

STRONGBÓ

StrongBó Agritech Canada Ltd.TM

MODEL NO. SB-WCTSC4R00

AUTO WEIGHER USER MANUAL



SAVE THIS MANUAL

NEED SUPPORT?

Visit <https://www.strongbo-agtech.com/> for our contact information, and to speak with our representatives.

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IMPORTANT DISCLAIMER

Any deviation from the contents of this manual could result in a hazard. To ensure safety, do not deviate from the provisions of this manual.

INTRODUCTION

Thank you for your purchase of the Auto Weigher™ unit. The Auto Weigher is an innovative product that is designed for simplicity, robustness, and reliability. To be placed with your cattle, it must be built to be more stubborn than they are.

This product is designed for a long life in an agricultural environment and is suitable for both pasture and feedlot use cases. Each Auto Weigher is a standalone product that has all required functionality built-in as shipped; additionally, multiple units can seamlessly work together to handle even the largest herds. The unit is easily scalable to your process, no matter the size of your operation.

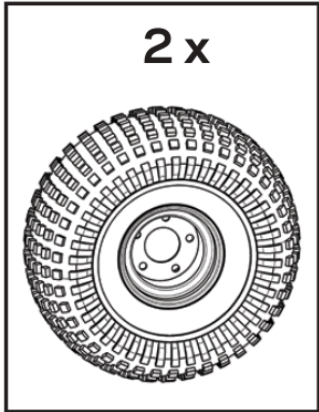
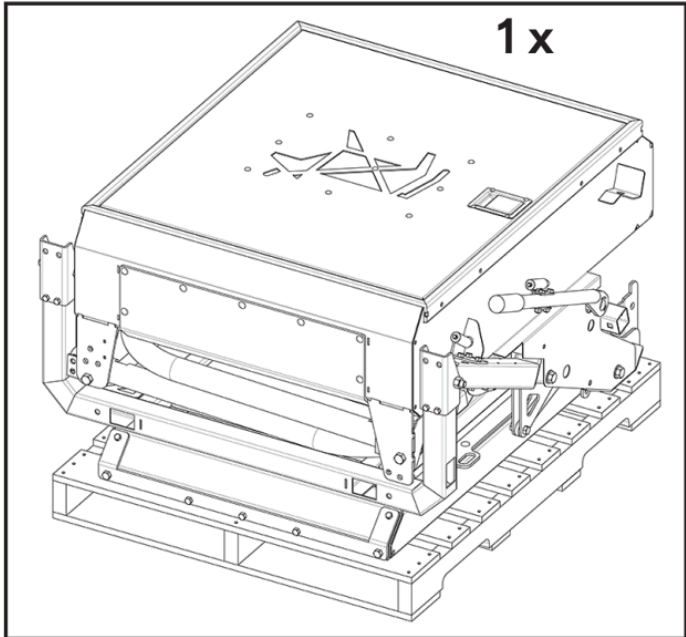
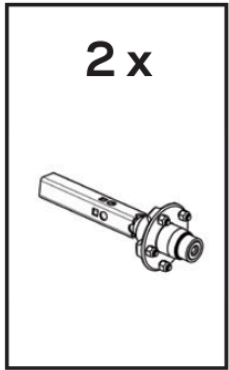
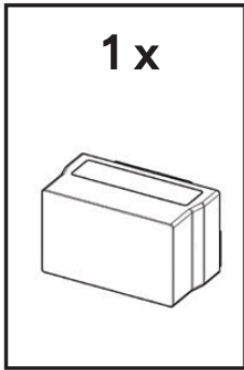
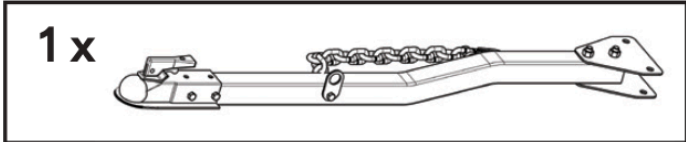
At StrongBó, our guiding principle is simple: make a product farmers will love. This manual will help you make the most of your unit. To maximise the life and benefits of your Auto Weigher, follow the provisions of this manual.

Auto Weigher Contents

The Auto Weigher is shipped with all contents stored in its back cabinet. Some assembly of these components is required as directed by the [Quick-Start Guide](#).

