PitStop with Hopper

Portable Grain Belt Conveyor
Assembly Manual

This manual applies to:
1800 Series
2400 Series

Gas, Electric, and Hydraulic Drives

Original Instructions

Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.

Part Number: P1512126 R4

Revised: November 2018

CONTENTS

1. Safety

1.1. Safety Alert Symbol and Signal Words

This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury or death, carefully read the message that follows, and inform others.

Signal Words: Note the use of the signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using the definitions below as a guideline.

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

WARNING Indicates a hazardous situation that, if not avoided, could result in serious injury or death.

CAUTION Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

NOTICE Indicates a potentially hazardous situation that, if not avoided, may result in property damage.

1.2. General Product Safety

YOU are responsible for the **SAFE** use and maintenance of your conveyor. **YOU** must ensure that you and anyone else who is going to work around the conveyor understands all procedures and related **SAFETY** information contained in this manual.

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. All accidents can be avoided.

- It is the conveyor owner, operator, and maintenance personnel's responsibility to read and understand **ALL** safety instructions, safety decals, and manuals and follow them when operating, or maintaining the equipment.

- Owners must give instructions and review the information initially and annually with all personnel before allowing them to operate the conveyor. Untrained users/operators expose themselves and bystanders to possible serious injury or death.
- The conveyor is not intended to be used by children.
- Use the conveyor for its intended purposes only.
- Do not modify the conveyor in any way without written permission from the manufacturer. Unauthorized modification may impair the function and/or safety, and could affect the life of the conveyor. Any unauthorized modification will void the warranty.

1.3. Moving Conveyor Belt Safety

⚠ WARNING

- DO NOT step on or touch moving conveyor belt.
- Shut off and lock out power to adjust, service, or clean.

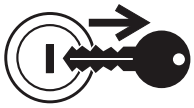
1.4. Rotating Parts Safety

⚠ WARNING

- Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
- Do not operate with any guard removed or modified. Keep guards in good working order.
- Shut off and remove key or lock out power source before inspecting or servicing machine.

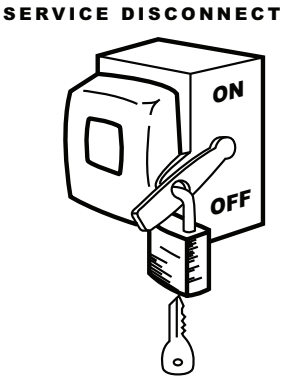
1.5. Drives and Lockout Safety

Inspect the power source(s) before using and know how to shut down in an emergency. Whenever you service or adjust your equipment, make sure you shut down the power source and unplug or remove the key (as applicable) to prevent inadvertent start-up and hazardous energy release. Know the procedure(s) that applies to your equipment from the following power source(s). Ensure that all personnel are clear before turning on power to equipment.



1.5.1 Electric Motor Safety

⚠ WARNING **Power Source**



- Electric motors and controls shall be installed and serviced by a qualified electrician and must meet all local codes and standards.
- A magnetic starter should be used to protect your motor.
- You must have a manual reset button.
- Reset and motor starting controls must be located so that the operator has full view of the entire operation.
- Locate main power disconnect switch within reach from ground level to permit ready access in case of an emergency.
- Motor must be properly grounded.
- Guards must be in place and secure.
- Ensure electrical wiring and cords remain in good condition; replace if necessary.
- Use a totally enclosed electric motor if operating in extremely dusty conditions.

Lockout

- The main power disconnect switch should be in the locked position during shutdown or whenever maintenance is performed.
- If reset is required, disconnect all power **before** resetting motor.

1.5.2 Hydraulic Power Safety

⚠ WARNING **Power Source**

- Refer to the rules and regulations applicable to the power source operating your hydraulic drive.
- Do not connect or disconnect hydraulic lines while system is under pressure.
- Keep all hydraulic lines away from moving parts and pinch points.
- Escaping hydraulic fluid under pressure will cause serious injury if it penetrates the skin surface (serious infection or toxic reaction can develop). See a doctor immediately if injured.
- Use metal or wood as a backstop when searching for hydraulic leaks and wear proper hand and eye protection.
- Check all hydraulic components are tight and in good condition. Replace any worn, cut, abraded, flattened, or crimped hoses.
- Clean the connections before connecting to equipment.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses with tape, clamps, or adhesive. The hydraulic system operates under extremely high pressure; such repairs will fail suddenly and create a hazardous and unsafe condition.

Lockout

- Always place all hydraulic controls in neutral and relieve system pressure before disconnecting or working on hydraulic system.

1.6. Tire Safety

⚠ WARNING Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion that may result in serious injury or death.

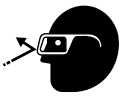
- DO NOT attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Have a qualified tire dealer or repair service perform required tire maintenance.
- When replacing worn tires, make sure they meet the original tire specifications. Never undersize the replacement tire.
- DO NOT weld to the tire rim with the tire mounted on the rim. This action may cause an explosion which could result in serious injury or death.
- Inflate tires to the manufacturer's recommended pressure.
- Tires should not be operated at speeds higher than their rated speed.
- Keep wheel lug nuts tightened to manufacturer's recommendations.
- Never reinflate a tire that has been run flat or seriously under-inflated without removing the tire from the wheel. Have the tire and wheel closely inspected for damage before remounting.

1.7. Personal Protective Equipment

The following Personal Protective Equipment (PPE) should be worn when assembling the equipment.

Safety Glasses

- Wear safety glasses at all times to protect eyes from debris.



Work Gloves

- Wear work gloves to protect your hands from sharp and rough edges.

Steel-Toe Boots

- Wear steel-toe boots to protect feet from falling debris.

Coveralls

- Wear coveralls to protect skin.

Hard Hat

- Wear a hard hat to help protect your head.

1.8. Safety Equipment

The following safety equipment should be kept on site:

Fire Extinguisher

- Provide a fire extinguisher for use in case of an accident. Store in a highly visible and accessible place.

First-Aid Kit

- Have a properly-stocked first-aid kit available for use should the need arise, and know how to use it.

1.9. Safety Decals

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible. See decal location figures that follow.
- Replaced parts must display the same decal(s) as the original part.
- Replacement safety decals are available **free of charge** from your distributor, dealer, or factory as applicable.

1.9.1 Decal Installation/Replacement

1. Decal area must be clean and dry, with a temperature above 50°F (10°C).
2. Decide on the exact position before you remove the backing paper.
3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
5. Small air pockets can be pierced with a pin and smoothed out using the sign backing paper.

1.9.2 Safety Decal Locations and Details

Replicas of the safety decals that are attached to the conveyor and their messages are shown in the figure(s) that follow. Safe operation and use of the conveyor requires that you familiarize yourself with the various safety

decals and the areas or particular functions that the decals apply to, as well as the safety precautions that must be taken to avoid serious injury, death, or damage.

Figure 1. Safety Decal Location

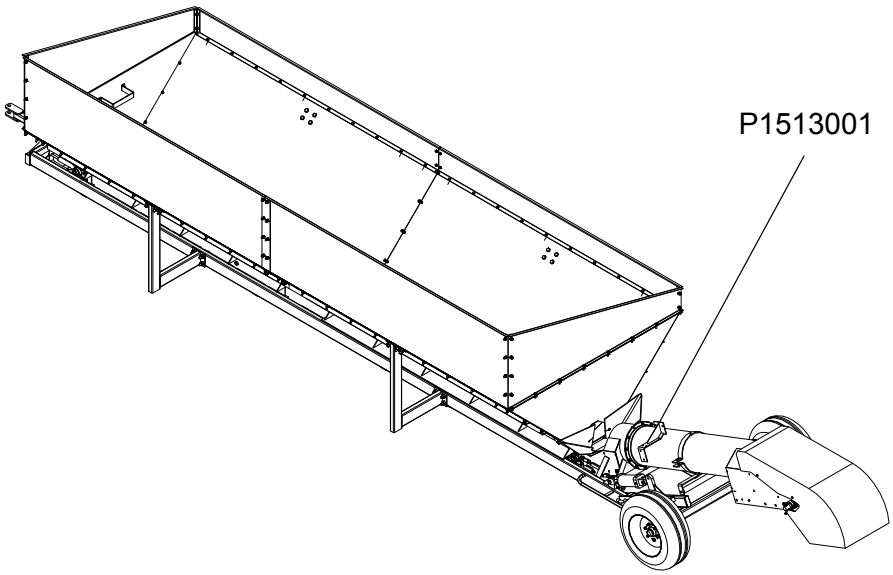
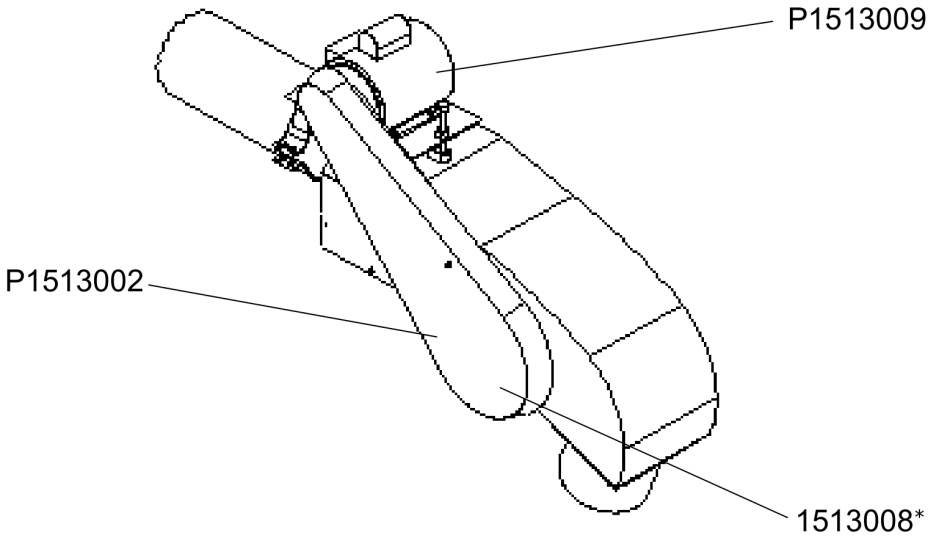


