

# **OWNER'S MANUAL**



## **GRAVITY FLOW GRAIN SPREADERS**

**MODELS  
3050 AND 10,000**

**DAVID MANUFACTURING CO.**

**1600 12th Street N.E., Mason City, Iowa USA 50401 641-424-7010**

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## **WARRANTY for GRAVITY FLOW GRAIN SPREADER**

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. Damage resulting from negligence voids the warranty. Warranty does not include labor, installation or delivery of replacement parts.

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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# CAUTION



1. Be sure electrical power is disconnected prior to entering the bin.
2. Do NOT enter a bin while the unit is operating without proper eye protection.
3. Do NOT attempt to service or adjust the unit from a ladder unless the ladder is secured to another piece of equipment or to the bin. The grain spreader can swing and will not support a ladder.
4. Read and understand the Operator's Manual.

## WARNING

**Failure to follow these instructions may result in personal injury or property damage.**

SPREADING CAPACITIES			
	3050	3050 With Chute Extension and Counterweight	10,000
Dry Grain	15' - 36' Diameter 3000 BPH	15' - 42' Diameter 5000 BPH	36' - 72' Diameter 10,000 BPH
NOT recommended for grain wetter than 16% moisture content.			



## SAFETY INFORMATION PLEASE READ



**WATCH FOR THIS SYMBOL! IT POINTS OUT IMPORTANT  
SAFETY PRECAUTIONS. IT MEANS, "ATTENTION ---- BECOME  
ALERT! YOUR SAFETY IS INVOLVED!"**



It is recommended that you review the entire contents of this manual, paying particular attention to items preceded by this symbol. FAILURE TO HEED THESE INSTRUCTIONS CAN RESULT IN PERSONAL INJURY!

### OPERATOR QUALIFICATIONS



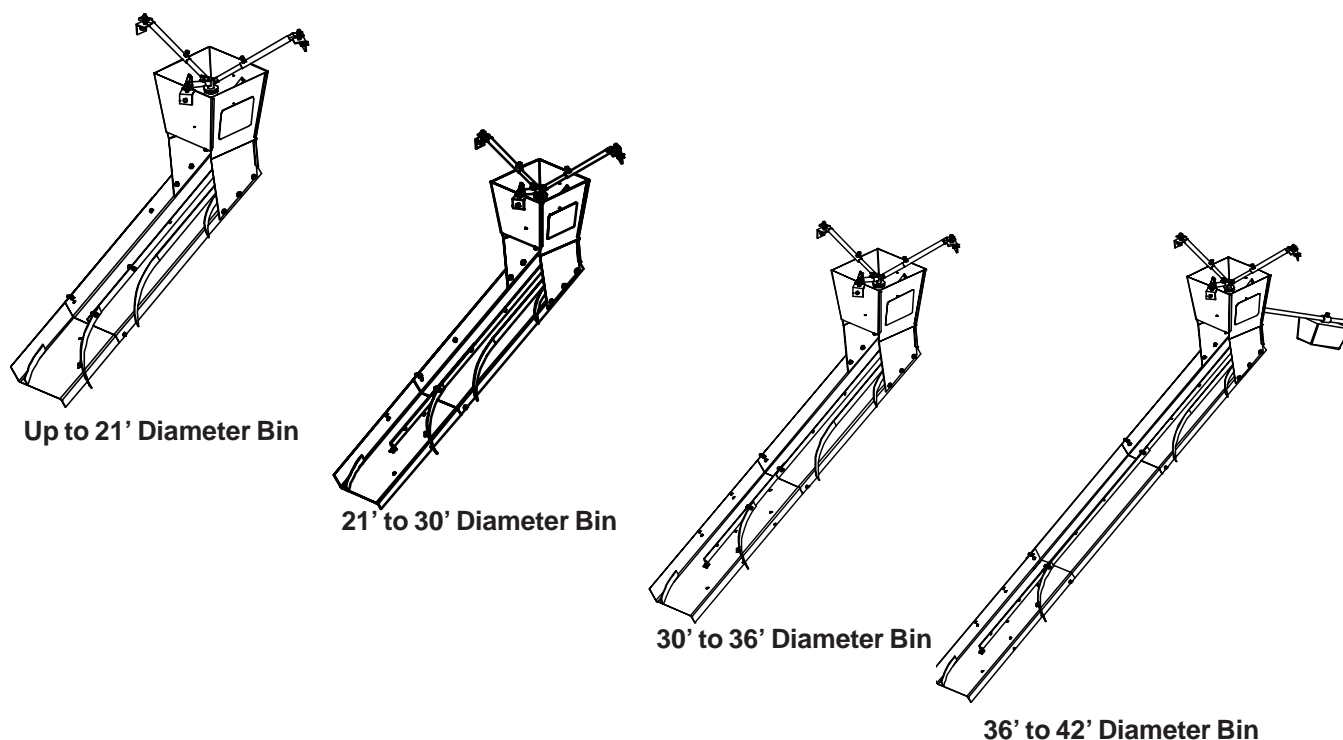
Operation of this farmstead equipment shall be limited to competent and experienced persons. In addition, anyone who will operate or work around power equipment must use good common sense. In order to be qualified, he must also know and meet all other requirements, such as:

1. Some regulations specify that no one under the age of 16 may operate power machinery. This includes farmstead equipment. It is your responsibility to know what these regulations are in your own area or situation.
2. Current OSHA regulations state in part: "At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved."\*
3. Unqualified persons are to stay out the work area. The "Work Area" is defined as any area within the storage bins where this equipment is installed.
4. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine.

\*Federal Occupational Safety & Health Standards for Agriculture Subpart D, Section 1928.57 (a)(6).

**ASSEMBLY of 3050 SPREADERS**

1. Assemble 3071027 Chute to 3071034 Hopper with (6) 3/8" x 1" bolts, lockwashers and nuts.
2. Assemble 3071026 Chute to the end of the first chute with (3) 3/8" x 1" bolts, lockwashers and nuts depending on the size of the bin.
  - a. 21' diameter & smaller - assemble in the shortest position - see below.
  - b. Over 21' thru 30' diameter - assemble in the middle position - see below.
  - c. Over 30' thru 36' diameter - assemble in the longest position - see below.
  - d. The 3050 spreader can be used for bin diameters up to 42' diameter when a chute extension option (3079009) is installed between the first & second chutes. The counter weight option (3079011) must be installed when using the chute extension - see below.
3. Attach the 3071029 Curved Slinger to the bottom at the end of the second chute and to the straightening vane of the first chute (or 3071028 Straight Extension) with (2) 3/8" x 1" bolts, lockwashers and nuts.
4. When the second chute is in the middle or longest position, the 3071028 Straight Extension is assembled to the bottom of the chute with (2) 3/8" x 1" bolts, lockwashers and nuts. This extension is not used when the chute is assembled in the shortest position.
5. **For Model 3050 with Counterweight Options:** Assemble the 3071040 Counter Weight Tube to the back of the hopper with (2) 3/8" x 1" bolts, lockwashers and nuts.



**ASSEMBLY of 3050 SPREADERS** (continued)

6. Assemble the 3071037 Center Spider to the hopper by first placing a 1" flat washer on the center shaft and inserting the shaft through the bearings in the center of the hopper. Place another 1" washer on the bottom of the shaft and secure with the 3FH1224 over-center retaining pin. Pull the center spider back up until the bottom washer is up against the bottom bearing and tighten the setscrews in both the top and bottom bearings.
7. Assemble the (3) 3071039 Telescoping arms to the arms of the center spider, lock in place by inserting a 3/8" x 1" bolt into the weldnut and tightening to the spider arm. The standard arms are 12" long. Telescoping arms 18" long are available in option 3079010 for larger diameter fill rings (36" to 50") and will fit the fill openings from 26" to 40" in diameter.

