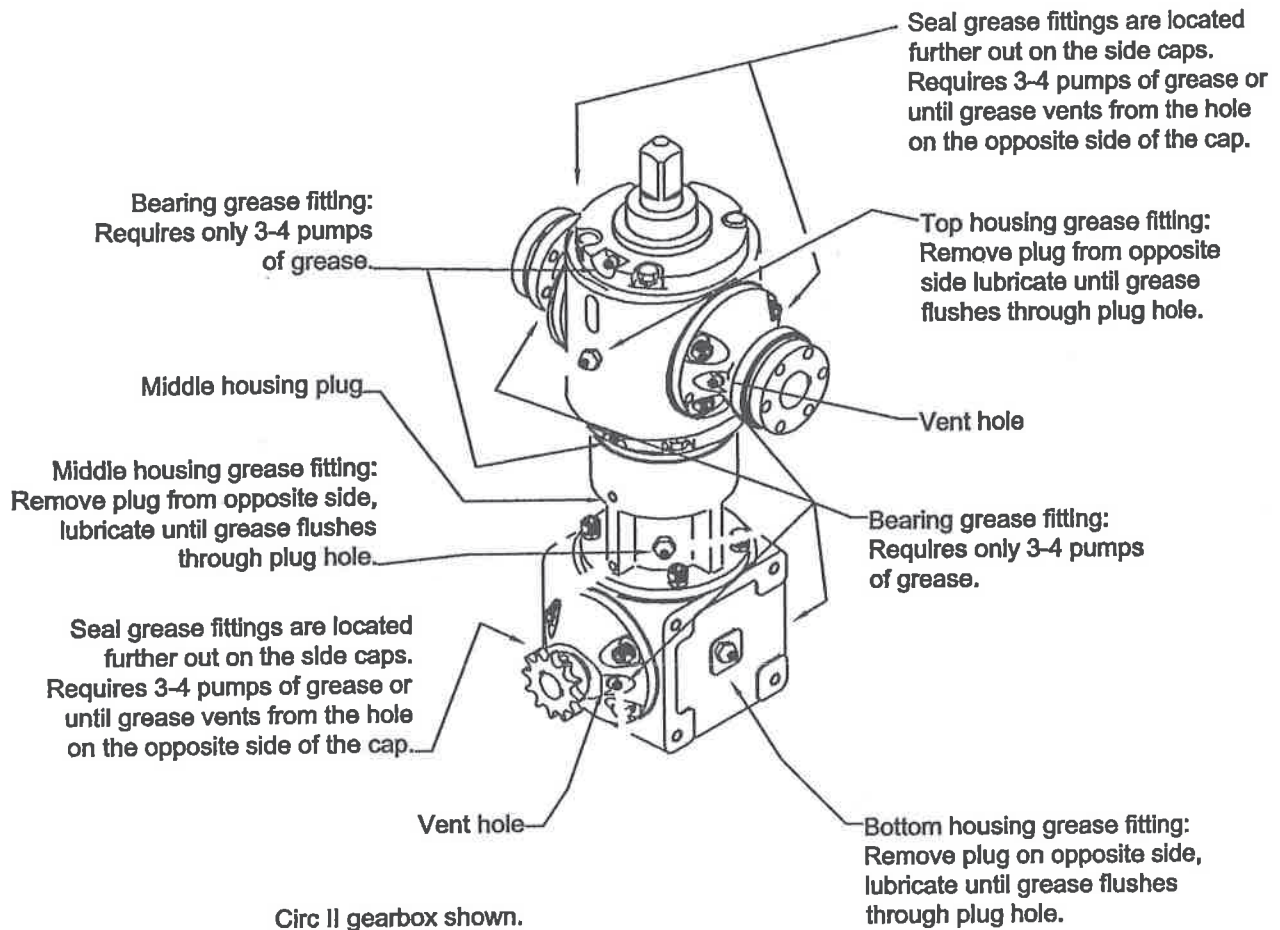
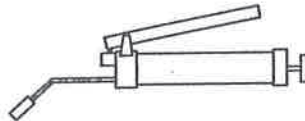


Gearbox Lubrication Guide



Circ II gearbox shown.
Circ I gearbox is similar.



For standard (black, blue) Gearboxes use a Moly-Lithium base Extreme Pressure No.2 grease (NAPA Valvoline# 633).
Shivvers part # C-6185.

For High Temp (silver, red, copper, orange, white) gearboxes use high temp grease Chevron Ulti-Plex Synthetic EP.
Shivvers part # C-6188.

