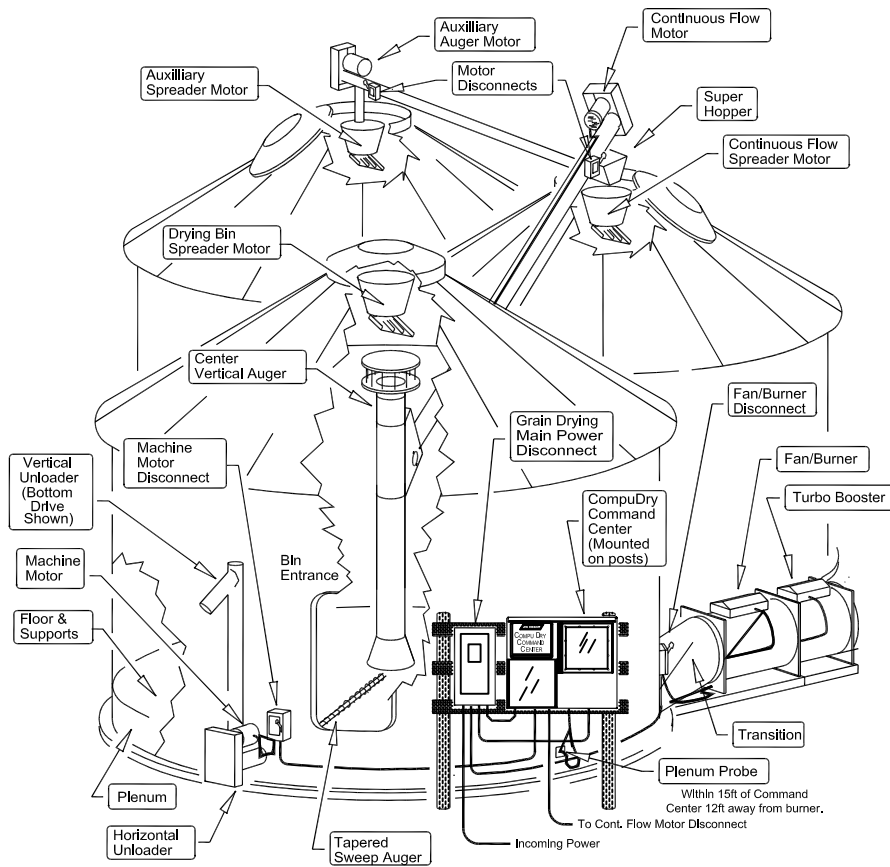




TAPERED SWEEP MANUAL

WITH DECAL LOCATIONS AND INSTALLATION INSTRUCTIONS



**READ AND UNDERSTAND THIS MANUAL BEFORE
INSTALLING TAPERED SWEEPS!**

SHIVVERS MANUFACTURING, INC.

CORYDON, IOWA USA

PH. (641) 872-1005 ** FAX (641) 872-1593

www.shivvers.com

P-11803
06/18/13

LOCATION OF SAFETY DECALS

Safety decals are mounted at the factory whenever possible, but it is your responsibility to make sure other decals are installed in the proper places. It is also your responsibility to insure that the decals remain in good, legible condition. You must replace safety decals if they are missing or become illegible. Also, if any new equipment components are installed during repair, the current safety decals are required to be affixed to the replaced component.

IMPORTANT: If suggested decal locations, or factory applied decals, are not clearly visible, place decals in a more suitable area. Contact Shivvers Incorporated for free replacement decals. The part numbers start with a "P-", such as P-10717.

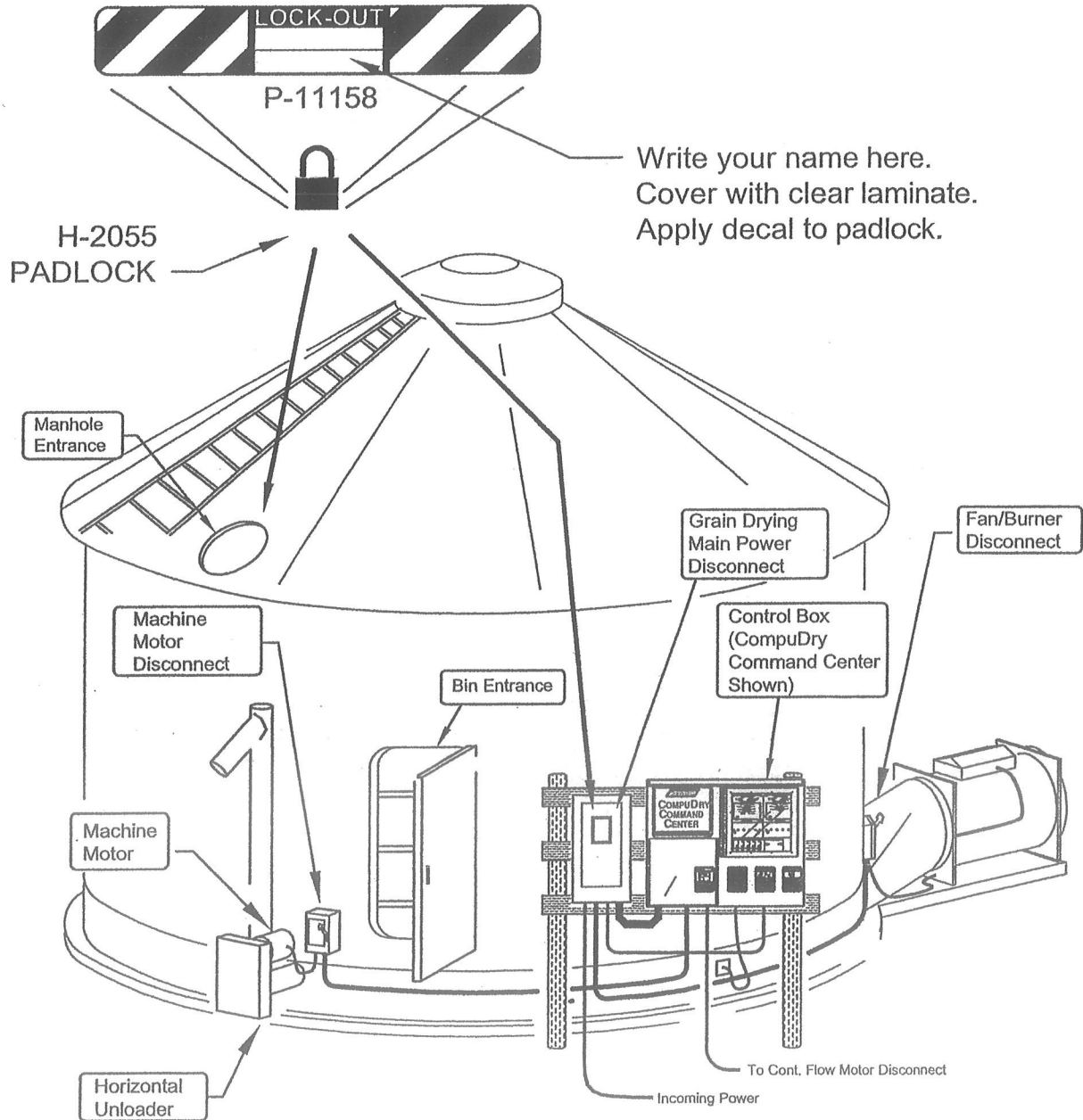
Before applying decals, make sure the mounting surfaces are clean (not oily) and dry.

