SCREEDSAVER MAX PLUS

Owner / Operator Manual

English

Prior to using this equipment, carefully read all component owner/ operator's manual and this manual in its entirety!

LIGCHINE BEYOND LEVEL™

680 Gerry Way | Darien, WI 53114 USA | (812) 903-4500 | www.ligchine.com

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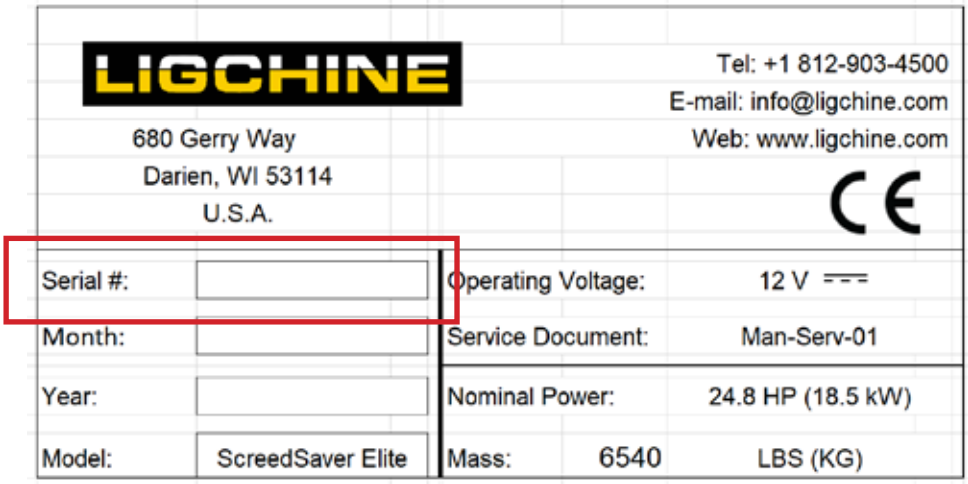
WARNING

It is imperative that anyone who operates this machine read this manual in its entirety to understand how to safely and effectively use the SCREEDSAVER MAX PLUS—and avoid personal injury or damage to the machine.

SERIAL NUMBER

When contacting Ligchine for replacement parts, service, or information, please have your serial number available—which identifies your specific machine and Ligchine account. Locate the serial number on the nameplate at the rear of the machine, on the top side of the boom arm. Machine specifications are also shown on this nameplate.



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READ THIS MANUAL IN ITS ENTIRETY BEFORE OPERATING OR SERVICING THE MACHINE!

DECLARATION OF CONFORMITY

LIGCHINE
3249 Knobs Valley Drive
Floyds Knobs, IN 47119
U.S.A

CE

Declaration of Conformity to EU Directives

According to the following EU Directive:

- **2014/30/EU EMC Directive**

We, LIGCHINE, hereby certify that the machinery described below conforms with the essential health and safety requirements of Council Directive 2006/42/EC on the approximation of the laws of the Member States relating to the safety of machinery.

Product Name: ScreedSaver
Models: II, MAX, PLUS, PRO, ELITE, BOSS 240
Serial Number: 0001-9999

European harmonized standards observed:

- **EN 60204:2006+A1:2009/AC 2010**
- **EN 12100:2010**
- **EN ISO 4413:2010**
- **EN 6100-6-2:2005**
- **EN 55011: 2009+A1: 2010**

Person Authorized to Compile the Technical File:

Greig Sandiford
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United Kingdom

Date: 11 December 2020

Signed:

David J. Ring
CEO – Ligchine

NOISE EMISSIONS

Information on Noise Emission

Ligchine International
Screedsaver MAX PLUS
Sound Pressure and Sound Power Levels per EN ISO 11202 are as follows:

Model: Screedsaver MAX PLUS	**S/N: As noted on Nameplate**	**Year of Construction:** 2020
	Operating	Ambient
L_{pAm} (Operator Position)	85 dB (A)	40 dB (A)
L_{pAm} (Bystander Position)	88 dB (A)	40 dB (A)
Peak C-weighted instantaneous SPL in the Operator's position	100 dB (C)	---
Sound power emitted where the equivalent continuous A-weighted SPL exceeds 80 dB (A).	85 dB (A) (Average)	---
The average difference between the extraneous noise level and the sound intensity level at each measuring point is:	L_{pAm} Δ = 45 dB (A)	
Ambient Correction Factor K3A calculated according to EN ISO 11204 Appendix A.	4 dB(A)	
Measurements were made at a height of 1.5 m and 1 m from the Operator Position and all four sides of the equipment.		
The figures quoted are emission levels and are not necessarily safe working levels. While there is a correlation between the emission and exposure levels this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of the workforce include characteristics of the work room, the other sources of noise, etc. such as the number of machines and other adjacent processes. Also, the permissible level of exposure can vary from country to country. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.		
	**Ligchine International 3429 Knobs Valley Dr Floyds Knobs, IN 47119 USA**	

INTRODUCTION

Thank you for purchasing the SCREEDSAVER MAX PLUS. Ligchine is very proud of this machine, and we maintain an enduring commitment to your ownership satisfaction. Our goal is to provide you with a clear understanding of the SCREEDSAVER MAX PLUS machine, which will support in many years of safe operation and contribute to complete satisfaction with our products and service.

Cautions, Warnings, and Important Messages

Your manual contains key messages meant to bring attention to potential safety concerns, machine damage warnings, and helpful operating and servicing information. Please read all information carefully to avoid personal injury and machine damage.

AVOID INJURY

Avoid injury! Pay special attention to warning and information symbols throughout this manual. These are meant to help you avoid hazards that may result in damage to the machine or serious injury to the operator or any bystanders.

Using this Manual

This manual is an important part of the value of your SCREEDSAVER MAX PLUS machine, and should remain with the machine if it is ever resold.

Due to minor manufacturing changes, the machine shown in this manual may differ slightly from your machine. Ligchine ensures that there is enough similarity to help you understand the instructions. Any newer editions of this manual, additional machine options, technical service bulletins, and other important information will be made available on the Ligchine website (www.ligchine.com). If you need additional information, please do not hesitate to contact directly.

Machine Orientation

The RIGHT and LEFT sides of the machine are seen when standing at the rear of the machine—closest to the serial nameplate on the boom—looking forward. The touch-screen display is located on the LEFT SIDE of the machine.

Front

Rear

LEFT SIDE

SAFETY INFORMATION

Your SCREEDSAVER MAX PLUS machine has been designed and manufactured to provide you with the safety and reliabability to be expected from a leading manufacturer of concrete placement equipment. Carefully read and strictly comply with all safety messages. Otherwise, personal bodily injury or death may result.

CRITICAL SAFETY WARNINGS

WARNING - EMERGENCY STOP

A key safety feature of the MAX PLUS is the red emergency activation button located on the wireless remote. Pressing this button at any time will immediately turn off the engine, thus stopping the machine from moving.

WARNING - FRAME JACK

Never place any part of your body between the upper and lower frame jack (scissor jack) when they are separated unless you have secured a steel support block between the frame sections to prevent accidental closure.

WARNING - BRAKES

ScreedSaver MAX PLUS includes a built in hydraulic braking system. Caution should continue to be exercised when maneuvering on steep grades as there are limits to any braking system's ability to stop a heavy machine and/or prevent a rollover situation.

- ► Releasing the drive paddle switches at any time will result in the machine braking system activating.
- ► Activating the E-stop button on the remote control will cause the machine to turn itself off and become immobile.

The hyrdaulic brake system is activated when the engine is off and any attempt to tow, push or move your machine could cause damage to the braking system. Always park machine on flat ground and lower the downriggers to prevent it from rolling.

WARNING - ELECTRONICS

Welding or jump starting the machine without following proper protocols has the potential to permanently damage the sensitive electronics on the machine and void the warranty. See Service/Maintenance section for proper procedures.

Safety and Operational Decals

Safety decals are found in various places on the SCREEDSAVER MAX PLUS machine. The location of each decal is given below. If any decal is missing or damaged, it's important to replace it immediately. Order replacements by contacting Ligchine at 800-903-4500.

	**PPE Required** Location: Near MD4 display screen		**Pinch Point Location** Location: Boom arm, SwingBoom™ actuator
	**Light Hazard** Location: Adjacent to LED lights		**Crush Warning** Location: Between frame and undercarriage on all sides of machine.
	**Tie Down Point** Location: Adjacent to tie down rings on main machine frame (four total)		**Refer to Manual** Location: Top of hydralic tank, top of sprayer tank
	**Pressure Washing Prohibited** Location: Electronics plate under hood		**Crush Zone Location** Location: Downrigger pads (three)
	**Combustible Fuel Warning (Flammable / Explosive / Toxic / Refer to Manual)** Location: Top of fuel tank		

Horn Warning Signals

The MAX PLUS is equipped with a horn to indicate various machine statuses and for operator safety.

Sound duration	How Often	Warning indication/description
1 Second	One time	Engine key has been turned to the ON position
1 Second	One time	Wireless remote system has been turned on and linked to work
1 Second	Every minute	Reminder that the power switch ON but remote is not linked
Rapid beeps	Continuous	Auto level during boom in – laser/3D signal blocked
Continuous	Continuous	Auto level switch in ON position but receivers are disconnected

Important Warnings and Features

GENERAL MACHINE WARNINGS

- To reduce the risk of asphyxiation that may result in death, never run the machine in an area that lacks venting–where carbon monoxide fumes may accumulate.
- Never run the machine in adverse weather in the outdoors, such as an electrical storm. Wait at least 30 minutes after the storm clears to resume operation.
- Never make adjustments or repairs if the engine is running or machine power is on.
- Maintain or replace safety and instruction labels, as necessary.
- Use only factory authorized replacement parts when making repairs.
- Always comply with factory specifications for settings and adjustments.
- Do not operate this machinery without attending operator training classes or receiving in-field training from Ligchine (or its appointed dealers).
- Never attempt to make major repairs on this machine unless you have proper training. Improper service procedures can result in hazardous operation, equipment damage, and voiding of the manufacturer warranty. For major service and repair requirements, contact Ligchine for recommendations.
- When the machine is running, never place hands near moving parts such as pumps, downriggers, engine, chains, wheels, hydraulic motors, actuators, or the radiator fan.
- Always wear protective footwear, eye wear, head gear, and hearing protection when operating this machine.
- Do not operate the machine without the hood compartments closed or other safety devices in place.
- Never leave a running machine unattended unless machine is positioned on its downriggers.
- Watch for obstructions, such as plumbing stubs that could damage the screed head or underside of machine when operating.

Emergency Stop

A key safety feature of the SCREEDSAVER MAX PLUS is the oversized red emergency activation button, which you can find at the bottom of the wireless remote control. Press this button at any time to immediately turn off the engine, thus stopping the machine from moving. Twist the button clockwise out once the emergency has been remedied to revert to normal operating conditions.

Electronic System

WARNING

SCREEDSAVER MAX PLUS electronics are very sensitive. You must disconnect the machine battery prior to welding. Jump-starting the machine battery will destroy the electrical system and void all warranties. See the BATTERIES section manual for the proper battery charging procedure.

Transportation and Trailering

TOWING / PUSHING / WINCHING

Never tow, push, or winch the ScreedSaver MAX PLUS, since such actions may destroy the hydraulic drive motors. In event the machine becomes inoperable or immobile, contact LIGCHINE for best recommended practices to move machine.

- When trailering or hauling the ScreedSaver MAX PLUS, refer to the trailer/vehicle manual regarding safe practices for loading, weight distribution, strapping down, and unloading equipment.
- For maximum machine stability and safety when transporting on a trailer, strap down at least four (4) points of contact. Secure the straps to the dedicated tie down points on main frame on the machine. Be very careful not to tighten straps over electronic wires or hydraulic hoses.
- While transporting, keep the ScreedSaver MAX PLUS level to reduce the possibility of fuel leakage.

Operating on Slopes

WARNING

Operation on a slope is a major factor that contributes to loss-of-control and rollover accidents, which can result in severe injury or death to anyone in the vicinity. Never operate on any slope greater than 20 percent—which is a rise of 4 feet (1.2 Meters) vertically in a span of 20 feet (6.1 Meters) horizontally.

Common causes for loss of control include: insufficient tire grip on the ground, weight imbalance, excessive speed, excessive slope angles, lack of awareness of the ground conditions, and operator error. Follow the recommendations below for safe operation on all surfaces.

- Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine.
- Take extra care if operating in tall grass or in situations that might hide obstacles.
- Do not operate near drop-offs, ditches, or embankments.
- Keep all movement on slopes slow and gradual.
- If the tires lose traction, immediately release the drive paddles and engage the emergency button to stop all machine movement.
- Never attempt to physically stabilize this machine if it is tipping or becomes unstable.

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Follow these guidelines if children are present:

- Keep children out of the construction area and in the care of another responsible adult.
- Never assume that children will remain where you last saw them.
- Be alert, and immediately turn off the machine if children enter the work area.
- Never allow children to operate the machine.

Hydraulic System Precautions

The MAX PLUS has been designed and manufactured for ease of operation and maintenance by minimizing user serviceable components. Any problem with the hydraulic system is recommended to contact Ligchine directly for instructions regarding hydraulic system service.

WARNING

Never attempt to make any adjustments or adjust pressure settings to the Hydraulic Manifold. Doing so will void the warranty and could cause permanent damage. There are no user serviceable parts on the hydraulic cylinders (Factory serviceable only).

WARNING

Prior to removing any hydraulic component, bleed the pressure off the area (component) to be worked on by turning off the engine and then activating the corresponding remote function while the wireless remote is still active.

WARNING

Never use your hand or fingers to check for the source of a leak. Hydraulic fluid escaping under pressure may have sufficient force to penetrate skin and cause serious injury. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. If leaks occur, have the unit serviced immediately.

Engine Emissions

- Excessive engine exhaust from this machine contains chemicals that may cause cancer, birth defects, or other reproductive harm. Always operate in a well-ventilated area.
- Look for relevant Emissions Durability Period and Air Index information on the Engine emissions label, or refer to the engine Owner Manual for additional details.

Gasoline Engine Precautions

WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is hot. Do not allow open flame, smoking, or explosives in the area. Avoid over-filling and wipe up any spills.

- To prevent a vapor-lock condition, only fill the fuel tank to approximately 90% of capacity.
- **FUEL:** The MAX PLUS uses unleaded gasoline that must contain no more than 10% ETHANOL (E10) or 5% METHANOL by volume. In addition, METHANOL must contain cosolvents and corrosion inhibitors. Use of fuels with a higher concentration of ETHANOL or METHANOL may result in starting and performance problems. It may also damage metal, rubber, and plastic parts of the fuel system and will void the manufacturer warranty. **REFER TO THE HONDA OWNER MANUAL FOR DETAILS.**
- Whenever possible, remove the machine from the trailer and refuel it on the ground. If this is not possible, refuel with a portable container—rather than from a gasoline dispenser nozzle—to minimize the risk of static electricity sparks and/or spillage due to overfilling.
- Use only approved gasoline containers.
- Do not use a gas pump nozzle lock-open device.
- Never remove the gas cap or add fuel with the engine running.
- Do not smoke while operating or fueling the machine. Be aware at all times of other sources of ignition that may be present in the area of the machine.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light (such as near a water heater or other appliance).
- If fuel spills, don't start the engine until the fuel is cleaned up and the vapors dissipate.
- Do not remove the fuel filter when the engine is hot, because spilled gasoline may ignite. Do not spread fuel line clamps further than necessary. Ensure the clamps grip the hoses firmly over the filter flanges after installation.

Wireless Remote Precautions

WARNING

It is important to understand the functions and risks associated with wireless operation. Please carefully read and understand all sections of this manual.

Even if an operator is accustomed to working with radio control systems, read all operating instructions carefully before using this equipment as this wireless radio system is designed for exclusive operation with the ScreedSaver MAX PLUS and will have functions not seen on other wireless systems.

Only fully trained, authorized personnel may use the wireless radio control equipment.

