE ENGINE. IF THE MACHINE BEGINS TO MOVE OR SLIP OFF THE JACK, THE OPERATOR MUST KILL THE ENGINE IMMEDIATELY.**

6. Start the engine, and slowly run the track backwards with the engine at idle.
  - a. The track will pop and jump, but once the sprocket grabs a drive lug, the track will roll back on.
  - b. The concept is just like putting a bicycle chain back on. Once a sprocket tooth grabs a link of a bicycle chain, the chain will roll back on.
7. Use procedure for adjusting track tension found in the maintenance section of this manual once the track is realigned.



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**USE EXTREME CAUTION WHEN USING ANY TYPE OF PRYING TOOL AROUND THE MARSH MASTER® TRACKS. IF ANOTHER METHOD OF RE-ALIGNING THE TRACK IS AVAILABLE, IT IS RECOMMENDED TO USE THAT METHOD.**



## TOWING

The Marsh Master® can be towed in case of emergency. The following steps show how to put the Marsh Master® in “Tow Mode”:

1. Locate by-pass valve on each side of hydraulic pump. This is the bolt with a hole through the head. (See Sundstrand manual for details).
2. Back out 2 turns to open bypass.
3. Tow unit to suitable or safe work area.
4. Re-tighten bypass valves before running machine.



## OUT OF FUEL: RE-PRIMING ENGINE

If the Marsh Master® runs out of fuel, then the system needs to be primed. There is a priming bulb on the top of the fuel filter located on the driver side of the engine compartment. Once the tank has been filled, press the bulb repeatedly until it becomes hard to press. Once the bulb has become hard, perform normal starting procedures as outlined in the operation section.

**Do not crack injectors!** This engine operates using a high-pressure common rail. Cracking fuel lines to bleed air out of the system will damage the components and may cause injury. Only technicians certified to work on Kohler engines should troubleshoot fuel system.



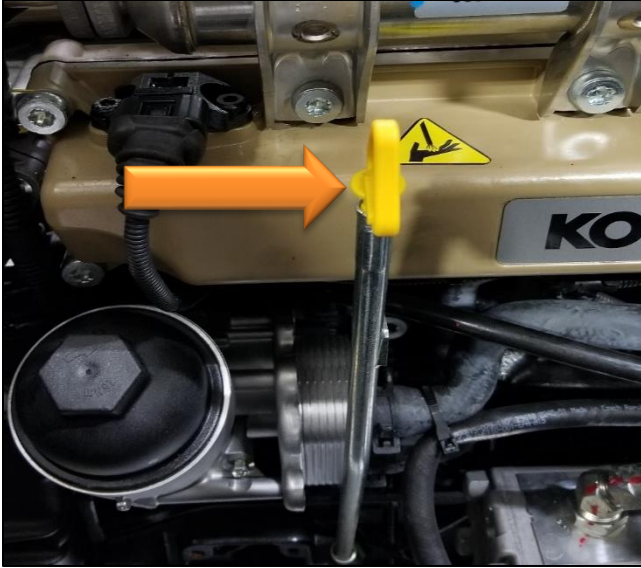
**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**HIGH PRESSURE FLUIDS CAN PUNCTURE SKIN AND CAUSE SEVERE INJURY OR DEATH. DO NOT WORK ON FUEL SYSTEM WITHOUT PROPER TRAINING AND SAFETY EQUIPMENT.**

