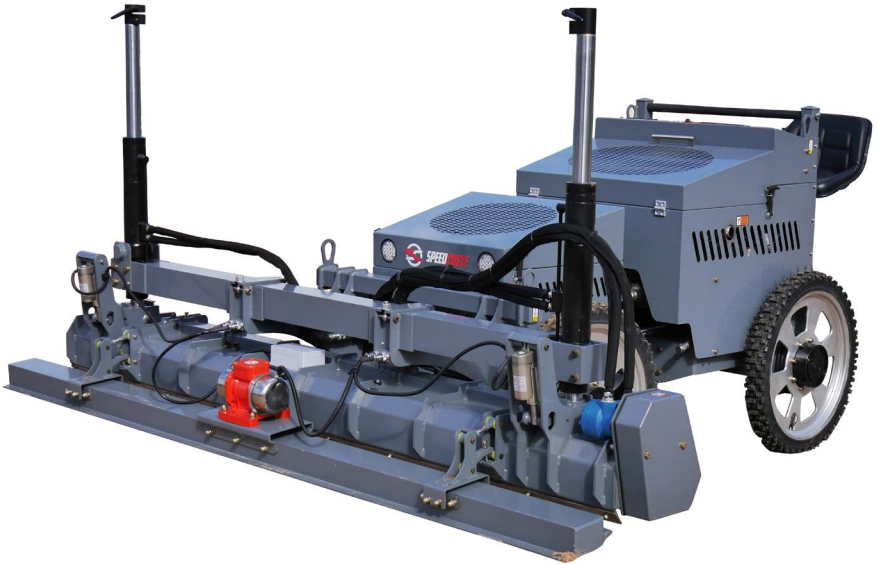
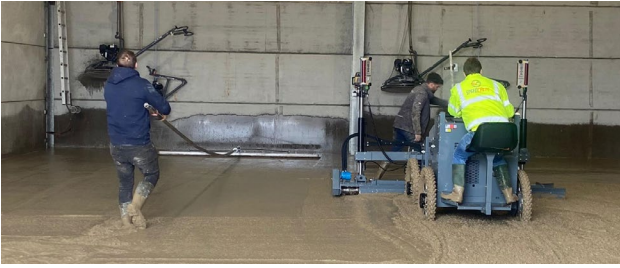


SCORPION LASER SCREED





The Scorpion Laser Controlled Screeder uses advanced laser levelling technology to cut the concrete to a finished grade, screed it flat, and vibrate it smooth in one pass.

This Laser Controlled Screeder will allow you to work faster by setting the grade automatically allowing the operator to move quickly and efficiently through the work area.

The Scorpion Laser Controlled Screeder is compact and strong ensuring ease of operation on large operations. At a remarkably low price, you can now afford to add laser-controlled accuracy, productivity and cost-efficiency to your pours.

Specifications

Weight - 698kg

Screed Head Width - 2570mm

Travelling Speed - 0-25m/min

Working Speed - 5m/min

Self propelled - Standard

Auto Levelling - Standard

Laser System - Topcon

Drive Unit - Hydraulic Motor

Master Valve - Hydraforce Main Control Valve

Vibration Control System - High Speed and small torque motor

Wheels Standard - 21" Motorcycle custom aluminium

Tyres Standard - 80/100x21 motorcycle tyres with aggressive tread

Wheels Options - Custom 12 x 7 ATV rim

Tyre Option - 28 x 10-12 ATV Tyres with aggressive treads

Engine - Honda GX690



Specifications
continued next page.

