Assembly Instructions

ALPHA

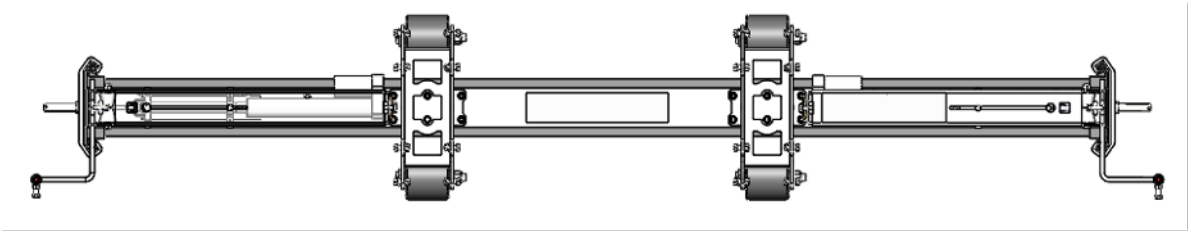


Bluestreakequipment MAGNETICS
APPLICATION DRIVEN DESIGN

Bluestreak Equipment
1645 Hwy #3, Delhi, Ontario, Canada N4B 2W6

What's on the Pallet

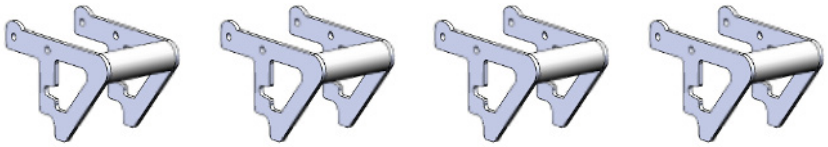
A



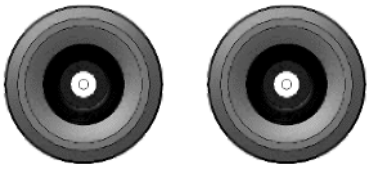
B



C



D



E



F



Items on the pallet:

A – Alpha Magnetic Sweeper w/wiring harness attached (1 pc)

B – Fiberglass Marker Rods (2 pcs)

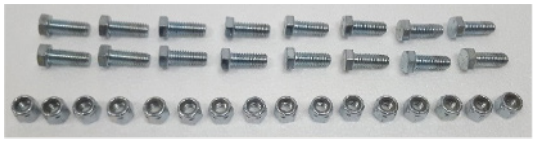
C – Outrigger Extenders (4 pcs)

D – 10" foam filled wheels (2pcs)

E – Double handled orange poly fabric debris catcher (1pc)

F – Cardboard Box (contents on next page)

What's in the Cardboard Box

G 

H 

I 

J 

K 

L 

Items in the box:

G – 3/8"x1" Hex Bolts w/nyloc nut (16 pcs)

H – 12" Chain (4pcs) w/quick links (8 pcs)

I – Remote Control - Requires 2x AAA batteries (1 pc)

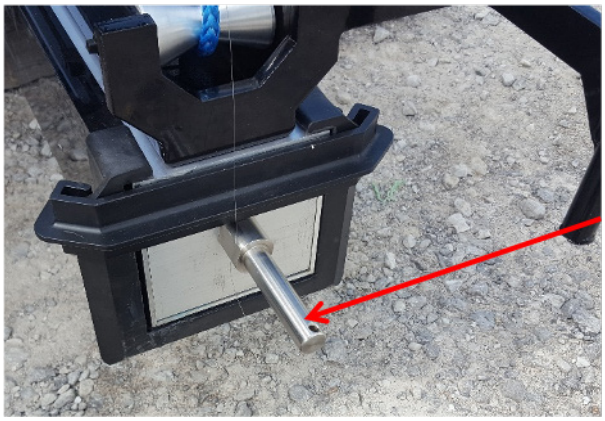
J – Assembly, Operating and Safety Instructions

K – Cable Ties (12pcs)

L – 0.1875" Lynch Pins (2pcs)

Install Wheels

Install a 10" Wheel with 0.1875" inch Lynch Pin on each end of the sweeper on the already installed Stainless Steel Wheel Bolt.



Stainless Wheel Bolt.



