

Assembly Instructions

**Aardvark Series**



**Bluestreakequipment**
The world's best magnetic cleaning equipment

Bluestreak Equipment
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Ontario, Canada
N4B2W6

1. Removing the Aardvark from the shipping pallet / container

- 1) Remove the wooden sides from the pallet / container
- 2) Remove the strapping
- 3) Remove the two wheels, rear swing arm assembly, top link, the flags, lug nuts, 2 inch ball coupler assembly, trailer jack and the hitch assembly from around the unit and remove the packaging from each.

See **picture 1** for some of the items included with the main trailer body.

(Excluded from the picture are the; rear swing arm assembly, and top link)

(The main body of the unit will now be sitting on pallet exposed.)



PICTURE #1

- 4) Install the rear swing arm assembly as shown in **picture 2**. Note the orientation of the assembly so that the connection to the top link is facing up.

- a) Move the assembly into place so that notches on the assembly go between the notches on the main body of the sweeper.

CAUTION: There will be a strong magnetic pull and pinching hazard, keep fingers clear when moving assembly into place.

- b) Place the gold pins into the two outer connection points first
- c) Place the gold pin into the middle connection point next
- d) Insert the top link into the connection on the main body of the sweeper
- e) Extend the top link connection to enable connection to the swing arm assembly

The swing arm assembly is now complete



PICTURE #2

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5) Install the hitch assembly

a) Slide the hitch assembly into the receiver and use the pin provided to secure it as shown in **picture 3**.



PICTURE #3

b) Slide the 2 inch ball coupler onto the hitch assembly and use the pin provided to secure it as shown in **picture 4**.



PICTURE #4

c) Move the trailer jack into the down position to keep the hitch off the ground as shown in **picture 5**. This may require that the top link be adjusted to lower the rear of the sweeper.



PICTURE #5


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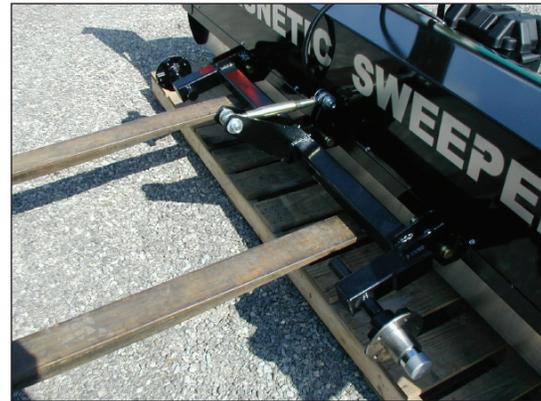
d) Install the safety flags as shown in **picture 6**.



PICTURE #6

6) Install the wheels

- a) Adjust the top link to raise the rear swing arm assembly such that the wheels can be put on the sweeper.
- b) If more room is needed to install the wheels then lift the back end of the magnetic sweeper by the swing arm assembly using either a jack or forklift to enable installation of the wheels as shown in **picture 7**.
- c) Put the wheels on and tighten lug nuts to 75-85 ft.lbs as shown in **picture 8**.



PICTURE #7

7) Move the sweeper off the shipping pallet / container.

CAUTION: The tongue weight on the Aardvark is 260lbs and should not be lifted by a person.

- a) Raise the sweeper as high as it will go using the top link and the trailer jack
- b) The sweeper should now not be touching the shipping pallet enabling the pallet to be pulled out from under it.
- c) Pull the shipping pallet out from underneath the Aardvark magnetic sweeper.



PICTURE #8

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2. Purchasing A Battery

A battery is not included with the Aardvark magnetic sweeper. A battery is considered dangerous goods when shipped therefore Bluestreak does not ship the Aardvark with a battery included. Therefore you will have to purchase and install a deep cycle battery.

A deep cycle battery is needed to operate the Aardvark clean off mechanism.

We recommend a battery size approximately 800 marine cranking amps, 105 amp hours, 185 minutes reserve capacity.

Battery Capacity (Ah)	Allowable DOD (%)	Number of Cycles
105.00	25.00%	176.27
95.00	25.00%	159.48
85.00	25.00%	142.69
75.00	25.00%	125.90
65.00	25.00%	109.12
55.00	25.00%	92.33
45.00	25.00%	75.54
35.00	25.00%	58.76

(Table 1)

← Recommended Battery

The recommended battery has a capacity of 105 Amp hours (Ah) and can cycle the winch to clean the magnet off 176 times before the battery depth of discharge (DOD) reaches 25% (75% capacity remaining).

