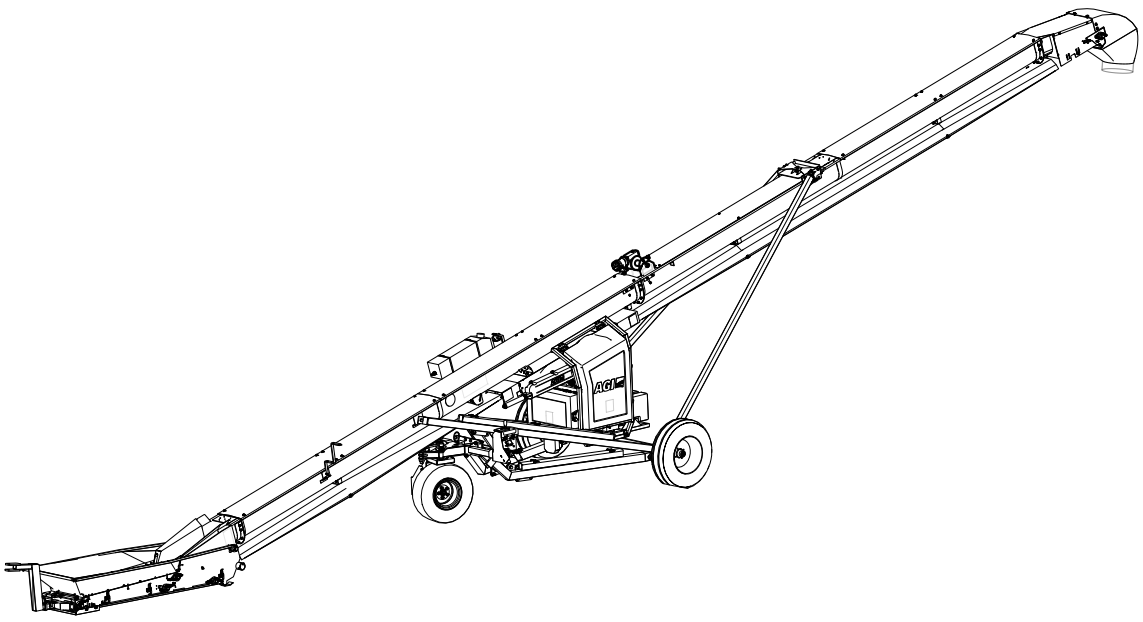
UCX3 S-Drive Field Loader

Portable Grain Belt Conveyor
Assembly Manual

This manual applies to:

1549

Gas Drive with Mover Kit



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: 8210-10003 R0

Revised: October 2022

Original Instructions

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 Safety Information

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 in the work area. Untrained users/operators expose themselves and bystanders to possible serious injury or death.

- Use for intended purposes only.
- Modification of the conveyor in any way without written permission from the manufacturer is not covered by the warranty.
- Follow a health and safety program for your worksite. Contact your local occupational health and safety organization for information.
- Follow applicable local codes and regulations.

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

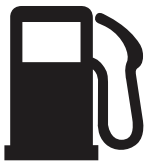
- Keep body, hair, and clothing away from rotating shafts, pulleys, belts, chains, and sprockets.
- Do not operate with any guard removed or modified. Keep guards in good working order.
- Shut off and lock out power source before inspecting or servicing machine.

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 follow lockout and tagout procedures 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 only 1 key exists for each assigned lock, and that you are the only one that holds that key. Ensure that all personnel are clear before turning on power to equipment.

1.5.1 Gas Engine Safety

⚠ WARNING **Power Source**



- Keep guards in place and secure.
- Properly ventilate surrounding area.
- Never fill the fuel tank with the engine running, while smoking, or near an open flame. Always shut down and allow engine to cool before filling with fuel.
- Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately.
- Be sure to use the correct type and grade of fuel. Ground the fuel funnel or nozzle against the filler neck to prevent sparks that could ignite fuel vapors.
- Be sure to replace the fuel fill cap when you are done.

Lockout

- For engines with an electric start, remove the ignition key, the spark plug wire, or the spark plug.
- For engines with a rope or crank start, remove the spark plug wire or the spark plug.

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. Battery Safety

⚠ WARNING

- Wear safety glasses and protective gloves when working near batteries.
- Make certain the battery or terminal covers are in place and in good working order.
- Keep all sparks and flames away from batteries; gas given off by electrolyte is explosive.
- Avoid contact with battery electrolyte. Wash off any spilled electrolyte immediately.
- Do not tip batteries more than 45° to avoid electrolyte loss.
- To avoid injury from sparks or short circuits, disconnect battery ground cable before servicing any part of an electrical system.

1.8. Hand Winch Safety

⚠ WARNING **When Equipped:**

- Inspect lift cable before using. Replace if frayed or damaged. Make sure lift cable is seated and tracking properly and cable clamps are secure.
- Tighten brake lock by turning winch handle clockwise at least two clicks after lowering the conveyor.
- Lower the conveyor fully before towing, then rotate winch handle until cable has light tension.
- Do not lubricate winch brake discs.

1.9. Hydraulic Winch Safety

⚠ WARNING **When Equipped:**

- Keep away from rotating cable drum and winch cable. Do not touch or grab cable while winch is being operated or use hands to guide the cable.
- Inspect cable and cable clamps before using hydraulic winch. Replace cable if frayed or damaged. Tighten cable clamps if necessary.
- Check the cable anchor on the winch drum is tight.
- Confirm hydraulic hoses are in good condition.
- Do not continue to supply power to hydraulic winch after the conveyor has reached full up position.
- Do not disconnect hydraulic quick couplers when lines are pressurized.
- Make sure lift cable is seated properly.
- Always keep a minimum of 3 cable wraps on the cable drum.

1.10. 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.

1.11. Safety Equipment

The following safety equipment should be kept on site.

First-Aid Kit

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

1.12. 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.

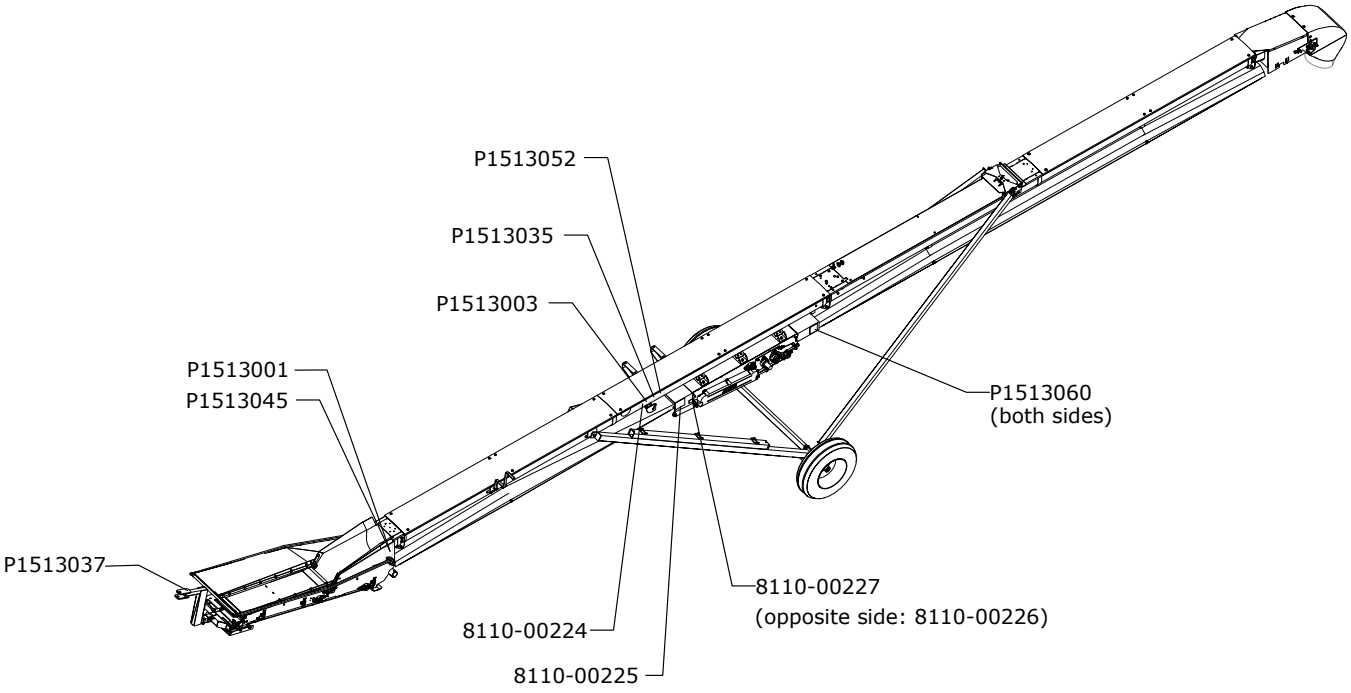
1.12.1 Decal Installation/Replacement

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 decal backing paper.

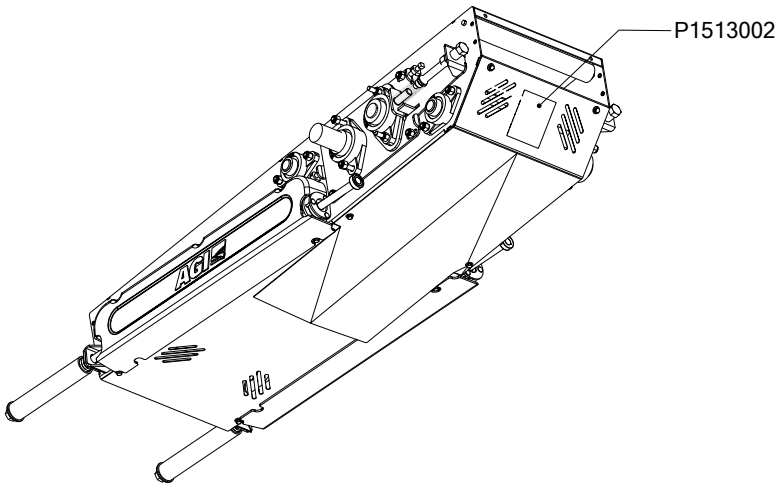
1.12.2 Safety Decal Locations and Details

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.

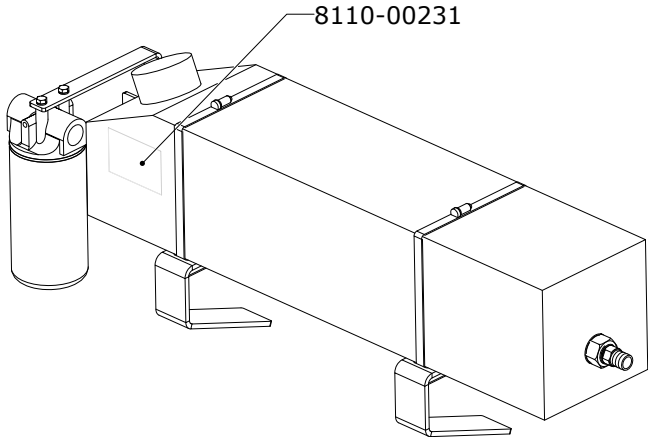
Safety Decal Locations



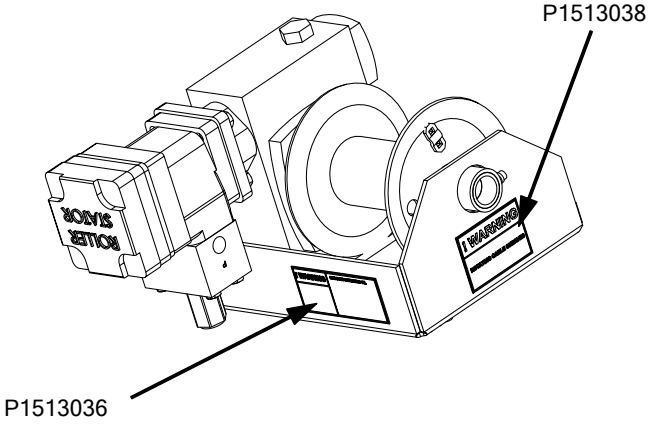
S-Drive Bottom Guard Decal Location



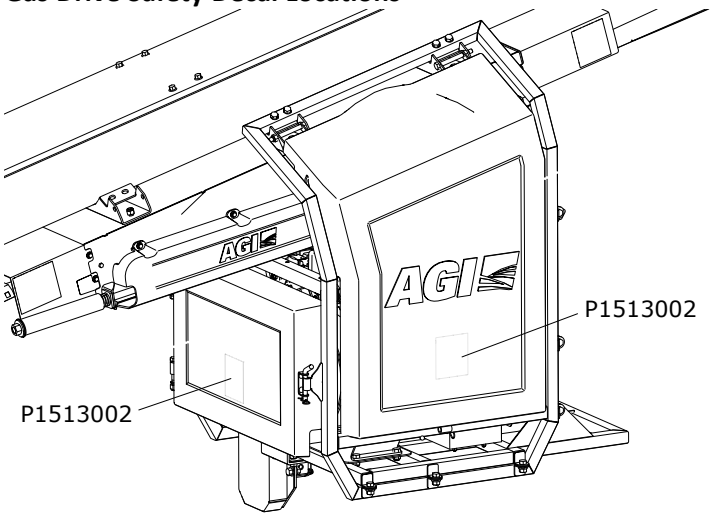
Hydraulic Tank Decal Location

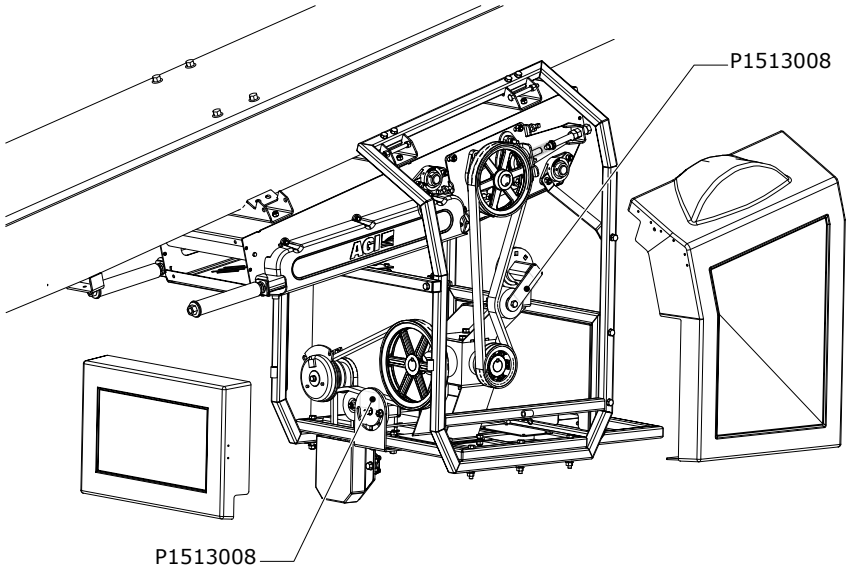


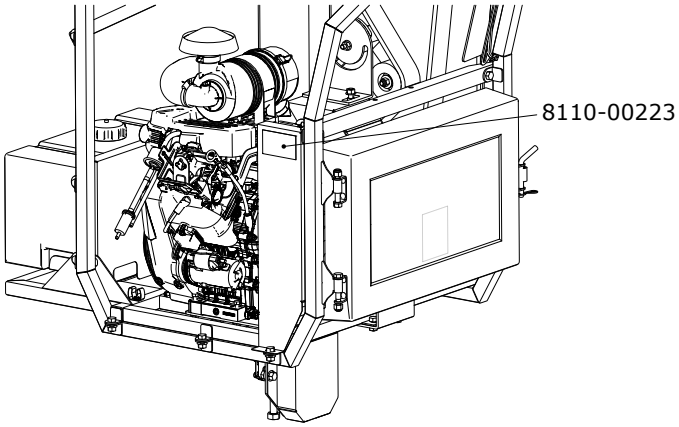
Hydraulic Winch Decal Locations (If Equipped)



Gas Drive Safety Decal Locations







Safety Decal Details

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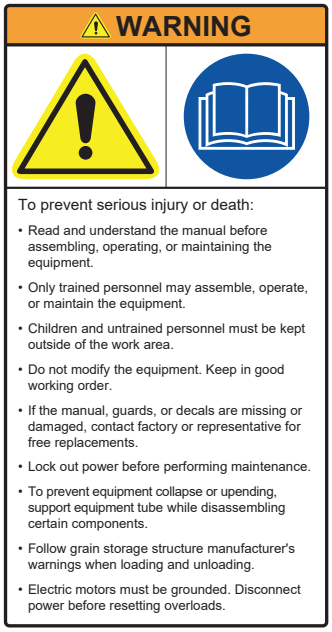

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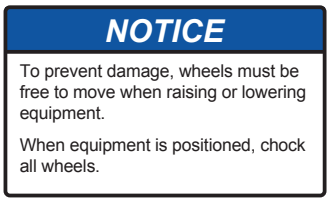

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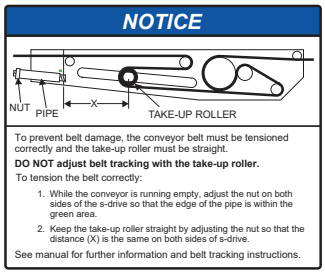

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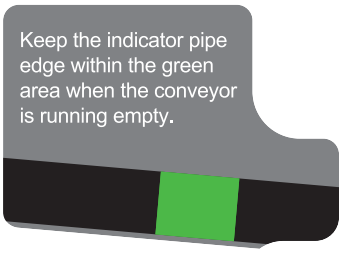

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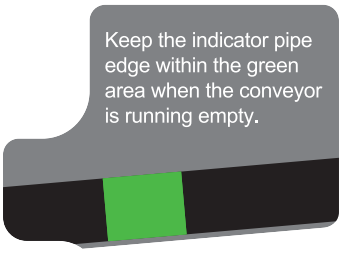

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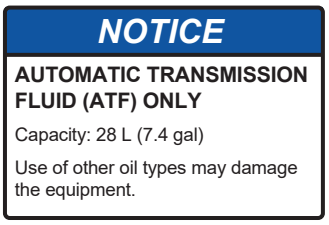

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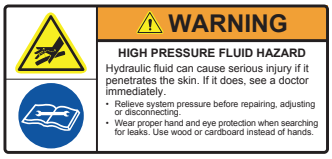

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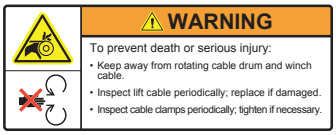

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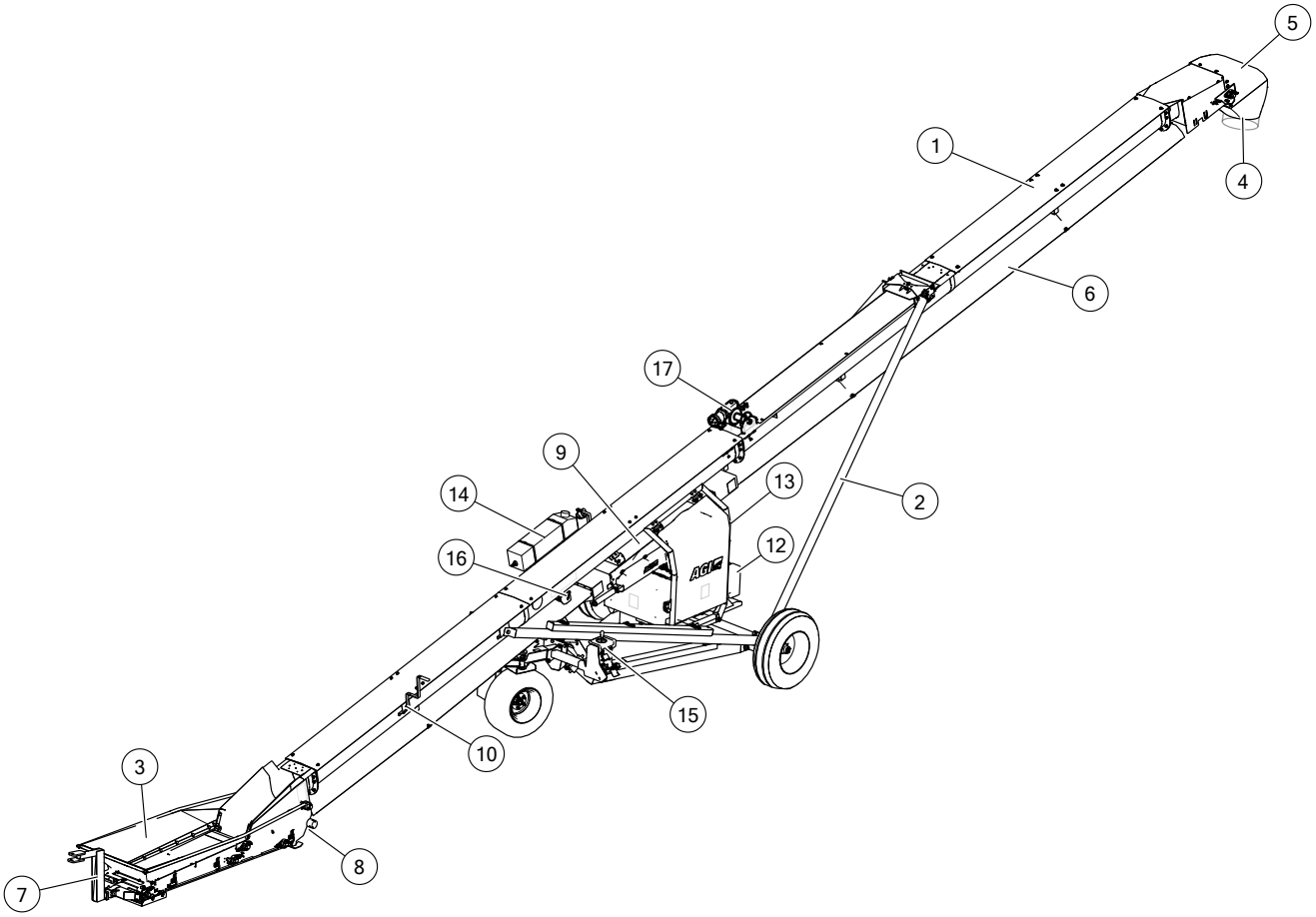
2. Features

Read this section to familiarize yourself with the basic component names and functions of the conveyor.



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	U-Trough	11	Hitch Tongue Holder (not shown)
2	A-Frame	12	Gas Tank
3	Hopper	13	Gas Drive
4	Hood	14	Hydraulic Oil Tank
5	Spout Assembly	15	Mover Kit
6	Belt Return and Weather Guard	16	Angle Indicator
7	Hitch	17	Hydraulic Winch
8	Jack Mount Collar	18	Hopper and Spout Scrapers (not shown)
9	S-Drive	19	Jack (not shown)
10	Collapsible Hopper Control		

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. 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. Take pictures of shipments prior to or just after unloading if there are any damaged parts.

Report missing or damaged parts immediately to ensure that proper credit is received from AGI or your representative, 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.

3.3. Required Tools

- 2-3 pipe stand(s)
- 2 sawhorse(s) (1200 lb [544.3 kg])
- 1 standard socket set(s)
- 2 wrench set(s)
- 1 torque wrench(es)
- 1 set(s) of Allen wrenches
- 1 hammer and punch
- 1 drill with bits 3/16", 5/16"
- 2 tape measure(s) (25' [7.6 m])
- 1 wire crimper
- 1 tape measure(s) (100' [30.5 m])
- 1 ratchet strap
- 2 C-clamp(s) or vise grip(s)
- 1 fish tape (100' [30.5 m])
- 1 tire pressure gauge
- 1 tire chuck
- 1 propane torch
- 1 picker with minimum reach of 12' (3.7 m) and 4000 lb to 6000 lb (1814 kg to 2722 kg) lifting capacity

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. Tighten the Hydraulic Fittings and Bolt

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

- Tighten all fasteners to the torque specified in Section 4.1 – Bolt Torque on page 118. 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 4.2 – Fittings Torque Values on page 119.

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 Remainder of the S-Drive

Note

The s-drive normally comes mostly pre-assembled when delivered from the factory. The steps below are the remaining assembly which must be performed.

For each side of the s-drive:

1. Remove the lock collar (2) and hex nuts (6) from the pretensioner assembly.

   Note

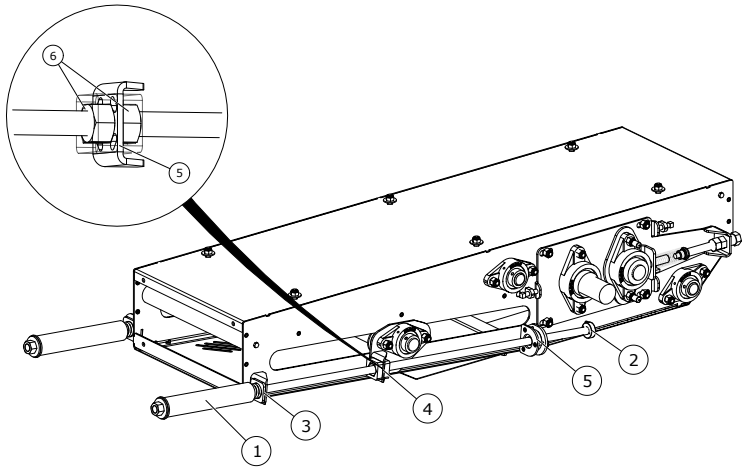
   The pretensioner assembly (1) is comprised of the threaded rod weldment, pretensioner pipe, spring, lock collar, and two hex nuts. This is factory pre-assembled.