If the wireless control unit develops a fault or demonstrates any erratic behavior, it must be shut down immediately. The transmitter should be turned off with the EMERGENCY STOP button.

If running the machine in “direct connect” mode (i.e. cable connected transmitter/receiver) also immediately disconnect the cable connection. The repair of the wireless system must only be performed by Ligchine’s’ authorized technicians.

Failure to observe these recommendations will place both yourself and others at risk. Under these circumstances, manufacturer rescinds the guarantee and any other form of liability.

This radio control unit is designed exclusively for the control of the Ligchine ScreedSaver MAX PLUS. No other form of use is permitted. Any non-observance of this condition will relieve the manufacturer of all liability.

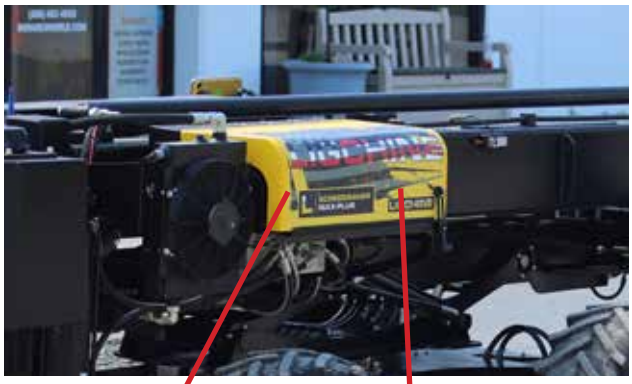
COMPONENTS AND FEATURES

Hood and Compartments

ScreedSaver MAX PLUS's hoods are a one piece fiberglass shell with rubber latches to secure.

Fuel Tank

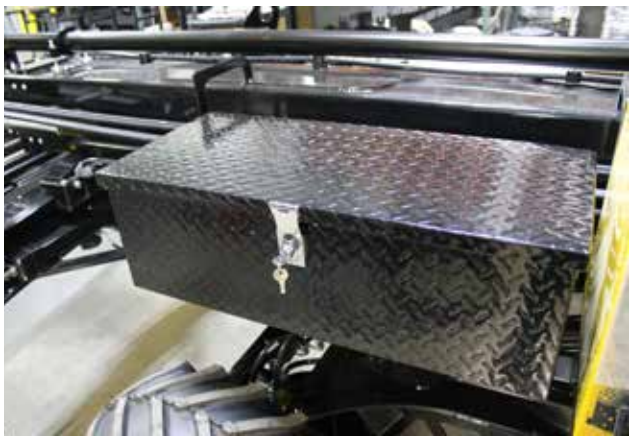
Battery



Hyd. Manifold

Fuse Box

ScreedSaver MAX PLUS also features a locking tool box on the machine's left side.



WARNING

Do not operate the ScreedSaver MAX PLUS without ALL of the hood compartments securely latched to avoid damage to the hood and personal injury.

Sprayer Pump, Tank, & Bar

The ScreedSaver MAX PLUS is equipped with a two 5 gallon fluid tank located on the right side of the machine.

A 12V sprayer pump is activated by the SPRAYER button on the wireless remote control. An in-line filter is mounted next to the pump.

The sprayer bar is mounted on the screed head. There are replaceable jets mounted onto the spray bar. There are also alternate jets for various spray patterns and distribution available to purchase.

WARNING

Only use liquid concrete additives such as a hardener or retarder, water, or winterizing chemical in the tanks.

MD4 Display and Power Switch

Located on the left hood cut-out of the SCREEDSAVER MAX PLUS hood is the 7-inch MD4 touch-screen display and the master power switch for the machine.

Power on the SCREEDSAVER MAX PLUS:
Turn the master power switch clock-wise from the **OFF (O)** position to the **ON (I)** position.

See the ELECTRONICS section for complete instructions on the master power switch and the MD4 display.

Powered Downriggers

The ScreedSaver MAX PLUS has three (two front, one rear) hydraulically powered downriggers that are used to balance, level, and transport the machine. Downriggers are individually controlled by the wireless radio system with a travel range of 16 inches (40 cm).

WARNING

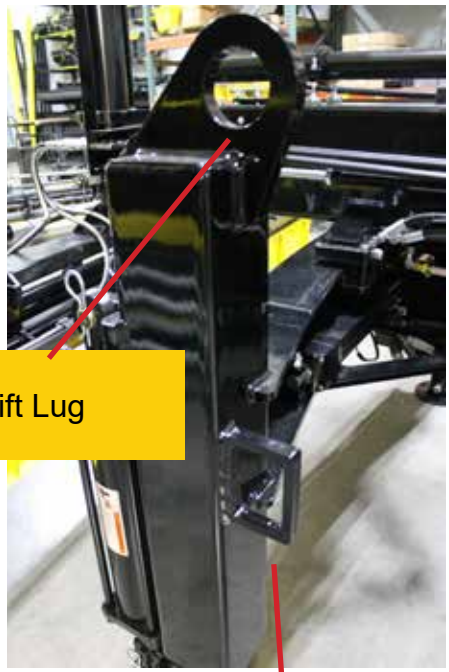
Never place hands/feet underneath the downrigger pad as sudden machine activation could cause the downrigger to crush hands/feet.

Lift Points / Tie Down Points

The ScreedSaver MAX PLUS comes equipped with lift lug locations and tie down locations.

The lift lugs are the circular cutout brackets located at the top of each of the downriggers. There are a total of 3 lift lugs on the machine.

The tie down points are the rectangle brackets located in the middle of each downrigger leg tube. There are a total of 3 tie down points on the machine.



LIFTING

- When attempting to lift the machine, always use the lifting points.
- Do not walk or stand under a machine when lifting it into the air.

iGX800 Honda Gasoline Engine

The ScreedSaver MAX PLUS comes standard equipped with a 24.9 HP Honda 4 stroke gasoline engine. Refer to the Honda engine booklet supplied with this manual.

The Honda engine features:

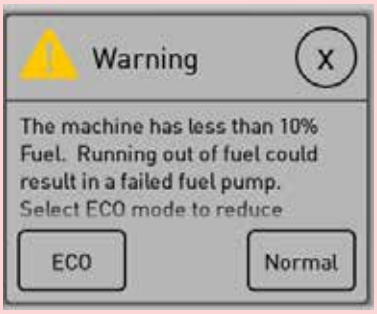
- ► Electronic fuel injection operation
- ► Great reliability and long service life to meet a wide range of applications.
- ► Exceptionally quiet ambient noise
- ► Controlled via wireless remote and/or MD4 display

Please refer to the Honda Engine manual for the most current and detailed information regarding the engine, functions, maintenance and safety concerns. In general, each time the screed is operated, the following inspections should be performed:

- ► Check the general condition of the engine looking for any signs of damage, oil or fuel leaks.
- ► Check the fuel level. Never allow your engine to run out of fuel as you may have to bleed air from the system to restart (see Honda Owner's manual for instructions if required).
- ► Check the oil level. Running the engine with a low oil level can cause serious engine damage.
- ► Check the air filter. A dirty air filter element will restrict air flow to the engine, reducing performance.

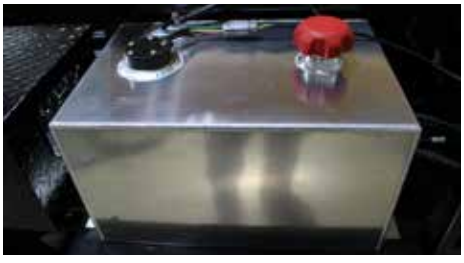
WARNING - FUEL LEVEL

The Honda engine's fuel pump is cooled by fuel. The pump can overheat when the machine is run out of fuel so it is imperative to keep fuel level in tank above 25% capacity at all times. The machine has provisions in place to warn operator of low fuel level to avoid fuel pump failure.



Fuel Tank

A 8-gallon (30 liter) gasoline fuel tank is located on the left side of the machine, under the hood. It features an electronic sending unit that displays fuel level on the screen of the wireless remote control and the MD4 touch screen on hood.



Rotating Undercarriage / Drive System

The ScreedSaver MAX PLUS features a manual pivoting undercarriage that is able to turn the lower drive frame 90°.

This feature allows the machine to accomplish ‘parallel to the pour’ screeding and driving.

To rotate undercarriage, place machine so it is on the downriggers and raise machine on downriggers until the tires are suspended off the ground. Pull the pin on front right of the undercarriage and turn the undercarriage clockwise to the next pinned position. The frame jack can be raised or lowered for added clearance to properly rotate.

WARNING

Be sure the area around the undercarriage is clear of obstacles or people before rotating undercarriage or performing frame jack functions.

The ScreedSaver MAX PLUS features a hydraulic front wheel drive system that is activated via the wireless remote control unit. Under normal operating modes, the MAX PLUS is a front wheel drive and rear wheel steering machine.

Boom / Hose Tracker

The MAX PLUS features an 18 foot (5.48m), two stage boom with UHMW wear pads and roller bearings.

There are 3 hose connections at the end of the boom member with 1 electrical connections underneath. The hoses and electrical are installed into a spring tensioned ‘hose tracker’ unit that keeps tension on the hoses during all stages of boom operation.

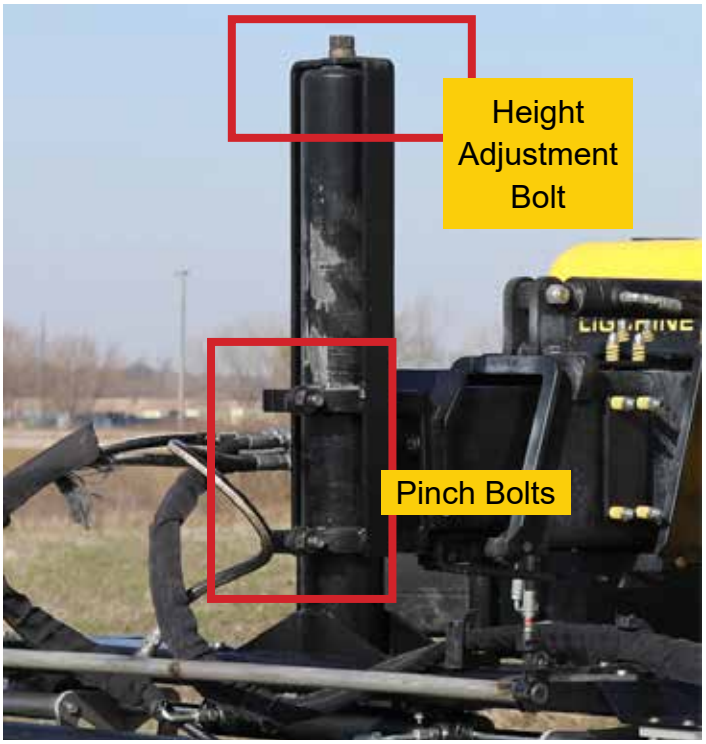
The screedhead connection layout:
Closest to boom: Auger/Vibrator connection
Middle: Auger/Vibrator connection
Furthest from boom: Screedhead sprayer

Laser receiver / sonic tracker connections

3D/LPS connection point

Pivot Screed Head Post

The screed head is attached the pivoting center post that is bolted to the front of the smallest boom section. The cylinder portion of the post is secured into place by two pinch bolts that clamp onto the cylinder when tight. When the pinch bolts are loosened, the entire screedhead assembly an swivel or raise/lower using the height adjustment bolt as needed. The height adjustment bolt is attached to a screw that raises or lowers the screedhead assembly when it is turned.



Screed Head / Sprayer

The ScreedSaver MAX PLUS features a 10’ (3.1m) auger screed head. This screed head features:

- ► Adjustable plow to regulate concrete to auger
- ► Double flight auger
- ► Extruded vibrating finish blade
- ► Concrete additive spray bar

The stainless steel spray bar has four adjustable spray nozzles. The spray bar is fed from the holding tank on machine’s right side. There is an inline filter body located behind the sprayer pump. Activation of the sprayer function is controlled by the wireless remote.
Only use concrete agents formulated for safe spray bar use.

SwingBoom™

The MAX PLUS features the revolutionary SwingBoom function. The boom pivots on the front frame rails giving the operator up to 5 ft (1.5m) of lateral screed head movement at full extension without repositioning the machine. SwingBoom functions are perfomed via the dedicated buttons on the wireless remote control. The SwingBoom is powered by an electric actuator positioned inside of the front frame rail.

HYDRAULIC SYSTEM

Ligchine manufactures the SCREEDSAVER MAX PLUS with a state-of the-art, high-capacity, open-loop hydraulic system. For more details on comprehensive safety and maintenance, refer to the SCREEDSAVER MAX PLUS Service/Maintenance Section.

During normal machine operation, there are three key elements that you should fully understand and monitor to extend the life of your hydraulic system: fluid level, fluid temperature, and filtration status. Learn more in the sections below.

Fluid Level & Temperature

For convenience, use the integral fluid level eyeglass on the side of the hydraulic fluid tank. It's important to frequently check the fluid level to ensure that the level is resting in the middle of the sight glass or higher.

If fluid level drops below the middle point, add ISO 32 grade hydraulic fluid sufficient to refill the tank and see the level rise to the middle of the sight glass. Under normal circumstances, the fluid level should not decrease. A sudden fluid level change is a strong indication that a leak exists somewhere in the system. It is urgent that you correct this immediately, since operating the machine with low fluid levels will impair proper function. Also, low hydraulic fluid level may pose a safety threat, and could cause serious damage to the hydraulic components.

The fluid level glass also serves as the manual temperature gauge for the hydraulic system. An operator should keep in mind the temperatures during all working stages of the machine.

MINIMUM & MAXIMUM TEMPERATURES

Machine hydraulic fluid temperature must heat up to a **MINIMUM of 80° F (28° C)** for the machine to operate at peak performance.
If the hydraulic fluid temperature exceeds the **MAXIMUM of 160° F (70° C),** immediately shut down the machine until the overheating cause is identified and repaired.

A thermostatically controlled hydraulic cooler fan regulates the hydraulic temperatures. The fan is preprogrammed to turn on when the hydraulic fluid reaches 120° F (48° C). There are no serviceable components to the fan or cooler.

Fluid Filtration

Dirt and debris within a hydraulic system can cause serious damage to machine components. The SCREEDSAVER MAX PLUS features two contamination filter systems that require maintenance according to the Maintenance schedule. One filter system is a user-serviceable, high-filtration filter that is accessible directly below the filtration gauge. Also, a magnetic suction filter built into the tank removes any steel filings or debris from the hydraulic fluid. Under normal circumstances, the magnetic suction filter should last the life of the machine without the need for service.

In addition, the machine has an easy to read filtration gauge located on the top of the hydraulic fluid holding tank. Check it regularly to be certain that your system is performing as designed.

