

Daay Bin Paddle Sweep

General Information & Frequently Asked Questions

Support Information

- Manual
 - Daay Bin Paddle Sweep – 687988
 - Collector Ring – 688489
 - Daay Bin Paddle Sweep – 686279 (Generation I)
 - Extrac Dual Paddle Sweep - 693285
- Custom Order Structure

General Information

- The sweep is not intended for non-grain applications such as fertilizers, lime, and salts. It is used only for DRY-flowable grains.
- Gearboxes come in ratios from 5:1 to 30:1 allowing for capacities between 5,500bu/hr and 1,000 bu/hr (key is to match reclaim speed)
- Sections come in 5ft, 3ft, 1ft & 6” lengths, making it possible to customize to non-normal bin sizes. (1’ extension kits are available) Paddle chain length will need to be altered.
- Steel bin applications have a maximum of 105’ diameter and a 92’ eave height, concrete silo applications may not exceed 60’ diameter & 120’ in grain depth – different diameters, wall types, and wall height combinations create different types of pressures on sweeps.
- The signing of a waiver for bins over 72’ diameter is required prior to purchase (some bins don’t have the proper anchoring system to be swept in one pass)
- All sweeps require a 3 phase power supply and a primary sump size of at least 12” x 12” – Sioux also sells a 42” x 42” and 34” x 34” center sump for use with Daay Paddle sweeps and collector rings.
- Sump options include:
 - A sweep equipped with a high flow head section is needed on any sump opening that is larger than 34” x 34”. This is to keep the caster wheels on the foundation/floor around the sump without falling into the sump.
 - A sweep equipped with a standard head section is used on any sump opening that is 34” x 34” or less.
- The sweep housing is constructed out of 10 gauge steel.
- Both the commercial and farm sweeps require support under the stands, jacks, casters and drive wheels for full aeration floors. This is needed to keep the sweep from pushing into the floor during burial.
- Collector ring assemblies (allows wiring to be ran through the sump) are available – bulk of the cost is in the rotary contact unit (does not come with wiring, switches, or panels for the outside) – keeps wires from twisting around machine and makes the sweep explosion proof safe from hazardous sparks.

- A VFD option can be added to the sweep, but it is recommended that it not be run at less than 75% of the standard capacity (the cooling fan cannot keep the motor cool during hot ambient temperatures).
- In order to quote a sweep, the following information needs to be obtained
 - bin diameter
 - eave height
 - capacity of the unload
 - sump dimensions
 - type of floor (full or flush).
- Design of sweep allows for bin entry through doorways as small as 20", but it is recommended that the door size be 24" x 24" minimum
- The sweep needs to be stationed behind the intermediate sumps before filling the bin (sweep operates clockwise) – don't lift the sweep with the floor jacks, just extend them to make contact with the floor.
- To operate, start by adjusting the paddle chain – bolts on each side of the sweep should be tightened or loosened so that they have the same distance, this will keep the sweep running straight.
- Check to make sure the rubber/drag strip is at floor height along the entire length of the machine and there is distance available between the drive end section and the outer wall (length adjustments are done at the pivot center)
- The Daay Bin Paddle Sweep is categorized as a self-driven, one-pass sweep, but in reality it takes two to three passes to completely empty/clean the bin, as grain often will spill over the sweep or be lodged within inside stiffeners. Most common on large bins.
- Foam filled tires & weighting are used for extra traction in the bin and to keep the sweep level during operation.
- Some bins, based on their anchoring system move over time and are not an even circle around the diameter, so the sweep will need to be adjusted to the shortest length from the center.
- While operating, the grain needs to be removed faster than the sweep delivers it to the primary sump – if the grain is piling up, then the gearbox needs to be switched to a higher ratio.
- Before each operation, grease should be added to the grease zerks, oil should be checked in the gearboxes, and the paddle sweep chain should be checked for tightening or loosening. This may not be needed due to the low usage of the sweep.

Frequently Asked Questions

Q. How do I get the sweep into my bin?

A. The sweep is brought in through the man way and assembled in the bin. Your man way opening must be at least 22" in diameter for this to work. If your man way is big enough you may be able to assemble the sweep outside or in your shop and then insert the completed unit. This would require a loader, telehandler, or, a number of hands to accomplish.

Q. Do you have any information on sump capacity?

A. We do have calculations on center sump capacities. However, there are many different variables in the market. Your best bet is to contact the person or company that erected your bin and ask them what the center sump was designed for (Bushel per Hour Run Through).