2. Position a hex nut (6) on each side of the slider weldment.
3. Thread the pretensioner assembly (1) through the spring capture plate (3), hex nuts in the slider weldment (4), and roller in the bolt on pretensioner tab (5).
4. Re-fasten the lock collar (2).

   Note

   The s-drive bottom guard and take-up bolt guard will be assembled onto the conveyor later, after belt tensioning and alignment. See Section 3.25 – Attach the S-Drive Bottom and Take-up Side Guards on page 87.

Installing the Take-up Roller Bolt Assembly

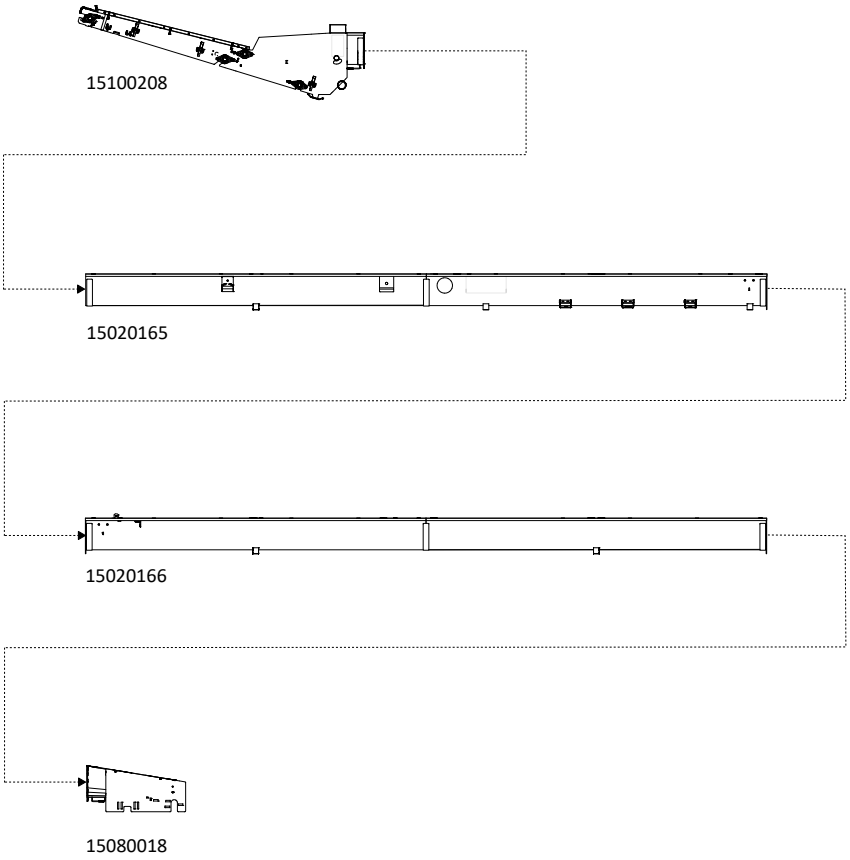


1	Pretensioner Assembly	4	Slider Weldment
2	Lock Collar	5	Pretensioner Tab
3	Spring Capture Plate	6	3/4" Hex Nut UNC GR8 ZN

3.7. Assemble the U-Trough Sections

1. Review the U-trough layout figure below for your specific conveyor model to determine the order in which the U-trough must be connected together. Part numbers are shown for U-trough identification.

U-Trough Layout for CX³ Models



2. Place the U-trough on two support stands to support each U-trough section. The support stands must be set at equal height. Anchor the U-trough sections to the stands if necessary to prevent rolling.

   ⚠ CAUTION Failure to secure the U-trough sections may result in personal injury.

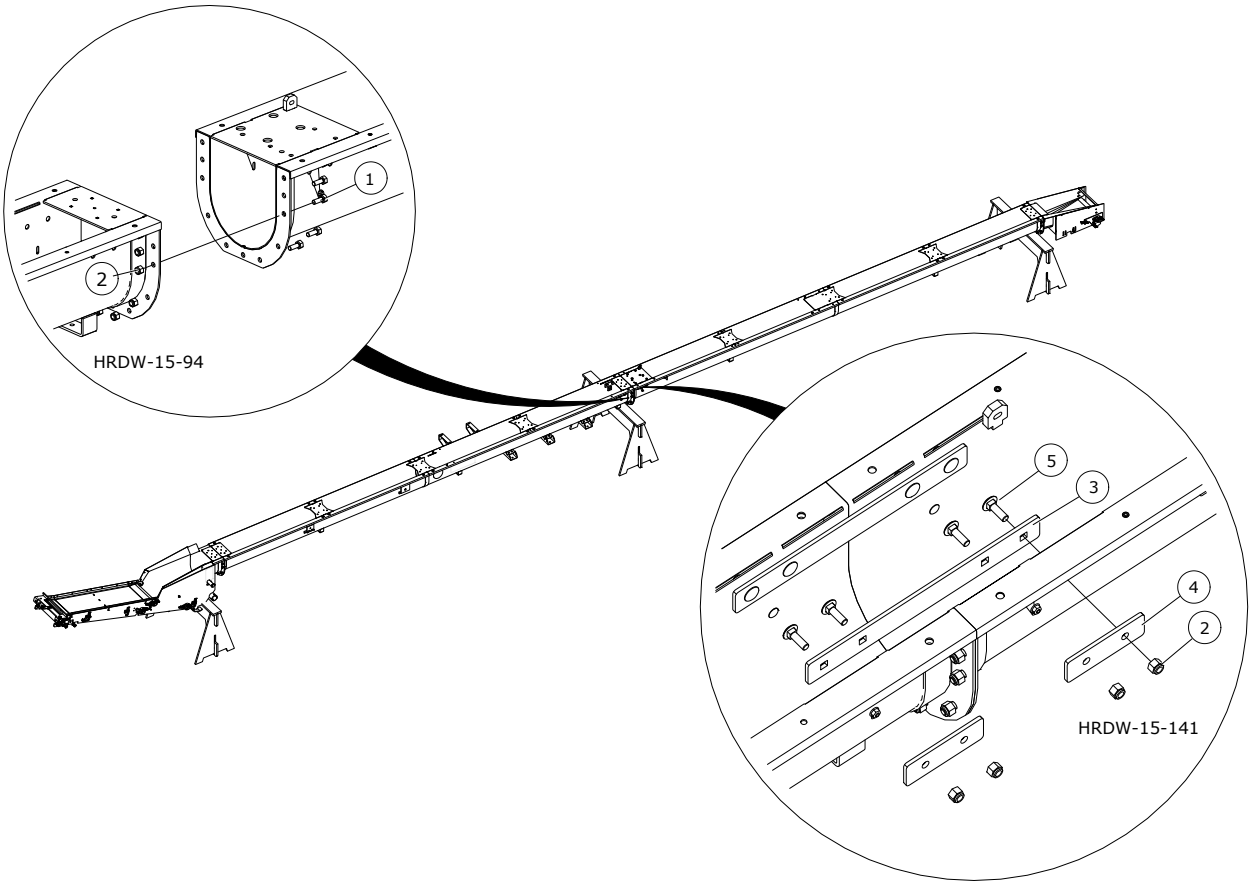
3. Confirm that all U-trough sections are set level and oriented correctly.
4. Fasten U-trough flanges together with 1/2" x 1-1/4" bolts (1) and 1/2" lock nuts (2) as each U-trough section is placed, starting at the hopper end and working toward the spout end. Try to make the U-trough connection seamless by matching the curves of the edges. Use a punch to assist alignment.

   Important

   If the connection is off by more than 1/16", ground off the seam to make U-trough inside surfaces level.

5. Install brace plates (3, 4) on each side of the U-trough seam. Use 1/2" x 1-1/2" bolts (5) and 1/2" lock nuts (2).

Typical U-Trough Connection



1	1/2" x 1-1/4" Hex Bolt UNC GR8 ZN	4	Sandwich Plate
2	1/2" Lock Nut UNC GR8 ZN	5	1/2" x 1-1/2" Carriage Bolt UNC GR5 ZN
3	Brace Plate		

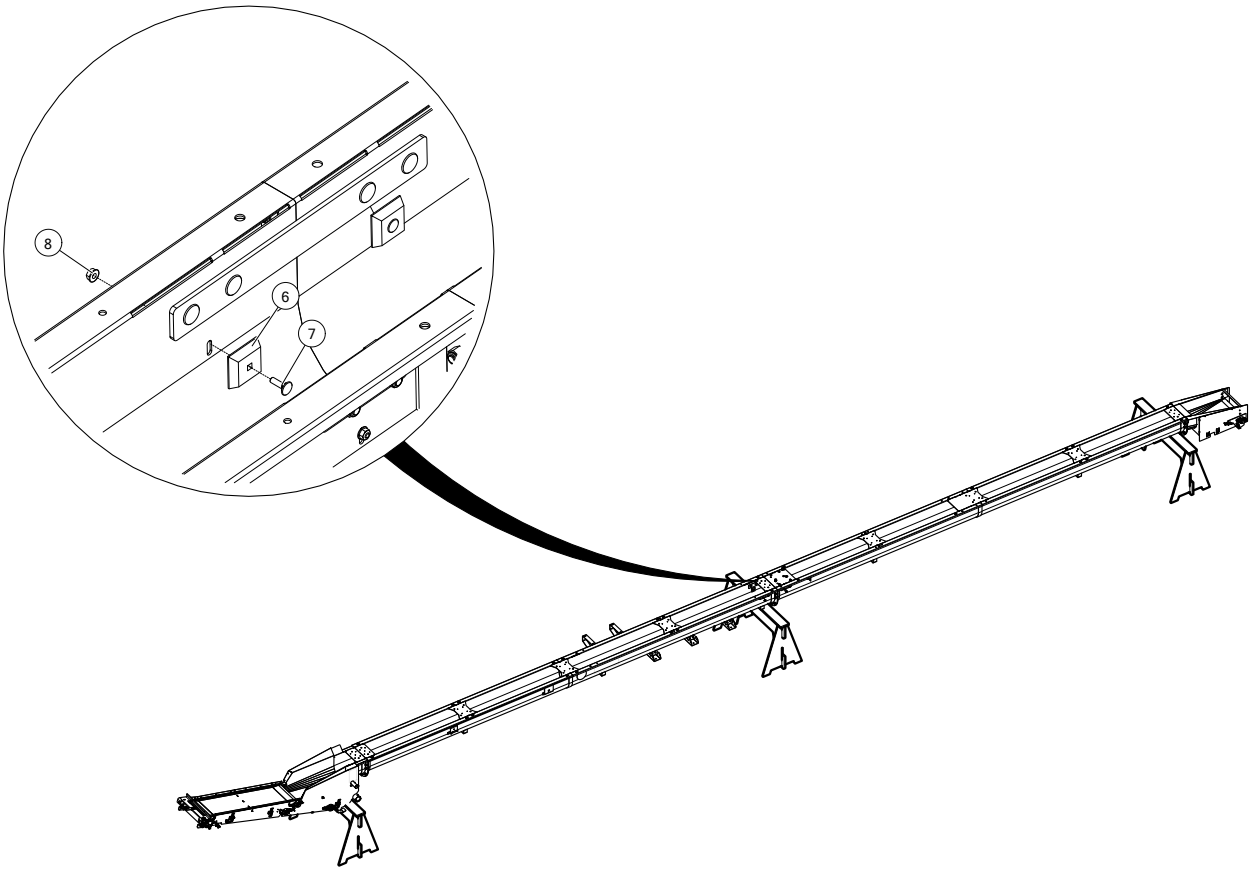
Hardware Kit: HRDWR-15-94 and 15-141

6. Loosely install two internal trough guide blocks (6) on each side of the U-trough. Use 5/16" x 1" carriage bolts (7) and 5/16" hex nuts (8).

Note

Adjust to final location once the belt is installed. See Section 3.21.1 – Adjust the Interior Trough Guide Blocks on page 72.

Installing the Internal Trough Guide Blocks



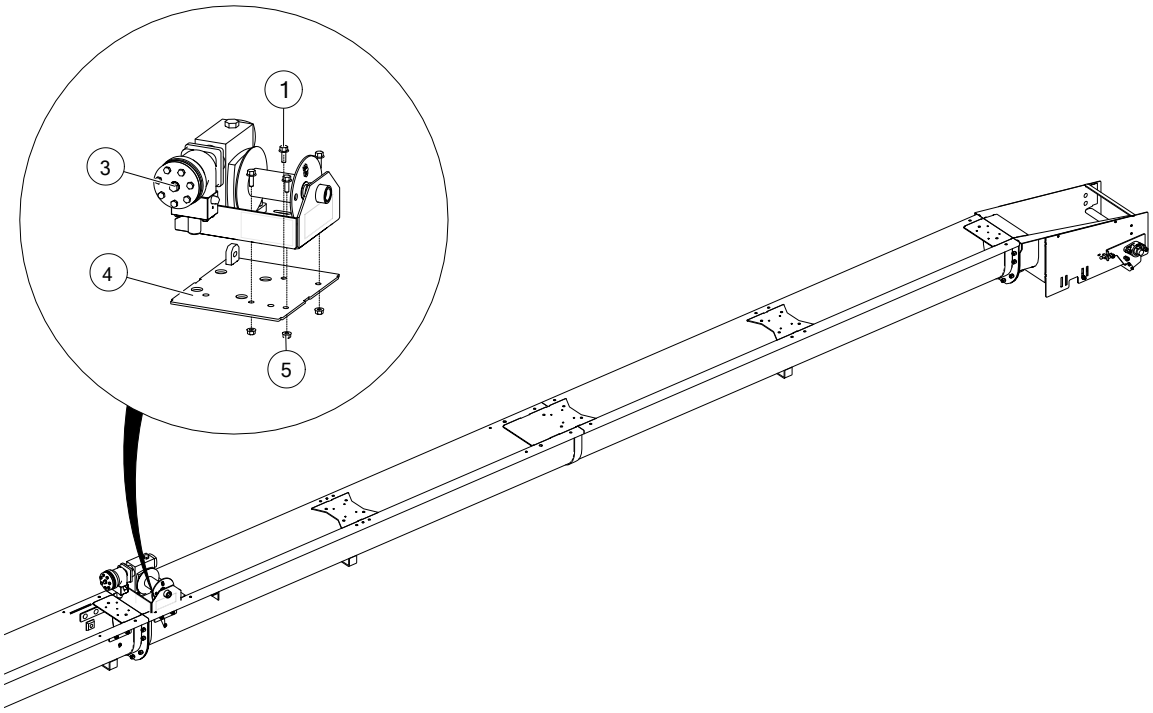
6	Belt Guide Block	8	5/16" Hex Flanged Nut UNC SERR GR5 ZN
7	5/16" x 1" Carriage Bolt UNC GR5 ZN		

Part Kit: 15-62

3.8. Install the Hydraulic Winch

Depending on your conveyor model, it may be equipped with either a hand winch or a hydraulic winch.

1. Attach the winch (3) to the winch mount bracket (4) with 3/8" x 1" bolts (1) and 3/8" nuts (2).



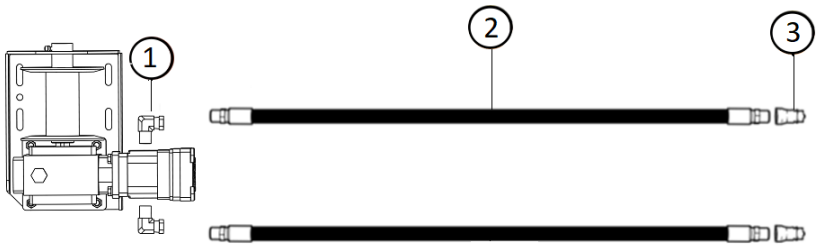
1	3/8" x 1" Hex Flange Bolt (GR5)	3	Winch
2	3/8" Hex Flange Nut	4	Winch Mount Bracket

Hardware Kit: HRDW-13-01

Attach the Hydraulic Hose

1. Wrap threaded seal tape around the exposed thread of the hydraulic fittings.
2. Attach the hydraulic fittings (1, 2, 3) and hoses (4).

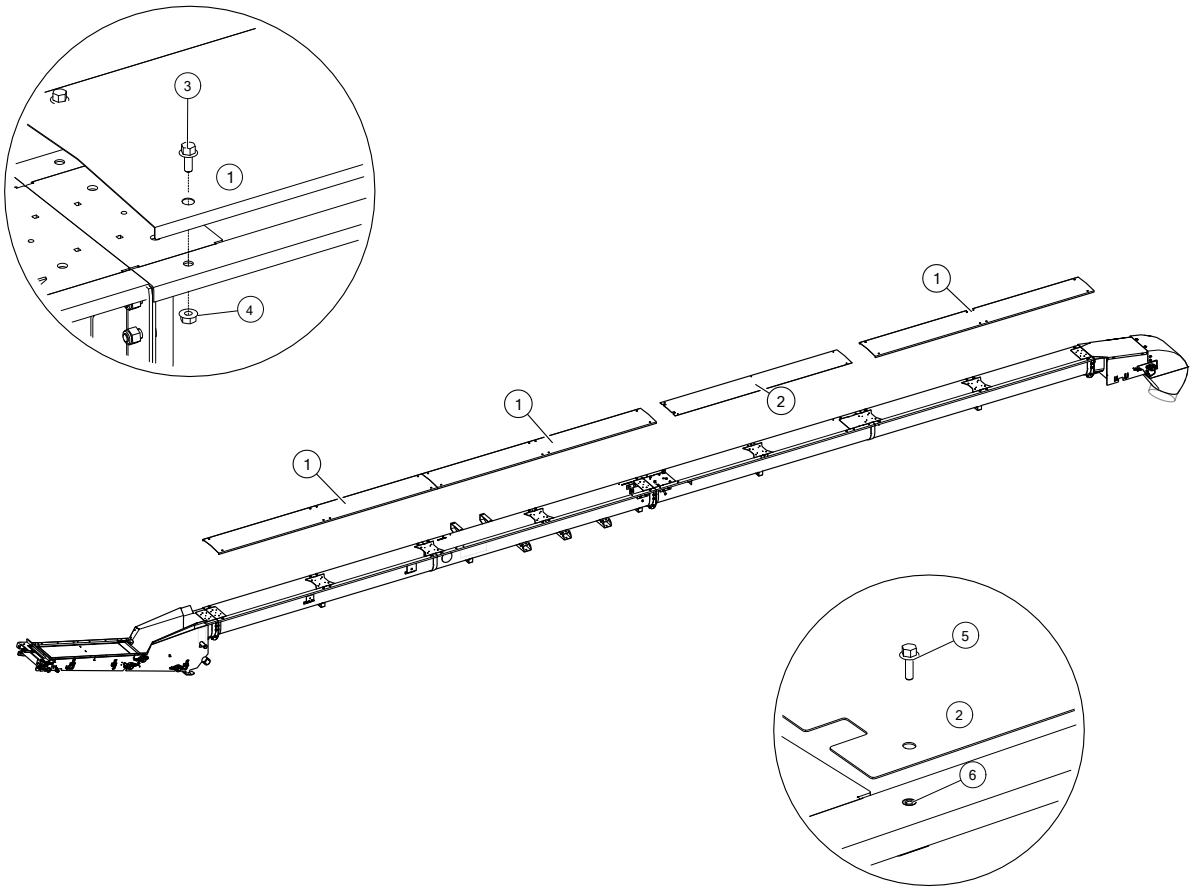
Note
Protect hose ends from dirt.



1	3/8" PT/90D Swivel	3	1/2" FPT Quick Coupling Nipple
2	3/8" x 32-1/2' Hose		

3.9. Install the U-Trough Covers

Install the two U-trough covers near the spout at this time. Install the remaining two covers later after aligning and tracking the belt.



1	10' U-Trough Cover	4	7/16" Hex Flange Nut UNC Serr (GR5) ZN
2	Track Section Cover	5	1/4" x 3/4" Hex Flanged Bolt Serr (GR5)
3	7/16" x 1" Hex Flanged Bolt Serr (GR5) ZN	6	1/4"-20 Thread Insert Swage Style

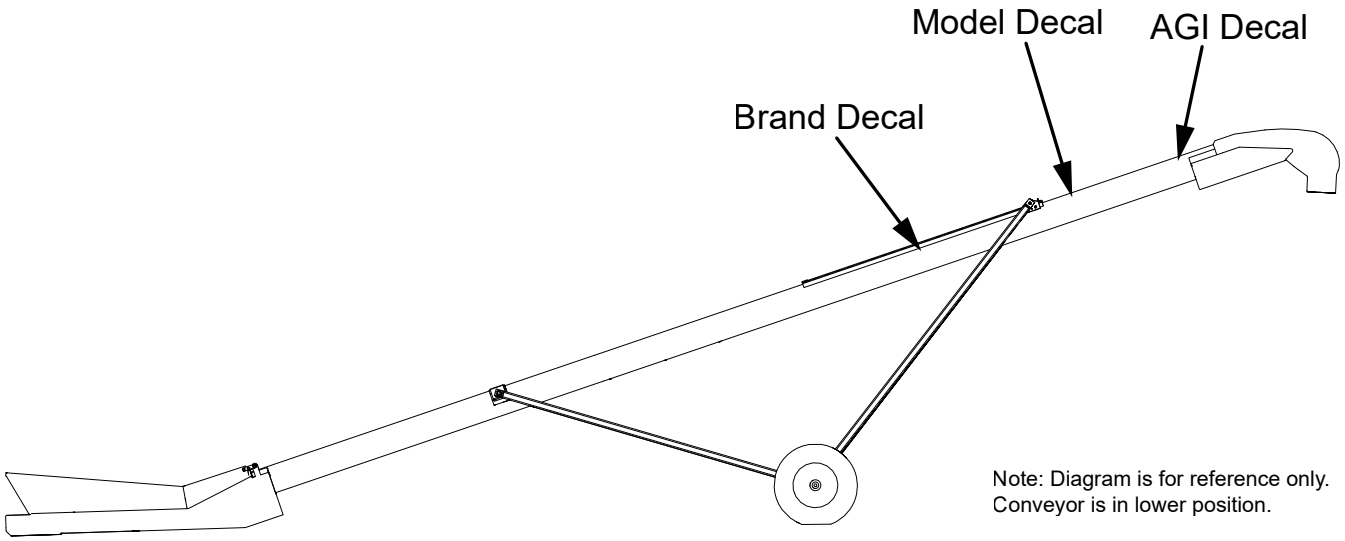
3.10. Place the Brand and Model Decal

Important

Do not cover any existing safety or instruction decals with the brand and model decals. Also make sure the decals do not interfere with any welded-on brackets or U-trough flanges.

- The decals should be placed as follows:
  - AGI Decal (both sides of the U-trough): place at the top of the U-trough, next to the spout.
  - Brand Decal (both sides of the U-trough): place mid to low U-trough, where it is visible and not covered by frame arms/trussing/brackets.
  - Model Decal (both sides of the U-trough): place mid U-trough, between the “AGI” and the brand. Ensure it is not covered by frame arms/trussing/brackets.

Brand and Model Decal Placement



Examples of the appearance of brand and model decals:

AGI Decal

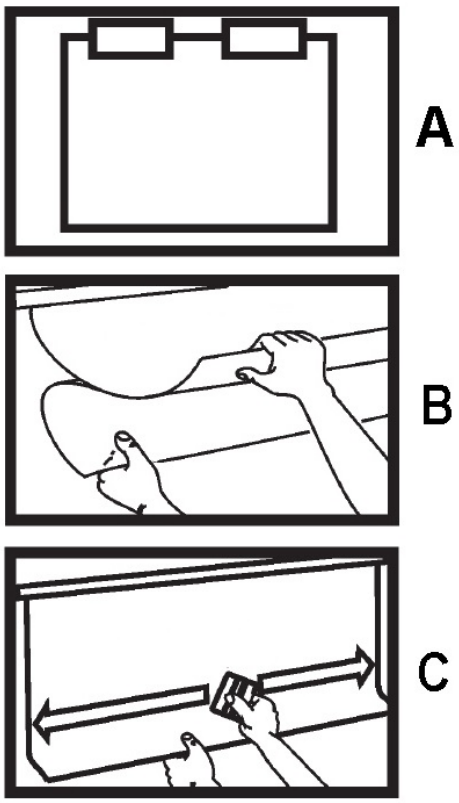
Brand Decal (example)

Model Decal (example)

- Apply decals to both sides of the U-trough.
- For each decal:
  1. Prepare surface by cleaning thoroughly with soap and water. Surface must be clean and free of dirt, grime, rust and oil. To clean oily surface, wipe with clean cloth and solvent cleaner or isopropyl alcohol.
  2. Position the decal by centering it vertically on the U-trough and apply masking tape along the top, creating a gate hinge (see Detail A).