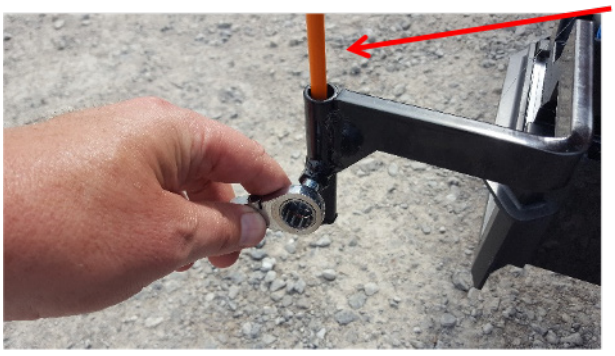
Install Wheel

Install 0.1875" Lynch Pin

Repeat for Opposite Side.

Install Fiberglass Indicator Rods

Install a Fiberglass Indicator rod on each end of the sweeper.



Fiberglass Indicator Rod.

Repeat for Opposite Side.



Progress so far.

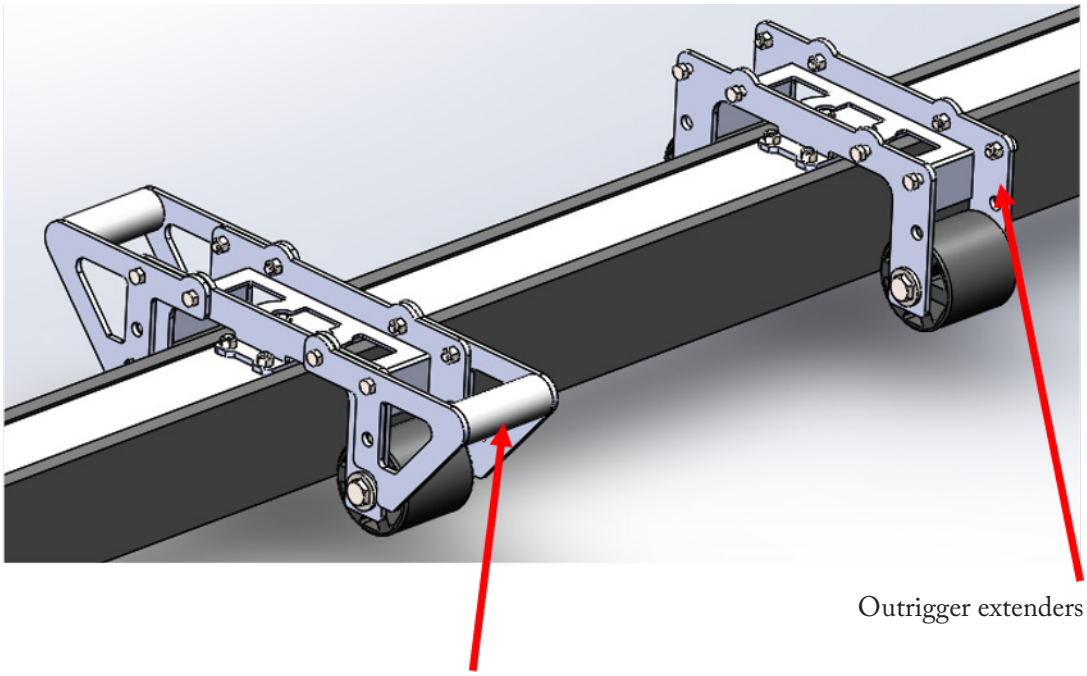
Are outrigger extenders needed?

Before mounting the Alpha under your vehicle a decision can be made to install the Outrigger Extenders.

The extenders are an aid to get the sweeper over unusually high obstacles.

The extenders also make the sweeper larger and may need to be removed for space reasons.

Typically we recommend installing them, but they can be left off if desired.



If you chose to install the outrigger extenders, Install Each extender using the provided 3/8" x 1" hex bolts (4pcs) and 3/8" nyloc nuts (4pcs).

Get Ready to Install

Mounting Requirements

To accommodate mounting the Alpha to a vehicle it may or may not be necessary for the purchaser to design and build a Suspension Mounting Bracket. If the vehicle already has mounting points a special mounting bracket may not be necessary. Alternatively "Hanging Bracket C" can be purchased from Bluestreak Equipment Inc.

If building a Suspension Mounting Bracket it should have mounting points specific to those available on the vehicle so that the bracket can mount to the vehicle.

The Suspension Mounting Bracket should also have mounting points specific to the Alpha. The specifications are given in the next section.