If the pointer is in the:

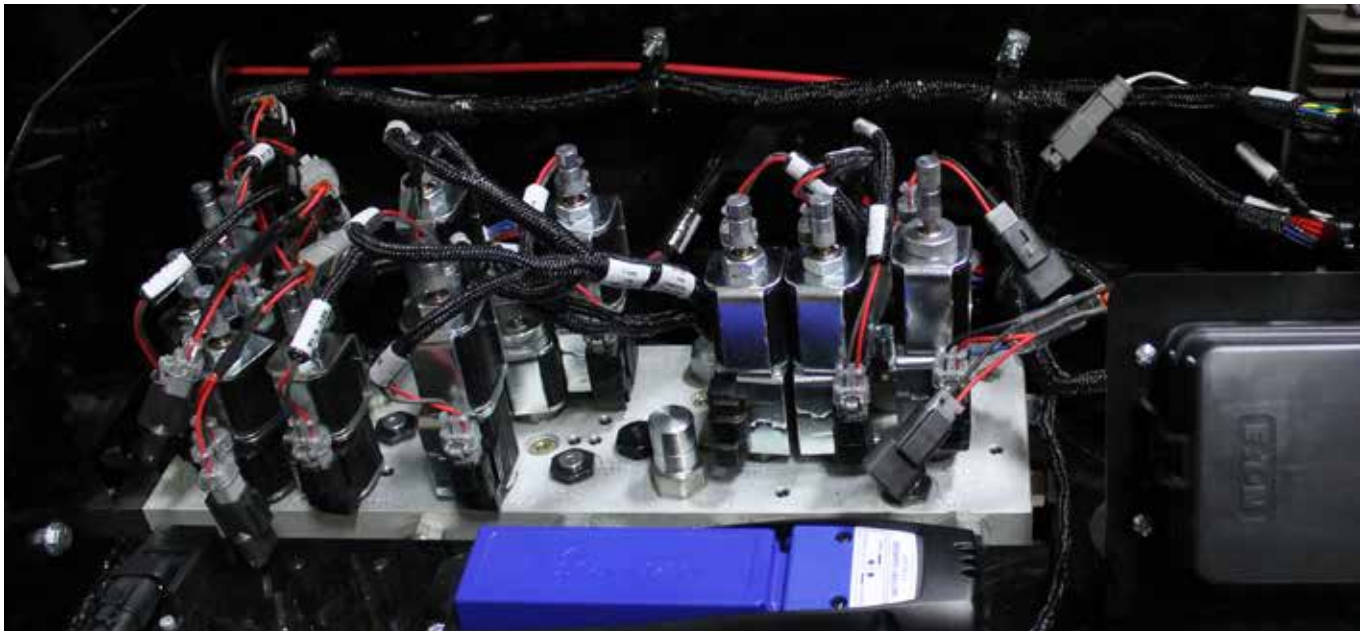
- GREEN band - full flow filtration, and no action is necessary.
- YELLOW band - full flow filtration is functioning, but at a pressure level above normal. Replace the filter element very soon.
- RED band* – the filter is in bypass, and the element requires immediate replacement. Replace the filter now.

***NOTE**: During cold start situations, the filter may indicate a RED condition for a few minutes until the fluid temperature is normal.

Main Hydraulic Manifold

The main aluminum hydraulic manifolds control the ScreedSaver MAX PLUS™ drive and screed functions. The manifolds house a series of different valves for each function. For in-depth function diagrams, please contact Ligchine.

The valves are controlled by solenoids that illuminate when the function is active which aids in troubleshooting.



ELECTRONICS SYSTEM

The SCREEDSAVER MAX PLUS has a state-of-the-art electronics system, and its important to take care not damage it. The electronics system on this machine is industrial grade, and gaskets have been placed at all wire junctions to minimize the impact of dust and moisture during normal use. For complete protection, all wiring routes are under the hood and through protective shrouds. **Under normal circumstances, no maintenance is necessary**.

SENSITIVE ELECTRONICS

The SCREEDSAVER MAX PLUS electronics are very sensitive. You must disconnect the machine battery prior to welding. Jump-starting the machine will destroy the electrical system and void all warranties.

NO PRESSURE WASHING UNDER HOOD

Keeping your machine clean is important. You must exercise caution when pressure washing your ScreedSaver.

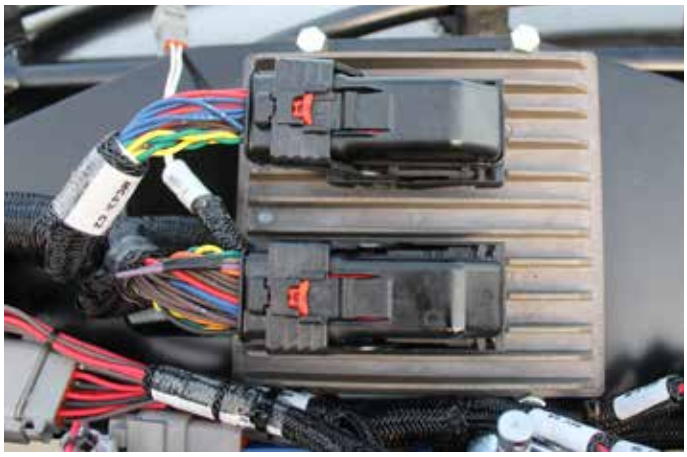
NEVER PRESSURE WASH ANYTHING UNDERNEATH THE HOOD.

ELECTRONIC COMPONENTS

The SCREEDSAVER MAX PLUS electronics system consists of several modules that connect together with a series of wiring harnesses.

Hydraulic System Controller (MC43)

This module, located above and to the right of the hydraulic manifold controls all hydraulic functions of the machine. When it receives signals from the operator keypad, this module interprets those signals and then sends electric control instructions to specific hyraulic or electronic functions.



Following startup of the machine—and during normal machine operation—the LED light located between the two harness connectors will be blinking an AMBER color.

Any other combination of lights will indicate a malfunction. In this case, contact Ligchine™ for troubleshooting advice.

Power Distribution Center (MRFRM)

The MAX PLUS fuse and relay center is on the electronics plate to the right of the main hydraulic manifold. The fuses are a resettable circuit breaker style.

See Maintenance section for layout.

Scanreco Wireless Remote Battery Charger

The MAX PLUS houses an on-board battery charger for the wireless remote controller on the plate in front of the main hydraulic manifold. The battery and charger are protected under a steel cover that is secured with a velcro strap. Further info on batteries and remote are covered in the wireless remote section of this manual.

Scanreco Wireless Remote Receiver

The G3 receiver and antenna assembly for the Scanreco wireless remote is positioned at the rear of the machine outside of the hood.

There are three wire harnesses coming from the receiver:

- ► Cable A - Power/communication connection to machine
- ► Cable B - Tether port for direct connection to remote using a cable
- ► Cable C - Not used

G11 Bluetooth Diagnostics Module

The MAX PLUS™ features a Parker G11 module that is used for remote programming and machine troubleshooting. Using a bluetooth connection, a Ligchine™ technician can remotely log into the machine from a tech or operator's cellular phone and see system status or perform program upgrades. The module is located on the top right of the electronics plate. Contact Ligchine™ for more information.

Horn

An audible electronic horn is located below the electronics plate. The horn can be activated via the button on the wireless remote. The horn will also sound under various machine conditions:

Sound duration	How Often	Warning indication/description
1 Second	One time	Machine power has been turned to the ON position
1 Second	One time	Wireless remote system has been turned on and linked to work
1 Second	Every minute	Reminder that the power switch ON but remote is not linked
Rapid beeps	Continuous	Auto level during boom in – laser/3D signal blocked
Continuous	Continuous	Auto level switch in ON position but receivers are disconnected

Main Machine Battery

This battery supplied with your ScreedSaver MAX PLUS is a standard sealed low maintenance 12 Volt DC automotive style battery. Keep the battery terminals clean and the battery charged. During normal use, the engine alternator will keep this battery charged. The battery uses quick connect terminals for machine connections.

Battery size: 650 CCA

SENSITIVE ELECTRONICS

The SCREEDSAVER MAX PLUS electronics are very sensitive. You must disconnect the machine battery prior to welding. Jump-starting the machine will destroy the electrical system and void all warranties.

Lighting

Front LED lights are standard on the MAX PLUS. Activation of the lights are controlled via a button on the MD4 display screen.

Laser Receivers

The SCREEDSAVER MAX PLUS ships with TopCon LSB110 laser eyes that mount on the screed head poles. These laser eyes are required for full automatic leveling capability of the machine. Refer to the TopCon owner manual for information about the functions and capabilities of the laser eyes.

Be mindful of these features:

- **Reception Range** is 360°
- **Power** – These eyes receive their power from the automatic leveling control system battery (inside the end of the boom). **DO NOT INSTALL internal batteries**.
- **Power Off** – The laser eyes draw power at all times when connected to the automatic leveling control system. Disconnect power cable to laser eye to power OFF
- **Diagnostics** – After connecting the laser eyes to the automatic-leveling control system, the eyes will perform their own diagnostic check.
- **Sensitivity Setting** – This deadband setting has no effect on SCREEDSAVER MAX PLUS automatic-leveling function, which always seeks zero-deadband position—irrespective of where you set these visual displays.

SCANRECO WIRELESS REMOTE

ScreedSaver MAX PLUS machines are controlled via a battery powered Scanreco Mini Transmitter. This compact, robust control unit utilitzes rechargeable battery packs that are inserted in the rear of the remote. A spare battery and an on-board charger are included with the ScreedSaver MAX PLUS and are located on the electronics plate under the front left hood door. A cable connection port is located on the left side of the remote.

The remote operates at a 433-434ghz band and features a 2.5” monochrome display, LED indicators, an easy to find Emergency Stop button, a waist strap, as well as various construction grade paddles, switches, and pushbuttons.

IMPORTANT

The following pages will explain each function based upon the MODE setting and/ or the function activated on the MD4 touch-screen display. Please familiarize yourself with each remote function to avoid damage to property or personal injury!

Rear

Left Side

Emergency Stop

Activation Type: Push in - clockwise turn out

The oversized red Emergency Stop button is located at the center of the bottom of the switch plates. Push the button in to shutdown machine operation. Turn the switch clockwise to bring the machine into a live state again. This switch is also used to shut down the wireless remote control. Push the button in to turn off the remote. The remote will not power on with the emergency stop switch depressed.

Remote Power Button

Activation Type: Push in

The wireless remote power button is located to the right of the red emergency stop switch on the raised switch plate. Push this spring loaded button in to power on remote. If the machine main power switch is ON, and the wireless remote is OFF, pushing the ON button will power on the remote and link the remote to the machine after 3 seconds. The machine horn will sound with successful link and the red LED light to the left of the remote power switch will remain ON.

LCD Display Buttons

The wireless remote features a 2.5” monochrome display that reports select machine system information. Surround the display is a series of various machine function buttons that are called out below. Note: The F2 button is not used as a function.

Rake Mode

Activation Type: Single Touch On

The UP and DOWN arrow buttons to the left of the display operate the RAKE MODE for the MAX PLUS. Rake Mode utilizes the machine’s leveling system to hold the screedhead above finished grade and allows the operator to strike off the concrete to a more manageable height before performing the finished grade screed pass. The UP button enables the mode and the DOWN button turns it off. When Rake Mode is ON, there will be text displayed on the MD4 touch screen informing the operator that it is enabled.

Pressure Washer (NOT USED ON MAX PLUS)

Activation Type: Press ON, Press Off

The F1 button below the LCD display controls the on-board pressure washer. Press the button to power the valve for the hydraulic pressure washer. Press the button again to turn the presssure washer off. Pressure washer only activates with hydraulic pressure.

Horn

Activation Type: Press and hold

The F3 button below the LCD display controls the machine horn. Press and hold the button to activate the horn. Horn will stop when the button is not pressed. Horn can be activated at any time.

Sprayer

Activation Type: Press ON, Press Off

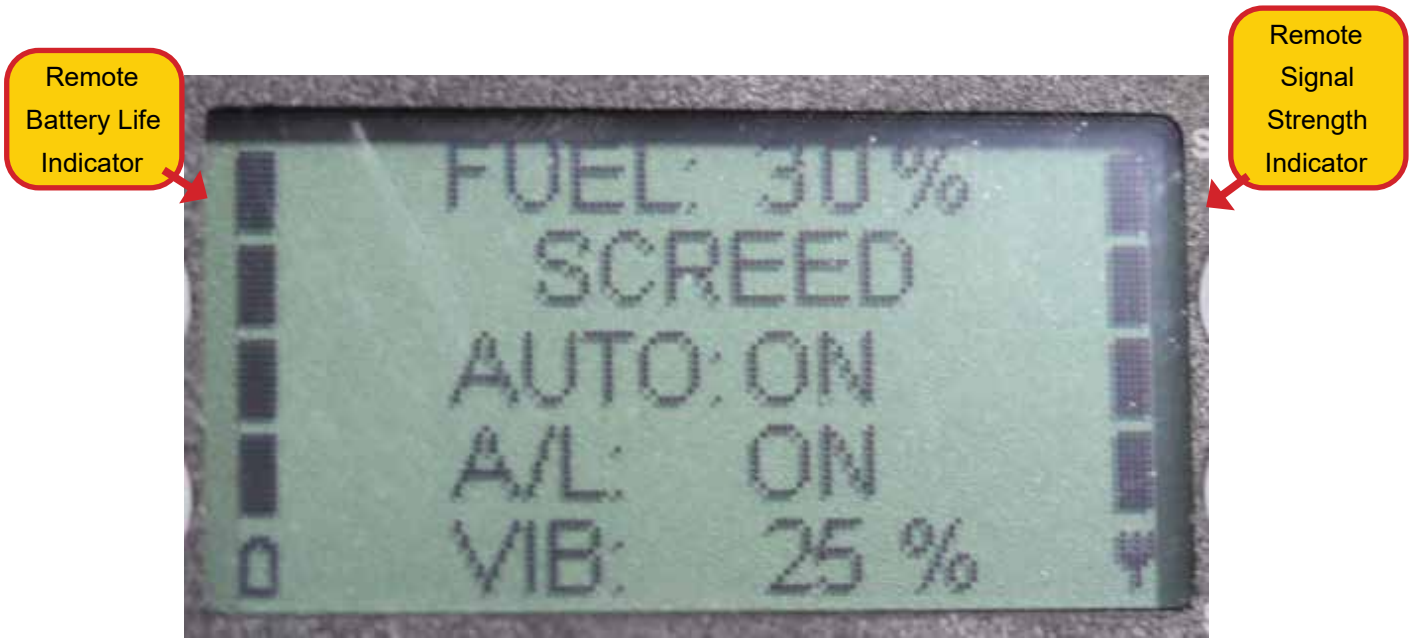
The F4 button below the LCD display controls the on-board screedhead sprayer. Press to activate the sprayer pump and press it a second time to disable the sprayer pump. Sprayer can be activated at any time.

SwingBoom™

Activation Type: Press and hold

The ESC and ENTER ARROW buttons to the right of the LCD display control the pivoting SwingBoom™. Press and hold the ESC key to move the screedhead to the LEFT. Press and hold the ENTER ARROW to move the screedhead to the RIGHT. SwingBoom functions is powered via an electric linear actuator and is functional without hydraulic pressure.

LCD Display



- **FUEL: _ _%** - Indicates estimated remaining machine fuel level
- **MODE:** SCREED/DRIVE - Indicates the current position of the MODE switch
- **AUTO: ON/OFF** - Indicates current position of the machine VIBRATE switch
- **AUTO LEVEL (A/L): ON/OF**F - Indicates current position of the AUTO LEVEL switch
- **VIBRATE SPEED (VIB): _ _%** - Indicates active auger/vibration frequency setting controlled by the VIBRATE SPEED dial
- **BATTERY LIFE** - Indicates estimated battery life remaining in the wireless remote controller
- **REMOTE SIGNAL STRENGTH:** - Indicates signal strength between the wireless remote controller and remote receiver.

MODE Switch

The MAX PLUS's wireless remote control features a raised MODE switch near the center of the unit as shown. The MODE switch changes the paddle configuration dependent on what MODE is selected. DRIVE mode functions are listed as YELLOW text under the corresponding paddle. SCREED mode functions are listed as RED text under the corresponding paddle. MODE switch position is shown on the remote's LCD display and on the MD4 touch screen display on the hood.

When the machine is set up for automatic leveling and screeding, the MODE switch will also trigger the appropriate automatic machine movements for ease of operation. These will be described in detail in each specific MODE section of this manual.

Active Switches/Paddles

The following paddles and switches are active in ANY mode selected.

Rotate Paddle

Activation Type: Push forward, pull backward

The inner left paddle controls the machine ROTATE ability. When positioned on the machine's tires, push the paddle forward to rotate the upper frame in a clockwise (CW) direction and pull the paddle backward to rotate the upper frame in a counter-clockwise (CCW) direction. The operator can also rotate the lower drive frame when the machine is positioned onto the downriggers and the tires are lifted from the ground.

Note: The rotation function is disabled during simultaneous use of the BOOM function in SCREED mode as the BOOM and ROTATE functions share the same hydraulic circuit.

