

05 January, 2023
Version 1.1



Ice STRIKER™



OWNER'S MANUAL

ICESTRIKER™ 220-500 DSB SPREADER

This manual replaces all editions with an earlier date.

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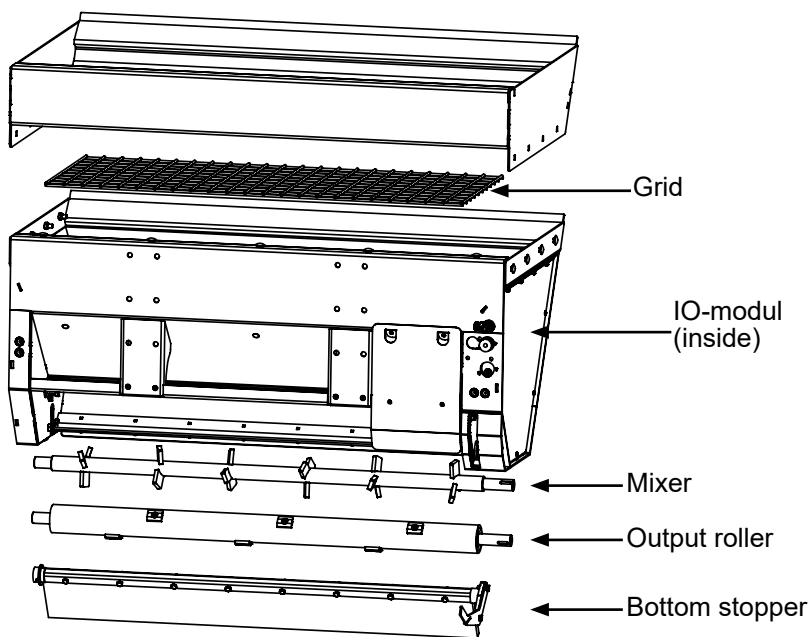
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CAUTION

Read this manual before installing or operating the spreader

Spreader parts



Technical information

MODEL	220 DSB	280 DSB	250 DSB	320 DSB	400 DSB	500 DSB
Width	900 mm	900 mm	1200 mm	1200 mm	1200 mm	1200 mm
Height	600 mm	745 mm	600 mm	690 mm	765 mm	840 mm
Volume	220 l	280 l	250 l	320 l	400 l	500 l
Weight (empty)	135 kg	170 kg	160 kg	190 kg	200 kg	210 kg
Spreading width	80 cm	80 cm	110 cm	110 cm	110 cm	110 cm
Self loading	Yes	Yes	Yes	Yes	Yes	Yes
Source of power	12V electric or hydraulic					
Material	Salt, sand, fine gravel/ mixed (max 10 mm Ø)					
Vehicle	Tractors & Loaders					

Safety definitions



WARNING

Implies a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.



NOTE

Implies a situation or action that can lead to damage to your spreader and vehicle or other property. Other useful information can also be described.



CAUTION

Implies a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Safety precautions

Incorrect installation and operation can lead to serious personal injury and/or damage your equipment and property. Note and ensure that you understand this manual and all the labels before installing, operating or making adjustments to the spreader.



WARNING

Observe these safety precautions before, during and after operating the spreader. You can prevent injury to persons and damage to the spreader by following these precautions.

1. Read this manual before operating the spreader.
2. Before operating, make sure the equipment is securely mounted into place.
3. Check that there are no persons within the spreader spray area when starting and operating this spreader.
4. Do not exceed your vehicle total weight beyond payload limits.
5. Always turn off the spreader before cleaning, lubricating or unclogging material jams.
6. A spreader in need of repairs or maintenance should not be operated.
7. Before removing or replacing any electrical components, always disconnect the battery.

**WARNING**

Always keep bystanders a minimum of 10 meters away when operating the spreader.

**WARNING**

Wait for spreader to stop and lock out power before servicing the spreader.

**CAUTION**

Empty and clean the hopper after each use. Unused spreading material left in hopper could freeze or solidify, causing the spreader to not work properly.

**NOTE**

Use a good quality multi-purpose grease to lubricate grease fittings after each use.

Recommended vehicle requirements

This spreader is suitable for tractors and loaders with a minimum capacity of 500 kg.

**WARNING**

Do not overload your vehicle beyond its loading capacity. Overloading could result in an accident or damage.