Example of Hanging Bracket C from Bluestreak Equipment as well as the 2" Receiver Mount Bracket being used for easy installation in a Receiver Hitch.



Get Ready to Install

The Alpha Mounting Points

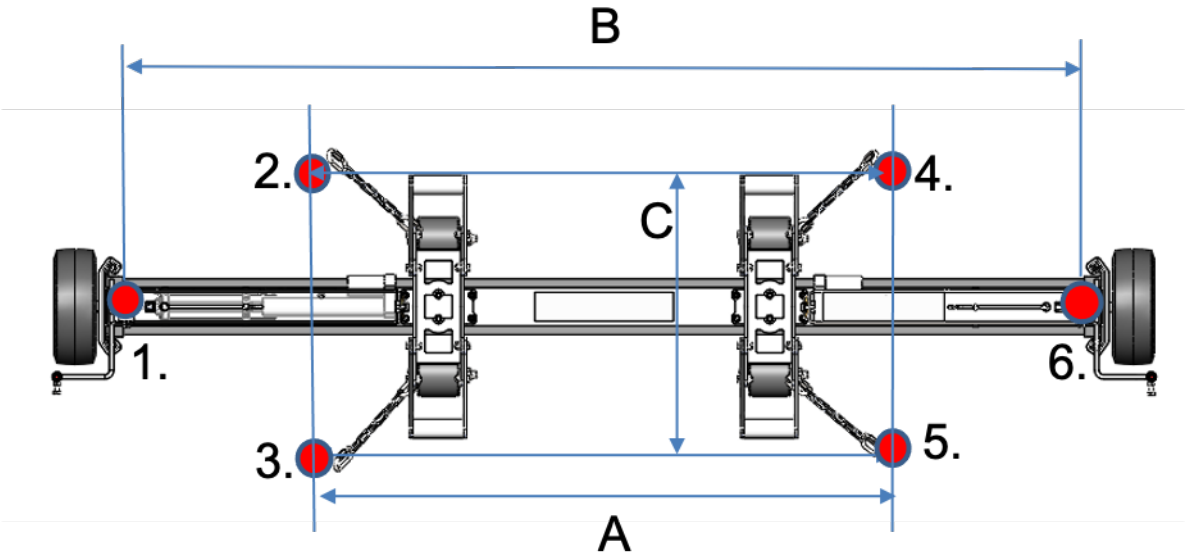
The Suspension Mounting Bracket should have 6 Mounting Point locations for the Alpha. These locations as shown in the image below are #1, #2, #3, #4 , #5 and #6

Locations #1 and #6 are required actuator lifting locations

Locations #2, #3, #4 and #5 provide additional stabilization when the sweeper is in its lowest position.

The optimal dimensions between suspension mounting points for each sweeper size are in the table below.

These dimensions will provide chain angles that keep the unit in a stable position when operating.