Specifications continued

Power - 24.0hp

Fuel - Petrol

Electric Start - Standard

Battery/Electrical - 12V DC with
200W alternator (18A)

Battery/Electrical - 12V DC with 200W alternator (18A)

Main Pump - Rexroth axial pump

Rated Flow - Max 36l/min

Rated Pressure - 180Bar

Hydraulic Oil - HM-46

Filter - 20um filter the top back back to oil tank

Hydraulic Valve Type - Threaded cartridge Valve

Engine Oil - 1.5l

Fuel Tank - 20l

Hydraulic Oil - 20l

Vibrator - Hydraulic Motor, 3000 - 5500rpm

Elev. Control, Plow - Hydraulic Cylinder Actuator

Head lift - Hydraulic Cylinder, manual

Total Length - 3220mm

Total Width - 2820mm

Total Height - 1320mm

Ground Clearance - 280mm

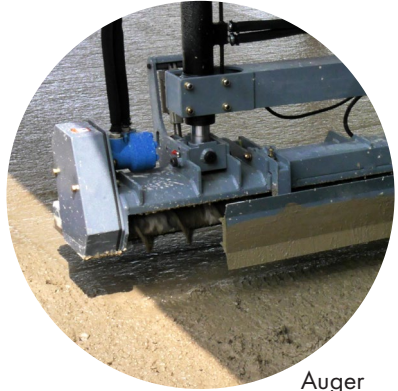


This equipment lets you work faster, flatter, and with fewer people, because we don't need rakers. With a machine like this, an operator can spread and screed 120 square feet in a single pass, which takes minutes.

Like the roller screeds described, laser screeds combine both placement and strike off in a single step. The screed heads incorporate three parts: **plow**, **auger**, and **vibrator**, which enable them to spread fresh concrete and set it precisely in a single pass.



Vibrator

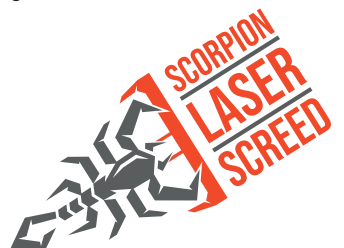


Auger



Plough

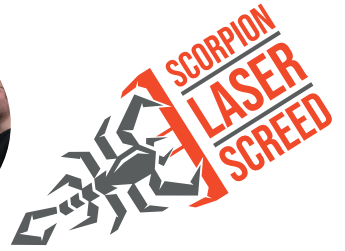
The key benefits of using this machine are quality and productivity. With the laser controlled screeder, you can do an acre of flatwork a day. Without them, crews can't work with that much stamina or accuracy.





On site Training is offered.

Our fully trained engineers can offer you a free training session for your team to show the best set-up routines to adopt and to establish the operational techniques required to use this Laser Controlled Screeder efficiently.



External Laser Components



Laser Transmitter

The rugged GL422N lasers can withstand drops of up to one meter (three feet) onto concrete and tripod tipovers up to 1.5 meters (five feet). This strength, combined with full weatherproofing and dustproofing.



Spectra RC402N Radio Remote

This long-range Radio Remote Control's main feature is to allow the User to slope (grade) match easily and a single person operation. It has a well laid-out keypad and backlit LCD, with on-screen indicators.



Laser Receiver

Exact laser strike positions to within 1.5mm (0.06") for precise automatic grade control.

Unlike other laser receivers that provide only 5 to 7 fixed relative grade regions, the LR4100 provides a continuous, absolute laser strike position to precisely measure the actual height deviation from "On Grade." This feature gives you the highest accuracy and grade performance.

Laser Column Mount Magnetic

The mount can be secured to the upright by either: magnetic means or using a tensioning hinge and strap as this unit comes with a tensioning handle attached.



Digital Receiver

The HL760 features a digital readout of elevation that provides a numeric display of ± 5 cm (± 2 inches). The fingerprint function filters out other lasers that strike the receiver and only accept the laser that it is paired with.

Elevated Construction Tripod

Elevating head with graduations for precise leveling, made from durable, aluminum construction.



Scorpion Laser Controlled Screeder Set-up Guidelines

1.

Setup Laser Transmitter using either the Tripod or magnetic mount. When establishing a position for the laser transmitter be mindful of obstructions that may be present on the jobsite. If the machine loses line of sight to the transmitter it will lock the last known position until it re-establishes a lock.