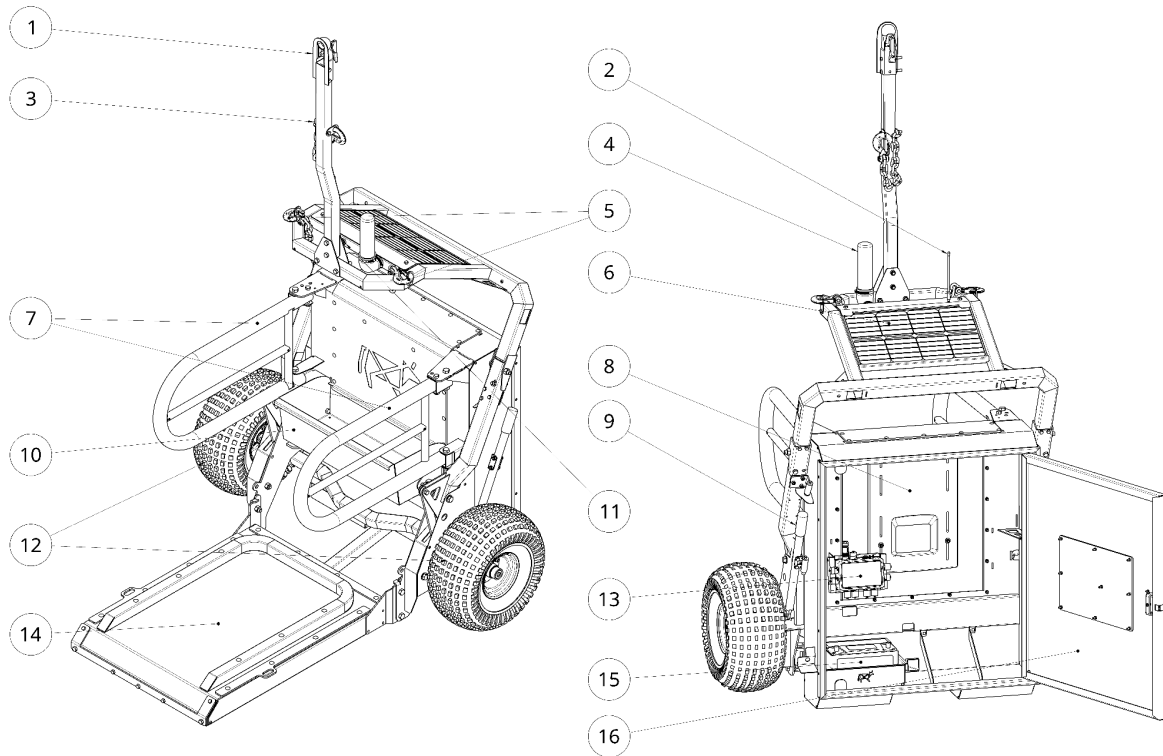
- 1x Chassis
- 1x Tow Bar
- 2x Stub Axle
- 2x Wheel
- 1x 12V Lead Acid Battery
- 1x Satellite Antenna*

* Depending on model configuration, satellite functionality is optionally included. All units ship with an antenna for satellite, regardless of whether satellite is enabled.



Features

When assembled, the Auto Weigher has a variety of features and components referenced in this manual. This section will familiarise the owner with the different parts of the Auto Weigher



- | | | | |
|----------|----------------------------|-----------|---------------------|
| 1 | Tow Hitch | 9 | Configuration Lever |
| 2 | Satellite Antenna | 10 | Attractant Trough |
| 3 | Included Tow Safety Chain | 11 | Paint Nozzle |
| 4 | Cellular Antenna | 12 | Wheels |
| 5 | “Tow Mode” Securing Chains | 13 | Electrical Module |
| 6 | Solar Panel | 14 | Weighing Platform |
| 7 | Side Gates | 15 | Battery and Holder |
| 8 | EID Reader | 16 | Cabinet Door |

Capabilities

Each model of Auto Weigher™ comes with the following capabilities.

- Automatic and live weight sensing data
- *Optional* configurable paint spraying
- Solar power charging
- Easy battery change
- Attractant holding trough
- EID tag identification
- Cellular Connectivity
- *Optional* Satellite Connectivity
- Bluetooth communication
- "Tow Mode" trailer configuration
- Auto diagnostics

SETTING UP THE AUTO WEIGHER

The Auto Weigher will come with all required parts packed onto one pallet. Any optional add-ons will be shipped with the machine. After a brief set-up and registration process, the unit will be ready for use.

Quick-Start Guide

To set up the Auto Weigher, use the QR code to access the quick-start guide. Simply following these instructions will have the Auto Weigher working right away.



FOLLOW SET-UP INSTRUCTIONS AS WRITTEN AND DO NOT DEVIATE. DEVIATION FROM THE MANUAL MAY CAUSE PERSONAL INJURY AND/OR DAMAGE TO EQUIPMENT



Choosing a Location

To maximise the effectiveness and lifetime of the unit and reduce chance of injury, follow these guidelines for placing the machine in its facility.

- Place with back facing a wall to encourage animals to investigate the machine from the platform side.
- Place in a location where animals are frequently present, such as near feeders.
- Make use of the attractant trough, use whatever works best for the target herd
- Place the machine on level ground to avoid it being rocked
- Ensure adequate space for the machine so it can be locked in deployed mode, this prevents damage to components such as antennas or the solar panel.