**AT THE FILL RING OF THE BIN**

8. Drill (3) 13/32" diameter holes equally spaced around the fill ring. Attach the 3071038 Angle Brackets to the fill ring with 3/8" x 1" bolts, flat washers, lockwashers and nuts. Thread a 3/8" nut and a flat washer onto the stud of each of the angle brackets.
9. Attach a lifting cable or rope to the center spider and lift the assembled spreader up to the fill ring of the bin. Loosen each of the telescoping arms and attach them to the studs on the angle brackets; secure with flat washers and 3/8" nuts.
10. **For Model 3050 with Counterweight Options:** When the spreader has been lifted so it clears the floor, slide the 3071042 Counterweight onto the tube and adjust it until the spreader hangs with the chute slightly elevated. Secure in place by tightening the setscrew.
11. Center the spider assembly in the fill ring and lock in place by tightening the 3/8" x 1" bolt in each of the telescoping arms.
12. Level the spreader by turning the nut under the end of each of the telescoping arms. The spreader is level when it does not coast to a low spot. Lock the spreader in position by tightening the 3/8" nuts on top of the ends of the telescoping arms.

**NOTE: THE SPREADER WILL NOT FUNCTION PROPERLY IF IT IS NOT LEVEL.**

## **ASSEMBLY OF THE 10,000 SPREADER**

**(Refer to the exploded views in the parts section)**

1. Assemble the 3072024 Center Shaft & Chute to the bottom of 3072020 Main Chute with (6) 3/8" x 1" bolts, lockwashers and nuts.
2. Attach the 3072013 Counter Weight Support Tube to the back of the main chute with (2) 3/8" x 1" bolts, lockwashers and nuts.
3. Slide the 3072009 Counter Weight Support Channel over the shaft extending out of the center chute and fasten to the bottom of the main chute with (2) 5/16" x 1" carriage bolts, flat washers, lockwashers and nuts. Attach the other end of the channel to the counter weight tube with a 3/8" x 3 1/2" bolt, lockwasher and nut.
4. Assemble (2) PT0140 1 1/4" Bearings with cast housings to the top of the channels in the spreader hopper with (4) 7/16" x 1 1/2" bolts, lockwashers and nuts. Do not tighten the mounting bolts at this time.
5. Slide the hopper and bearings over the center-chute shaft. Make sure to place the bearing-locking collar, rubber washer and steel washer on top of each bearing. Insert the 3FH1224 Snap Over Retaining Pin through the hole in the top of the shaft.
6. Tighten the mounting hardware for the two bearings and lift the hopper up on the shaft as far as possible. Lock the bearings in place by tightening the locking collars in a counter-clockwise direction when viewed from the top of the hopper.
7. Thread a 1/2" nut and flat washer onto each of the three studs on the top of the hopper. Attach a 3072014 Angle Hanger to each stud and secure with a flat washer and 1/2" nut.
8. Build a frame into the top and center of the bin to support the spreader. The outside face of the 3 angle hangers on the hopper form a 21" diameter circle so the frame should be constructed in a triangle to allow the angle hangers to be bolted directly to the frame with (3) 3/8" x 1" bolts, flat washers, lockwashers and nuts. (See Figure 1 on next page.)
9. Attach a lifting cable to the center of the hopper and lift the spreader until it clears the floor. Slide the counter weight onto the tube and adjust its position until it hangs with the chute slightly elevated. Secure in place by tightening the setscrew on the weight. Finish lifting the spreader to the frame constructed in step #8 and bolt into place.
10. Level the spreader by adjusting the bottom 1/2" nuts on each of the studs on the hopper. The spreader is level when it does not coast to a low spot. Lock in position by tightening the top nuts.