Review the following decals, and verify that they are in place, are easily readable, and clearly identify the dangers present. Contact Shivvers Incorporated for free replacement decals or for clarification of any questions you may have. Refer to the specific equipment manuals for more details on factory applied decals.

Refer to the "Operator's Safety Manual" (P-10001) for more safety information and for bin unloading procedures.

P-11158 - Field Installed

Two 632-191A (Safety Lock Kits) are provided with each Shivers dryer. This kit includes an H-2055 Padlock, P-11158 Self Laminating Lockout Decal, and hardware which will allow locking of any bin entrance point. Write your name on the decal. Cover the printing with the clear laminate, then apply the decal to the padlock. These locks can then be used to lock out power sources when working on the drying equipment. Keep the bin entrances locked when operating the equipment to prevent unauthorized access to potential dangers. The locks will also remind you to disconnect and lock out power sources before entering the bin.



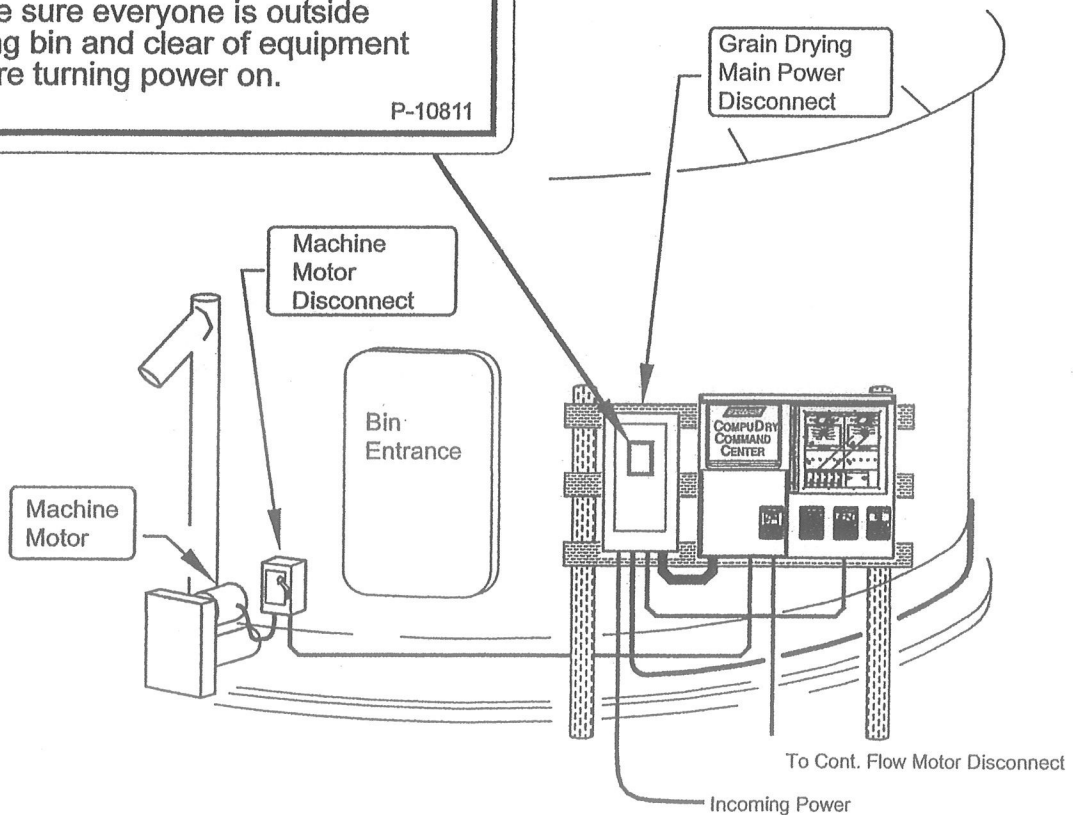
P-10811 - Field Installed

1.) ON MAIN POWER DISCONNECT SWITCH BOX

Put it only on the disconnect that shuts power off to the complete drying system (every motor, fan, and burner). Don't put it on any other disconnect.



