

November 14, 2023
Version 1.4



Ice STRIKER™



OWNER'S MANUAL

120-300 LITER POLY ELECTRIC SPREADER

This manual replaces all editions with an earlier date.

Table of contents

GENERAL INFORMATION	3
Spreader parts	3
Technical information	4
SAFETY INFORMATION	5
Safety definitions	5
Safety precautions	5
Recommended vehicle requirements	6
Noise	6
Personal safety	6
Emergency stop	6
Warning and caution labels	7
INSTALLATION AND OPERATION	8
Smartphone placement	8
Connecting smartphone to spreader	8
Updating spreader control module firmware	9
StrikeSmart™ CAN bus control (optional)	10
Controller placement	10
Spreading pattern	10
Accessory cables	11
Mounting the spreader	11
Power supply mounting principle	11
Mounting the Tarp cover assembly	12
Override start button	13
LOADING	14
Average material weights	14
Removing the spreader	14
MAINTENANCE	15
Maintaining the spreader	15
Storage	16
MECHANICS GUIDE	17
Cable harnesses	17
Vehicle side harness wiring	18
Spreader side harness wiring	18
ELECTRICAL SCHEMATICS - StrikeSmart™ app control	19
ELECTRICAL SCHEMATICS - StrikeSmart CAN bus control, optional	20
WARRANTY INFORMATION	21
CERTIFICATE OF CONFORMITY	22



CAUTION

Read this manual before installing or operating the spreader

Spreader parts

Technical information

DESCRIPTION	IceStriker 120	IceStriker 200	IceStriker 300
Total width	80 cm	80 cm	80 cm
Total depth	60 cm	60 cm	60 cm
Total height	82 cm	105 cm	130 cm
Capacity, struck	120 L	205 L	290 L
Capacity, rounded	130 L	215 L	305 L
Weight (empty)	58 kg	65 kg	70 kg
Spinner size	320 mm	320 mm	320 mm
Auger diameter (stainless steel)	65 mm	65 mm	65 mm

TECHNICAL SPECIFICATIONS		IceStriker 120	IceStriker 200	IceStriker 300
Drive line	Auger motor with encoder, IP65	300W	300W	300W
	Auger wormgear, IP65	YES	YES	YES
	Spinner motor, IP65	200W	200W	200W
	Spinner planet gear, IP65	YES	YES	YES
Electrical	Controlbox 12V	Canbus	Canbus	Canbus
	Smartphone controller	Included	Included	Included
	Main fuse	60A	60A	60A
	Amperage Draw Regular use	20-30A	20-30A	20-30A
	Vibrator, 40 kg force	10A	10A	10A
	Beacon light (optional)	LED	LED	LED
	Rear light w. licens plate kit (optional)	2x30 LED	2x30 LED	2x30 LED
Work light LED X 5 (Option)	5 x LED	5 x LED	5 x LED	
Software	Programs for different materials	Yes	Yes	Yes
	GPS & Manual control mode	Yes	Yes	Yes

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. Ensure that you have fastened the spreader to the vehicle according to descriptions in this manual.
7. A spreader in need of repairs or maintenance should not be operated.
8. Before removing or replacing any electrical components, always disconnect the battery.
9. Do not keep gasoline or other flammable liquids on the truck bed while spreader is mounted.

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

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

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

Recommended vehicle requirements

This spreader is suitable for utility vehicles, pick-ups, vans, tractors, loaders and forklifts with a minimum capacity of 300 kg.

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

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.

Emergency stop

The spreader has an emergency stop button located at the right side. All spreader functions will immediately stop by pushing this button.

Emergency stop button



Warning and caution labels

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

Warning - Handling of abrasive and chemical material can cause injury



- Visible when removing the spinner assembly

Warning - Rotating auger! Keep hands clear. Wrench might slip when working with auger



- Located on the chute

Warning - Keep away from spinner and spreader in motion. Stay clear of turning spinner. Moving parts can crush and cut



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.