OPERATION

Intended Use

The StrongBó Auto Weigher is designed to be robust in outdoor pasture conditions/feedlot conditions for beef farming. It is built to last against typical wear and tear from interaction with large cattle. Usage outside of these parameters risks damage to the equipment, or early degradation.

How It Works

The Auto Weigher collects live weight data automatically according to a five-step process.

1. Deploy the Auto Weigher in the weigh ready mode on location. When the unit is in “weigh ready” mode, it sits flat against the ground and prepared to weigh cattle. The platform is unobstructed and cattle are able to step onto it.
2. Attract cattle to the platform with some sort of lick that the cattle enjoy. Trialling different attractants is recommended to find which is best for the herd. Use the included attractant trough to encourage cattle to step on the platform to reach the incentive.
3. Weigh animals using the platform. The weighing process starts when an animal steps both feet on the platform. The platform has integrated load bars which record a partial weight of the animal from the half of the body on the platform. This act also activates the EID reader to identify the animal and attach the measurement to that animal. Then a proprietary algorithm converts the measurement to an accurate full body weight measurement.
4. Upload the data to the cloud. This data is sent to the cloud through the included wireless communication technology where it can be viewed using various StrongBó applications.
5. Analyse the data. The raw data is validated, and presented in the easiest way possible using StrongBó software. The data is automatically analysed to display key performance metrics like average daily weight gain.

These five steps are performed automatically, for each animal every time it steps on the platform, granting a comprehensive picture of the herd weight.

Using the Auto Weigher

To use an Auto Weigher, it need only be deployed in the location of the target mob, in order to begin automatically collecting, analysing, and presenting the herd's key data. It may take some time before enough data is collected to display an accurate picture of the herd. Animals sometimes need time to get used to the machine.

To be better used in a beef farming process, the Auto Weigher can conveniently be changed to a "Tow Mode" which is used to transport it between different pastures/pens so that one unit can be used for multiple mobs. An ATV can be used for this purpose.

The Auto Weigher can accomplish the following while in use

1. Monitor the Weight Gain of Multiple Groups
2. Allow closer targeting of ideal weights for livestock marketing
3. Help optimise feeding programs
4. Minimise risk of injuries and reduce stress on livestock
5. Achieve operational efficiencies: this new way of weighing has minimal labour input so staff can be channelled into more productive tasks

The unit includes a solar panel built in, which is used to charge its on board battery. In an outdoor environment the unit is able to function indefinitely. The farmer need only go to the unit to move it as suits their process.

In the absence of such conditions, a single battery charge lasts approximately one month under regular usage conditions. An infrequent change of the battery is all that is needed. See the [Replenishing the Auto Weigher](#) section for instructions on changing the battery.

Optional Features

The Auto Weigher also has optional add-ons which add additional functionality.

Satellite Fallback

The Auto Weigher has the option, as of August 2024, to be fitted with a satellite fallback for remote areas. The Auto Weigher uses cellular communications to deliver data to the cloud. With a satellite fallback, the unit will use satellite instead

of cellular communication if cellular is not functional. An example where cellular may not function is if the Auto Weigher is in a remote location.

Pump Box

The Auto Weigher can be fitted at any time with a pump box kit, which will allow food-safe paint to be sprayed through a nozzle onto animals that meet configurable criteria. See the StrongBó application for more details.

Working For The Farmer

Implementing the Auto Weigher benefits the farmer and their process in the following ways.

- Automated and hassle free weighing
- Animal data at their fingertips
- Impactful insights for improved performance
- Farm and cattle tested, for reliable performance

