



INSTALLATION ASSEMBLY INSTRUCTIONS

for

GRAIN HOG SPREADER

LARGE & SMALL SPREADER PANS

1/2 HP: GHS-1/2-L & GHS-1/2-S

1 HP: GHS-1-L & GHS-1-S

1-1/2 HP: GHS-1.5-L & GHS-1.5-S

SHIVERS INCORPORATED
CORYDON, IOWA USA
Phone (641) 872-1005
Fax (641) 872-1593
www.shivers.com

P-8276

Revised—August 2001

2017

CONTENTS

PAGE

2.....	INTRODUCTION
3.....	SAFETY
5.....	LOCATION OF SAFETY DECALS
7.....	GRAIN HOG SPREADER INSTALLATION
9.....	SPREADER ADJUSTMENTS & OPERATION
11.....	MAINTENANCE
12.....	APPENDIX: Grain Hog Spreader parts diagram

INTRODUCTION

Read this manual carefully. The information contained within this manual will instruct you on how to properly install and operate your equipment. Failure to do so could result in personal injury and/or equipment damage.

The Grain Hog Spreader is designed to take incoming grain from an overhead down-spout or auger and spread it to an even level in the grain bin. This is accomplished by adjusting the angle of the Pan and the center fill opening on the Pan. The more consistent the grain level, the more efficient the drying process will be.

The Hi-Capacity Grain Hog Grain Spreaders are available in 1/2, 1, and 1-1/2 HP motor sizes.

The 1/2 HP model (GHS-1/2) can deliver up to 3200 bushels per hour when using an 8" auger in 24 to 36 foot diameter bins.

The 1 HP model (GHS-1) can deliver up to 4000 bushels per hour when using a 10" auger in 24 to 42 foot bins.

The 1-1/2 HP model (GHS-1.5) can deliver up to 5000 bushels per hour when using a 12" auger in 30 to 48 foot bins.

Depending on your particular needs, either a Large spreader pan or a Small spreader pan will be included.

If you are unsure of the correct configuration that would best suit your application, contact your **SHIVERS** Dealer for more information.

SAFETY

The operator of this machinery must assume the responsibility for his own safety, and that of those who are working with him. He must also make sure the equipment was installed properly. Factors that contribute to the overall safety of operation are: proper use, maintenance, and frequent inspection of the equipment. All of these are the operator's responsibility.

If any items covered in this manual are not completely understood, or there is a concern with the safety of the product, contact SHIVVERS Incorporated at the address shown on the front page.

SHIVVERS is genuinely interested in providing the safest practical equipment to our customers. If you have a suggestion which you believe will enhance the safety of this product, please write us and let us know.



TAKE NOTE ANYTIME THIS SAFETY ALERT SYMBOL APPEARS. YOUR SAFETY, AND THAT OF PERSONS AROUND YOU IS AT STAKE.

The safety alert symbol will be accompanied by one of three signal words whose definitions are given as:

DANGER: Red and white. Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING: Orange and black. Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Yellow and black. Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Anytime you are working with your drying unit, be sure to observe these common sense rules:

- 1). All units must be equipped with a main power disconnect switch. This disconnect switch must shut power off to the complete drying system. It must have the capability of being locked into the OFF or OUT position. Disconnect and **LOCK OUT** this main power disconnect switch before conducting any inspection, maintenance, repair, adjustment, or cleaning of the drying system. When you must have the electrical power on to troubleshoot equipment, do it from a safe distance, and always from outside the bin.
- 2). Keep the bin entrances locked at all times. To unlock the bin, first lower the Level-Dry (if so equipped), then shut the main power disconnect off. Take the safety lock off the bin entrance and place it on the main power disconnect before opening the bin entrance. **Never enter the drying bin unless the Level-Dry (if so equipped), is completely lowered, and all power is disconnected and locked out.**
- 3). Always keep all shields and guards in place. If shields or guards must be removed for inspection or maintenance, replace them before unlocking and turning the power back on.
- 4). Be sure everyone is clear of all the drying and transferring equipment, and outside of all bins, before unlocking and turning the power on. Some equipment may run upon re-application of power.
- 5). Make sure that all decals are in place and are easy to read. Do not operate the equipment with missing or illegible decals. If replacements are needed, contact SHIVERS Incorporated or your dealer.
- 6). Prior to use, inspect all equipment to insure that it is in good operating condition. Do not operate with missing, damaged, or worn parts. Use only SHIVERS approved replacement parts.
- 7). Metal edges can be sharp. Wear protective clothing and handle equipment and parts with care.
- 8). Keep children and bystanders away from drying and transferring equipment at all times.
- 9). If going up the bin ladder and/or performing maintenance on the top of the bin, take precautions to prevent accidental falls. When on top of the bin, wear a safety harness or other safety device.
- 10). At least annually, review all operating and safety manuals with any personnel working with this equipment. Always train new employees before they operate the drying equipment. Insist that they read and understand the operating and safety manuals.

