



Tubeline Manufacturing Limited
6455 Reid Woods Drive RR #4
Elmira, Ontario, Canada N3B 2Z3

Email: sales@tubeline.ca

Fax: 519.669.5808

Tel: 519.669.9488

Toll-free (North America): 1.888.856.6613

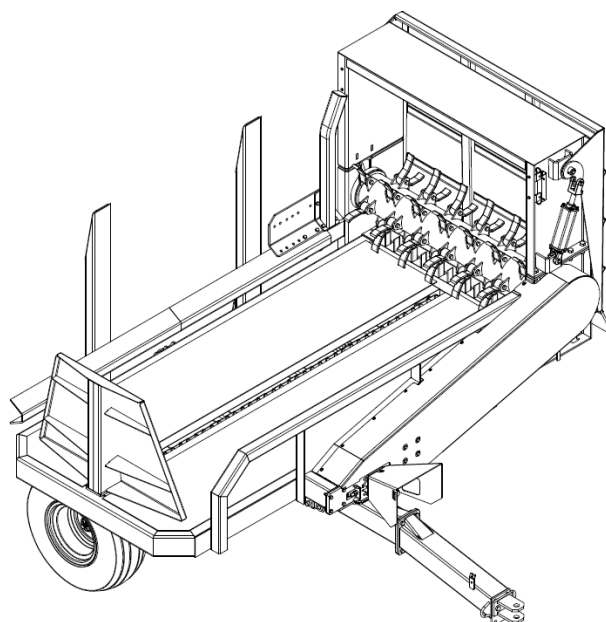
www.tubeline.ca

Operator's Manual

Keep this manual with the machine at all times.



Bale Processor Boss II HD



Do not attempt to operate this machine without thoroughly reviewing this manual for safe and proper operation.

Operator's Manual

Thank you for choosing the Tubeline Boss II HD Series Bale Processor.

Our hope is that it will give you many years of productive service.

Please read and understand this manual and the machine before operation.

Warranty and Limitation of Liability

For one year from delivery date TUBE-LINE MANUFACTURING LTD. will replace or repair for the original purchaser, free of charge, any part or parts found upon examination at our factory in Elmira, Ontario, to be defective in material or workmanship under normal use and maintenance.

This warranty does not apply to tires, bearings, flails, knives or any other trade accessories not manufactured by TUBE-LINE MANUFACTURING. The buyer must rely solely on the existing warranty, if any, of those respective manufacturers.

Limited warranty on commercial use.

This warranty shall become void if the processor has been subject to misuse, negligence, alterations, accident or lack of required maintenance.

This warranty does not cover personal injury or any damage done to the processor or anything else if caused by foreign material put through the processor.

Wheel nuts must be tightened at 150 km and periodically thereafter.

Flail bolts must be tightened before use and periodically thereafter.

The 'Warranty Registration' form must be filled out and signed to validate warranty.

Replacement parts are available only through your Boss II Bale Processor dealer.

To obtain the fastest service, please remember to:

1. Order by part number
2. Give the model year
3. Include the serial number

Serial Number

The serial number plate is located on the right side of the front hitch tube of your Tubeline Boss II HD machine. This number helps us to track changes and improvements and must be mentioned when ordering parts or requesting service. For your convenience, a space has been provided inside the front cover of this manual to record the serial number, model number, purchase date, and dealer name.

Model # : _____

Serial # : _____

Date Purchased : _____

Dealer Name : _____



Sold and Serviced by:

Always use your Serial Number when referring to parts or problems.

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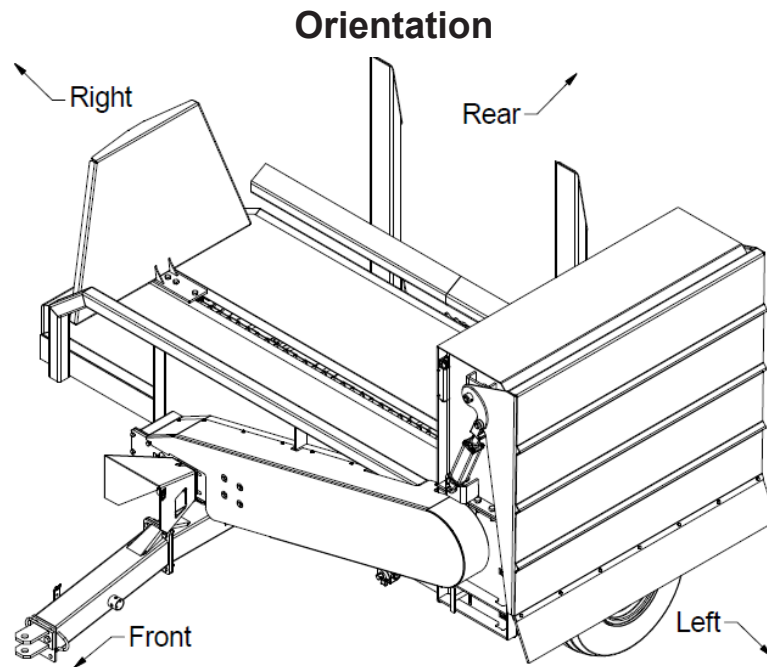
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Section 1 - Introduction

The Boss II HD is carefully designed and manufactured to give you many years of dependable service. You or any other person, who will be assembling, operating, maintaining or working with this product, are required to read and completely understand the information and instructions contained in this manual. If anyone does not fully understand every part of this manual, please obtain further assistance by contacting the dealer from which this product was purchased or by contacting Tube-Line at the telephone number or address listed on the previous page of this manual. Keep this manual available for reference whenever this product is being handled or used. Provide this manual to any new owners and/or operators.



Facing forward on power unit determines right and left sides of the machine. Directions are determined in relation to the operator of the equipment when seated in the normal operating position.

Bale Sizes

The Tubeline Boss II HD was designed to load and shred all types of forage in large square bales.

Maximum bale weight is 2800lbs (1270 kg).

Maximum length of bales is 102" (274 cm) X 58" (147 cm) X 58" (147 cm).

Intended Use

The Tubeline Boss II HD has many uses, including:

- Laying windrows in open fields.
- Filling feed bunks - fence line, circular, etc.
- Spreading forage for livestock bedding.
- Spreading mulch over perennial plants such as strawberries and mushrooms.
- Retractable knife section for commodity chopping.

General Information

The purpose of this manual is to assist you in safely assembling, mounting, operating and maintaining your Boss II HD. Read this manual carefully to obtain valuable information and instructions that will help you achieve safe and dependable service. The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and/or production changes, this product may vary slightly in detail. Tubeline reserves the right to redesign and/or change components as necessary without notification.

Throughout this manual, references may be made to:

Power Unit	The engine-driven machine to which this product must be attached, ie; loader tractor, skidsteer, telehandler, etc.
IMPORTANT	Precautions that must be followed to prevent damage to equipment.
NOTICE	Precautions that must be followed to prevent substandard performance.

Power Unit Specifications

IMPORTANT

Exceeding any of the recommended power unit specifications CAN result in damage to your power unit and/or this product and **WILL** void all Tubeline warranties.

Minimum	Maximum
20 GPM at 2500 PSI	40 GPM at 3000 PSI

Power unit horse power required: 60 HP minimum. Use caution when using power unit with more than 180 HP.

Tire size: 12.5L15 Tire

Length: 132" (335 cm)

Width: 140" (356")

Height: 93" (236")

PTO: 1000 RPM standard (540 RPM, optional)

Hydraulic System: Driven by power unit, maximum 2500 PSI

Section 2 - Safety Instructions

Definition of Safety Terms and Symbols

Throughout this manual, the terms **DANGER**, **WARNING** and **CAUTION** are used to indicate the degree of hazard to personnel if proper safety procedures are not followed. These words will be used in conjunction with the Safety Alert Symbol: a dark triangle containing a white exclamation mark.



The Safety Alert Symbol means:

ATTENTION - BECOME ALERT - YOUR SAFETY IS INVOLVED

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;

OR

May also be used to alert against unsafe practices, which may result in damage to property.

The safety information given in this manual does not replace any safety codes, insurance needs, federal, state and local laws.

The best safety device is a careful operator. Tubeline and your dealer ask that **YOU** be that careful, responsible equipment operator.

Pay attention to the job at hand. No accident prevention program can be successful without the cooperation of the person who is directly responsible for the operation of the equipment.

If accidents are to be prevented, that prevention will come from equipment operators who accept their complete responsibility and anticipate the results of their actions.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

YOU are the key to safety :

YOU are responsible for the SAFE operation and maintenance of YOUR Boss II HD Bale Processor.

YOU are responsible to familiarize yourself, and anyone else who will assemble, operate, maintain, or work around this product, with the safety information contained in this manual.

YOU are responsible to read ALL information contained in this manual to any operators or maintenance personnel who are not fully able to read the written English language. Whether **YOU** read the manual as written or translate it into another language, **YOU** must make certain that all operators and maintenance personnel have complete understanding of the full and exact contents of this manual.

YOU can reduce the risk of injury or death by following all safety precautions and by using good safety practices.

Safety Instructions

WORK SAFELY – A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS

WARNING SECTION

WARNING

Obey all safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

BEFORE ATTEMPTING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE OR OTHER WORK ON OR NEAR THIS PRODUCT:

READ AND COMPLETELY UNDERSTAND THIS MANUAL.

READ AND COMPLETELY UNDERSTAND THE MANUALS PROVIDED WITH YOUR POWER UNIT, LOADER AND QUICK-ATTACHMENT. Read and understand all safety signs on this product and on your power unit, loader and quick-attach. Know all your controls and know how to quickly stop all power unit movements, the processor movement, and the engine in case of emergency. Know and obey all applicable government rules, O.S.H.A regulations, local laws and other professional guidelines for your operation. Make sure that anyone who will be assembling, mounting, maintaining, repairing, removing and/or storing this product: Has been instructed in the safe operation of this product and of the power unit and the quick-attach to which this product is attached. Is physically and mentally capable of the safe operation of this type of equipment. Is not under the influence of drugs or alcohol. Is carefully supervised from a safe distance, especially if such person is inexperienced.

Wears personal protective equipment (i.e. hardhat, safety glasses, work gloves, protective shoes, respirator, ear protection, etc.) Does not wear loose fitting clothes, loose or uncovered hair or any accessories (jewelry, necktie, scarf, wrist watch, etc.) that can catch and entangle on moving parts.

Has annually reviewed all safety instructions. Know and follow good work practices when assembling, mounting, maintaining, repairing, removing and storing this product: Work on a level surface in a well lit area. Keep the area clean and dry. Use properly grounded electrical outlets and tools. Use the right tool for the job at hand. Make sure that your tools are in good condition for performing the desired function. When using tools, wear the protective equipment specified by the tool manufacturer (i.e. hardhat, safety glasses, work gloves, protective shoes, etc.)

WHEN YOUR POWER UNIT IS USED DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE OR OTHER WORK ON OR NEAR THIS PRODUCT:

Before leaving the operator's station or before beginning any type of work on this product, lower this product to the ground, apply your power unit's parking brake, stop the engine, remove the starter key, wait for all moving parts to stop and then relieve all pressure in the hydraulic lines. *Refer to your power unit's operator's manual for instructions on how to relieve hydraulic pressure in lines.*

Refer to your power unit's operator's manuals for safe operating limits.

Never allow anyone, except the operator, to be around the power unit or this product when either is in motion. Do not start up unless others are clear of the work area. Do not allow riders on this product or the power unit. Do not stand or climb on this product when raised. Do not place any part of your body under any part of this product unless this product is securely resting on adequate blocking or on the ground.

Hydraulic Safety

WARNING

Obey all safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

WHEN DEALING WITH HYDRAULICS DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE OR OTHER WORK ON OR NEAR THIS PRODUCT:

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Wear safety glasses, protective clothing and use a sound piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS!** If any fluid penetrates the skin, **SEEK IMMEDIATE MEDICAL ATTENTION!**

Before connecting or disconnecting hydraulic hoses, read your tractor or power unit's operator's manual for detailed instructions on connecting and disconnecting hydraulic attachments. Make certain that all parts meet the specifications for this product when installing or replacing hydraulic hoses or fittings. After connecting hydraulic lines: Slowly and carefully raise the loader and cycle the rollback / dump cylinders to check hose clearances and to check for any interference. Operate the hydraulics on this product to check hose clearances and to check for any interference. Make certain that the hoses cannot interfere with or actuate the quick-attach mechanism. Make certain that hoses will not be pinched, or get tangled, in any equipment. Do not lock the auxiliary hydraulics of your power unit in the **"ON"** position.

