

Chain Loop System Without Controls

Owner's Manual

PNEG-1128

Date: 06-28-07

GSI GROUP



PNEG-1128

Contents

Chapter 1 Safety	5
Safety Guidelines	5
Grain Bin Safety	8
Chapter 2 Decals	9
Decal Placement	10
Chapter 3 Information	12
Chain Loop System Information	12
Final Inspection Check List	13
Chapter 4 Operation	14
Operating the Chain Loop System	14
Chapter 5 Management and Maintenance	16
Maintenance	16
Chain and Paddles	17
Chapter 6 Installation	18
Tube and Corner Assembly	20
Drive Assembly	21
Drive Box Assembly Instructions	22
Discharge with Gate Assembly	23
Unload Well Installation	24
Chain and Paddles	25
Inspection Corner	27
Ground Control Kit for Discharge Gates	28
Inlet Dump Hopper Assembly	32
Chapter 7 Trouble Shooting	34
Chapter 8 Component Dimensions	35
8", 10" & 12" Component Dimensions	35
8", 10" & 12" Bin Well and Dump Hopper Dimensions	37

Table of Contents

Chapter 9 Parts List	40
8" & 10" Chain and Paddles	40
12" Chain and Paddles	41
8" & 10" Discharge Gate	42
12" - (7 Gauge) Discharge Gate	43
12" - (10 Gauge) Discharge Gate	44
Chain Loop Drive Components	45
8" (15 HP) Drive Components	48
8" (20 HP) Drive Components	49
8" (15-20 HP) Drive Components	50
10" (15 HP) Drive Components	51
10" (20 HP) Drive Components	52
10" (15-20 HP) Drive Components	53
8" (25-30 HP) Drive Components	54
8" (30 HP) Drive Components	55
10" (25-30 HP) Drive Components	56
10" (40 HP) Drive Components	58
8" (15 HP) Drive Components	60
8" (20 HP) Drive Components	61
8"-10" (25-30 HP) Drive Components	62
10" (40 HP) Drive Components	63
Drive Components	64
12" 7 Gauge (30 HP) Drive Components	67
12" 7 Gauge (40-50 HP) Drive Components	68
12" 7 Gauge (60 HP) Drive Components	69
12" 10 Gauge (30 HP) Drive Components	70
12" 10 Gauge (40-50 HP) Drive Components	71
12" 10 Gauge (60 HP) Drive Components	72
8" & 10" Inlet Dump Hoppers	73
12" (7 Gauge) 42-1/2" Inlet Dump Hoppers	74
12" (7 Gauge) 102-1/2" Inlet Dump Hoppers	75
12" (7 Gauge) 122-1/2" Inlet Dump Hoppers	76
12" (10 Gauge) 42-1/2" Inlet Dump Hoppers	77
12" (10 Gauge) 102-1/2" Inlet Dump Hoppers	78
12" (10 Gauge) 122-1/2" Inlet Dump Hoppers	79
8" & 10" Standard Corner	80
12" (7 Gauge) Standard Corner	82
12" (10 Gauge) Standard Corner	83
8" & 10" Inspection Corner	84
12" (7 Gauge) Inspection Corner	86
12" (10 Gauge) Inspection Corner	87
Chapter 10 Warranty	89

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 to.

1. Safety

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 the Manual

Stay Clear of Moving Parts

Entanglement in moving chains & paddles 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.



Stay Clear

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

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 build up of grease, oil and debris.



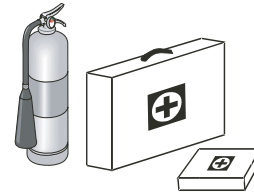
Maintain Equipment and Work Area

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

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.

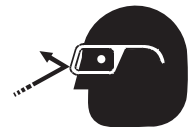
Wear gloves to protect your hands from sharp edges on plastic or steel parts.

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.

Eye Protection



Gloves



Steel Toe Boots



Respirator



Hard Hat



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.



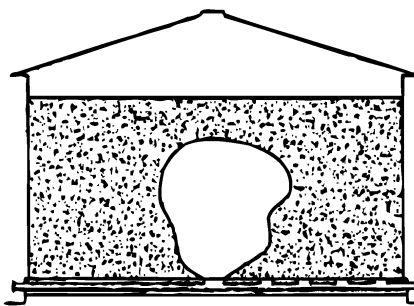
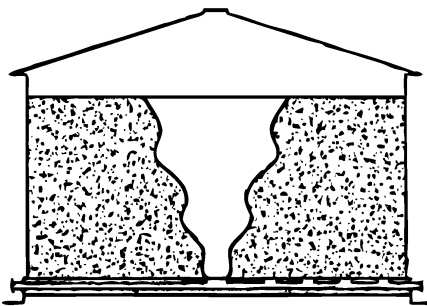
DO NOT ENTER A GRAIN BIN UNLESS POWER IS LOCKED OUT TO ALL BIN EQUIPMENT.



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.



THE DECALS SHOWN ON THIS PAGE MUST BE DISPLAYED AS SHOWN

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

The GSI Group
 1004 E. Illinois St.
 Assumption, IL 62510 USA
 Phone: (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!

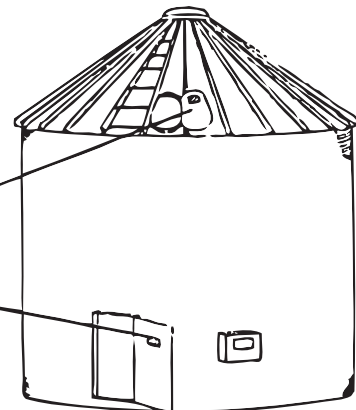
THIS BIN IS EQUIPPED WITH A CHAIN LOOP SYSTEM WHICH CAN KILL OR DISMEMBER.

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



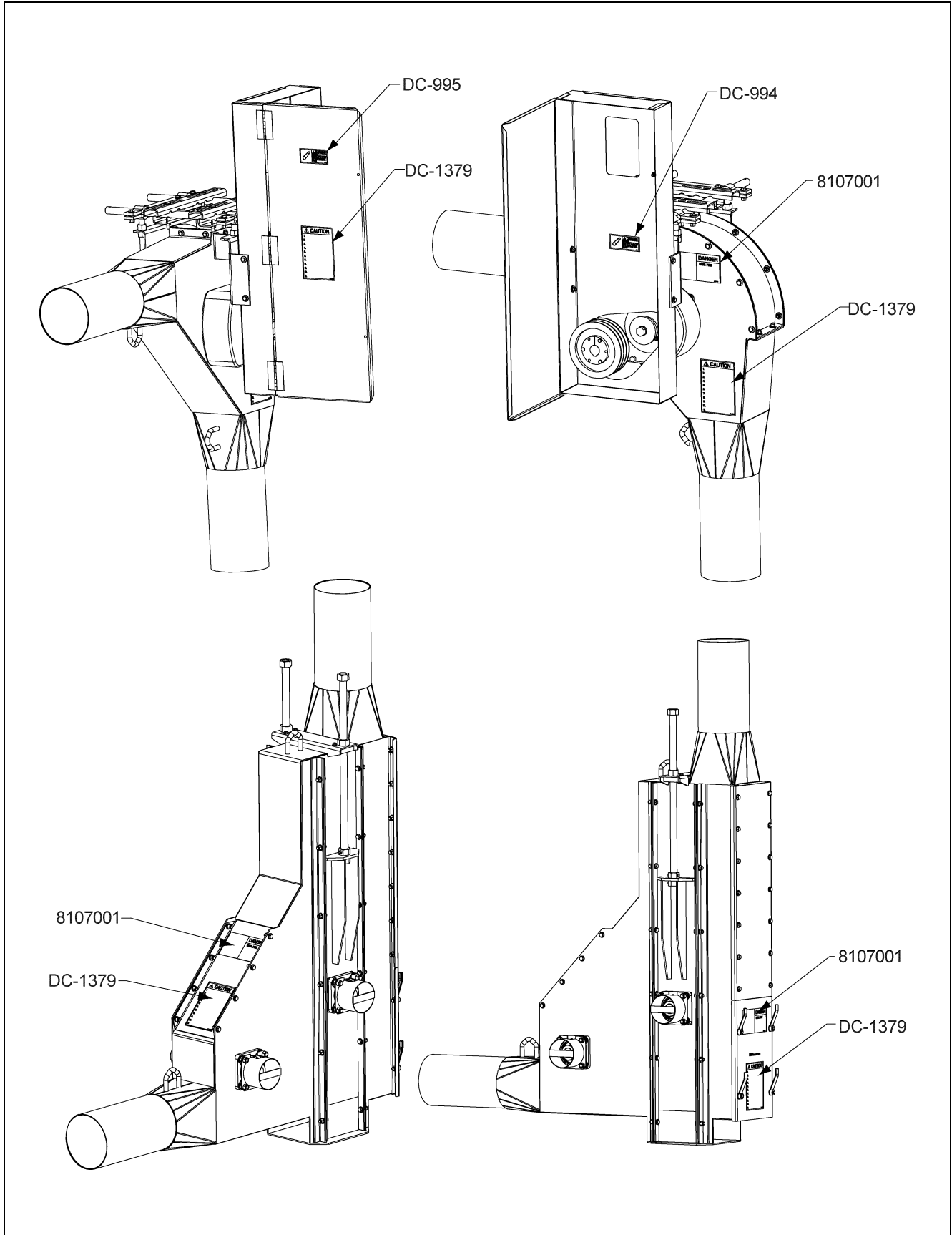
⚠ WARNING

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

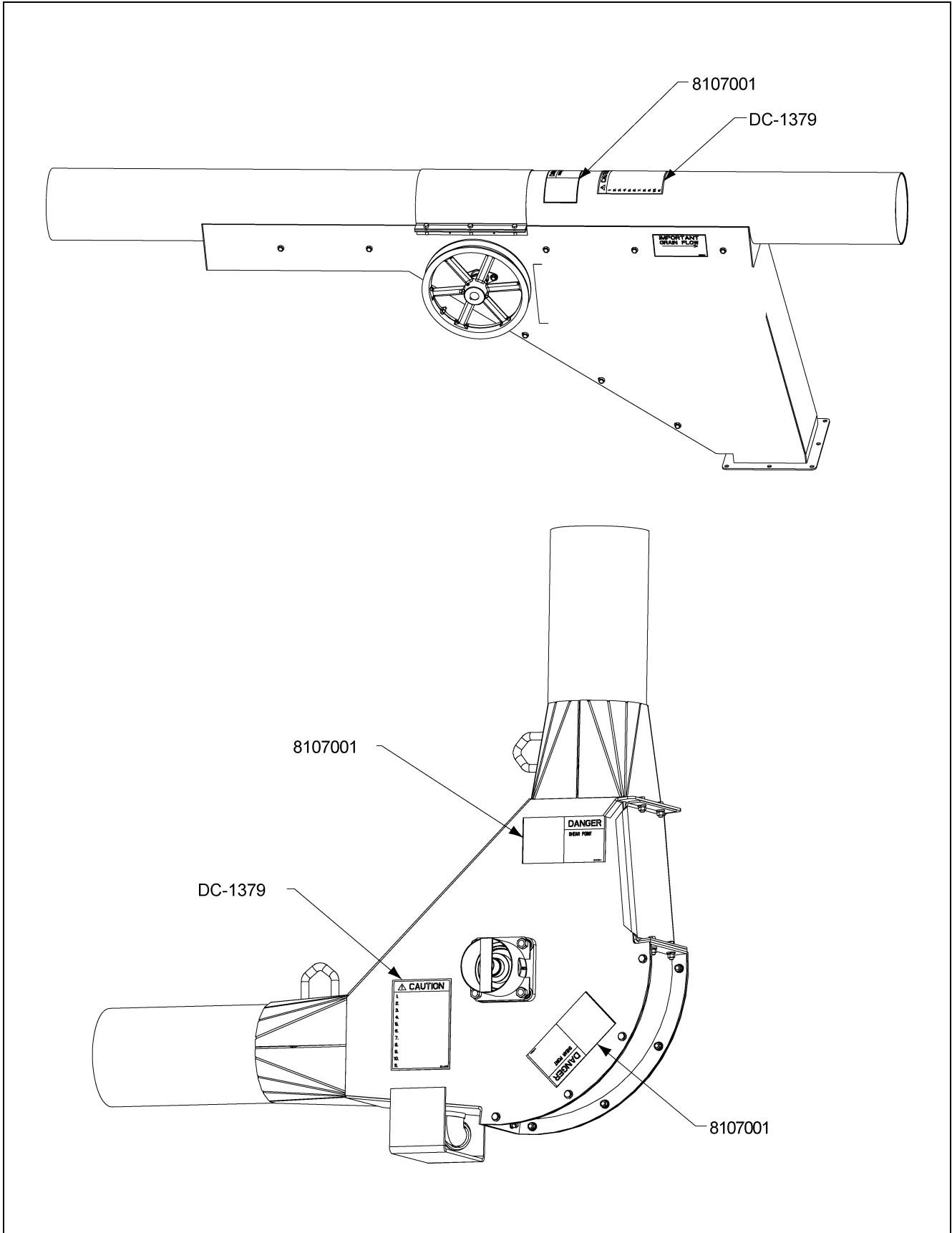
DC-995

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 (.86)	0.5 (1.22)	0.75 (1.84)
Per foot horizontal (KW/M)	0.08 (.19)	0.11 (.27)	0.18 (.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 your possession before removing any shields and inspection covers.*
2. Check all safety decals and replace any that are worn, missing or illegible. *See Pages 9, 10 & 11* for decal part numbers and location.
3. Check for proper chain tension and adjust if necessary. *See Page 25* 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 16* 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 setscrews 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.*

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.

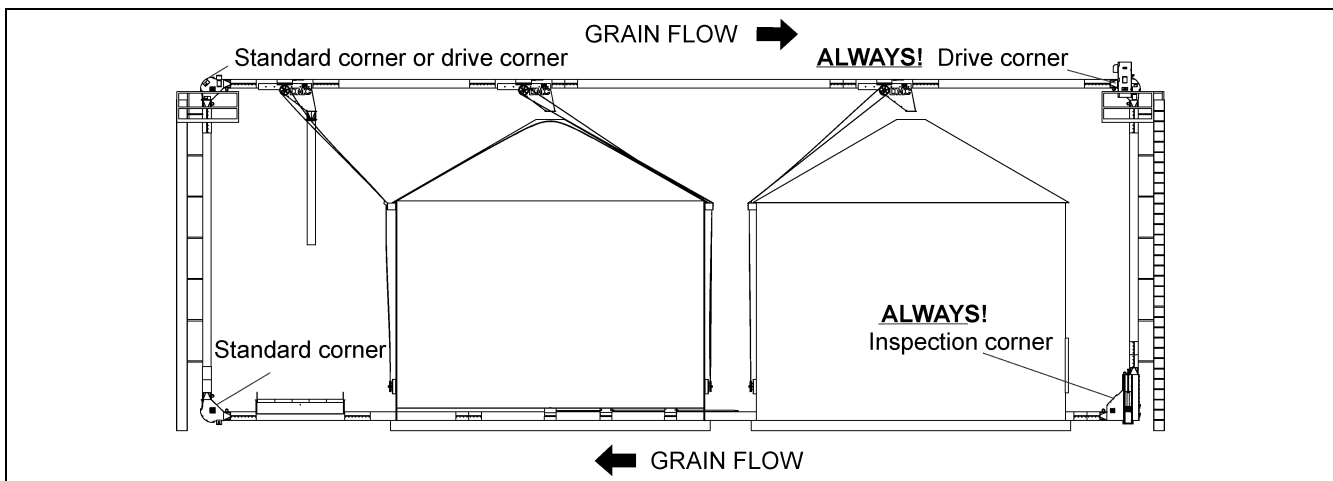


Figure 4A

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.

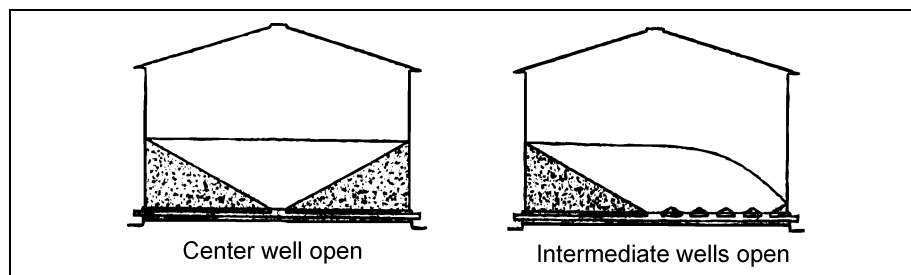


Figure 4B

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 your 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 & oxidation inhibited SAE 90 weight gear oil for ambient temperatures from 15° to 125°F (-10° 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

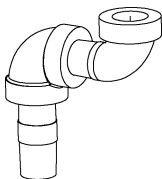
The oil should be changed at the beginning of every harvesting season if the Chain Loop is used for seasonal grain handling. It should be changed after 2500 hours of operation or every 6 months if used under average industrial conditions. The oil should be changed more frequently if used under extreme 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

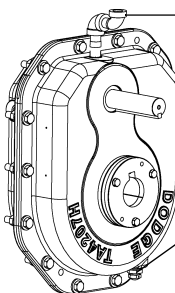
Check to make sure that drive belts are tensioned and aligned properly. Use a straight edge to check the alignment with the motor and reducer sheaves. Adjust all the motor tensioning rods equally to keep the motor shaft parallel to the reducer shaft.

Vent Elbow Installation Instructions



8101333 - 1/2" Vent Elbow Assembly
(Used on TA4, TA5 & 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 25](#))

The Chain Loop chain has connecting links spaced every 10 feet. Check these links to make sure that they are securely fastened and that the cotter pins are bent back correctly. ([See Page 26](#))

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 counter-clockwise 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 Page 27](#))

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.

6. Installation

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 Ga.	59 lbs/ft. (88 KG/M)	1024 lbs (466 KG)	919 lbs (418 KG)	2406 lbs (1094 KG)
12" 7 Ga.	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 or two 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)

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 20)

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.

System Size	Vertical Factor	Horizontal Factor
8"	.35 HP/loaded foot (.86 Kw/M)	.08 HP/loaded foot (.19 Kw/M)
10"	.50 HP/loaded foot (1.22 Kw/M)	.11 HP/loaded foot (.27 Kw/M)
12"	.75 HP/loaded foot (1.84 Kw/M)	.18 HP/loaded foot (.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.

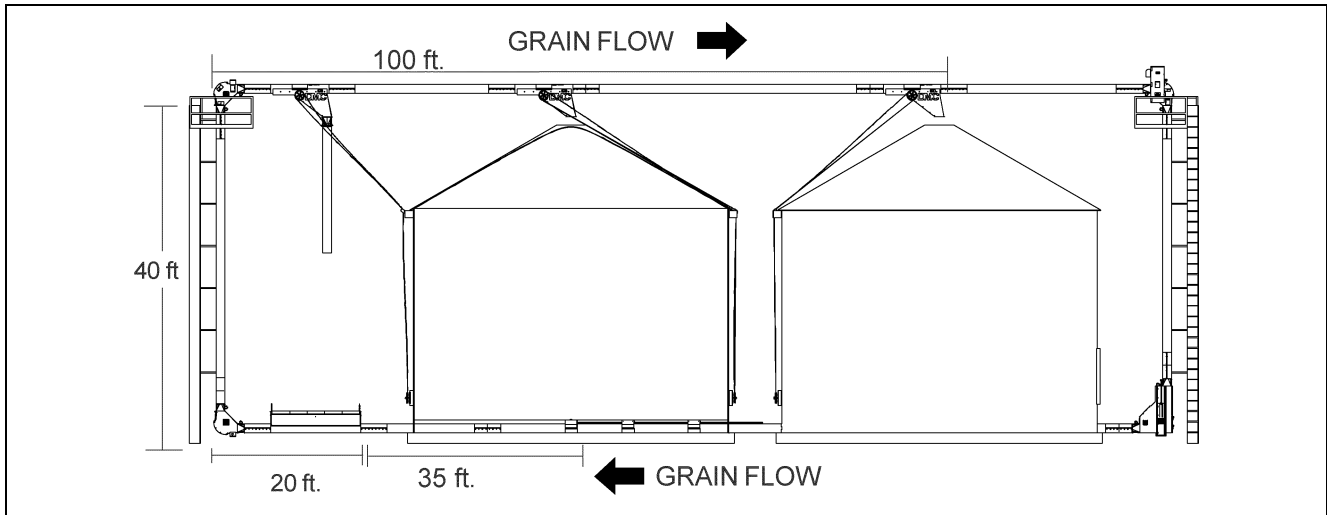


Figure 6A

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:

$$\begin{aligned}
 &.35 \text{ HP/ft.} \times 40 \text{ vertical ft.} &&= 14 \text{ HP plus} \\
 &.08 \text{ HP/ft.} \times (20 + 100 \text{ horizontal ft.}) &&= \underline{9.6 \text{ HP}} \\
 &&&= 23.6 \text{ (Use a 25 HP motor)}
 \end{aligned}$$

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:

$$\begin{aligned}
 &.35 \text{ HP/ft.} \times 40 \text{ vertical ft.} &&= 14 \text{ HP plus} \\
 &.08 \text{ HP/ft.} \times (35 + 20 + 100 \text{ horizontal ft.}) &&= \underline{12.4 \text{ HP}} \\
 &&&= 26.4 \text{ (Use a 30 HP motor)}
 \end{aligned}$$

6. Installation

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.

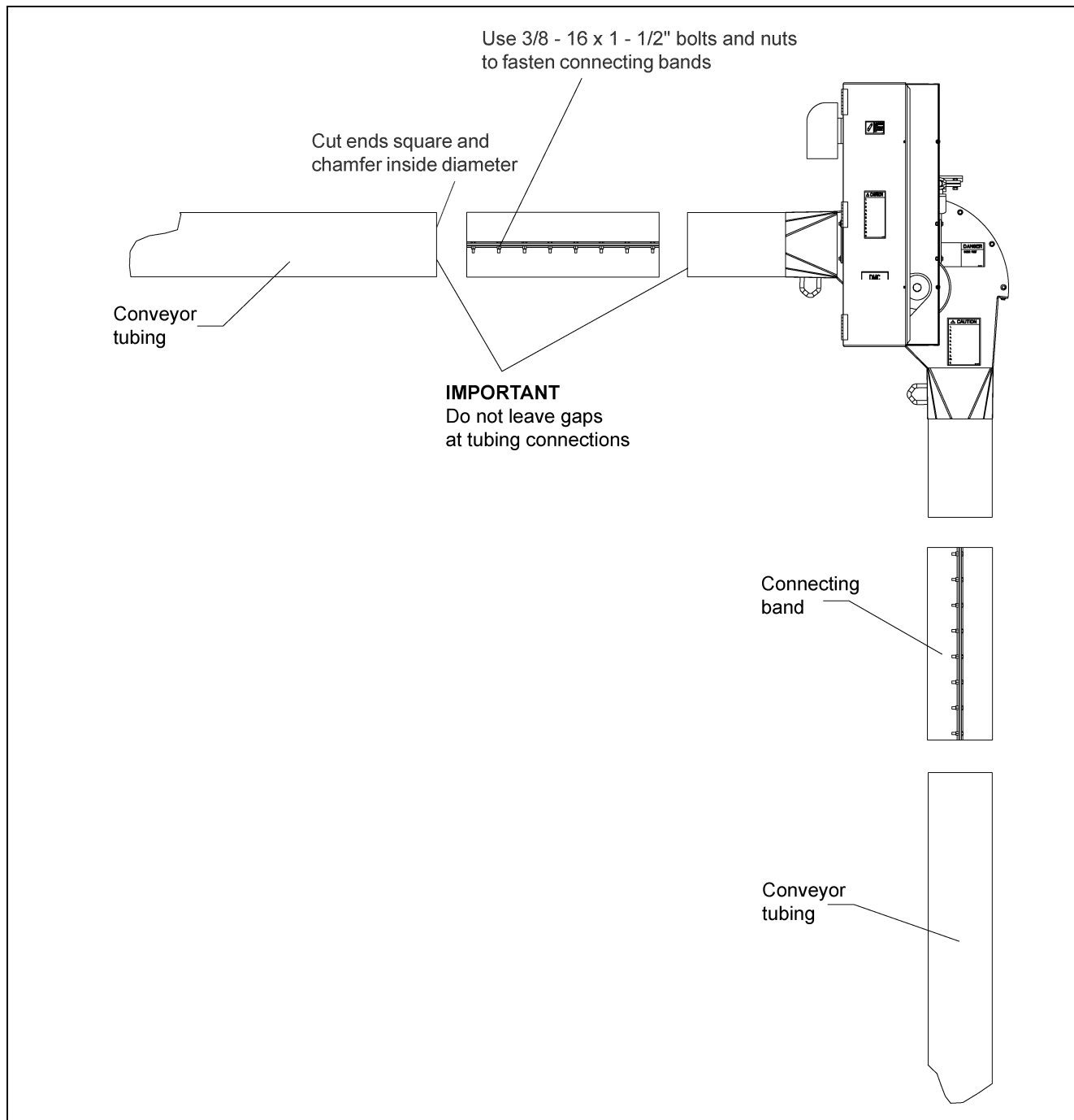


Figure 6B

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 12](#) 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 & O gear oil. Follow the instructions on the reducer name plate, warning tags and in the installation manual attached to the reducer.

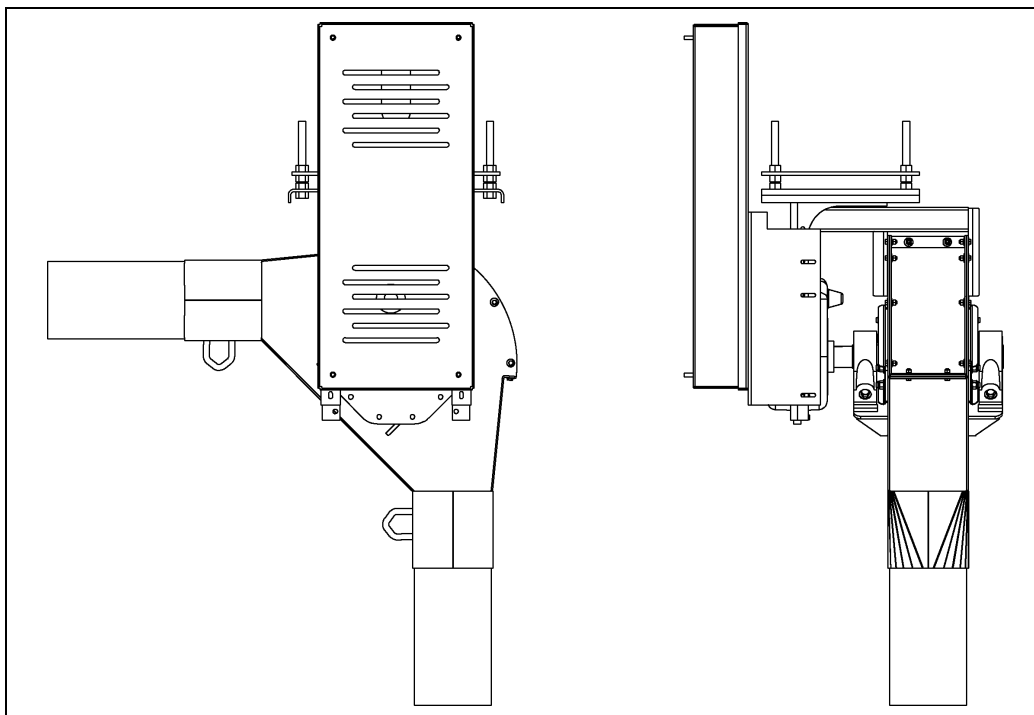


Figure 6C Sample Drive Assembly

Unit Size	8"	10"	12"
Recommended chain speed	325	325	400
Corner shaft RPM	93	93	83

Drive Box Assembly Instructions

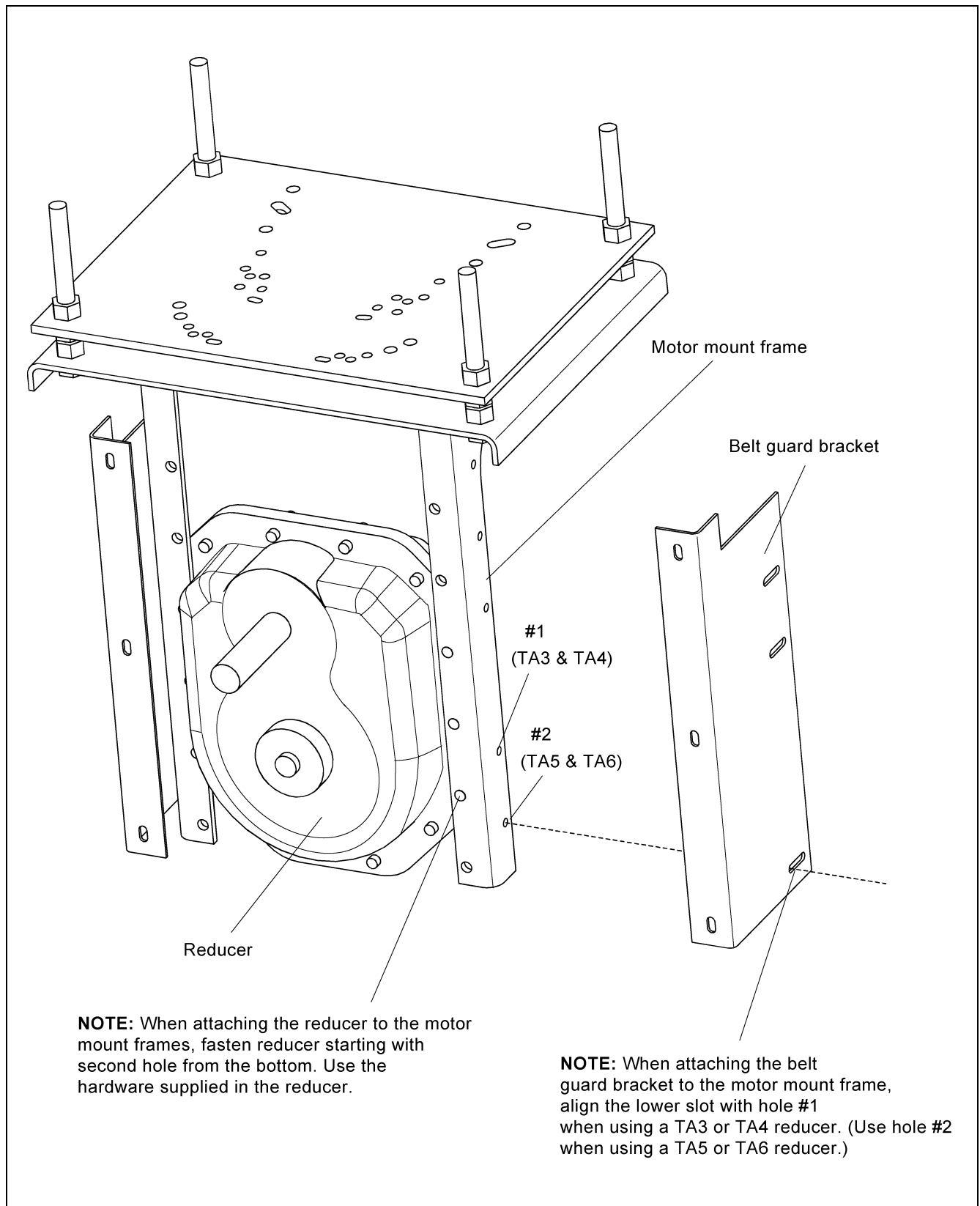


Figure 6D

Discharge with Gate Assembly

The discharge unit includes an 8 feet 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.

