10" POWER SWEEP AUGER

OWNER'S & OPERATOR'S MANUAL

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Hutchinson/Mayrath/TerraTrack

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(b) This limited warranty does not extend to parts designed to wear in normal operation and be replaced periodically, or to damage caused by negligence, accident, abuse or improper installation or operation.
(c) GOODS NOT MANUFACTURED BY HUTCHINSON/MAYRATH/TERRATRACK CARRY ONLY THE MANUFACTURER'S WARRANTY.
(d) THIS UNDERTAKING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

FAILURE TO FOLLOW THE INSTRUCTIONS CONTAINED IN THE OWNER'S & OPERATOR'S MANUALS AND THE ITEMS LISTED BELOW WILL RESULT IN THE VOIDING OF THIS LIMITED WARRANTY.

(1) Improper assembly, including failure to properly install all safety equipment.
(2) Improper installation (power & wiring included)
(3) Unauthorized alterations of goods.
(4) Goods operated when obviously in need of repair.
(5) Use of unauthorized repair parts.
(6) Irresponsible operation.
(7) Used to handle materials other than free flowing, non-abrasive and dry materials, as intended.
(8) Damaged through abusive use or accident.

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GENERAL SAFETY STATEMENT

This manual was written with the safety of the operator and others who work with the equipment as our prime concern. The instructions presented will help the reader learn SAFE day to day work practices. We want you as our partner in safety.

It is your responsibility as an owner, operator or supervisor to know what specific safety requirements and precautions exist and to make these known to all other personnel working with the equipment or in the area, so that they too may safely perform their duties and avoid any potentially hazardous situations.

Please remember safety equipment provides important protection for persons around a grain handling system that is in operation. Be sure that ALL safety shields and protection devices are installed and properly maintained. If any shields or guards are damaged or missing, contact your dealer to obtain the correct items.

Avoid any alterations of the equipment. Such alterations may create a dangerous situation where serious injury or death may occur.

SAFETY ALERT SYMBOL

The symbol shown below is used to call your attention to instructions concerning your personal safety. Watch this symbol - it points out important safety precautions. It means "ATTENTION! Become alert! Your personal safety is involved!" Read the message that follows and be alert to the possibility of personal injury or death.

BE ALERT! YOUR SAFETY IS INVOLVED.

WARNING

Anyone who will operate or work around this machine shall first read this manual! This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

TABLE OF CONTENTS

SERIAL NUMBER

To ensure efficient and prompt service, please furnish us with the model and serial number of your auger in all correspondence or other contact. (See page P-1.)

OPERATOR QUALIFICATIONS

Operation of this portable auger shall be limited to competent and experienced persons. In addition, anyone who will operate or work around a portable auger must use good common sense. In order to be qualified, they 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 portable augers. 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 of the work area as shown in the work area diagrams. See Page 7.
4. A person who has not read and understood all operating and safety instruction is not qualified to operate the machine.

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

SIGN OFF SHEET

As a requirement of OSHA it is necessary for the employer to train the employee in the safe operation and safety procedures with this auger. We include this sign off sheet for your convenience and personal record keeping.

DATE	EMPLOYER SIGNATURE	EMPLOYEE SIGNATURE

MACHINE INSPECTION

After delivery of your new auger and/or completion of assembly and before each use, inspection of the machine is mandatory. This inspection should include, but not be limited to:

1. Check to see that all guards listed in the assembly instructions are in place and secured and functional. PTO driveline outer shields must rotate easily.
2. Check all safety signs and replace any that are worn, missing or illegible. The safety signs are listed on page P-1 and P-3. Safety signs may be obtained from your Dealer or ordered from the factory.
3. Check winch and cable for security and operation. There should be at least three complete wraps of cable around winch drum in full down position. Cable anchor on winch drum must be tight.
4. Are all fasteners tight?
5. Are all belts and chain properly adjusted? (See Maintenance Section.)
6. Check oil levels in gearbox and enclosed drive unit. (See Maintenance Section.)

DESIGNATED WORK AREA

Before starting the auger, a designated work area should be established around it.

Under no circumstances should persons not involved in the operation be allowed to trespass into the work area.

It shall be the duty of all operators to see that children and/or other persons stay out of the work area! Trespass into the work area by anyone not involved in the actual operation shall result in an immediate shutdown by the operator.

It shall be the responsibility of all operators to see that the work area has secure footing, is clean and free of all debris, and tools which might cause accidental tripping and/or falling.

OPERATING INSTRUCTIONS

The horizontal unloading kit includes a section of flanged tubing (with flight and stubs) which bolts to the flange on the unloading tube. The motor is mounted on top of the flanged tube. All mounts are designed to take the proper size motor. On direct belt drive units, the head bearing is sealed and self-aligning and drive parts include auger sheave and "B" belts for dependable service. On reducer drive units, the reducer is mounted to the head plate of the auger housing. Drive parts include reducer, input shaft sheave and "B" belts for dependable service.

Our augers are well made and we are proud of our line of equipment. We would like you, as our customer, to do your part in using caution and good judgement in using our equipment, as well as any other machinery.

DO NOT enter the grain bin unless all power driven equipment has been shut down and locked out.

ELECTRIC MOTOR DRIVES

Always use a motor with required H.P. suggested in the chart on page 5. Use a motor that operates at 1750 RPM. Electric motors and controls shall be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.

A magnetic starter should be used to protect your motor when starting and stopping. It should stop the motor in case of power interruption, conductor fault, low voltage, circuit interruption or motor overload. Then the motor must be restarted manually. Some motors have built-in thermal overload protection. If this type motor is used, use only those with manual reset.

Reset and motor starting controls must be located so that the operator has full view of the entire operation.

A main power disconnect switch capable of being locked only in the OFF position shall be provided. This shall be locked whenever work is being done on the Horizontal Bin Unloading Auger.

The horsepower recommendations are based on clean, dry shelled corn or wheat. High moisture grain (above 15%) will require greater power. The maximum possible capacity will be less with high moisture grain than with dry grain. Use chart on next page to determine size of motor required.

OPERATING INSTRUCTIONS - CONT.

HORSEPOWER REQUIREMENTS

Bin Dia.	Horizontal Head	25° Head	Vertical Head
24'	7 1/2	10	10
27'	7 1/2	10	10
30'	7 1/2	10	15
33'	7 1/2	10	15
36'	10	10	15
39'	10	15	- -
42'	10	15	- -
48'	10	15	- -
54'	10	- -	- -
60'	15	- -	- -

NOTE: Refer to the operator's manual for the particular style of unloading head being used for additional information.

FLIGHT SPEED INFORMATION

Proper auger flight speed is important for efficient operation of the auger.

1. If the flight speed is too fast, excessive wear will result. (See chart below.)
2. If the flight speed is too slow and the auger flighting is permitted to "load-up", high torque will be required to turn the auger flighting, and damage to the auger can result. Use the bin well slide gate to control the amount of grain fed into the unloading tube. (See chart below.)

Disconnect power before resetting motor overloads.
Make certain electric motor is grounded.

Model	*Motor Pulley Dia.	Driven Pulley Dia.	Recomm. Auger Speed	Max. Auger Speed	Min. Auger Speed
10" Horizontal Unload	3.0	15	350	400	225
10" 25 Degree Unload	3.0	15	350	400	225
10" Vertical Unload	4.0	12	400 Horizontal Auger	440 Horizontal Auger	330 Horizontal Auger

***Motor pulleys are <u>not</u> furnished with the auger.**

OPERATING INSTRUCTIONS - CONT.

START-UP INFORMATION

Make certain everyone is clear before operating equipment.

The operator shall be aware of any unusual vibrations, noises and the loosening of any fasteners.

Keep all safety shields and devices in place.

Keep hands, feet and clothing away from moving parts.

Shut off and lock out power to adjust, service or clean.

Never enter the bin while the power sweep auger is in operation. Never attempt to control the operation of the sweep auger by pushing on the operating sweep auger with shovels, brooms or other devices. DO NOT attempt to restrain movement of the sweep auger by attaching ropes, bars or other devices to be held by an operator.

During the operation of the auger, one person shall be in a position to monitor the operation. Inspect the drive before adding power and know how to shut down in an emergency. (See page 7.) Visually inspect the auger periodically during operation. **DO NOT** leave the unit operating unattended.

IMPORTANT: BEFORE FILLING BIN

A. Close the center well and the intermediate well gates. Push the control pipes to close. (See Fig. 3 on page 8.)
B. Disengage the power sweep clutch control. Push to disengage. NOTE: See instruction sign at the controls outside the bin.
C. Position the sweep auger along side the intermediate wells.

BREAK-IN INFORMATION

Any screw conveyor when it is new or after it sets idle for a season should go though a "break-in" period. The auger should be run at partial capacity until the screw becomes polished and smooth before attempting full capacity. A failure will most likely occur when run full before it has "polished up". It is recommended that several hundred bushels of grain be augered at partial capacity.

Never operate the auger when empty for any length of time, as excessive wear will result. If at all possible do not stop or start the auger under load, especially before the flight and tube become well polished, as this may cause the auger to "freeze-up".

1. If the flight speed is in excess of what is recommended, excessive wear will result.

2. If the flight speed is slow and the auger flighting is permitted to "load up", high torque will be required to turn the auger flighting and damage to the auger can result. Use the bin well slide gate to control the amount of grain fed into the auger.

OPERATING CAPACITIES

The results or capacities of screw conveyors or augers can vary greatly under varying conditions. Different materials, moisture content, amount of foreign matter, methods of feeding and speed all play a role in the performance of the auger. Twenty-five (25%) moisture could cut capacity back by as much as 40% under some conditions.

OPERATING INSTRUCTIONS - CONT.

DO NOT ENTER THE GRAIN BIN UNLESS ALL POWER DRIVEN EQUIPMENT HAS BEEN SHUT DOWN AND LOCKED OUT.

NEVER ENTER THE GRAIN BIN UNLESS MONITORED BY ANOTHER PERSON.

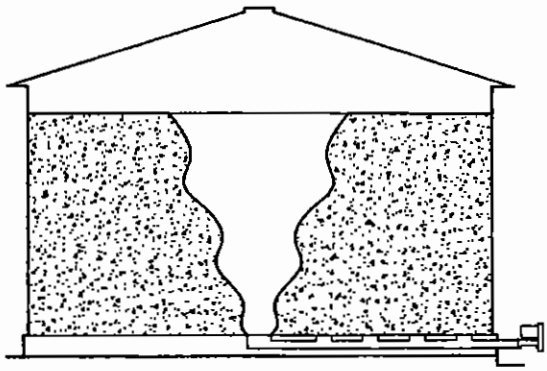


FIG. 1

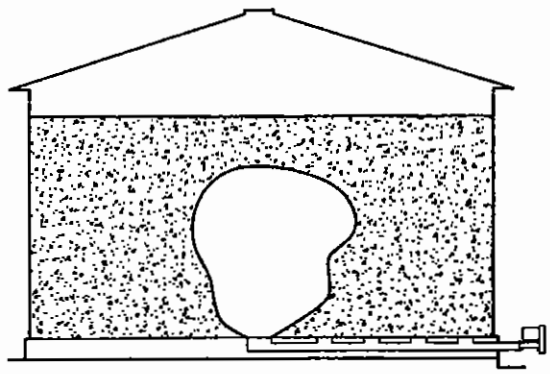


FIG. 2

DO NOT ENTER THE BIN IF THE GRAIN HAS BRIDGED OR HAS NOT FLOWED NORMALLY OUT OF THE BIN SUCH AS SHOWN IN FIG. 1 OR FIG. 2. THE GRAIN MAY SUDDENLY BREAK LOOSE AND BURY CAUSING SUFFOCATION.

OPERATING INSTRUCTIONS - CONT.

NORMAL OPERATION

A. Start the unloading auger. The motor is located on the drive head which is one of four different heads available. A horsepower chart on page 5 includes head type, bin diameter and power sweep diameter.

B. Open the center well gate which is the small pipe on the top side of the auger tube. Make sure lynch pin has **not** been inserted through the intermediate control pipe. See Fig. 3. Open gradually until the desired flow is established. It should not be necessary to open the gate more than 3 to 6 inches. Always close the center well gate and allow the unloader to clean out before stopping the unloader. When restarting open the center well gate to the previous position immediately after starting the unloader. When using the rack and pinion control, it will be necessary to rachet handle 180° as the handle gets close to the bin well.