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. Click "Allow" to activate. 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. Press the emergency stop button 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. Release emergency stop.
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))

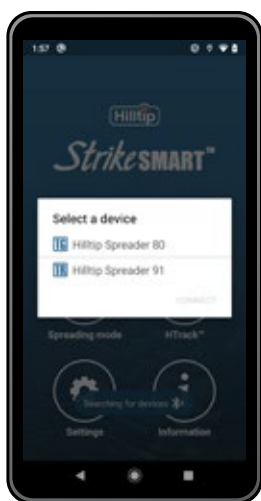


image 1

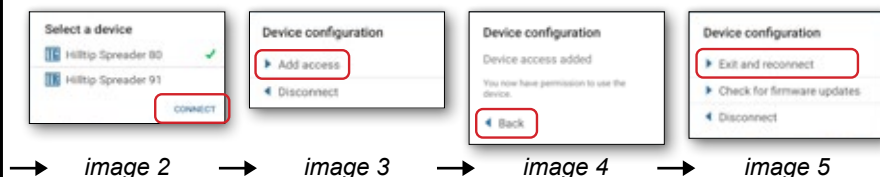


image 2

image 3

image 4

image 5

Updating spreader control module firmware

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

1. Disconnect power to the spreader
2. Press the emergency stop button 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. Release emergency stop button.
7. Press “Back” when firmware is updated (image 6) then press ”Exit and reconnect” (image 7).



Note! Please contact your local dealer for the StrikeSmart™ App user manual.

Scan to see instructional videos:

How to pair handset to Hilltip IceStriker™ 120-300 tailgate spreaders:



How to update Hilltip tailgate spreader control module firmware:



https://youtu.be/6RF_5RQh8hE

<https://youtu.be/EGkFrTFVrA>

StrikeSmart™ CAN bus control (optional)

The IceStriker™ 120-300 tailgate spreaders can optionally be controlled with the the StrikeSmart™ CAN bus controller. See The StrikeSmart™ controller manual for instructions.

Note! Please contact your local dealer for the StrikeSmart™ Controller user manual.



Controller placement (optional)

The StrikeSmart™ CAN bus 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.

Spreading pattern

Loosen the bolts (image 1) and adjust the spinner gearbox bracket sideways. By adjusting you can position the material drop point and change spreading pattern (image 2).

Drop point in center

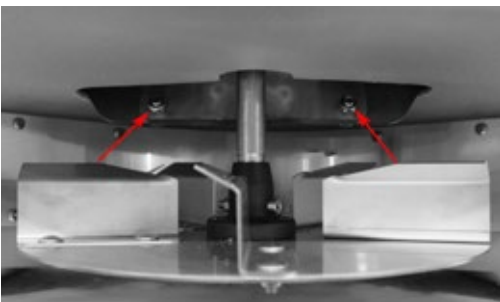
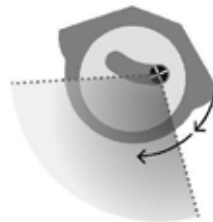