Also be mindful of reflective surfaces around the jobsite. This can cause the receivers to pick up multiple signals. A symptom of this is one or both hydraulic rams 'seeking' and unable to lock on to level. Switch the transmitter on ensuring that no slop is configured (0.000 on display).

Allow the transmitter to calibrate and begin rotating.



2.

Attach the hand receiver to the grade rod and screw on the footplate to the base of the rod. Switch the receiver on. Press the detection scale button and set the receiver to 1.0mm. SETTING THE CORRECTION DETECTION SCALE IS HIGHLY IMPORTANT.



3.

Using a predefined grade reference point on the jobsite adjust the grade rod until the receiver reads 0 on the display and a continuous audible note sounds.



4.

Start the machine and allow it to idle to warm up. Adjust throttle to just above tick over. Ensure Auto Mode is switched Off.



5.

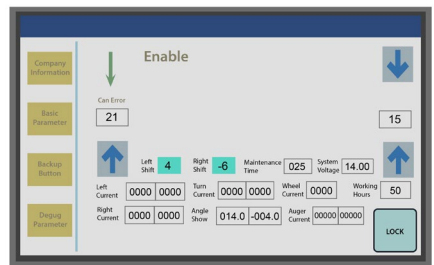
With grade established on the manual rod it is now necessary to transfer this measurement to the machine. Ask a colleague to place the top of the footplate on the grade rod on the left side of the screed head as shown in the image. Adjust the left ram up/down according to the read out on the manual grade rod receiver using the left manual button.

6. Repeat this process on the right side of the machine.

Only establish an approximate level at this stage.

7.

Return to the left side of the machine. Place the grade rod on the footplate. Make a note of the readout on the manual receiver. With a low indication of 4mm click the blue left shift box on the touch screen control panel. Enter 4 in the window & click the Confirm Button.



8.

Return to the right-side of the machine. Place the grade rod on the footplate. Make a note of the readout on the manual receiver. With a high indication of 6mm click the blue right shift box on the touch screen control panel. Enter -6 (minus 6) and click the Confirm Button.

9.

Turn Auto Mode to On. The machine should now adjust the rams in accordance with your shift settings. Bear in mind though that the right adjustments can affect the left settings slightly as the head corrects. Recheck the levels with the manual grade rod on the left & right side of the machine.

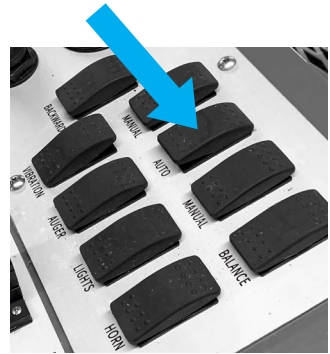


10.

It will generally be necessary to make fine tuning adjustments to get the head set exactly correctly by repeating steps 7-9. Before making corrections ensure that the Auto mode is switched off.

11.

Once level has been established at Zero on the manual grade rod on both the left & right side of the screed head it is necessary to set the machine receivers and zero the shift settings. Ensure that the Auto mode is switched Off and the screed head is level in accordance with the grade rod receiver indication.



12.

On the right side of the machine loosen the right receiver mast and raise the mast beyond the detection zone. Slowly slide the machine receiver down in to position until the green 'on grade' indication lights. Always move the receiver from the top down into position.



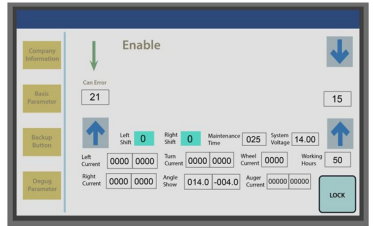
13.

On the left side of the machine loosen the left receiver mast and raise the mast beyond the detection zone. Slowly slide the machine receiver down in to position until the green 'on grade' indication lights. Always move the receiver from the top down into position.



14.

Once both machine receivers have been set on grade. Return to the machine touch screen control. Return both the left & right shift settings to zero and confirm.