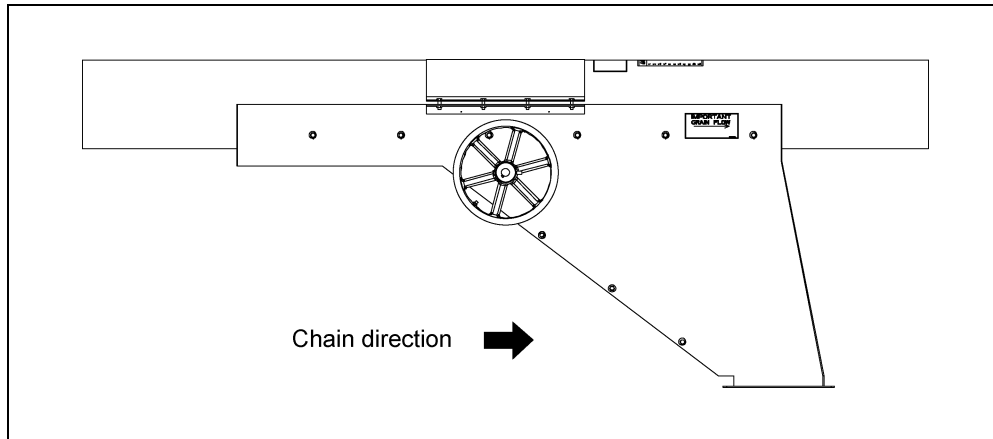


Figure 6E

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 6F on Page 24](#) 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*. 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.

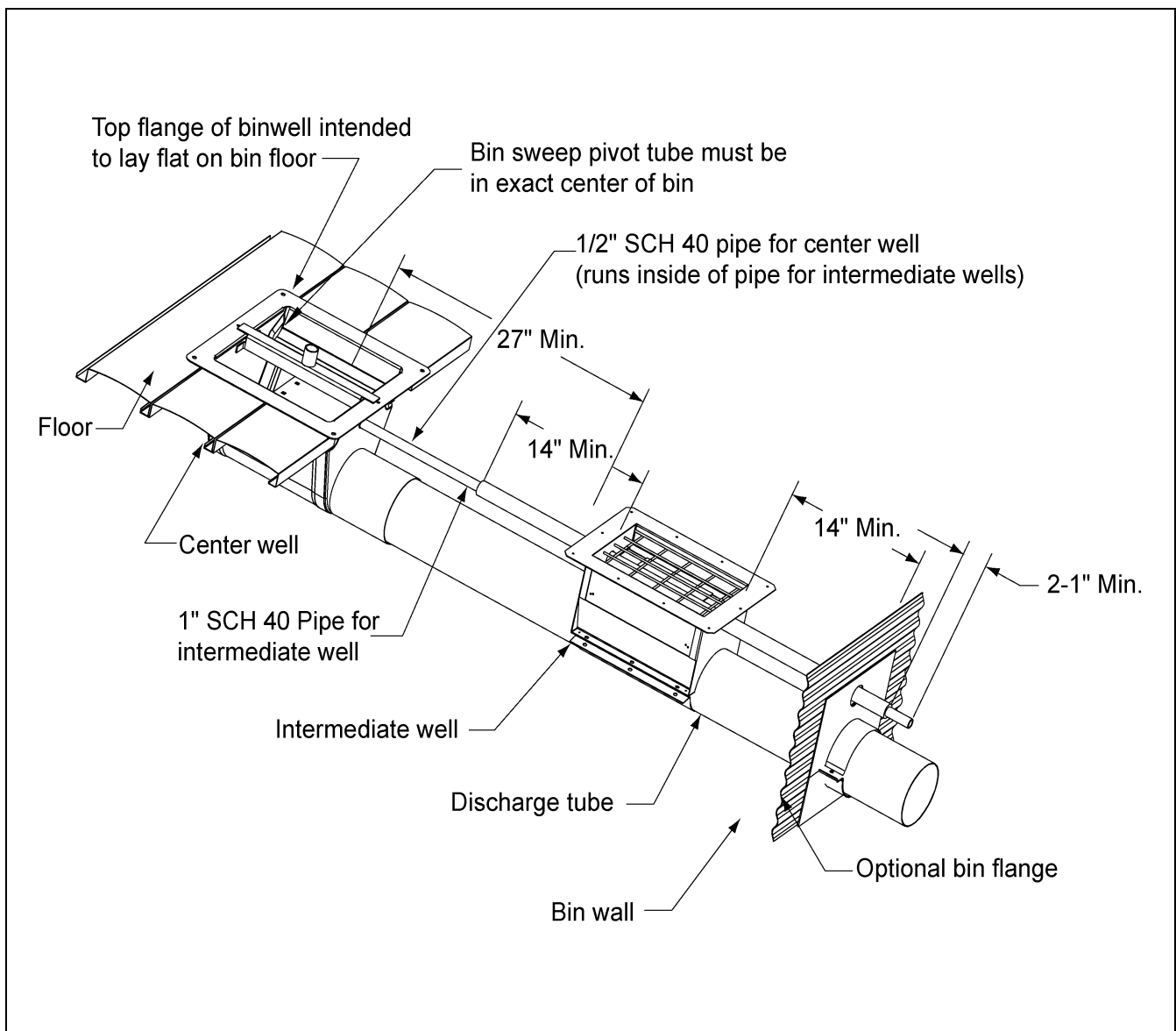


Figure 6F

Chain and Paddles

The paddles are attached to the chain with 5/16 x 1" long Whiz-lock bolts and 5/16 flange lock nuts. Make sure that the slots in the paddles are oriented as [shown on Page 26](#). The head of the bolt should be inside the "V" shaped attachment bracket and the 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 foot lengths and needs to be spliced as [shown on Page 26](#). 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 Page 27](#))

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.

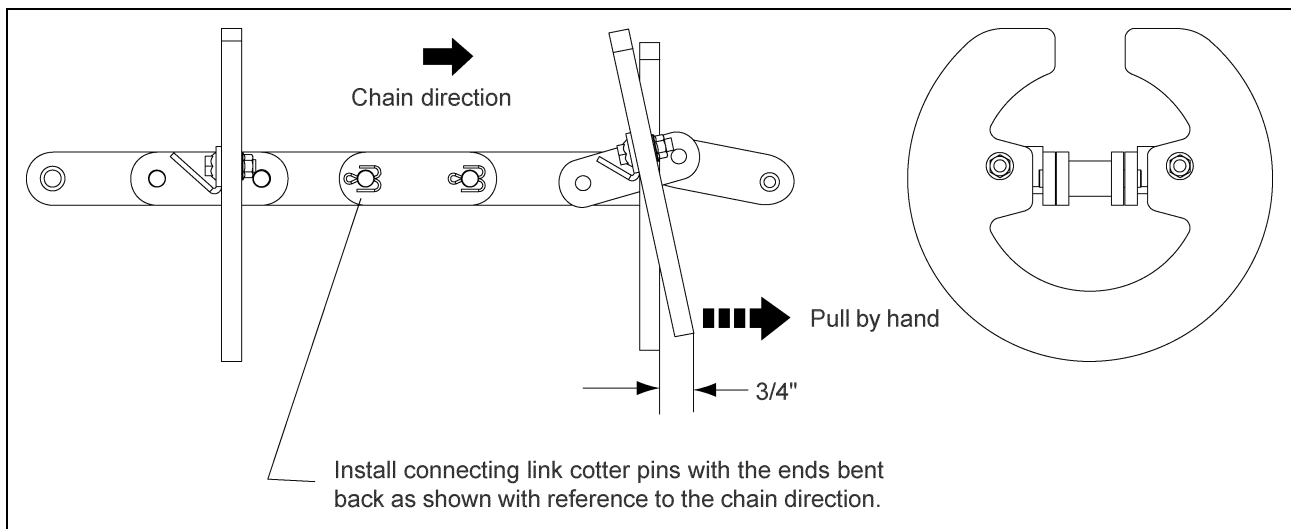


Figure 6G

Chain and Paddles (Continued)

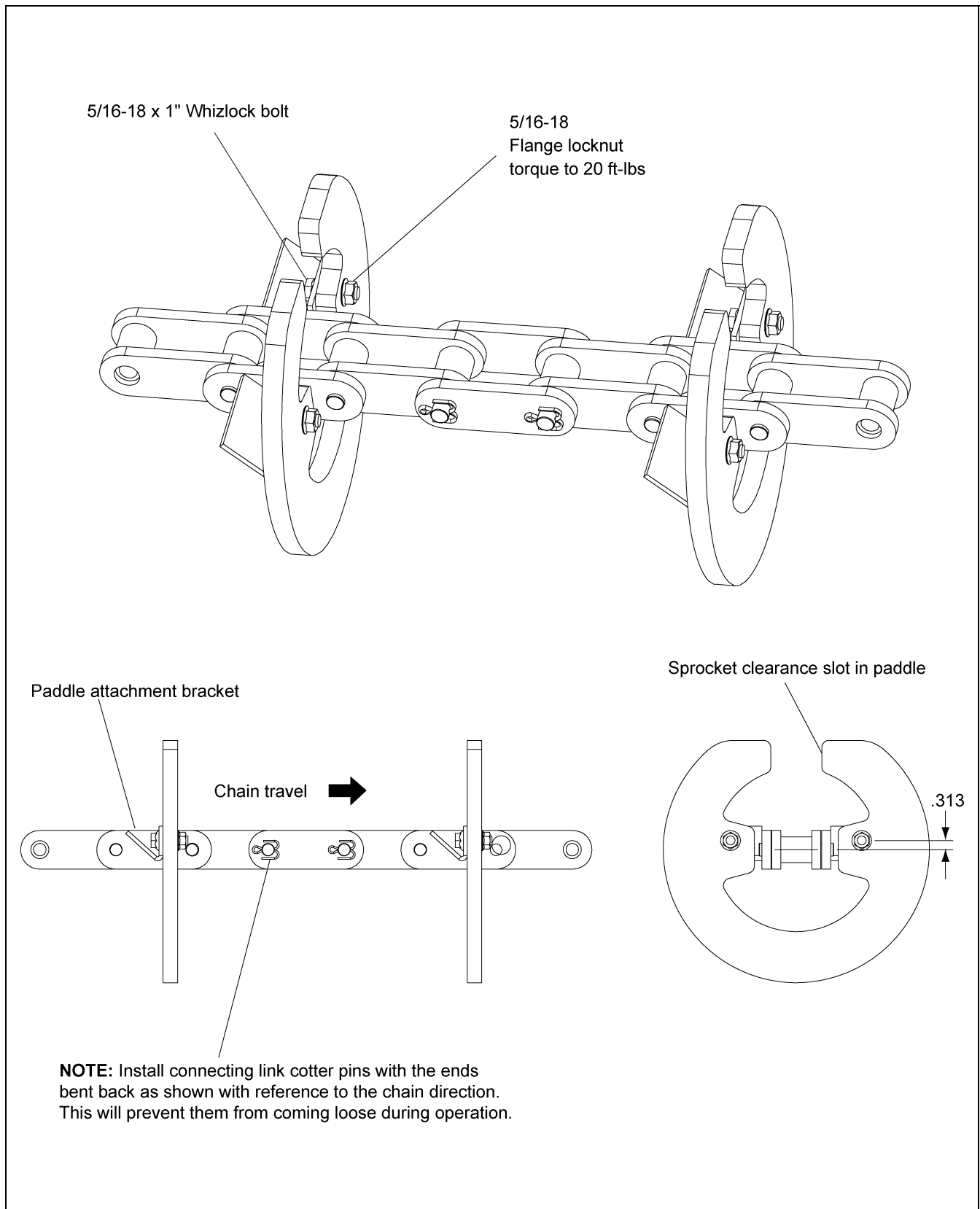


Figure 6H Chain and Paddles

Inspection Corner

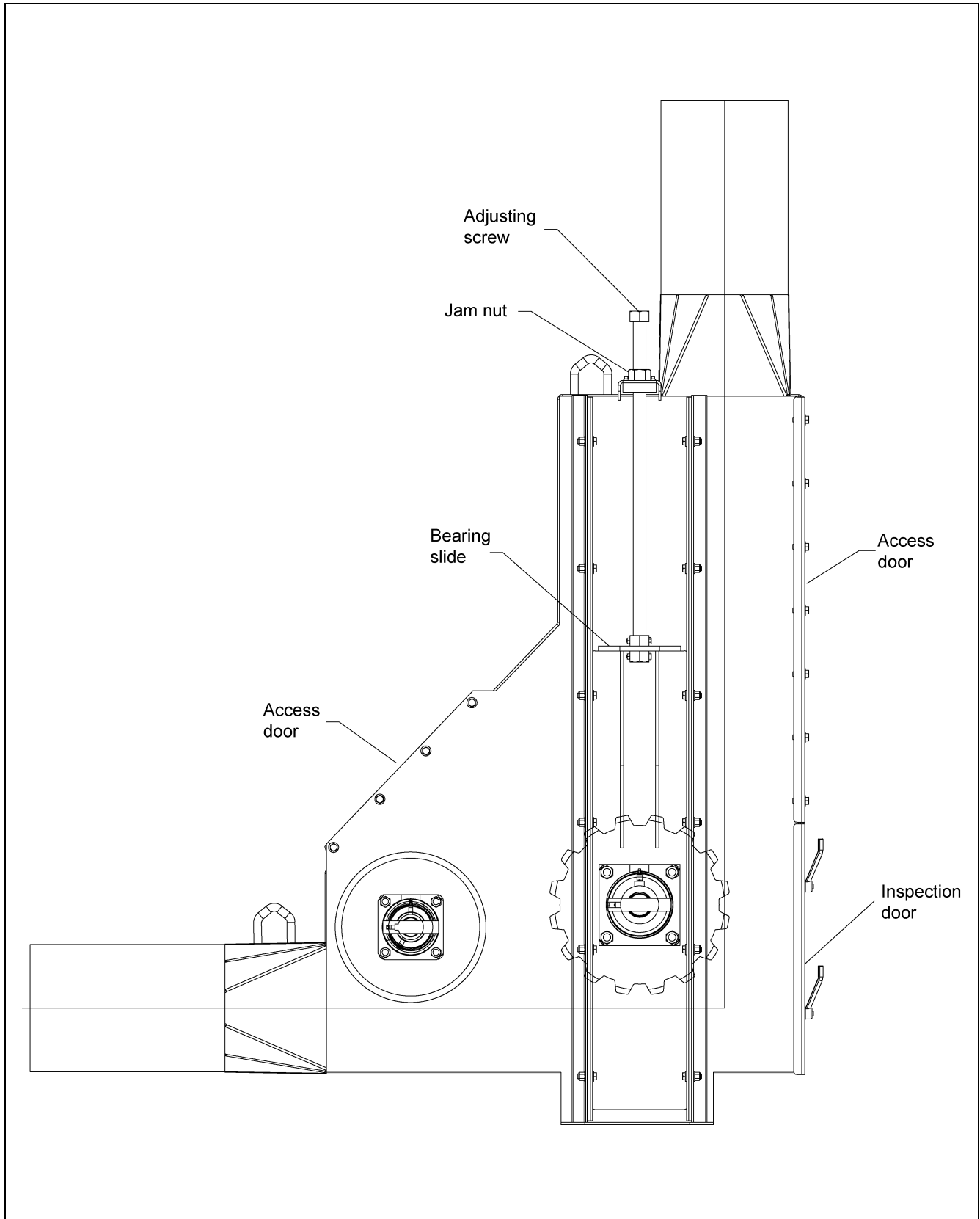


Figure 6I

6. Installation

Ground Control Kit for Discharge Gates

Determine the best location for each ground control kit. Note that each kit comes with 100 feet 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 6J & Figure 6K).

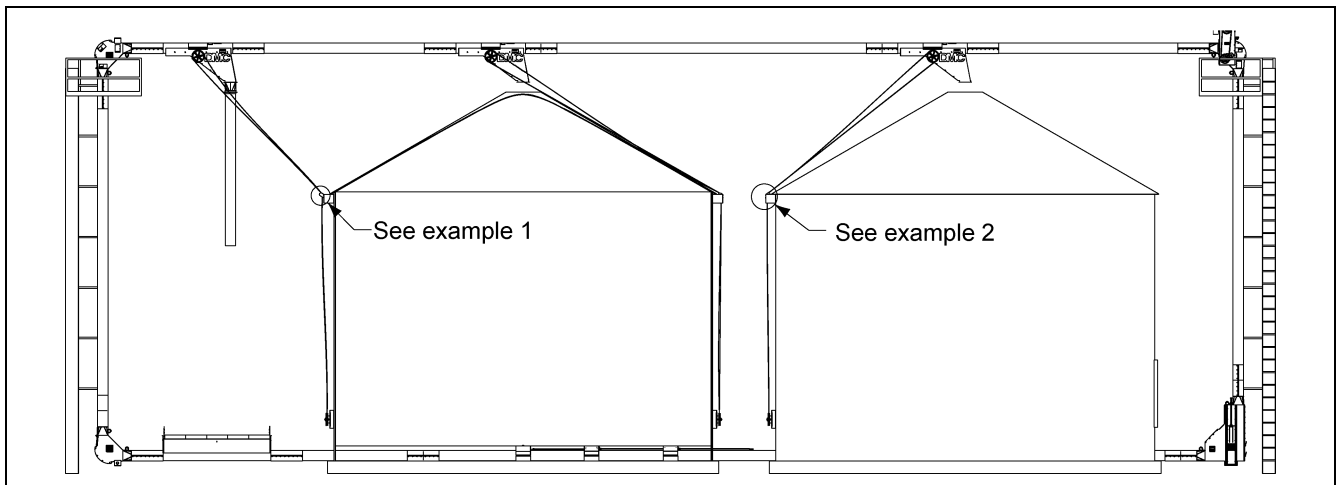


Figure 6J

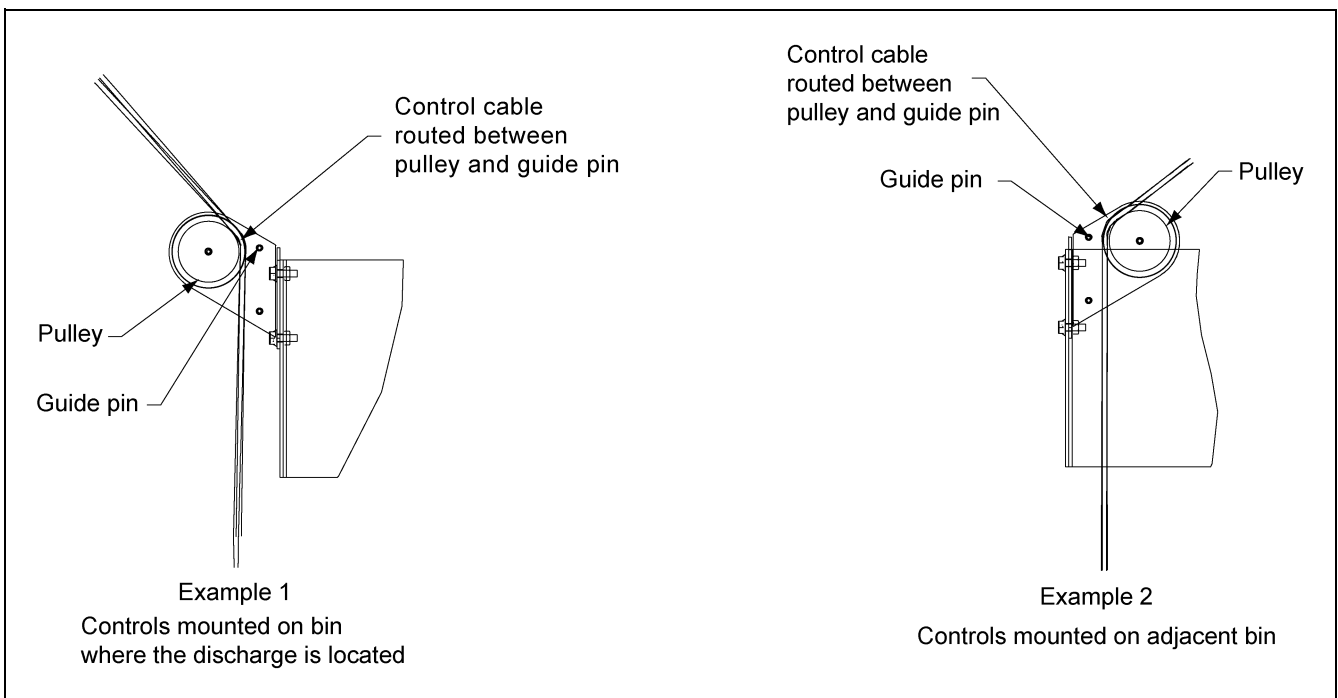


Figure 6K

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.

Setscrews 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. [\(See Page 31\)](#)

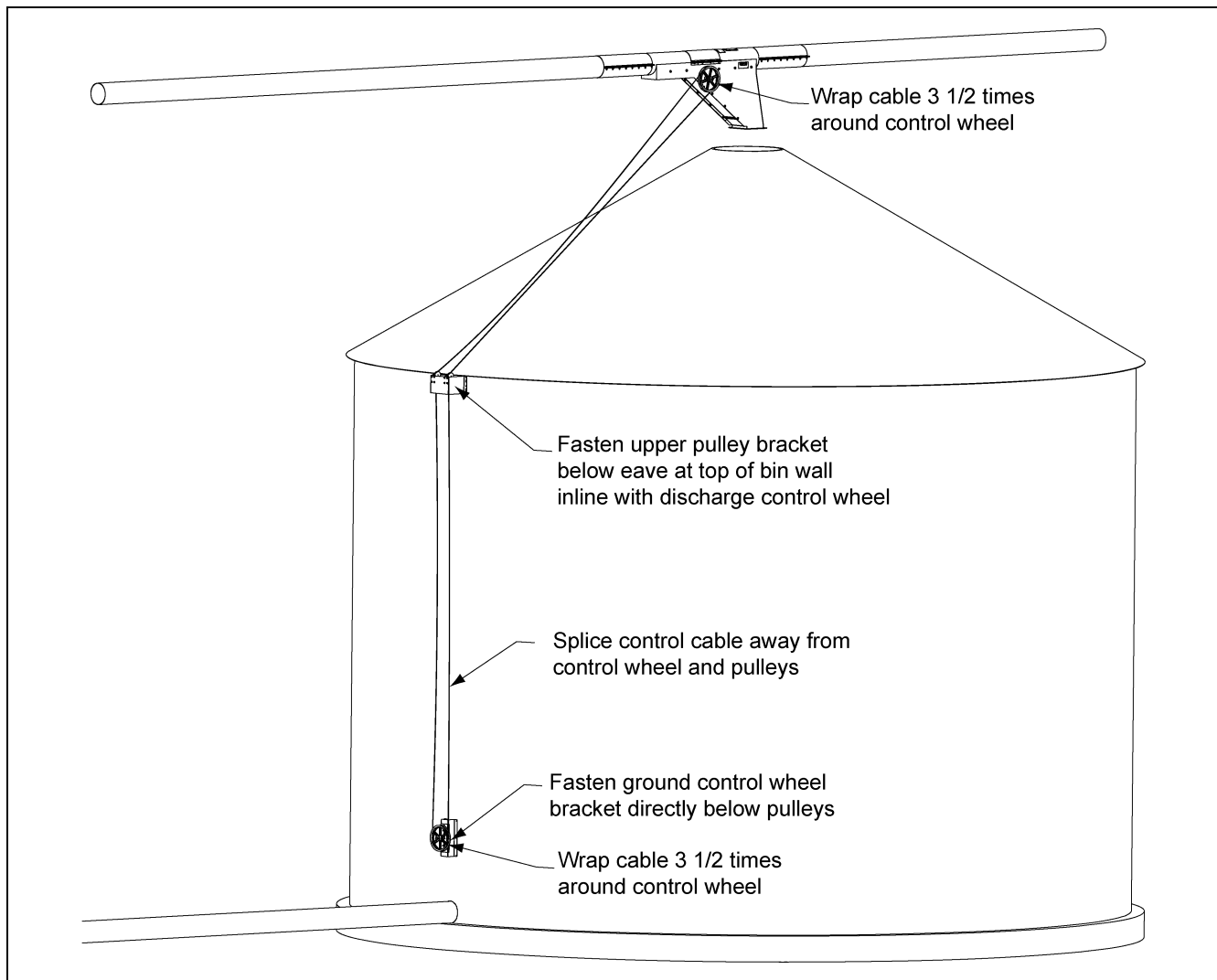


Figure 6L

6. Installation

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 insure 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 feet 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)

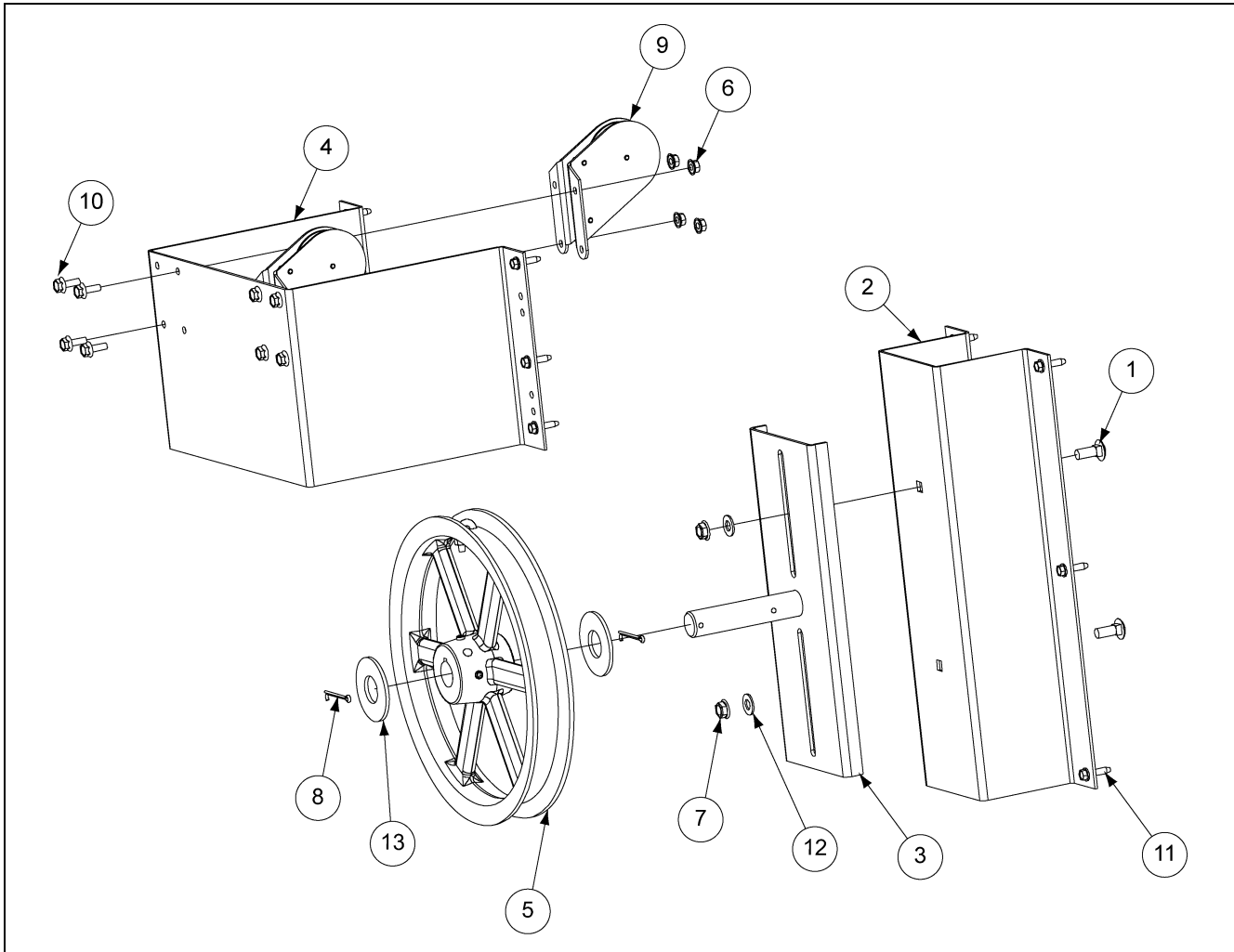


Figure 6M Ground Control Kit Parts

Ground Control Kit Parts List

REF #	PART #	DESCRIPTION	QTY
1		BOLT- CAR, STD THRD-GRD 2 3/8-16 UNC X .75, PLTD	2
2	8101157	BRACKET- BIN WALL MOUNT GROUND CONTROL KIT	1
3	8101158	BRACKET- CONTROL WHEEL, WLDMT 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		NUT- LOCK, FLG, 1/4-20UNC (WHIZ LOCK) PLTD.	8
7		NUT- LOCK, FLG, 3/8-16UNC (WHIZ LOCK) PLTD.	2
8		PIN-COTTER, STANDARD 3/16" X 1-3/4" LONG	2
9		PULLEY- HOT HOUSE, (NOLIN MILLING NO #)	2
10		SCREW- MF FLG WHIZ LOCK 1/4-20 UNC X 3/4", PLTD	8
11		SCREW- S/DRILL, WH HX HD 1/4-14 X 1, (TEK 3) PLTD	12
12		WASHER- FLAT, STANDARD 3/8", PLTD	2
13		WASHER- FLAT, STANDARD 1", PLTD	2

Inlet Dump Hopper Assembly

The dump hopper will include a length of tubular conveyor from 6 to 11 feet 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 6N)

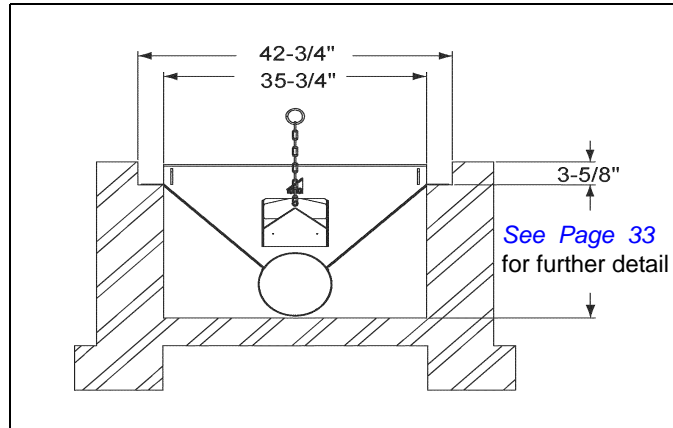


Figure 6N

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.