image 1

Drop point to the right



Drop point to the left

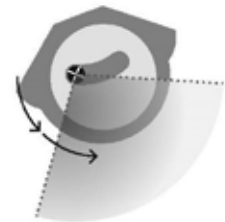


image 2

Accessory cables

- Red** = Emergency stop (standard)
- White** = LED worklight

Mounting the spreader

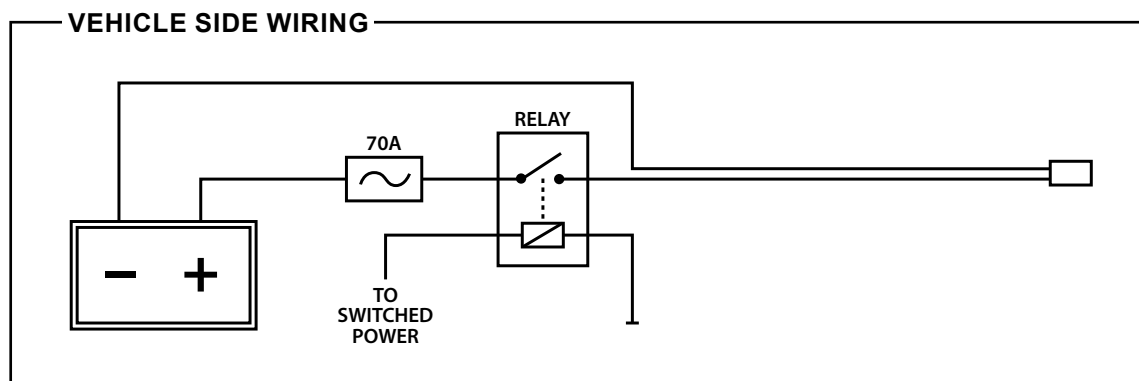


CAUTION

Grip the spreader properly by the built-in handles when mounting or removing the unit to avoid dropping.



Power supply mounting principle



Mounting the tarp cover assembly

Tools needed: 5 mm hex key
10 & 13 mm socket wrench



1. The top screen is pre-mounted. Loosen and remove all four nuts.



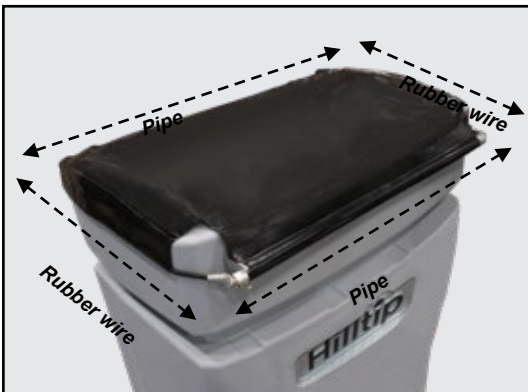
2. Lift and remove the top screen



3. Remove all the items from inside the hopper. Open the plastic bags.



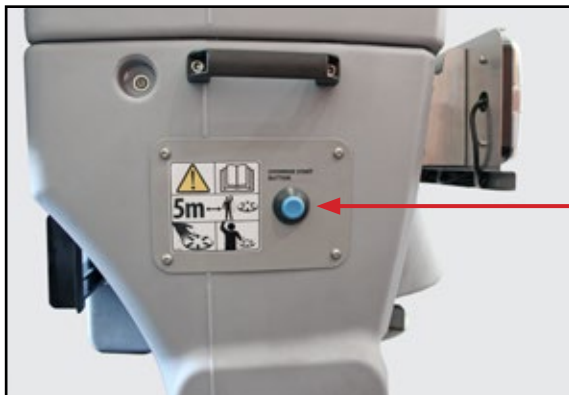
4. Apply lubricant on bolts and nuts and fasten the four brackets in all of the corners of the hopper. Put back the top screen and fasten it with bolts.



5. Insert pipes in the two longer openings. Insert rubber wires in the two shorter openings and connect the ends to the pipe with a bolt.

Override start button

If the smartphone is lost, stolen or broken it's possible to start the spreader by pressing the blue override button on the left side of the spreader. The override start button only works when the StrikeSmart™ app is closed.



Override start button

When you press the override start button the spinner starts spinning slowly (with firmware version 0.6.13 and newer) and after 5 seconds, or the time you have set, it starts spreading. Switch off the spreader by pressing the override start button again.

Manual override settings

1. Go to **Settings** → **Manual override** (image 1)
2. In **Manual override settings** (image 2) you can set auger percentage, spinner percentage, start delay in seconds and choose whether the work light should be enabled or disabled.
3. When done adjusting, press **Save** to send the values to the spreader module (image 3). The Save button turns green when the settings have been saved (image 4).