Answers to Common Questions About Purchasing a Battery.

1. You recommend a deep cycle marine battery, but does it need to be a deep cycle marine battery?

The amount of battery discharge (in percent) compared to its full capacity determines the need for a shallow, moderate or deep cycle. This is appropriately called battery depth of discharge (DOD) and is measured in percentages.

A deep cycle battery is best in this application because in the course of using the Aardvark during a day, you will likely clean of the magnet multiple times before charging the battery again and this could cause the depth of discharge to be greater in the battery.

A regular battery (not deep cycle) like a car battery is not designed to provide continuous Amps over longer periods, it's designed to provide instantaneous Amps but not sustained. A regular battery is designed just to start the car quick and just once and then it gets charged up again, and hence the depth of discharge of a car battery is much lower.

You could use a regular car battery but be aware, deep cycling regular batteries will greatly shorten their useful life. Therefore we recommend you purchase a deep cycle battery. We also recommend getting a larger deep cycle battery to ensure the battery depth of discharge is kept to a minimum.

2. What size battery do we need, how many (minimum) amps(A) and amp hours (Ah) and what voltage (V) output?

It must be 12 Volt because the winch inside the Aardvark is a 12 Volt winch. The 4700 lb winch inside the Aardvark is rated at 280 Amps at full capacity, therefore it could at its capacity draw 280 Amps. Therefore you need a battery with at least this many Amps, but remember the smaller the battery, the greater the depth of discharge may be between charges, and this can reduce battery life. Therefore the battery we use has 800 Amps, and 105 Amp hours (see below).

The reason we use this bigger battery is because generally as the size of the battery increases, the number of Ah (Amp hours) increases and the greater the number of Amp hours, the greater the number of times the battery will be able to operate the winch up and down without deep discharging the battery.

We always suggest hooking up the battery charger to the battery at the end of every day, so it's fully charged the next morning.

We suggest reading Interstate batteries information on "Marine/RV Battery Maintenance" at this link to understand more about batteries and to find a battery and



2. (Cont.) Purchasing a Battery

dealer near you. http://interstatebatteries.ca/wp-content/uploads/2013/07/Marine-RV_DeepCycleBooklet_PN200004_Printable.pdf

The document is also available on Bluestreak Equipment's Aardvark web page for download.

3. What size/type of battery do you recommend?

The battery we use for testing Aardvark products during manufacturing is below, however other brands are also suitable such as Interstate deep cycle marine batteries.

Features:

- MotoMaster Nautilus Group 31 Deep Cycle Battery is a premium deep cycle battery
- Engineered for power, stamina and reliability
- Provides extended runtime for “house” accessories such as trolling motors, refrigerators and electronics
- Group size 31
- 800 marine cranking amps, 105 amp hours, 185 minutes reserve capacity
- Dimensions are 13”L x 6.75”W x 9.3”H (33x17.1x23.6cm)



4. Does the magnetic sweeper have automatic charging like a car for the battery?

The Aardvark magnetic sweeper has no motor to automatically charge the battery, so you have to charge the battery via a battery charger. Here is information on the battery charger we use. We recommend charging the battery in the Aardvark at the end of each day or when you have cycled the clean off mechanism the “Number of Cycles” as indicated in Table 1, whichever comes first.

Features:

- MotoMaster 10/2A Automatic Battery Charger has a time tested transformer based design which delivers a constant rate of charge
- 10A fast charge and 2A slow charge rates
- Automatically shuts off when charging is complete
- Suitable for all 12V conventional, deep cycle and AGM batteries
- 6’(1.8m) power cord and output cables for up to 12’(3.7m) of reach