Engine Start/Stop

Activation Type: Lift and push up, lift and pull down

The Honda engine may be started or stopped with the ENGINE remote switch, located in the lower right of the switch panel, in addition to the buttons on the MD4 touch screen. The switch is a momentary center detent switch that is normally locked in the middle position. To engage engine starting, lift the switch out of the middle position and push and hold forward until the engine starts. Release the switch and it will return to center. To turn off the engine, lift switch out of the middle position and pull and hold backward until the engine shuts down. Release the switch and it will return to center.

Frame Jack

Activation Type: Push Up, pull down

The momentary FRAME JACK switch, located in the lower right of the switch panel, is active in any mode. The frame jack switch controls the hydraulic raising and lowering between the main machine/boom frame and lower drive frame. Push and hold the switch UP to raise the frame. Push and hold switch down to lower the frame.

Note: The frame jack automatically raises the frame in DRIVE mode and lowers the frame in SCREED mode when the machine is placed into an automatic screeding/driving configuration. See the AUTO switch sections for more information.

Rear Downrigger

Activation Type: Push Up, pull down

The momentary REAR DOWNRIGGER switch is active in any mode. The rear downrigger switch controls the hydraulic raising and lowering of the hydraulic downrigger in the rear of the MAX PLUS. Push and hold the switch UP to extend the cylinder and raise the machine. Push and hold switch down to retract the cylinder and lower the machine.

DRIVE Mode Paddles/Switches

The following paddles and switches are active in DRIVE mode. The DRIVE mode paddle functions are listed in YELLOW text under each paddle.

Drive

Activation Type: Push forward, pull backward

The outer right paddle controls the machine DRIVING ability in DRIVE mode. When positioned on the machine's tires and the steerable tires are at the front of the machine, push the paddle forward to propel the machine in a FORWARD (FWD) direction. Pull the paddle backwards for REVERSE (REV). The drive function is proportional - speed will increase or decrease dependent on paddle position.

Trailer Mode

Activation Type: Push left, push right

The momentary switch to the left of the red emergency stop on the raised switch plate controls the machine's trailer mode (50% speed reduction). The functions can only be switched if the machine is not driving. To change function, stop machine movement and push the switch in the desired direction, then resume machine movement. Normal operation is recommended to be conducted in a regular two wheel drive configuation which is active when the switch is pushed RIGHT toward the RABBIT symbol. Trailer mode is engaged by pushing the switch to the LEFT toward the TURTLE symbol. Speed is reduced for added control in Trailer Mode.

Steer

Activation Type: Push forward, pull backward

The outer left paddle controls the machine STEERING ability in DRIVE mode. In a normal operating undercarriage position, push the paddle forward to steer the machine to the LEFT. Pull the paddle backwards to steer the machine to the RIGHT.

Dual Front Downrigger Control

Activation Type: Push forward, pull backward

The inner RIGHT paddle controls the machine's FRONT DOWNRIGGERS (FRONT DR) in DRIVE mode. This paddle controls both the LEFT and RIGHT downriggers simultaneously. Push the paddle forward to EXTEND (UP) the front downriggers. Pull the paddle backward to RETRACT (DOWN) the front downriggers.

SCREED Mode Paddles/Switches

The following paddles and switches are active in SCREED mode. The SCREED mode paddle functions are listed in RED text under each paddle.

Boom

Activation Type: Push forward, pull backward

The outer left paddle controls the machine's telescopic boom function in SCREED mode. When positioned on the machine's outriggers, push the paddle forward to propel the boom OUT from the machine. Pull the paddle backwards for to retract the boom IN. The boom function is proportional - speed will increase or decrease dependent on paddle position.

When machine is set into an AUTOMATIC mode, the boom paddle also controls the machine's downrigger adjustments and auger/vibrator for ease of screeding. See page 44.

IMPORTANT

The Screedsaver MAX PLUS needs to be positioned on the machine's downriggers when operating the boom. The MAX PLUS may tip forward uncontrollably if the boom is extended too far while positioned on the tires only during boom operation. Make sure the boom is retracted greater than 50% of its total length before attempting to drive the machine.

Left Downrigger

Activation Type: Push forward, pull backward

The inner right paddle controls the machine's LEFT DOWNRIGGER (LEFT DR) in SCREED mode. Push the paddle forward to RAISE (UP) the left downrigger. Pull the paddle backward to EXTEND (DOWN) the left downrigger. The LEFT downrigger paddle has multiple speeds - when the operator pushes or pulls the paddle greater than 50% of its stroke, the position triggers a secondary downrigger valve to fire for more speed.

Right Downrigger

Activation Type: Push forward, pull backward

The outer right paddle controls the machine's RIGHT DOWNRIGGER (RIGHT DR) in SCREED mode. Push the paddle forward to RAISE (UP) the right downrigger. Pull the paddle backward to EXTEND (DOWN) the right downrigger. The RIGHT downrigger paddle has multiple speeds - when the operator pushes or pulls the paddle greater than 50% of its stroke, the position triggers a secondary downrigger valve to fire for more speed.

AUTO Mode Paddles/Switches

The following paddles and switches are used in AUTO mode. AUTO mode is a state in which the machine performs functions automatically based on select switch configuration. AUTO mode is typically used only in direct concrete screeding. The AUTO mode switch positions will be displayed on the wireless remote LCD display. **It is recommended to keep the AUTO switch configuration turned OFF for basic navigation and machine control outside of direct concrete screeding or machine cleaning.**

Vibrate

Activation Type: Three position - OFF | AUTO | ON

The three position VIBRATE switch positioned above and to the left of the red emergency stop button serves multiple functions. This switch controls the auger and vibrator use on the screedhead as well as dictates certain machine functions when in the AUTO position.

ON = Vibrator/Auger is turned on and stays on as long as the switch is in this position.
AUTO = Automatic Vibrator/Auger/Machine movements with Mode position (see details below).
OFF = Vibrator/Machine movements are turned off and stays off as long as the switch is in this position.

Automatic Vibrator and Mode Position setting – recommend whenever screeding concrete that this switch remain at all times in the AUTO position.

Vibrator/Auger in AUTO Setting - The MAX PLUS program will automatically turn on the vibrator/auger whenever the BOOM IN paddle switch is activated. In addition it will turn the vibrator/auger off whenever DRIVE mode is selected.

DRIVE **Mode changes in AUTO Setting** – This switch setting in AUTO position automates the DRIVE mode functions. When changing from SCREED mode to DRIVE mode, it will cause the upper frame body to automatically lift up from the downriggers, using the frame jack, positioning the machine onto the wheels, allowing the operator to quickly drive to next location.

SCREED **Mode changes in AUTO Setting** – When the AUTO LEVEL switch is turned to AUTO and the VIBRATE switch is also set to AUTO, it will result in automatic machine positioning and vibrating used for concrete screeding. When switched from DRIVE mode to SCREED Mode, it will automatically close the frame jack (raise the wheels), and extend the front downriggers to prepare the BOOM to extend out over the concrete.

NOTE: When switching from the OFF to the AUTO position, please allow a six second time delay for the full activation of the AUTO mode positioning control.

NOTE: When changing to SCREED mode, do not touch any buttons on the wireless remote until all automatic positioning of the frame jack and downriggers are complete as it will interrupt the automatic cycle potentially causing it to incorrectly position the machine.

NOTE: Override the automatic cycle at any time by changing the position of this switch from AUTO to the OFF position.

NOTE: It is not recommended to leave the vibrator/auger in the ON position for extended periods of time at a high frequency without a concrete load on screedhead. When washing, turn the VIBRATE speed dial to a low frequency to rotate the vibrator and auger for cleaning ease.

Auto Level

Activation Type: Push up for AUTO, push down for OFF

The two position AUTO LEVEL switch located to the left VIBRATE switch.

When the switch is OFF, the AUTO LEVEL system is turned off and the machine leveling is done manually by the operator using the remote control to manually adjust downrigger positions.

When the switch is in the AUTO position, the AUTO LEVEL system is turned on and ready to start once the BOOM paddle is pulled backwards. All MAX PLUS functions associated with SCREED mode continue to work as they would normally until the BOOM paddle is pulled (boom retracted). When the BOOM paddle is pulled, the MAX PLUS changes to full automatic leveling operation meaning the screed head will be lowered to laser/3D level at a rate of 10 times/second. Releasing the BOOM paddle stops the boom from moving and allows for manual adjustments if needed.

NOTE: The horn will sound if switch is in AUTO without laser receivers, a laser strike, or 3D components connected and the BOOM paddle is being activated.

IMPORTANT: For the AUTO LEVEL System to be fully functional, the VIBRATE switch must also be switched to the AUTO position.

Vibrate Speed

Activation Type: Potentiometer - turn clockwise to increase speed, turn counter clockwise to decrease speed.

The potentiometer dial below the AUTO LEVEL and VIBRATE switches controls the rotation speed of the screedhead auger and vibrator. Auger/ vibrator speed percentages/position is displayed on the wireless remote LCD screen. Adjust switch as needed for concrete screeding. Further vibration adjustments can be performed with the flow control valve plumbed into the hosing for the screedhead vibrator or by manually clocking the steel weight assemblies positioned on the vibrate shaft on the screedhead.

MD4 COLOR TOUCH-SCREEN DISPLAY

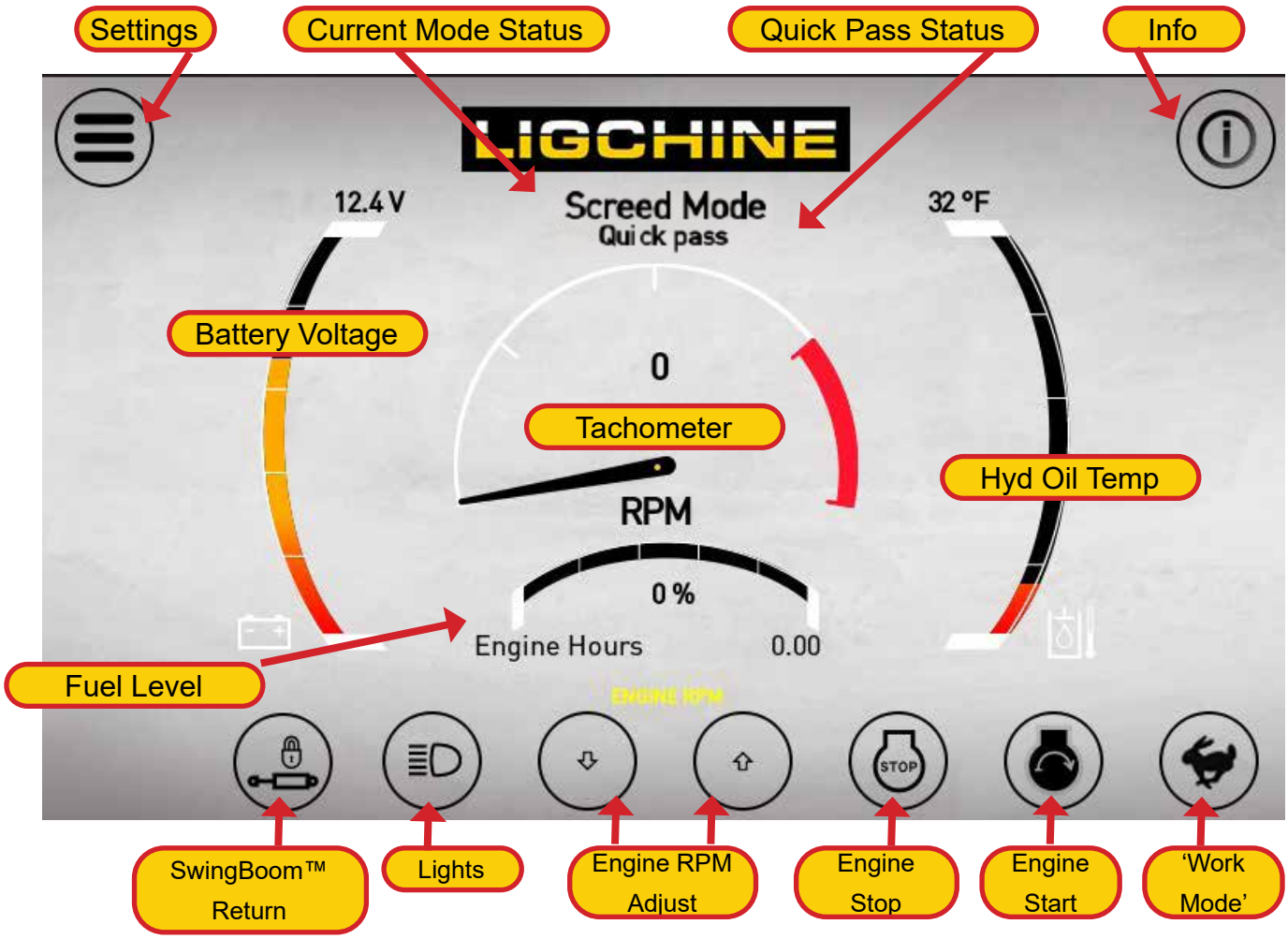
The MD4 display is the control center of the SCREEDSAVER MAX PLUS, and it also provides live machine data and systems status. This 7-inch (18cm) is a graphical touch screen by which the operator can manage all of the control systems by simply tapping on the screen. The sections below describe how to interact with each of the types on screens that are available on the display.

Startup / Lock Screen

When powering up the SCREEDSAVER MAX PLUS, the MD4 display will initially present a startup screen. Press and hold the padlock button to display a popup window on which you can enter the 4-digit PIN code to unlock the machine. **Default code is 1000**

Main Screen

On the main screen, you can see several status indicators and an array of buttons to access various machine functions.

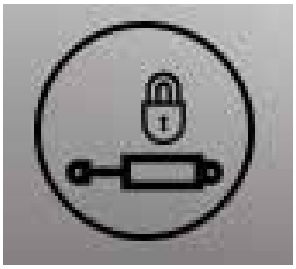


NOTE: A button that is yellow in color indicates that this is currently the active function.

Main Screen Buttons - Machine Functions

The buttons at the top and bottom of the main screen control various machine functions.

SwingBoom™ Return



Activation Type: Single-touch on, single-touch off

This button controls the SCREEDSAVER MAX PLUS SwingBoom™ return system. When activated, the SwingBoom™ will return to its center position when switching from SCREED mode to DRIVE MODE. Boom will stay in its last used location when not activated.

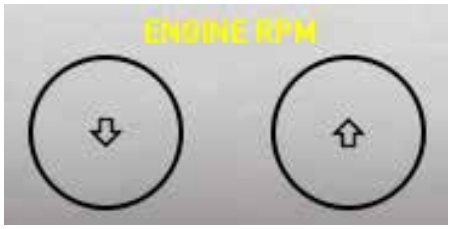
Lights

Activation Type: Single-touch on, single-touch off

This button controls the SCREEDSAVER MAX PLUS front and rear LED work lights. You can turn the lights ON or OFF from any mode of machine operation.

Engine RPM Control

Activation Type: Press and hold



The ‘‘DOWN’ and ‘UP’ arrow buttons manually control the Engine RPM when NOT in ‘Work Mode’.
Pressing and holding the ‘DOWN’ arrow button will lower the Engine RPM. Pressing and holding the ‘UP’ arrow button will increase the Engine RPM. As soon as the button is released, the function will stop.

Engine Stop

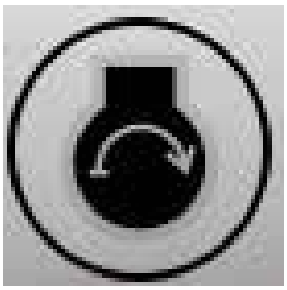
Activation Type: Press and hold

The ‘Engine Stop’ button will turn off the Honda engine. Machine can be restarted via the remote or the Engine Start button on the MD4 display.

Engine Start

Activation Type: Press and hold

The ‘Engine Start’ button will start the Honda engine. Pressing and holding the button will activate the starter until the machine fully starts. .



‘Work Mode’

Activation Type: Single-touch on, single-touch off

The ‘Work Mode’ button increases the engine RPM’s automatically to predefined factory settings and readies the machine for operations such as screeding or driving. With the ‘Work Mode’ button engaged, the machine will sit in a low idle state for fuel efficiency until a button or paddle is activated on remote controller. Once a button or paddle is activated, the machine’s engine RPM’s will rise up to predefined operating RPM to fulfill the desired function.