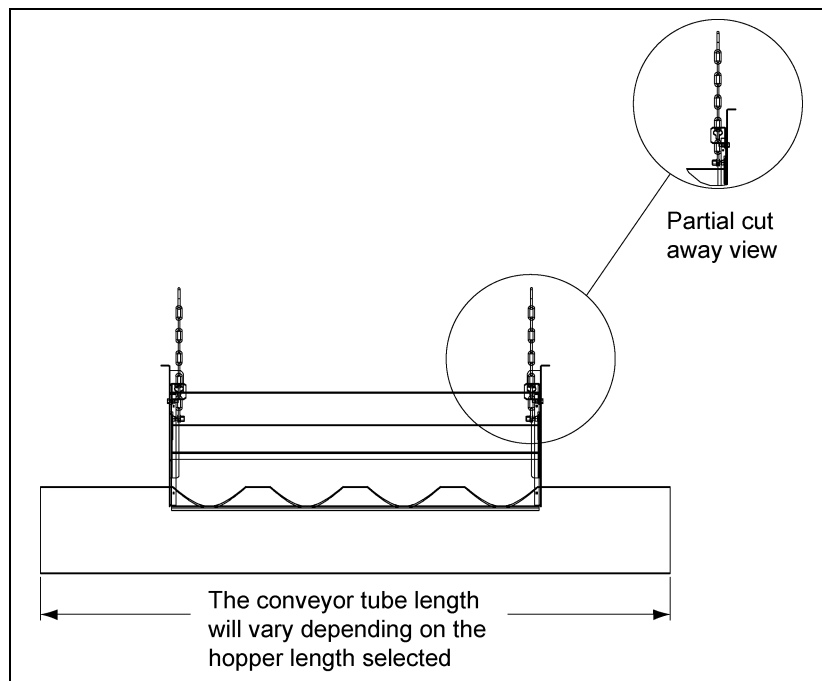


Figure 6O

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.

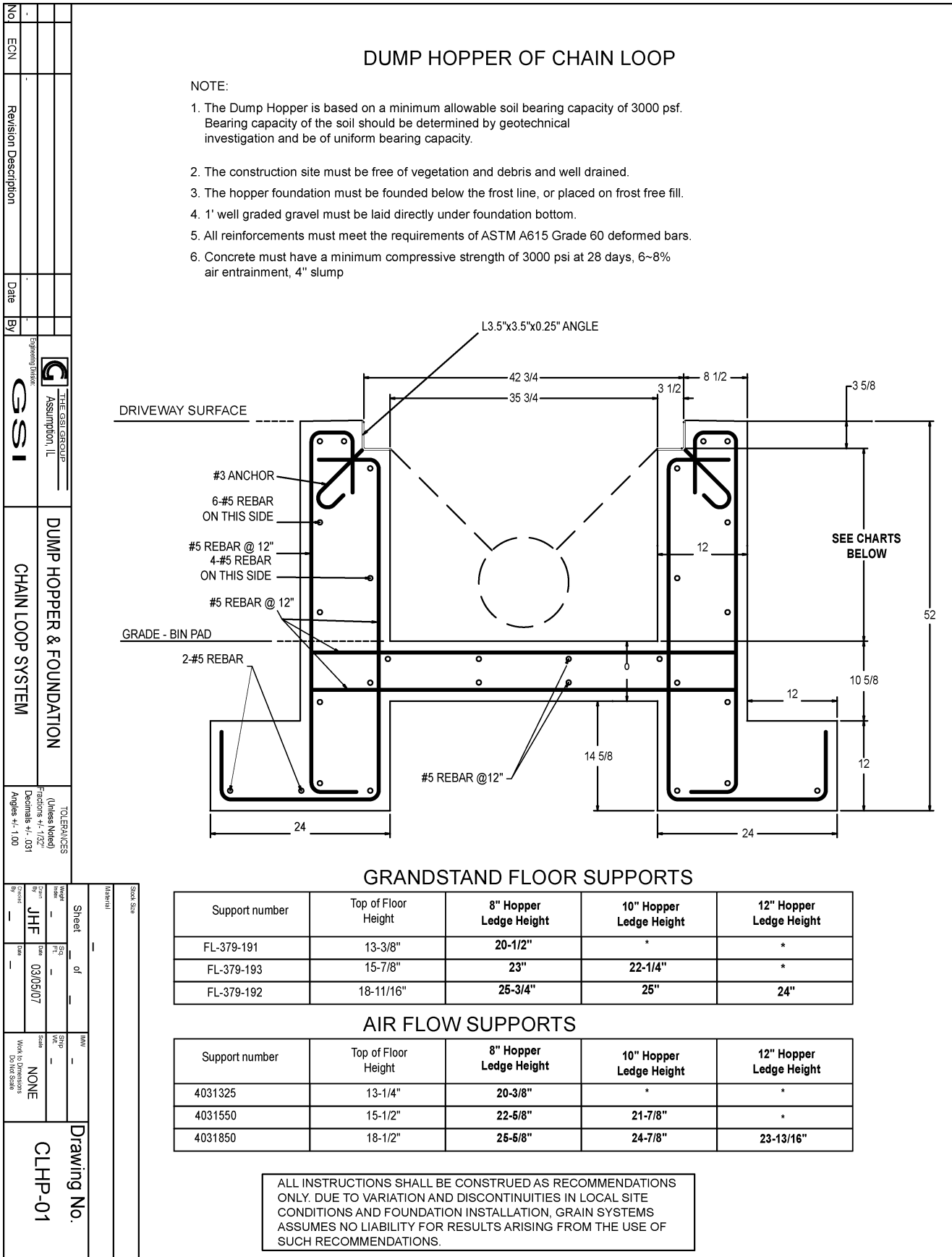


Figure 6P

7. Trouble Shooting

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 25](#))

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 shutdown 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 Page 26](#))
- 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" & 12" Component Dimensions

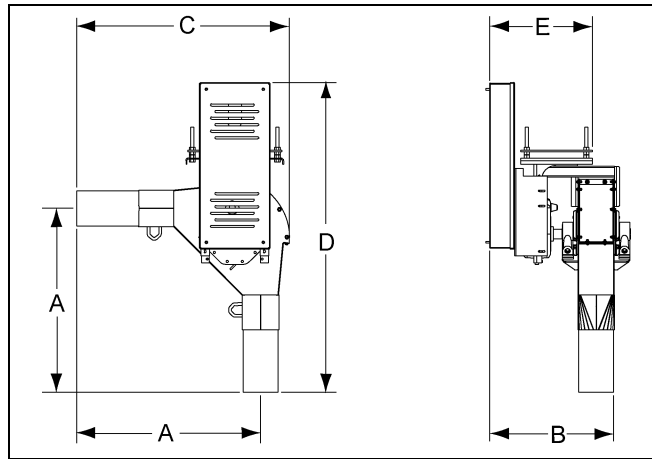


Figure 8A

Drive Corners

Horse Power	8" System	10" System	12" 10 Ga.	12" 7 Ga.
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 Ga. System inches (mm)	12" 7 Ga. 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)

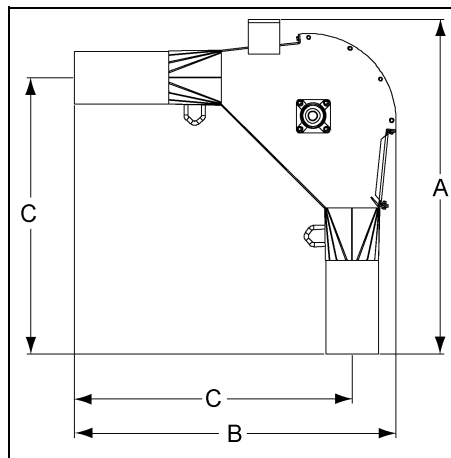


Figure 8B

Standard Corners

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Ga. System inches (mm)	12" 7 Ga. 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", 10" & 12" Component Dimensions (Continued)

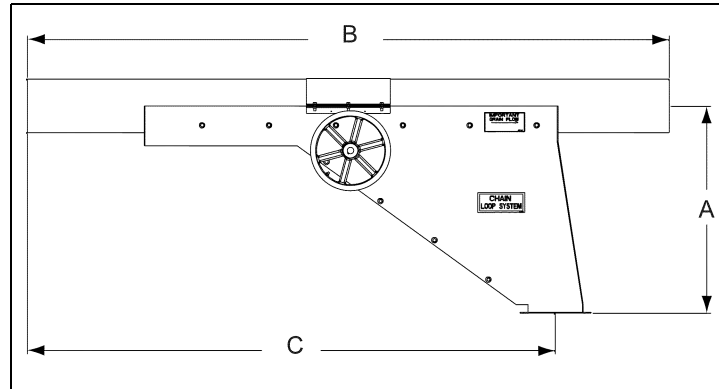


Figure 8C
Discharge Gates

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Ga. System inches (mm)	12" 7 Ga. 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

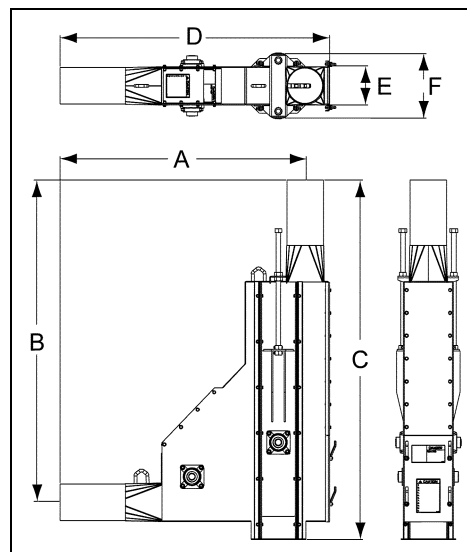


Figure 8D
Inspection Corners

Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Ga. System inches (mm)	12" 7 Ga. 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" & 12" Bin Well and Dump Hopper Dimensions

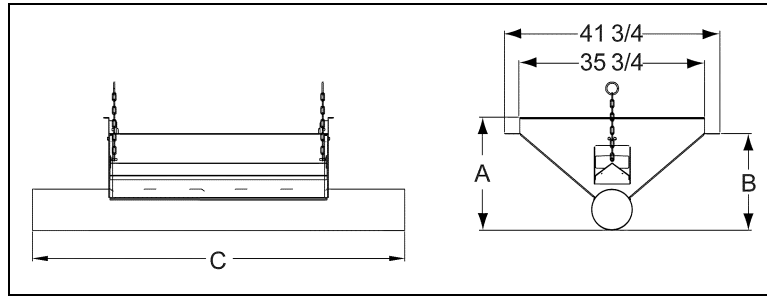


Figure 8E

Inlet Hopper Part Numbers & Dimensions

Assembly Description (Hopper Width)	Part Number				Dimension "C" inches (mm)
	8" System	10" System	12" 10 Ga. System	12" 7 Ga. System	
42-1/2" w/Drive-over Grates	8089025	8109035	8129021	8129024	72" (1829)
42-1/2" Hopper Assy. Only	8081106	8101106	8120185	8120121	72" (1829)
62-1/2" w/Drive-over Grates	8089027	8109027			92" (2337)
62-1/2" Hopper Assy. Only	8081107	8101107			92" (2337)
102-1/2" w/Drive-over Grates	8089029	8109039	8129022	8129025	132" (3353)
102-1/2" Hopper Assy. Only	8081108	8101108	8120186	8120127	132" (3353)
122-1/2" w/Drive-over Grates			8129023	8129026	152" (3861)
122-1/2" Hopper Assy. Only			8120187	8120134	152" (3861)
125" w/Drive-over Grates	8089031	8101166L			155" (3937)
125" Hopper Assy. Only	8081166	8101166			155" (3937)
144-1/2" w/Drive-over Grates	8089033	8109043			168" (4267)
144-1/2" Hopper Assy. Only	8081109	8101109			168" (4267)
Dimension	8" System inches (mm)	10" System inches (mm)	12" 10 Ga. System inches (mm)	12" 7 Ga. 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)	

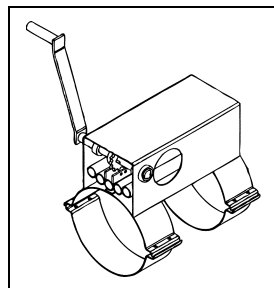


Figure 8F

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" & 12" Bin Well and Dump Hopper Dimensions (Continued)

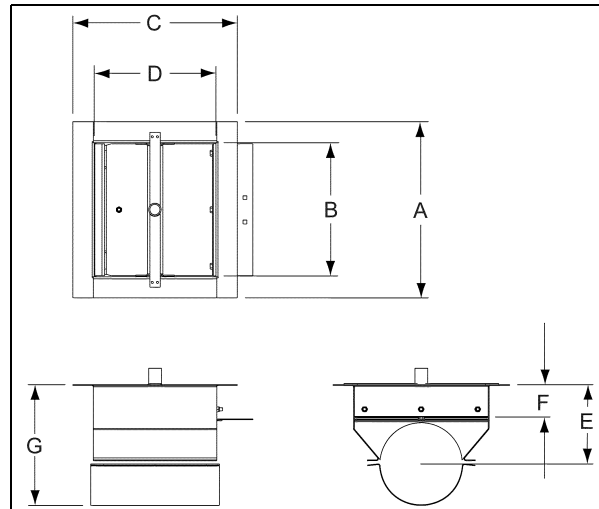


Figure 8G
Center Wells

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

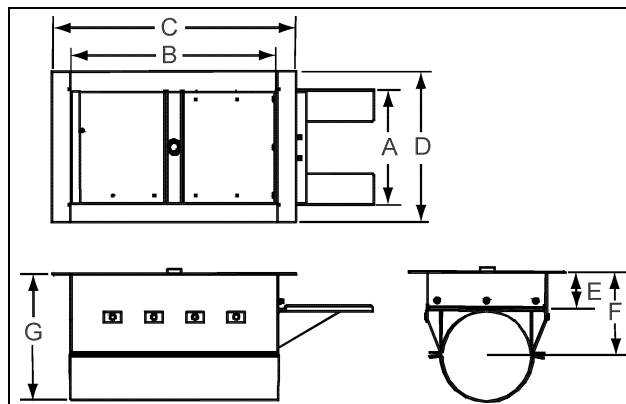


Figure 8H
Large Center Wells

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" & 12" Bin Well and Dump Hopper Dimensions (Continued)

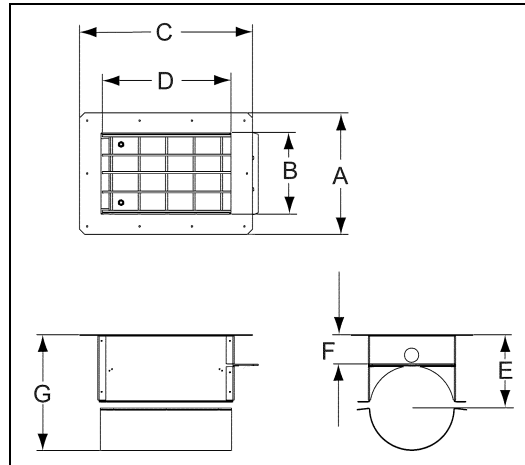


Figure 8I

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)

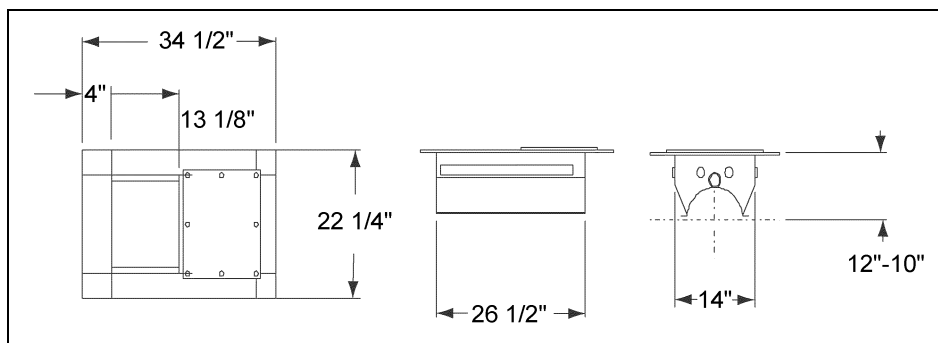
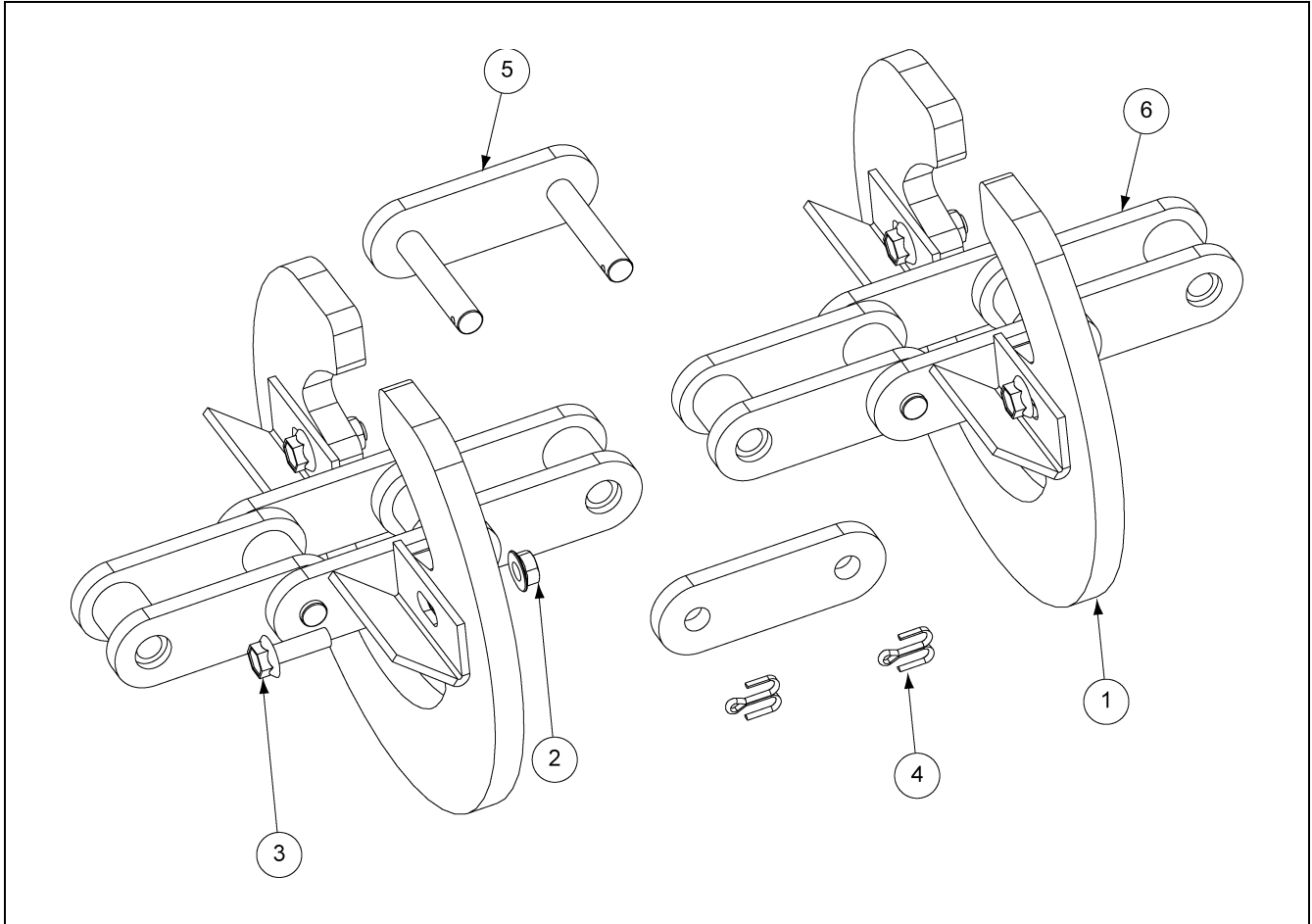


Figure 8J

12" Well (Intermediate)

Product #	Description	Wt.
GCBW1250	12" Intermediate	54 lbs.

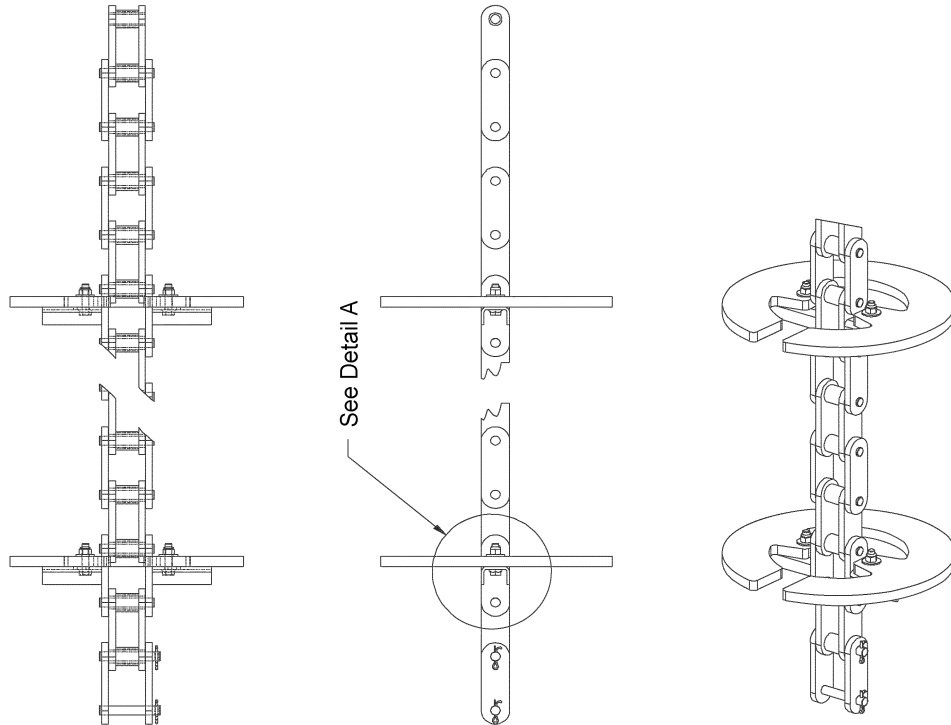
8" & 10" Chain and Paddles



REF #	PART #	DESCRIPTION
1	8101145	PADDLE-10", UHMW 10" CHAIN LOOP SYSTEM
	8081145	PADDLE-8", UHMW 8" CHAIN LOOP SYSTEM
2		HEX FLANGE-LOCK NUT 5/16-18 UNC
3		SCREW-FLANGE WHIZ LOCK 5/16-18 UNC X 3/4, PLTD
4		PIN-COTTER, STANDARD 1/8" X 3/4" LONG
5	CE-00764	LINK-CONNECTING, #81X WITH SIDE PLATE & COTTER PIN
	CE-00766	LINK-CONNECTING, #81XHH WITH SIDE PLATE & COTTER PIN
6	8101162 - 8"	CHAIN-STANDARD, 81X WITH BRACKETS AND CONNECTING LINK
	8101163 - 10"	CHAIN-HEAVY DUTY, 81XHH WITH BRACKETS AND CONNECTING LINK

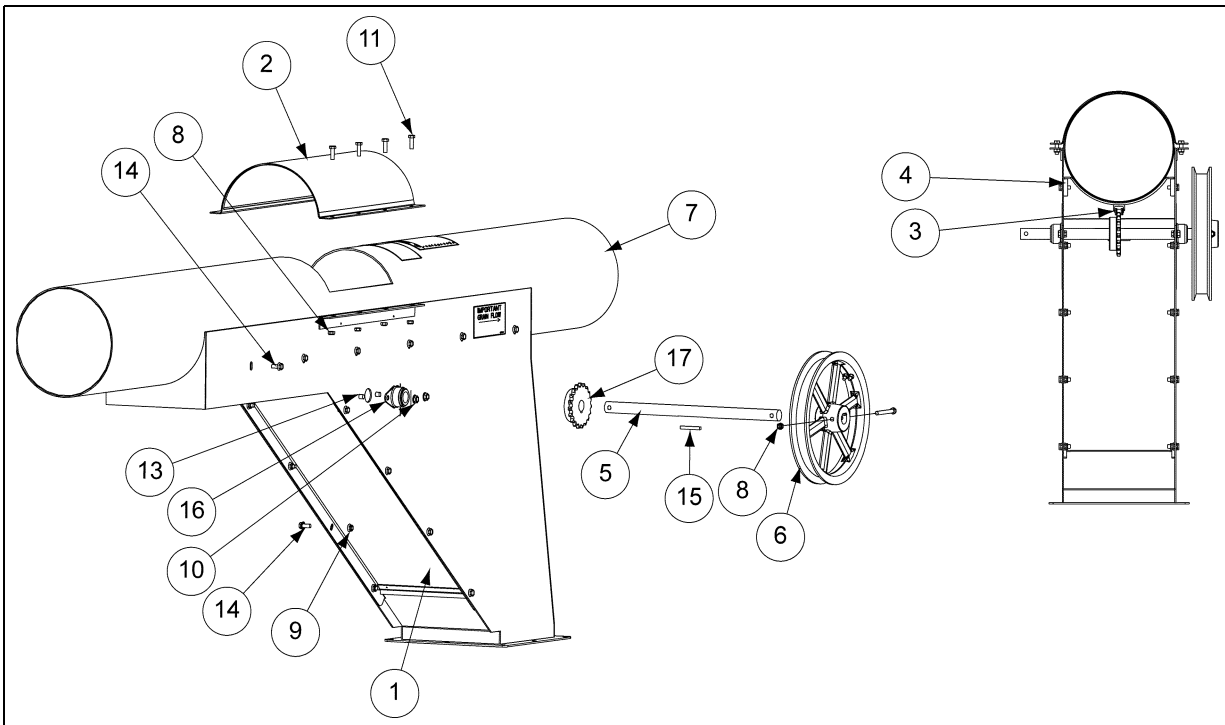
12" Chain and Paddles

ITM	PART #	QTY	DESCRIPTION
1	8120140	1	CHAIN/FLIGHT WLD.
2	8120189	9	PADDLE, 12" CHAIN LOOP
3	S-8135	18	BOLT FLNG 5/16-18x1-1/4 ZN GR5
4	S-845	18	WASHER FLAT 5/16 USS ZN
5	S-7382	18	5/16 - 18 NYLOCK NUT



Nc.		ECN		Revision Description		Date		By													
<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%; text-align: center;"> THE GSI GROUP Assumption, IL <small>Signature:</small> </td> <td style="width: 30%; text-align: center;"> CHAIN / PADDLE ASSEMBLY 12" CHAIN LOOP </td> <td style="width: 10%;"></td> </tr> <tr> <td colspan="4"> TOLERANCES (Unless Noted) Fractions ±.12" Decimals ±.001 Angles ±.100 </td> </tr> <tr> <td> Sheet: 1 of 1 Date: 10-Dec-04 Scale: N/A </td> <td> Part No: 8120140 Rev: BJT Date: 10-Dec-04 Scale: N/A </td> <td> Drawing No.: 8120141 </td> <td> None </td> </tr> </table>											THE GSI GROUP Assumption, IL <small>Signature:</small>	CHAIN / PADDLE ASSEMBLY 12" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions ±.12" Decimals ±.001 Angles ±.100				Sheet: 1 of 1 Date: 10-Dec-04 Scale: N/A	Part No: 8120140 Rev: BJT Date: 10-Dec-04 Scale: N/A	Drawing No.: 8120141	None
	THE GSI GROUP Assumption, IL <small>Signature:</small>	CHAIN / PADDLE ASSEMBLY 12" CHAIN LOOP																			
TOLERANCES (Unless Noted) Fractions ±.12" Decimals ±.001 Angles ±.100																					
Sheet: 1 of 1 Date: 10-Dec-04 Scale: N/A	Part No: 8120140 Rev: BJT Date: 10-Dec-04 Scale: N/A	Drawing No.: 8120141	None																		

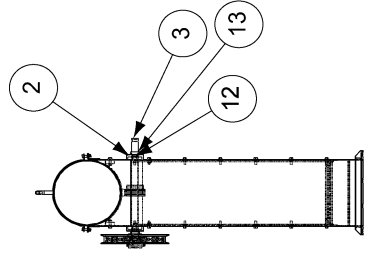
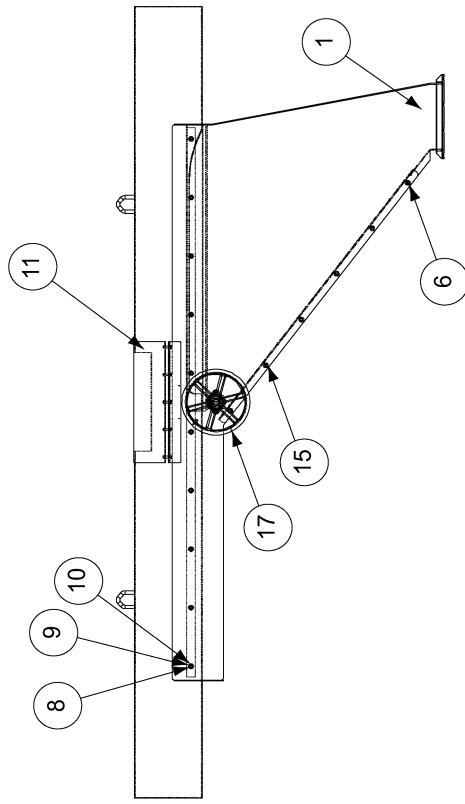
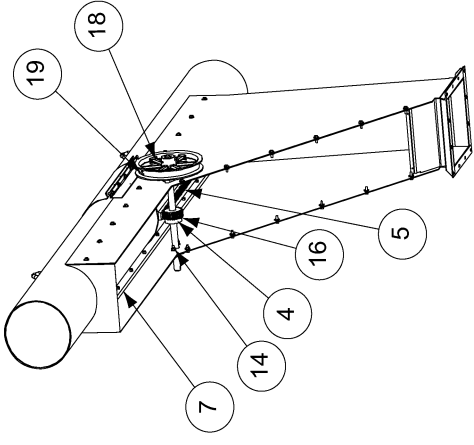
8" & 10" Discharge Gate



REF #	PART #	DESCRIPTION	QTY
1	8081093	ACCESS PANEL-WELDMENT 8" 90° DISCHARGE WITH GATE	1
	8101093	ACCESS PANEL-WELDMENT 10" 90° DISCHARGE WITH GATE	
2	8081096	ACCESS DOOR-ASSEMBLY 8" 90° DISCHARGE WITH GATE	1
	8101096	ACCESS DOOR-ASSEMBLY 10" 90° DISCHARGE WITH GATE	
3	8081097	SLIDE GATE-WELDMENT 8" 90° DISCHARGE WITH GATE	1
	8101097	SLIDE GATE-WELDMENT 10" 90° DISCHARGE WITH GATE	
4	8101101	RAIL- SLIDE GATE, 90 DISCH. ZINC PLATED 8101102	2
5	8081103	SHAFT-1" O.D X 16-1/4" ZINC PLATED 8081104	1
	8101103	SHAFT-1" O.D X 17-3/4" ZINC PLATED 8101104	
6	8101153	CONTROL WHEEL-W/CLAMP 90° DISCHARGE W/GATE	1
7	8081203	DISCHARGE W/GATE-90, 8" ZINC PLATED 8081182	1
	8101203	DISCHARGE W/GATE-90, 10" ZINC PLATED 8101182	
8		NUT-LOCK, 5/16-18 UNC NYLON LOCK, PLTD. GRD 2	9
9		NUT-LOCK, FLG, 5/16-18 UNC (WHIZ LOCK) PLTD.	8
10		NUT-LOCK, FLG, 3/8-16 UNC (WHIZ LOCK) PLTD.	4
11		BOLT-HEX, STD THRD-GRD 2 5/16-18 UNC X 1, PLTD	8
12		BOLT-HEX, STD THRD-GRD 2 5/16-18 UNC X 3, PLTD	1
13		SCREW-FLANGE WHIZ LOCK 3/8-16 UNC X 1/2, PLTD	4
14		SCREW-FLANGE WHIZ LOCK 5/16-18 UNC X 3/4, PLTD	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