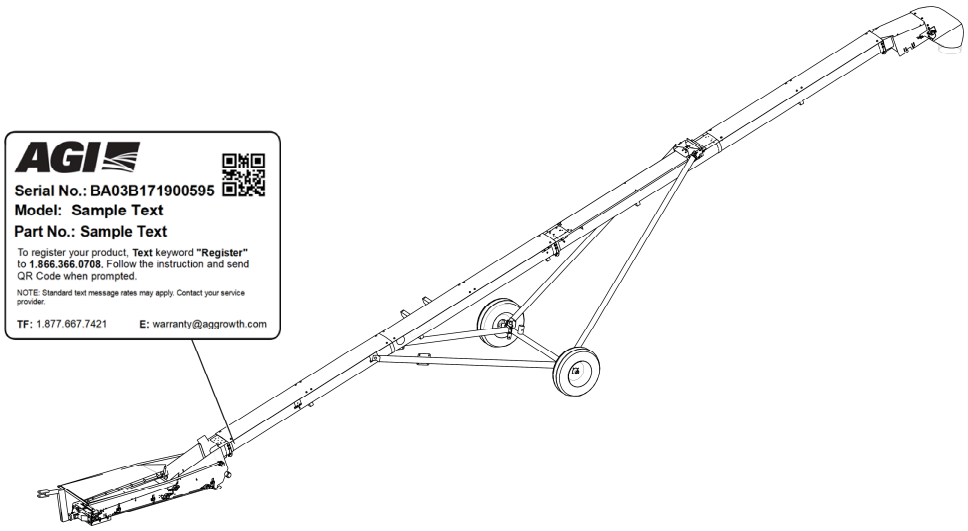
3. Remove backing paper from decal 6” from the top and use the squeegee to adhere decal to the U-trough (see Detail B). Start at the top center of the decal and work your way outward both left and right using overlapping strokes.
4. As you work your way down the decal, peel back the backing paper 6” at a time. Repeat Step 3 until the entire decal has been applied to the U-trough (see Detail C as an example).
5. Once the entire decal has been properly adhered to the U-trough, remove tape hinge from front of decal. Remove the front application tape at a sharp 180° angle.
6. Inspect the entire decal for air pockets; if found, remove them by punching a tiny hole with a pin and then squeegee the surface flat.
7. Squeegee the corners and edges of the decal to ensure proper adhesion and to prevent premature peeling.

Decal Placement Technique



3.11. Place the Serial Number Decal

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

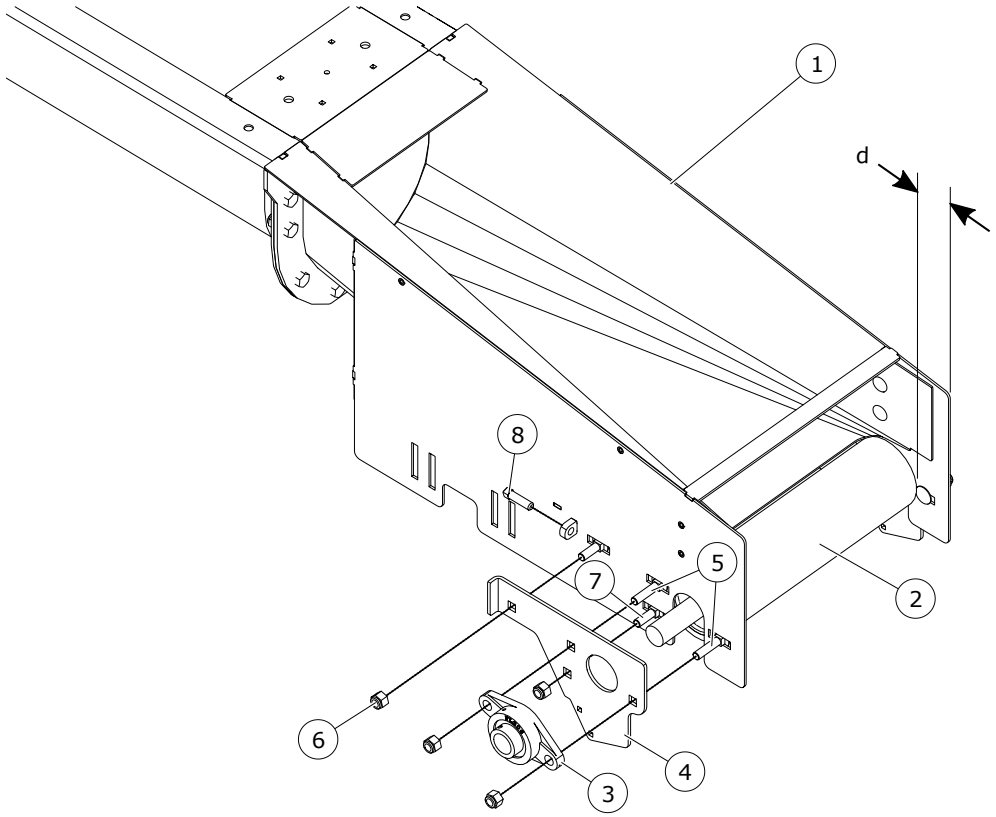


3.12. Install the Spout Roller

1. Insert the roller (2) into the spout (1).
2. Slide a bearing (3) and a tracking plate (4) on each end of the roller . Secure bearing and plate to the spout using 1/2" x 1-1/2" and 1/2" x 2" carriage bolts (5, 7) and 1/2" locknuts (6).
3. Center the roller (2) in the spout.
4. Make sure the roller (2) is positioned straight by measuring the distance (d) from the end of the tracking plate to the end of the spout weldment sidewall on both sides (it should be the same distance).
5. For each bearing, use a hammer and punch to rotate the lock collar so that it seats onto the inner race of the bearing. Tighten the lock collar securely to the shaft with its hex set screw.
6. Insert the 7/16" x 1-1/2" square-head set screws (8) in the spout.

   Note

   The square-head set screws are used to set the alignment of the belt, after the belt is installed.



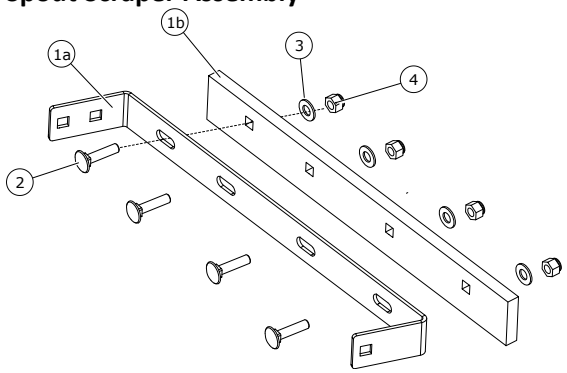
1	Spout	5	1/2" x 2" Carriage Bolt (GR5)
2	Spout Roller	6	1/2" Nylon Locknut (GR8)
3	1-1/4" Bearing Flange Unit (SAFL206–20)	7	1/2" x 1-1/2" Carriage Bolt (GR5)
4	Tracking Plate (RHS and LHS)	8	7/16" x 1-1/2" Square-Head Set Screw

Hardware Kit: HRDW-15-96

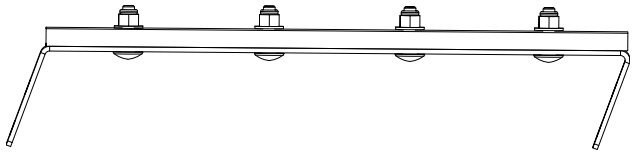
3.13. Attach the Spout Scraper

1. Attach the urethane scraper (1b) to the scraper mount (1a) with 3/8" x 1-1/4" bolts (2), 3/8" flat washers (3), and 3/8" locknuts (4).

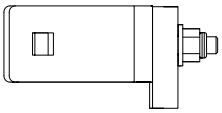
Spout Scraper Assembly



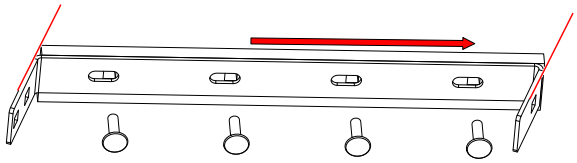
Top View



Side View



Scraper Alignment



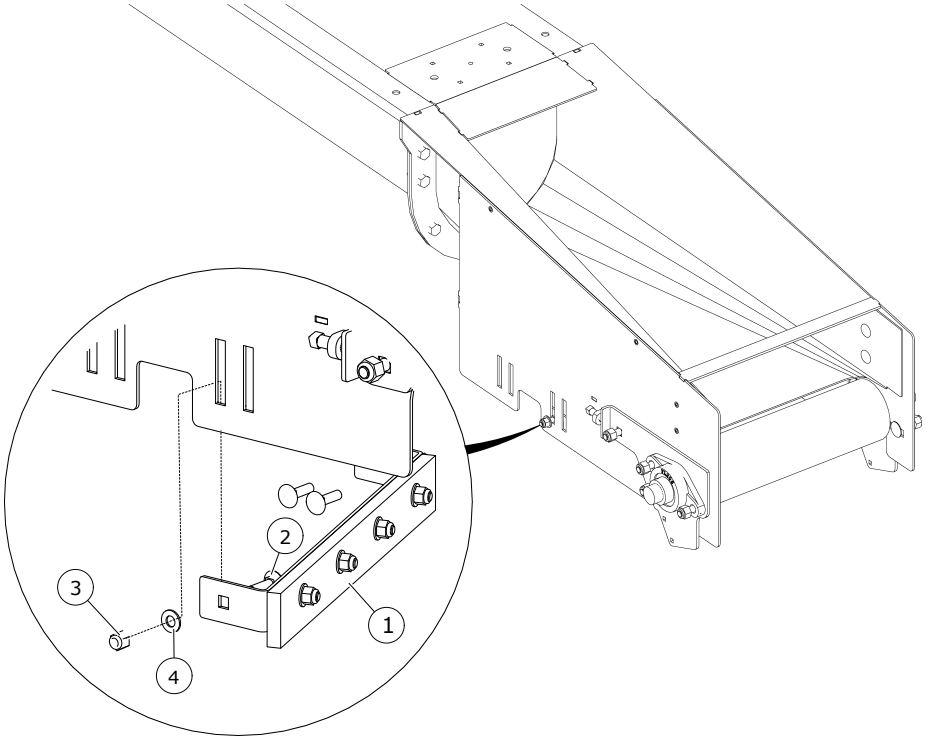
1a	Scraper Mount	3	3/8" Flat Washer
1b	Urethane Scraper	4	3/8" Nylon Locknut (GR8)
2	3/8" x 1-1/4" Carriage Bolt (GR5)		

2. Insert the spout scraper assembly (1) into the spout weldment. Position at the top section of the slot and secure in place with 3/8" x 1-1/4" bolts (2), 3/8" flat washers (3), and 3/8" locknuts (4).

Note

Final position of the spout scraper assembly will be adjusted after the belt is installed. See Section 3.32 – Adjust the Hopper and Spout Scraper on page 99.

Attaching the Spout Scraper



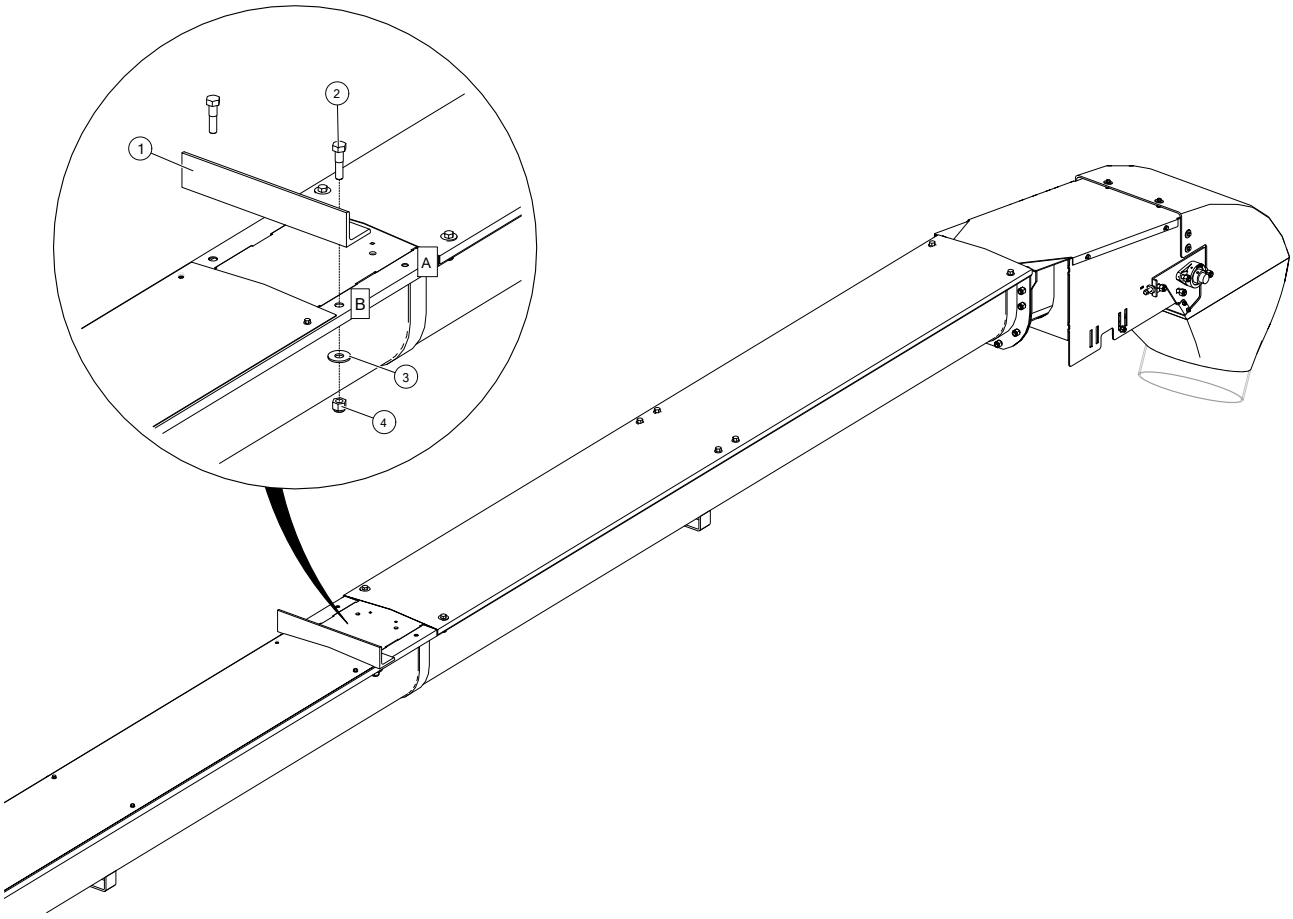
1	Spout Scraper Assembly	3	3/8" Flat Washer
2	3/8" x 1-1/4" Carriage Bolt (GR5)	4	3/8" Nylon Locknut (GR8)

Hardware Kit: HRDW-15-98

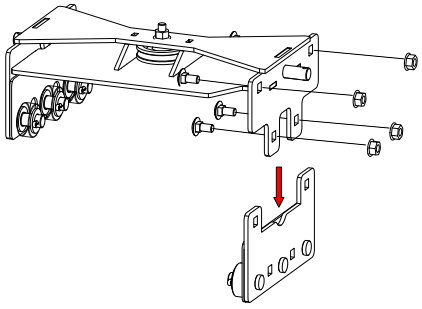
3.14. Install the Track Slider

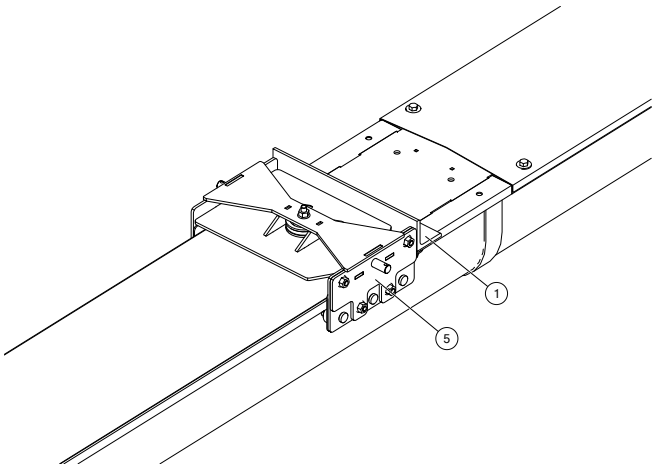
1. Install the track stop (1) on the U-trough with 5/8" x 2-1/2" bolts (2), 5/8" flat washers (3), and locknuts (4).
2. Remove four bolts and slider side plate.
3. Place the track slider main weldment onto the U-trough.
4. Replace the slider side plate to the track slider main weldment. Reattach the bolts.

Installing the Track Stop



Installing the Track Slider



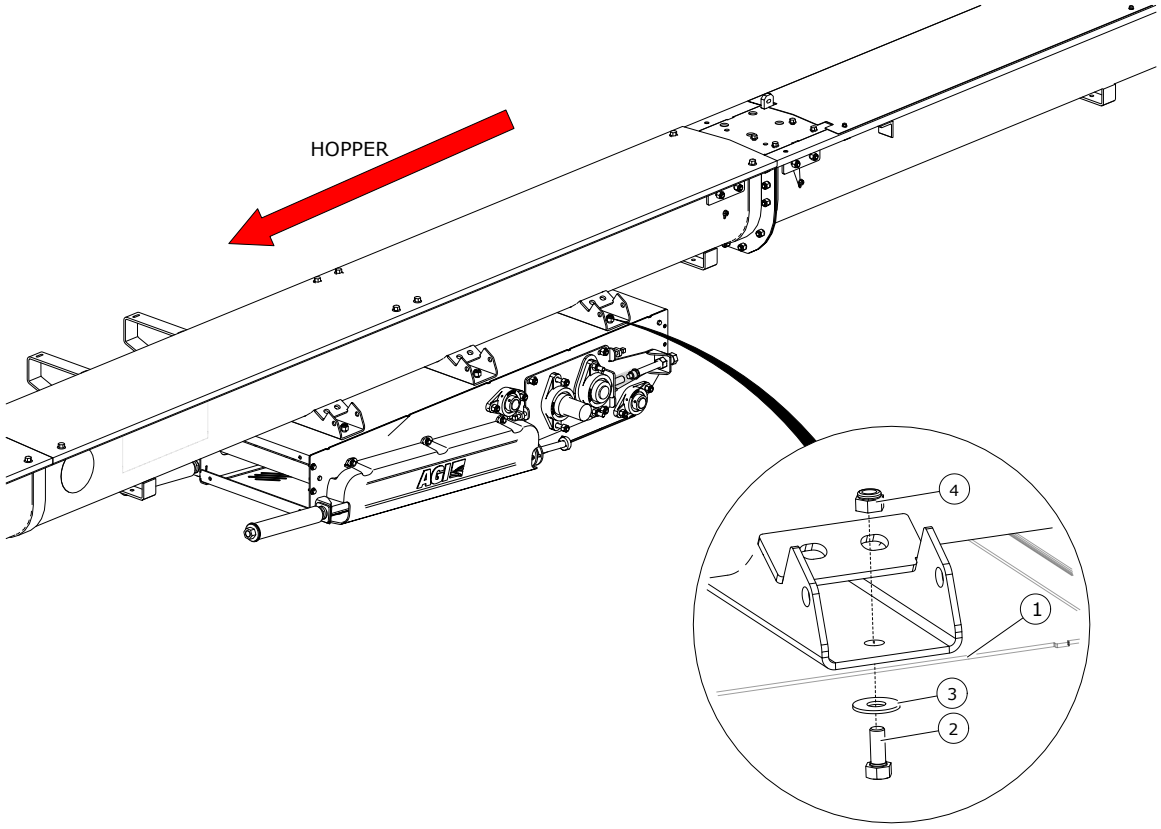


1	Track Stop	4	5/8" Nylon Lock Nut UNC (GR8) Zn
2	5/8" x 2-1/2" Hex Bolt UNC (GR8) Zn	5	Track Slider
3	5/8" Flat Washer USS STL Zn		

3.15. Attach the S-Drive

1. Attach the S-drive (1) to the brackets with 7/16" x 1" bolts (2), 7/16" flat washers (3), and 7/16" locknuts (4).

Attaching the S-Drive



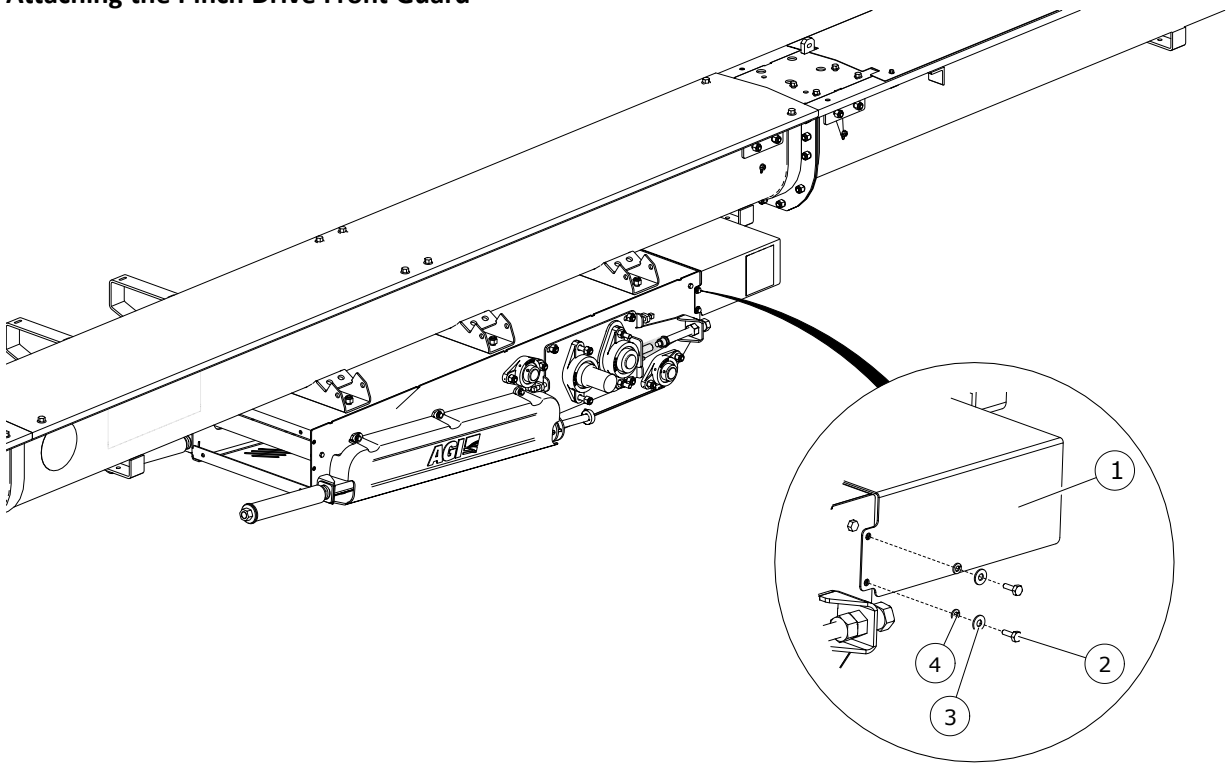
1	S-Drive	3	1/2" Flat Washer
2	1/2" x 1-1/4" Hex Bolt (GR8)	4	1/2" Nylon Lock Nut (GR8)

Hardware Kit: HRDW-15-40

3.16. Attach the Pinch Drive Front Guard

1. Attach the pinch drive front guard (1) to the s-drive with 1/4" x 3/4" bolts (2), 1/4" flat washers (3), and 1/4" lock washers (4).