NOTE: It is recommended to keep this function active during all machine activity for proper engine RPM.

Main Screen Buttons - Navigation

Info

Activation Type: Tap

Enters machine info screens with additional machine function buttons

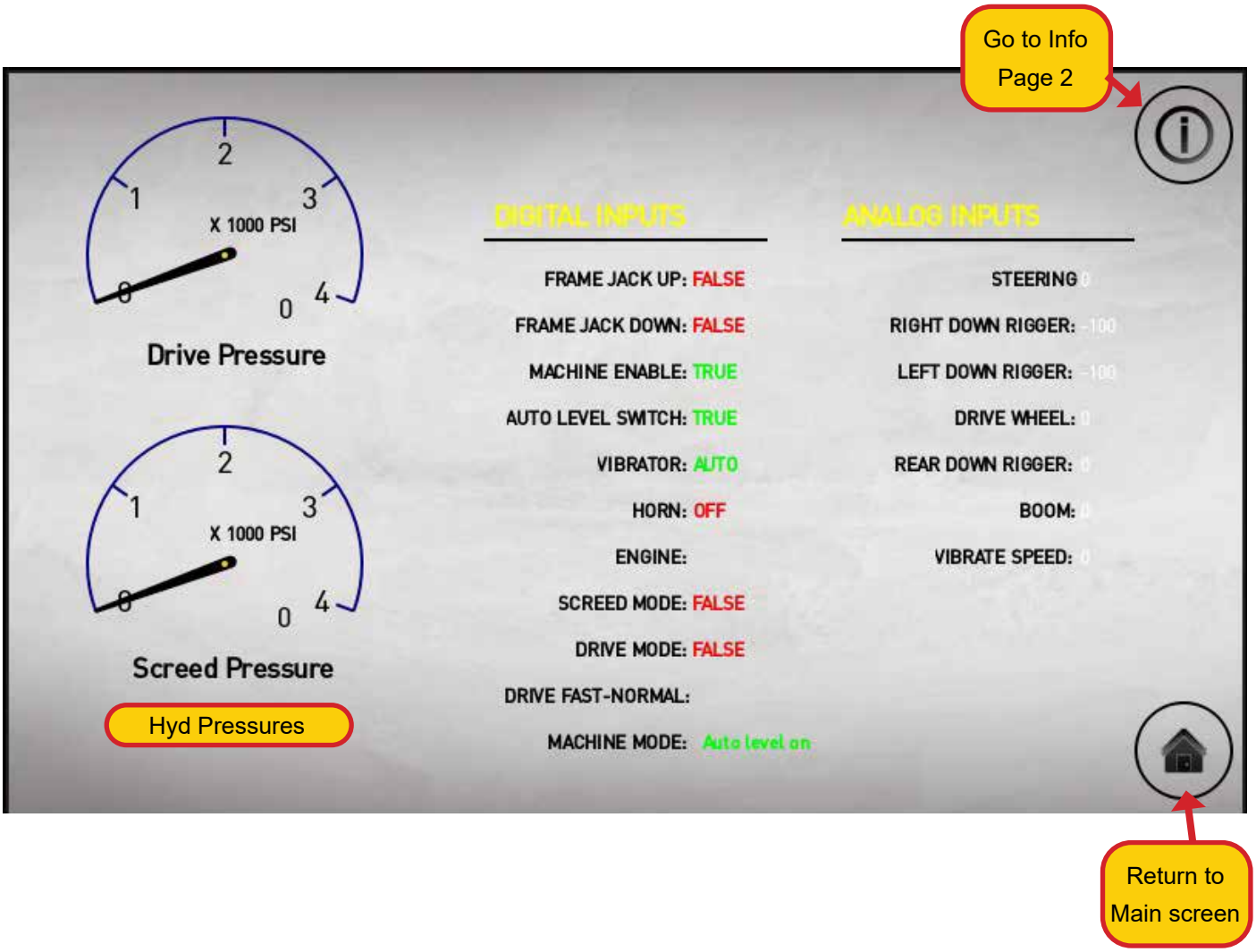
Settings

Activation Type: Tap

Enters machine parameter settings

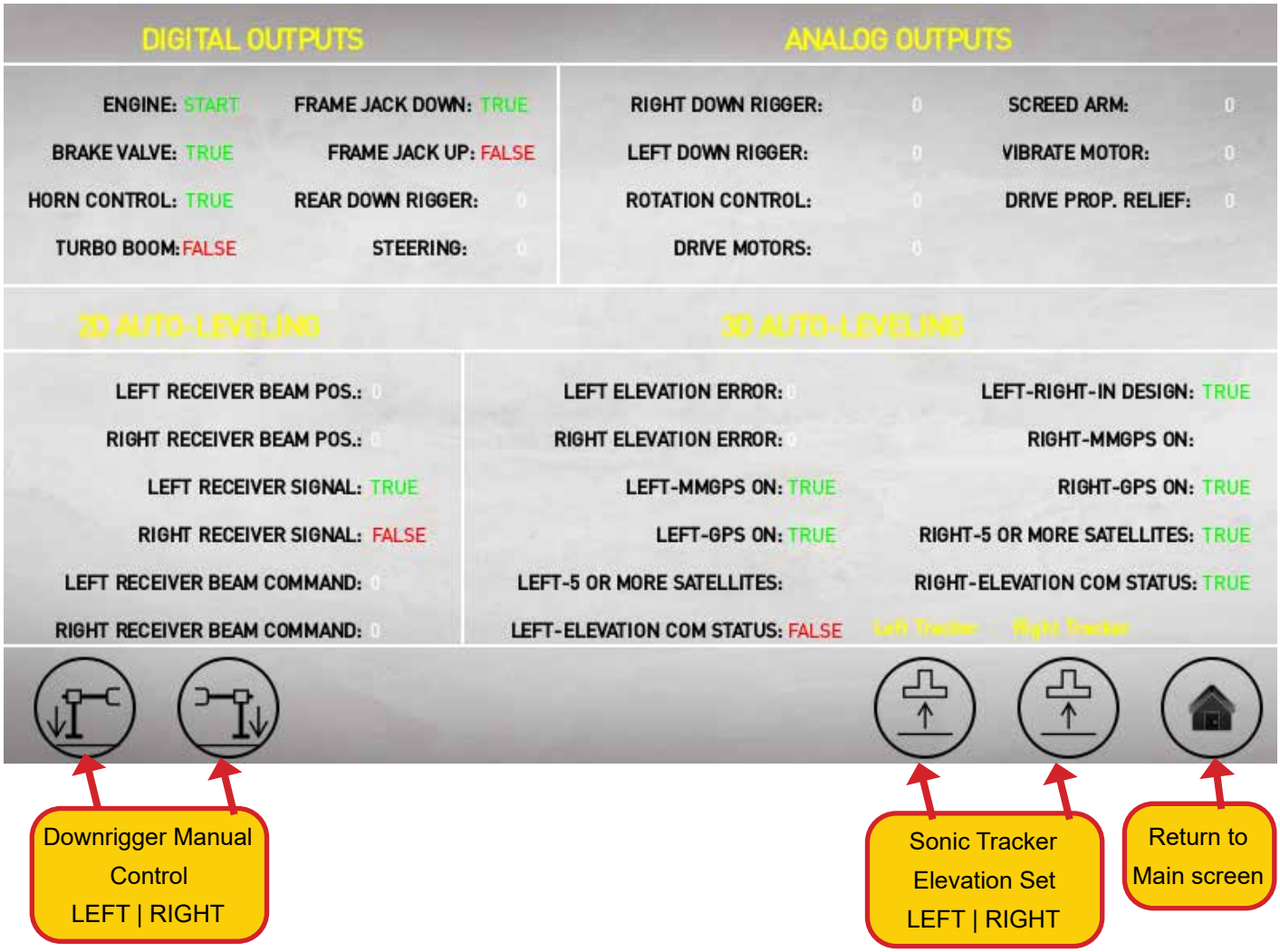
Info Screen - Page 1

To enter the ‘System Information’ screen, click the ‘i’ icon in the upper right corner of the Main Screen. There are two pages of Information screens.
Info Page 1 features machine function buttons, hydraulic pressure gauges, and digital and analog inputs. The digital and analot inputs are live machine data dependent on remote switch or paddle position used for quick troubleshooting. The digital inputs will display a TRUE/FALSE reading when switch is active or inactive. The analog inputs will give a numerical numbers that corresponds to remote paddle positon. Pushing the paddle forward results in a positive number displayed. Pulling a paddle backward results in a negative number displayed.

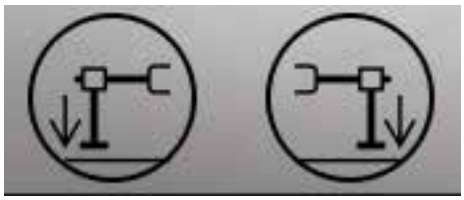


Info Screen - Page 2

Info Page 2 features additional machine function buttons, digital and analog outputs, and 2D laser and 3D auto level status. The digital and analot outputs are live machine data dependent on remote switch or paddle position used for quick troubleshooting. The digital outputs will display a TRUE/FALSE reading when switch is active or inactive. The analog outputs will give a numerical numbers that corresponds to remote paddle or switch positon.



Downrigger Manual Control

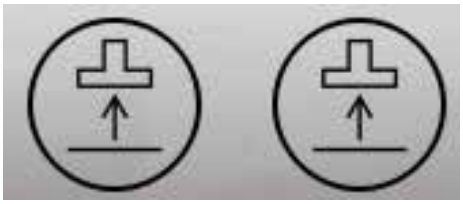


Activation Type: Single touch on, single touch off

The operator can use this button set to override the automatically controlled downriggers when screeding. When active, the operator will control downrigger movements with the corresponding paddle on wireless remote.

Sonic Tracker Elevation Set

Activation Type: Tap



The operator can use this button set the desired elevation from grade using the optional sonic trackers. Tap to set the elevation for each side. The indicators on the trackers will change to verify elevation setting is saved. Elevation can be changed by adjusting height and toggling the buttons again.

Settings Menu

CHANGING FACTORY SETTINGS

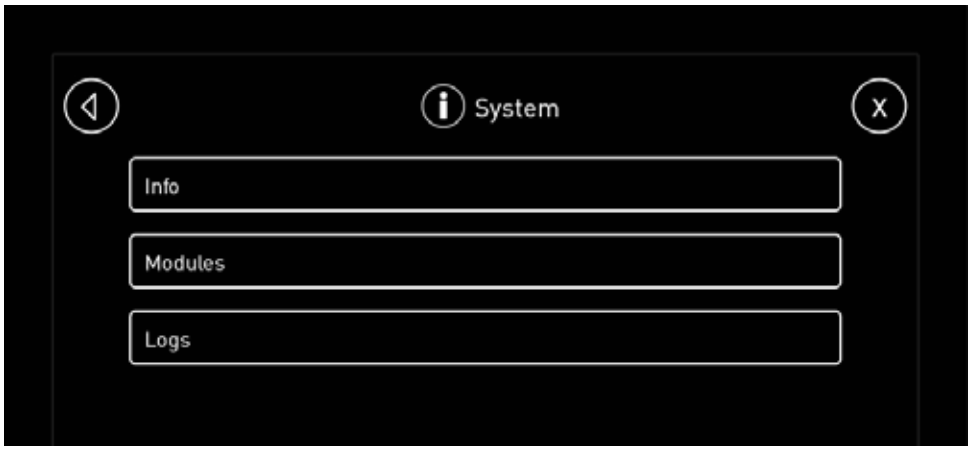
Ligchine takes special care to set the values of all settings at the factory. Contact Ligchine if you want to makes changes to any of the settings.

Settings Menu

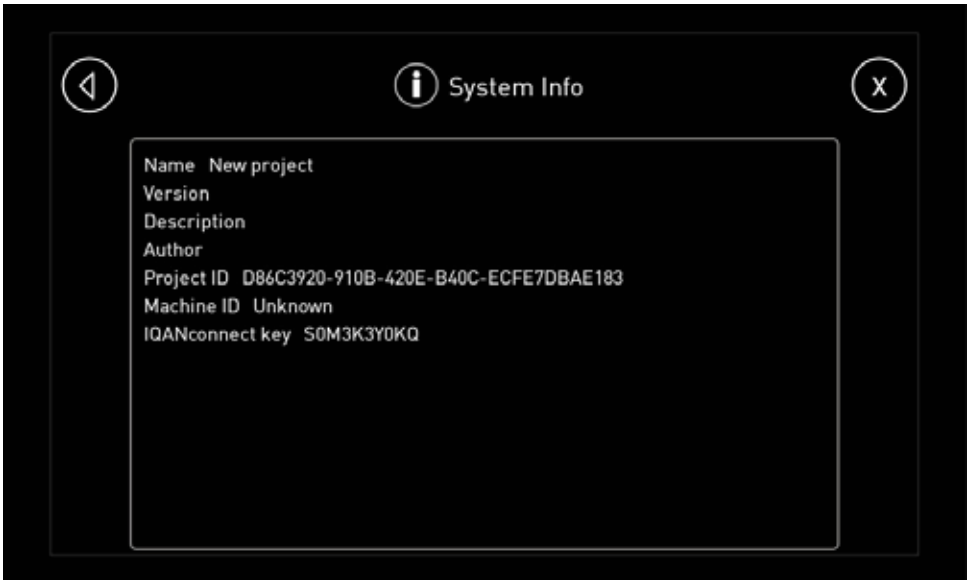
Activation Type: Tap

Tap this button to display the Main settings screen, as shown in the figure below.

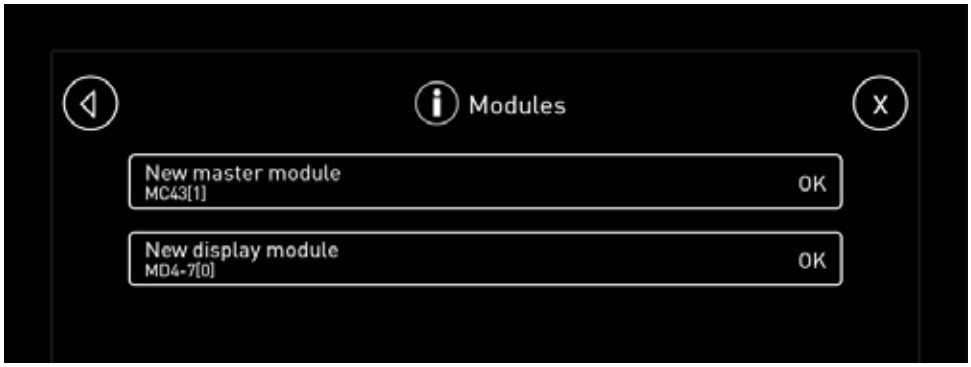
System — Tap the **Main > System** button to display the System screen, as shown in the figure below. Tap the **X** button to return to the previous screen.



Info — Tap the **System > Info** button to display the System Information Details screen, as shown in the figure below. Tap the **X** button to return to the previous screen.



Modules — Tap the **System > Modules** button to display the Modules screen, as shown in the figure below. Tap the **X** button to return to the previous screen.



Logs — Tap the **System > Logs** button to display the Log screen, as shown in the figure below. The log screen will save event logs or error messages that display on the MD4.

