

Chain Loop System without Controls

Owner's Manual

PNEG-1128

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GSI GROUP



PNEG-1128

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Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.



NOTE indicates information about the equipment that you should pay special attention.

Safety Instructions

Our foremost concern is your safety and the safety of others associated with this equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist, and to inform all personnel associated with the equipment or in the area. Safety precautions may be required from the personnel. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation where SERIOUS INJURY or DEATH may occur.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

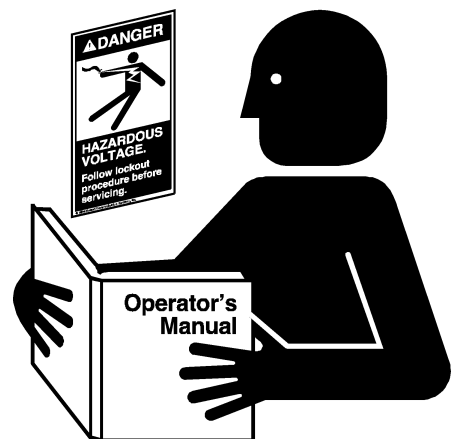
Follow Safety Instructions

Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machinery in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual or need assistance, contact your dealer.



Read and Understand Manual

Operate Motor Properly

In an emergency, shut down the power source.

Turn OFF and lock out all power sources before performing any maintenance.

Do not operate electric motor equipped units until motors are properly grounded.

Disconnect power on electrical driven units before resetting motor overloads.

Do not repetitively stop and start the drive in order to free a plugged condition. Jogging the drive in this manner can damage the equipment and/or drive components.



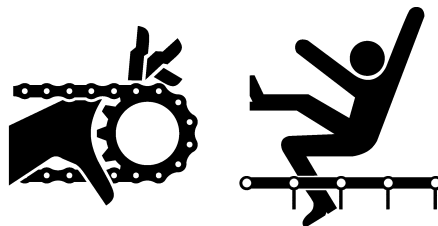
Electric Shock Hazard

Stay Clear of Moving Parts

Entanglement in rotating impeller arms will cause serious injury or death.

Keep all shields and covers in place at all times.

Wear close fitting clothing. Stop and lock out power source before making adjustments, cleaning, or maintaining equipment.



Entanglement Hazard

Practice Safe Maintenance

Understand service procedures before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is in operation. Keep hands, feet and clothing away from rotating parts.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any built up grease oil and debris.



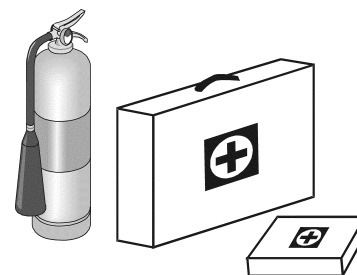
Maintain Equipment and Work Area

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.



Keep Emergency Equipment Quickly Accessible

1. Safety

Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Remove all jewelry.

Long hair should be tied up and back.

Safety glasses should be worn at all times to protect eyes from debris.

Wear gloves to protect your hands from sharp edges on plastic or steel parts.

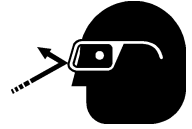
Wear steel toe boots to help protect your feet from falling debris. Tuck in any loose or dangling shoe strings.

A respirator may be needed to prevent breathing potentially toxic fumes and dust.

Wear hard hat to help protect your head.

Wear appropriate fall protection equipment when working at elevations greater than six feet (6').

Eye Protection



Gloves



Steel Toe Boots



Respirator



Hard Hat



Fall Protection



Grain Bin Safety

The Chain Loop System is generally used to move grain into or from grain bins. **Be aware of the dangers inherent in grain bins.**



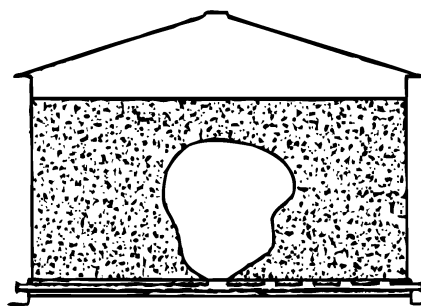
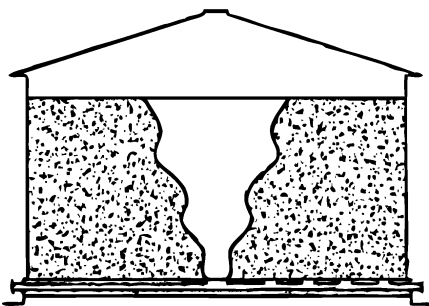
DO NOT ENTER A GRAIN BIN UNLESS POWER IS LOCKED OUT TO ALL BIN EQUIPMENT.



DO NOT ENTER A GRAIN BIN WHILE GRAIN IS BEING REMOVED. FLOWING GRAIN CAN TRAP, BURY AND CAUSE SUFFOCATION.



DO NOT ENTER A GRAIN BIN IF THE GRAIN HAS BRIDGED OR STOPPED FLOWING NORMALLY. THE GRAIN CAN COLLAPSE WITHOUT WARNING AND CAN TRAP, BURY AND CAUSE SUFFOCATION.



2. Decals

THE DECALS SHOWN ON THIS PAGE MUST BE DISPLAYED AS SHOWN

Replacements are available upon request. Write to the following address:

GSI Decals

1004 E. Illinois St.
Assumption, IL. 62510
Phone: 1-217-226-4421

- NOTE:** 1. The decals on this page are not actual size.
2. Keep all decals wiped clean at all times.
3. All decals must be replaced if they are destroyed, missing, painted over or can no longer be read.

NOTICE

1. READ AND UNDERSTAND THE OPERATOR'S MANUAL AND ALL SAFETY INSTRUCTIONS.
2. DO NOT OPERATE WHILE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.
3. DO NOT OPERATE UNLESS ALL SAFETY EQUIPMENT, SWITCHES, GUARDS AND SHIELDS ARE SECURELY IN PLACE AND OPERATIONAL.
4. ALLOW ONLY TRAINED AUTHORIZED PERSONNEL IN THE OPERATING AREA.
5. ANY ELECTRICAL WIRING OR SERVICE WORK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN. IT MUST MEET ALL STATE AND LOCAL ELECTRICAL CODES.
6. DO NOT ALLOW CHILDREN IN THE AREA OF OPERATION.
7. KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS.
8. DISCONNECT AND LOCKOUT POWER BEFORE MAKING ANY ADJUSTMENTS OR PERFORMING ANY SERVICE WORK.
9. DISCONNECT POWER PRIOR TO RESETTING ANY MOTOR OVERLOAD.
10. MAKE CERTAIN ALL ELECTRIC MOTORS ARE GROUNDED.
11. REPLACE ALL WORN OR DAMAGED LABELS IMMEDIATELY.

DC-1379

DC-1379

This decal is provided in the Owner's Manual Packet. Place on the bin during Installation.



DANGER

SHEAR POINT
Do not operate with cover open. Keep clear of moving chain and paddles.
Do not remove or modify guards. Disconnect and lockout power before servicing.
Failure to do so will result in Serious INJURY or DEATH.

8107001

8107001

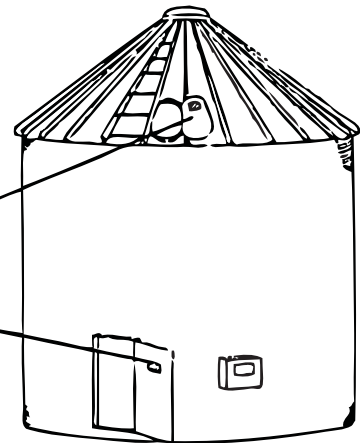
DANGER



MOVING CHAINS AND PADDLES!
THIS BIN IS EQUIPPED WITH A CHAIN LOOP SYSTEM WHICH CAN KILL OR DISMEMBER.
KEEP CLEAR OF ALL CHAIN AND PADDLES AND NEVER ENTER THIS BIN UNLESS ALL POWER IS DISCONNECTED AND LOCKED OUT.
FAILURE TO DO SO WILL RESULT IN SERIOUS INJURY OR DEATH!

8107006

8107006





DANGER

SHEAR POINT
Keep hands clear of moving parts. Do not operate with guard removed. Disconnect and lockout power before servicing.

DC-994

DC-994



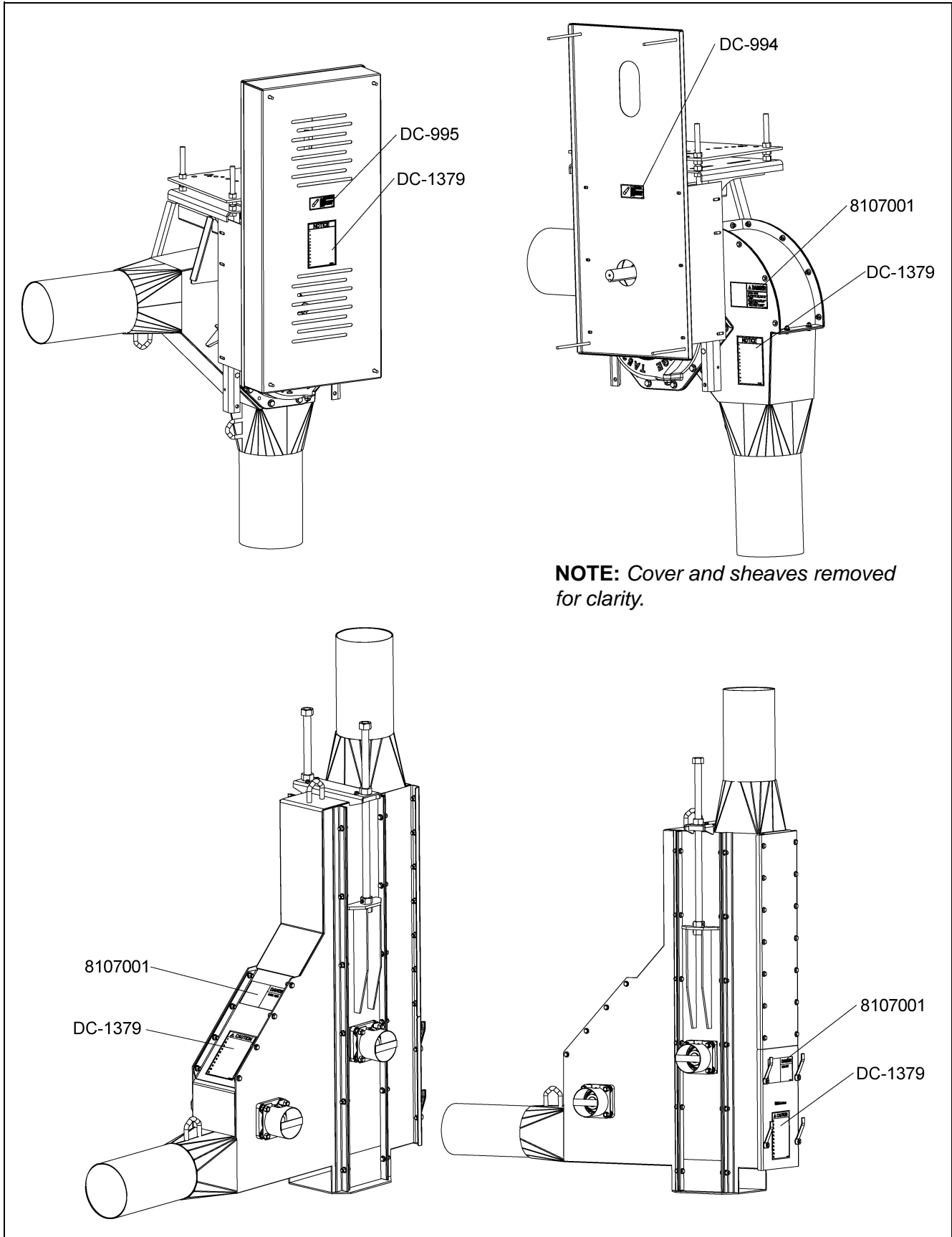
WARNING

SHEAR POINT
Keep hands clear of moving parts. Do not operate with guard removed. Disconnect and lockout power before servicing.

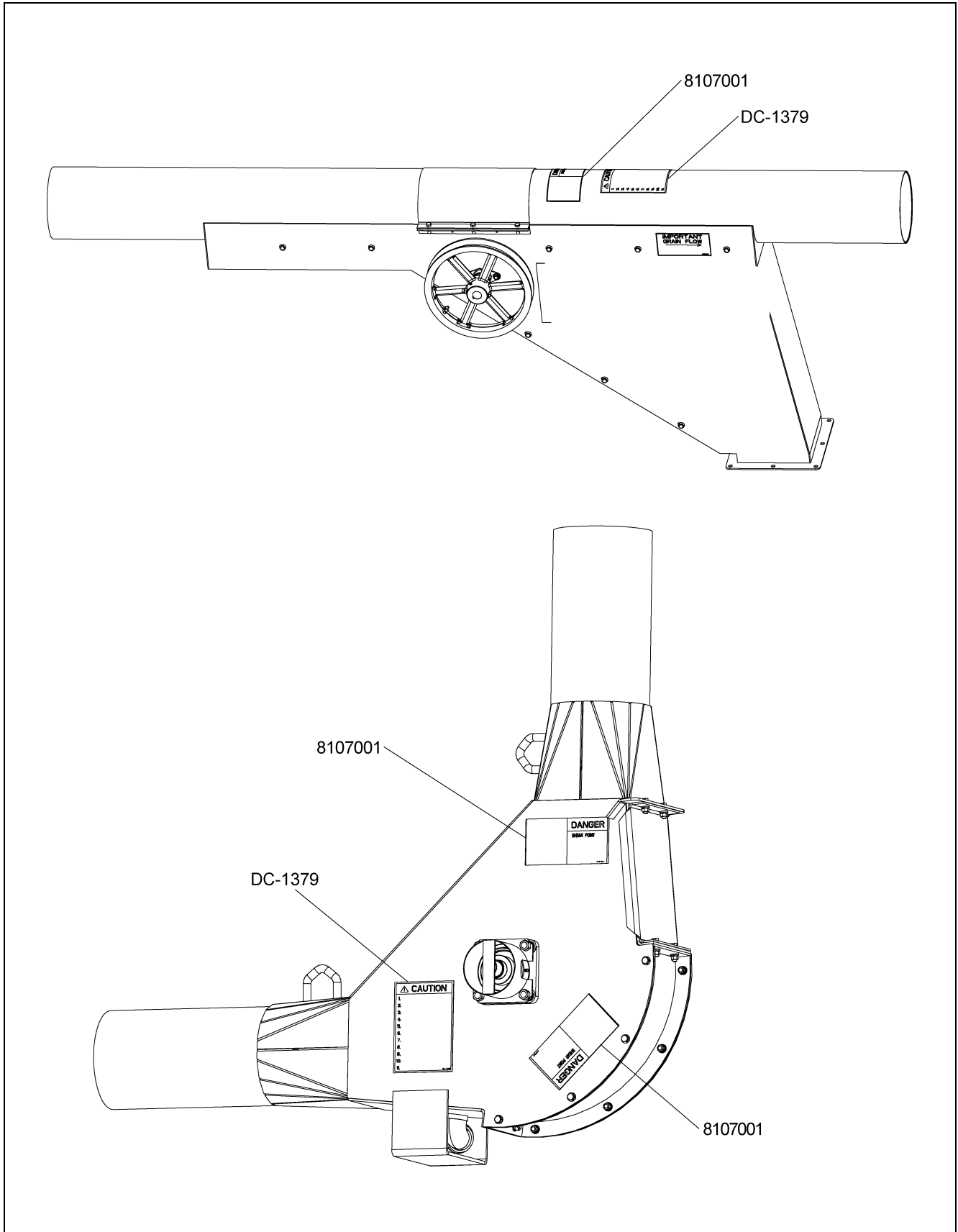
DC-995

DC-995

Decal Placement



Decal Placement



Chain Loop System Information

A Chain Loop System is a chain and paddle conveyor moving through a round housing. A loop system allows you to do total loading and unloading with a single drive. Chain Loop Systems will handle a wide range of free flowing materials. They are primarily intended for grain and grain products. They will move material into and out of grain storage structures, vehicles, dryers and other facilities with ease and gentleness. The Chain Loop System is well suited for blending materials while being transferred from one storage unit to another.

The height and length of the system is limited by the combined horsepower required to move the grain. The vertical Chain Loop System requires greater horsepower per foot, so the taller units will be more limited in the overall horizontal length. System lengths of several hundred feet are common. However, relatively small systems to accomplish more specific tasks are also available.

Chain Loop System Specifications

	8"	10"	12"
*Maximum capacity in BPH (Tons/Hr)	4000 (100)	6000 (150)	1000 (250)
Chain travel in FPM (Meters, Min)	325 (99)	325 (99)	400 (122)
Head shaft RPM	94	94	83
Corner housing thickness, galvanized (mm)	3/16" (4.8)	3/16" (4.8)	3/16" (4.8)
Galvanized tubing wall thickness (mm)	12 Ga. (2.7)	12 Ga. (2.7)	10 Ga. (3.47) 7 Ga. (5)
Paddle thickness (UHMW) (mm)	3/8" (9.5)	1/2" (12.7)	1/2" (12.7)
Corner shaft diameter (mm)	2" (50.8)	3" (76.2)	3-7/16" (87.3)
Conveyor chain	81X or 81XHH	81XHH	81XHH
Conveyor sprocket	16 Tooth	16 Tooth	22 Tooth
*Power requirements			
Per foot vertical (KW/M)	0.35 (0.86)	0.5 (1.22)	0.75 (1.84)
Per foot horizontal (KW/M)	0.08 (0.19)	0.11 (0.27)	0.18 (0.44)
Weight per foot lbs (KG/M)			
Empty	12 (17.9)	15 (22.3)	24 (35.8) 30 (44.7)
Full of 56 lb. per bu. material	28 (41.7)	40 (59.5)	59 (88) 65 (97)

* Clean dry grain

Final Inspection Check List

The Chain Loop System requires an inspection before start-up after the assembly is complete and before each use. The following are critical areas to be inspected.



1. *Make sure that the main power isolator is locked in the “OFF” position and that the only key is in the possession before removing any shields and inspection covers.*

2. Check all safety decals and replace any that are worn, missing or illegible. *See Pages 10-12* for decal part numbers and location.
3. Check for proper chain tension and adjust if necessary. *See Page 29* for full instructions.
4. Check that the discharge gates open and close completely. Remove the inspection cover from the top of the discharge gate and make sure that the gate is clean inside.
5. Check the lubricant level in the gear reducer at the drive corner. *See Page 17* for lubrication specifications.

NOTE: *The gear reducer is shipped dry and needs to be filled to the proper level before use.*

6. Check the condition of the drive belts and make sure that they are aligned and tensioned properly.
7. Check that the corner sprockets are centered in the housings. Realign the sprockets and tighten the set screws if necessary.
8. Check overall structural integrity of the Chain Loop System and make sure that all supports and components are secure.
9. Check to make sure that the chain moves freely (this is particularly important if the temperature is below freezing). Use a pipe wrench on the end of each of the corner shafts to manually move the chain.



10. *Make sure all shields and safety guards are in place before restoring power.*

Operating the Chain Loop System

The Chain Loop is generally used to transfer grain to or from storage bins. Grain can be fed into the system through an inlet dump hopper or through center or intermediate grain wells in the storage bins. Wells from more than one bin can be opened at the same time to blend the contents of different bins. The system is usually oriented vertically (with the tube running under the storage bins), or at an angle with the bottom tube running along the sides and the top tube running over the fill holes of the storage bins. Horizontal installations are also possible - check with your dealer for special gear reducer lubrication requirements for horizontal installations.

The Chain Loop System should always be run under partial load for a period of time to polish the tube walls before attempting to run at full load. This is especially true when breaking in a new system but equally important after being idle for a length of time. Observe the amp meter on the drive motor while running with a partial load until the amperage starts to decline. This is an indication that the tube walls have been polished enough to handle a larger load.

It is very important to avoid stopping the chain under a loaded condition. Never attempt to restart until the Loop System has been emptied of as much grain as possible.



Lock out the main power source before removing any inspection covers or shields necessary to empty the system.

Observe the following basic sequence for using the Chain Loop System to fill storage bins.

1. Open the discharge gate above the destination bin.
2. If available, open the discharge gate above a bin downstream from the destination bin to be used as an overflow.
3. Start the Chain Loop drive motor. Station an individual at the control box to observe the amp gauge of the drive motor.
4. Let grain flow into the inlet dump hopper. Open the flow control by adjusting the chains on the hopper a small amount at a time to make sure that the amperage does not exceed the capability of the drive motor. **NOTE:** *Some materials and grains such as soybeans flow very easily, so it is important to make sure that the center shield in the inlet hopper is adjusted low enough to prevent overloading the system.*
5. Let the Chain Loop run until the system is empty.
6. Close the discharge gates and the dump hopper flow control when through filling.



7. Shut down the drive motor.
8. Make sure to lock out the power source before leaving the work area.

4. Operation

Operating the Chain Loop System (Continued)

Observe the following basic sequence for using the Chain Loop System to transfer grain from storage bins.

1. Open the discharge gate above the withdrawal bin.
2. Open the discharge gate above the destination bin or truck-loading spout.
3. Start the Chain Loop drive motor. Station an individual at the control box to observe the amp gauge of the drive motor.
4. Open the slide gate under the withdrawal bin a little at a time to make sure that the amperage does not exceed the capability of the drive motor.
5. Close the discharge gate above the destination bin or truck when full. **DO NOT SHUT DOWN THE CHAIN LOOP DRIVE MOTOR AT THIS TIME.**
6. Close the slide gate under the withdrawal bin.
7. Run the Loop System until all remaining grain in the tube has been returned to the withdrawal bin.



8. Shut down the drive motor.

9. Make sure to lock out the power source before leaving the work area.

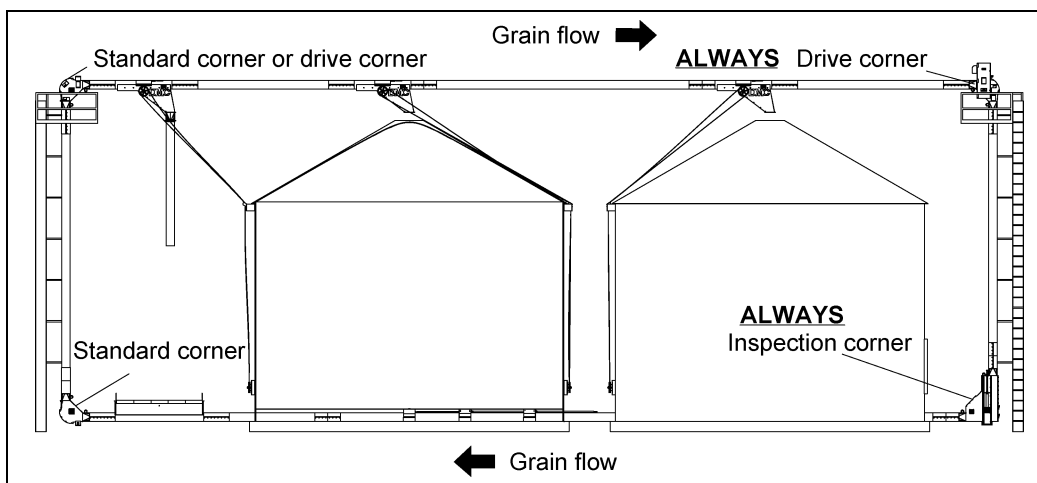


Figure 4A

A sweep auger may be placed in the bin after all the grain has been removed that will gravity-flow through the center well. Shut down and lock out all power to the Chain Loop System before installing the sweep auger.

If intermediate bin wells are being used, they should be opened after grain has stopped flowing into the center well and before the sweep auger is placed in the bin ([See Figure 4B](#)). Shut down and lock out the Chain Loop System before installing the sweep auger.

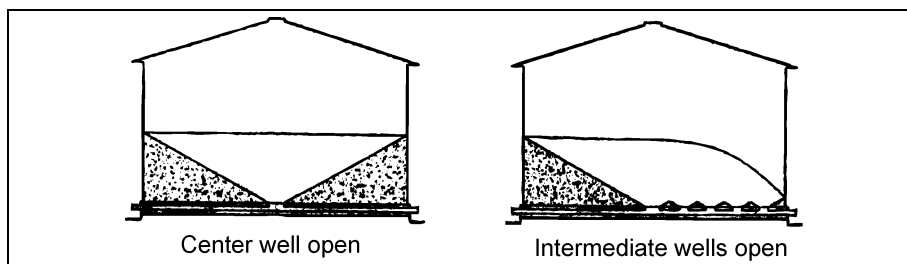


Figure 4B

Maintenance



Lock out the main power source before performing any maintenance or service inspections.

Dodge Gear Reducer

Use the information that is on the gear reducer nameplate, the warning tags and the Dodge instruction manual that is included with the Chain Loop manual to determine specific maintenance instructions for the gear reducer used on the system. When referring to the Dodge manual, note that the reducer is mounted in the “D” position on the Chain Loop.

NOTE: *The gear reducer is shipped dry and must be filled to the proper level before use.*

Use a high-grade petroleum base rust and oxidation inhibited SAE 90 weight gear oil for ambient temperatures from 15°F to 125°F (-10°C to 52°C). Oils with an “EP” additive are not recommended for average conditions (see the lubrication section of the Dodge manual). Use the check oil plug for determining the correct amount of oil; too much oil will cause overheating and too little will cause bearing and gear failure. The approximate quantity of oil for each reducer size is:

Model	TA3203H	4.0 qt	(3.80L) - for 15-20 HP motors
	TA4207H	7.3 qt	(6.90L) - for 25-30 HP motors
	TA5215H	12.9 qt	(12.2L) - for 40 HP motors
	TA6307H	15.8 qt	(15.0L) - for 60 HP motors

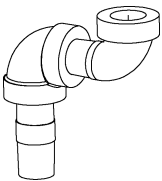
The oil should be changed at the beginning of every harvesting season if the Chain Loop is used for seasonal grain handling. It should be changed after 2500 hours of operation or every 6 months if used under average industrial conditions. The oil should be changed more frequently if used under extreme operating conditions such as large changes in ambient temperatures, dust, dirt, chemical particles, chemical fumes or oil sump temperatures above 200°F.

Drain the reducer, clean the magnetic plug and flush with kerosene before refilling with new oil.

Drive Belts

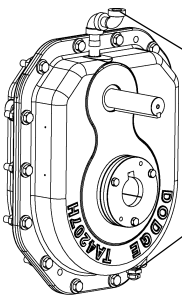
Check to make sure that drive belts are tensioned and aligned properly. Use a straight edge to check the alignment with the motor and reducer sheaves. Adjust all the motor tensioning rods equally to keep the motor shaft parallel to the reducer shaft.

Vent Elbow Installation Instructions



8101333 - 1/2" Vent elbow assembly
(Used on TA4, TA5 and TA6 reducers in “D” position)

8101335 - 3/8" Vent elbow assembly
(Used on TA3 reducers in “D” position)



To install vent elbow assembly:

(Reducer is shown in “D” position - Input shaft at the top)

- Remove magnetic drain plug from the top of the reducer and replace with the proper vent elbow assembly.
- Remove vent plug from the bottom of the reducer and replace with the magnetic drain plug from the top.
- Install the vent plug in the top of the vent elbow assembly.

Chain and Paddles

Check for proper chain tension. Open the inspection door at the inspection corner and check chain tension by pulling the bottom edge of a paddle by hand. The paddle tip should not move more than 3/4" when the chain is properly tensioned. [\(See Page 29.\)](#)

The Chain Loop chain has connecting links spaced every 10'. Check these links to make sure that they are securely fastened and that the cotter pins are bent back correctly. [\(See Figure 6M on Page 30.\)](#)

Check the lock nuts used to fasten the paddles to the chain brackets. They should be tightened to a torque specification of 20 ft. lbs. (2.8 KG-M or 26 N-M).

Adjust the chain tension by loosening the locking jam nuts on the adjusting screw and turning the screw to move the inspection corner sprocket. Turning the adjusting screw clockwise will tighten the chain and turning it counterclockwise will loosen the chain. Remove chain links if there is not enough travel in the adjusting screw to tighten the chain. Adjust each side equally to keep the sprocket shaft square with the corner housing. [\(See Figure 6N on Page 31.\)](#)

Spray a light coating of oil on the chain after a season of use.

Corner Shaft Bearings

The bearings for the corner sprockets are sealed bearings and require only a small amount of multi-purpose grease every 50 hours. Check bearings for wear and that the locking collars are secure.

Corner Sprockets

Inspect the condition of corner sprockets for teeth wear and that they are centrally aligned in each of the corner housings.

It is expected that an experienced millwright or contractor will provide the supporting structure and do the installation of a Chain Loop System including the electrical wiring and the control box.

All electrical wiring and controls should be in accordance with local regulations (BS767: 1992 or the National Electric Code).

NOTE: *It is recommended that an amp meter for the drive motor be installed close to the inlet hopper so an operator can easily monitor and avoid overloading the system.*

The supporting structure needs to comply with local wind loads and soil supporting requirements as well as support the weight of the Chain Loop System. Component weights full of grain are:

System Size	Tube (Full)	Discharge Gate	Standard Corner	Drive Corner
8"	29 lbs/ft (43.1 KG/M)	411 lbs. (187 KG)	342 lbs. (155 KG)	1103 lbs. (502 KG)
10"	40 lbs/ft (59.5 KG/M)	533 lbs. (242 KG)	489 lbs. (222 KG)	1394 lbs. (634 KG)
12" 10 Gauge	59 lbs/ft (88 KG/M)	1024 lbs. (466 KG)	919 lbs. (418 KG)	2406 lbs. (1094 KG)
12" 7 Gauge	65 lbs/ft (97 KG/M)	1084 lbs. (493 KG)	933 lbs. (424 KG)	2420 lbs. (1101 KG)

NOTE: *Each calculation includes the respective chain.*

A layout should be drawn to show the exact location of grain bins, inlets, outlets, the control box, outlet control kits, the power source and the supporting structure. The layout should consider future expansion, the ability to mix grains from several locations, the grain direction, the operation of slide gates, the use of other conveyors to fill or unload bins and whether the Chain Loop tube is under the center of or beside the grain bins. Chain Loop Systems are provided with one (1) or two (2) drive corners depending on the power requirements of each system. Drive corners are always located at the upper corners, and the drive corner for single drive systems must be located at the far end of the top chain run. This will allow the drive corner to pull grain up from the loading hopper and across the top to the storage bins. **The inspection corner is always located on the ground furthest from the loading hopper. This allows proper chain tensioning throughout the system.** (See Figure 4A on Page 16.)

It is important to slide components together tightly and to have the clamping band centered on the joint before tightening the bands. All cuts should be made square and the inside diameter chamfered to ensure that the ends butt together tightly during assembly. Even small gaps left in the tubing system during assembly will gradually close during operation of the Chain Loop causing the chain to require frequent inspection and tightening. (See Page 21.)

General guidelines to consider are:

1. The Chain Loop will move grain in one direction only; it is not reversible.
2. Provide room for service and maintenance at each of the corners and discharge gates.
3. Avoid having any part of the system under grade to eliminate water accumulation problems.
4. Provide adequate footings for solid supporting structures.
5. Minimize the loaded distance by placing the inlet hopper as close to the vertical tube as possible.
6. There can be no twist in the chain/paddles. The opening should be oriented so that the open side of the paddle will pass across the sprockets.

6. Installation

System Size	Vertical Factor	Horizontal Factor
8"	0.35 HP/loaded foot (0.86 Kw/M)	0.08 HP/loaded foot (0.19 Kw/M)
10"	0.50 HP/loaded foot (1.22 Kw/M)	0.11 HP/loaded foot (0.27 Kw/M)
12"	0.75 HP/loaded foot (1.84 Kw/M)	0.18 HP/loaded foot (0.44 Kw/M)

The system should be designed to minimize the distance grain must be moved. The example shows the dump hopper located next to the vertical tube. If it were located on the other side of the grain bins then the system would have to move grain that much farther before taking it up and over to the discharge gates.

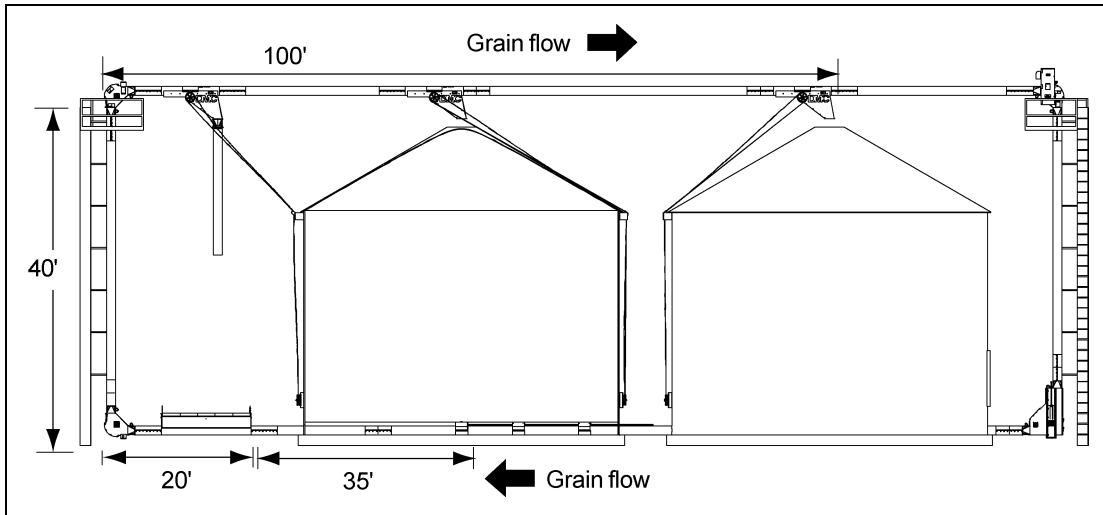


Figure 6A

This example illustrates a system and the power requirements for different functions of a Chain Loop System.

If the main requirement is maximum filling rate, then the motor size for this 8" system would be:

$$\begin{aligned}
 0.35 \text{ HP/ft} \times 40 \text{ vertical ft.} &= 14 \text{ HP plus} \\
 0.08 \text{ HP/ft} \times (20 + 100 \text{ horizontal ft.}) &= \underline{9.6 \text{ HP}} \\
 &= 23.6 \text{ (Use a 25 HP motor)}
 \end{aligned}$$

If the requirement is maximum flow rate while moving grain from bin to bin as well as a maximum filling rate, then the motor size would be:

$$\begin{aligned}
 0.35 \text{ HP/ft} \times 40 \text{ vertical ft.} &= 14 \text{ HP plus} \\
 0.08 \text{ HP/ft} \times (35 + 20 + 100 \text{ horizontal ft.}) &= \underline{12.4 \text{ HP}} \\
 &= 26.4 \text{ (Use a 30 HP motor)}
 \end{aligned}$$

Tube and Corner Assembly

Lay the sections out in order so as to determine what portions to assemble prior to actual placement in the system.

When cutting tubes to exact length, the ends must be cut square and any burrs on the ends must be removed by chamfering the inside diameter. Join tube and corner components together with connecting bands. Slide the tube sections tight together and space the connecting band in equal amounts on both parts of the connection. Tighten the bolts in the band.

Fasten the discharge in place within the tube with connecting bands.

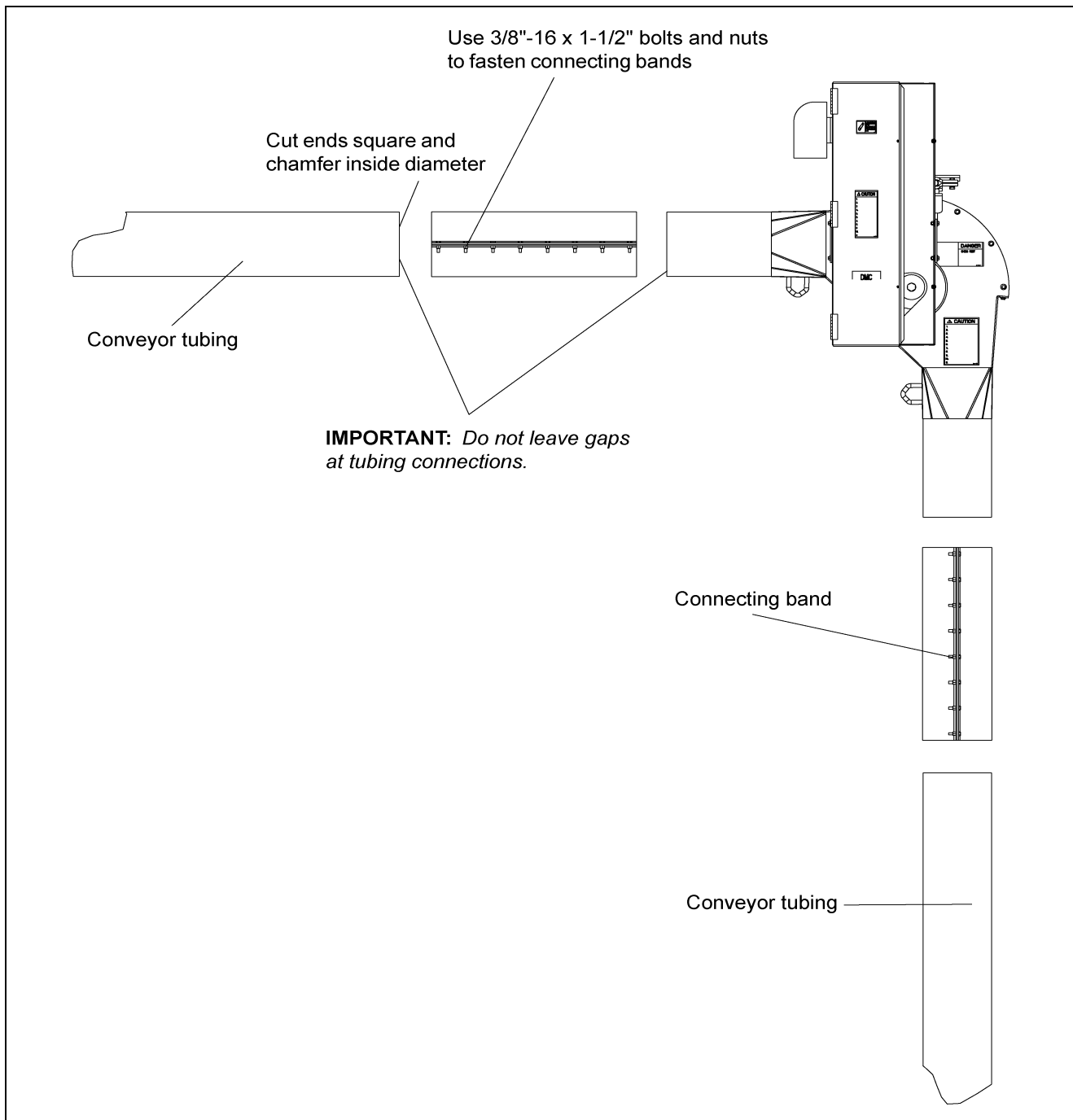


Figure 6B

6. Installation

Drive Assembly

The Chain Loop System is powered by an electric 1750 RPM motor.

IMPORTANT: Use the proper size motor to ensure satisfactory operation. Too small of a motor will not supply the horsepower required to achieve capacity and damage to the motor may occur. Too large of a motor may cause high stress on components resulting in shorter life. See Page 13 for motor size specifications.

IMPORTANT: Use the motor sheave furnished. If other size sheaves are used or substituted, improper chain speed and unsatisfactory operation will result.

Mount the sheaves as close to the belt guard back as possible. Align sheaves by using a straight edge, placed across the outer faces of both sheaves. Secure in place using taper lock bushing. Be sure drive keys are properly installed. Check sheave alignment again after sheaves are secured to shafts.