Refer to your power unit's operator's manual and this manual for procedures and intervals, then inspect and maintain the entire hydraulic system to insure that the fluid remains clean, that all devices function properly and that there are no fluid leaks.

PTO Safety

Under no circumstances should a processor equipped for 540 rpm PTO be operated with 1000 rpm PTO. Nor should a 1000 rpm PTO processor be operated by a tractor with 540 rpm PTO.

Section 3 - Safety Sign Locations

Placement or Replacement of Safety Signs

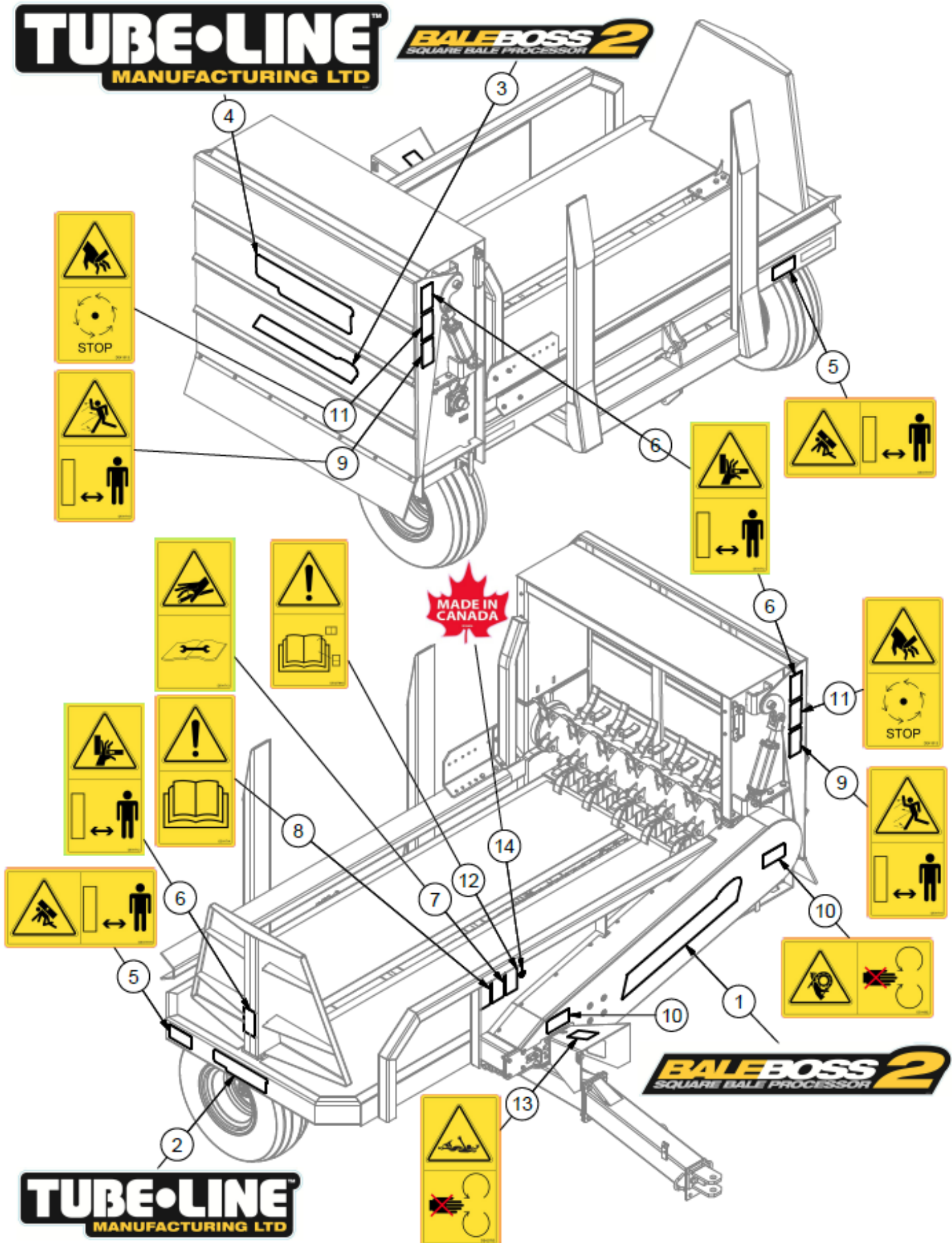
Clean the area of application with non-flammable solvent, then, wash the same area with soap and water. Allow the surface to fully dry. Remove the backing from the safety sign, exposing the adhesive surface. Apply the safety sign to the position shown in the diagram above and smooth out any bubbles.

Instructions

- Keep all safety signs clean and legible.
- Replace all missing, illegible or damaged safety signs.
- Replacement parts for parts with safety signs attached must also have safety signs attached.
- Safety signs are available free of charge from your dealer or from Tube-Line.

Safety Signs - New Style

NOTE: Decal illustrations may not be to scale.



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DE27275	BossII Processor Decal - 6 x 39.0
2	1	DE28146	Tubeline Decal 4" x 16"
3	1	DE28722	Bale Processor BossII - 4 x 32 Decal
4	1	DE30837	Tubeline Decal 7.25" x 30"
5	2	DE41711H	ISO Decal - Angled Crush Horizontal
6	3	DE41712	ISO Decal - Hand Pinch Point
7	1	DE41713	ISO Decal - High Pressure Fluid
8	1	DE41714	ISO Decal - Read Operator's Manual
9	2	DE41718	ISO Decal - Thrown Object Vertical
10	2	DE41902	ISO Decal - Chain Entanglement
11	2	DE41913	ISO Decal - Cutting Hazard
12	1	DE42784	ISO Decal - Read OM Decals Section
13	1	DE42785	ISO Decal - PTO Entanglement
14	1	DECANADA	Decal Made In Canada

Item: 1 & 3

Part No: DE27275 & DE28722



Item: 2 & 4

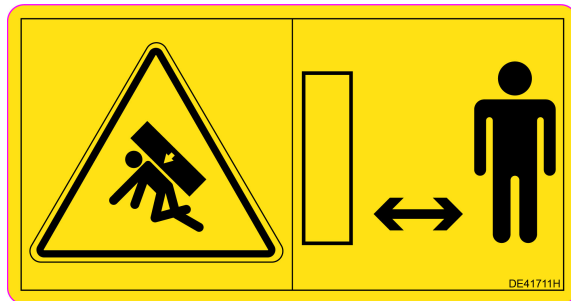
Part No: DE28146 & DE30837



Item: 5

Part No: DE41711H

Stand clear of loading fork to avoid crushing hazard.



Item: 6

Part No: DE41712

Stand clear of lowering endgate to avoid pinching hazard.



Item: 7

Part No: DE41713

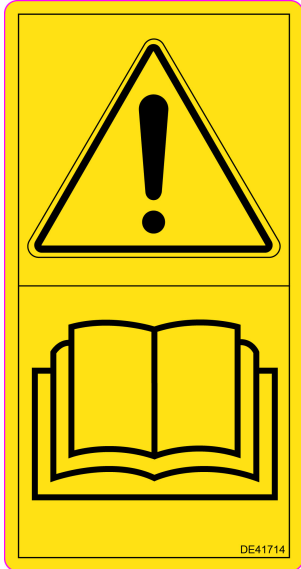
High pressure fluid hazard. Refer to maintenance section for proper leakage testing.



Item: 8

Part No: DE41714

Read and understand manual before operating this machine.



Item: 9

Part No: DE41718

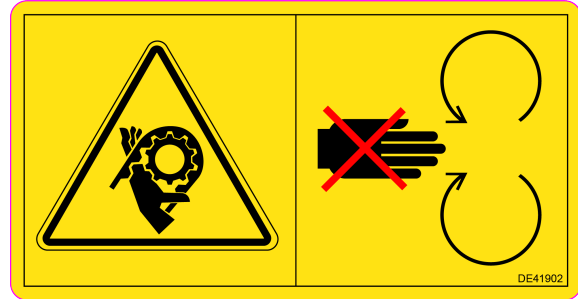
Stand clear of feed path to avoid thrown material.



Item: 10

Part No: DE41902

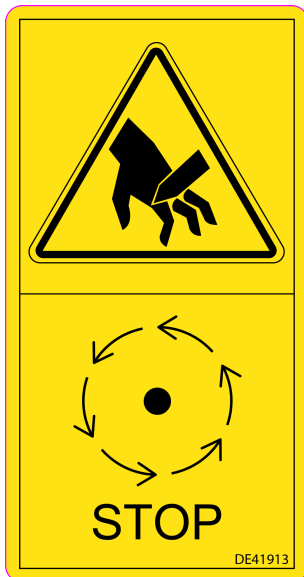
Do not remove shields before drive components have completely stopped. Keep hands away while machine is in operation.



Item: 11

Part No: DE41913

Wait until all machine components have stopped moving before touching.



Item: 12

Part No: DE42784

Read and understand decal section of manual before operating this machine.



Item: 13

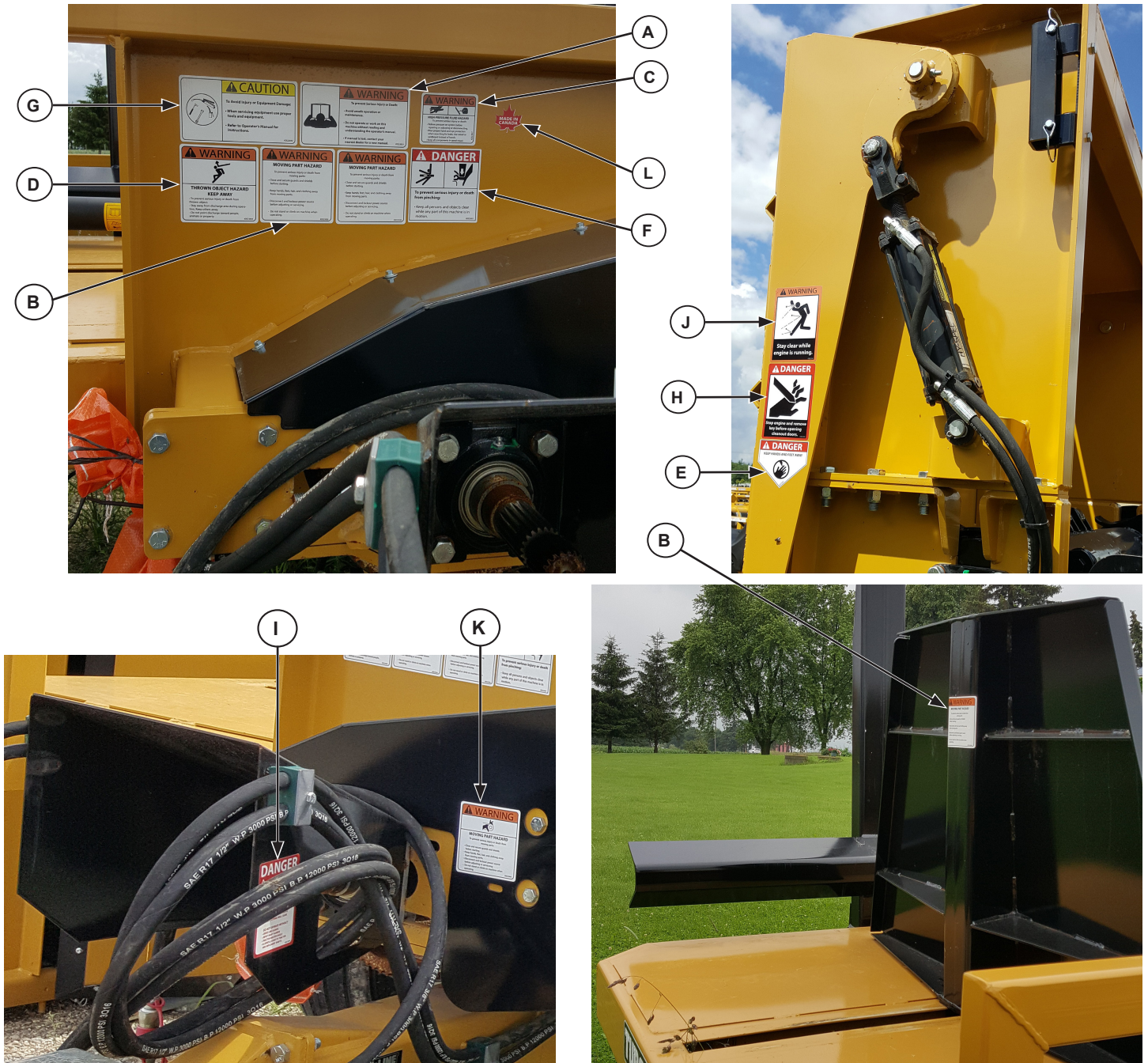
Part No: DE42785

Stand clear of rotating PTO driveline to avoid serious injury or death.