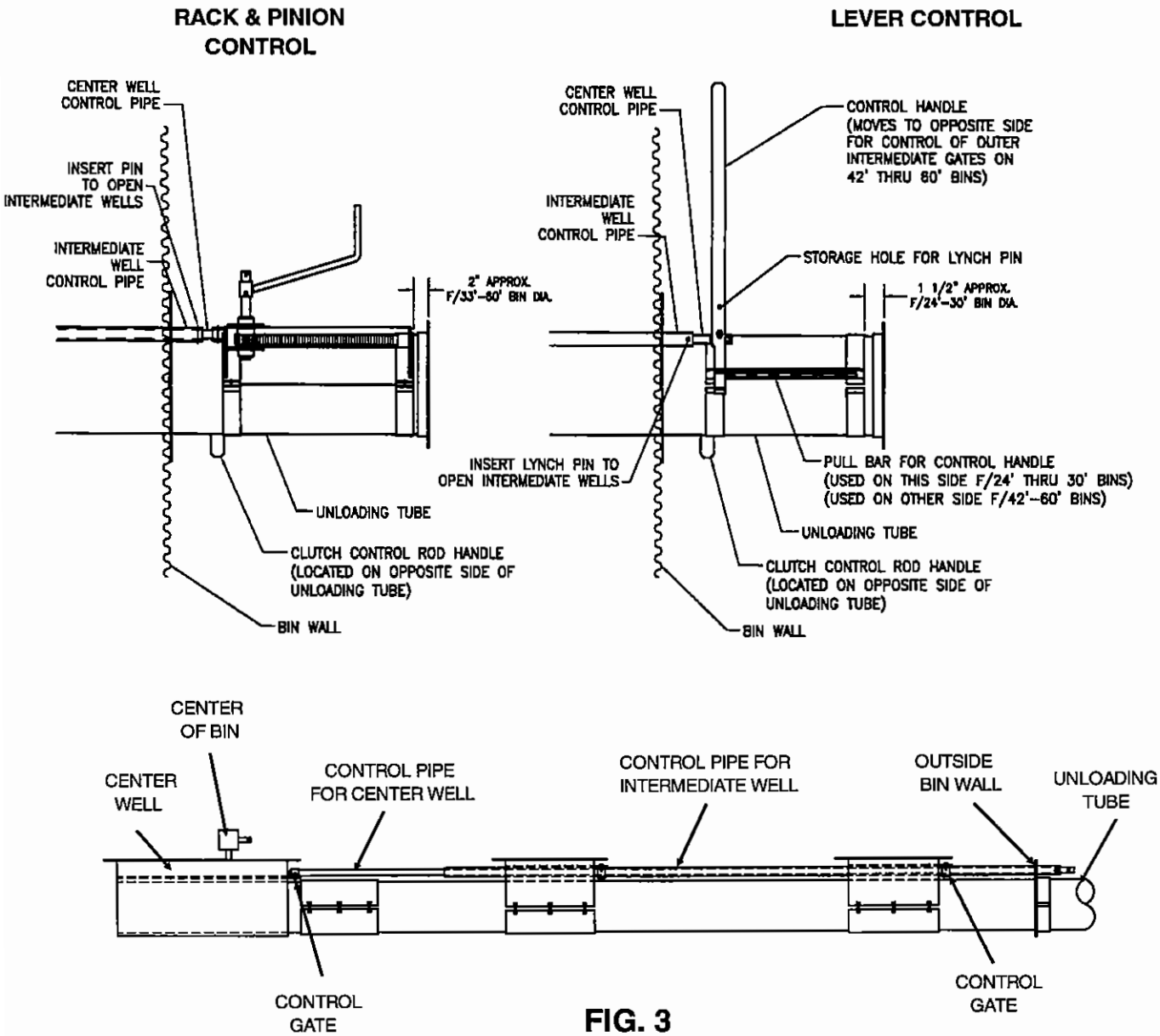


FIG. 3

OPERATING INSTRUCTIONS - CONT.

OPERATION - cont.

C. When grain flow stops from center well, close the center well gate and insert lynch pin through the intermediate well control pipe. (See Fig. 3.) Now you will be able to open the intermediate well. *Open gradually until the desired flow is establised. It should not be necessary to open the gates more than 2 to 4 inches.

NOTE: On 24' thru 39' diameter bins, this opens all the intermediate well gates. On 42' thru 60' diameter bins, however, a separate control rod handle is connected to the outer intermediate well control rod to open the outside two or three intermediate well gates.

*The grain remaining should appear as in Fig. 4.

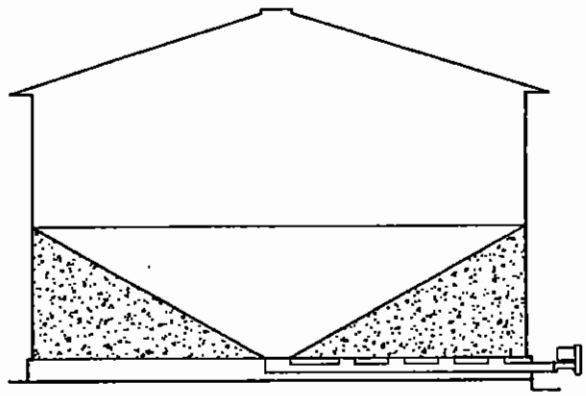


FIG. 4

D. When grain flow stops, shut down the unloader and lock out. The grain remaining should appear as in Fig. 5.

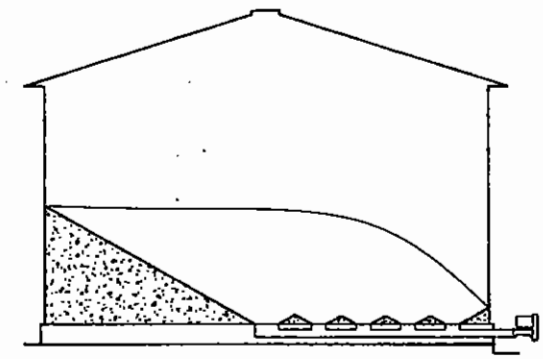


FIG. 5

E. With electric power to the Power Sweep motor locked out, open a belt drive guard and rotate the large sheave by hand while pulling on the clutch control rod handle. The clutch control is the single pipe control at the lower right of the auger tube. The pipe will move as the clutch engages. Tighten setscrew on lock collar to hold the clutch engaged. Close the belt drive guard.

F. Restore power and start unloading auger motor. The sweep auger will start along with the unloading auger. Open the center well full open to more readily receive grain from the sweep. The sweep auger will remain on the floor and clear most grain in one pass. A second pass will clear additional grain, before final clean-out.

G. Shut down the unloader and lock out main power.

KEEP OUT OF BIN WHILE SWEEP IS IN OPERATION.
RAPIDLY TRAVELING SWEEP AUGER.

OPERATING INSTRUCTIONS - CONT.

FINAL CLEANOUT

The following procedure is recommended for cleaning the floor of the bin after the sweep auger has removed as much grain as possible.

1. Clean (scoop and sweep by hand) the outer area of the floor into a circular pile towards the center of the bin. See Fig. 6.

DO NOT enter the grain bin unless all power driven equipment has been shut down and locked out.

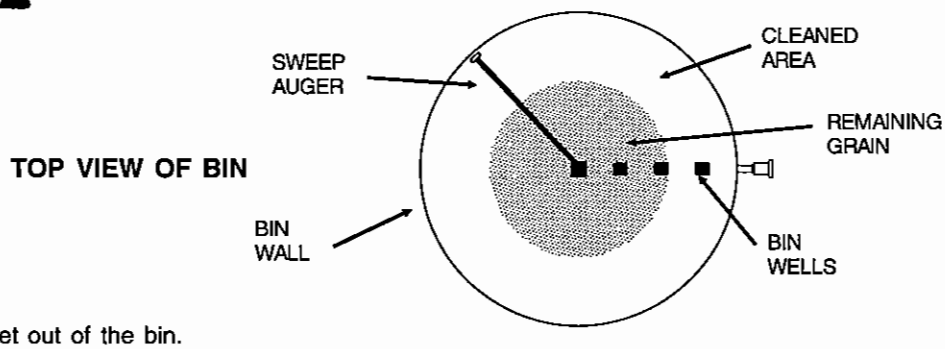


FIG. 6

2. Get out of the bin.
3. After making sure everyone is outside the bin and clear of the equipment, start the Power Sweep Auger. In a short time, the circular pile towards the center of the bin will have been removed.
4. Stop the equipment and lock out.
5. Scoop and sweep by hand the remaining floor area to the center of the bin. See Fig. 7.

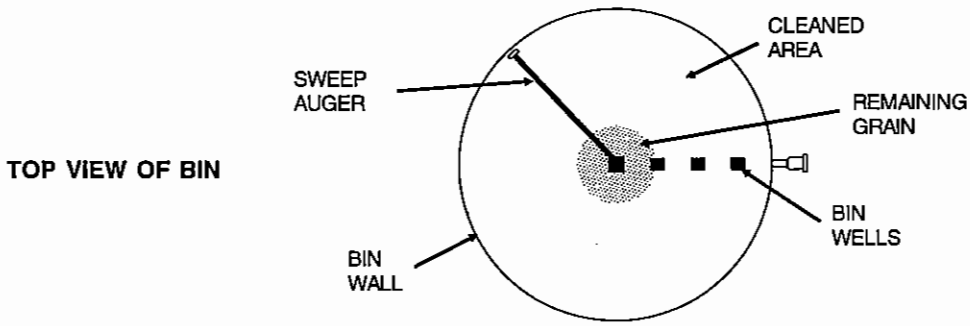


FIG. 7

6. Get out of the bin.
7. Repeat steps 3, 4, 5 and 6 until all grain has been removed from the bin.

Keep out of the bin while sweep is in operation. Rapidly traveling sweep auger. The sweep auger will move rapidly around the bin when the bin is nearly empty.

Stay clear of the under floor unloader at the bin wells. The underfloor unloader is exposed at these locations in the bin floor.

SHUTDOWN

A. NORMAL SHUTDOWN

Make certain that the bin well slide gates are closed to permit the unloading tube to clean out before stopping the unit. Before the operator leaves the work area, the power source shall be locked out.

B. EMERGENCY SHUTDOWN

Should the auger be immediately shutdown under load - disconnect and lockout the power source. Close the bin wells.

NOTE: Starting the unit under load may result in damage to the auger. Such damage is considered abuse of the equipment.

Reconnect power source and clear auger gradually.

Whenever you must service or adjust your equipment, make sure to stop motor and lockout your power source!

OPERATING INSTRUCTIONS - CONT.

LOCKOUT

If the operator must leave the work area, or whenever servicing or adjusting, the horizontal bin unloading auger must be stopped and the power source turned off. Precaution should be made to prevent anyone from operating the auger when the operator is absent from the work area.

IMPORTANT: Use a main power disconnect switch capable of being locked only in the off position.

CLEAN-UP

1. Check to see that all guards listed in the assembly instructions are in place and secured and functional.
2. Check all safety signs and replace any that are worn, missing or illegible. The safety signs are listed in the parts section of this manual. Safety signs may be obtained from your Hutchinson dealer or ordered from the factory.
3. Are all fasteners tight?

LUBRICATION

1. Lubricate the sweep universal joint each time the grain bin has been emptied.
2. The gearboxes in the center bin well are lubricated at the factory. Check the oil level by removing the plug in the side of the gearboxes. The oil must be up to the plug level. Check oil level each time the bin has been emptied. Use SAE 90 weight multipurpose gear oil.
3. Add two oz. of multipurpose gun grease to the sweep end wheel drive enclosure during assembly and each time the bin has been emptied. Use the zerk on the drive housing.

Never clean, adjust or lubricated a machine that is in operation.

TROUBLE SHOOTING

AUGER VIBRATION

Driving belt may be overtightened, putting head stub and flight in a bind.

LOW CAPACITY

The auger may not be getting enough grain. The bin well may have bridged over, restricting flow. The center well gate may not be open enough.

Check auger speed. Speeds slower than the recommended speed will result in low capacity.

AUGER PLUGS

The auger may be getting too much grain, causing "jamming" inside the housing. Close center well gate to restrict flow.

The motor may be too small or wired improperly.

Is the auger free of an foreign material, such as sacks, tarp corners, etc? A plug of the discharge end will cause an auger plug.

SWEEP FLIGHT AND BACK SHIELD NOT MOVING

Check clearance between back shield and bin floor for excessive drag. Adjust shield up to clear metal floor splices or cracks in concrete floors.