Noise

The noise caused by the running spreader does not exceed 70 dB

Personal safety

- To prevent accidents, secure long hair and do not wear jewelry or necktie, only wear tight-fitting clothes while working on your spreader or vehicle.
- Protect your eyes with safety goggles to avoid damage from battery acid, gasoline, dirt and dust.
- Always handle the solid materials carefully. Wear safety goggles, mouth mask, gloves and protecting clothes to protect yourself from splattering material and dust.

Warning and caution labels

Please become familiar with warning and caution labels on the spreader.

Warning

- Crush hazard. Keep hands and feet clear.



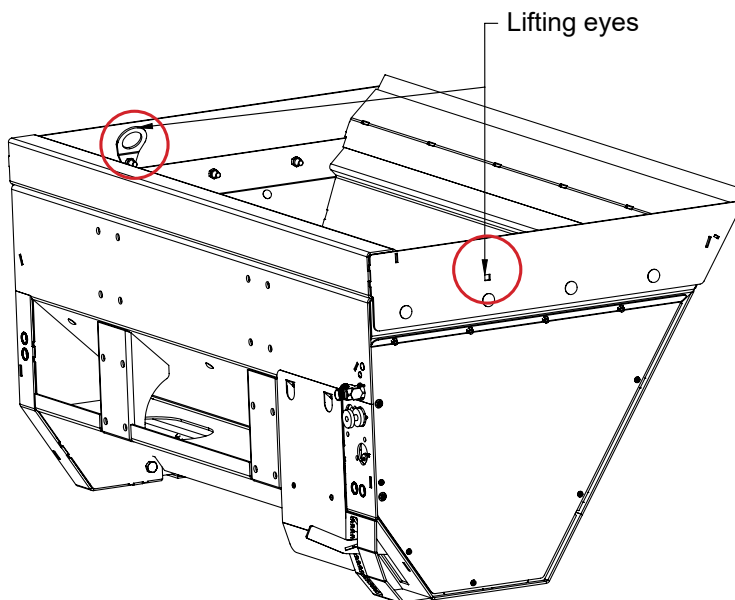
Warning

- Keep hands, feet, hair and clothing away from rotating parts.
- Read owners manual before operating.



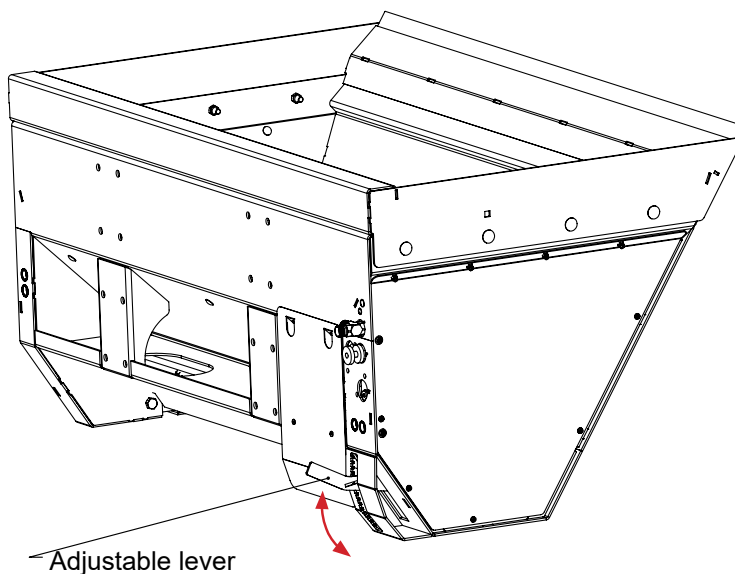
Lifting the spreader

When handling the spreader use the lifting eyes, these needs to be removed before using the spreader.



Adjustable lever

- When the spreader is in action the lever should be tightened as low as possible, this might need to be adjusted by time due to wear on the rubber.
- Lift the lever upwards to empty the spreader.



Control options

1. Conventional control (Standard)

- power through the vehicle's hydraulic system

2. StrikeSmart App (Optional)

- bluetooth smartphone control, GPS Ground speed & tracking



NOTE! See page 10-14 for more information.

3. StrikeSmart™ Controller (Optional)

- hard wire CAN-BUS Control, GPS Ground speed & tracking



NOTE! See the StrikeSmart™ controller user guide for more information.