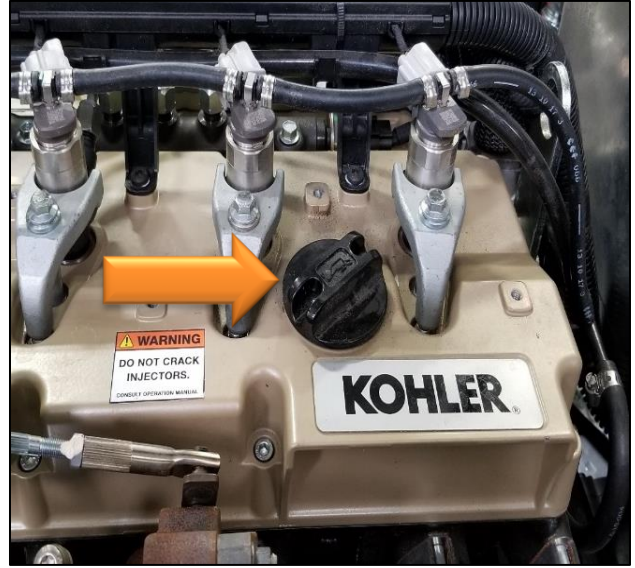


## SERVICE POINTS

**DAILY-1: Engine Oil Dip Stick**



**DAILY-1: Engine Oil Refill Cap**



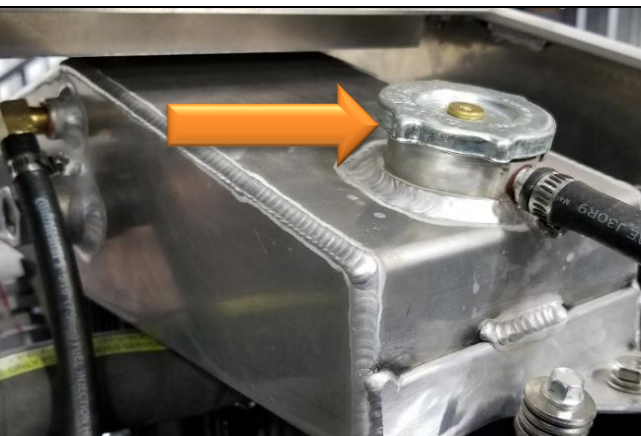
**DAILY-2: Hydraulic Oil Filler Neck**



**DAILY-2: Hydraulic Oil Tank Dip Stick**



**DAILY-3: Radiator Overflow Tank Filler Neck**



**DAILY-3: Coolant Level Sight Glass**



### *AKG RADIATOR/OIL COOLER SCREEN*



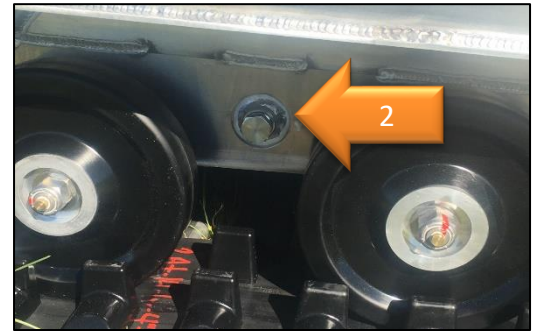
The AKG cooler is a single unit that houses three cooling systems which provide cooling capacity for the engine coolant, the charge air, and the hydraulic oil. The cooler is located at the rear of the engine compartment. It is critical that air can flow through the fins of this device with minimal resistance. Therefore, the screen will need to be cleaned periodically. The time interval between cleaning depends heavily upon the operating environment. In all models, the hydraulic fan pulls air through the cooler into the engine compartment. To blow out the screens, the fan direction must be reversed see **HYDRAULIC COOLING FAN** section.

The following steps explain how to thoroughly clean the cooler screen:

1. Lift the screen so that the cooler is not blocked.
2. Use compressed air to blow the fins from the inside of the engine compartment out.
3. After blowing out with air, wash with water.
  - Spraying with a pressure washer may damage the cooling fins on the cooler.

## PROCEDURE TO CHECK PONTOONS FOR LEAKS

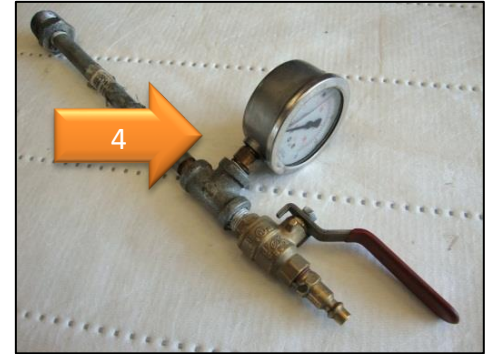
1. Turn off engine.
2. Locate drain plug at bottom outside edge of pontoon.
3. Remove plug using a 1-1/16" or 1-1/8" socket with breaker bar, and allow any water to drain.
  - Air inside the pontoon will expand, especially on a warm day.
  - If air rushes out when the plug is pulled, then the pontoon is leak free.
  - If no air comes out, then we recommend pressure checking the pontoon.
  - Never assume if no water comes out that no leaks are present. The leak may be in the bottom of the pontoon, allowing the water to drain back out over time.