Attaching the Pinch Drive Front Guard

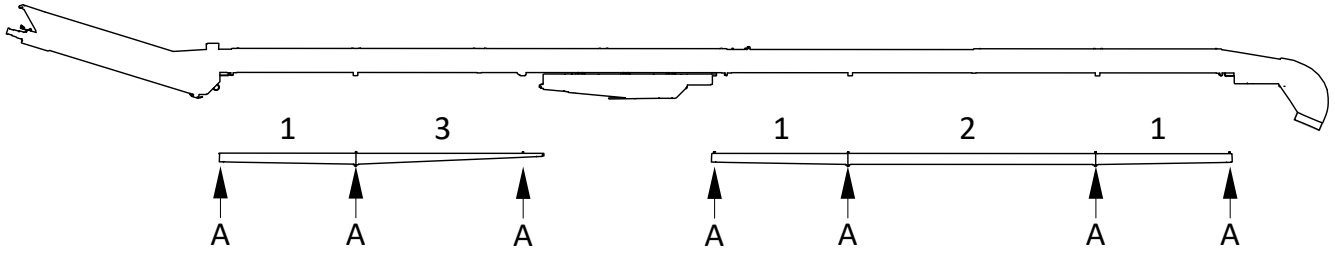


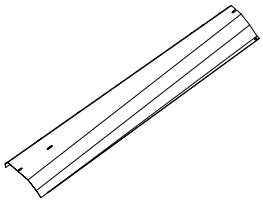
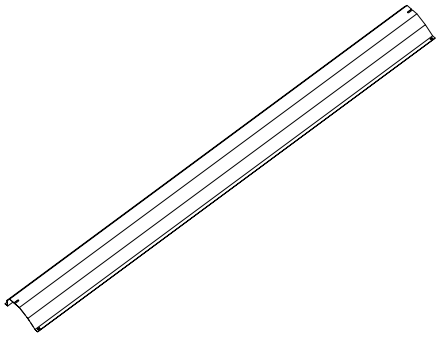
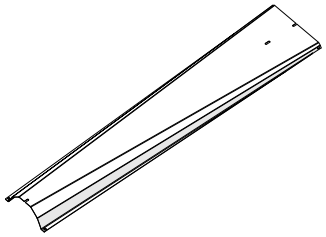
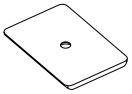
1	Pinch Drive Front Guard	3	1/4" Flat Washer
2	1/4" x 3/4" Hex Bolt (GR5)	4	1/4" Lock Washer

Hardware Kit: HRDW-15-44

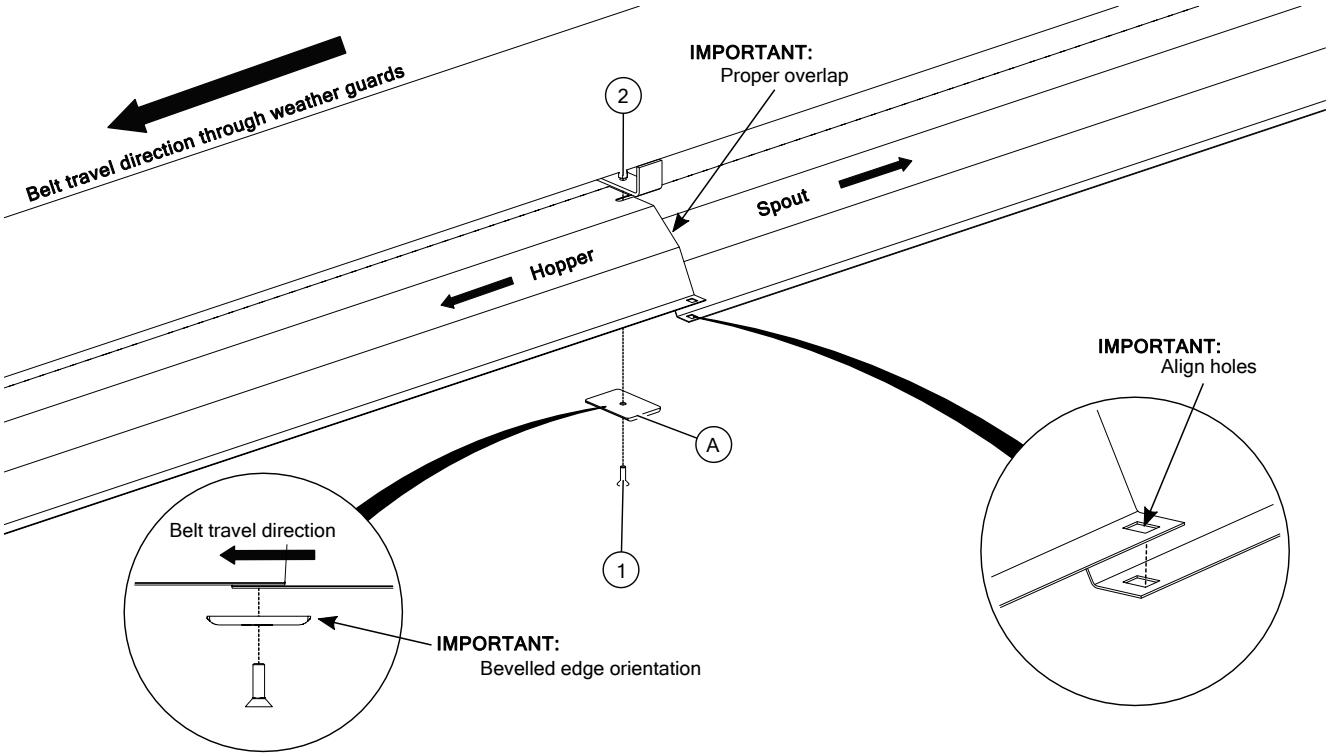
3.17. Install the Weather Guards

Weather Guard Section Locations



1	5.5' (1.68 m) Flared	
2	10' (3.05 m) Weather Guard, Standard	
3	7' (2.13 m) Weather Guard, Flat	
A	Uni-Mount Plate Cast	

Install the Weather Guards on the U-Trough Brackets



Assembly Notes:

- Install the types of weather guard sections as shown on your particular conveyor model.

  Important

  Overlap the adjacent weather guard sections and align the holes as shown in the figure.

- Connect each weather guard section to the U-trough brackets using a uni-mount plate cast, 3/8" x 1-1/4" cap screw, and 3/8" lock nut. Leave the 3/8" lock nuts loose. (See Install the Weather Guards on the U-Trough Brackets on page 36.)
- Confirm all weather guard mount bar holes are aligned.
- Tighten the 3/8" lock nuts after all of the weather guards have been installed.

A	Uni-Mount Plate Cast	2	3/8" Nylon Lock Nut (GR8)
1	3/8" x 1-1/4" Flat Head Socket Cap Screw		

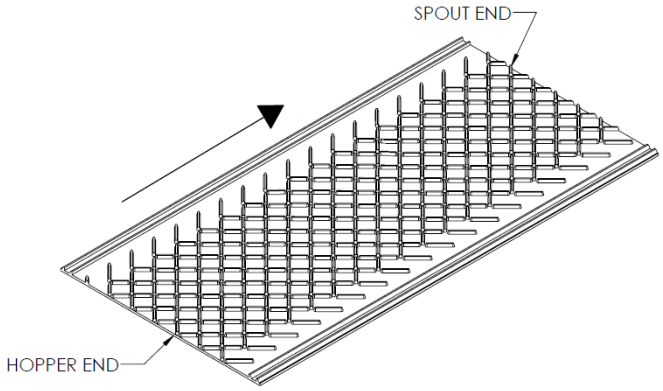
3.18. Install the Belt

This section describes how to install the conveyor belt in the U-trough. Refer to the packing slip for the length of the conveyor belt used in the installation

Thread a Fish Tape through the U-trough Assembly

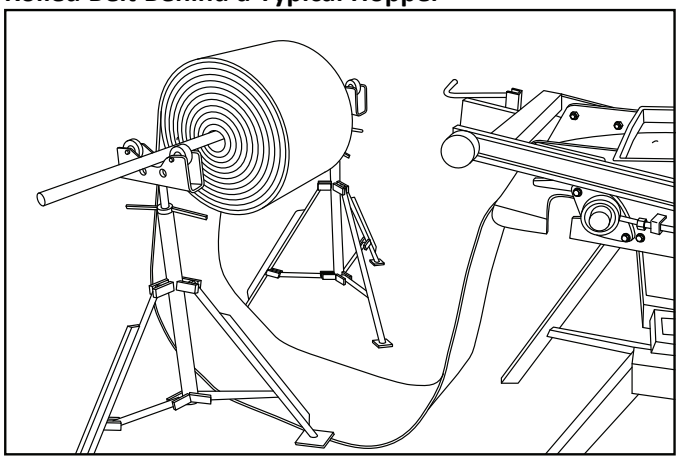
1. Place the rolled belt on a stand behind the hopper. Position the belt so that the outer diagonal cleats are facing toward the spout end.

Belt Pattern Direction



2. Pull the conveyor belt over the top of the hopper roller, until just inside the hopper, as shown below.

Rolled Belt Behind a Typical Hopper

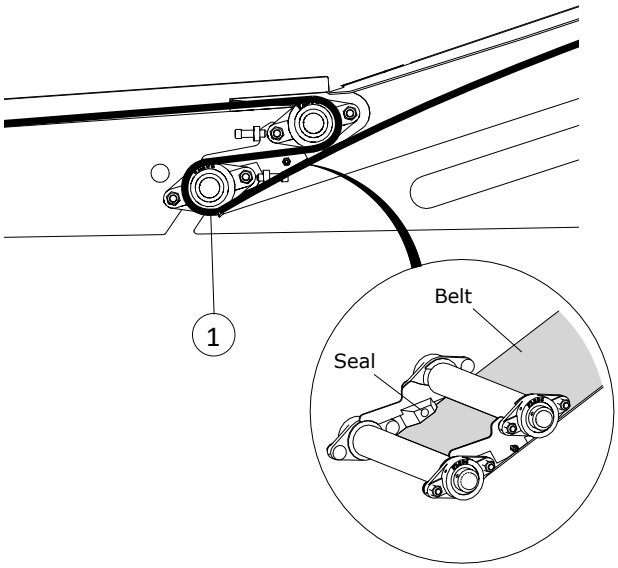


3. Feed a fish tape in at the spout, through the U-trough, and into the hopper.
4. Manually thread the belt around the transition rollers (1) in the hopper.

Important

Pass the belt underneath the protruding edge of the seal to prevent grain leakage.

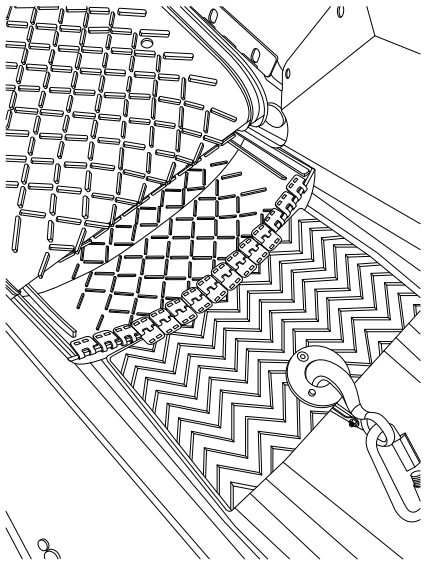
Belt Through Transition Rollers



1	Transition Roller

5. Attach the end of the belt to the fish tape using a clamp, or use a short piece of belt and thread the connector wire through the lacing clips to connect.

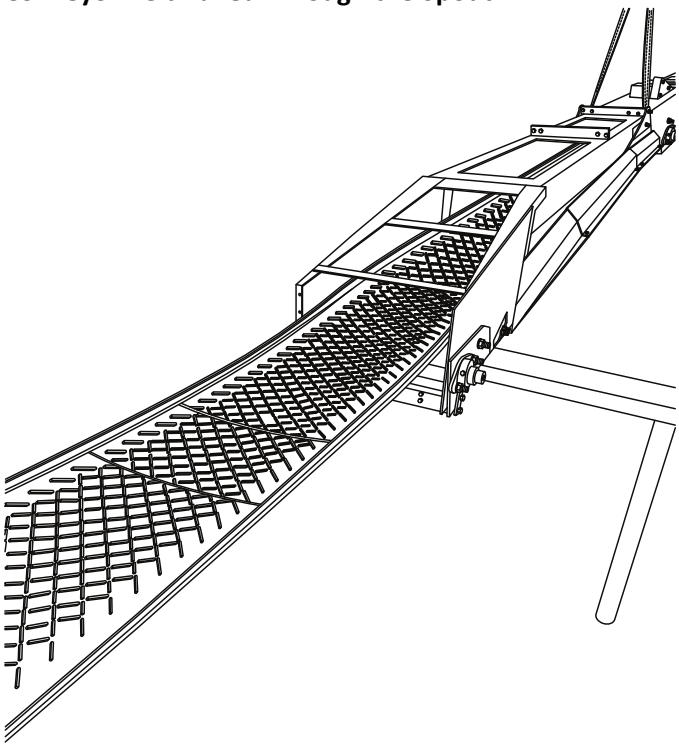
Attaching the Short Belt Piece to the Belt



Thread the Conveyor Belt

1. From the spout end, pull the fish tape until the belt emerges from the spout.

Conveyor Belt Pulled Through the Spout



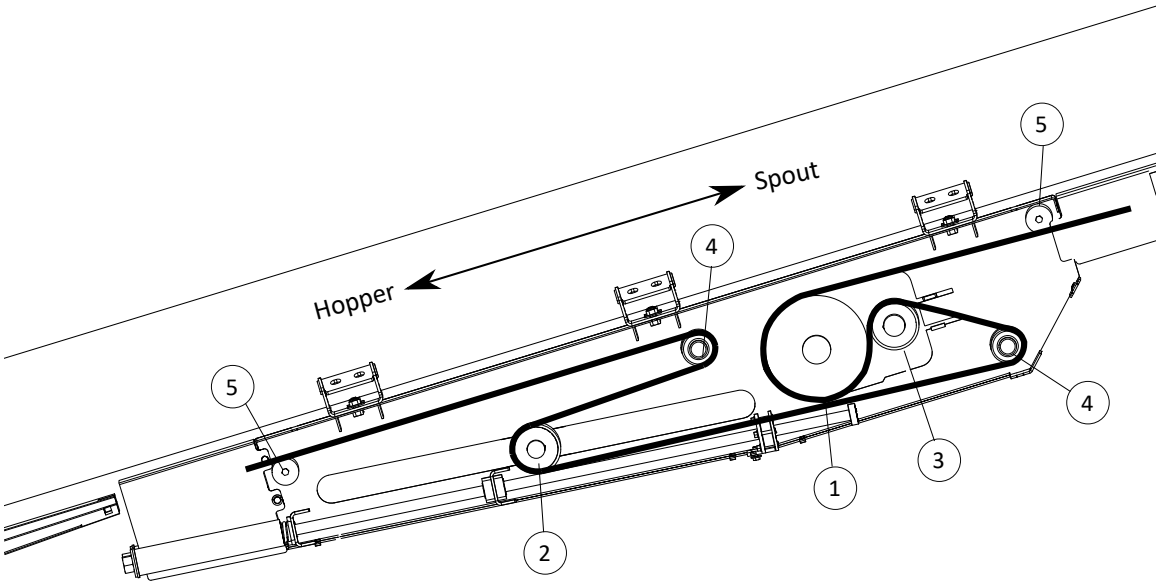
2. Wrap the belt around the spout roller and pull it back under the U-trough assembly up to the S-drive.
3. Loosen the S-drive pinch roller bolts and take-up roller bolts (on both sides of S-drive) to the end of their threads.

   Note

   Do not tighten the nuts on the pinch roller bolts and take-up roller bolts on the S-drive until the belt is fully installed.

4. Guide the belt through the S-drive as shown in the figure below.
5. Pull the conveyor belt out from the back of the S-drive until approximately 6' (1.8 m) of excess belt remains on the stand behind the hopper.

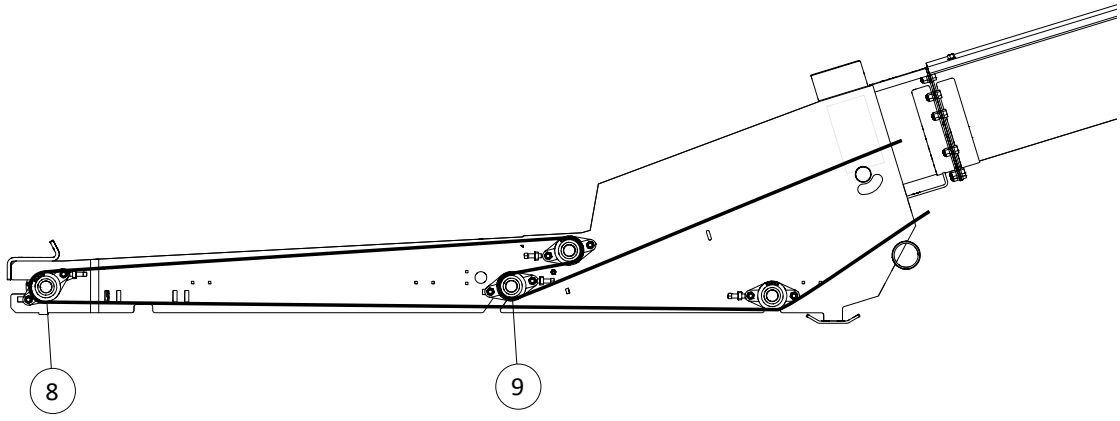
S-drive Conveyor Belt Path



1	Drive Roller	4	Return Roller
2	Take-up Roller	5	Hex Roller
3	Pinch Roller		

6. Wrap the belt around the spout roller and back under the u trough assembly to the hopper.
7. Wrap the remaining conveyor belt around the hopper roller and under the U-trough.

Conveyor Belt Bottom Path



8	Hopper Roller	9	Transition Roller

The conveyor belt is now ready to be connected.

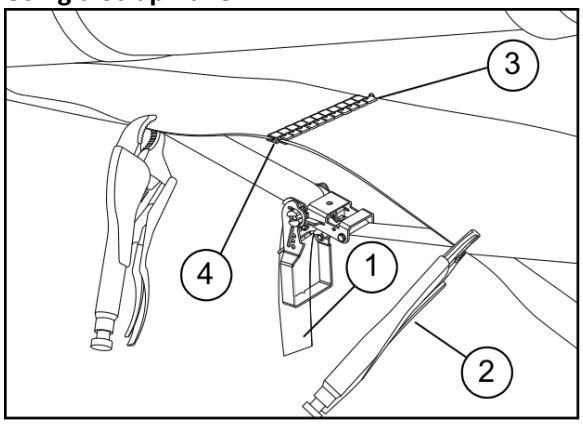
Connect the Conveyor Belt

1. Attach a strap puller (1) to each end of the belt and secure with vise-grips (2).

   NOTICE Do not attach the vise grips too tightly, this can damage the belt.

2. Pull the ends of the belt together.
3. Install connector wire through the belt lacing (3).

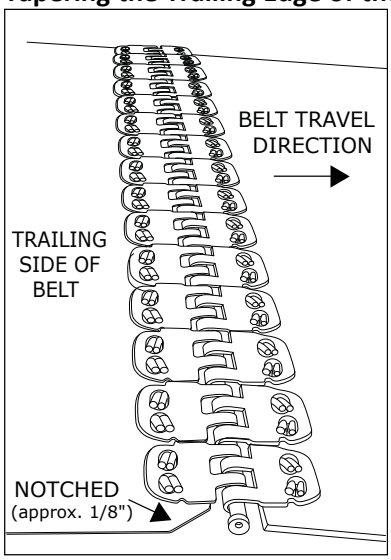
Using a Strap Puller



1	Strap Puller	3	Belt Lacing
2	Vise Grip	4	Lacing Pin

4. On both corners of the trailing edge of the belt, trim 1/8” off the tip of the corner to prevent fraying.

Tapering the Trailing Edge of the Belt



Sealing the Belt Lacing

This section describes how to seal the belt lacing when handling oilseeds to prevent leakage.

1. Apply a thin layer of flexible industrial strength adhesive to the belt lacing while the belt is under tension.

Note

Eclectic E6000 Industrial Strength Adhesive or equivalent is recommended. This adhesive remains flexible once cured.

2. Spread the adhesive into all gaps between the teeth of the belt lacing.
3. Allow adhesive to cure.

Important

Do not install urethane seals and flashing or attempt to run the conveyor until the adhesive coating is allowed to dry or partially cure.

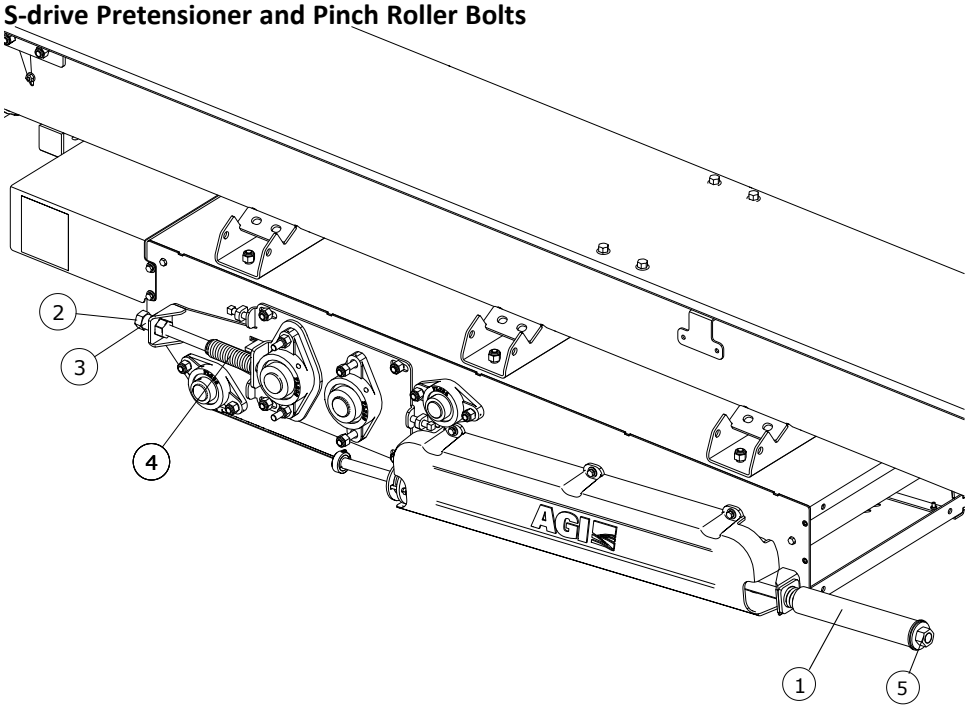
Note

When using Eclectic E6000, pass a heat gun over the belt lacing for a minimum of 2 minutes to speed up the curing process. If the adhesive begins to bubble, decrease heat intensity.

Tighten the Conveyor Belt

Use the S-drive pretensioner assembly (1) to set the belt tension.

S-drive Pretensioner and Pinch Roller Bolts



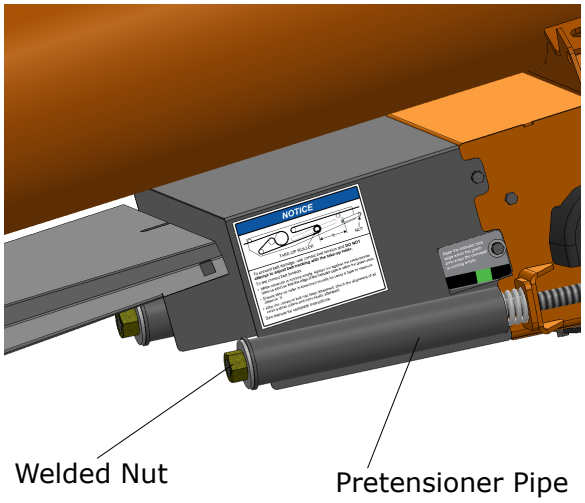
1	Pretensioner Assembly	4	Spring
2	Pinch Roller Bolt	5	Welded Nut
3	Pinch Pipe		

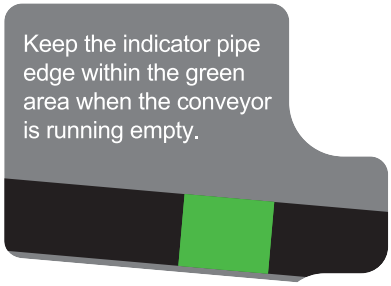
1. Tighten the welded nut (5) on the end of the threaded rod until the edge of the pretensioner pipe is within the green area on the pretensioner decal.

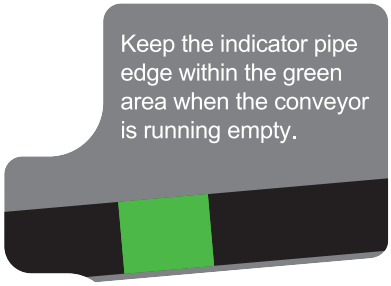
Important

Alternate sides when adjusting the pretensioner for distances of more than 5". If one side is more than 5" behind or ahead of the other, damage to the threaded rod may occur.

Setting the Belt Tension



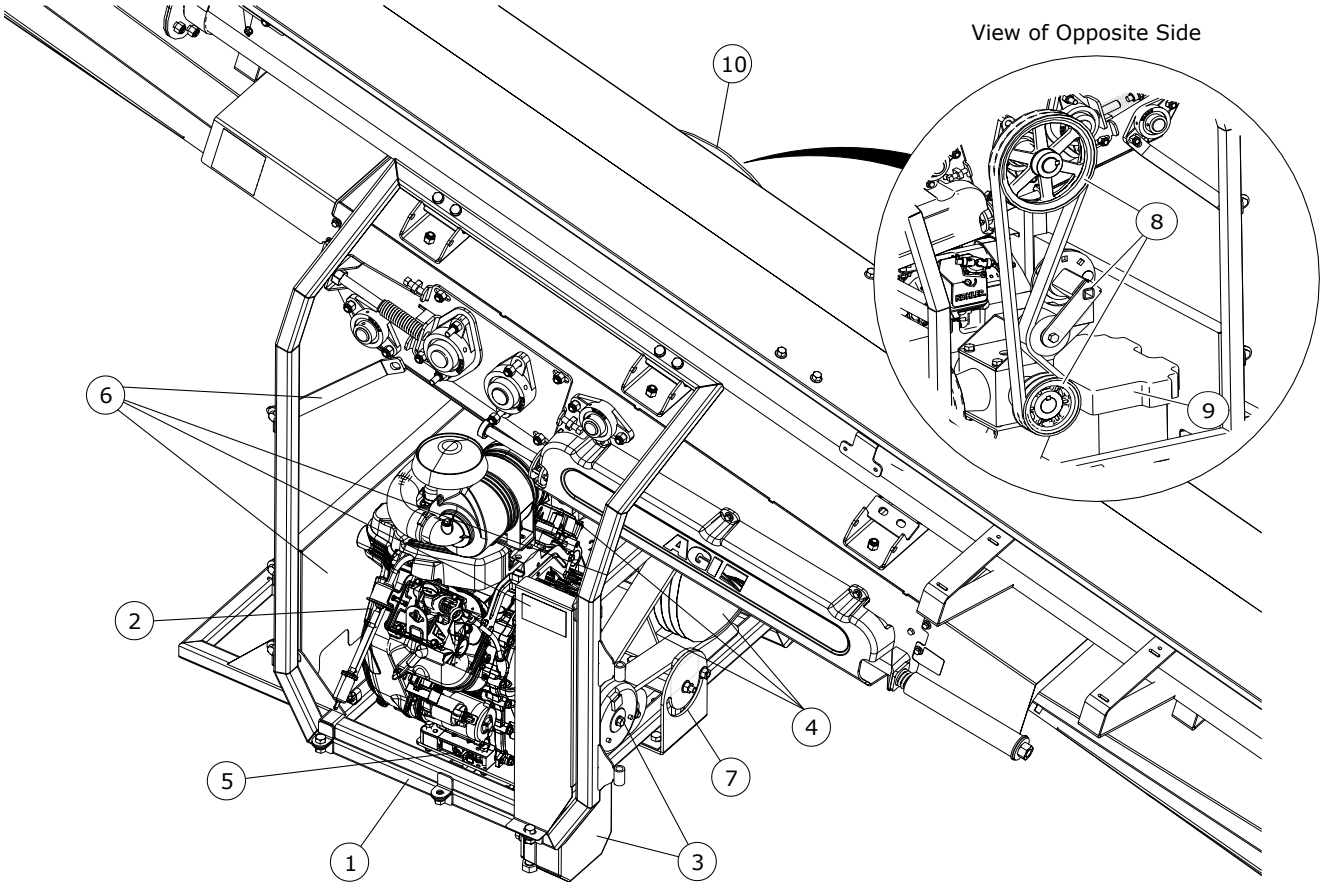




2. Measure to be sure both sides are set at the same position.
3. Tighten the pinch roller bolts (2, both sides of S-drive) until the head of bolt contacts the pinch pipe (3).
4. Check to make sure the bolts on the pinch roller bearings are just loose enough to allow the pinch roller to kick back 1/4" during operation (when the belt seam passes through).
5. Re-attach the S-drive bottom guards.