For users with StrikeSmart™ controller

Controller placement

The controller should be mounted in a place where it can easily be reached and doesn't interfere with the access to vehicle controls or other equipment. Make sure that the spreader control panel doesn't block the vehicle airbag area. Protect the controller from water, dirt and dust.



For users with StrikeSmart™ app

Smartphone placement

The smartphone that is used as a controller for the spreader should be mounted in a place where it can easily be reached and doesn't interfere with the access to vehicle controls or other equipment. Make sure that the smartphone doesn't block the vehicle airbag area. Protect the phone from water, dirt and dust.



WARNING

Do not operate the StrikeSmart™ app or the smartphone while the vehicle is in motion. Always keep your eyes on the road and the environment while driving and spreading.

For users with StrikeSmart™ app

Connecting smartphone to spreader

When the application is opened, it will automatically start scanning for devices. If not activated, the app will ask for permission to turn on the Bluetooth. Found spreaders are listed in a device selection box. To connect, select a spreader in the list and click "Connect".

Note: If you are using your controller app for the first time, or connecting it with another spreader, some extra steps have to be taken. Before using a spreader, it has to be paired with the controller app.

Pairing the spreader with the controller app

1. Disconnect power to the spreader
2. Pull out the 14-pin connector from the spreader module and reconnect power to the spreader
3. Open the spreader controller app (StrikeSmart™) and wait for a device selection box
4. Select a device (image 1) and click "Connect" (image 2). A configuration box will appear.
5. Click "Add access" to pair with the device (image 3) and click "Back" (image 4). If "Add access" is not available, your device has already been paired.
6. Plug the 14-pin connector into the spreader module
7. Click "Exit and reconnect" to start using the spreader (image 5). (If spreader is not found after pressing "Exit and reconnect", power off spreader for 5 sec (pull out the power plug))

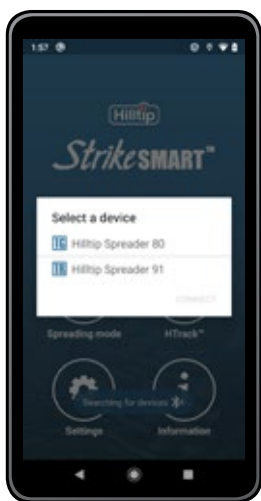
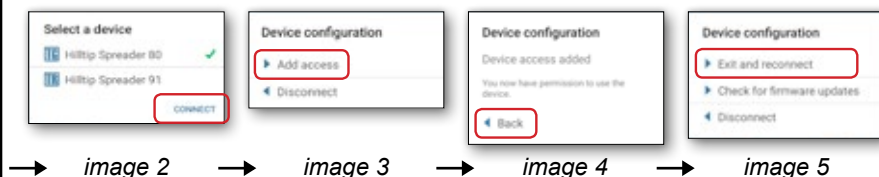


image 1



→ image 2 → image 3 → image 4 → image 5

For users with StrikeSmart™ app

Updating spreader control module firmware

Make sure you that your phone is connected to the internet.

1. Disconnect power to the spreader
2. Pull out the 14-pin connector from the spreader module and reconnect power to the spreader.
3. Open the spreader controller app (StrikeSmart™) and wait for a device selection box.
4. Select a device (image 1) and click “Connect” (image 2). A configuration box will appear.
5. Click “Check for firmware updates”(image 3) and “Start installing” (image 4) and wait until the update is complete (image 5).
6. Plug the 14-pin connector into the spreader module.
7. Press ”Back” when firmware is updated (image 6) then press ”Exit and reconnect” (image 7).



For users with StrikeSmart™ app

StrikeSmart™ app spreading mode & buttons

Before starting your basic spreading session, select automatic or manual spreading mode by clicking the selection button. Automatic mode will adjust the amount of spreading material (g/m²) according to your vehicle speed.

1. Adjusting amount of spreading material

The grey area in the top of the spreading mode view shows spreading width. Below this area there is another similar area for adjusting the spreading quantity. You can increase or decrease the values by clicking the plus and minus buttons or dragging the round selector in the seek bar.

2. Contract selection area

If the HTrack™ is enabled a customer and contract selection area is shown underneath the quantity adjustments.

3. Information area


The area below the width and quantity adjustments shows selected spreading material, velocity and current time.

4. Buttons


Activate/inactivate a function by pushing the button. A grey symbol means that the function is inactive. An activated function is represented by a colored symbol.