LOCATION OF SAFETY DECALS

For complete instructions as to where to find Safety decals and where to place Field Installed Safety Decals, consult your Operators Safety Manual (P-10001)

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 ensure 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. (For reference to placement of safety decals see owners manual, safety manual, or specific equipment manual)

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

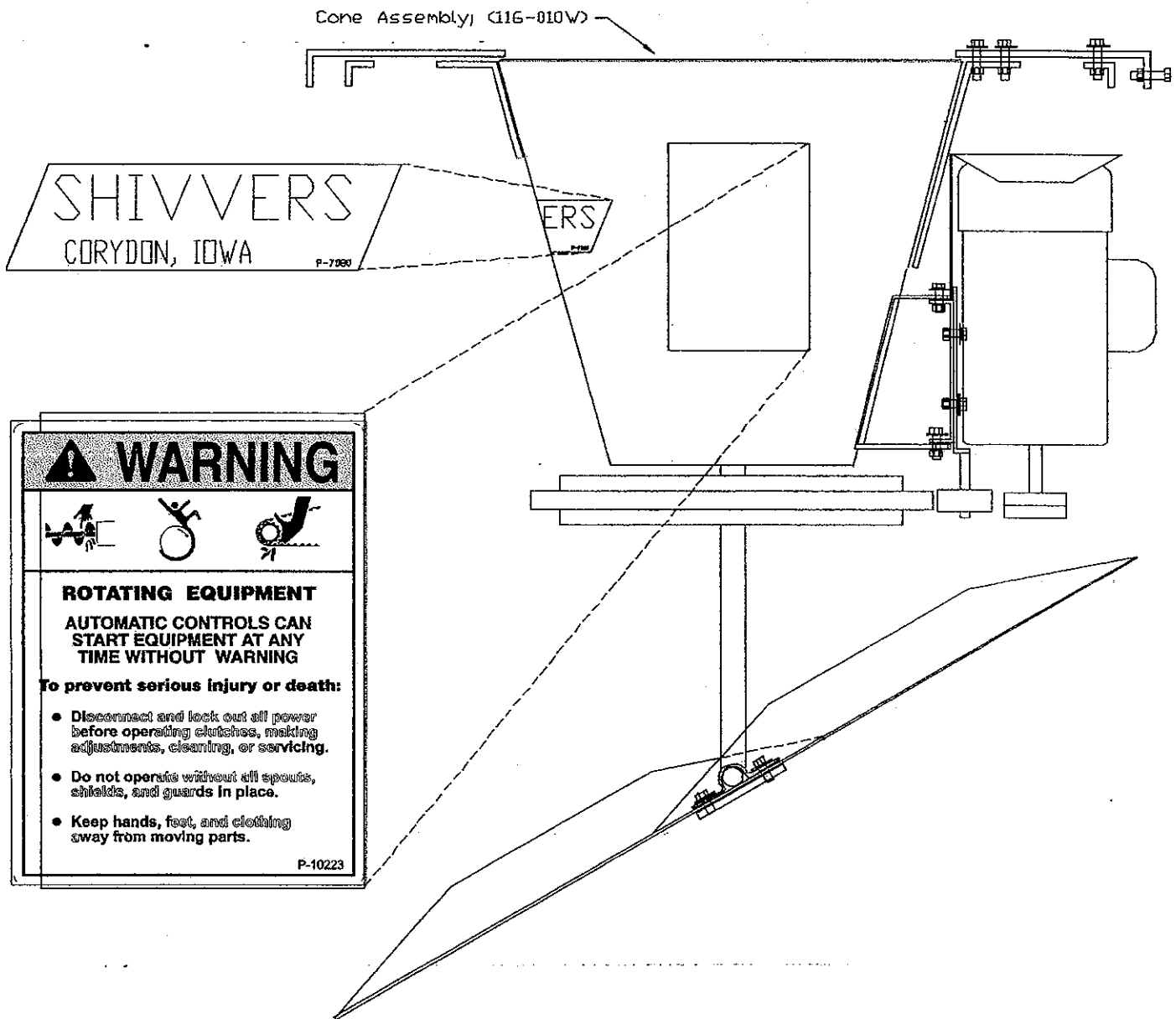
Before applying decals, make sure the mounting surfaces are clean (not oily) and dry.

