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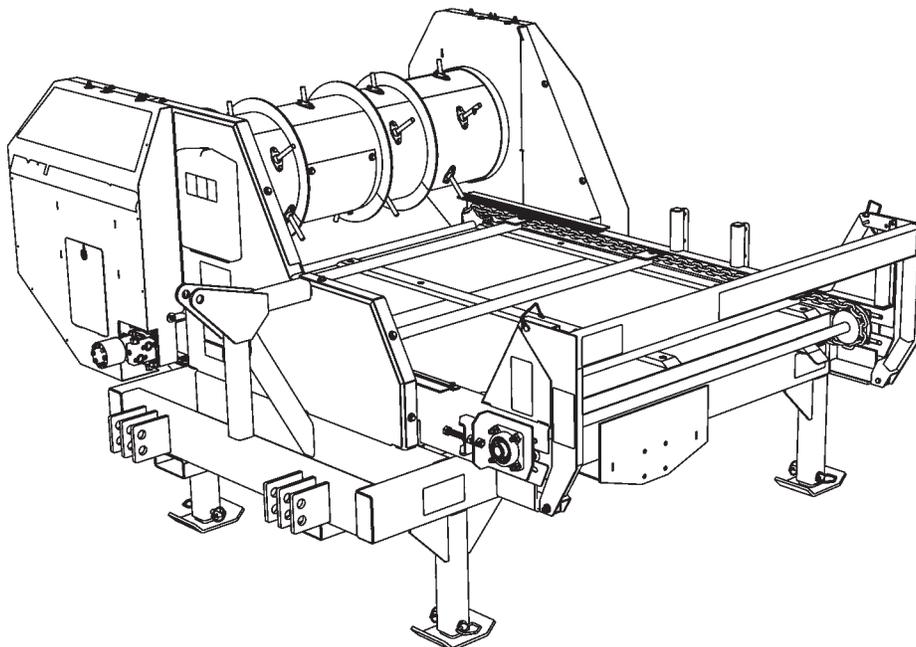
Operator's Manual

Keep this manual with the machine at all times.

BF8000

Stationary Balefeeder

BF8000S



Operator's Manual

Thank you for choosing the Tubeline Stationary Balefeeder.
We know 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

All equipment is sold subject to mutual agreement that it is warranted by the company to be free from defects of materials and workmanship. But the company shall not be liable for special, indirect or consequential, damages of any kind under this contract or otherwise. The company's liability shall be limited exclusively to replacing or repairing without charge, at its factory or elsewhere, at its discretion.

Any material, or workmanship defects which become apparent within one year from the date on which the equipment was purchased, and the company shall have no liability for damages of any kind. The buyer by the acceptance of the equipment will assume all liability for any damages, which may result from the use or misuse by his employees or others.

Manuals

Manuals are printed and shipped with machines as they leave the manufacturer. Your machine may include parts or features not yet included in the initially shipped manual. The latest manual version can be found at www.tubeline.ca/support.php. Tubeline reserves the right to update and change manuals as seen fit. Dealers are informed of any pressing changes/ modifications. They can help you with any questions regarding replacement parts.

Serial Number

The implement serial number is located on the front left side of the frame. 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 No: _____ BF8000S

Serial No: _____

Date Purchased: _____

Dealer Name: _____

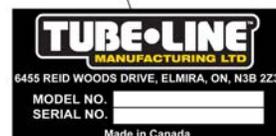
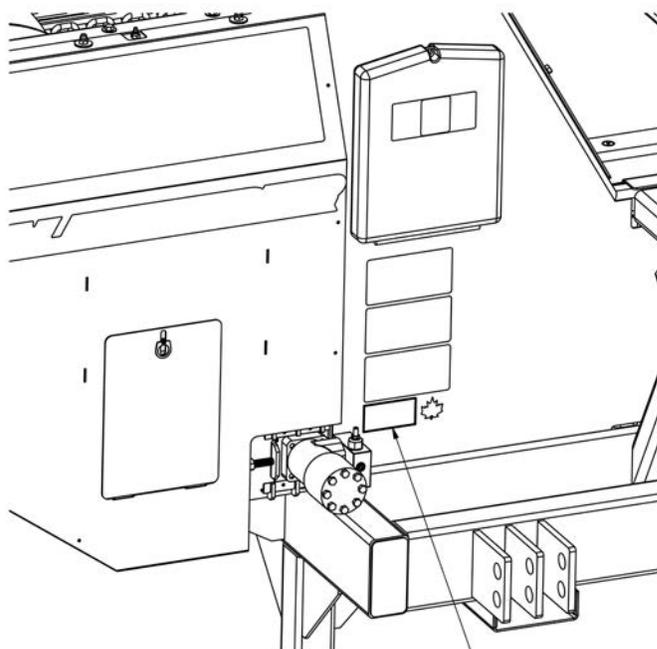


Table of Contents

Operator's Manual	I
Warranty and Limitation of Liability	I
Manuals	I
Serial Number	I
Section 1: General Information	1-1
Usage	1-1
Bales	1-1
Power Unit Requirements	1-1
Dimensions	1-1
Orientation	1-2
Terminology	1-2
Section 2: Safety	2-1
Safety Signal Words / Safety Messages	2-1
Safety Guidelines	2-1
Personal Protective Equipment	2-2
Hydraulic Safety	2-2
Maintenance Safety	2-2
Decal Locations	2-3
Safety Decals	2-5
Model Decals	2-6
Section 3: Pre-Operation	3-1
Initial Setup	3-1
Power Unit Hookup	3-1
Section 4: Adjustments	4-1
Conveyor Chain Tightening	4-1
Motor Drive Chain Tightening	4-1
Section 5: Operation	5-1
Loading Bales	5-1
Unloading	5-1
Section 6: Maintenance	6-1
Grease Points	6-1
Grease Point Locations	6-2
Daily Maintenance	6-3
Preseason Service	6-3
End of Season Service	6-3
Section 7: Parts Breakdowns & Lists	7-1
Frame	7-2
Inner Shielding	7-3
Bale Bed	7-4
Bale Bed Conveyor	7-6
Drum	7-8
Front Chain Drive	7-10
Rear Chain Drive	7-12
Bale Bed Cylinder Hydraulics	7-14
Conveyor Motor Hydraulics	7-15

Torque Values - Imperial	8-1
Torque Values - Metric	9-1

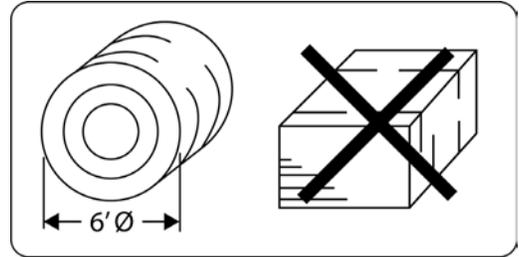
Section 1: General Information

Usage

This machine is designed to unravel round bales in a windrow for feeding livestock. The BF8000 works well with hay, straw, baleage and silage. This machine does not alter material length.

Bales

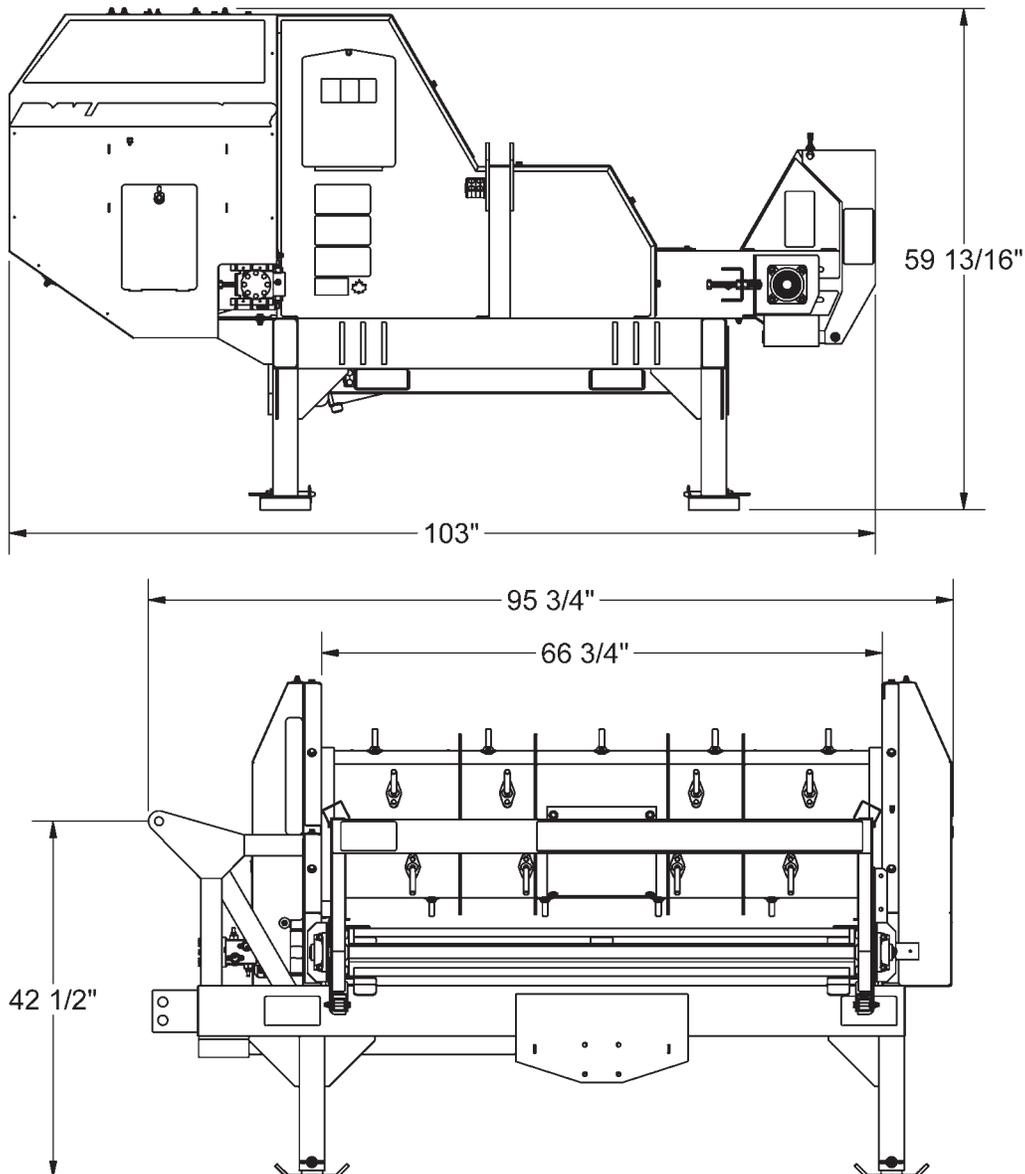
The BF8000S can handle up to a 5' x 6' diameter round bale. Maximum load capacity is 2500lbs.



Power Unit Requirements

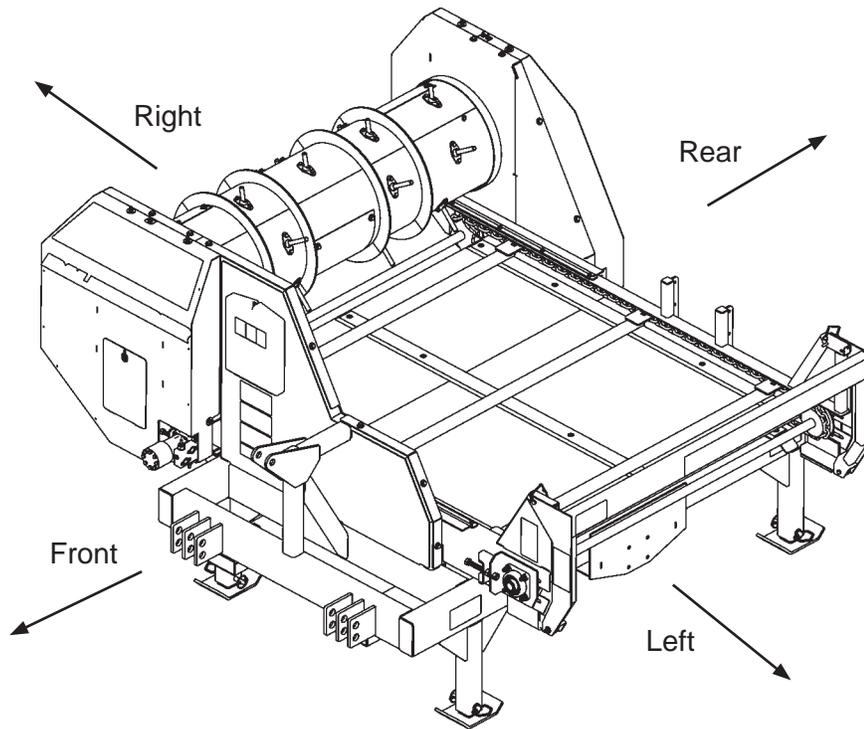
The BF8000 requires a power unit with 8-16 GPM feed rate, a minimum of 2000PSI and a 40hp engine.