Buttons:



Press this button to change between manual and automatic spreading mode.



Press this button to temporarily increase the spreading amount to max, or “blast”. Adjust blast settings under: Settings → Blast.



Press this button to stop or start spreading.

For users with StrikeSmart™ app

StrikeSmart™ app settings menu

Material

Activate the material selection by clicking the selection box. Click the desired material (Salt, Sand, Gravel, Mix, Custom) to set the spreading material (image 1)

Blast

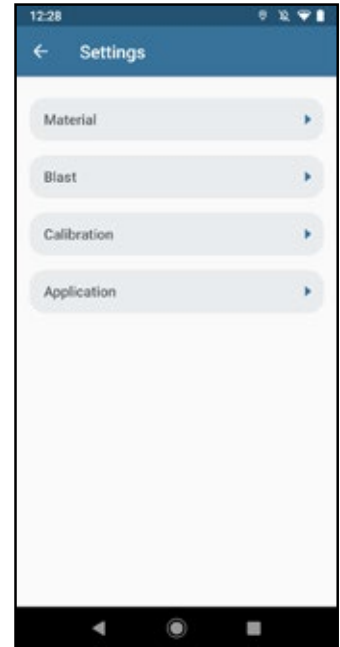
“Blast (% increase)” increases the auger speed/intensity (30 to 100 % of current amount). “Blast Time (s)” sets the blast time in seconds. You can adjust these values by clicking the plus and minus buttons or dragging the round selector in the seek bar (image 2).

Calibration

Select the unit you want to calibrate. Choose a material by clicking a row in the calibration table and click “Calibrate”. If the HTrack™ is enabled, depending on your settings, you may have to enter a PIN code before starting the calibration. Follow the instructions in the app to calibrate (image 3)

Application

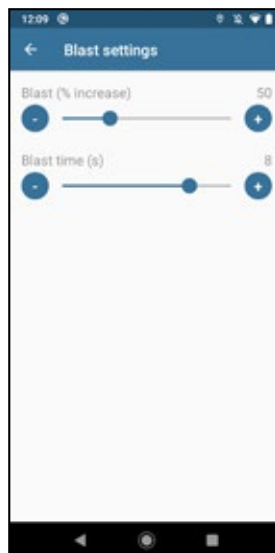
In application settings view, you can choose the application language, unit system and whether you want to enable/disable the write log files feature (image 4)



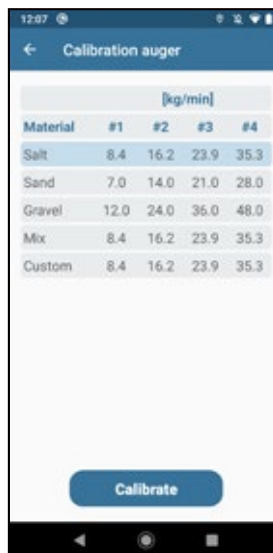
Main menu → Settings



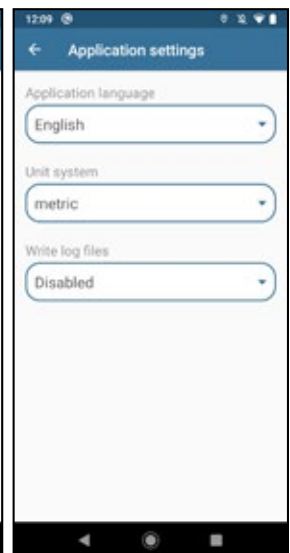
1. Settings → Material



2. Settings → Blast



3. Settings → Calibration



4. Settings → Application

For users with StrikeSmart™ app

Update to latest StrikeSmart™ app version

From app version 0.5.1 (released February 2019)

Steps to update to the latest version:

1. If an important update is available, the app will show "New app version available" (Image 1). Click "Download".
2. You may need to allow the installation (Image 2 & Image 3). Click "Install" on the application installer window (Image 4).

