

OWNER'S MANUAL



Grain Flow Bin Sweep Manual

DAVID MANUFACTURING CO.

1600 12th Street N.E., Mason City, Iowa USA 50401

641-424-7010

SAFETY GUIDELINES

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below.

Please read the manual and pay attention to these sections. Failure to read this manual and it's safety instructions is a misuse of the equipment and may lead to serious injury or death.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.



NOTE indicates information about the equipment that you should pay special attention to.

WARRANTY
for
Grain Flow Sweep

The guarantee is for one year from date of installation to be free of defects in material or workmanship when properly installed and operated in accordance with instructions in this booklet. Warranted parts will be exchanged F.O.B. Mason City, Iowa without charge to the user. Damage resulting from negligence voids the warranty. Warranty does not include labor, installation or delivery of replacement parts.

Electric motors are covered by the warranties of the respective manufacturers. Electric service centers are located in all regions. Consult your dealer.

The Warranty and liability of David Manufacturing Company, its distributors, dealers and agents is limited to replacement, without charge, of defective parts, as outlined above. DMC makes no other warranties, express or implied except as stated herein, and disclaims all obligations and liabilities other than specified.

The Manufacturer reserves the right to make changes in specifications or prices without incurring obligation on previously produced merchandise.

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THE DECALS SHOWN ON THIS PAGE MUST BE DISPLAYED AS SHOWN

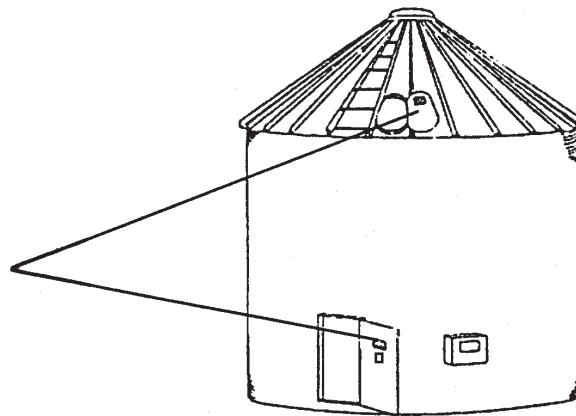
Replacements are available upon request. Write to the following address:
David Manufacturing Company, 1600 12th Street NE, Mason City, Iowa 50401 USA
Phone: 641-424-7010

- Please note:
1. The decals on this page are not actual size.
 2. Keep all decals wiped clean at all times.
 3. All decals must be replaced if they are destroyed, missing, painted over or can no longer be read.

*These decals are provided in the Owner's Manual Packet.
Place on the bin during Intallation.*



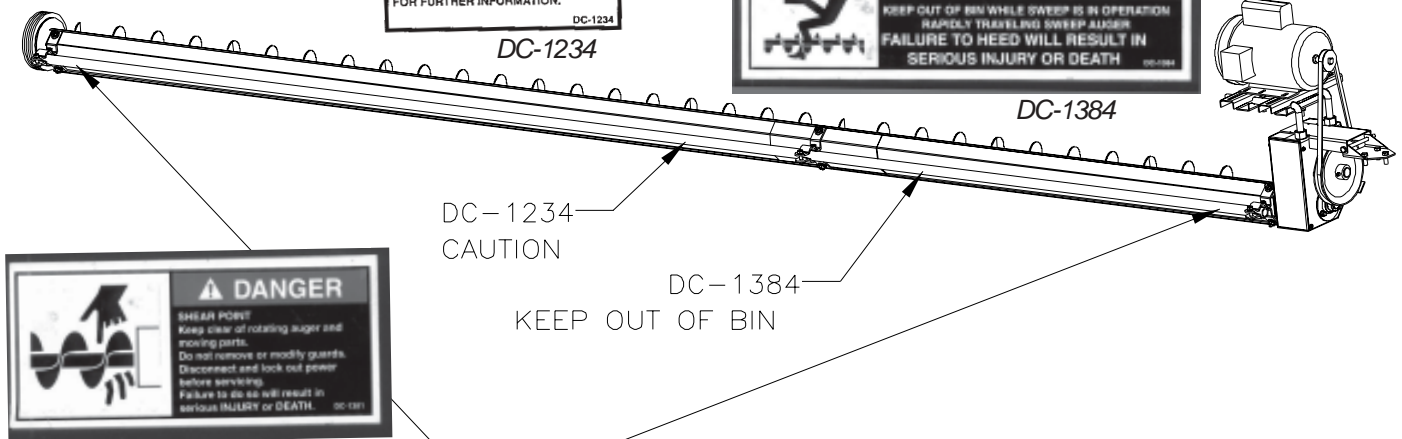
DC-471



DC-1234



DC-1384



DC-1234
CAUTION

DC-1384

KEEP OUT OF BIN



DC-1381

DC-1381
AUGER DANGER



DANGER



Rotating flighting can
kill or dismember.