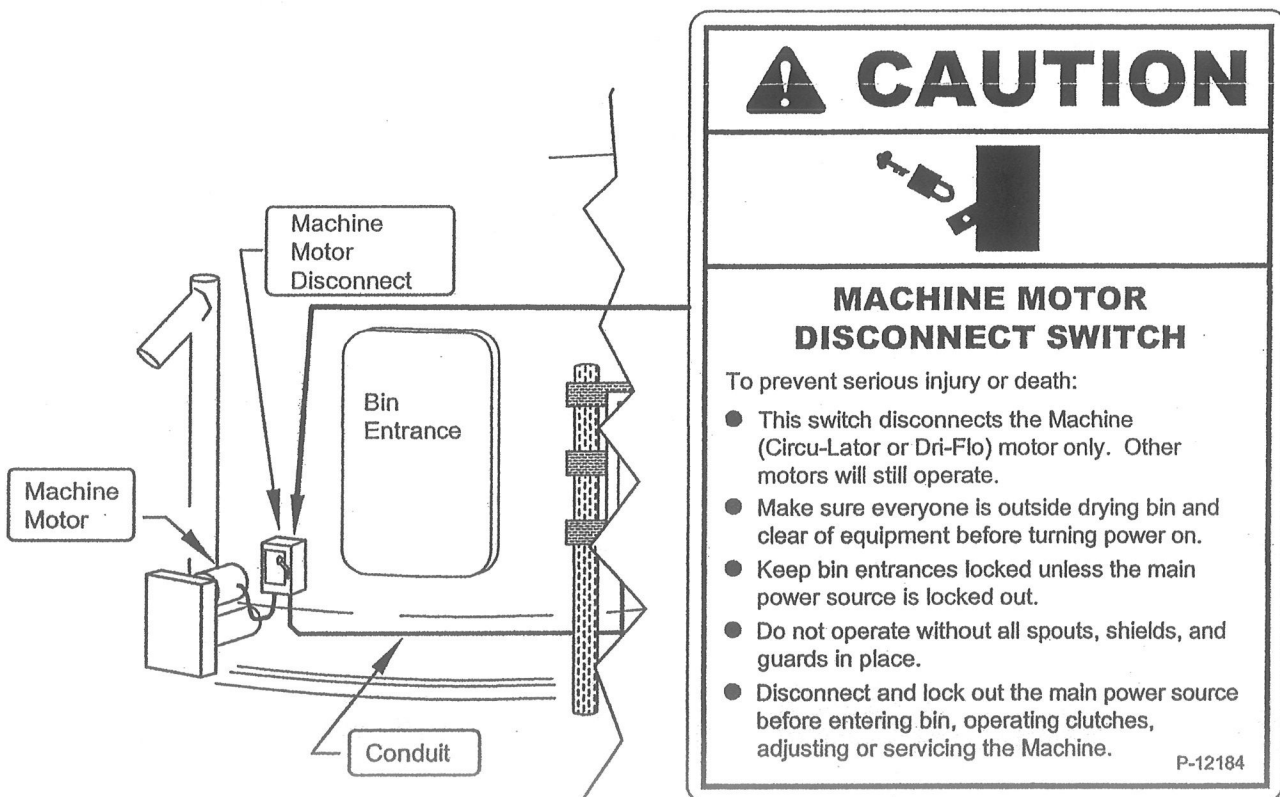
"CAUTION" Decal
Shivvers# P-10811



P-12184 - Field Installed

A Machine (Circu-Lator or Dri-Flo) Motor disconnect switch must be located adjacent to the bin entrance door. It must be of sufficient capacity to safely switch the Machine Motor, usually 10 or 15 Hp. This switch must also have the capability of being locked into the OFF position.

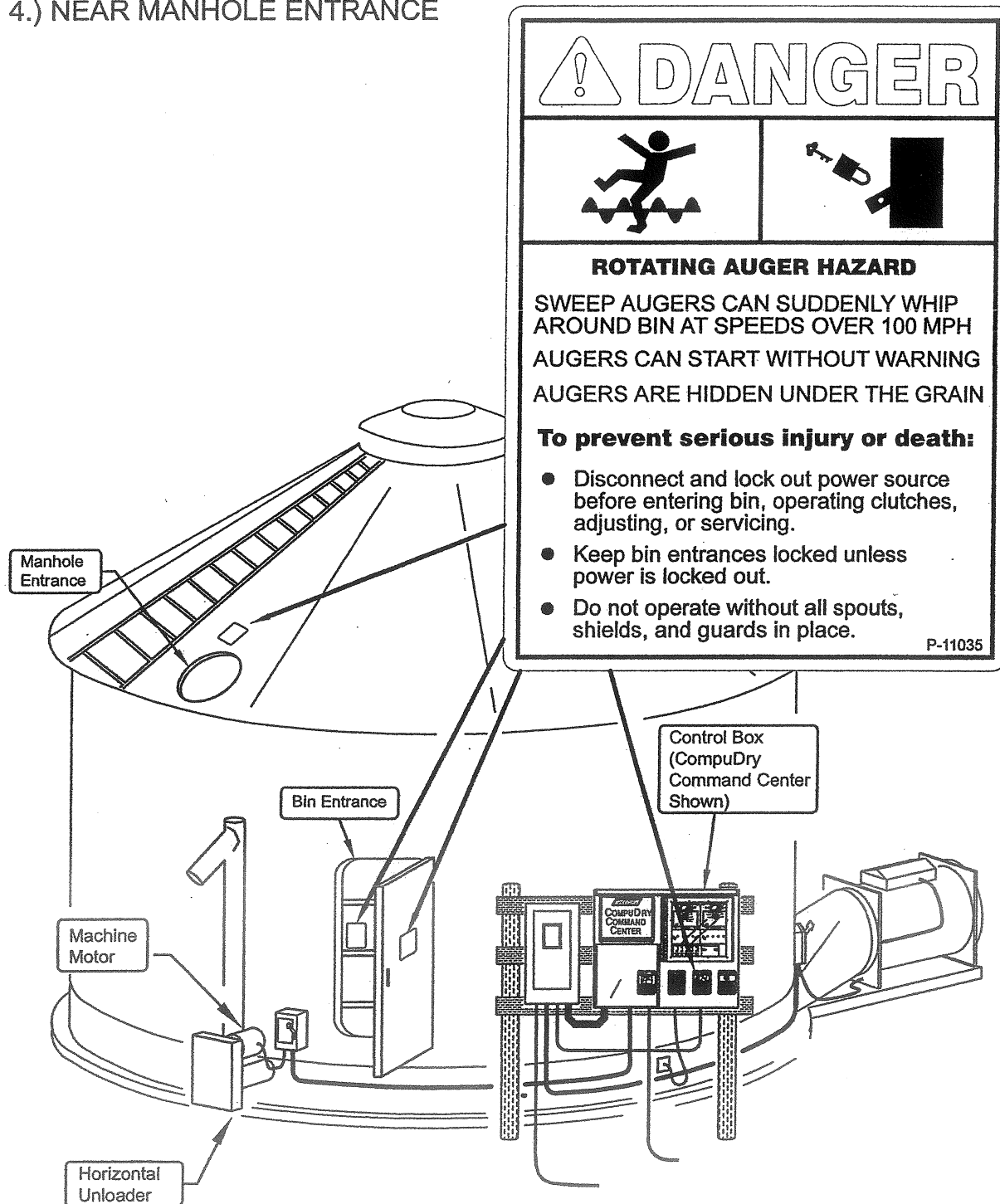
Make sure the safety decal P-12184 is applied on or near the machine motor disconnect.