Check the sweep wheel. After extensive use, the wheel material may have worn down to where the wheel diameter is no longer large enough to move the sweep properly. Order replacement wheel or wheel parts from your dealer or the factory.

The grain may have gone out of condition due to moisture or insect activity and has become hard or caked. caked. Stop the sweep auger before entering the bin to correct this or any other difficulty requiring bin entry.

ASSEMBLY INSTRUCTIONS

Power Sweep Auger Unloaders should not be poured into concrete. For installation into grain bins with concrete floors, a pre-formed trench should be made that will accept the Power Sweep unload auger, center well, intermediate wells and controls. The drawing in Figure 8 includes dimensions for a minimum trench size and relative position to the center of the bin.

CONTRETE TRENCH LAYOUT FOR 10" POWER SWEEPS

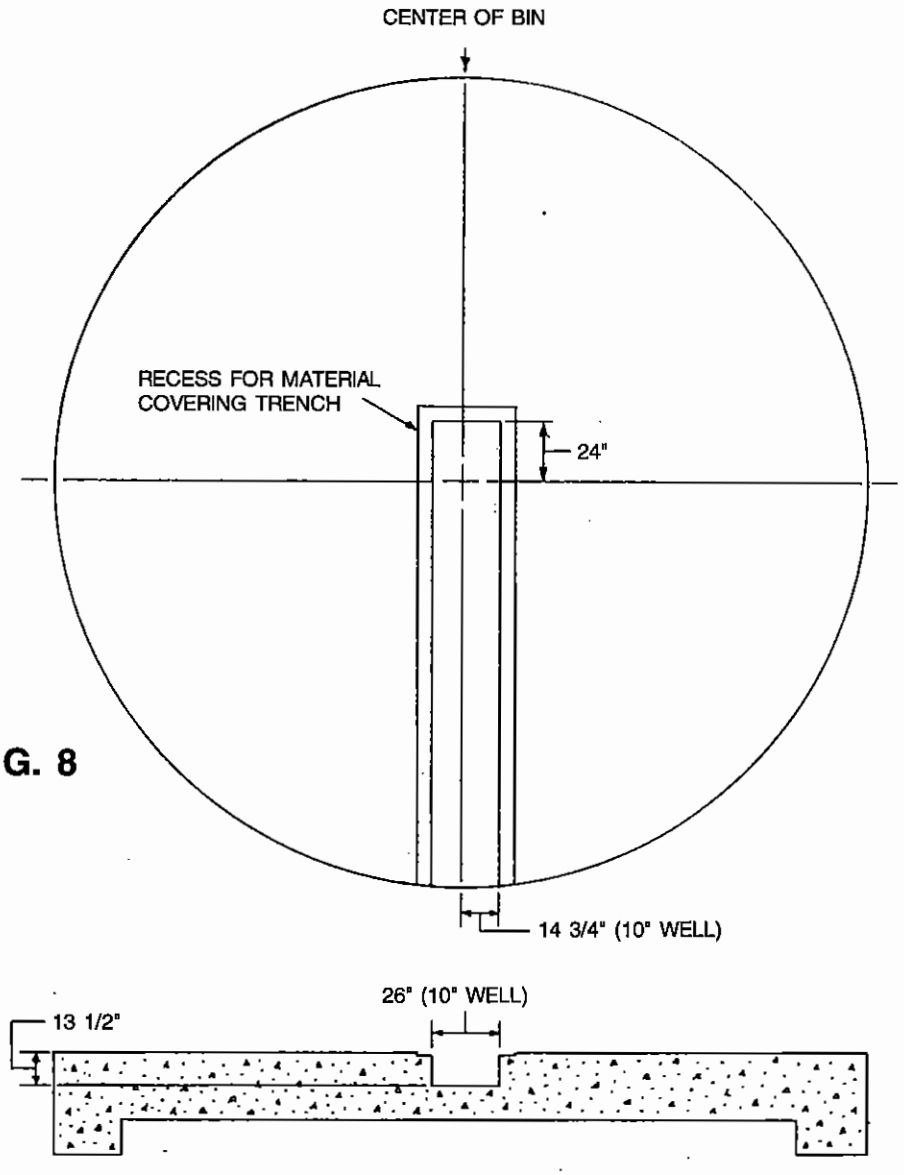


FIG. 8

NOTE: The off-set design of the center well requires that the trench be off-set also, so that the vertical shaft between the gearboxes is located in the center of the bin. A recess should be formed around the outer top of the trench for material used to cover the trench. The depth required for this recess depends on thickness of material used to cover the trench. One fourth inch thick steel plate is often used.

ASSEMBLY INSTRUCTIONS - CONT.

For bins with raised metal floors, it is necessary to cut openings in the floor for the center well and intermediate wells. Make sure the metal floor is at least 13 inches above the concrete base so there is space for the wells. It will be convenient to complete assembly of the bin floor as the Power Sweep is being installed for better access to components under the floor.

1. Locate the center of the bin and make a cut-out in the bin floor for the center well. See Fig. 9. Locate the vertical shaft between the gearboxes in the center of the bin. Place suitable supports under the center well to hold it in position.

TOP VIEW OF CUT-OUTS FOR CENTER AND INTERMEDIATE WELLS IN BIN FLOOR.

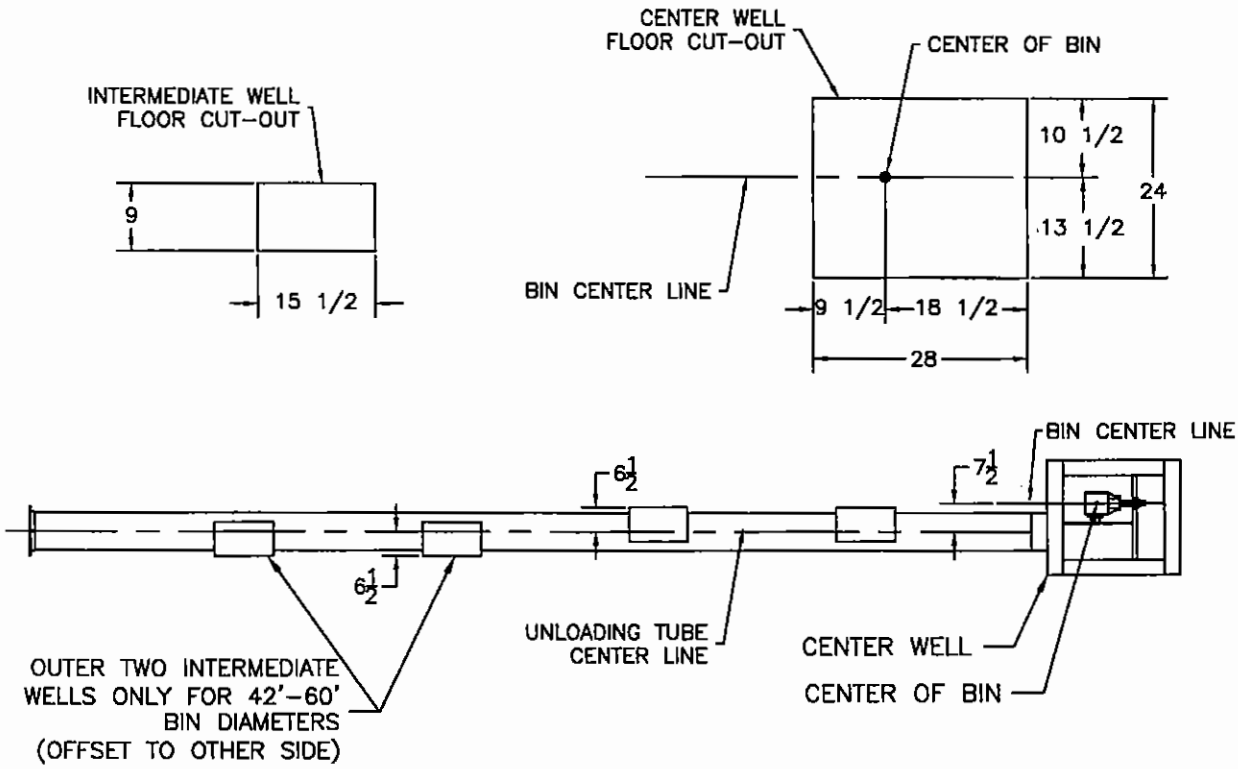


FIG. 9

ASSEMBLY INSTRUCTIONS - CONT.

2. Cut an opening in the bin wall for the unloading tube. Locate the opening below the floor the same distance as the auger tube connection to the center bin well.

   Cut a 1 1/2" diameter hole for the center and intermediate well control rods.

   Cut a 1" diameter hole for the outer intermediate well control rods on 42' thru 60' bin diameters.

   For all sizes cut a 1" hole for the clutch control located lower right. Use the bin flange to locate these holes. See Fig. 10.

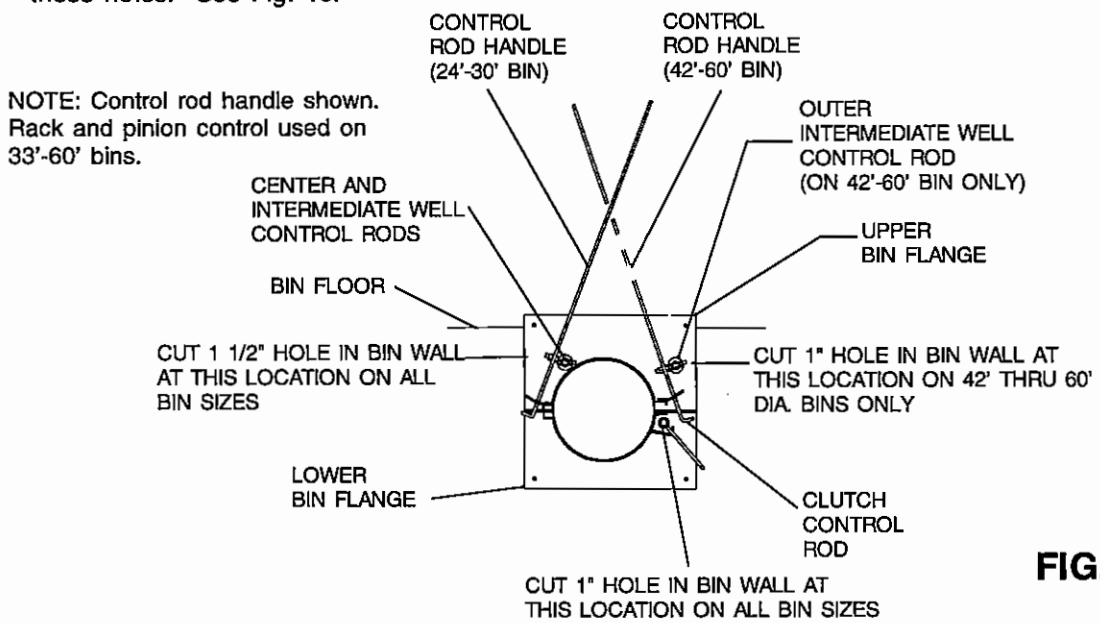


FIG. 10

3. Slide the unloading tube through the bin wall and connect to the center well. Use a 12" long connecting band, 5/16" x 1 1/2" bolts and nuts. The unloading tube should be tight against the tube extending from the center well.

   Attach the bin flange to the auger tube using 5/16" x 1 1/2" bolts and nuts. Fasten the four corners of the bin flange to the bin by first drilling holes for 5/16" x 1" bolts in the bin wall through existing holes in the flange. Attach the decal plate to the upper flange while attaching to bin. (See Fig. 11.)

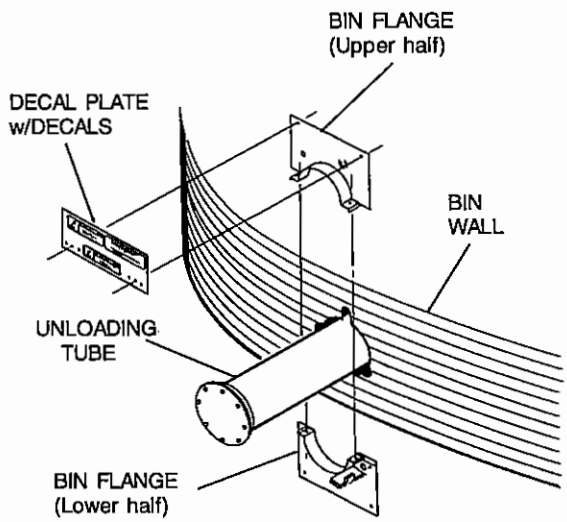


FIG. 11

ASSEMBLY INSTRUCTIONS - CONT.