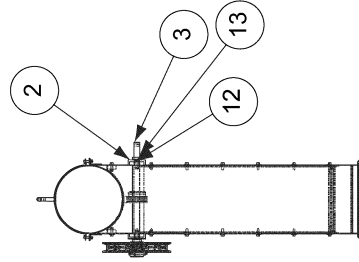
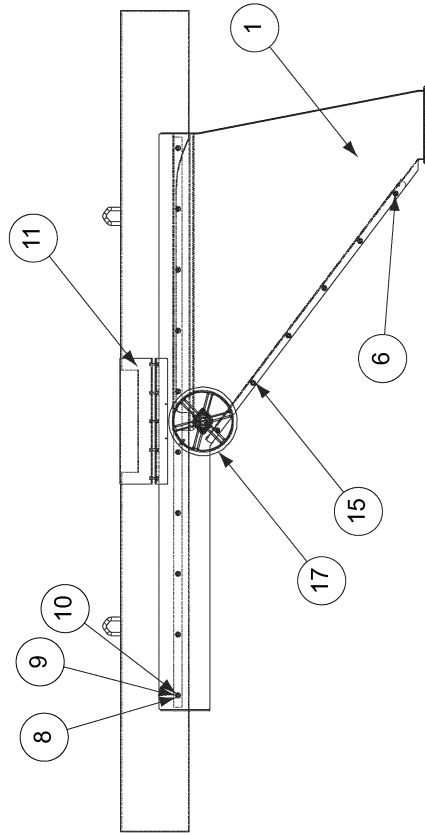
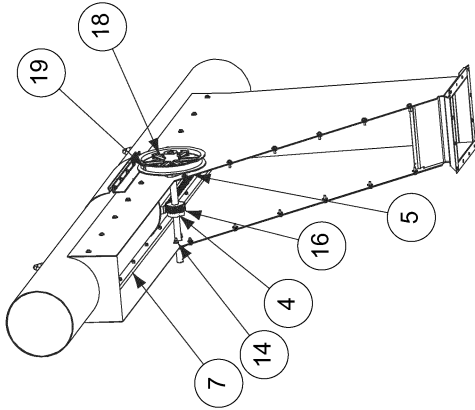
ITEM	PART #	QTY	DESCRIPTION
1	8120195	1	12" 7ga DISCHARGE WELDMENT
2	MHC01377	2	BEARING 2-BLT FLANGE 1-1/8"
3	8120091	1	SHAFT-CONTRL.WH.-DSCHRG.GATE
4	MHC00999	1	SPUR GEAR 8DP 26 TOOTH 7/8" BORE
5	8120088	1	SLIDE GATE WLD.-DSCHRG.GATE
6	8120088	1	BOTT COVER WLD.-DSCHRG.GATE
7	8120093	2	UHMW SLIDE BAR-DSCHRG.GATE
8	S-845	64	WASHER FLAT 5/16 USS ZN
9	S-7721	30	BOLT HHCS 5/16-18 x 1-1/4 ZN GR 2
10	S-7382	43	5/16 - 18 NYLOCK NUT
11	8120169	1	12"x22" HALFBAND 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-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	Date	By	Revision Description
MATERIAL HANDLING					
7ga DISCHARGE GATE ASSEMBLY					
12" 7ga CHAIN LOOP					
TOLERANCES (Unless Noted) Fractions -1/32" Decimals -1-.001" Angles -1-1.00		Sheet: 1 of 1	1	1	1
Part	Rev	Rev	Rev	Rev	Rev
N/A	N/A	N/A	N/A	N/A	N/A
By	Date	By	Date	By	Date
BJT	09-Nov-04	BJT	09-Nov-04	BJT	09-Nov-04
Drawing No. 8120194					

12" - (10 Gauge) Discharge Gate

ITEM	PART #	QTY	DESCRIPTION
1	812D060	1	12" 10ga DISCHARGE WELDMENT
2	MHC01377	2	BEARING 2-BLT FLANGE 1-1/8"
3	812D091	1	SHAFT-CTRL.WH.-DSCHRG.GATE
4	MHC00689	1	SPUR GEAR 8DP 26 TOOTH 7/8" BORE
5	812D088	1	SLIDE GATE WLD.-DSCHRG.GATE
6	812D086	1	BOTT.COVER WLD.-DISCHRG.GATE
7	812D093	2	UHMW SLIDE BAR-DSCHRG.GATE
8	S-845	64	WASHER FLAT 5/16 USS ZN
9	S-7721	30	BOLT HHCS 5/16-18 x 1-1/4 ZN GR 2
10	S-7382	43	5/16 - 18 NYLOCK NUT
11	812D169	1	12"x22" HALF-BAND PNTD.
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	3FH0867	1	PIN, SPRING 1/4" x 3" PLATED
17	812D089	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) Features $1-1/32$ Dimensions $1/32$ Angles $1-1/16$				
Sheet	1 of 2	Rev	N/A	
Drawn	N/A	Rev	N/A	
Checked	BJT	Date	09-Nov-04	
Created		Drawn	NONE	
Work In Progress Do Not Issue				
Drawing No.				8120090

Chain Loop Drive Components

50 HZ - INTERNATIONAL CHAIN LOOP MOTORS - 50 HZ

HZ	P.N.	SIZE	VOLTAGE	SHAFT DIA.	(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	P.N	DESCRIPTION	QTY	(LBS)	(KG)
15 HP	Motor Pulley	PT0703	4GR 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	4GR 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	2GR 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	2GR 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	3GR 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	3GR 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	P.N	DESCRIPTION	QTY	(LBS)	(KG)
20 HP	Motor Pulley	KD-PDS0028	2GR 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	2GR 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	3GR 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	3GR 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	4GR 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	4GR 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	4GR 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	4GR 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	P.N.	SIZE	VOLTAGE	SHAFT DIA.	(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	P.N	DESCRIPTION	QTY	(LBS)	(KG)
15 HP	Motor Pulley	CE-00582	3GR 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	3GR 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	4GR B6.4 SD	1	23	10.4
	Motor Pulley Bushing	GC06516	SD x 1-5/8 Bore	1	5	2.3
	Reducer Pulley	GC06676	4GR 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	3GR 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	3GR 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

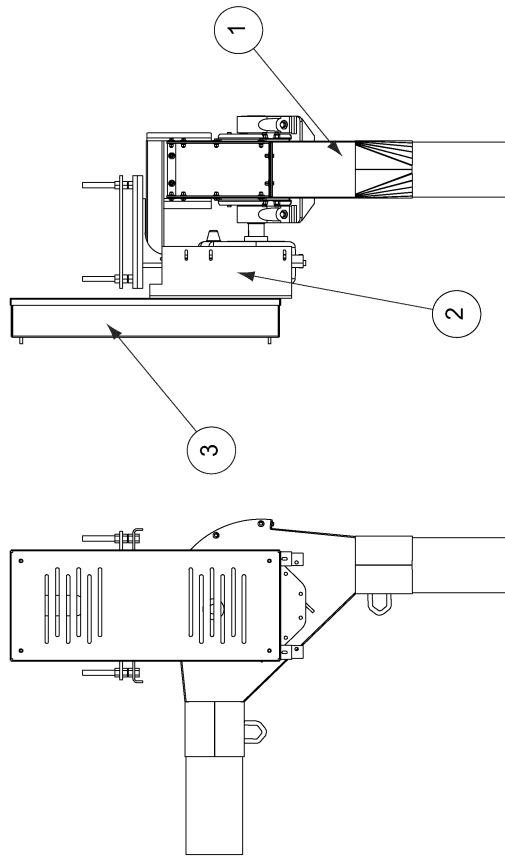
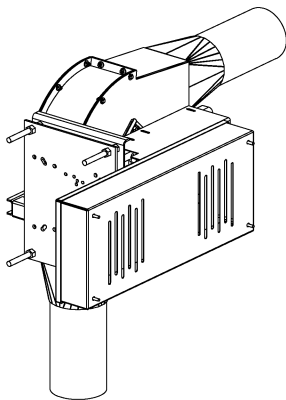
	PART	P.N	DESCRIPTION	QTY	(LBS)	(KG)
20 HP	Motor Pulley	3311A1	4GR B6.4 SD	1	23	10.4
	Motor Pulley Bushing	GC06516	SD x 1-5/8 Bore	1	5	2.3
	Reducer Pulley	GC06676	4GR B8.0 SK	1	38	17.2
	Reducer Bushing	PT0778	SK x 1-3/8	1	9	4.1
	Drive Belts	MHC00823	BX61	4	1.1	0.5
25-30 HP	Motor Pulley	MHC01566	3GR B11.0 SK	1	36	16.3
	Motor Pulley Bushing	CE-00617	SK x 1-7/8 Bore	1	9	4.1
	Reducer Pulley	MHC01567	3GR 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	3GR 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	3GR 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	4GR 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	4GR 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	P.N	DESCRIPTION	QTY	(LBS)	(KG)
30 HP	Motor Pulley	MHC01530	3GR 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	3GR 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	3GR 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	3GR 5V 13.2 E	1	38	17.2
	Reducer Bushing	MHC01537	E x 1-5/8	1	9	4.1
	Drive Belts	MHC00475	5VX1000	3	1.1	0.5
50 HP	Motor Pulley	MHC01538	4GR 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	4GR 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	4GR 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	4GR 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

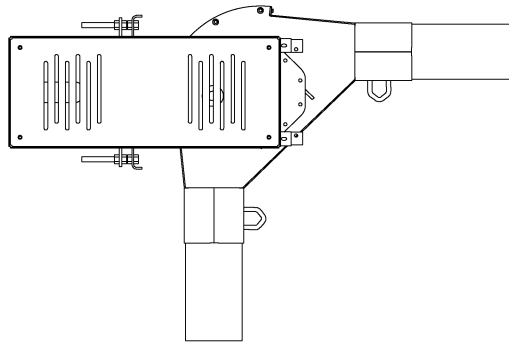
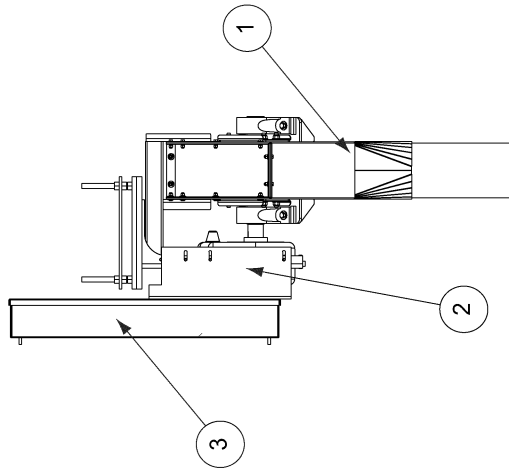
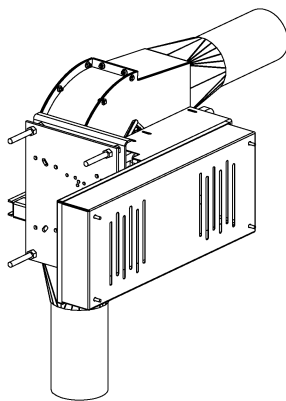
ITEM	PART #	QTY	DESCRIPTION
1	8081260	1	DRIVE CNR, ASSY., 15-20HP
2	8081271	1	DRY BOX, TA3 15HP
3	8120217	1	BELT GUARD ASSY., TA3




THE GSI GROUP Assumption, IL GSI GSI GROUP Assumption, IL		DRIVE CNR. 15HP, TA3 8" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions 1/2 - 1/32" Decimals .1 - .01 Angles 1/2 - 1.00		Sheet 1 of 1 Part N/A Qty N/A Item BJT Date 10-Mar-05 Size		Drawing No. 8081268	
1	100164	ECN	8081271	8081271	8081271	8081271	8081271	8081271	8081271
BELT GUARD ASSY., TA3 15HP Revision Description			DATE 6-21-06 BY BUT			MATERIAL HANDLING			NONE Work to Dimension Do Not Scale

8" (20 HP) Drive Components

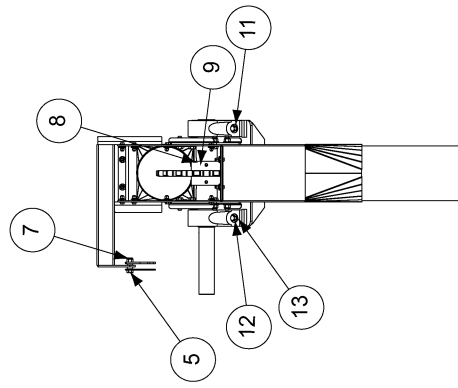
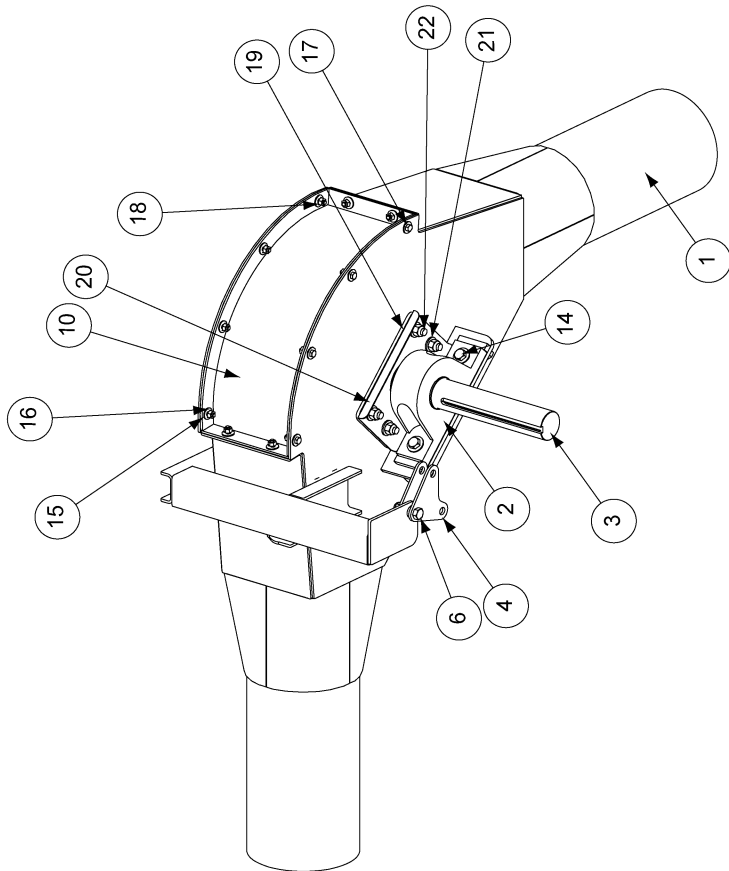
ITEM	PART #	QTY	DESCRIPTION
1	8081280	1	DRIVE CNR, ASSY., 15-20HP
2	8081285	1	DRV. BOX, TA3, 20HP
3	8120217	1	BELT GUARD, ASSY., TA3



		DRIVE CNR, 20HP, TA3 8" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00		Sheet 1 of 1 Date 10-Mar-06 By BJT Check By		Drawing No. 8081286	
MATERIAL HANDLING		DATE 6-21-06 BY		REVISION 1 DESCRIPTION BELT GUARD ASSY. TA3 WS 8081282		N/A N/A NONE Refer to Bill Sheet		N/A N/A NONE Refer to Bill Sheet	

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	8081267	2	TA3 REDUCER SUPPORT EAR
5	8120018	1	T44 SUPPORT BUSHING
6	S-3883	1	BOLT HHCS 1/2"-1.3x1-3/4 ZN GR8
7	S-8260	9	1/2 - 13 NYLOCK NUT
8	S-9177	1	KEY, SQ. 3/4" x 3-7/16"
9	PT1086	1	SPROCKET 16 TOOTH, 5/16 DIA XH
10	8081009	1	CORNER INSPECTION DOOR
11	S-8320	8	WASHER FLAT 7/16 USS ZN
12	S-7811	4	BOLT- HEX STD THRD-GRD 2 1/2-13 UNC X 2, PLTD
13	S-236	4	1/2 LOCK WASHER
14	S-3729	4	NUT 1/2-13
15	S-845	24	WASHER FLAT 5/16 USS ZN
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	8081269	2	UHMW CORNER DUST SEAL
20	8081270	2	COVER PLATE FOR UHMW
21	S-8562	16	WASHER, 1/2" FLAT
22	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5

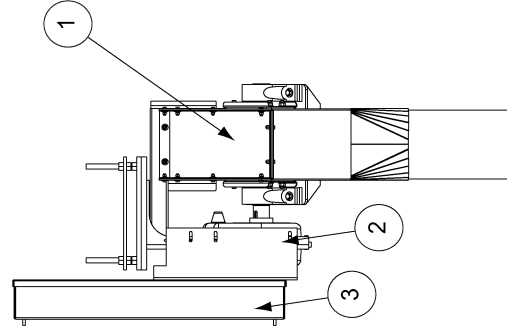
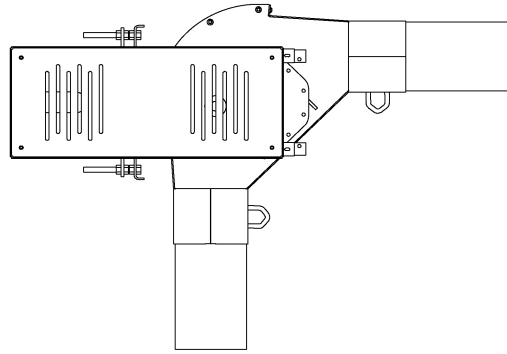
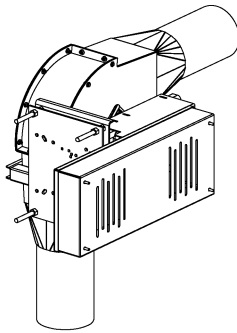


Inspection door removed from view for clarity.

No.	ECN	Revision Description	Date	By	MATERIAL HANDLING	DRIVE CNR.ASSY. 15-20HP	8" CHAIN LOOP	TOLERANCES (Unless Noted) Fractions 1/2 - 1/32" Decimals +/- .001 Angles +/- .100	Sheet	1	of	1	M	N/A	Drawing No.	8081260
								W	N/A	R	N/A	S	N/A	DATE	09-Mar-05	BY

10" (15 HP) Drive Components

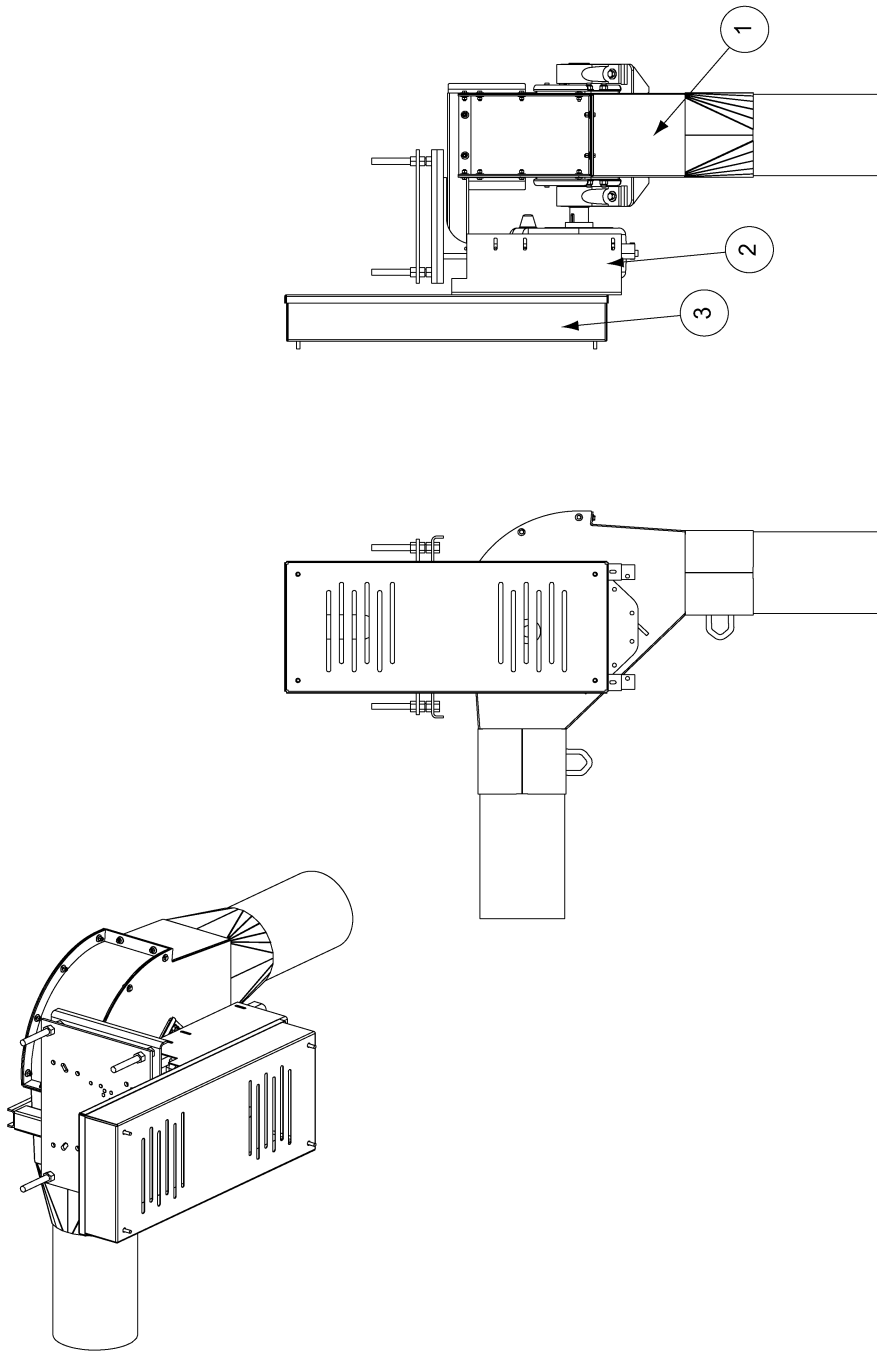
ITEM	PART #	QTY	DESCRIPTION
1	8101281	1	DRIVE CNR ASSY 15-20HP TA3
2	8081271	1	DRV.BOX TA3 15HP
3	8120217	1	BELT GUARD ASSY., TA3



THE GSI GROUP Assumption, IL		DRIVE CNR. 15HP, TA3 10" CHAIN LOOP		TOLERANCES (Unless noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00		Drawing No. 8101280	
BELT GUARD ASSY. TA3 Revision Description		MATERIAL HANDLING		Sheet 1 of 1		N/A	
6-21-06		8-21-06		N/A		N/A	
Date		By		Rev		Date	
No.		ECN		BUT		NONE	
04-Apr-06		04-Apr-06		N/A		NONE	
10164		8081272		N/A		NONE	
1		1		N/A		NONE	

10" (20 HP) Drive Components

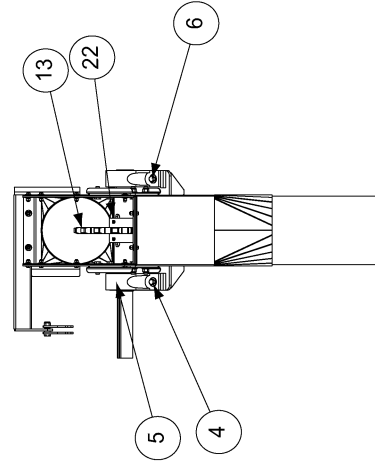
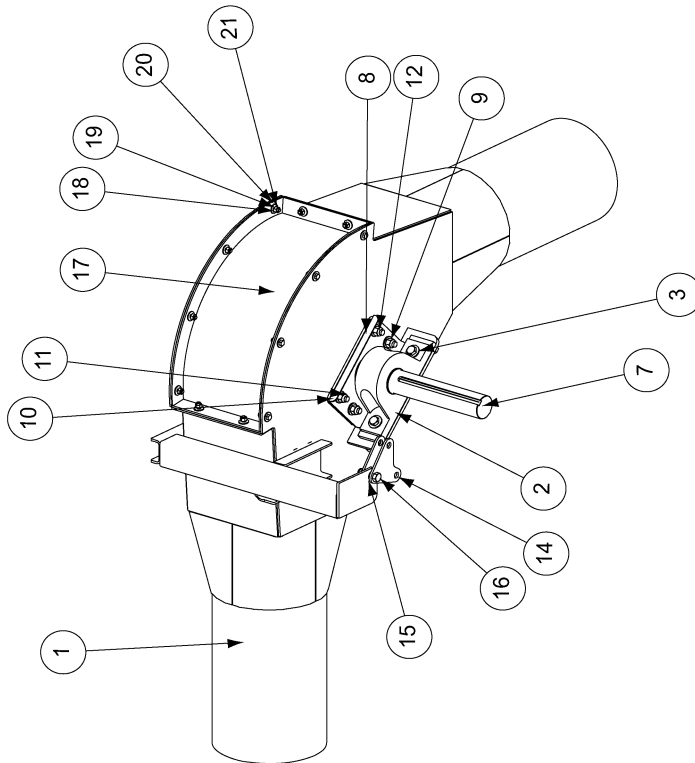
ITEM	PART #	QTY	DESCRIPTION
1	8101281	1	DRIVE CNR ASSY 15-20HP TA3
2	8081285	1	DRV.BOX TA3 20HP
3	8120217	1	BELT GUARD ASSY., TA3



THE CSI GROUP Assumption, IL		DRIVE CNR. 20HP, TA3 10" CHAIN LOOP		TOLERANCES Unless Indicated: Decimals $\pm .031$ Fractions $\pm .031$ Angles $\pm .100$		Sheet 1 of 1 N/A N/A BJT 01-Apr-05		N/A 1257.878 NONE Min. to Dimension Do Not Scale		Drawing No. 8101285	
1	04184	ECN	8-21-06	BJT	8081285	Revision Description	MATERIAL HANDLING				

10" (15-20 HP) Drive Components

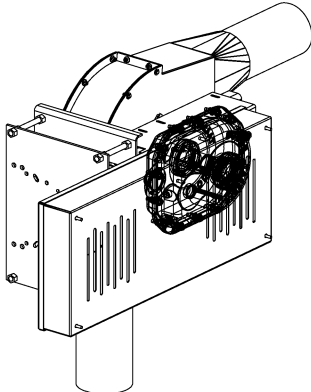
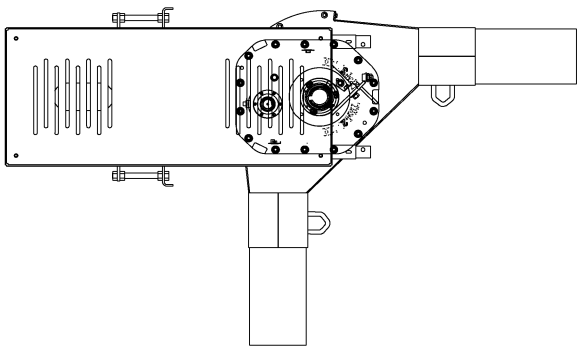
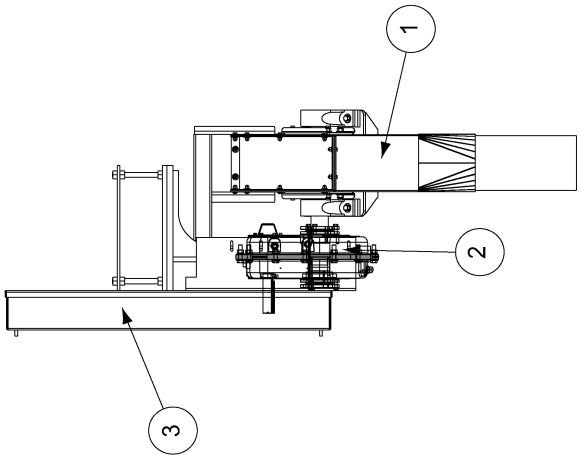
ITEM	PART #	QTY	DESCRIPTION
1	8101282	1	15,20HP DR.CNR. WELDMENT
2	MIC00002	2	BEARING, DODGE 2 7/16" SC PELLOW BLOCK
3	S-8320	8	WASHER FLAT 7/16 USS ZN
4	S-7811	4	BOLT- HEX STD THRD-GRD 2 1/2-13 UNC X 2, PLTD
5	S-236	4	1/2 LOCK WASHER
6	S-3729	4	NUT 1/2-13
7	8101283	1	SHAFT DRIVE 15-20HP
8	8081269	2	UHMW CORNER DUST SEAL
9	8081270	2	COVER PLATE FOR UHMW
10	S-8582	16	WASHER, 1/2" FLAT
11	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
12	S-8260	9	1/2 - 13 NYLOCK NUT
13	PT1086	1	SPROCKET 16 TOOTH, 3"ID,81XH
14	8081267	2	TA3 REDUCER SUPPORT EAR
15	8120018	1	TA4 SUPPORT BUSHING
16	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GRB
17	8101009	1	DOOR- INSPECTIN
18	S-845	24	WASHER FLAT 5/16 USS ZN
19	S-1147	12	WASHER LOCK SPLIT 5/16" ZN
20	S-1196	12	BOLT HHCS 5/16-18 x 1" ZN GR 5
21	S-396	12	NUT 5/16-18
22	S-9177	1	KEY SQ. 3/4" x 3-7/16"



THE GSB GROUP Assumption, IL CONSTRUCTION		DRIVE CNR ASSY 15-20HP TA3 CHAIN LOOP		TOLEANCES (Unless Noted) Fractions +/- /32" Decimals +/- .031 Angles +/- .100		Sheet 1 of 1 Date 08-Apr-05 Drawn BJT Checked Approved		Drawing No. 8101281	
No.	ECN	Revision Description	Date	By	MATERIAL HANDLING				