Flowing material can
trap and suffocate.



Crusted material can
collapse and suffocate.

Keep clear of all augers. DO NOT ENTER this bin!

If you must enter this bin:

1. Shut off and lock out all power.
2. Use safety harness and safety line.
3. Station another person outside the bin.
4. Avoid the center of the bin.
5. Wear proper breathing equipment or respirator.

Failure to heed these warnings will result in serious injury or death

DC-552

GRAIN BIN SAFETY

The Grain Flow Bin Sweep is used to remove grain from grain bins.

Be aware of the dangers inherent in grain bins.



DO NOT ENTER A GRAIN BIN UNLESS POWER IS LOCKED OUT TO ALL BIN EQUIPMENT.

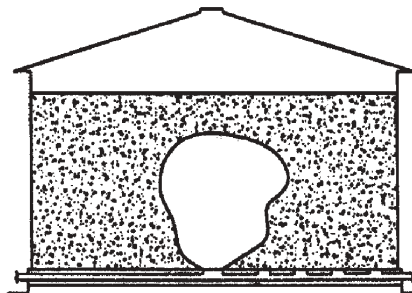
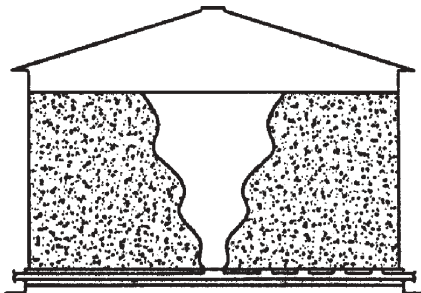


! DANGER

DO NOT ENTER A GRAIN BIN WHILE GRAIN IS BEING REMOVED. FLOWING GRAIN CAN TRAP, BURY AND CAUSE SUFFOCATION.

! DANGER

DO NOT ENTER A GRAIN BIN IF THE GRAIN HAS BRIDGED OR STOPPED FLOWING NORMALLY. THE GRAIN CAN COLLAPSE WITHOUT WARNING AND CAN TRAP, BURY AND CAUSE SUFFOCATION.



GRAIN FLOW SWEEP

The Grain Flow Sweep is intended to assist in the removal of the layer of grain that is left after the Grain Flow floor augers have removed as much grain as possible.

DANGER

It is extremely dangerous to clean the floor of a Grain Flow drying bin because of the temptation to enter the bin and manually sweep the floor while the floor augers are running. They appear to move very slowly around the bin but the drive wheels can gain traction unexpectedly and revolve the floor augers at a rate that makes them impossible to avoid. Very serious accidents and deaths have occurred to people who have been caught in the floor augers.

The Grain Flow Sweep provides a way to clean the floor of a Grain Flow drying bin. It is designed to pivot from the top of the Grain Flow gearbox and run on the outer circle of wear plates. The floor augers do not need to be removed from the gearbox, **but must be disengaged.**

No person should ever be in the bin with the floor augers running!

ELECTRIC MOTOR DRIVE

DANGER

Use a 1 hp motor with a 2-¼ diameter “A” groove motor pulley to drive the Grain Flow Sweep at 525 rpm.

(Note: Motors driven with 50 Hz power will turn the sweep at 435 rpm).

OPERATION

Let the Grain Flow floor augers run until they have removed as much grain as possible.

DANGER

1. Always Shut down all power to the grain flow and disengage the floor augers before entering the bin.
2. Remove the hood from the top of the grain flow gearbox. Note: Do not remove the floor augers.
3. Carry the assembled sweep into the bin and attach the pivot plate to the top of the gearbox with (3) 3/8 x 1" long bolts.
4. Check the clearance under the flighting shield and adjust it if necessary to make sure that it will not "hang up" on any screw heads or other floor hardware.
5. Set the motor and adjustment rod assembly onto the drive assembly of the sweep. Place the AX 48 drive belt on the drive and motor sheaves. Adjust the belt tension by turning the nuts on the adjustment rods.
6. Make sure that the power cord to the drive motor will not become entangled in the augers.
7. Plug the motor into a switchable power source. Check for correct rotation by switching the motor "On" momentarily from outside the bin. It should turn clockwise when viewing the shaft end.