Figure 2. Electric Top Drive Safety Decal Locations



* behind guard

Figure 3. Hydraulic Top Drive Safety Decal Locations

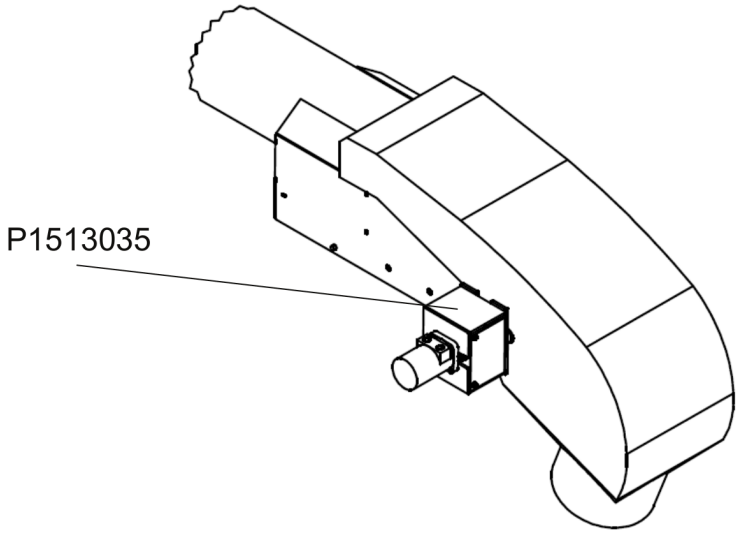


Table 1. Safety Decals

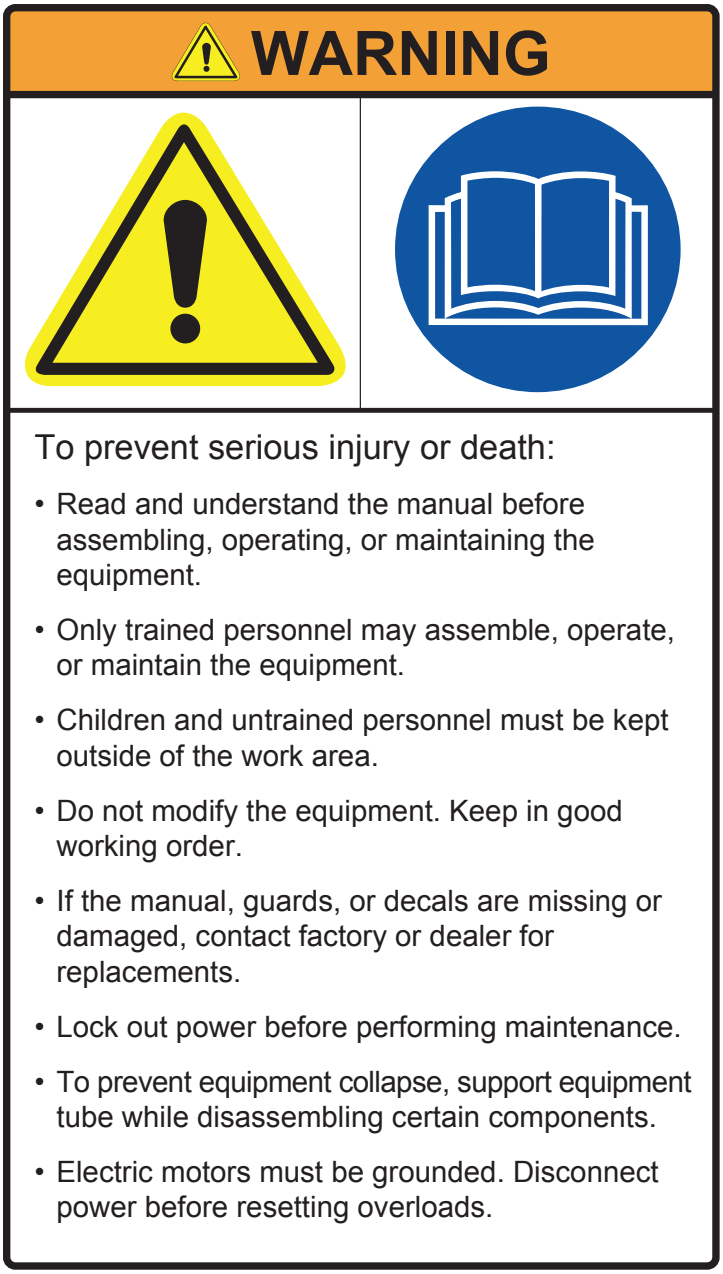
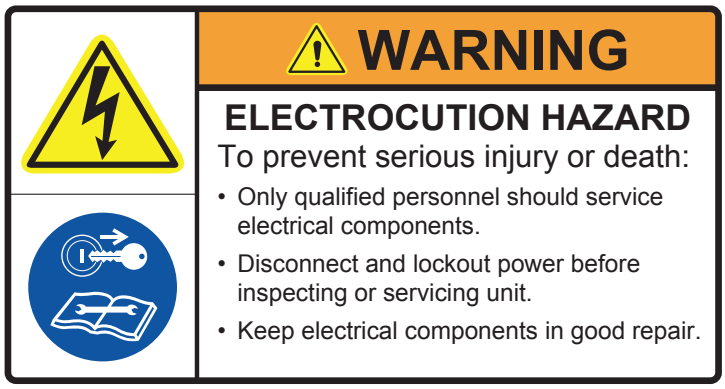
Part Number	Description
P1513001	

Table 1 Safety Decals (continued)

Part Number	Description
P1513002	
P1513008	

Table 1 Safety Decals (continued)

Part Number	Description
P1513009	
P1513035	

2. Features

This section covers the main features of the conveyor.

Figure 4. Typical PitStop with Hopper Components

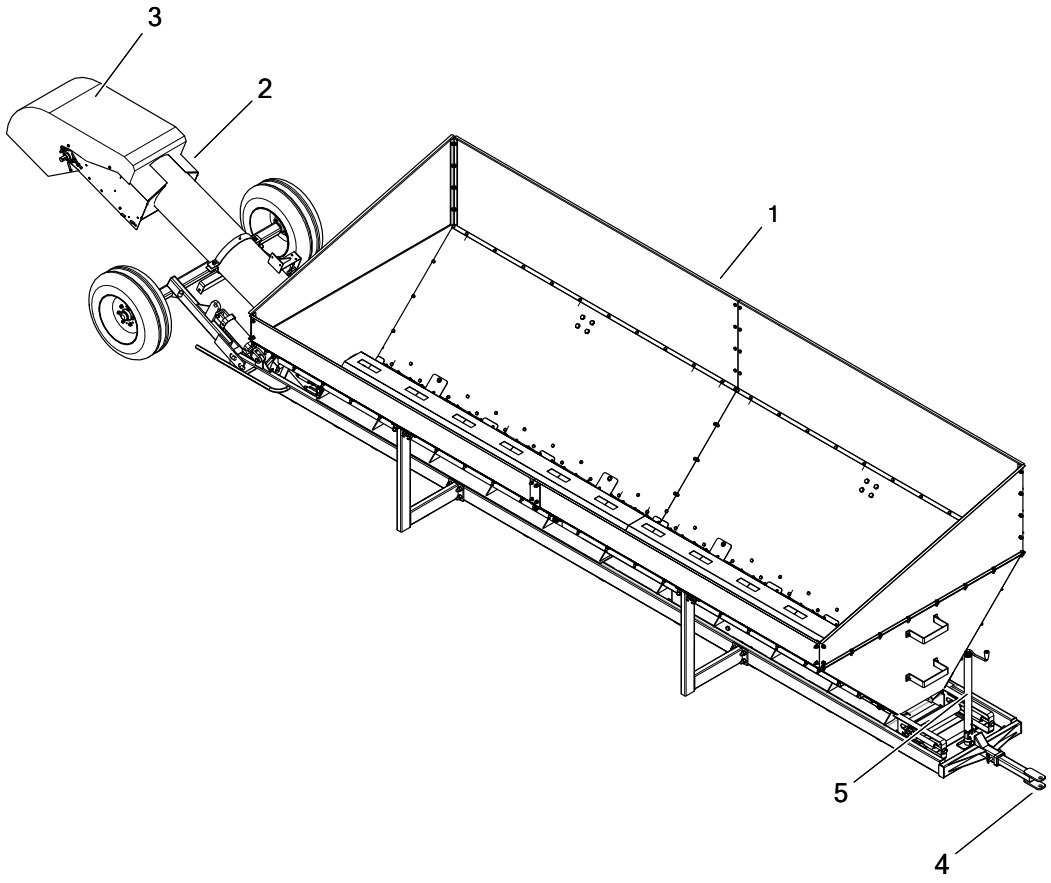


Table 2. Typical PitStop with Hopper Components

ITEM	DESCRIPTION
1	Hopper
2	Spout Assembly
3	Hood

ITEM	DESCRIPTION
4	Hitch
5	Jack

3. Assembly

Before continuing, ensure you have completely read and understood this manual's Safety section, in addition to the safety information in the section(s) below.

3.1. Assembly Safety

WARNING

- Do not take chances with safety. The components can be large, heavy, and hard to handle. Always use the proper tools, rated lifting equipment, and lifting points for the job.
- Carry out assembly in a large open area with a level surface.
- Always have two or more people assembling the conveyor.
- Make sure you have sufficient lighting for the work area.
- Tighten all fasteners according to their specifications. Do not replace or substitute bolts, nuts, or other hardware that is of lesser quality than the hardware supplied by the manufacturer.
- Stay away from overhead power lines and other obstructions during assembly. Contact with power lines can cause electrocution.
- Do not work in high winds.

3.2. Required Tools

- 2 sawhorse(s)
- 1 jack or forklift or overhead crane (850 lb [386 kg] lifting capacity)
- 1 standard socket set(s)
- 1 wrench set(s)
  1-1/2" ratchet & wrench (to attach axle)
- 1 1-1/8" ratchet
- 1 torque wrench(es)
- 1 power drill(s)
- 1 self-tapping screw bit (3/8")
- 1 pry bar
- 1 hammer and punch
- 1 tape measure(s)
- 1 level (2' [61 cm])
- 1 level magnetic (2' [61 cm])
- 1 ratchet strap
- 1 air impact with ratchet set
- 2 C-clamp(s) or vise grip(s)
- 1 tire pressure gauge
- 1 fish tape (120' [36.6 m])
- 1 tire chuck
- 1 set(s) of Allen wrenches

3.3. Check Shipment

Unload the conveyor parts at the assembly site and compare the packing slip to the shipment. Ensure that all items have arrived and that none are damaged.

Report missing or damaged parts immediately to ensure that proper credit is received from Batco or your distributor/dealer, and to ensure that any missing parts can be shipped quickly to avoid holding up the assembly process.

Important

Do not assemble or install damaged components.

3.4. Before You Begin

Before you assemble the conveyor:

- Familiarize yourself with all the sub-assemblies, components, and hardware that make up the equipment.
- Have all parts and components on hand, and arrange them for easy access.
- Separate the hardware (bolts, nuts, etc.) and lay them out into groups for easier identification during assembly.
- Ensure there is adequate space to remove the assembled conveyor from the assembly area.

3.5. Hydraulic Fittings and Bolt Tightening

Remember the following basic considerations when tightening hydraulic fittings and bolts:

- Tighten all fasteners to the torque specified in Section 5.1. – Bolt Torque on page 47. Do not replace or substitute bolts, nuts, or other hardware that is of lesser quality than the hardware supplied by the manufacturer.

  All hydraulic fittings should be torqued to the recommended specifications. See Section 5.2. – Fittings Torque Values on page 48.

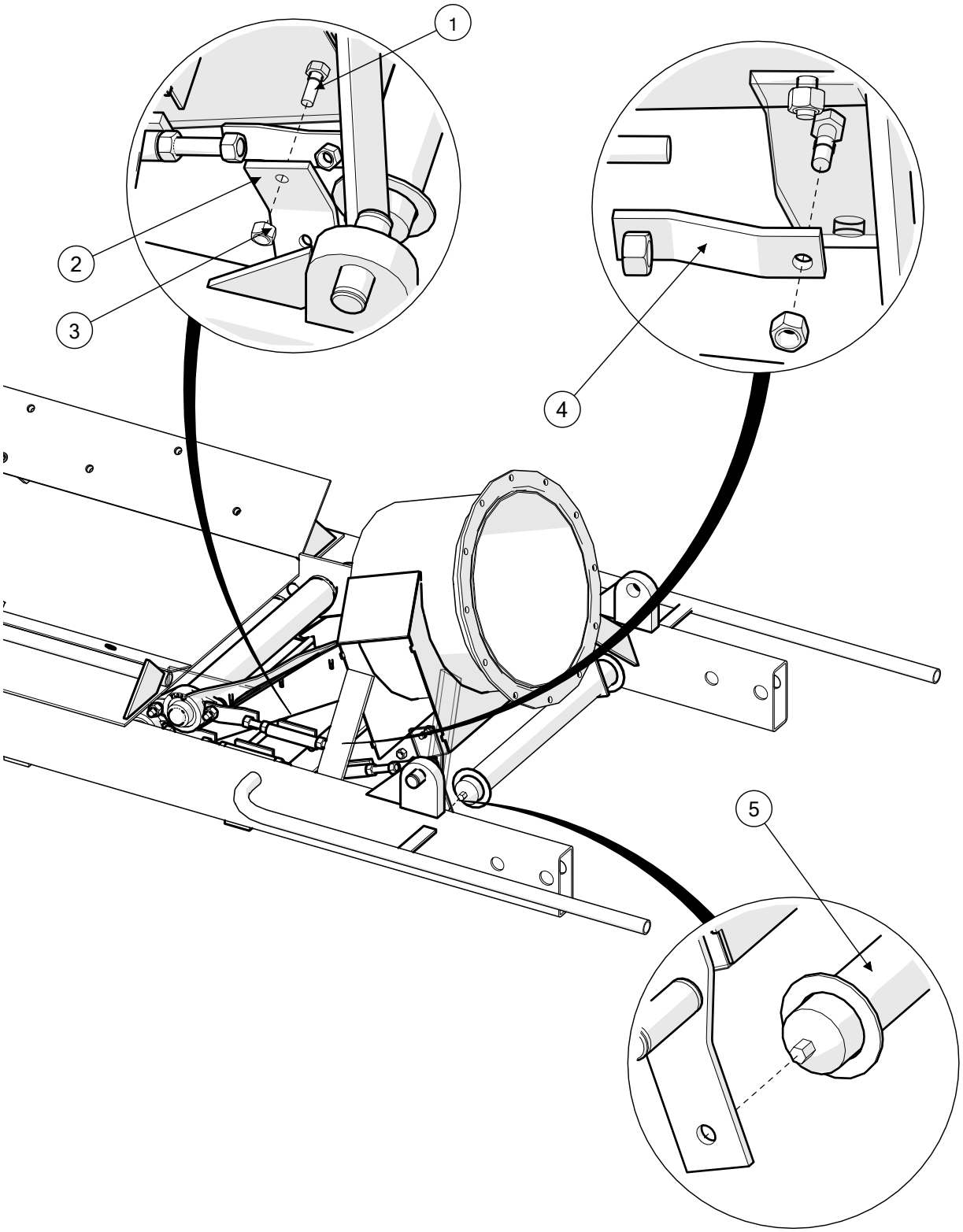
NOTICE Do not over-tighten fittings! Over-tightening hose fittings can crack the fittings or motor body and will void the warranty.