Safety Signs - Old Style

NOTE: Decal illustrations may not be to scale.



Item: A

Part No: DE23839



Item: B

Part No: DE23845



Item: C

Part No: DE23847



Item: D

Part No: DE23848



Item: E

Part No: DE23837



Item: F

Part No: DE23851



Item: G

Part No: DE23840



Item: H

Part No: DE23850



Item: I

Part No: DE23849



Item: J

Part No: DE23984



Item: K

Part No: DECANADA



Item: L

Part No: DE23845



Section 4 - Processor Operation



SAFETY FIRST

Read and understand the safety instructions (pages 3-6 of this manual) **BEFORE** beginning any processor operation.

DANGER

Failure to obey the following procedure will result in death or serious injury. Avoid contacting overhead wires.

WARNING

Failure to obey the following procedures could result in death or serious injury. Never lift this product: above the operator's eye level OR to a height where visibility is obstructed, whichever is lower. Use caution when raising loaded processor. Objects could fall from processor toward bystanders or operator. Remove all foreign objects from bales.

Processor Installation Instructions

Refer to the operator's manuals of your power unit, your loader and your quick-attach for special or detailed mounting instructions. This product should fit onto the quick-attach or loader arms of your power unit the same as the original products that were designed by your loader / quick-attach manufacturer. If this product does not fit properly, contact Tube-Line before operating. Never place your finger into the mounting plate or 3-point hitch or loader holes. A slight movement of the power unit or this product could cause serious injury.

Make certain that all safety signs are in place and legible. Refer to the safety sign page in this manual for the placement of safety signs for this product. Inspect driveline shield for free rotation. Replace all damaged or excessively worn parts and hardware only with genuine Tube-Line parts or with properly rated fasteners, hydraulic hoses or fittings. Make certain that all locking pins, latches and connection devices are properly installed and secured. Make certain that all shields are in place and secure. Remove all foreign objects from processor.

- Never use processor on a power unit that is not equipped with a cab or ROPS, and operator restraints (seat belts or equivalent devices).
- Place this product on a firm, level surface that is large enough to safely accommodate this product, your power unit and all workers involved in the mounting process. Be sure all connection points are properly secured.
- Refer to the operator's manual(s) for your power unit, loader and quick-attach and follow the mounting instructions contained therein.
- Make sure bales are free from foreign objects.
- Drive slowly through gates and doors.

NOTICE

Refer to your power unit's operator's manual for safe operating limit and use of counterweights.

PTO Driveline

PTO drive-line maintenance instructions must be read before attaching and operating. The maintenance instructions are attached to the chain supplied on the drive-line.

Failure to do so may result in damage to the drive-line and machine may void warranty.

When lubricating drive-line telescoping shafts, it is imperative that yokes remain phased. In order to maintain phasing, the flat profile of the inner tube must be engaged with the flat profile of the outer tube. Failure to do so will result in damage across and bearings and premature shearing of the shear bolt.

Shear bolt replacement must be done only with shear bolts of the same grade and diameter supplied on the drive-line.

Proper and adequate length of the drive-line must be maintained in order to have maximum one third engagement of telescoping tubing.

Too short of a drive-line will result in premature failing of the drive-line.

Too long of a drive-line will result in damage to drive-line, tractor PTO and implement.

PTO shaft drive-line must not be operated without all safety shields in place.

PTO shaft drive-line must be attached securely before operating.

At no time should any persons be in the immediate area of the machine while the PTO shaft drive-line is being operated.

Caution: Tractor PTO must be disengaged and tractor shut off before approaching or contacting the PTO shaft drive-line.

Processor Hydraulic Connection



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS [\(Section 2\)](#) BEFORE BEGINNING ANY HYDRAULIC CONNECTION.

Disconnect the hydraulic hose quick couplers from one another and attach the quick couplers to your power unit as per the instructions in your power unit's operator's manual. When attaching Boss II HD quick couplers to power unit, take note which lines are connected to which hydraulic control. The 1/2" hoses controls the ram, the 3/8" hoses control the bale fork or discharge chute, depending on diverter valve position.

Using On Inclines

When working on inclines or slopes, travel uphill or downhill, not along inclines. Be sure to keep tractor transmission in gear when traveling downhill.

Starting Machine

Make sure that bales are free from foreign objects foreign objects in bale may cause damage to the machine or cause injury or death to livestock, bystanders, or operator.

Make sure any bystanders are safely away from the machine and discharge before engaging PTO. Flying objects can cause serious injury or even death.

Electrical toggle switch controls diverter valve to switch hydraulic flow to either bale fork or the discharge chute.

PTO controls belt drive, which in turn drives the flail drum.

Loading Bales

Load one bale at a time. If bales are frozen, put frozen side down to the table for better operation.

Center the bale on the forks before loading on to the table. Slide forks lightly on the ground when loading bales. Store bales on level ground and on a clean surface free from rocks and other foreign objects.

Adjust discharge deflector to spread forage at desired width.

Twine build-up should be kept to a minimum to reduce fire hazard and keep the machine in balance.

Always set the parking brake; stop the engine; remove ignition key and wait for all moving parts to stop before leaving the operator's seat.

Distributing Bales

After setting discharge chute to desired angle, slowly ramp up speed of PTO until flail drum is spinning freely. The flails should be fully extended. Operating power unit at maximum R.P.M. allows the processor to do a better job of chopping forage.

Push bale loaded on deck into flail drum using power unit hydraulic control designated to that function. After several bales you will find a suitable speed that allows both quick operation and a good feed out rate.

Reverse ram back to its fully opened position before loading the next bale using the bale fork.

Transportation

Raise bale fork, close discharge chute before transporting. Disengage PTO, do not tow loads that weigh more than twice the weight of the tractor. Reduce the tractor's speed when ground is rough.

To assure adequate braking performance and control, tow only with an agricultural tractor. Safe towing speed depends on the weight of the tractor and the towed load. Speed should never exceed 32kmh (20mph). When transporting, be sure processor does not block view of vehicle lights or road.

Never operate controls from the ground. Operate the controls only from the operator's station. Never leave the equipment unattended with the engine running or with this product raised on the loader.

Be aware of the added weight and width of this product. Reduce travel speeds accordingly, especially when traveling over rough ground.

Storage

Always park the processor on level ground, preferably in an enclosed area. Block tires to avoid rolling.

Section 5 - Processor Maintenance

Regular maintenance is the key to long equipment life and safe operation. It is very important that these maintenance functions be performed as described below.



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS ([Section 2](#)) BEFORE BEGINNING ANY PROCESSOR MAINTENANCE OPERATION

IMPORTANT

The flail tube on this machine is a fully balanced assembly. If for any reason the flails must be removed, they must be returned to the same position they were taken from. If this is not done a balance problem will result in causing machine vibration. Number flails and inserts and their positions before you do any work.

Before First Use

Inspect the attachment for shipping damage. If damage does exist, do not operate until the damaged parts have been replaced or repaired.

Before Each Use

Check for loose or badly worn parts.

Conveyor chain should be adjusted to allow chain slack 1" (2.54 cm) to 1½" (3.8 cm).

Make sure that all hydraulic fittings are tightened and that there are no leaks in any fittings or hoses.

Inspect rotor and all rotating parts for twine or wire build-up.

Check for cylinder wear and broken flails and flail bracket wear. Replace with new "Boss" flails to keep machine in balance.

Make sure that all safety signs are in place, are clean and are legible. Refer to Safety Sign Section ([page 2-1](#)).

After Every 10 Hours of Operation

Grease all roller bearings ([refer to diagram on page 8-1](#)).

Inspect and tighten Allen screws on bearing.

Section 6 - Processor Service

Repairs

SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS ([Section 2](#)) BEFORE BEGINNING ANY PROCESSOR SERVICE.

When making repairs, use only genuine Tubeline parts or, for fasteners, hydraulic hoses or hydraulic fittings, use only properly rated parts.



WARNING

Hydraulic fluid under pressure can penetrate skin, resulting in serious injury or death.
Always relieve hydraulic pressure before disconnecting lines.

Shut off engine, set parking brake and relieve hydraulic pressure before connecting or disconnecting hydraulic lines. Refer to your power unit's manual for instruction on how to relieve hydraulic pressure in lines.

Before applying pressure to the system, be sure that all connections are tight and be sure there are no damaged hoses, lines or fittings.

Wear safety glasses and use metal or wood when searching for leaks. Do not use your hands.



WARNING

Before servicing the loader, remove the attachment and make certain the lift arms are lowered to their lowest position or that the arms are supported by the mechanical lock up devices (if the machine is so equipped).

Steam-clean the power unit before any installation is made to the hydraulic system.

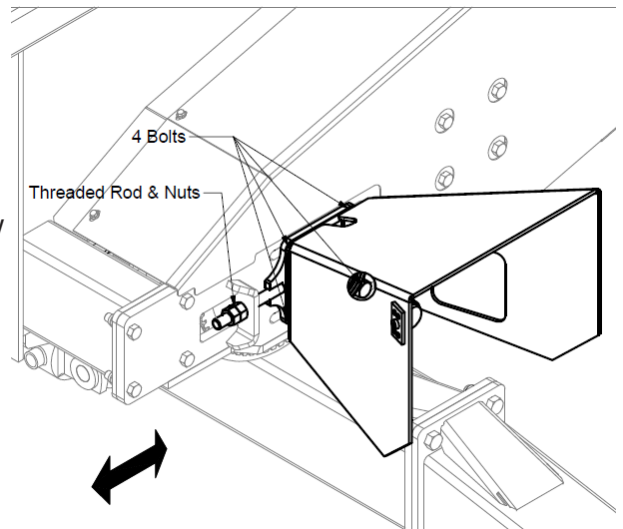
Adjustments

Drive belt can stretch over time which may cause slipping. Belt can be tightened by moving the PTO drive assembly.

- Loosen 4 bolts on PTO drive assembly. **DO NOT REMOVE!**
- Loosen nuts from threaded rod of PTO drive assembly.
- Move PTO drive assembly towards right side of machine.
- Tighten nuts against frame to set PTO drive assembly's new position.
- Tighten nuts and bolts on PTO drive assembly to finish setting new position.

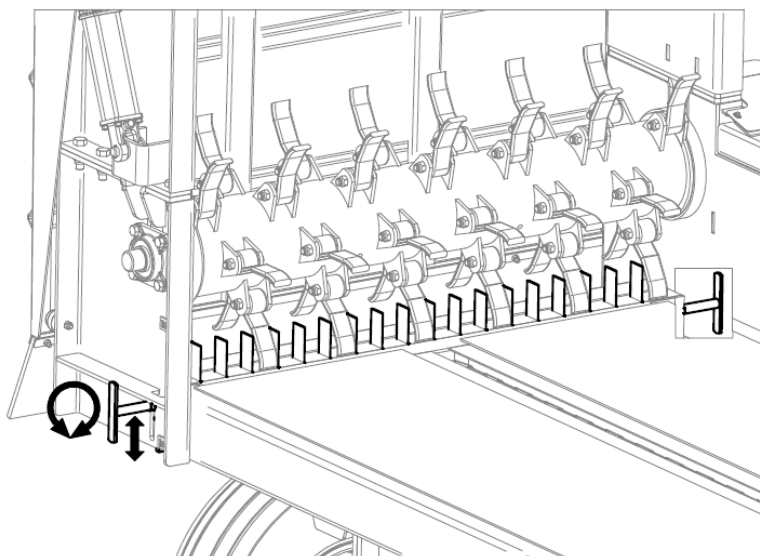
Replacement parts, for parts with safety signs attached, must also have safety sign attached.

The bale knife kit can be adjusted up or down. This can be useful if material is thick and is accumulating in the discharge/flail drum area.