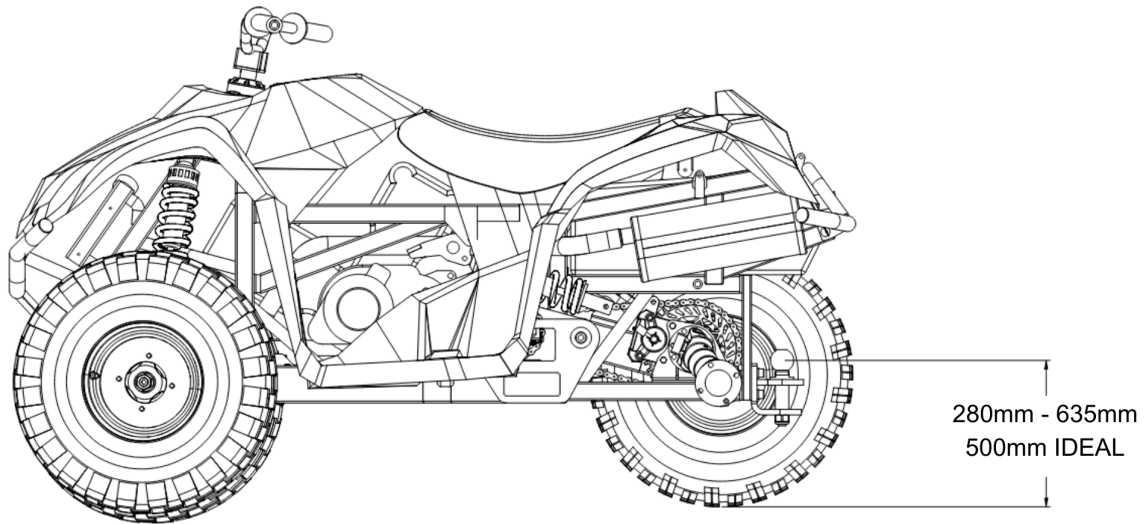
Towing

The Auto Weigher can be easily moved around a farm or facility by towing with an ATV. It functions as its own trailer, ensuring moving is always a convenient option. Begin towing the Auto Weigher by switching it to the Tow Mode. Refer to the [Setting Up the Auto Weigher](#) section for the procedure to convert the Auto Weigher to Tow mode, where it will be ready to hitch onto a ball.

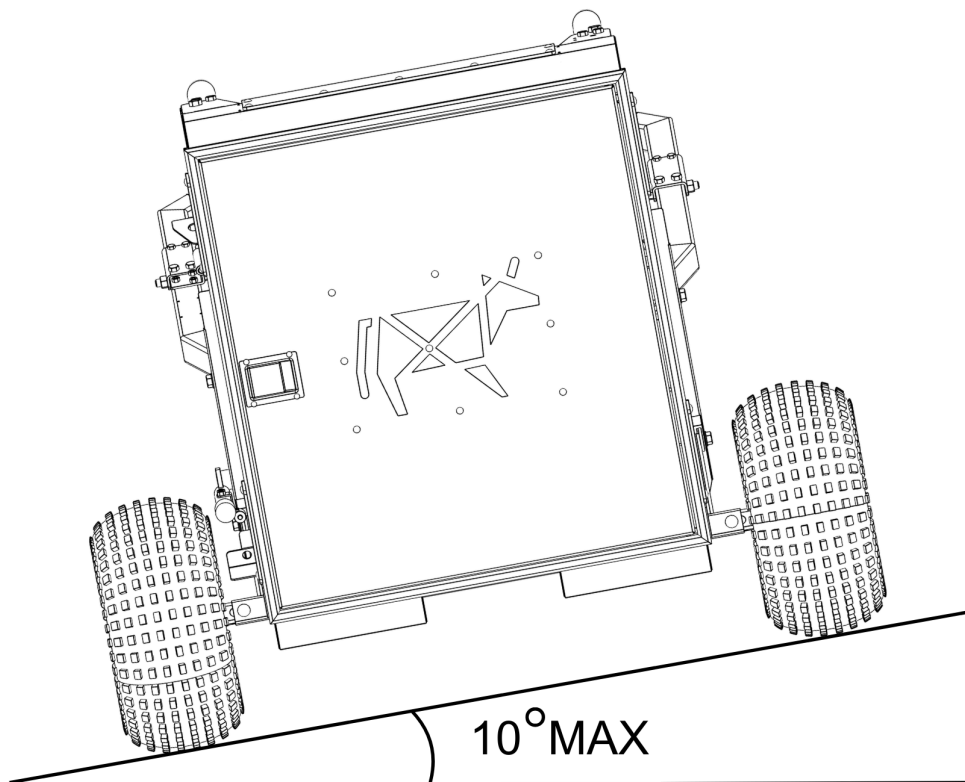
Tow Parameters

Please note the following observances while towing the Auto Weigher. It is important that the user is familiar with these guidelines below to ensure safety of the user and the equipment.

- The Auto Weigher is designed for use with a 50mm (2in) or 45mm (1.75in) ball hitch depending on region. Only use the correct ball size when towing.
- Ball hitch position above ground must be between 11" and 25" off the ground. 20" is the ideal height as the Auto Weigher has the best clearance from the ground with this ball height. Be aware of obstacles as you tow the Auto Weigher to avoid damage.



- Always double check that hitch is secure before moving
- Always secure the included safety chains before moving
- Remove loose parts from machine, including any salt block
- Always obey the speed limit on the machine. The max towing speed is 30 km/h or 15 mph
- Avoid navigating bumpy/off-road terrain, if impossible to avoid slow to maximum 5mph
- Do not allow the machine to roll more than 10 degrees to either side.