"CAUTION" Decal
Shivvers# P-12184

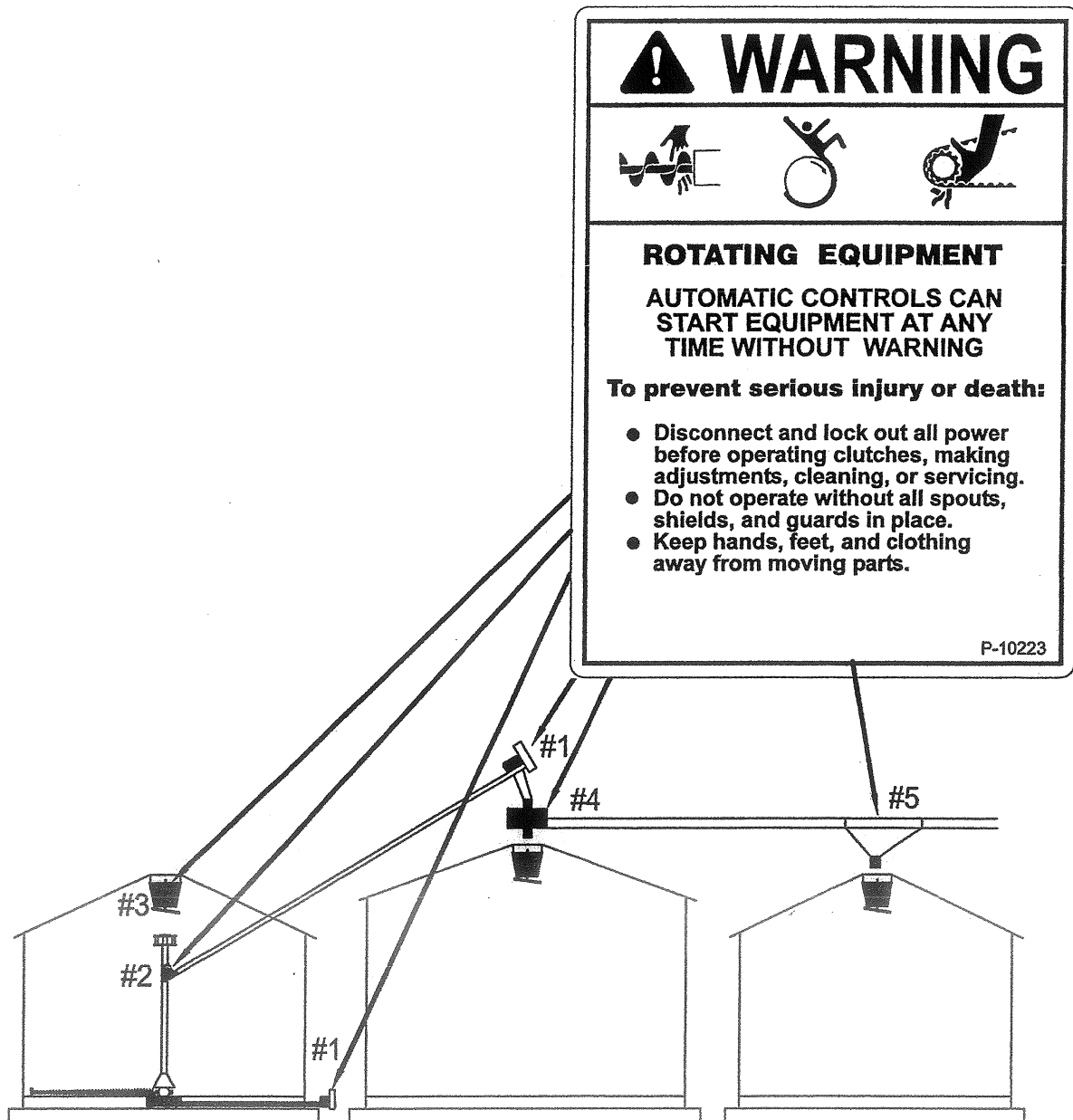
P-11035 - Field Installed

- 1.) ON ALL CONTROL BOXES THAT CONTROL TAPERED SWEEP AUGERS (Circuitrol, Comp-U-Dry, etc.) (Factory Installed).
- 2.) OUTSIDE OF OUTER BIN DOOR ENTRANCE
- 3.) OUTSIDE OF INNER BIN DOOR ENTRANCE
- 4.) NEAR MANHOLE ENTRANCE



10223 - Factory Installed

- 1.) ALL BELT SHIELDS (Horizontal Unloaders, Continuous Flow Augers, Auxiliary Augers, etc.)
- 2.) ALL CENTER VERTICAL BOOT ASSEMBLIES (Continuous Flow and High Angle)
- 3.) GRAIN SPREADERS
- 4.) HOPPER BOXES
- 5.) 6" IMPROVED DROP OUTLET ASSEMBLY