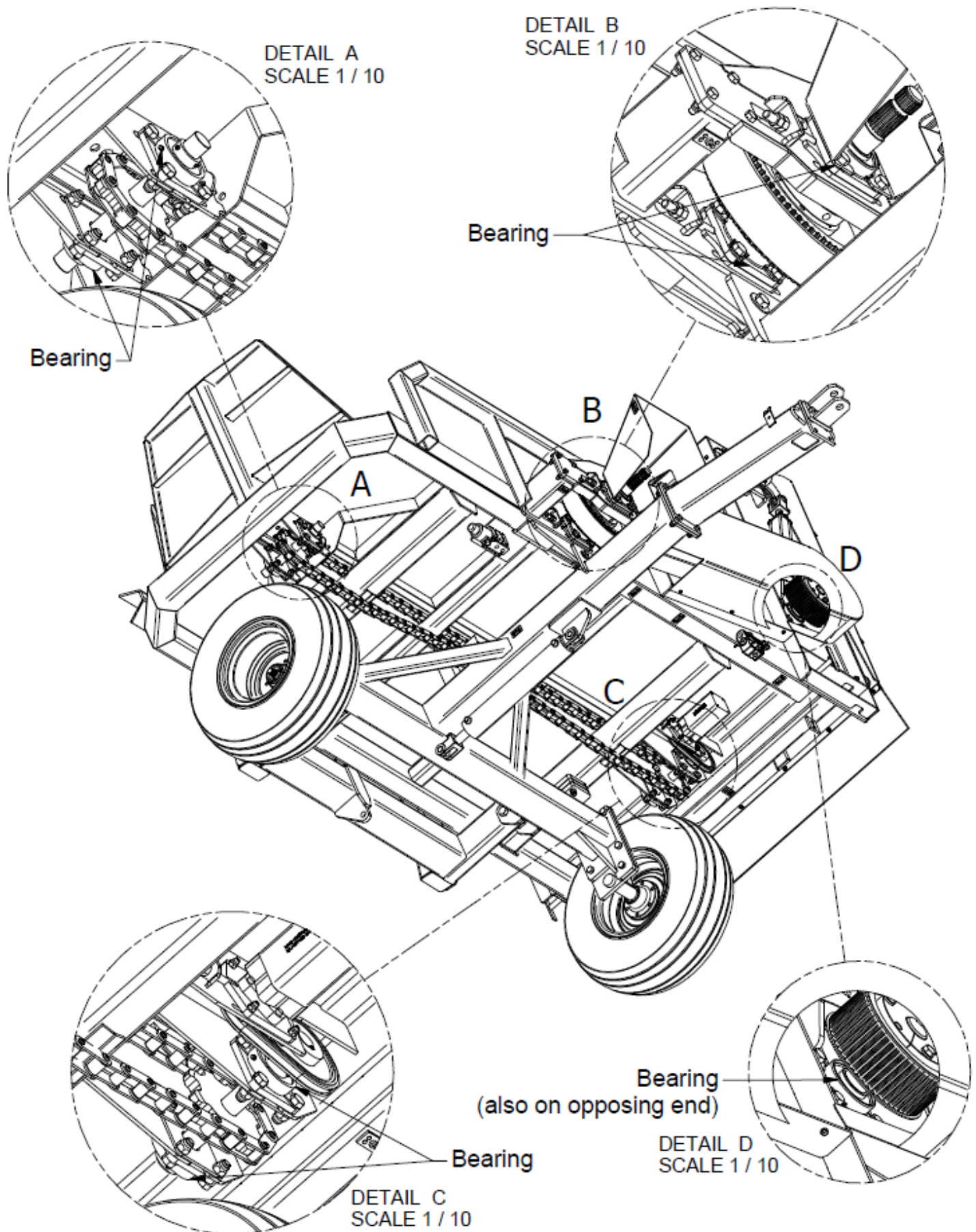


To adjust, simply untighten the handle on each end, lower/raise to desired height, and retighten.

Think SAFETY! Work SAFELY!

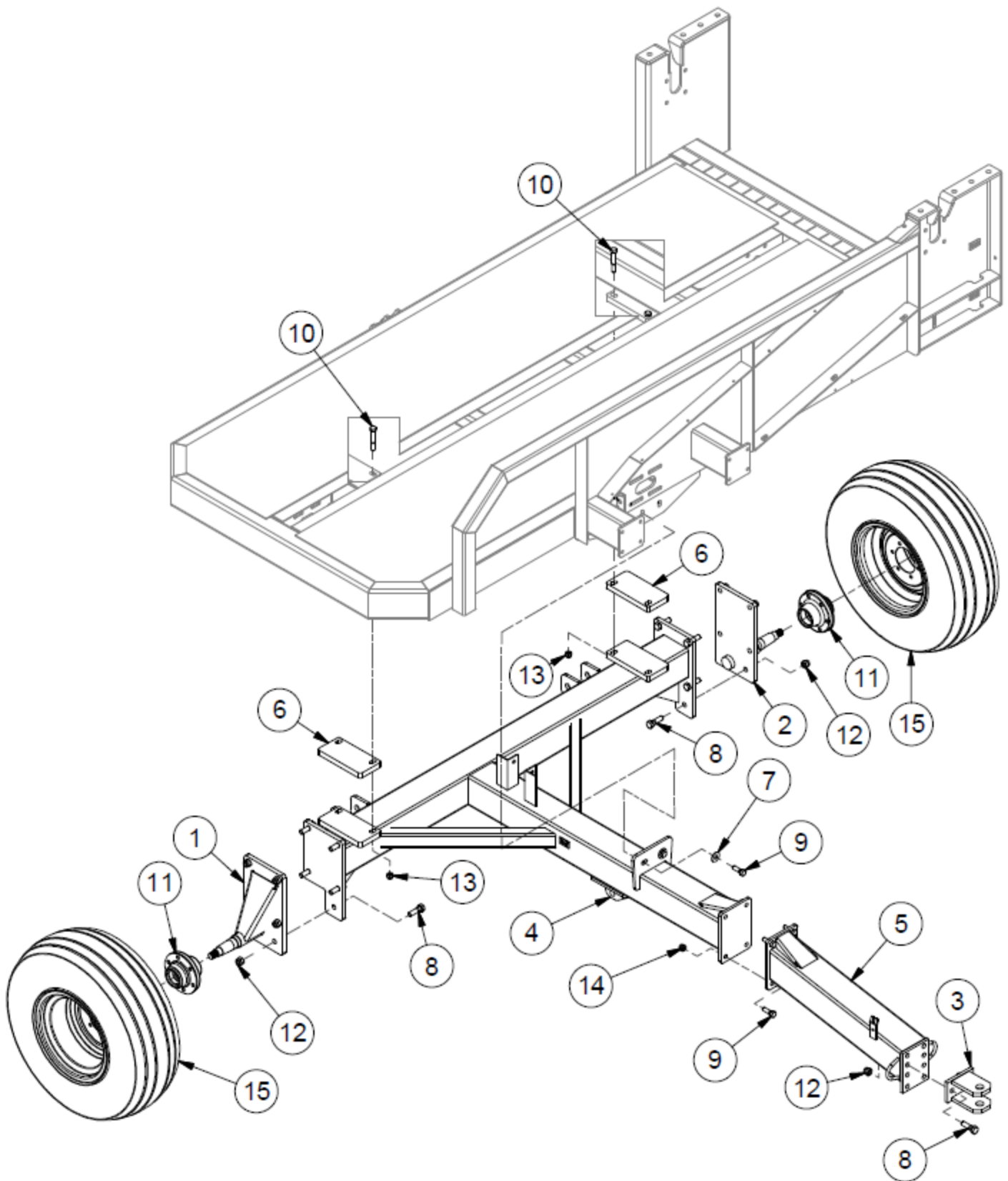


Section 7 - Grease Points



Section 8 - Part Breakdowns & Lists

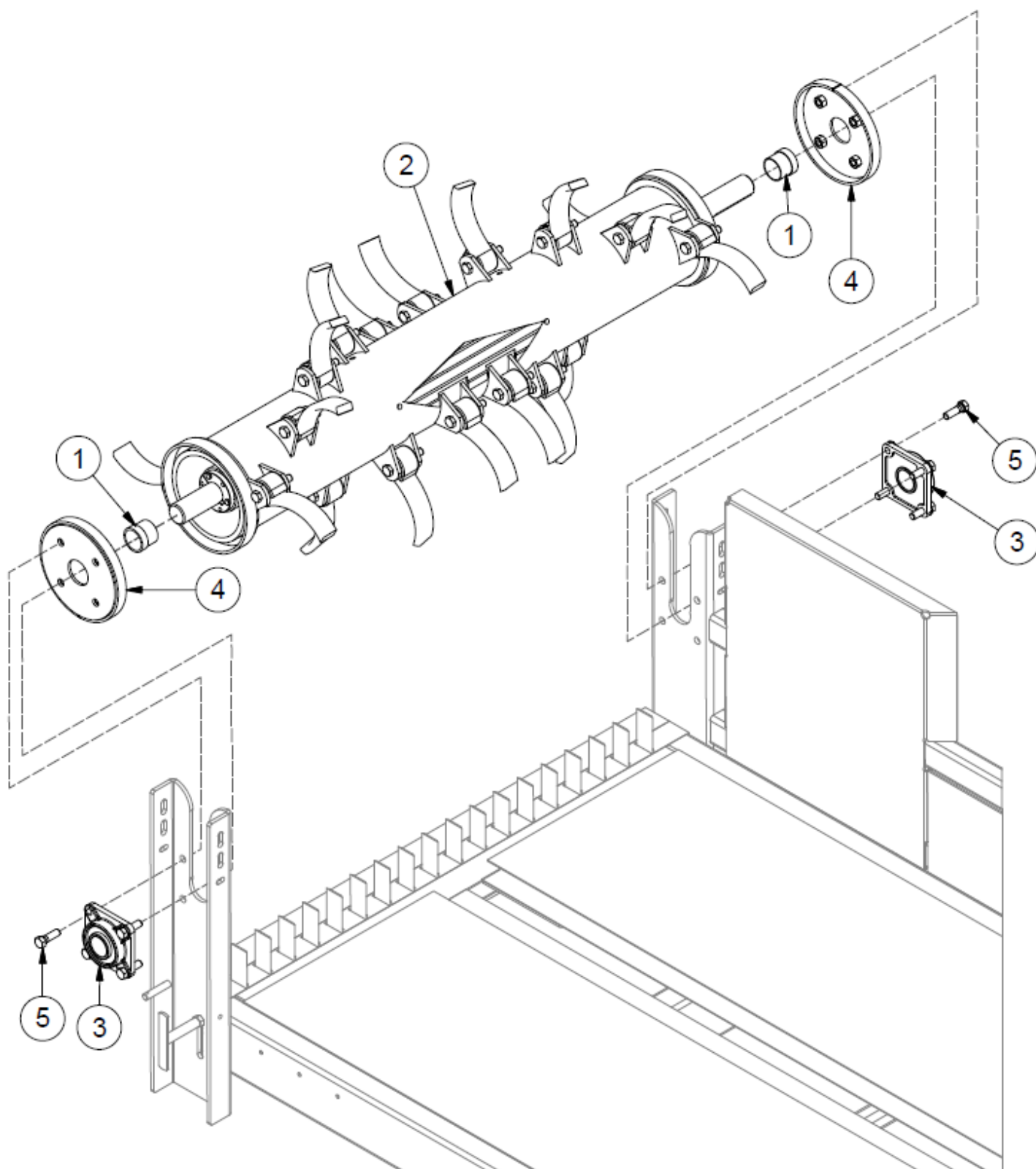
Hitch Frame



Hitch Frame

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	208120	Spindle Weldment RH
2	1	208121	Spindle Weldment LH
3	1	208148	Bolt-on Tongue
4	1	39003	Main Hitch
5	1	39004	Bolt-on Hitch
6	2	39065	Main Hitch Mount
7	4	FW 5/8	Flatwasher - 5/8" Zinc Plated USS
8	20	HB 3/4-10X2.1/2 Z5	Hex Bolt - 3/4-10 x 2 1/2" Grade 5 Zinc Plated Hex Cap Screw NC
9	33	HB 5/8-11X2.0 Z5	Hex Bolt 5/8-11 x 2 Grade 5 Zinc Plated Hex Cap Screw NC
10	4	HB 5/8-11X4.0 Z5	Hex Bolt 5/8-11 x 4" Grade 5 Zinc Hex Cap Screw NC
11	2	HUB 6000#	Boss, Technobale, Bale Feeder Hub
12	20	LN 3/4 N	Locknuts - 3/4-10 Zinc Plated Nylon Insert
13	4	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
14	33	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
15	2	WHE 12X15X 10	12 x 15 10 Ply Good Year on 15x10x6 Rim