3.6. Assemble the Tube Inlet and Return Roller

Table 3. Tube Inlet and Return Roller Components

ITEM	DESCRIPTION	QTY
1	Bolt 3/8" x 1"	1
2	Bent Adjustment Tab Left	1
3	Locknut 3/8"	1
4	Adjustment Link Bar	1
5	Pitstop Guiding Return Roller	1

Figure 5. Assembling the Tube Inlet and Return Roller

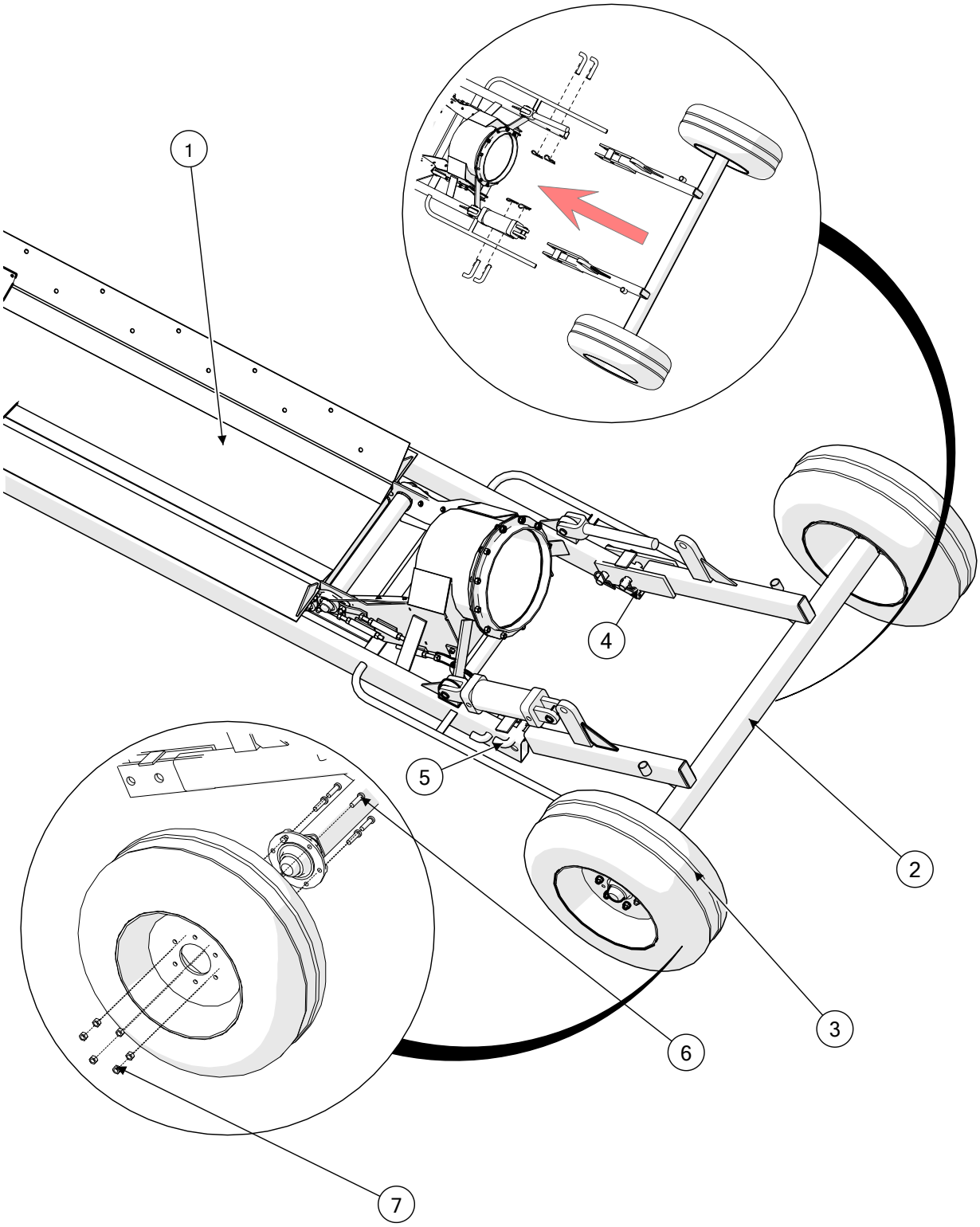


3.7. Install the Wheels and Axle

Table 4. Wheel and Axle Components

ITEM	DESCRIPTION	QTY
1	Pitstop Base	1
2	Axle Weldment	1
3	6–Bolt Tire	2
4	Hair Pin 3/16" x 3-1/4"	4
5	Hitch Pin 1" x 3-1/2"	4
6	Wheel Bolt	12
7	Wheel Nut 1/2" GR5	12

Figure 6. Installing the Wheels and Axle

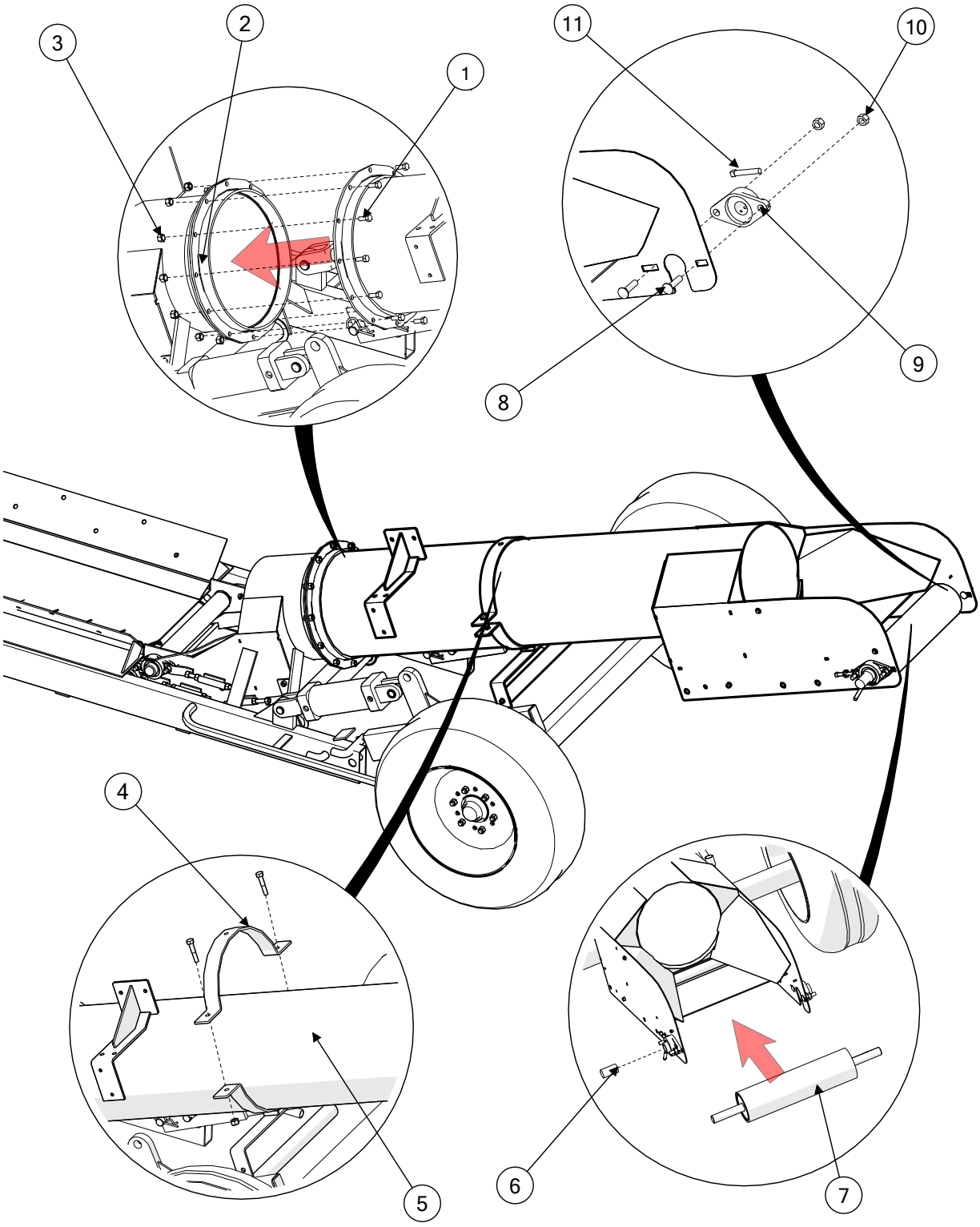


3.8. Install the Tube and Rollers

Table 5. Tube Components

ITEM	DESCRIPTION	QTY
1	Bolt 7/16" x 1" GR8	12
2	Flange	1
3	Locknut 7/16"	12
4	U-clamp 2"	2
5	Pitstop Spout 68"	1
6	Vinyl Cap 1-1/4" x 2-1/2"	1
7	Spout Drive Roller	1
8	Carriage Bolt 1/2" x 3"	4
9	Bearing Unit 1-1/4"	2
10	Locknut 1/2"	4
11	Adjustment Bolt 7/16" x 2-1/2"	2