8" (25-30 HP) Drive Components

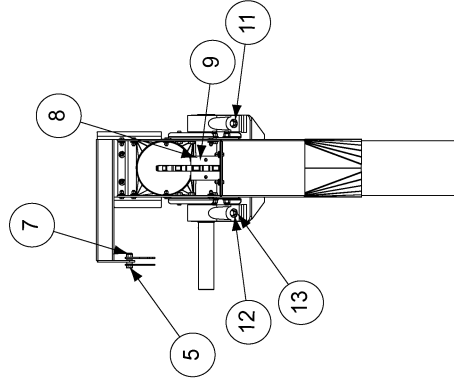
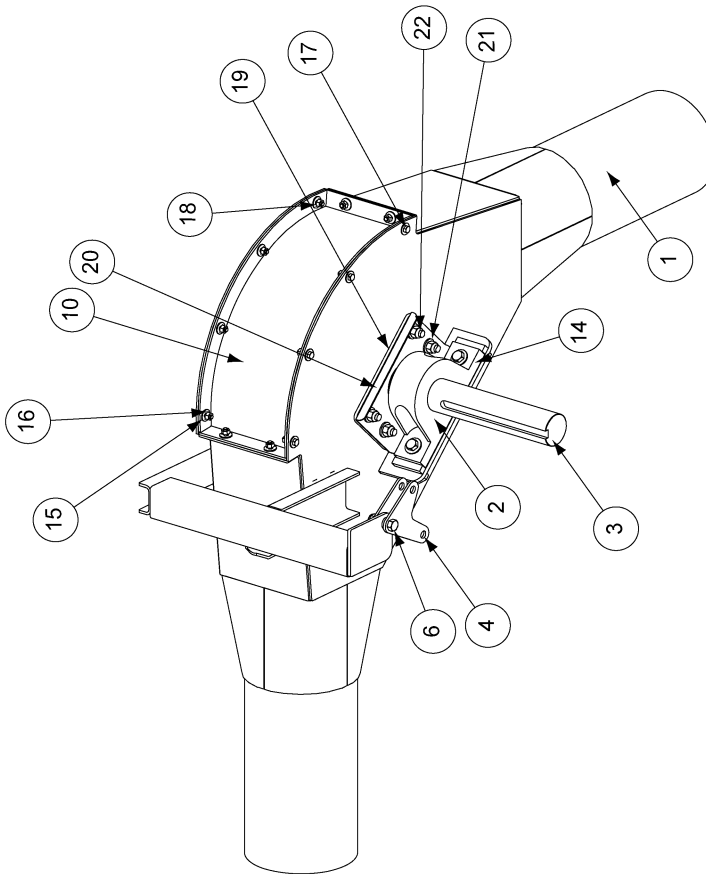
ITEM	PART #	QTY	DESCRIPTION
1	8081295	1	DRIVE CNR, ASSY, 30HP
2	8081296	1	DRIVE BOX, 30HP, T44, 8" CH LOOP
3	8120211	1	BELT GRD. ASSY., T44

THE GSE GROUP Assumption, IL Copyright © 2006		TOLERANCES (Unless Noted) Fractions 1/16 - 1/32" Decimals 1/10 - .01" Angles 1/2° - 1.00°		Sheet 1 of 1 Part N/A Rev. N/A Date 3-17-06 Drawn BJT Checked _____ Insp. _____ Mfg. _____ Do Not Scale		Drawing No. 8081287	
DRIVE CNR, 25 & 30HP, T44		DRIVE CNR, 25 & 30HP, T44		N/A		N/A	
MATERIAL HANDLING		8" CHAIN LOOP		NONE		NONE	
1	8081295	1	DRIVE CNR, ASSY, 30HP	1	8081295	1	DRIVE CNR, ASSY, 30HP
2	8081296	1	DRIVE BOX, 30HP, T44, 8" CH LOOP	2	8081296	1	DRIVE BOX, 30HP, T44, 8" CH LOOP
3	8120211	1	BELT GRD. ASSY., T44	3	8120211	1	BELT GRD. ASSY., T44

8" (30 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8081294	1	30HP DR.CNR. WELDMENT
2	MHC0002	2	BEARING, DODGE 2 7/16" SC PILLOW BLOCK
3	8081288	1	SHAFT DRIVE 25,30HP
4	8120017	2	TM4 REDUCER SUPPORT EAR
5	8120018	1	TM4 SUPPORT BUSHING
6	S-8883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
7	S-8260	9	1/2 - 13 NYLOCK NUT
8	S-9177	1	KEY, SQ. 3/4" x 3-7/16"
9	PT1086	1	SPROCKET 16 TOOTH, 3"ID,81WH
10	8081009	1	CORNER INSPECTION DOOR
11	S-8320	8	WASHER FLAT 7/16 USS ZN
12	S-7811	4	BOLT- HEX,STD THRD--GRD 2 1/2-13 UNC X 2, PLTD
13	S-236	4	1/2 LOCK WASHER
14	S-3729	4	NUT 1/2-13
15	S-845	24	WASHER FLAT 5/16 USS ZN
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	8081269	2	UHMW CORNER DUST SEAL
20	8081270	2	COVER PLATE FOR UHMW
21	S-8662	16	WASHER, 1/2" FLAT
22	S-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5



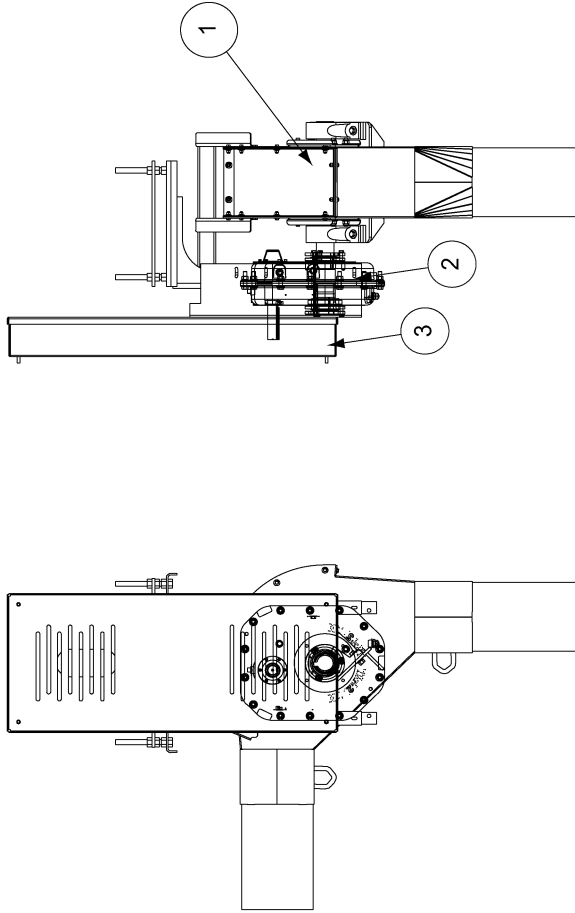
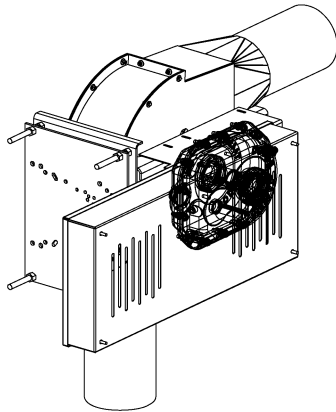
Inspection door removed from view for clarity.


Sheet 1 of 1		MF	N/A	Drawing No.
MAN	N/A	RE	N/A	8081295
BY	BUT	DATE	DATE	
BY		DATE	DATE	
TOLERANCES (Unless Noted)				
Fractions 1/2 - 1/32"				
Decimals .1 - .001				
Angles 1/2 - 1.00				
Revision Description				
No.	ECN	By	Date	
DRIVE CNR.ASSY. 30HP		8" CHAIN LOOP		
THE GSI GROUP				
Assumption, IL				
MATERIAL HANDLING				

9. Parts List

10" (25-30 HP) Drive Components

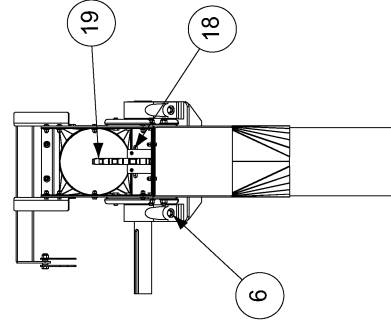
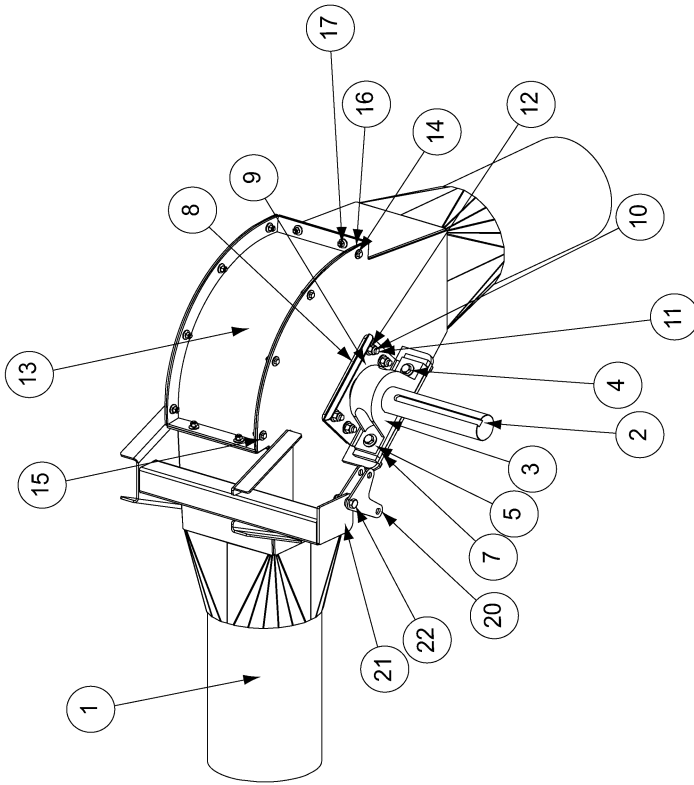
ITEM	PART #	QTY	DESCRIPTION
1	8101290	1	DR. CNR. ASSY., 25,30HP, TA4
2	8081296	1	DRV. BOX, TA4, 25,30HP
3	8120211	1	BELT GRD. ASSY., TA4



No.		1	104146	BELT GRD. ASSY., TA4, MS 812025	Date	8-20-08	By	BJT	ECN	104146	Revision Description	MATERIAL HANDLING			DRIVE CNR. 25,30HP, TA4 10" CHAIN LOOP		TOLERANCES (Unless Noted) Fractions 1/16 - 1/32" Decimals 1/100 - .001 Angles 1/2 - 1.00		Sheet 1 of 2 Date 08-Apr-05 Drawn by BJT Checked by		M N/A Dwg No. N/A Size 08-Apr-05 Title		Drawing No. 8101288	
-----	--	---	--------	---------------------------------	------	---------	----	-----	-----	--------	----------------------	-------------------	---	--	---	--	--	--	--	--	---	--	------------------------	--

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

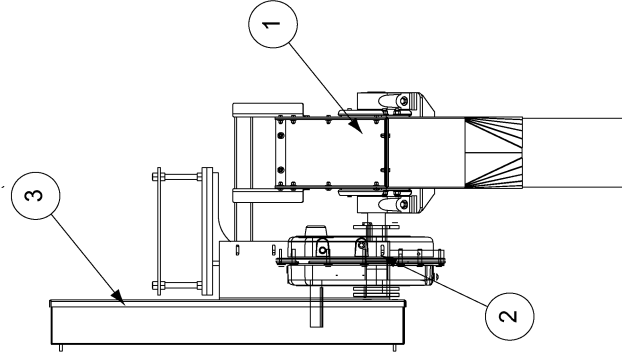
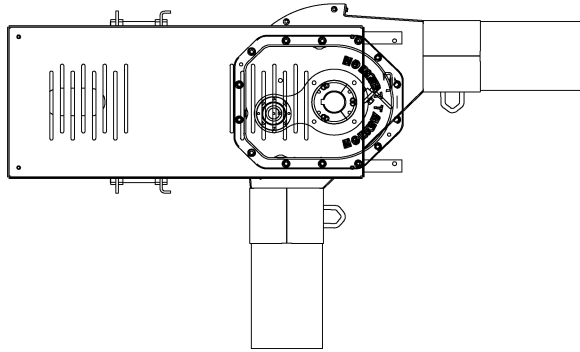
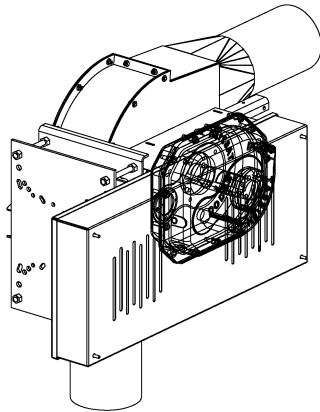
ITEM	PART #	QTY	DESCRIPTION
1	8101291	1	25.30HP DR. CMR. WELDMENT
2	8101294	1	SHAFT DRIVE 25.30HP
3	MHC0002	2	BEARING, DODGE 2 7/16" SC PILLLOW BLOCK
4	S-8320	8	WASHER FLAT 7/16 USS ZN
5	S-236	4	1/2 LOCK WASHER
6	S-7811	4	BOLT- HEX, STD THRD-GRD. 2 1/2-13 UNC X 2, PLTD
7	S-3729	4	NUT 1/2-13
8	8081269	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	9	1/2 - 13 NYLOCK NUT
13	8101009	1	DOOR- INSPECTIN
14	S-845	24	WASHER FLAT 5/16 USS ZN
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
20	8120017	2	TA4 REDUCER SUPPORT EAR
21	8120018	1	TA4 SUPPORT BUSHING
22	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8

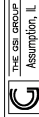


No.		ECN	Revision	Description	Date	By
<p>THE CSI GROUP Assumption, IL Engineering Division</p> <p>MATERIAL HANDLING</p>						
<p>DR. CMR. ASSY. 25.30HP TA4</p> <p>10" CHAIN LOOP</p>						
<p>TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00</p>			<p>Sheet 1 of 1</p>		<p>IM N/A</p>	
<p>Weight: N/A</p>			<p>Ship: N/A</p>		<p>Drawing No. 8101290</p>	
<p>By: BJT</p>			<p>Date: 06-Apr-05</p>		<p>Scale: NONE</p>	
<p>Checked By:</p>			<p>Material Status</p>		<p>Do Not Start</p>	

10" (40 HP) Drive Components

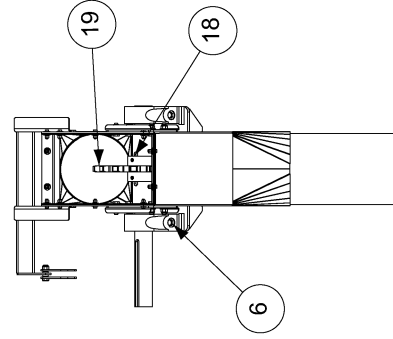
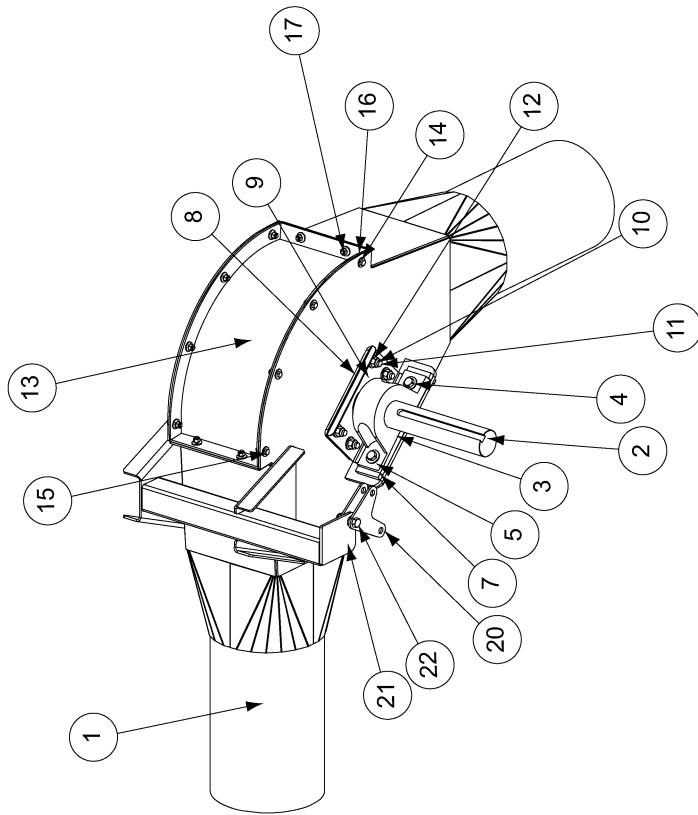
ITEM	PART #	QTY	DESCRIPTION
1	8101296	1	DR.CNR.ASSY. 40HP, TA5
2	8101303	1	DRIVE BOX 40HP,TA5,10" CH.LOOP
3	8120214	1	BELT CRD.ASSY. TA5



		DRIVE CNR. 40HP, TA5 10" CHAIN LOOP		Drawing No. 8101295	
TOLERANCES (Unless Noted) Fractions \pm 1/32" Decimals \pm .01 Angles \pm 1.00		Sheet 1 of 1	Date 12-Apr-05	Scale NONE	Work to Revision 10 of 10
1 104655 ECN	BELT CRD. ASSY. TA5 W/5 8120145 Revision Description	6-19-06	BJT	BJT	N/A
Date	By	Date	By	Scale	Work to Revision

10" (40 HP) Drive Components (Continued)

ITM	PART #	QTY	DESCRIPTION
1	8101291	1	25.30HP DR. CNR. WELDMENT
2	8101294	1	SHAFT DRIVE 25.30HP
3	MHC0002	2	BEARING, DODGE 2 7/16" SC PILLOW BLOCK
4	S-8320	8	WASHER FLAT 7/16 USS ZN
5	S-236	4	1/2 LOCK WASHER
6	S-7811	4	BOLT- HEX, STD THRD-GRD 2 1/2-13 UNC X 2, PLTD
7	S-3729	4	NUT 1/2-13
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	9	1/2 - 13 NYLOCK NUT
13	8101009	1	DOOR- INSPECTIN
14	S-845	24	WASHER FLAT 5/16 USS ZN
15	S-1186	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, SO. 3/4" x 3-7/16"
19	PT1086	1	SPROCKET 16 TOOTH, 3" ID, 81XH
20	8120017	2	TA4 REDUCER SUPPORT EAR
21	8120018	1	TA4 SUPPORT BUSHING
22	S-3863	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8

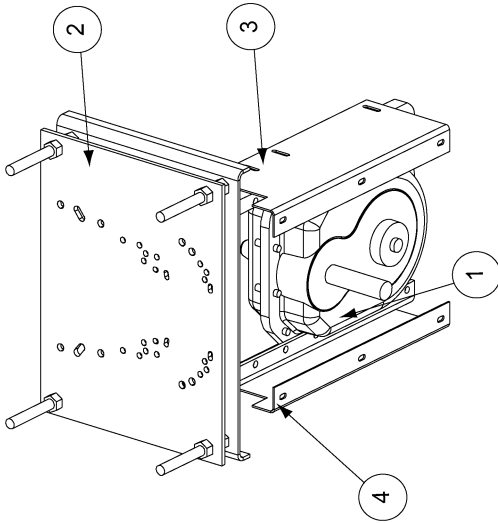


Sheet 1 of 1		REV	N/A	Drawing No.
Weight	N/A	Ship	N/A	8101296
Net Wt	N/A	Wt.	N/A	
By	BJT	Date	06-Apr-05	
TOLERANCES (Unless Noted)		Work. Dimensions Do Not Scale		
Fractions +/- 1/32				
Decimals +/- .031				
Angles +/- 1.00				
MATERIAL HANDLING		DR. CNR. ASSY. 40 HP TA5		
10" CHAIN LOOP				
No.	ECN	Revision Description	Date	By

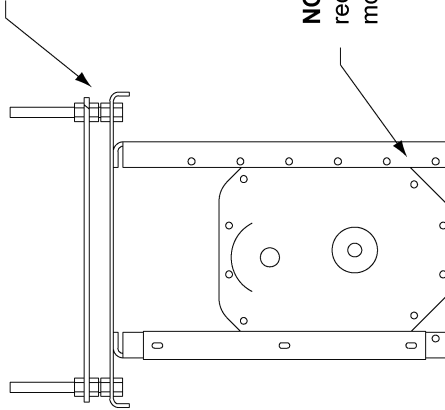
8" (15 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	MHC01074	1	DODGE REDUCER, TA3203H-15
2	TA3203MM	1	TA3 MOTOR MOUNT ASSEMBLY
3	BC-0167	1	BRACKET, RH, TA3
4	BC-0168	1	BRACKET, LH, TA3

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



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



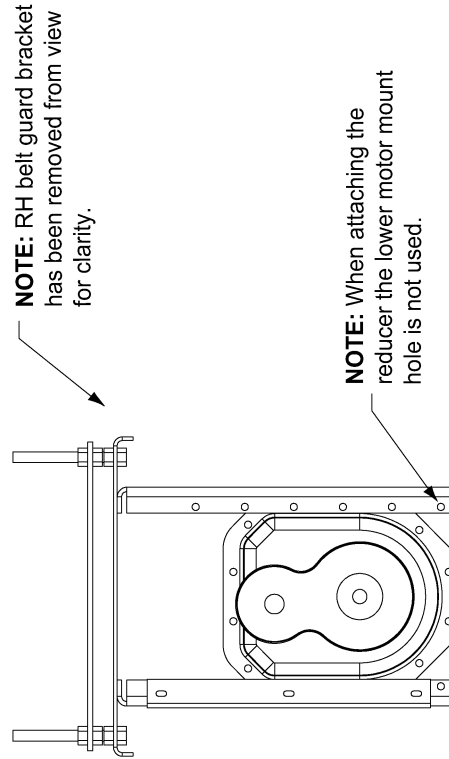
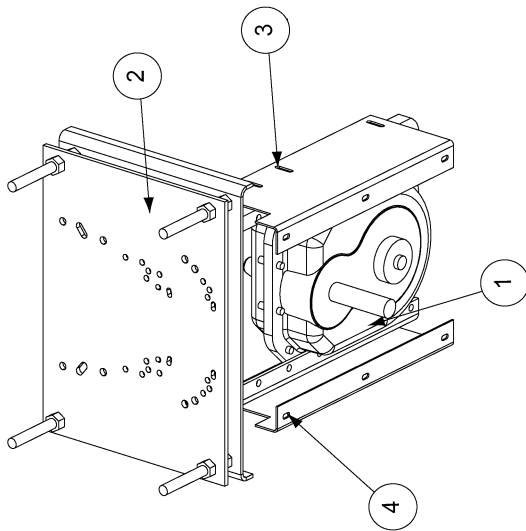
NOTE: When attaching the reducer the lower motor mount hole is not used.


No.	ECN	Revision Description	Date	By	MATERIAL HANDLING	 THE GSI GROUP Assumption, IL Copyright © 2018	DRV.BOX TA3 15HP	TOLERANCES (Unless Noted) Fractions ± 1/32" Decimals ± 0.01 Angles ± 1.00	Sheet 1 of 1	MM N/A	Drawing No.
							8" CHAIN LOOP	1st N/A 2nd N/A Date 10-Jul-06 Drawn BY BUT Checked By	1st N/A 2nd N/A Date Drawn By Checked By	NONE NONE NONE None to Dimensions Do Not Scale	8081271

8" (20 HP) Drive Components

ITEM	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

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 A7.6B8.0 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

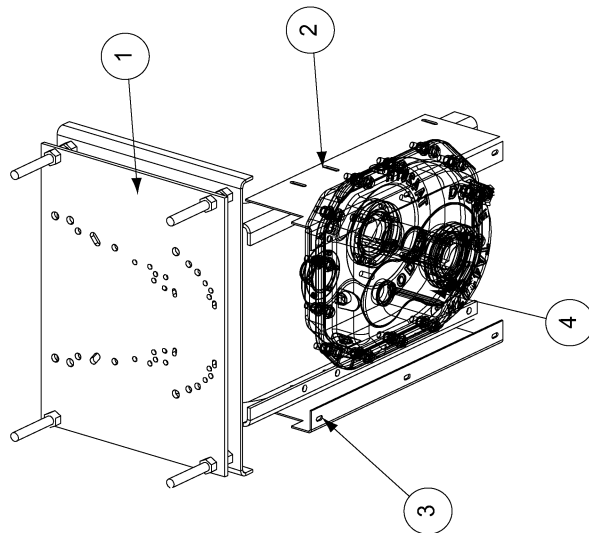


TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .001 Angles +/- 1.00		Sheet 1 of 1 Part# N/A Rev# BJT Created By	Sheet 1 of 1 Part# N/A Rev# 10-Jul-06 Created By	IMW N/A Ship to N/A Scale NONE Works to Dimensions No Not Scale	Drawing No. 8081285
 THE GSI GROUP Assumption, IL Engineering Division		DRV.BOX TA3 20HP 8" CHAIN LOOP		MATERIAL HANDLING	
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

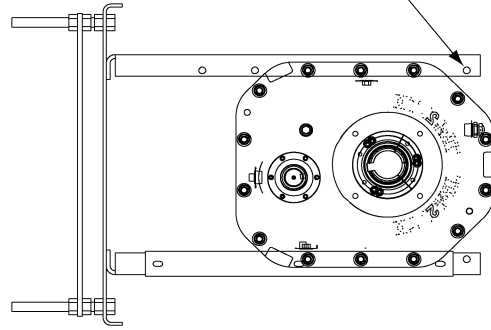
ITEM	PART #	QTY	DESCRIPTION
1	TACLM1	1	MOTOR MNT. CHAIN LOOP TA4
2	BC-0181	1	BRACKET, RH, TA4
3	BC-0182	1	BRACKET, LH, TA4
4	MHC01075	1	DOOSE REDUCER, TA4207H15

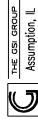
ITEMS NOT SHOWN IN DRAWING:
 CE-00617 (1) BUSHING SK x 1-7/8" BORE
 D02-0067 (3) BELT-V BX85
 G006687 (1) BUSHING SK x 1-7/16" BORE
 MHC01096 (1) BUSHING TAPER, TA4207TB x 2-7/16
 MHC01566 (1) SHEAVE 3GR A10.6R11.0 SK
 MHC01567 (1) SHEAVE 3GR A13.2B13.6 SK
 TA4HDW (1) HARDWARE, BELT GUARD TA4



NOTE: RH Belt guard bracket has been removed from view for clarity.

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

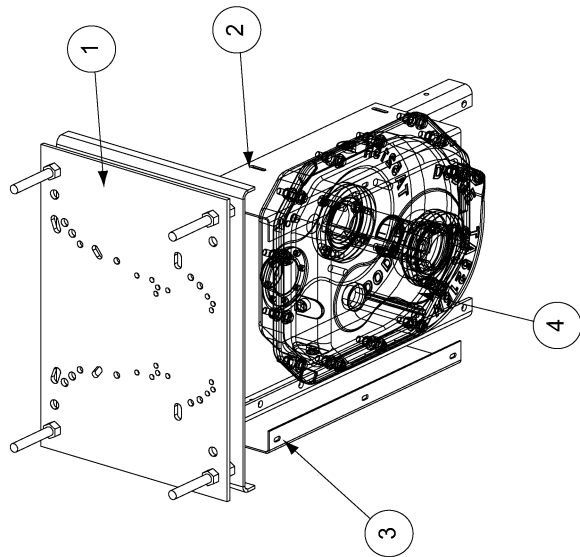


No.	ECN	Revision Description	Date	By	 THE USE GROUP Assumption, IL <small>Engineering Office</small>	DRV.BOX TA4 25.30HP CHAIN LOOP	TOLERANCES (Unless Noted) Fractions 1/16 - 1/32" Decimals 1/100 - .001 Angles 1/2 - 1.00	Sheet	1 of 1	MM	N/A	Drawing No.	8081296
								Rev	N/A	Rev	N/A	Rev	N/A
								By	BIT	Date	11-14-06		

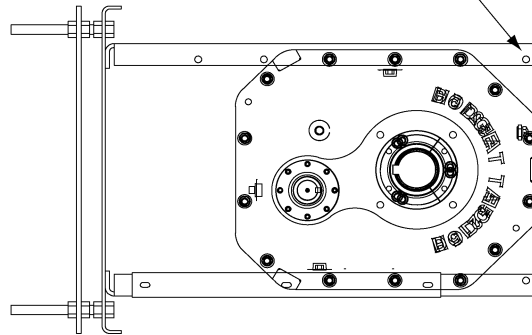
10" (40 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	TASCLM1	1	TA5 MOTOR MOUNT ASSEMBLY
2	BC-0196	1	BRACKET, RH, TA5
3	BC-0197	1	BRACKET, LH, TA5
4	MHC01076	1	DODGE REDUCER, TA5/15H15

ITEMS NOT SHOWN IN DRAWING:
 GT3-0068 (1) BUSHING SF 2-1/8" BORE
 MHC00039 (3) BELT-V 5VX-850
 MHC01087 (1) BUSHING TAPER, TA52151TB 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
 TASHOW (1) HARDWARE, BELT GUARD TA5



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



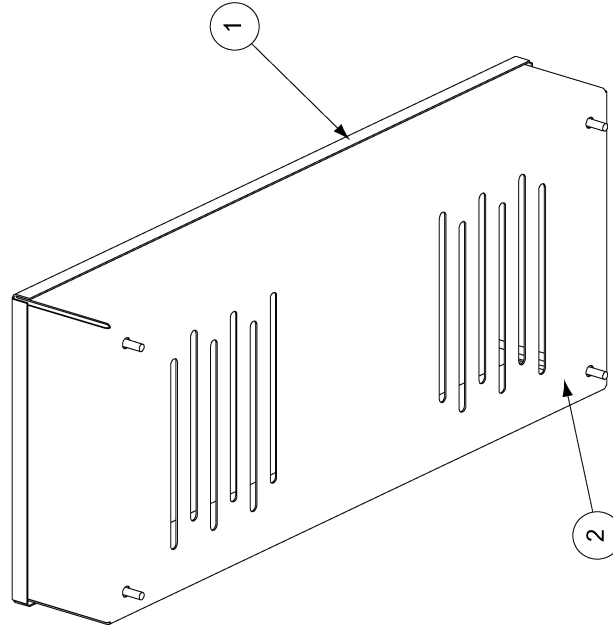
NOTE: When attaching the reducer the lower motor mount hole is not used.