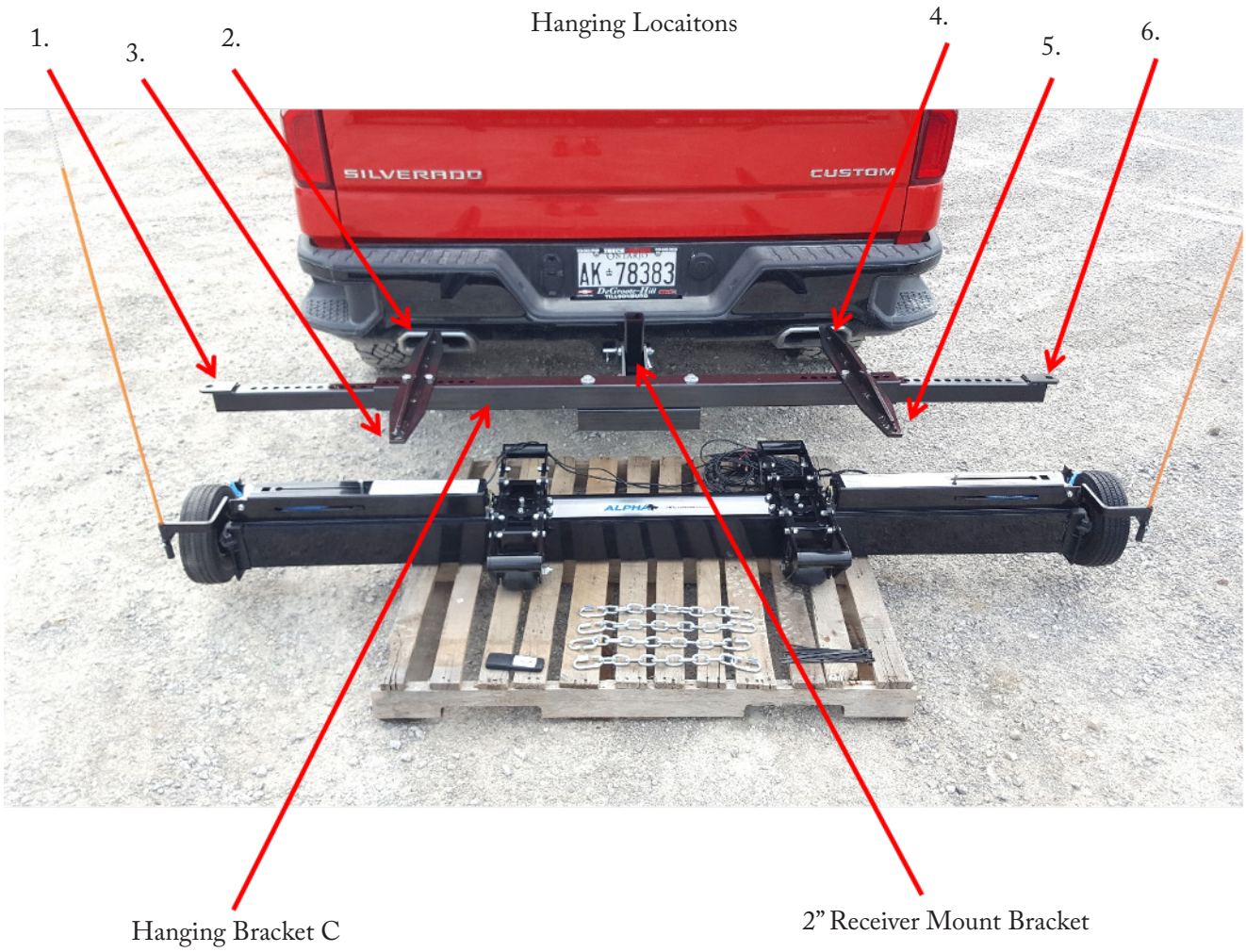
Optimal Dimensions between Suspension Mounting Points

Model	Dimension A (inches)	Dimension B (inches)	Dimension C (inches)
Alpha 86”	42”	80”	24”
Alpha 98”	46”	92”	24”

Get Ready to Install

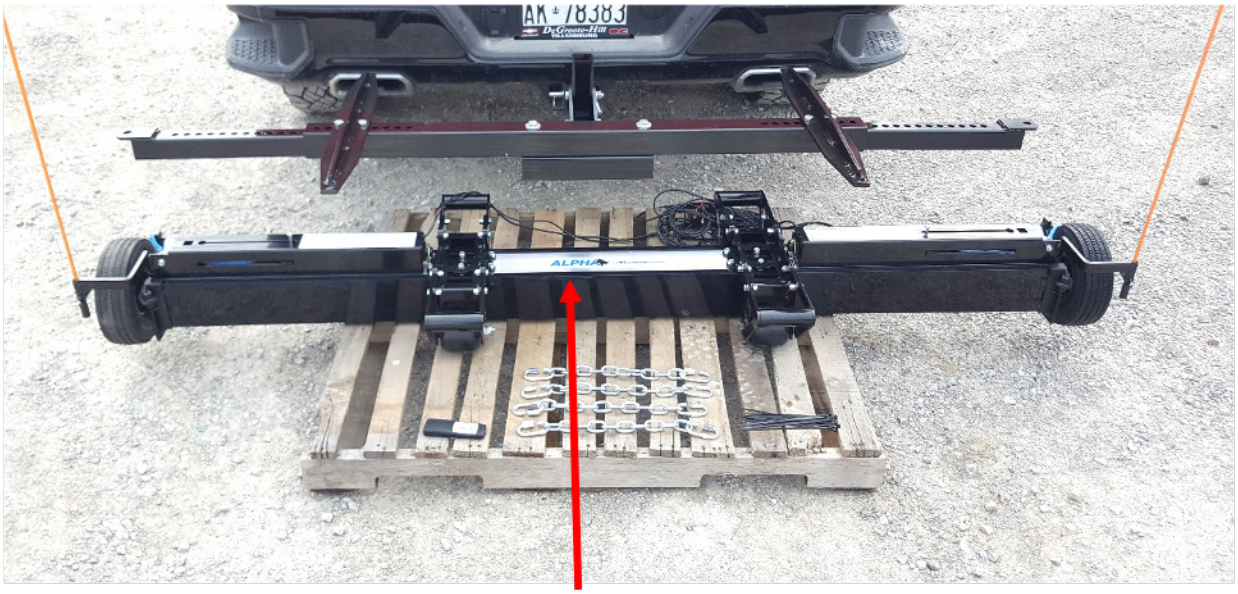
Example of a Suspension Mounting Bracket