Figure 7. Installing the Tube Components

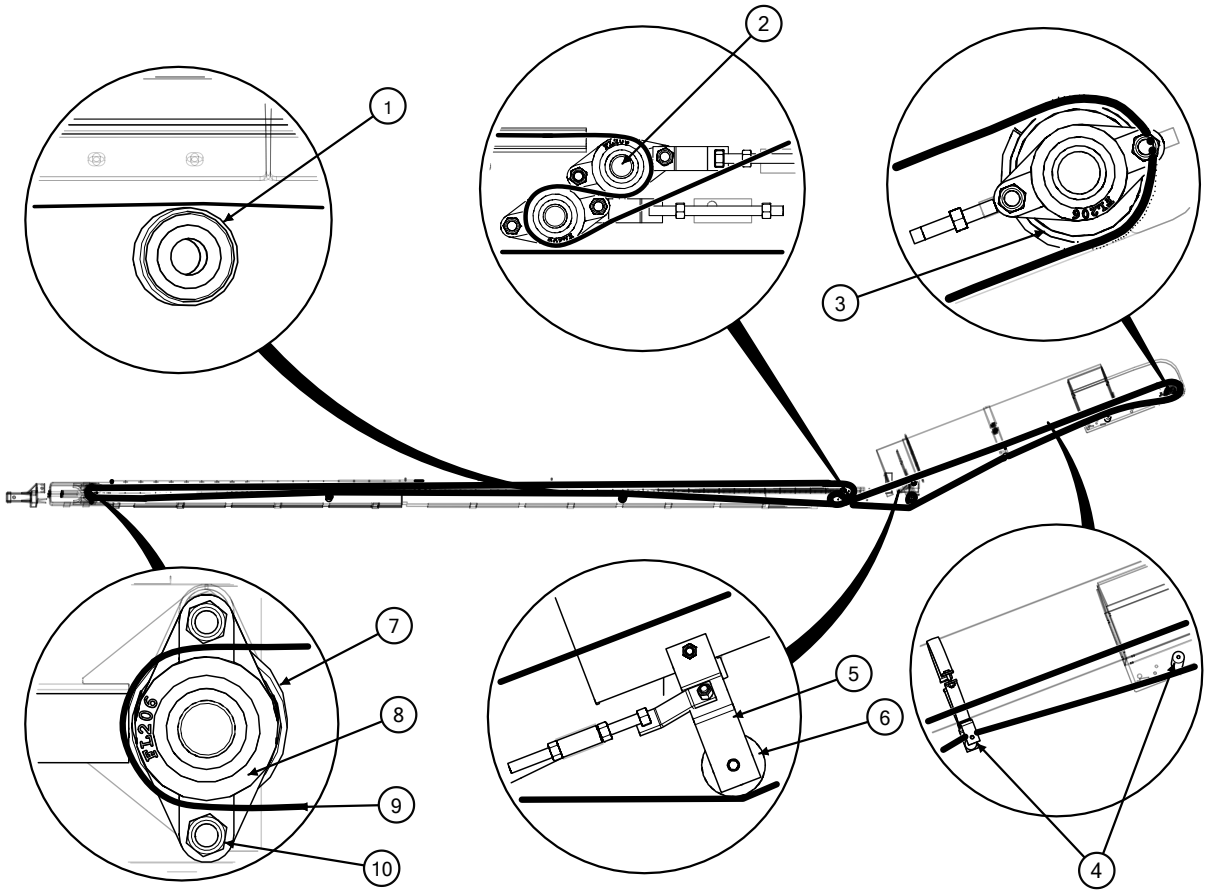


3.9. Install the Belt

Table 6. Components on Belt Path

ITEM	DESCRIPTION	QTY
1	Return Rollers	2
2	Pitstop Transition Rollers	2
3	Spout Drive	1
4	Roller 21" x 1-7/8"	2
5	Bent Adjustment Tab Left	1
6	Pitstop guiding roller	1
7	Pitstop Take up Roller	1
8	Bearing unit	4
9	Belt	1
10	Locknut 1/2"	8

Figure 8. Belt Path

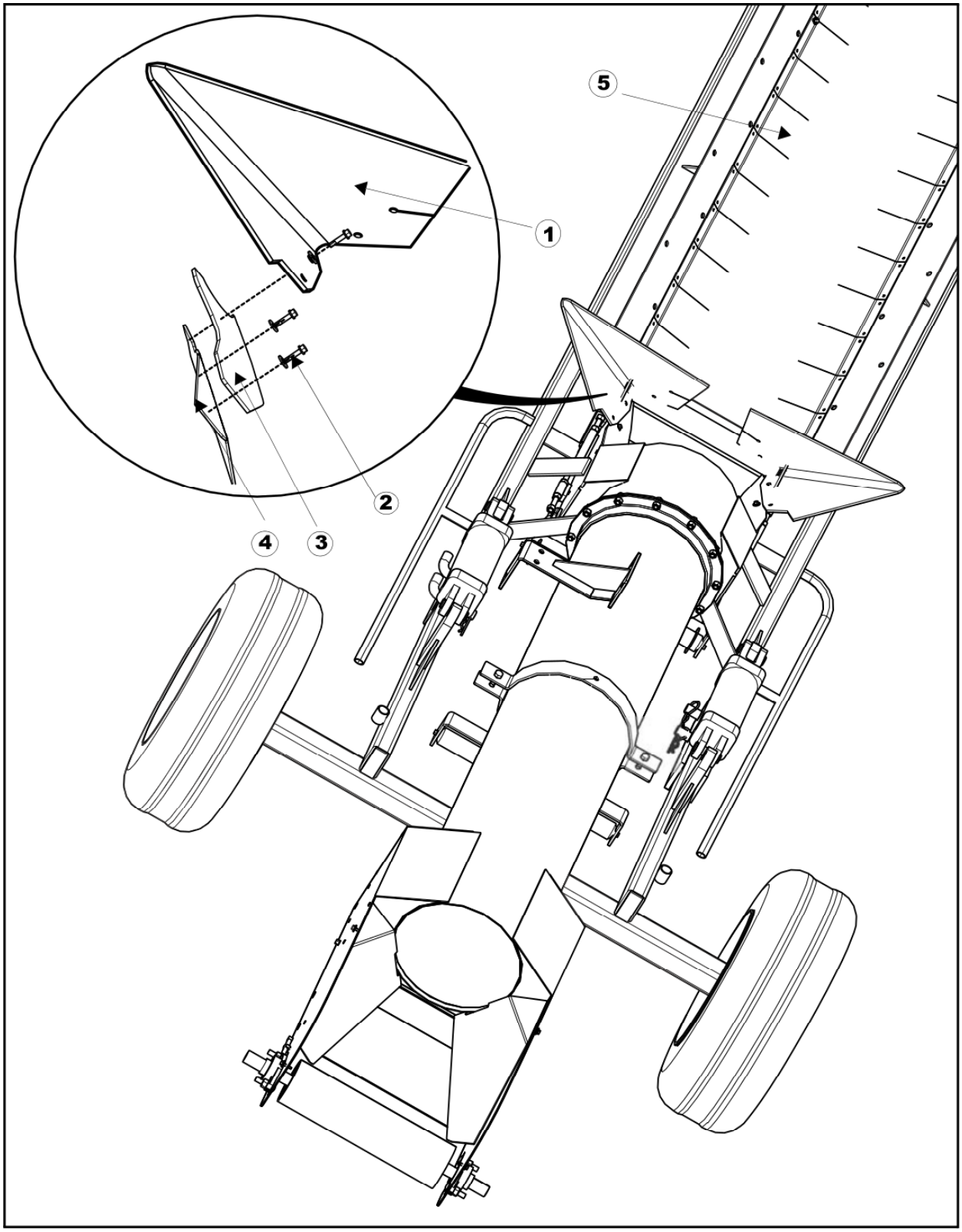


3.10. Install the Flashing

Table 7. Flashing Components

ITEM	DESCRIPTION	QTY
1	PIT Upper Transition Flashing	2
2	Teks Screw 1/4" x 1"	126
3	Transition Side Flashing	2
4	Transition PIT Flashing	2
5	PIT Deck Flashing	2

Figure 9. Installing the Flashing

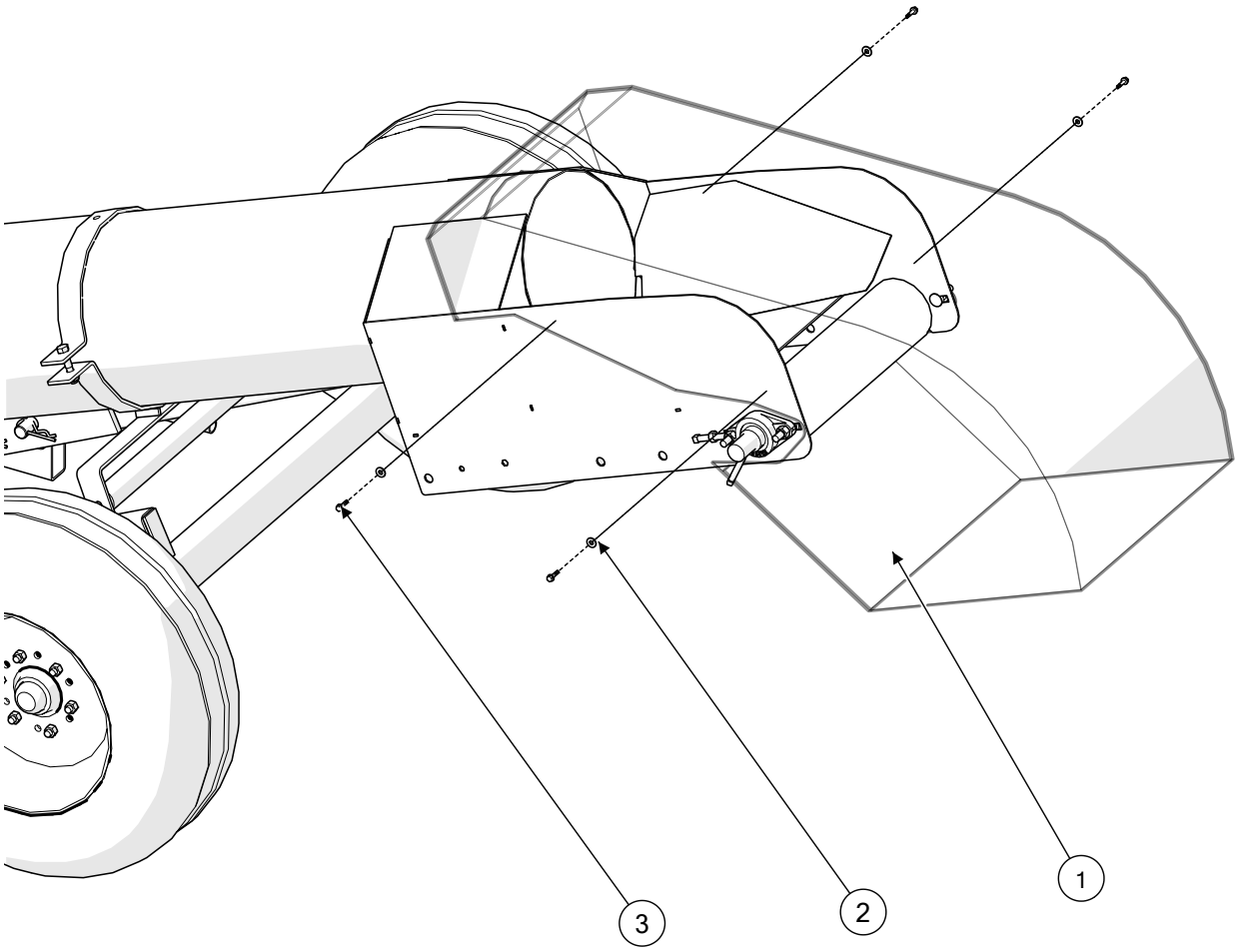


3.11. Install the Spout Hood

Table 8. Spout Hood Components

ITEM	DESCRIPTION	QTY
1	Pitstop Hood	1
2	Teks Screw 2"	4
3	Flat Washer 1"	4

Figure 10. Installing the Spout Hood



3.12. Assemble the Hopper

Table 9. Hopper Bottom End Components

ITEM	DESCRIPTION	QTY
1	Hopper Bottom End	1
2	Step	4
3	Bolt 7/6" x 1-1/2" GR8	4
4	Locknut 1/2"	4

Figure 11. Assembling the Hopper Bottom End

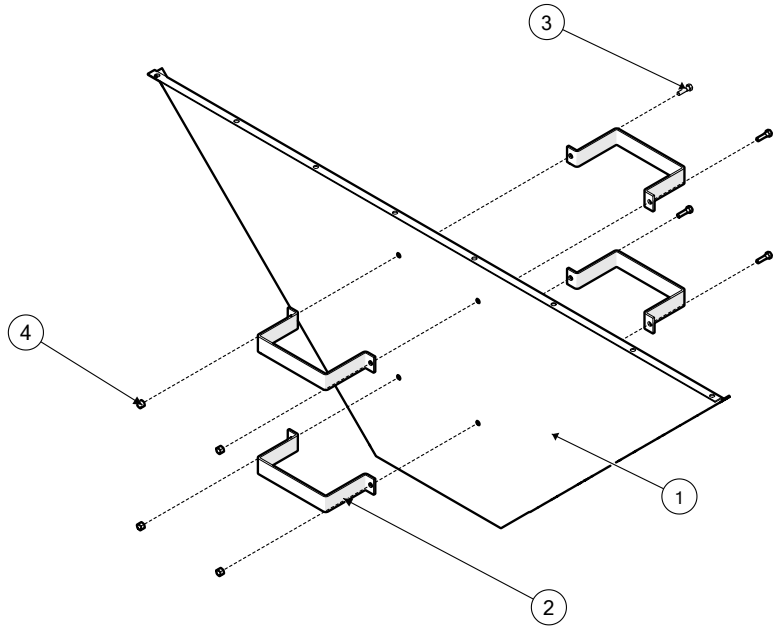


Table 10. First Set of Hopper Panel Components

ITEM	DESCRIPTION	QTY
1	Hopper Bottom	1
2	Hopper Deflector	1
3	Hopper Side Slope	2
4	Bolt 1/2" x 1-1/2" GR8	48
5	Locknut 1/2"	48