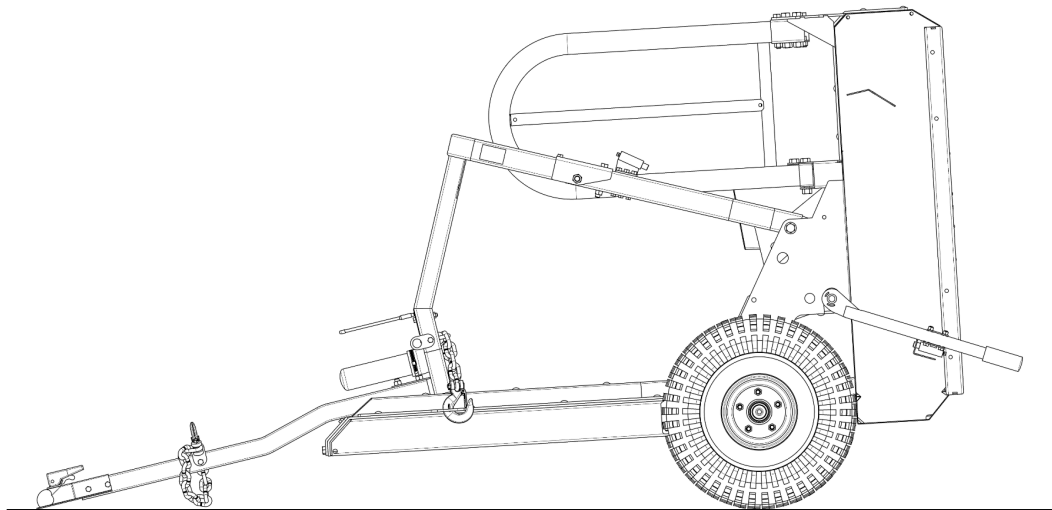


Long Distance Towing

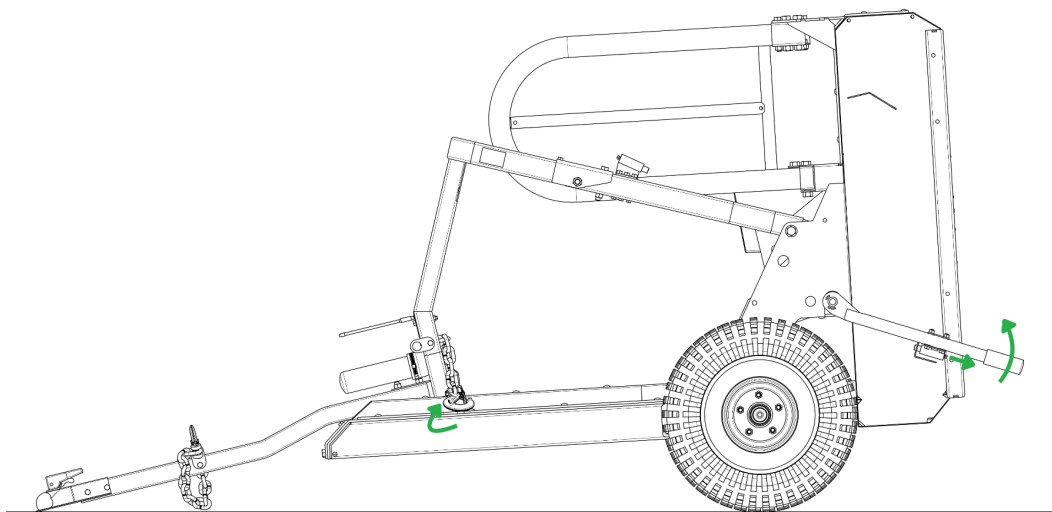
The Auto Weigher Tow Mode is designed for short distance trips under 100km. To transport the Auto Weigher longer distance it is recommended to transport it on a utility trailer.

Ensure the trailer has the capacity to safely carry the Auto Weigher, it must be rated for 1000 lbs at least. When loading the Auto Weigher onto a trailer, follow this procedure.

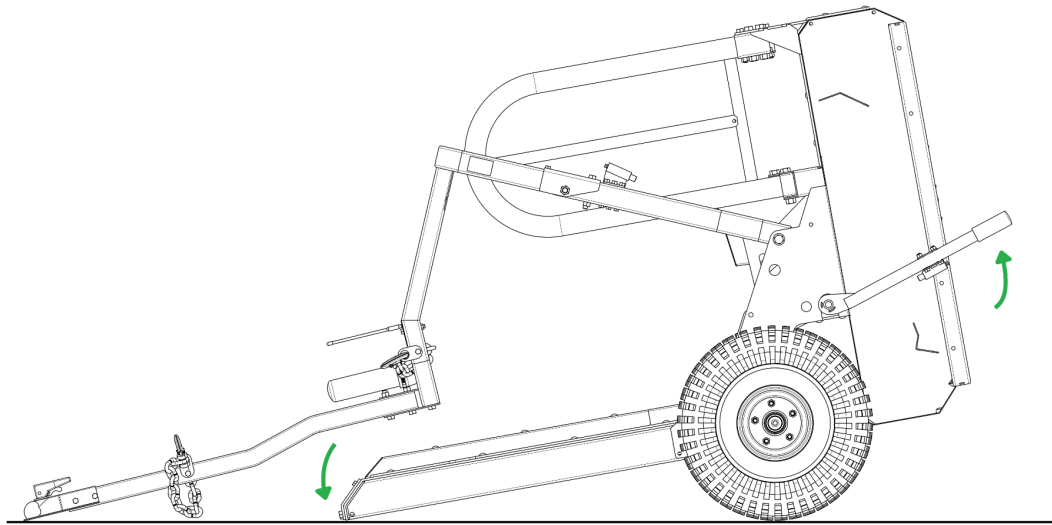
1. Convert the Auto Weigher to Tow Mode
2. Wheel onto the utility trailer in a spot where it is secure