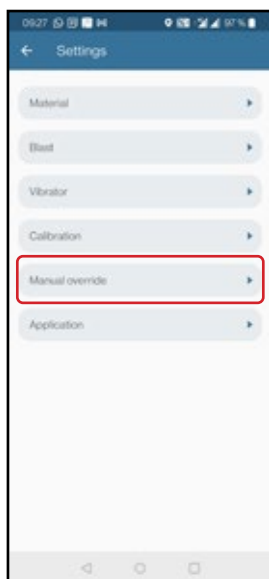


image 1



image 2

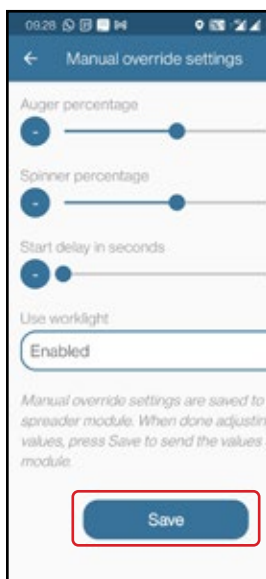


image 3

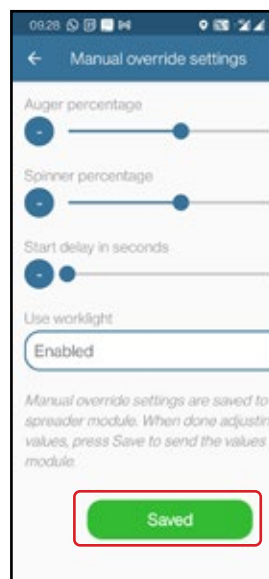


image 4

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



1. H27351
Vehicle side power supply harness
(see next page)



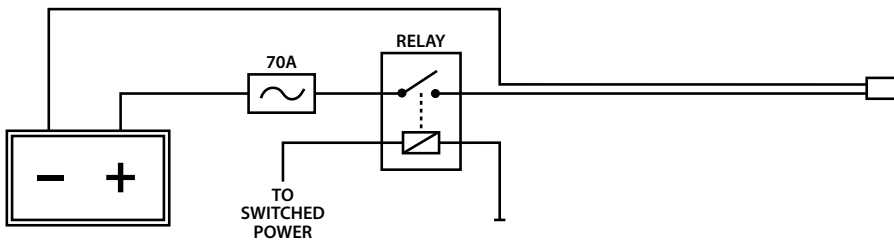
H27352
Spreader side power supply harness



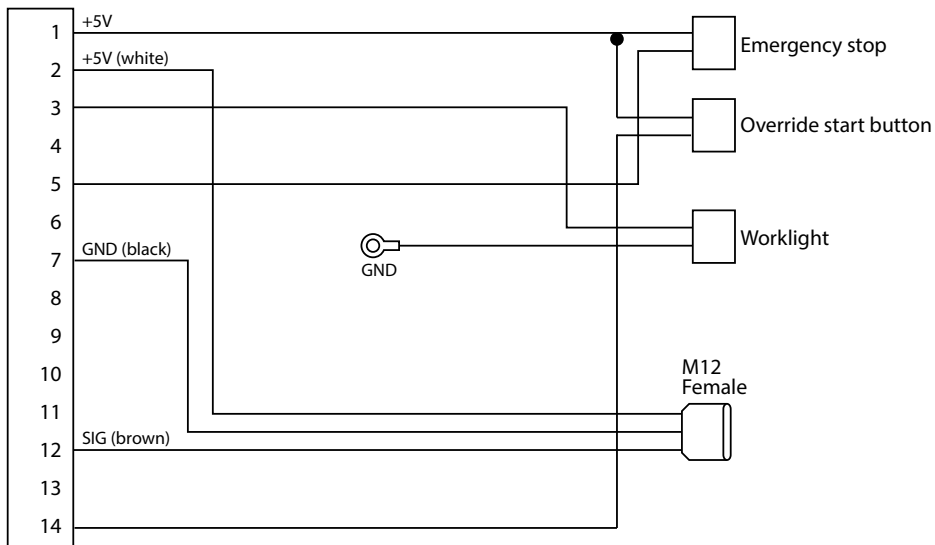
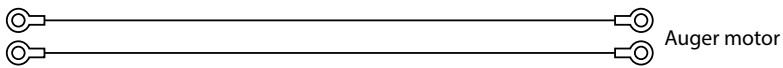
H27353
Spreader side harness
(see next page)