Install the belts onto the sheaves and set belt tension. To tighten belts, turn the 3/4" nuts on the motor mount rods to raise the motor mount assembly. Raise all the rods the same distance so the motor mount assembly is parallel with the top.

Check that all fasteners are tightly secured. Close and fasten belt guard.



Keep all safety shields and devices in place.

The gear reducer is shipped without oil. It is necessary to add the proper amount of oil before running. Use a high grade petroleum base, rust and oxidation inhibited R and O gear oil. Follow the instructions on the reducer name plate, warning tags and in the installation manual attached to the reducer.

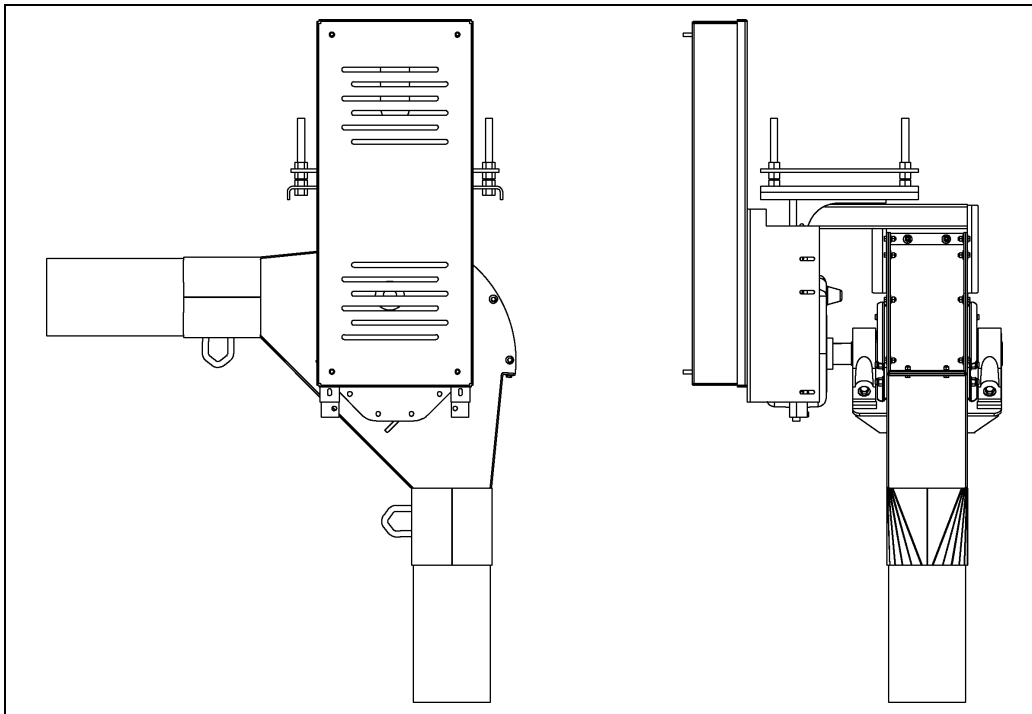


Figure 6C Sample Drive Assembly

Unit Size	8"	10"	12"
Recommended Chain Speed	325	325	400
Corner Shaft RPM	93	93	83

Chain Loop Torque Arm Repair Kit



Secure the motor mount from both sides to prevent the drive unit from pivoting either direction on the shaft.

NOTE: Motor mount and belt guard removed for clarity.

Attach both torque plate assemblies to each side of the gear reducer using the bolts provided. Re-use the lock washer and hex nut provided with the gear reducer. (See [Figure 6D](#).)

NOTE: Leave the hardware loose to allow for ease of assembly.

TA3 - 3/8"-16 Bolt

TA4 and TA5 - 1/2"-13 Bolt

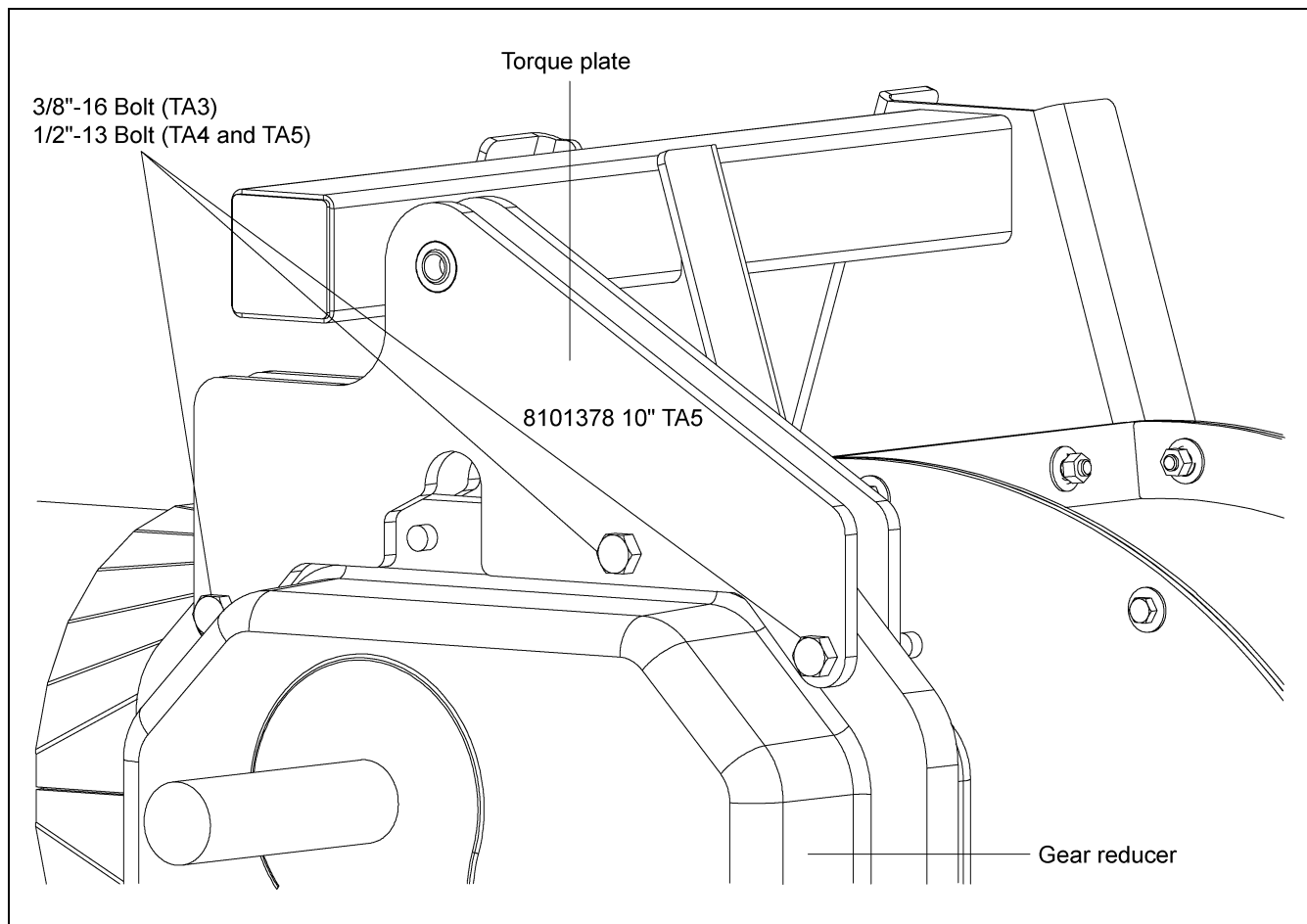


Figure 6D

Chain Loop Torque Arm Repair Kit (Continued)

Place the C-clamp bracket to the back side of the square tubing. (See Figure 6E.)

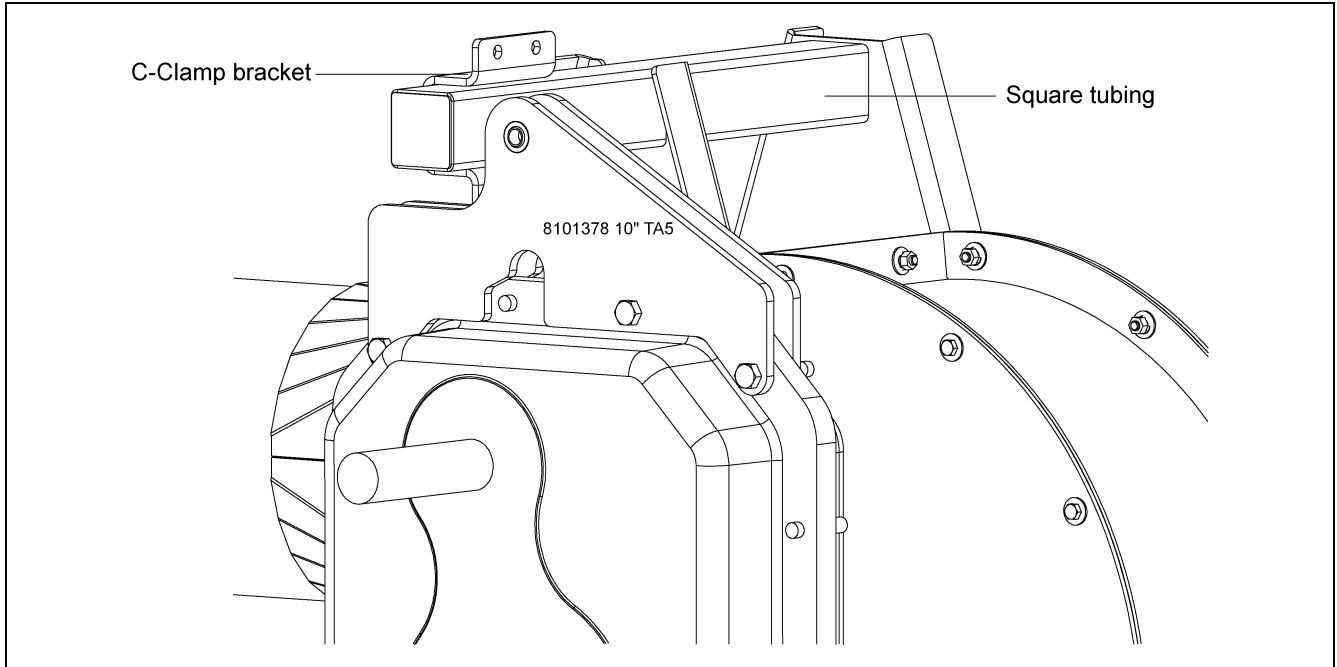


Figure 6E

Place the torque plate anchor bracket between the torque plate assemblies and attach it to the C-clamp using the 3/8\"-16 hardware. (See Figure 6F.)

NOTE: Leave the hardware loose to allow for ease of assembly.

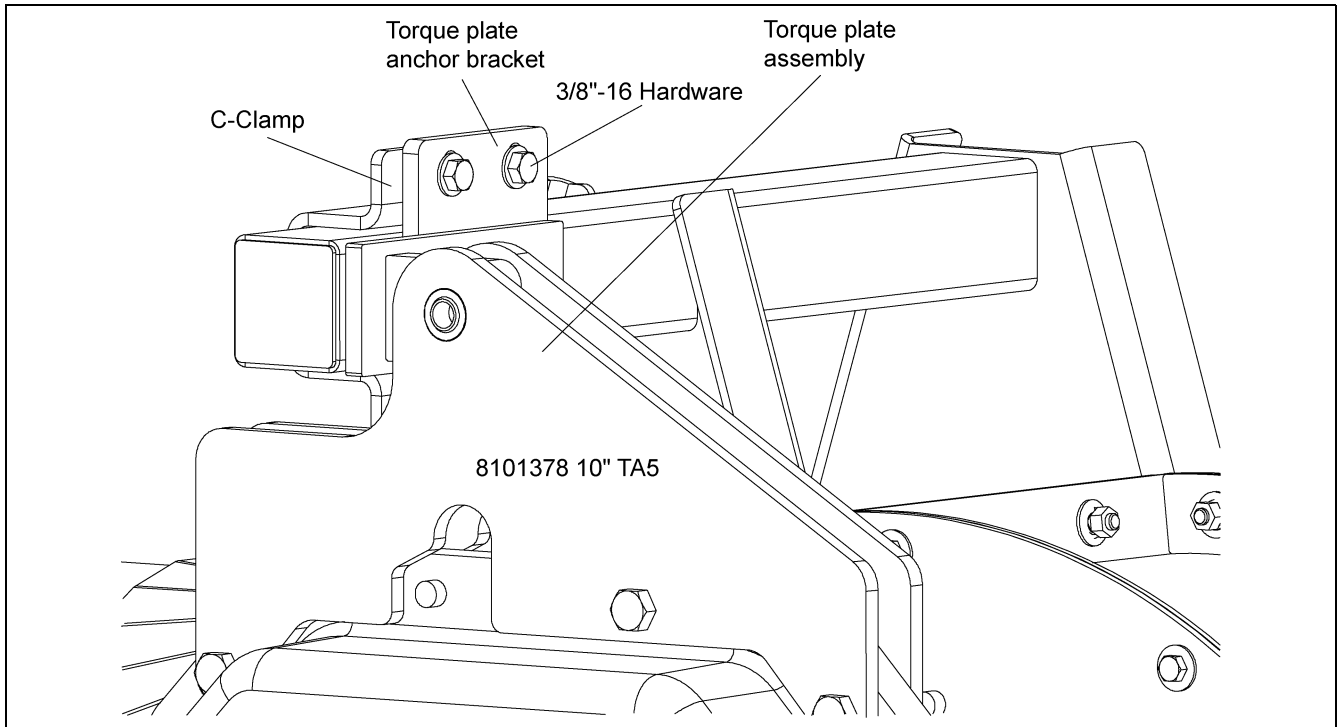


Figure 6F

Chain Loop Torque Arm Repair Kit (Continued)

Attach the torque plate anchor bracket to the torque plates using the two (2) 1/2" flat washers, shoulder bolt and 3/8"-16 nylock nut.

Tighten the hardware attaching the torque plate assemblies to the gear reducer after tightening the shoulder bolt hardware. (See Figure 6G.)

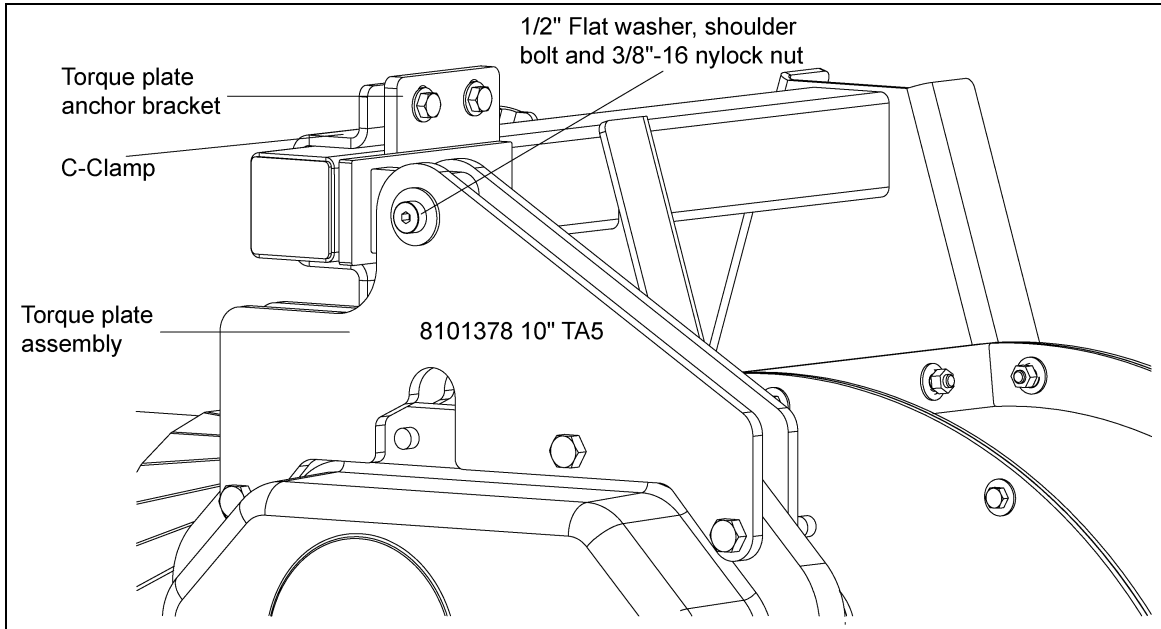


Figure 6G

Move the torque plate anchor bracket on the square tube so the torque plate assemblies are aligned vertical. Once aligned, the 3/8"-16 hardware attaching the torque plate anchor bracket to the C-clamp can be tightened. (See Figure 6H.)

NOTE: Washers must be on the outside of each torque plate assembly.

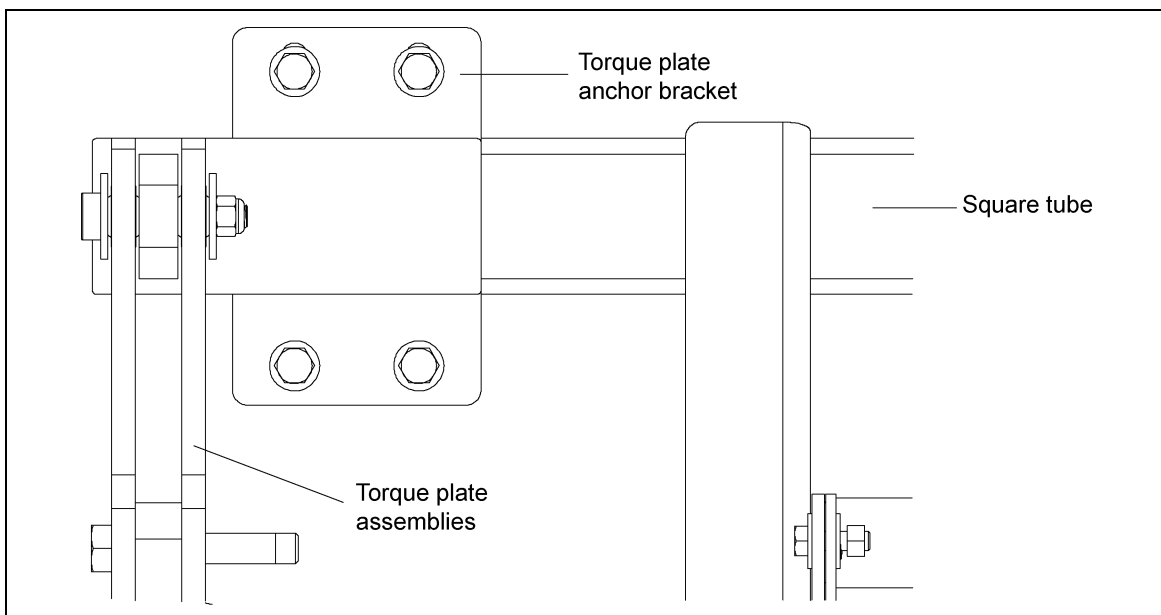


Figure 6H

Drive Box Assembly Instructions

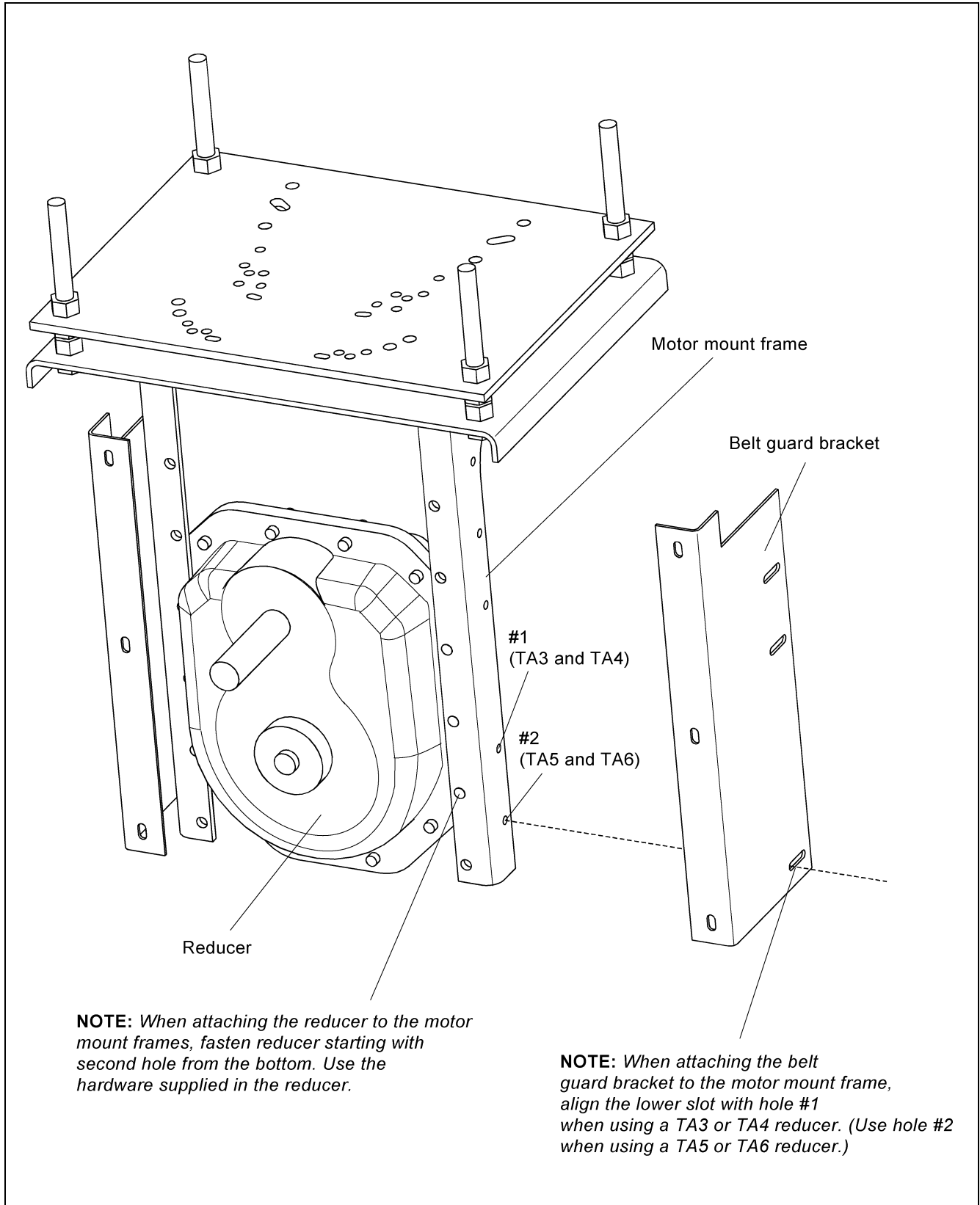


Figure 6I

Discharge with Gate Assembly

The discharge unit includes an 8' long section (12' long in 12" system). Locate the outlet of the discharge in the desired location. It may be necessary to cut exact lengths of other tube conveyor sections to locate the discharge unit in its proper place. The discharge with gate is designed for chain travel in only one direction. Make sure it is oriented properly by comparing the appearance to the diagram or referring to the decal on the discharge unit. Operation in the wrong direction can cause paddle damage.

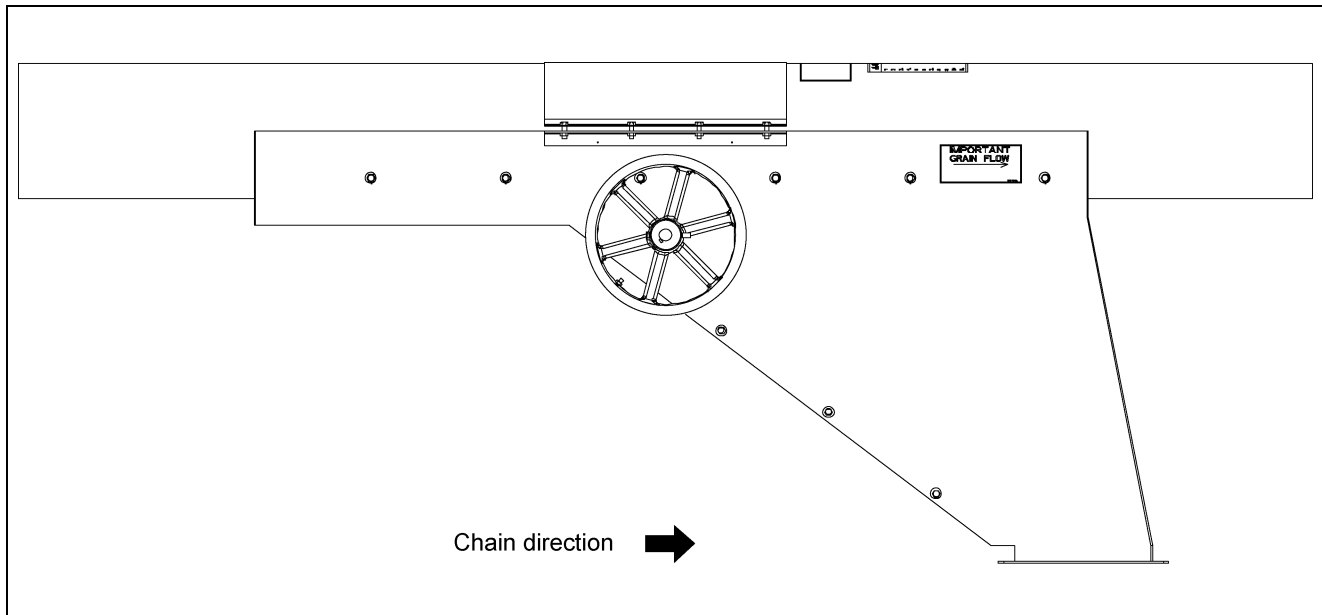


Figure 6J

When cutting tubes to exact length, the ends must be cut square and any burrs on the ends must be removed by chamfering the inside diameter. Join tube and discharge gate together with connecting bands. Slide the tube sections tightly together and space the connecting band in equal amounts on both parts of the connection.

Bin well installation for Chain Loop Systems installed under a row of grain bins.

Position the center bin well so that the bin sweep pivot is at the center of the bin and on top of the Chain Loop tube. Intermediate wells may be placed on the tube between the center and bin wall if desired. Use [Figure 6K on Page 28](#) for minimum spacing requirements and as a guide to mark and cut the openings for the wells in the tube.

NOTE: Do not cut the opening with the chain and paddles inside the tube or they may be damaged.

The control pipe for the center well (1/2" pipe) should fit inside the pipe used for the intermediate wells (1" pipe). With the center and intermediate wells closed, drill a hole through both control pipes so that a bolt can be used to lock both pipes together. This will allow both slide gates to be operated together.

Open the slide gate in the center well and withdraw grain until no more flows. Close the center well slide-gate and place the bolt in the hole drilled through both control rods. The intermediate well slide-gates can now be operated with the center well.

Unload Well Installation

General Information

Observe the minimum spacings shown in the illustration below (*Figure 6K.*) Wells should be positioned on the tube so that the gates will open when control pipes are pulled out and away from the center of the bin.

A control pipe kit may be ordered from your dealer. For the center well, use 1/2" SCH. 40 pipe (-7/8" O.D.). For the intermediate well(s) use 1" SCH. 40 pipe (-1 3/8" O.D.). It may be necessary to support the unload well(s) and/or discharge tube from below with blocks or other material.

Consult the manufacturer of the bin floor for information on cutting openings in the floor for unload wells, for sealing around unload wells and for proper support of the floor around the unload wells and discharge tube.

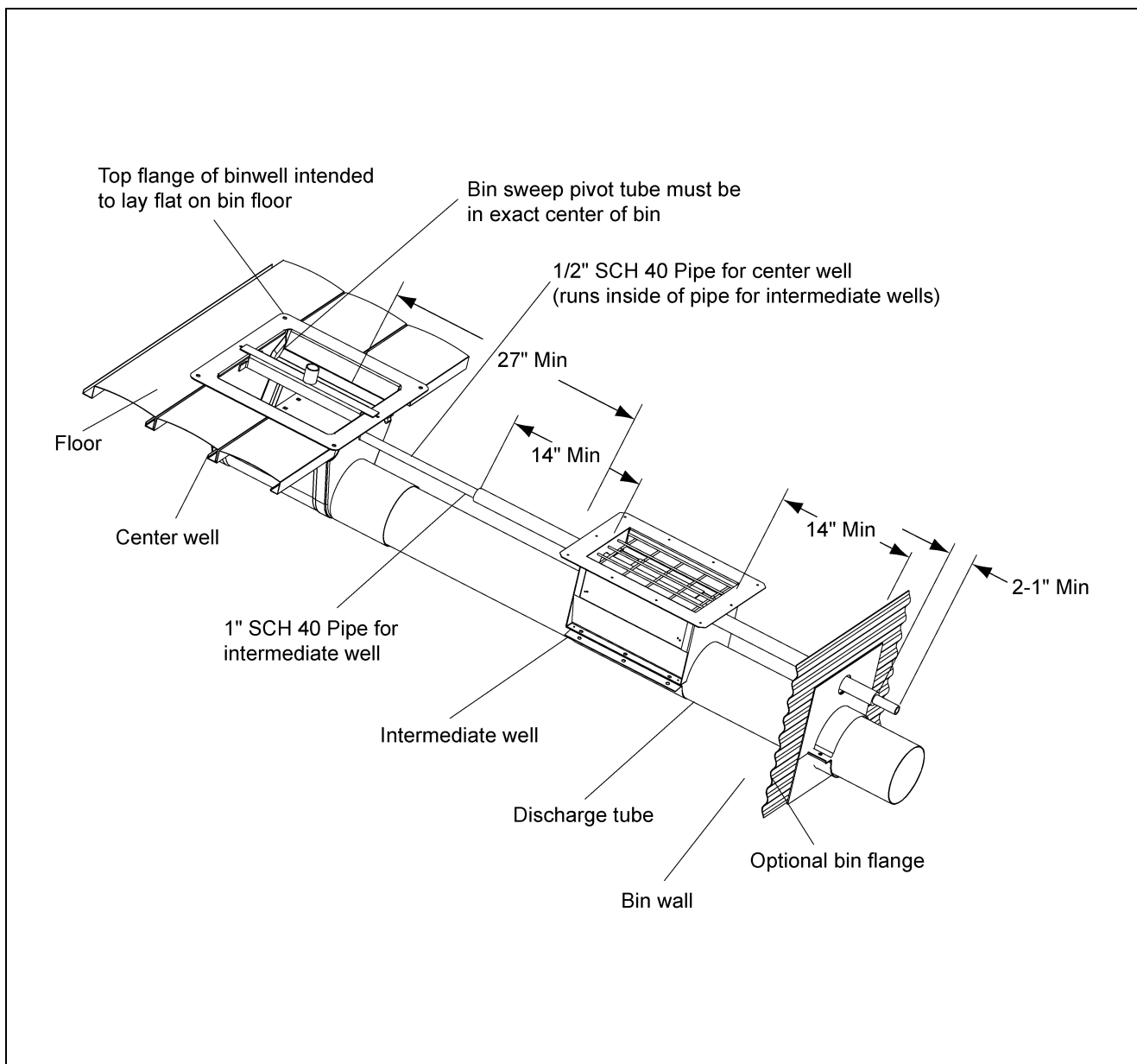


Figure 6K

Chain and Paddles

The paddles are attached to the chain with 5/16" x 1" serrated flange bolts, flat washers and locking nuts. Make sure that the slots in the chain paddle brackets are oriented as shown in [Figure 6M on Page 30](#). The head of the bolt should be inside the "V" shaped chain paddle bracket and the washer and nut should be against the face of the plastic paddle. Make sure all hardware is tightened properly to a torque of 20 ft. lbs.

The chain is shipped in 10' lengths and needs to be spliced as shown in [Figure 6M on Page 30](#). Make sure to bend the ends of the cotter pins as shown to prevent them from working loose and causing the chain to break.

Use an electrical fish tape or wire to pull the chain through the tube assembly. **It is possible for the chain to twist a full 360° during this process.** Visually check the chain through open inspection covers at the discharge gates and openings for wells to make sure that this has not happened.

Adjust the tightening screws in the inspection corner all the way up and connect the final chain link through the access door in the inspection corner after removing as much chain slack as possible. Tighten the chain by turning the adjusting screws clockwise; adjust each side equally to keep the sprocket shaft square with the housing. Remove chain links if there is not enough travel in the adjusting screw to tighten the chain. Make sure that the sprocket shaft is square to the housing by measuring the shaft position on both sides of the housing. ([See Figure 6N on Page 31.](#))

The chain should be tightened until the paddles are nearly rigid on the chain. The tips of the paddles should only move 3/4" when grabbed and pulled by hand.



Make sure all shields and safety guards are in place before restoring power.

Check and re-tension the chain after the system has been trial run while empty.



Turn OFF and lock out the main power source BEFORE removing any inspection covers or shields.

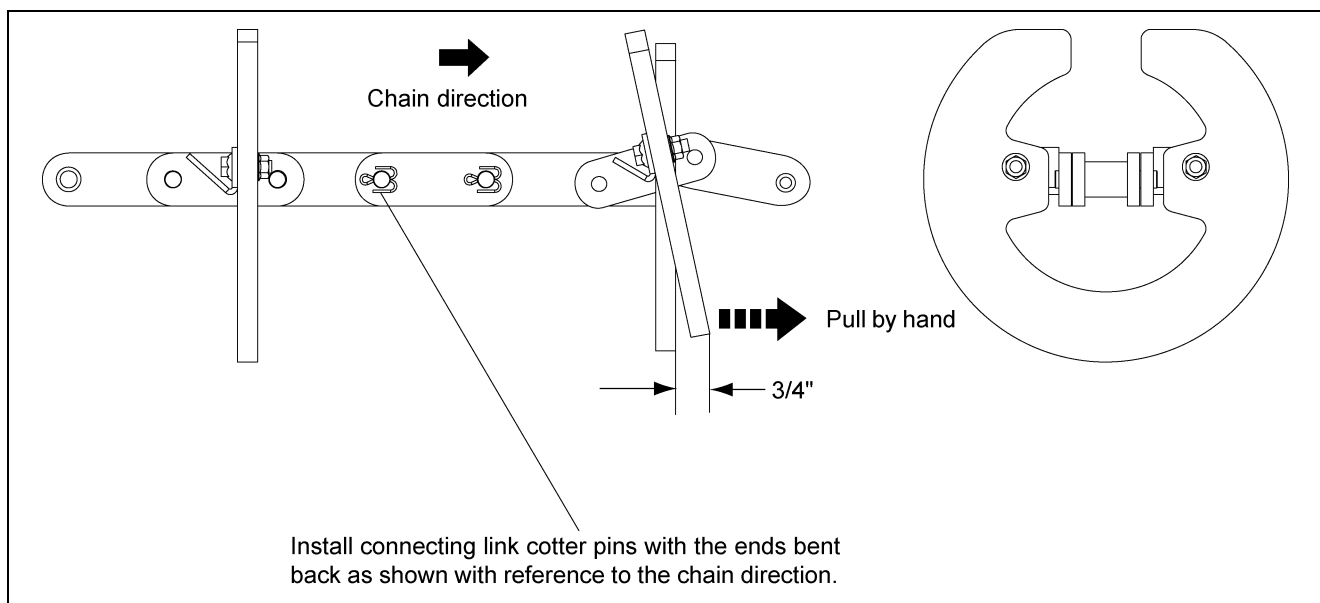


Figure 6L

Chain and Paddles (Continued)

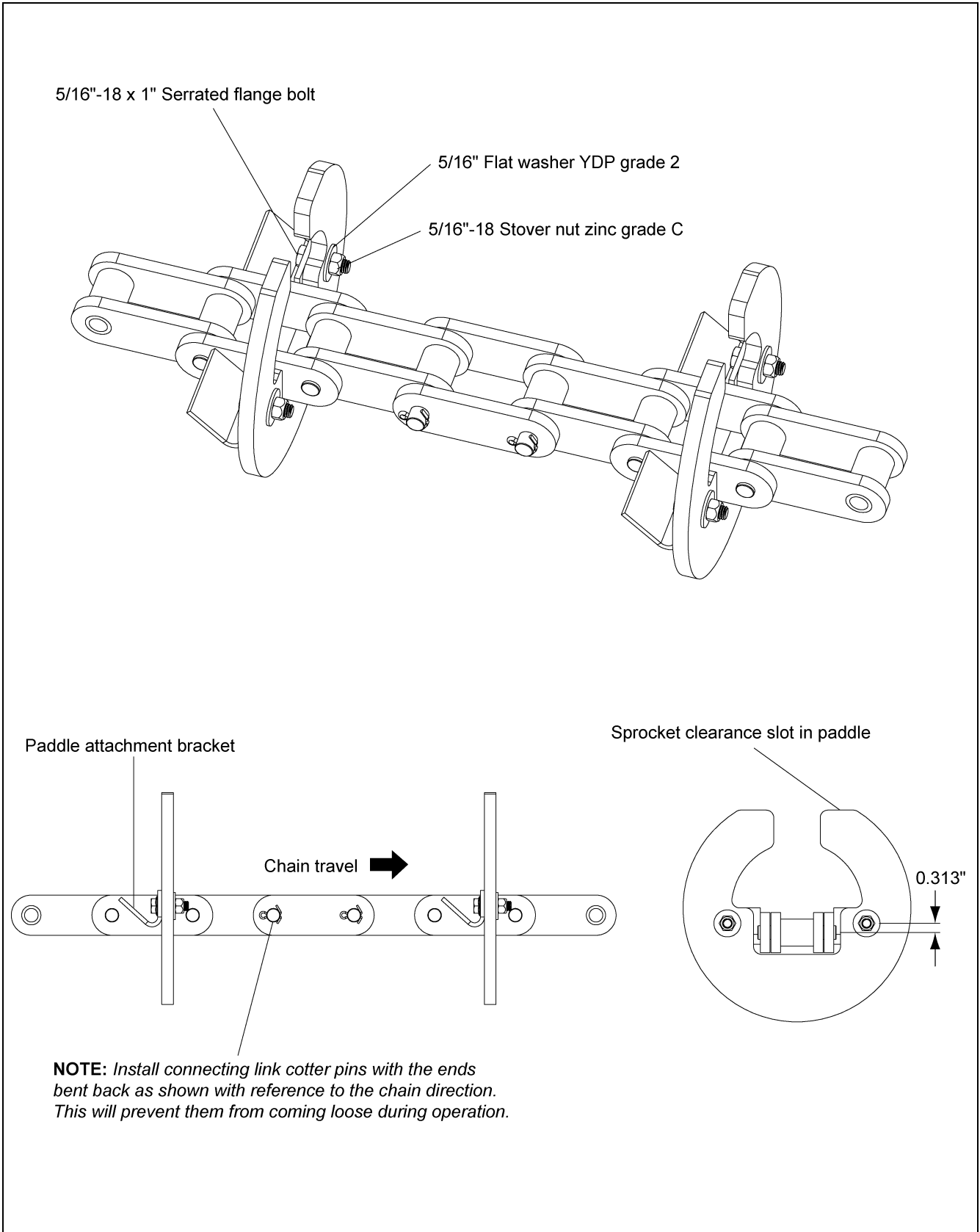


Figure 6M Chain and Paddles

Inspection Corner

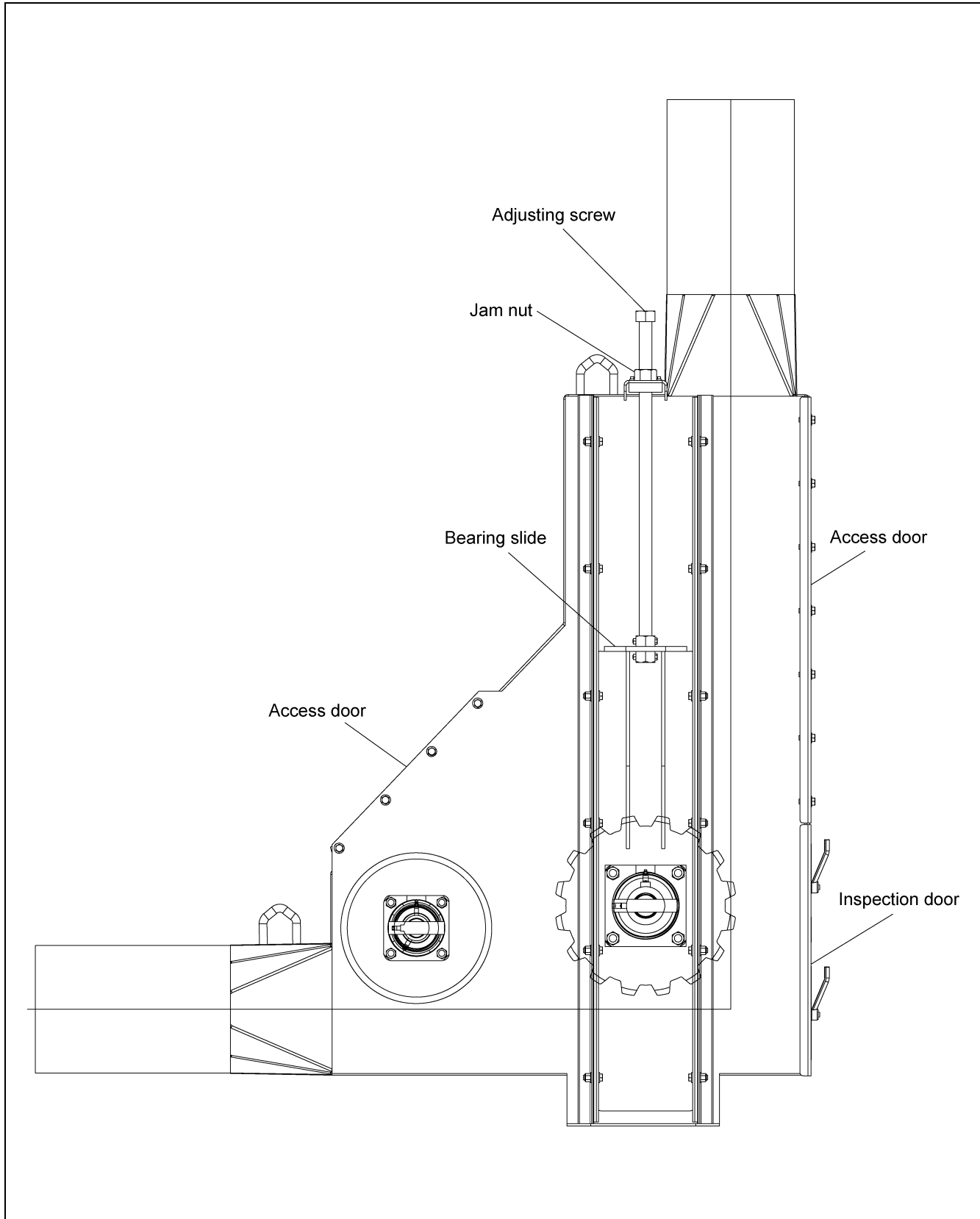


Figure 6N

6. Installation

Ground Control Kit for Discharge Gates

Determine the best location for each ground control kit. Note that each kit comes with 100' of cable, which should be adequate for individual bin installations.