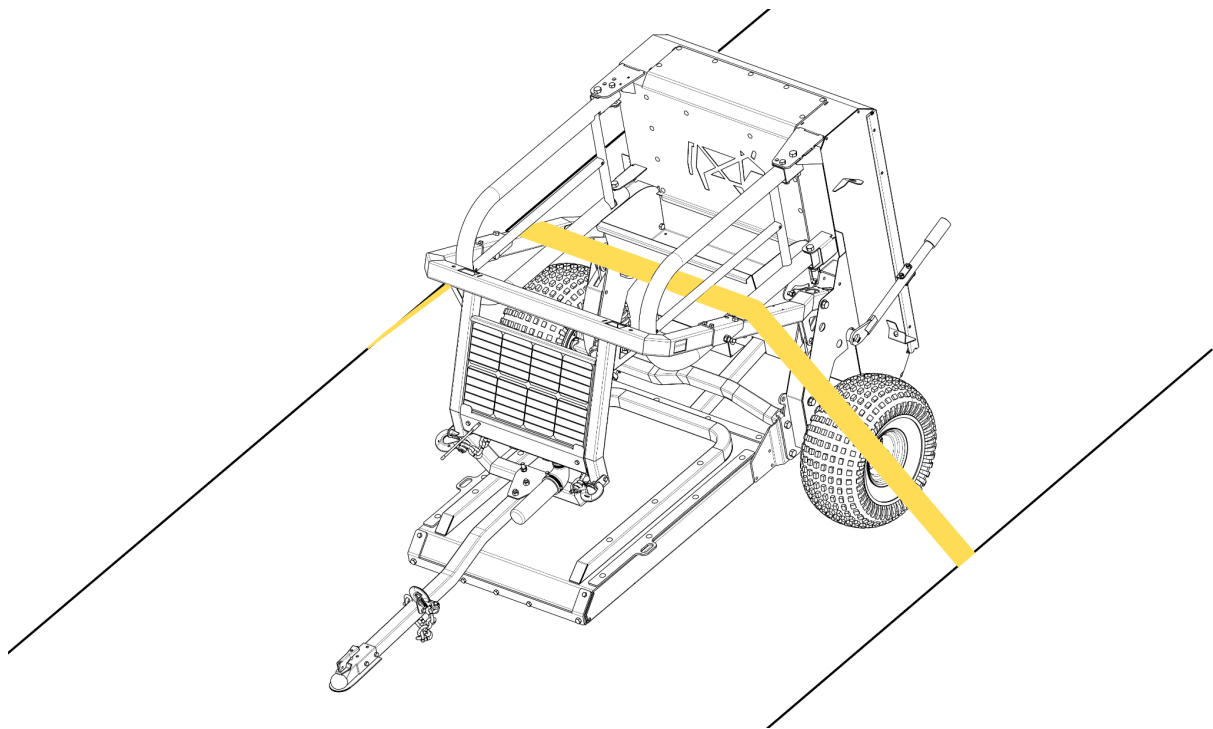
3. Without touching the lever, undo the safety chains attached to the platform



4. Pop the locking pin for the lever to lower the platform until it touches the ground.



5. Strap down the machine on the trailer by looping a strap through the side gates overtop the solar panel frame as shown.



Hitching Procedure

1. In Tow Mode, wheel the Auto Weigher over to the hitch ball and set onto the ball, being mindful of pinching. Always follow procedure as detailed in

[Setting Up The Auto Weigher](#) to ensure the machine is properly prepared to Tow. Do not target securing chains.

2. Secure the hitch in place by pressing the hitch handle down.
3. Properly secure tow safety chain around hitch ball assembly, and secure chain using hooks to the loop installed on the tow bar.

Back Cabinet

The Auto Weigher includes a hollow cabinet accessible from the back of the machine. The cabinet contains the EID reader, and SB-WCTSC4R00 Electrical Module, and battery. If paint spraying is selected, it also houses the pump box and paint jugs.

Electrical Module

The electrical module is designed to be used in an enclosure, do not take the electrical module out of the chassis to ensure it is not damaged. If the electrical module must be replaced, contact support.

To clean the outside of the electrical module, leave it connected and rinse with a damp cloth. For tough dirt use a mild water and dish soap mixture.



PRODUCT CONTAINS LITHIUM-ION BATTERY. FOLLOW MANUAL PROVISIONS. DEVIATION FROM THESE MAY CAUSE PERSONAL INJURY AND/OR DAMAGE TO EQUIPMENT

Do not use the module outside its intended use. This product contains a lithium ion battery, to ensure safety, do not dispose of the module yourself. Do not dispose of the box by burning or where it can be burned. Do not store module and components where the temperature is extremely hot to avoid leaks. Do not expose the module to ultra low air pressure environments.