Tapered Sweep and Wear Track Installation

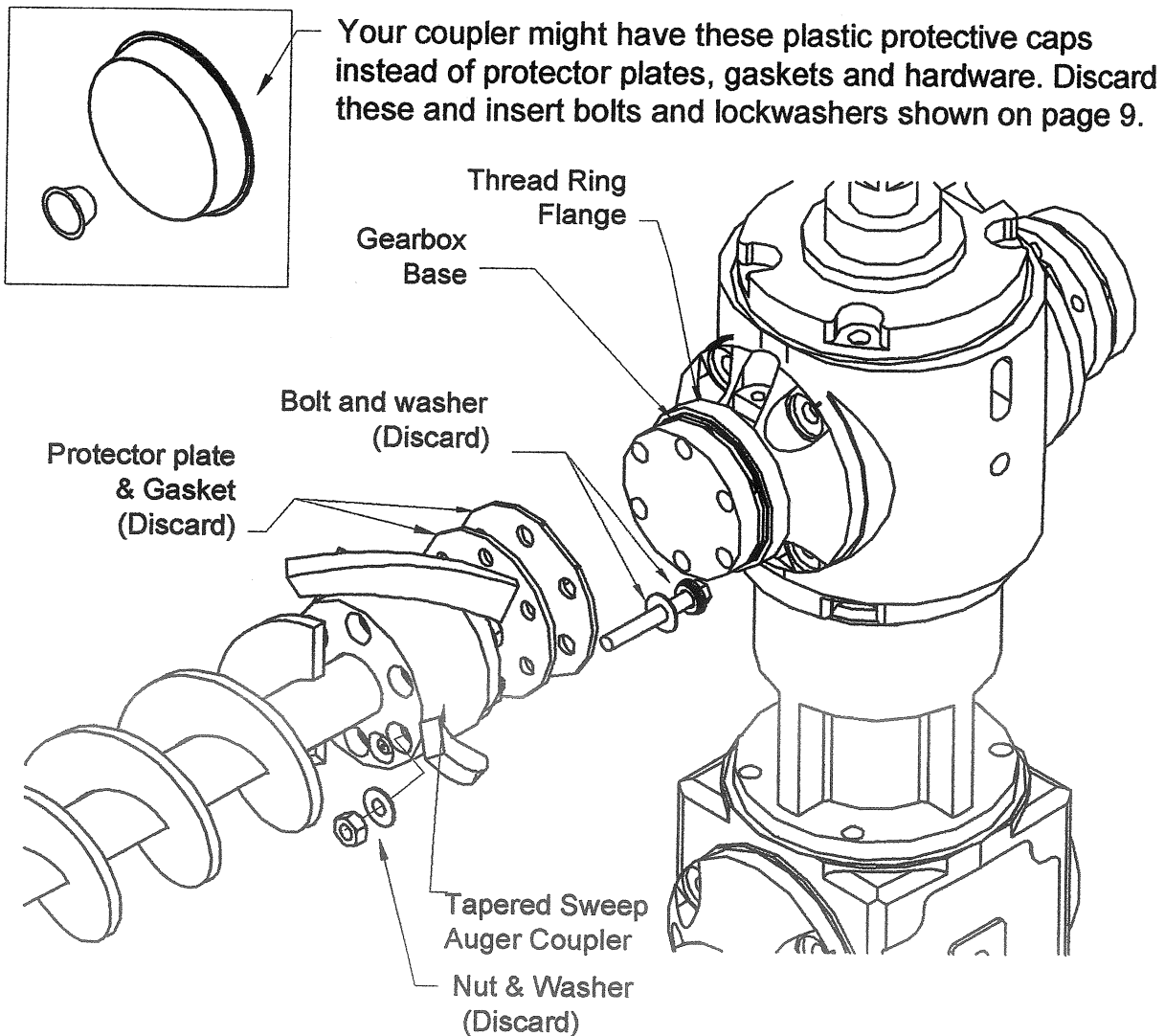
Note: We recommend that all new Tapered Sweeps be installed with the connection at the gearbox packed with grease.

Step 1:

Remove and discard protector plate, gasket, bolts, washers and nuts installed for shipment. New sockethead capscrews and hi-collar lockwashers are provided in the decal package. The new lockwasher must be installed with the bolts to hold the coupler.

Step 2:

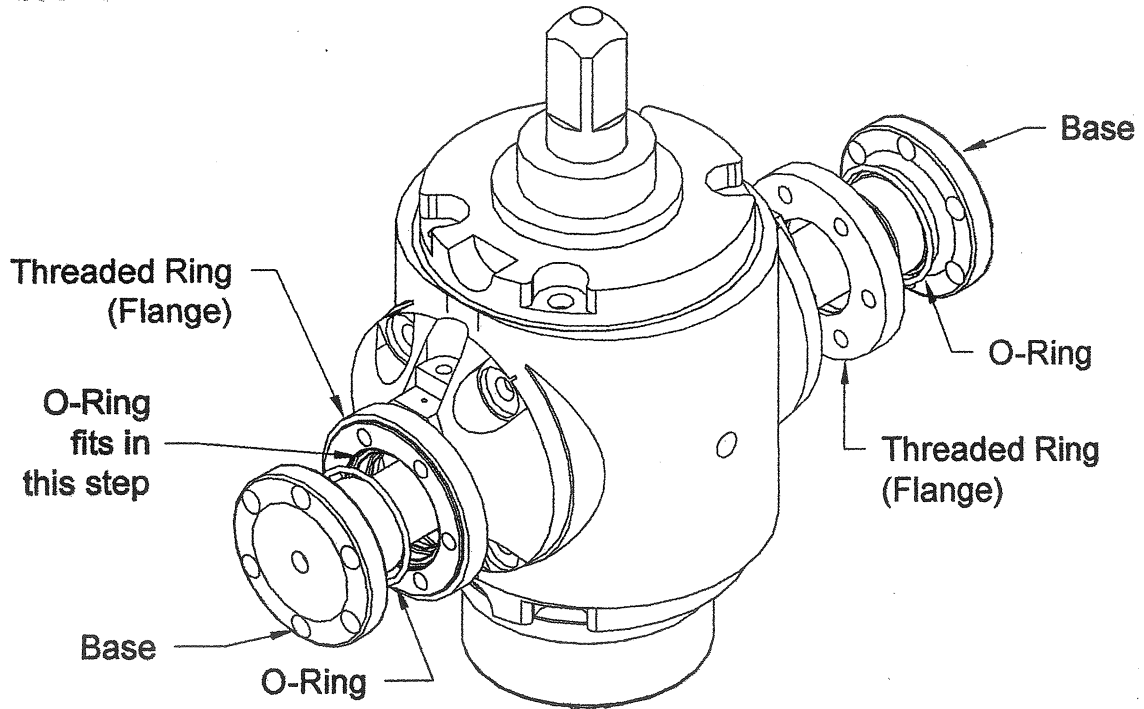
Make sure the Tapered Sweep Coupler and the Gearbox Base and Flange are free of dirt, old grease, paint, weld splatter, rust, and filings.