Q. Does the bin have to be empty to get the sweep inside?

A. No. However, one needs about a 4' to 6' area from the outer wall to the center to work with. Preferably to the left of the sumps. The current sweep should be removed prior to installing the new Daay Bin Paddle Sweep.

Q. Can I move the sweep from bin to bin?

A. Yes. This is possible. Limiting factors are size of man way and size of sweep. The sweeps are built with 10 gauge steel and are heavy. Some companies use an overhead track system. Other companies have man ways large enough to walk in a number of employees and move it from commercial bin to commercial bin with manpower.

Q. Does it run on an air floor?

A. Yes. The sweep can run on air floors or false floors. One has to be careful when setting the sweep for burial so a plate or piece of plywood can be placed under every lift jack so one does not crease the floor. Also, there are a couple leading and trailing edge metal caster wheels that may also crease a false floor. Most run a small metal track under the caster wheels to avoid creasing.

Q. Does it really clean the bin floor that well?

A. On the first pass around your bin you may experience some spill over the top. If you have inside stiffeners there may be grain left between them. The sweep also has no vacuum on it so we can't suck grain and grain dust out of aeration grates. If you run the sweep around twice it will literally pick up 99% of the grain in the bin. In most cases it appears as if the floor has been swept.

Q. What is the life expectancy of the paddles?

A. Customers have sweeps that have been running in bins since 2010. Some of these sweeps get used on average of a 100 hours/year. To date they have shown little wear. Please keep in mind that there are several variables that determine the wear on the paddles. How often you sweep your bin and what condition the floors are in. Sharp metal objects and edges will cause damage or premature wear to the paddles.

The paddles are reinforced, fiber filled, rubber that are pliable, yet so tough they need to be laser cut to size.

Q. Do the paddles bolt onto the chain?

A. Yes.

Q. Can we get replacement paddles?

A. Yes.

Q. How hard is it to take the wheels off?

A. Four lug nuts, just like a trailer wheel. However on the 90' & 105' bin sweeps we use a ratchet drive, which is more complex.

Q. What is the width of the sweep in the different sections? Can I get it through the bin door (what is the standard size of a bin door)?

A. 18" wide. There is no industry standard. We have seen many ways as small as 20" in diameter and some big enough to drive in a skid steer.

Q. How heavy is each 5ft section?

A. Approximately 100 lbs.

Q. Do you have to keep pushing it into the grain like you do a normal sweep?

A. No. The sweep drives itself. One never has to touch it or assist it. If slippage issues happen you can add more miniature tractor weights to each dual set of drive wheels.

Q. How tight do I tighten the paddle chain?

A. Refer to page 3-8 of the Extrac manual for chain tension instructions.

Q. How large a diameter of a silo can I put a sweep into?

A. 120' of grain depth = 60' diameter.

B. 92' eave height = 105' diameter

Q. How high of a container can I bury the sweep in?

A. Grain Bin 92' to the eave; Silo 120' of grain depth

Q. When do I need a high flow head section sweep?

A. When your center sump is larger than 34" x 34"

Q. What are the sweep capacities?

A. Max theoretical sweep capacities/gearbox ratio

5:1 = 5500bu/hr

7.5:1 = 4000bu/hr

10:1 = 3000bu/hr

15:1 = 2000bu/hr

20:1 = 1500bu/hr

30:1 = 1000bu/hr

Q. Do I need to put a steel wheel caster on the motor/gearbox?

A. Yes. The rear caster that is installed on the head section needs to be removed and placed on the gearbox to offer balance and support to the motor/gearbox. Without it the sweep can become unbalanced and expose the paddle chain to more grain causing it to trip out the motor or cause the motor to overheat.

Q. Can I just add gear lub to the Grove gearboxes (used on the 66' to 105' bin sweeps)?

A. No. Adding regular synthetic gear lub to the Glygoyle 460 oil is not recommended, and will void the warranty. The oil provided does not mix together with other synthetic oils. The Glygoyle oil is used to achieve higher loads on the gearbox. The Glygoyle oil is available thru Koyker/Sioux Steel in quarts.

Q. What do I look for if the motor is running and gearbox is turning, but the sweep chain is not moving?

A. *Is the key installed into the keyway? Is the motor/gearbox on the head shaft? Sometimes the set screws are loose the motor/gearbox slides partially off the head shaft.*