Figure 12. Installing First Set of Hopper Panels

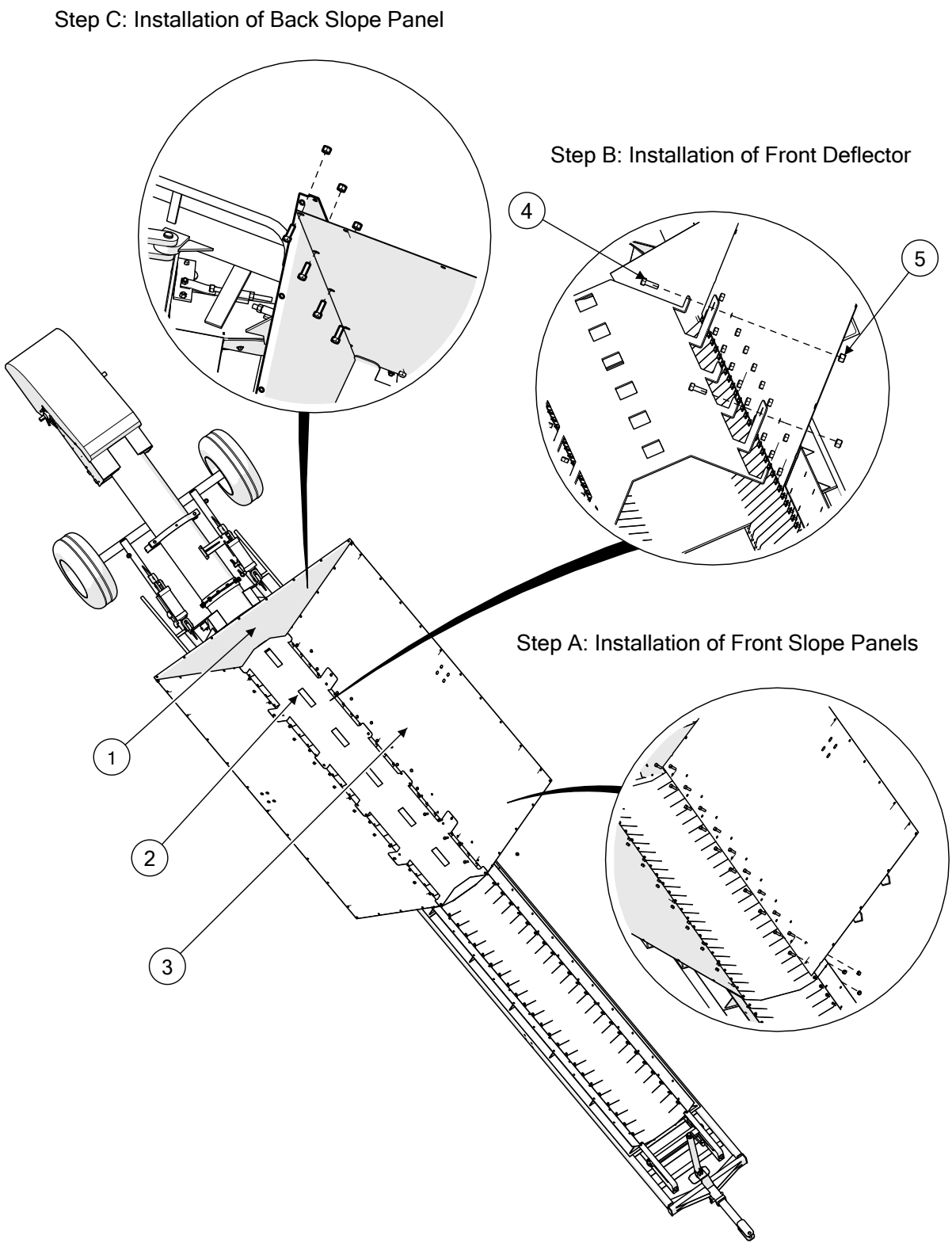


Table 11. Second Set of Hopper Panel Components

ITEM	DESCRIPTION	QTY
1	Joiner Plate Slope	2
2	Bolt 1/2" x 1-1/2" GR8	62
3	Locknut 1/2"	62
4	Hopper Side Slope	2
5	Hopper Deflector	1
6	Hopper Bottom End	1

Figure 13. Installing Second Set of Hopper Panels

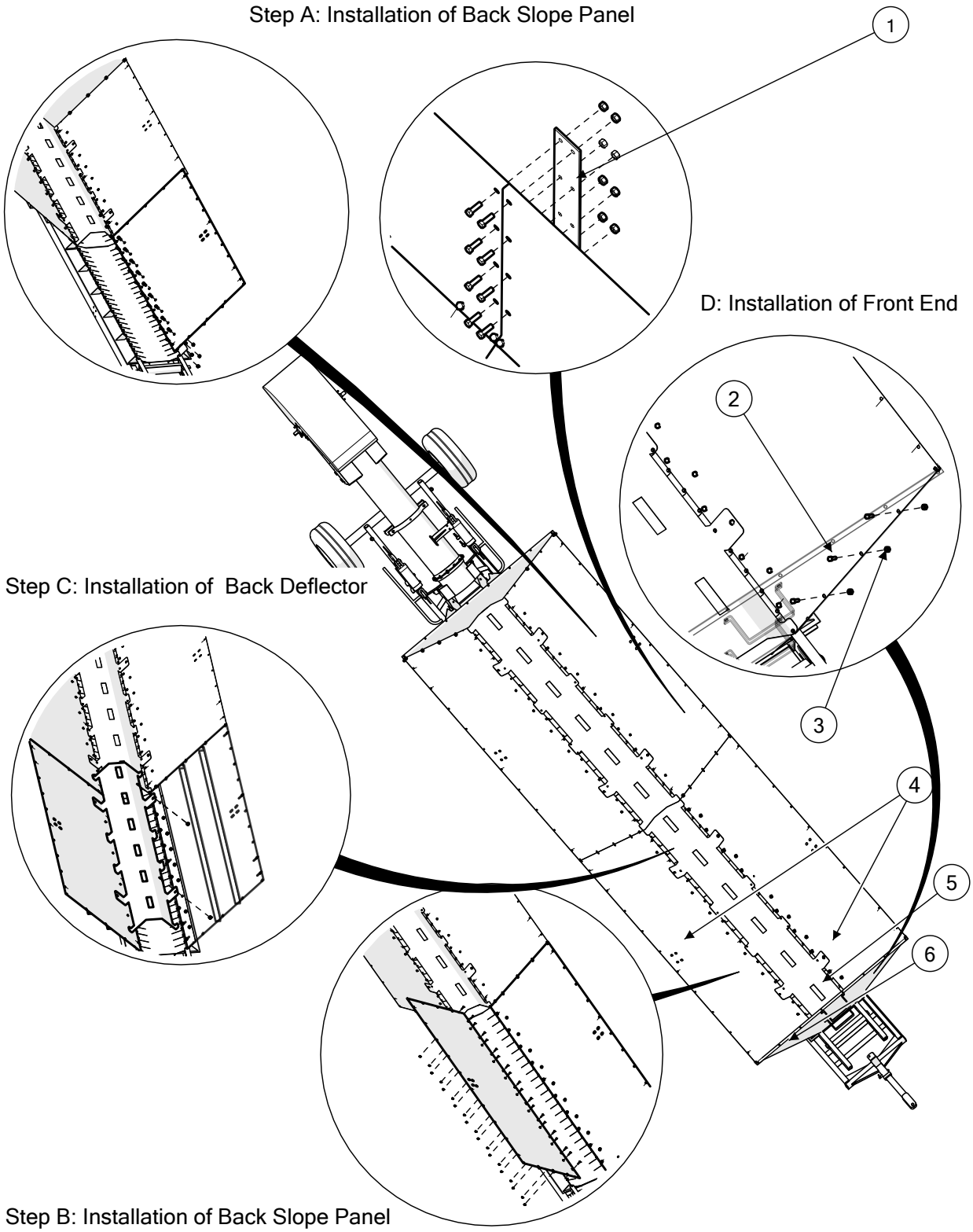


Table 12. Outrigger Leg Components

ITEM	DESCRIPTION	QTY
1	Outrigger Leg	4
2	Locknut 3/4"	16
3	Bolt 3/4" x 4" GR8	16
4	Locknut 3/4"	16
5	Bolt 3/4" x 2" GR8	16