Review the following decals, and verify that they are in place, are easily readable, and clearly identify the dangers present. Contact *SHIVERS* Incorporated for free replacement decals or for clarification of any questions you may have.

Location: Outside of Spreader Cone.

WARNING: Rotating equipment..... (P-10223)

SHIVVERS, CORYDON, IOWA (P-7080)



▲ WARNING
ROTATING EQUIPMENT AUTOMATIC CONTROLS CAN START EQUIPMENT AT ANY TIME WITHOUT WARNING
To prevent serious injury or death:
<ul style="list-style-type: none">● Disconnect and lock out all power before operating clutches, making adjustments, cleaning, or servicing.● Do not operate without all spouts, shields, and guards in place.● Keep hands, feet, and clothing away from moving parts.
P-10223

GRAIN HOG SPREADER INSTALLATION

- 1). Locate and invert the cone assembly(116-010W) so that the T-shaft points upward, this will make assembly easier.
- 2). Attach the Idler pulley(D-3404) to the Motor frame mount with a 3/8"x 2" bolt and 3/8" nyloc nut (F-1006-29, F-1239) Bolt the Motor Frame Mount to the cone assembly using two 5/16"x 1" bolts, four 5/16 washers, and two 5/16" nyloc nuts; (F-1006-15, F-1009-02, F-1005-02).

NOTE: The Motor frame mount should be able to hinge at these bolts to allow proper belt tension adjustment.

- 3). Using the 5/16"x 4-1/2" hex tap bolt, install the Belt tightener into the bracket on the Cone assembly. The bolt head should be at the Cone assembly bracket end. The bracket should have a 5/16" washer on both sides of the bolt, followed by the 1-3/4" spring (H-1369), another 5/16" washer, and two 5/16" nuts (F-1011-02) should be used to adjust the spring tension. Two additional 5/16" nuts will be used to position and lock the Belt tightener bolt to the motor mount.
- 4). Mount the Motor to the Motor frame using four 5/16" bolts, four nyloc nuts and eight washers. Do not tighten completely until the proper belt alignment is made.
- 5). Align the three pulleys, Large pulley on the Cone assembly(116-040P), Idler pulley(D-3404), and the Motor drive pulley. Position so that the Belt (D-3264) is centered on the Idler pulley and runs straight. Tighten the four Motor mount bolts and lock the Belt tightener bolt in place once the desired belt tension is reached.
- 6). Using two 5/16" bolts, nyloc nuts and washers; bolt the Motor Cover (116-056P) to the top to the Motor mount.
- 7). From the Pan Assembly parts box, attach the T-shaft(116-019W) to the Pan with two Shaft Clamp Weldments (116-057W). Use two 5/16" x 3/4" bolts (F-1546) and two 5/16" washers to fasten each clamp to the Pan.

NOTE: Make sure that the 5/16" washers are used above the Clamps when tightening.