DANGER

8. **Check the gearbox shift rod and make sure that the floor augers are disengaged.**
9. Open the Grain Flow control box and turn it "ON" in the "manual" position. Only the discharge auger and grain take-away equipment should be running.
10. Open the Grain Flow center slide gate.

DANGER

11. Turn the power "ON" to the sweep motor. The Grain Flow Sweep will advance around the bin until it comes up against a floor pinion on the gearbox. When this happens, **turn power off to both the Grain Flow and the sweep**, enter the bin, and physically pull the floor augers ahead from the sweep as much as possible. This may have to be done 3 or 4 times until the sweep has made a complete revolution around the bin floor. There will be some grain remaining on the floor, but this can be swept with a broom if desired.

12. Remove the sweep from the top of the gearbox and replace the hood. Be sure to use the proper mounting hardware (3/8-16 x 1-1/4" long grade 5 bolts with 3/8" lockwashers).

ASSEMBLY



Always disconnect all power sources before entering the bin.

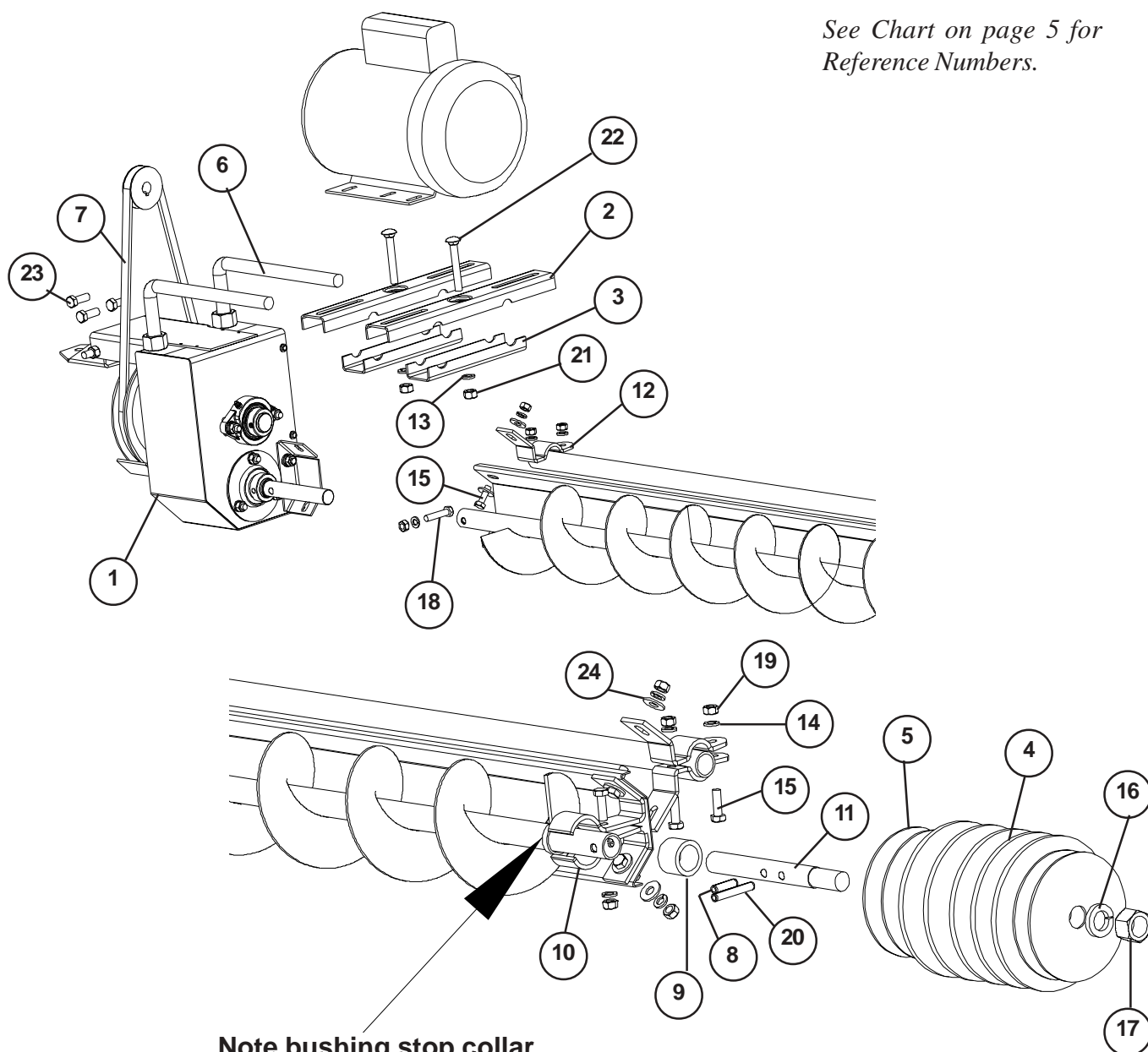
1. Assemble the sweep flighting to the stub shaft of the center housing with a 5/6 x 1-1/2" long bolt. Note that the end of the flighting with the stop collar welded to the shaft should be at the bin wall end. See page 4.
2. Slide the 1.03" ID bronze bushing on the outer end of the flighting shaft until it is up against the stop collar.
3. Assemble the rubber drive wheel shaft to the outer end of the flighting shaft with a 5/16 x 1-1.8" spring pin. Stack 2 steel plates, 5 rubber disks, 2 more steel plates on the end of the shaft and secure with a 3/4" lockwasher and nut.
4. Assemble the back shield with brackets and clamps using the exploded parts drawing as a reference. Make sure that each bronze bushing is held in place with the clamps. See page 4.
5. Use the exploded parts drawing to assemble the motor mounting brackets and rods. Align the AX-48 drive belt by adjusting the position of the motor and 2-1/4" dia. drive pulley. Note that hardware for assembling the motor to the mounting brackets is not included.
6. After the assembly is complete, remove the drive belt and lift the motor assembly from the drive housing to reduce the weight of the sweep assembly. This will make it easier to carry the unit into the bin.