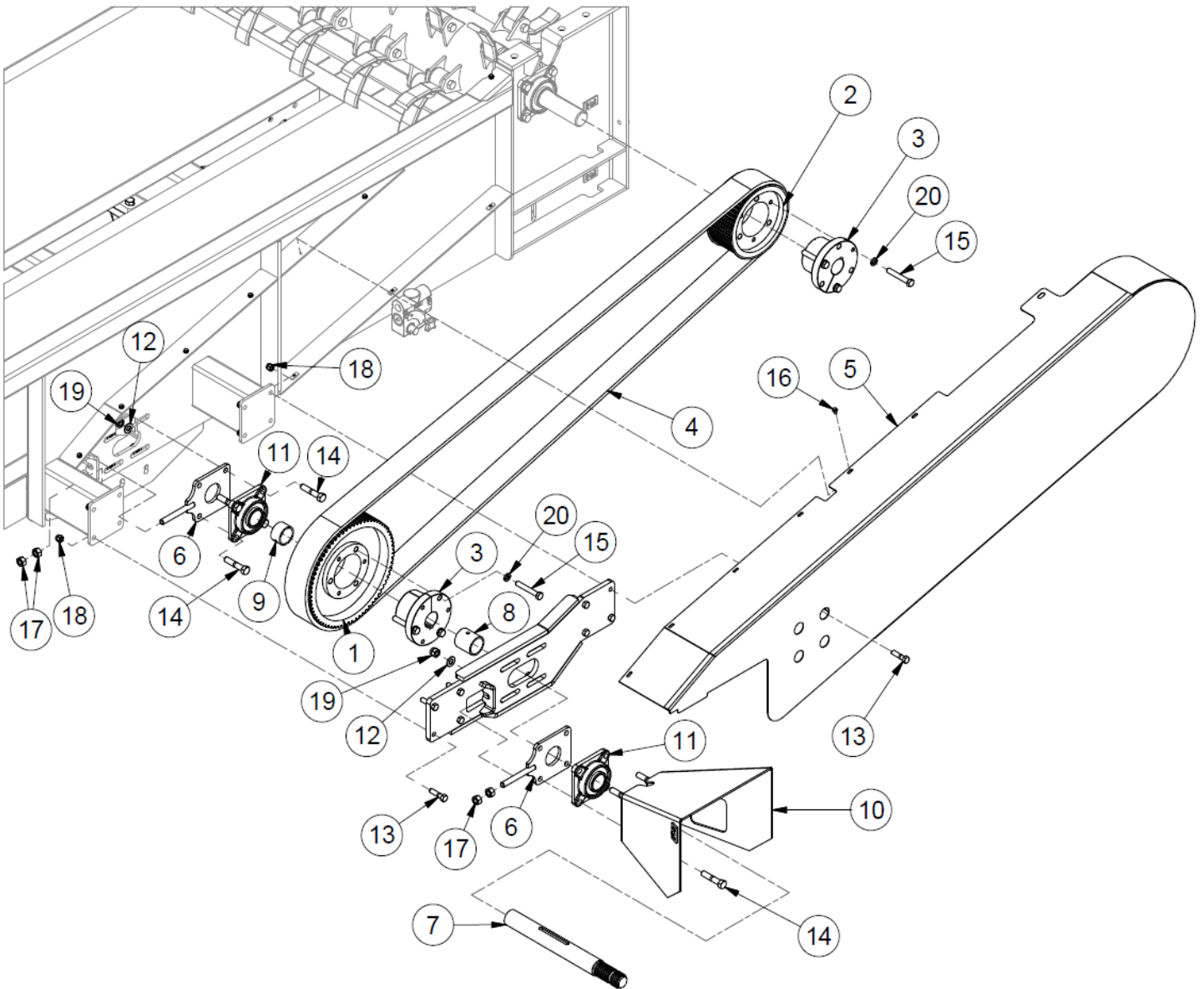
Beater



Beater

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	39102	Beater Shaft Spacer
2	1	39495	Boss II Complete Flail Drum
3	2	BEA UCF210-32 NTL	2" Bearing 4 Bolt Ductile Iron Flange With Triple Seal
4	2	BS208141	Bearing Protector for Rotor
5	8	HB 5/8-11X2 Z5	Hex Bolt 5/8-11x2 Grade 5 Zinc Plated Hex Cap Screw

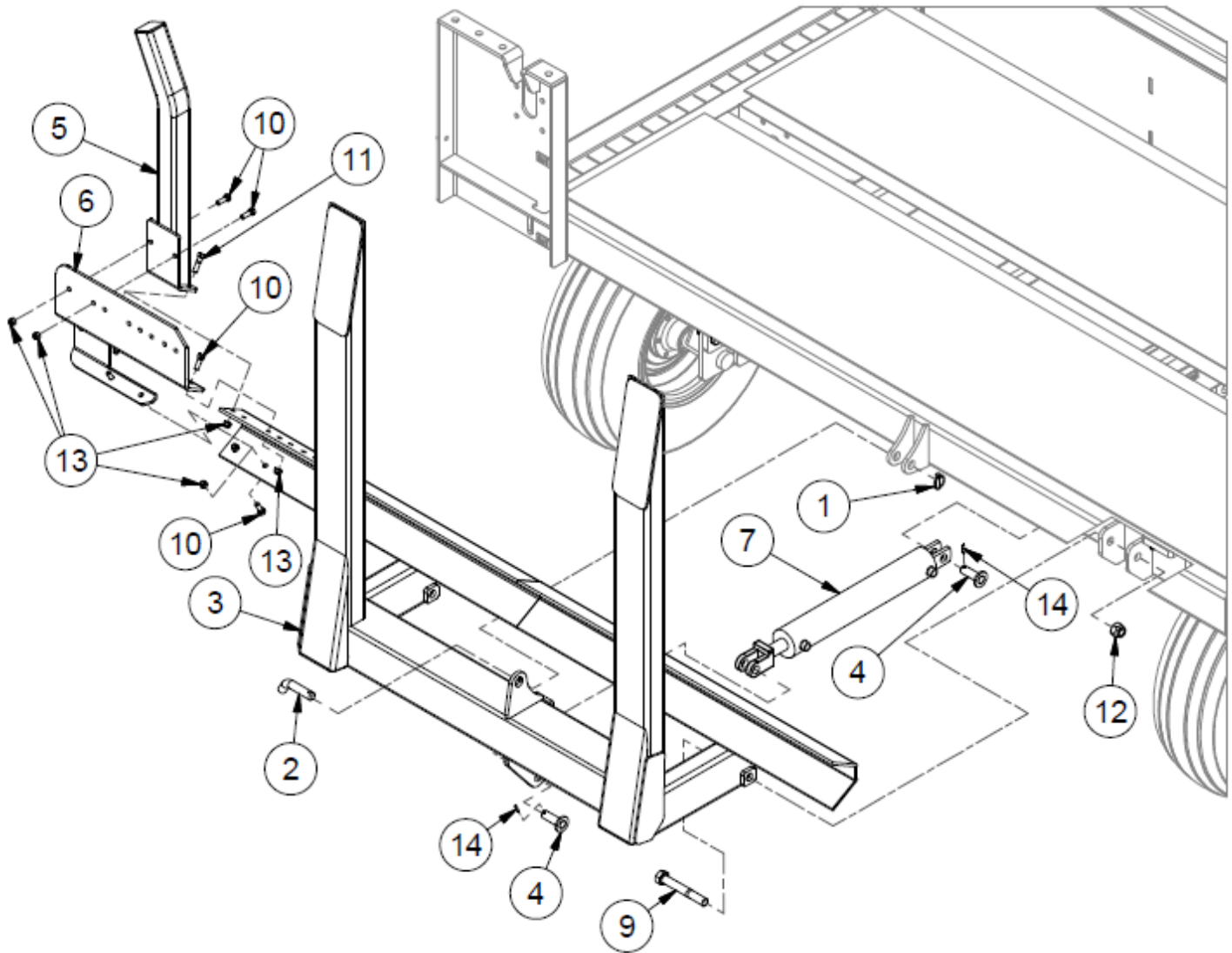
Belt Drive



Belt Drive

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	28005	Boss IV Pulley P80
2	1	28006	Boss IV Pulley P64
3	2	28007	Boss IV Bushing
4	1	28008	Boss IV Belt
5	1	39005	Belt Shield
6	2	39007	Pulley Bearing Adjuster
7	1	39086	PTO Drive Shaft
8	1	39103	Front PTO Shaft Spacer
9	1	39104	Back PTO Shaft Spacer
10	1	40985	PTO Shield (weldment)
11	2	BEA UCF210-200-DUCTILE	2.00 Bearing 4 Bolt Ductile Flange Flange with Locking Collar
12	8	FW 5/8	Flatwasher - 5/8" Zinc Plated USS
13	9	HB 1/2-13X2.0 Z5	Hex Bolt 1/2-13 x 2" Grade 5 Zinc Plated Hex Cap Screw NC
14	8	HB 5/8-11X3.0 Z5	Hex Bolt 5/8-11 x 3" Grade 5 Zinc Plated Hex Cap Screw NC
15	6	HB 9/16-12X3.1/2 Z5	Hex Bolt Plated Gr. 5 N.C
16	10	HBC14X12	Hex Bolt 1/4-20 x 1/2 Grade 8.2 Zinc Flange Bolt SAE
17	6	HN 5/8	Hex Nut - 5/8"-11 Grade 5 Zinc Plated Finished NC
18	8	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
19	4	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
20	6	LW 9/16	Lockwasher - 9/16" Zinc Plated Medium Split

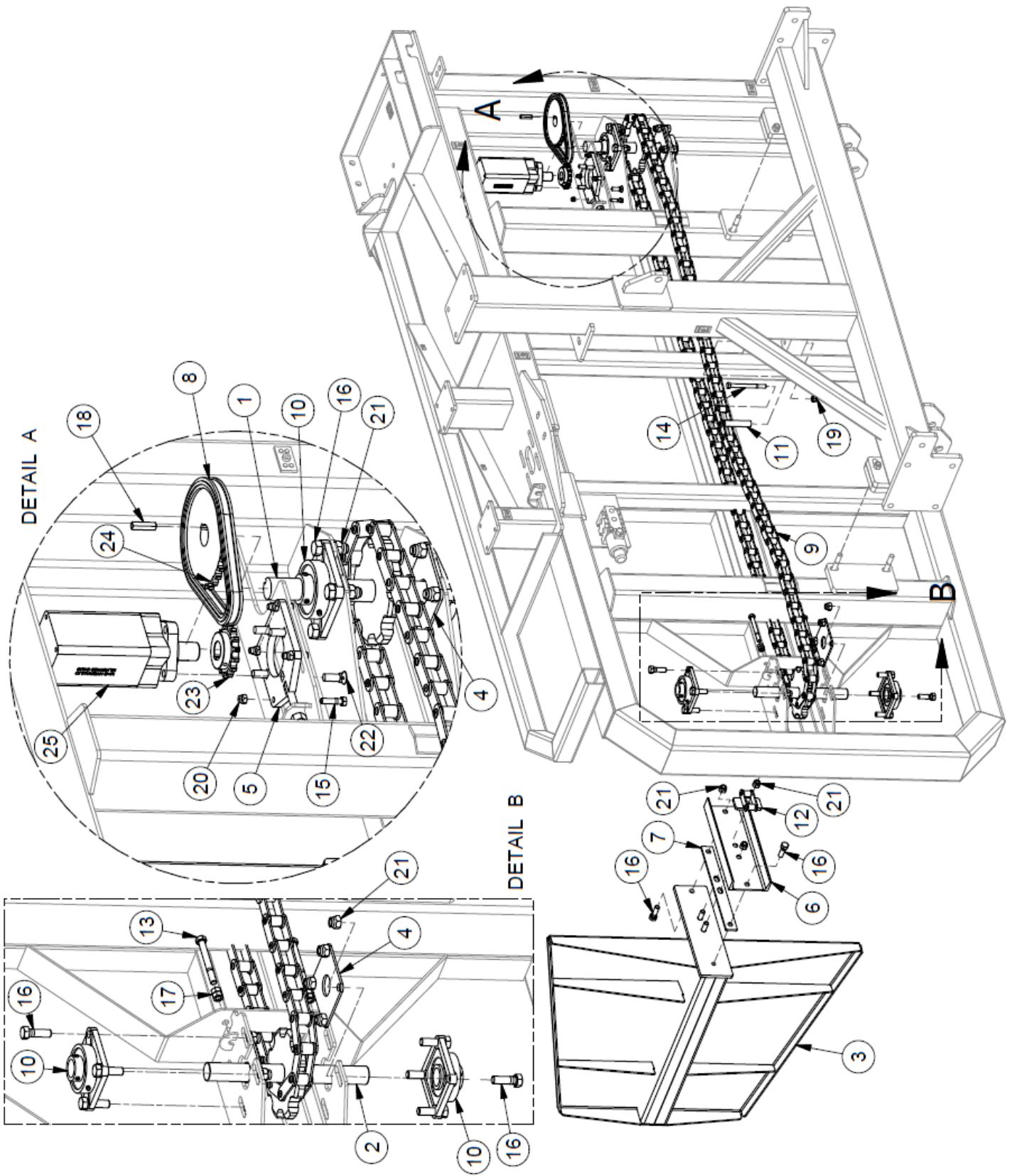
Fork



Fork

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	28940	Lynch Pin - 3/8 x 1-3/4"
2	1	36669	Transport Lock Pin
3	1	37541	Fork Lift
4	6	39010	Cylinder Pin (Weldment)
5	1	39011	Bale Guide Finger (Weldment)
6	1	39099	Dribbler
7	1	BS199899A	Cylinder, Boss II Fork (Lift) - 3-1/2" X 20-1/2" Hydraulic Cylinder
8	2	BS208141	Bearing Protector for Rotor
9	2	HB 1-8X7.0 Z5	Hex Bolt 1"-8 x 7" Grade 5 Zinc Plated Hex Cap Screw NC
10	7	HB 1/2-13X1.1/2 Z5	Hex Bolt 1/2-13 x 1 1/2" Grade 5 Zinc Plated Hex Cap Screw NC
11	9	HB 1/2-13X2.0 Z5	Hex Bolt 1/2-13 x 2" Grade 5 Zinc Plated Hex Cap Screw NC
12	2	LN 1.0 N	Locknuts - 1-8 Zinc Plated Nylon Insert
13	5	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
14	6	RP 3/16X1.1/4	Pin - Slotted Spring Pin 3/16 x 1 1/4