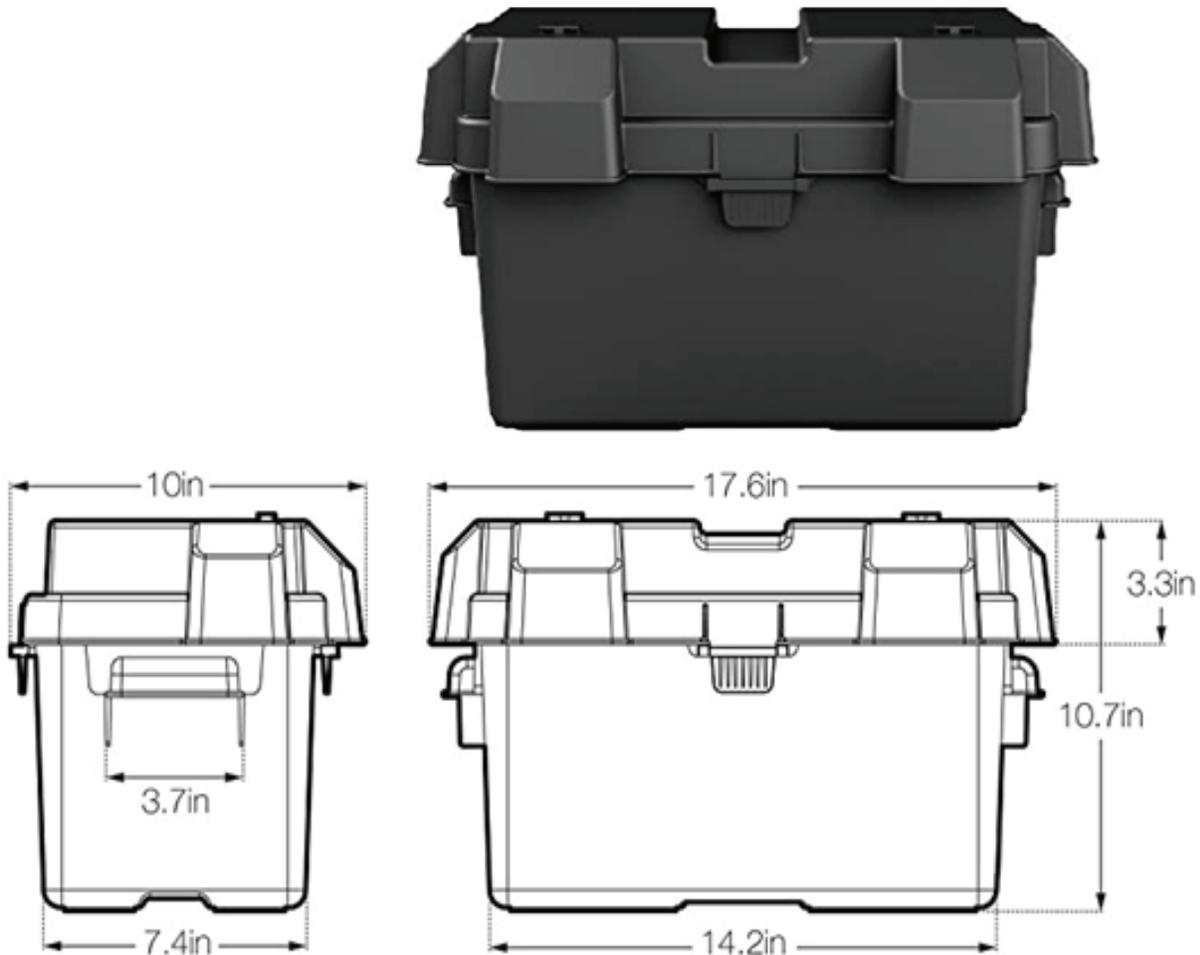


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2. (Cont.) Purchasing a Battery

5. What are the battery box dimensions inside?

When you put the lid on the battery box, the maximum dimensions inside are 14.2" L x 7.4" W x 10.7" H. This is the maximum size battery that the battery box can accommodate.



6. I can't find the buckle/strap to hold the lid on the battery box and to keep the battery box on the Aardvark?

There is a black strap with buckle that comes with the battery box designed to hold the battery box on, you probably just didn't see it, it is taped to the inside bottom of the battery box.

7. Why don't you have the battery included?

Because shipping a battery would be considered dangerous goods and would increase shipping costs, therefore it is not included in the price of the product. It is also easy to acquire a battery locally.

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3. Installing the battery into the Aardvark magnetic sweeper

Put the battery into the plastic battery box on the magnetic sweeper but leave the lid off for right now.

You will notice two wires with connection points, one red (positive) and one black (negative).

Connect these wires to the corresponding terminals on the battery as shown in **picture 9**. The red positive wire connects to the positive battery terminal and the black negative wire to the negative battery terminal.

Position the wires so that they will run out of the openings on the lid as shown in **picture 10**. Then put the battery box lid on and strap it down with the strap provided.

Ensure that the battery box strap runs over the top of the battery box lid and under the metal frame of the battery box as shown in **picture 11** so that the battery box cannot fall off the metal frame of the sweeper.



PICTURE #9



PICTURE #10



PICTURE #11

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