4. Cut openings in the bin floor for the intermediate wells. (See Fig. 9 on page 13.) The number of wells depends on bin size. (See chart and Fig. 12 below.)

BIN SIZE (DIA.)	TUBE LENGTH	NUMBER OF INTERMEDIATE WELLS	DISTANCE FROM CENTER OF BIN TO WALL (A)	DISTANCE BETWEEN INT. WELLS (B)	LENGTH OF INT. WELL CONTROL PIPE (C)	LENGTH OF CENTER WELL CONTROL PIPE (D)	TUBE EXTENSION OUTSIDE BIN (E)	DISTANCE TO END OF CENTER WELL CONTROL PIPE (F)	LENGTH OF CLUTCH CONTROL PIPE (NOT SHOWN)
24'	12'-6"	2	12'-0"	4'-8"	10'-0"	11'-6"	1'-11"	1'-4 1/2"	14'-6"
27'	14'-0"	2	13'-6"	5'-5"	11'-0"	13'-0"	1'-11"	1'-4 1/2"	16'-0"
30'	15'-6"	2	15'-0"	6'-2"	12'-0"	14'-6"	1'-11"	1'-4 1/2"	17'-6"
33'	17'-6"	3	16'-6"	4'-8"	14'-5"	16'-6"	2'-5"	1'-4 1/2"	19'-6"
36'	18'-6"	3	18'-0"	5'-2"	15'-6"	17'-6"	2'-5"	1'-10 1/2"	20'-6"
39'	20'-0"	3	19'-6"	5'-8"	16'-5"	19'-0"	2'-5"	1'-10 1/2"	22'-0"
42'	22'-0"	4	21'-0"	4'-7"	18'-3"	20'-6"	2'-5"	1'-10 1/2"	23'-6"
48'	25'-0"	4	24'-0"	5'-4"	21'-0"	23'-6"	2'-5"	1'-10 1/2"	26'-6"
54'	28'-0"	4	27'-0"	6'-1"	24'-0"	26'-6"	2'-5"	1'-10 1/2"	29'-6"
60'	31'-0"	5	30'-0"	5'-6"	27'-0"	29'-6"	2'-5"	1'-10 1/2"	32'-6"

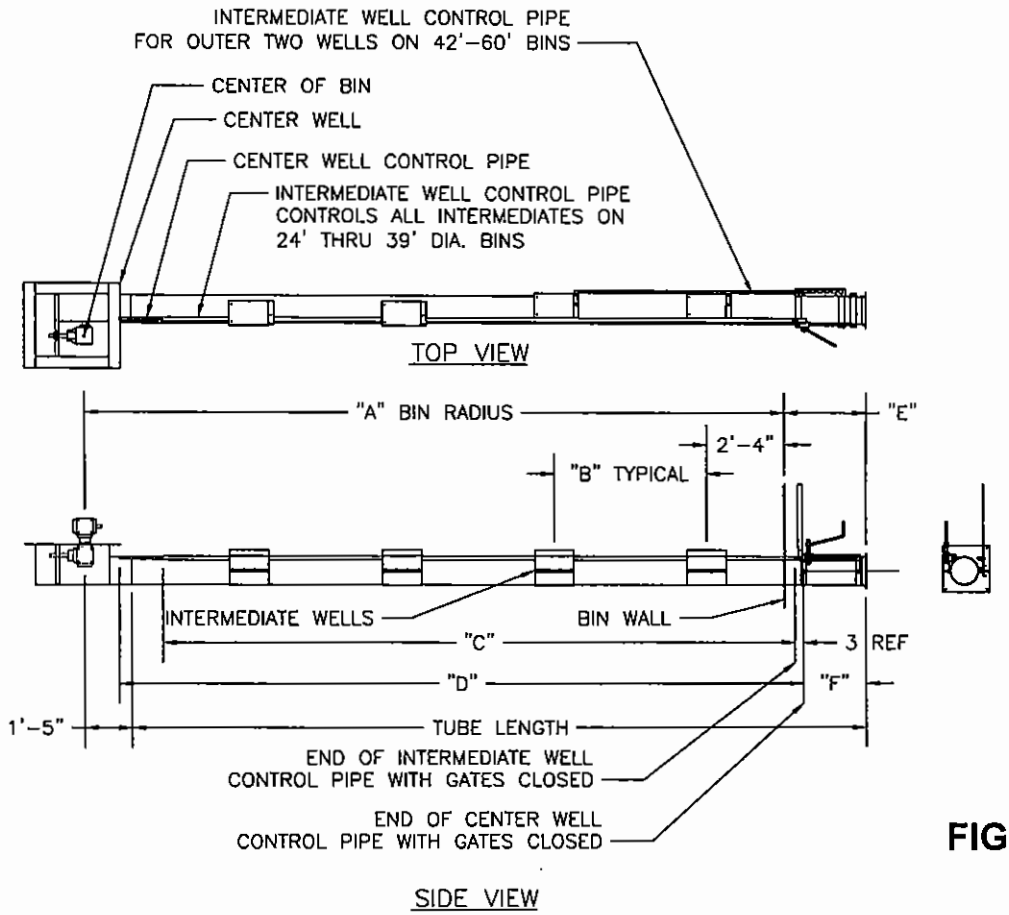


FIG. 12

Place the intermediate wells directly over the unloading tube. Mark the tube and cut openings in the tube for each well. Leave at least 1/2" of tube extending inside the well on all four sides. Make sure the inside of the tube is smooth where the cuts were made and retrieve all pieces of the cut out area from inside the tube. Make sure the intermediate wells are positioned so the gate opens toward the bin wall. Place support material under the unloading tube at each bin well.

ASSEMBLY INSTRUCTIONS - CONT.

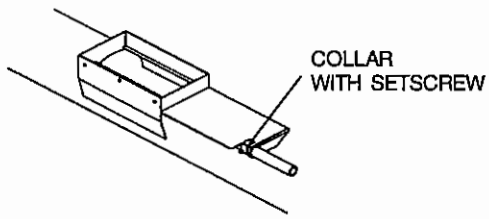
5. Slide the unloading flight into the unloading tube with the square drive end toward the outside of the bin. Bolt the flight to the drive shaft inside the center well using two 3/8" x 3" bolts and locknuts. Make sure a tubular bearing spacer is in place on the shaft between the unloading flight and the bearing.

6A. For bolt-on intermediate wells, attach the intermediate bin well gate(s) to 1 3/8" O.D. control pipe: See Fig. 15.
   A. Shut the intermediate bin well gate(s).
   B. Check length of control pipe by sliding it into place.
   C. Drill a 3/8" dia. hole through one side of the 1 3/8" O.D. control pipe. The dimple of the control gate clamp will fit into this hole when clamped to the control gate. Determine the hole location by seeing where the dimple will hit the control pipe when it is bolted in place.
   D. Fasten the control gate clamp to the control gate and control pipe. Secure in place by using two 5/16" x 1" long (grade 5) hex head capscrews, lockwashers and nuts.

6B. For intermediate bin wells welded to unloading housing, See Fig. 14.
   A. Adjust location of gate on control pipe by using the setscrew in the collar. Make sure setscrew is tightened when finished.

6C. On bin diameters of 42' thru 60', the outer two intermediate well gates are attached to the 7/8" diameter control rod using 5/16" x 1 1/2" bolts to attach the rod to the pull bracket. See Fig. 16.

FIG. 14
WELD-ON INTERMEDIATE WELL GATE



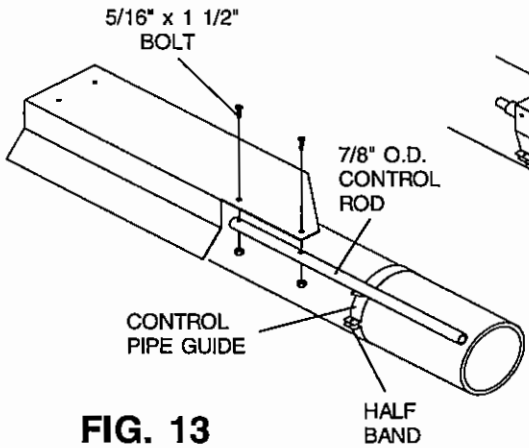


FIG. 13
CENTER WELL GATE

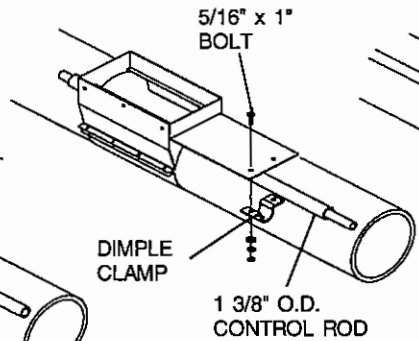


FIG. 15
BOLT-ON INTERMEDIATE WELL GATE

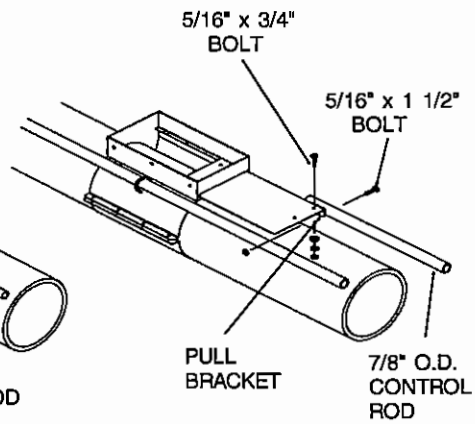


FIG. 16
OUTER INTERMEDIATE WELL GATE BOLT OR WELD-ON FOR 42' THRU 60' BINS

7A. Loosely attach control pipe guide to auger housing using a 2" wide halfband and two 5/16" x 1 1/2" bolts and nuts. Orient guide and tighten after center well gate is attached to control pipe.

7B. Attach the center well gate to 7/8" O.D. control pipe. (See Fig. 13.)
   A. Shut the center control gate.
   B. Check length of control pipe by sliding it through the control pipe of intermediate well(s). When the control pipe is fastened to the control gate, the center well control pipe should extend past the end of the intermediate well control pipe a minimum of 3". See Fig. 12 on page 15.
   C. Attach control gate to control pipe using two 5/16" x 1 1/2" bolts and nylon locknuts.
   D. Orient control pipe guide to support control pipe and also place far enough away from the center well to completely open center gate. Tighten bolts to secure in place.

ASSEMBLY INSTRUCTIONS - CONT.

8. Install control rod handle and pull bar assembly onto the unloading tube. (See Fig. 17A & 17B.) Also reference Fig. 10 on page 14 and Fig. 3 on page 8.

   A. Attach control rod pull bar to the unloading auger housing using 10" x 2" wide half bands and 5/16" x 1 1/2" bolts and hex nuts. See Fig. 17A. On 24' thru 30' bins, there is a pull bar on the left side and on 42' thru 60' bins, there is a pull bar on the right side. See Fig. 17B. Insert bolts up from bottom and install nuts on top. The bands may need to be rotated slightly on the housing to provide clearance between half band bolt heads and clutch handle. Refer to Fig. 3 for approximate location of half band from end of unloading auger housing. Note that this dimension varies depending on bin diameter.

   B. Install the control rod handle by inserting the bent end through the notched slot in the pull bar and then sliding the pivot tube of the handle over the 7/8" O.D. center well control rod. Secure pivot tube to the control rod by placing a 5/16" x 1 1/2" bolt with lock nut in the holes in the end of the rod on each side of the pivot tube. NOTE: Bent end of handle should point away from unloading auger housing. This prevents the handle from coming out of the pull bar slot. See Fig. 17A.

   C. Store the lynch pin in the extra hole on the handle. When it is necessary to open the inside intermediate bin well gates, the lynch pin will need to be installed through the holes in the intermediate and center well control pipes to lock them together.

   D. On 33' thru 60' bins, install the rack and pinion assembly as shown in Fig. 17B using 10" x 2" wide half bands.
   NOTE: On 42'-60' bins, the pull bar also needs to be mounted at the same time. The rack should be positioned vertical and aligned with the center well control pipe. Install handle and secure in place with a 5/16" x 1 1/2" bolt and locknut.