Ram

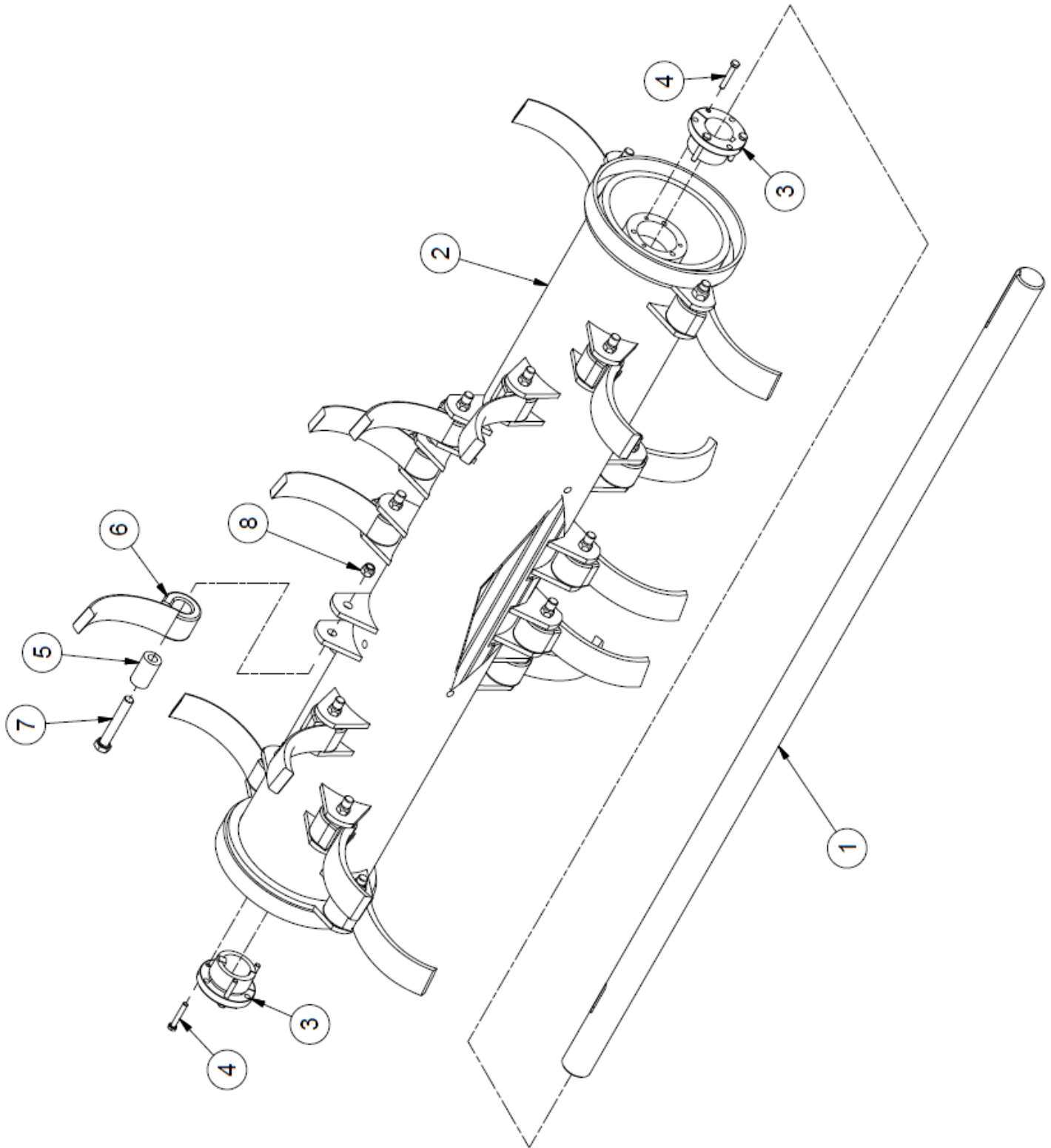


Ram

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	27263	Ram Sprocket
2	1	27264	Ram Idler
3	1	37546	Bale Pusher (Weldment)
4	4	37619	Spacer
5	1	39008	Ram Motor Plate (Weldment)
6	1	39085	Bale Pusher Mount
7	1	39811	Bale Pusher Guide
8	1	39997	Chain #60 X 39 Links c/w Connector Link
9	1	41876	BossII Ram Chain
10	4	BEA UCF208-24-1.5	1 1/2" 4 Bolt Flange Bearing
11	1	BS SAW200040	Tee Handle/Chain Roller
12	1	BS200145A	Conveyor Chain for Boss II
13	2	HB 1/2-13X4.1/2 TZ5	Tap Bolt - 1/2"-13 X 4.1/2" Grade 5 Zinc Plated Tap Bolt N.C.
14	1	HB 1/2-13X5.1/2 Z5	Hex Bolt - 1/2-13 x 5 1/2" Grade 5 Zinc Plated Hex Cap Screw
15	11	HB 3/8-16X1.1/2 Z5	Hex Bolt - 3/8-16 x 1 1/2" Grade 5 Zinc Plated Hex Cap Screw NC
16	34	HB 5/8-11X2.0 Z5	Hex Bolt 5/8-11 x 2 Grade 5 Zinc Plated Hex Cap Screw NC
17	4	HN 1/2	Hex Nut 1/2"-13 Grade 5 Zinc Plated Finished
18	1	KS41537	Key stock 3/8 X 3/8
19	9	LN 1/2 N	Locknuts - 1/2-13 Zinc Plated Nylon Insert Lock Nut
20	11	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
21	33	LN 5/8 N	Locknut - 5/8-11 Zinc Plated Nylon Insert Lock Nut
22	4	PB 1/2X1.1/2	Plow Bolts Gr.5
23	1	SPR60B14-1.25	60B14 Sprocket w/1.25 Bore 5/16 Kwy. 2 5/16 SS
24	1	SPR60B30F-IH	60B30F 1-1/2" KW 2SS
25	1	VAL MLHSY400	Motor, Complete - MLHSY400C4UD

Flail Drum

This style flail drum is retrofittable to other styles.

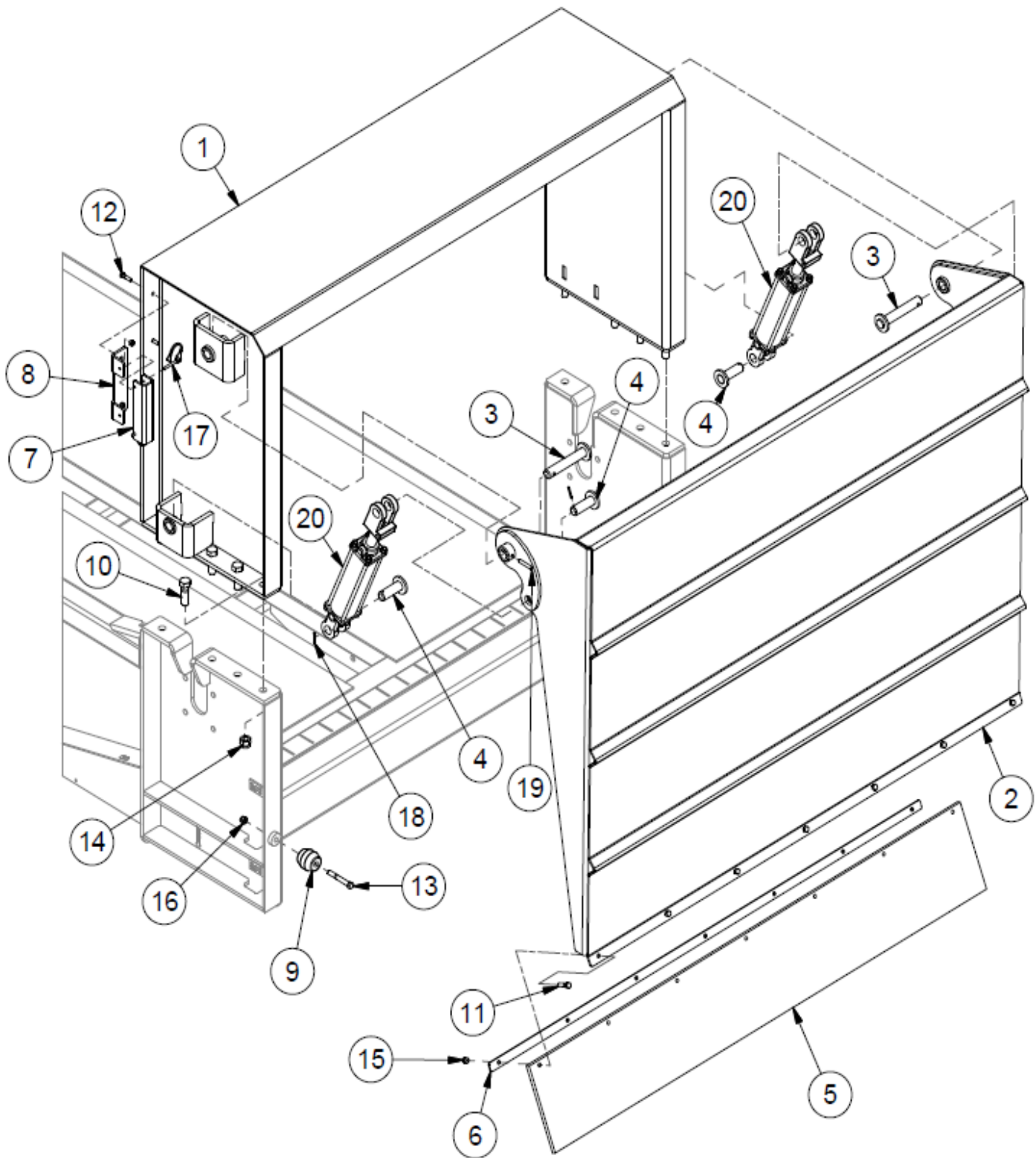


Flail Drum

This style flail drum is retrofittable to other styles.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	37789	Main Beater Shaft
2	1	39540	Boss Flail Drum
3	2	BSBUSK-2TBW	Bushing - SG 2" Taper Lock Insert
4	6	HB 5/16-24 X2 YZ8	Hex Bolt 5/16-24x2 Grade 8 Zinc Hex Cap Screw
5	20	BS200059	Flail Bushing
6	20	BS200060A-2	Hammers, Heavy for Boss Shredder- 5/8 x 2.0 Material
7	20	HB 5/8-18 X4 YZ8	Hex Bolt 5/8-18x4 Grade 8 Zinc Hex Cap Screw
8	18	LN 1/2 F	Center Locknuts (1/2-20) 2-Way Fine Thread