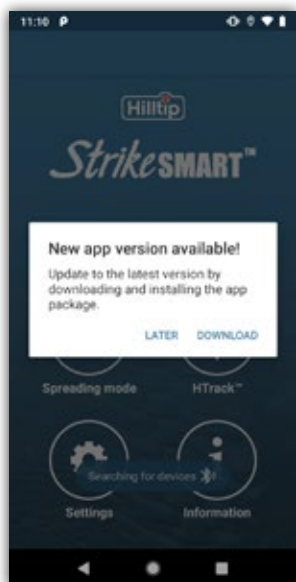


image 1

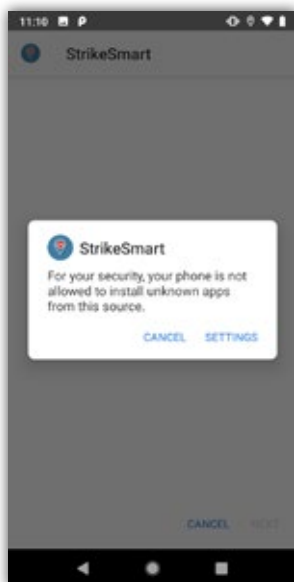


image 2

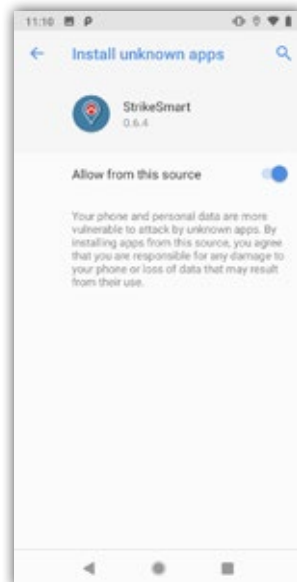


image 3

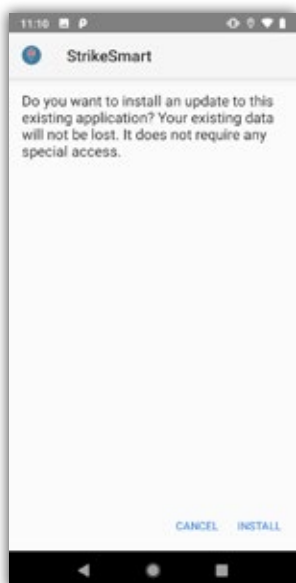


image 4

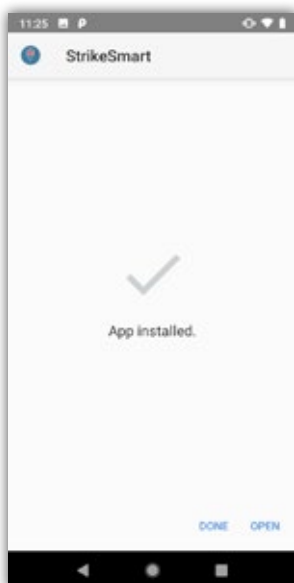


image 5

Average material weights

Material	Weight (kg/m ³)
Fine salt - dry	1201
Coarse salt - dry	721
Coarse sand - dry	1602
Coarse sand - wet	1922

Please see your local dealer for proper vehicle applications.



WARNING

Do not overload your vehicle beyond GVWR or GAWR, overloading could result in accident or damage.



CAUTION

Do not overload your vehicle beyond its tow hitch loading capacity.



CAUTION

These material weights are only guidelines, for more precise data, read and adhere to the manufacturer's ice-control material package labeling, including Material Safety Data sheet requirements.

Removing the spreader



CAUTION

Grip spreader properly when removing or mounting the unit to avoid dropping.



NOTE

The hopper should always be emptied before removing the spreader.



NOTE

Always close hopper lid to avoid moisture build-up. Do not let spreader sit idle with material in the hopper for a longer time. This could lead to compact material, reduced or blocked material flow and cause damage to the hopper.

Maintaining the spreader



WARNING

Power should always be shut off before and during service or maintenance of the spreader.



WARNING

Never remove spreader with material in hopper



NOTE

You must follow all the steps in these maintenance checklists for warranty to be valid.



CAUTION

- Do not operate a damaged spreader or a spreader in need of maintenance
- Spreader should be emptied and cleaned after each use. Left over material could freeze or solidify in the hopper causing the spreader to not work properly.

Periodical maintenance checklist (check weekly in high-season)

Clean the hopper carefully inside and out with water. Avoid spraying water into bearings, motor and electrical connections.

Check that all screws and fasteners are tight enough. If you notice any missing or damaged fasteners or other parts, replace immediately.

Check that all installations and parts are still securely fastened to the spreader assembly.