MAINTENANCE

1. Remove the back cover of the drive housing and lubricate the roller chain with pray lubricant at the beginning of each season.
2. Grease the bearings in the drive housing at the beginning of each season.

PARTS LISTING

*See Chart on page 5 for
Reference Numbers.*



PARTS LISTING

Ref #	Part #	Description
1	6024165	Power Head - Bin Sweep
2	GK1063	Motor Mount Top Strap 6" - 8"
3	GK1064	Motor Mount Btm Strap 6"- 8"
4	GK1067	6" Rubber Disc O.D.
5	GK1076	Disc Sweep x 5" Dia.
6	GK1239	Rod Motor Mount
7	PTO484	Belt-V, (Cogged) AX36
8	3FH0941	Pin - Spring, Plain 5/16" x 1-1/8"
9	GK1070	Bushing Bronze 1.37 x 1.003 ID x 1"
10	GK1074	Bracket Bearing Clamp
11	GK1077	Stub: Wheel Shaft 6" & 8"
12	GK1078	Clamp Torque Tube
13	S-1054	3/8" Split Lock Washer Zinc
14	S-1147	5/16" Split Lock Washer Zinc
15	S-1196	5/16"x1" HHCS Bolt Zinc Grade 5
16	S-233	3/4" Split Lock Washer Med Zinc
17	S-234	3/4"-10 Hex Nut Zinc Grade 5
18	S-2741	5/16"-18 x 1-1/2" Zinc Grade 5 HHCS Bolt
19	S-396	5/16"-18 Grade 2 Hex Nut Zinc YDP
20	S-4377	5/16" x 2" Grooved Pin Spring
21	S-456	3/8"-16 Hex Nut Zinc YDP Grade 5
22	S-6995	3/8-16 x 2-1/2" Carriage Bolt Zinc Grade 5
23	S-7520	3/8"-16 x 1" HHCS Bolt Zinc Grade 2
24	S-845	5/16" USS Zinc YDP Flat Washer

TROUBLE SHOOTING

1. Drive Motor is Overloaded

- a. Check to make sure that the Grain Flow center slide gate is open.
- b. A one horsepower motor is recommended when the floor augers have removed as much grain as possible. A larger motor may be needed if the sweep is placed in the bin with deeper amounts of grain.

2. The sweep does not move around the bin

- a. The flighting shield needs to be adjusted to clear the screw heads and other hardware used to anchor the Grain Flow wear plates.
- b. The rubber drive wheel may be worn to point that it will not drive the sweep. Replace if necessary.



Grain Flow Bin Sweep Owner's Manual

DMC markets across the U.S. and around the world.

For more information, contact the DMC Distribution Center nearest you.

**DMC's Corporate Headquarters, Factory
and North Central Sales Center**

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