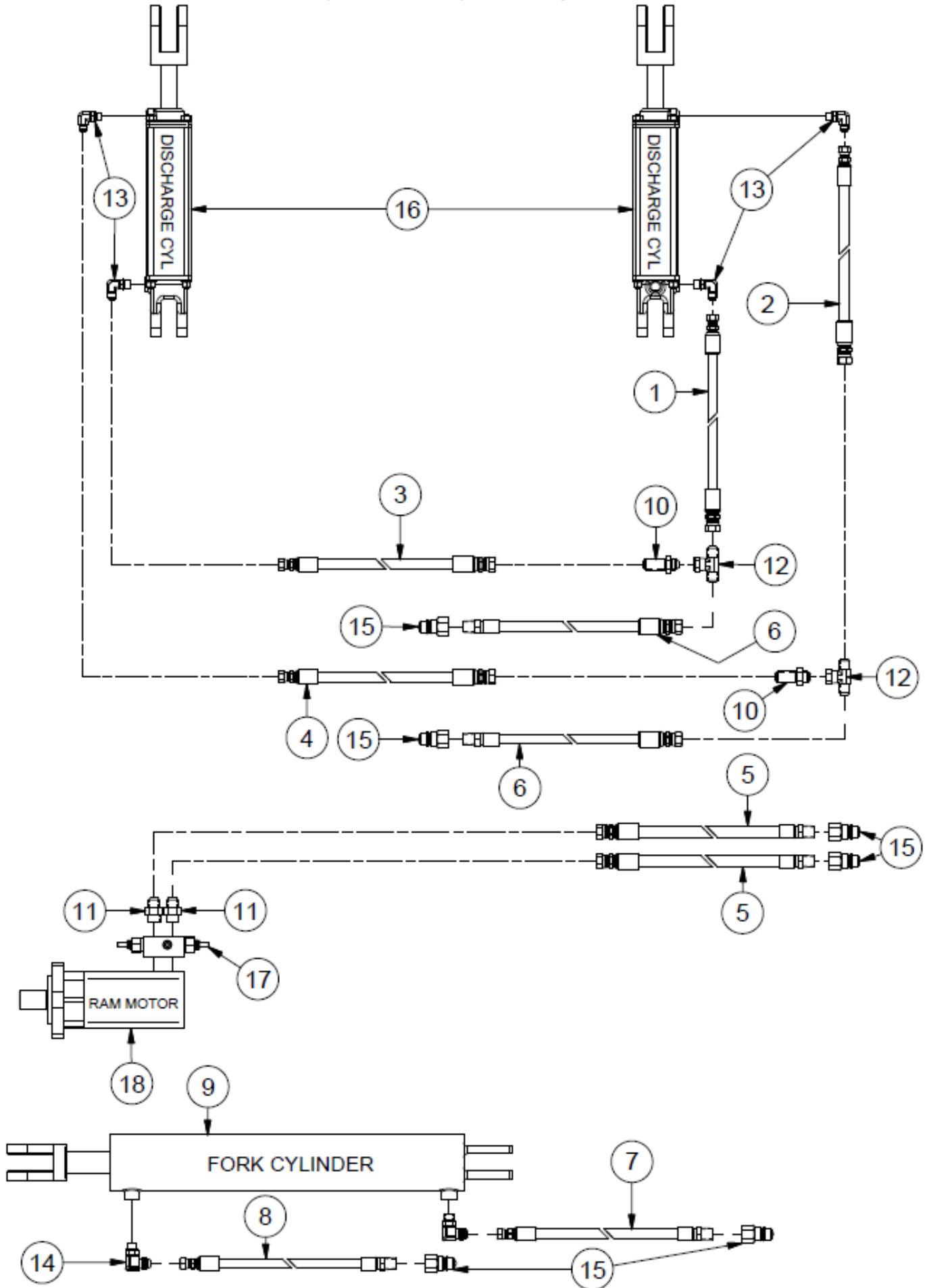
Deflector Shield



Deflector Shield

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	39001	Top Frame (Weldment)
2	1	39006	Deflector Shield (Weldment)
3	2	39009	Cylinder Pin (Weldment)
4	6	39010	Cylinder Pin (Weldment)
5	1	39088	Rubber Deflector .5 x 10 x 67 11/16
6	1	39089	Rubber Deflector Hold Down
7	2	39876	Cyl Channel Lock
8	2	39878	Cyl Lock Mount
9	2	40950	Timbren Bushing
10	20	HB 3/4-10X2.1/2 Z5	Hex Bolt - 3/4-10 x 2 1/2" Grade 5 Zinc Plated Hex Cap Screw NC
11	11	HB 3/8-16X1.1/2 Z5	Hex Bolt - 3/8-16 x 1 1/2" Grade 5 Zinc Plated Hex Cap Screw NC
12	4	HB 5/16-18X1.1/4 Z5	Hex Bolt - 5/16"-18 x 1 1/4" Grade 5 Zinc Plated Hex Cap Screw
13	2	HB 7/16-14X3.1/2 Z5	Hex Bolt Plated Gr. 5 NC
14	20	LN 3/4 N	Locknuts - 3/4-10 Zinc Plated Nylon Insert
15	11	LN 3/8 N	Locknuts - 3/8-16 Zinc Plated Nylon Insert Lock Nut
16	2	LN 7/16	Center Locknuts - 7/16-14 Top Lock Nut
17	4	LP B1995	Pin - Lock Pin 1/4x1 3/4
18	6	RP 3/16X1.1/4	Pin - Slotted Spring Pin 3/16 x 1 1/4
19	2	RP 5/16 X 2	Pin - Roll Pin 5/16 x 2
20	2	TL500-100-082	Hydraulic Cylinder (HYS25SPE08-2176)

Hydraulic Layout Original

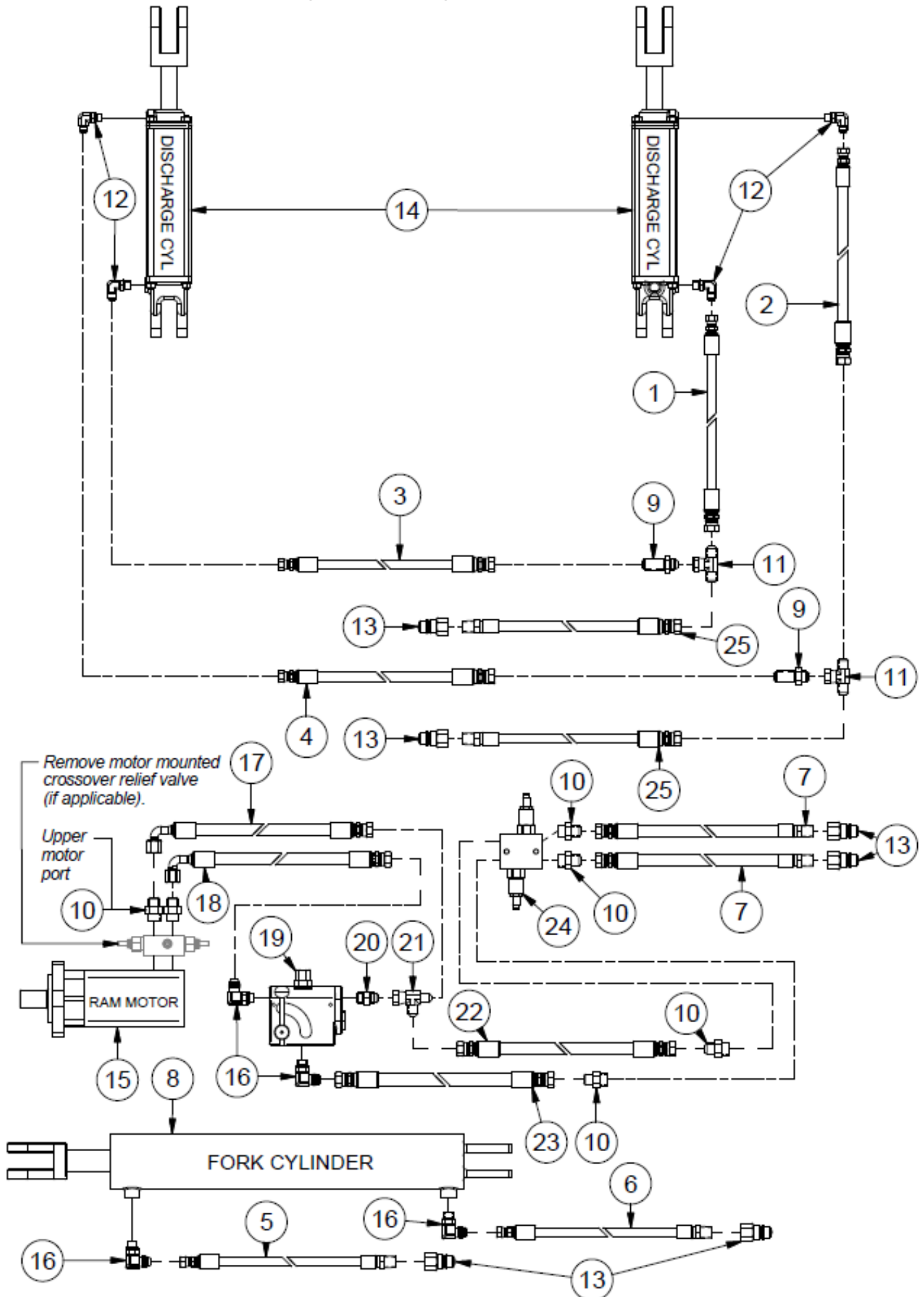


Hydraulic Layout Original

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41542	HH43-6AT1(8FJX-6FJX) HCL 43"
2	1	41543	HH53-6AT1(8FJX-6FJX) HCL 53"
3	1	41544	HH91-6AT1(8FJX-6FJX) HCL 91"
4	1	41545	HH104-6AT1(8FJX-6FJX) HCL 104"
5	2	41551	HH167 - 8AT1(8MP,8FJXH) HCL 167"
6	2	44935	Hose - HH160 - 6AT1(8MP,8FJXH) HCL 160"
7	1	BS-09	Hose - HH120 - R17-063000PSI/109-08/MNPT-08/FJIC08/120C/MNPT-08
8	1	BS-10	Hose - HH140 - R17-063000PSI/109-06/MNPT-08/FJIC08/140C/MNPT-08
9	1	BS199899A	Cylinder, Boss II Fork (Lift) - 3-1/2" X 20-1/2" Hydraulic Cylinder
10	2	HF 2700LN-08-08	Hyd Fitting MJIC to MJIC
11	2	HF 6400-8-10	Hyd Fitting -Male JIC - Male ORB
12	2	HF 6600-8-8-8	Hyd. Fitting - Male JIC - Female JIC Tee
13	4	HF 6801-6-6	Hyd. Fitting 90 Deg.0-Ring to JIC
14	2	HF 6801-8-8	Hyd. Fitting- 1/2" JIC- 1/2" SAE 90 Deg Elbow
15	6	HF 8010-4	Quickcoupler 1/2" Male Tip
16	2	TL500-100-082	Hydraulic Cylinder (HYS25SPE08-2176)
17	1	VAL KPDS100/A/3	Relief Valve
18	1	VAL MLHSY400	Motor, Complete - MLHSY400C4UD

See next page for available update kit.