The cable idler pulley bracket is usually mounted at the top of the bin wall, just under the roof eave, in line with the control wheel on the discharge gate. The ground control wheel-mounting bracket should be mounted to the bin wall directly under the idler pulley bracket at a convenient operating height. It is important to keep the cable in line with the control wheels on both the discharge gate and at the ground to avoid having the cable “walk off” either wheel.

The ground control wheel can be mounted to the same bin as the discharge gate, or to an adjacent bin (*See Figure 6O and Figure 6P.*)

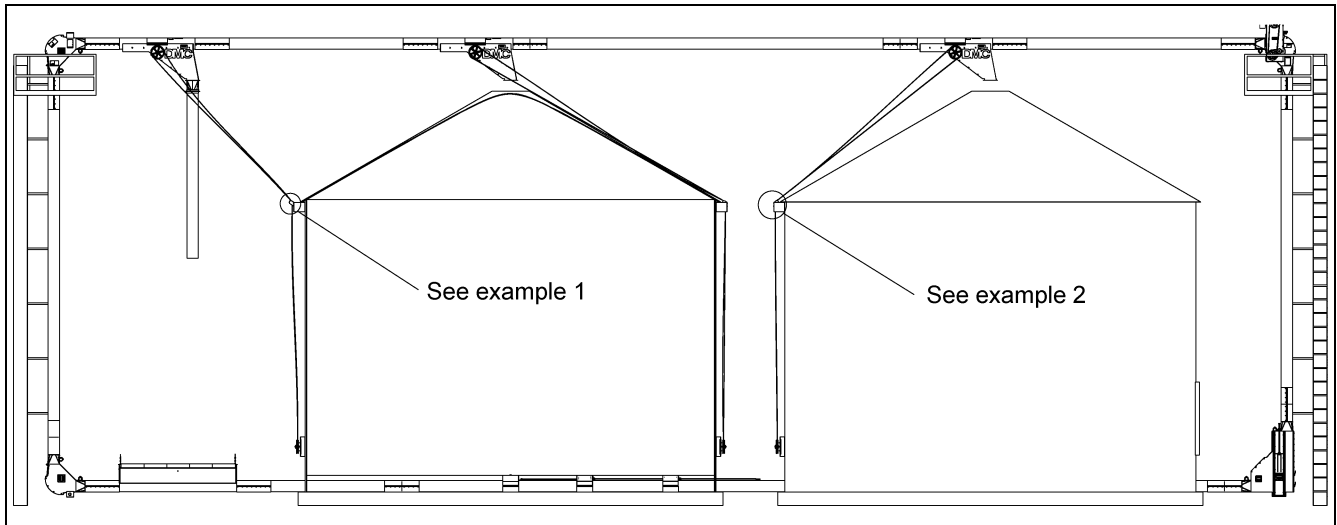


Figure 6O

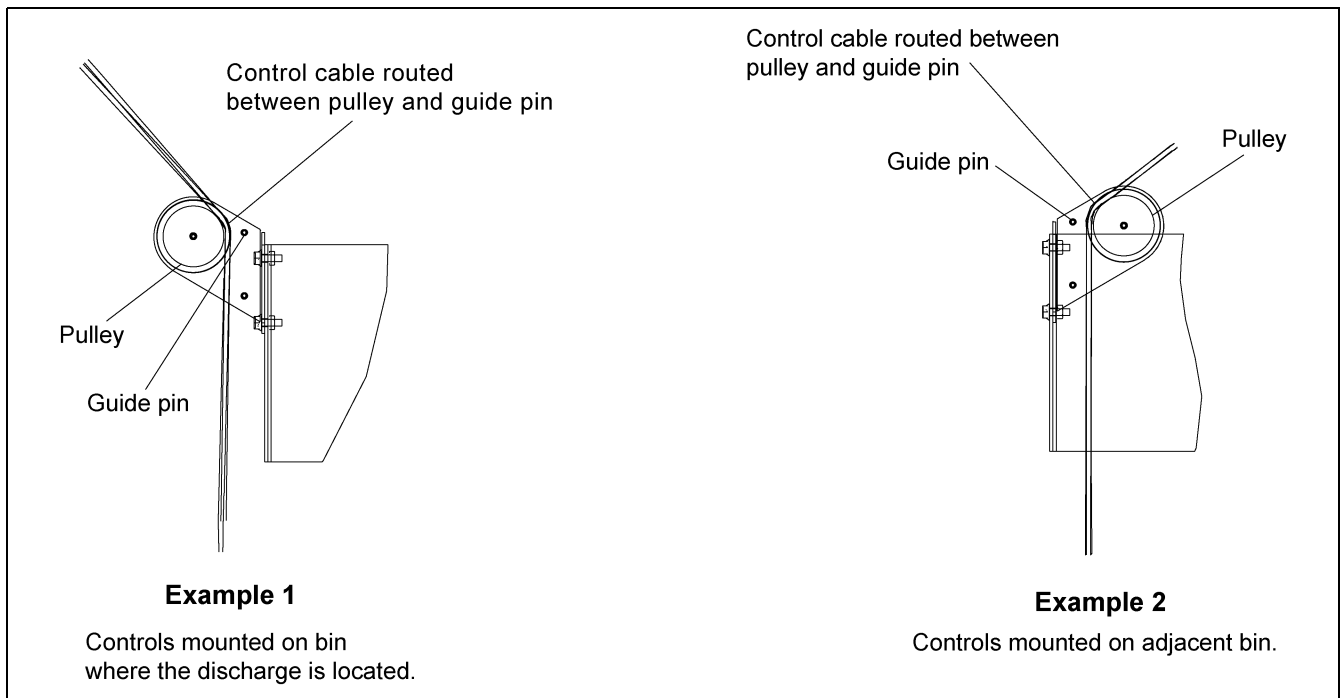


Figure 6P

Ground Control Kit for Discharge Gates (Continued)

Each control system should be marked to identify which discharge gate is being controlled.

Each control system should be marked after installation to clearly identify whether the discharge gate is open or closed.

Set screws in the ground control wheel can be used to lock the wheel in position to prevent accidental opening or closing of the discharge gate.

Assemble the idler pulleys to the mounting bracket on the inside surface if the cable is going to a discharge gate on the same bin. Assemble them on the outside if the cable is going to an adjacent bin. Attach the idler pulley bracket to the bin wall just under the eave to ensure that the cable will clear the bin roof.

Attach the ground control wheel bracket to the bin wall directly below the idler bracket. Assemble the wheel-mounting bracket loosely to the wall bracket and slide it up as far as possible. Assemble the control wheel to the shaft and secure with cotter pins. [\(See Page 35.\)](#)

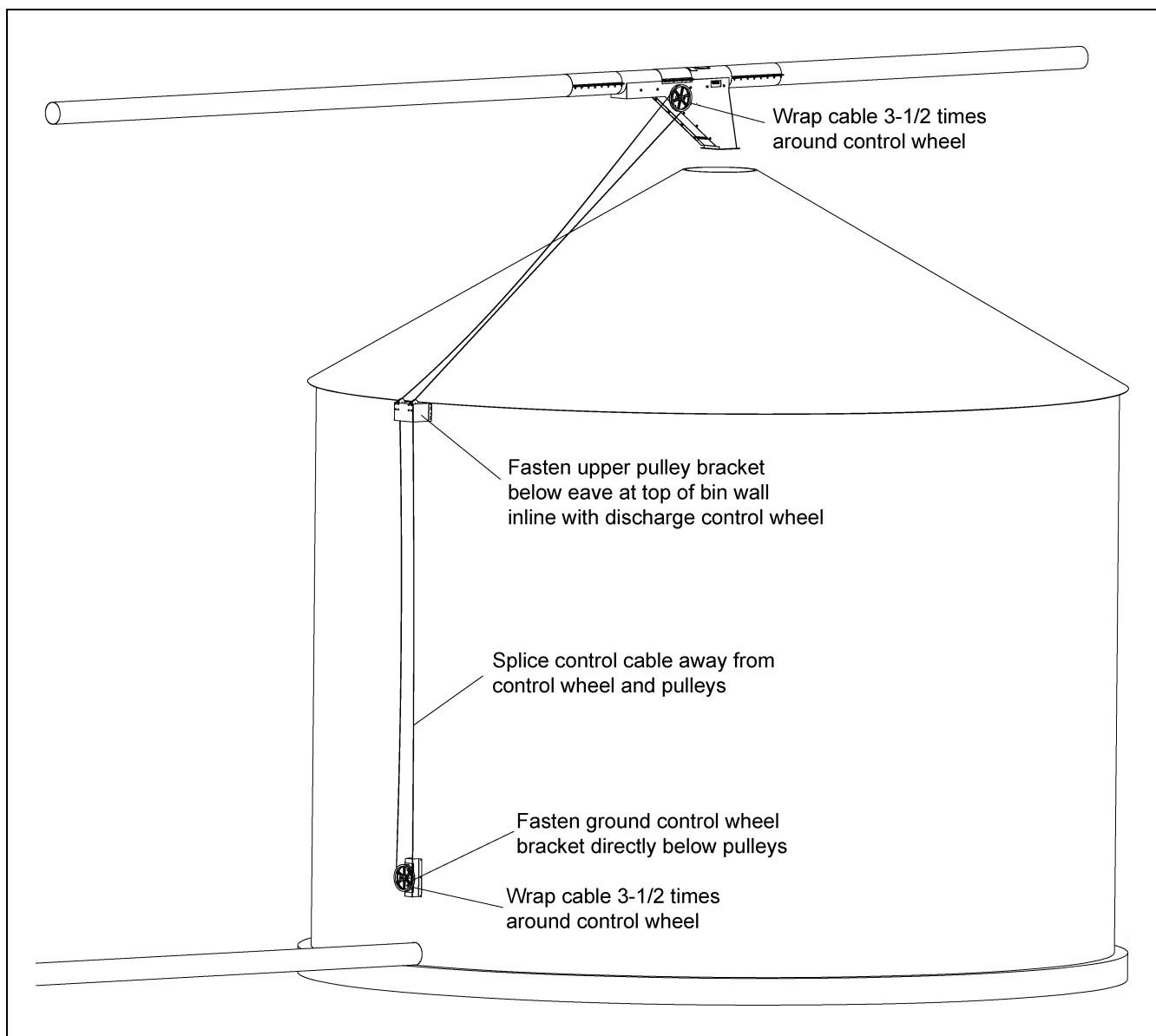


Figure 6Q

Ground Control Kit for Discharge Gates (Continued)

Make sure that the discharge gate is half open **and wrap the cable 3-1/2 times around the discharge gate control wheel. Note that turning the wheel clockwise will close the gate.**

Secure the cable to the wheel with the cable clamp by attaching it to the approximate middle of the 3-1/2 wraps of cable. This will ensure that the gate will fully open and close without restriction from the cable clamped to the wheel.

Make sure that the discharge gate is still half open.

Route the cable back through the right idler pulley and down to the ground control wheel.

At the ground control wheel, turn the wheel until the cable clamp is up and wrap the cable 3-1/2 times around it.

Secure the cable clamp to the middle wrap.

Splice the ends of the cable with a cable clamp. With the discharge gate half open, the splice should be at least 5' away from the pulleys and control wheels.

Slide the ground wheel bracket down to take up any slack in the cable and tighten in place.

Check the installation by turning the ground wheel clockwise to fully close the discharge gate and counterclockwise to fully open the gate without any restrictions from the cable splice or the clamps on the control wheels.

If the rotation is wrong, then reverse the direction of the 3-1/2 wraps on the ground control wheel.

Ground Control Kit for Discharge Gates (Continued)

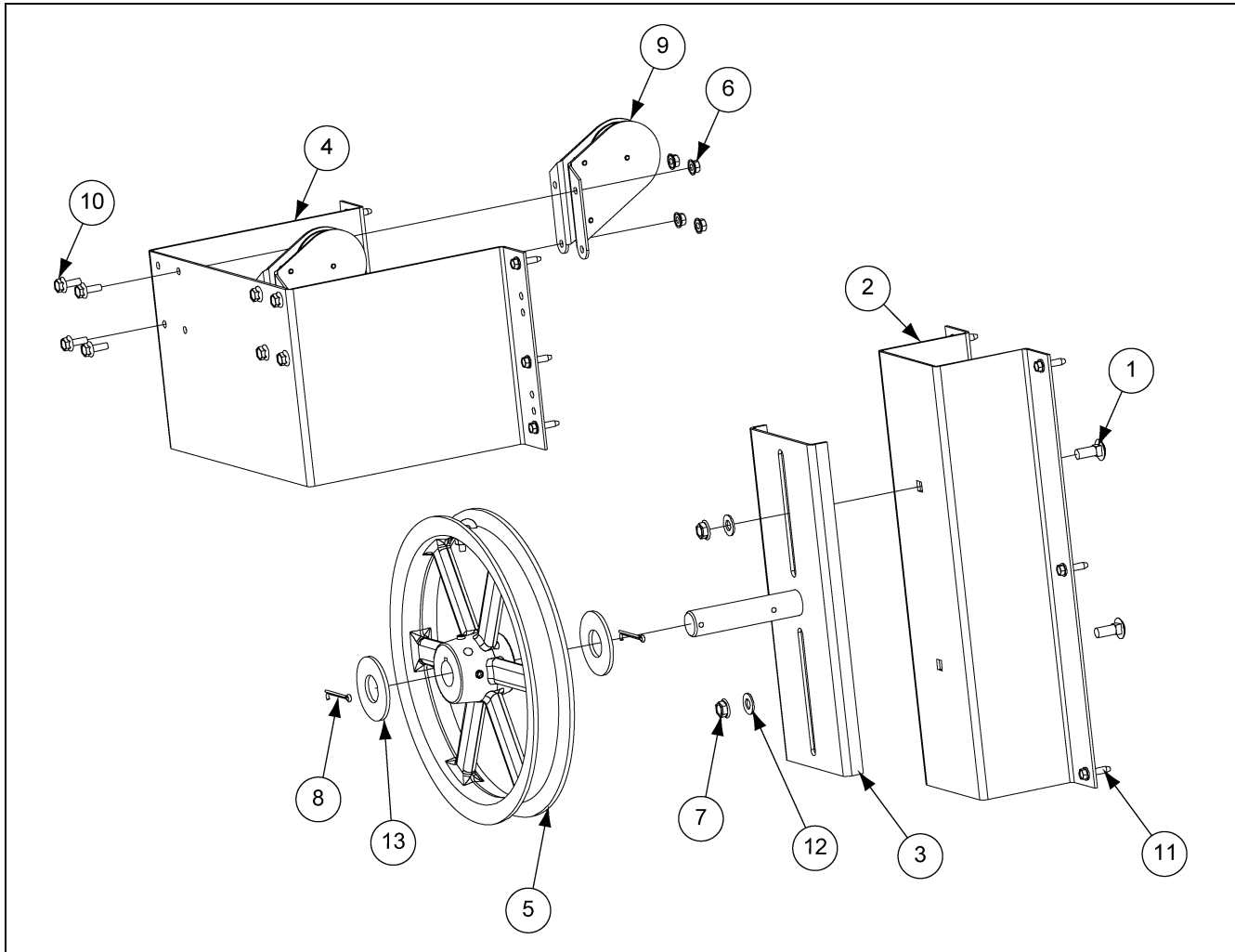


Figure 6R Ground Control Kit Parts

Ground Control Kit Parts List

Ref #	Part #	Description	Qty
1		Bolt-Car, Standard Third-Grade 2 3/8"-16 UNC x 0.75, Plated	2
2	8101157	Bracket-Bin Wall Mount Ground Control Kit	1
3	8101158	Bracket-Control Wheel, Weldment Zinc Plated 8101159	1
4	8101156	Bracket-Pulley Mount, Ground Control Kit	1
5	8101153	Control Wheel - w/ Clamp 90° Discharge w/ Gate	1
6		Lock Nut, Flange, 1/4"-20 UNC (Whiz Lock) Plated	8
7		Lock Nut, Flange, 3/8"-16 UNC (Whiz Lock) Plated	2
8		Cotter Pin, Standard 3/16" x 1-3/4" Long	2
9		Pulley-Hot House, (Nolin Milling No #)	2
10		Screw-MF Flange Whiz Lock 1/4"-20 UNC x 3/4", Plated	8
11		Screw - s/ Drill, WH Hex Head 1/4"-14 x 1", (Tek 3) Plated	12
12		Flat Washer, Standard 3/8", Plated	2
13		Flat Washer, Standard 1", Plated	2

Inlet Dump Hopper Assembly

The dump hopper will include a length of tubular conveyor from 6' to 11' depending on the length of dump hopper selected. It will also include a top safety screen or drive over grating. There is a grain flow control inside the hopper that is adjustable using chains mounted at each end. A dump hopper is to receive grain into the Chain Loop System and should be located at a point along the bottom conveyor portion. Usually dump hoppers are located near the standard corner where the chain and paddles turn to carry grain up.

For drive over systems, the grate must be supported by a concrete structure. (See Figure 6S.)

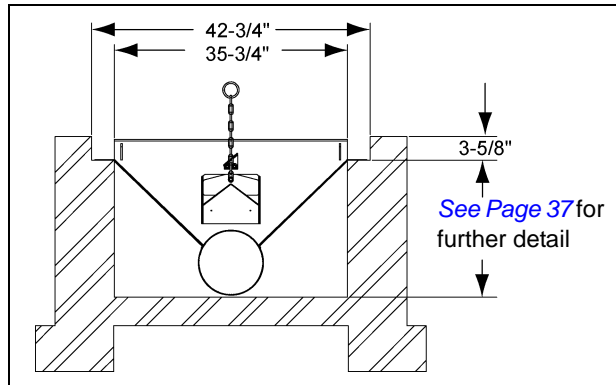


Figure 6S

A hopper with top safety screen may be used in non-drive over situations. The top safety screen will not support vehicles. Make sure either the top safety screen or drive-over grating is in place on the hopper.

Fasten the inlet dump hopper assembly in place within the tubular conveyor with connecting bands.

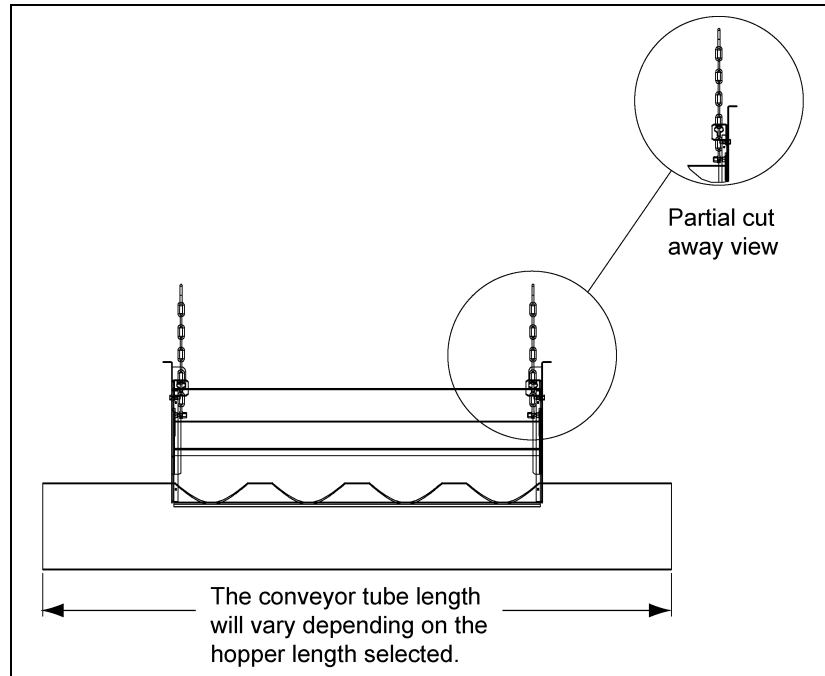


Figure 6T

NOTE: When the system is not in use, it is a good practice to cover the hopper with a rubber mat to help keep water, animals and debris out.

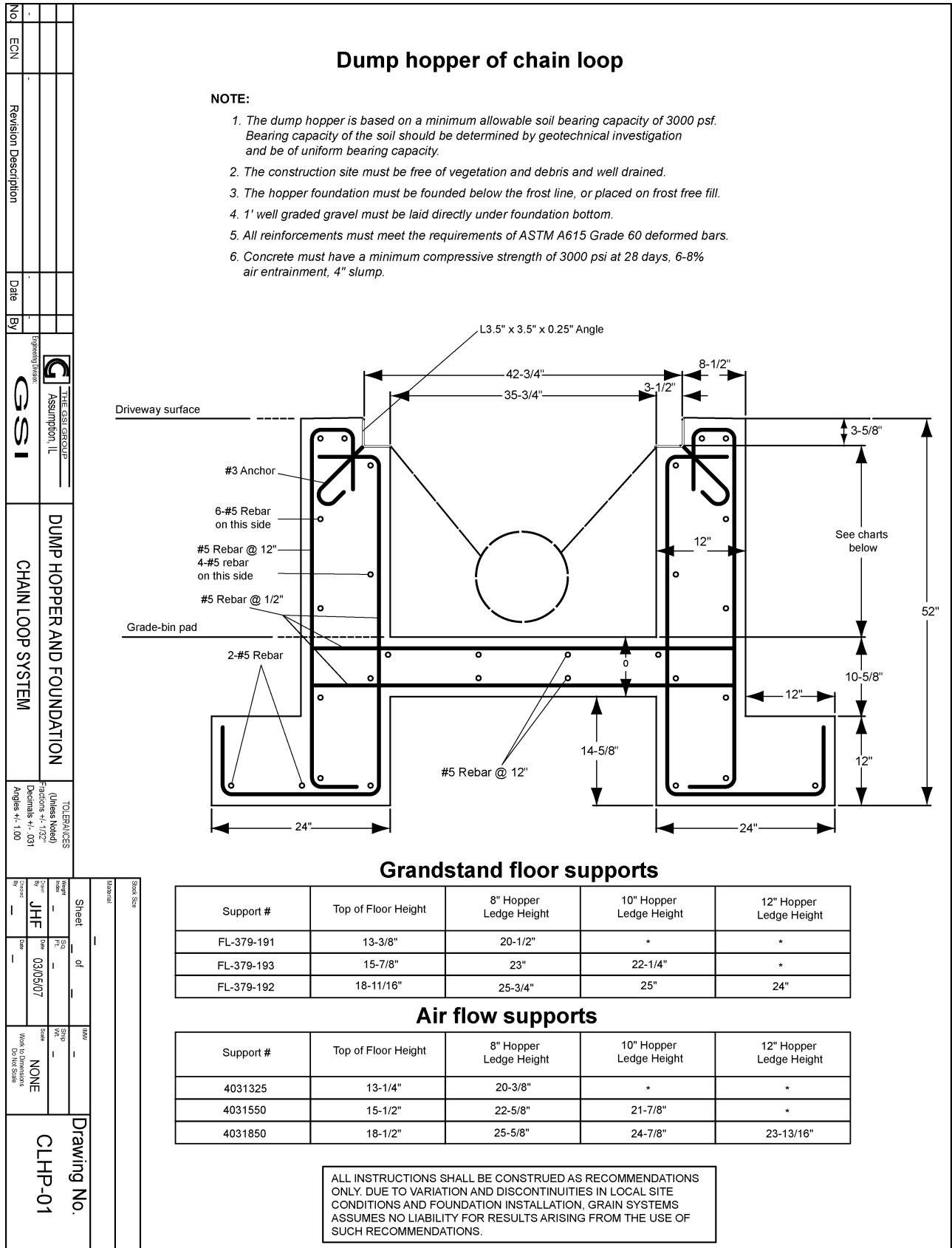


Figure 6U

7. Troubleshooting

1. Chain is slipping on the drive sprocket

- a. Check the chain tension and tighten at the inspection corner if necessary.
- b. Check for obstructions in the system. The paddles may be catching at joints in the tubing.
- c. Check to make sure that the sprockets are centered in the corner housings.
- d. Avoid starting the system under load. Let the system run until empty before shutting down. If shut down does occur while the system is loaded, remove as much grain as possible and turn the corner sprockets by hand with a pipe wrench to loosen the chain before turning the power back ON.

2. Grain recycling back to the fill point

- a. Check to make sure that the discharge gate is open.
- b. Check and clean out the slide gate in the discharge gate.
- c. Chain speed may be too fast. The drive corner shaft speed should be 94 RPM.

3. Drive belts are slipping

- a. Check the drive motor amperage and make sure that the motor is not overloaded.
- b. Tighten belts if slippage occurs when the drive motor is not fully loaded.

4. System is not delivering full capacity

- a. Make sure that grain is not over running the discharge gate and returning to the fill-point.
- b. Chain speed may be too slow. The drive corner shaft speed should be 94 RPM.
- c. High moisture grain will move at a lower capacity than dry grain.
- d. Check for obstructions in the inlet hopper.
- e. Check to make sure that the chain has not been installed with a twist. ([See Page 29.](#))

5. Paddles breaking

- a. Check to make sure that the sprockets are centered in the corner housings.
- b. Avoid starting the system under load. Let the system run until empty before shutting down. If shut down does occur while the system is loaded, remove as much grain as possible and turn the corner sprockets by hand with a pipe wrench to loosen the chain before turning the power back ON.
- c. Check to make sure that the paddles are fastened securely to the chain brackets.
- d. Let the system “break-in” and the tubing become polished before loading to full capacity.
- e. If you hear paddles “clicking” at a joint, check for gaps in the tubing. This will require loosening the bolts in the connecting band to be able to see the tube joint.

6. Chain failure

- a. Check to make sure that the master connecting links have been installed correctly. ([See Figure 6M on Page 30.](#))
- b. Check for obstructions in the system.
- c. Avoid starting the system under load. Let the system run until empty before shutting down.

8", 10" and 12" Component Dimensions

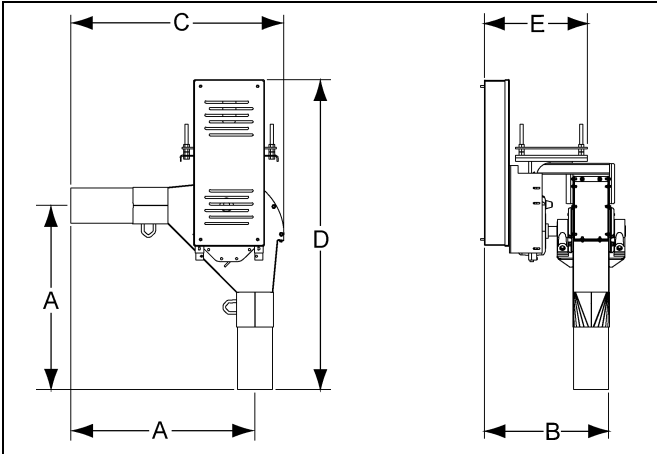


Figure 8A

Drive Corners

Horse Power	8" System	10" System	12" 10 Gauge	12" 7 Gauge
15	8081268	8101280		
20	8081286	8101285		
25-30	8081287	8101288	8120181	8120009
40		8101295	8120182	8120143
50		8101332	8120183	8120171
60			8120184	8120162

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Gauge System inches (mm)	12" 7 Gauge System inches (mm)
"A"	42-1/16" (1069)	42-1/2" (1080)	55-11/16" (1415)	55-11/16" (1415)
"B"	25-5/16" (463)	28-3/4" (731)	33" (838)	33" (838)
"C"	48-3/4" (1239)	50-1/4" (1277)	63-5/16" (1609)	63-5/16" (1609)
"D"	70-7/8" (1801)	81-7/8" (2081)	101-15/16" (2574)	101-15/16" (2574)
"E"	33-1/8" (842)	37-9/16" (955)	45-1/2" (1156)	45-1/2" (1156)

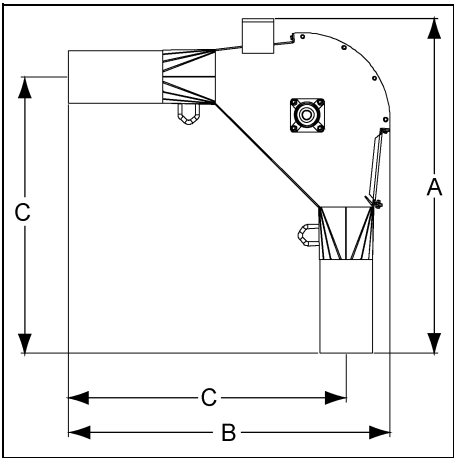


Figure 8B

Standard Corners

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Gauge System inches (mm)	12" 7 Gauge System inches (mm)
"A"	50-7/32" (1275)	51-21/32" (1312)	65-25/32" (1670)	65-25/32" (1670)
"B"	48-3/4" (1238)	50-1/16" (1271)	63-9/32" (1607)	63-9/32" (1607)
"C"	42-1/16" (1068)	42-1/2" (1080)	55-11/16" (1415)	55-11/16" (1415)
Assembly	P.N. 8081021	P.N. 8101021	P.N. 8120176	P.N. 8120031

8. Component Dimensions

8", 10" and 12" Component Dimensions (Continued)

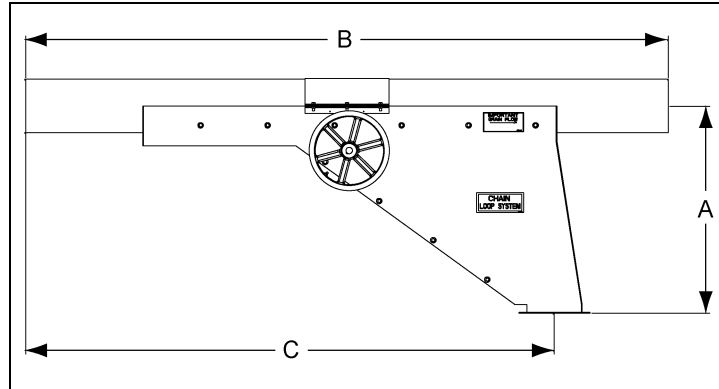


Figure 8C

Discharge Gates

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Gauge System inches (mm)	12" 7 Gauge System inches (mm)
"A"	30-1/16" (764)	32-1/16" (814)	54-11/16" (1388)	54-11/16" (1388)
"B"	96" (2438)	96" (2438)	144" (3657)	144" (3657)
"C"	79" (2007)	79" (2007)	123-63/64" (3148)	123-63/64" (3148)
Assembly	8081206	8101206	8120090	8120194

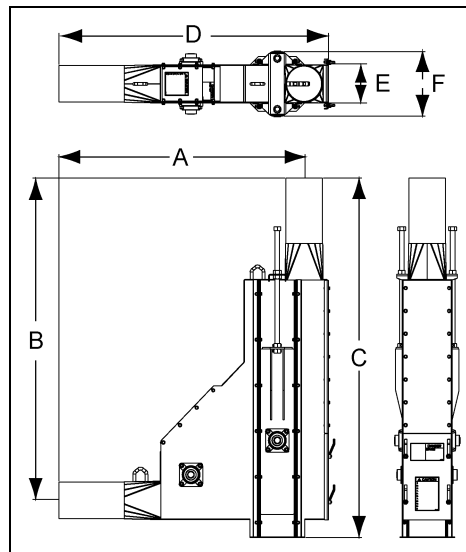


Figure 8D

Inspection Corners

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Gauge System inches (mm)	12" 7 Gauge System inches (mm)
"A"	53-5/8" (1362)	54-5/8" (1387)	67-19/32" (1717)	67-19/32" (1717)
"B"	70-7/16" (1789)	71-1/2" (1816)	86-3/32" (2187)	86-3/32" (2187)
"C"	78-19/32" (1996)	80-21/32" (2049)	96-3/16" (2443)	96-3/16" (2443)
"D"	58-15/16" (1497)	61-1/8" (1553)	75-7/32" (1911)	75-7/32" (1911)
"E"	8-3/8" (213)	10-3/8" (264)	12-3/16" (309)	12-3/16" (309)
"F"	13-7/8" (1492)	15-7/8" (403)	25-5/16" (643)	25-5/16" (643)
Assembly	8081048	8101048	8120177	8120051

8", 10" and 12" Bin Well and Dump Hopper Dimensions

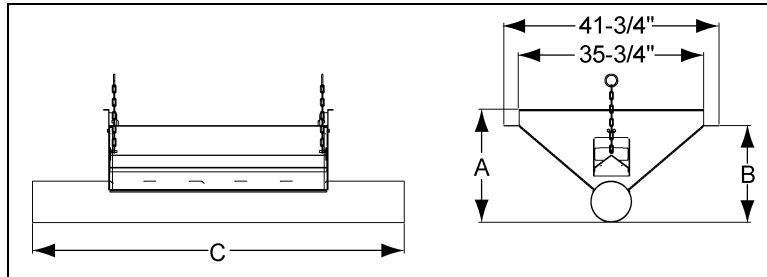


Figure 8E

Inlet Hopper Part Numbers and Dimensions

Assembly Description (Hopper Width)	Part #				Dimension "C" inches (mm)
	8" System	10" System	12" 10 Gauge System	12" 7 Gauge System	
42-1/2" w/ Drive-over Grates	8089025	8109035	8129021	8129024	72" (1829)
42-1/2" Hopper Assembly Only	8081106	8101106	8120185	8120121	72" (1829)
62-1/2" w/ Drive-over Grates	8089027	8109027			92" (2337)
62-1/2" Hopper Assembly Only	8081107	8101107			92" (2337)
102-1/2" w/ Drive-over Grates	8089029	8109039	8129022	8129025	132" (3353)
102-1/2" Hopper Assembly Only	8081108	8101108	8120186	8120127	132" (3353)
122-1/2" w/ Drive-over Grates			8129023	8129026	152" (3861)
122-1/2" Hopper Assembly Only			8120187	8120134	152" (3861)
125" w/ Drive-over Grates	8089031	8101166L			155" (3937)
125" Hopper Assembly Only	8081166	8101166			155" (3937)
144-1/2" w/ Drive-over Grates	8089033	8109043			168" (4267)
144-1/2" Hopper Assembly Only	8081109	8101109			168" (4267)
Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Gauge System inches (mm)	12" 7 Gauge System inches (mm)	
"A" (Top of Drive-over Grate)	22-1/2" (572)	24-3/8" (619)	24-13/32" (620)	24-13/32" (620)	
"B" (Top of Hopper Flange)	18-3/4" (476)	20-3/4" (527)	21-3/8" (543)	21-3/8" (543)	

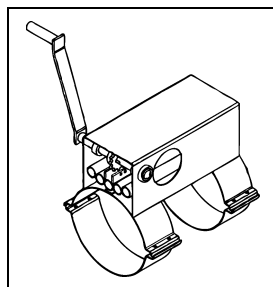


Figure 8F

Rack and Pinion Controls

Dimension	8" System inches (mm)	10" System inches (mm)	12" System inches (mm)
Length	15-1/2" (394)	15-1/2" (619)	15-1/2" (619)
Top Width	7-1/4" (476)	7-1/4" (476)	7-1/4" (476)
Height* *(ctr. of tube to top)	9-1/2" (241)	10-1/2" (267)	11-1/2" (292)
Assembly	GK1768	GK1772	GK1787

8", 10" and 12" Bin Well and Dump Hopper Dimensions (Continued)

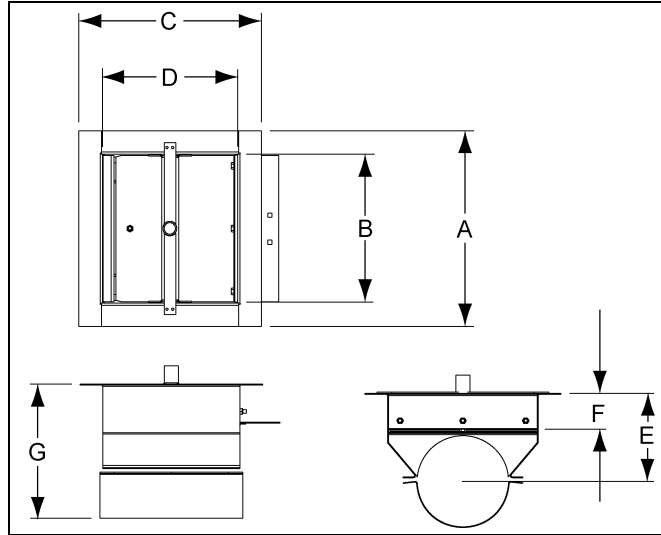


Figure 8G
Center Wells

Dimension	8" System		10" System	
	w/o Rollers inches (mm)	with Roller inches (mm)	w/o Rollers inches (mm)	with Roller inches (mm)
"A"	17-1/8" (435)	17-1/8" (435)	17-1/8" (435)	17-9/32" (439)
"B"	13" (330)	13" (330)	13" (330)	13" (330)
"C"	16" (406)	16" (406)	18" (457)	18" (457)
"D"	12" (305)	12" (305)	13-3/4" (349)	13-3/4" (349)
"E"	7-3/4" (197)	7-3/4" (197)	9-1/2" (241)	9-1/2" (241)
"F"	3-1/8" (79)	3-1/8" (79)	3-3/8" (86)	3-3/8" (86)
"G"	11-3/4" (298)	11-3/4" (298)	14-1/2" (368)	14-1/2" (368)
Assembly	GK2785	8081192	GK1943	8101192

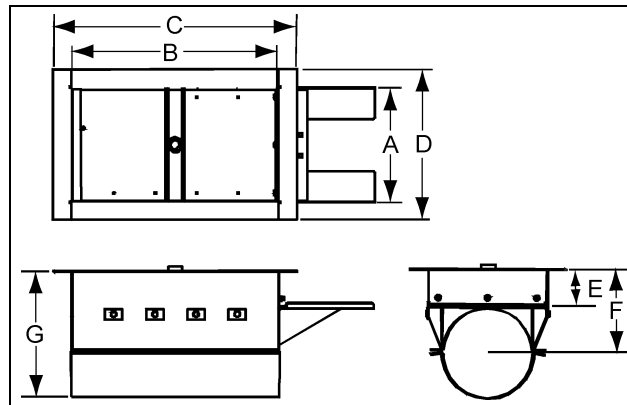


Figure 8H
Large Center Wells

Dimension	8" System inches with Roller inches (mm)	10" System inches with Roller inches (mm)	12" System inches with Roller inches (mm)
"A"	13" (330)	13" (330)	13" (330)
"B"	21-27/32" (555)	23-3/4" (603)	23-3/4" (603)
"C"	25-31/32" (659)	28" (711)	28" (711)
"D"	17-5/32" (436)	17-9/32" (439)	17-9/32" (439)
"E"	3-9/32" (83)	4-1/16" (103)	4-1/16" (103)
"F"	7-23/32" (196)	9-13/32" (239)	10-3/8" (263)
"G"	11-25/32" (299)	14-1/2" (368)	16-1/2" (419)
Assembly	8081238	8101254	8120101

8", 10" and 12" Bin Well and Dump Hopper Dimensions (Continued)

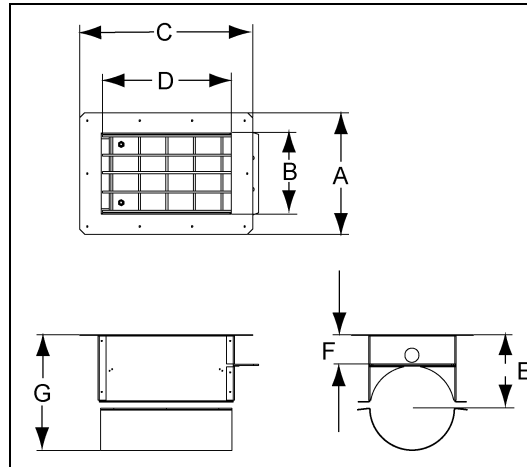


Figure 8I

Intermediate Wells

Dimension	8" System		10" System			*12" System with Rollers inches (mm)
	w/o Rollers inches (mm)	with Rollers inches (mm)	w/o Rollers inches (mm)	with Rollers inches (mm)	w/o Slide Gate inches (mm)	
"A"	11-5/8" (295)	13-1/8" (333)	17-1/8" (435)	17-1/8" (435)	17-1/8" (435)	22-1/4" (565)
"B"	7-1/2" (191)	7-5/16" (186)	13" (330)	13" (330)	13" (330)	14-1/4" (362)
"C"	16-1/2" (419)	19-1/4" (489)	18" (457)	18" (457)	22" (559)	34-1/2" (876)
"D"	13-1/2" (343)	13-1/2" (343)	13-7/8" (352)	13-7/8" (352)	17-7/8" (454)	13-1/8" (333)
"E"	7" (178)	7-5/8" (194)	9-1/2" (241)	9-1/2" (241)	9-1/2" (241)	10" (254)
"F"	2-3/4" (70)	1-15/16" (49)	2-1/8" (54)	2-1/8" (54)		2-1/8" (54)
"G"	11" (279)	11-5/8" (295)	14-1/2" (368)	14-1/2" (368)	14-1/2" (368)	16" (406)
Assembly	GK2779	GK5182	GK1942	8101193	8101194	*GK2927

* 12" Commercial intermediate well drawing below. (See Figure 8J.)