**NOTE: THE SPREADER WILL NOT FUNCTION PROPERLY IF IT IS NOT LEVEL.**

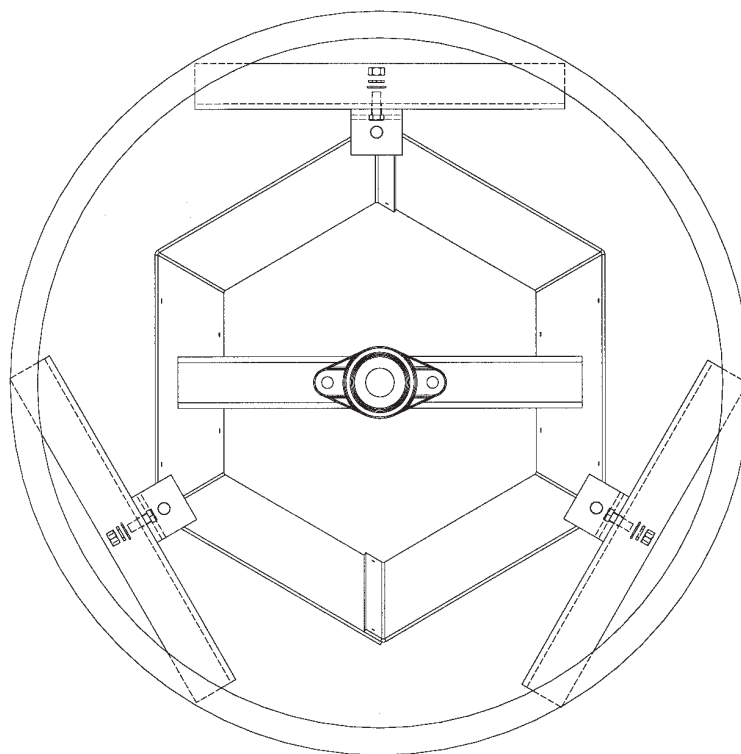


Figure 1 - Model 10,000 Installation

## OPERATION OF SPREADERS

Gravity flow spreaders rotate and spread grain because of the force of the falling grain against the curved vanes in the spreader chute. The minimum flow rate depends on the density and moisture content as well as the velocity of the grain entering the spreader. Grain above 16% moisture and lightweight grains at a low flow rate generally will not generate enough force to rotate the spreader chute properly.

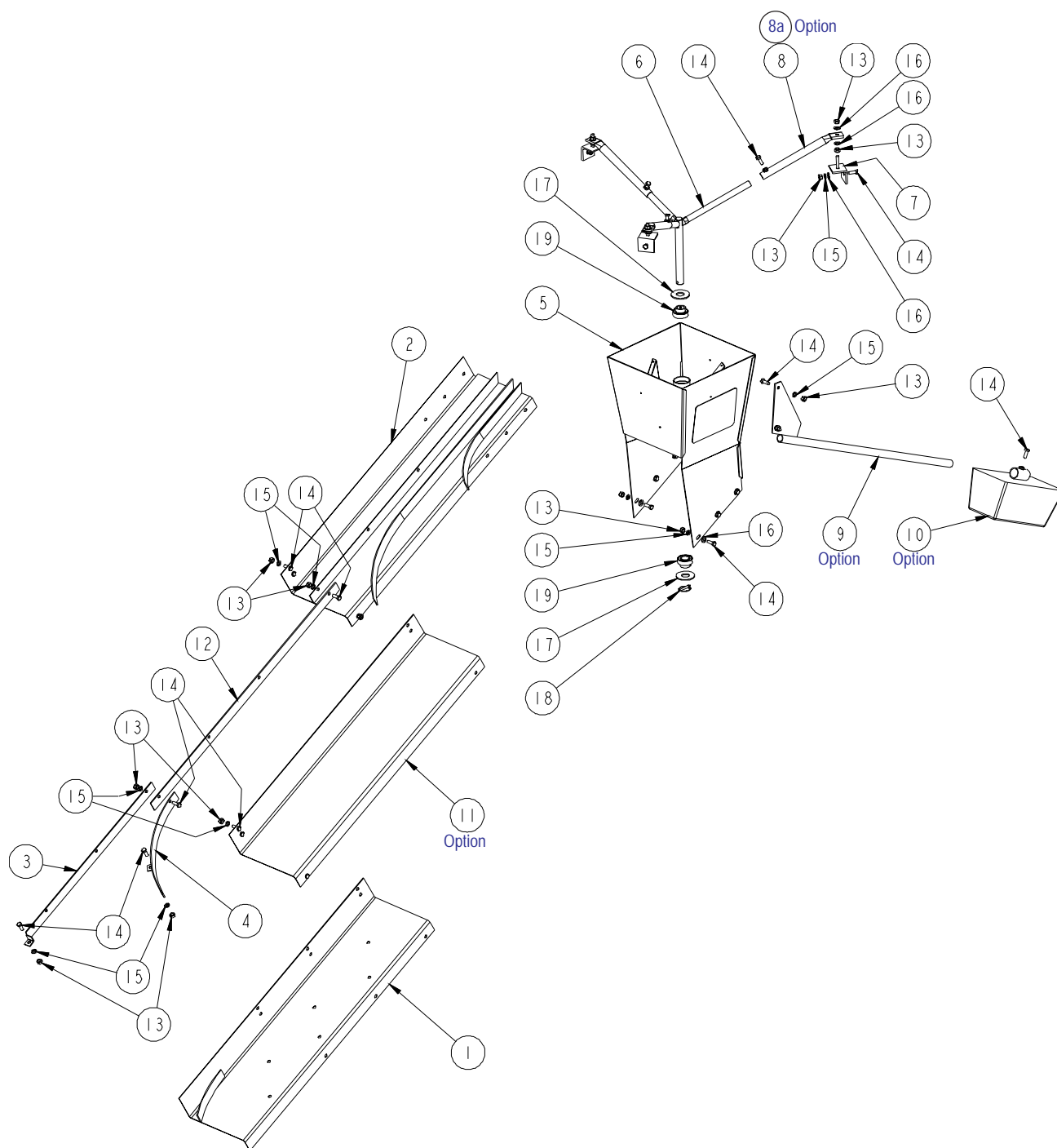
**Uneven distribution of grain** to one side of the bin can be caused by the following conditions:

- a. **Grain is not entering the spreader at the center of the hopper.** Readjust the down spout to direct the grain vertically to the center of the hopper.
- b. **The spreader is not level.** Adjust the hanging brackets until the spreader is level. Check by swinging the chute by hand several times. It should coast to a stop and be pointing in a different direction each time.
- c. **The bearings may be seizing.** Check it by swinging the chute by hand.
- d. **The flow of grain may not be enough to swing the chute uniformly.** Observe the spreader in operation to see if the grain moves the chute.

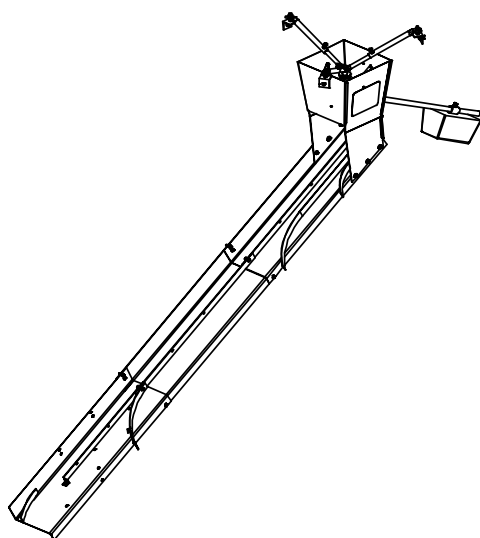
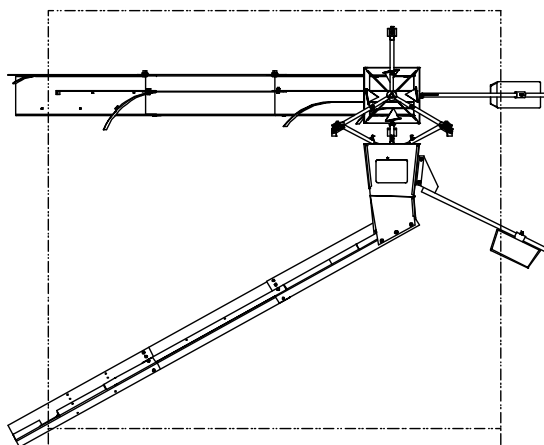