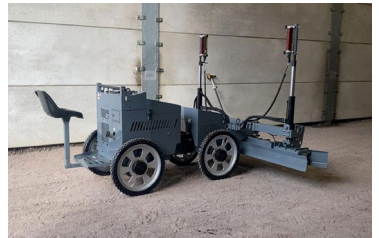
15.

Finally switch the Auto button to 'ON'. The machine should now be set on grade and as you move the machine it should respond to level. Green indicators should be seen on both masts.



16.

Once the concrete arrives and is dispatched from the truck/pump/dumper manually grade a small test area. Switch Auto mode off and raise masts manually. Drive into the concrete..



17.

Manually lower the masts until within the receiver detection range. Switch vibration ON (Button up) and switch Auger to Right (Button up). Switch Auto button on (Button Up). If the masts do not drop to level automatically slow drop the mast(s) manually both sides until the auto mode establishes. A short press is normally all that is required.



18.

With the Direction button selected at Backward. Slowly turn the speed controller dial so the machine begins to track backwards. The machine should begin to screed to grade. Allow 2-4 feet of grading and stop the machine.

19.

Using the manual grade rod have a colleague manually check the concrete surface in front of both the right & left hydraulic rams. If there is a noticeable difference in level, it will be necessary to make corrections in accordance with the same procedure detailed in points 7 – 15. It is recommended to establish the correct level with several tests before 'Zeroing' the shift settings & machine receivers.

REMEMBER THE LEFT/RIGHT SHIFT ENTRIES SHOULD BE THE DIRECTION YOU WANT THE SCREED HEAD TO MOVE UP(POSITIVE) DOWN (NEGATIVE). BE MINDFUL OF EXCESSIVE CONCRETE TO THE LEFT/RIGHT OF THE SCREEDED PASS SLUMPING INTO THE FINISHED AREA WHICH COULD EFFECT YOUR READING.

20.

Make an additional corrections and screed another test section of 2-4ft. Recheck & confirm. The machine should now be screeding on grade and there should be no further corrections required unless it is necessary to re-site the laser transmitter due to distance or obstruction concerns. In this event the machine will need to be set up from scratch again.



REMEMBER/TROUBLESHOOTING

THE MACHINE IS DESIGNED TO OPERATE FROM LEFT TO RIGHT. TRY TO ESTABLISH THE JOB SITE, SETUP AND WORK-FLOW TO OPERATE TO THIS REQUIREMENT.

IT WILL BE NECESSARY TO OVERLAP THE PREVIOUS PASS BY APPROXIMATELY 2FT/600MM

AS YOU DROP THE HEAD INTO AUTO MODE TO MINIMISE LAP MARK WHERE POSSIBLE START THE MACHINE MOVING BACKWARDS BEFORE THE HEAD TOUCHES THE CONCRETE.

IDEALLY HAVE AN OPERATIVE RAKING/MAINTAINING A WORKABLE LEVEL OF CONCRETE OFF FROM THE RIGHT-HAND SIDE OF THE PLOW BLADE. EXCESSIVE BUILD UP HERE MAY COMPROMISE LEVELS

!! ENSURE NO SLOPE SETTINGS ARE SET ON THE TRANSMITTER UNLESS DESIRED.

!! ENSURE THE MACHINE IS FUELLED TO COMPLETE THE REQUIRED WORK AREA OR ADDITIONAL FUEL IS AVAILABLE. REGULAR UNLEADED 95 OCTANE FUEL IS SUFFICIENT. 1 TANK(10 Litres) WILL COVER UP TO 800 SQ/MTRS.

WATCH FOR ANY SIGNS OF POTENTIAL REFLECTIONS AND COVER/SHEET IF IN ANY DOUBT.