4. With the drain plug removed, attach the pressure tester to the drain plug boss.
5. Attach an air hose to the tester.
6. Quickly open and close the ball valve, putting no more than 2 psi of air into the pontoon.

**CAUTION:** More than 2 psi can damage the pontoon.

7. Let it sit for a few minutes while observing the gauge.
  - A drop in pressure indicates a leak.
  - Use a squirt bottle with soap and water to find the leak.



8. Perform the test procedure to check pontoon atmosphere, and then repair the pontoon.
9. After the repair is complete, repeat the pressure test to ensure that the pontoon is completely sealed.
10. Using Loctite #545 thread sealant, reinstall the pontoon drain plug. Do not over tighten.



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

**EXPLOSION HAZARD: SERIOUS INJURY OR DEATH COULD OCCUR IF FLAMMABLE LIQUIDS OR GASES ACCUMULATE IN THE PONTOON CHAMBER, AND A SOURCE OF IGNITION PENETRATES THE PONTOON.**



### WARNING!

SERIOUS INJURY OR DEATH CAN OCCUR!

**DO NOT CUT, DRILL, WELD OR PERFORM ANY HEAT OR SPARK GENERATING ACTIVITY UNTIL THE PONTOON CHAMBER ATMOSPHERE HAS BEEN TESTED BY A COMPETENT PERSON USING A PROPERLY CALIBRATED EXPLOSIVE METER (FLAMMABLE GAS DETECTOR).**

**NOTE:** Before doing any work on pontoon, contact Coast Machinery, LLC, to review the work procedure planned.

## TRACK MAINTENANCE

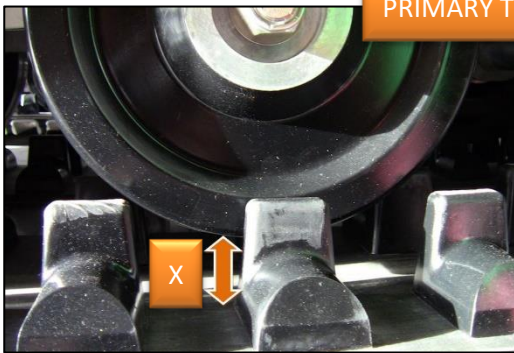
Two items are required to keep the Marsh Master® tracks properly maintained.

1. Proper belt tension/alignment.
2. Proper bearing lubrication (Poor bearing lubrication will result in short bearing life).

### CHECKING TRACK TENSION

#### Method 1: Primary Test

- Place jack at jack plate. Jack up one side of machine until the track is off the ground.
- Examine the track clearance between the bottom of the 5<sup>th</sup> bogey wheel and the top of the rubber belt (gap "X" in picture below).
- The distance should be in accordance with the table below.



#### Method 2: Field Test

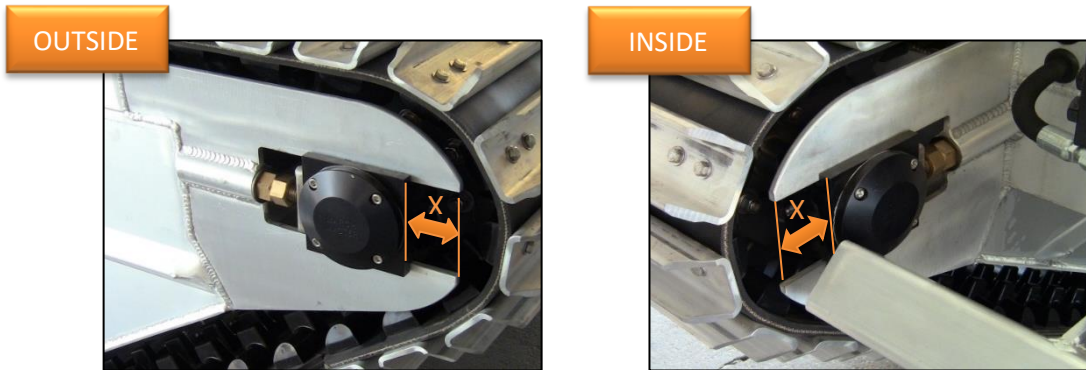
- Place your foot on the track in front of the Marsh Master® and apply pressure.
- Properly tensioned tracks will spring back.
- Improperly tensioned tracks will either be floppy and have no rebound (if too loose) or will not be able to move (if too tight).