Below is an example of a Suspension Mounting Bracket fit to a vehicle with suspension Mounting Points in optimal locations for the Alpha. This suspension mounting bracket is "Hanging Bracket C" and can be purchased from Bluestreak Equipment. .



Installation

Preparation and wiring connection .



Set the Alpha underneath your vehicle in preparation for mounting



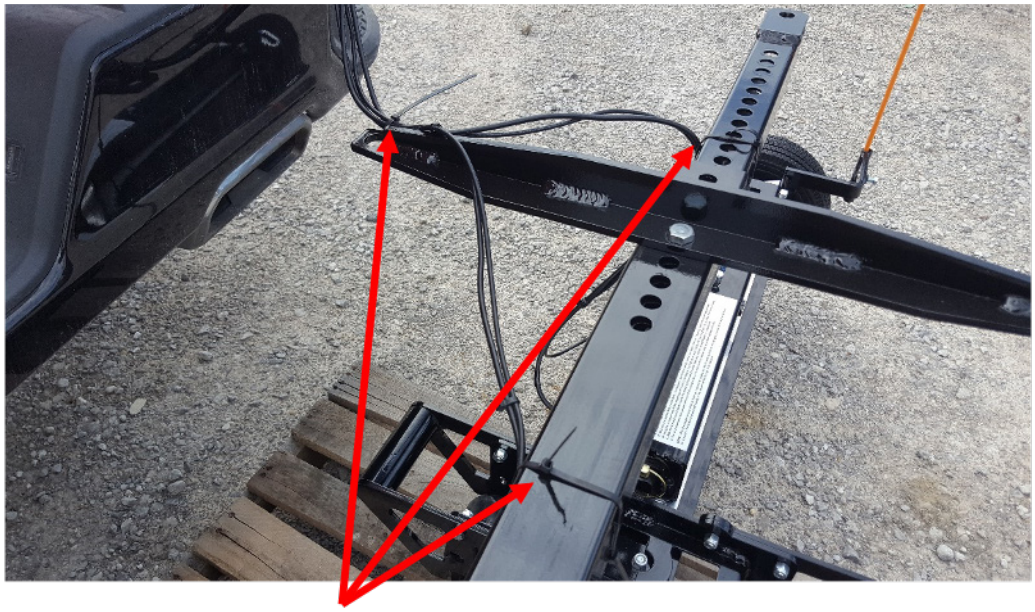
Note: Brown wire connects to positive 12v battery terminal, Blue wire connects to negative battery terminal.

Route the Wires and Connect to a 12v Battery source on your vehicle.
Ideally the battery that supplies power to the Alpha is continuously charged.
A wiring diagram and trouble shooting guidance are supplied at the end of this document. All electrical boxes should be mounted out of direct weather, and can be secured to your vehicle using the cable ties provided.

ADDITIONAL NOTE: THE BLACK ELECTRICAL BOXES THE WIRES COME IN AND OUT OF MUST BE MOUNTED AT LEAST 18" AWAY FROM THE MAGNET AT ALL TIMES. THE MAGNETIC FIELD CAN DAMAGE THE COMPONENTS INSIDE THESE BOXES.

Installation

Securing wiring and actuator limit adjustment



Tie and Secure wires as needed with the provided Cable Ties. Leave enough slack in the wire for travel up and down.



Loosen the Bolt in the top of each Actuator using a 7/16" wrench.