Figure 14. Installing Outrigger Legs

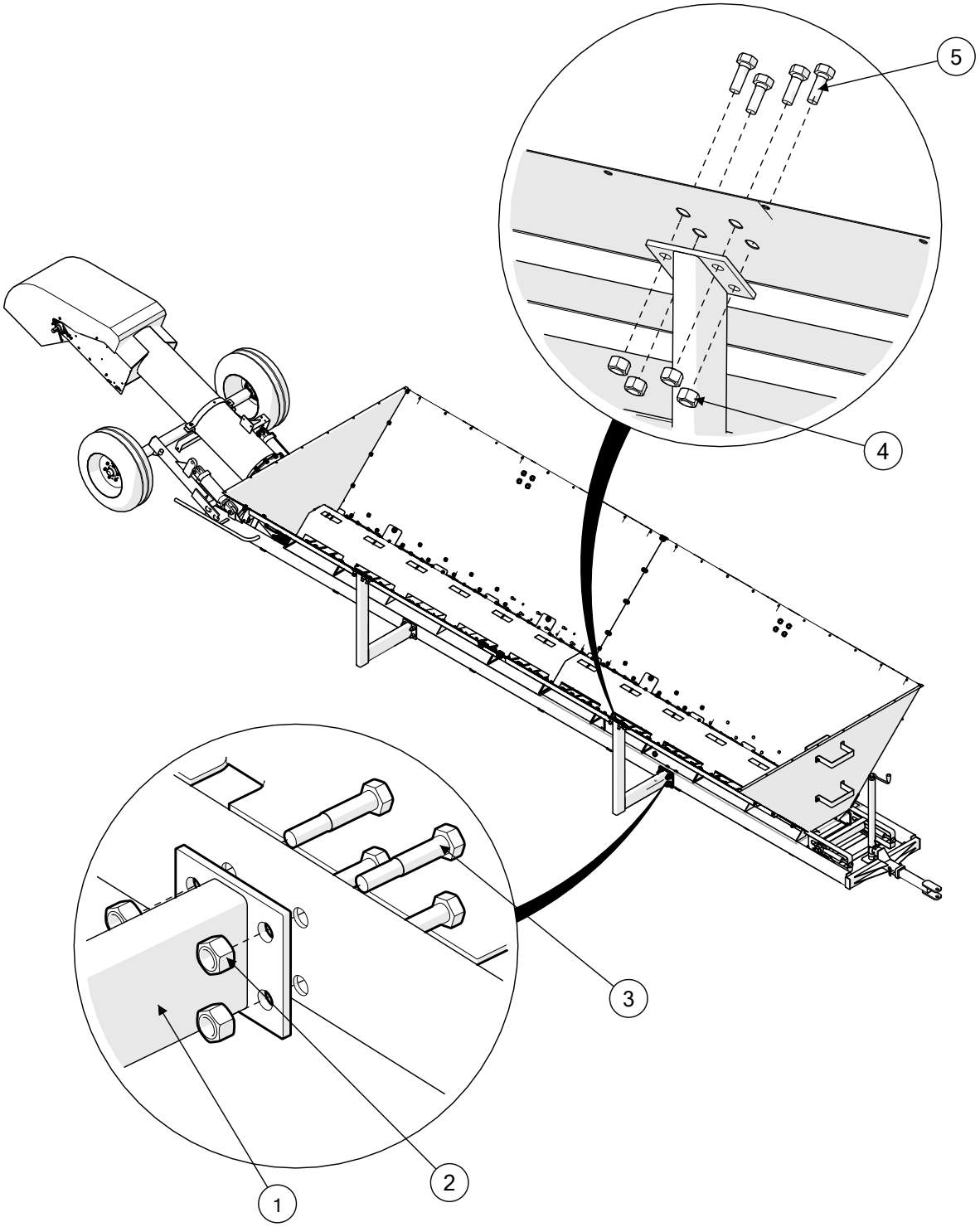
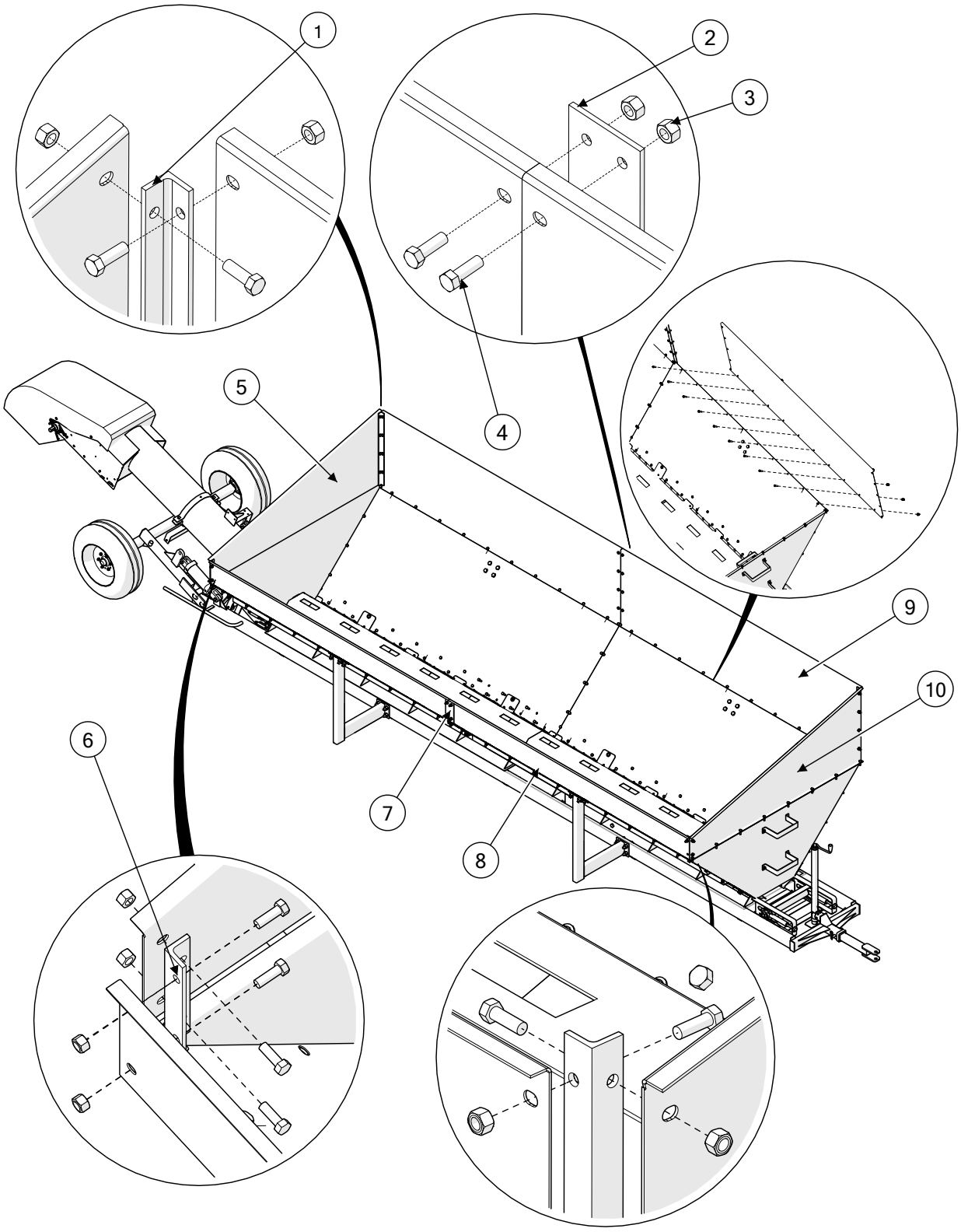


Table 13. Hopper Top and Side Components

ITEM	DESCRIPTION	QTY
1	Angle Tall	2
2	Joiner Plate Tall	2
3	Locknut 1/2"	96
4	Bolt 1/2" x 1-1/2" GR8	96
5	Hopper Top	1
6	Angle Short	2
7	Joiner Plate Short	2
8	Hopper Side Short	2
9	Hopper Side Tall	2
10	Hopper Top End	1

Figure 15. Installing the Hopper Tops and Sides



3.13. Install the Electric Top Drive

1. Install two 2" u-clamps (4) with two 1/2" x 2-1/2" bolts (9) and 1/2" locknuts (11).
2. Position the electric motor clamp (6) on top of the tube and fasten with a 3" u-clamp (5), 1/2" x 2-1/2" bolts (9) and 1/2" locknuts (11). Ensure it is level before crimping to tube.

Table 14. Electric Top Drive Components

ITEM	DESCRIPTION	QTY
1	Shaft Guard FL206	1
2	13 Series HD Motor Mount plate	1
3	Spout Round Poly W/Drive	1
4	U-Clamp 2"	2
5	U-Clamp 3"	1
6	Electric Motor Clamp	1
7	Guard Mount	2
8	Bolt Tap 3/4" x 7"	1
9	Bolt Hex 1/2" x 2-1/2" GR8	6
10	Bolt Hex 1/4" x 1/2" GR8 Fine	1
11	Nut Nylock 1/2"	6
12	Teks 1/4" x 1"	10
13	Flat Washer 1/4" USS Plated	5
14	Flat Washer 1/2" USS Plated	1
15	Washer Lock 1/4"	1
16	Cotter Pin 3/16" x 1-1/2"	1
17	Long Motor Mount Pin	1
18	Belt B 108	2
19	Pulley-DBL-B-14" W/1-1/4" Bore	1
20	Pulley 2BK34H	1
21	Key 1/4" x 1-1/2"	1
22	PitStop Plastic Pulley Guard	1

Figure 16. Assembling the Electric Top Drive

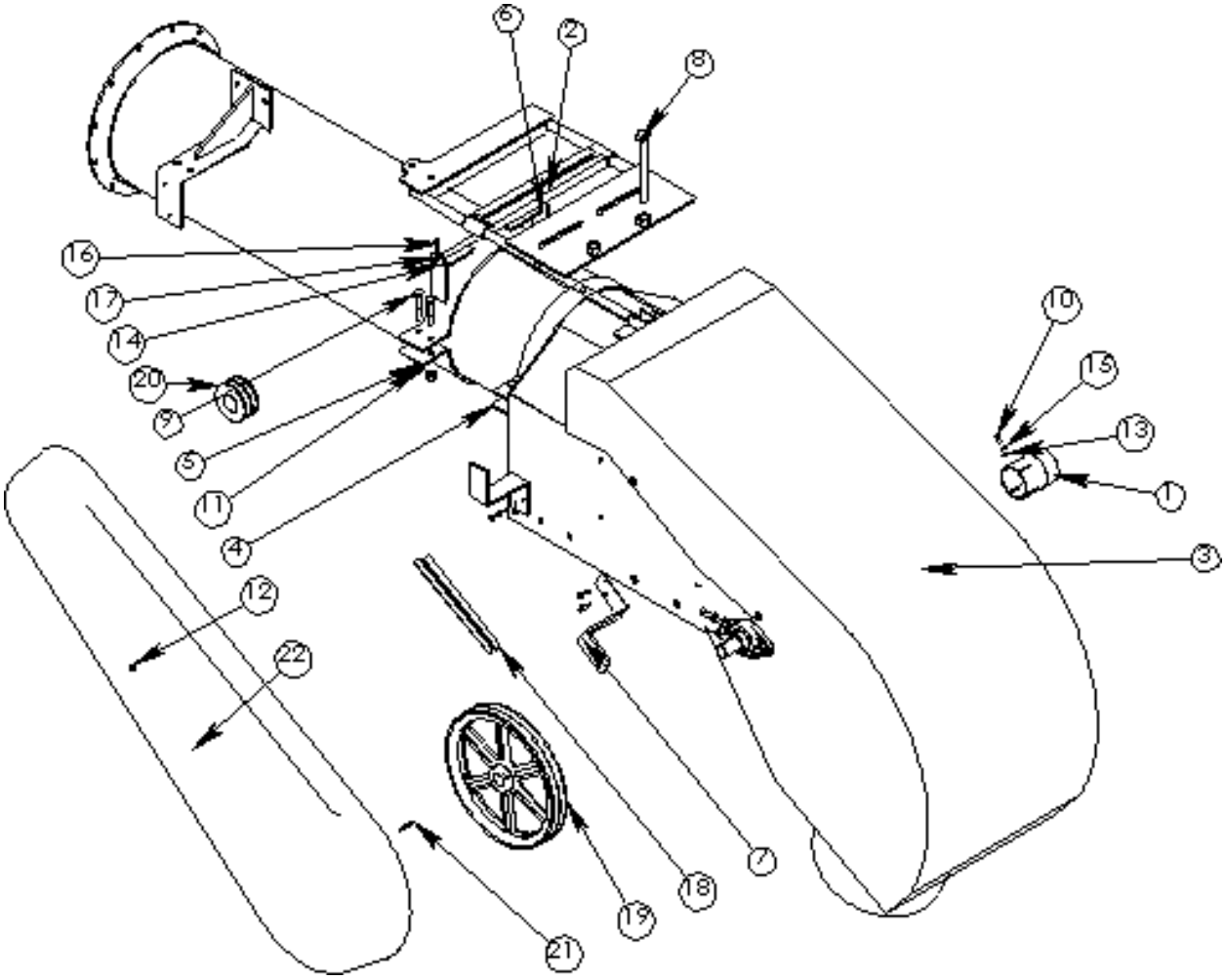
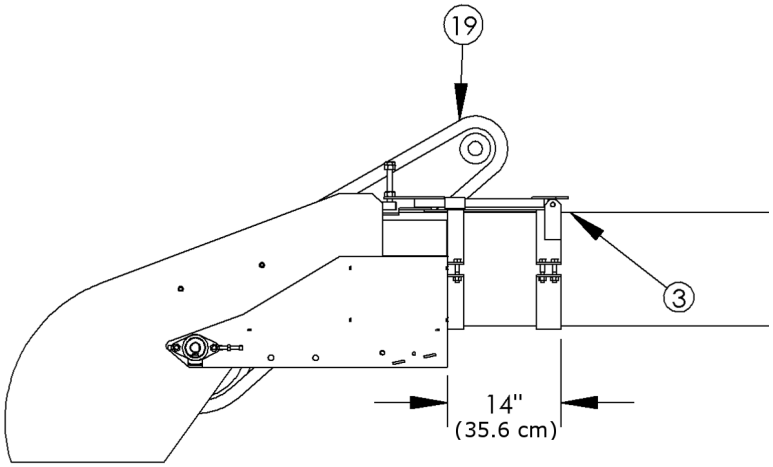


Figure 17. Clamp Position



3. Install the motor mount plate (2) with the motor mount pin (17), 1/2" a flat washer (14) and a 3/16" x 1-1/2" cotter pin (16). Secure by spreading cotter pin.

4. Position electric motor (not shown) on motor mount plate (2) and fasten with the appropriate bolts and locknuts. Leave bolts finger tight for now.
5. Install a key in the motor shaft. Mount drive pulley (20) so the hub is flush with the end of the shaft, then secure.
6. Install a key (21) in the drive roller shaft. Mount driven pulley (19) so the hub is flush with the end of the shaft, then secure.
7. Use a straight edge to align the pulleys.
8. Tighten motor base bolts.
9. Install drive belts (18) and set belt tension by adjusting the 3/4" x 7" tap bolt (8).