No.		Revision Description		Date		By		MATERIAL HANDLING		DRV-BOX TA5 40HP		CHAIN LOOP		Drawing No.	
ECN														8101303	
TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- 1.00		Sheet		1 of 1		M		N/A		RIP		N/A		NONE	
THE GSI GROUP Assumption, IL		N/A		R		N/A		N/A		Date		11-01-06		None	
DATE		BY		CHKD		BY		DATE		BY		DATE		BY	

Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120216	1	BELT GUARD BACK WELDMENT, TA3
2	8120222	1	CORNER CHAIN LOOP TA3

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

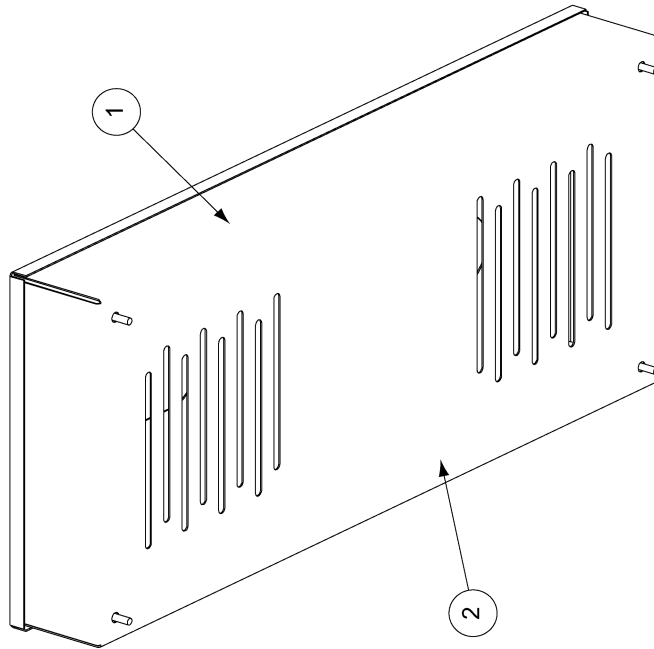


THE GSI GROUP Assumption, IL <small>Copyright © 2017</small>		BELT GUARD ASSY., TA3 CHAIN LOOP		TOLERANCES (Unless Noted) Fractions $\pm 1/32$ Decimals ± 0.01 Angles ± 1.00		Sheet 1 of 1 Part N/A Rev. N/A Date 21-Jun-06 Drawn By BJT Checked By		Drawing No. 8120217	
No.	ECN	Revision Description	Date	By	Material	Part No.	Rev.	Scale	Notes

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



TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .031 Angles +/- .001		Sheet 1 of 1 Part N/A Title N/A Date 24-Aug-04 Author BJT Checker [Blank]	Part No. N/A Qty 56-773 Issue Rev. to Scale None	Drawing No. 8120211
BELT GRD. ASSY., TA4 CHAIN LOOP		THE GIB GROUP Assumption, IL MATERIAL HANDLING Date By		
No.	ECN	Revision Description		

Drive Components (Continued)

ITEM	PART #	QTY	DESCRIPTION
1	8120213	1	BELT GUARD BACK WELDMENT, TA5
2	8120218	1	COVER CH LOOP TA5

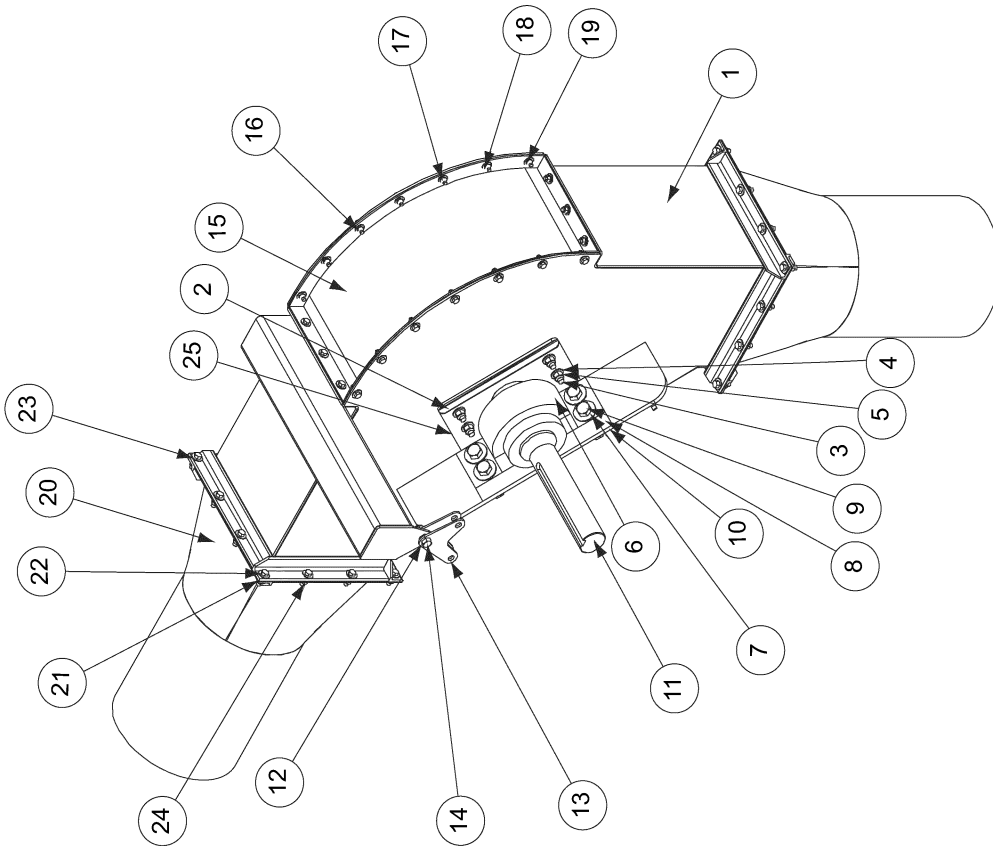
NOT SHOWN IN DRAWING:
 S-1054 (4) SPLIT LOCK WASHER 3/8"
 S-246 (4) FLAT WASHER 3/8"
 S-456 (4) HEX NUT 3/8"
 DC-984 (1) DECAL, DANGER, SHEAR POINT
 DC-985 (1) DECAL, WARNING, SHEAR POINT
 DC-1379 (1) DECAL, NOTICE

		BELT GRD.ASSY. TA5		CHAIN LOOP		Drawing No. 8120214	
TOLERANCES (Unless Noted) Fractions +/- 1/32" Decimals +/- .001 Angles +/- .100		Sheet 1 of 1		N/A		N/A	
N/A		N/A		N/A		N/A	
By BJT		Date 14-Jun-08		None		Work to Dimension Do Not Scale	
No. ECN		Revision Description		Date		By	

12" 7 Gauge (30 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120027	1	T44 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	9	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
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	T44 DRIVE SHAFT
12	8120018	1	T44 SUPPORT BUSHING
13	8120017	2	T44 REDUCER SUPPORT EAR
14	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
15	8120022	1	CORNER COVER WELDMENT
16	S-845	40	WASHER FLAT 5/16 USS ZN
17	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
19	S-386	20	NUT 5/16-18
20	8120004	2	SQ./RND. WELDMENT 7GA.
21	S-248	48	WASHER FLAT 3/8 USS ZN GR2
22	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
23	S-1054	24	LOCK WASHER, 3/8
24	S-456	24	NUT 3/8-16
25	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	Rev	N/A	Drawing No.	8120000
Year	N/A	By	N/A	Spec No.	1497.586
Drawn By	BJT	Date	27-Aug-04	Scale	NONE
Checked By		Work Order No.		Dr. No.	DR-1412328

TOOLERANCES
 (Unless Noted)
 Fractions ±.125"
 Decimals ±.031"
 Angles ±.100°

DRIVE CNR. SUB ASSY. 30HP T44

12" CHAIN LOOP

THE GSI GROUP
 Assumption, IL

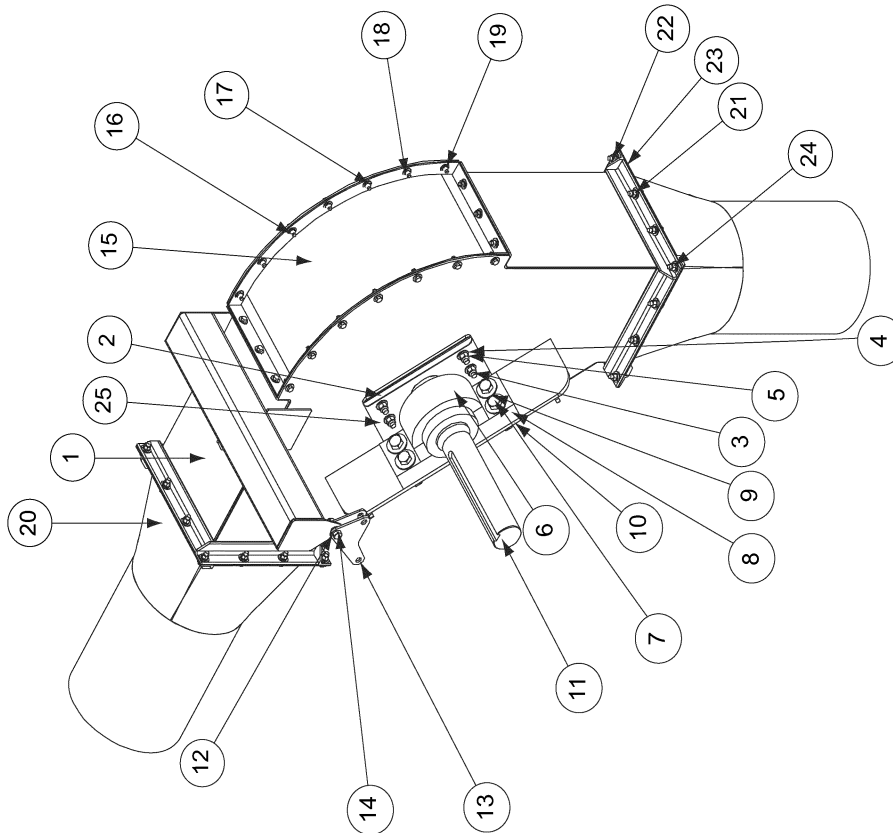
MATERIAL HANDLING

No.	ECN	Revision Description	Date	By

12" 7 Gauge (40-50 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120154	1	TAS DRIVE CNR. WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-9760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8652	8	WASHER, 1/2" FLAT
5	S-6260	9	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4BOLT S-2000 PB. 3 7/16"
7	S-666	16	WASHER FLAT 3/4 USS ZN
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	T44 DRIVE SHAFT
12	8120018	1	T44 SUPPORT BUSHING
13	8120156	2	T45 REDUCER SUPPORT EAR
14	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
15	8120022	1	CORNER COVER WELDMENT
16	S-645	40	WASHER FLAT 5/16 USS ZN
17	S-196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
19	S-396	20	NUT 5/16-18
20	8120004	2	SQ. RND. WELDMENT 7GA.
21	S-248	48	WASHER FLAT 3/8 USS ZN GR2
22	S-1054	24	LOCK WASHER, 3/8
23	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
24	S-456	24	NUT 3/8-16
25	8120170	2	COVER P-LATE FOR UHMW

NOT SHOWN IN DRAWING:
 PT1529 (1) SPROCKET C HUB, 22 TOOTH, 2.609" PITCH
 CE-00972 (1) KEY, 7/8"x7/8"x6.00"

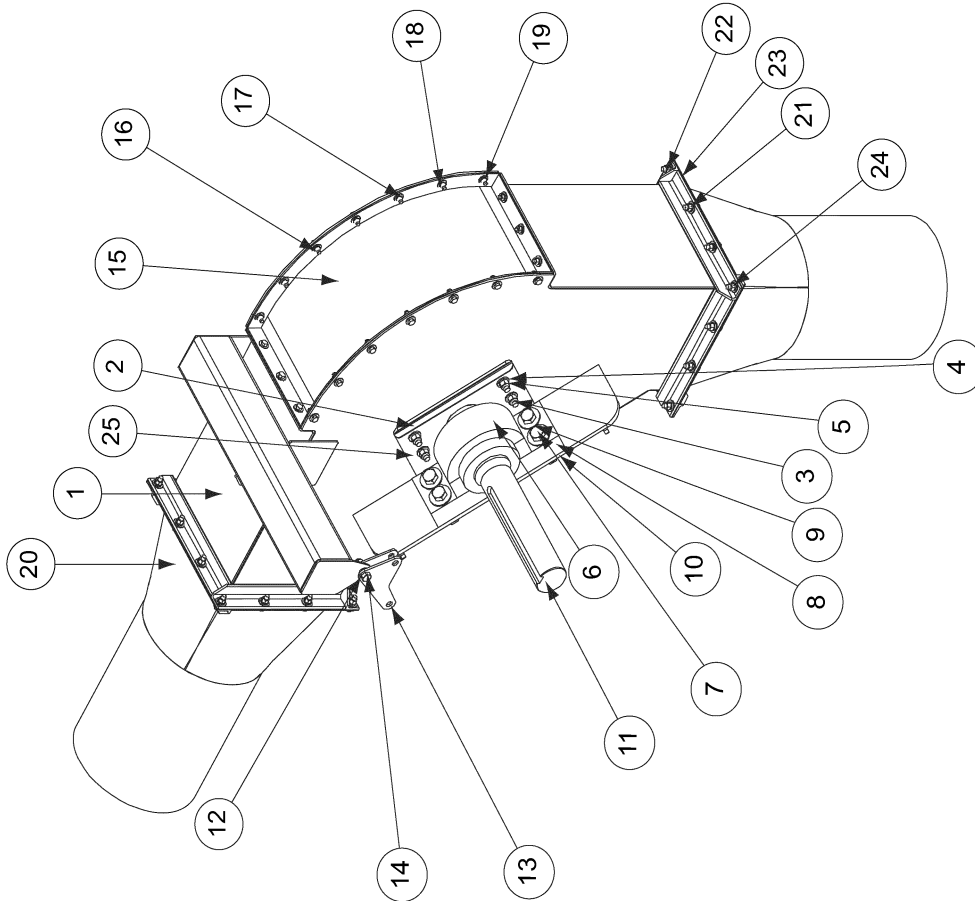



No.	ECN	Revision Description	Date	By	MATERIAL HANDLING	DRIVE CNR. SUB ASSY. 40, 50HP T45	12" CHAIN LOOP	TOLERANCES (Unless Indicated) FRACTIONS: ±.02 DECIMALS: ±.001 ANGLES: ±1.00		Sheet 1 of 1	MW N/A	Drawing No.
								Wrote By	Checked By	1534.562	8120144	

12" 7 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-8760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-8562	8	WASHER, 1/2" FLAT
5	S-8260	9	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE A-BOLT S-2000 P.B. 3 7/16"
7	S-866	16	WASHER FLAT 3/4 USS ZN
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	8120018	1	T46 SUPPORT BUSHING
13	8120168	2	T46 REDUCER SUPPORT EAR
14	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
15	8120022	1	CORNER COVER WELDMENT
16	S-845	40	WASHER FLAT 5/16 USS ZN
17	S-1186	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
19	S-986	20	NUT 5/16-18
20	8120004	2	SOJ.RND. WELDMENT 7GA.
21	S-248	48	WASHER FLAT 3/16 USS ZN GR2
22	S-1054	24	LOCK WASHER, 3/8
23	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
24	S-458	24	NUT 3/8-16
25	8120170	2	COVER PLATE FOR UHMW

NOT SHOWN IN DRAWING:
 PT1528 (1) SPROCKET C HUB, 22 TOOTH, 2.609" PITCH
 CE-00972 (1) KEY, 7/8" X 7/8" X 6.00"



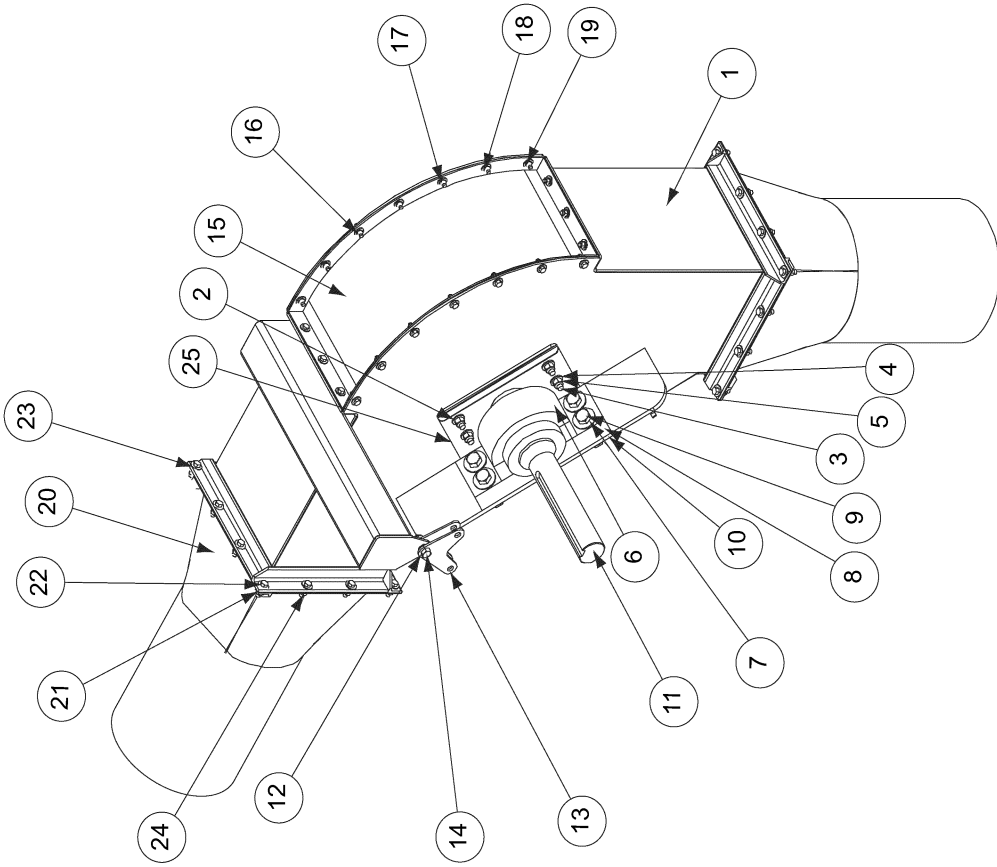
No.		ECN	Revision Description	Date	By
					
DRIVE CNR.SUB ASSY,60HP TAG 12" CHAIN LOOP					
TOLERANCES (Unless Noted) Fractions ±.002 Decimals ±.001 Angles ±.100					
Sheet	1 of 1	REV	N/A	Drawing No.	8120163
DATE	N/A	BY	1567.678	DATE	27-Aug-04
BY	BIT	CHK	NONE	DATE	
BY		CHK	NONE	DATE	

12" 10 Gauge (30 HP) Drive Components

ITEM	PART #	QTY	DESCRIPTION
1	8120027	1	T44 DRIVE CNR. WELD.
2	8120010	2	UHMW CORNER DUST SEAL
3	S-6760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
4	S-6562	8	WASHER, 1/2" FLAT
5	S-6260	9	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 PB. 3 7/16"
7	S-866	16	WASHER FLAT 3/4 USS ZN
8	S-233	8	3/4 LOCK WASHER
9	S-7684	8	BOLT HHCS 3/4-10 x 4 ZN GR8
10	S-234	8	NUT 3/4-10
11	8120011	1	T44 DRIVE SHAFT
12	8120018	1	T44 SUPPORT BUSHING
13	8120017	2	T44 REDUCER SUPPORT EAR
14	S-8883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
15	8120022	1	CORNER COVER WELDMENT
16	S-845	40	WASHER FLAT 5/16 USS ZN
17	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
19	S-396	20	NUT 5/16-18
20	8120173	2	SQ./RND. WELDMENT 10Ga.
21	S-248	48	WASHER FLAT 3/8 USS ZN GR2
22	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
23	S-1054	24	LOCK WASHER, 3/8
24	S-456	24	NUT 3/8-16
25	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"x7/8"x6.00"

10 Ga. SQ./RND.



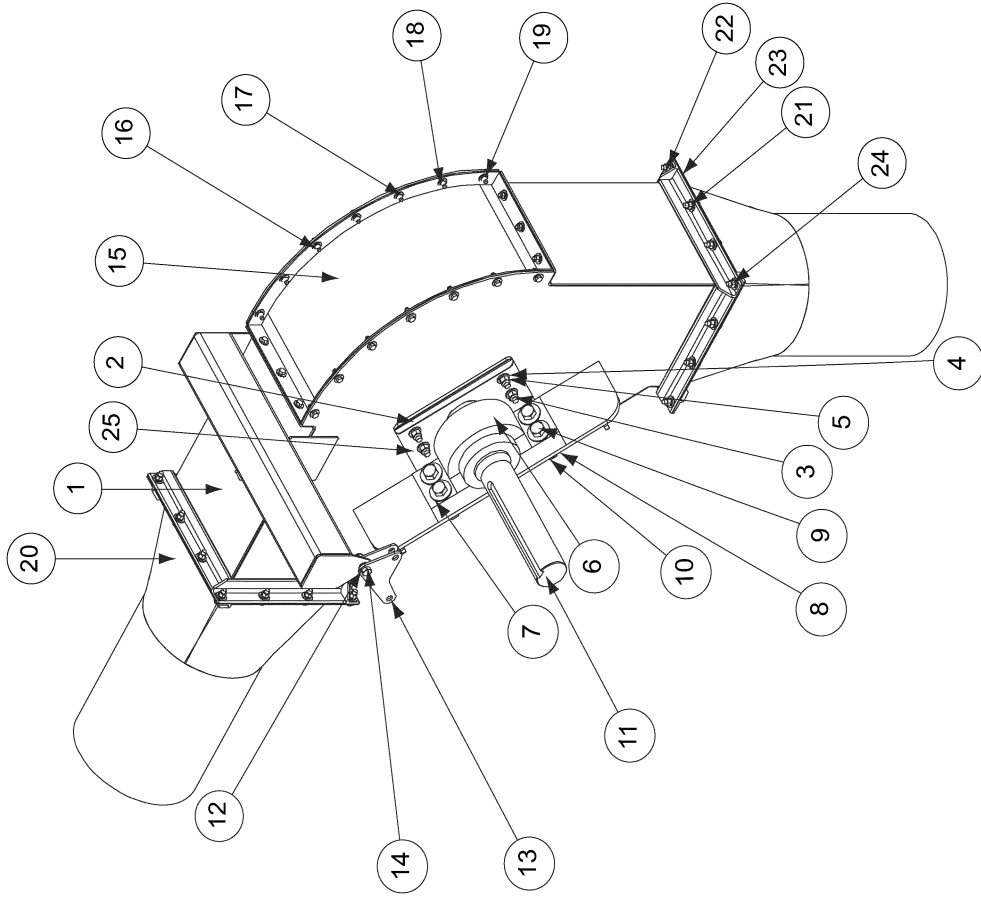
THE GSI GROUP Assumption, IL Express Drive		DRIVE CNR. SUB ASSY, 30HP T44 12" CHAIN LOOP		TOLERANCES (Unless Noted) Finish ± .001 Form ± .001 Angles ± 1.00		Sheet 1 of 1 Date 1-12-05 Checked By BJT Drawn By		MW N/A SR N/A PR N/A Date NONE Work to Disposition Do Not Quote		Drawing No. 8120175	
No.	ECN	Revision	Description	Date	By						

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

ITEM	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	9	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 PB. 3.716"
7	S-866	16	WASHER FLAT 3/4 USS ZN
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	8120016	1	TA4 SUPPORT BUSHING
13	8120156	2	TA5 REDUCER SUPPORT EAR
14	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
15	8120022	1	CORNER COVER WELDMENT
16	S-845	40	WASHER FLAT 5/16 USS ZN
17	S-1166	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
19	S-366	20	NUT 5/16-18
20	8120173	2	SQ.RND. WELDMENT 10Ga.
21	S-248	48	WASHER FLAT 3/8 USS ZN GR2
22	S-1054	24	LOCK WASHER, 3/8
23	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
24	S-456	24	NUT 3/8-16
25	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"x7/8"x6.00"

10Ga. SQ./RND.



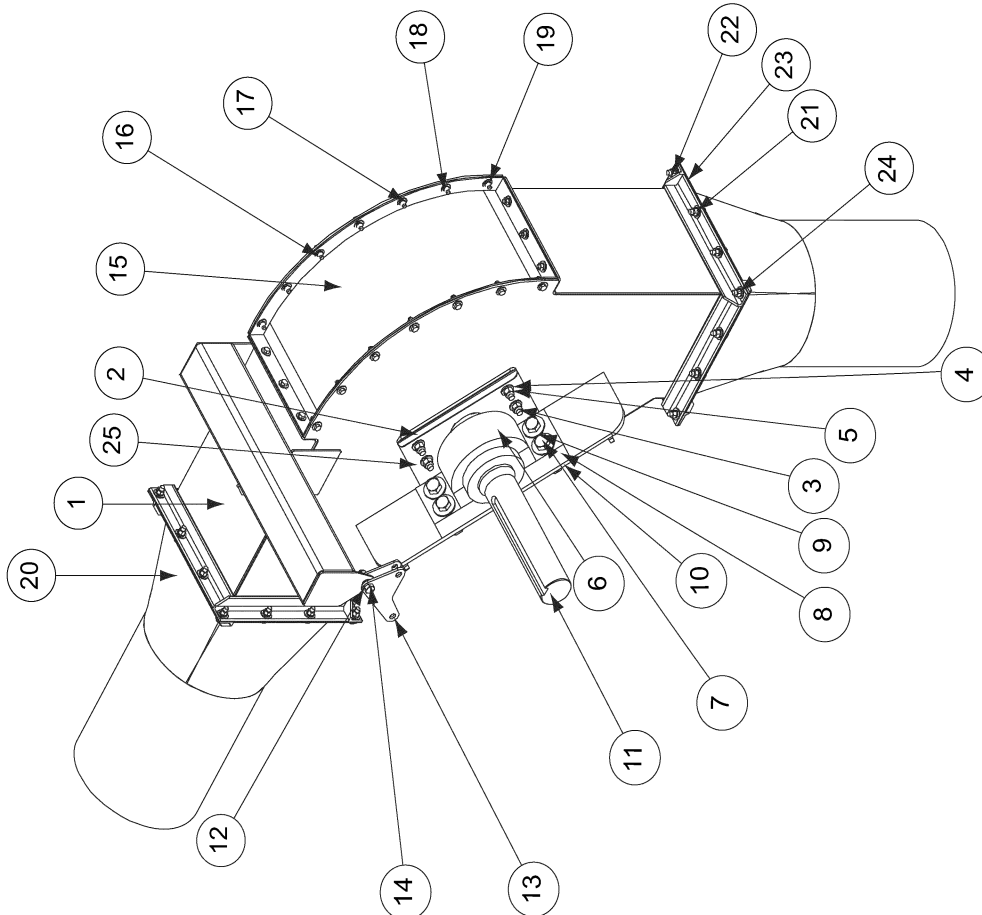
TOLERANCES (Unless Noted) Fractions ±.02" Decimals ±.001" Angles ±.100°		Sheet 1 of 1 MW N/A S/N N/A Date 1-12-05 Drawn By BJT Checked By [blank]	Drawing No. 8120179
DRIVE CNR.SUB ASSY.40-50HP TA5 12" CHAIN LOOP		THE GSI GROUP Assumption, IL Material Handling	
No.	ECN	Date	By


12" 10 Gauge (60 HP) Drive Components

ITM	PART #	QTY	DESCRIPTION
1	8120164	1	TAG 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	9	1/2 - 13 NYLOCK NUT
6	MHC01277	2	BEARING, DODGE 4-BOLTS-2000 P.B. 3 7/16"
7	S-8866	16	WASHER FLAT 3/4 USS ZN
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	8120018	1	TAG SUPPORT BUSHING
13	8120168	2	TAG REDUCER SUPPORT EAR
14	S-3883	1	BOLT HHCS 1/2-13x1-3/4 ZN GR8
15	8120022	1	CORNER COVER WELDMENT
16	S-445	40	WASHER FLAT 5/16 USS ZN
17	S-1196	20	BOLT HHCS 5/16-18 x 1" ZN GR 5
18	S-1147	20	WASHER LOCK SPLIT 5/16" ZN
19	S-396	20	NUT 5/16-18
20	8120173	2	SQ./RND. WELDMENT 10Ga.
21	S-246	48	WASHER FLAT 3/8 USS ZN GR2
22	S-1054	24	LOCK WASHER, 3/8
23	S-2071	24	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
24	S-456	24	NUT 3/8-16
25	8120170	2	COVER PLATE FOR UHMW

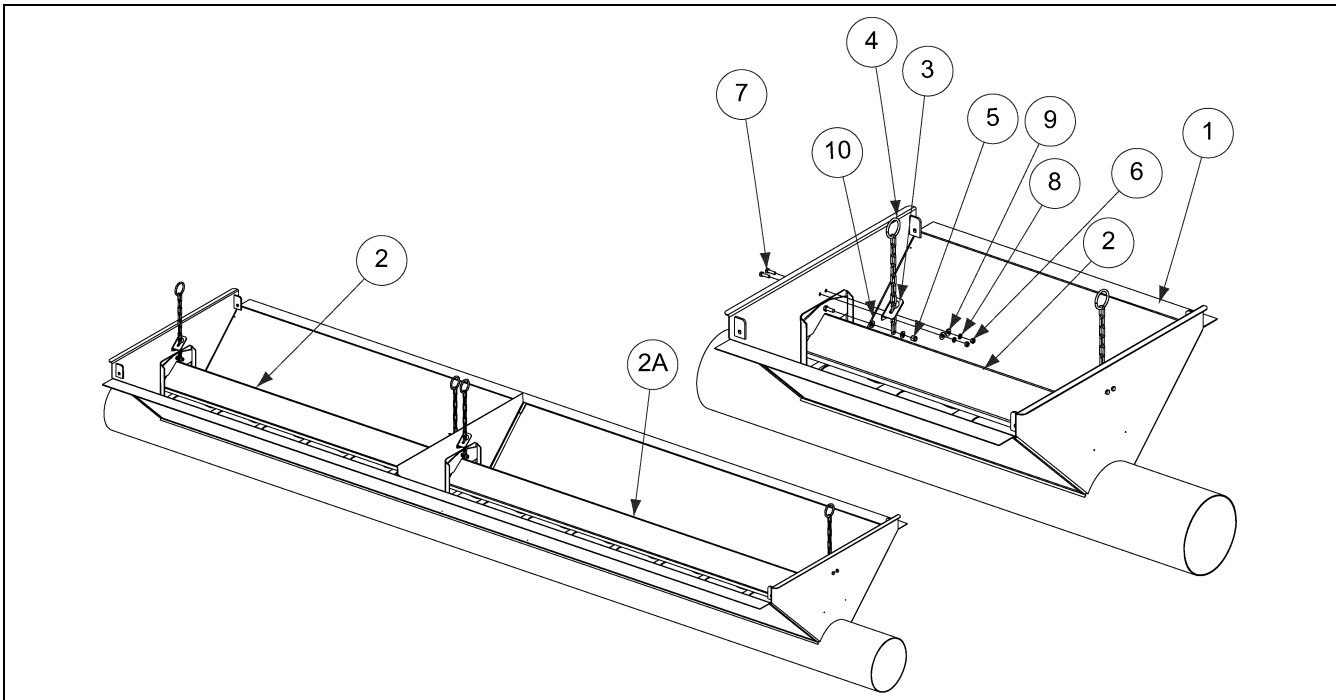
NOT SHOWN IN DRAWING:
 PT1523 (1) SPROCKET C-HUB, 22 TOOTH, 2.603" PITCH
 CE-00972 (1) KEY, 7/8"x7/8"x6.00"

10Ga. SQ./RND.