The belt will require final tension and alignment after the conveyor is fully assembled. Refer to the conveyor operation manual for complete instructions.

3.19. Install the Under-Mount Drive

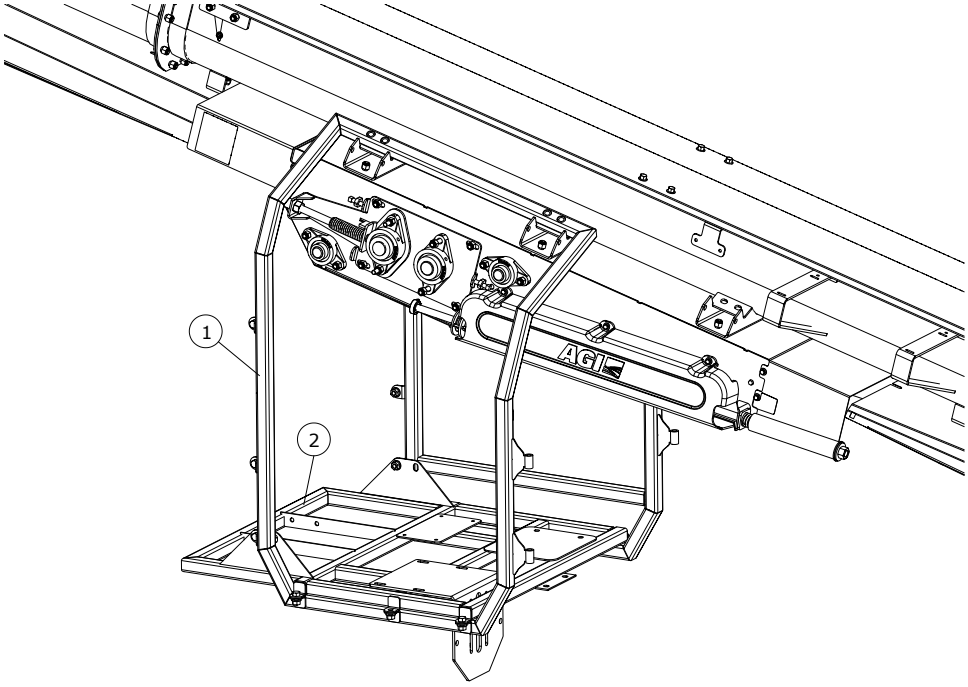


Assembly Note:

- Do not tighten the frame bolts until Step 5 is complete.

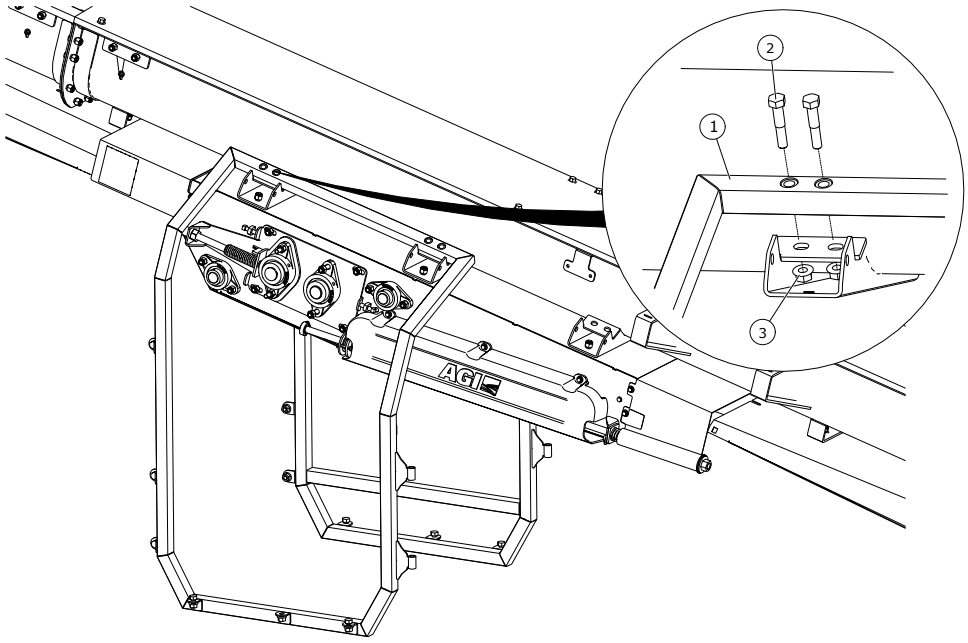
1	Assemble the Frame	6	Install the Crossbrace, Motor Guard, Fuel Tank Mount, and Stabilizers
2	Install the Motor	7	Install the Torsion Idler
3	Install the Hydraulic Pump and Clutch	8	Install the Drive Pulleys, Drive Belt, and Torsion Idler
4	Install the Gearbox, Motor Pulley, Motor Pulley Belt, and Clutch Stop	9	Install the Battery
5	Install the Drain Hose Clamps, Drain Hose, and Muffler	10	Install the Guards

3.19.1 Install the Frame



1	Install the Sides	2	Install the Bottom

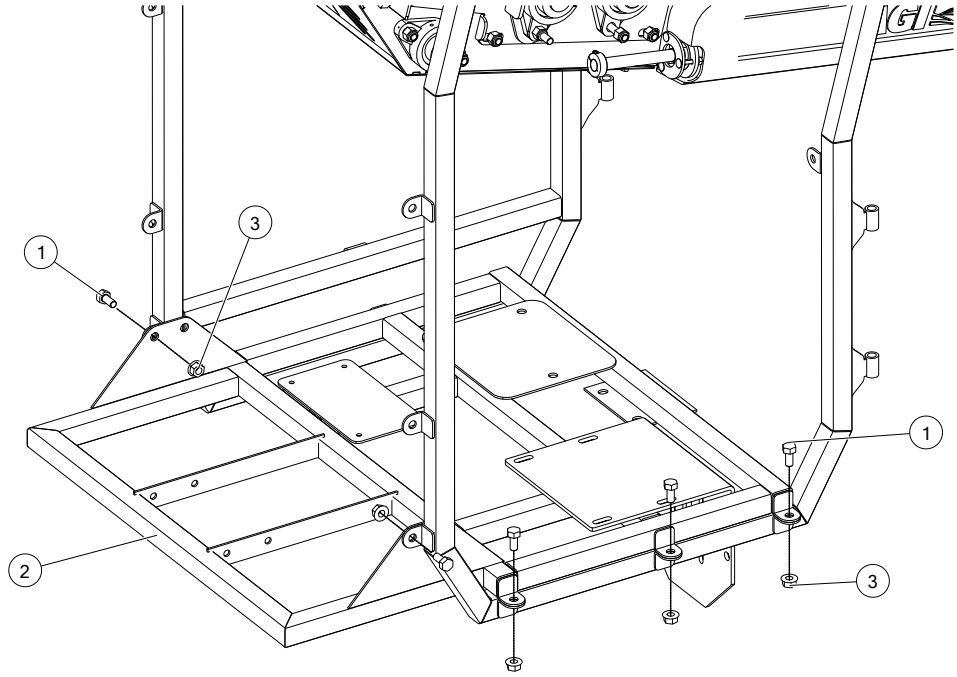
Install the Sides (x2)



1	Side Frame	3	1/2" Lock Nut
2	1/2" x 2-1/2" Hex Bolt (GR 8)		

Hardware Kit: HRDW-15–102

Install the Bottom



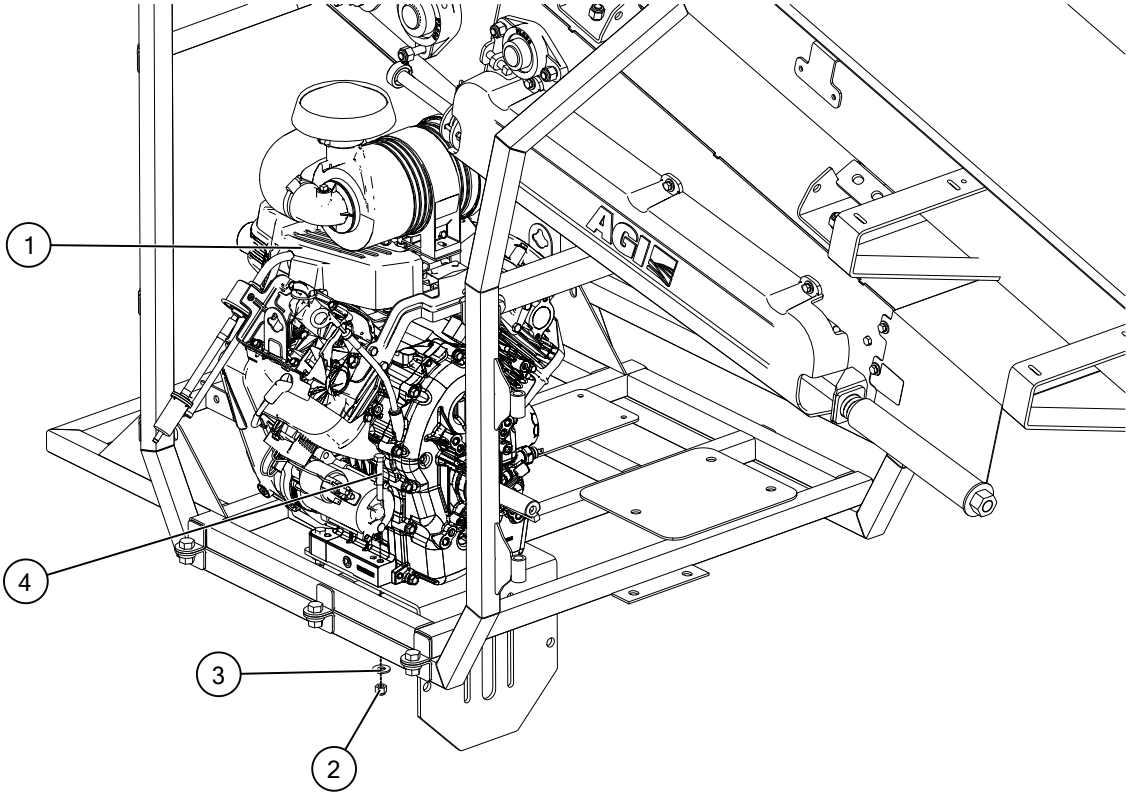
Assembly Note:

- Leftover hardware from this bag is used to install the crossbrace and fuel tank mount.

1	1/2" x 1" Hex Bolt (GR 8)	3	1/2" Locknut
2	Bottom Frame		

Hardware Kit: HRDW-15–131

3.19.2 Install the Motor



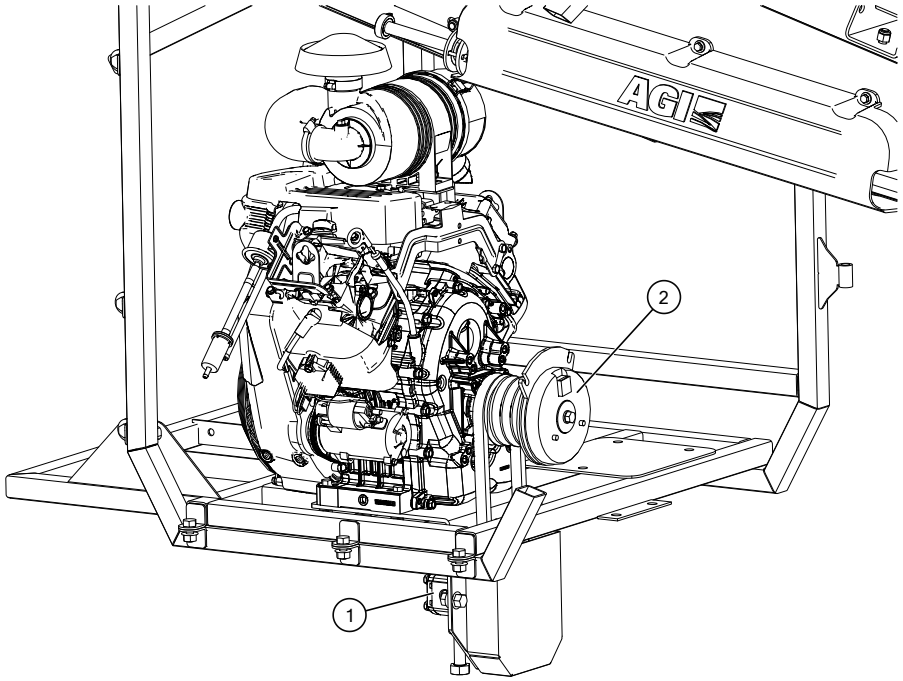
Assembly Note:

- Do not tighten the motor bolts until the drive belts have been installed and aligned.

1	Motor	3	3/8" Flat Washer
2	3/8" Lock Nut	4	3/8" x 2-1/2" Hex Bolt

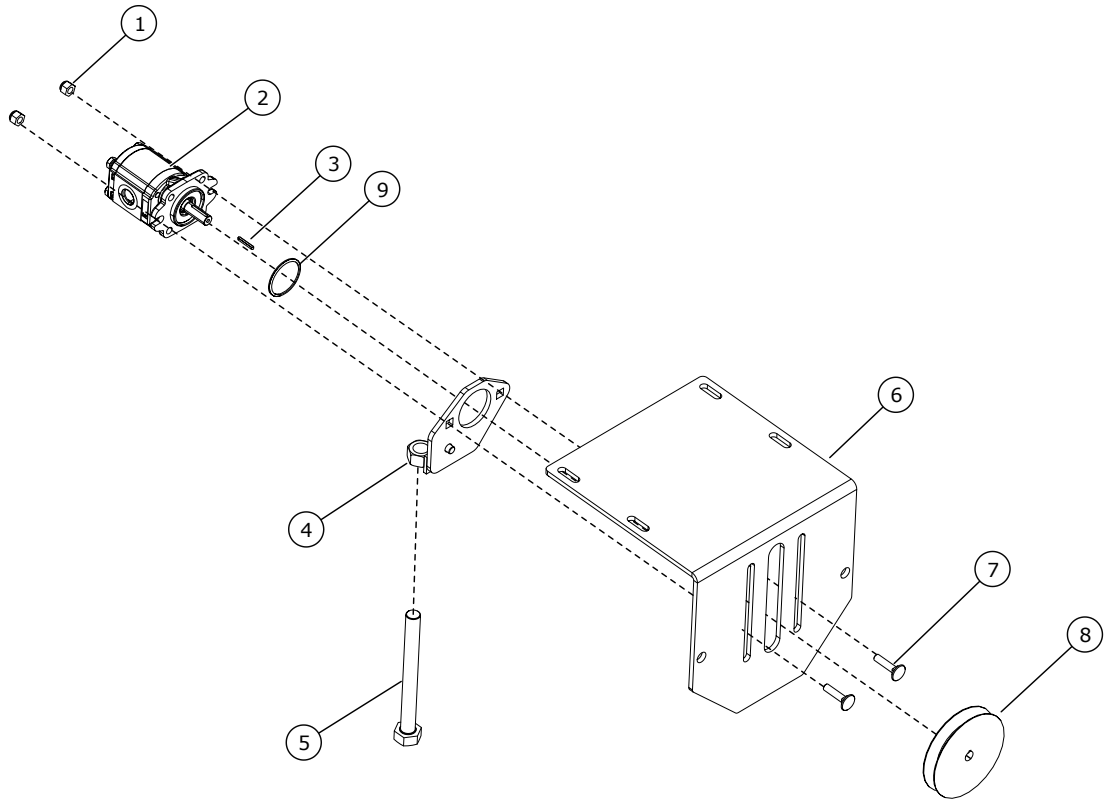
Hardware Kit: HRDW-15-100

3.19.3 Install the Hydraulic Pump and Clutch



1	Hydraulic Pump Assembly	2	Clutch Assembly

Installing the Hydraulic Pump



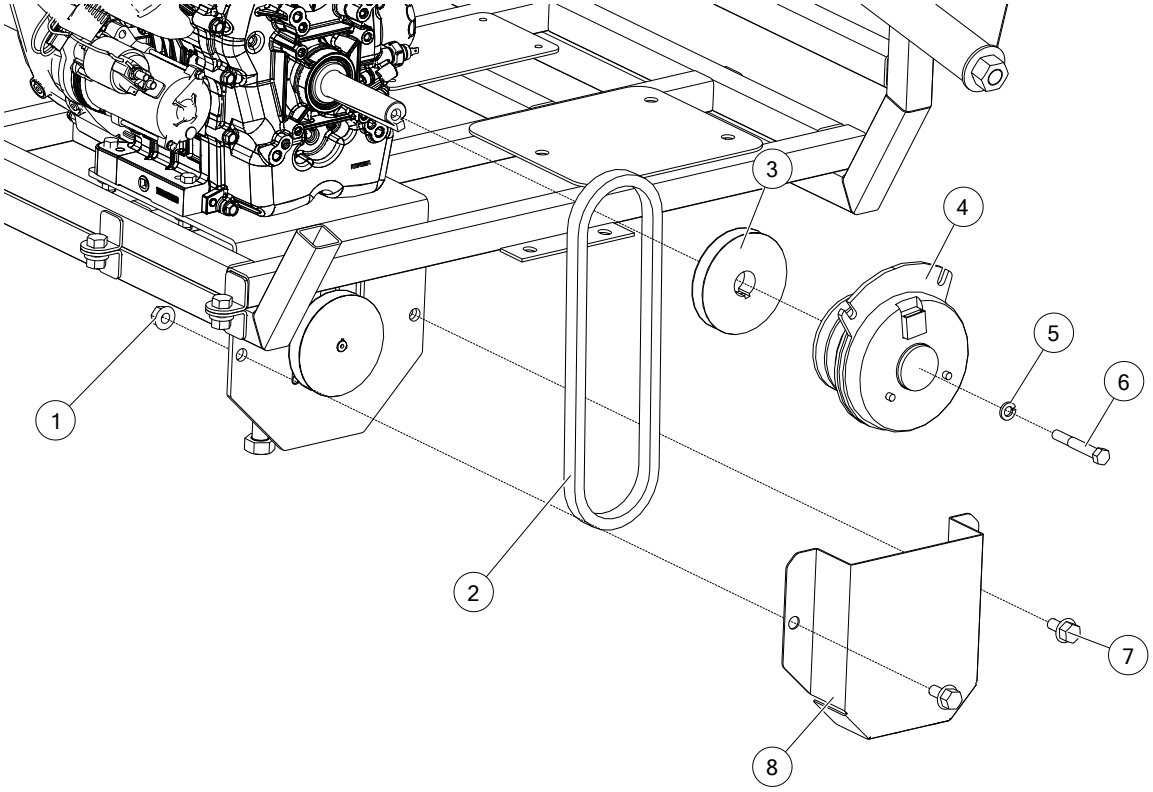
Assembly Note:

- The tap bolt (5) is used to tension the hydraulic pump belt after the clutch assembly is installed.
- The hydraulic pump steel plate (9) keeps the hydraulic pump centered in the mount.

1	3/8" Locknut	6	Hydraulic Pump Base Plate
2	Hydraulic Pump	7	3/8" X 1-1/2" Carriage Bolt (GR 5)
3	Hydraulic Pump Key (comes with pump)	8	4-1/2" X 1/2" Pulley
4	Hydraulic Pump Mount Plate	9	Hydraulic Pump Steel Plate (comes with pump)*
5	3/4" X 9" Tap Bolt (GR 5)		*attach to the plastic shaft holder

Hardware Kit: HRDW-15–101

Installing the Clutch and Hydraulic Pump Guard



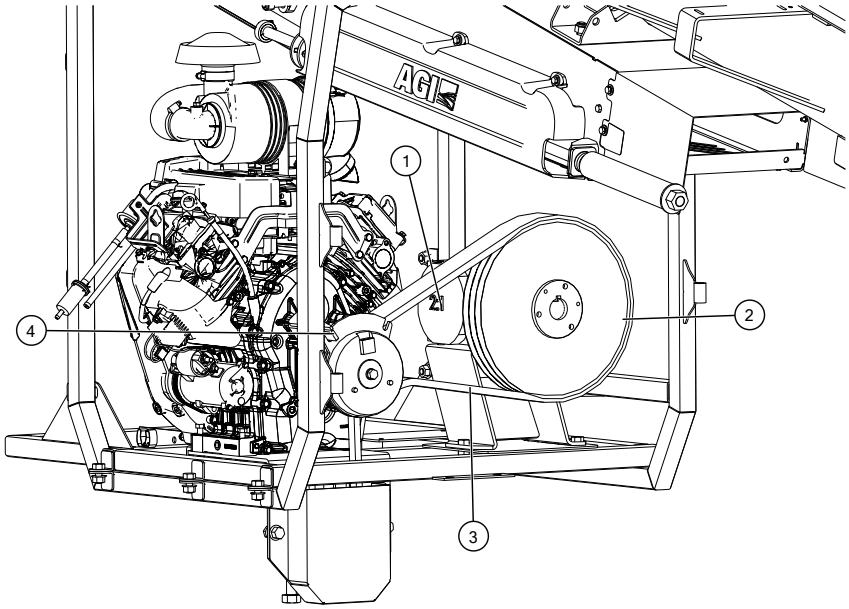
Assembly Note:

- Align the pulleys using a straight edge before installing the belt. Tighten the set screws after the pulleys are aligned.

1	1/2" Flange Nut	5	7/16" Lock Washer
2	Hydraulic Pump Belt	6	7/16" x 3" Hex Bolt
3	4-1/2" x 1-1/8" Pulley	7	1/2" x 1" Hex Flange Bolt
4	Clutch assembly	8	Hydraulic Pump Guard

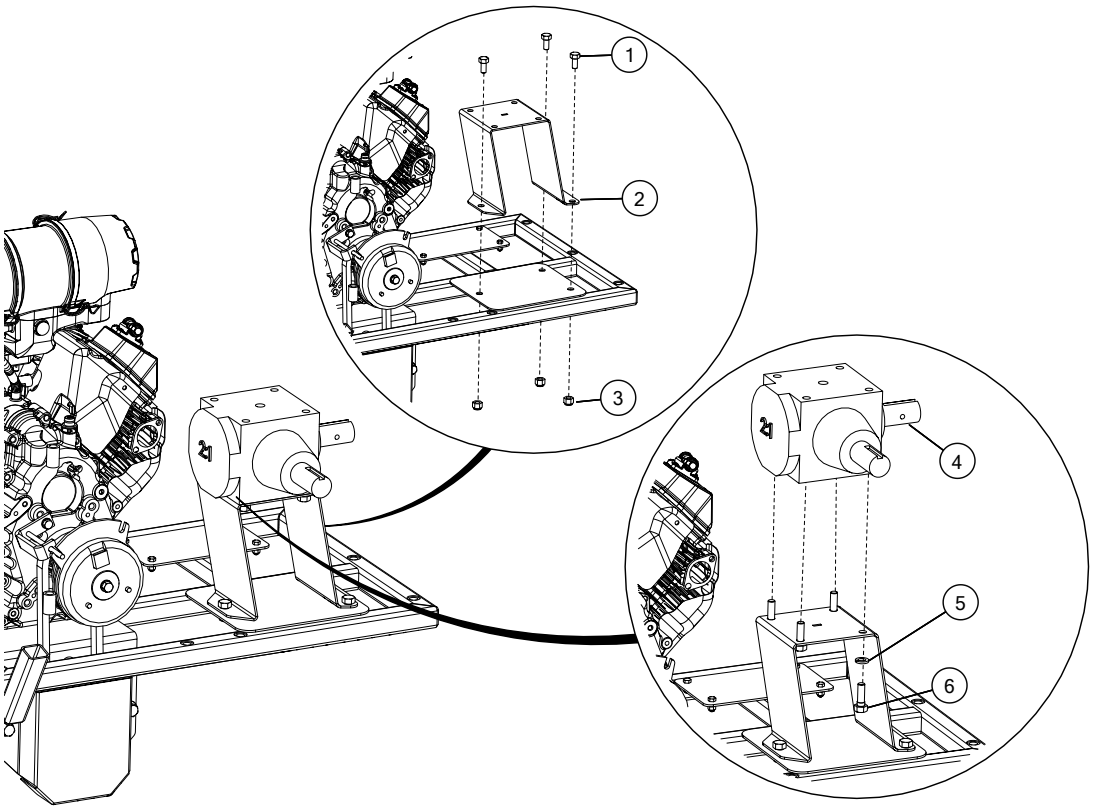
Hardware Kit: PARTK-15-44

3.19.4 Install the Gearbox, Motor Pulley, Motor Pulley Belt, and Clutch Stop



1	Gearbox	3	Motor Pulley Belt
2	Motor Pulley	4	Clutch Stop

Installing the Gearbox



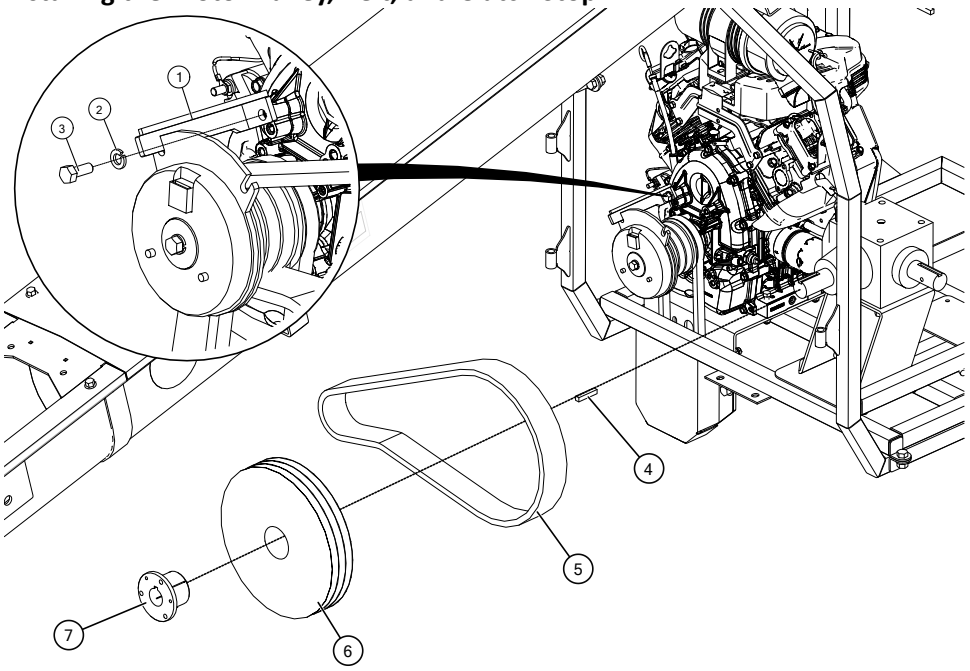
Assembly Note:

- Leftover hardware from this kit is used to install the torsion idler on top of the torsion idler mount.