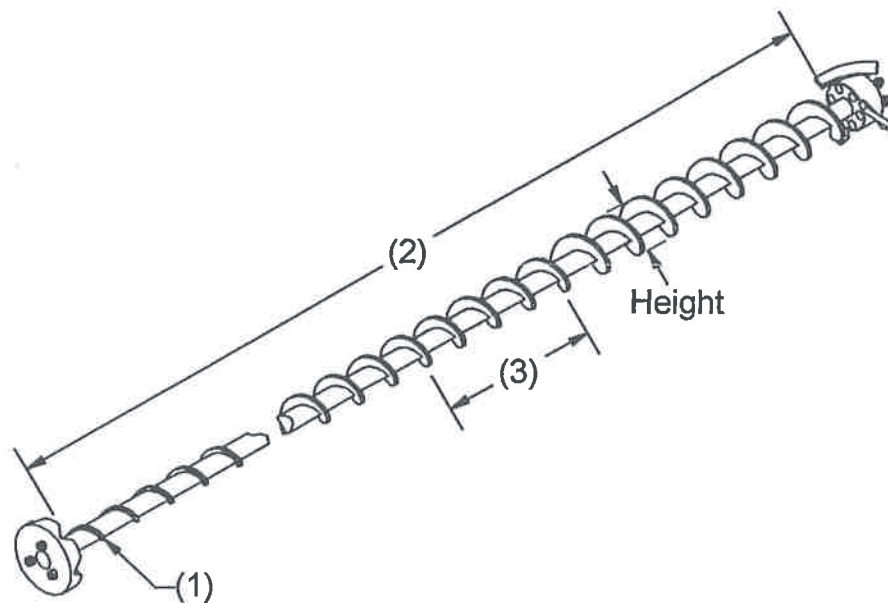
NOTE: GREASE INTERVALS

Circulator I	Every 100,000 Bu	Once a year, OR whichever comes first.
Circulator II DriFlo 500	Every 150,000 Bu	
High Torque DriFlo 1000	Every 250,000 Bu	
High Torque DriFlo 1500	Every 250,000 Bu	

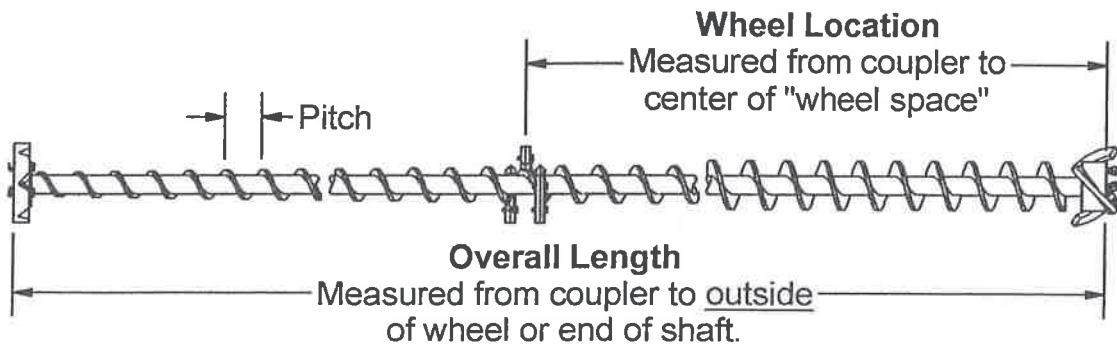
SWEEP WEAR MEASUREMENT

Tapered Sweeps are considered worn out if **any** of the following statements are true:

- 1.) The fluting is completely worn away at the outside (small) end of the sweep auger.
- 2.) The fluting is worn to a sharp (razor) edge at any point on the sweep auger.
- 3.) Measure the fluting at any two points 18" apart on the sweep auger. If the height is less at the point nearer the bin center, the sweep auger is worn out. If the two measurements are the same, the sweep auger is questionable. NOTE: The difference in these two measurements may be as small as 1/64" on the larger diameter bins.