Tapered Sweep and Wear Track Installation

Step 3:

If your Gearbox is a Circulator-2 (or Dri-Flo) or High Torque Drive, (made or upgraded after Summer 2006), there should be an A568-134-Viton O-Ring (Shivvers# D-3771) on the Output Shaft between the Base and Flange. If not, place one onto each Output Shaft by stretching it over the Base end. The O-Ring should return to normal size and fit inside the step of the threaded ring (Flange), between it and the back side of the Base.



On all other Gearboxes (Circulator 1 or Junior) or (Circulator 2, DriFlo, or High Torque Drive prior to summer 2006), the O-Ring is omitted. The new style Tapered Sweeps will still work on older style gearboxes. Also, older style sweeps will work on new style gearboxes.

Step 4:

The following directions apply for all Shivvers Tapered Sweep installations, (Circulator-1, or Circulator-2, Dri-Flo, High Torque Drive, or Junior)

- a. Remove all debris from the Tapered Sweep Coupler and outside surfaces of the gearbox base and flange.
- b. Pack the inside of the Tapered Sweep's Coupler and coat the outside of the Gearbox's Base and Flange with our recommended High Temperature rated Grease, Chevron Ulti-Plex Synthetic Grease EP or equivalent. (Shivvers# C-6188 (14oz Tube)) CAUTION: USE ONLY THIS GREASE. Other greases may harden in the coupler, causing sweeps to break.

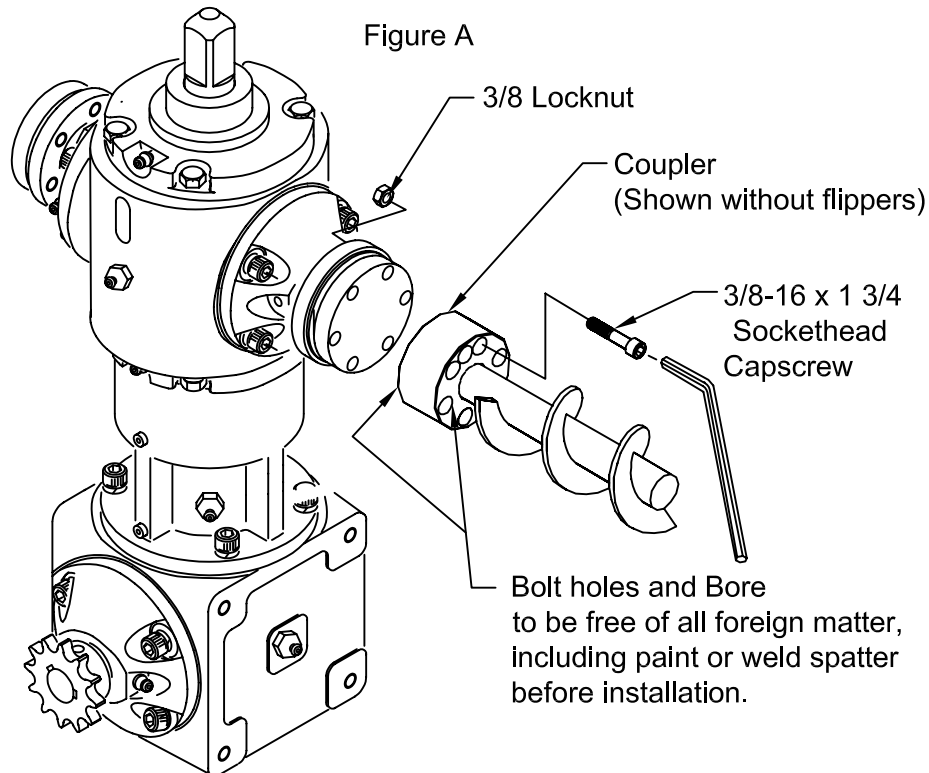
Tapered Sweep and Wear Track Installation

Step 5:

Bolt the Tapered Sweep Auger(s) to the gearbox as follows: See Figure A

- a. If the coupler wasn't fully packed in Step 4 slowly add 1 or 2 pumps of Hi-Temp grease (Shivvers #C-6188) through the recessed grease zerk.
- b. Remove and discard protective plate and gasket or caplugs from tapered sweep coupler. 3/8-16 x 1 3/4 SHCS (F-2158) and Locknuts (F-1005-03) are provided in the decal package. This special bolt and locknut must be used.
- c. Position the sweep's coupler onto the output shaft.
- d. Insert Bolts into sweep's coupler, through the output shaft, and start the threads into the flange, then start a locknut onto the end of each bolt.
- e. Tighten the bolts down to about 36-40 Ft/lbs.
- f. With a hex wrench on the head of the bolt, tighten the locknut, in effect double-nutting it with the flange.
- g. Repeat the above process to install all Tapered Sweeps as required.