# PARTS SECTION

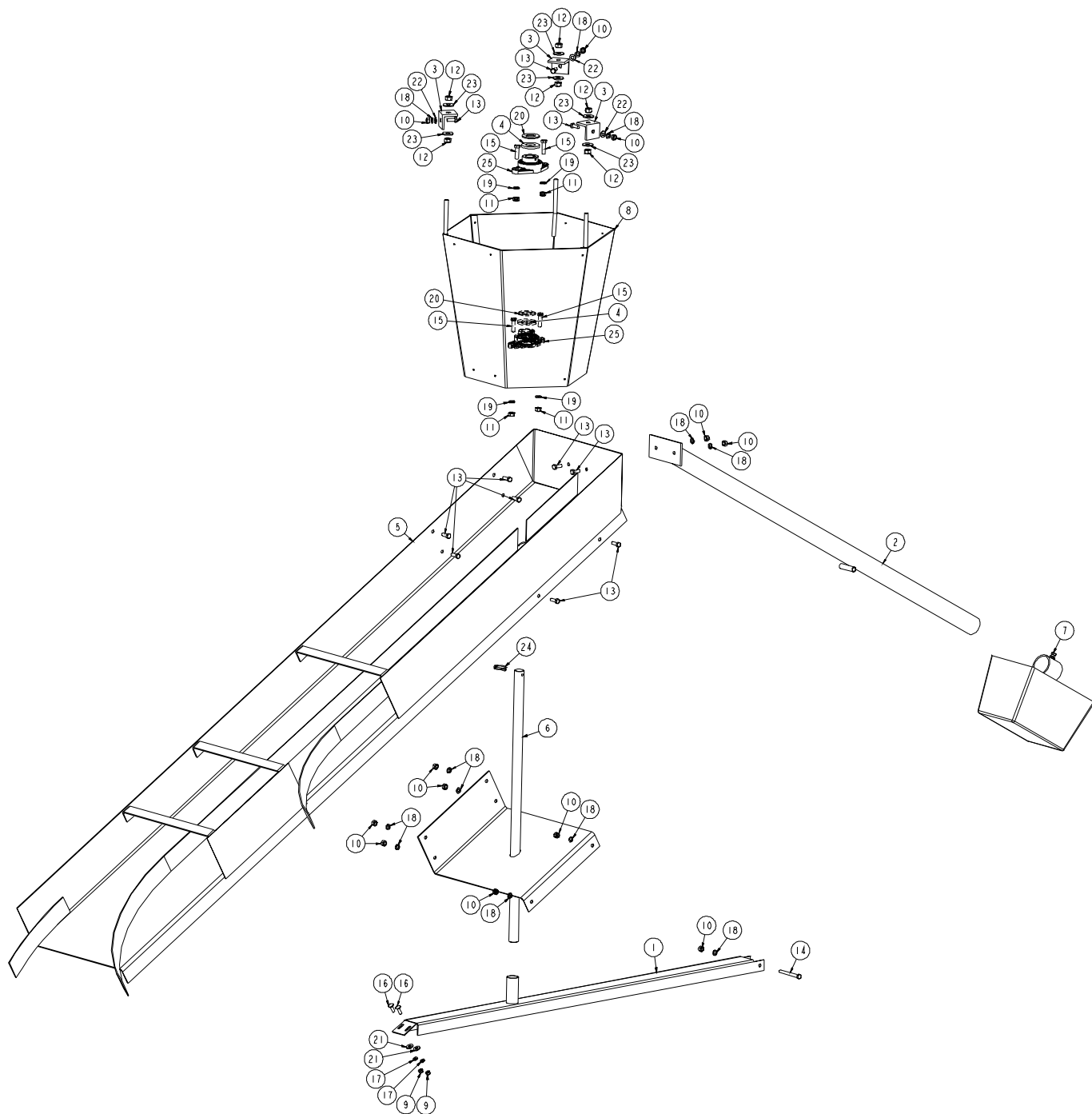
## Model 3050 Parts



Model 3050			
Index	Part #	Description	Qty
1	3071026	Chute - extension, weldment	1
2	3071027	Chute - upper, weldment	1
3	3071028	Slinger - straight, ext. weldment	1
4	3071029	Slinger - curved, ext. weldment	1
5	3071034	Hopper - weldment	1
6	3071037	Hanger spider - weldment	1
7	3071038	Hanger - weldment	3
8	3071039	Tube - telescoping, weldment (12" long)	3
8a	3071045	Option: Tube - telescoping, weldment (18" long)	3
9	3071040	Option: Tube - counterweight, weldment	1
10	3071042	Option: Counterweight Assembly	1
11	3071043	Option: Chute extension, 42' & up	1
12	3071044	Slinger extension, 42' & up	1
13	1FH0765	Nut - hex, 3/8 - 16 UNC, Finished, pltd, grade 2	27
14	2FH5292	Bolt - hex, std. Thrd - Grd 5, 3/8 - 16 unc x 1, pltd	24
15	3FH0791	Washer - lock, regular 3/8", pltd	21
16	3FH0865	Washer - flat, standard, 3/8", pltd	15
17	3FH0872	Washer - flat, standard 1", pltd	2
18	3FH1224	Pin - retaining, snap-over, 1/4" DIA x 1-3/4" long	1
19	PT0240	Bearing with collar, 1", ecc lk, ext, nrl, sph	2