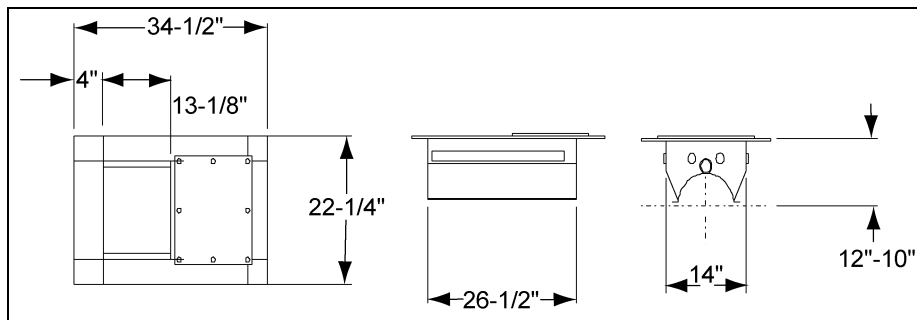
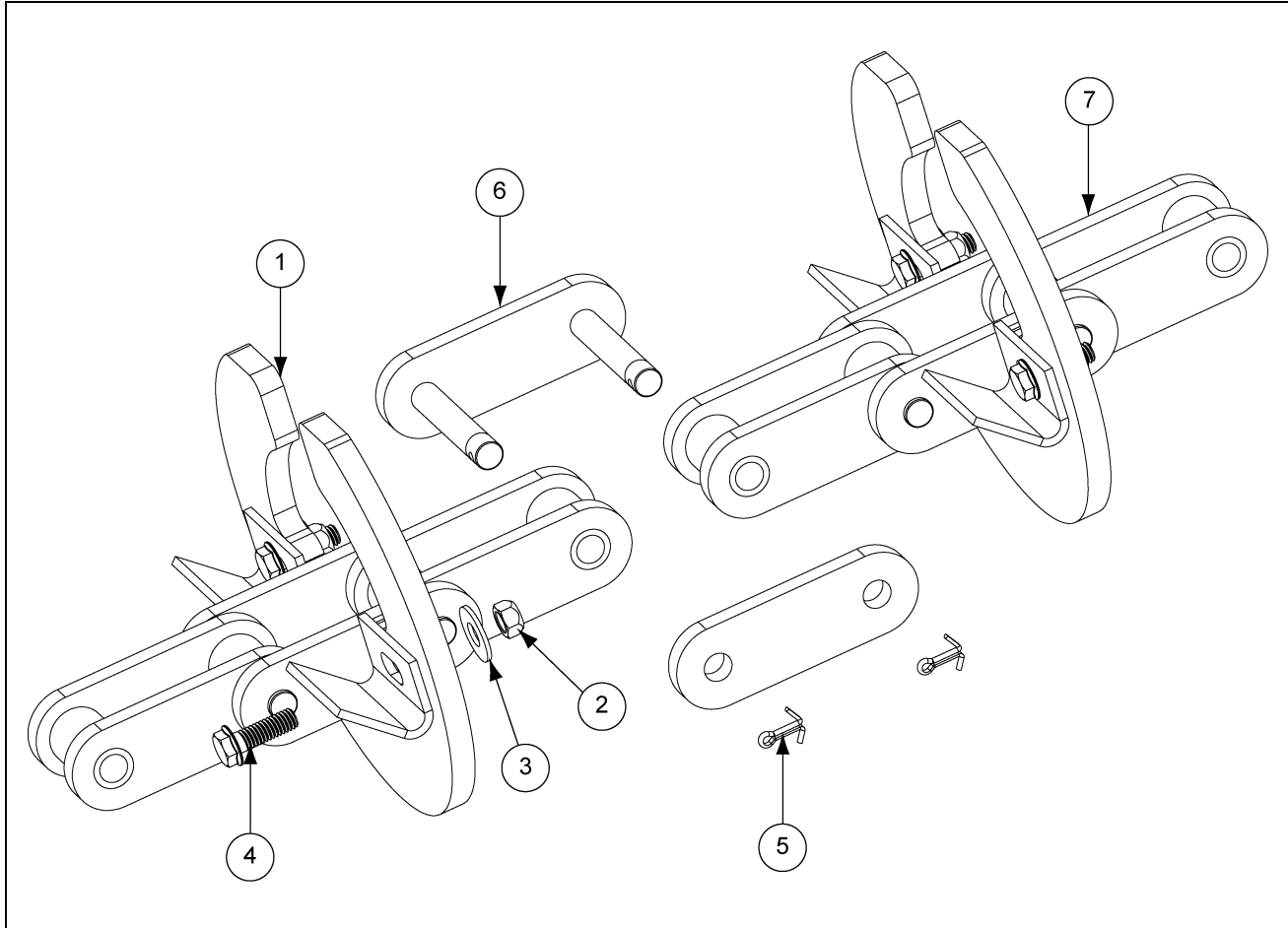


Figure 8J

12" Well (Intermediate)

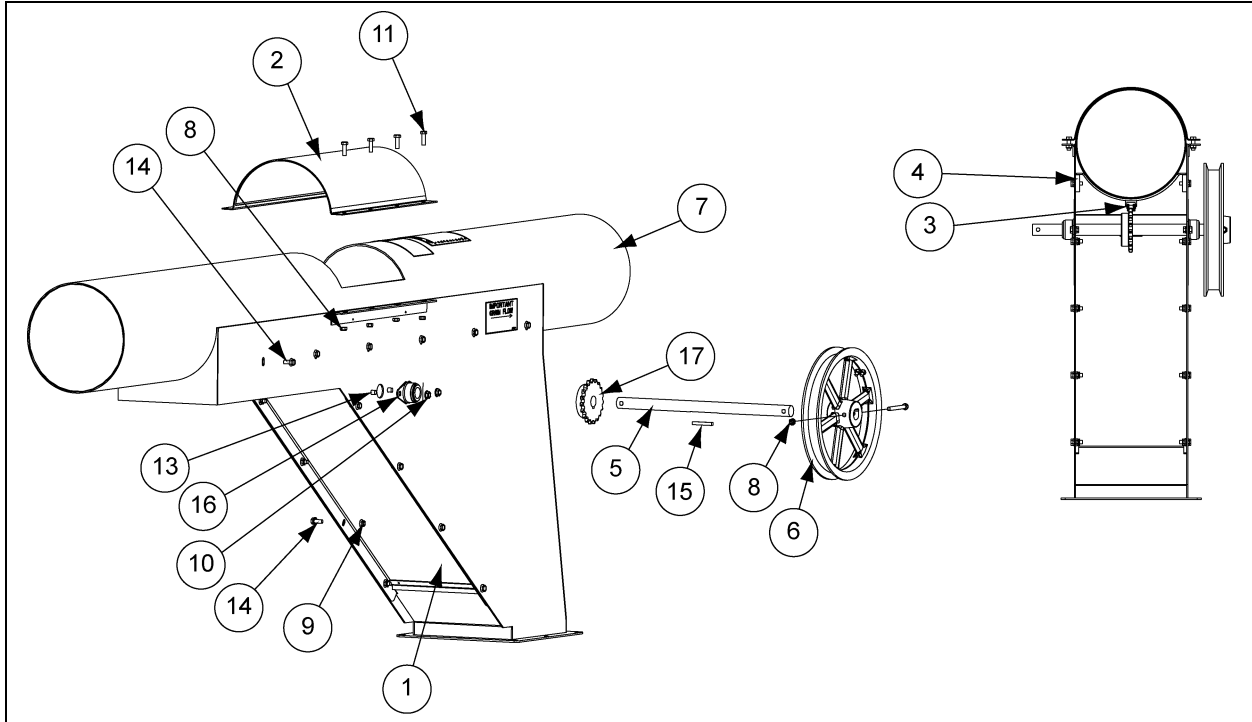
Product #	Description	Weight
GCBW1250	12" Intermediate	54 lbs.

8" and 10" Chain and Paddles



Ref #	Part #	Description
1	8101145	Paddle 10", UHMW 10" Chain Loop System
1	8081145	Paddle 8", UHMW 8" Chain Loop System
2	S-8324	5/16"-18 Stover Nut Zinc Grade C
3	S-845	5/16" Flat Washer YDP Grade 2
4	S-7470	5/16"-18 x 1" Serrated Flange Bolt Zinc Grade 5
5	S-9159	1/8" x 3/4" Cotter Pin Zinc
6	CE-00764	Link Connecting, #81 x with Side Plate and Cotter Pin
6	CE-00766	Link Connecting, #81 x HH with Side Plate and Cotter Pin
7	8101162 - 8"	Chain Standard, 81 x with Brackets and Connecting Link
7	8101163 - 10"	Chain Heavy Duty, 81 x HH with Brackets and Connecting Link

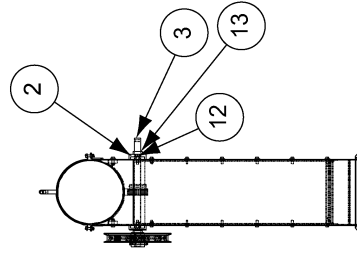
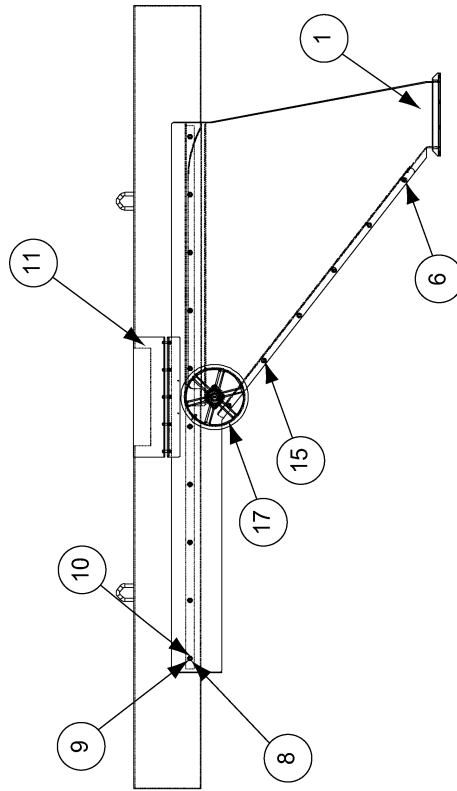
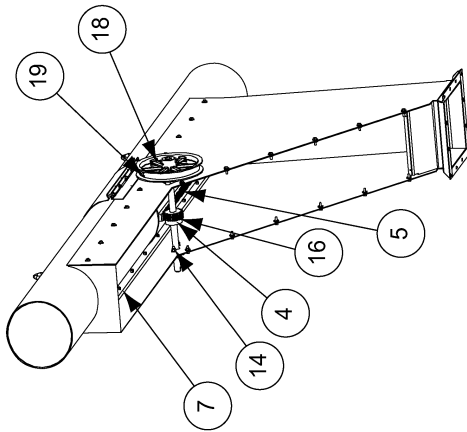
8" and 10" Discharge Gate



Ref #	Part #	Description	Qty
1	8081093	Access Panel-Weldment 8" 90° Discharge with Gate	1
1	8101093	Access Panel-Weldment 10" 90° Discharge with Gate	1
2	8081096	Access Door-Assembly 8" 90° Discharge with Gate	1
2	8101096	Access Door-Assembly 10" 90° Discharge with Gate	1
3	8081097	Slide Gate-Weldment 8" 90° Discharge with Gate	1
3	8101097	Slide Gate-Weldment 10" 90° Discharge with Gate	1
4	8081351	Chain Loop 8" Discharge Gate Rail	2
4	8101501	Chain Loop 10" Discharge Gate Rail	2
5	8081103	Shaft-1" O.D. x 16-1/4" Zinc Plated 8081104	1
5	8101103	Shaft-1" O.D. x 17-3/4" Zinc Plated 8101104	1
6	8101153	Control Wheel - w/ Clamp 90° Discharge w/ Gate	1
7	8081203	Discharge w/ Gate-90, 8" Zinc Plated 8081182	1
7	8101203	Discharge w/ Gate-90, 10" Zinc Plated 8101182	1
8		Lock Nut, 5/16"-18 UNC Nylon Lock, Plated Grade 2	9
9		Lock Nut, Flange, 5/16"-18 UNC (Whiz Lock) Plated	8
10		Lock Nut, Flange, 3/8"-16 UNC (Whiz Lock) Plated	4
11		Hex Bolt, Standard Third-Grade 2 5/16"-18 UNC x 1", Plated	8
12		Hex Bolt, Standard Third-Grade 2 5/16"-18 UNC x 3", Plated	1
13		Screw-Flange Whiz Lock 3/8"-16 UNC x 1/2", Plated	4
14		Screw-Flange Whiz Lock 5/16"-18 UNC x 3/4", Plated	20
15		Key-Square 1/4" x 2"	1
16	PT0134	Bearing-w/ Housing, 1" Bronze Insert, 2 Hole	2
17	PT1088	Sprocket-(Hub Type) 19 Tooth, 1" I.D., #50	1

12" - (7 Gauge) Discharge Gate

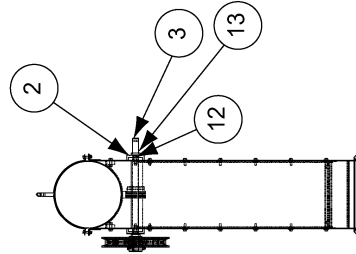
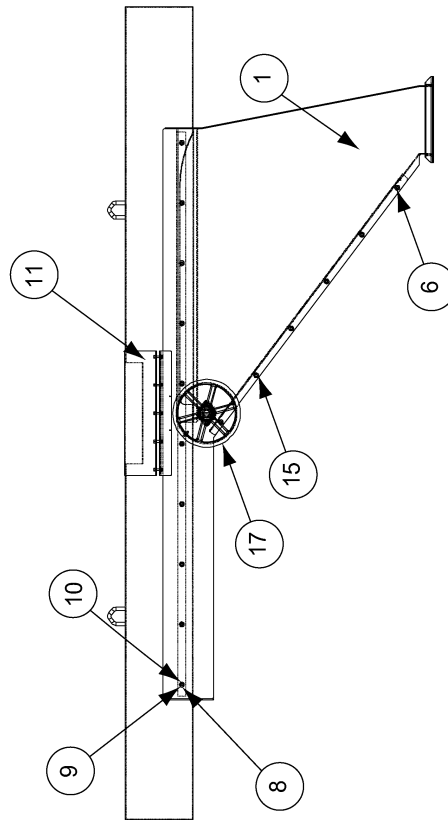
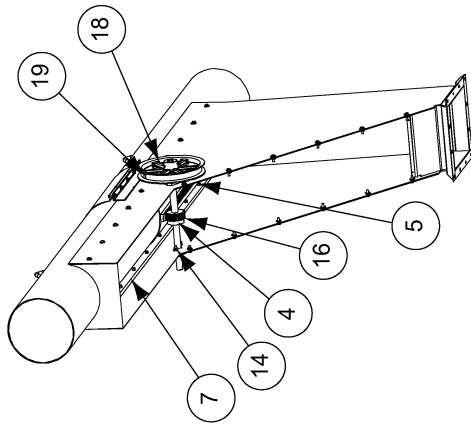
ITEM	PART #	QTY	DESCRIPTION
1	8120195	1	12" 7ga DISCHARGE WELDMENT
2	MHC01377	2	BEARING 2-BLT FLANGE 1-1/8"
3	8120091	1	SHAFT-CONTRL.WH.-DISCHRG.GATE
4	MHC00989	1	SPUR GEAR 8DP 28 TOOTH 7/8" BORE
5	8120088	1	SLIDE GATE WLD.-DISCHRG.GATE
6	8120086	1	BOTT COVER WLD.-DISCHRG.GATE
7	8120083	2	UHMW SLIDE BAR-DISCHRG.GATE
8	S-845	64	WASHER FLAT 5/16 USS ZN
9	S-721	30	BOLT HHCS 5/16-18 x 1-1/4 ZN GR 2
10	S-782	43	5/16 - 18 NYLOCK NUT
11	8120169	1	12" X 22" HALF BAND PMTD.
12	S-7409	8	WASHER FLAT 3/8 SAE ZN
13	S-7515	4	BOLT HHCS 3/8-16 x 1-1/2" ZN GR 5
14	S-7383	4	3/8 - 16 NYLOCK NUT
15	S-1186	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
16	3FH0887	1	PIN, SPRING 1/4" X 3" PLATED
17	8120089	1	CONTROL WHEEL
18	S-7801	1	BOLT HHCS 5/16-18 x 3" ZN GR 2
19	S-8762	1	CABLE CLAMP



No.		ECN	Revision	Description	Date	By
<p>THE GSI GROUP Assumption, IL Spectrum, IL</p> <p>MATERIAL HANDLING</p>						
<p>7ga DISCHARGE GATE ASSEMBLY 12" 7ga CHAIN LOOP</p>						
<p>Sheet 1 of 1</p>						
Rev	Part	QTY	Unit	Material	Notes	Drawn
1	N/A	N/A	1	N/A	N/A	N/A
2	BJT	09-Nov-04	1	09-Nov-04	NOE	Work Dimensions On File Only
<p>Drawing No. 8120194</p>						

12" - (10 Gauge) Discharge Gate

ITEM	PART #	QTY	DESCRIPTION
1	8120080	1	12" 10ga DISCHARGE WELDMENT
2	MHC01377	2	BEARING 2-BLT FLANGE 1-1/8"
3	8120091	1	SHAFT-CNTRL WH.-DSCHRG.GATE
4	MHC00959	1	SPUR GEAR BDP 26 TOOTH 7/8" BORE
5	8120088	1	SLIDE GATE WLD.-DSCHRG.GATE
6	8120086	1	BOTTLCOVER WLD.-DISCHRG.GATE
7	8120093	2	UHMW SLIDE BAR-DSCHRG.GATE
8	S-846	64	WASHER FLAT 5/16 USS ZN
9	S-721	30	BOLT HHCS 5/16-18 x 1-1/4 ZN GR 2
10	S-782	43	5/16 - 18 NYLOCK NUT
11	8120169	1	12"X22" HALFBAHD PNFD.
12	S-7409	8	WASHER FLAT 3/8 SAE ZN
13	S-7515	4	BOLT HHCS 3/8-16 x 1-1/2" ZN GR 5
14	S-7383	4	3/8 - 16 NYLOCK NUT
15	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
16	3FH0887	1	PIN, SPRING 1/4" x 3" PLATED
17	8120089	1	CONTROL WHEEL
18	S-7601	1	BOLT HHCS 5/16-18 x 3" ZN GR2
19	S-8762	1	CABLE CLAMP



No.		ECN	Revision Description	Date	By
MATERIAL HANDLING					
10ga DISCHARGE GATE ASSEMBLY					
12" 10ga CHAIN LOOP					
TOLERANCES (Unless Noted) Fractions ±.002" Decimals ±.001 Angles ±.100					
Sheet	1 of 2	MW	N/A	Drawing No.	
Qty	N/A	By	N/A	8120090	
Drawn	BJT	Date	09-Nov-04	Scale	
Checked		Date		None	
Works Dimensions Do Not Scale					

Chain Loop Drive Components

50 Hz - International Chain Loop Motors - 50 Hz

Hz	Part #	Size	Voltage	Shaft Diameter	(Lbs)	(Kgs)
50	1500-3-50	15 HP	220/380/440 3 PH	1-5/8"	264.0	119.7
50	2000-3-50	20 HP	220/380/440 3 PH	1-5/8"	277.0	125.6
50	2500-3-50	25 HP	220/380/440 3 PH	1-7/8"	480.0	217.7
50	3000-3-50	30 HP	220/380/440 3 PH	1-7/8"	380.0	172.4
50	4000-3-50	40 HP	220/380/440 3 PH	2-1/8"	571.0	259.0

8" Motor Pulleys, Bushings and Drive Belts - 50 Hz

	Part	Part #	Description	Qty	(Lbs)	(Kg)
15 HP	Motor Pulley	PT0703	4 Grade B6.0 SD	1	11.73	5.3
	Motor Pulley Bushing	GC06516	SD x 1-5/8" Bore	1	1.6	0.7
	Reducer Pulley	GC09690	4 Grade B6.2 SD	1	25	11.3
	Reducer Bushing	CE-00614	SD x 1-3/8" Bore	1	3.8	1.7
	Drive Belts	020-1035-3	BX59	3	0.9	0.4
20 HP	Motor Pulley	KD-PDS0028	2 Grade 5V 9.0 SK	1	23	10.4
	Motor Pulley Bushing	GC03810	SK x 1-5/8" Bore	1	5	2.3
	Reducer Pulley	KD-PDS0018	2 Grade 5V 9.25 SK	1	38	17.2
	Reducer Bushing	PT0778	SK x 1-3/8" Bore	1	9	4.1
	Drive Belts	KD-PDV0017	5VX710	4	1.1	0.5
25-30 HP	Motor Pulley	MHC01668	3 Grade 5V 9.0 SF	1	36	16.3
	Motor Pulley Bushing	MHC01162	SF x 1-7/8" Bore	1	9	4.1
	Reducer Pulley	MHC01160	3 Grade 5V 9.25 SF	1	44	19.9
	Reducer Bushing	GC07551	SF x 1-7/16" Bore	1	9	4.1
	Drive Belts	MHC00604	5VX800	3	1.1	0.5

10" Motor Pulleys, Bushings and Drive Belts - 50 Hz

	Part	Part #	Description	Qty	(Lbs)	(Kg)
20 HP	Motor Pulley	KD-PDS0028	2 Grade 5V 9.0 SK	1	23	10.4
	Motor Pulley Bushing	GC03810	SK x 1-5/8" Bore	1	5	2.3
	Reducer Pulley	KD-PDS0018	2 Grade 5V 9.25 SK	1	38	17.2
	Reducer Bushing	PT0778	SK x 1-3/8"	1	9	4.1
	Drive Belts	KD-PDV0017	5VX710	4	1.1	0.5
25-30 HP	Motor Pulley	MHC01668	3 Grade 5V 9.0 SF	1	36	16.3
	Motor Pulley Bushing	MHC01162	SF x 1-7/8" Bore	1	9	4.1
	Reducer Pulley	MHC01160	3 Grade 5V 9.25 SF	1	44	19.9
	Reducer Bushing	GC07551	SF x 1-7/16" Bore	1	9	4.1
	Drive Belts	MHC00604	5VX800	3	1.1	0.5
40 HP	Motor Pulley	MHC01717	4 Grade 5V 8.5 E	1	36	16.3
	Motor Pulley Bushing	MHC01540	E x 2-1/8" Bore	1	9	4.1
	Reducer Pulley	KD-PDS0016	4 Grade 5V 9.0 E	1	44	19.9
	Reducer Bushing	MHC01537	E x 1-5/8" Bore	1	9	4.1
	Drive Belts	MHC00604	5VX800	3	1.2	0.5
50 HP	Motor Pulley	KD-PDS0021	4 Grade 5V 10.3 E	1	36	16.3
	Motor Pulley Bushing	MHC01540	E x 2-1/8" Bore	1	9	4.1
	Reducer Pulley	KD-PDS0029	4 Grade 5V 10.9 E	1	44	19.9
	Reducer Bushing	MHC01537	E x 1-5/8" Bore	1	9	4.1
	Drive Belts	CE-00562	5VX900	4	1.2	0.5

Chain Loop Drive Components (Continued)

USA and Countries with 60 Hz Power Chain Loop Motors - 60 Hz

HZ	Part #	Size	Voltage	Shaft Diameter	(Lbs)	(Kgs)
60	3EL5069	15 HP	230, 1 PH	1-5/8"	314.0	142.4
60	1500-3	15 HP	230/460 3 PH	1-5/8"	234.0	106.1
60	2000-3	20 HP	230/460 3 PH	1-5/8"	264.0	119.7
60	2500-3	25 HP	230/460 3 PH	1-7/8"	396.0	179.6
60	3000-3	30 HP	230/460 3 PH	1-7/8"	433.0	196.4
60	4000-3	40 HP	230/460 3 PH	2-1/8"	514.0	233.1
60	5000-3	50 HP	230/460 3 PH	2-1/8"	579.0	263.0
60	6000-3	60 HP	230/460 3 PH	2-3/8"	747.0	339.0

8" Motor Pulleys, Bushings and Drive Belts - 60 Hz

	Part	Part #	Description	Qty	(Lbs)	(Kg)
15 HP	Motor Pulley	CE-00582	3 Grade B6.4 SD	1	11.73	5.3
	Motor Pulley Bushing	GC06516	SD x 1-5/8" Bore	1	1.6	0.7
	Reducer Pulley	GC07874	3 Grade B8.0 SK	1	25	11.3
	Reducer Bushing	PT0778	SK x 1-3/8" Bore	1	3.8	1.7
	Drive Belts	MHC00823	BX61	3	0.9	0.4
20 HP	Motor Pulley	3311A1	4 Grade B6.4 SD	1	23	10.4
	Motor Pulley Bushing	GC06516	SD x 1-5/8" Bore	1	5	2.3
	Reducer Pulley	GC06676	4 Grade B8.0 SK	1	38	17.2
	Reducer Bushing	PT0778	SK x 1-3/8"	1	9	4.1
	Drive Belts	MHC00823	BX61	4	1.1	0.5
25-30 HP	Motor Pulley	MHC01566	3 Grade B11.0 SK	1	36	16.3
	Motor Pulley Bushing	CE-00617	SK x 1-7/8" Bore	1	9	4.1
	Reducer Pulley	MHC01567	3 Grade B13.6 SK	1	44	19.9
	Reducer Bushing	GC06687	SK x 1-7/16" Bore	1	9	4.1
	Drive Belts	D02-0067	BX85	3	1.1	0.5

Chain Loop Drive Components (Continued)

10" Motor Pulleys, Bushings and Drive Belts - 60 Hz

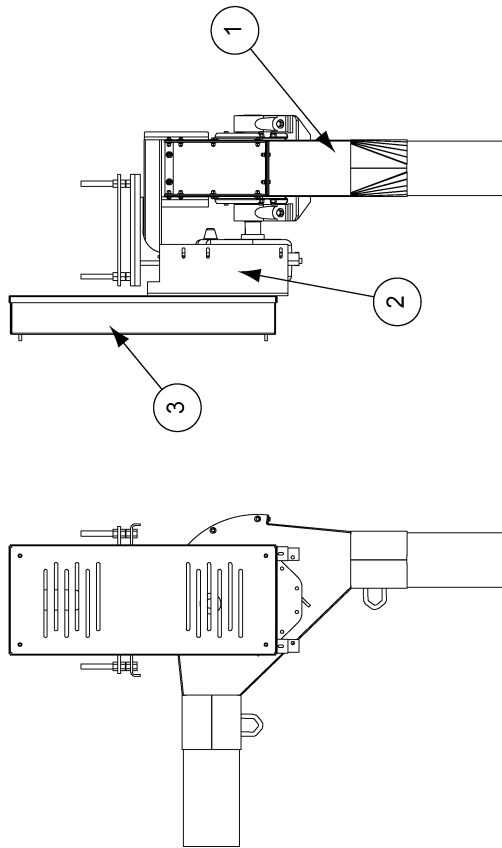
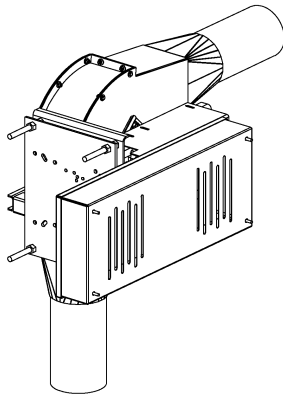
	Part	Part #	Description	Qty	(Lbs)	(Kg)
20 HP	Motor Pulley	3311A1	4 Grade B6.4 SD	1	23	10.4
	Motor Pulley Bushing	GC06516	SD x 1-5/8" Bore	1	5	2.3
	Reducer Pulley	GC06676	4 Grade B8.0 SK	1	38	17.2
	Reducer Bushing	PT0778	SK x 1-3/8"	1	9	4.1
	Drive Belts	MHC00823	BX61	4	1.1	0.5
25-30 HP	Motor Pulley	MHC01566	3 Grade B11.0 SK	1	36	16.3
	Motor Pulley Bushing	CE-00617	SK x 1-7/8" Bore	1	9	4.1
	Reducer Pulley	MHC01567	3 Grade B13.6 SK	1	44	19.9
	Reducer Bushing	GC06687	SK x 1-7/16" Bore	1	9	4.1
	Drive Belts	D02-0067	BX85	3	1.1	0.5
40 HP	Motor Pulley	MHC01668	3 Grade 5V 9.0 SF	1	36	16.3
	Motor Pulley Bushing	GT3-0068	SF x 2-1/8" Bore	1	9	4.1
	Reducer Pulley	MHC01531	3 Grade 5V 11.3 SF	1	44	19.9
	Reducer Bushing	MHC01669	SF x 1-5/8" Bore	1	9	4.1
	Drive Belts	MHC00039	5VX850	3	1.2	0.5
50 HP	Motor Pulley	KD-PDS0016	4 Grade 5V 9.0 E	1	36	16.3
	Motor Pulley Bushing	MHC01540	E x 2-1/8" Bore	1	9	4.1
	Reducer Pulley	MHC01699	4 Grade 5V 11.3 E	1	44	19.9
	Reducer Bushing	MHC01537	E x 1-5/8" Bore	1	9	4.1
	Drive Belts	MHC00039	5VX850	4	1.2	0.5

12" Motor Pulleys, Bushings and Drive Belts - 60 Hz

	Part	Part #	Description	Qty	(Lbs)	(Kg)
30 HP	Motor Pulley	MHC01530	3 Grade 5V 8.0 SF	1	19	8.6
	Motor Pulley Bushing	MHC01162	SF x 1-7/8" Bore	1	3.8	1.7
	Reducer Pulley	MHC01531	3 Grade 5V 11.3 SF	1	25	11.3
	Reducer Bushing	GC07551	SF x 1-7/16" Bore	1	3.8	1.7
	Drive Belts	MHC00604	SVX800	3	0.9	0.4
40 HP	Motor Pulley	MHC01160	3 Grade 5V 9.25 SF	1	23	10.4
	Motor Pulley Bushing	GT3-0068	SF x 2-1/8" Bore	1	5	2.3
	Reducer Pulley	MHC01536	3 Grade 5V 13.2 E	1	38	17.2
	Reducer Bushing	MHC01537	E x 1-5/8v	1	9	4.1
	Drive Belts	MHC00475	5VX1000	3	1.1	0.5
50 HP	Motor Pulley	MHC01538	4 Grade 5V 9.25 E	1	36	16.3
	Motor Pulley Bushing	MHC01540	E x 2-1/8" Bore	1	9	4.1
	Reducer Pulley	MHC01539	4 Grade 5V 13.2 E	1	44	19.9
	Reducer Bushing	MHC01537	E x 1-5/8" Bore	1	9	4.1
	Drive Belts	MHC00475	5VX1000	4	1.1	0.5
60 HP	Motor Pulley	KD-PDS0014	4 Grade 5V 9.75 E	1	36	16.3
	Motor Pulley Bushing	017-1371-8	E x 2-3/8" Bore	1	9	4.1
	Reducer Pulley	MHC01539	4 Grade 5V 13.2 E	1	44	19.9
	Reducer Bushing	MHC01541	E x 2-3/16" Bore	1	9	4.1
	Drive Belts	MHC00477	5VX1060	4	1.2	0.5

8" (15 HP) Drive Components

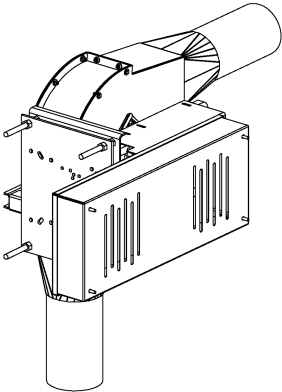
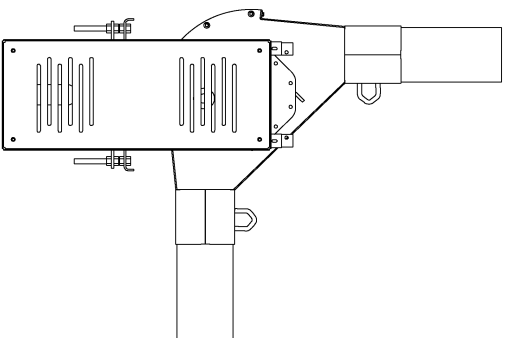
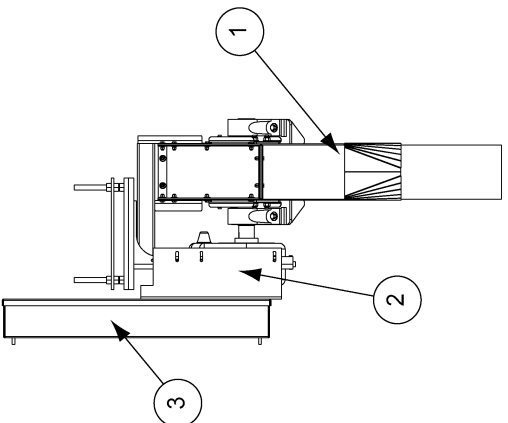
ITEM	PART #	QTY	DESCRIPTION
1	8081260	1	DRIVE CNR. ASSY. 15-20HP
2	8081271	1	DRV. BOX TA3 15HP
3	8120217	1	BELT GUARD ASSY. TA3




THE USE GROUP Assumption, IL 		DRIVE CNR. 15HP, TA3 8" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00		Sheet 1 of 1 Part N/A Qty N/A Size N/A Date 10-Mar-05 Drawn BUT Checked Approved		Drawing No. 8081268	
MATERIAL HANDLING		DATE 6-21-06 BY BUT		REVISION 1 DESCRIPTION BELT GRD ASSY. TA3 WS 8081272		NONE None to Dimension Do Not Scale			

8" (20 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8081260	1	DRIVE CNR. ASSY. 15-20HP
2	8081285	1	DRV. BOX TA3 20HP
3	8120217	1	BELT GUARD ASSY. TA3