   E. Check the operation of all the gates by separately pulling on each control pipe. The gate should slide freely.

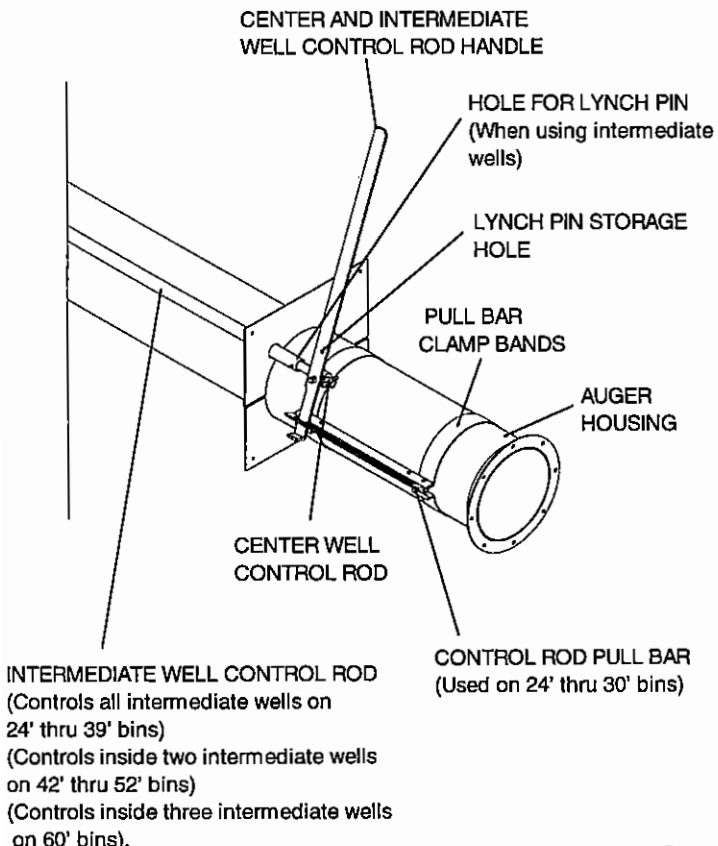


FIG. 17A

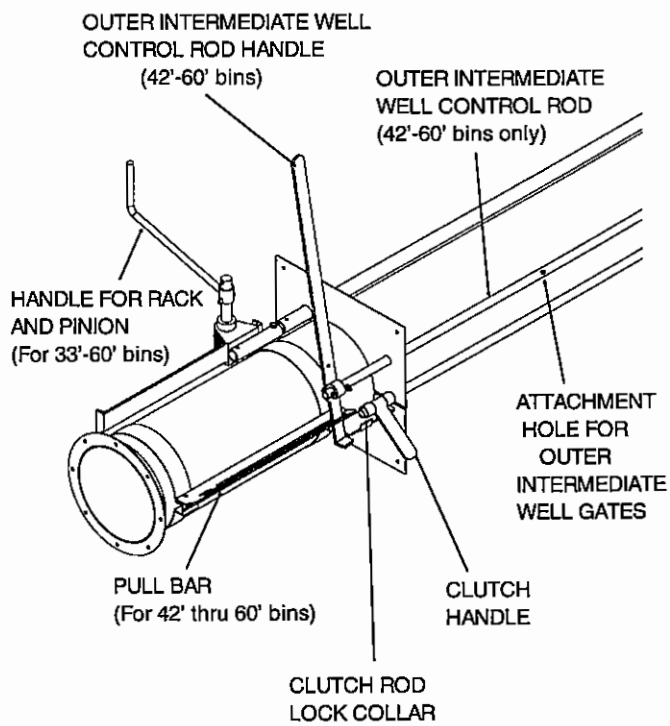


FIG. 17B

ASSEMBLY INSTRUCTIONS - CONT.

9. Install control pipe for clutch on center well. (See Fig. 18.)

   A. Slide control pipe through the bin flange and the support rings or control pipe brackets on the intermediate and center wells. Slide control pipe into collar of the center well.

   B. Bolt control pipe to collar of the center well using a 5/16" x 1 1/2" long bolt with a lockwasher and non-lock nut.

   C. Attach clutch control handle to outer end of clutch control rod by using a lock collar on both sides of the handle. Pull clutch control rod to fully engage the clutch in the center well. Then position control handle on the outside of the position lock tab and tighten the lock collars on both sides of the handle.

   D. Check operation of clutch by pulling the handle to engage the clutch and then pushing the handle to disengage. Control pipe should slide freely.

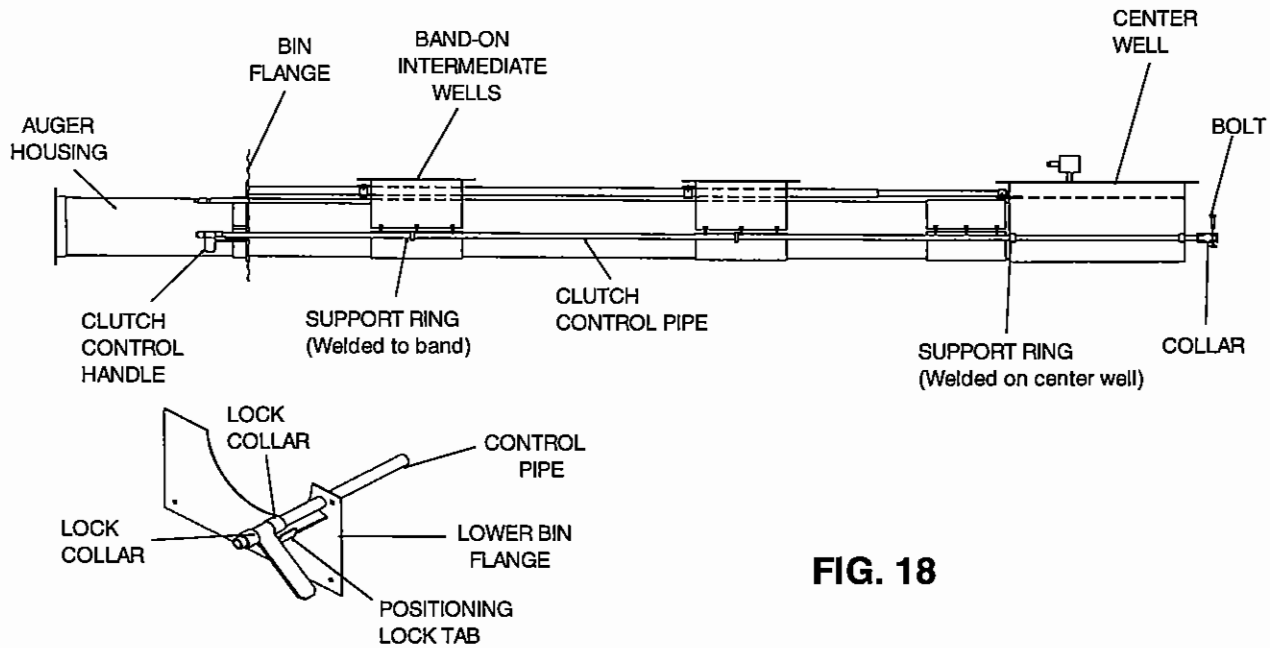


FIG. 18

ASSEMBLY INSTRUCTIONS - CONT.

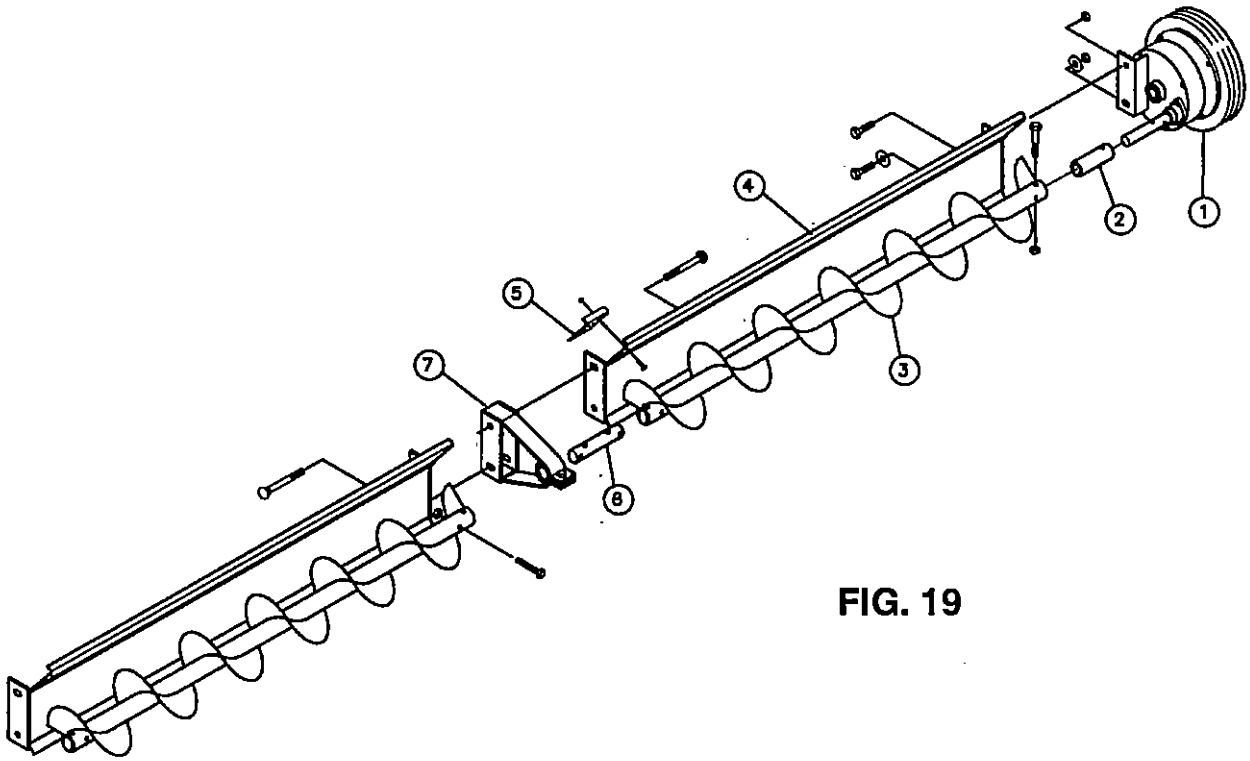


FIG. 19

10. Assemble the sweep wheel to flight and shield. (See Fig. 19.) Add grease to sweep wheel drive enclosure. (See page 11.)
    (NOTE: If there is more than one section of flight and shield, use shortest section.)
    A. Slide bushing (Ref. 2) onto the sweep wheel stub. The bushing should be orientated so that the hole in the bushing is closest to the wheel.
    B. Slide flight (Ref. 3) onto the bushing and sweep wheel stub. Using hole closest to the end of the flight, bolt flight, bushing and wheel stub together using a 3/8" x 2 1/2" long bolt and nylon locknut. (NOTE: There are two holes in the sweep wheel stub. Use the one closest to the wheel at this time. You may need to use the other hole for adjustment at a later time during assembly.)
    C. Fasten the shield to the sweep wheel using two 3/8" x 1 1/4" long bolts and nylon lock nuts. The bottom bolt uses two flat washers for the slots.

11. If your sweep has more than one section, bolt sections of shield and flights together.
    A. Bolt stub (Ref. 6) into the flight that is attached to the sweep wheel. Use two 1/2" x 3" long bolts with nylon locknuts.
    B. Slide shield bearing hanger (Ref. 7) onto stub.
    C. Bolt the next section of flight to the stub using two 1/2" x 3" long bolts with nylon lock nuts.
    D. Bolt the sweep shields together with the shield bearing hanger (Ref. 7) in between the two sections. Use two 3/8" x 3" long carriage bolts with lockwashers and non-lock nuts. (NOTE: Install carriage bolts so that square portion of the bolt next to the head fits into a slot on the sweep shield. The two bolts will install from different directions.
    E. Install the shield cover (Ref. 5) using four 5/16" x 3/4" long bolts with nylon lock nuts. Orient bolt head to the inside of the shield.

ASSEMBLY INSTRUCTIONS - CONT.

12. Attach the sweep shield and flight to the center well. (See Fig. 20.)
    NOTE: Loosen bolts that hold the bracket onto the gearbox. There are slots in the bracket that allows linear adjustment for making the shield and flight attachments to the center well. If more adjustment is needed, go back to step 10 and use the other hole in the sweep wheel stub to make the connection to the flight.