Accessing Electronics Serial Data

The outside of your Electrical Module contains the electronics serial data. This information will be useful when discussing your issues with technical support. Look for the following label:



Replenishing The Auto Weigher

Changing Battery

To change the battery safely, wear working gloves.

1. End the current session according to the app instructions
2. Disconnect black clip from battery stud
3. Disconnect red clip from battery stud
4. Lift battery out of holder, replace with second battery
5. Connect red clip to positive battery stud
6. Connect black clip to negative battery stud
7. Machine will automatically power on. Use machine as normal once it is in ready state (see [Quick-Start Guide](#) for more details on LED light indicators)

Changing Attractant

To change the salt block safely, use working gloves. As animals exhaust attractant when they use the machine, replace as needed by replenishing the basket.

Changing Pump Jugs

Refer to instructions provided as part of the pump box kit if your machine includes paint spraying.

MAINTENANCE

Cleaning

Do not pressure wash to avoid damaging coating, do not pressure wash plastic components. Do not use abrasive cleaning methods to avoid damaging coating. Wash with water when needed.

Upkeep and Troubleshooting

Perform these regular maintenance checks as needed to ensure the maximum lifetime of your Auto Weigher, and respond to typical issues

- If your machine is running out of battery more quickly than you are used to, inspect the solar panel. Ensure that the surface is clear of grime, dust, snow, or anything else blocking the sun. Dust off any dust or snow, clear tougher grime with a gentle detergent mixed with water.
- Check that your spring pins are working properly by pressing them in and out to ensure they haven't seized. If they have, contact parts and service.
- If vibrating while towing, or if the machine has been towed more than usual recently, re-tighten wheel nuts.

Annual Machine Maintenance Check

- Clean around the base to clear build up to ensure it does not interfere with measurements.
- After cleaning, tare the machine
- Lubricate pivots with WD-40 if they are creaking or stiff

Wheel Maintenance Procedure

Perform this procedure annually to ensure that your Auto Weigher is able to be transported safely.

1. Use grease gun to lubricate wheels
2. Ensure tire pressure is at 10 psi

Parts and Service

Standard replacement parts are kept in stock by local distributors. If the farmer is unsure about their local distributor, contacting the appropriate regional support number for assistance will help resolve this issue.

Australia: 1800 425 524

Brazil: +55 6699 660 0496

Canada: 1800 531 5908

Chile: +56 9 3431 9695

LATAM: +56 9 3920 1844

New Zealand: 0800 731 500

United States: 1800 531 5908

Rest of World: +64 0800 731 500

In the event that a particular request cannot be addressed through these support channels. The customer will be connected with a StrongBó representative.