- 8). Set the slope of the Pan at approximately 30 degrees below horizontal for the initial setting. Use the two 5/16" x 3/4" bolts (F-1213) to lock the Shaft Clamp Weldment and the T-shaft in position. The center fill opening should be on the down slope end and initially 1/3 open.
- 9). From the Pan Assembly parts box, assemble the spreader hangers and attach to the Cone assembly. The Bottom Bracket (279-015P) bolts on the outside of the Cone at three places using two 5/16"x 1" bolts (F-1006-15), washers, and nyloc

nuts. Bolt the Cone assembly on Bottom brackets so as to eliminate interference with any down spouts which come into the top of the bin or with any center vertical below. The Top Bracket (1-003P) should be assembled to the Bottom bracket using two 5/16"x1-1/2" bolts (F-1006-17) and should be positioned so that the distance between the brackets equals approximately 7/8 (.866) of the center of the bin top opening. Fasten the Clip Hanger (279-016P) to the bottom side of the Top bracket using a 5/16"x1-1/2" bolt.

- 10). Install the spreader in the bin center opening.

WARNING

When working on the top of the grain bin, it is required that a safety harness and/or other safety equipment be utilized.

Position the Spreader to the desired location, making sure that the spreader remains level, and using the three 3/8"x1" bolts (F-1006-25) and three 3/8" nyloc nuts (F-1239) lock in place through the Top brackets.

- 11). If using the three-prong motor cord in 115 volt applications, or wiring for use with 230 volts (if applicable), ensure that the power line from the bin top to the power supply is adequately grounded, fused and in conduit. All electrical wiring shall be installed in compliance with the latest edition of the ANSI/NFPA Standard 70, National Electrical Code, as a minimum requirement, and in compliance with local wiring codes as applicable.

Wiring must be done by a competent electrician. A Licensed Electrician is recommended, and **MUST** be used when required by Local or State statutes.

DANGER

TO PREVENT SERIOUS INJURY OR DEATH FROM ELECTROCUTION: Disconnect power before opening control boxes, close covers before operating, & keep components in good repair.

ADJUSTMENTS & OPERATION

- 1). The initial settings of the Pan are merely a starting point. Changes should be made as needed in response to actual grain conditions, grain depth, and specific bin diameters.