    A. Bolt the sweep shield to the center well with (2) 3/8" x 1" long bolts, flatwashers and nylon locknuts.

    B. Bolt the sweep flight to the stub using (2) 1/2" x 3" long bolts with nylon locknuts.

    C. Retighten bolts that hold the bracket to the gearbox.

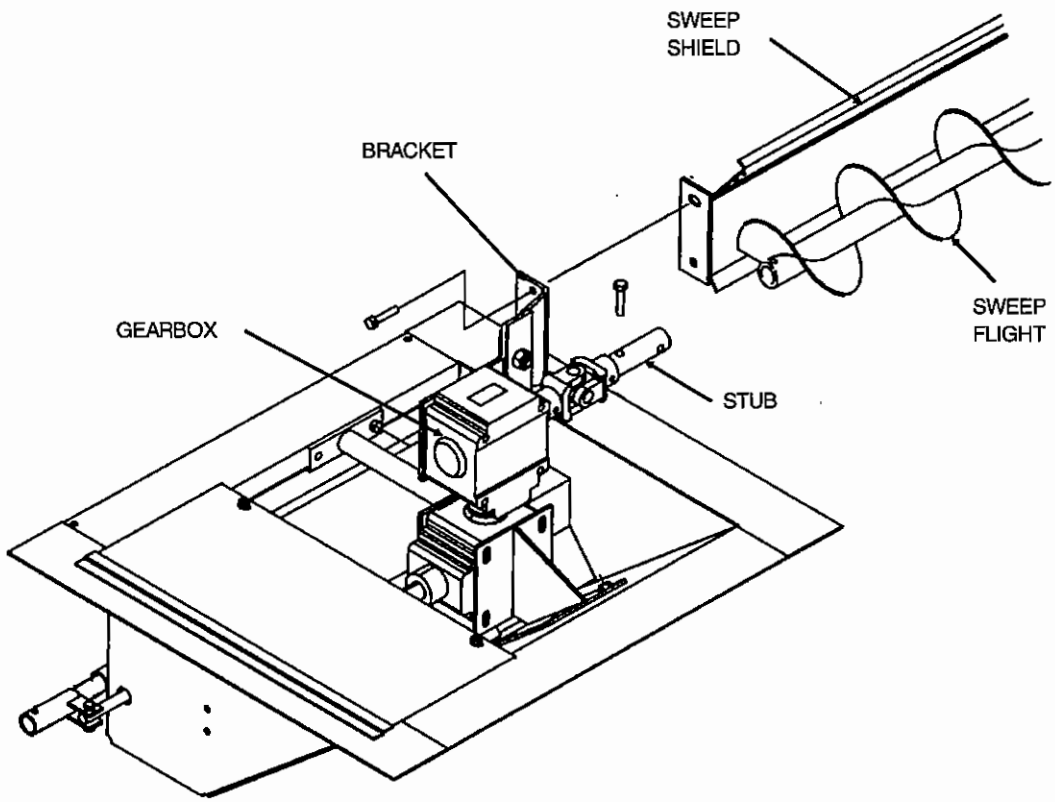


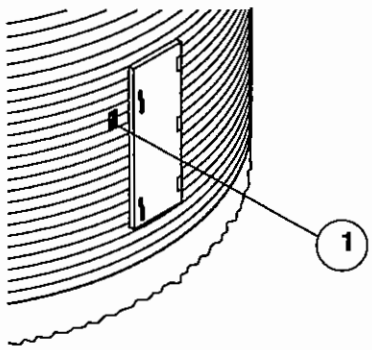
FIG. 20

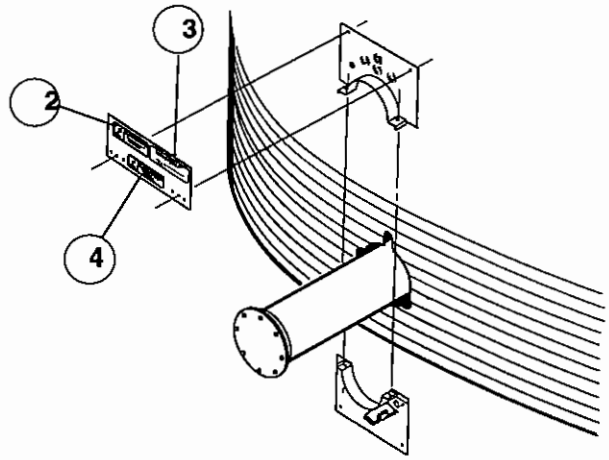
PARTS LIST

SAFETY DECALS

Check components as specified below to ensure that safety decals are present and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Decals may be ordered through you dealer.

DANGER: Sign No. 1002303 was supplied with the bin unloading equipment. This safety sign should be applied to the side of the bin near the bin opening, so it will be viewed by people entering into the bin or storage building.

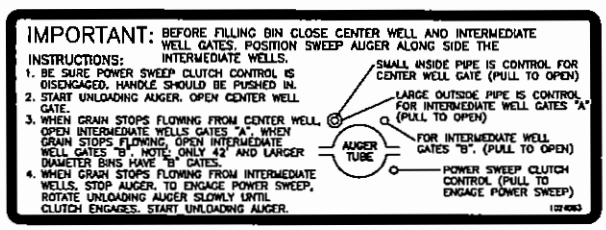




REF. NO.	PART NO.	DESCRIPTION	SIZE
1	1002303	DANGER - Rotating Flighting	4" x 7"
2	1002305	DANGER - Keep out of Bin (Unloading Operations)	2 3/4" x 7 1/2"
3	1024083	Important - Before Filling Bin	2 3/4" x 7 1/2"
4	1002304	DANGER - Keep out of Bin (Rapidly traveling sweep auger)	1 3/4" x 7 1/2"

Part No. 1002303

Part No. 1002305

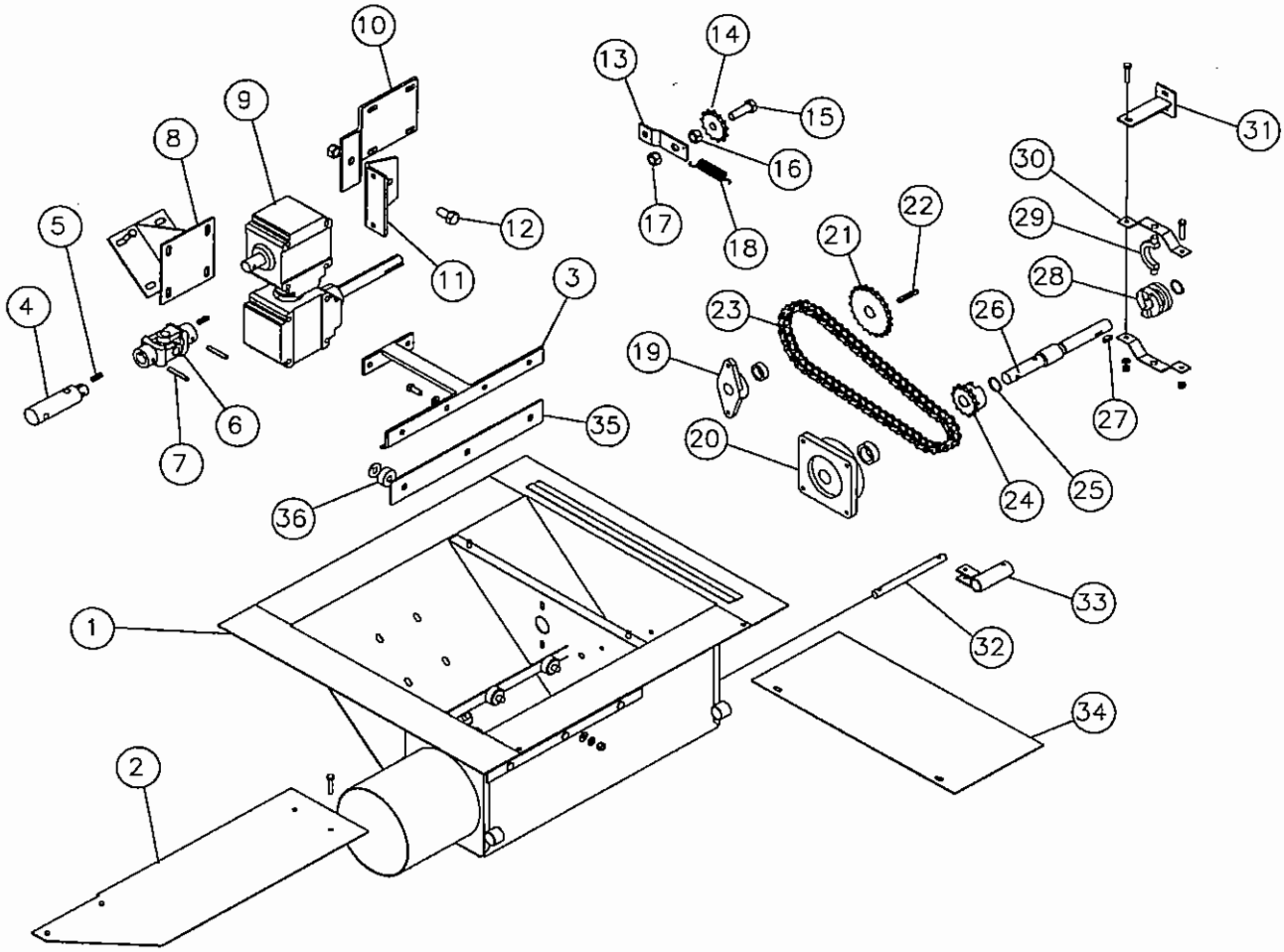


Part No. 1024083

Part No. 1002304

PARTS LIST

CENTER WELL COMPONENTS



REF. NO.	PART NO.	DESCRIPTION
1	1025846	Power Well Weldment
2	1023943	Slide Gate
3	1023933	Inside Mounting Brkt. for Gearbox
4	1016684	Stub for U-Joint
5	4020A1	1/4" Square Key x 1" long
6	1013677	Universal Joint, 1" to 1" (5" long)
7	6386C	Roll Pin, 5/16" x 2" long

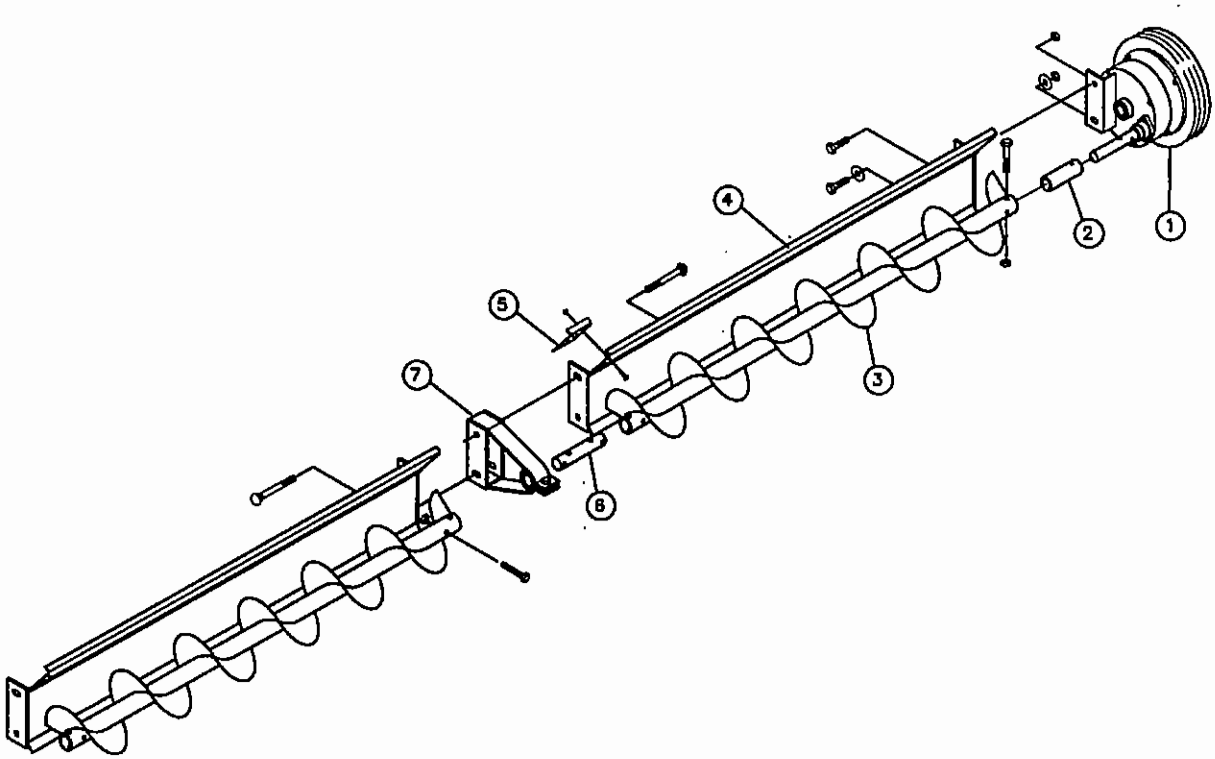
PARTS LIST

CENTER WELL COMPONENTS - CONT.