1	1/2" X 1" Hex Bolt (GR 8)	4	Gearbox
2	Gearbox Mount Plate	5	1/2" Lock Washer
3	1/2" Lock Nut	6	1/2" X 1-1/2" Hex Bolt (GR 8)

Hardware Kit: HRDW-15-112

Installing the Motor Pulley, Belt, and Clutch Stop



Assembly Note:

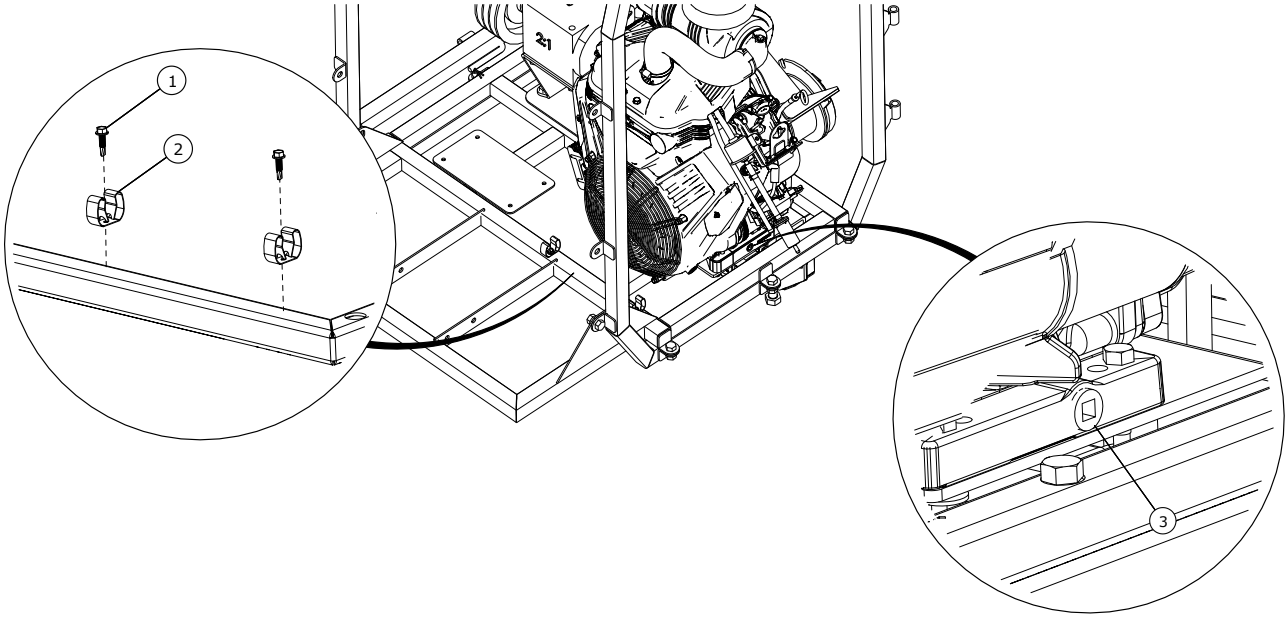
- Align the pulleys using a straight edge before installing the belt. Tighten the set screws after the pulleys are aligned.

1	Clutch Stop	5	3B62 Banded Belt
2	7/16" Lock Washer	6	B-12.4" Pulley-TRPL
3	7/16" X 1" Hex Bolt	7	1-1/2" Hub Q1
4	3/8" X 2" Gearbox Key		

3.19.5 Install the Drain Hose Clamps, Drain Hose, and Muffler

1. Attach the drain hose clamps to the bottom frame with tek screws.
2. Remove the plug insert on the engine.
3. Attach the oil drain hose to the engine.
4. Secure the oil drain hose with the clamps.
5. Install the muffler according to the instructions that arrived with the motor.

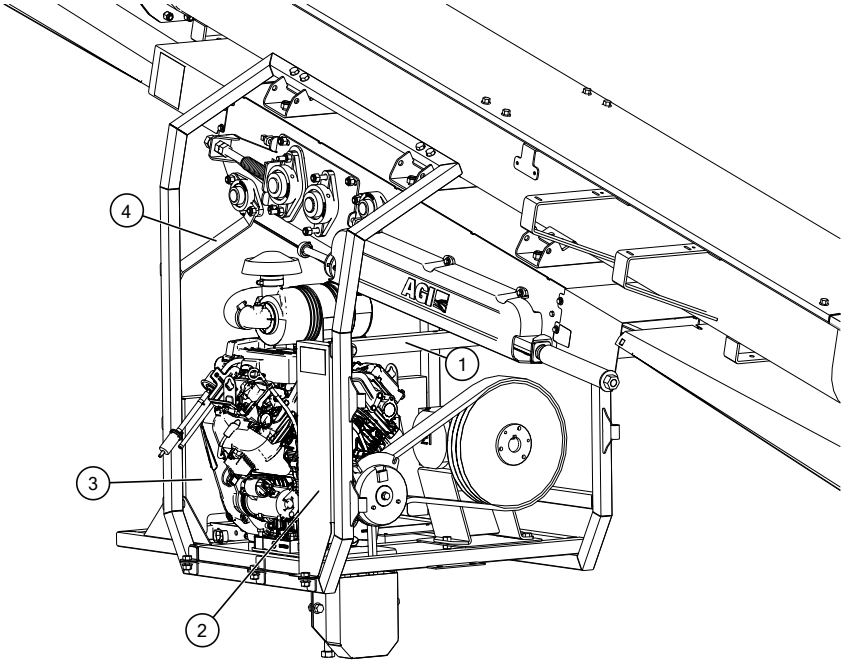
Installing the Drain Hose Clamps and Drain Hose



1	Tek Screw	3	Engine Plug
2	Drain Hose Clamp		

Hardware Kit: HRDW-15–121

3.19.6 Install the Crossbrace, Motor Guard, Fuel Tank Mount, and Stabilizers

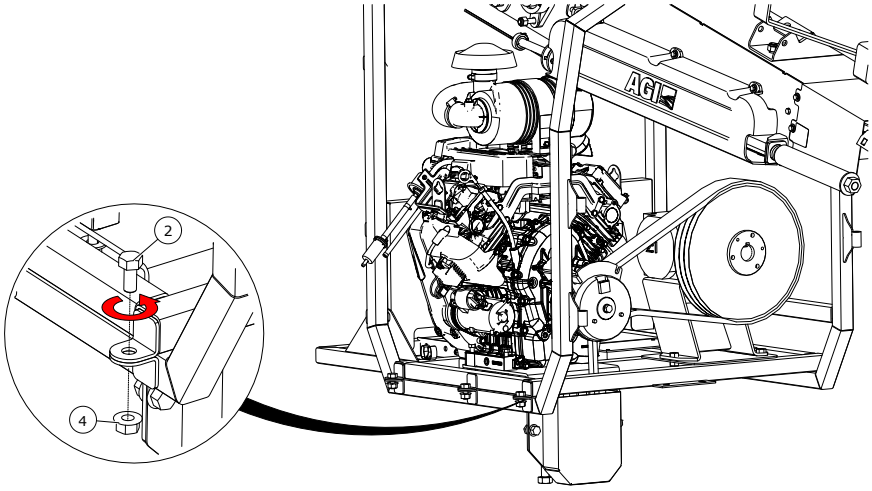


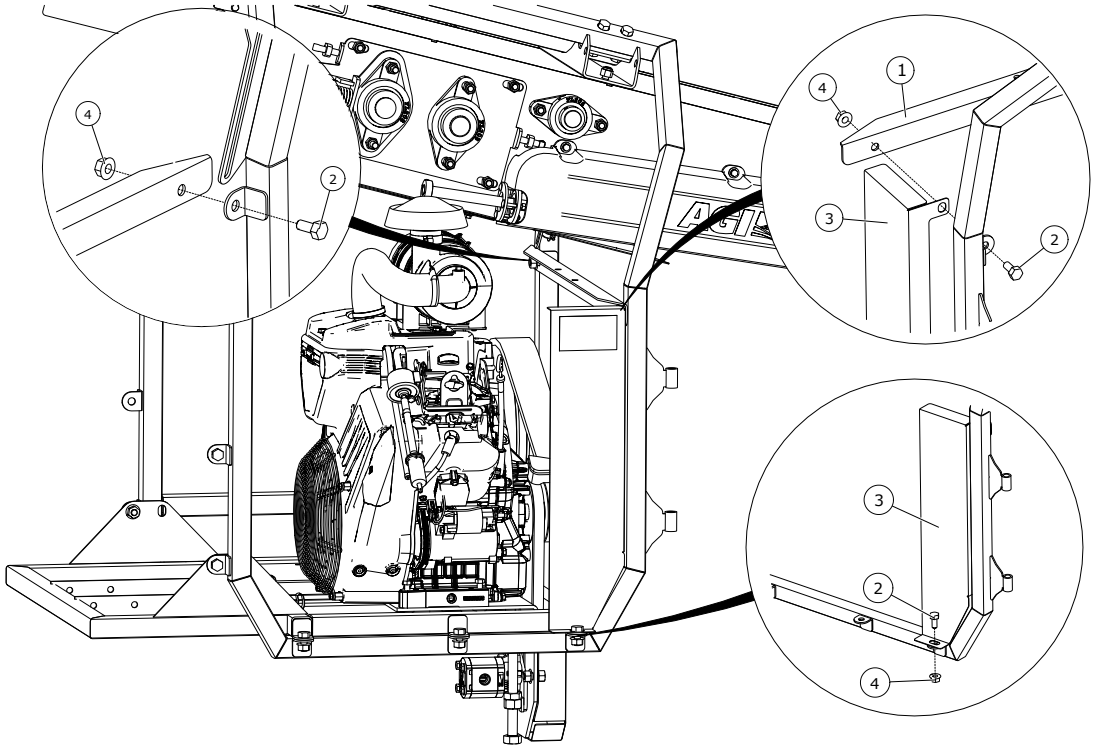
Assembly Note:

- Do not tighten the frame bolts until the stabilizers are installed.

1	Crossbrace	3	Fuel Tank Guard
2	Motor Guard	4	Stabilizers

Installing the Crossbrace and Motor Guard



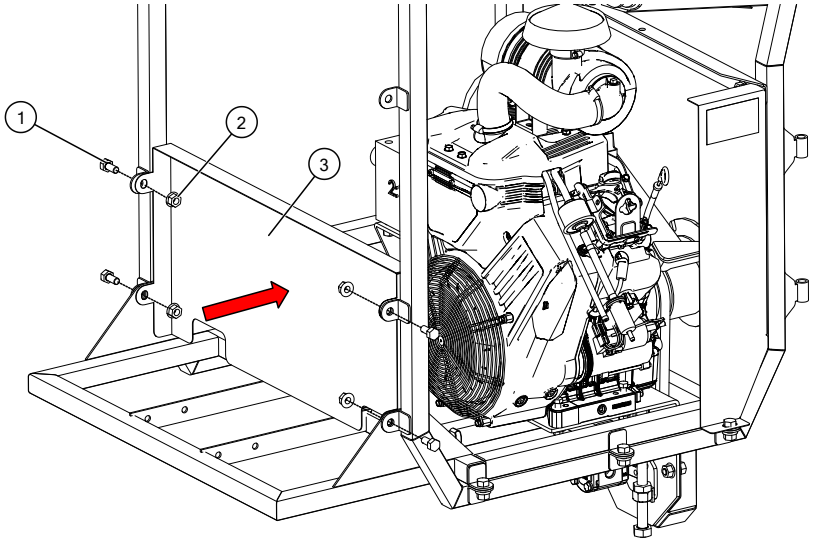


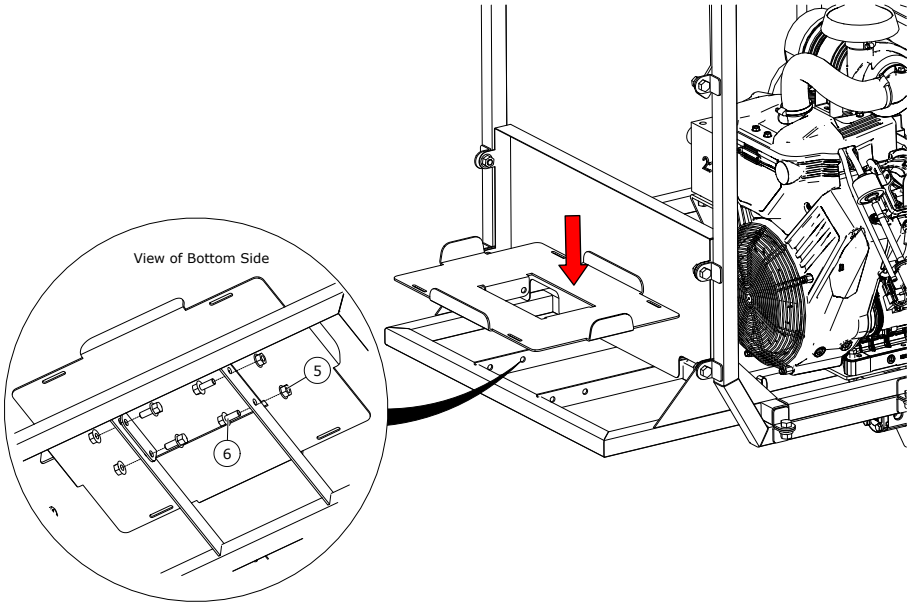
Assembly Note:	
• Remove the bolt and nut securing the bottom frame to the left side frame.	

1	Crossbrace	3	Motor Guard
2	1/2" X 1" Hex Bolt (GR 8)	4	1/2" Flange Nut

Hardware Kit: HRDW-15–131

Installing the Fuel Tank Mount

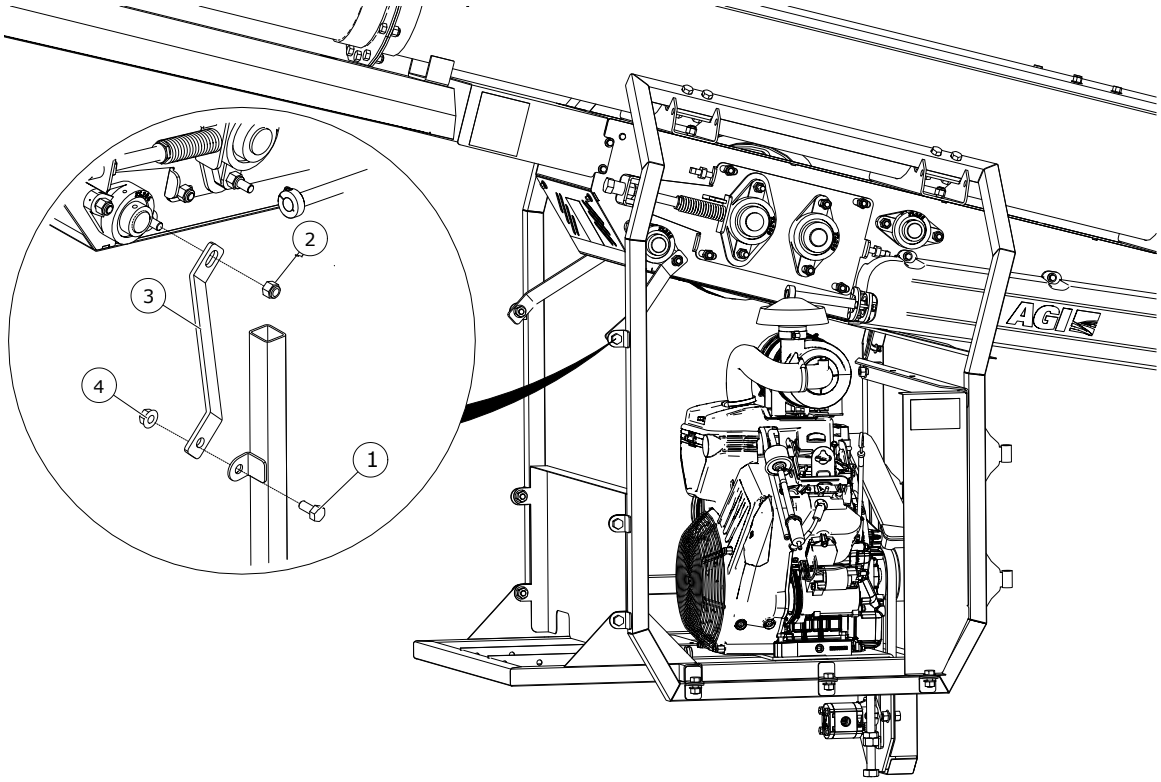




1	1/2" x 1" Hex Bolt (GR 8)	4	Fuel Tank Mount
2	1/2" Flange Nut	5	7/16" Flange Nut
3	Fuel Tank Guard	6	7/16" X 1" Flange Bolt (GR 5)

Hardware Kit: HRDW-15–131, HRDW-15–71

Installing the Stabilizers (x2)



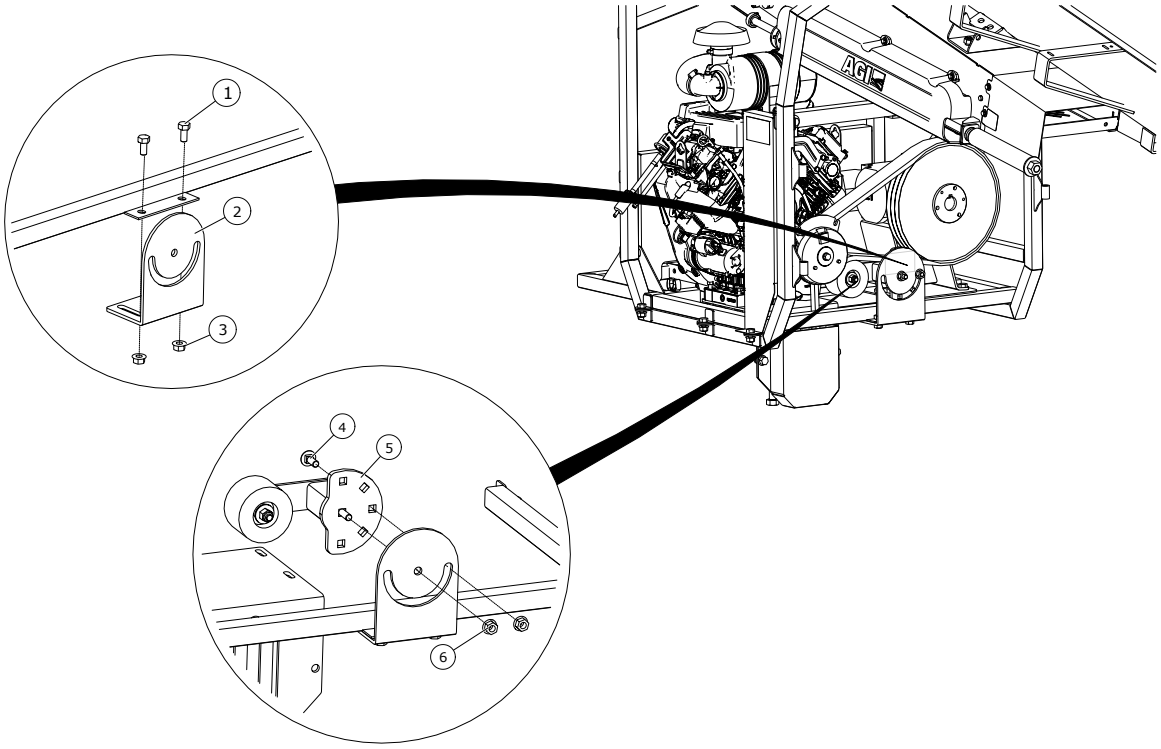
Assembly Note:

- After the stabilizers are installed, tighten all the frame bolts.

1	1/2" x 1" Hex Bolt (GR 8)	3	Stabilizer Brace
2	1/2" Lock Nut (from S-Drive Bearing)	4	1/2" Lock Nut

Hardware Kit: HRDW-15-131

3.19.7 Install the Torsion Idler



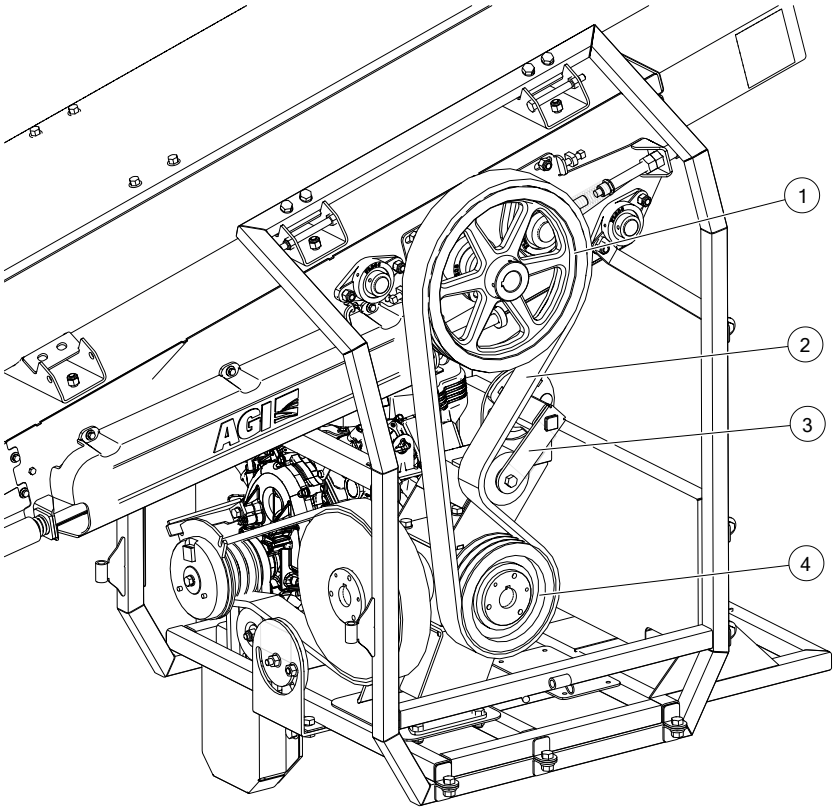
Assembly Note:

- Do not tension the drive belt with the torsion idler until both drive belts are installed and aligned, and the frame, motor, and gearbox hardware are all fully tightened.