It is recommended that these special bolts and locknuts not be re-used.
See your dealer or Shivvers for replacement of hardware sack #635-014A.



A 5/16" Allen Wrench is to be included with each Tapered Sweep Decal Package (Shivvers# 225-077A) provided with each Tapered Sweep.

The following parts and wrenches are also available from your Shivvers Dealer:

Shivvers

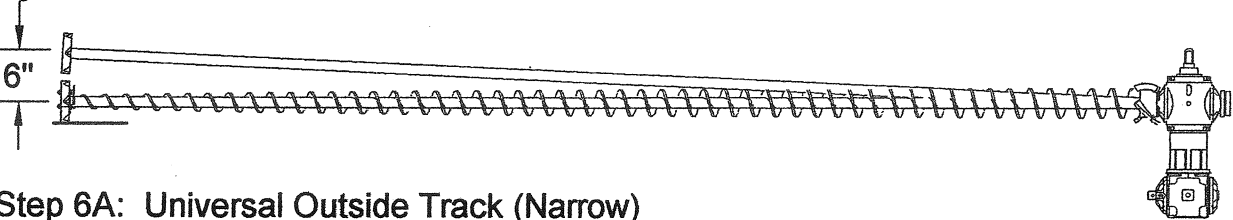
Part No.	Description
F-2004	Socket Head Capscrew: Use only this for sweeps made after Summer 2006. 1-5/8" length under head with 3/8" shank.
F-1051	Hex Head Capscrew: Customary 3/8-16 x 2-1/2", Grade-8 bolt, used in sweeps before Summer 2006
F-1636	Lockwasher, 3/8 HI-Collar
D-3771	O-Ring, Viton: AS568-134-Viton (For Gearboxes after Summer 2006)
H-1341	Zerk, Grease: 1/4-28NC, Straight, (Alemite# 1652-B)
C-6188	High Temperature Grease: Chevron Ulti-Plex Synthetic Grease EP (14oz tube) (was DMX-2035, OK to use if you still have some) Other greases may harden in coupler.

H-2558	Hex Key, Long Arm: 5/16 w/Ball End, (Short Arm 5/8" to 1" Inside Dim.)	
H-2536	Hex Key, Long Arm: 5/16" w/Plain Ends, (Short Arm 1-5/16" Inside Dim.)	
H-2537	Socket Driver, Long Ball Hex: 5/16 (SK# 45940, Snap-on# FABL10E, or equiv.)	

Tapered Sweep and Wear Track Installation

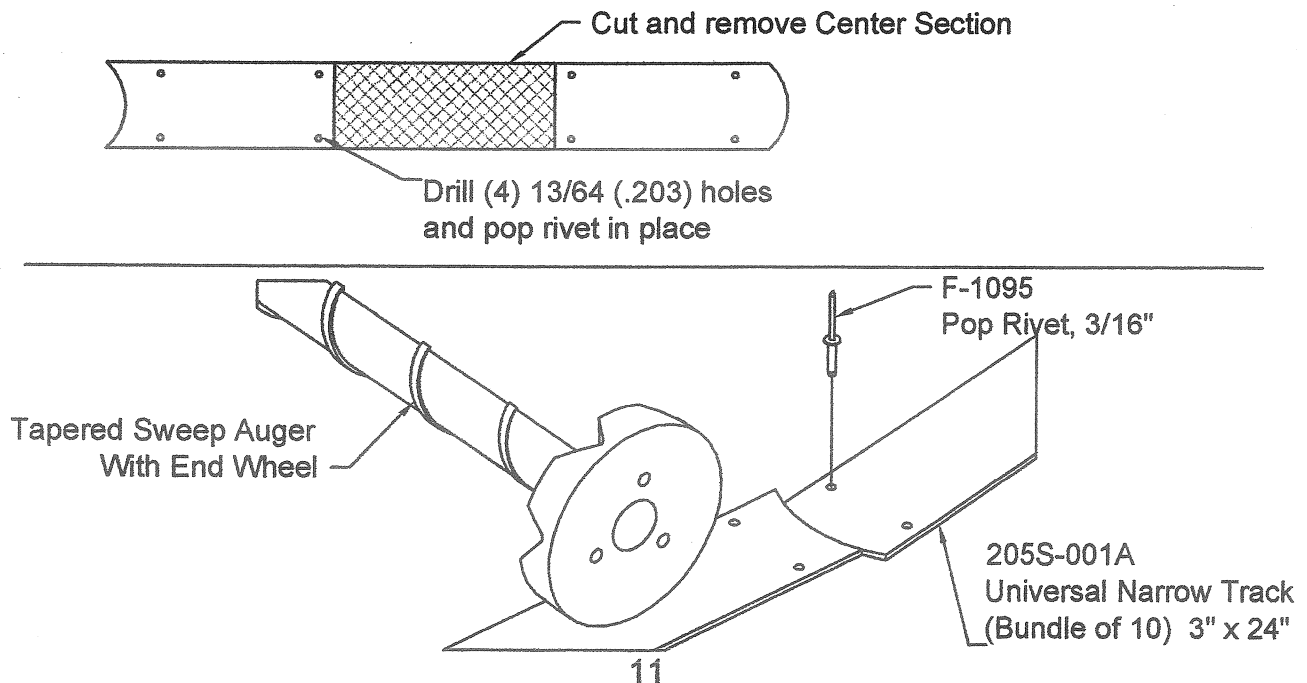
Step 6:

There should be flex in the coupling after the sweep auger is bolted to the gearbox. Check to make sure the sweep can be lifted a minimum of 6" at the outer end of bin without bending the sweep auger shaft. Check this in at least 4 places around the bin, especially in-line with and perpendicular to the horizontal unloader. If the amount of flex is not uniform around the bin, the basket legs will have to be adjusted.