REF. NO.	PART NO.	DESCRIPTION
8	1015014	Gearbox Mounting Brkt.
9	1015211-2	Double Gearbox Assy.
10	1016617	Shield Brkt. for Gearbox
11	1016618	Shield Brkt. Attachment Plate
12	33276	Bolt, 5/8" x 1 1/2" long HHCS
13	1005850	Idler Sprocket Arm
14	6821P	Sprocket, 13 tooth Idler, #50 x 5/8" Bore
15	33244	Bolt, 5/8" x 2" long HHCS
16	D1170	Nut, 5/8" Non-lock
17	1005111	Nut, 5/8" Side Depress Lock
18	6823P	Spring for Idler Sprocket x 5" long
19	6818D	Bearing, 2 Hole Flange, 1" Bore w/Lock Collar
20	8370C	Bearing, 4 Hole Flange, 1 1/4" Bore w/Lock Collar
21	6331G	Sprocket, 22 tooth, #50 x 1" Bore
22	8371C	1/4" Square Key x 1 1/2" long
23	3210A1	#50 Roller Chain x 48 Pitch
24	1018151	Clutch Sprocket, 18 tooth, #50 x 1" Bore
25	420015	Retaining Ring (IRR 4100-100)
26	1025607	Clutch Shaft x 12 1/16" long
27	8826G	Woodruff Key, 1/4" x 1 1/4" long, #21
28	6812P	Sliding Jaw Clutch
29	6828F	Clutch Yoke
30	6828P	Clutch Yoke Bracket
31	6826P	Clutch Bracket Weldment
32	6827P	Clutch Control Rod, 5/8" dia. x 6 5/8" long
33	61641	Clutch Control Clevis
34	553411	Drive Cover Door
35	1023940	Plastic Side Guide
36	51867	Plastic Roller (1 1/2" O.D. x 1/2" I.D.)

PARTS LIST

SWEEP FLIGHT & SHIELD COMPONENTS

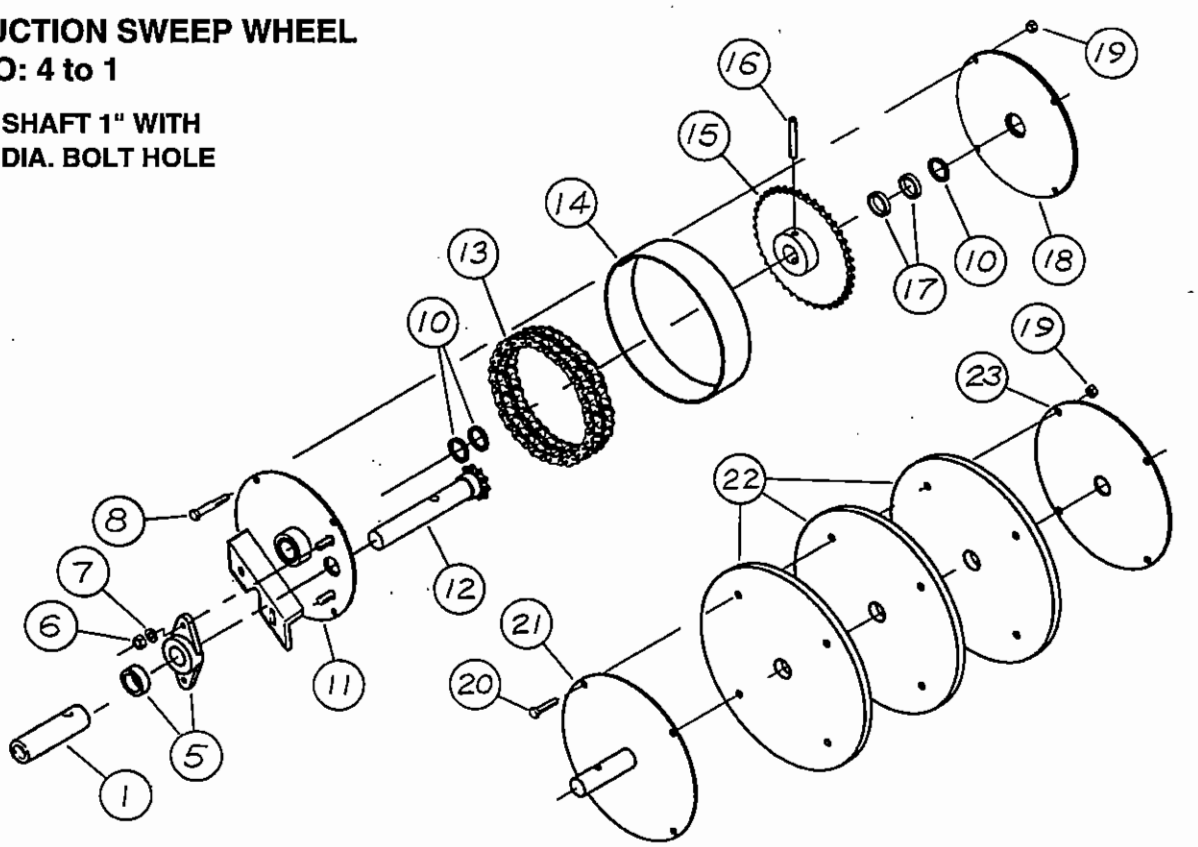


REF. NO.	PART NO.	DESCRIPTION
1	1017549	Enclosed Sweep Wheel Assy.
2	1015477	Bushing for Sweep Wheel Flight
3	1016708	Flight (4'-4" long)
	1017705	Flight (5'-6" long)
	5342H	Flight (5'-10" long)
	1017607	Flight (7'-0" long)
	1016622	Flight (7'-4" long)
	1017709	Flight (8'-6" long)
	5345H	Flight (8'-10" long)
	1015873	Flight (9'-9 1/2" long)
4	1014946	Flight Shield (4'-4" long)
	1017702	Flight Shield (5'-6" long)
	1014947	Flight Shield (5'-10" long)
	1017608	Flight Shield (7'-0" long)
	1014948	Flight Shield (7'-4" long)
	1017706	Flight Shield (8'-6" long)
	1014949	Flight Shield (8'-10" long)
	1015095	Flight Shield (9'-9 1/2" long)
5	1014974	Shield Cover
6	1045D	Stub (1 1/2" x 11 1/2" long)
7	6670A11	Shield Bearing Assembly
- -	1051D	Bronze Bushing only (1 1/2" I.D.)

PARTS LIST

REDUCTION SWEEP WHEEL
RATIO: 4 to 1

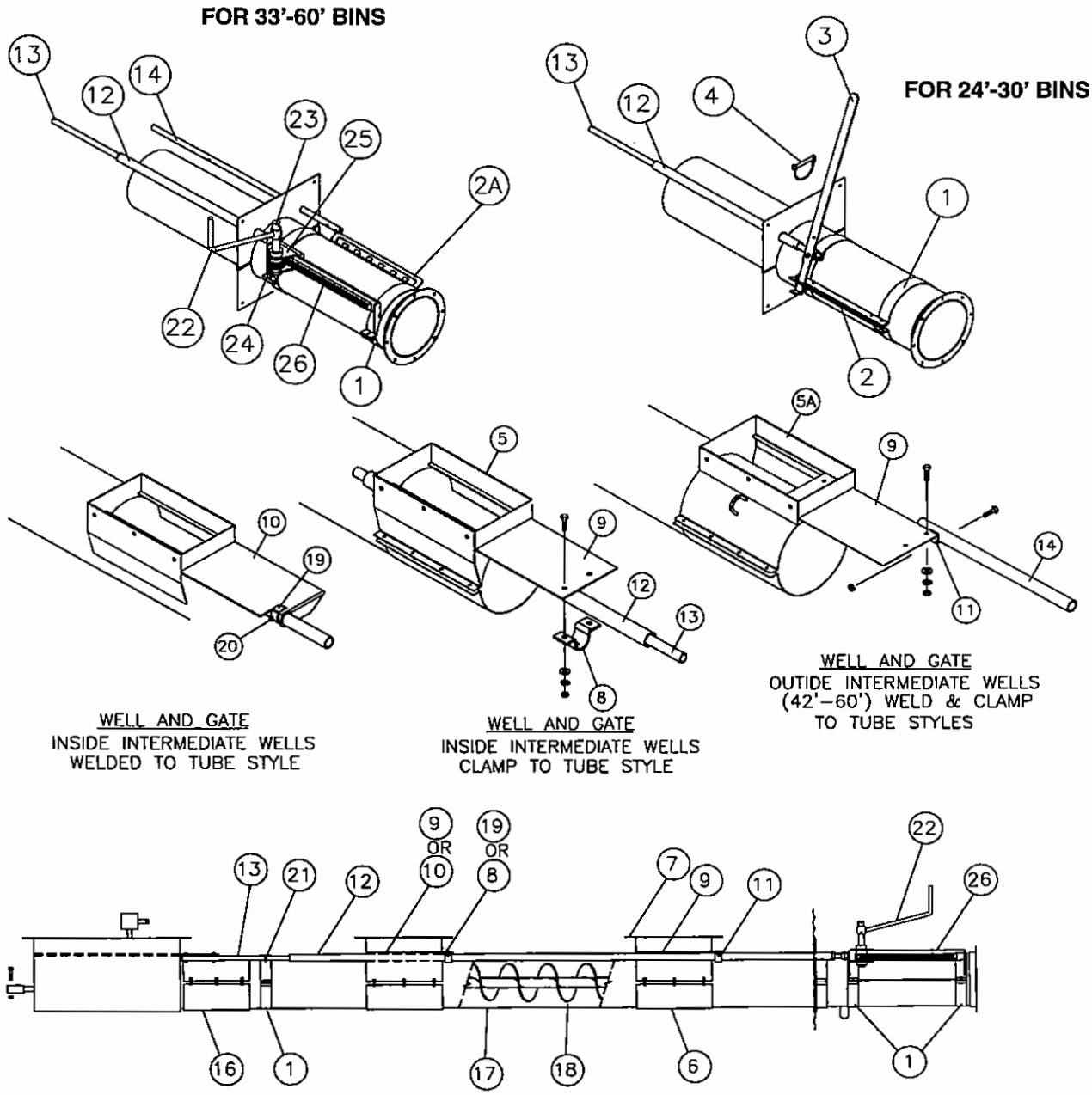
INPUT SHAFT 1" WITH
13/32" DIA. BOLT HOLE



REF. NO.	DESCRIPTION	PART NO.
1	Bushing 1" I.D. x 1 1/2" O.D. x 4 3/8" long	1015477
5	Two-hole Flange Bearing 1" Bore	1015064
6	3/8" Hex Nut	- - -
7	3/8" Lock Washer	- - -
8	5/16" NC x 2 1/2" Hex Head Capscrew	- - -
10	1" Nominal x 14 ga. Washer	4542
11	Inner Drive Housing w/Bushing	1017548
- -	Bronze Bushing only	1015070
12	Sprocket/Shaft Weldment	1015106
- -	Sprocket only (10 tooth)	1015060
13	#40 Double Roller Chain w/Link 40 pitch	1015105
14	Housing Ring with 1/4" NPT zerk	1015051
15	Sprocket #40 x 40 tooth	1015059
16	Roll Pin, 5/16" x 2" long	6386C
17	1" Nominal x 10 ga. Washer	035594
18	Outer Drive Housing	1015066
19	5/16" Nylock Nut	- - -
20	5/16" x 2" Hex Head Capscrew	- - -
21	Inner Disk Plate	1017544
22	Rubber Disk, 13" O.D.	1017550
23	Outer Disk Plate	1017546