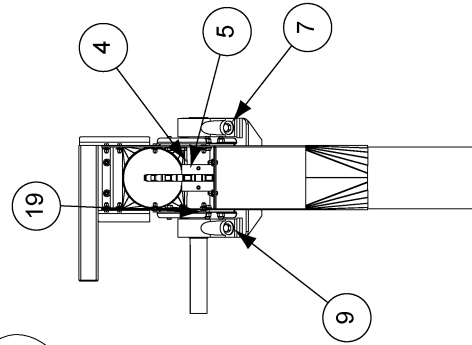
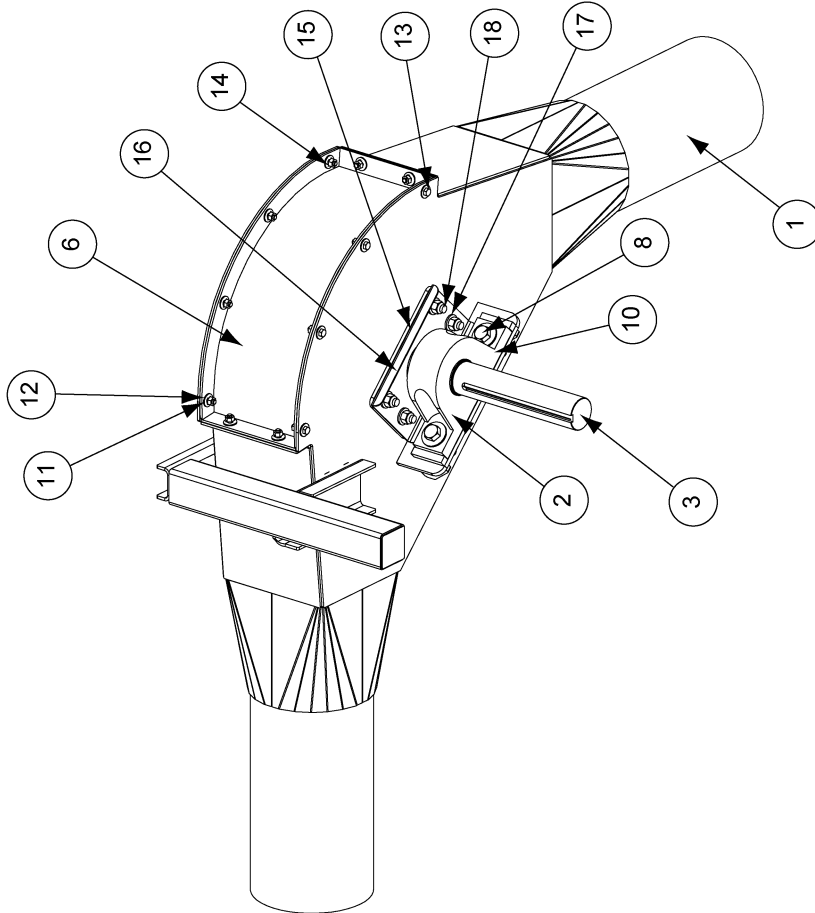




	 THE CSI GROUP Assumption, IL	DRIVE CNR. 20HP, TA3 8" CHAIN LOOP	TOLERANCES (Unless Noted) Fractions 1/16" - 1/32" Decimals 1/1000 Angles 1/2° - 1.00°	Sheet 1 of 1 Part N/A Rev N/A Date 10-Mar-06 Drawn By BJT Check By	N/A N/A NONE Note to Dimension Do Not Scale	Drawing No. 8081286
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1	194164	ECN	8-21-06	BJT	MATERIAL HANDLING	Revision Description
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8" (15-20 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8081256	1	15,20HP DR. CNR. WELDMENT
2	MHC00002	2	BEARING, DODGE 2 7/16" SC PILLOW BLOCK
3	8081261	1	SHAFT DRIVE 15-20HP
4	S-9177	1	KEY, SQ. 3/4" x 3-7/16"
5	PT1086	1	SPROCKET 16 TOOTH, 3" ID, .81XH
6	8081009	1	CORNER INSPECTION DOOR
7	S-858	8	WASHER FLAT 5/8 USS ZN GR2
8	S-4108	4	BOLT HHTB 5/8-11 X 2-3/4 ZN GR8
9	S-3208	4	5/8 LOCK WASHER
10	S-4110	4	NUT HEX 5/8-11 ZN GR5
11	S-845	24	WASHER FLAT 5/16 USS SAE YDP GR2
12	S-1147	12	WASHER LOCK SPLIT 5/16" ZN
13	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
14	S-396	12	NUT 5/16-18
15	8081269	2	UHMW CORNER DUST SEAL
16	8081270	2	COVER PLATE FOR UHMW
17	S-8562	16	WASHER, 1/2" FLAT
18	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
19	S-8260	8	1/2 - 13 NYLOCK NUT

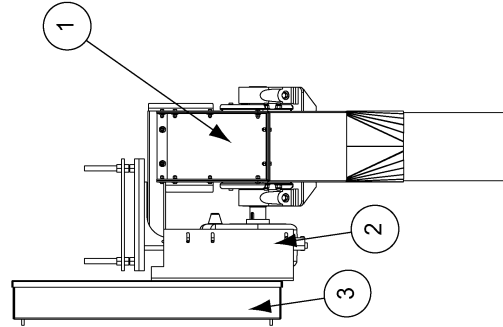
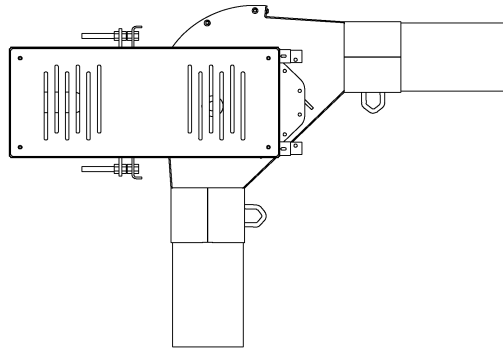
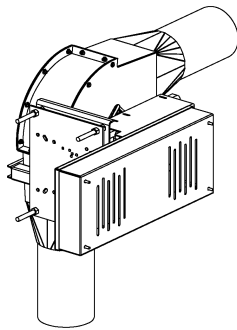


Inspection door removed from view for clarity. →

THE GSI GROUP Assumption, IL Engineering Division		Sheet 1 of 1 Part # N/A Rev. 09-Mar-05 Checked By: BJT	Drawing No. 8081260
TOLERANCES (Unless Noted) Fractions +/- .132" Decimals +/- .031" Angles +/- 1.00°		Ship to: N/A Serial: NONE Work to Dimensions: Do Not Scale	
2 108899 REMOVED REDUCER ATTACHMENT COMPONENTS 10-10-07BJT 1 104945 REPLACED 1/2" HARDWARE WITH 5/8" 8-29-06BJT	DATE BY 10-10-07 BJT 8-29-06 BJT	DRIVE CNR ASSY. 15-20HP 8" CHAIN LOOP	
No. ECN Revision Description	Date By	MATERIAL HANDLING	

10" (15 HP) Drive Components

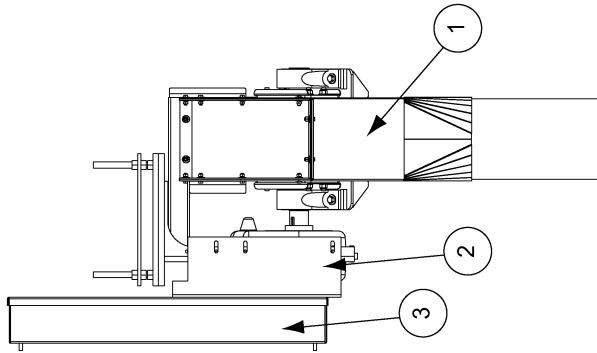
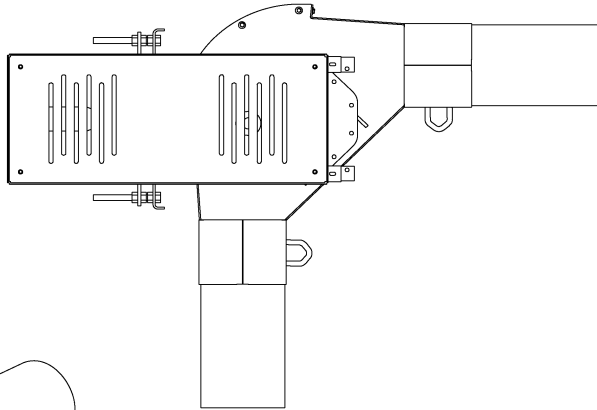
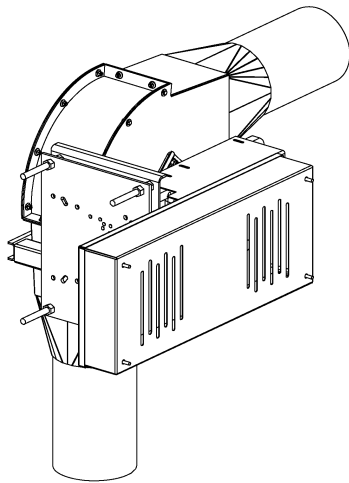
ITEM	PART #	QTY	DESCRIPTION
1	8101281	1	DRIVE CNR ASSY 15-20HP TA3
2	8081271	1	DRV.BOX TA3 15HP
3	8120217	1	BELT GUARD ASSY, TA3




THE CSI GROUP Assumption, IL © 2016 MATERIAL HANDLING		DRIVE CNR. 15HP, TA3 10" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions 1/16" or Decimals 1/100" Angles 1/2° - 100°		Sheet 1 of 1 Date 04-Apr-05 Drawn By BJT Checked By Approved By		N/A N/A N/A NONE None to Dimension Do Not Scale		Drawing No. 8101280	
1	8101281	1	DRIVE CNR ASSY 15-20HP TA3	6-21-06	BJT						
No.	ECN		Revision Description	Date	By						

10" (20 HP) Drive Components

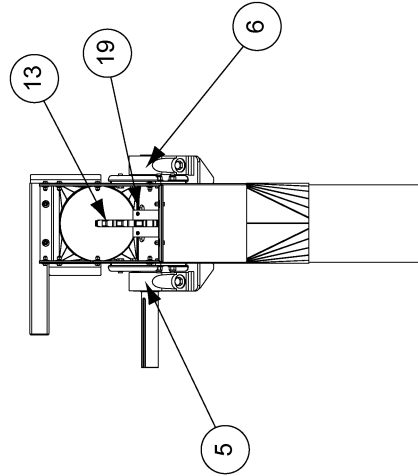
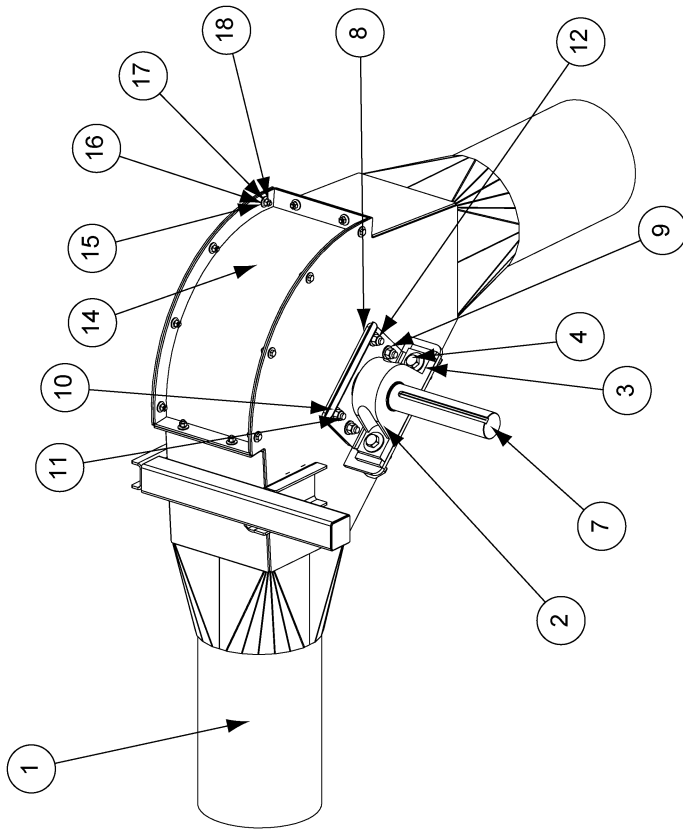
ITEM	PART #	QTY	DESCRIPTION
1	8101281	1	DRIVE CNR-ASSY 15-20HP TA3
2	8061285	1	DRV.BOX TA3 20HP
3	8120217	1	BELT GUARD ASSY., TA3



		DRIVE CNR. 20HP, TA3 10" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions +/- /32" Decimals +/- .031 Angles +/- .001		Sheet: 1 of 1 Title: N/A Date: BJT Scale: 01-Apr-05 Part No: N/A Qty: 1257.878 None Mark to dimensions On this sheet		Drawing No. 8101285	
No. ECN		1 104164 BELT GRD.ASSY. TA3 W/S 8061272 Revision Description		6-21-06 Date		By		MATERIAL HANDLING	

10" (15-20 HP) Drive Components

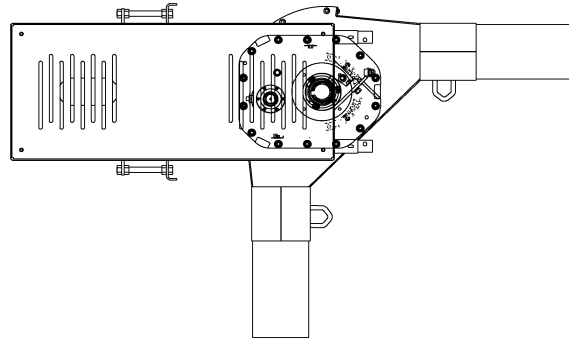
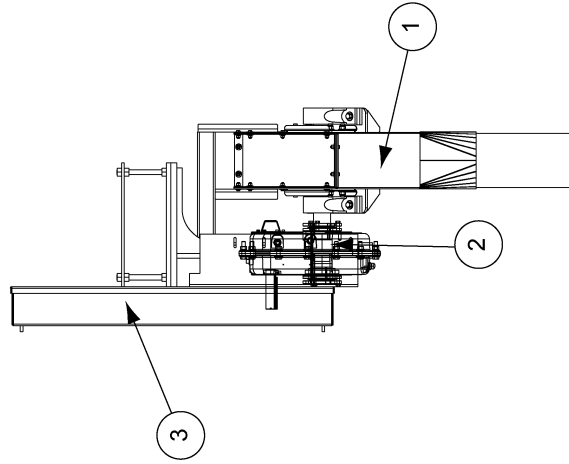
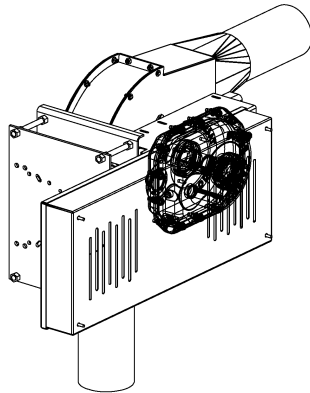
ITEM	PART #	QTY	DESCRIPTION
1	8101282	1	15,20HP DR.CNR. WELDMENT
2	MHC00002	2	BEARING, DODGE 2 7/16" SC PILLOW BLOCK
3	S-858	8	WASHER FLAT 5/8 USS ZN GR2
4	S-4108	4	BOLT HHTB 5/8-11 X 2-3/4 ZN GR8
5	S-3208	4	5/8 LOCK WASHER
6	S-4110	4	NUT HEX 5/8-11 ZN GR5
7	8101283	1	SHAFT DRIVE 15-20HP
8	8081269	2	UHMW CORNER DUST SEAL
9	8081270	2	COVER PLATE FOR UHMW
10	S-8562	16	WASHER, 1/2" FLAT
11	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
12	S-8260	8	1/2 - 13 NYLOCK NUT
13	PT1086	1	SPROCKET 16 TOOTH, 3" ID, 81XH
14	8101009	1	DOOR- INSPECTIN
15	S-845	24	WASHER FLAT 5/16 USS SAE YDP GR2
16	S-1147	12	WASHER LOCK SPLIT 5/16" ZN
17	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-396	12	NUT 5/16-18
19	S-9177	1	KEY, SQ. 3/4" x 3-7/16"



2		108899	REMOVED REDUCER ATTACHMENT COMPONENTS	10-10-07	BJT	THE GSI GROUP Assumption, IL Engineering Division		DRIVE CNRASSY 15-20HP TA3	Sheet 1 of 1		IMV	N/A	Drawing No.
1		104945	REPLACED 1/2" HARDWARE WITH 5/8"	8-29-06	BJT			CHAIN LOOP	Weight N/A	Scale N/A	Ship N/A	8101281	
No.		ECN	Revision Description	Date	By				TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00	Drawn BJT	Check 08-Apr-05	Work to Dimensions Do Not Scale	

8" (25-30 HP) Drive Components

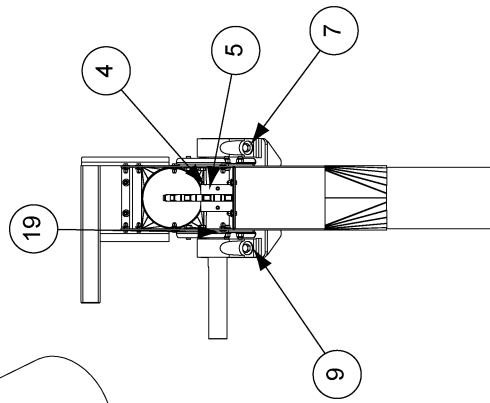
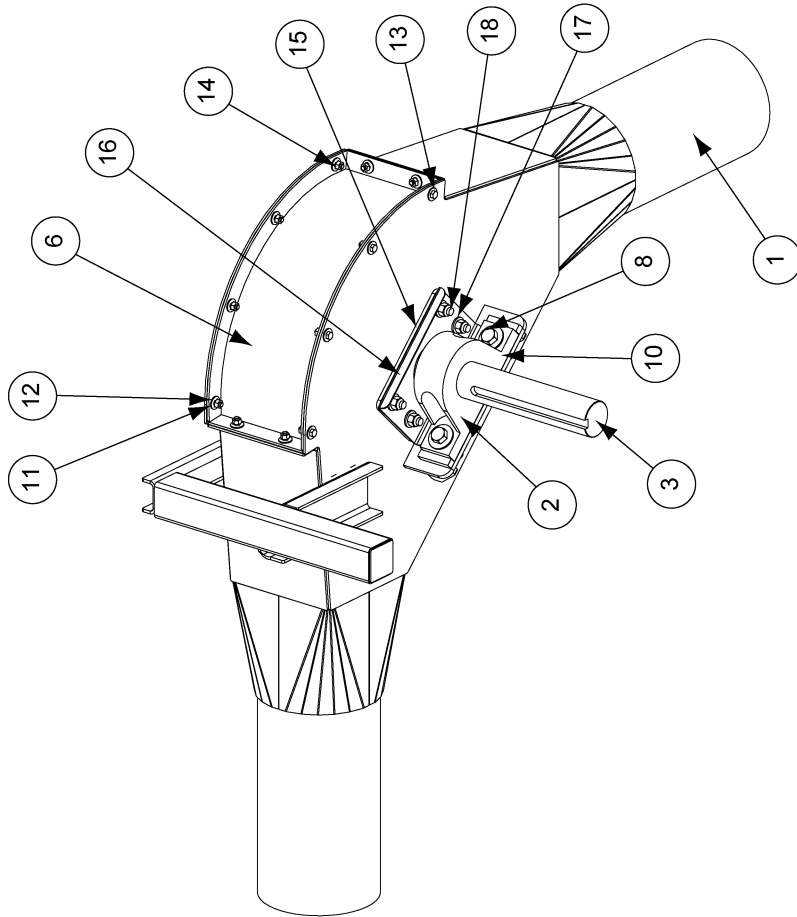
ITEM	PART #	QTY	DESCRIPTION
1	8081285	1	DRIVE CNR. ASSY., 30HP
2	8081286	1	DRIVE BOX 30HP, TM, 8" CH LOOP
3	8120211	1	BELT GRD. ASSY., TA4



TITLE: GSE GROUP Assumption, IL Signature: _____ Date: 6-20-06 By: BUT		DRIVE CNR. 25 & 30HP, TA4 8" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions ± / - / 32" Decimals ± / - .031 Angles ± / - 1:00		Sheet 1 of 1 Part N/A Rev N/A Date 3-17-06 By BIT Drawn By		IM N/A Rev N/A Date Work to Dimensions on Part Spec		Drawing No. 8081287	
No.	1	104146	BELT GRD. ASSY., TM, MS 8120205	Revision Description							

8" (30 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8081294	1	30HP DR. CNR. WELDMENT
2	MHC00002	2	BEARING, DODGE 2 7/16" SC PILLOW BLOCK
3	8081288	1	SHAFT DRIVE 25,30HP
4	S-9177	1	KEY, SQ. 3/4" x 3-7/16"
5	PT1086	1	SPROCKET 16 TOOTH, 3" ID, 8.1XH
6	8081009	1	CORNER INSPECTION DOOR
7	S-858	8	WASHER FLAT 5/8 USS ZN GR2
8	S-4108	4	BOLT HHTB 5/8-11 X 2-3/4 ZN GR8
9	S-3208	4	5/8 LOCK WASHER
10	S-4110	4	NUT HEX 5/8-11 ZN GR5
11	S-845	24	WASHER FLAT 5/16 USS SAE YDP GR2
12	S-1147	12	WASHER LOCK SPLIT 5/16" ZN
13	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
14	S-396	12	NUT 5/16-18
15	8081269	2	UHMW CORNER DUST SEAL
16	8081270	2	COVER PLATE FOR UHMW
17	S-8562	16	WASHER, 1/2" FLAT
18	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
19	S-8260	8	1/2 - 13 NYLOCK NUT

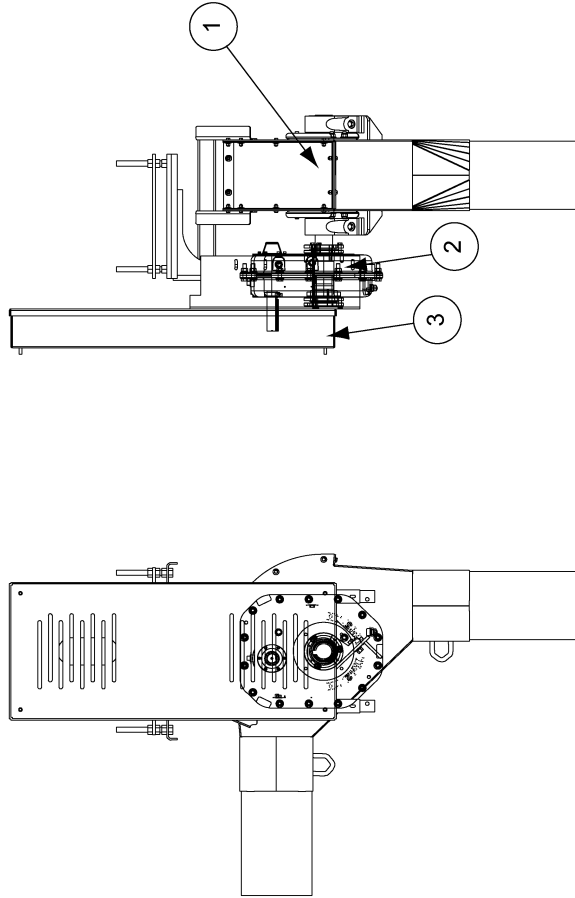
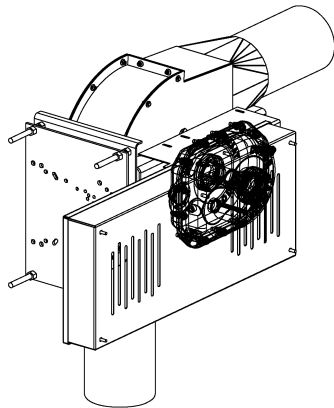


Inspection door removed from view for clarity.

No. 108900 2 1 No. ECN		REMOVED REDUCER ATTACHMENT COMPONENTS 10-10-07 BJT REPLACED 1/2" HARDWARE WITH 5/8" 8-29-06 BJT		THE OSI GROUP Assumption, IL Engineering Division		DRIVE CNR ASSY. 30HP 8" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00		Sheet 1 of 1 Part No. N/A Rev. BJT Date By		Drawing No. 8081295 N/A N/A 3-16-05 NONE No. of Sheets	
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10" (25-30 HP) Drive Components

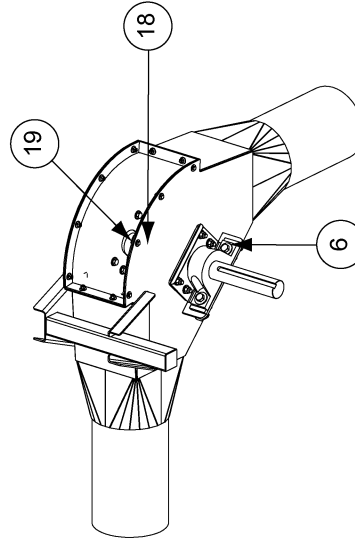
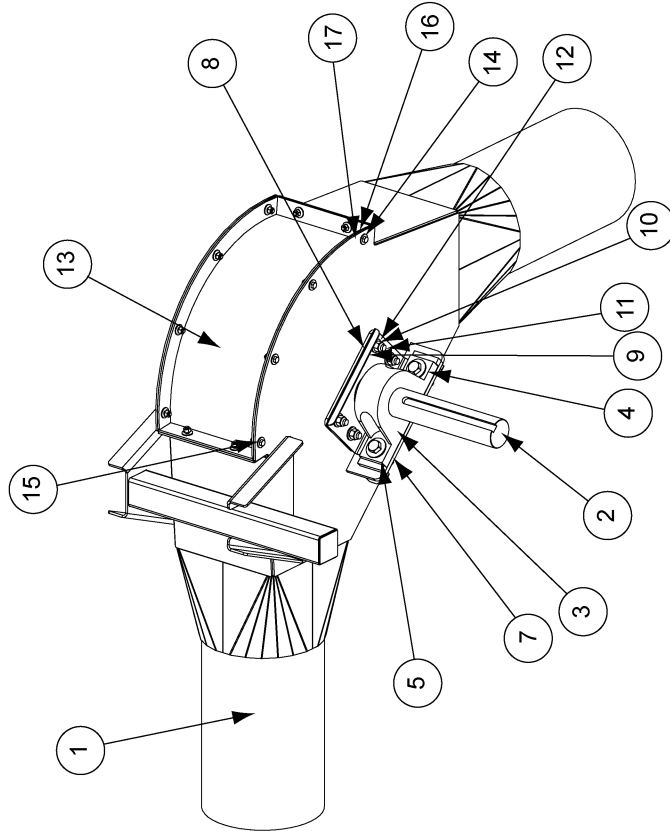
ITEM	PART #	QTY	DESCRIPTION
1	8101290	1	DR.CNR.ASSY. 25.30HP, TA4
2	8081296	1	DRV.BOX TA4 25.30HP
3	8120211	1	BELT GRD. ASSY., TA4



THE GSE GROUP Assumption, IL Copyright © 2006		DRIVE CNR. 25.30HP, TA4 10" CHAIN LOOP		TO FINISHES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- .100		Sheet 1 of 2 Part N/A Rev N/A Date 08-Apr-05 Drawn By BIT Checked By		M N/A W N/A Size NONE Refer to Dimensions Do Not Scale		Drawing No. 8101288	
1	104146	ECN	Revision Description	6-20-06	BIT	Date	By				

10" (25-30 HP) Drive Components (Continued)

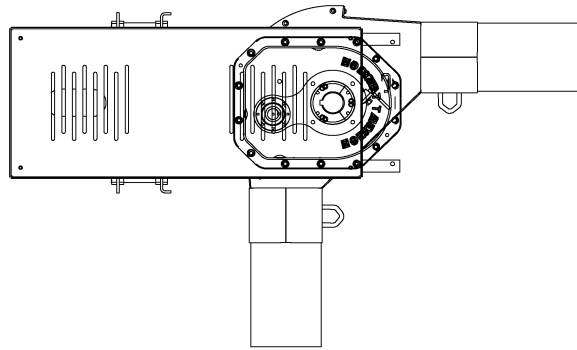
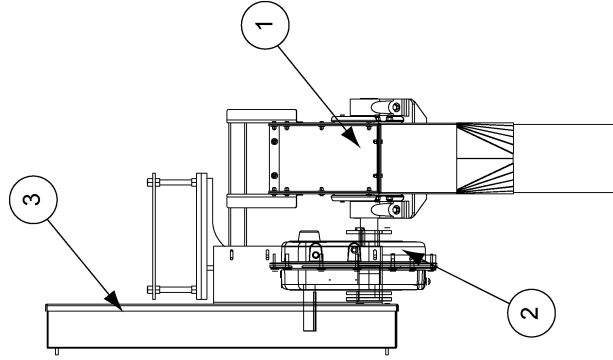
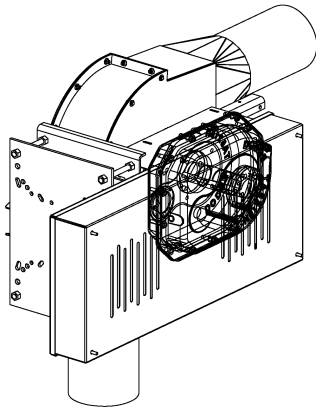
ITEM	PART #	QTY	DESCRIPTION
1	8101291	1	25, 30HP DR. CNR. WELDMENT
2	8101294	1	SHAFT DRIVE 25,30HP
3	MHC00002	2	BEARING, DODGE 2 7/16" SC PILLOW BLOCK
4	S-858	8	WASHER FLAT 5/8 USS ZN GR2
5	S-3208	4	5/8 LOCK WASHER
6	S-4108	4	BOLT HHTB 5/8-11 X 2-3/4 ZN GR8
7	S-4110	4	NUT HEX 5/8-11 ZN GR5
8	8081269	2	UHMW CORNER DUST SEAL
9	8081270	2	COVER PLATE FOR UHMW
10	S-8562	16	WASHER, 1/2" FLAT
11	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
12	S-8260	8	1/2 - 13 NYLOCK NUT
13	8101009	1	DOOR- INSPECTIN
14	S-845	24	WASHER FLAT 5/16 USS SAE YDP GR2
15	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
16	S-1147	12	WASHER LOCK SPLIT 5/16" ZN
17	S-396	12	NUT 5/16-18
18	S-9177	1	KEY, SQ. 3/4" x 3-7/16"
19	PT1086	1	SPROCKET 16 TOOTH, 3" ID, 81XH



THE GSI GROUP Assumption, IL Engineering Division		Sheet 1 of 1 N/A N/A BJT 06-Apr-05		N/A N/A NONE No Net Scale		Drawing No. 8101290	
DR.CNR.ASSY. 25,30HP TA4		TOLERANCES (Unless Noted) Fractions +/- .132" Decimals +/- .031 Angles +/- 1.00		MHC S- BJT 06-Apr-05		N/A N/A NONE No Net Scale	
MATERIAL HANDLING		10" CHAIN LOOP		108900 REMOVED REDUCER ATTACHMENT COMPONENTS 10-10-07 BJT		104945 REPLACED 1/2" HARDWARE WITH 5/8" 8-29-06 BJT	
No.	ECN	Revision Description	Date	By			

10" (40 HP) Drive Components

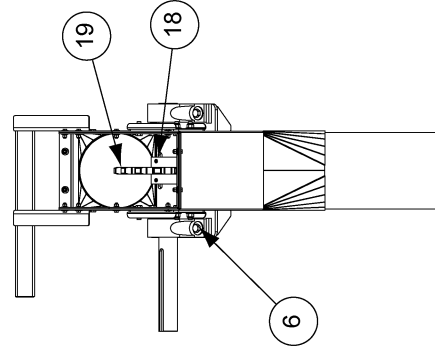
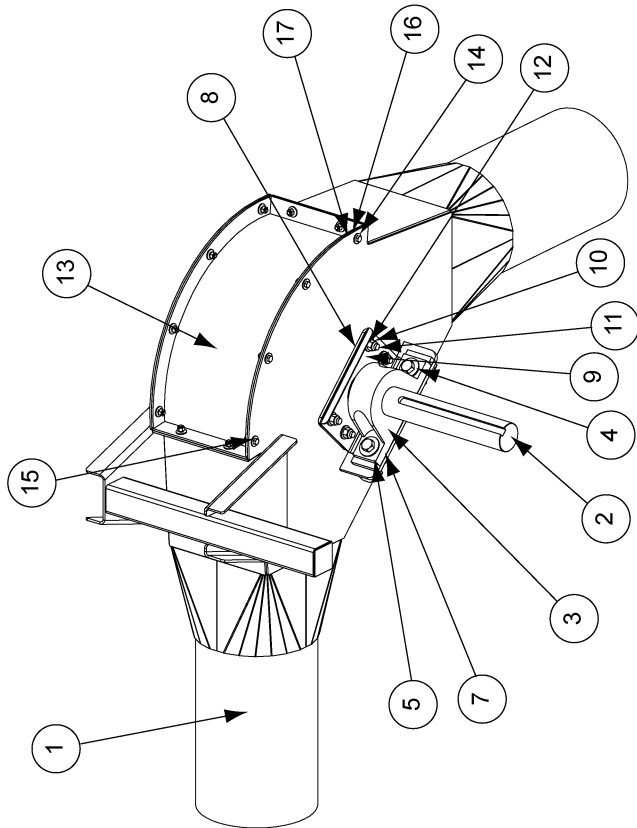
ITEM	PART #	QTY	DESCRIPTION
1	8101296	1	DR.CNR.ASSY. 40HP, IAS
2	8101303	1	DRIVE BOX 40HP, IAS, 10" CH.LOOP
3	8120214	1	BELT GRD.ASSY. IAS



		DRIVE CNR. 40HP, IAS 10" CHAIN LOOP		Drawing No. 8101295	
THE GSE GROUP Assumption, IL		Sheet 1 of 1		N/A	
DRIVE CNR. 40HP, IAS 10" CHAIN LOOP		N/A		N/A	
BELT GRD. ASSY. IAS WAS 8120145 Revision Description		DATE 6-19-06 BY BUT		NONE Wks. to Dimension Do Not Scale	
TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- .100		N/A		N/A	

10" (40 HP) Drive Components (Continued)

ITM	PART #	QTY	DESCRIPTION
1	8101297	1	40HP DR. CNR. WELDMENT
2	8101298	1	SHAFT DRIVE 40HP
3	MHC00002	2	BEARING, DODGE 2 7/16" SC PILLLOW BLOCK
4	S-858	8	WASHER FLAT 5/8 USS ZN GR2
5	S-3208	4	5/8 LOCK WASHER
6	S-4108	4	BOLT HHTB 5/8-11 X 2-3/4 ZN GR8
7	S-4110	4	NUT HEX 5/8-11 ZN GR5
8	8081269	2	UHMW CORNER DUST SEAL
9	8081270	2	COVER PLATE FOR UHMW
10	S-8562	16	WASHER, 1/2" FLAT
11	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
12	S-8260	8	1/2 - 13 NYLOCK NUT
13	8101009	1	DOOR- INSPECTIN
14	S-845	24	WASHER FLAT 5/16 USS SAE YDP GR2
15	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
16	S-1147	12	WASHER LOCK SPLIT 5/16" ZN
17	S-396	12	NUT 5/16-18
18	S-9177	1	KEY, SQ. 3/4" x 3-7/16"
19	PT1086	1	SPROCKET 16 TOOTH, 3" ID, 8.1XH

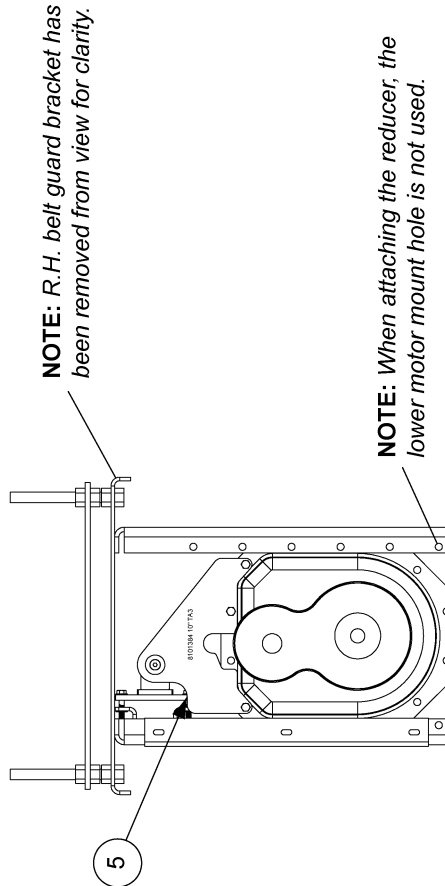
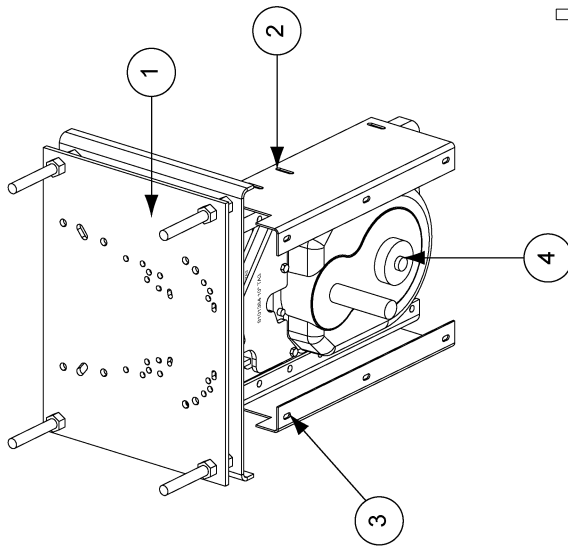


REMOVED REDUCER ATTACHMENT COMPONENTS		10-10-07BJT	THE GSI GROUP		DR. CNR. ASSY. 40HP TA5		Sheet 1 of 1		IM		Drawing No.	
2	108901	8-29-06	BJT	THE GSI GROUP Assumption, IL Engineering Division	10" CHAIN LOOP		Weight	1	N/A	N/A	8101296	
1	104945	8-29-06	BJT		MATERIAL HANDLING		16.00	1	N/A	N/A	8101296	
No.	ECN	Revision	Date	MATERIAL HANDLING		10" CHAIN LOOP	10.00	1	N/A	N/A	8101296	
REMOVED REDUCER ATTACHMENT COMPONENTS		10-10-07BJT	THE GSI GROUP		DR. CNR. ASSY. 40HP TA5		Sheet 1 of 1		IM		Drawing No.	
2	108901	8-29-06	BJT	THE GSI GROUP Assumption, IL Engineering Division	10" CHAIN LOOP		Weight	1	N/A	N/A	8101296	
1	104945	8-29-06	BJT		MATERIAL HANDLING		10.00	1	N/A	N/A	8101296	
No.	ECN	Revision	Date	MATERIAL HANDLING		10" CHAIN LOOP	10.00	1	N/A	N/A	8101296	

8" (15 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	TA3CLM	1	TA3 MOTOR MOUNT ASSEMBLY
2	BG-0167	1	BRACKET, RH, TA3
3	BG-0168	1	BRACKET, LH, TA3
4	MHC01074	1	DODGE REDUCER, TA3203H-15
5	8081324	1	TA3 TORQUE PLATE ASSY 8", 10"

ITEMS NOT SHOWN IN DRAWING:
 CE-00582 (1) SHEAVE 3GR A6.0B6.4-SD
 GC06516 (1) BUSHING SD x 1-5/8" BORE
 GC07874 (1) SHEAVE 3GR A7.6B8.0-SK
 MHC00823 (3) BELT-V BX61
 MHC01094 (1) BUSHING TAPER, TA3203TB x 2-3/16
 PT0778 (1) BUSHING SK 1-3/8" BORE
 TA3HDW (1) HARDWARE, BELT GUARD TA3
 8101336 (1) 3/8" VENT ELBOW KIT



NOTE: R.H. belt guard bracket has been removed from view for clarity.

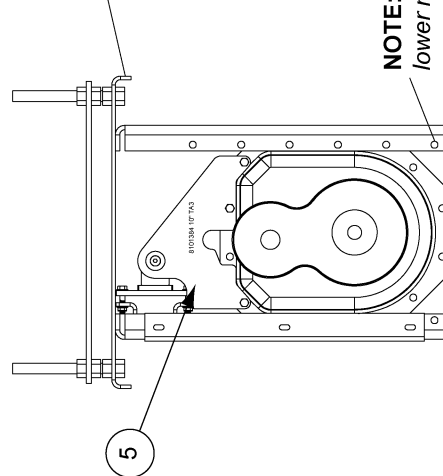
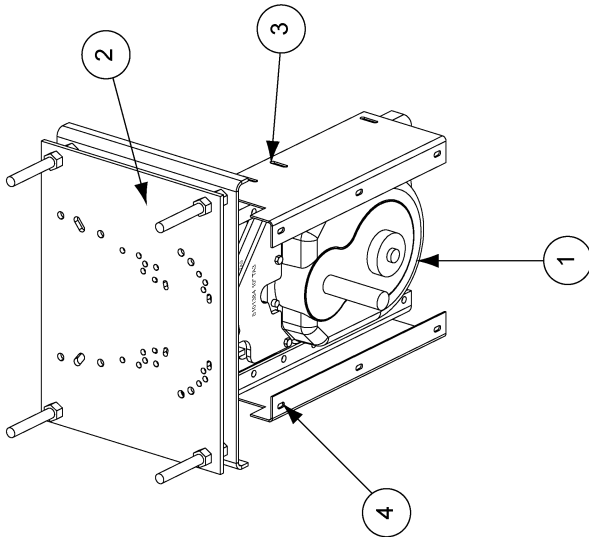
NOTE: When attaching the reducer, the lower motor mount hole is not used.