Step 6A: Universal Outside Track (Narrow)







Bin diameters 29' - 33' do not normally use an outside track. For all other bin sizes or for all sweep augers with an outside wheel, install an outside track. **Lay the track sections so that ends butt up against each other (no cracks between sections), flush and smooth (one end not higher than another), with the sweep auger wheel riding the center of each end.** As each section is laid in place, move the tapered sweep along the track to insure that curvature and location are correct, then fasten securely with 3/16" pop rivets. Pop rivets are provided in the 450X-001A series Chain and Pop Rivets Box. Drill additional holes and pop rivet track down, as necessary, to insure a firm, smooth track. Do not use self-drilling screws. They will loosen with time. **Do not allow the wheel to run over a pop rivet head.** The last section of track usually must be trimmed to size. To trim, remove a straight section out of the center of the track, as shown below. Drill 13/64" (.203") holes and pop rivet both ends down.

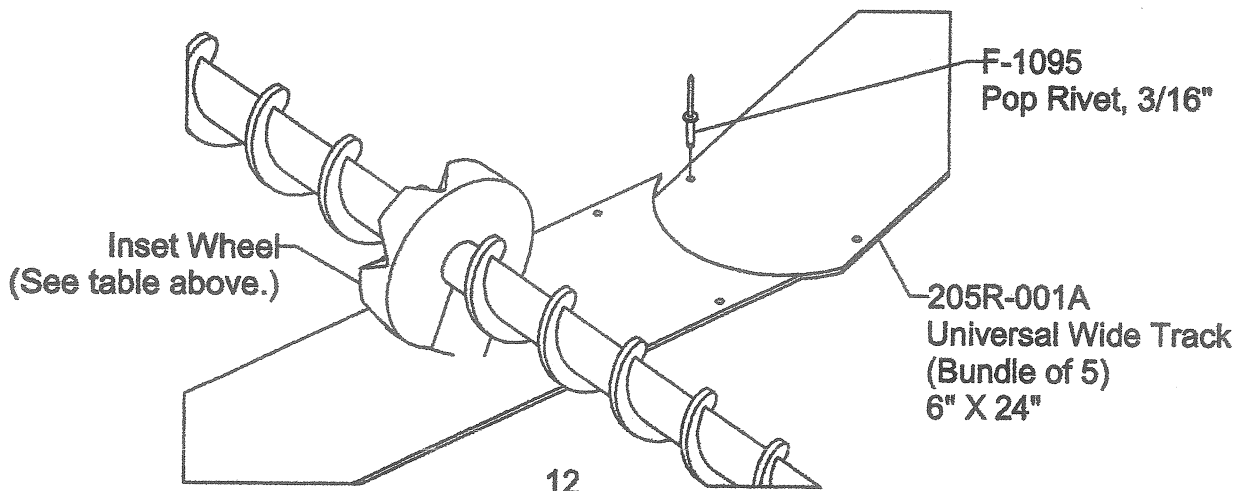


Tapered Sweep and Wear Track Installation

Step 6B: Universal Inset Track (Wide)

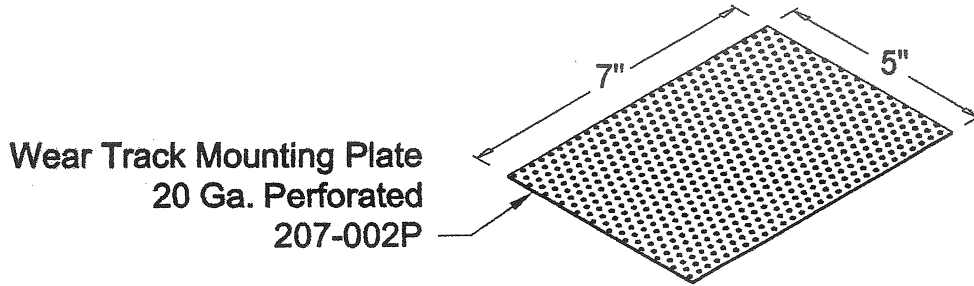
The tapered sweep auger for bins 29' diameter and over have an inset wheel that moves along a wide wear track mounted on the bin floor. These track sections must be laid so as to form a smooth, firm path along the bin floor on which the tapered sweep auger can move. **Lay the track sections so that the ends butt up against each other (no cracks between sections), flush and smooth (one end not higher than another), with the inset wheel riding the center of each end.** As each section of track is placed on the floor, move the tapered sweep along the track section to insure that the inset wheel will be centered as it runs along the track. After checking the location, mount the track with 3/16" pop rivets. Drill additional holes and pop rivet track down, as necessary, to insure a firm, smooth track. Do not use self drilling screws. They can loosen with time. **Do not allow the wheel to run over a pop rivet head.** The last section of track usually must be trimmed to size. To trim, remove a straight section out of the center of the track. Drill 13/64" (.203") holes and pop rivet both ends down. See illustration from Step 4A on the previous page.

Track Bundle Part #	Track Style & Dimensions	Inset Wheel Location From	Inset Wheel Style	
205R -001A 5 Pieces Per Bundle (205-014P) (individual)	 Universal Wide Track 6" x 24"	Gearbox Base	Double Inset	Bolt-On Inset
		9'-7"		
		11'-10"		
		12'-7/8"	Single Inset	

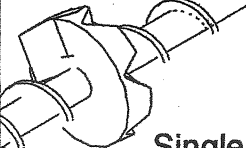
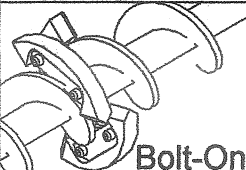


Step 7:

Installation of wear track on (Non-Shivvers) corrugated floor is critical and requires extra care. Use Wear Track Mounting Plates (207-002P) under track splices, to aid in the installation of a smooth, firm track. 207 Series kits can be ordered according to bin size. Please call the factory for ordering information.



Reference Information

	Flite Pitch	Flite O.D. (Gearbox End)	Inset Wheel Style
REGULAR CAPACITY SWEEPS	2.5"	3.36"	 Double
HIGH CAPACITY SWEEPS	3.0"	3.36"	 Single
ULTRA HIGH CAPACITY SWEEPS	3.0"	4.06"	 Bolt-On