Dimensions



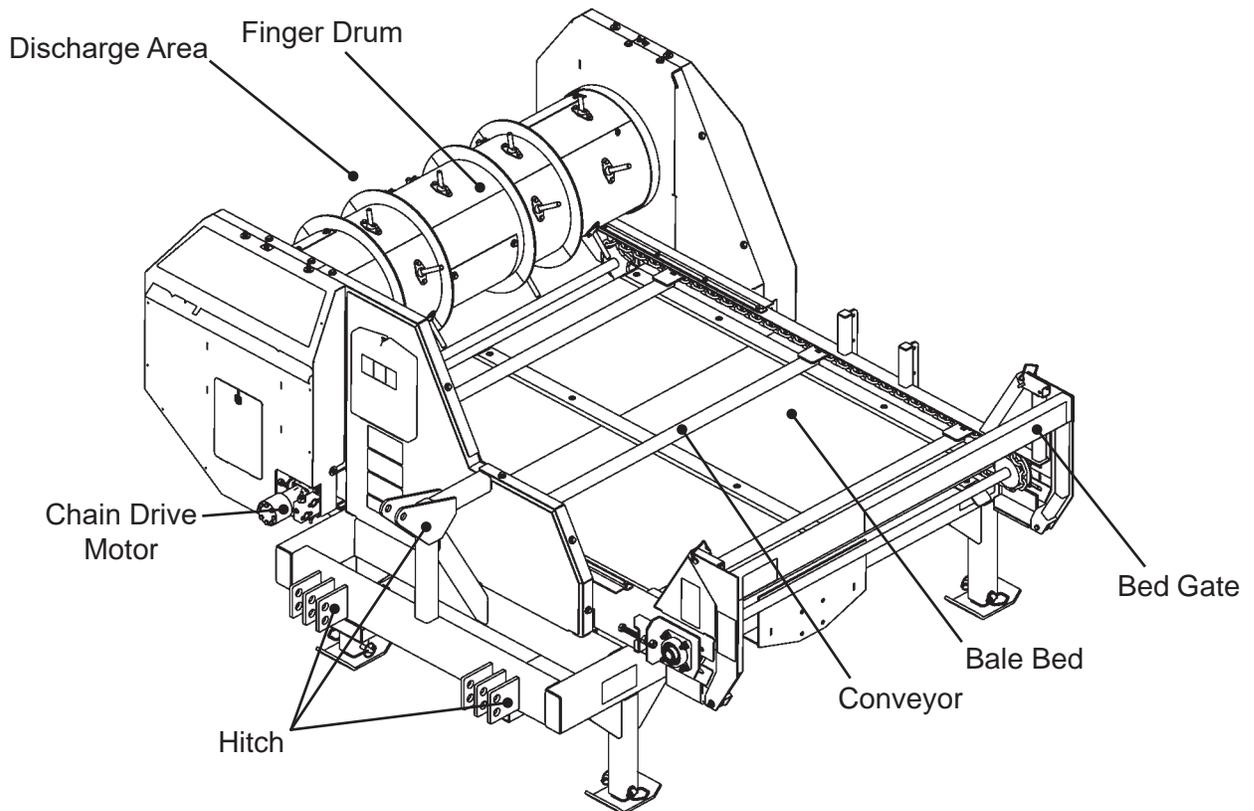
Orientation

Directional references in this manual are dependant on the operator's position from a forward pointed position while towing this machine.



Terminology

Common terms used in this manual.



Section 2: Safety

NOTE: This safety alert symbol is found throughout this manual to call attention to instructions involving yourself and others working around the machine.

Failure to follow these instructions can result in injury or death.



This symbol means:

- **Attention!**
- **Become Alert!**
- **Your Safety is involved!**

Safety Signal Words / Safety Messages

CAUTION: Indicates a potentially hazardous situation that may result in injury.

WARNING: Indicates a potentially hazardous situation that could result in serious injury or death.

DANGER: Indicates a hazardous situation that needs to be avoided. Operator needs to be aware of these dangers. High probability of serious injury or death.

NOTE: Indicates an informative non-safety related message.

Safety Guidelines

Take the necessary precautions to avoid injury or death. These include:

- Have training and train new operators.
- Review the safety instructions with all users annually.
- Know where safety decals are and what they convey.
- **DO NOT** paint over, remove or deface any safety signs or warning decals on your equipment.
- Replace damaged and/or missing safety decals.
- **DO NOT** operate without fully installed shields.
- Reinstall any removed shields **BEFORE** operating.
- Inspect machine before operating.
- **DO NOT** operate this machine while under the influence of drugs or alcohol.
- **DO NOT** let children ride or operate this machine.
- Keep a first aid kit and a fire extinguisher on site in case of emergency.

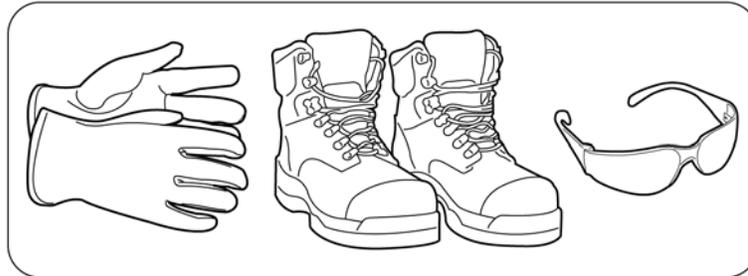
Personal Protective Equipment



WARNING: Wear work boots, gloves, and safety glasses when maintaining or repairing machine.

WARNING: Wear work boots and ear protection when operating machine.

DANGER: Do not wear loose clothing when operating or maintaining the BF8000.



Hydraulic Safety

Before applying pressure to the system, be sure all connections are tight and that hoses and connections are not damaged.

Ensure that all the pressure is released from the hydraulic lines before repairing. Replace or repair damaged hoses immediately.



WARNING

When checking for oil leaks use a piece of cardboard; **DO NOT** use your hand:

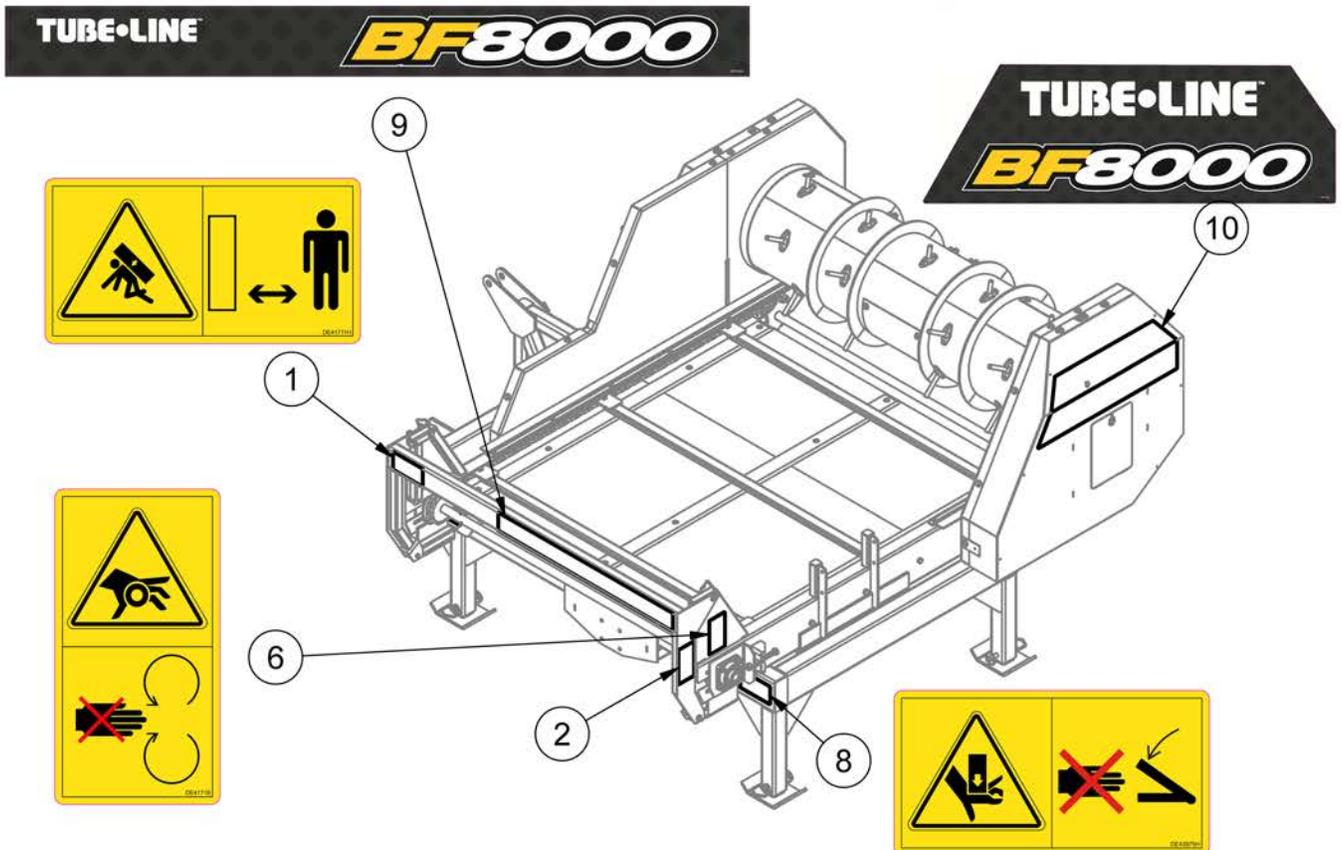
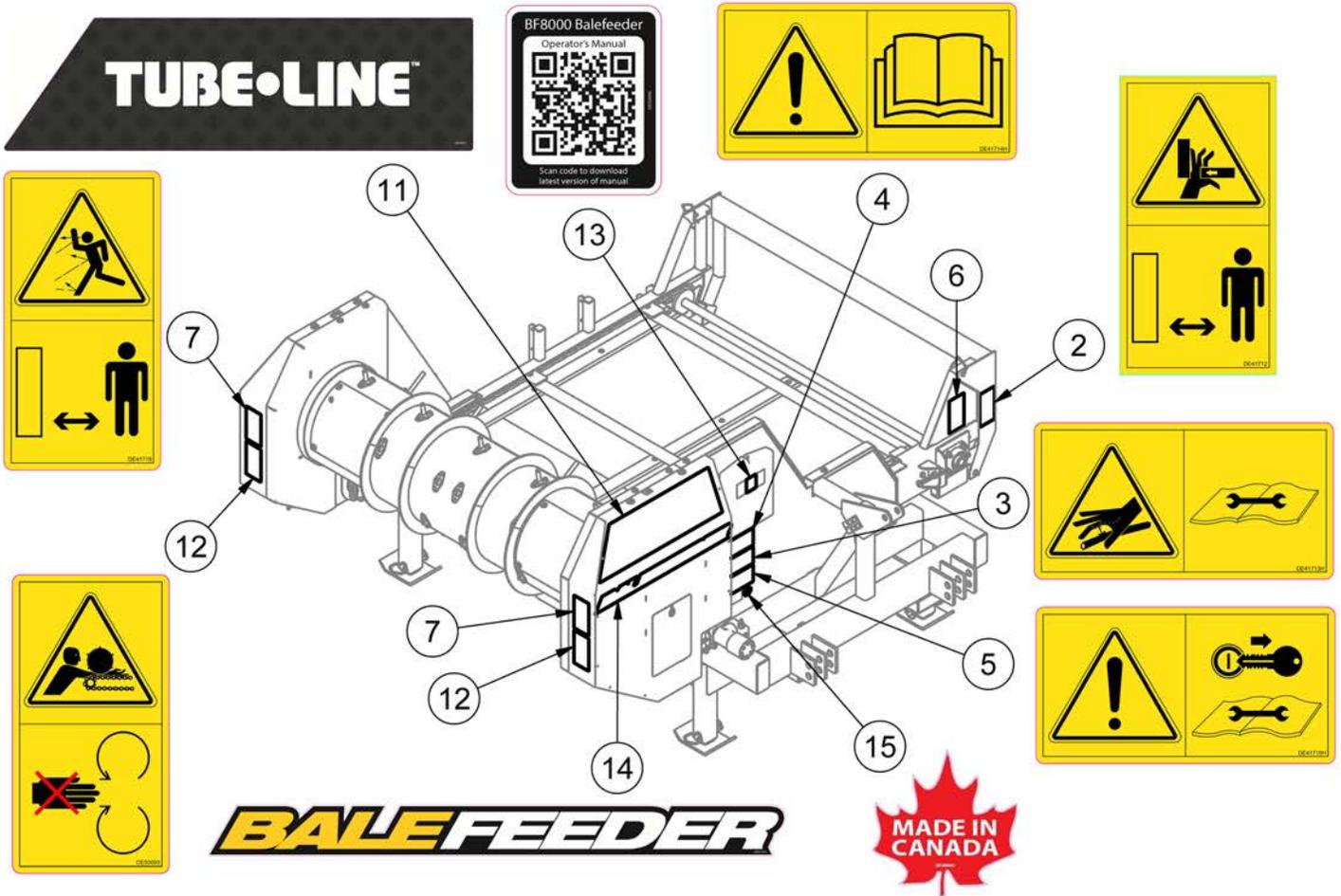
- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving pressure before disconnecting hydraulic of other lines.
- Tighten all line connections before applying pressure.
- Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Failure to comply could result in serious injury, paralysis or even death.