   Note

   Belts should deflect 1/2" to 3/4" when pushed on with a 5 lb (2.3 kg) force.

10. Mount a keyed shaft guard (1) over the left drive roller shaft with a bolt (10), lock washer (15), and a flat washer (13).

    Note

    Be sure the shaft guard is seated against the bearing. It may be necessary to tap cover with a hammer for it to seat properly.

11. Attach safety decal on the plastic pulley guard (22) and on spout plate.
12. Hold plastic pulley guard (22) over the belt and mark suitable mounting bracket locations.
13. Place mounting brackets (7) on plastic guard (22) and drill holes through the bracket and guard. Attach the brackets (7) to the spout with 1/4" x 1" self-tapping screws (12).
14. Mount plastic guard (22) to the machine with 1/4" x 1" self-tapping screws (12) and 1/4" flat washers (13).

3.14. Install the Hydraulic Wet Kit for the Electric Top Drive (Optional)

For operations that do not have remote (tractor) hydraulic capability, an optional self-contained hydraulic system can be mounted on the conveyor. A hydraulic pump and oil reservoir is mounted on the discharge end for this system. The pump is mounted on the right end of the conveyor belt drive shaft.

1. Remove 1/2" locknuts from flange bearings on the side of the drive roller with the keyway.
2. Install 1/4" x 1-1/2" key (11) in drive roller shaft.
3. Slide both sprockets (4, 10) and the chain coupling (9) on the drive roller shaft.
4. Attach the hydraulic pump mount (3) to the flange bearing bolts and secure with the 1/2" locknuts removed from the flange bearings.
5. Slide the hydraulic pump (15) into the hub and secure with a key.

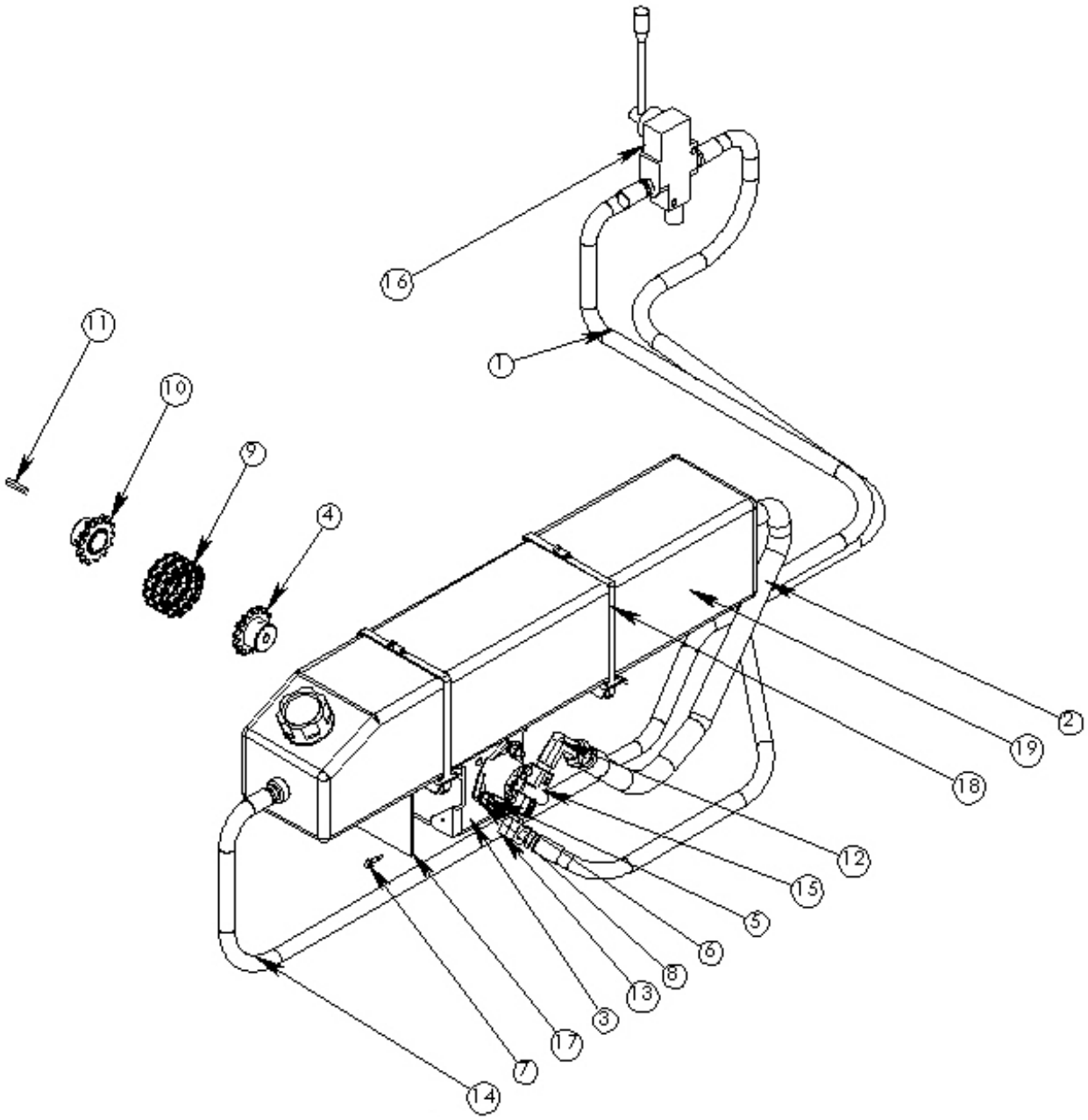
Table 15. Hydraulic Wet Kit Components

ITEM	DESCRIPTION	QTY
1	Hose 1/2 (7'6")-1/2" MPT-1/2" MPT	1
2	Hose 3/4" (3’)-1/2" MPT-Hose	1
3	Pump Wet Kit	1

Table 15 Hydraulic Wet Kit Components (continued)

ITEM	DESCRIPTION	QTY
4	Sprocket 5014 W 0.5 (Key 0.125")	1
5	Bolt Hex 3/8" x 1-1/2"	2
6	Nut Nylock 3/8"	2
7	Teks 1/4" x 1"	4
8	Flat Washer 3/8" USS Plated	2
9	Chain Coupling 5014	1
10	Sprocket 5014 W 1.25 (Key 0.25)	1
11	Key 1/4" x 1-1/2"	1
12	Swivel-10 MORB x 1/2" FPT/90D	1
13	Swivel 90 - #10 ORB x 1/2" FPT	1
14	Hose 1/2" (9'6")-1/2" MPT-1/2"MPT PC	1
15	Pump-Parker With Side Ports	1
16	Valve Single Spool	1
17	1-1/4 Hyd MTR Guard 4.5 x 6.25	2
18	Clamp Gear(116) 32"	2
19	Tank, 22L, BLK_FTG, Cap hose	1

Figure 18. Assembling the Hydraulic Wet Kit

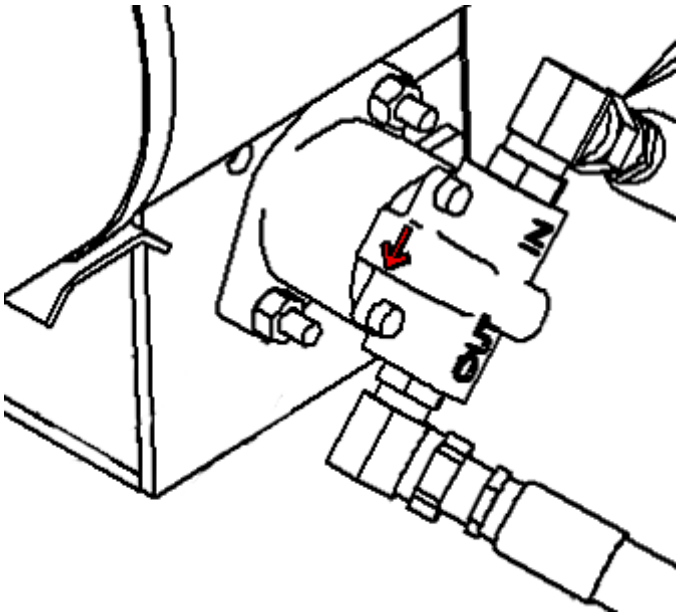


6. Bolt the hydraulic pump (15) to the motor mount (3) with 3/8" x 1-1/2" bolts (5) and 3/8" locknuts (6).

Important

In Figure 19 on page 42, note the locations of the pump section port (IN) and the pump pressure port (OUT). Also note the rotation direction of the pump.

Figure 19. Pump



7. Tighten fasteners in sequence starting with the mount, the pump, and then the coupler set screws.
8. Attach motor guards (17) with 1/4" x 1" self-tapping screws (7).
9. Use gear clamps (18) to secure the oil reservoir (19) to the tank brackets found on the pump wet kit mount (3).
10. Affix the safety decal as indicated in Figure 20 on page 42.

Figure 20. Safety Decal on Hydraulic Oil Reservoir

11. Install and secure hydraulic hoses and ends (1,2,14), fittings (12,13), to the oil reservoir (19), pump (15), and valve (16). Use the hydraulic fluid noted in the Specifications chapter.
12. Mount a keyed shaft guard over the left drive roller shaft with a 1/4” x 1/2” bolt, 1/4” lock washer, and a 1/4” flat washer.

3.15. Install the Hydraulic Top Drive

1. Remove 1/2" locknuts from flange bearing on drive roller shaft.
2. Install 1/4" x 1-1/2" key (18) in drive roller shaft.
3. Slide sprockets (15, 16) and the chain coupling (14) on the drive roller shaft.
4. Attach the hydraulic motor mount (3) to the flange bearing bolts and secure with the locknuts removed from the flange bearings.
5. Slide the hydraulic motor (28) into the hub and secure with a 1/4" x 1" key (17).
6. Bolt the hydraulic motor (28) to the motor mount (3) with 1/2" x 2" bolts (5) and 1/2" locknuts (10).
7. Tighten fasteners in sequence starting with the bearing mount, the hydraulic motor, and then the set screws on the sprockets (15,16). Attach motor guards (32) with 1/4" x 1" self-tapping screws (11) and 1/4" flat washer (12).
8. Place hydraulic safety sign on the hydraulic motor mount.
9. Install and secure hydraulic hoses (25, 26, 27) with fittings (19-24,31) to the hydraulic motor (28), flow control valve (30), and single spool valve (29).
10. Mount a keyed shaft guard (1) over the left drive roller shaft with a 1/4" x 1/2" bolt (7), 1/4" lock washer (13), and a 1/4" flat washer (12).