Installation

Limit switch adjustment and extending blue ropes



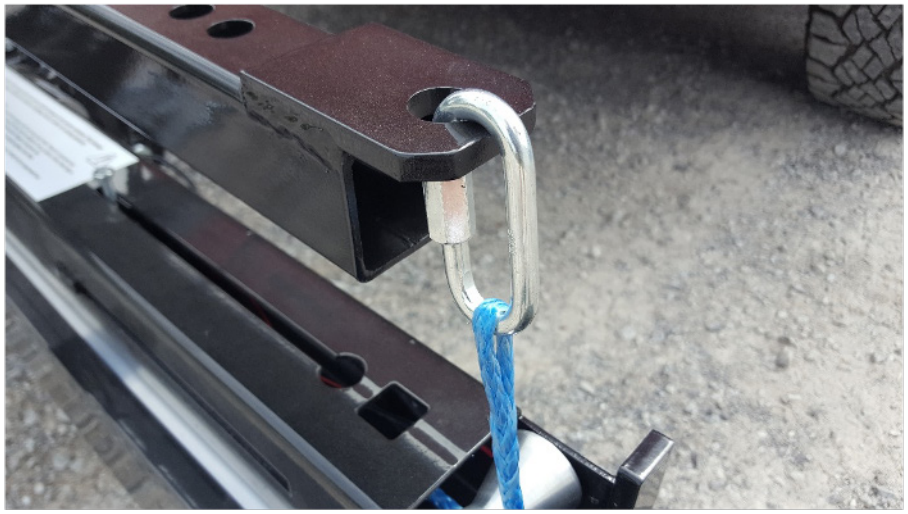
Slide the limit contact block outwards until it contacts the other contact block. Repeat for opposite side.



Install Batteries in the remote (2x AAA). Press the down button to extend the blue ropes out as far as possible.

Installation

Quick link connection and lifting sweeper



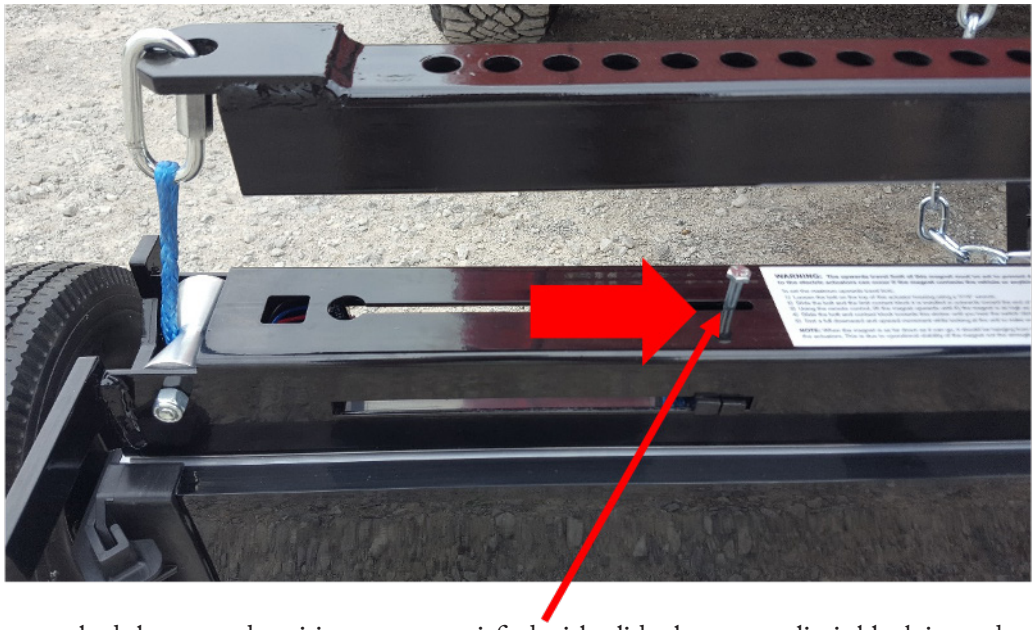
Connect the quick link on the end of each blue rope to the lifting location above it. Pressing the down button on the remote will extend the rope so you can clip it in place. Tighten the nut on the quick link firmly.