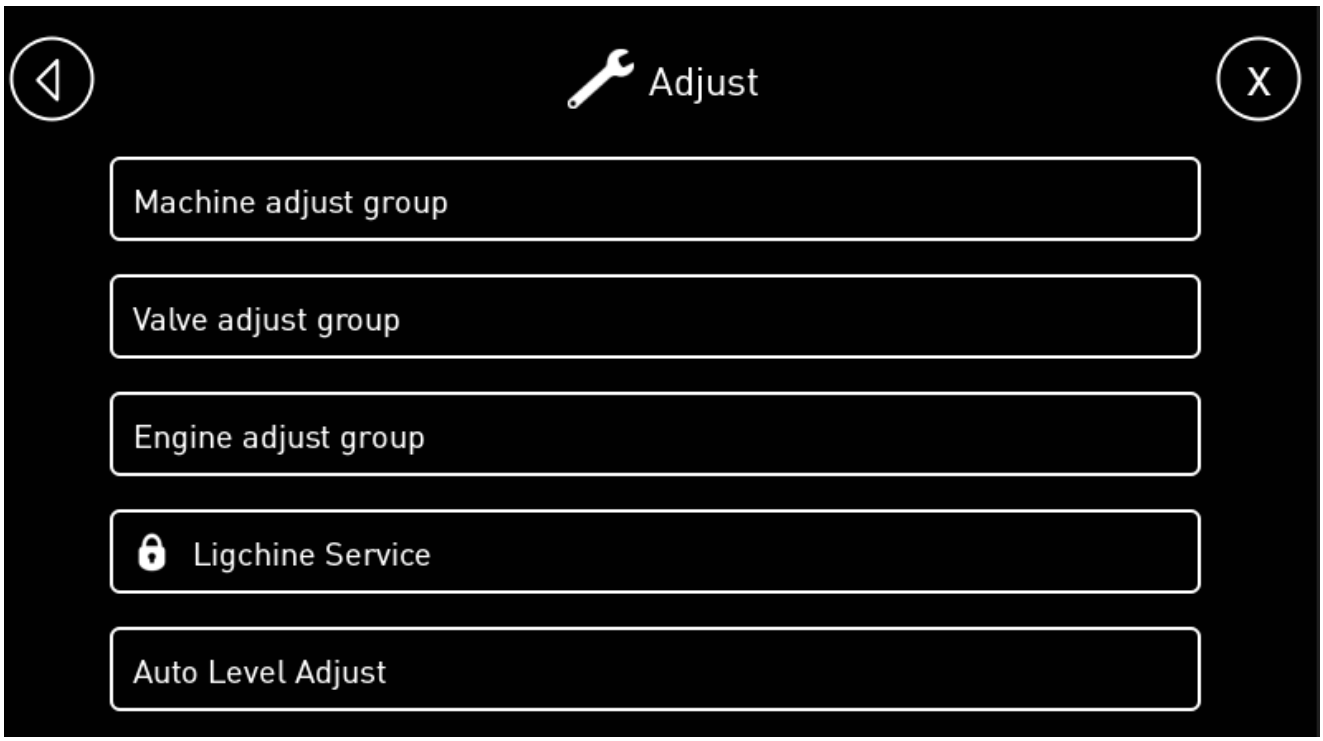
Tap the **X** button to return to the previous screen.

Adjust — Tap the **Main > Adjust** button to display the System screen, as shown in the figure below.

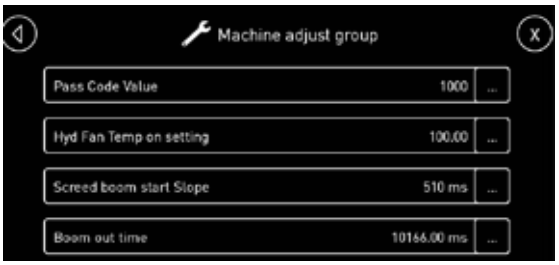
There are several menu items on this screen:

- Machine adjustments
- Valve adjustments
- Engine adjustments
- Auto Level adjustments

Explanations are given for each of these below. Tap the **X** button to return to the previous screen. Tap the ellipsis button on each setting (**...**) to cancel or reset.



Machine Adjust — Tap the **Adjust > Machine Adjust** button to display the Machine Adjust screen, as shown in the figure below.



There are several menu items on this screen:

- **Hyd Fan Temp Setting**
- **Screed Boom Start Slope**
- **Boom Out Time**
- **Side Shift Max Speed**
- **Pass Code Value**
- **Boom Prox Travel**

Explanations are given for each of these below. Tap the **X** button to return to the previous screen.

- **Hyd Fan Temp On** - Changes the hydraulic fluid temperature setting (degrees Fahrenheit) which triggers the activation of hydraulic cooling fan. It is recommended to NOT change the factory setting.
- **Screed Boom Start Slope** - Time (milliseconds) delay adjustment it takes for the boom arm to reach its set maximum boom in speed. Adjustments are typically performed to fine tune screed head contact onto concrete.
- **Pass Code Value** - Changes the 4 digit password for the lock screen upon machine power up.
- **Screed Boom Start Slope** - Time (milliseconds) delay adjustment it takes for the boom arm to reach its set maximum boom in speed. Adjustments are typically performed to fine tune screed head contact onto concrete.
- **Boom Out Time** - Time (seconds) the boom valve is active
- **Side shift Max Speed** - Speed the SwingBoom™ actuator extends and retracts
- **Boom Prox Travel** - Time (milliseconds) the boom proximity sensor is active after it senses the boom is near full extension.

Valve Adjust Group — Tap the **Adjust > Valve Adjust** button to display the Valve Adjustments screen, as shown in the figure below.

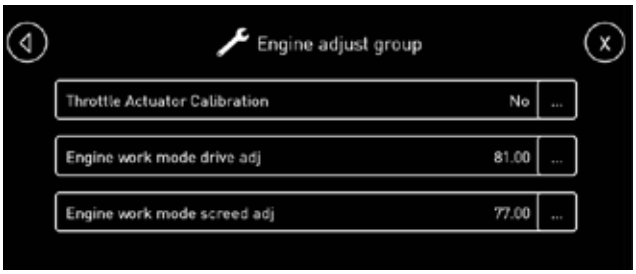
There are several menu items on this screen:

- **Drive Trailer Max Pos / Neg**
- **Front L/R Downrigger Min/Max Pos/Neg**
- **Screed Boom In Max Speed % Full Paddle**
- **Steering Max Pos/Neg**

Explanations are given for each of these. Tap the **X** button to return to the previous screen.

- **Drive Trailer Max Pos / Neg -** Adjusts the top speed of the machine when placed into 'Trailer' mode which is represented by the turtle symbol on the wireless remote. Pos = Forward movement, Neg = Reverse movement. Increase milliamps to increase speed.
- **Front Downrigger Left/Right Min/Max Pos/Neg -** Adjusts the speed of the front downriggers via current to the valve solenoids - includes settings for left and right downriggers, miniumum and maximum for each, and positive and negative direction. CONTACT LIGCHINE FOR BEST ADJUSTMENT PRACTICES
- **Screed Boom In Max Speed % Full Paddle -** Adjusts the maximum boom in speed during a full paddle stroke on the wireless remote. Adjustments are made by changing the percentage of what the speed would be at full 100% paddle. 50% = half speed compared to 100% full stroke of the boom paddle
- **Steering Max Pos / Neg** - Adjusts the speed of the machine's steering function. Increase milliamps to increase speed.

Engine Adjust Group — Tap the **Adjust > Engine Adjust** button to display the Engine Adjustments screen, as shown in the figure below.



There are several menu items on this screen:

- **Engine Work Mode Drive Adj**
- **Engine Work Mode Screed Adj**

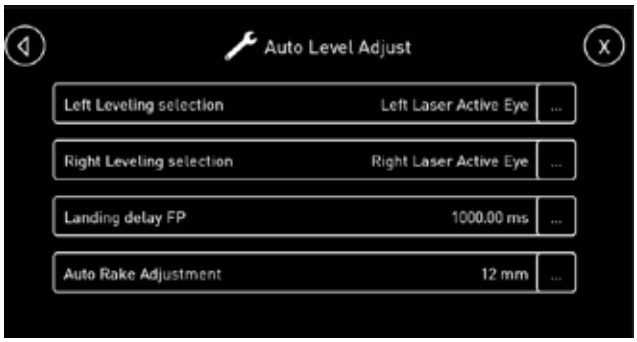
Explanations are given for each of these. Tap the **X** button to return to the previous screen.

- **Engine Work Mode Drive Adj -** Adjusts to a percentage of engine full throttle when placed into Work Mode (Rabbit button on display) in the DRIVE mode
- **Engine Work Mode Screed Adj -** Adjusts to a percentage of engine full throttle when placed into Work mode (Rabbit button on display) in the SCREED mode

Auto Level Adjust Group — Tap the **Adjust > Auto Level Adjust** button to display the Auto Level Adjustments screen, as shown in the figure below.

There are several menu items on this screen:

- **Left Leveling selection**
- **Right Leveling selection**
- **Landing delay Full Paddle**
- **Auto Rake Adjustment**



Explanations are given for each of these. Tap the **X** button to return to the previous screen.

- **Left Leveling selection -** Selects hardware source being used for auto leveling on machine's left side. Options are: Left laser eye, left sonic tracker, or left 3D
- **Right Leveling selection -** Selects hardware source being used for auto leveling on machine's right side. Options are: Right laser eye, right sonic tracker, or right 3D
- **Landing delay Full Paddle -** Adjusts time delay in milliseconds at a full paddle that machine will come to grade. Adjust as needed to achieve soft touch downs with machine.
- **Auto Rake Adjustment -** Height adjustment above established grade that the machine will maintain in automatic screed pass when in Rake Mode (using machine as a concrete rake)

Preferences — Tap the **Main > Preferences** button to display the Preferences screen, as shown in the figure below.

There are several menu items on this screen:

- **Display** — change the backlight brightness and enable the screensaver.
- **Date/Time** — change the date and / or time

PREPARE FOR SCREEDING

Follow these preliminary steps to ensure efficient safe screeding operation:

1. Verify the engine oil is at its proper level.
2. Fill tank with fresh fuel. Fill the tank only to about 80% full to prevent vapor locks.
3. Check the pressure on all tires, since this is very important for screeding performance. See the manufacturer pressure specification on the tire sidewalls.
4. Ensure a full battery in the wireless remote controller. Make sure the spare is charging/ charged on the on-board charger under hood.
5. Verify that the main battery has sufficient charge to start the machine. Battery output must exceed 12 VDC or the SCREEDSAVER MAX PLUS may not function properly (some function may turn off unexpectedly).
6. Pack two laser receivers and laser receiver cables
7. Pack the laser transmitter or 3D positioning equipment, tripods, and extra batteries.
8. Fill sprayer tanks as needed.
9. Spray form oil on the screed head, all downriggers, and all wheels.
10. Grease all screed-head bearings, frame jack pivot zerks, and outrigger zerks.

REMOVAL FROM A TRAILER

To remove the machine from a trailer, Ligchine recommends the SCREEDSAVER MAX PLUS be operated in Trailer (turtle) mode. This mode places machine into all wheel drive and reduces wheel speeds for more controlled machine movement.

EMERGENCY STOP

In an emergency, it’s best to immediately release the paddles and push the red emergency stop button on the wireless remote to bring the machine to a complete stop.

REMOTE ACTIVATION/ENGINE START

Prior to operating the SCREEDSAVER MAX PLUS (even if you are only moving it a short distance), the hydraulic fluid temperature should increase 80 F (27 C). After starting the machine, ensure that the fluid temperature reaches this value for proper performance.

Follow these steps to start the SCREEDSAVER MAX PLUS:

1. **MAX PLUS** - Turn the main machine power switch to the “ON” position. The touch-screen display will turn on and default to the lock screen. After power on, a single 1-second horn beep will sound indicating there is power to the remote system.

2. **Scanreco Remote** - Twist the red E-Stop buttion to enable proper remote activation. Press the wireless remote power button to activate the remote.

   A second single 1-second horn beep will sound indicating successful link between the remote and the MAX PLUS after remote power up.

3. **MAX PLUS** - Enter the PIN code to unlock the display. Once unocked, machine’s display will default to the main screen.

4. **MAX PLUS OR Scanreco Remote** - Press and hold the ‘Engine Start’ button on the touch-screen display or pull out, push up, and hold on the engine Start switch on the Scanreco remote. Release either button or switch once engine has successfully started.

Wired Remote Connection

A wired remote connection can be achieved in the event of wireless remote interference concerns on jobsites.

1. Power off machine and remote

2. Locate the direct connection cable included with the MAX PLUS

3. Remove the tethered caps from the connection port on the remote and from wire ‘B’ on remote receiver at rear of boom

4. If connection is successful, the LCD display on the remote receiver will change from ‘HI’ to ‘-I’

SCREED HEAD HEIGHT ADJUSTMENT

The ScreedSaver MAX PLUS features a pivoting center post with manual vertical screed head height adjustment. This feature allows the screedhead to be transported and remain fixed onto the machine in most situations. This feature also allows the machine to navigate through doorways or tight areas. Ligchine has supplied tools for the pivoting center post but an elecric impact wrench is recommended for speed and ease of setting.

To pivot the screed head or adjust screed head height:

1. Loosen the two pinch bolts on the front the pivot post with the wrench provided. The screedhead can now be pivoted.

2. Turn the acme bolt located at the top of the pivot post to raise or lower the screed head to desired height.

3. Rescure the pinch bolts to maintain height or pivoted position.

The hydraulic hoses for the auger/vibrator, side shift, and spray bar all feature quick disconnect style fittings. They are male and female orientated to ensure correct installation.

The screedhead connection layout:
Closest to boom: Auger/Vibrator connection
Middle: Auger/Vibrator connection
Furthest from boom: Screedhead sprayer

WARNING

Do not connect or disconnect the screed head quick connect fittings with the engine running.

WARNING

Never stand or place additional weight on the screed head as severe damage can result to the boom arm bearing system.

UNLOADING THE MAX PLUS

- Confirm that the VIBRATE/AUTO switch is turned OFF.
- Move the Mode switch into the down position so the machine is in SCREED mode.
- If the screedhead is under the machine for transport, lower or raise screed head as needed, extend the boom out and rotate the screedhead for proper frame jack sequence clearance.
- Raise all three downriggers to their fully retracted positions.
- Press FRAME JACK switch forward to lift the front end of the machine off the tires into a raised position to allow clearance for the ScreedSaver MAX PLUS while it is being driven off the trailer at an angle.
- Move the “Trailer” switch to its slow speed position which will increase machine control by reducing drive motor speeds during loading and unloading.
- Return the Mode switch into the up position so the machine is in DRIVE mode.
- Using outer left (STEER) and right (DRIVE) paddle switches on the wireless remote, carefully drive your ScreedSaver MAX PLUS off the trailer.

NOTE: Operators should first familiarize themselves with the machine by running it at 50% speed by activating the “Trailer” switch on the wireless remote and practice in a safe area.

NOTE: Be sure the area is clear of all obstructions prior to operating and that bystanders remain a minimum of 25’ (7.6m) from machine when operating.

REMOVAL FROM A TRAILER

To remove the machine from a trailer, Ligchine recommends the SCREEDSAVER MAX PLUS be operated in Trailer (turtle) mode. This mode places machine into all wheel drive and reduces wheel speeds for more controlled machine movement.

WARNING

The machine operator should avoid standing directly next to the machine or screed head while the machine is operating to prevent injury should the machine become unstable due to obstacles, terrain conditions, machine malfunctions or operator control errors.

WARNING

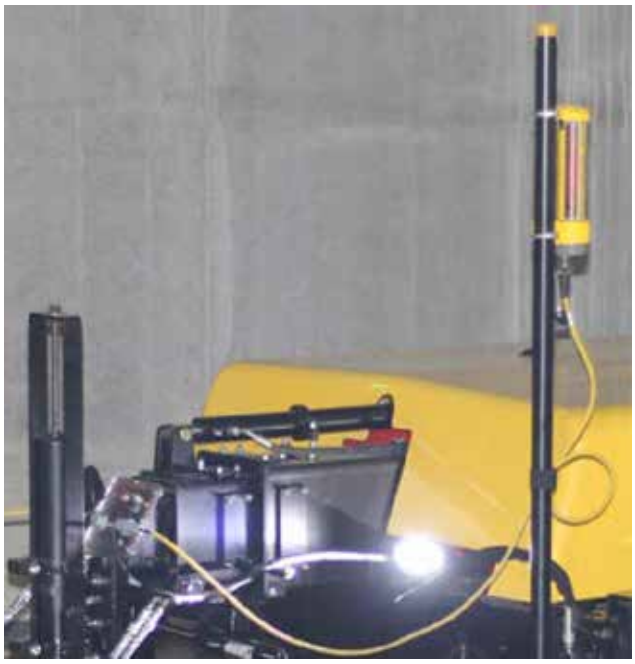
Never sit or stand on the machine, whether moving or stationary.