1	1/2" x 1" Hex Bolt (GR 8)	4	1/2" x 1-1/4" Carriage Bolt
2	Idler Mount Plate	5	Idler Torsion Arm
3	1/2" Hex Flange Nut	6	1/2" Hex Flange Nut

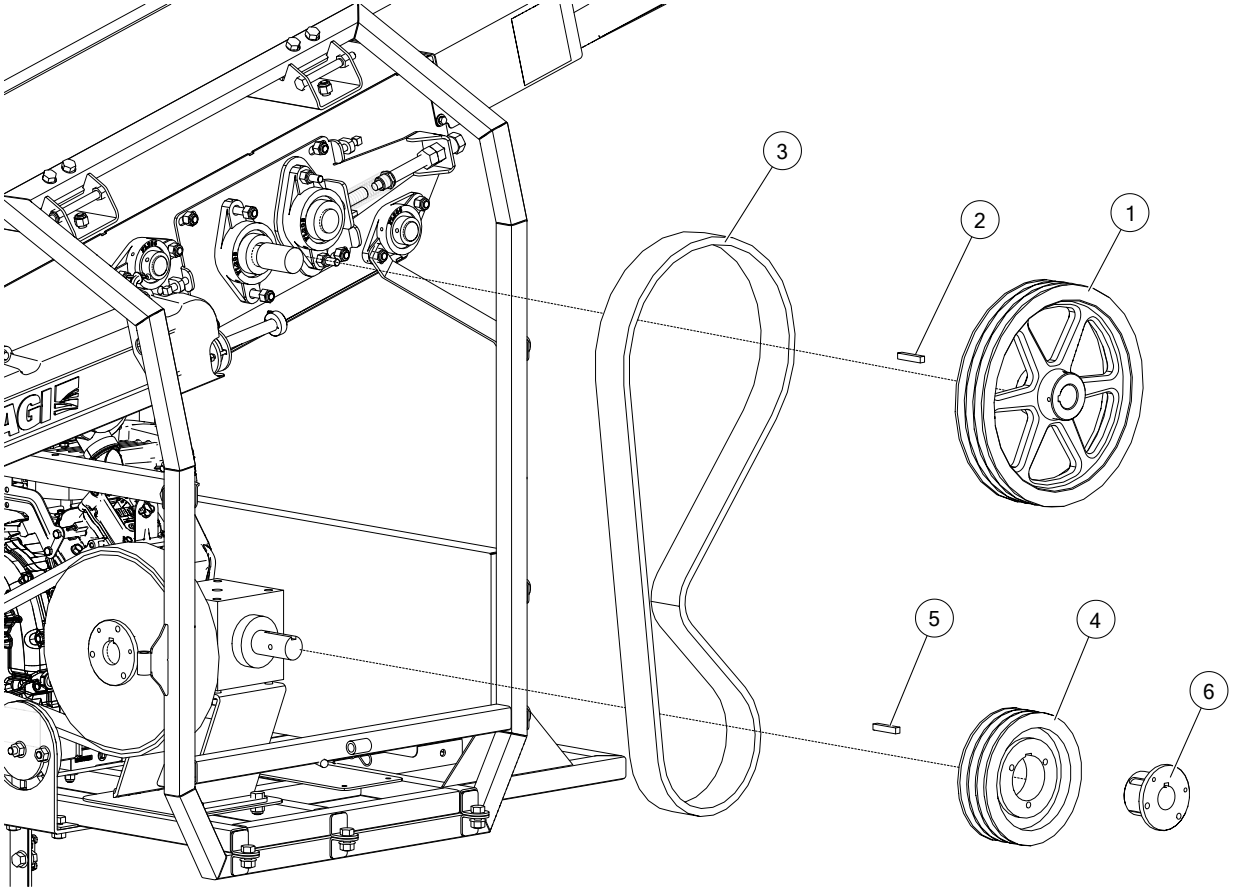
Hardware Kit: HRDW-15–133

3.19.8 Install the Drive Pulleys, Drive Belt, and Torsion Idler



1	Drive Pulley	3	Torsion Idler
2	Drive Belt	4	Drive Pulley

Installing the Drive Pulleys and Drive Belt

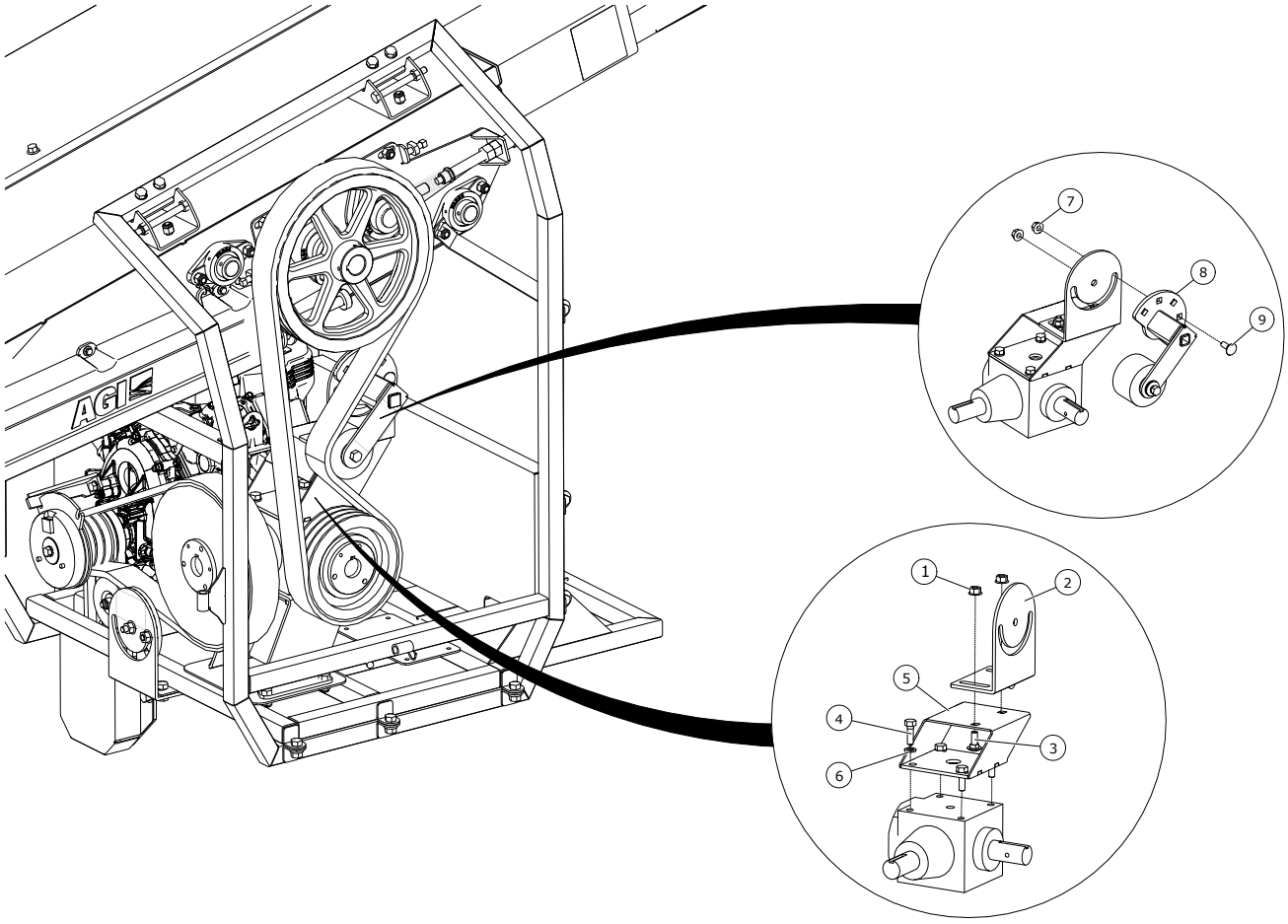


Assembly Note:

- Align the pulleys using a straight edge before installing the belt. Tighten the set screws after the pulleys are aligned.

1	3TB136-1-1/2 SP Pulley-TRPL.	4	8"TB Pulley-TRPL-B
2	3/8" x 2" Drive Key	5	3/8" x 2" Gearbox Key
3	3B85 Drive Belt	6	1-1/2" Hub Q1

Installing the Torsion Idler



Assembly Note:

- Tighten the gearbox and motor bolts before using the torsion idlers to tension the drive belts.

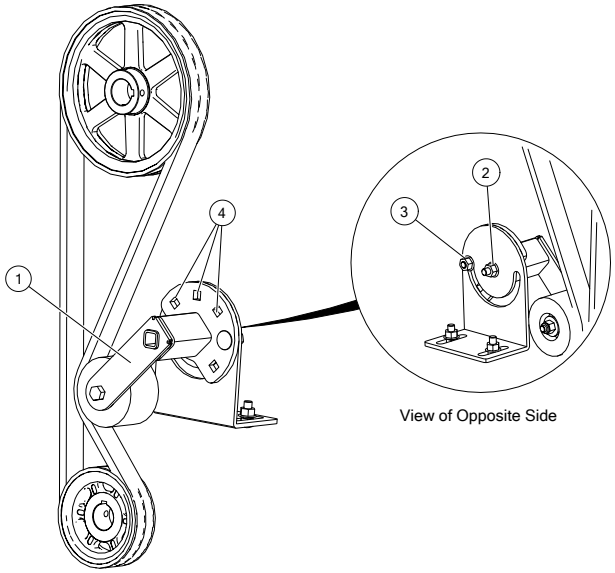
1	1/2" Hex Flange Nut	6	1/2" Lock Washer
2	Idler Mount Plate	7	1/2" Hex Flange Nut
3	1/2" X 1-1/4" Carriage Bolt (GR 5)	8	Idler Torsion Arm
4	1/2" X 1-1/2" Hex Bolt (GR 8)	9	1/2" X 1-1/4" Carriage Bolt
5	Gearbox Idler Mount		

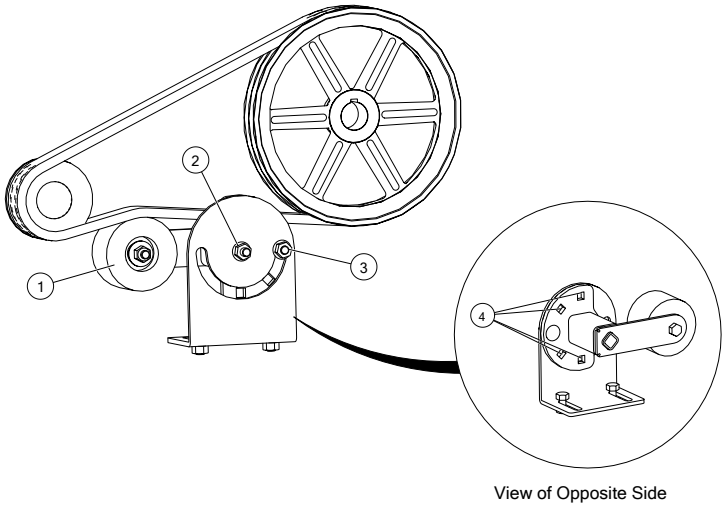
Hardware Kit: HRDW-15–120, HRDW-15–112

Tensioning the Belt

1. Loosen the nuts (2, 3). This will allow the idler pulley (1) to pivot.
2. Place the square end of a ratchet into one of the square holes (4) in the idler pulley (1). Then rotate the idler pulley with the ratchet handle to a torque of 35 ft-lb to tighten the belt.
3. Hold the ratchet in position with the belt tight and tighten the nuts (2, 3).
4. Reattach and secure the guard. Start the system to ensure proper operation.

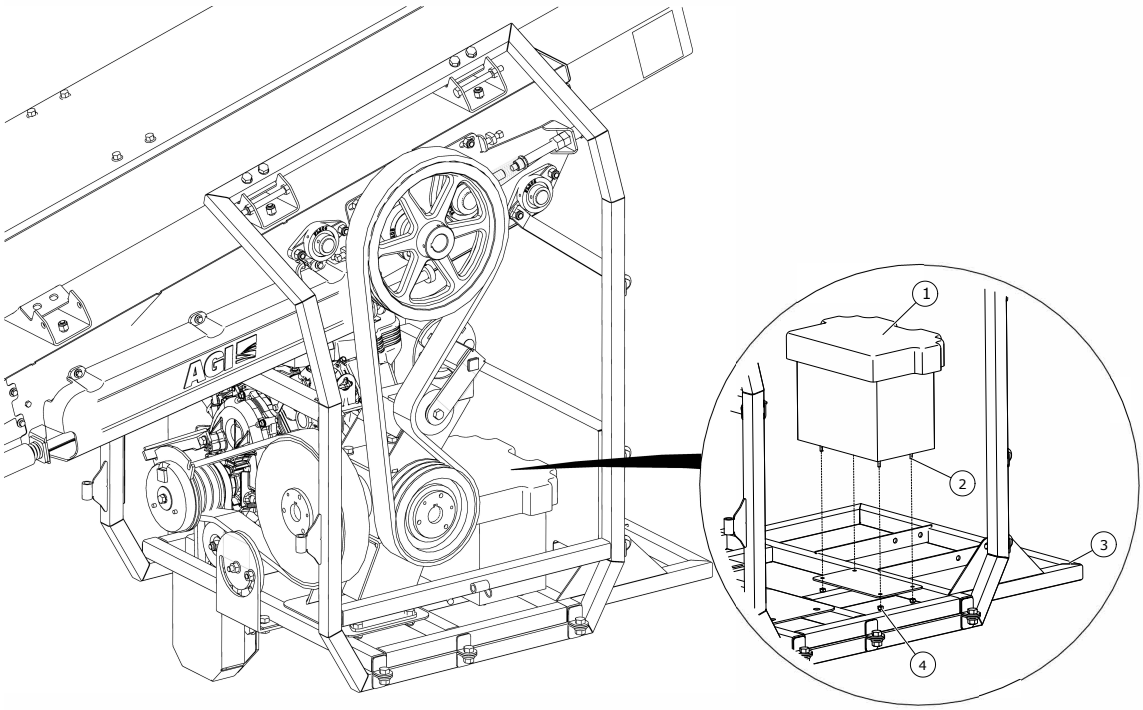
Pulley/Idler Configurations





3.19.9 Install the Battery

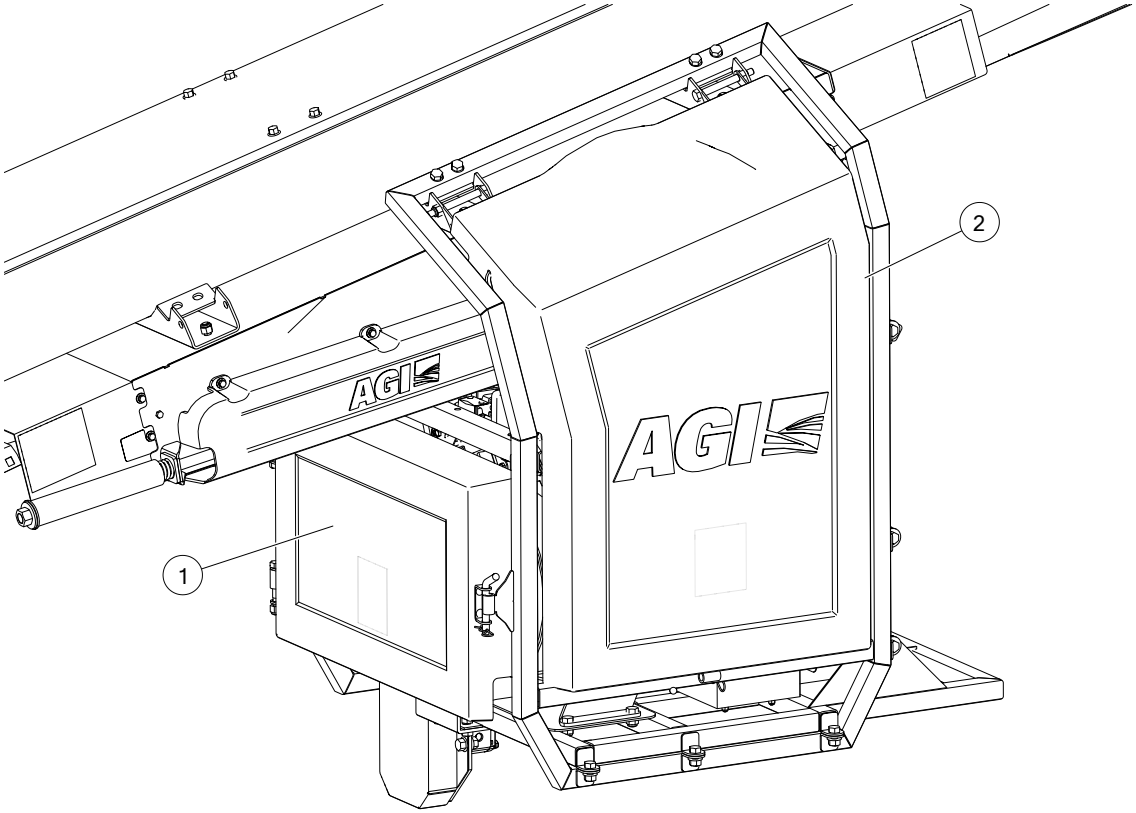
1. Place the 12V (min 420 CCA) battery in the battery box (1)
2. Connect the ground cable to a motor mount bolt using washers from hardware bag HRDW-15-100.
3. Connect the positive cable to the starter on the motor.



1	Battery Box	3	Battery Box Mount Plate (on bottom frame)
2	1/4" X 3/4" Hex Bolt (GR 5)	4	1/4" Lock Nut

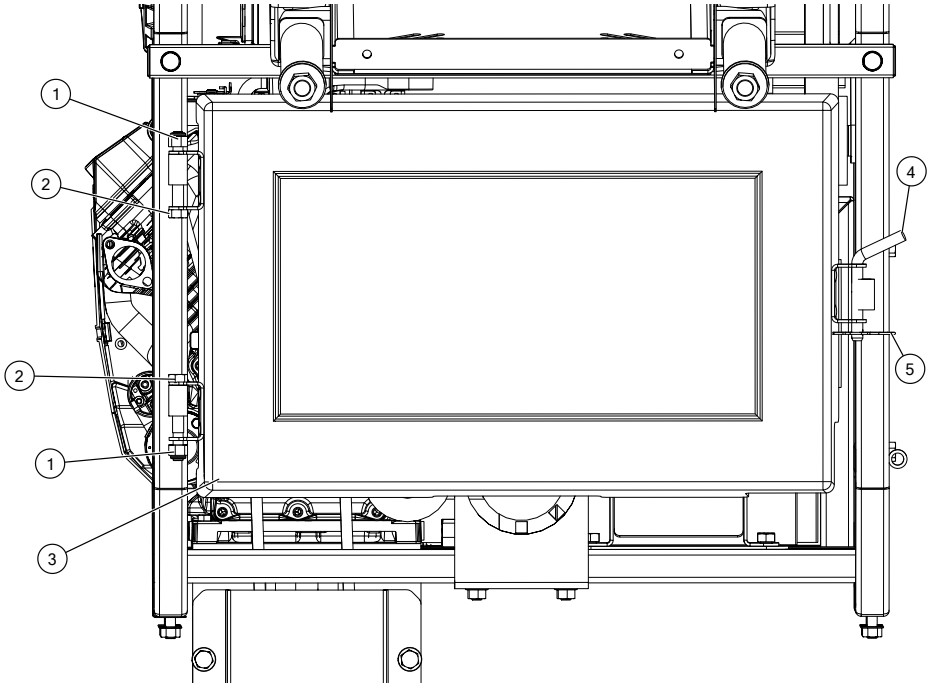
Hardware Kit: PARTK-15–39

3.19.10 Install the Guards



1	Front Guard	2	Side Guard

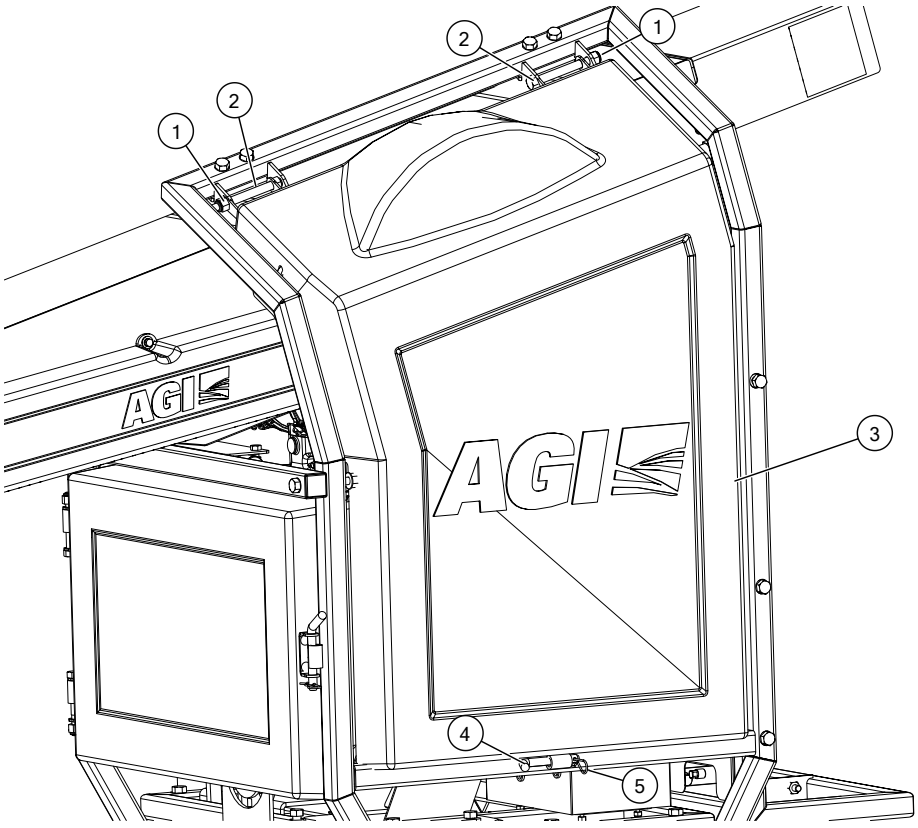
Installing the Front Guard



1	1/2" Lock Nut	4	1/2" X 3" Pin
2	1/2" X 3-1/2" Hex Bolt (GR 8)	5	Hair Pin
3	Front Guard		

Hardware Kit: HRDW-15–103

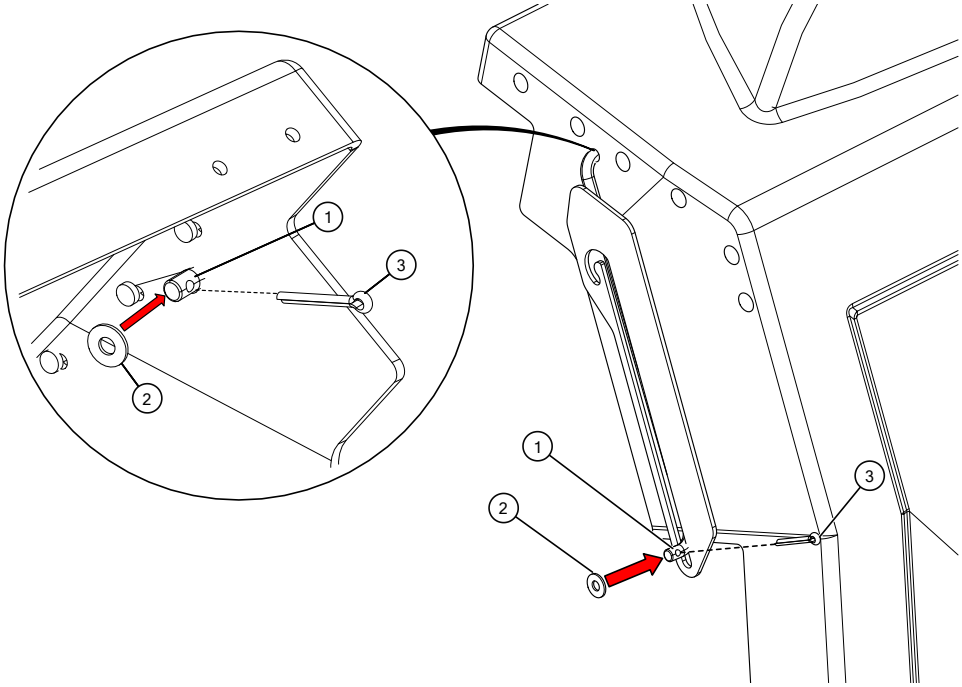
Installing the Side Guard



1	1/2" Lock Nut	4	1/2" X 3" Hitch Pin
2	1/2" X 4-1/2" Hex Bolt (GR 8)	5	Hair Pin
3	Drive-Side Guard Panel		

Hardware Kit: HRDW-15–104

Installing the Side Guard Support Arm



Assembly Note:

- Secure both ends of the support arm using a cotter pin (3) and washer (2).

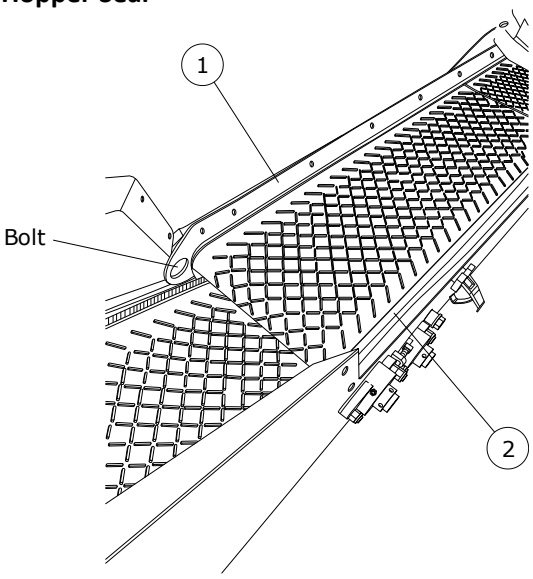
1	Support Arm	3	3/16" Cotter Pin
2	1/4" Flat Washer		

Hardware Kit: HRDW-15–118

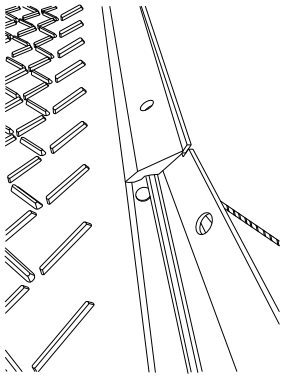
3.20. Attach the Hopper Seals

1. Pull the transition roller all the way back towards the hopper.
2. Press the seals as tightly as possible into the gap between the transition roller and the hopper body. Use a rubber mallet if necessary to ensure it goes all the way in. Secure with the bolt from the bearing.