PARTS LIST

UNLOADING TUBE COMPONENTS



PARTS LIST

UNLOADING TUBE COMPONENTS

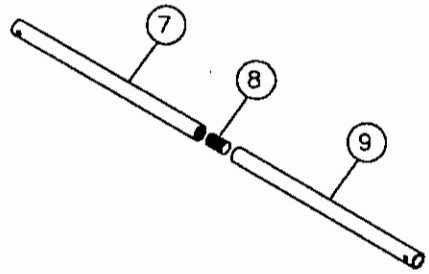
REF. NO.	PART NO.	DESCRIPTION
1	5035A1	Half Band, 10" galv. x 2" wide
2	1022413	Pull Bar (24'-30' Bins)
2A	1023964	Pull Bar (42'-60' Bins)
3	1022410	Control Handle
4	1016747	Lynch Pin
5	1023905	10" Intermediate Bin Well Wlmt. (Band-on style)
5A	1023917	Outer 10" Intermediate Well (Band-on type) (42'-60' Bins)
6	1015003	10" Back Band Wlmt.
7	1014743	10" Top Flange
8	552406	Clamp f/Intermediate Well Gate (Band-on Type)
9	1023914	10" Intermediate Well Gate f/Band-on Wells and outer two wells of weld-on wells)
10	1024101	10" Intermediate Well Gate f/weld-on wells, excluding outer two wells)
11	1023971	Pull Bracket (f/outer two well gates on 42'-60' bins)
12	- - - -	Control Pipe (1 3/8" O.D.) f/Intermediate Well Gate
	1016729	10'-10" lg.
	1016962	11'-0" lg.
	1016963	12'-0" lg.
	1016964	14'-5" lg.
	1016965	15'-6" lg.
	1016730	16'-5" lg.
	1014629	18'-3" lg.
	1016732	21'-0" lg.
	1022101	24'-0" lg.
	1018863	27'-0" lg.
13	- - - -	Control Pipe (7/8" O.D.) f/Center Well Gate
	1024022	11'-6" lg.
	1024023	13'-0" lg.
	1024024	14'-6" lg.
	1024025	16'-6" lg.
	1024026	17'-6" lg.
	1024027	19'-0" lg.
	1024028	20'-6" lg.
	1024029*	21'-0' lg. (f/48'-60' bins)
	1024030*	2'-6" lg. (f/48' bins)
	1024031*	5'-6" lg. (f/54' bins)
	1024032*	8'-6" lg. (f/60' bins)

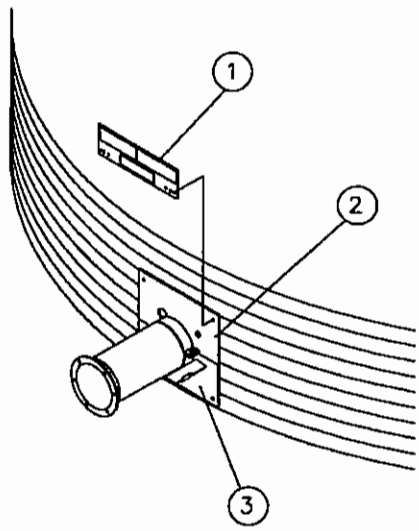
*Two piece pipe w/connector - order two pipes with connector #41089.

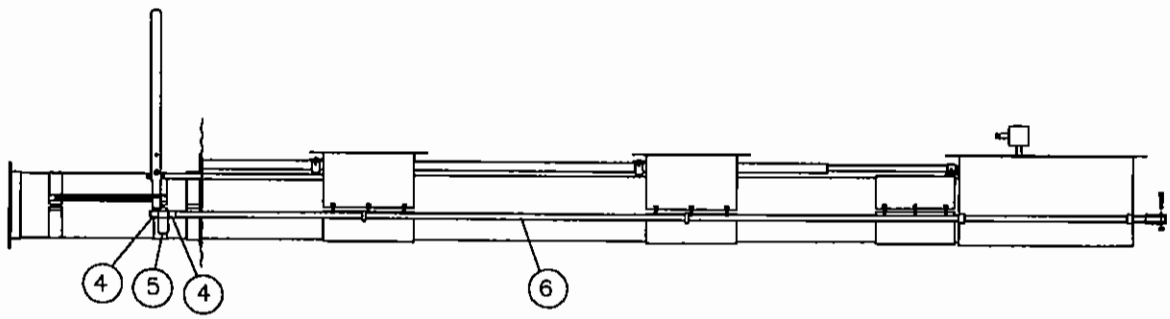
REF. NO.	PART NO.	DESCRIPTION
14	- - - -	Control Pipe (7/8" O.D.) f/Outer Interdiate Well Gates
	1024040	7-2 1/2" lg. f/42' Bin
	1024041	7'-11 1/2" lg. f/48' Bin
	1024042	8'-8 1/2" lg. f/54' Bin
	1024043	8'-1 1/2" lg. f/60' Bin
16	5161B1	10" Connecting Band x 12" lg.
17	- - -	Unloading Tube **(Band-on Wells)**
	6396A91	Unloading Tube f/24' Bin, 12'-6" lg.
	6397A91	Unloading Tube f/27' Bin, 14' lg.
	6398A91	Unloading Tube f/30' Bin, 15'-6" lg.
	11834	Unloading Tube f/33' Bin, 17'-6" lg.
	1024059	Unloading Tube f/36' Bin, 19'-0" lg.
	1024060	Unloading Tube f/39' Bin, 20'-6" lg.
	6400A91	Unloading Tube f/42' Bin, 22' lg.
	6401A91	Unloading Tube f/48' Bin, 25' lg.
	11836	Unloading Tube f/54' Bin, 28' lg.
	5007A91	Unloading Tube f/60' Bin, 18'-6" lg. w/Connecting Band
	6396A91	Unloading Tube f/60' Bin, 12'-6" lg.
17	- - - -	Unloading Tube **(Weld-on Wells)**
	1024102	Unloading Tube f/24' Bin, 12'-6" lg.
	1024103	Unloading Tube f/27' Bin, 14' lg.
	1024104	Unloading Tube f/30' Bin, 15'-6" lg.
	1024105	Unloading Tube f/33' Bin, 17'-6" lg.
	1024106	Unloading Tube f/36' Bin, 18'-6" lg.
	1024107	Unloading Tube f/39' Bin, 20' lg.
	1024108	Unloading Tube f/42' Bin, 22' lg.
	1024109	Unloading Tube f/48' Bin, 25' lg.
	1024110	Unloading Tube f/54' Bin, 28' lg.
	1024111	Unloading Tube f/60' BIn, 12'-6" lg.
	1024112	Unloading Tube f/60' Bin, 18'-6" lg.
18	- - -	Unloading Flight
	6426A1A	Unloading Flight f/24' Bin, 14'-6 3/4" lg.
	6426A1B	Unloading Flight f/27' Bin, 16'-3/4" lg.
	6426A1C	Unloading Flight f/30' Bin, 17'-6 3/4" lg.
	62729	Unloading Flight f/33' Bin, 19'-6 3/4" lg.
	1024061	Unloading Flight f/36' Bin, 21'-3/4" lg.
	1024062	Unloading Flight f/39' Bin, 22'-6 3/4" lg.
	6426A1G	Unloading Flight f/42' Bin, 24'-3/4" lg.
	6426A1H	Unloading Flight f/48' Bin, 27'-3/4" lg.
	1022099	Unloading Flight f/54' Bin, 30'-3/4" lg.
	1018925	Unloading Flight f/60' Bin, 20' lg.
	1018926	Unloading Flight f/60' Bin, 13' lg.
19	1018220	Collar for Control Pipe
20	1018221	Setscrew
21	1023978	Control Pipe Guide
22	1023962	Handle for Rack & Pinion
23	1023963	Shaft for Rack & Pinion
24	1023967	Spur Gear - 22T x 1" Bore
25	1023957	U-Bracket for Spur Gear
26	1023959	Rack Weldment for Rack & Pinion

PARTS LIST

BIN FLANGE & CLUTCH CONTROL COMPONENTS







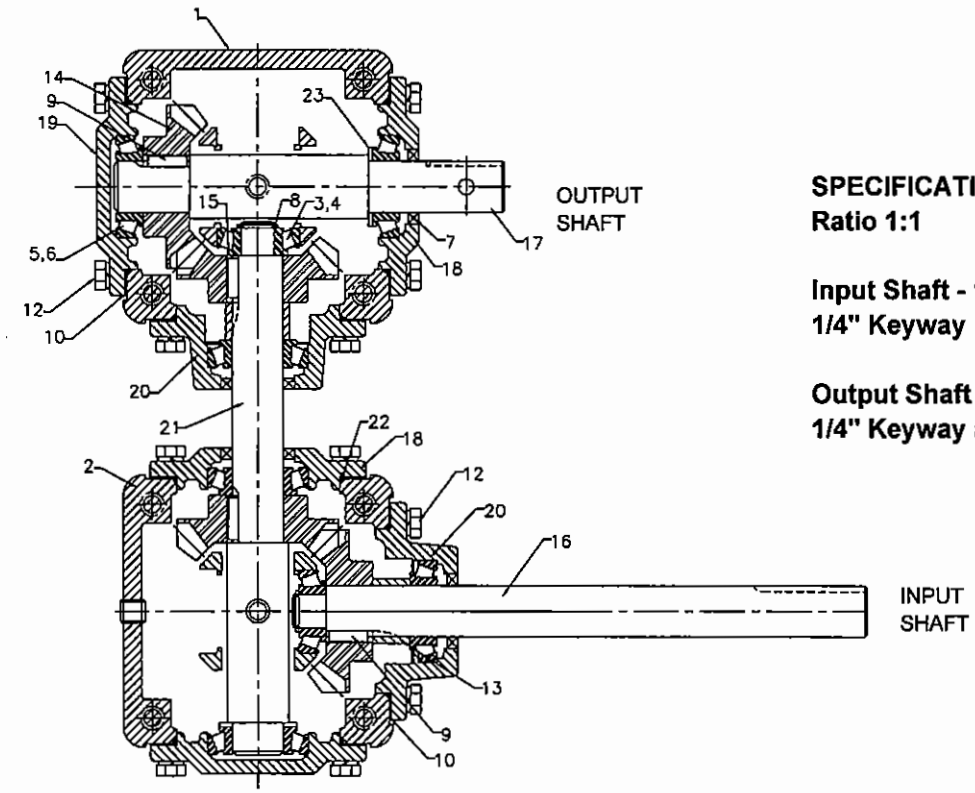
REF. NO.	PART NO.	DESCRIPTION
1	1024114	Decal Plate (See Page P-1 for Decals)
2	1024039	Upper Bin Flange Wlmt.
3	1023972	Lower Bin Flange Wlmt.
4	1023968	Set Collar - 7/8" Bore
5	1023974	Handle for Control Pipe
6	- - -	One Piece Control Pipe (7/8" O.D.)
	1023994	14'-6" long f/24' Bin
	1023995	16'-0" long f/27' Bin
	1023996	17'-6" long f/30' Bin
	1023997	19'-6" long f/33' Bin
	1023998	20'-6" long f/36' Bin

REF. NO.	PART NO.	DESCRIPTION
7	1023999	Control Pipe x 21'-0" long f/39'-60' Bin
8	41089	Thread Rod Connector
9	52165	Control Pipe x 1'-0" long f/39' Bin
9	52166	Control Pipe x 2'-6" long f/42' Bin
9	52167	Control Pipe x 5'-6" long f/48' Bin
9	1018861	Control Pipe x 8'-6" long f/54' Bin
9	1018862	Control Pipe x 11'-6" long f/60' Bin

PARTS LIST

GEARBOX

COMPLETE PART NO. 1015211-2



SPECIFICATIONS:
Ratio 1:1

Input Shaft - 1" Dia. with 1/4" Keyway

Output Shaft - 1" dia. with 1/4" Keyway and 5/16" hole

REF. NO.	PART NO.	QTY.	DESCRIPTION
1	- - -	1	Case (Not available)
2	- - -	1	Case (Not available)
3	40388	2	Bearing.Cone (LM11749)
4	40389	2	Bearing Cup (LM11710)
5	40377	6	Bearing Cone (LM44643)
6	40378	6	Bearing Cup (LM44610)
7	1023280	4	Seal (Nat. #470553)
8	41384	2	Snap Ring
9	020153	4	Square Key (1/4" x 7/8" long)
10	1023289	A/R	Shim Kit
11	020009	5	1/4" Pipe Plug
12	4701-1	24	5/16" x 3/4" NC Capscrew
13	1027397	2	Spacer Bushing (73-30002)
14	1023286	4	Gear 90° Bevel - 19 tooth
15	1023567	AR	Spacer
16	1023591	1	Input Shaft
17	1023592	1	Output Shaft
18	1023565	2	End Cap f/Shaft (70-10004)
19	1023609	2	End Cap (70-10002)
20	1023571	2	Quill
21	1027398	1	Connecting Shaft (71-10488)
22	1023282	6	O-Ring (3.15" O.D.)
23	1023611	2	Bearing Spacer

Hutchinson/Mayrath/TerraTrack

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