EXCESSIVE CONCRETE IN THE WORK AREA CAN CAUSE A 'SLUMPING BACK' EFFECT WHEREBY THE UNLEVELLED CONCRETE CAN INCREASE THE LEVEL OF THE SCREDED AREA. THE MACHINE HAS A 'ROUGH SCRAPE MODE' WHICH CAN BE ENABLED BY CLICKING THE BACKUP BUTTON ON THE MAIN TOUCH SCREEN DISPLAY AND SELECTING ROUGH SCRAPE (BOTTOM LEFT BUTTON). THE BUTTON WILL LIGHT GREEN WHEN ENABLED. BY USING ROUGH SCRAPE THE LEVELLING WILL BE ADJUSTED 20MM HIGH. (THIS SETTING CAN BE ADJUSTED IF REQUIRED). THE ROUGH SCRAPE MODE CAN BE USED TO QUICKLY PULL OFF EXCESSIVE CONCRETE OVER THE ENTIRE WORK AREA TO HELP TO PREVENT THIS SLUMPING EFFECT. IT IS RECOMMENDED TO USE THIS TO REDUCE LABOUR FOR YOUR TEAM.

SURFACE RAGGING – CHECK PLOW BLADE ADJUSTMENT – SHOULD BE 15-20MM CLEAR OF AUGER. FLOATER BAR SHOULD BE 5MM BELOW FRONT SCRAPER BLADE. FLOATER BAR PITCH SHOULD BE ¼" SET WITH TORPEDO LEVEL ON TOP OF FLOATER BLADE. FRONT SCRAPER BLADE SHOULD BE 5MM BELOW AUGER. SURFACE RAGGING CAN BE SEEN ON SINGLE SIDE OR BOTH.

SCREED HEAD SETUP !!! HIGHLY IMPORTANT

1. DRIVE MACHINE ONTO SOLD FLAT SURFACE
2. ADJUST VIBRATING BEAM – CAN USE AN IPHONE LEVEL APP OR BUBBLE LEVEL SET TO 0° / LEVEL.
3. USE QUICK G-CLAMP TO CLAMP 2FT LEVEL TO BOTTOM OF VIBRATING FLOATER BAR EXTENDING UNDER THE AUGER.
4. FLOATER BAR CLEARANCE – USING THE HEIGHT ADJUSTMENT BOLTS SET THE FLOATER BAR TO 5MM BELOW THE FRONT SCRAPER BLADE
5. FRONT SCRAPER BLADE – SET 5MM BELOW AUGER HEIGHT
5. PLOW BLADE – SHOULD BE 10-15MM TO CLAMPED LEVEL
6. ADJUST VIBRATING BEAM – CAN USE AN IPHONE LEVEL APP OR BUBBLE LEVEL SET TO -4° TIP DOWN.

During maintenance

Personnel

Only authorized personnel can carry out maintenance and repair. If grinding, welding and using a sledgehammer we suggest taking some safety measures.

Spare parts

The parts removed from the machine should be placed in a safe place to ensure that they do not fall; otherwise it will cause serious damage to the human body.

Working under the machine

Maintenance of the machine or under the machine maintenance, the work device should be put to the ground or the lowest position.

Prohibit the maintenance under machine without safety support.

Keep the machine clean

Keep the machine clean and tidy at all times. Spilled oil, grease, scattered tools or damaged parts may cause people to fall and get hurt.

Do not use water or steam to clean the sensor, plug or cab. If water enters the electrical system, it may cause the machine to be unable to move or the sudden movement danger.



Fuel and engine oil filling principle

Be sure to clean up the leaking fuel and oil in time so as not to slip.

Be sure to tighten the lid of the filler.

Do not use fuel cleaning parts.

Be sure to refuel in a well ventilated place.

The type and variety of oil and water used in the equipment depends on the working conditions and temperatures, please refer to the appendix to this manual.

Be sure to clean or replace all kinds of filters.

On the fuel oil, lubricating oil, engine oil, etc., should be checked at any time, according to the requirements of the supplement, to ensure the normal use of the machine.

Ensure any lighting is explosion-proof

Check the fuel, oil, coolant or battery electrolyte, explosion-proof lights must be used. Failure to do so will otherwise risk an explosion.