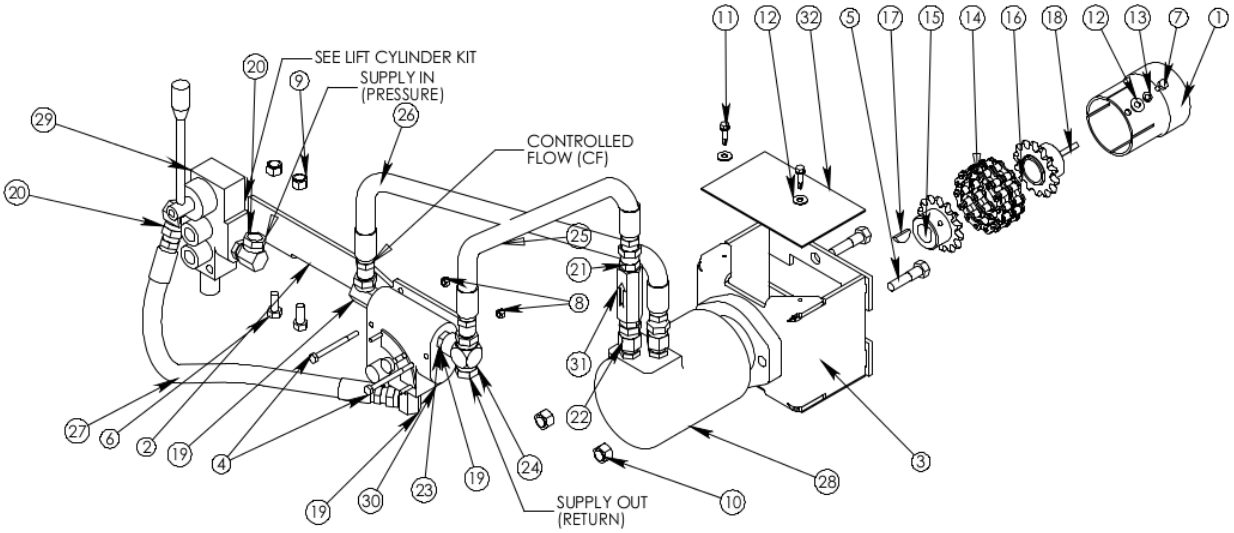
Table 16. Hydraulic Top Drive Components

ITEM	DESCRIPTION	QTY
1	Shaft Guard FL206	1
2	Flow Control Bracket	1
3	2000 Series PitStop Mount	1
4	Bolt Hex 1/4" x 3"	2
5	Bolt Hex 1/2" x 2" GR8	2
6	Bolt Hex 7/16" x 1-1/2" GR8 Fine	2
7	Bolt Hex 1/4" x 1/2" GR8 Fine	1
8	Nut Nylock 1/4"	2
9	Nut Nylock 7/16"	2
10	Nut Nylock 1/2"	2
11	Teks 1/4" x 1"	4
12	Flat Washer 1/4" USS Plated	5
13	Washer Lock 1/4"	1
14	Chain Coupling 5014	1
15	Sprocket 5014 W 1.00 (Key 0.25)	1
16	Sprocket 5014 W 1.25 (Key 0.25)	1
17	Woodruff (#808) 1/4" x 1"	1
18	Key 1/4" x 1-1/2"	1

Table 16 Hydraulic Top Drive Components (continued)

ITEM	DESCRIPTION	QTY
19	Swivel 90 - 1/2" MPT x 1/2" FPT	2
20	Swivel 90-#10 ORB x 1/2" FPT	2
21	Swivel - 1/2" Straight (S1120-DD)	1
22	#10 ORBx 1/2" FPT	2
23	Hex Nipple - 1/2" FEM	2
24	Tee-Swivel - 1/2" FEM	1
25	Hose 1/2 (6'7") 1/2" MPT - 1/2" MPT PC	1
26	Hose 1/2 (6'7") 1/2" MPT - 1/2" MPT PC	1
27	Hose 1/2 (1'10") 1/2" MPT - 1/2" MPT PC	1
28	Hyd. Motor (2000) 6.2 CPR	1
29	Valve Single Spool	1
30	Valve Speed Control 1/2 w/Relief	1
31	Check valve-1/2" (no rev flow)	1
32	1-1/4 Hyd MTR Guard 4.5 x 6.25	2

Figure 21. Assembling the Hydraulic Top Drive



3.16. Install the Manual Container

This procedure describes the installation of the Manual Container.

For component identification and placement refer to:

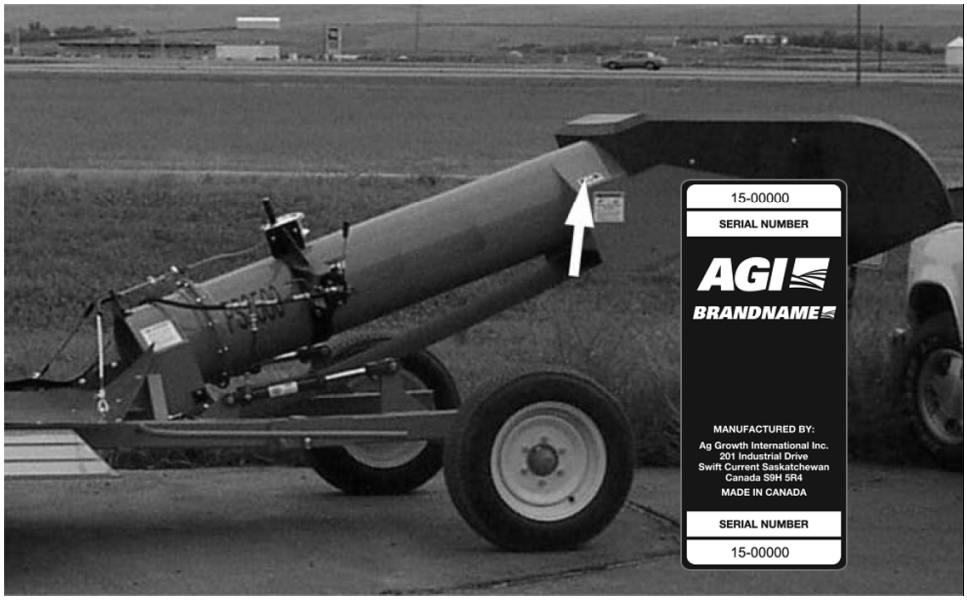
- Figure 22 on page 45

1. Position the manual container on the frame near the hitch.
2. Secure with two gear clamps.

Figure 22. Manual Container

3.17. Serial Number Decal Placement

Place the serial number decal on the conveyor as shown below.



4. Specifications

Specifications

Table 17. PitStop with Hopper Conveyor[1]

Description	Data
Length	33'6"
Width	7'3"
Height	6'
Clearance	7–1/2"
Weight	4600 lb
POWER SOURCE	
Hydraulic	19–22 gpm (US) @ 2000 psi (13,800 kPa)
Electric	10 hp preferred, 7.5 hp minimum

[1]Specifications subject to change without notice.

Hydraulic Oil Specification

If your conveyor model is equipped with a hydraulic tank, use one of the following fluids:

- ISO 32 hydraulic oil
- ATF — Automatic Transmission Fluid (Dexron 2™)

NOTICE Do not use “trans-hydraulic fluid”, because this may result in premature pump wear.

5. Appendix

5.1. Bolt Torque

Table 18 gives the correct torque values for various hardware. Tighten all bolts to the torque specified, unless otherwise noted. Check tightness periodically, using Table 18 as a guide. Replace the hardware with the same strength bolt, contact Batco if you are unsure.

Table 18. Recommended Bolt Torque[a]

Size	Dry or Lubricated	Threads per inch (Course/ Fine)	Area of Bolt (sq in.)		Recommended Torque (ft-lb)							
					Grade 2		Grade 5		Grade 8		8.8 S/S	
			Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine	Coarse	Fine
1/4"	Dry	20/28	0.0318	0.0364	5.5	6.3	8	10	12	14	6.3	7.8
	Lubricated				6.3	4.7	6.3	7.2	9	10	-	-
5/16"	Dry	18/24	0.0524	0.058	11	12	17	19	24	27	11	11.8
	Lubricated				8	9	13	14	18	20	-	-
3/8"	Dry	16/24	0.0775	0.0878	20	23	30	35	45	50	20	22
	Lubricated				15	17	23	25	35	35	-	-
7/16"	Dry	14/20	0.1063	0.1187	32	36	50	55	70	80	31	33
	Lubricated				24	27	35	40	50	80	-	-
1/2"	Dry	13/20	0.1419	0.1599	50	55	75	85	110	120	43	45
	Lubricated				35	40	55	65	80	90	-	-
9/16"	Dry	12/18	0.182	0.203	70	80	110	120	150	170	57	63
	Lubricated				55	60	80	90	110	130	-	-
5/8"	Dry	11/18	0.226	0.256	100	110	150	170	210	240	93	104
	Lubricated				75	85	110	130	160	180	-	-
3/4"	Dry	10/16	0.334	0.373	175	200	260	300	380	420	128	124
	Lubricated				130	140	200	220	280	310	-	-
7/8"	Dry	9/14	0.462	0.508	170	180	430	470	600	670	194	193
	Lubricated				125	140	320	350	180	180	-	-
1"	Dry	8/14	0.606	0.679	250	280	640	720	910	1020	287	289
	Lubricated				190	210	480	540	680	760	-	-
1-1/8"	Dry	7/12	0.763	0.856	350	400	790	890	1290	1440	288	290
	Lubricated				270	300	590	670	970	1080	-	-
1-1/4"	Dry	7/12	0.989	1.073	500	550	1120	1240	1820	2010	289	291
	Lubricated				380	420	840	930	1360	1510	-	-
1-1/2"	Dry	6/12	1.405	1.581	870	960	1950	2200	3160	3560	-	-
	Lubricated				650	730	1460	1640	2370	2670	-	-

[a]Torque value for bolts and cap screws are identified by their head markings. Established at 75% of yield strength of bolt given the cross-sectional area.

Note

Torque figures in table are valid for non-greased or non-oiled threads and head unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

5.2. Fittings Torque Values

These specifications are for carbon steel. With Zinc plating always lubricate threads and seals. For stainless steel, use the high value of the torque range of steel. For brass, use 70% of the torque value of steel. For mixed metals, use the torque of the lower of the two metals. Torque range is normally calculated +/- 10%.

Table 19. Pipe Rigid - Tapered Pipe Threads (NPTF, N/NF) - Carbon Steel

Pipe Size	Turns-from-finger	Max ft-lbs	Max N-m
1/8" (-2)	3/4 - 1 3/4	12	16
1/4" (-4)	3/4 - 1 3/4	25	34
3/8" (-6)	3/4 - 1 3/4	40	54
1/2" (-8)	1/2 - 1 1/2	54	73
3/4" (-12)	1/2 - 1 1/2	78	106
1" (-16)	1/2 - 1 1/2	112	152
1 1/4" (-20)	1/2 - 1 1/2	154	209
1 1/2" (-24)	1/2 - 1 1/2	211	286
2" (-32)	1/2 - 1 1/2	300	407

Table 20. Pipe Swivel - Straight Pipe Threads (NPSM, N/NFS) - Carbon Steel

Pipe Size	Max ft-lbs	Max N-m
1/8" (-2)	12	16
1/4" (-4)	25	3
3/8" (-6)	40	54
1/2" (-8)	54	73
3/4" (-12)	78	106
1" (-16)	112	152
1 1/4" (-20)	154	209
1 1/2" (-24)	211	286
2" (-32)	300	407
Note: seals on an internal male 30° seat		

Table 21. Stud End O-Ring Boss (ORB) SAE (U/UF)

		Carbon Steel	
Tube Size	**Thread UNF-2A**	**Max ft-lbs**	**Max N-m**
-2	5/16" - 24	6-7	8-9
-3	3/8" - 24	8-9	11-12
-4	7/16" - 20	13-15	18-20

Table 21 Stud End O-Ring Boss (ORB) SAE (U/UF) (continued)

		Carbon Steel	
Tube Size	**Thread UNF-2A**	**Max ft-lbs**	**Max N-m**
-5	1/2" - 20	17-19	23-26
-6	9/16" - 18	22-24	29-33
-8	3/4" - 16	40-43	49-53
-10	7/8" - 14	43-48	59-64
-12	1 1'16" - 12	68-75	93-102
-14	1 3/16" - 12	90-99	122-134
-16	1 5/16" - 12	112-123	151-166
-20	1 5/8" - 12	146-161	198-218
-24	1 7/8" - 12	154-170	209-231

Table 22. JIC 37° Flare Tube Fitting (J/JFS)

Tube Size	Thread UNF-2A	Torque ft-lbs	Torque N-m
-2	5/16 - 24	6-7	8-9
-3	3/8 - 24	8-9	11-12
-4	7/16 - 20	11-12	15-16
-5	1/2 - 20	14-15	19-21
-6	9/16 - 18	18-20	24-28
-8	3/4 - 16	36-39	49-53
-10	7/8 - 14	57-63	77-85
-12	1 1/16 - 12	79-88	107-119
-14	1 3/16 - 12	94-103	127-140
-16	1 5/16 - 12	108-113	147-154
-20	1 5/8 - 12	127-133	172-181
-24	1 7/8 - 12	158-167	215-226
-32	2 1/2 - 12	245-258	332-350

Shipping: 201 Industrial Drive, Swift Current, Saskatchewan S9H 5R4, CANADA
Mailing: Box 1750, Swift Current, Saskatchewan S9H 4J8, CANADA
Toll-Free: (877) 667-7421 (Canada & USA)
Phone: (306) 773-7779
Fax: (306) 778-2524

Web: www.batcomfg.com
Email: info@batcomfg.com

Printed in Canada