2. H30189
Relay 100A 12V

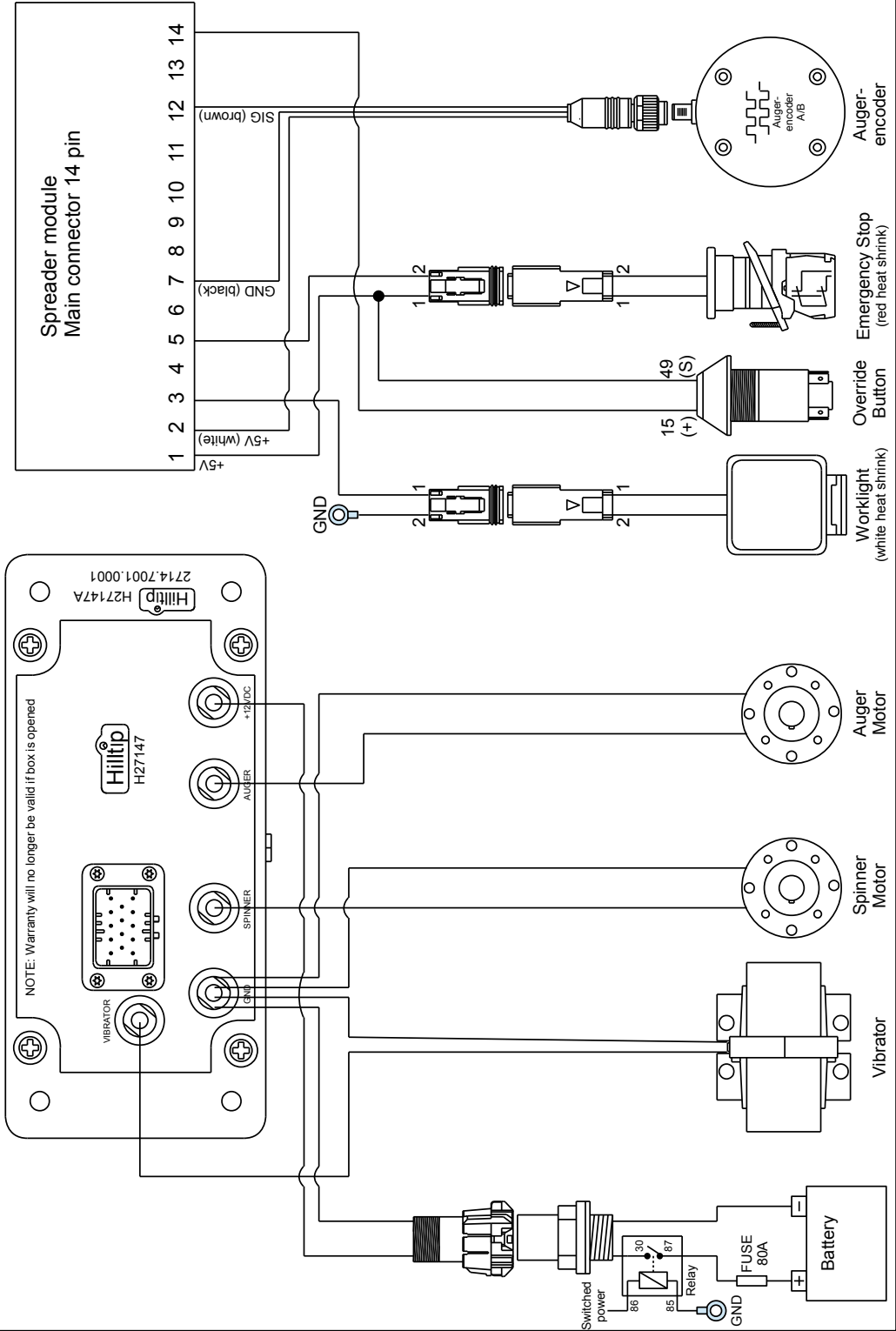
Vehicle side harness wiring (H27351)