Apply dielectric grease on all electrical connections.

Lubricate grease fittings with a good quality multipurpose grease.

Yearly maintenance checklist (e.g. before or after putting your spreader away for storage)

Clean the hopper carefully inside and out with water, before putting it in storage. Avoid spraying water into bearings, motor and electrical connections.

Clean and apply dielectric grease on all electrical plugs and connectors. Clean and install all dust caps before placing your spreader in storage

Lubricate grease fittings with a good quality multipurpose grease.

Check condition of bearings, replace if needed.

Cover the spreader with a tarp during storage, to protect it from sun fading and other weather conditions and circumstances.

IMPORTANT:

It is strongly recommended and of great importance that you regularly apply dielectric grease on all electrical connections and protect them with caps when not in use to prevent corrosion.



To prevent corrosion, use dielectric grease on electrical connectors before connecting them.



Always keep caps on when the cables are not connected or in use.

Storage

Apply to these recommendations before placing your spreader in off-season storage to maintain it in a good condition.

- Cover your spreader using a tarp during storage periods
- Apply a protective compound such as dielectric grease on all electrical connectors and use caps for protection before storage.
- Store the smartphone indoors, protected from extreme temperatures and moisture.
- Empty the hopper, remove all kinds of debris and clean the hopper from dirt before storage.
- Protect the hopper from excessive heat during storage periods.

Cable harnesses

Optional, bluetooth smartphone control:



H30537

Vehicle side power supply harness



H30538

Extension harness



H30539

Spreader to vehicle side harness

Optional, hard wire CAN-BUS control:

H30541

Vehicle side power supply harness

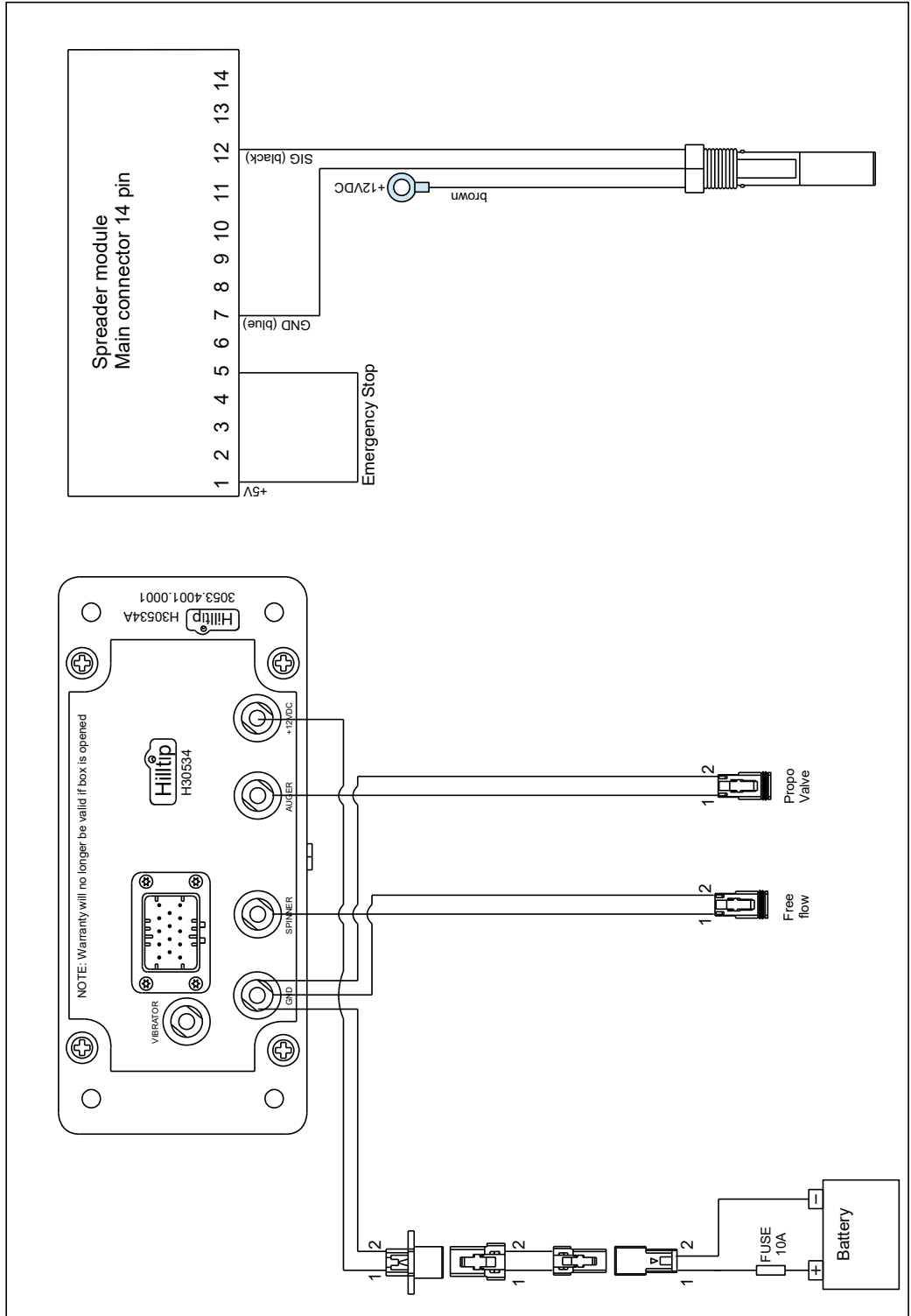
H30542

Extension harness

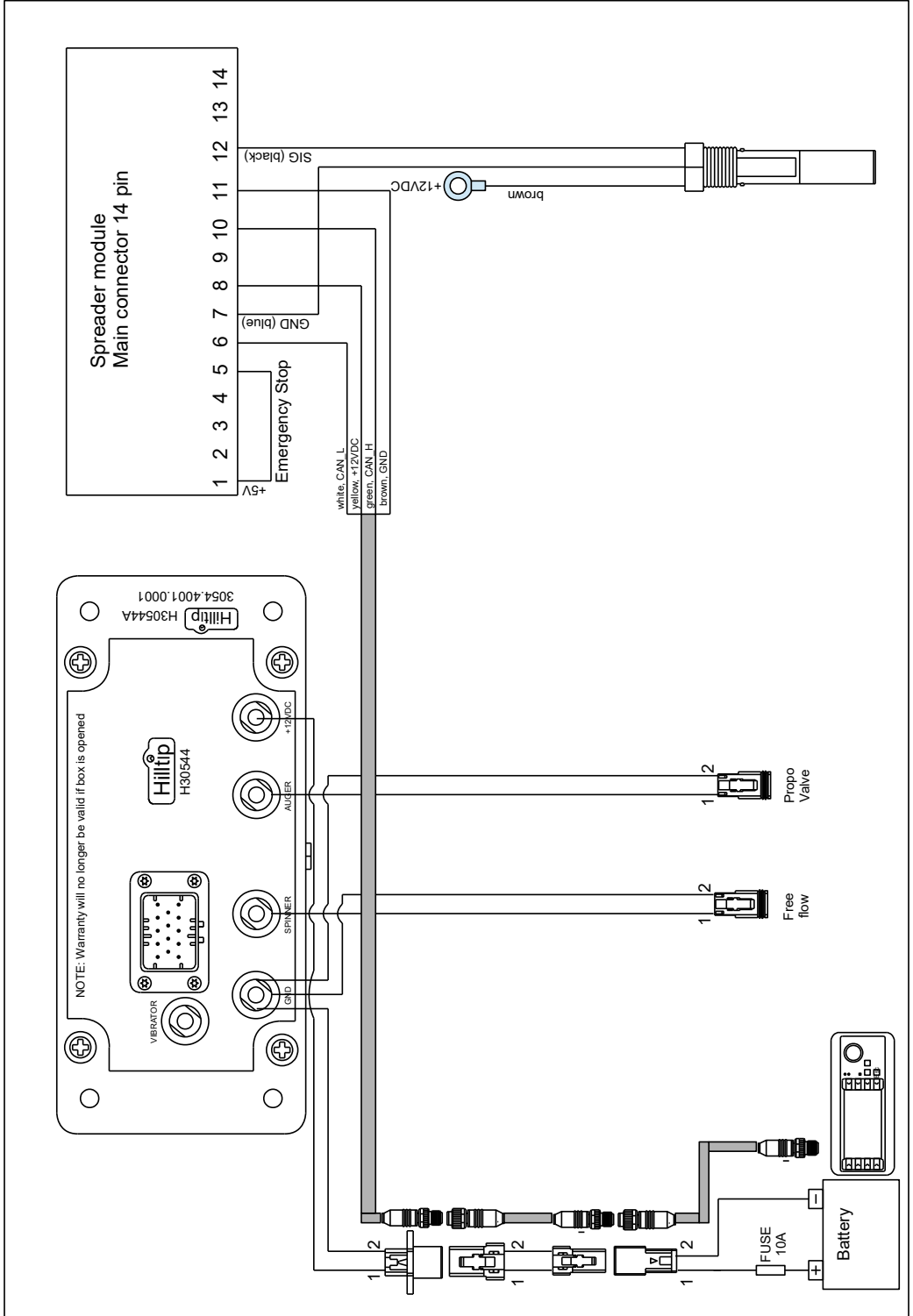
H30543

Spreader to vehicle side harness

Electrical schematics - IceStriker™ 220-500 DSB with bluetooth smartphone control



Electrical schematics - IceStriker™ 220-500 DSB with hard wire CAN-BUS control



WARRANTY INFORMATION

This warranty replaces all previous warranties

Warranty

Thank you for your interest in the products and services of Oy Hilltip Ab. This Limited Warranty applies to snowplows, spreaders, sweepers and other products and parts (from now on referred to as the "Product") purchased from Hilltip or an authorized dealer.

What does this limited warranty cover?

This Limited Warranty covers any defects in material or workmanship under normal use during the Warranty Period.

During the Warranty Period, Hilltip, or an authorized dealer will repair or replace, at no charge, products or parts of a product that proves defective because of improper material or workmanship, under normal use and maintenance.

How long does the coverage last?

The Warranty Period for the product purchased from Hilltip, or an authorized dealer is two (2) years from the date of purchase. The warranty period for a replacement part is one (1) year from the date of replacement or repair.

How to obtain warranty on your product?

Make sure your dealer has registered your product. In order to obtain service under this warranty the product must be registered with the end user's contact details (name, address, e-mail address and phone number).

What does this limited warranty not cover?

- Improperly installed parts.
- Damage caused by usage that is not in accordance with product instructions.
- Modification of the product, and/or the vehicle, is entirely at the purchaser's risk.
- This warranty does not include compensation for the drive to the service spot.
- Any damage in transit will be the responsibility of the carrier or at the risk of the purchaser.
- Hilltip will not provide replacement equipment or cover rental costs while your equipment is out of service.