3	162586	Change to torque plate assembly	9-16-10 RCB	THE GSI GROUP	DRV.BOX TA3 15HP	Sheet 1 of 2	IM	N/A	Drawing No.
2	108903	ADDED 8081322 TO BOM	10-12-07 BJT	Asumption, IL	8" CHAIN LOOP	Weight	Ship	N/A	8081271
1	105104	ADDED 8101336 3/8" VENT ELBOW KIT	9-18-06 BJT	Engineering Director		Net Wt.	Scale	N/A	
No.	ECN	Revision Description	Date	By		Drawn	Scale	NONE	
						TOLERANCES	Work to Dimensions		Do Not Scale
						(Unless Noted)			
						Fractions +/- 1/32"			
						Decimals +/- .031			
						Angles +/- 1.00			

8" (20 HP) Drive Components

ITM	PART #	QTY	DESCRIPTION
1	MHC01074	1	DODGE REDUCER, TA3203H-15
2	TA3CLMM	1	TA3 MOTOR MOUNT ASSEMBLY
3	BG-0167	1	BRACKET, RH, TA3
4	BG-0168	1	BRACKET, LH, TA3
5	8081324	1	TA3 TORQUE PLATE ASSY 8", 10"

ITEMS NOT SHOWN IN DRAWING:
 3311A1 (1) SHEAVE 4GR B6.4 SD
 GC06516 (1) BUSHING SD x 1-5/8" BORE
 GC06676 (1) SHEAVE 4GR AT.6B8.0 SK
 MHC00823 (4) BELT-V BX61
 MHC01094 (1) BUSHING TAPER, TA3203TB x 2-3/16
 PT0778 (1) BUSHING SK 1-3/8" BORE
 TA3HDW (1) HARDWARE, BELT GUARD TA3
 8101336 (1) 3/8" VENT ELBOW KIT



NOTE: R.H. belt guard bracket has been removed from view for clarity.

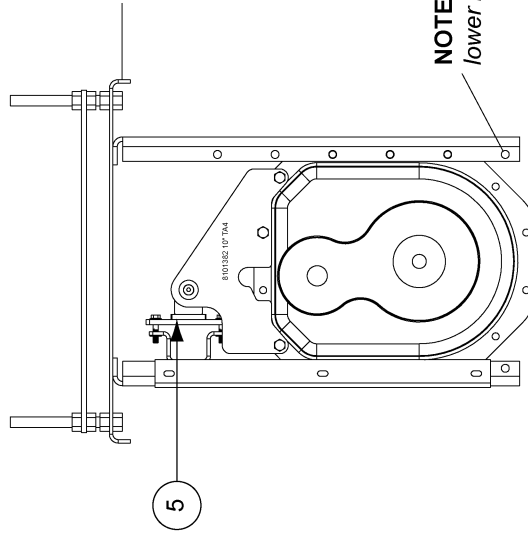
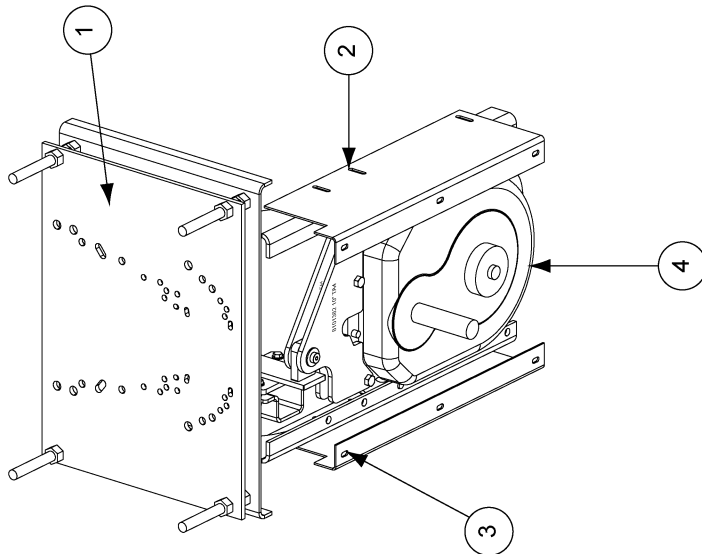
NOTE: When attaching the reducer, the lower motor mount hole is not used.

TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00		Sheet 1 of 1		HW		Drawing No.	
Weight Lbs.	Drawn By	Scale	Rev	Part No.	Rev	Part No.	Rev
	BJT	NONE	10-Jul-06	N/A		8081285	
DRV.BOX TA3 20HP		8" CHAIN LOOP		MATERIAL HANDLING		MATERIAL HANDLING	
3	162586	Changed to torque plate assembly	9-16-10	RCS			
2	108903	ADDED 8081322	10-12-07	BJT			
1	105104	ADDED 8101336 3/8" VENT ELBOW KIT	9-18-06	BJT			
No.	ECN	Revision Description	Date	By			

8"-10" (25-30 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	TA4CLHM	1	MOTOR MNT. CHAIN LOOP TA4
2	BG-0181	1	BRACKET, RH, TA4
3	BG-0182	1	BRACKET, LH, TA4
4	MHC01075	1	DO06E REDUCER, TA4207H15
5	8101424	1	TA4 TORQUE PLATE ASSY 8", 10"

ITEMS NOT SHOWN IN DRAWING:
 CE-00617 (1) BUSHING SK x 1-7/8" BORE
 D02-0067 (3) BELT-V BX85
 GC06887 (1) BUSHING SK x 1-7/16" BORE
 MHC01096 (1) BUSHING TAPER, TA4207TB x 2-7/16
 MHC01566 (1) SHEAVE 3GR A10.6811.0 SK
 MHC01567 (1) SHEAVE 3GR A13.2B13.6 SK
 TA4HDW (1) HARDWARE - BELT GUARD TA4
 8101334 (1) 1/2" VENT ELBOW KIT



NOTE: R.H. belt guard bracket has been removed from view for clarity.

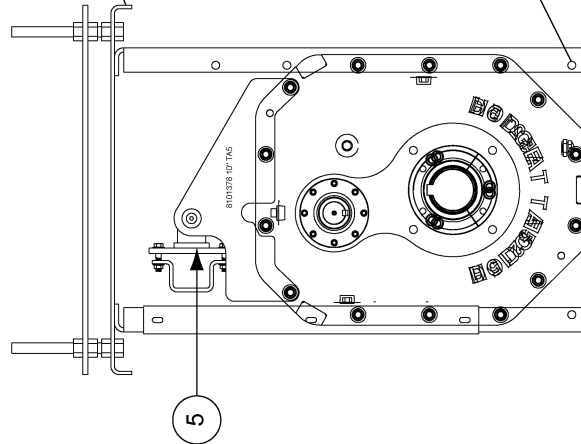
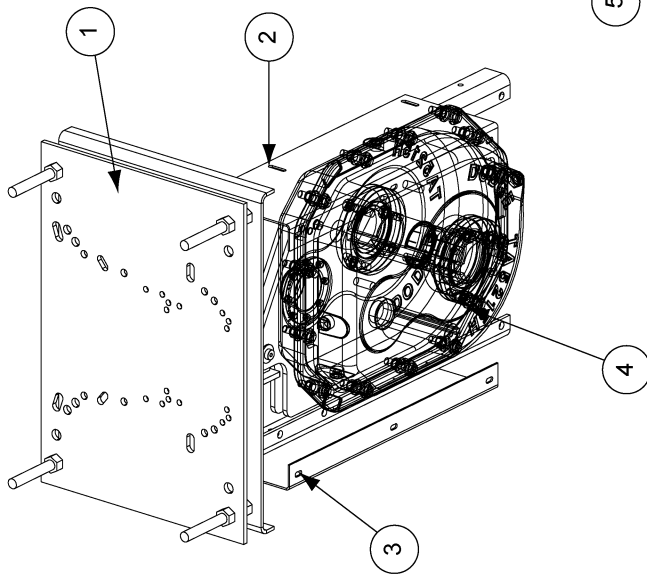
NOTE: When attaching the reducer, the lower motor mount hole is not used.

Sheet 1 of 1		IM	N/A	Drawing No.	
Weight	N/A	Ship	N/A	8081296	
Volume	N/A	Scale	NONE		
Drawn By	BJT	Date	11-Jul-06		
Checked By		Date			
TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00					
DRV.BOX TA4 25.30HP		CHAIN LOOP			
MATERIAL HANDLING					
3	162566	Changed to torque plate assembly	9-16-10	RCB	
2	108904	ADDED 8081323	10-12-07	BJT	
1	105105	ADDED 8101334 1/2" VENT ELBOW KIT	9-18-06	BJT	
No.	ECN	Revision Description	Date	By	

10" (40 HP) Drive Components

ITM	PART #	QTY	DESCRIPTION
1	TASCLMM	1	TA5 MOTOR MOUNT ASSEMBLY
2	BG-0196	1	BRACKET, RH, TA5
3	BG-0197	1	BRACKET, LH, TA5
4	MHC01076	1	DOOSE REDUCER, TA5215H15
5	8101425	1	TA5 TORQUE PLATE ASSY 10"

ITEMS NOT SHOWN IN DRAWING:
 GT3-0068 (1) BUSHING SF 2-1/8" BORE
 MHC00039 (3) BELT-V 5VX-850
 MHC01097 (1) BUSHING TAPER, TA5215TB x 2-7/16
 MHC01531 (1) SHEAVE 3GR 5V 11.3 SF
 MHC01668 (1) SHEAVE 3GR 5V 9.0 SF
 MHC01669 (1) BUSHING SF x 1-5/8" BORE
 TA5HDW (1) HARDWARE, BELT GUARD TA5
 8101334 (1) 1/2" VENT ELBOW KIT



NOTE: R.H. belt guard bracket has been removed from view for clarity.

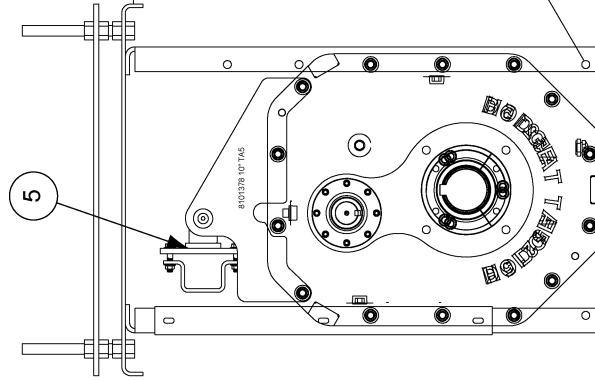
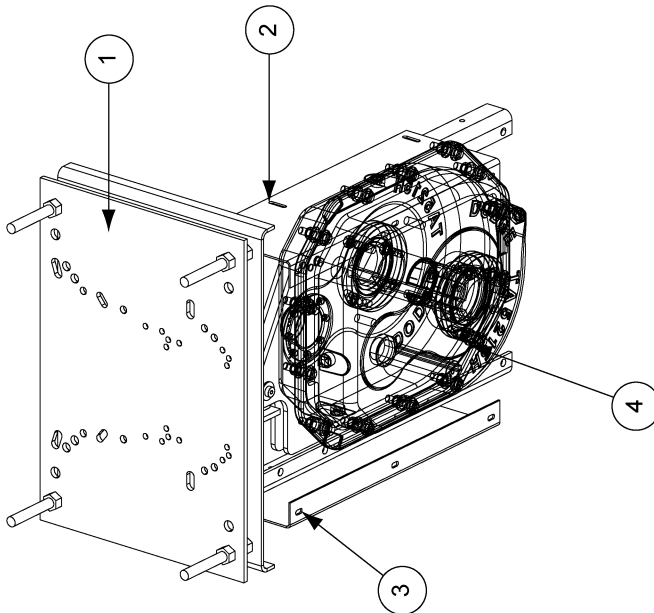
NOTE: When attaching the reducer, the lower motor mount hole is not used.

3	162586	Changed to torque plate assembly	9-15-10	RCS	THE GSI GROUP Assumption, IL	DRV.BOX TA5 40HP	Sheet 1 of 1	HW	N/A	Drawing No.	
2	108907	ADDED 8101371	10-12-07	BJT	Engineering Division MATERIAL HANDLING	CHAIN LOOP	Weight	N/A	Scale	8101303	
1	105105	ADDED 8101334 1/2" VENT ELBOW KIT	9-18-06	BJT			Drawn	BJT	Scale		NONE
No.	ECN	Revision Description	Date	By			Checked		Work to Dimensions		Do Not Scale

10" (50 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	TA5CLMM	1	TA5 MOTOR MOUNT ASSEMBLY
2	BG-0196	1	BRACKET, RH, TA5
3	BG-0197	1	BRACKET, LH, TA5
4	MHC01076	1	DODGE REDUCER, TA521SH15
5	8101425	1	TA5 TORQUE PLATE ASSY 10"

ITEMS NOT SHOWN IN DRAWING:
 MHC01540 (1) BUSHING E 2-1/8" BORE
 MHC00039 (4) BELT-V 5VX-850
 MHC01097 (1) BUSHING TAPER, TA5215TB x 2-7/16
 MHC01699 (1) SHEAVE 4GR 5V 11.3 E
 KD-PDS0016 (1) SHEAVE 4GR 5V 9.0 E
 MHC01537 (1) BUSHING E x 1-5/8" BORE
 TASHDW (1) HARDWARE, BELT GUARD TA5
 8101334 (1) 1/2" VENT ELBOW KIT



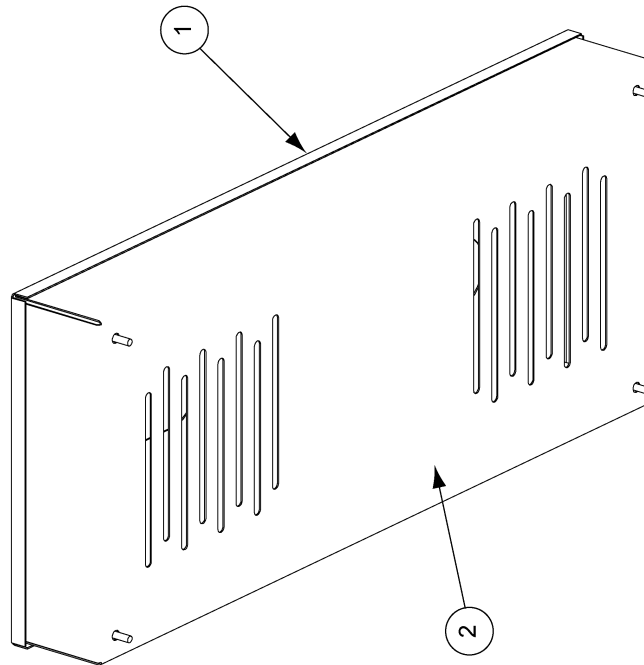
NOTE: When attaching the reducer, the lower motor mount hole is not used.


3	182586	Changed to torque plate assembly	9-16-10 [RCE]	THE OSI GROUP	Sheet 1 of 1	10W	N/A	Drawing No.
2	108907	ADDED 8101371	10-12-07 [BJT]	ASSUMPTION, TL	Part	N/A	N/A	8101331
1	105105	ADDED 8101334	9-18-06 [BJT]	Engineering Division	Part	BJT	11-Jul-06	
No.	ECN	Revision Description	Date	MATERIAL HANDLING	Drawn By	Checked By	Scale	Work to Dimensions Do Not Scale
				DRV.BOX TA5 50HP				
				CHAIN LOOP				

Drive Components (Continued)

ITEM	PART #	QTY	DESCRIPTION
1	8120210	1	BELT GUARD BACK WELDMENT, TA4
2	8120220	1	COVER CH LOOP TA4

NOT SHOWN IN DRAWING:
 S-1054 (4) WASHER LOCK SPLIT 3/8 ZN
 S-248 (4) WASHER FLAT 3/8
 S-456 (4) NUT HEX 3/8
 DC-994 (1) DECAL, DANGER SHEAR POINT
 DC-995 (1) DECAL, WARNING SHEAR POINT
 DC-1379 (1) DECAL, NOTICE

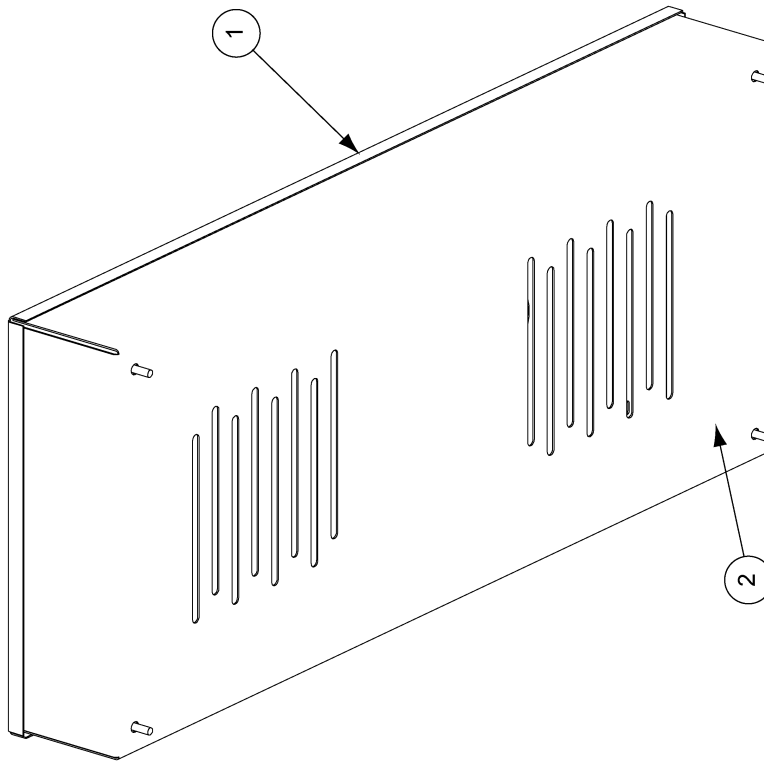


No.	ECN	Revision Description	Date	By	 THE GSI GROUP Assumption, IL PROPERTY OF	BELT GRD. ASSY., TA4 CHAIN LOOP	TOLERANCES (Unless Stated) Fractions +/- .031 Decimals +/- .031 Angles +/- .001	Sheet	1 of 1	N/A N/A BIT 24-Aug-04	N/A 56.773 NONE Note to Dimensions Do not Scale	Drawing No. 8120211
								Part	Rev	Rev	Rev	

Drive Components (Continued)

ITM	PART #	QTY	DESCRIPTION
1	8120213	1	BELT GUARD BACK WELDMENT, IA5
2	8120218	1	COVER CHLOOP TIG

NOT SHOWN IN DRAWING:
 S-1054 (4) SPLIT LOCK WASHER 3/8"
 S-248 (4) FLAT WASHER 3/8"
 S-456 (4) HEX NUT 3/8"
 DC-994 (1) DECAL, DANGER SHEAR POINT
 DC-995 (1) DECAL, WARNING SHEAR POINT
 DC-1379 (1) DECAL, NOTICE

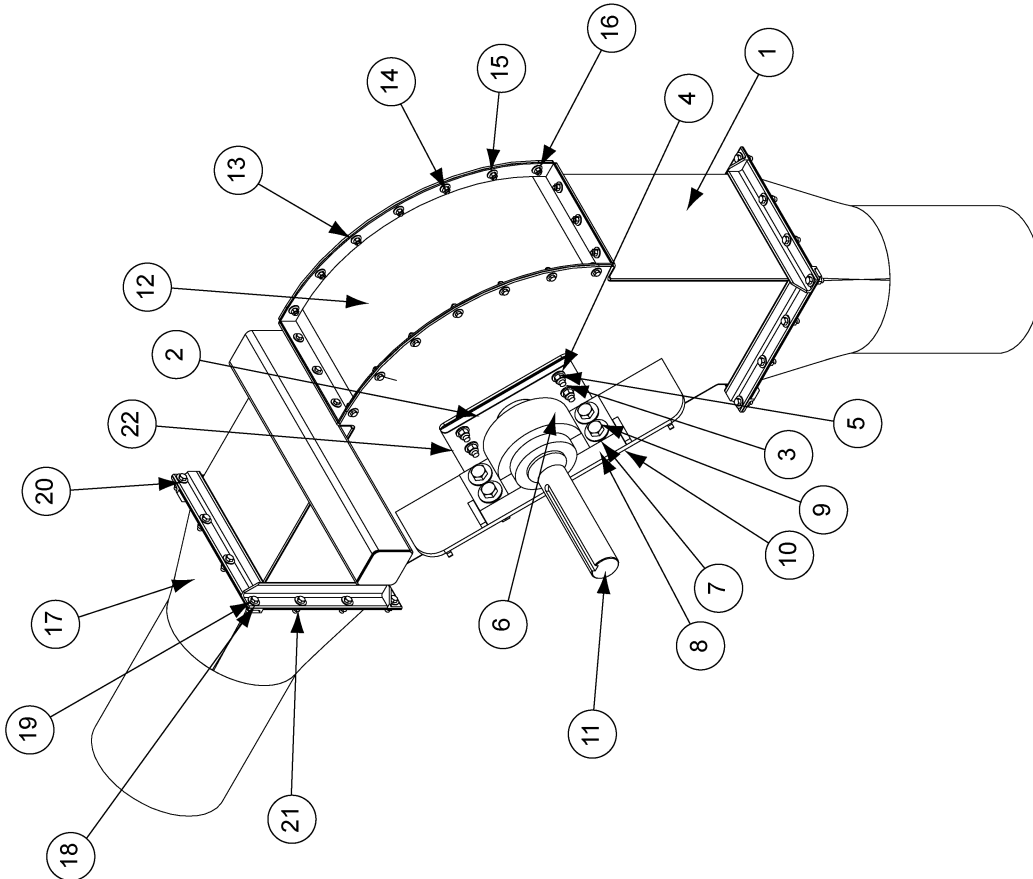


TOLERANCES (Unless Noted) Finish: .001" Decimals: 1/1000" Angles: 1/4° - 1.00°		Sheet 1 of 1 Part N/A Date 14-JUN-06 Drawn BYT Checkd [blank]	N/A N/A NONE NONE NONE NONE	Drawing No. 8120214	
THE GSE GROUP Assumption, IL Legend: [blank]		BELT GRD.ASSY. IA5 CHAIN LOOP		MATERIAL HANDLING	
No.	ECN	Revision	Description	Date	By

12" 7 Gauge (30 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120027	1	TA4 DRIVE CNR. WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8562	8	WASHER, 1/2" FLAT
5	S-8260	8	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
7	S-866	16	WASHER FLAT 3/4 USS ZN FLAT GR2
8	S-233	8	3/4 LOCK WASHER
9	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
10	S-234	8	NUT 3/4-10
11	8120011	1	TA4 DRIVE SHAFT
12	8120022	1	CORNER COVER WELDMENT
13	S-845	40	WASHER FLAT 5/16 USS SAE YDP GR2
14	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
15	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
16	S-396	20	NUT 5/16-18
17	8120004	2	SO./RND. WELDMENT 7GA.
18	S-248	48	WASHER FLAT 3/8 X 7/16ID X 1OD YDP
19	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
20	S-1054	24	LOCK WASHER, 3/8
21	S-456	24	NUT 3/8-16
22	8120170	2	COVER PLATE FOR UHMW

Not shown in drawing:
 PT1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"

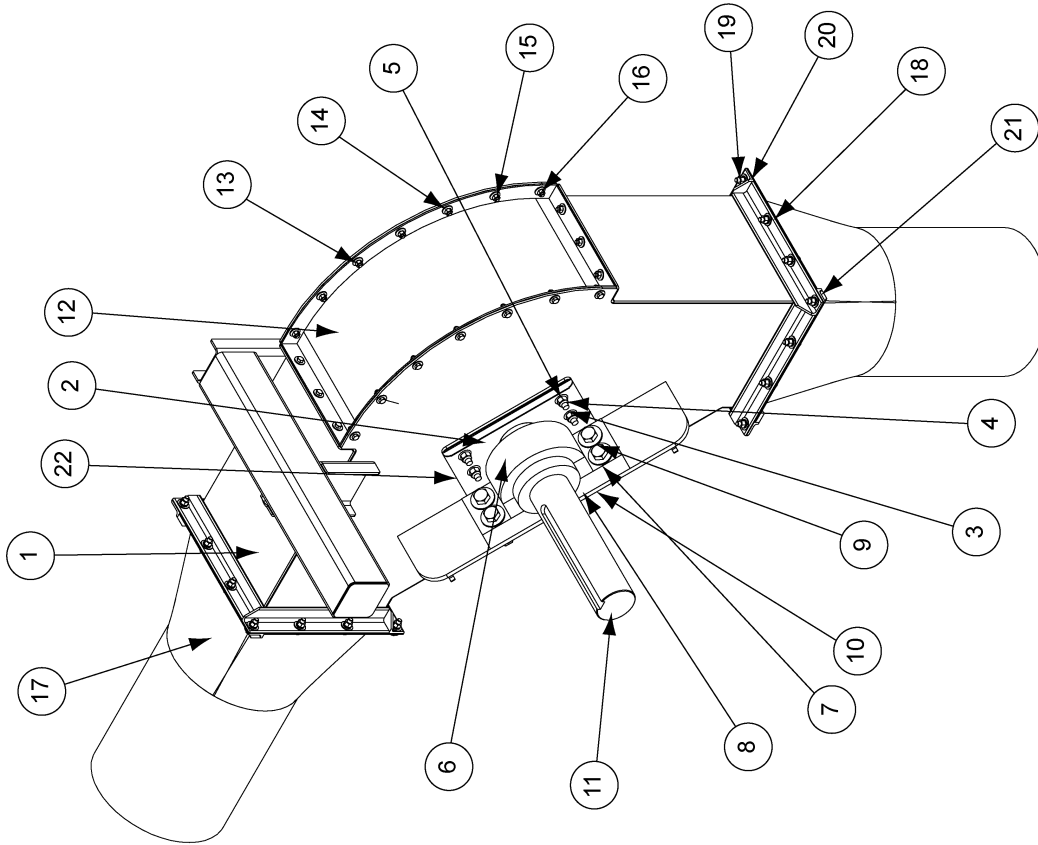


THE GSI GROUP Assumption, IL Engineering Division		Sheet 1 of 1 Part # N/A Part Name BJT Date 27-Aug-04 Drawn By		Drawing No. 8120000	
TOLERANCES (Unless Noted) Fractions +/- .132" Decimals +/- .031 Angles +/- 1.00		N/A N/A N/A NONE NONE Do Not Scale			
DRIVE CNR. SUB ASSY. 30HP TA4		MATERIAL HANDLING		12" CHAIN LOOP	
REMOVED REDUCER ATTACHMENT COMPONENTS 10-10-07BJT		Date By			
No. ECN		Revision Description			

12" 7 Gauge (60 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120164	1	TA6 DRIVE CNR.WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8562	8	WASHER, 1/2" FLAT
5	S-8260	8	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
7	S-866	16	WASHER FLAT 3/4 USS ZN FLAT GR2
8	S-233	8	3/4 LOCK WASHER
9	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
10	S-234	8	NUT 3/4-10
11	8120165	1	TA6 DRIVE SHAFT
12	8120022	1	CORNER COVER WELDMENT
13	S-845	40	WASHER FLAT 5/16 USS SAE YDP GR2
14	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
15	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
16	S-396	20	NUT 5/16-18
17	8120004	2	SQ./RND. WELDMENT 7GA.
18	S-248	48	WASHER FLAT 3/8 X 7/16ID X 1OD YDP
19	S-1054	24	LOCK WASHER, 3/8
20	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
21	S-456	24	NUT 3/8-16
22	8120170	2	COVER PLATE FOR UHMW

Not shown in drawing:
 PT1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"



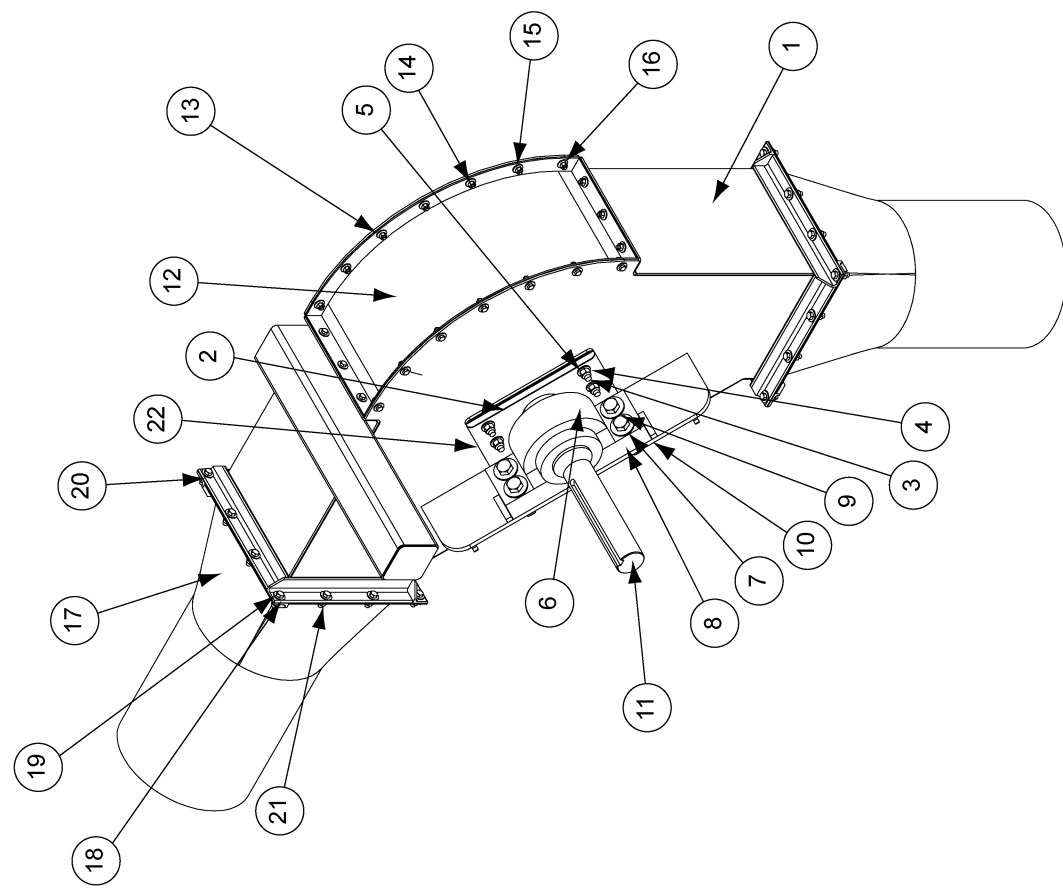
Sheet 1 of 1		N/A		Drawing No.	
Weight	N/A	Ship #	1566132		
Material	BJT	Rev	27-Aug-04		
Customer		Work. in Progress	NONE		
By		Dr. Not Sent			
TOLERANCES (Unless Noted)					
Fractions +/- 1/32"					
Decimals +/- .031					
Angles +/- 1.00					
THE GSI GROUP Assumption, IL		DRIVE CNR.SUB ASSY.60HP TAG6			
Engineering Division		MATERIAL HANDLING		12" CHAIN LOOP	
108902	REMOVED REDUCER ATTACHMENT COMPONENTS	10-10-07	BJT		
No.	ECN	Revision Description		Date	

12" 10 Gauge (30 HP) Drive Components

ITM	PART #	QTY	DESCRIPTION
1	8120027	1	TA4 DRIVE CNR. WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8562	8	WASHER, 1/2" FLAT
5	S-8260	8	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
7	S-866	16	WASHER FLAT 3/4 USS ZN FLAT GR2
8	S-233	8	3/4 LOCK WASHER
9	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
10	S-234	8	NUT 3/4-10
11	8120011	1	TA4 DRIVE SHAFT
12	8120022	1	CORNER COVER WELDMENT
13	S-845	40	WASHER FLAT 5/16 USS SAE YDP GR2
14	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
15	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
16	S-396	20	NUT 5/16-18
17	8120173	2	SO./RND. WELDMENT 106a.
18	S-248	48	WASHER FLAT 3/8 X 7/16ID X 10D YDP
19	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
20	S-1054	24	LOCK WASHER, 3/8
21	S-456	24	NUT 3/8-16
22	8120170	2	COVER PLATE FOR UHMW

Not shown in drawing:
 PT1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"

10 Gauge Square/Round



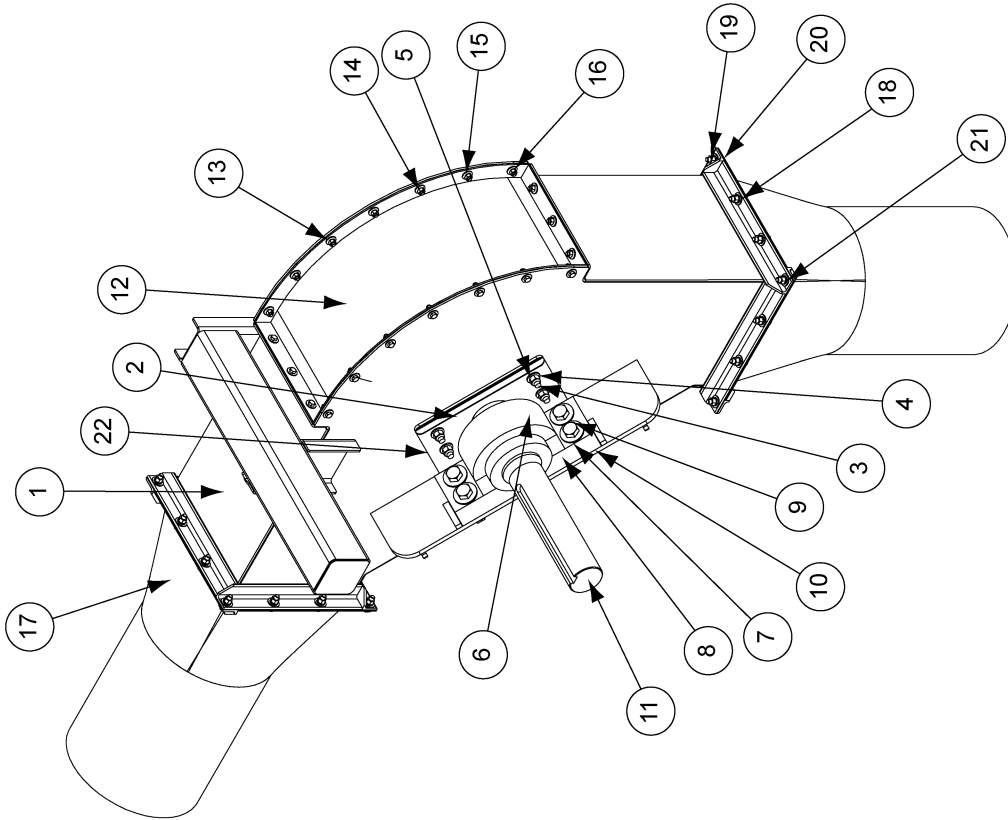
108900	ECN	REMOVED REDUCER ATTACHMENT COMPONENTS	10-10-07	BJJ	Date	By	MATERIAL HANDLING	DRIVE CNR. SUB ASSY. 30HP TA4	TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031" Angles +/- 1.00	Sheet 1 of 1	INW	N/A	Drawing No.
		Revision Description	12" CHAIN LOOP	Part No.				8120175		Ship No.	N/A	Scale	NONE

12" 10 Gauge (40-50 HP) Drive Components

ITM	PART #	QTY	DESCRIPTION
1	8120154	1	TA5 DRIVE CNR. WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8562	8	WASHER, 1/2" FLAT
5	S-8260	8	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B., 3 7/16"
7	S-8666	16	WASHER FLAT 3/4 USS ZN FLAT GR2
8	S-233	8	3/4 LOCK WASHER
9	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
10	S-234	8	NUT 3/4-10
11	8120148	1	TA4 DRIVE SHAFT
12	8120022	1	CORNER COVER WELDMENT
13	S-845	40	WASHER FLAT 5/16 USS SAE YDP GR2
14	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
15	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
16	S-396	20	NUT 5/16-18
17	8120173	2	SO./RND. WELDMENT 10G α .
18	S-248	48	WASHER FLAT 3/8 X 7/16ID X 1.0D YDP
19	S-1034	24	LOCK WASHER, 3/8
20	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
21	S-456	24	NUT 3/8-16
22	8120170	2	COVER PLATE FOR UHMW

Not shown in drawing:
 PT1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"

10 Gauge Square/Round



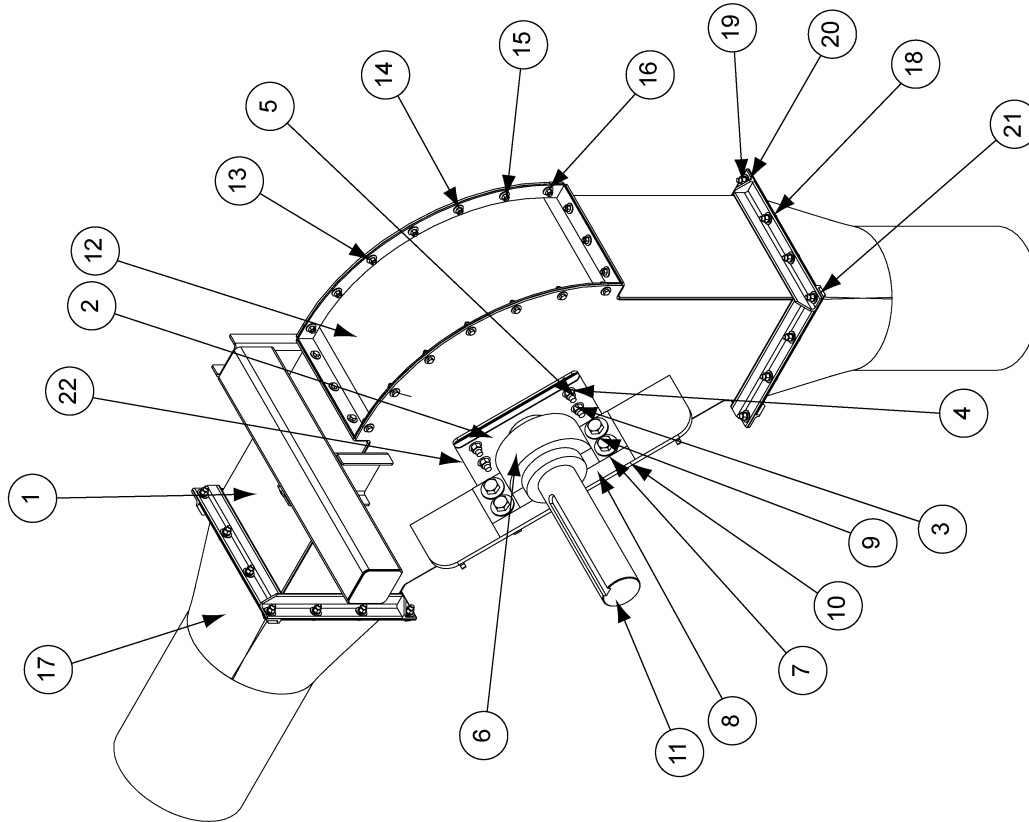
TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031" Angles +/- 1.00		Sheet 1 of 1	HM	N/A	Drawing No.
THE OSI GROUP Assumption, TL		Part #	QTY	SHIP	
Engineering Division		8120154	1	N/A	
MATERIAL HANDLING		8120010	2	N/A	
REMOVED REDUCER ATTACHMENT COMPONENTS		S-8760	8	BJT	8120179
Revision Description		S-8562	8	None	
Date [By]		S-8260	8	Work to Dimensions	
Date [By]		MHC01277	2	Do Not Scale	
Date [By]		S-8666	16		
Date [By]		S-233	8		
Date [By]		S-7884	8		
Date [By]		S-234	8		
Date [By]		8120148	1		
Date [By]		8120022	1		
Date [By]		S-845	40		
Date [By]		S-1196	20		
Date [By]		S-1147	20		
Date [By]		S-396	20		
Date [By]		8120173	2		
Date [By]		S-248	48		
Date [By]		S-1034	24		
Date [By]		S-2071	24		
Date [By]		S-456	24		
Date [By]		8120170	2		