No.		ECN	Revision Description	Date	By
					
DRIVE CNR.SUB ASSY.60HP TAG			12" CHAIN LOOP		
MATERIAL HANDLING					
TOLERANCES (Unless noted) Finishes: F125 Decimals: ±.01 Angles: ±.100					
Sheet	1 of 1	MW	N/A	Drawing No.	
Part	N/A	Rev	N/A	8120180	
Drawn By	BIT	Scale	1:2.05	NONE	
Checked By		Notes	None to Dimensions	Direct Scale	

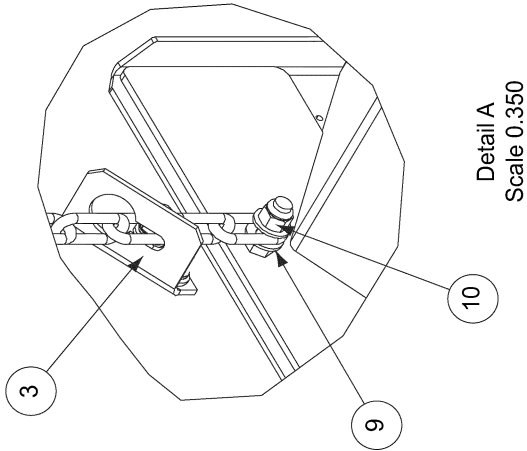
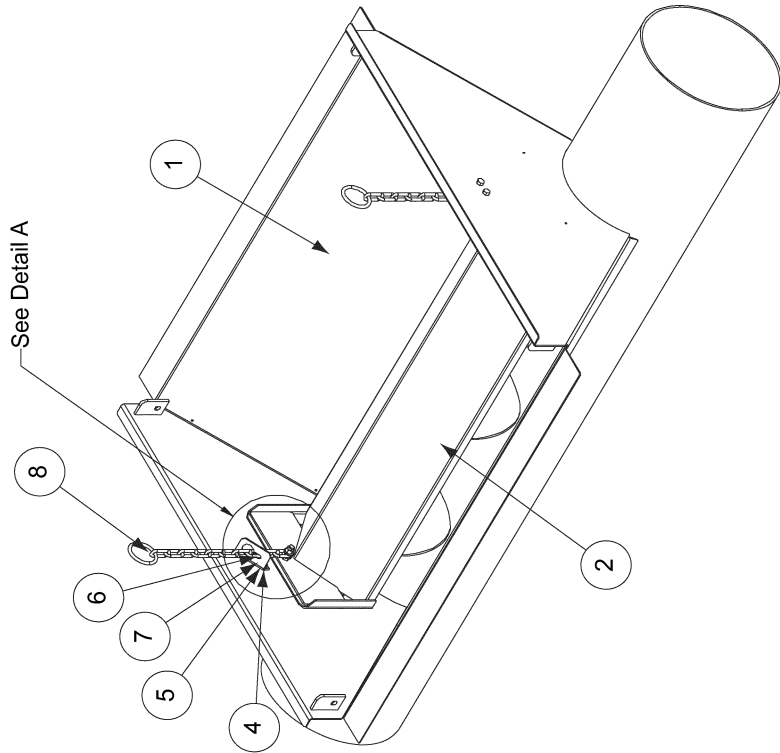
8" & 10" Inlet Dump Hoppers



REF #	PART #	DESCRIPTION	QTY	
1	8081110	8" INLET DUMP HOPPER WELDMENT (42-1/2" LONG)	1	
	8081111	8" INLET DUMP HOPPER WELDMENT (62-1/2" LONG)		
	8081112	8" INLET DUMP HOPPER WELDMENT (102-1/2" LONG)		
	8081113	8" INLET DUMP HOPPER WELDMENT (144-1/2" LONG)		
	8081167	8" INLET DUMP HOPPER WELDMENT (125" LONG)		
1	8101110	10" INLET DUMP HOPPER WELDMENT (42-1/2" LONG)	1	
	8101111	10" INLET DUMP HOPPER WELDMENT (62-1/2" LONG)		
	8101112	10" INLET DUMP HOPPER WELDMENT (102-1/2" LONG)		
	8101113	10" INLET DUMP HOPPER WELDMENT (144-1/2" LONG)		
2	8081127	SHIELD- CENTER, 42" LONG 8" INLET DUMP HOPPER WLDMT	1	
2 2A	8081128	SHIELD- CENTER, 62" LONG 8" INLET DUMP HOPPER WLDMT		
2A	8081129	SHIELD- CENTER, 81-1/2" LONG 8" INLET DUMP HOPPER WLDMT		
2	8081130	SHIELD- CENTER, 102" LONG 8" INLET DUMP HOPPER WLDMT		
2	8101127	SHIELD- CENTER, 42" LONG 10" INLET DUMP HOPPER WLDMT		
2	8101128	SHIELD- CENTER, 62" LONG 10" INLET DUMP HOPPER WLDMT		
2A	8101129	SHIELD- CENTER, 81-1/2" LONG 10" INLET DUMP HOPPER WLDMT		
2	8101130	SHIELD- CENTER, 102" LONG 10" INLET DUMP HOPPER WLDMT		
3	8101137	BRACKET- CHAIN SUPPORT INLET DUMP HOPPER		2
4	8101138	CHAIN- CTR SHIELD SPRT, WLDMT INLET DUMP HOPPER		2
5		NUT- LOCK, 3/8-16 UNC NYLON LOCK, PLTD, GRD 2	2	
6		NUT- HEX, 5/16-18 UNC FINISHED, PLTD, GRADE 2	4	
7		BOLT- HEX, STD THRD-GRD 2 5/16- 18 UNC x 1, PLTD	4	
8		WASHER- LOCK, REGULAR 5/16, PLTD	4	
9		WASHER- FLAT, STANDARD 5/16, PLTD	4	
10		WASHER- FLAT, STANDARD 3/8", PLTD	4	

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

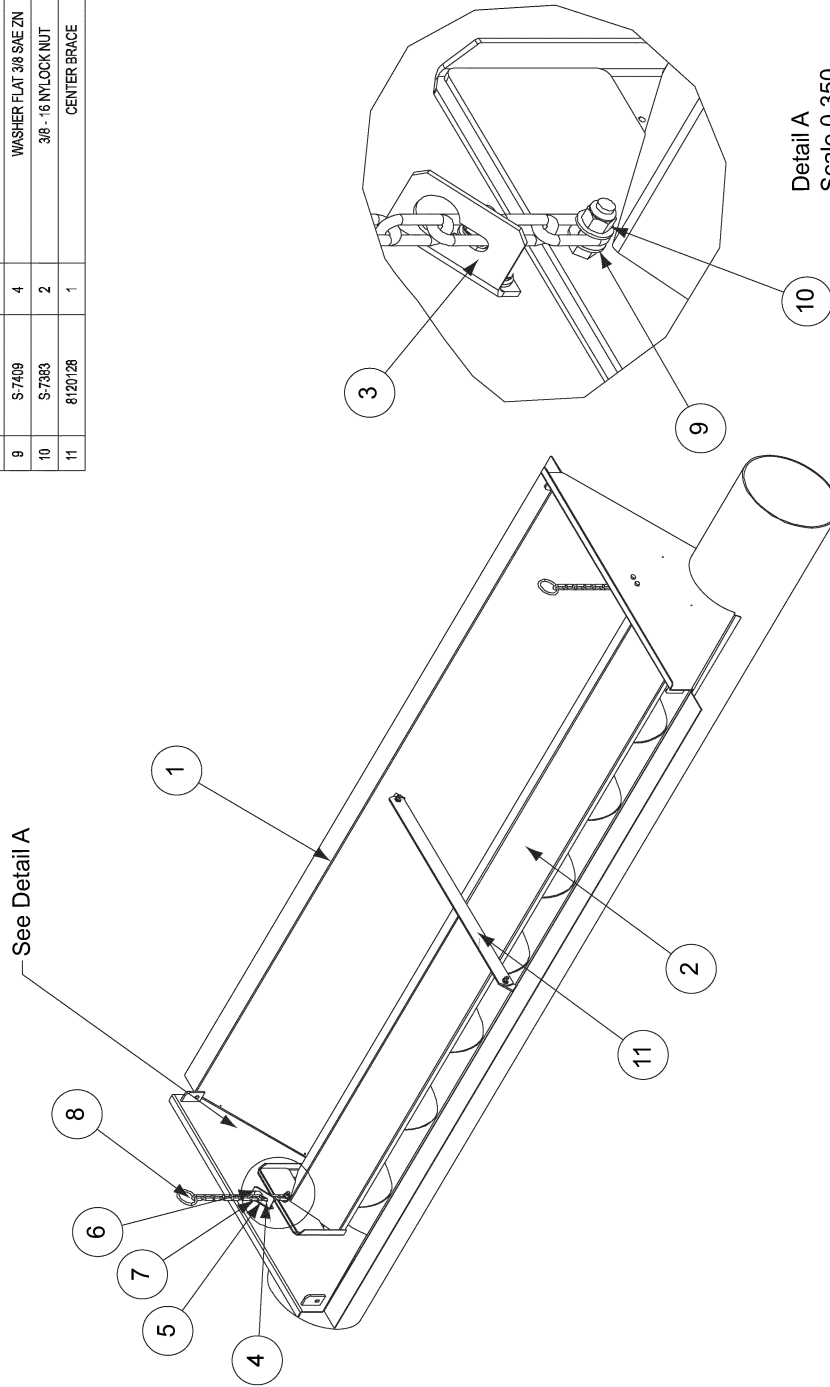
ITEM	PART #	QTY	DESCRIPTION
1	8120112	1	42-1/2" DUMP HOPPER WELDMENT
2	8120119	1	42" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1196	4	BOLT HHCS 5/16" x 1" ZN GR 5
5	S-1927	4	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	4	WASHER LOCK SPLIT 5/16" ZN
7	S-396	4	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPT, WLD MIT
9	S-1489	4	WASHER FLAT 3/8 SAE ZN
10	S-7383	2	3/8 - 16 NYLOCK NUT



No.	ECN	Revision Description	Date	By	MATERIAL HANDLING	42-1/2" ASSEMBLY	12" 7GA DUMP HOPPER		TOLERANCES (Unless Noted) Finishes - 1/2" Diameters - 1/2" Angles - 1:1.00	Sheet: 1 of 2	Unit: N/A Qty: 230,790 Date: 30-Nov-04 Drawn by: BJT Checked by:	Unit: N/A Qty: 230,790 Date: NONE Drawn by: BJT Checked by:	Drawing No.

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

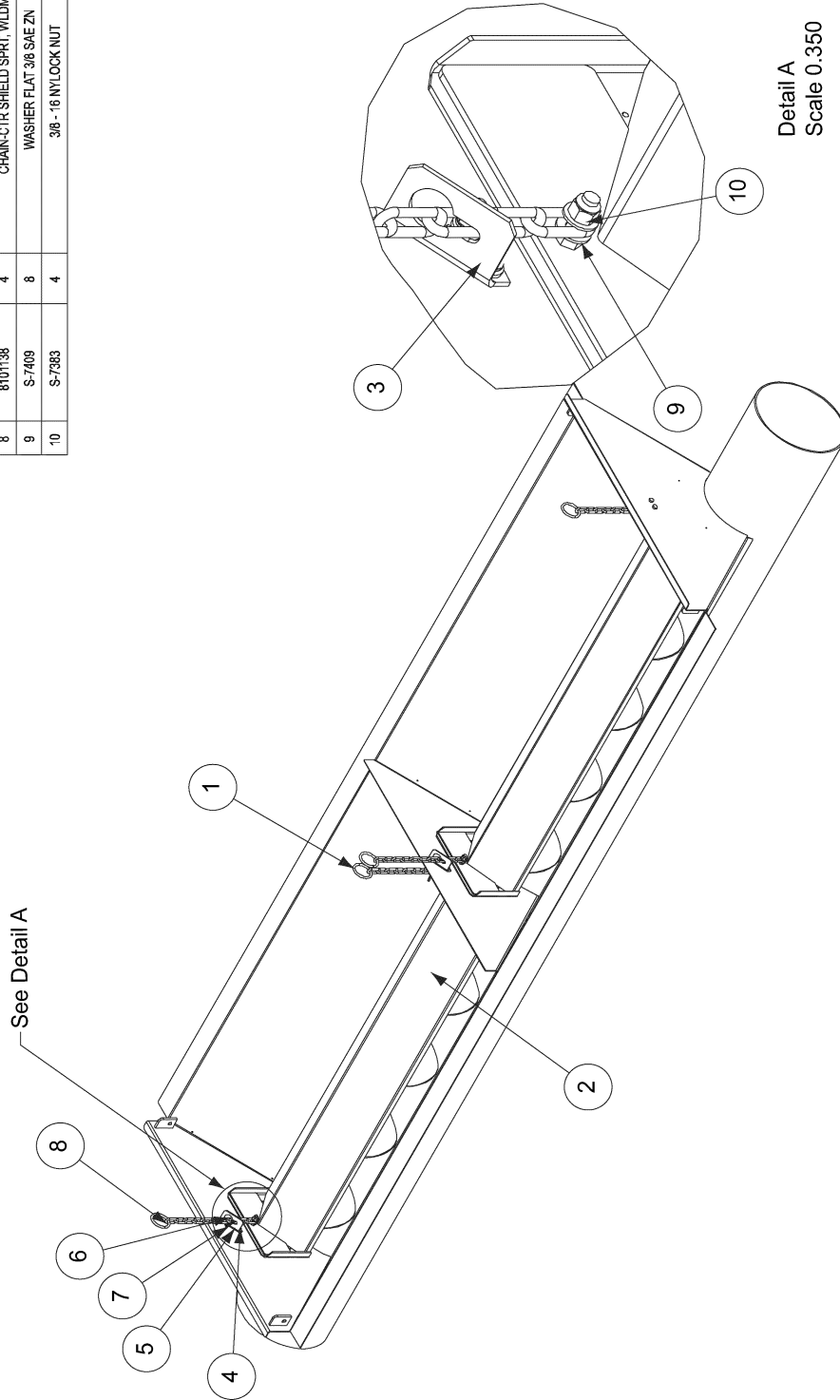
ITM	PART #	QTY	DESCRIPTION
1	8120125	1	102-1/2" DUMP HOPPER WELDMENT
2	8120122	1	102-1/2" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1186	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK SPLIT 5/16" ZN
7	S-396	6	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPRT, WLDMT
9	S-7409	4	WASHER FLAT 3/8 SAE ZN
10	S-7383	2	3/8 - 16 NYLOCK NUT
11	8120128	1	CENTER BRACE



No.	ECN	Revision Description	Date	By	MATERIAL HANDLING	102-1/2" ASSEMBLY	12" 7GA DUMP HOPPER	TOLERANCES (Unless Noted) Fractions ±.125" Decimals ±.001 Angles ±.100		Sheet	1 of 1	REV	N/A	Drawing No.	8120127
								Part	N/A	Ship	423-577	Part	N/A	By	BIT

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

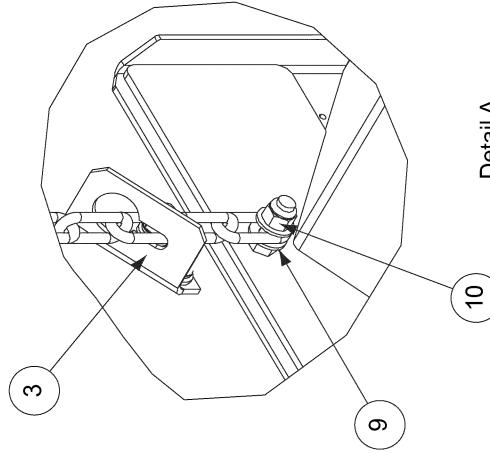
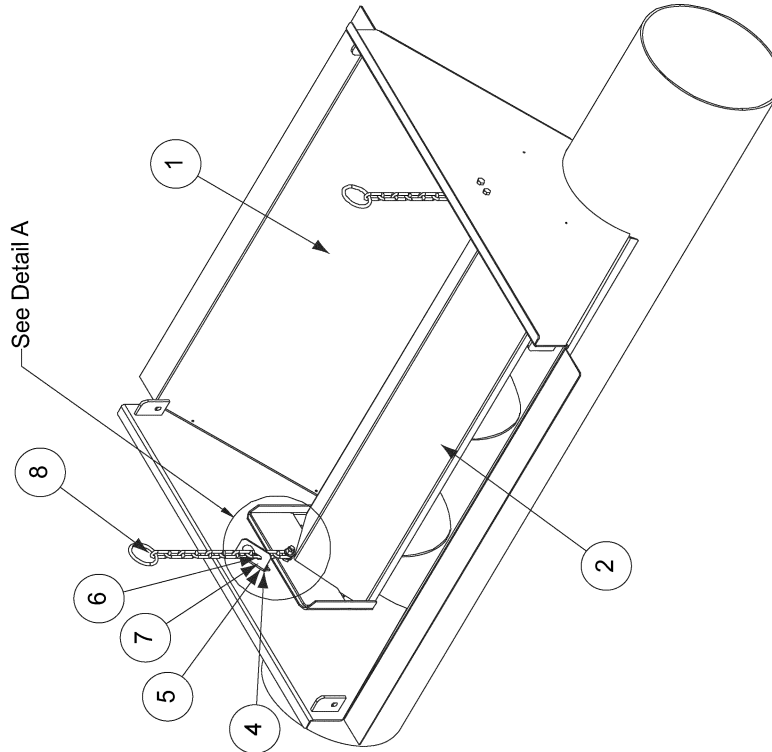
ITEM	PART #	QTY	DESCRIPTION
1	8120132	1	122-1/2" DUMP HOPPER WELDMENT
2	8120129	2	122-1/2" CENTER SHIELD WELDMENT
3	8101137	4	BRACKET-CHAIN SUPPORT
4	S-1196	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK SPLIT 5/16" ZN
7	S-396	6	NUT 5/16-18
8	8101138	4	CHAIN-CTR. SHIELD SPRT, WLDMT
9	S-7409	8	WASHER FLAT 3/8 SAE ZN
10	S-7383	4	3/8 - 16 NYLOCK NUT



		Sheet 1 of 1		DATE	DRAWING NO.	
REV#	DATE	BY	CHECKED	DATE	NO.	
N/A	N/A	BJT		30-Nov-04	8120134	
						WORK IN PROGRESS DO NOT SCALE
<p>TOLERANCES (Unless Noted) FRACTIONS +/- .002 DECIMALS +/- .001 ANGLES +/- 1.0°</p>						
		122-1/2" ASSEMBLY				
<p>MATERIAL HANDLING</p>		12" 7GA DUMP HOPPER				
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 FHCS 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 SPRRT, WLDMT
9	S-7409	4	WASHER FLAT 3/8 SAE ZN
10	S-7363	2	3/8 - 16 NYLOCK NUT

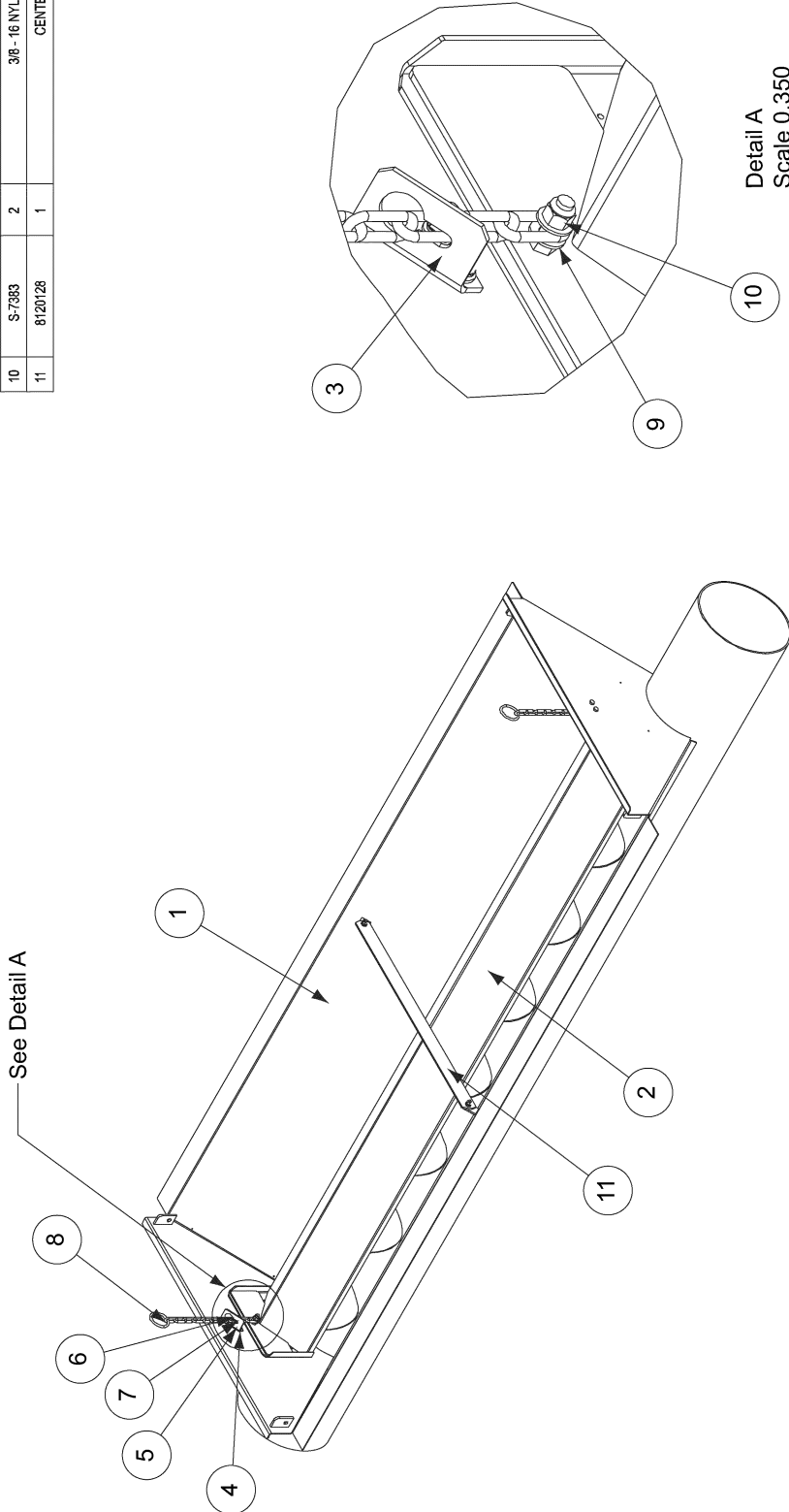


Detail A
Scale 0.350

THE GSI GROUP Assumption, IL EXPANDED		42-1/2" ASSEMBLY 12" 10GA DUMP HOPPER		Drawing No. 8120185	
No.	ECN	Revision Description	Date	By	
TOLERANCES (Unless Noted) Fractions +.02" Decimals +.031 Angles ±.10°			Sheet 1 of 1 MW N/A Ship 194,683 Wt. 194,683 Issue Date 30-Nov-04 BY BIT CHECKED BY	N/A NONE NONE Do Not Scale	

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

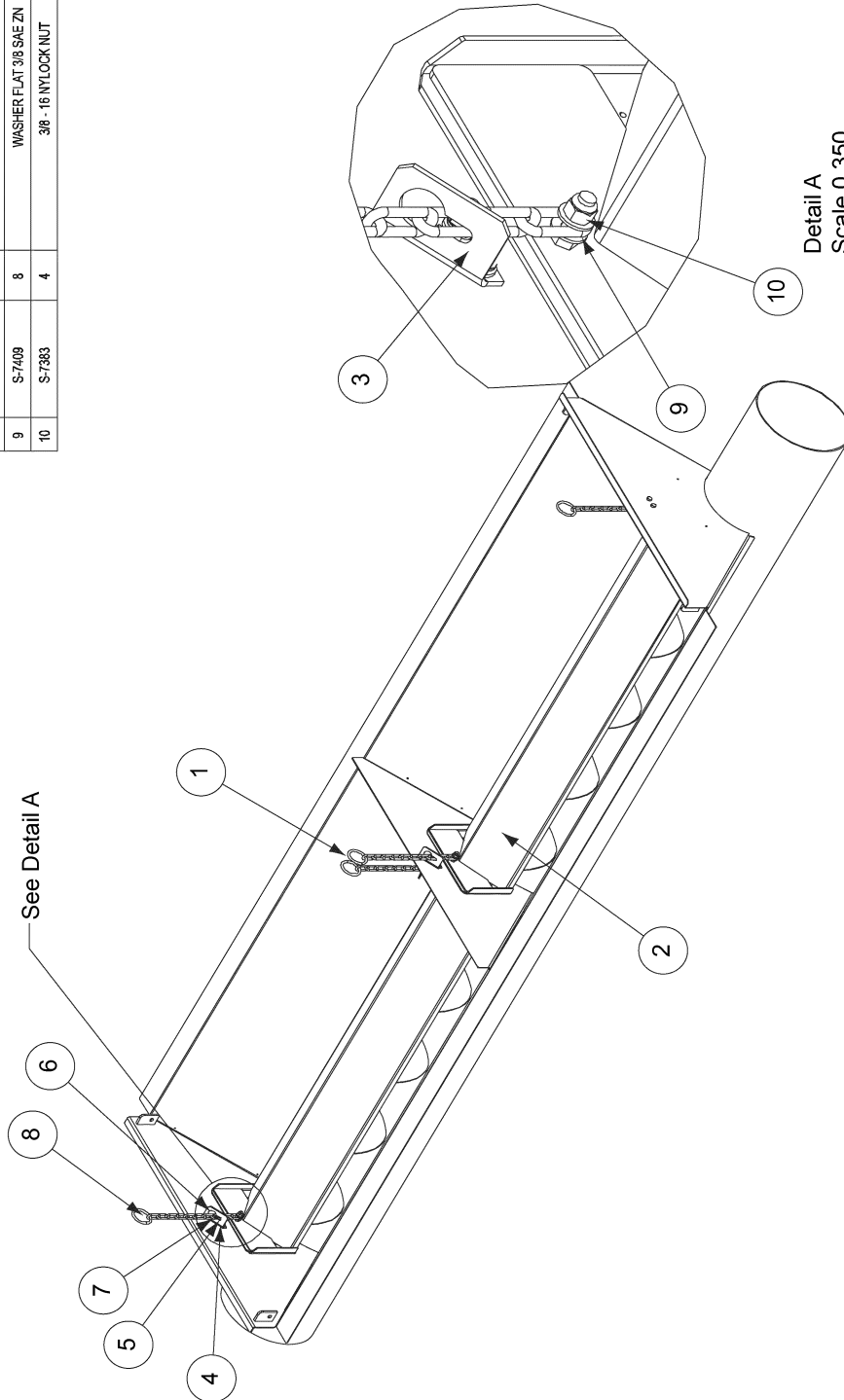
ITM	PART #	QTY	DESCRIPTION
1	8120188	1	102-1/2" DUMP HOPPER WELDMENT
2	8120122	1	102-1/2" CENTER SHIELD WELDMENT
3	8101137	2	BRACKET-CHAIN SUPPORT
4	S-1196	6	BOLT HHCS 5/16-18 x 1" ZN GR 5
5	S-1937	6	WASHER FLAT 5/16 SAE ZN GR2
6	S-1147	6	WASHER LOCK SPLIT 5/16" ZN
7	S-396	6	NUT 5/16-18
8	8101138	2	CHAIN-CTR SHIELD SPRRT, 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



No.		ECN	Revision Description	Date	By
<p>THE GST GROUP Assumption, IL</p> <p>MATERIAL HANDLING</p>					
<p>102-1/2" ASSEMBLY</p> <p>12" 10GA DUMP HOPPER</p>			<p>Sheet 1 of 1</p>		
<p>Material: N/A</p> <p>Part: N/A</p> <p>By: BIT</p> <p>Checked: BIT</p>		<p>Qty: 1</p> <p>Unit: N/A</p> <p>360,969</p> <p>30-Nov-04</p>		<p>Drawing No. 8120186</p>	
<p>TOLEANCES (Unless Noted) Fractions ±.02 Decimals ±.03 Angles ±.10</p>					

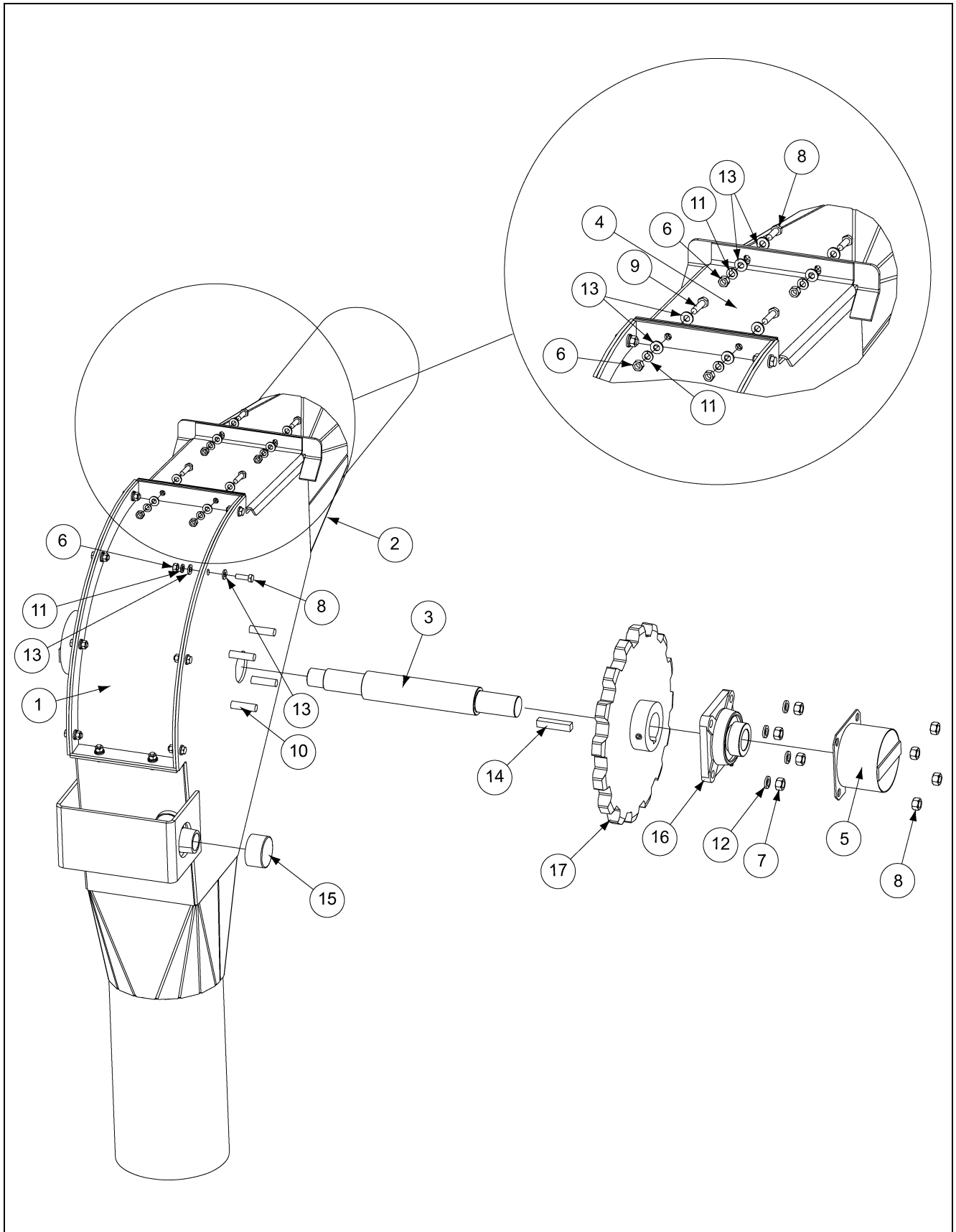
12" (10 Gauge) 122-1/2" Inlet Dump Hoppers

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 SPRRT. W/DMT
9	S-7409	8	WASHER FLAT 3/8 SAE ZN
10	S-7383	4	3/8 - 16 NYLOCK NUT



No		ECN	Revision Description	Date	By
MATERIAL HANDLING					
122-1/2" ASSEMBLY					
12" 10GA DUMP HOPPER					
TOLERANCES (Unless Noted) Fractions ±.02" Decimals ±.001 Angles ±.100			Sheet 1 of 1 Part No. N/A Rev. No. B.IT Date 30-Nov-04 Drawn By [blank] Check By [blank]		
THE GSI GROUP Assumption, IL Equipment:			Drawing No. 8120187		