Maintenance Safety

DO NOT weld on or near rotating parts. Welding close to rotating parts may cause warping thus creating high stress loads for moving or rotating parts.

Decal Locations



Decal Locations

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DE41711H	ISO Decal - Angled Crush Horizontal
2	2	DE41712	ISO Decal - Hand Pinch Point
3	1	DE41713H	ISO Decal - High Pressure Fluid Horizontal
4	1	DE41714H	ISO Decal - Read OM Horizontal
5	1	DE41715H	ISO Decal - Remove Key Before Repair Horizontal
6	2	DE41716	ISO Decal - Shaft Entanglement
7	2	DE41718	ISO Decal - Thrown Object Vertical
8	2	DE43875H	ISO Decal - Hand Crush
9	1	DE50061	BF8000 Balefeeder Decal
10	1	DE50062	BF8000 Model Decal
11	1	DE50063	BF8000 Tubeline Decal
12	2	DE50093	ISO Decal - Chain Roller Entanglement
13	1	DE50096	BF8000 QR Decal
14	1	DE51355	Balefeeder Model Decal
15	1	DECANADA	Decal Made In Canada

Safety Decals

Item 1: DE41711H

Crush hazard from lowering bed.

Stand clear of machine while operating and store bed in lowered position.



Item 4: DE41714H

Read Manual Before Operating Machine.



Item 6: DE41716H

Shaft entanglement hazard.

Keep hands away from moving shaft and do not operate machine without shields in place.



Item 9: DE50093

Entanglement hazard.

Keep hands clear of rotating drum and conveyor chain to avoid entanglement.



Item 2: DE41712

Hand pinch point hazard.

Keep fingers clear while closing gate.



Item 7: DE41718

Thrown object hazard.

Be sure all observers are clear of discharge area while operating.



Item 3: DE41713H

Hydraulic pressure puncture hazard.

Read manual maintenance section before repairing.



Item 5: DE41715H

Remove key from power unit and read manual maintenance section before attempting repairs.



Item 8: DE43875H

Hand crush hazard. Keep clear from machine while lowering bale bed.



Model Decals

Item 12: DE50061

Large Balefeeder model decal.



Item 13: DE50062

BF8000 model number / Tubeline decal.



Item 14: DE50063

Tubeline Mfg Ltd decal.



Item 15: DE50064

BF8000 model number decal.



Item 17: DE50096

Scan QR code with smartphone camera to open website with this manual's download link.



Item 18: DECANADA

This product is proudly manufactured in Canada.



Section 3: Pre-Operation

Initial Setup

Your BF8000S may need some pre-assembly prior to first use. Optional features may also be shipped separately and need to be installed. All needed fasteners are provided by manufacturer.

Power Unit Hookup

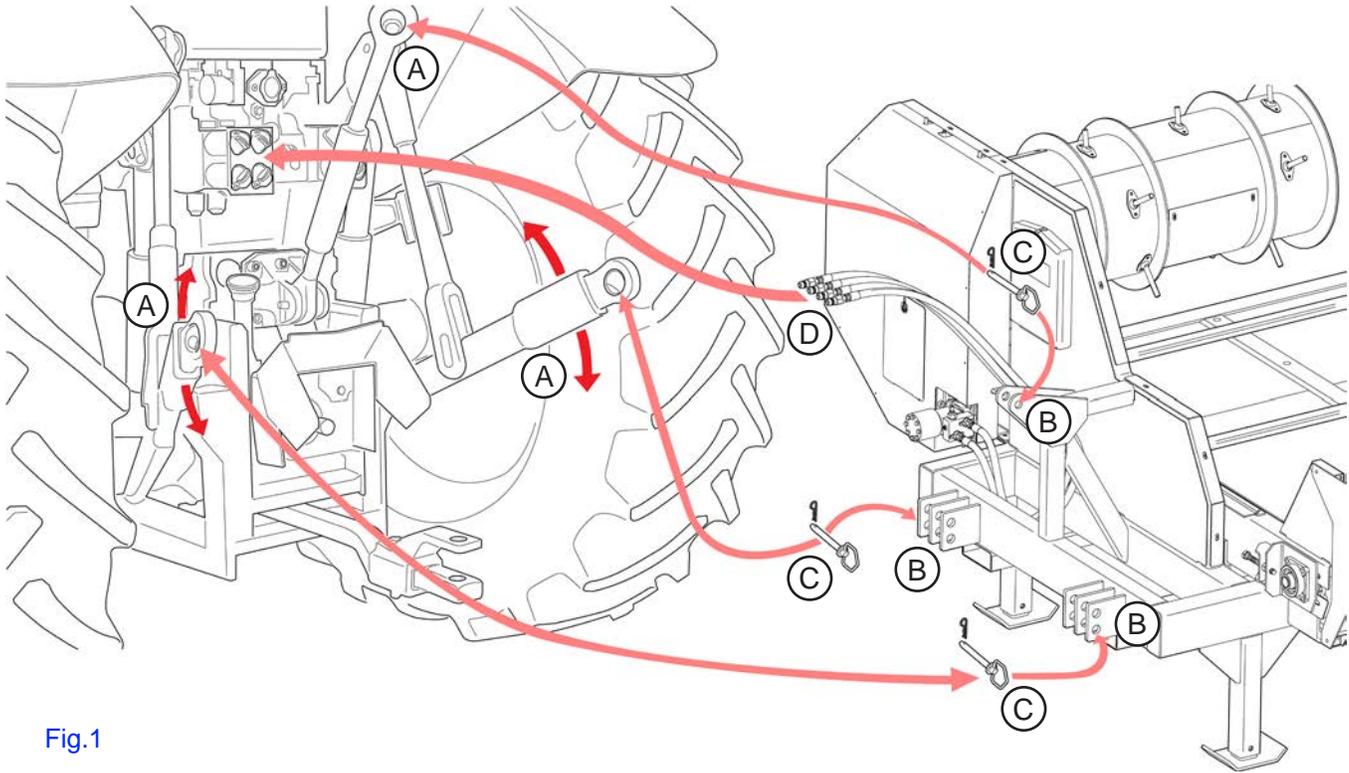


Fig.1

- Lower power unit's three point hitch (3PH) arms (**A**).
- Connect 3PH arms to BF5000S 3PH mounts (**B**) using pins (**C**).
- Connect 4 hydraulic quick couplers (**D**) to power unit hydraulic outlets.
- Use power unit hydraulic controls to raise the 3PH arms and BF5000S.
- Ensure parking brake is released before transporting BF5000S to desired location.
- Lower BF5000S to ground when at desired operating location.

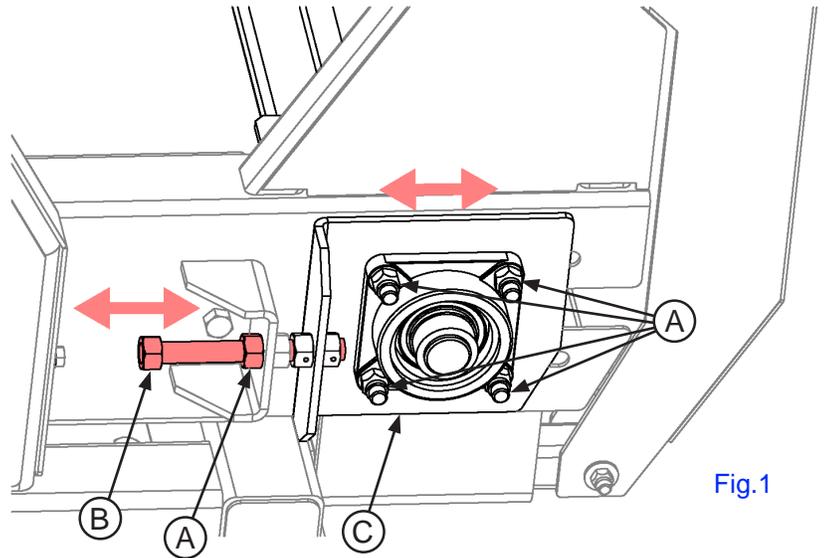
NOTE: The BF5000S does not need to be mounted to the power unit's 3PH for operation.

Section 4: Adjustments

Conveyor Chain Tightening

Over time the bale bed conveyor chain may loosen. To tighten the chain:

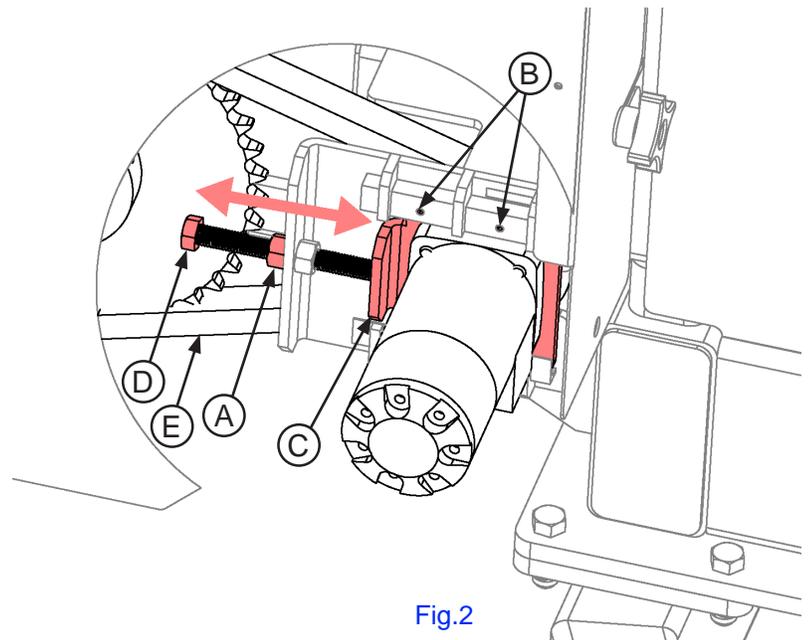
1. Loosen nuts **(A)** on both sides of machine.
2. Turn in threaded bolt **(B)** to move the bearing plate **(C)** towards the bed gate. Make sure to move both sides the same amount.
3. Tighten Step 1 nuts to lock new position.



Motor Drive Chain Tightening

Over time the finger drum and conveyor's motor drive chain may loosen. To tighten the chain:

1. Loosen nut **(A)** on both sides of machine.
2. Use hex drive key to loosen 4 set screws **(B)** to allow bearing plate **(C)** to move.
3. Turn in threaded bolt **(D)** to move the bearing plate and tighten chain **(E)**.
4. Tighten Step 1 nuts and Step 2 set screws to lock new position.