ATTACHING THE LASER EYE

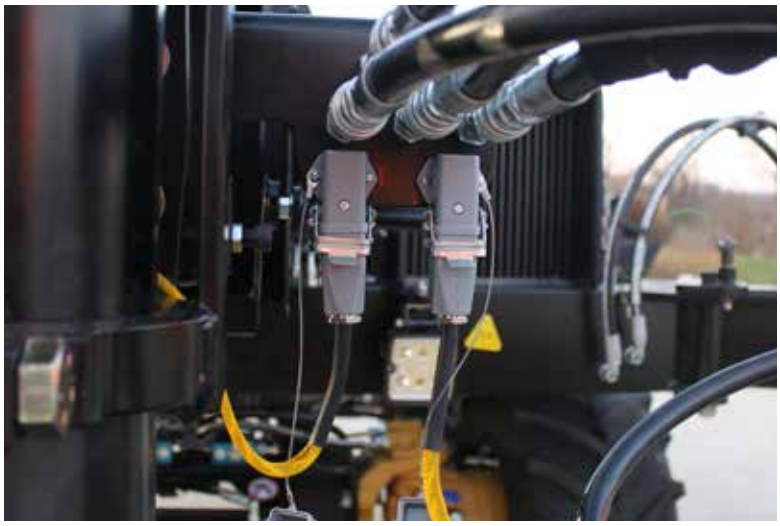
Follow these steps to attach the lasers to the machine:

1. Attach the laser poles to both sides of the screed head. Secure the poles to the screedhead by tightening the bolt screw found at the base of the pole.

2. Using the built-in clamps, hand-tighten both of the laser eyes to the laser poles. For best visibility, it is best to face the front of both laser-eye devices toward the rear of the machine. The vertical position is not critical until you make final screed-head leveling and setup adjustments.



3. Attach the yellow laser eye cables to each device by aligning the grooves, then push the connector in and hand-tighten the screw ring to lock onto the eyes. Attach the other end of each laser-eye cable to the connectors above the screed head by aligning the grooves and then clamp the cam lock shut to lock the cables in place.



QUICK START GUIDE

Follow these easy steps to begin using your SCREEDSAVER MAX PLUS machine.

STEP 1: Laser transmitter

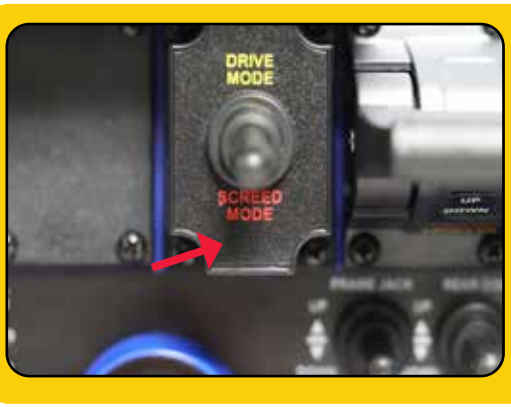
Setup laser transmitter in appropriate jobsite location (free from interference).

STEP 2: Grade Height

Set the grade rod to the finished concrete slab grade height.

STEP 3: Laser receiver

Attach laser poles, both laser eye receivers, and cables to the front of the machine.



STEP 4: Setup for first pass

Drive machine to first screed pass location. Place machine into SCREED mode.

STEP 5: Center SwingBoom™

Use the side shift buttons on wireless remote and adjust the SwingBoom so the boom/screedhead is centered in middle of machine.

STEP 6: Adjust frame height/rotate undercarriage

Retract the undercarriage tight to the frame with FRAME JACK function
Adjust all 3 downriggers until machine is relatively level or parallel to subgrade and there is approximately 3 inches (7.6cm) between the tires and subgrade.
If desired, lower undercarriage to pull pin and rotate undercarriage to achieve parallel to pour driving.

STEP 7: Pinch bolts

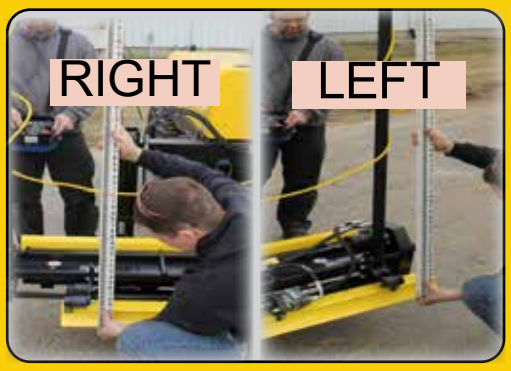
Loosen the two pinch bolts that secure the pivoting center post.

STEP 8: Head elevation

Hold the bottom of the grade rod level with the bottom the finish blade.
Raise or lower the pivoting center post for proper concrete slab grade height.

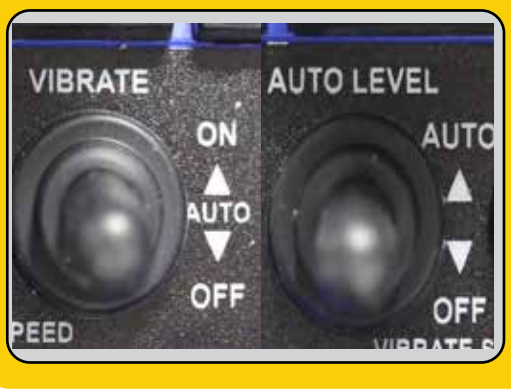
STEP 9: Pinch bolts

Resecure the two pinch bolts that secure the pivoting center post. Make sure the screedhead is perpendicular to the boom before tightening.



STEP 10: R/L head setting

Hold the bottom of the grade rod level with the bottom of the finish blade on the right and left sides of the screed head.
Adjust the front downriggers with the remote until finish blade matches finished slab grade height.



STEP 11: AUTO switches

Turn the VIBRATE switch to AUTO

Turn the AUTO LEVEL switch to AUTO

STEP 12: Laser eyes

With the screed head and machine set, adjust the laser receivers up or down to pick up the laser strike and lock them in to grade

STEP 13: Check pass

Boom the machine out and perform a small test pass on the concrete. Adjust vibration and flow control valve as needed.

STEP 14: Confirm grade

With the grade rod, check the concrete height of the first test pass. If concrete is at required grade, set-up is complete. If adjustments are needed, go to next steps.

STEP 15: Adjust height

Any height adjustments needed after the test pass can be performed by sliding the laser receivers up or down on the poles as needed. Remember “UP to go DOWN” --sllide the receiver UP to increase the distance between the receiver and screedhead which drives the screedhead further DOWN into the concrete.

Perform an initial test screed pass

There are many methods and shortcuts to set up a laser-leveling screed. The previous Quick-Start setup is the most precise for a typical application. No matter how you choose to configure the MAX PLUS for use, Ligchine strongly recommends that you always make an initial screed pass. Then, immediately check the concrete with a laser grade rod to verify it is precisely where it should be before proceeding with additional screeds. Periodic checking of your screeds with this grade rod will give you assurance that the automatic laser level system is functioning correctly.

SLOPE OPERATION

WARNING

Operation on a slope is a major factor that contributes to loss-of-control and rollover accidents, which can result in severe injury or death to anyone in the vicinity. Never operate on any slope greater than 20 percent—which is a rise of 4 feet (1.2 Meters) vertically in a span of 20 feet (6.1 Meters) horizontally.

Single Slope

To set-up a single slope pour, set up the laser transmitter to the desired slope setting and perform the same steps as a flat slope. Use the grade rod to check both ends of the slope to verify it is correct.

Dual Slope

To set-up a dual slope pour, set up the laser transmitter to the desired slope setting. Estabish the ‘X’ and ‘Y’ axes of the slope and orientate the laser at their points of intersection.

Then perform the same steps as a flat slope.

Use a grade rod to check the corners of the pour site to verify slope settings are correct.

GENERAL CONCRETE SCREEDING

AUTO Mode

For ease of operation, Ligchine recommends that, when screeding, the VIBRATE switch centered in the AUTO position. This will automatically turn on the auger/ vibrator upon boom extension and also quickly raise the front downriggers and control frame jack on mode changes.

- Switch to DRIVE Mode and drive machine into position for the first screed pass.
- Lower the machine frame so the frame is resting on the wheels (If in AUTO mode, this will not be necessary as the machine will automatically lower itself when changing to SCREED Mode).
- Change back to SCREED Mode. This will automatically position the downriggers and screed head.
- If necessary, using the front downriggers, raise the screed head sufficiently so it clears all obstacles and concrete during boom extension.
- **For ease of operation we recommend you screed with the VIBRATE switch in the AUTO position which will automatically turn on the vibrator upon boom extension as well as quickly raise the front downriggers .**
- Adjust the VIBRATE dial to a setting appropriate for the concrete slump placing. Adjust the vibration level up (+) or down (-) at any time while screeding by turning the vibration adjustment knob on the wireless remote. Vibration can also adjusted using the flow control valve positioned on the screedhead hosing.
- Extend the boom arm out to its screed position.
- Manually lower the screedhead via the DOWNRIGGER paddles so the laser receivers detect the laser transmitter beam.
- Retract the boom arm to begin screeding. This will automatically lower the screed head to the proper screed height (laser eyes will go to green as the boom is being retracted)
- After the boom arm has been fully retracted to its closed position, you are ready to move to the next screeding area.
- Change to DRIVE Mode and move the machine to the next screed area - the machine will automatically raise the frame jack and place the machine onto the tires.
- Switch back to SCREED Mode. The machine will automatically re-position itself and the screed head.
- Repeat these steps outlined until the job is complete.

SHUTTING DOWN THE MAX PLUS

EMERGENCY STOP

In an emergency, it's best to immediately release the drive switches and immediately push the emergency stop button to kill the engine bring the machine to a complete stop.

Normal Machine Shutdown

For normal shutdown and parking of the ScreedSaver MAX PLUS:

- Lower the Frame Jack or retract the downriggers so the machine sits on the wheels
- Be certain that the boom is fully retracted (or retracted sufficiently if the screedhead is tucked underneath the machine.)
- Push in the red emergency stop button on the wireless remote
- Turn the main machine power switch on hood to OFF

SPECIFICATIONS

Engine Size	Honda iGX800 - 24.9HP (18.5kW) - Fuel Injected
Machine Size (retracted)	W-6’ 3” (1.9 m) x L-15’ 10” (4.8 m) x H (top of pivot post)-5’ 7” (1.7 m)
Machine Weight	4,800 lbs. (2,177 kg)
Steering System (hydraulic)	2 wheel rear steering
Drive System (hydraulic)	2 wheel proportional front drive
Parallel to the Pour Driving Capable	Yes - 90 degree manual turning undercarriage
Lighting System	2 forward & 1 rear facing LED lights
Machine Operation Control	100% Wireless Remote Control
Coverage per screed pass (no overlap)	170 sq. ft. (15.8 sq. m)
Screed Head Length	10’ (3 m) (standard)
Boom Reach	17’ (5.18 m)
Self-contained Concrete Additive Sprayer System	Standard
Diagnostics (hydraulic, electrical, engine and laser)	Standard – Parker MD4, 7” touch-screen color display
Transport with Pickup Truck and Trailer	Yes
Machine Length When in Trailer Mode	23’ (7.01 m)
Alternate Screed Head Options	Paver, Standard
Grade/Slope/Dual Slope control (standard)	Topcon LS-B110
Contoured Slope 3D Capable (optional)	Topcon 3D mmGPS Satellite control or LPS Robotic
Extras	Toolbox, LED lighting, sprayer system

MAINTENANCE

Maintenance Schedule - ScreedSaver MAX PLUS with Honda iGX800

Item to Maintain	Maintenance	Each Use	First Month or 20 Hours	Every 3 Months or 50 Hours	Every 6 Months or 100 Hours	Every Year or 300 Hours
Honda Engine						
Engine Oil	Check level	■				
	Replace		■		■	
Engine Oil Filter	Replace	Replace with Every Oil Change				
Air Cleaner	Check	■				
	Clean				■ (1)	
	Replace					■
Spark Plug	Check				■	
	Replace					■
Valve Clearance	Check/Adjust					■ (2)
Fuel Filter	Replace				■	
Fuel Tank	Clean	Every Year (2)				
Hydraulic System						
Fluid Level	Check	■				
Fluid Pressure Gauge	Check	■				
Radiator	Check			■		
	Clean / Degrease					■ (1)
Hydraulic Fluid	Replace					■
Hydraulic In Tank Filter	Replace				■	
Hose Inspection	Check		■	■		
Boom System						
Lubricate	As needed	Lubricate exterior of 6" and 8" boom sections (top and sides)				
Adjust UHMW Guides	As needed	If boom becomes loose - tighten the UHMW hold down plates				
All Screed Head Bearings						
	Grease	■				
Sprayer System						
Filter	Clean	■				
Swing Arm Bearings						
	Grease		■			
Battery						
	Critical (3)	REPLACE every year to prevent machine failure and damage (3)				
Tire Pressure						
	Check	■				
Nuts and Bolts						
	Inspect		■	■		

(1) Service more frequently if used in highly dusty areas
(2) These items should be serviced by your Honda servicing dealer, unless you have proper tools and are mechanically proficient. Refer to Honda shop manual for service procedures.
(3) Batteries must be replaced if voltage is <12vdc to prevent electronics operation failure (recommend annual replacement)

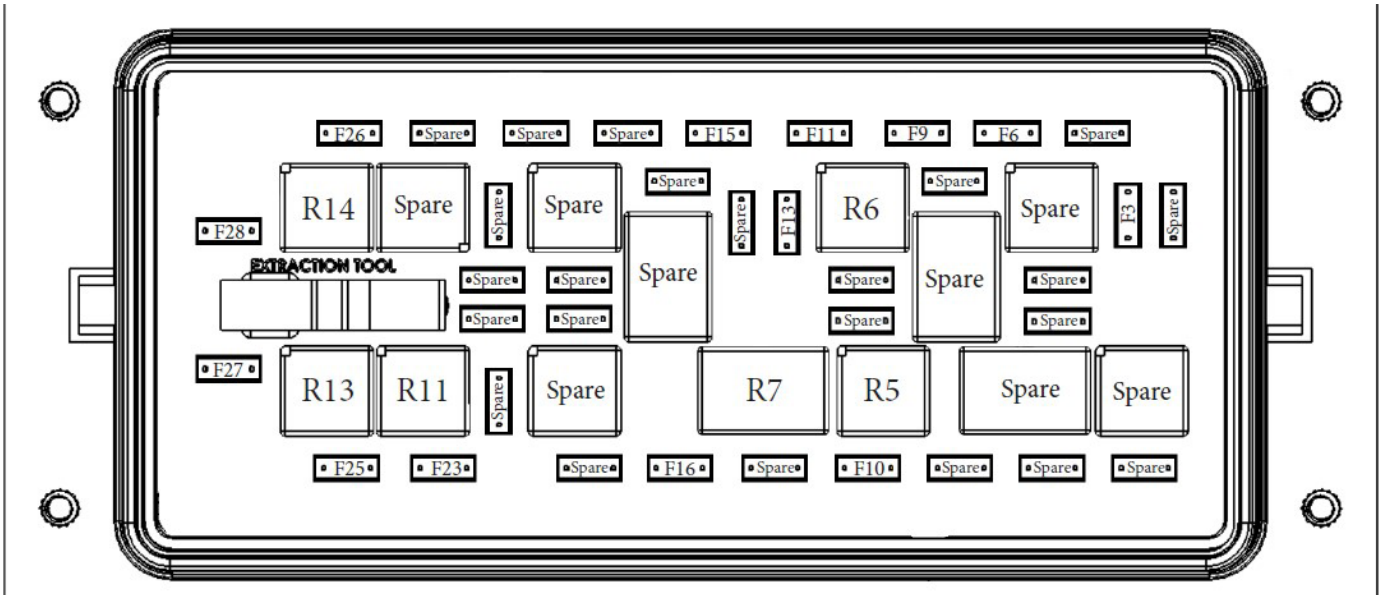
Fluid Info | Type | Capacity

- Engine Oil: 10W30 | 1.9 QT (1.8L) w/ filter
- Hydraulic Oil: ISO 32 grade | 20 gallon (75.7L)

Filter Info

- Engine Oil Filter: 15400-PLM-A02 (Honda)
- Hydraulic Oil Filter: 5TBZ10 (Schroeder)
- Air Filter: 17210-Z6L-010 (Honda)
- Fuel Filter: 16910-ZDW-003 (Honda)

Fuse Layout



Location	Fuse Size	Relay	Fuction
F1	20A	R1	Spare
F2	20A		Spare
F3	20A		MC-43
F4	15A	R3	Spare
F5	10A		Spare
F6	15A		MD4-7
F7	15A		Spare
F8	25A	R4	Spare
F9	10A	R6	LED Lights
F10	20A	R5	Sprayer
F11	10A		Scanreco
F12	15A		Spare
F13	20A		Spare
F14	10A		Spare
F15	20A		Fuel Level
F16	30A	R7	Engine Start
F17	20A	R8	Spare
F18	10A	R10	Spare
F19	10A	R9	Spare
F20	15A		Spare
F21	15A		Spare
F22	15A		Spare
F23	15A	R11	Engine Stop
F24	10A	R12	Spare
F25	20A	R13	HY Fan
F26	10A	R14	Horn
F27	20A		Boom Prox
F28	20A		Laser Eyes/Tracker

Sprayer Maintenance

- Inspect hoses before each use for abrasions.
- Check and clean inline filter mounted behind pressure washer reel before each use to avoid clogs
- In cold climates and long-term storage, RV antifreeze should be run through the sprayer pump and in the tank.
- Keep sprayer tips clean from concrete.