This Limited Warranty does not cover any problem that is caused by:

- Misuse, neglect, accident, improper installation, maintenance or storage, or repair or alteration by anyone except Hilltip or an authorized dealer.

What do you have to do?

To obtain warranty service, you must first contact us or your authorized dealer. The purchaser must notify Hilltip or an authorized dealer within ten (10) days after any defect in the product becomes known during the warranty period.

What will we do to correct problems?

Hilltip, or an authorized dealer will repair or replace the part at no charge using either new or refurbished replacement parts.



DECLARATION OF CONFORMITY

Manufacturer's & Assambler's Name: **Oy Hilltip Ab**

Manufacturer's & Assambler's Address: **Pukkisaarentie 6, FIN-68600 Pietarsaari, Finland**

Equipment Description: Hilltip Drop Spreader, 220-500 liter

Equipment Model Designation: Hilltip IceStriker DSB 220, 250, 280, 320, 400, 500

Equipment applications: Tractors & Loaders

The equipments specified above are manufactured, where applicable, in conformity with provisions of the normative document according to the following directives and standards, in addition to relevant Road Traffic Regulations in European countries:

- 2006/42/EC

- EN 15597-1

I, the undersigned, hereby declare that the equipments specified above, that have been assembled by Oy Hilltip Ab, conforms to the above directives and standards

Pietarsaari February 22, 2021

Signature:

Printed Name: Tom Mäenpää

Title: CEO

Installer's Name:

Installer's Address:

Type:

Serial number:

Year of installation:

I, the undersigned, hereby declare that the equipment installation to the vehicle specified above conforms to the directive 2006/42/EC and relevant Road Traffic Regulations.

DATE:

Signature:

Printed:

Title:



Oy HillTip Ab

Pukkisaarentie 6
FIN-68600 Pietarsaari
Finland

+358 50 5983 026

+358 50 3659 415

www.hilltip.com

info@hilltip.com

Construction, specifications and other details are subject to change without notice.