Section 5: Operation

Loading Bales

1. Set tractor hydraulic pressure to 12 gpm to operate the balefeeder. This can be increased if operating speed is too slow.
2. If bale has plastic or net wrap covering it can be easily removed once the bale is off the ground.
3. With a loader equipped power unit, lift the bale over the rear of balefeeder and lower onto the conveyor bed. See Fig.1.

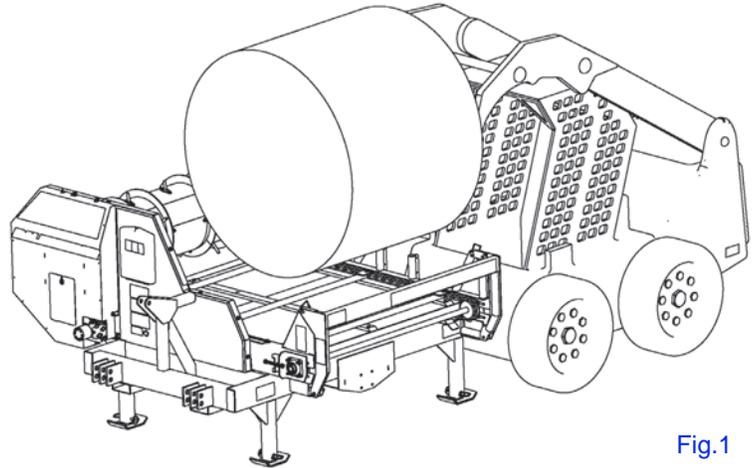


Fig.1

Unloading

To unravel the bale, use the balefeeder power unit's hydraulic controls to engage the bale conveyor and finger drum motor. The bale will feed best when it is allowed the time to unravel and flow over the finger drum.

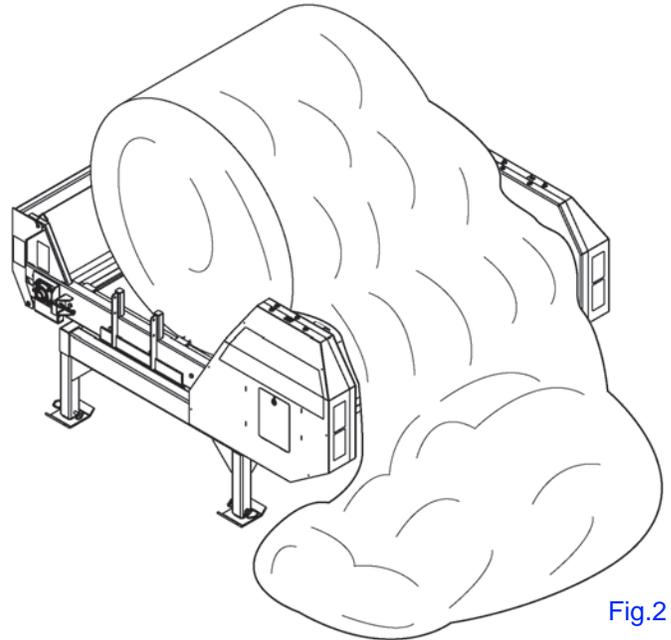


Fig.2

As the bale unravels, raise the bed in small increments to keep the bale engaged with the finger drum. A second bale can be loaded onto the bed when the currently loaded bale core becomes small enough to allow it.

NOTE: If the bale becomes misaligned and refuses to unroll, lower bed to disengage bale from finger drum and raise the bed at a slower pace. The conveyor chain can also be moved forward and reversed to remove blockage.

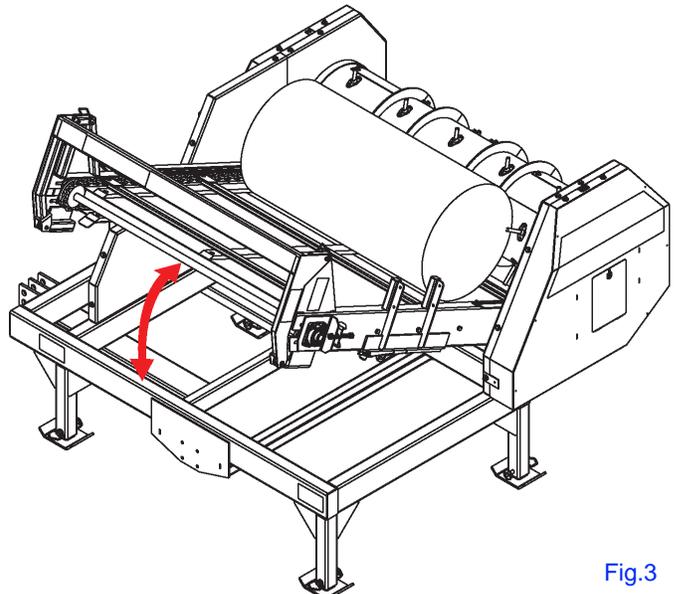


Fig.3

To remove a bale that will not unravel:



WARNING: Ensure area is clear of bystanders before completing this operation.

1. Unlatch pins **(A)** on both sides of bed gate **(B)**.
2. Swing bed gate down.
3. Reverse conveyor chain until bale is removed from bale bed.
4. Raise bed gate and lock with pins.

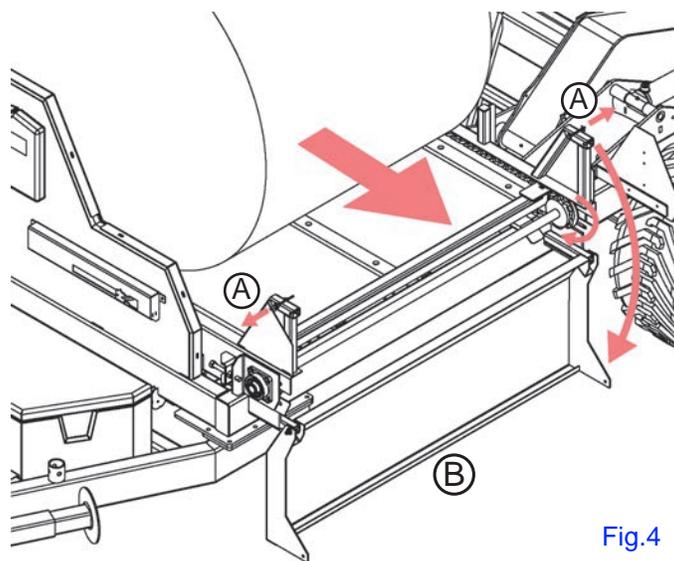


Fig.4

Section 6: Maintenance

This section gives full details of the procedures necessary to maintain the Tubeline Self Loading Bale Feeder at peak efficiency. Complete all checks and services in this section at the hour interval shown.

NOTE: Failure to complete the required maintenance at the interval shown can cause unnecessary downtime.

The recommended lubrication intervals are for average conditions. Perform lubrication more often when operating under adverse conditions.



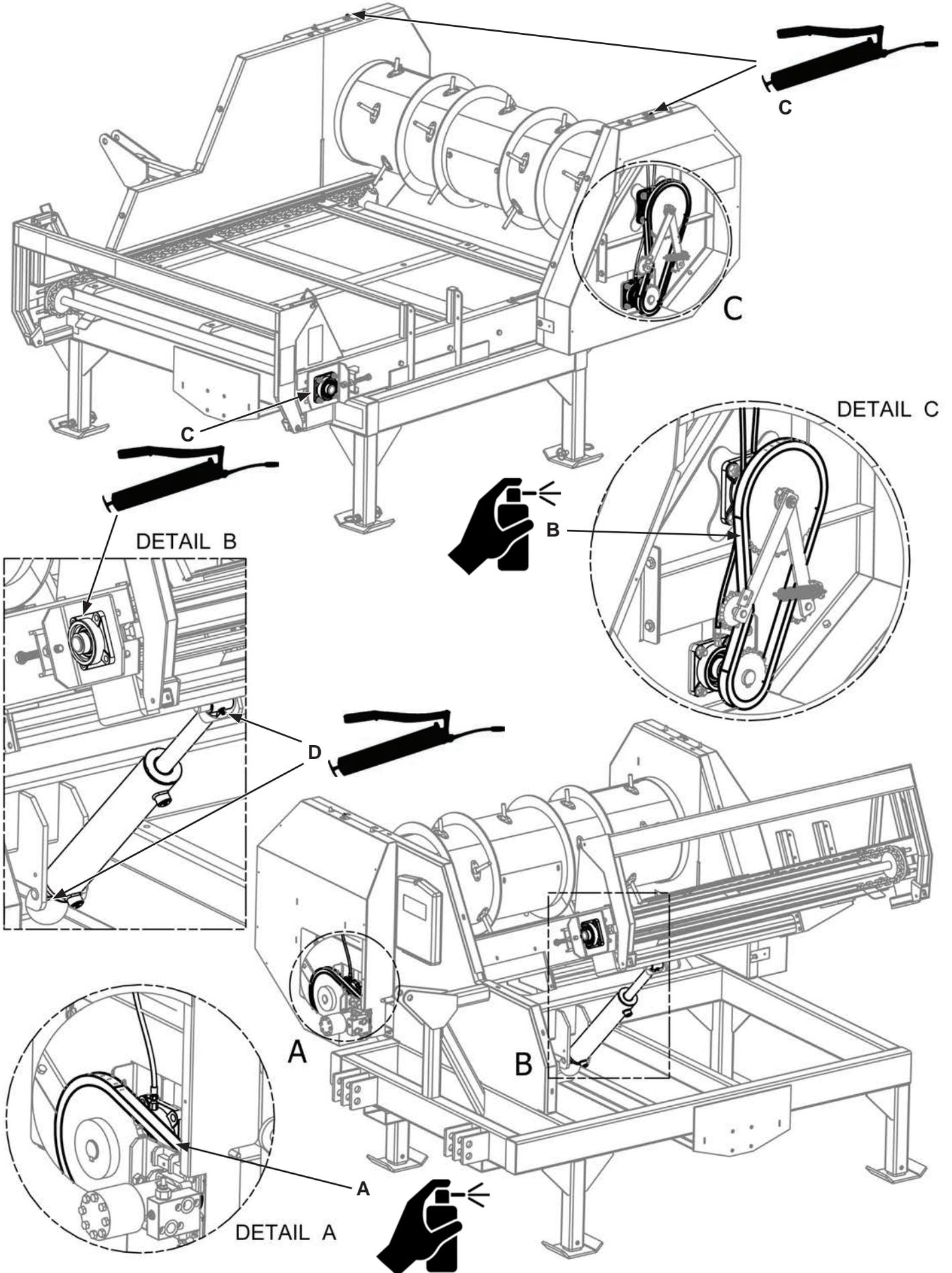
WARNING: Before lubricating the BF8000 Bale Feeder always observe the following precautions:

Turn off tractor, set parking brake, remove key and wait for all moving parts to stop before leaving cab. Failure to comply could result in death or serious injury.

Grease Points

ITEM	AREA	TIMELINE
A	Front Roller Chain - Aerosal Lithium Chain Lubricant	Weekly
B	Rear Roller Chain - Aerosal Lithium Chain Lubricant	Weekly
C	Bearings (x5) - Lithium Complex Grease	3 pumps / 50 hours
D	Cylinder Pivots (x8) - Lithium Complex Grease	3 pumps / 50 hours

Grease Point Locations





WARNING: Before performing any adjustments or maintenance on the Tube-Line BF8000S, observe these safety precautions:

Turn off tractor, set parking brake, remove key and wait for all moving parts to stop before leaving cab.

Read [Maintenance Safety, pg.2-2](#).

Failure to comply could result in death or serious injury.

Daily Maintenance

Careful inspection and service of the Bale Feeder prior to operation each day will prevent needless breakdowns and delays in the field. Make the following checks and adjustments.

1. Be alert for loose hardware and tighten or replace as required.
2. Lubricate the BF8000S according to the instruction in the “[Grease Points](#)” section of this manual.

Preseason Service

Prior to beginning the harvest after offseason storage, take the following steps be certain the Tube-line BF8000 is in good condition.