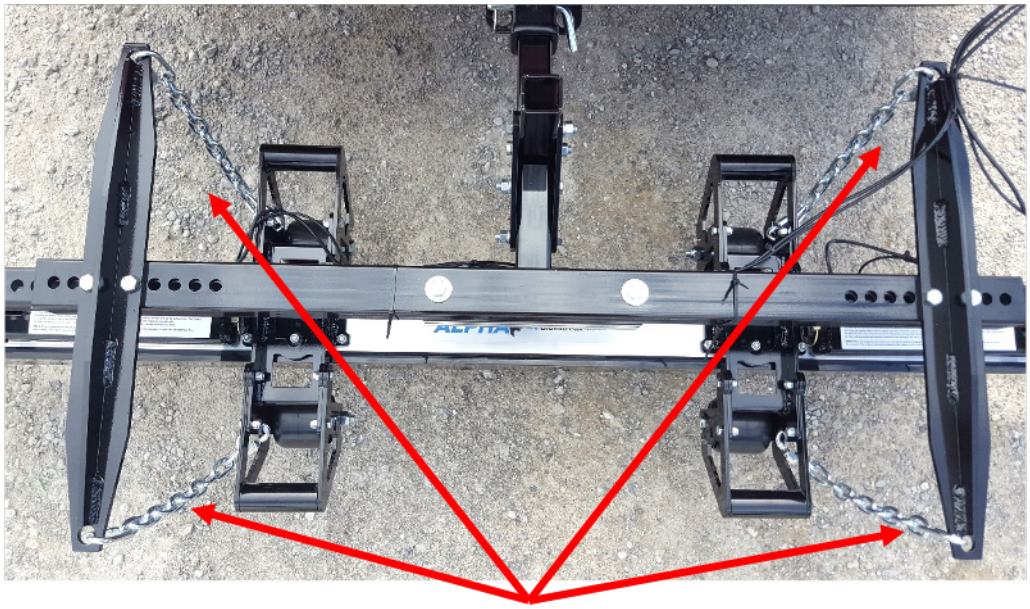
Press the up button on the remote and lift the sweeper until it is an inch or so from contacting anything above it.

Installation

Upward travel limit adjustment and chain installation



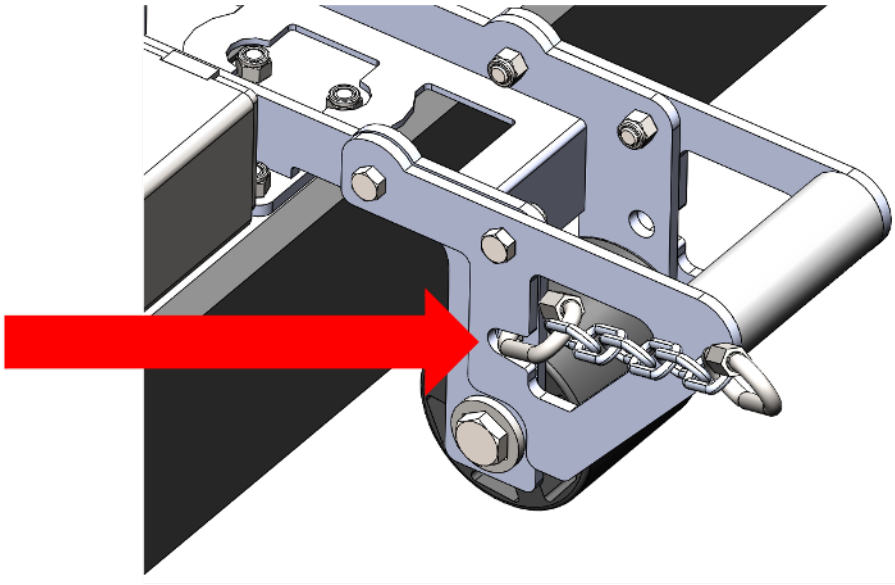
When you have reached the upward position you are satisfied with, slide the contact limit block inwards towards the center of the sweeper (all the way over until you hear the limit block contact the limit switch) and tighten the bolt with a 7/16" wrench. Repeat for opposite side. You have now set the upward travel limit.



Connect the 4x hanging chains with 8x quick links provided as shown above. The chains must go from the outside of each outrigger to the inside of the appropriate hanging point above it.