12" 10 Gauge (60 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120164	1	TAG DRIVE CNR. WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-8160	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8562	8	WASHER, 1/2" FLAT
5	S-8260	8	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
7	S-866	16	WASHER FLAT 3/4 USS ZN FLAT GR2
8	S-233	8	3/4 LOCK WASHER
9	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
10	S-234	8	NUT 3/4-10
11	8120165	1	TAG DRIVE SHAFT
12	8120022	1	CORNER COVER WELDMENT
13	S-845	40	WASHER FLAT 5/16 USS SAE YDP GR2
14	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
15	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
16	S-396	20	NUT 5/16-18
17	8120173	2	SO./RND. WELDMENT 10Ga.
18	S-248	48	WASHER FLAT 3/8 X 7/16 ID X 100 YDP
19	S-1054	24	LOCK WASHER, 3/8
20	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
21	S-456	24	NUT 3/8-16
22	8120170	2	COVER PLATE FOR UHMW

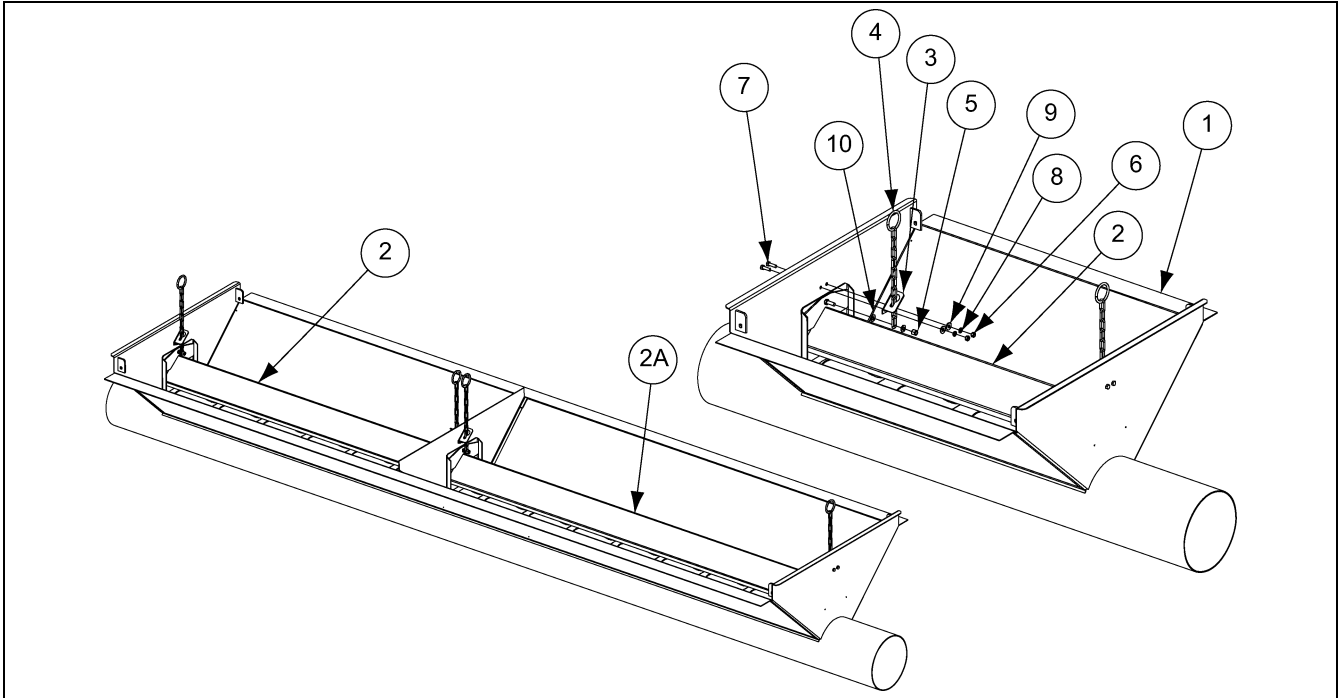
Not shown in drawing:
 PT1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"

10 Gauge Square/Round



Sheet 1 of 1		UHMW	N/A	Drawing No.	
Weight	N/A	Ship	N/A	8120180	
Material	N/A	Part	N/A		
Quantity	BJT	Order	1-12-05	None	
By		Drawn		None	
Checked		By		None	
Approved		By		None	
TOLERANCES					
(Unless Noted)					
Fractions +/- 1/32"					
Decimals +/- .031					
Angles +/- 1.00					
THE GBL GROUP		DRIVE CNR.SUB ASSY.60HP TAG		12" CHAIN LOOP	
Assumption, IL					
REMOVED REDUCER ATTACHMENT COMPONENTS		10-10-07/BJT			
Revision Description		Date		By	
No.	ECN				

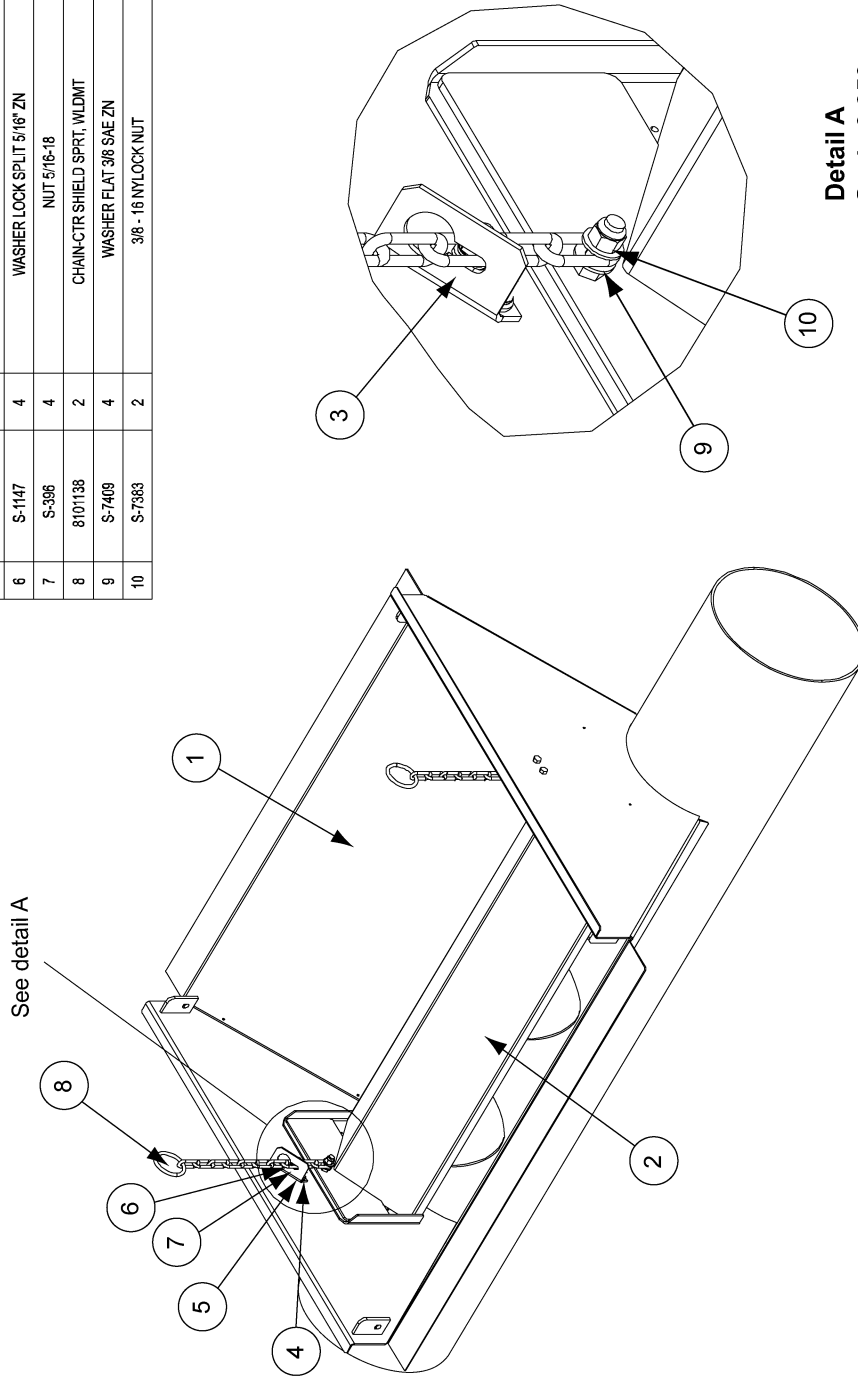
8" and 10" Inlet Dump Hoppers




Ref #	Part #	Description	Qty
1	8081110	8" Inlet Dump Hopper Weldment (42-1/2" Long)	1
1	8081111	8" Inlet Dump Hopper Weldment (62-1/2" Long)	1
1	8081112	8" Inlet Dump Hopper Weldment (102-1/2" Long)	1
1	8081113	8" Inlet Dump Hopper Weldment (144-1/2" Long)	1
1	8081167	8" Inlet Dump Hopper Weldment (125" Long)	1
1	8101110	10" Inlet Dump Hopper Weldment (42-1/2" Long)	1
1	8101111	10" Inlet Dump Hopper Weldment (62-1/2" Long)	1
1	8101112	10" Inlet Dump Hopper Weldment (102-1/2" Long)	1
1	8101113	10" Inlet Dump Hopper Weldment (144-1/2" Long)	1
2	8081127	Shield-Center, 42" Long 8" Inlet Dump Hopper Weldment	1
2 2A	8081128	Shield-Center, 62" Long 8" Inlet Dump Hopper Weldment	1
2A	8081129	Shield-Center, 81-1/2" Long 8" Inlet Dump Hopper Weldment	1
2	8081130	Shield-Center, 102" Long 8" Inlet Dump Hopper Weldment	1
2	8101127	Shield-Center, 42" Long 10" Inlet Dump Hopper Weldment	1
2	8101128	Shield-Center, 62" Long 10" Inlet Dump Hopper Weldment	1
2A	8101129	Shield-Center, 81-1/2" Long 10" Inlet Dump Hopper Weldment	1
2	8101130	Shield-Center, 102" Long 10" Inlet Dump Hopper Weldment	1
3	8101137	Bracket-Chain Support Inlet Dump Hopper	2
4	8101138	Chain-Center Shield Support, Weldment Inlet Dump Hopper	2
5		Lock Nut, 3/8"-16 UNC Nylon Lock, Plated, Grade 2	2
6		Hex Nut, 5/16"-18 UNC Finished, Plated, Grade 2	4
7		Hex Bolt, Standard Third-Grade 2 - 5/16"-18 UNC x 1, Plated	4
8		Lock Washer, Regular 5/16", Plated	4
9		Flat Washer, Standard 5/16", Plated	4
10		Flat Washer, Standard 3/8", Plated	4

12" (7 Gauge) 42-1/2" Inlet Dump Hoppers

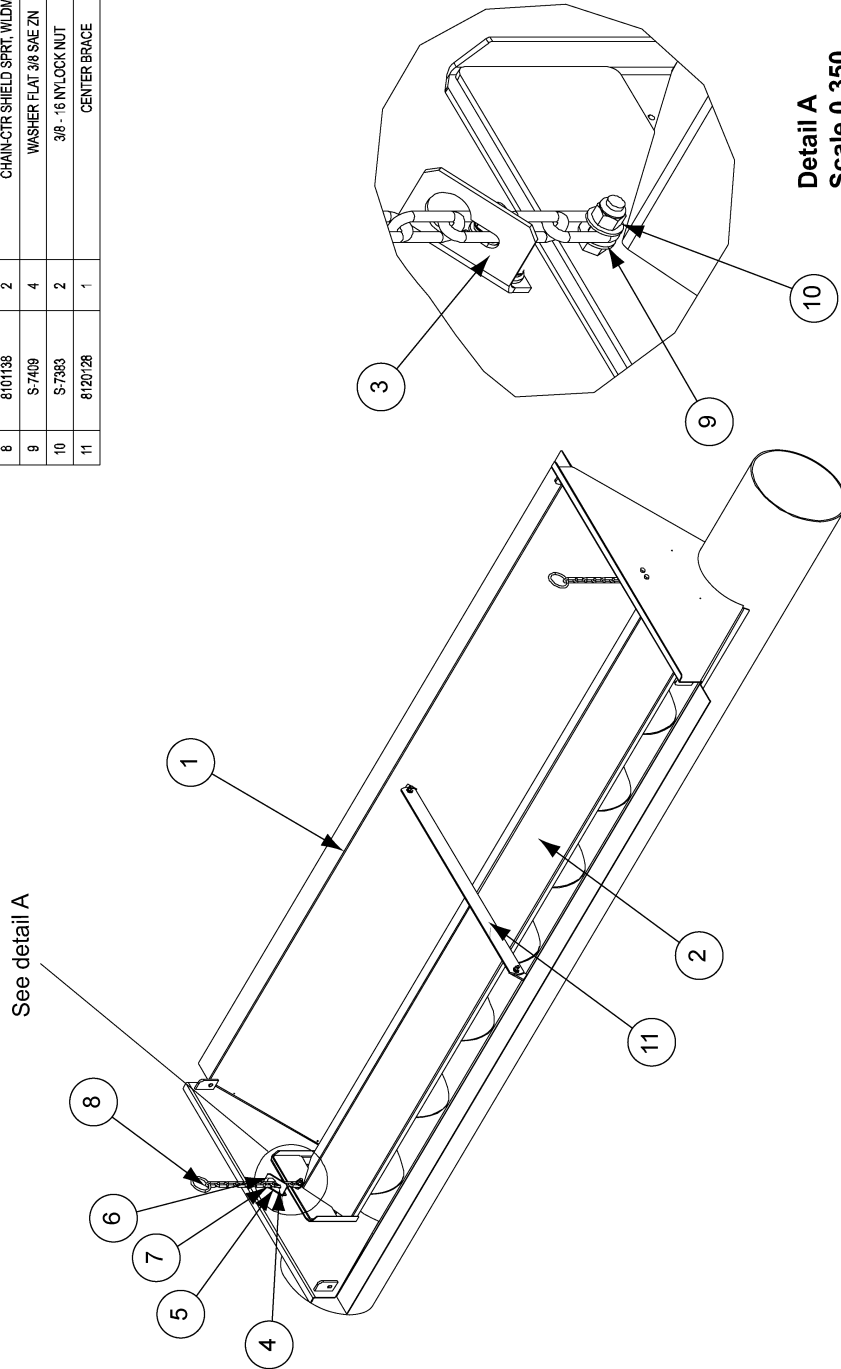
ITM	PART #	QTY	DESCRIPTION
1	8120112	1	42-1/2" DUMP HOPPER WELDMENT
2	8120119	1	42" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1196	4	BOLT HHCS 5/16"-18 x 1" ZN GR 5
5	S-1837	4	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	4	WASHER LOCK SPLIT 5/16" ZN
7	S-396	4	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPRT, WLDMT
9	S-7489	4	WASHER FLAT 3/8 SAE ZN
10	S-7383	2	3/8 - 16 NYLOCK NUT



		42-1/2" ASSEMBLY		Sheet 1 of 2		DWG No. 230.790		Drawing No. 8120121	
TOLERANCES (Unless Noted) Fractions ±.02" Decimals ±.031 Angles ±1.00		12" 7GA DUMP HOPPER		N/A		Scale 0.350		NONE	
MATERIAL HANDLING		Date		Drawn By BJT		Date 30-Nov-04		Work in Progress Do Not Scale	
Revision Description		Date		Checked By		Date		Scale	
ECN		Date		Drawn By		Date		Scale	

12" (7 Gauge) 102-1/2" Inlet Dump Hoppers

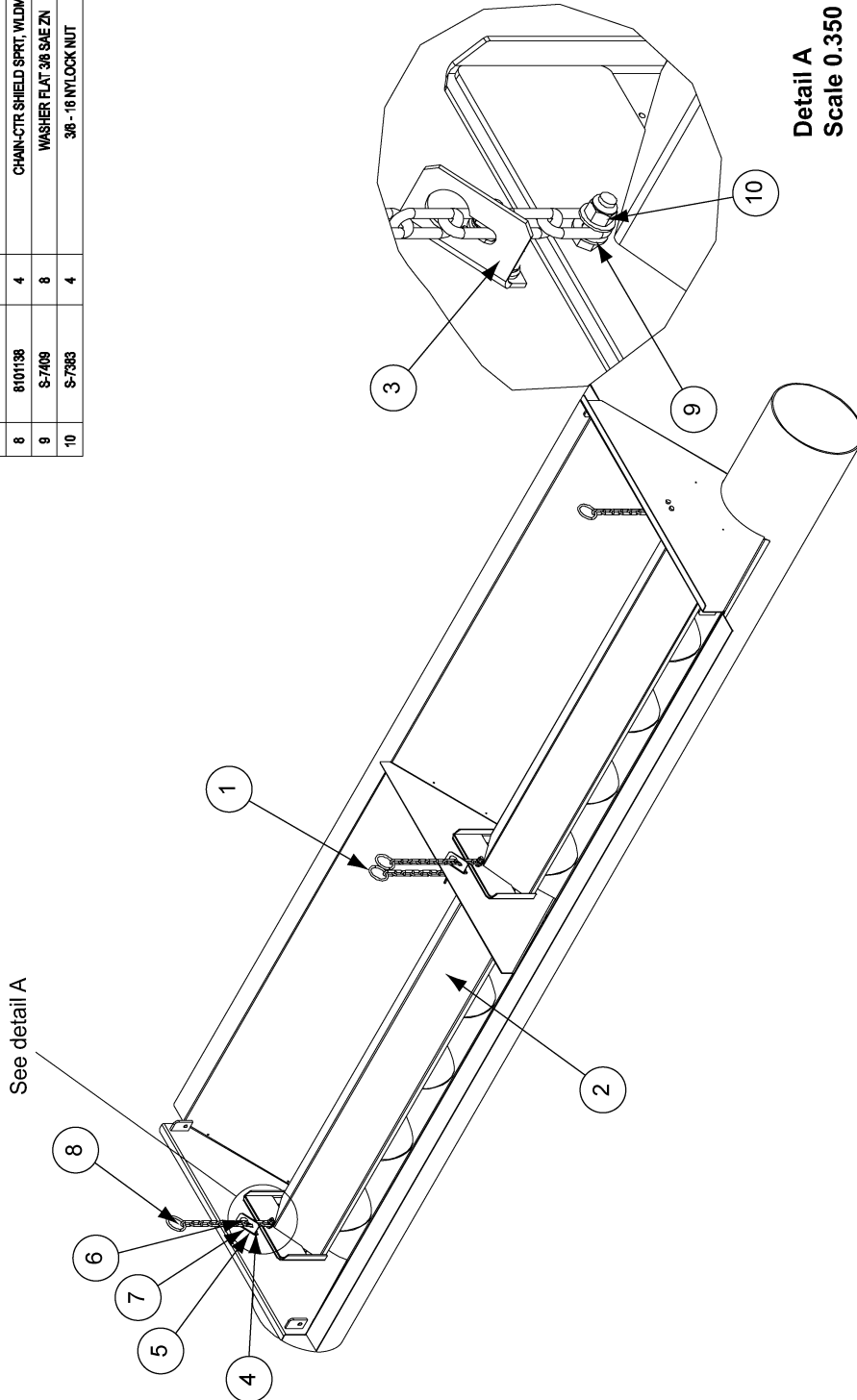
ITM	PART #	QTY	DESCRIPTION
1	8120125	1	102-1/2" DUMP HOPPER WELDMENT
2	8120122	1	102-1/2" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1186	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK SPLIT 5/16" ZN
7	S-386	6	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPT. WLDMT
9	S-7409	4	WASHER FLAT 3/8 SAE ZN
10	S-7383	2	3/8 - 16 NYLOCK NUT
11	8120128	1	CENTER BRACE



THE GSE GROUP Assumption, IL Drawing Title: MATERIAL HANDLING		102-1/2" ASSEMBLY 12" 7GA DUMP HOPPER		TOLERANCES (Unless Noted) Fractions ± .002" Decimals ± .001" Angles ± 1.00		Sheet 1 of 1 Part N/A Drawn BYT Date 30-Nov-04 Check: Date:		MW N/A QTY 423.577 NONE Work to Dimensions Do Not Scale		Drawing No. 8120127	
No.	ECN	Revision	Description	Date	By						

12" (7 Gauge) 122-1/2" Inlet Dump Hoppers

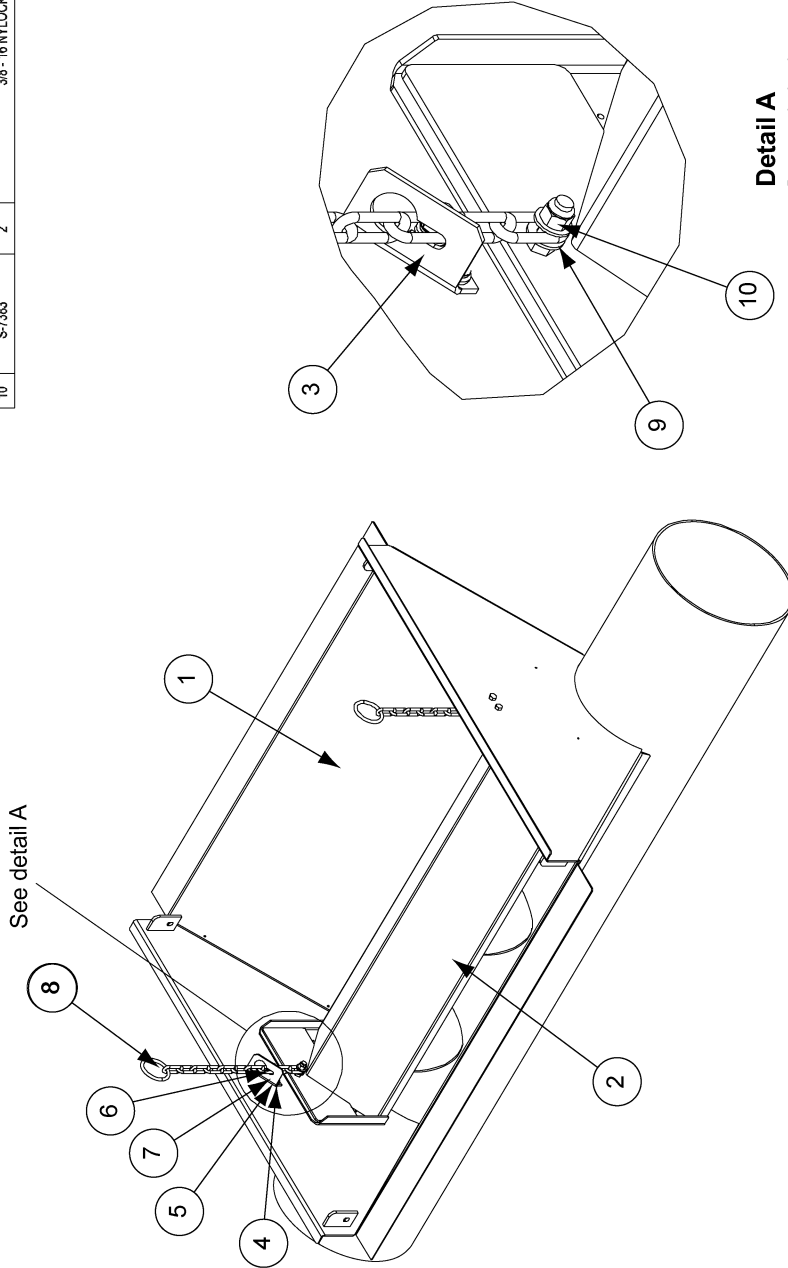
ITM	PART #	QTY	DESCRIPTION
1	8120132	1	122-1/2" DUMP HOPPER WELDMENT
2	8120129	2	122-1/2" CENTER SHIELD WELDMENT
3	8101137	4	BRACKET-CHAIN SUPPORT
4	S-1188	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1837	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK SPLIT 5/16" ZN
7	S-398	6	NUT 5/16-18
8	8101138	4	CHAIN-CTR. SHIELD SPRRT, WLDMT
9	S-7409	8	WASHER FLAT 3/8 SAE ZN
10	S-7383	4	3/8 - 18 NYLOCK NUT



THE GIB GROUP Assumption, IL <small>Copyright © 2004</small>		122-1/2" ASSEMBLY 12" 7GA DUMP HOPPER		TOLERANCES (Unless Noted) Fits: H9/h9 Decimals: ±.001 Angles: ±1.00		Sheet 1 of 1 Part No. N/A Rev. No. N/A Date 30-Nov-04 Drawn by BJT Check by Work to Drawings Do Not Scale		Drawing No. 8120134	
No.	ECN	Revision Description	Date	By					

12" (10 Gauge) 42-1/2" Inlet Dump Hoppers

ITEM	PART #	QTY	DESCRIPTION
1	8120188	1	42-1/2" DUMP HOPPER WELDMENT
2	8120119	1	42" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1196	4	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	4	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	4	WASHER LOCK SPLIT 5/16" ZN
7	S-396	4	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPRT, W/DMT
9	S-7409	4	WASHER FLAT 3/8 SAE ZN
10	S-7383	2	3/8 - 16 NYLOCK NUT



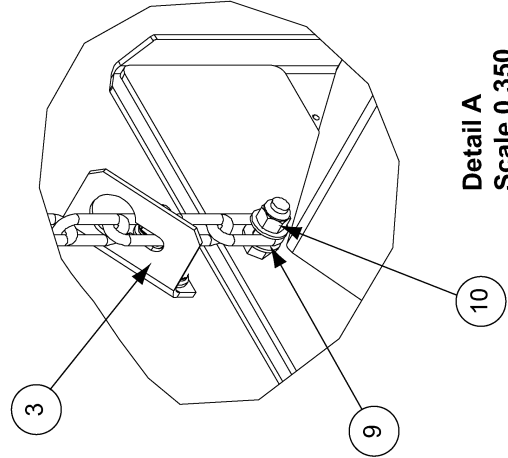
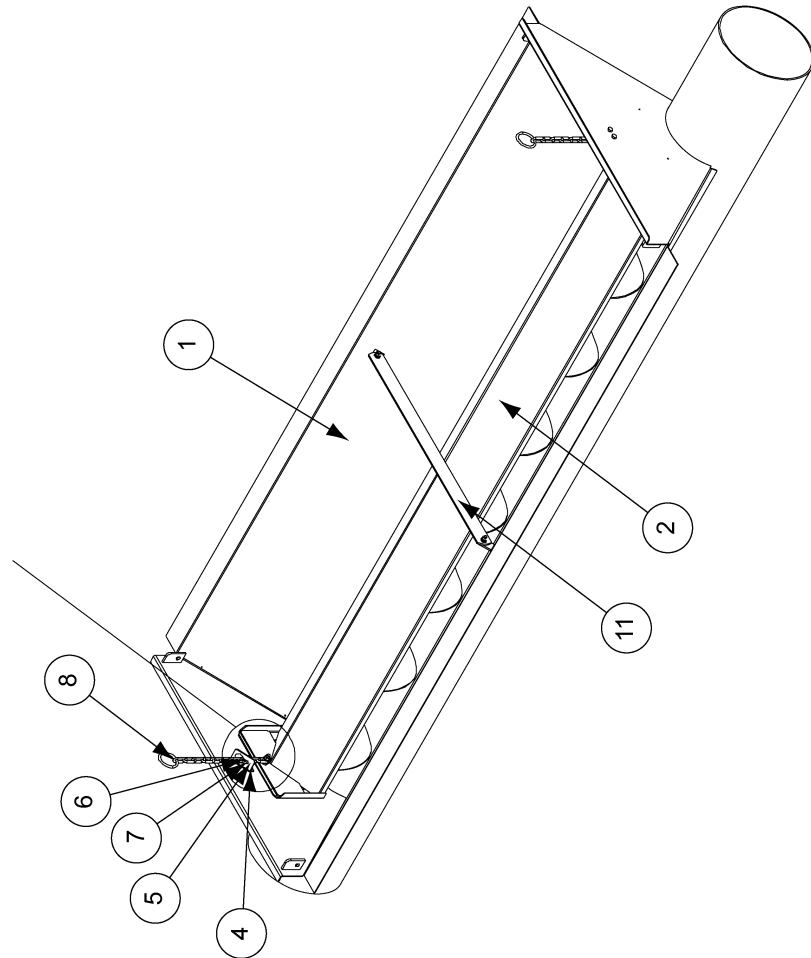
Detail A
Scale 0.350

No.		Revision Description		Date	By
MATERIAL HANDLING					
42-1/2" ASSEMBLY					
12" 10GA DUMP HOPPER					
<small>THE GSI GROUP</small> <small>Assumption, IL</small>					
<small>TOLERANCES</small> <small>(Unless Noted)</small> <small>Fractions 1/16, 1/32</small> <small>Decimals 1/100</small> <small>Angles 1/16</small>					
Sheet	1 of 1	MW	N/A	Drawing No.	
Drawn	N/A	Check	N/A	194.683	8120185
By	BIT	Date	30-Nov-04	Scale	
Checked		Drawn		Notes	

12" (10 Gauge) 102-1/2" Inlet Dump Hoppers

ITM	PART #	QTY	DESCRIPTION
1	8120186	1	102-1/2" DUMP HOPPER WELDMENT
2	8120122	1	102-1/2" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1166	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK SPLIT 5/16" ZN
7	S-306	6	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPRT, WLDMT
9	S-7409	4	WASHER FLAT 3/8 SAE ZN
10	S-7983	2	3/8 - 16 NYLOCK NUT
11	8120128	1	CENTER BRACE

See detail A

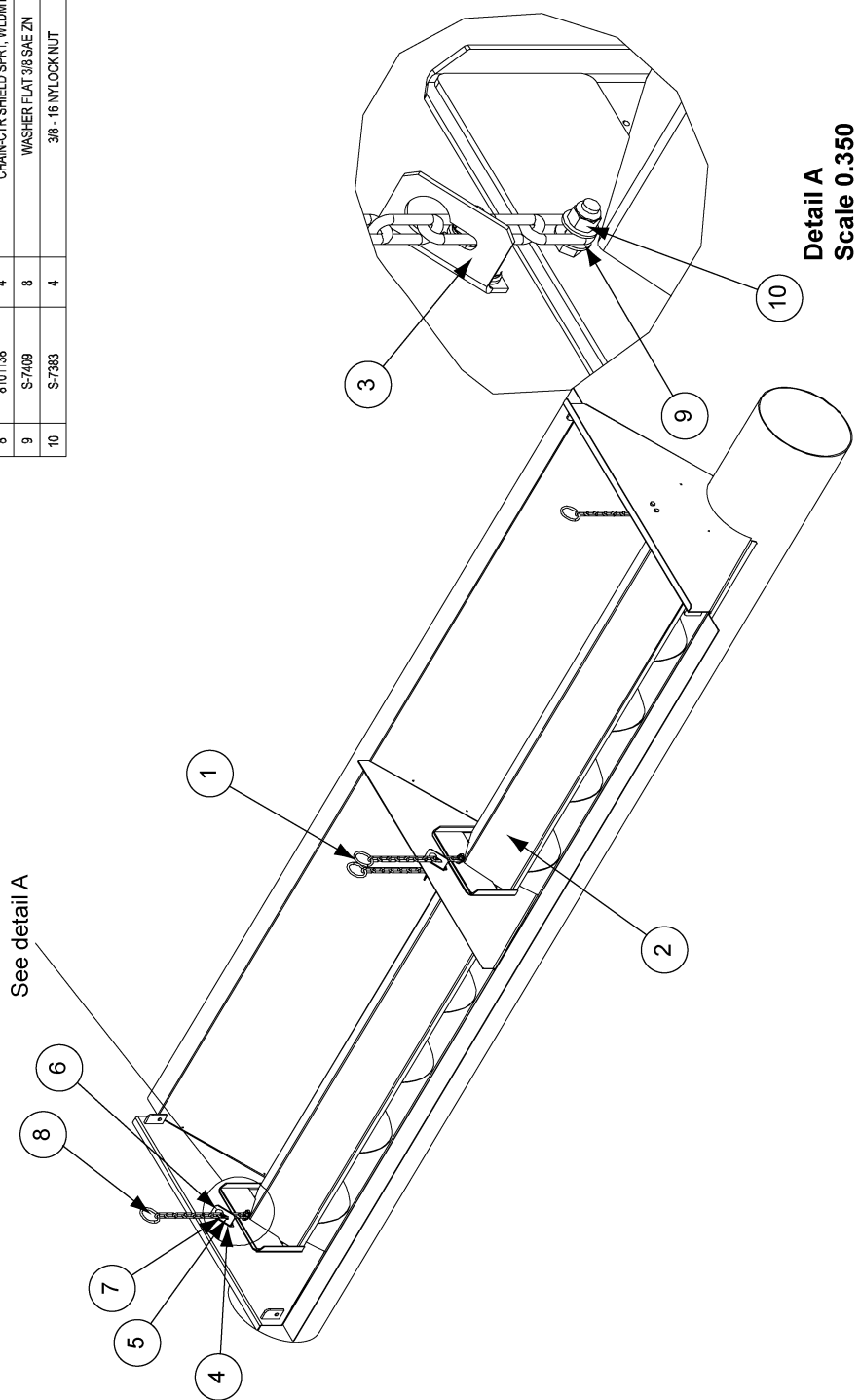


Detail A
Scale 0.350

TOLERANCES (Unless Noted) FRACTIONS ±.005 DECIMALS ±.005 ANGLES ±.100		102-1/2" ASSEMBLY		12" 10GA DUMP HOPPER		Drawing No. 8120186	
Sheet	1 of 1	REV	N/A	DATE	N/A	BY	360.969
Drawn	N/A	BY	BJT	DATE	30-Nov-04	SCALE	NONE
Checked		BY		DATE		WORKING DIMENSIONS	Do Not Scale
ECN	Revision Description	Date	By				

12" (10 Gauge) 122-1/2" Inlet Dump Hoppers

ITM	PART #	QTY	DESCRIPTION
1	8120190	1	122-1/2" DUMP HOPPER WELDMENT
2	8120129	2	122-1/2" CENTER SHIELD WELDMENT
3	8101137	4	BRACKET-CHAIN SUPPORT
4	S-1196	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK-SPLIT 5/16" ZN
7	S-396	6	NUT 5/16-18
8	8101138	4	CHAIN-CTR SHIELD SPRIT, WLDMT
9	S-7409	8	WASHER FLAT 3/8 SAE ZN
10	S-7883	4	3/8 - 16 NYLOCK NUT



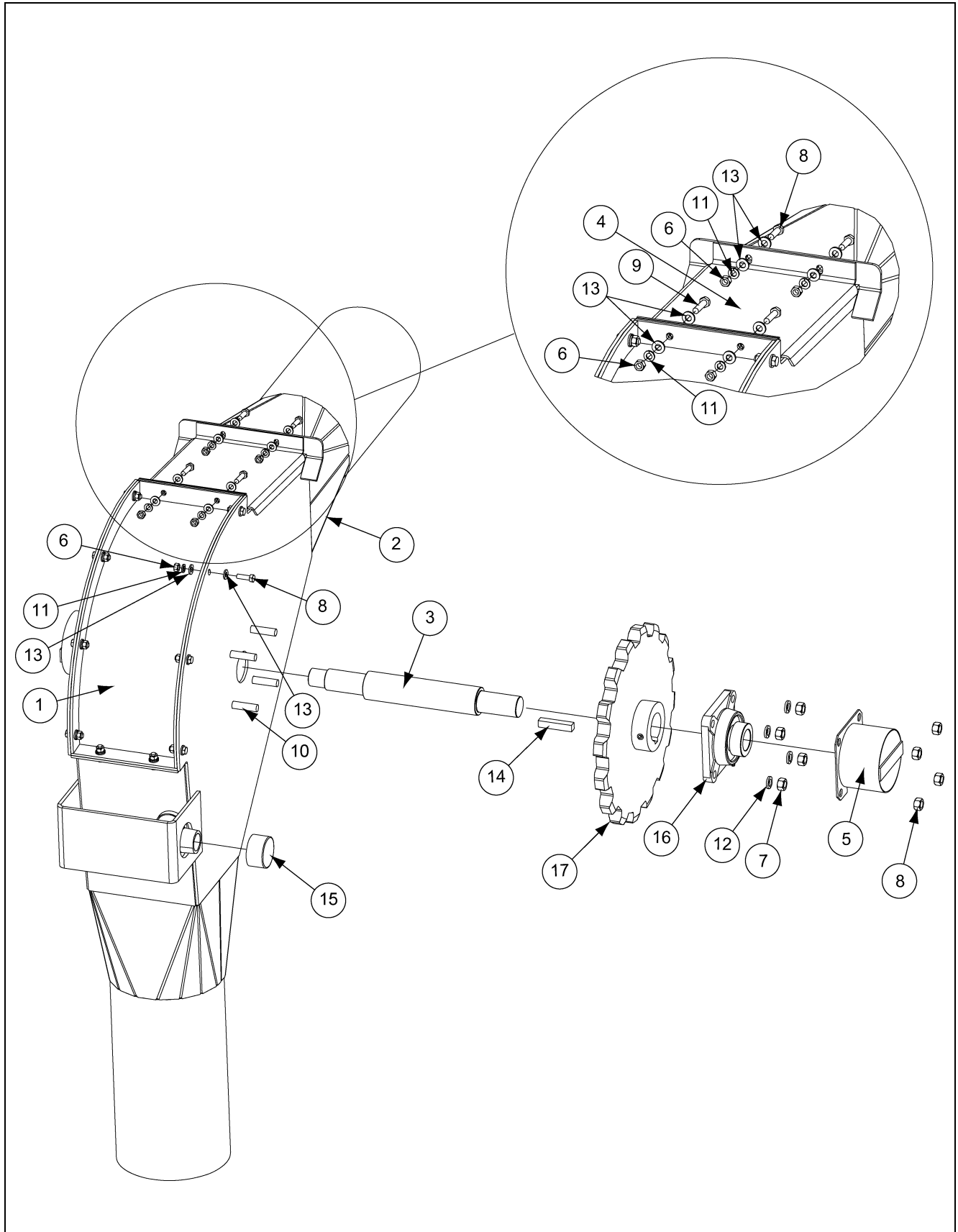
Detail A
Scale 0.350

See detail A

THE GAS GROUP Assumption, IL Drawing No. 8120187		Sheet 1 of 1 Part No. 430.921	Drawing No. 8120187
122-1/2" ASSEMBLY 12" 10GA DUMP HOPPER		Qty. 430.921 Unit 30-100-04 None None None	None None None
TOLERANCES (Unless Noted) Fractions ±.02" Decimals ±.031 Angles ±.100		No. ECN Revision Description Date By	