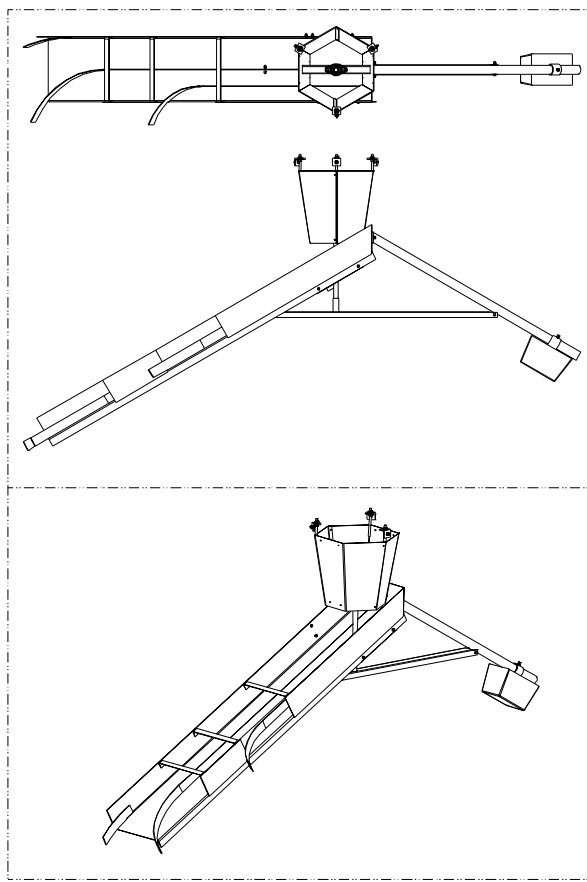


Model 10000 Parts



EXPLODED VIEW  
SCALE 0.313

Model 10000			
Index	Part #	Description	Qty
1	3072009	Channel - counterweight support, weldment	1
2	3072013	Tube - counterweight support, weldment	1
3	3072014	Angle - hanger	3
4	3072015	Washer - rubber	2
5	3072020	Chute - weldment	1
6	3072024	Center shaft & chute - weldment	1
7	3072032	Counterweight - assembly	1
8	3072033	Hopper - hex, weldment	1
9	1FH0764	Nut - hex, 5/16-18 unc, finished, pltd, grade 2	2
10	1FH0765	Nut - hex, 3/8-16 unc, finished, pltd, grade 2	12
11	1FH0766	Nut - hex, 7/16-14 unc, finished, pltd, grade 2	4
12	1FH0767	Nut - hex, 1/2-13 unc, finished, pltd, grade 2	6
13	2FH5292	Bolt - hex, std thrd-grade 5, 3/8-16 unc x 1, pltd	11
14	2FH5302	Bolt - hex, std thrd-grade 5, 3/8-16 unc x 3-1/2, pltd	1
15	2FH5315	Bolt - hex, std thrd-grade 5, 7/16-14 unc x 1-1/2, pltd	4
16	2FH5826	Bolt - car, std thrd-grade5, 5/16-18 unc x 1, pltd	2
17	3FH0790	Washer - lock, regular, 5/16, pltd	2
18	3FH0791	Washer - lock, regular, 3/8", pltd	12
19	3FH0792	Washer - lock, regular 7/16", pltd	4
20	3FH0833	Bushing - (mach)wide - pltd, 2-1/4 OD x 1-1/4 ID x 10GA	2
21	3FH0864	Washer - flat, standard, 5/16 pltd	2
22	3FH0865	Washer - flat, standard, 3/8" pltd	3
23	3FH0867	Washer - flat, standard, 1/2" pltd	6
24	3FH1224	Pin - retaining, snap-over, 1/4" dia x 1-3/4" long	1
25	PT0140	Bearing - w/ housing, 1-1/4", ECC LK, EXT, RL, SPH, 2H	2





# GRAVITY FLOW GRAIN SPREADER OWNER'S MANUAL

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

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

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and North Central Sales Center**

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