Check that chains are not slack, tighten if needed using adjustments shown on [pg.4-1](#).

Lubricate the Tube-line BF8000S according to [Grease Points, pg.6-2](#).

General checking of bolts, security pins and split pins must be carried out initially after the first 8 hours of use. Subsequently, check every 50 hours and whenever the machine is laid up for extended periods.

End of Season Service

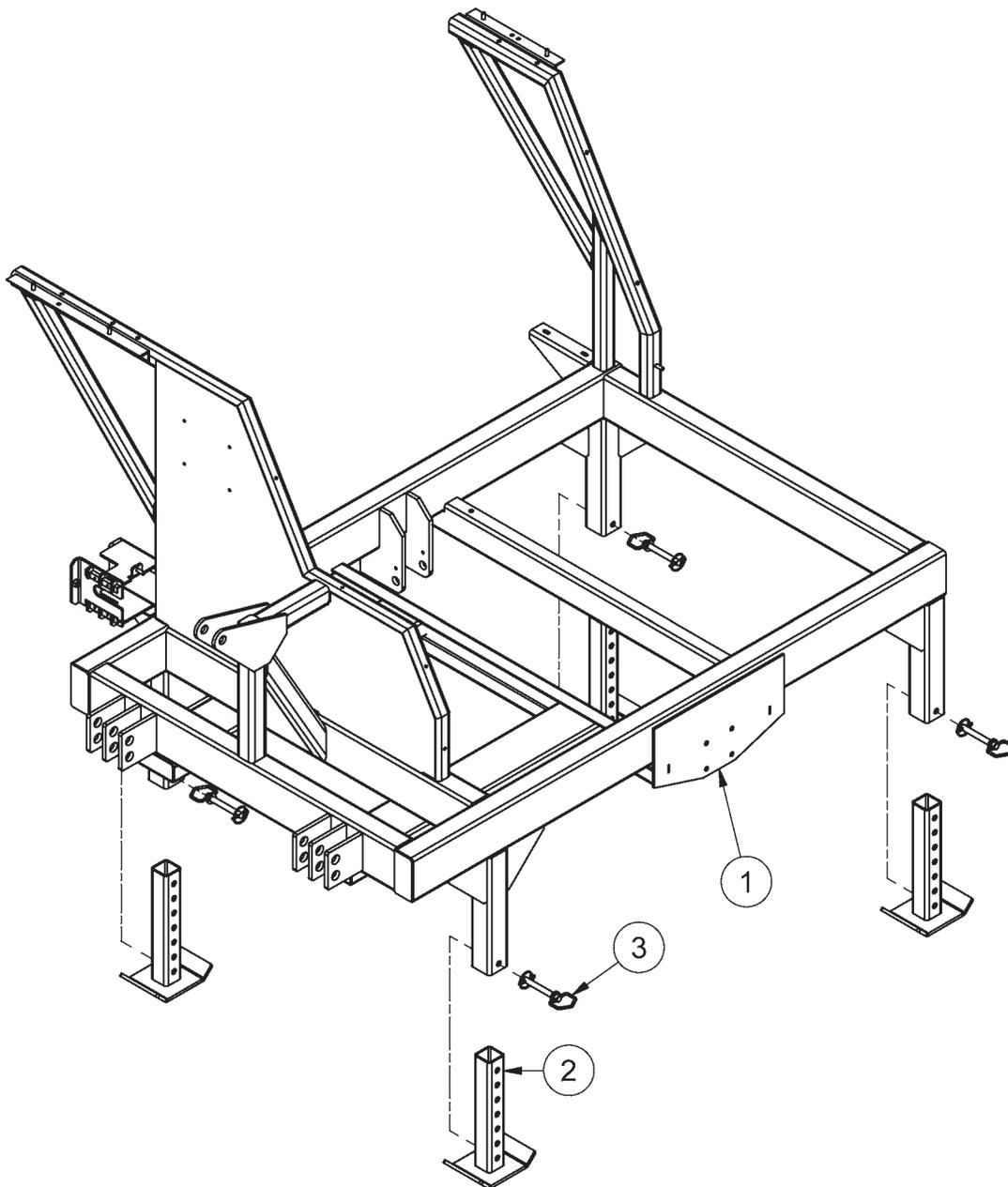
Prior to storing the Tube-line BF8000S during the off season, follow these steps to ensure easier preparation for the next season and longer life.

- Pack all grease points with grease. Refer to [Grease Points, pg.6-2](#).
- Remove all crop material from the BF8000S.

Section 7: Parts Breakdowns & Lists

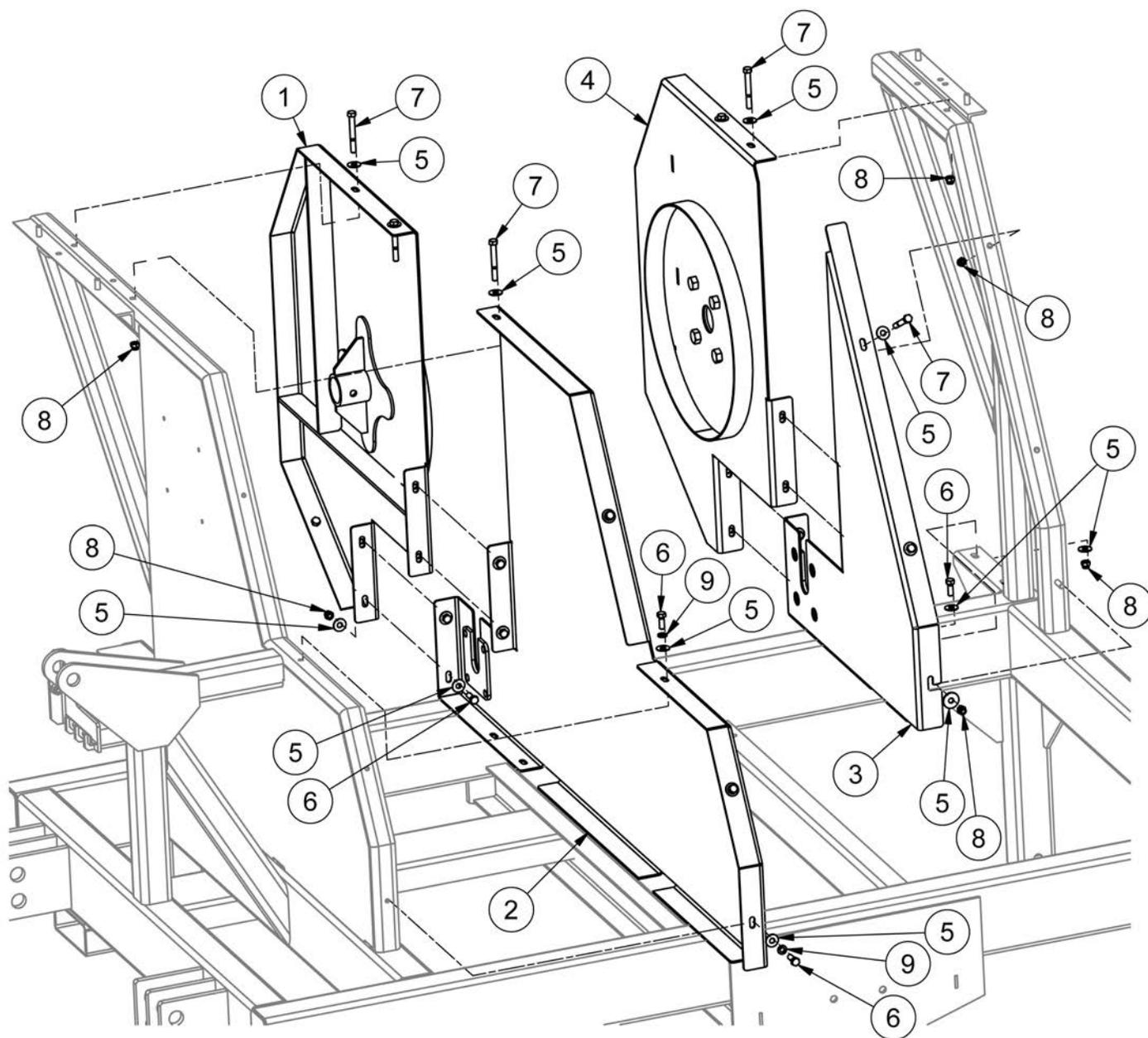
Illustrations may differ slightly from actual machine.

Frame



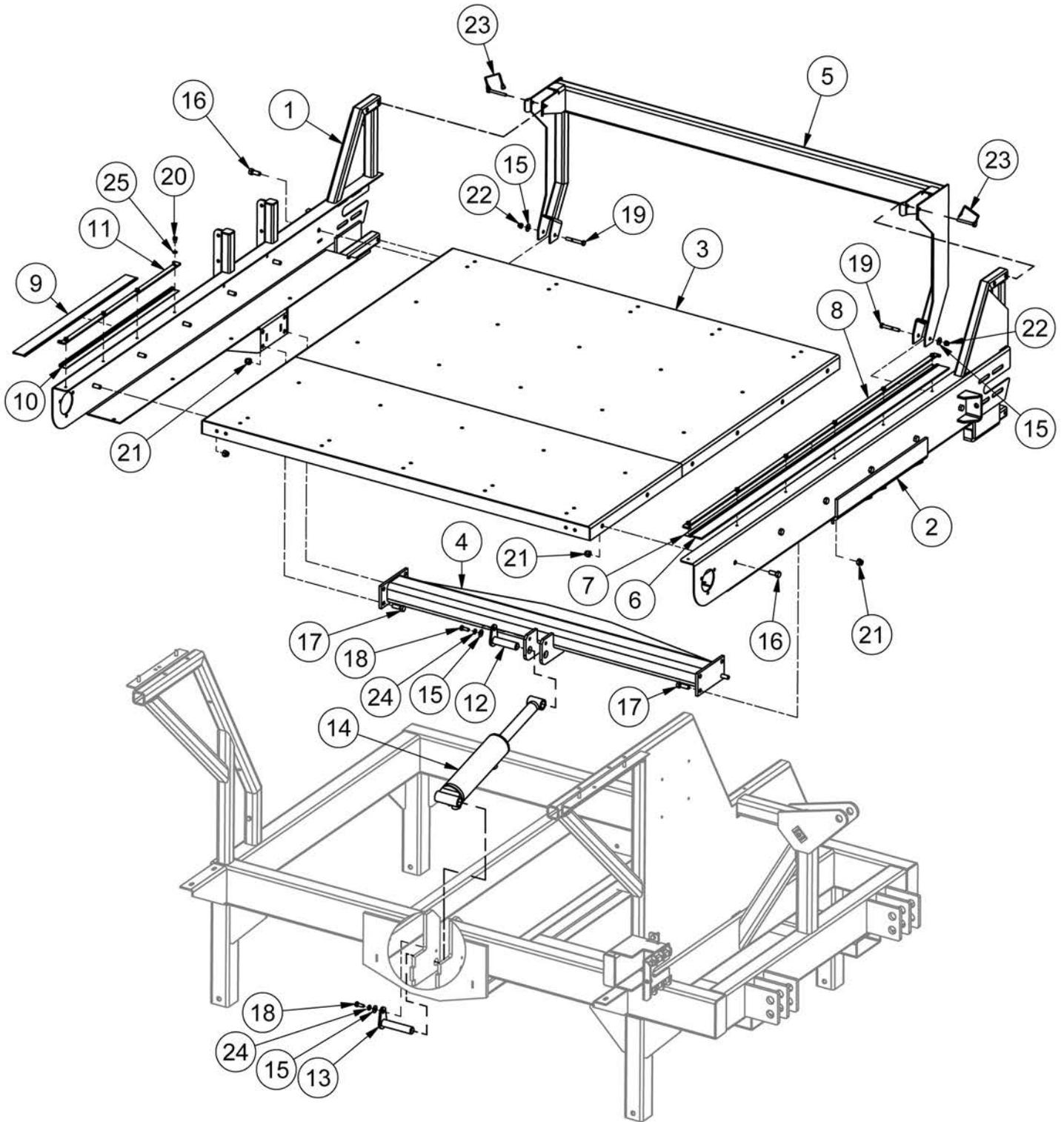
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	47891	Base Frame
2	4	47943	Adjustable Leg
3	4	TL500-100-154	Tongue Pin