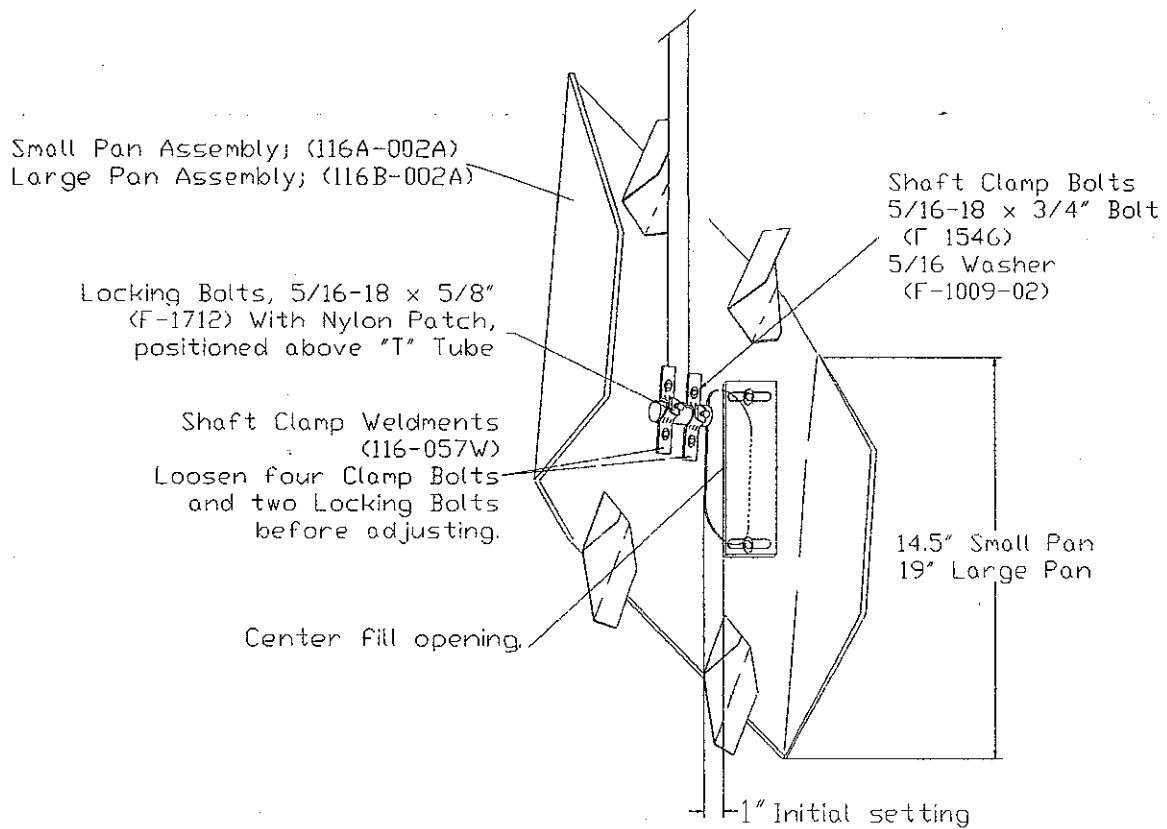
DANGER

DISCONNECT AND LOCK OFF ALL ELECTRICITY BEFORE DOING ANY INSPECTION, MAINTENANCE, OR CLEANING.

- 2). If excess "splash" of grain is observed as the grain hits the spreader Pan it may be necessary to raise the Pan closer to the Cone. To adjust the Pan height from the Cone Assembly, **MAKE SURE ALL ELECTRICITY IS LOCKED OFF;**
 - a). Unplug the Spreader motor.
 - b). Remove the AX-58 belt (D-3264) from the spreader wheel.
 - c). Loosen the two sets of set screws on the two bearing collars, above and below the center of the Cone.
 - d). Secure the T-shaft and remove the roll pin.
 - e). Reposition the roll pin in the desired hole, in order to raise or lower the pan.
 - f). Lower the shaft until the roll pin rests against the washer. Re-tighten all the set screws in the two bearing collars.
 - g). Align the motor pulley and the spreader wheel. Replace the belt and re-adjust belt tension.

- 3). To adjust the Pan angle, **MAKE SURE ALL ELECTRICITY IS LOCKED OFF;**
 - a). Unplug the Spreader motor.
 - b). The initial angle should be set at 30° below horizontal, if grain needs to be spread farther out decrease this angle, if grain should be spread further in then increase this angle.
 - c). Loosen the two 5/16" locking bolts on the Shaft Clamp Weldments.
 - d). Loosen the four 5/16" bolts which hold the clamps over the T-shaft.
 - e). Once the desired angle is reached, re-tighten the bolts.

NOTE: Never attempt to force the Pan to a different angle without first loosening the two locking bolts and the four clamp bolts.



- 4). Open or close the center fill hole on the Pan to allow more or less grain to fall to the center of the bin. Re-tighten the two bolts that hold the center fill door, once the desired opening size is reached.
- 5). For optimum performance and for even spreading, the incoming downspout tube or auger should be positioned directly above the center of the Spreader cone.

MAINTENANCE

! DANGER

**DISCONNECT AND LOCK OFF ALL ELECTRICITY
BEFORE DOING ANY INSPECTION, MAINTENANCE, OR
CLEANING.**

- 1). Make sure all the electricity has been disconnected and locked off!! Make sure that all by-standers are clear before attempting to clean and/or inspect the Grain Hog Spreader. If on top of the bin, wear a safety harness and/or other safety equipment. Periodically, (at least once a year) check the tightness of ALL the nuts and bolts to ensure that vibration has not loosened the fasteners.
- 2). Observe the tightness of the four bolts which hold the Clamp to the Pan assembly. Make sure that the two locking bolts on the Clamp weldment, which hold the T shaft to the Pan assembly, are also tightened securely. The set screws on the bearing collars should also be checked and tightened.
- 3). Periodically check the tightness of the motor pulley belt and adjust the tension accordingly.
- 4). Check for proper alignment of the motor pulley and the spreader pulley.
- 5). For proper operation check to make sure that the Spreader Cone is level and free of obstructions.
- 6). Periodically check and clean the motor for build-up of dust and debris.
- 7). The motor has overload protection. Should the motor stop, LOCK OFF ALL ELECTRICITY, determine and eliminate the cause, then press the reset button located on the motor.
- 8). At least once a year apply 2 or 3 pumps from a manual grease gun to the grease fitting located on the inside of the Cone Assembly on the side of the center tube.

APPENDIX

GRAIN HOG SPREADER