BELT TYPE	HOW TO DIFFERENTIATE BELT TYPES	PICTORIAL	CLEARANCE GAP "X" (IN.)
A	Both covers are ¼" thick		3"
B	Outer cover is ⅛" thick, Inner cover is ¼" thick		¾"

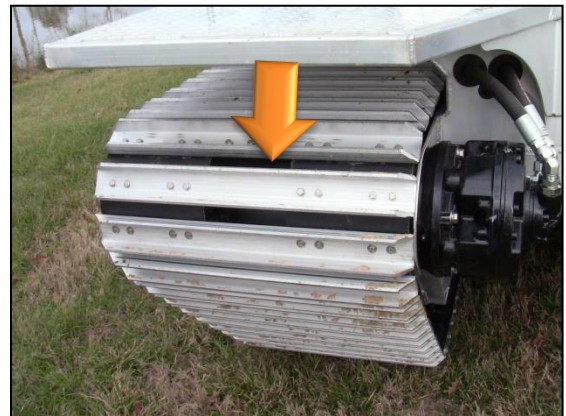
### *ADJUSTING TRACK TENSION*

1. To adjust the track tension, you must first unlock the bearing take-up nuts by loosening the lead jam nut (the one farthest to the front).
2. With the lead jam nut backed off, loosen or tighten the other nut to obtain the correct track tension, as noted in the previous section.
3. Once the track is properly tensioned, make sure that the distance from the bearing housing to the front of the bearing pad is the same on both sides of the track. (See pictures below)
4. Re-lock the bearing take-up nuts, but do not over tighten them.



### *TRACK CLEAT REPLACEMENT*

1. When a track cleat is bent, it can usually be straightened in a hydraulic press.  
The only time that it cannot be straightened is if the cleat is twisted or cracked.
2. Roll the cleat in need of replacement to the rear sprockets.
  - a. The rear sprockets will hold the drive lugs in place as you remove the cleat.
3. Remove the cleat, and either straighten or replace it.
4. Apply 3 drops of blue Loctite #243 to the threads of the drive lug inserts, not the bolts.
5. Install the cleat, tightening the bolts to 110 in.-lb.



### *OTHER TRACK MAINTENANCE ITEMS*

- Check periodically for loose bolts or broken or bent cleats. Replace or repair immediately.
- Remove any wire, fishing line, grass, or other materials that might be wound up on the sprocket shafts.

## CARGO RACK



When specified by the customer, the Marsh Master® can be purchased with a cargo rack that mounts either above the cab and/or above the engine compartment of the Marsh Master®. The cargo racks/baskets are an aluminum bolt-on design equipped with tie downs and are perforated to prevent water accumulation. Coast Machinery, LLC recommends the following best practices be used when your Marsh Master® is equipped with a cargo rack/basket:

- Never transport more than 100 lbs in the cargo rack/basket. Doing so will alter the Marsh Master's® center of gravity which will impact the machine's performance and will increase the likelihood of turning the machine over.
- Never transport passengers in the cargo rack/basket.
- Never tie off to the cargo rack/basket.
- Always be sure to clean out or tie down any loose items in the cargo rack/basket prior to towing down the highway.



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**CARGO RACK/BASKET WEIGHT MUST BE ACCOUNTED FOR AND SUBTRACTED FROM THE LOAD CAPACITY. SEE CARGO RACK/BASKET DATA PLATE.**



**WARNING!**  
SERIOUS INJURY OR DEATH CAN OCCUR!

**DO NOT CARRY HEAVY OBJECTS (OVER 100 POUNDS) IN THE CARGO RACK/BASKET. NEVER ALLOW PASSENGERS TO RIDE ON THE CARGO RACK/BASKET.**