Inner Shielding



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	47936	Front Side Plate Weldment 2
2	1	49629	Front Side Plate Weldment
3	1	49635	Back Side Plate Weldment
4	1	49661	Back Side Plate Weldment 2
5	36	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
6	16	HB3/8-16X1Z5	Hex Bolt 3/8-16x1 Grade 5 Zinc Plated Hex Cap Screw
7	7	HB3/8-16X3Z5	Hex Bolt 3/8-16x3 Grade 5 Zinc Plated Hex Cap Screw
8	20	LN3/8-16NCZ5	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
9	4	LW 3/8	LW -3/8" Zinc Plated Medium Split

Bale Bed



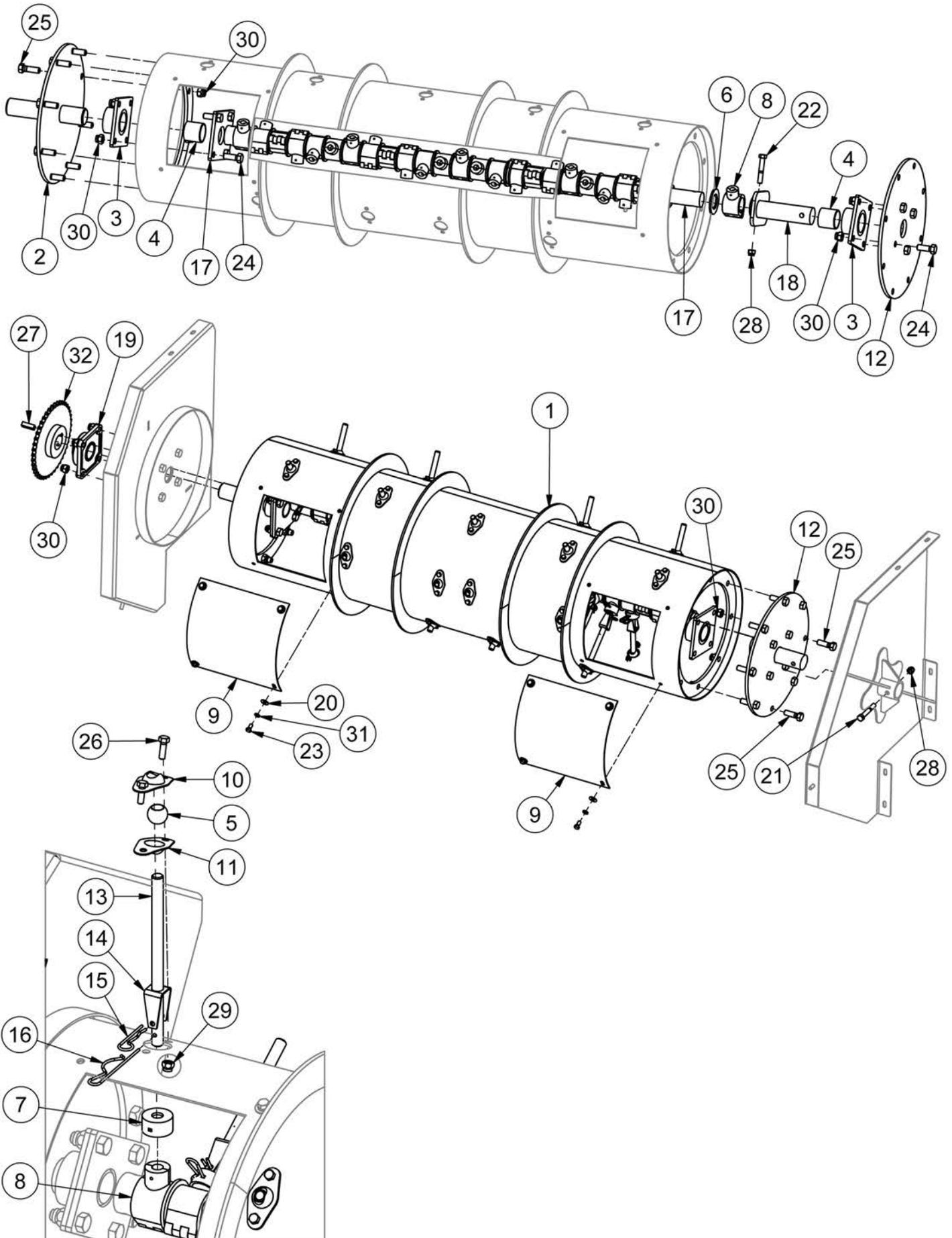
Bale Bed

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	47851	Conveyor Frame
2	1	47853	Infeed Conveyor Frame 1
3	1	47855	Conveyor Bed Weldment
4	1	47857	Conveyor Cylinder Mount
5	1	48459	Rear Conveyor Shield
6	1	51243	2" Nylon Brush 66" Long
7	1	51244	Aluminum Brush Holder 66" Long
8	1	51245	Brush Mount Plate 66" Long
9	1	51246	2" Nylon Brush 30" Long
10	1	51247	Aluminum Brush Holder 30" Long
11	1	51248	Brush Mount Plate 30" Long
12	1	BF5000-A14	Bed Cylinder Pin
13	1	BF5000-A15	Frame Cylinder Pin
14	1	CYL52017	3" Bore x 8" Stroke Hydraulic Cylinder
15	4	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
16	12	HB1/2-13X1.25Z5	Hex Bolt 1/2-13x1 1/4 Gr.5 Zinc Hex Cap Screw
17	4	HB1/2-13X1.5Z5	Hex Bolt 1/2-13x1 1/2 Gr.5 Zinc Hex Cap Screw
18	2	HB3/8-16X1Z5	Hex Bolt 3/8-16x1 Gr.5 Zinc Hex Cap Screw
19	2	HB3/8-16X2.75Z5	Hex Bolt 3/8-16x2 3/4 Grade 5 Zinc Plated Hex Cap Screw
20	10	HB5/16-24X0.5Z5	Hex Bolt 5/16-24x1/2 Grade 5 Zinc Plated Hex Cap Screw
21	16	LN1/2-13NCZ5	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
22	2	LN3/8-16NCZ5	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
23	2	LP B1997	Pin - Lock Pin 5/16 X 2 1/2
24	2	LW 3/8	LW -3/8" Zinc Plated Medium Split
25	10	LW 5/16	LW -5/16" Zinc Plated Medium Split

Bale Bed Conveyor

ITEM	QTY	PART NUMBER	DESCRIPTION	NOTE
1	1	47859	Conveyor Drive Shaft	
2	2	47986	Idler Shaft Scraper	
3	2	48100	Sprocket Clean Out Plate	
4	1	48122	5/16" x 5/16" x 1-3/4" Keystock	
5	1	49616	Conveyor Bearing Take Up Plate	
6	1	49680	infeed Conveyor 1 Tail Shaft Weldment	
7	1	50361	Conveyor Bearing Take Up Plate (Mirror)	
8	6	51851	Conveyor Slats	
9	10	51875	Return Runner Ends	
10	2	51936	Take Up Bolt Assembly	Inc. Items 11-13
11	2	HN5/8-11CZ5	Hex Nut 5/8"-11 Grade 5 Zinc Plated Finished	
12	2	RP 3/16 x 1	Pin - Roll Pin 3/16 x 1	
13	1	HB5_8-11 X 6 TCZ5	5/8-11x6 UNC Fully Threaded Hex Bolt	
14	2	53265	Gr.70 Chain Assembly	Inc. Items 15,16
15	1	51849	Gr.70 Chain U-Bolt	
16	1	51850	Chain Connection Plate	
17	5	53266	Conveyor Runners	
18	2	53267	Slat Return Runner	
19	2	BEA 49939	BEA PF207 & BEA SA207-22	
20	2	BEA UCF207-22	Flange Block, UCF207-22 1.38" Dia, Ntnl 4-Bolt	
21	8	CB1/2-13X2CZ5	Carriage Bolt - 1/2-13 x 2" Grade 5 Zinc	
22	6	CB3/8-16X0.75CZ5	Carriage Bolt - 3/8-16 x 3/4" Grade 5 Zinc	
23	35	FHSCS3/8-16X1.75	Hex Bolt - 3/8"-16 x 1 3/4" Flat Socket Cap Screw	
24	4	FW 3/8	Flatwasher - 3/8" Zinc Plated USS	
25	14	HB3/8-16X1Z5	Hex Bolt 3/8-16x1 Gr.5 Zinc Hex Cap Screw	
26	2	HN5/8-11CZ5	Hex Nut 5/8"-11 Grade 5 Zinc Plated Finished	
27	8	LN1/2-13NCZ5	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut	
28	6	LN3/8-16CCZA	Center Lock Nut 3/8"-16 Grade A Zinc Plated	
29	73	LN3/8-16NCZ5	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut	
30	1	SPR60B42F-1.38	Sprocket - 60B42F 1 3/8" KW 2SS 5/16 Keyway	