MEASUREMENTS for REPLACEMENT SWEEP AUGERS

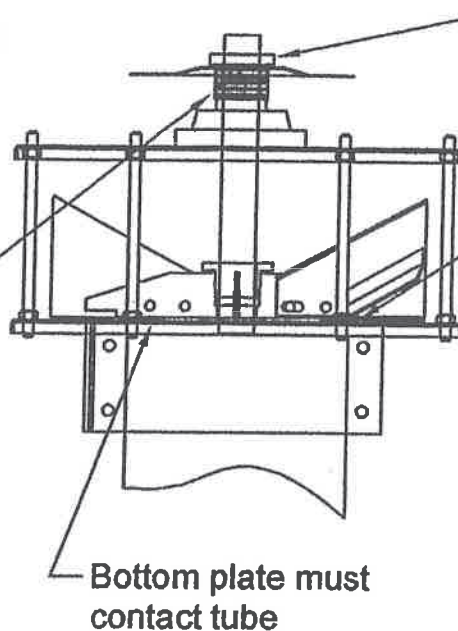


CHECK TOLERANCES ON 6" AND 8" CENTER VERTICAL AUGERS

1. All dimensions must be checked with center vertical auger in vertical position and resting squarely on spider wheel.

2. First: Attempt to meet all tolerances by adding or subtracting washers at the top.

3. Lower edge of fingers may be bent up or down with a large pipe wrench or jack.

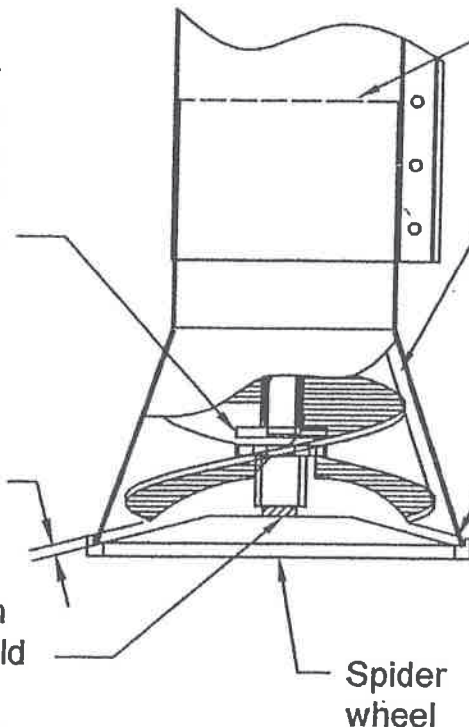


Weight of auger must be carried by this roll pin. Washers must be compressed!!

In vertical position keep bolted on spreader fins between 1/8" and 3/16" above the bottom plate.

Bottom plate must contact tube

When attaching coupler to pickup fingers, be sure to use "Loc-tite" on threads (only) of shoulder bolts.



Tubes must contact each other inside sleeve.

3/8" min., 1/2" ideal, 3/4" max clearance, along entire height of cone, not just lower end.

3/8" min.
5/8" max.

Tip of fingers (first 3/4" from outside) must have 3/8" to 5/8" clearance. 1/2" is ideal between bottom of tip and top of spider wheel. Clearance may be larger than 5/8" at the remainder of the lower edge (inside the tips).

Spider wheel

With coupler hanging from shoulder bolts, there should be 3/8"-1/2" clearance between bottom of coupler and top of spider wheel.

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PRE-SEASON BIN INSPECTION AND MAINTENANCE

Inspect your roof panels, supporting ribs, stairs, steps, vents, and all connections. If you have any debris on your vents, clear it off to allow free airflow and to prevent damage to your bin's roof.

Make sure any manholes, center caps, or other bin-opening attachments are all functioning properly. Any leaks in these can let water get to your grain, which can cause musty, moldy, or spoiled grain.

Clean your aeration systems. Be sure to get under the aeration floors and inside the aeration tubes. Remove any debris, and keep an eye out for insect infestations.

Turn your focus down to your foundation. This is one of the most overlooked maintenance areas on grain bins. Your foundation should be level without any gaps. An uneven foundation can result in spilled grain, can provide entry points for water, insects, or rodents, and can allow forced air to escape, reducing the efficiency of your operation.

Inspect the electrical work. Checking the electrical work is secondary to maintaining the integrity of your bins, but it is important to make sure that all connections are secure. Wiring for electrical components and control boxes should also be inspected. Close any openings where insects or rodents could enter.

Examine the sweep auger. Notice the condition of the belts and chain tension. Make sure that the flitting isn't too thin. All shields should be in good condition.

Start from the top down. The roof can cause the most damage to your grain. Do you have any leaks? Loose bolts? Rust? If yes, gather up some caulk, new bolts, a wire brush, some paint, and fix up your bins.

Spend a little time cleaning your bins. Get rid of all old grain, remove all rust, and cover structure with rust-inhibiting primer or paint.

Follow motor manufacturers recommendations for greasing motor bearings (generally once a year). Also, make sure that fan blades can spin freely. Note that large Hp fans should not be turned on until a substantial amount of grain covers the aeration or drying floors.

Walk around your bins. Do you have any missing bolts, damaged sheets, or sidewall bulges? Pay particular attention to bolted joints, looking for any irregularities that could be a sign of stress.

Check fans, heaters, transitions, and ducts for corrosion. Remove any dust that could reduce operating efficiency, and caulk any holes to keep insects and water out and to keep the grain in.

Take a look at all doors. They should be properly installed and have a watertight seal.

Look at anchor bolts. Bolts on the foundation should be in good condition and tightened. Cracks can make your bins susceptible to wind damage.