Long Term Storage

Before storing machine for the off-season, we recommend the machine be serviced including:

- Thoroughly clean the machine.
- Apply a light coat of lubricant to the machine's metal surfaces to provide corrosion protection.
- Grease wheels, tracks, and all bearings.
- Check tire pressures and fill as necessary.
- Remove batteries from the laser level, and wireless remote to prevent storage damage.
- Machine battery life will be extended if it is removed and attached to a standard automotive trickle charger during extended periods of inactivity.
- To avoid engine problems, use a fuel stabilizer, especially before storage of 30 days or longer.
- When removing the ScreedSaver™ from extended storage follow previously outlined Pre-Operation instructions in this Owner/Operator's manual.

SCREED HEAD MAINTENANCE

Bearing maintenance:
There are numerous bearings attached to each screed head. Bearings are located on the vibrator assembly and both ends of the auger.

Each must be greased every use as well as following cleaning of the screed head at the end of a job. These are high wear items so you should always keep spares with you when screeding in the event of failure.

Bearing replacement:
Flange bearings are high wear items due to their concrete exposure that will need to be replaced periodically. You can do so by loosening the attachment bolts that hold them in place.

When replacing these bearings be sure to seal the back side with silicone sealant to prevent concrete from getting behind the bearing housing.

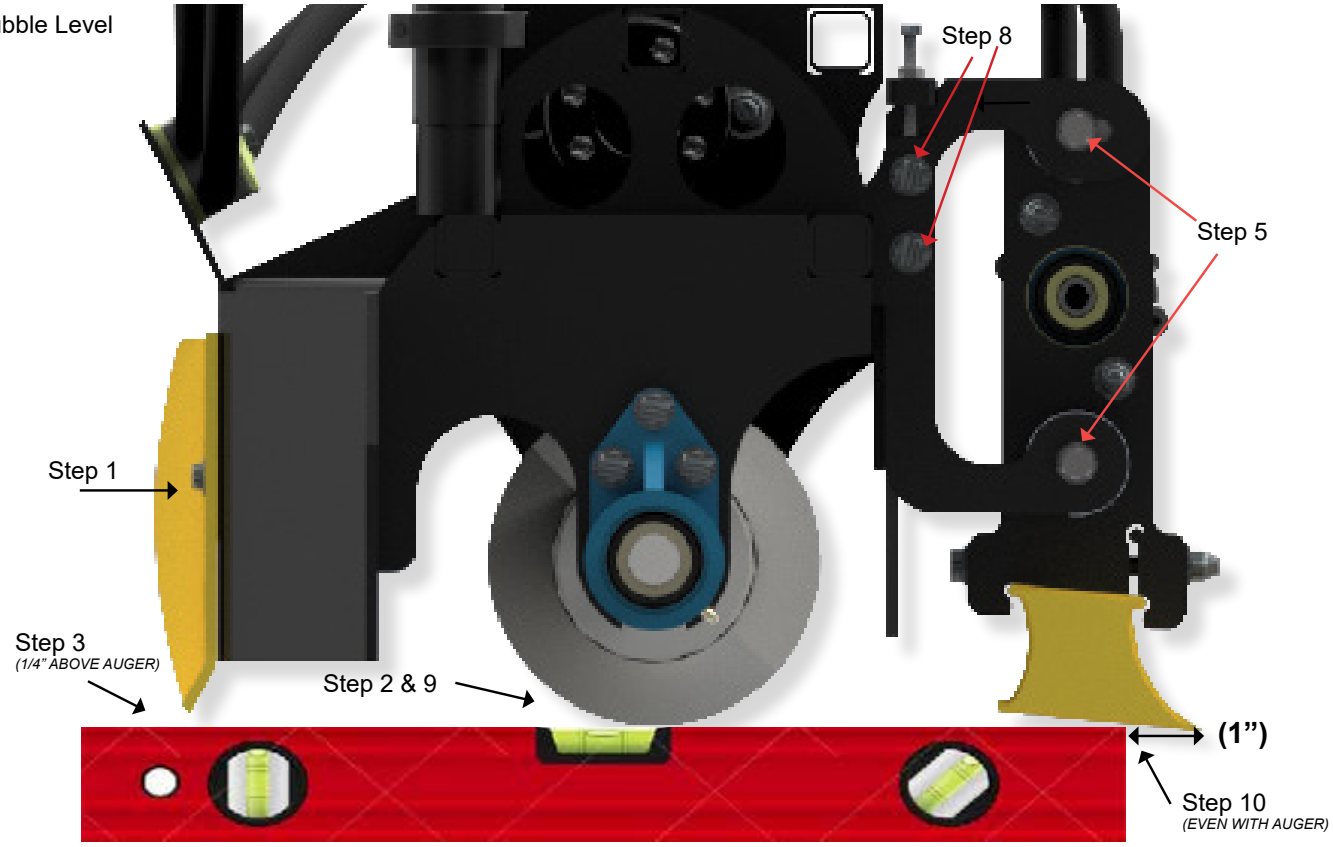
Ligchine offers full service documents and videos for screedhead bearing replacement. Contact us directly to view or view on the Ligchine app.

Screed Head Setting

Quick Reference

Tools needed:
- 7/16” Socket
- Ratchet
- 9/16” Wrench
- 9/16 Socket
- Bubble Level

Settings:
Plow = 1/4” ABOVE Auger
Finish Blade = LEVEL with Auger



Note: The screed head has to be level for all adjustments to be accurate.
To level the screed head, boom out until a bubble level can be placed on the 6” boom section. Adjust downriggers until boom is level and screed head is relatively level from side to side.

1. Loosen but do not remove all the lower bolts on the lower section of both adjustable plow sections. Loosen the plow upper bolts and locknuts but do no remove.
2. Place the bubble level so it rests on the flight of the auger and sits level.
3. Set the the **plow height to 1/4” above the bubble level** and tighten the nearest lower plow bolt. Recheck for accuracy. Perform the same on the second plow section.
4. Repeat plow adjustment (Steps 2 & 3) for opposite side of the screed head. Retighten all plow bolts.
5. Loosen the outer bolts on the finish blade bushings on both sides of head head.
6. Torque the finish blade down so the top bushing’s bolt in the slotted hole of the bracket is at its outmost position for maximum blade pitch. (See picture for orientation).
7. Repeat finish blade pitch (Steps 5 & 6) for the opposite side of the screed head. Retighten bushing bolts when done.
8. Loosen the bolts & lock nuts from the finish blade height adjustment bracket.
   (To adjust height, loosen the jam nut and turn the screw clockwise to raise and counter clockwise to lower the finish blade.)
9. Place the bubble level so it sits on the flight of the auger and sits level.
10. Set the **finish blade height so it is EVEN with the auger flighting at a distance of 1” in from the finish blade edge** (bubble level edge MUST touch finish blade at 1” in from finish blade edge). Retighten bolts & lock nuts. Recheck for

WARRANTY

Ligchine International Corporation Standard Warranty for “ScreedSaver MAX PLUS™” Machine (the “**Equipment**”)

Standard Warranty

This limited warranty (this “Standard Warranty”) does not apply if the Equipment is used for rental purposes OR if the Equipment is purchased from a non-authorized distributor or dealer.

The Ligchine International Corporation (“Ligchine”) Standard Warranty warrants each new piece of Equipment to be free from defects in materials and workmanship to the original purchaser (the “Purchaser”) under normal use and service for a period of twelve (12) months from the date of sale or one thousand (1,000) operating hours; whichever arrives first (the “Warranty Period”); except for the following:

- Engines are warranted for a period of 3 years from the date of purchase through American Honda Motor Corp (“Honda”). See the Honda manufacturer’s documentation for warranty details. Warranty work should only be performed by authorized dealers as directed by Honda. Ligchine cannot authorize warranty repair of engines.

This is not an unconditional guarantee against all hazards or failures (see Exclusions from Warranty below). This Standard Warranty is made to the Purchaser, or in the case of a gift, to the original owner, and is not transferable.

The purchased Equipment has been manufactured to Ligchine’s current Equipment specifications. It may vary in details of design and construction from any descriptions in literature, displays or other models inspected by Purchaser previously.

This Standard Warranty shall only remain in effect during the Warranty Period if the Purchaser performs the required maintenance at the recommended intervals as outlined in the Equipment’s manuals and documentation.

Ligchine warrants, with respect to used and/or demo Equipment, that the used and/or demo Equipment shall be free from defects in materials and workmanship, under normal use and service for a period of ninety (90) days from the date of sale, or for the remainder of the Standard Warranty, whichever period is greater. Warranties on used/refurb/demo equipment are subject to changes based on scenario.

If, within the applicable Warranty Period, any Equipment shall be proved to Ligchine’s satisfaction to be in need of services other than routine service and/or preventative maintenance, such Equipment shall be repaired or replacement parts provided to the owner at Ligchine’s sole option.

This Standard Warranty is subject to Ligchine receiving written notice of any warranty claim within thirty (30) days of discovery of any such defect. This Standard Warranty shall not cover any of the Purchaser’s costs of labor, whether for Equipment removal, reinstallation or otherwise. The Warranty Period for replacement parts used in Equipment repairs will be limited to the balance of the Warranty Period remaining on the original purchase of the Equipment.

Warranty Procedures

All claims under this Standard Warranty shall be deemed waived unless received by Ligchine within ten (10) days of delivery, if the Equipment is visibly damaged or defective, and, otherwise, within thirty (30) days after the defect to which each claim relates is discovered.

Immediately upon identifying a problem believed to be a failure subject to this Standard Warranty, Purchaser must contact Ligchine at the address or telephone number listed in the applicable operation manual. The following information is required to process any warranty claims:

- Proof of purchase documentation
- The Equipment’s serial number
- A description of the problem or failure

Purchaser must work with Ligchine’s technical support staff to help diagnose the problem. This may include performing routine diagnostic procedures. The technician will determine if the problem can be solved over the telephone or if return for repair is required.

Upon determining that the Equipment has failed under the terms of this Standard Warranty, and that return to the repair facility is required, Ligchine will provide to Purchaser the following information:

- A Return Material Authorization (“RMA”) number
- The address to which the Equipment must be sent

Equipment being returned must be shipped, at the purchaser's cost, insured, FOB Darien, Wisconsin, and in the Equipment's original shipping containers and packing material or otherwise adequately packed for shipment, and the RMA number must appear clearly on the outside of the package. If the Equipment is damaged during shipment or received in inadequate packaging, this Standard Warranty shall not apply.

Exclusions from Warranty

This Standard Warranty is contingent upon proper use of the Equipment by Purchaser. This Standard Warranty does not apply to:

- Equipment which has been subjected to unauthorized use, alteration or modification, the user's negligence, operator abuse, accident, theft, damage due to shipper's handling, storage conditions or any damage caused by circumstances beyond Ligchine's control;
- Equipment that is operated improperly, improperly maintained or improperly stored;
- The use of non-approved parts or non-authorized repairs;
- Standard maintenance services or expendable wear items which become worn during normal use, including, but not limited to, spark plugs, tires, filters, batteries, hydraulic cylinders, seals, lubricants, paints, decals, bearings, ALL vibrator system parts, and ALL screed head components; all of which are sold AS IS.

No Recovery of Consequential or Special Damages

WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, LIGCHINE SPECIFICALLY DISCLAIMS ANY LIABILITY FOR PENALTIES (INCLUDING ADMINISTRATIVE PENALTIES), SPECIAL OR PUNITIVE DAMAGES, DAMAGES FOR LOST PROFITS OR REVENUES, DAMAGES FOR LOSS OF USE OF THE EQUIPMENT OR ANY ASSOCIATED PARTS, COST OF CAPITAL, FACILITIES OR SERVICES, DOWNTIME, SHUT- DOWN OR SLOWDOWN COSTS, SPOILAGE OF MATERIAL, OR FOR ANY TYPES OF ECONOMIC LOSS OR CONSEQUENTIAL DAMAGES (COLLECTIVELY SUCH "DAMAGES"); REGARDLESS OF (A) WHETHER SUCH DAMAGES WERE FORESEEABLE, AND (B) WHETHER OR NOT LIGCHINE WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Ligchine shall not be liable for any consequential or special damages based on negligence, breach of warranty, strict liability, or any other theory, for failure to perform its obligations under this Standard Warranty.

Additionally, consequential and special damages shall be not recoverable even if the repair or replacement remedy for Ligchine's breach of its Standard Warranty fails of its essential purpose or for any other reason.

Limitation of Remedy

Purchaser's sole and exclusive remedy and the limit of Ligchine's liability for breach of this Standard Warranty, whether based on negligence, breach of warranty, strict liability, or any other theory, shall be, at Ligchine's option, repair or replacement of the defective Equipment or parts with identical or equivalent replacement Equipment or parts with substantially equivalent or superior specifications. Such repair or replacement (whichever Ligchine determines, in its discretion, to provide) shall be Ligchine's sole obligation and Purchaser's exclusive remedy for any deficiency in Equipment furnished, and shall be conditioned upon Purchaser's return of such Equipment to Ligchine or, in Ligchine's sole discretion, inspected in the field by a Ligchine- authorized representative, in either case at Purchaser's expense and risk of loss.

Disclaimer of Warranties

EXCEPT AS EXPRESSLY PROVIDED ABOVE, THE EQUIPMENT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, AND LIGCHINE EXPRESSLY DISCLAIMS AND EXCLUDES ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

SOME STATES OR COUNRIES DO NOT PERMIT THE EXCLUSION OR MODIFICATION OF THESE IMPLIED WARRANTIES OR THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS DISCLAIMER MAY NOT APPLY TO YOU.

Support Contacts

Ligchine Service is available 24 hours a day,
every day of the year

- 24-hour Service hotline: **1-833-DIAL-LIG (342-5544)**
- Part requests telephone: 1-812-903-4500 x4
- Email for part requests: service@ligchine.com

Download the Ligchine Phone App for Service & Training

Scan the QR Code for your device:

iPhone

Android

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