8" & 10" Standard Corner



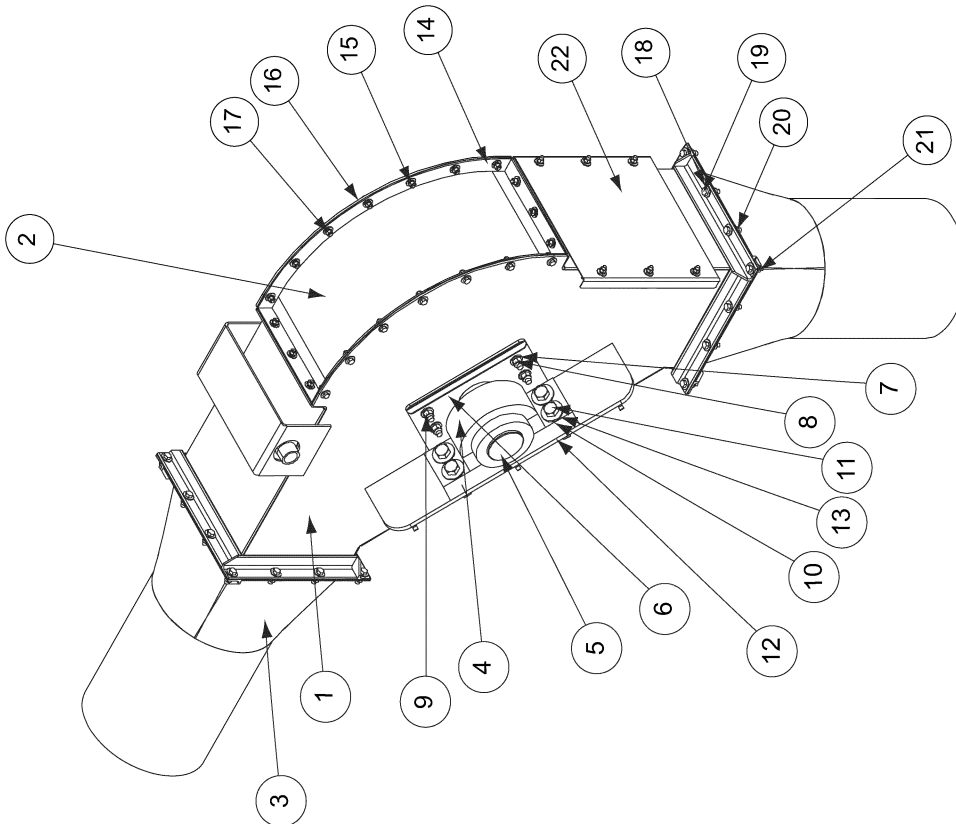
8" & 10" STANDARD CORNER

REF #	PART #	DESCRIPTION	QTY
1	8081009	8" DOOR - INSPECTION, WELDMENT HOT DIPPED 8081010	1
	8101009	10" DOOR - INSPECTION, WELDMENT HOT DIPPED 8101010	
2	8081022	8" CORNER - STANDARD, 8" WLDMT HOT DIPPED 8081023	1
	8101022	10" CORNER - STANDARD, 10" WLDMT HOT DIPPED 8101023	
3	8081029	8" SHAFT - CORNER, 8" STD/INSPECTION CORNER	1
	8101029	10" SHAFT - CORNER, 10" STD/INSPECTION CORNER	
4	8081032	ACCESS DOOR - 8" STANDARD CORNER	1
	8101032	ACCESS DOOR - 10" STANDARD CORNER	
5	8081196	8" COVER-BEARING SHIELD ZINC PLATED 8081197	2
	8101196	10" COVER-BEARING SHIELD ZINC PLATED 8101197	
6		NUT-HEX, 5/16-18 UNC FINISHED, PLTD, GRADE 2	14
7		NUT-HEX, 1/2-13 UNC FINISHED, PLTD, GRADE 2	16
8		BOLT-HEX, STD THRD-GRD 5 5/16-18 UNC X 1, PLTD	12
9		BOLT-HEX, STD THRD-GRD 5 5/16-18 UNC X 1-1/4, PLTD	2
10		BOLT-HEX, STD THRD-GRD 5 1/2-13 UNC X 2, PLTD	8
11		WASHER-LOCK, REGULAR 5/16, PLTD	14
12		WASHER-LOCK, REGULAR 1/2", PLTD	8
13		WASHER-FLAT, SAE 5/16, PLTD	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
	PT0144	10" BEARING-W/HOUSING, 2" ECC LK, WIDE, RL, CYL, 4H	
17	PT1093	8" SPROCKET- (HUB TYPE) 16 TOOTH, 2" I.D, 81XH	1
	PT1086	10" SPROCKET- (HUB TYPE) 16 TOOTH, 3" I.D, 81XH	

12" (7 Gauge) Standard Corner

ITEM	PART #	QTY	DESCRIPTION
1	8120030	1	STANDARD CORNER WELDMENT
2	8120022	1	CORNER COVER WELDMENT
3	8120004	2	SOJ/RND. WELDMENT 7GA.
4	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
5	8120032	1	7/4" DRIVE SHAFT
6	8120070	2	UHMW CORNER DUST SEAL
7	S-4760	8	BOLT HHCS 1/2-13 x 1-1/2 ZN GR5
8	S-4662	8	WASHER, 1/2" FLAT
9	S-6260	8	1/2 - 13 NYLOCK NUT
10	S-866	16	WASHER FLAT 3/4 USS ZN
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 ZN
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 USS ZN GR2
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	8120089	1	ST.CNR. INSP. DOOR
23	8120170	2	COVER PLATE FOR UHMW

NOT SHOWN IN DRAWING:
 PT1628 (1) SPROCKET C HUB 22 TOOTH, 2.608" PITCH
 CE-00972 (1) KEY 7/8" x 7/8" x 6.00"
 S-2062 (4.083) FOAM STRIP 1/8" THICK x 1/2" WIDE

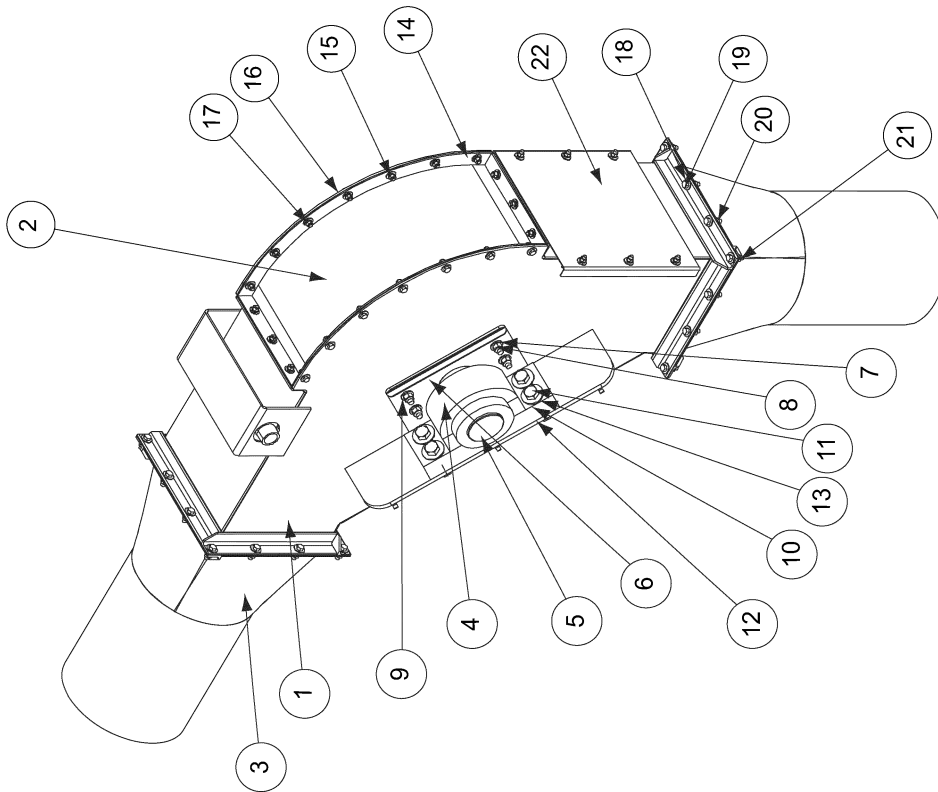


Sheet 1 of 2		Drawing No. 8120031	
Item	QTY	Part	Desc
1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	BJT	01-Spp-04	NONE
4			Work In Progress
5			Do Not Buy
TOLERANCES (Unless Noted)		STANDARD CORNER ASSEMBLY	
FRACTIONS - 1/16"		12" CHAIN LOOP	
DECIMALS - 1/100"			
ANGLES - 1/16"			
THE GSI GROUP		MATERIAL HANDLING	
Assumption: IL		By	
Revision Description		Date	
No.	ECN		

12" (10 Gauge) Standard Corner

ITEM	PART #	QTY	DESCRIPTION
1	8120030	1	STANDARD CORNER WELDMENT
2	8120022	1	CORNER COVER WELDMENT
3	8120173	2	SQ./RND. WELDMENT 10Ga.
4	MHC01277	2	BEARING, DODGE 4-BOLT S-2000 P.B. 3 7/16"
5	8120032	1	T44 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-8682	8	WASHER, 1/2" FLAT
9	S-8260	8	1/2-13 NYLOCK NUT
10	S-866	16	WASHER FLAT 3/4 USS ZN
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-245	52	WASHER FLAT 5/16 USS ZN
15	S-1147	26	WASHER LOCK SPLIT 5/16" ZN
16	S-1106	26	BOLT HHCS 5/16-18 x 1" ZN GR 5
17	S-399	26	NUT 5/16-18
18	S-246	48	WASHER FLAT 3/8 USS ZN GR2
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-466	24	NUT 3/8-16
22	8120099	1	STCNR. INSP. DOOR
23	8120170	2	COVER PLATE FOR UHMW

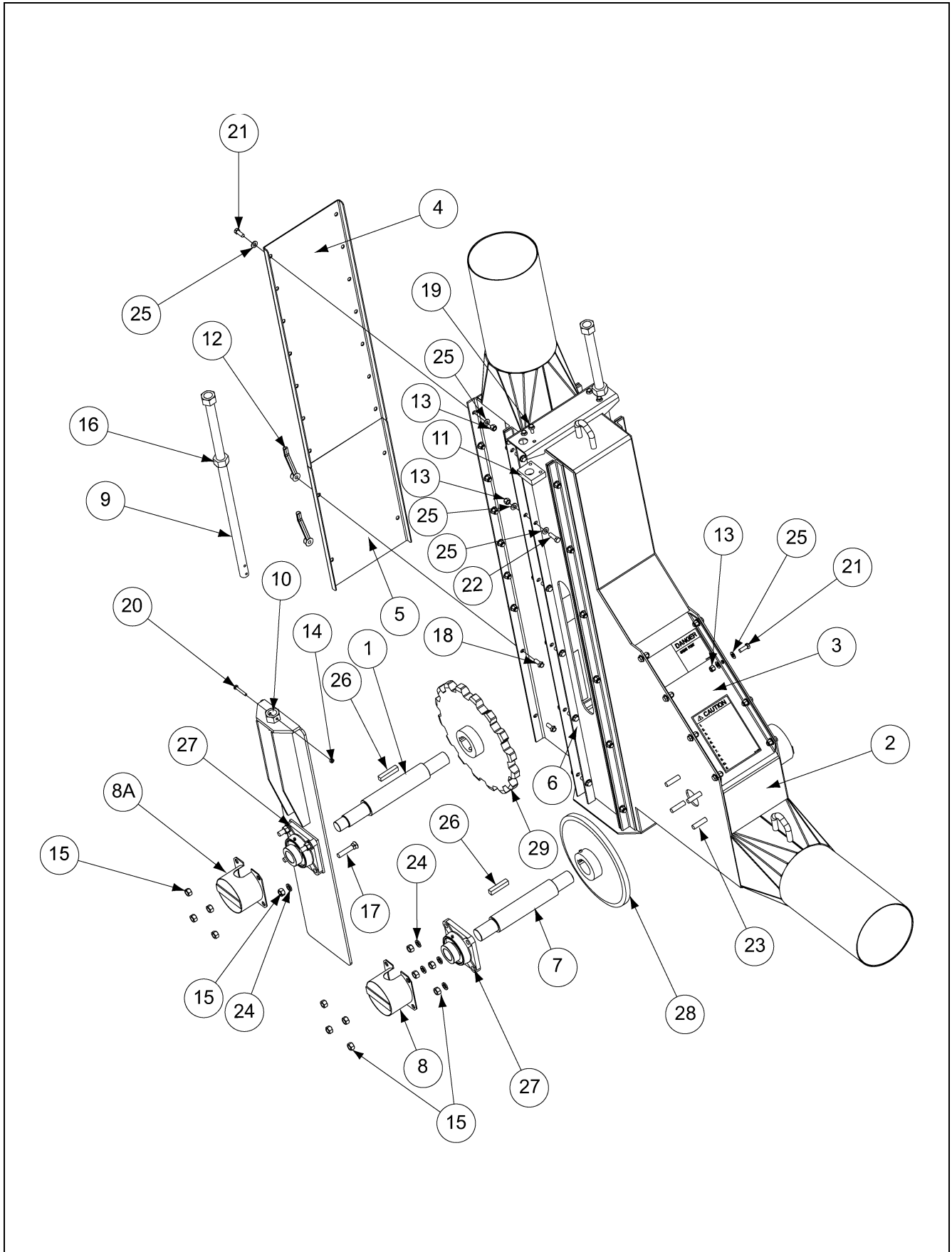
NOT SHOWN IN DRAWING:
 PT1529 (1) SPRCKET C HUB 22 TOOTH 4.2.609" PITCH
 CE-00672 (1) KEY 7/16" x 7/16" x 6.00"
 S-2052 (4.683) FOAM STRIP 1/8" THICK x 1/2" WIDE



10Ga. SQ./RND.

No.		Revision Description		Date	By
MATERIAL HANDLING					
STANDARD CORNER ASSEMBLY					
12" CHAIN LOOP					
TOLERANCES (Unless Noted) Fractions ±.02" Decimals ±.001 Angles ±.100		Sheet 1 of 1		Drawing No.	
Material	N/A	Qty	1	Rev	N/A
Part	N/A	Rev	N/A	Rev	N/A
Drawn	BIT	Scale	1:1.25	Notes	NONE
Checked		Drawn		Rev	DO NOT SCALE
8120176					

8" & 10" Inspection Corner



8" & 10" INSPECTION CORNER

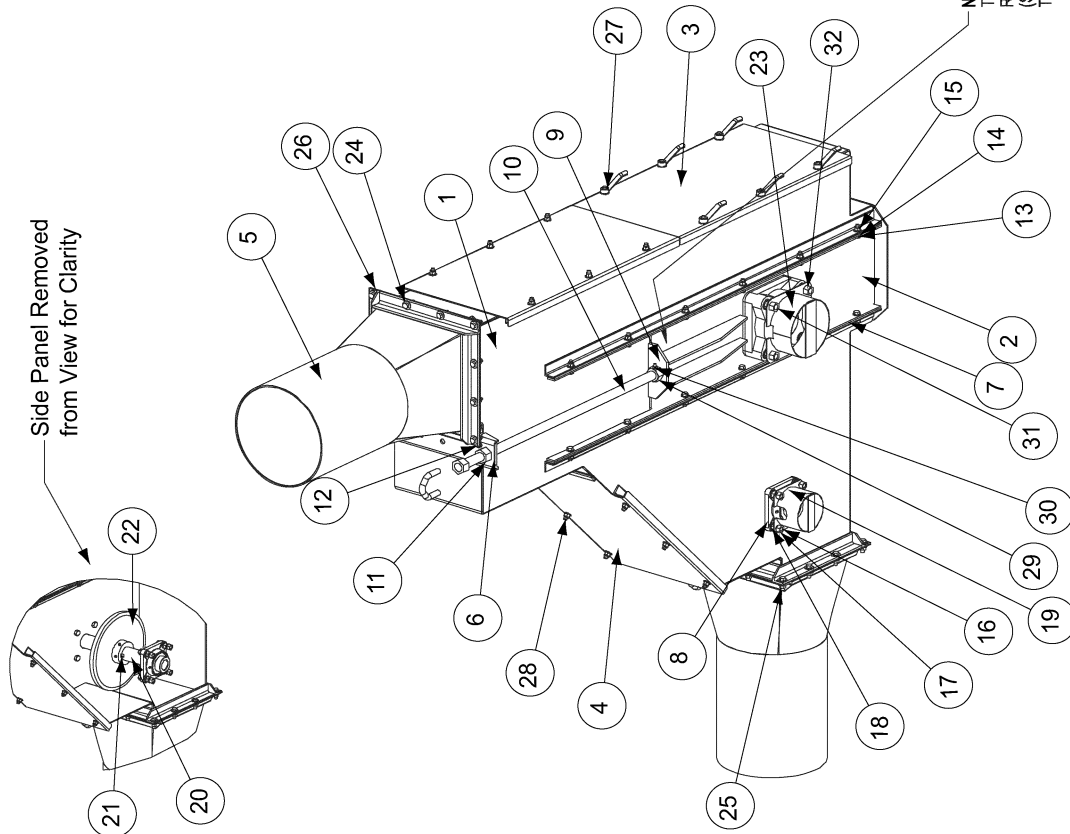
REF #	PART #	DESCRIPTION	QTY
1	8081029	SHAFT-CORNER, 8" STD/INSPECTION CORNER	1
	8101029	SHAFT-CORNER, 10" STD/INSPECTION CORNER	
2	8081049	CORNER-INSPECTION, 8" WLDMT HOT DIPPED 8081050	1
	8101049	CORNER-INSPECTION, 10" WLDMT HOT DIPPED 8081050	
3	8081063	DOOR-INSPECTION, 45° 8" INSPECTION CORNER	1
	8101063	DOOR-INSPECTION, 45° 10" INSPECTION CORNER	
4	8081065	DOOR-INSPECTION, LONG 8" INSPECTION CORNER	1
	8101065	DOOR-INSPECTION, LONG 10" INSPECTION CORNER	
5	8081067	DOOR-INSPECTION, SHORT 8" INSPECTION CORNER	1
	8101067	DOOR-INSPECTION, SHORT 10" INSPECTION CORNER	
6	8081078	SLIDE PLATE-56" LONG (8") HOT DIPPED 8081079	8
	8101078	SLIDE PLATE-57" LONG (10") HOT DIPPED 8101079	
7	8081080	SHAFT- INSPECTION CORNER, 8" INSPECTION CORNER	1
	8101080	SHAFT- INSPECTION CORNER, 10" INSPECTION CORNER	
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 PLTD	4
13		NUT-LOCK, 3/8-16 UNC NYLON LOCK, PLTD, GRD 2	46
14		NUT-LOCK, 1/4-20 UNC TWO-WAY, PLTD, GRD 2	4
15		NUT-HEX, 1/2-13 UNC FINISHED, PLTD, GRADE 2	32
16		NUT-HEX, 1- 8 UNC FINISHED, PLTD, GRADE 2	2
17	8" SYSTEM	BOLT-PLOW, #3 HEAD, RD, CSK 1/2-13 UNC X 2-1/2", SQ NECK	8
	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, PLTD	4
19		SCREW-FLANGE WHIZ LOCK 5/16- 18 UNC X 3/4", PLTD	4
20		BOLD-HEX, STD THRD-GRD 5 1/4- 20 UNC X 1-3/4", PLTD	4
21		BOLD-HEX, STD THRD-GRD 5 3/8- 16 UNC X 1, PLTD	22
22		BOLD-HEX, STD THRD-GRD 5 3/8- 16 UNC X 1-1/4, PLTD	24
23		BOLD-HEX, STD THRD-GRD 5 1/2- 13 UNC X 2, PLTD	8
24		WASHER-LOCK, REGULAR 1/2", PLTD	16
25		WASHER-FLAT, STANDARD 3/8", PLTD	92
26		KEY-SQUARE, 1/2" X 2-1/2"	2
27	PT0145	BEARING-W/HOUSING, 1-1/2" ECC LK, WIDE, RL, CYL, 4H	4
	PT0144	BEARING-W/HOUSING, 1-1/2" ECC LK, WIDE, RL, CYL, 4H	2
28	PT1087	IDLER WHEEL- 8" & 10" INSPECTION CORNER	1
29	PT1093	SPROCKET- (HUB TYPE) 16 TOOTH, 2" I.D, 81XH	1
	PT1086	SPROCKET- (HUB TYPE) 16 TOOTH, 3" I.D, 81XH	

12" (7 Gauge) Inspection Corner

ITEM	PART #	QTY	DESCRIPTION
1	8120034	1	INSPECTION CORNER WELDMENT
2	8120035	2	TAKEUP ASSEMBLY
3	8120050	2	SPROCKET COVER-INSPCNR.
4	8120048	1	IDLER COVER
5	8120004	2	SQ./RND. WELDMENT 7GA.
6	8101202	2	TAKE UP SCREW-BLOCK
7	8101078	8	SLIDE PLATE- 57" LONG
8	PT0145	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 1-5 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	3/8 - 16 NYLOCK NUT
16	S-7811	8	BOLT- HEX STD THRD-GRD 2 1/2-13 UNC X 2, PLTD
17	S-236	8	1/2 LOCK WASHER
18	S-7510	16	NUT HEX 1/2-13 GR2 PLTD
19	808196	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	PT.087	1	IDLER WHEEL-
23	8120055	1	SHAFT-INSPCNR.
24	S-248	48	WASHER FLAT 3/8 USS ZN GR2
25	S-1054	24	LOCK WASHER, 3/8
26	S-456	24	NUT 3/8-16
27	1FH052	6	NUT HANDLE IRON 3/8 16 PLTD
28	S-7469	22	BOLT HHCS 3/8-16 x 1" ZN GR 5
29	S-8871	4	BOLT HHCS 1/4-20X2 ZN GR5
30	S-4310	4	NUT LOCK 1/4-20 GR2 DEFORMED
31	8120056	2	BEARING COVER ASSY.
32	S-4110	8	NUT HEX 5/8-11 ZN GR5

NOT SHOWN IN DRAWING:
 PT1529 (1) SPROCKET C HUB 22 TOOTH, 2.809" PITCH
 CE-00972 (1) KEY 7/8"x7/8"x6.00"
 S-2052 (13.468 FT) FOAM STRIP 1/8" THICK x 1/2" WIDE

NOTE: DRILL .250 HOLE THROUGH THE NUT (S-240) AND THREADED ROD AND FASTEN WITH BOLT (S-8871) AND NUT (S-4310). TYPICAL 4 PLACES.



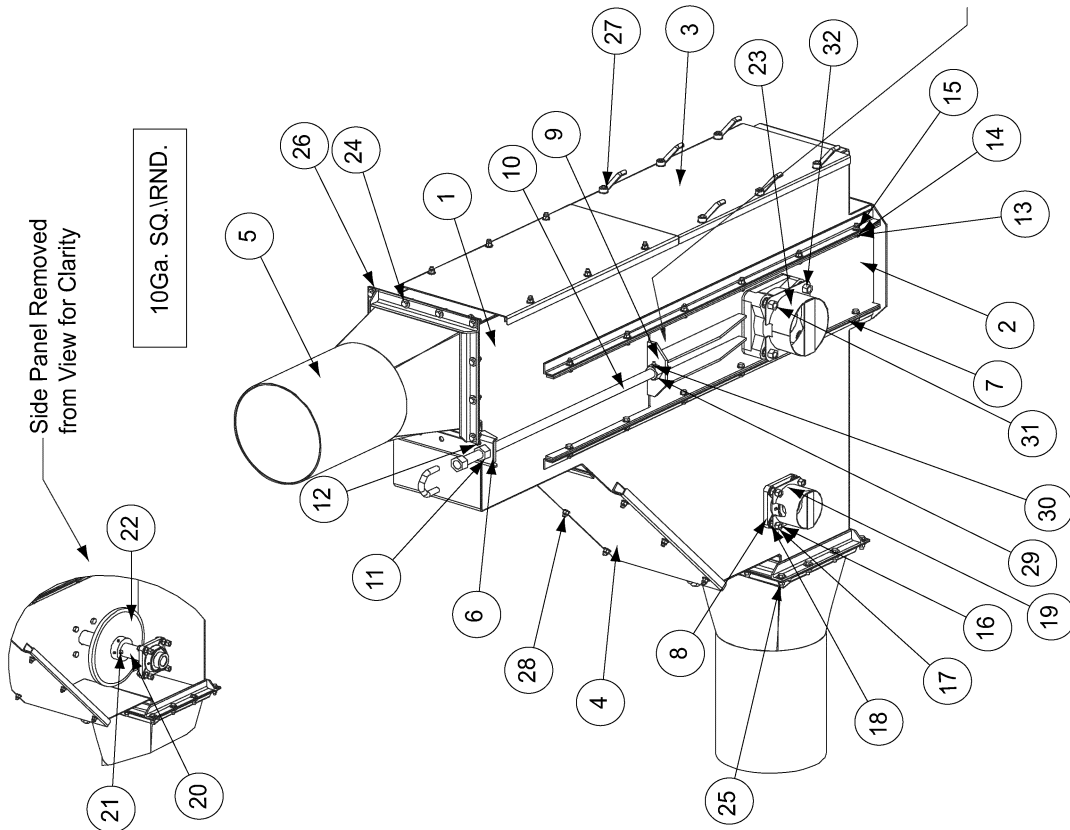
Sheet 1 of 1		MW	N/A	Drawing No.	
REV	DATE	BY	CHKD	APP'D	DESCRIPTION
N/A	N/A	N/A	N/A	N/A	1501.793
BIT	15-Sep-04				NONE
TOLERANCES (Unless Noted)					
Finish	F-1/32"				
Diameter	+/- .001				
Angles	+/- .001				
INSPECTION CORNER ASSEMBLY		12" CHAIN LOOP			
MATERIAL HANDLING					
ECN	Revision Description	Date	By		

12" (10 Gauge) Inspection Corner

ITEM	PART #	QTY	DESCRIPTION
1	8120034	1	INSPECTION CORNER WELDMENT
2	8120035	2	TAKEUP ASSEMBLY
3	8120050	2	SPROCKET COVER-INSPCNR.
4	8120048	1	IDLER COVER
5	8120173	2	SO.RND. WELDMENT 10Ga.
6	8101202	2	TAKE UP SCREW- BLOCK
7	8101078	8	SLIDE PLATE- 57" LONG
8	PT0145	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-6606	4	BOLT FLNGS 5/16-18X3/4 ZN GR5
13	S-7408	88	WASHER FLAT 3/8 SAE ZN
14	S-2071	48	BOLT HHCS 3/8-16 x 1-1/4" ZN GR5
15	S-7363	40	3/8-16 NYLOCK NUT
16	S-7811	8	BOLT-HEX STD THRD-GRD 2-1/2-13 UNC X 2, PLTD
17	S-238	8	1/2 LOCK WASHER
18	S-7510	16	NUT HEX 1/2-13 GR2 PLTD
19	8081196	2	COVER- BEARING SHIELD
20	8120054	1	IDLER SHAFT-INSPECTNR.
21	S-9167	1	KEY- SQUARE, 1/2"x1/2"x2-1/2"
22	PT1087	1	IDLER WHEEL-
23	8120055	1	SHAFT-INSPCNR.
24	S-248	48	WASHER FLAT 3/8 USS ZN GR2
25	S-1054	24	LOCK WASHER, 3/8
26	S-458	24	NUT 3/8-16
27	1FH6582	6	NUT HANDLE IRON 3/8-16 PLTD
28	S-7468	22	BOLT HHCS 3/8-16 x 1" ZN GR 5
29	S-8871	4	BOLT HHCS 1/4-20X2 ZN GR5
30	S-4310	4	NUT LOCK 1/4-20 GR2 DEFORMED
31	8120056	2	BEARING COVER ASSY.
32	S-4110	8	NUT HEX 5/8-11 ZN GR5

NOT SHOWN IN DRAWING:
 PT1529 (1) SPROCKET C HUB 22 TOOTH 2.689" PITCH
 CE-00972 (1) KEY 7/8 X 1/8 X 6.00"
 S-2052 (13.458 FT) FOMW STRIP 1/8" THICK x 1/2" WIDE

NOTE: DRILL .250 HOLE THROUGH THE NUT (S-240) AND THREADED ROD AND FASTEN WITH BOLT (S-8871) AND NUT (S-4310). TYPICAL 4 PLACES.



No.		ECN	Revision Description	Date	By
THE GSI GROUP Assumption, IL Material Handling					
INSPECTION CORNER ASSEMBLY 12" CHAIN LOOP					
TOLERANCES (Unless Noted) Fractions ±.002" Decimals ±.001" Angles ±.100°		Sheet 1 of 2		Drawing No.	
Part No.	Rev.	QTY	DATE	REV	DESCRIPTION
N/A	N/A	N/A	1-12-05		NONE
B/T					NONE
8120177					

NOTES

The GSI Group, Inc. Warranty

THE GSI GROUP, INC. (GSI) WARRANTS ALL PRODUCTS WHICH IT MANUFACTURES TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USAGE AND CONDITIONS FOR A PERIOD OF 12 MONTHS AFTER RETAIL SALE TO THE ORIGINAL END USER. THE PURCHASER'S SOLE REMEDY AND GSI'S ONLY OBLIGATION SHALL BE TO REPAIR OR REPLACE, AT GSI'S OPTION AND EXPENSE, PRODUCTS THAT, IN GSI'S SOLE JUDGMENT, CONTAIN A MATERIAL DEFECT DUE TO MATERIALS OR WORKMANSHIP. ALL DELIVERY AND SHIPMENT CHARGES TO AND FROM GSI'S FACTORY WILL BE PURCHASER'S RESPONSIBILITY. EXPENSES INCURRED BY OR ON BEHALF OF THE PURCHASER WITHOUT PRIOR WRITTEN AUTHORIZATION FROM AN AUTHORIZED EMPLOYEE OF GSI SHALL BE THE SOLE RESPONSIBILITY OF THE PURCHASER.

EXCEPT FOR THE LIMITED WARRANTY EXPRESSED ABOVE, 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. PURCHASER'S SOLE AND EXCLUSIVE REMEDY IS AS SET FORTH IN THE LIMITED WARRANTY EXPRESSED ABOVE, WHICH SHALL NOT EXCEED THE AMOUNT PAID FOR THE PRODUCT PURCHASED. THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER. GSI SHALL HAVE NO OBLIGATION OR RESPONSIBILITY FOR ANY REPRESENTATIONS OR WARRANTIES MADE BY OR ON BEHALF OF ANY DEALER, AGENT OR DISTRIBUTOR OF GSI.

GSI ASSUMES NO RESPONSIBILITY FOR CLAIMS RESULTING FROM ERECTION 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 NULLIFY THE PRODUCT WARRANTY THAT MIGHT HAVE BEEN OTHERWISE AVAILABLE.

THE FOREGOING WARRANTY SHALL NOT EXTEND TO PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION OR ACCIDENT. THIS WARRANTY EXTENDS SOLELY TO ONLY PRODUCTS MANUFACTURED BY GSI. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. GSI RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES WHICH MAY 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



GSI Group, Inc.
1004 E. Illinois St.
Assumption, IL 62510-0020
Phone: 1-217-226-4421
Fax: 1-217-226-4420
www.grainsystems.com