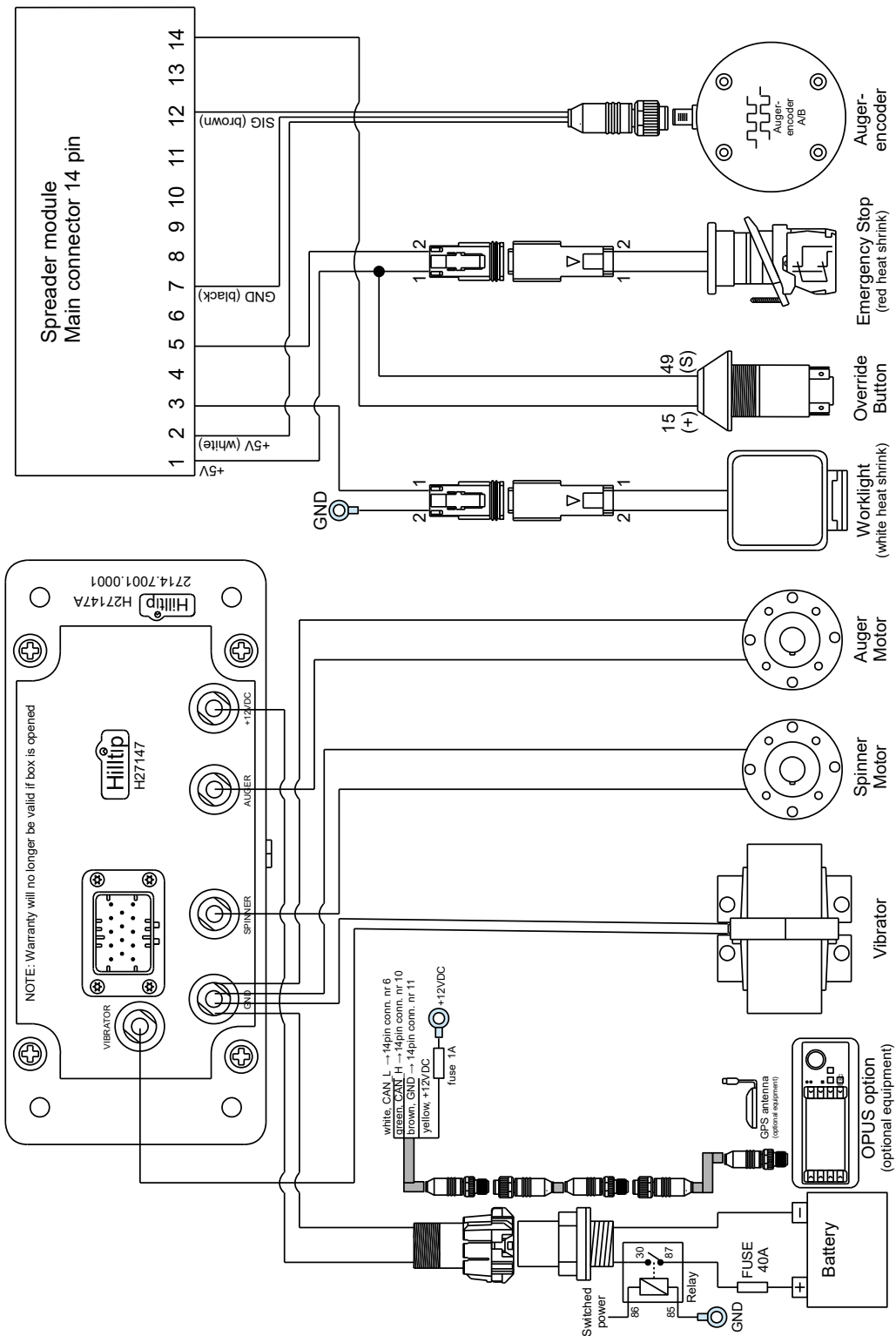
Spreader side harness wiring (H27353)



Electrical schematics - IceStriker™ 120-300 (with bluetooth StrikeSmart™ app control)



Electrical schematics - IceStriker™ 120-300 (with StrikeSmart™ CAN bus control, optional)



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 alternation 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 Electric Poly spreader 120, 200 & 300 liter

Equipment Model Designation: Hilltip IceStriker 120
Hilltip IceStriker 200
Hilltip IceStriker 300

Equipment applications: Utility vehicles, pick-ups, vans, tractors, loaders and forklifts

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 assambled by Oy Hilltip Ab, conforms to the above directives and standards

Pietarsaari May 7th, 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:



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