NOTES

8" and 10" Standard Corner



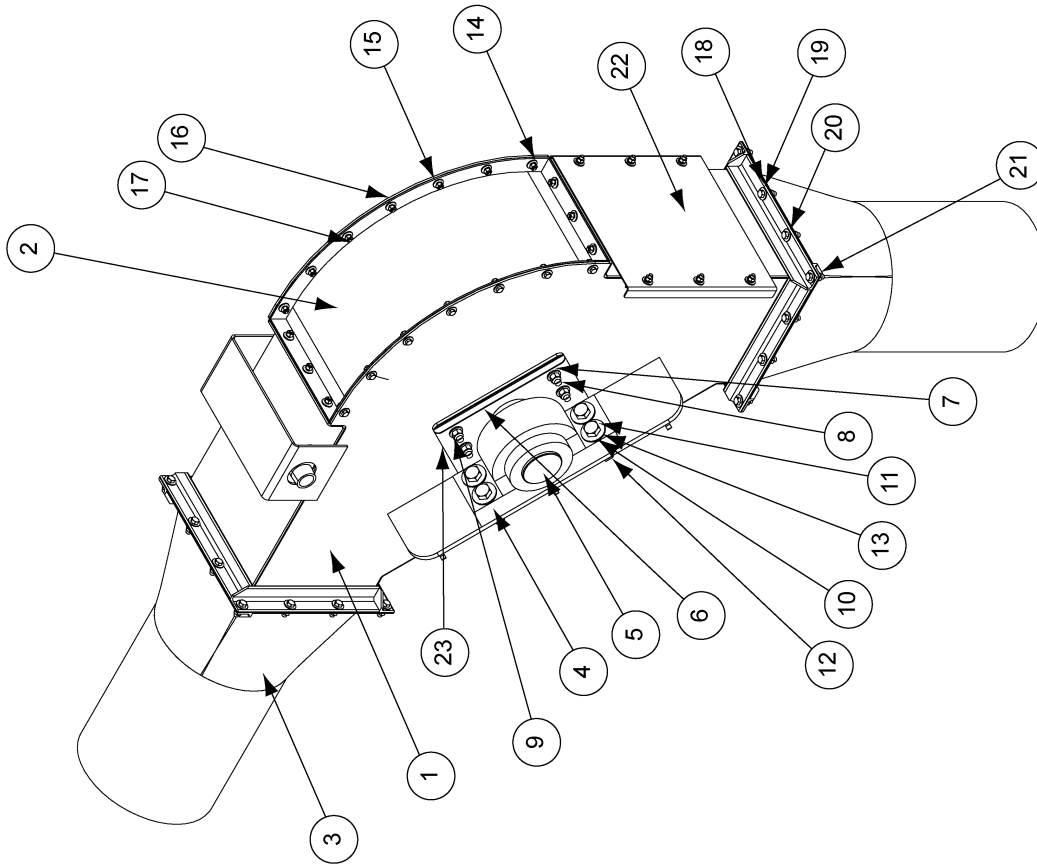
8" and 10" Standard Corner Parts List

Ref #	Part #	Description	Qty
1	8081009	8" Door-Inspection, Weldment Hot Dipped 8081010	1
1	8101009	10" Door-Inspection, Weldment Hot Dipped 8101010	1
2	8081022	8" Corner-Standard, 8" Weldment Hot Dipped 8081023	1
2	8101022	10" Corner-Standard, 10" Weldment Hot Dipped 8101023	1
3	8081029	8" Shaft-Corner, 8" Standard/Inspection Corner	1
3	8101029	10" Shaft-Corner, 10" Standard/Inspection Corner	1
4	8081032	Access Door-8" Standard Corner	1
4	8101032	Access Door-10" Standard Corner	1
5	8081196	8" Cover-Bearing Shield Zinc Plated 8081197	2
5	8101196	10" Cover-Bearing Shield Zinc Plated 8101197	2
6		Hex Nut, 5/16"-18 UNC Finished, Plated, Grade 2	14
7		Hex Nut, 1/2"-13 UNC Finished, Plated, Grade 2	16
8		Hex Bolt, Standard Third-Grade 5 5/16"-18 UNC x 1", Plated	12
9		Hex Bolt, Standard Third-Grade 5 5/16"-18 UNC x 1-1/4", Plated	2
10		Hex Bolt, Standard Third-Grade 5 1/2"-13 UNC x 2, Plated	8
11		Lock Washer, Regular 5/16", Plated	14
12		Lock Washer, Regular 1/2", Plated	8
13		Flat Washer, Sae 5/16", Plated	28
14		Key-Square, 1/2" x 2-1/2"	1
15		Fit-Cap, Pipe 1-1/2", (SCH 40)	1
16	PT0145	8" Bearing-w/ Housing, 1-1/2" ECC LK, Wide, RL, CYL, 4H	2
16	PT0144	10" Bearing-w/ Housing, 2" ECC LK, Wide, RL, CYL, 4H	2
17	PT1093	8" Sprocket-(Hub Type) 16 Tooth, 2" I.D., 81XH	1
17	PT1086	10" Sprocket-(Hub Type) 16 Tooth, 3" I.D., 81XH	1

12" (7 Gauge) Standard Corner

ITM	PART #	QTY	DESCRIPTION
1	8120030	1	STANDARD CORNER WELDMENT
2	8120022	1	CORNER COVER WELDMENT
3	8120004	2	SG./RND. WELDMENT 7GA.
4	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
5	8120032	1	TA4 DRIVE SHAFT
6	8120010	2	UHMW CORNER DUST SEAL
7	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
8	S-8562	8	WASHER, 1/2" FLAT
9	S-8260	8	NUT NYLOCK 1/2-13 ZN GR5
10	S-866	16	WASHER FLAT 3/4 USS ZN FLAT GR2
11	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
12	S-233	8	3/4 LOCK WASHER
13	S-234	8	NUT 3/4-10
14	S-845	52	WASHER FLAT 5/16 USS SAE YDP GR2
15	S-1147	26	WASHER LOCK SPLIT 5/16" ZN
16	S-1196	26	BOLT HHCS 5/16-18 x 1" ZN GR 5
17	S-386	26	NUT 5/16-18
18	S-248	48	WASHER FLAT 3/8 X 7/16 ID X 1 OD YDP
19	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
20	S-1054	24	LOCK WASHER, 3/8
21	S-456	24	NUT 3/8-16
22	8120099	1	ST.CNR. INSP. DOOR
23	8120170	2	COVER PLATE FOR UHMW

Not shown in drawing:
 PT1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"
 S-2052 (4.083') Foam strip 1/8" thick x 1/2" wide



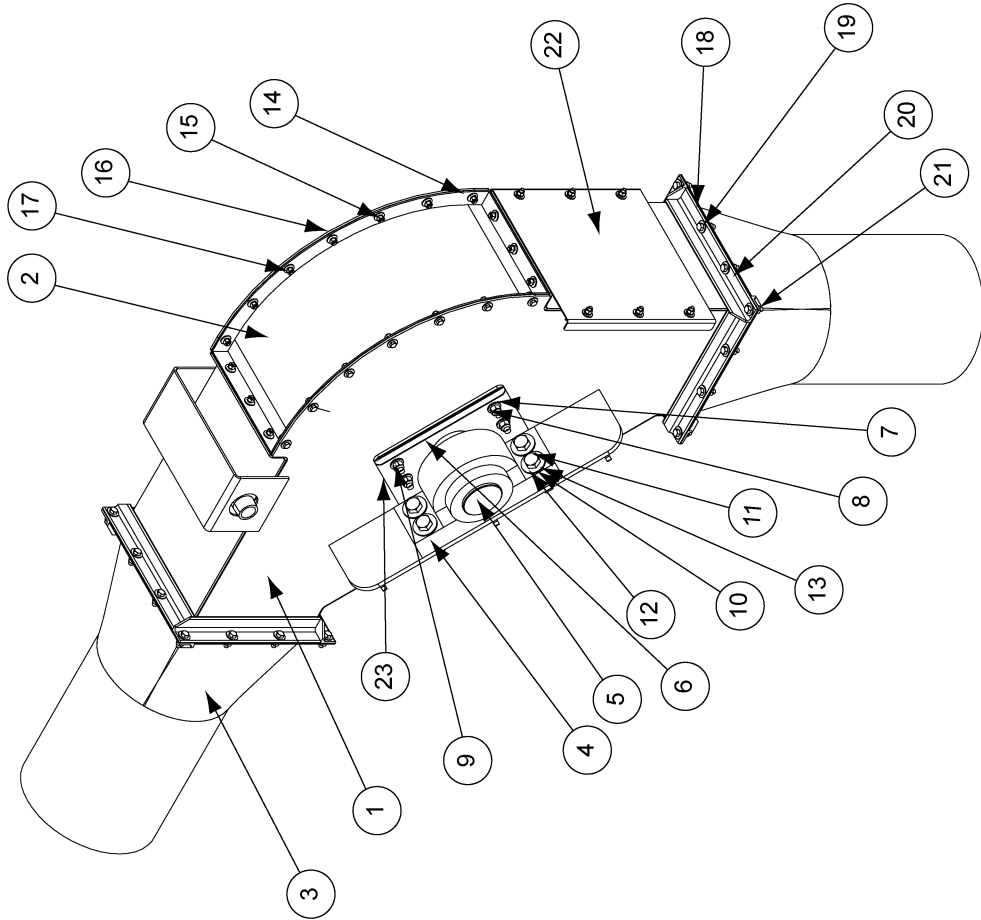
Sheet 1 of 2		IMW	N/A	Drawing No.	
Weight	N/A	Ship	N/A	8120031	
Volume	N/A	Scale	NONE	Work to Dimensions Do Not Scale	
TOLERANCES (Unless Noted)					
Fractions +/- 1/32"					
Decimals +/- .031					
Angles +/- 1.00					
STANDARD CORNER ASSEMBLY					
MATERIAL HANDLING		12" CHAIN LOOP			
No.	ECN	Revision	Description	Date	By

12" (10 Gauge) Standard Corner

ITM	PART #	QTY	DESCRIPTION
1	8120030	1	STANDARD CORNER WELDMENT
2	8120022	1	CORNER COVER WELDMENT
3	8120173	2	SO./RND. WELDMENT 10G _a .
4	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
5	8120032	1	TA4 DRIVE SHAFT
6	8120010	2	UHMW CORNER DUST SEAL
7	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
8	S-8562	8	WASHER, 1/2" FLAT
9	S-8260	8	NUT NYLOCK 1/2-13 ZN GR5
10	S-866	16	WASHER FLAT 3/4 USS ZN FLAT GR2
11	S-7884	8	BOLT HHCS 3/4-10 x 4 ZN GR8
12	S-233	8	3/4 LOCK WASHER
13	S-234	8	NUT 3/4-10
14	S-845	52	WASHER FLAT 5/16 USS SAE YDP GR2
15	S-1147	26	WASHER LOCK SPLIT 5/16" ZN
16	S-1196	26	BOLT HHCS 5/16-18 x 1" ZN GR 5
17	S-396	26	NUT 5/16-18
18	S-248	48	WASHER FLAT 3/8 X 7/16 ID X 10D YDP
19	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
20	S-1054	24	LOCK WASHER, 3/8
21	S-456	24	NUT 3/8-16
22	8120099	1	ST.CNR. INSP. DOOR
23	8120170	2	COVER PLATE FOR UHMW

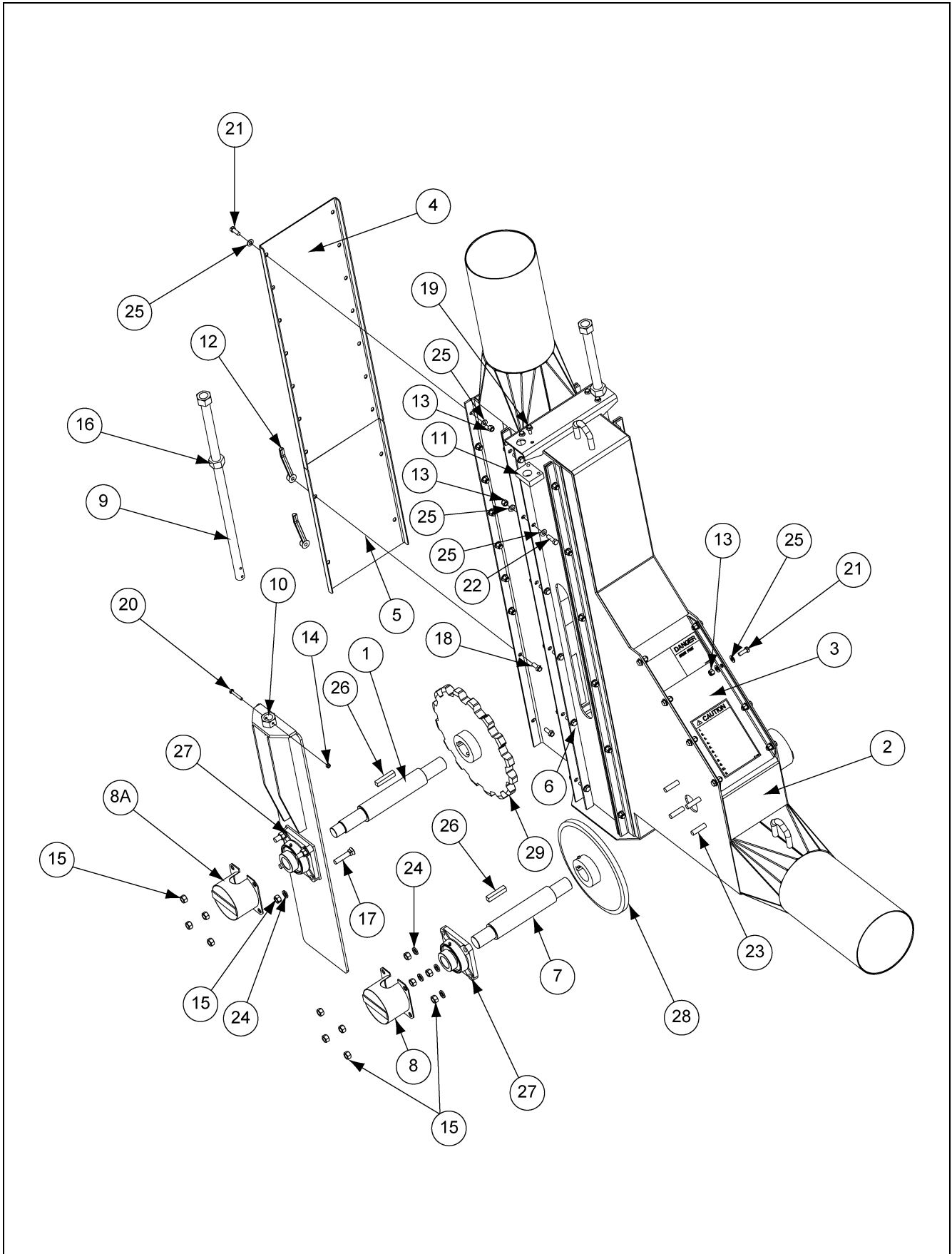
Not shown in drawing:
 PT-1529 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"
 S-2052 (4.083') Foam strip 1/8" thick x 1/2" wide

10 Gauge Square /Round



No. ECN		Revision Description		Date	By
MATERIAL HANDLING					
12" CHAIN LOOP					
STANDARD CORNER ASSEMBLY					
TOLERANCES (Unless Noted)		Sheet 1 of 1		Drawing No.	
Fractions +/- 1/32"	MM	N/A	N/A	8120176	
Decimals +/- .031	IN	N/A	N/A		
Angles +/- 1.00	DEG	N/A	N/A		
Checked By		Checked By		Work to Dimensions	
Date		Date		Do Not Scale	
By		By		Scale	
Drawn		Drawn		Scale	
By		By		Scale	
Date		Date		Scale	

8" and 10" Inspection Corner



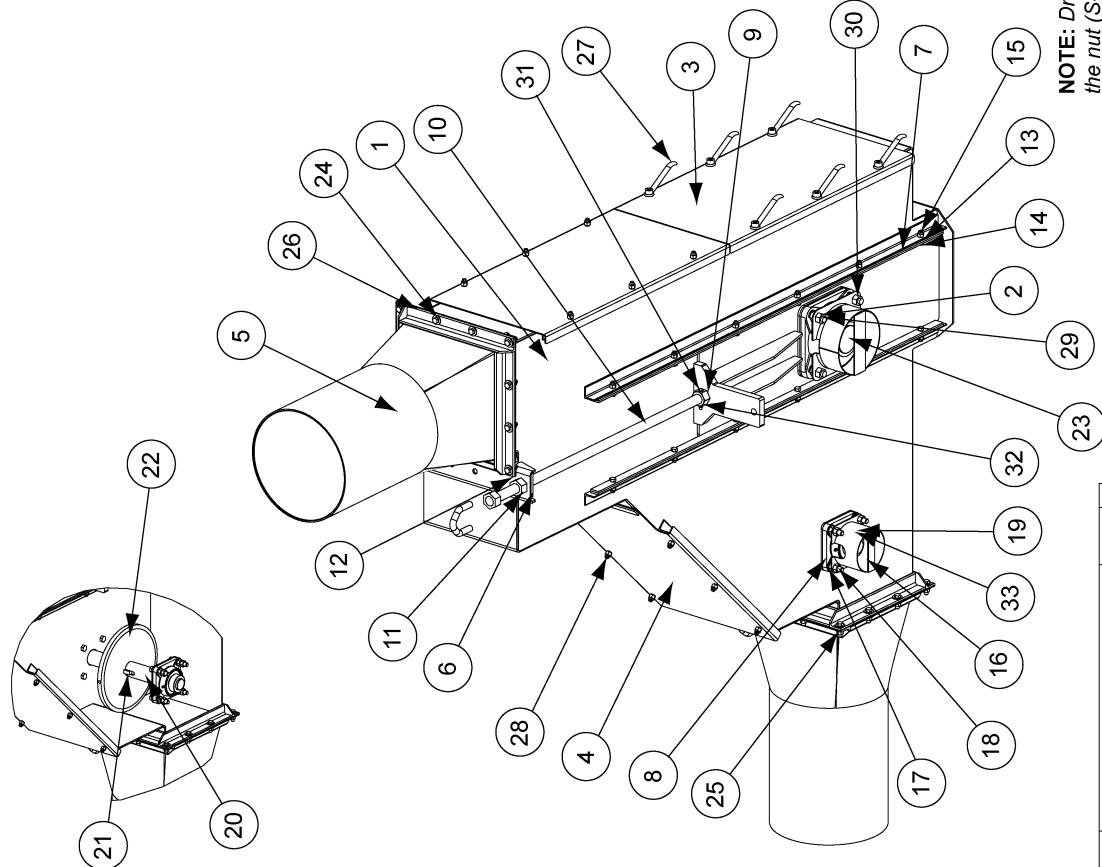
8" and 10" Inspection Corner

Ref #	Part #	Description	Qty
1	8081029	Shaft-Corner, 8" Standard/Inspection Corner	1
1	8101029	Shaft-Corner, 10" Standard/Inspection Corner	1
2	8081049	Corner-Inspection, 8" Weldment Hot Dipped 8081050	1
2	8101049	Corner-Inspection, 10" Weldment Hot Dipped 8081050	1
3	8081063	Door-Inspection, 45° 8" Inspection Corner	1
3	8101063	Door-Inspection, 45° 10" Inspection Corner	1
4	8081065	Door-Inspection, Long 8" Inspection Corner	1
4	8101065	Door-Inspection, Long 10" Inspection Corner	1
5	8081067	Door-Inspection, Short 8" Inspection Corner	1
5	8101067	Door-Inspection, Short 10" Inspection Corner	1
6	8081078	Slide Plate-56" Long (8") Hot Dipped 8081079	8
6	8101078	Slide Plate-57" Long (10") Hot Dipped 8101079	8
7	8081080	Shaft-Inspection Corner, 8" Inspection Corner	1
7	8101080	Shaft-Inspection Corner, 10" Inspection Corner	1
8	8081196 (for PT0145)	Cover-Bearing Shield Zinc Plated 8081197	4
8a	8101196 (for PT0144)	Cover-Bearing Shield Zinc Plated 8101197	2
9	8101075	Take Up Screw-Weldment 6", 8" and 10" Inspection Corner	2
10	8101077	Take Up Screw-Nut 6", 8", 10" Inspection Corner	4
11	8101202	Take Up Screw-Block Zinc Plated 8101201	2
12	1FH0582	Nut Handle, Iron 3/8"-16, Zinc Plated	4
13		Lock Nut, 3/8"-16 UNC Nylon Lock, Plated, Grade 2	46
14		Lock Nut, 1/4"-20 UNC Two-way, Plated, Grade 2	4
15		Hex Nut, 1/2"-13 UNC Finished, Plated, Grade 2	32
16		Hex Nut, 1-8 UNC Finished, Plated, Grade 2	2
17	8" System	Bolt-Plow, #3 Head, RD, CSK 1/2"-13 UNC x 2-1/2", SQ Neck	8
17	10" System	Bolt-Plow, #3 Head, RD, CSK 5/8"-11 UNC x 3", SQ Neck	8
18		Screw-Flange Whiz Lock 3/8"-16 UNC x 1, Plated	4
19		Screw-Flange Whiz Lock 5/16"-18 UNC x 3/4", Plated	4
20		Hex Bolt, Standard Third-Grade 5 1/4"-20 UNC x 1-3/4", Plated	4
21		Hex Bolt, Standard Third-Grade 5 3/8"-16 UNC x 1, Plated	22
22		Hex Bolt, Standard Third-Grade 5 3/8"-16 UNC x 1-1/4, Plated	24
23		Hex Bolt, Standard Third-Grade 5 1/2"-13 UNC x 2, Plated	8
24		Lock Washer, Regular 1/2", Plated	16
25		Flat Washer, Standard 3/8", Plated	92
26		Key-Square, 1/2" x 2-1/2"	2
27	PT0145	Bearing-w/ Housing, 1-1/2" ECC LK, Wide, RI, CYL, 4H	4
27	PT0144	Bearing-w/ Housing, 1-1/2" ECC LK, Wide, RI, CYL, 4H	2
28	PT1087	Idler Wheel - 8" and 10" Inspection Corner	1
29	PT1093	Sprocket-(Hub Type) 16 Tooth, 2" I.D., 81XH	1
29	PT1086	Sprocket-(Hub Type) 16 Tooth, 3" I.D., 81XH	1

12" (7 Gauge) Inspection Corner

ITEM	PART #	QTY	DESCRIPTION
1	8120034	1	INSPECTION CORNER WELDMENT
2	8120062	2	GTU SLIDE ASSEMBLY
3	8120050	2	SPROCKET COVER-INSP.CNR.
4	8120048	1	IDLER COVER
5	8120004	2	SQ./RND. WELDMENT 7GA.
6	8101202	2	TAKE UP SCREW- BLOCK
7	8081078	8	SLIDE PLATE- 56" LONG
8	PT10145	2	BEARING- WHOUSING, 1-1/2"
9	8101077	4	TAKE UP SCREW- NUT
10	8120052	2	STANDARD TAKE UP SCREW- WELDMENT
11	S-240	2	NUT HEX 1-8 ZN GR5
12	S-6606	4	BOLT FLNGS 5/16-18X3/4 ZN GR5
13	S-7409	88	WASHER FLAT 3/8 SAE ZN
14	S-2071	48	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
15	S-7383	40	NUT NYLOCK 3/8-16 ZN GR5
16	S-6500	8	BOLT HHCS 1/2-13 x 2-1/2" ZN GR5
17	S-236	8	1/2 LOCK WASHER
18	S-3729	16	NUT HEX 1/2-13 YDP GR5
19	8081196	2	COVER-BEARING SHIELD
20	8120054	1	IDLER SHAFT-INSPECT.CNR.
21	S-9167	1	KEY- SQUARE, 1/2"x1/2"x2-1/2"
22	8120242	1	IDLER WHEEL
23	8120055	1	SHAFT-INSP.CNR.
24	S-248	48	WASHER FLAT 3/8 X 7/16ID X 10D YDP
25	S-1054	24	LOCK WASHER, 3/8
26	S-456	24	NUT 3/8-16
27	BC-00003	6	HANDLE, EASY GRIP 3/8-16
28	S-7469	22	BOLT HHCS 3/8-16 x 1" ZN GR 5
29	8120056	2	BEARING COVER ASSY.
30	S-4110	8	NUT HEX 5/8-11 ZN GR5
31	S-9377	4	BOLT 1/4-20x2 ZN GR8
32	S-7025	4	NUT HEX 1/4-20 NYLON
33	8101305	2	UHMW BEARING SEAL

Not shown in drawing:
 MHC01742 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"
 S-2052 (13.458) Foam strip 1/8" thick x 1/2" wide



NOTE: Drill 0.250 hole through the nut (S-240) and threaded rod and fasten with bolt (S-8971) and nut (S-4310). Typical 4 places.

No.	ECN	Revision Description	Date	By
6	CH-51988	8120242 IDLER WAS PT1067	10-26-08	BJT
5	CH-150832	S-3729 WAS S-7510	09-10-08	GST
4	110334	REMOVED IPH0832 REPLACED W/ BC-00003	3-26-08	BJT
3	106990	ADDED 8101305 AND CHANGED COMPONENTS	1-18-08	BJT
2	108974	MHC01742 SPROCKET WAS PT16239	1-18-08	BJT
1	101451	REPLACED COMPONENTS	10-10-05	BJT

THE GSI GROUP Assumption, IL Engineering		TOLERANCES (Unless Noted) Fractions ±.002" Decimals ±.01" Angles ±1.00°		Sheet 1 of 1 N/A N/A 15-SEP-04 BJT		Drawing No. 8120051	
INSPECTION CORNER ASSEMBLY 12" CHAIN LOOP				MHC01742 SPROCKET WAS PT16239 REPLACED COMPONENTS		NONE MHC01742 SPROCKET WAS PT16239 REPLACED COMPONENTS	

12" (10 Gauge) Inspection Corner

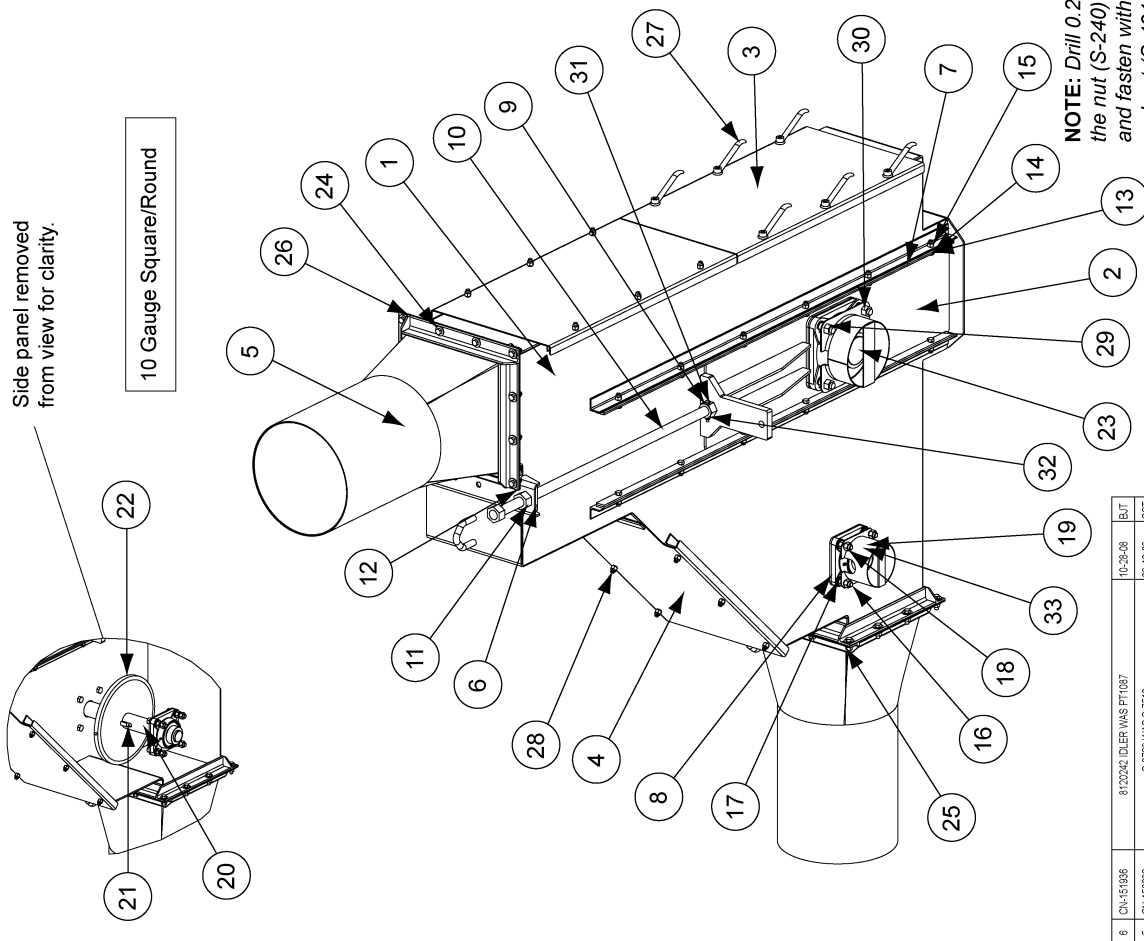
ITM	PART #	QTY	DESCRIPTION
1	8120034	1	INSPECTION CORNER WELDMENT
2	8120062	2	GTU SLIDE ASSEMBLY
3	8120050	2	SPROCKET COVER-INSP.CNR.
4	8120048	1	IDLER COVER
5	8120173	2	SQ.RND. WELDMENT 10Ga.
6	8101202	2	TAKE UP SCREW- BLOCK
7	8081078	8	SLIDE PLATE- 56" LONG
8	P70145	2	BEARING- W/HOUSING, 1-1/2"
9	8101077	4	TAKE UP SCREW- NUT
10	8120052	2	STANDARD TAKE UP SCREW- WELDMENT
11	S-240	2	NUT HEX 1-8 ZN GR5
12	S-6006	4	BOLT FLNGS 5/16-18X3/4 ZN GR5
13	S-7409	88	WASHER FLAT 3/8 SAE ZN
14	S-2071	48	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
15	S-7383	40	NUT NYLOCK 3/8-16 ZN GR5
16	S-6500	8	BOLT HHCS 1/2-13 x 2-1/2" ZN GR5
17	S-238	8	1/2 LOCK WASHER
18	S-3729	16	NUT HEX 1/2-13 YDP GR5
19	8081196	2	COVER-BEARING SHIELD
20	8120054	1	IDLER SHAFT-INSPCT.CNR.
21	S-9167	1	KEY- SQUARE, 1/2X1/2X2-1/2"
22	8120242	1	IDLER WHEEL
23	8120055	1	SHAFT-INSP.CNR.
24	S-248	48	WASHER FLAT 3/8 X 7/16 D X 10D YDP
25	S-1054	24	LOCK WASHER, 3/8
26	S-466	24	NUT 3/8-16
27	BC-00003	6	HANDLE, EASY GRIP 3/8-16
28	S-7469	22	BOLT HHCS 3/8-16 x 1" ZN GR 5
29	8120056	2	BEARING COVER ASSY.
30	S-4110	8	NUT HEX 5/8-11 ZN GR5
31	S-9377	4	BOLT 1/4-20X2 ZN GR8
32	S-7025	4	NUT HEX 1/4-20 NYLON
33	8101305	2	UHMW BEARING SEAL

Not shown in drawing:
 MCH01742 (1) sprocket C hub, 22 tooth, 2.609" pitch
 CE-00972 (1) key, 7/8" x 7/8" x 6.00"
 S-2052 (13.458") Foam strip 1/8" thick x 1/2" wide
 Decals:
 (1) DC-1741. (2) DC-1379. (2) 8107001

Sheet 1 of 2	REV	N/A	Drawing No.
Issue	Rev	N/A	8120177
Date	Date	12-Jan-05	
Drawn By	Checkd By	BJT	
Work to Dimensions	Do Not Scale	NONE	

Side panel removed from view for clarity.

10 Gauge Square/Round



NOTE: Drill 0.250 hole through the nut (S-240) and threaded rod and fasten with bolt (S-8971) and nut (S-4310). Typical 4 places.

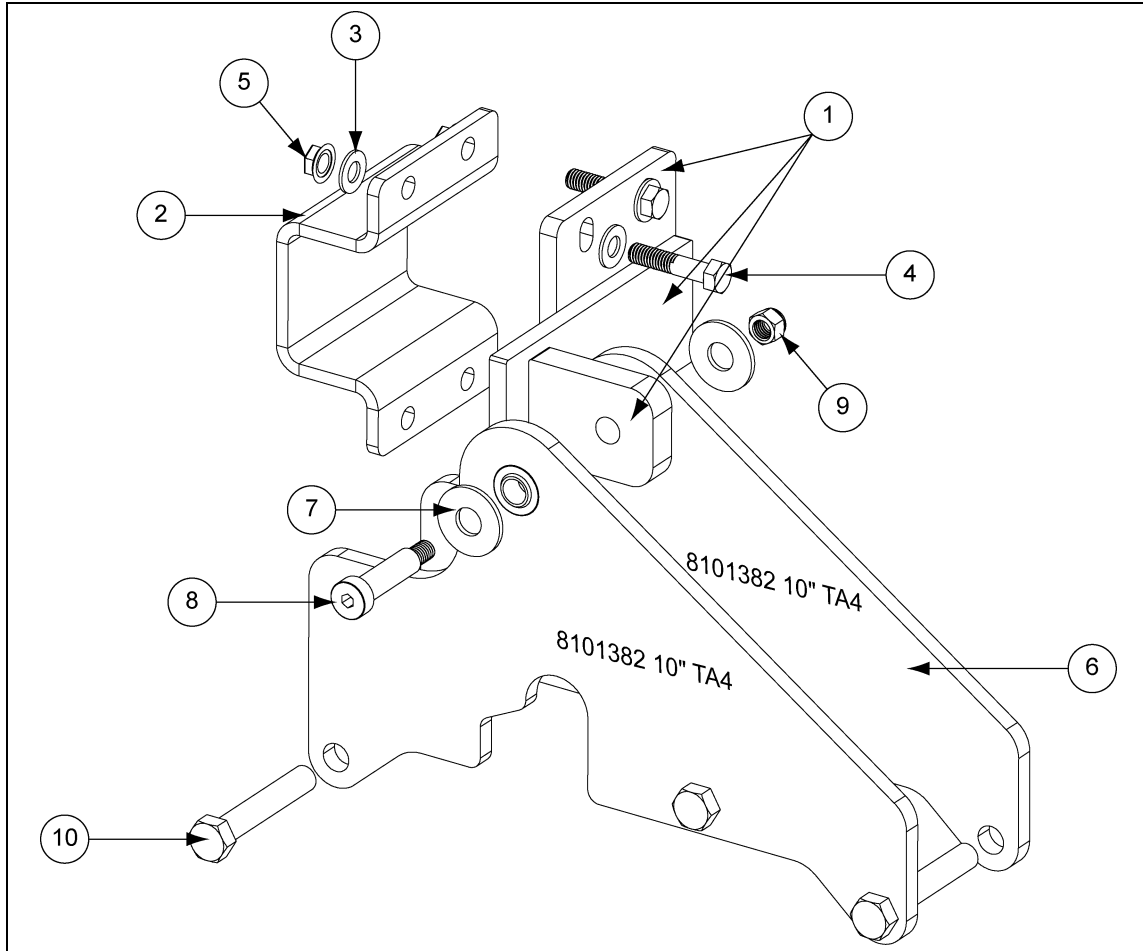
TOLERANCES (Unless Noted)
Features +.132
Decimals -.001
Angles +.100

INSPECTION CORNER ASSEMBLY
12" CHAIN LOOP

THE GSE GROUP ASSUMPTION, IL
MATERIAL HANDLING

No.	ECN	Revision Description	Date	By
6	04-151936	8120048 IDLER WAS PT1087	10-26-08	BJT
5	04-150952	S-3729 WAS S-7510	09-10-08	CSF
4	110334	REMOVED 1F0582 REPLACED W/ BC-0003	3-25-08	BJT
3	103660	ADDED 8101305 AND CHANGED COMPONENTS	1-18-08	BJT
2	103674	WHC0742 SPROCKET WAS PT1539	1-18-08	BJT
1	101451	REPLACED COMPONENTS	10-10-05	BJT

Chain Loop Torque Plate Assembly



Chain Loop Torque Plate Assembly Parts List

Ref #	Part #	Description	Qty
1	8101380	Torque Plate Anchor Bracket	1
2	8101346	8" and 10" C-Clamp Bracket	1
2		12" C-Clamp Bracket	1
3	S-7409	Flat Washer 3/8" SAE ZN	8
4	S-8322	Bolt, HHCS 3/8"-16 x 1-3/4" ZN Grade 5	4
5	S-968	Flange Nut 3/8"-16 ZN Grade 5	4
6	8101385	TA3 - 8" and 10" Torque Plate w/ Bearing	2
6	8101383	TA4 - 8" and 10" Torque Plate w/ Bearing	2
6	8101381	TA5 - 10" Torque Plate w/ Bearing	2
6		TA5 - 12" Torque Plate w/ Bearing	2
6		TA6 - 12" Torque Plate w/ Bearing	2
7	S-2121	Flat Washer 1/2" x 1-3/8" x 0.109" Type A ZN	2
8	S-9466	Shoulder Bolt 3/18"-16 x 1/2" x 1-3/4" SKT HD	1
9	S-7383	Nylock Nut 3/8"-16 ZN	1
10	S-7687	TA3 - Bolt, HHCS 3/8"-16 x 2" ZN	3
10	S-8252	TA4 and TA5 - Bolt, HHCS 1/2"-13 x 3" ZN	3

GSI Group, LLC Limited Warranty

The GSI Group, LLC ("GSI") warrants products which it manufactures to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months after sale to the original end-user or if a foreign sale, 14 months from arrival at port of discharge, whichever is earlier. The end-user's sole remedy (and GSI's only obligation) is to repair or replace, at GSI's option and expense, products that in GSI's judgment, contain a material defect in materials or workmanship. Expenses incurred by or on behalf of the end-user without prior written authorization from the GSI Warranty Group shall be the sole responsibility of the end-user.

Warranty Extensions:

The Limited Warranty period is extended for the following products:

	Product	Warranty Period	
AP Fans and Flooring	Performer Series Direct Drive Fan Motor	3 Years	* Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 25% 5 to 7 years - end-user pays 50% 7 to 10 years - end-user pays 75%
	All Fiberglass Housings	Lifetime	
	All Fiberglass Propellers	Lifetime	
Cumberland Feeding/Watering Systems	Feeder System Pan Assemblies	5 Years **	** Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 50%
	Feed Tubes (1-3/4" and 2.00")	10 Years *	
	Centerless Augers	10 Years *	
	Watering Nipples	10 Years *	
Grain Systems	Grain Bin Structural Design	5 Years	
Grain Systems Farm Fans Zimmerman	Portable and Tower Dryers	2 Years	† Motors, burner components and moving parts not included. Portable dryer screens included. Tower dryer screens not included.
	Portable and Tower Dryer Frames and Internal Infrastructure †	5 Years	

GSI further warrants that the portable and tower dryer frame and basket, excluding all auger and auger drive components, shall be free from defects in materials for a period of time beginning on the twelfth (12th) month from the date of purchase and continuing until the sixtieth (60th) month from the date of purchase (extended warranty period). During the extended warranty period, GSI will replace the frame or basket components that prove to be defective under normal conditions of use without charge, excluding the labor, transportation, and/or shipping costs incurred in the performance of this extended warranty.

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, GSI MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) PRODUCT MANUFACTURED OR SOLD BY GSI OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

GSI shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor.

GSI assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained. This Limited Warranty extends solely to products manufactured by GSI.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by GSI.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

G S I G R O U P



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