TECHNICAL DATA

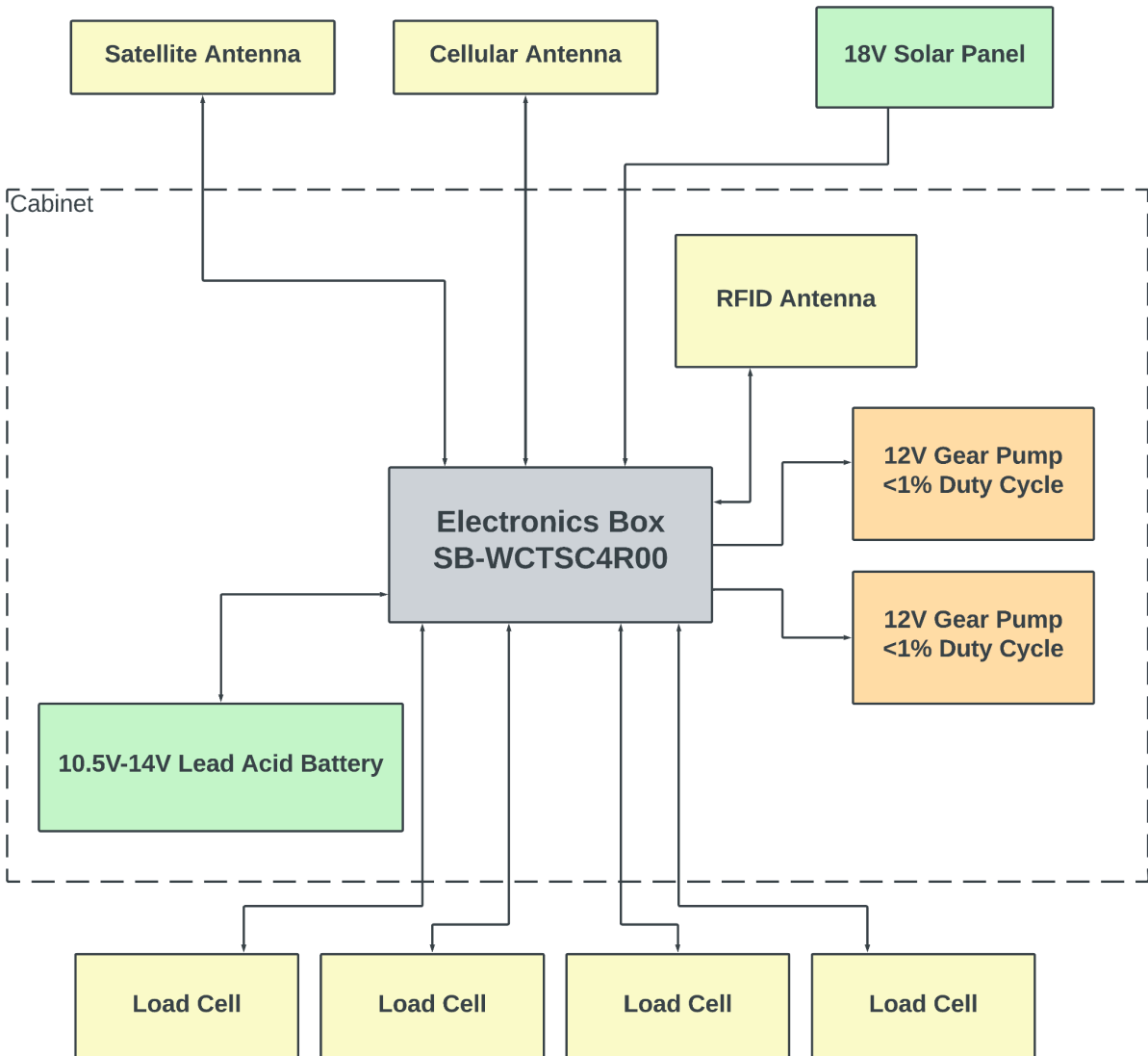
Physical Attributes

MECHANICAL SPECIFICATIONS	
Weigh Ready Dimensions	1.66 m x 1.689 m x 2.6 m (L x W x H)
Tow Dimensions	2.85 m x 1.689m x 1.437m (L x W x H)
Shipping Dimensions	1.219 m x 1.150m x 0.865m (L x W x H)
Weight	400 kg
Material	Galvanized Steel
Other Metal Parts Material	Stainless Steel; Aluminium
Plastic Parts Material	HDPE
Operating Temperature	-40°C to 65°C
Tow Hitch Ball Size	2"
Wheel Diameter	22"
Wireless	Cellular; Bluetooth; Satellite (July-August) Non-Simultaneous Transmisson
Solar Panel Size	571mm x 335mm x 25.4mm (L x W x H)
Module Dimensions	275mm x 205mm x 70mm (L x W x H)
Module Enclosure Material	Black NEMA Polycarbonate
Module Enclosure IP Rating	IP68
Module Flammability Rating	UL94V-0
Load Cell Material	Stainless Steel

Load Cell Capacity	1000 kg (4 x Load Cells)
ELECTRICAL SPECIFICATIONS	
Solar Panel Voltage	18V
Solar Panel Current	1.67 A
Solar Panel Wattage	30W
Battery Specification	10.5VDC - 14VDC Lead Acid (12V)
Battery Current Maximum	10A
Cellular Antenna Gain	10 dBi
Satellite Antenna Gain	2 dBi
Pump Outlet Voltage Rating	12V
Pump Outlet Current Rating	10A
Pump Outlet Max Duty Cycle	Duty Cycle Percentage: <1%

CABLE SPECIFICATIONS				
Cable Desc.	Number	IP Rating	Flammability Rating	Length
Load Cell	4G0892	IP67	VW-1	>3m
Solar Cable	2K1719	IP67	VW-1	>3m
Battery Lead	2K1720	IP67	VW-1	1.3m
Cellular Lead	2K1722	IP67	VW-1	>3m
Satellite Lead	2K1721	IP67	VW-1	>3m

Block Diagram



COMPLIANCE

Please review the product manual for the StrongBó Electrical Module for radio compliance, disclaimers are copied here for your convenience.

ISED non-interference disclaimer

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with the Canadian ICES-003 Class A specifications. CAN ICES-003(A) / NMB-003 (A).

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempt de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique de la Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

ISED RF Exposure statement

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 34 cm (13.4 inches) between the radiator and any part of your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations ISED CNR-102 établies pour un environnement non contrôlé. Une distance de séparation d'au moins 34 cm doivent être maintenue entre l'antenne de cet appareil et toutes les personnes. Lanceurs ou ne peuvent pas coexister cette antenne ou capteurs avec d'autres.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. this device may not cause harmful interference,
2. and this device must accept any interference received, including interference that may cause undesired operation. Please note that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC RF Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, this equipment should be installed and operated

with a minimum distance 24 cm (9.44 inches) between the antenna and your body during normal operation. Users must follow the specific operating instructions for satisfying RF exposure compliance.