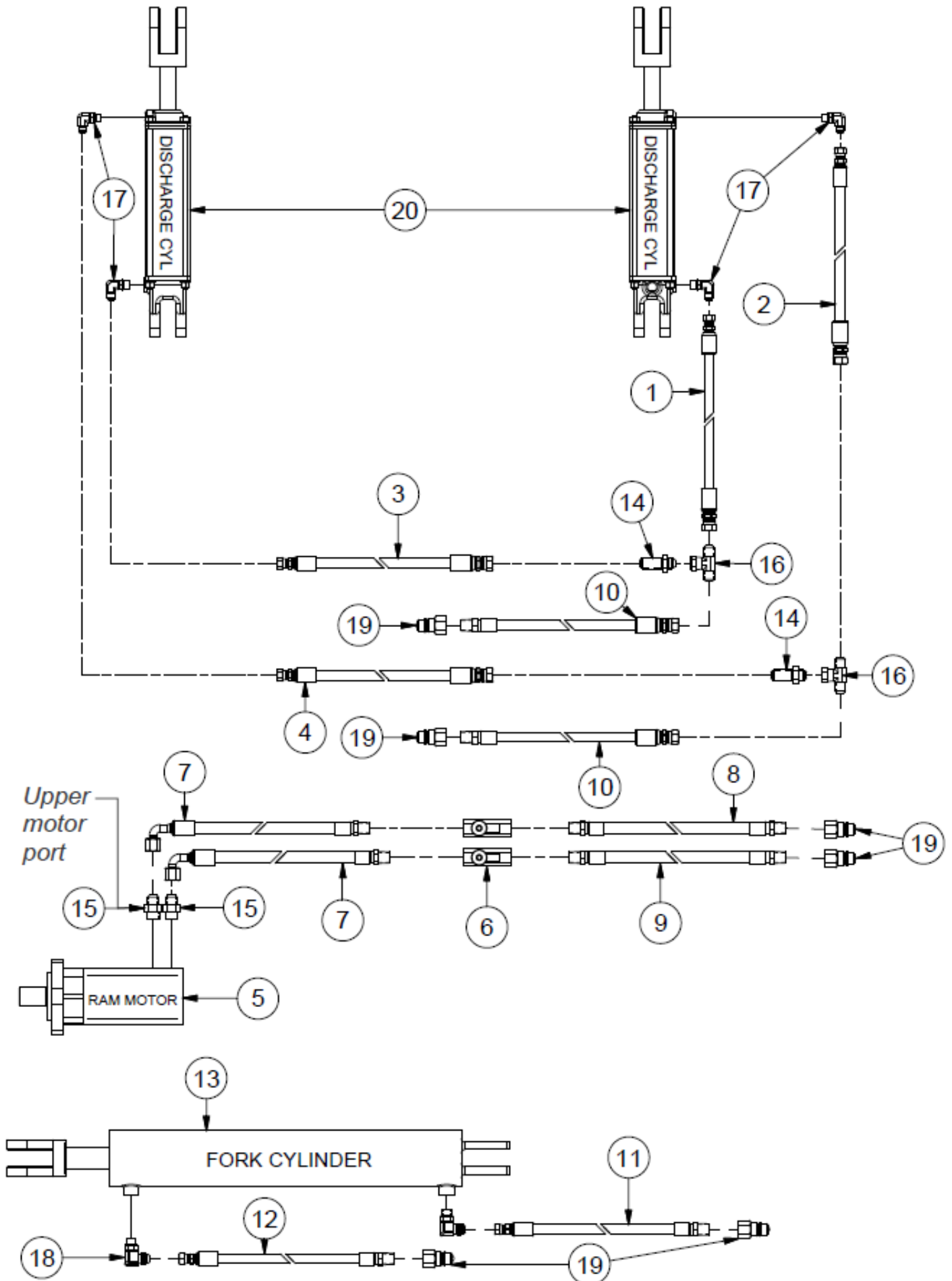
Hydraulic Layout Update Kit



Hydraulic Layout Update Kit

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41542	HH43-6AT1(8FJX-6FJX) HCL 43"
2	1	41543	HH53-6AT1(8FJX-6FJX) HCL 53"
3	1	41544	HH91-6AT1(8FJX-6FJX) HCL 91"
4	1	41545	HH104-6AT1(8FJX-6FJX) HCL 104"
5	1	BS-10	Hose - HH140 - R17-063000PSI/109-06/MNPT-08/FJIC08/140C/MNPT-08
6	1	BS-09	Hose - HH120 - R17-063000PSI/109-08/MNPT-08/FJIC08/120C/MNPT-08
7	2	44981	Hose - HH76 - 8AT1(8MP,8FJXH) HCL 76"
8	1	BS199899A	Cylinder, Boss II Fork (Lift) - 3-1/2" X 20-1/2" Hydraulic Cylinder
9	2	HF 2700LN-08-08	Hyd Fitting MJIC to MJIC
10	6	HF 6400-8-10	Hyd Fitting -Male JIC - Male ORB
11	2	HF 6600-8-8-8	Hyd. Fitting - Male JIC - Female JIC Tee
12	4	HF 6801-6-6	Hyd. Fitting 90 Deg.0-Ring to JIC
13	6	HF 8010-4	Quickcoupler 1/2" Male Tip
14	2	TL500-100-082	Hydraulic Cylinder (HYS25SPE08-2176)
15	1	VAL MLHSY400	Motor, Complete - MLHSY400C4UD
16	4	HF 6801-8-8	Hyd. Fitting- 1/2" JIC- 1/2" SAE 90 Deg Elbow
17	1	44982	Hose - HH25 - 8AT1(8FJXH,8FJXH90S) 25"
18	1	44984	Hose - HH37 - 8AT1(8FJXH,8FJXH90S) 37"
19	1	42701	Flow Control with Relief
20	1	HF 6400-8-8	Hydraulic Fitting - O-Ring to JIC Adapter
21	1	HF 6602-8-8-8	Hydraulic T Fitting 18mm
22	1	30651	Hose - HH73- 8AT1(8FJXH-8FJXH) HCL 73"
23	1	44983	Hose - HH62 - 8AT1(8FJXH,8FJXH) 62"
24	1	43982	Cross line relief - 30 GPM 1600 psi.
25	2	44935	Hose - HH160 - 6AT1(8MP,8FJXH) HCL 160"

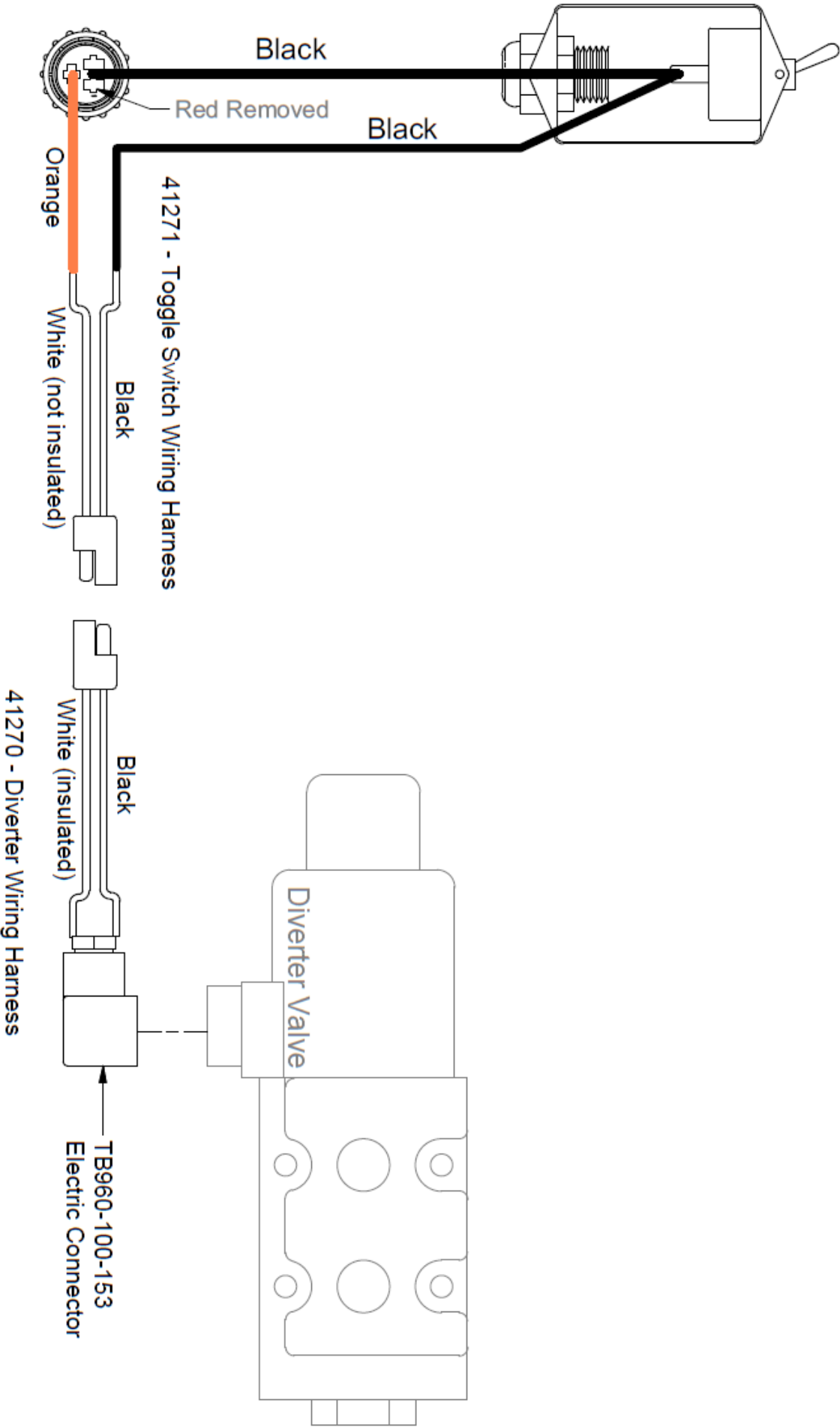
Hydraulic Layout Current



Hydraulic Layout Current

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	41542	HH43-6AT1(8FJX-6FJX) HCL 43"
2	1	41543	HH53-6AT1(8FJX-6FJX) HCL 53"
3	1	41544	HH91-6AT1(8FJX-6FJX) HCL 91"
4	1	41545	HH104-6AT1(8FJX-6FJX) HCL 104"
5	1	44930	Hydraulic Motor
6	2	44931	Flow Control 1/2NPT
7	2	44932	Hose - HH20 - 8AT1(8MP,8FJXH90) HCL 20"
8	1	44933	Hose - HH136 - 8AT1(8MP,8MP) HCL 136"
9	1	44934	Hose - HH139 - 8AT1(8MP,8MP) HCL 139"
10	2	44935	Hose - HH160 - 6AT1(8MP,8FJXH) HCL 160"
11	1	BS-09	Hose - HH120 - R17-063000PSI/109-06/MNPT-08/FJIC08/120C/MNPT-08
12	1	BS-10	Hose - HH140 - R17-063000PSI/109-08/MNPT-08/FJIC08/140C/MNPT-08
13	1	BS199899A	Cylinder, Boss II Fork (Lift) - 3-1/2" X 20-1/2" Hydraulic Cylinder
14	2	HF 2700LN-08-08	Hyd Fitting MJIC to MJIC
15	6	HF 6400-8-10	Hyd Fitting -Male JIC - Male ORB
16	2	HF 6600-8-8-8	Hyd. Fitting - Male JIC - Female JIC Tee
17	4	HF 6801-6-6	Hyd. Fitting 90 Deg.0-Ring to JIC
18	4	HF 6801-8-8	Hyd. Fitting- 1/2" JIC- 1/2" SAE 90 Deg Elbow
19	6	HF 8010-4	Quickcoupler 1/2" Male Tip
20	2	TL500-100-082	Hydraulic Cylinder (HYS25SPE08-2176)

Electrical Schematic












Section 9 - Options

Section 10 - Torque Value Charts

Imperial Torque Values

UNIFIED INCH BOLT AND CAP SCREW TORQUE VALUES

SAE Grade and Head Markings	1 or 2 ^b	5	5.1	5.2	8	8.2
NO MARK						
SAE Grade and Nut Markings	2	5	8			
NO MARK						

TST162 -19-01M41091

Size	Grade 1				Grade 2 ^b				Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft
1/4	3.7	2.8	4.7	3.5	6	4.5	7.5	5.5	9.5	7	12	9	13.5	10	17	12.5
5/16	7.7	5.5	10	7	12	9	15	11	20	15	25	18	28	21	35	26
3/8	14	10	17	13	22	16	27	20	35	26	44	33	50	36	63	46
7/16	22	16	28	20	35	26	44	32	55	41	70	52	80	58	100	75
1/2	33	25	42	31	53	39	67	50	85	63	110	80	120	90	150	115
9/16	48	36	60	45	75	56	95	70	125	90	155	115	175	130	225	160
5/8	67	50	85	62	105	78	135	100	170	125	215	160	240	175	300	225
3/4	120	87	150	110	190	140	240	175	300	225	375	280	425	310	550	400
7/8	190	140	240	175	190	140	240	175	490	360	625	450	700	500	875	650
1	290	210	360	270	290	210	360	270	725	540	925	675	1050	750	1300	975
1-1/8	400	300	510	375	400	300	510	375	900	675	1150	850	1450	1075	1850	1350
1-1/4	570	425	725	530	570	425	725	530	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2150	1550	2700	2000	3400	2550
1-1/2	1000	725	1250	925	990	725	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

^b Grade 2 applies for hex cap screws (not hex bolts) up to 152 mm (6-in.) long. Grade 1 applies for hex cap screws over 152 mm (6-in.) long, and for all other types of bolts and screws of any length.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

























Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

DX.TOR01 -19-20JUL04

Metric Torque Values

METRIC BOLT AND CAP SCREW TORQUE VALUES

Property Class and Head Markings	<div>4.8</div> <div></div> <div></div> <div></div>	<div>8.8</div> <div></div> <div></div> <div></div> <div></div>	<div>10.9</div> <div></div> <div></div>	<div>12.9</div> <div></div> <div></div> <div></div> <div></div>
Property Class and Nut Markings	<div>5</div> <div></div> <div></div> <div></div>	<div>10</div> <div></div> <div></div> <div></div>	<div>10</div> <div></div> <div></div> <div></div>	<div>12</div> <div></div> <div></div> <div></div>

Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a		Lubricated ^a		Dry ^a	
	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft	N-m	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	255	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

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WARNING

The engine exhaust from this product contains chemicals known in the state of California to cause cancer, birth defects, or other reproductive harm.

TUBE•LINE™