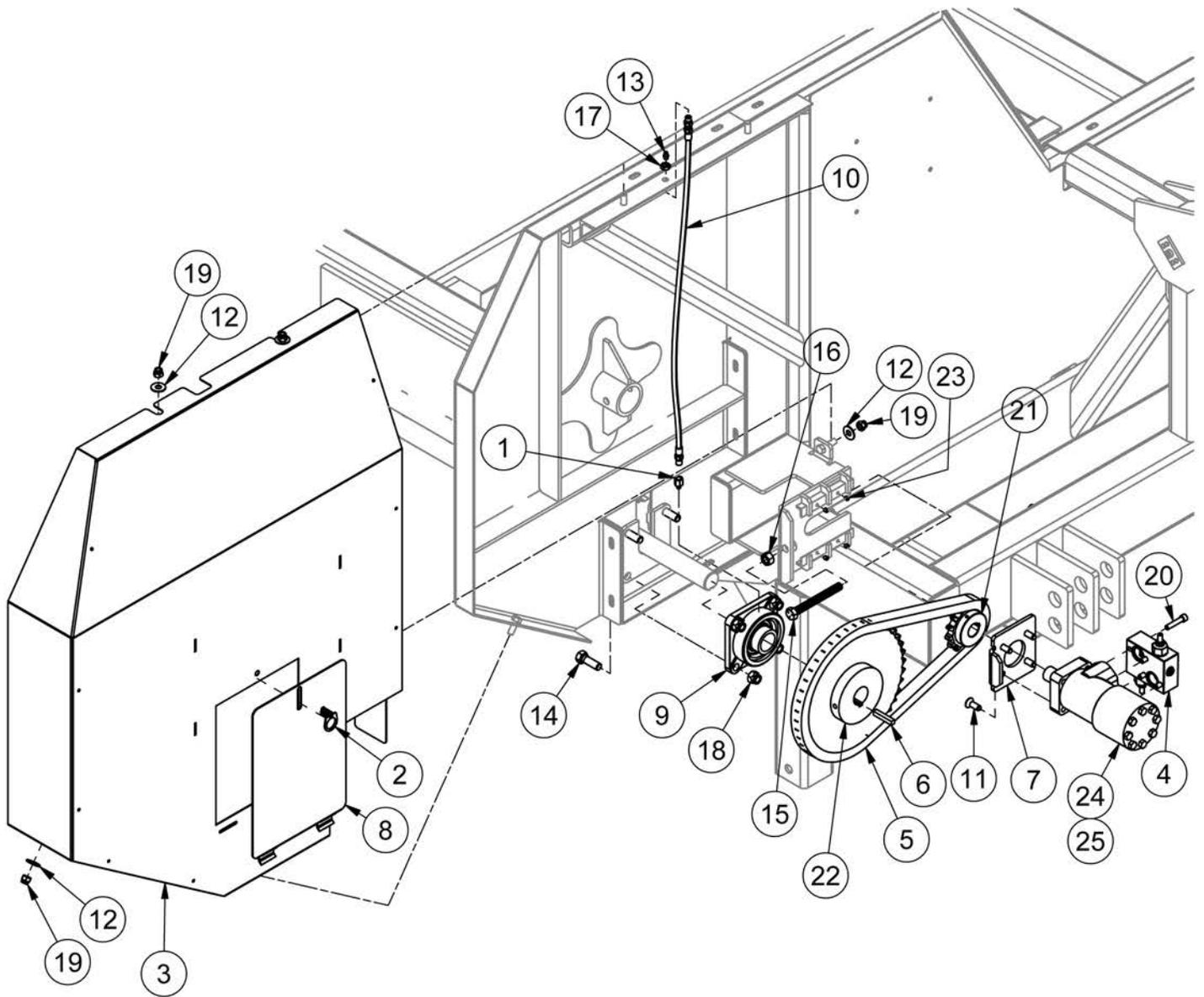
Drum



Drum

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	48427	Finger Drum Weldment
2	1	48428	Finger Drum Drive End
3	2	48430	Inner Drum Bearing
4	2	48458	Igus 2.25 OD x 2 ID x 2 LG Bushing
5	25	49619	Ball Bearing
6	24	49641	Finger Holder Washer
7	25	49642	Retainer
8	25	49643	Finger Bearing
9	3	49651	Finger Drum Access Cover
10	25	49652	Ball Bearing Outer Retainer
11	25	49653	Ball Bearing Inner Retainer
12	1	49654	Finger Drum Removable End Plate
13	1	49655	Steel Finger
14	1	50765	Steel Finger Retainer
15	1	50766	Steel Auger Finger Retainer Pin
16	25	49656	Finger Locking Pin
17	1	49667	Finger Cam Shaft Weldment
18	1	49679	Finger Drum Idler Shaft Weldment
19	1	BEA UCF210-32R3	2" 4 Bolt Flange Bearing
20	12	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
21	1	HB1/2-13X3.5Z5	Hex Bolt 1/2-13x3 1/2 Grade 5 Zinc Plated Hex Cap Screw
22	1	HB1/2-13X3Z5	Hex Bolt 1/2-13x3 Grade 5 Zinc Plated Hex Cap Screw
23	12	HB3/8-16X0.75Z5	Hex Bolt 3/8-16x3/4 Grade 5 Zinc Plated Hex Cap Screw
24	8	HB5/8-11X1.75Z5	Hex Bolt 5/8-11x1 3/4 Grade 5 Zinc Plated Hex Cap Screw
25	16	HB5/8-11X2Z5	Hex Bolt 5/8-11x2 Grade 5 Zinc Plated Hex Cap Screw
26	50	HB5/16-18X1Z5	Hex Bolt 5/16-18x1 Grade 5 Zinc Plated Hex Cap Screw
27	1	KS47985	1/2" X 1/2" X 1-3/4" Keystock
28	2	LN1/2-13NCZ5	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
29	50	LN3/8-16NCZ5	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
30	28	LN5/8-11NCZ5	LN 5/8-11 Zinc Plated Nylon Insert Lock Nut
31	12	LW 3/8	LW -3/8" Zinc Plated Medium Split
32	1	SPR60B42F-2.0	Sprocket - 60B42F 2.0" Bore 2SS 1/2" Keyway

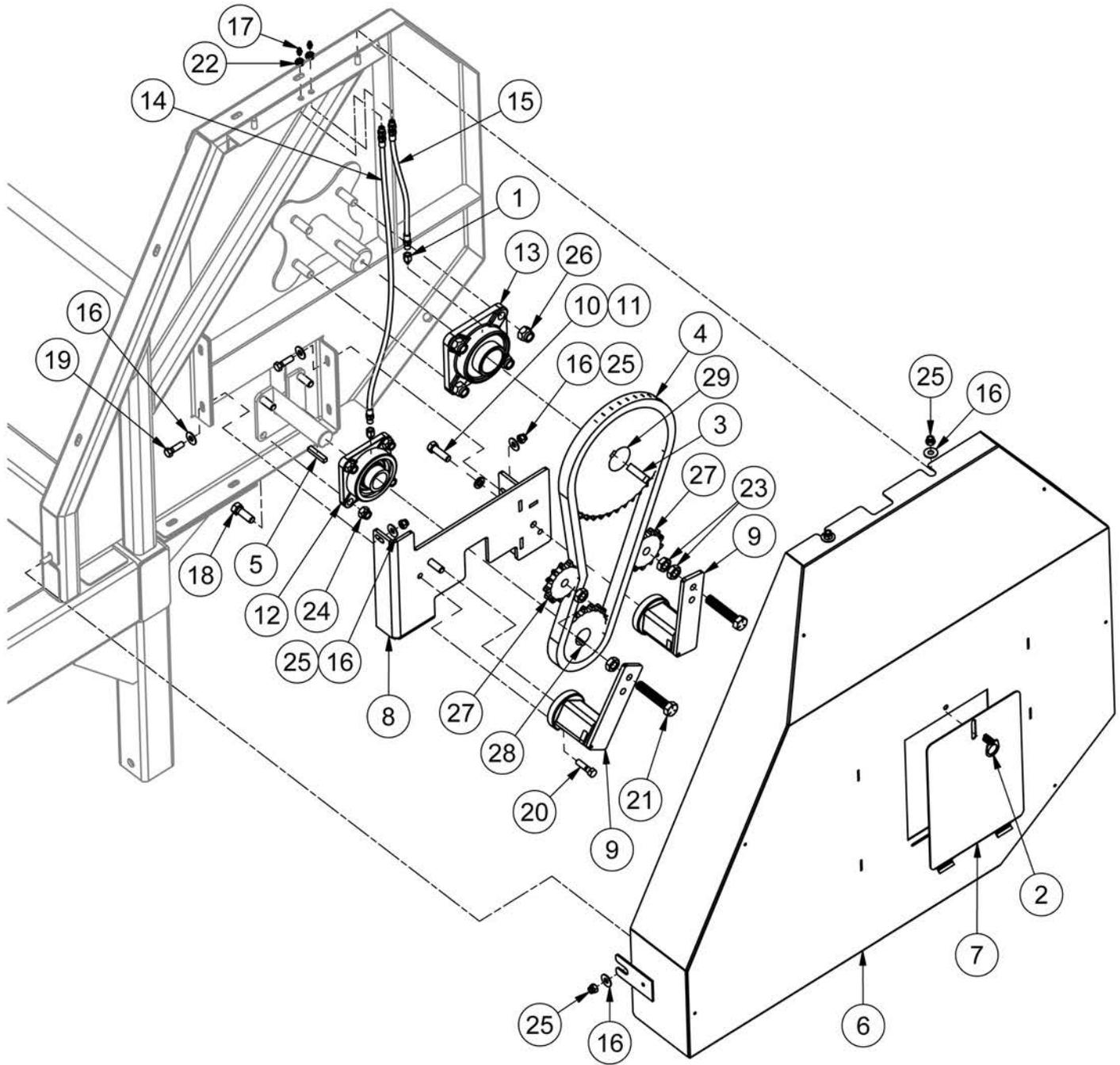
Front Chain Drive



Front Chain Drive

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	35617	Adapter for Grease Line 1/4 - 28 Male to 1/8 - 27 NPT Female
2	1	36268	Cam Lock
3	1	47861	Drive Cover
4	1	47996	Hydraulic Cross Port Relief for Motor
5	1	48120	#60 Roller Chain
6	1	48122	5/16" x 5/16" x 1-3/4" Keystock
7	1	50478	Motor Mount Plate
8	1	51223	Inspection Door Plate
9	1	BEA UCF207-22	Flange Block, UCF207-22 1.38" Diameter, National 4-Bolt
10	1	51232	HH2R7(2MPX,2GKCY)HCL28"
11	4	FHSCS3/8-16X1	Hex Bolt - 3/8"-16 x 1" Flat Socket Cap Screw
12	4	FW 3/8	Flatwasher - 3/8" Zinc Plated USS
13	1	GR 1/4 X 28	Grease Fitting 1/4-28 Straight Standard Zerk
14	4	HB1/2-13X1.5Z5	Hex Bolt 1/2-13x1 1/2 Grade 5 Zinc Plated Hex Cap Screw
15	1	HB1/2-13 X 4-1/2 TCZ5	1/2-13 x 4-1/2 UNC Fully Threaded Hex Bolt
16	1	HN1/2-13CZ5	Hex Nut 1/2"-13 Grade 5 Zinc Plated Finished
17	1	HNJ3/8-16	Hex Nut - 3/8-16 Zinc Plated Hex Jam Nut
18	4	LN1/2-13NCZ5	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut
19	5	LN3/8-16NCZ5	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut
20	4	SHCS5/16-18X1.5	Hex Bolt - 5/16-18 x 1 1/2 Socket Head Cap Screw
21	1	SPR60B14-1	Sprocket 60B14 1.0 Bore Idler 1/4 Keyway- 2 Set Screws
22	1	SPR60B42F-1.38	Sprocket - 60B42F 1 3/8" KW 2SS 5/16 Keyway
23	4	SS1/4-20CX0.25CP	Allan Head Set Screw, 1/4-20 x 1/4
24	1	VAL 1008	Motor, Hydraulic - (BS208107A)
25	1	SKMLHPQUDE	Seal Kit - 200400 Series Motors (MLHPQ-U/D)