Installation

Chain Installation Detail



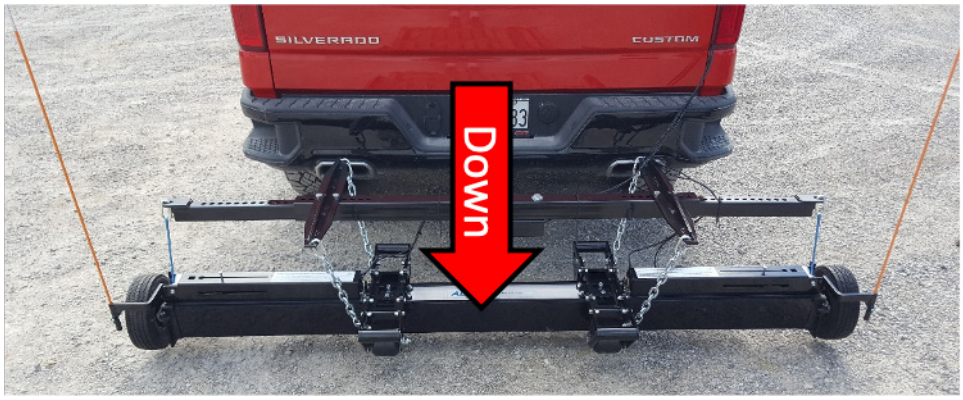
Connect the lower end of the chain in the hole location on the outside of each outrigger as shown above.



Connect the upper end of the chain as shown, so it is on the inside of the upper connection points.

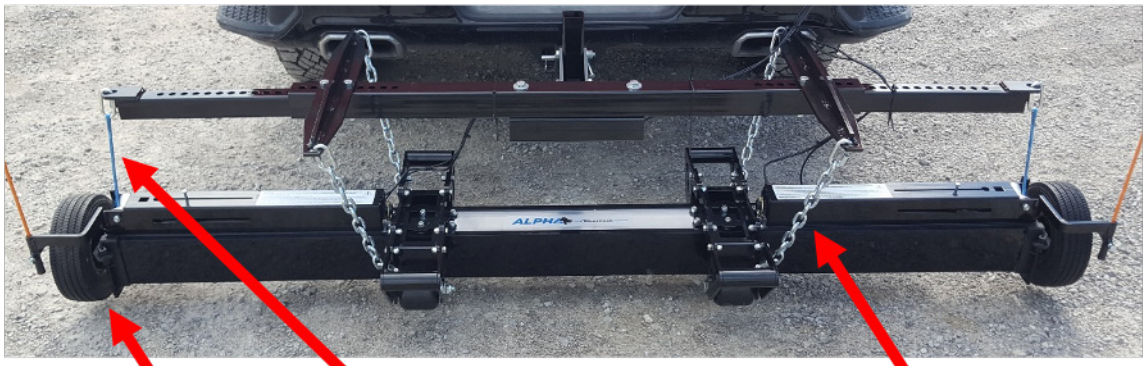
Installation

Set up chain lengths



Press the down button on the remote until the chains are tight.

The wheels on the end of the sweeper should be approx. 1/2" off of the ground when the sweeper is in the down most position (chains tight), and no load is on the blue ropes. This is the sweeping position. If the sweeper is touching the ground, adjust the length of the chains by moving the quick link on each chain the same amount at the top (hanging bracket). Don't adjust the chains at the bottom on the outriggers. Refer to the hanging bracket assembly instructions (if purchased) for additional sweeping height adjustment fine tuning methods.



A) Slack on Blue Ropes

B) All 4 chains Tight

C) ½" Clearance Under Wheels

In Sweeping Position A, B and C must be as indicated above.

Installation

Trouble Shooting

Problem	Possible Solutions (in order)
Sweeper does not raise/lower	Check Remote batteries
	Check electrical connections
	Disconnect battery wires, wait 10 seconds and reconnect
	Make sure all wires are connected (unit will not operate if a single wire is disconnected)
Sweeper will not lift high enough	Check to see if you are contacting limit switch, adjust limit switch contact block accordingly as per sticker on top of actuator housing.

Note: The wiring harness for the Alpha comes assembled (packed into a cardboard box with the sweeper.) The diagram on the following page is to aid in replacing parts, or if you have taken the harness apart and need a reference to put it together again. The respective parts are labeled as they are available for purchase from Bluestreak.

Note when you connect to a battery the remote takes about 10 seconds before it will respond to a button pressing.

DO NOT REVERSE BATTERY WIRES! Reversing the polarity of the battery leads will damage controls.

Installation

Wiring Harness Diagram