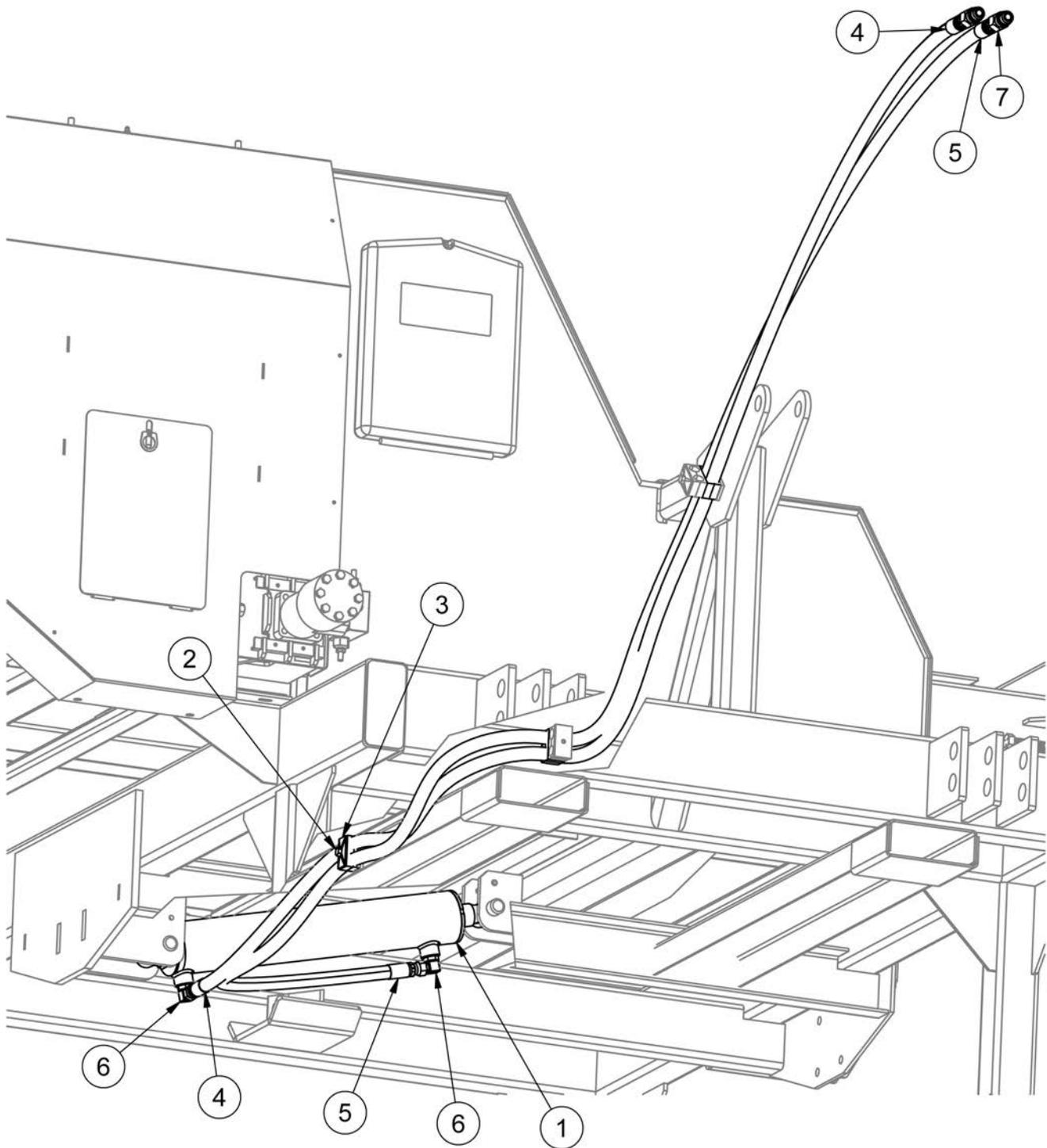
Rear Chain Drive



Rear Chain Drive

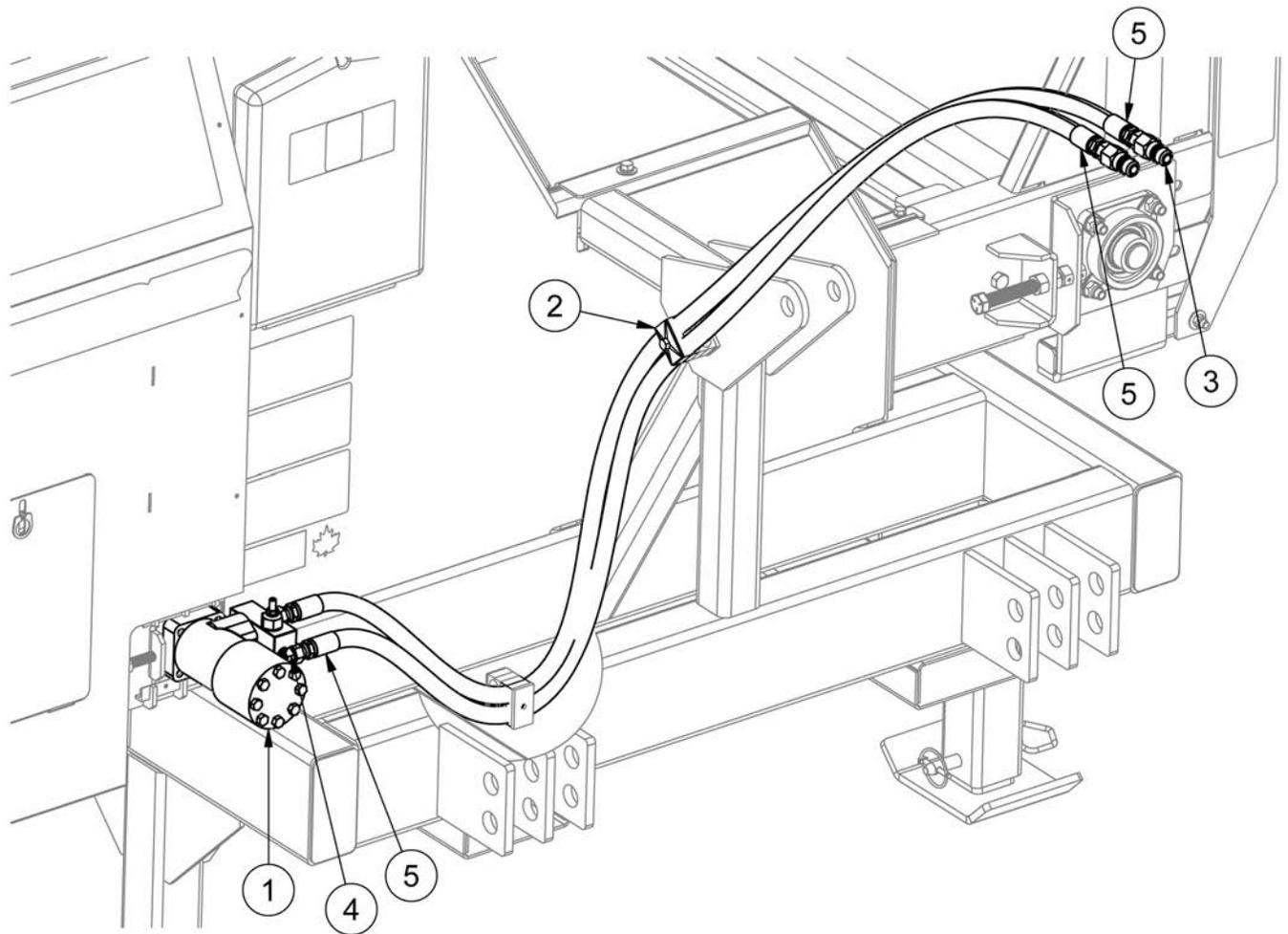
ITEM	QTY	PART NUMBER	DESCRIPTION	NOTE
1	2	35617	Grease Line Adapter 1/4-28 Male to 1/8-27 NPT Female	
2	1	36268	Cam Lock	
3	1	47985	1/2" x 1/2" x 1-3/4" Keystock	
4	1	48119	#60 Roller Chain - 4ft Long	
5	1	48122	5/16" x 5/16" x 1-3/4" Keystock	
6	1	48472	Bearing Guard	
7	1	51223	Inspection Door Plate	
8	1	51884	Weldment	
9	1	51888	Purchased	Inc. Items 10,11
10	1	LW 12MM	Lockwasher Metric 12mm	
11	1	M12X40X1.75	Metric Bolt	
12	1	BEA UCF207-22	Flange Block, UCF207-22 1.38" Dia, National 4-Bolt	
13	1	BEA UCF210-32R3	2" Bearing 4-Bolt Ductile Iron Flange with Triple Seal	
14	1	51232	HH2R7(2MPX,2GKCY)HCL28"	
15	1	51233	HH2R7(2MPX,2GKCY)HCL14"	
16	8	FW 3/8	Flatwasher - 3/8" Zinc Plated USS	
17	2	GR 1/4 X 28	Grease Fitting 1/4-28 Straight Standard Zerk	
18	4	HB1/2-13X1.5Z5	Hex Bolt 1/2-13x1 1/2 Gr.5 Zinc Hex Cap Screw	
19	2	HB3/8-16X1.25Z5	Hex Bolt 3/8-16x1 1/4 Gr.5 Zinc Hex Cap Screw	
20	2	HB3/8-16X1.5Z5	Hex Bolt 3/8-16x1 1/2 Gr.5 Zinc Hex Cap Screw	
21	2	HB5/8-11 X 3-1/4 TCZ5	5/8-11x3-1/4 UNC Fully Threaded Hex Bolt	
22	2	HNJ3/8-16	Hex Nut - 3/8-16 Zinc Plated Hex Jam Nut	
23	6	HNJ5/8-11	Hex Nut - 5/8-11 Zinc Plated Hex Jam Nut	
24	4	LN1/2-13NCZ5	LN 1/2-13 Zinc Plated Nylon Insert Lock Nut	
25	10	LN3/8-16NCZ5	LN 3/8-16 Zinc Plated Nylon Insert Lock Nut	
26	4	LN5/8-11NCZ5	LN 5/8-11 Zinc Plated Nylon Insert Lock Nut	
27	2	SPR60A13-.625	#60, 13 Tooth, .625 Bearing Idler Sprocket	
28	1	SPR60B201.375	20 Tooth # 60 Sprocket with Hub	
29	1	SPR60B42F-2.0	Sprocket - 60B42F 2.0" Bore 2SS 1/2" Keyway	

Bale Bed Cylinder Hydraulics



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	49803	3" Bore x 16" Stroke Hydraulic Cylinder
2	1	HB5/16-18X1.25Z5	Hex Bolt 5/16-18x1 1/4 Grade 5 Zinc Plated Hex Cap Screw
3	3	LA-HOSE CLAMP .5	Hose Clamps for 1/2 Hose
4	1	47983	Hose - HH115 - 6AT1 (6FJX,8MP) HCL 115"
5	1	47984	Hose - HH130 - 6AT1 (6FJX,8MP) HCL 130"
6	2	HF 6801-6-8	Hyd Fitting - Male JIC - Male ORB 90°
7	2	HF 8010-4	Quickcoupler 1/2" Male Tip

Conveyor Motor Hydraulics



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	VAL 1008	Motor, Hydraulic
2	2	LA-HOSE CLAMP .5	Hose Clamps for 1/2 Hose
3	2	HF 8010-4	Quickcoupler 1/2" Male Tip
4	2	HF 6400-6-10	Hydraulic Fitting - Male JIC - Male ORB
5	2	47982	Hose - HH80 - 6AT1 (6FJX,8MP) HCL 80"

Torque Values - Imperial

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

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.

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

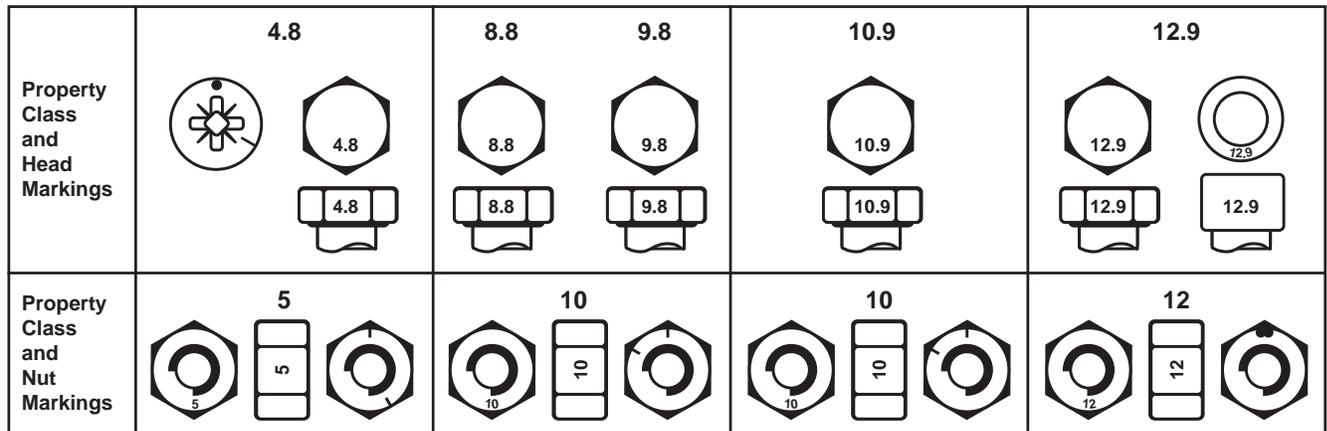
them from failing when tightening.

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.

^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.

Torque Values - Metric



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.

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.

^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.

Index

Bale Bed . . . . .	.7-4
Bale Bed Conveyor . . . . .	.7-6
Bale Bed Cylinder Hydraulics	7-14
Bales . . . . .	.1-1
Conveyor Chain Tightening. . . . .	.4-1
Conveyor Motor Hydraulics.	7-15
Daily Maintenance . . . . .	.6-3
Decal Locations . . . . .	.2-3
Dimensions . . . . .	.1-1
Drum . . . . .	.7-8
End of Season Service . . . . .	.6-3
Frame . . . . .	.7-2
Front Chain Drive.	7-10
Grease Point Locations . . . . .	.6-2
Grease Points . . . . .	.6-1
Hydraulic Safety . . . . .	.2-2
Initial Setup . . . . .	.3-1
Inner Shielding . . . . .	.7-3
Loading Bales. . . . .	.5-1
Maintenance Safety . . . . .	.2-2
Manuals . . . . .	. I
Model Decals . . . . .	.2-6
Motor Drive Chain Tightening . . . . .	.4-1
Operator's Manual . . . . .	. I
Orientation . . . . .	.1-2
Personal Protective Equipment . . . . .	.2-2
Power Unit Hookup . . . . .	.3-1
Power Unit Requirements . . . . .	.1-1
Preseason Service . . . . .	.6-3
Rear Chain Drive	7-12
Safety Decals . . . . .	.2-5
Safety Guidelines. . . . .	.2-1
Safety Signal Words / Safety Messages. . . . .	.2-1
Section 1: General Information . . . . .	.1-1
Section 2: Safety . . . . .	.2-1
Section 3: Pre-Operation . . . . .	.3-1
Section 4: Adjustments . . . . .	.4-1
Section 5: Operation. . . . .	.5-1
Section 6: Maintenance . . . . .	.6-1
Section 7: Parts Breakdowns & Lists. . . . .	.7-1
Serial Number. . . . .	. I
Terminology . . . . .	.1-2

Torque Values - Imperial . . . . .	.8-1
Torque Values - Metric9-1
Unloading5-1
Usage1-1
Warranty and Limitation of Liability	I



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