Hopper Seal

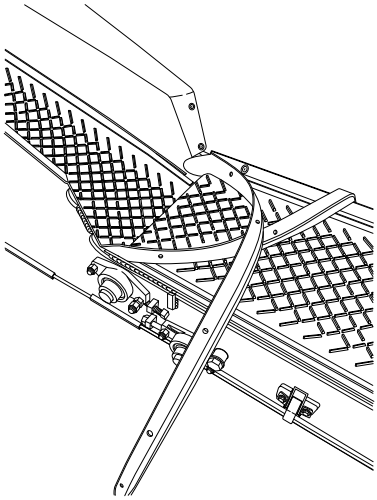


Seal Orientation



Assembly Note: • The edge of the belt must fit into the notch on the seal.			
1	Left Urethane Seal	2	Right Urethane Seal

3. Cross the seal loose ends over the opposite ends of the hopper frame so that they are not interfering with the belt.



4. Adjust the belt tracking. Refer to Section 3.21 – Align the Conveyor Belt on page 71 for belt tracking instructions. Run the belt for 10 minutes to properly wear in the seals. After tracking, remove any rubber shavings.

3.21. Align the Conveyor Belt

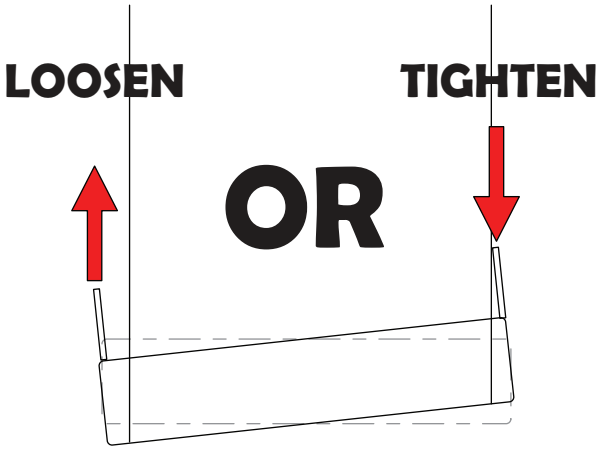
Basic Conveyor Belt Alignment:

The conveyor belt will run straight when all of the rollers are straight.

Loosen or tighten the adjustment bolt(s) to align the conveyor belt. Tighten the side the belt has moved toward, or loosen the side the belt has moved away from.

Belt alignment is done while the belt is running.

Figure 1. Roller out of Alignment



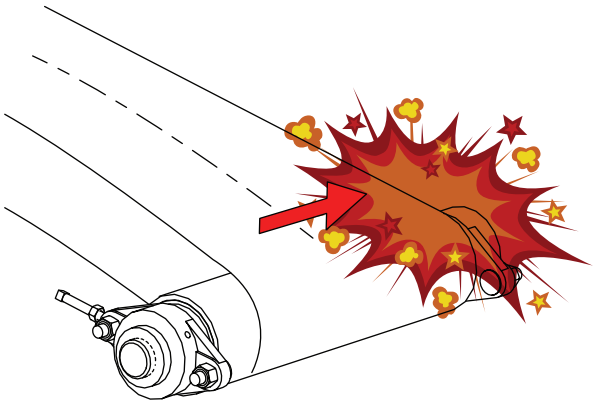
Before Aligning the Belt:

- The conveyor must be empty of all grain.
- The belt doesn't ride up over top of the interior trough guide blocks.
- Wait until the belt makes a complete revolution before adjusting the rollers. Some belts may have uneven edges, appearing misaligned.

To Align the Belt:

If your belt is tracking off-center, follow the sections and steps in the order following to center it.

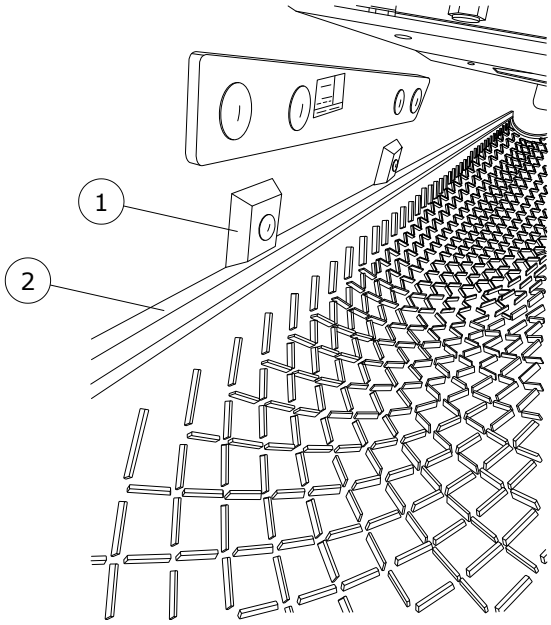
Figure 2. Belt Tracking to One Side



After aligning and tracking the belt, adjust the position of the interior trough guide blocks and install the remaining U-trough covers.

3.21.1 Adjust the Interior Trough Guide Blocks

1. Adjust each guide block so that it is butted up against the edge of the belt with little or no pressure.
2. Tighten the bolts.



1	Belt Guide Block	2	Belt

Part Kit: 15-62

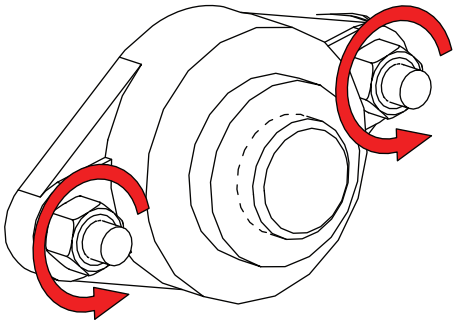
3.21.2 Install the Remaining U-Trough Covers

See Section 3.9 – Install the U-Trough Covers on page 25.

3.22. Adjust the Rollers

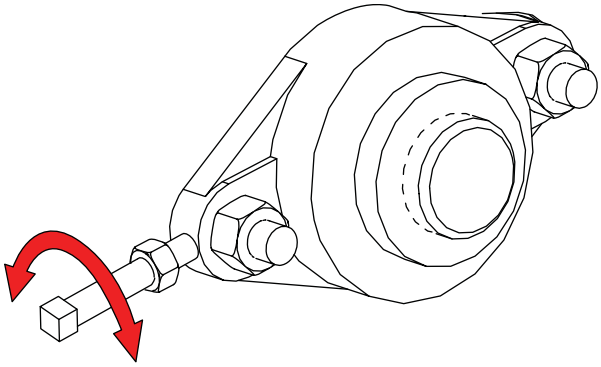
1. Loosen bearing nuts and jam nuts (if equipped).

Figure 3. Loosen the Bearing Nuts



2. Rotate adjustment bolt 1/2 turn.

Figure 4. Rotate the Adjustment Bolt



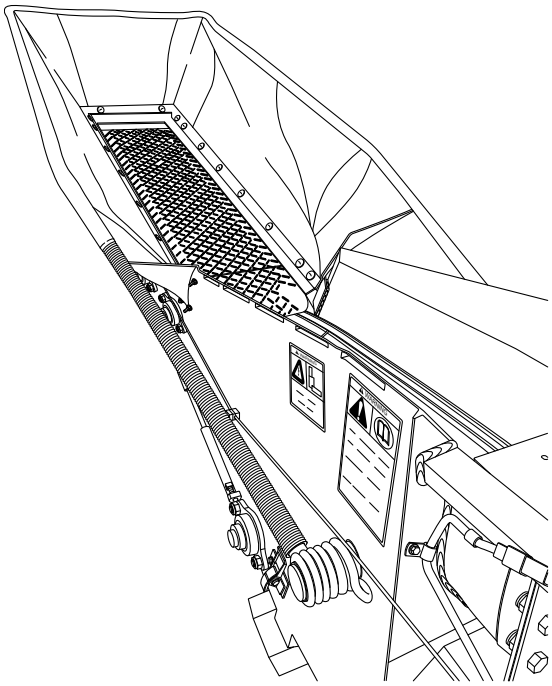
3. Restart conveyor and run empty for 1 minute.
4. Stop the conveyor and remove ignition key or lock out the power source.
5. If the belt has centered, move to next step. If not, repeat Step 2 to Step 4 until the belt is centered.
6. Tighten the bearing bolts and jam nut (if equipped).
7. Replace any guards that were removed.

3.23. Install the Collapsible Hopper Cloth

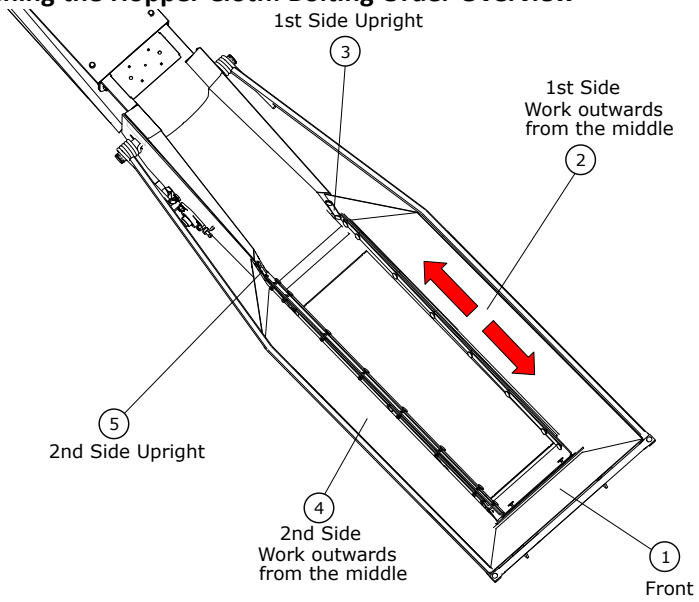
Installing the collapsible hopper cloth requires the completion of the following tasks:

Step	Description
1	Install the Hopper Springs
2	Assemble and Install the Upper Hopper Cloth Frame
3	Secure the Upper Hopper Cloth Frame to the Hopper
4	Straighten the Seals and Position the Flashing
5	Insert the Lower Hopper Cloth Frame into the Hopper Cloth
6	Secure the Front Lower Hopper Cloth Frame to the Hopper
7	Secure the Side Lower Hopper Cloth Frame and Uprights to the Hopper
8	Tighten the Lower Hopper Cloth Frame Bolts
9	Install the Split Loom

Finished Collapsible Hopper Cloth



Fastening the Hopper Cloth: Bolting Order Overview

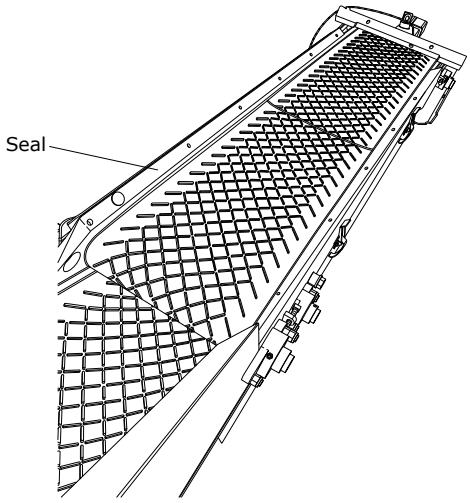


Note

This image is a reference for sections Section 3.23.5 – Secure the Front Lower Hopper Cloth Frame to the Hopper on page 79 to Section 3.23.7 – Tighten the Lower Hopper Cloth Frame Bolts on page 85.

3.23.1 Straighten the Hopper Seals and Position the Flashing

Straighten the Hopper Seals

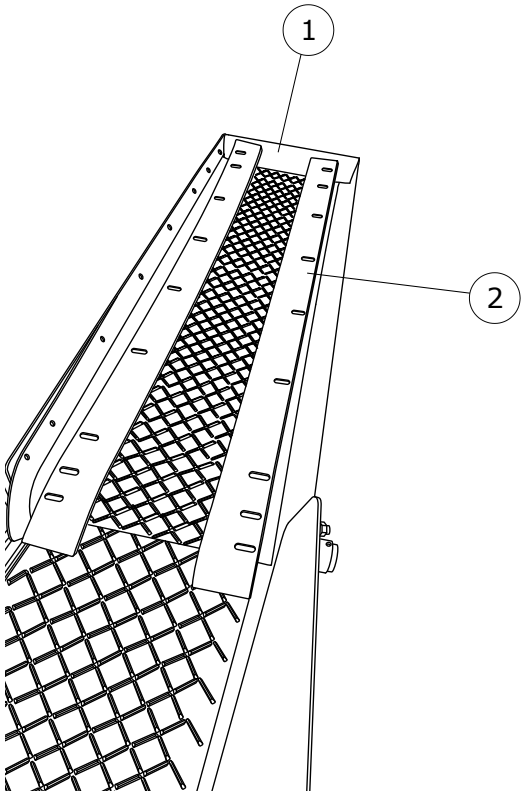


Assembly Note:

- Straighten the hopper seals installed in Section 3.20 – Attach the Hopper Seals on page 70 and position them against the hopper weldment.

1	Seal

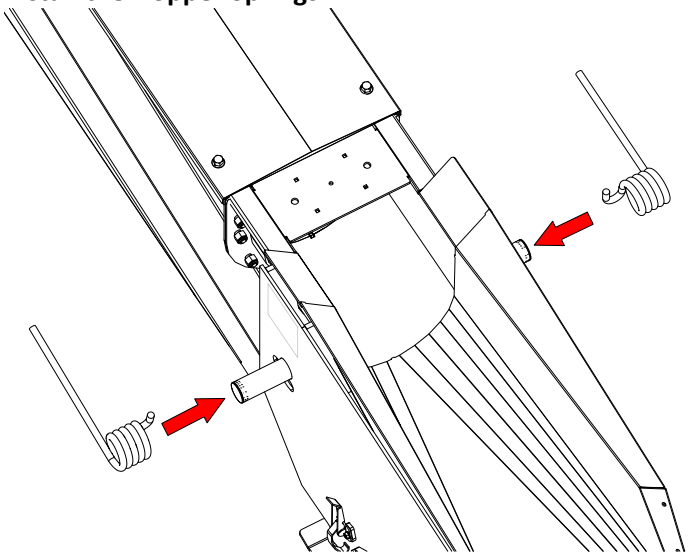
Position the Flashing



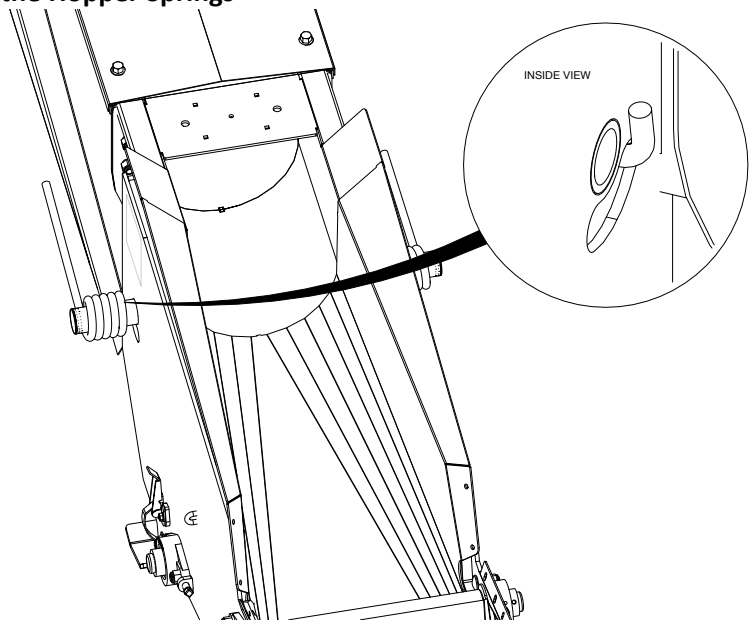
Assembly Note:			
• Ensure the side flashing is placed on top of the front flashing.			
1	Front Flashing	2	Side Flashing

3.23.2 Install the Hopper Springs

Install the Hopper Springs



Lock the Hopper Springs



3.23.3 Assemble the Upper Hopper Cloth Frame

1. Place the cloth flat on the floor.

   Note
   The “AGI” logo must be face up.

2. Slide the frame pieces through the channels in the hopper cloth.

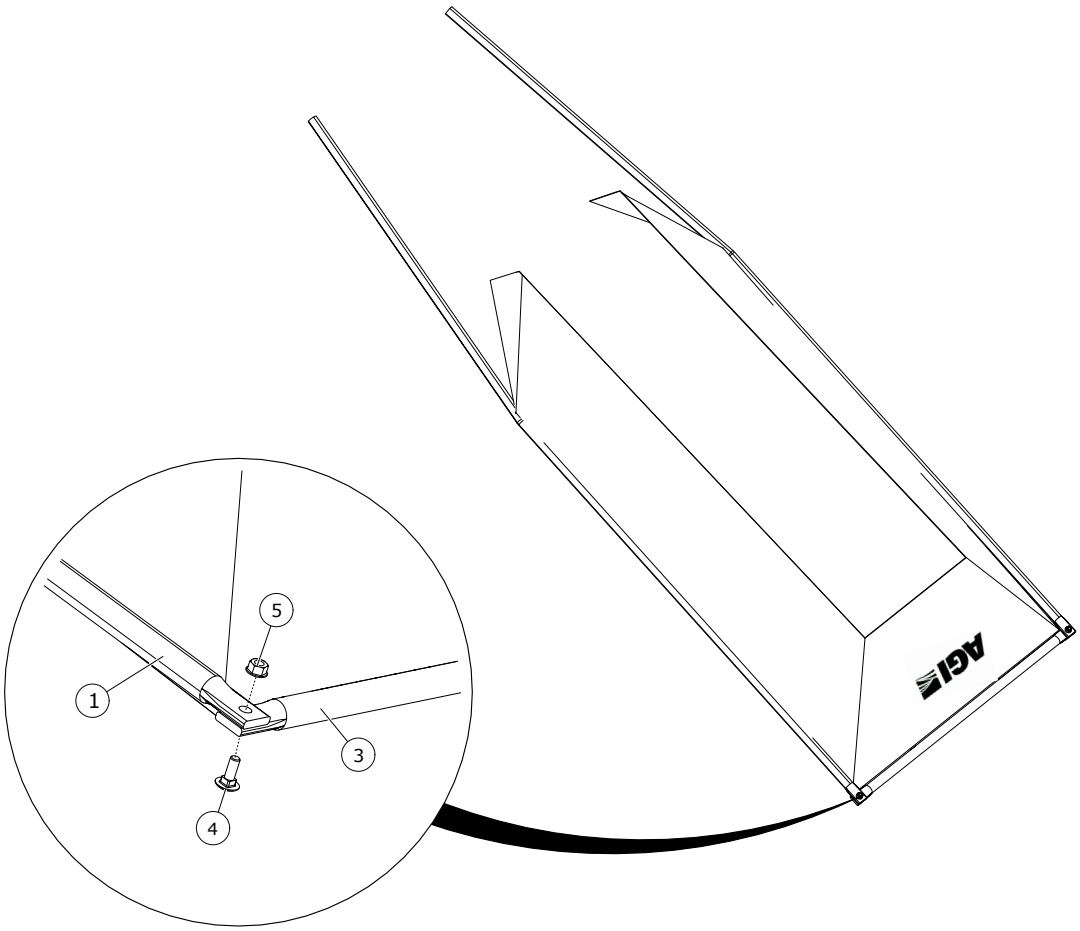
   Note
   The frame pieces must be oriented as shown in **Orientation of Frame Pieces**.

Orientation of Frame Pieces

3. Secure the side frame pieces together with a 3/8" x 1" carriage bolt and a 3/8" hex flanged nut. Attach the long side frame pieces underneath the front frame.

Item	Description	Quantity
1	UCX3 Hopper Frame Side, 3/4" Pipe Sch 80	2
2	Hopper Cloth	1
3	UCX3 Hopper Frame Front, 3/4" Pipe Sch 80	1
4	3/8" x 1" Carriage Bolt, UNC GR5 ZN	2
5	3/8" Hex Flanged Nut, UNC SERR GR5 ZN	2

Fully-Assembled Hopper Cloth and Frame

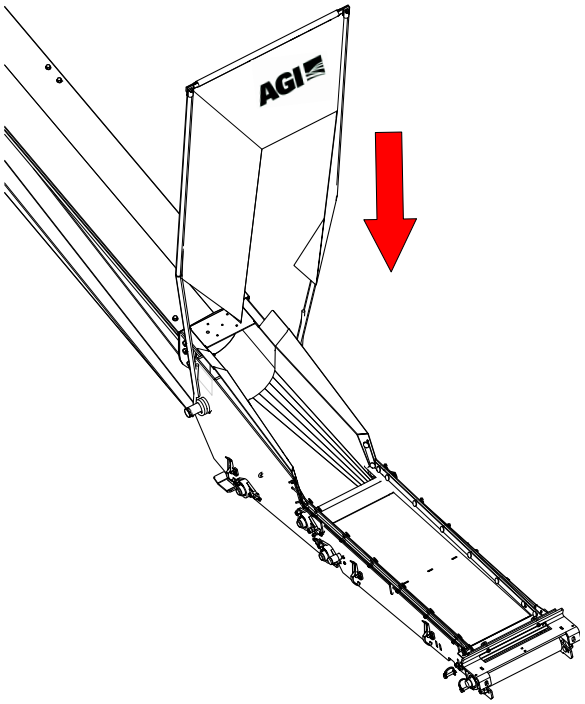


3.23.4 Install the Hopper Cloth onto the Hopper Springs

⚠ CAUTION Impact Hazard

The springs holding the upper hopper cloth frame are stiff, have a second person to assist you when collapsing and attaching the hopper cloth to the hopper weldment.

1. Slide the assembled hopper cloth onto the hopper springs.



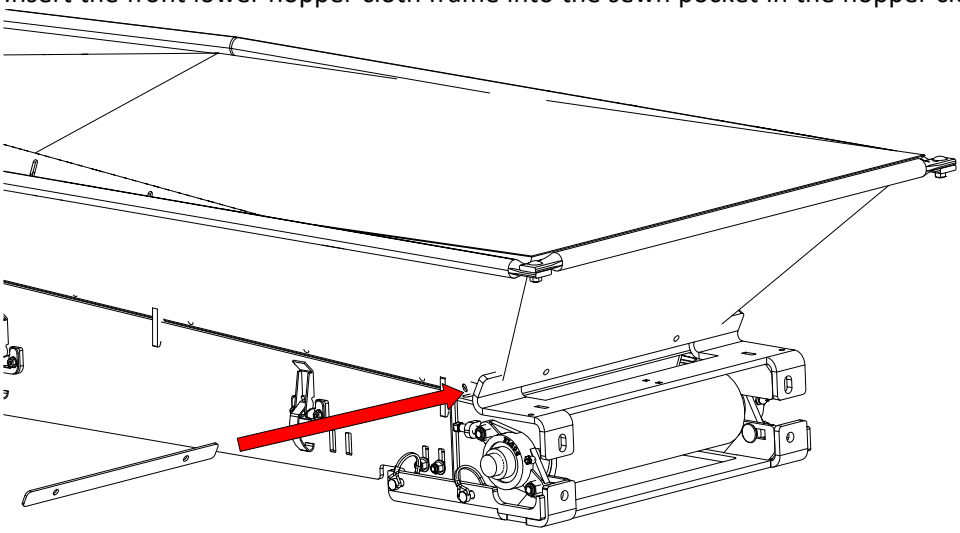
2. Pull down the hopper cloth frame towards the hopper weldment. Secure the upper hopper cloth frame to the front of the hopper, see Section 3.23.5 – Secure the Front Lower Hopper Cloth Frame to the Hopper on page 79.

3.23.5 Secure the Front Lower Hopper Cloth Frame to the Hopper

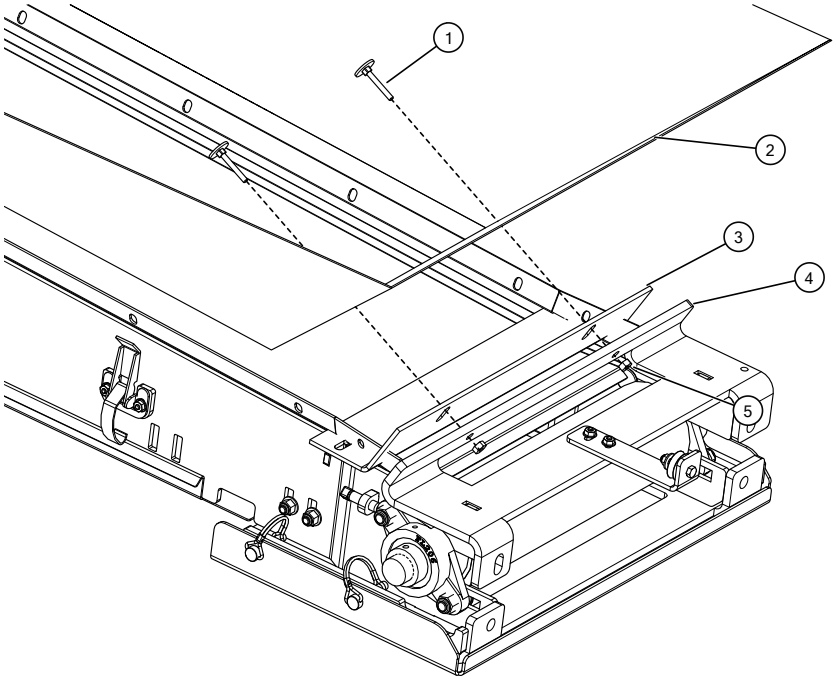
Note

Finger-tighten the bolts only.

1. Insert the front lower hopper cloth frame into the sewn pocket in the hopper cloth.



2. Drill holes through the cloth to match the frame holes.
3. Position the cloth (2) and frame on top of the flashing (3), aligning the holes of the cloth, flashing, and weldment (4).
4. Drill holes through the cloth, flashing, and weldment.
5. Insert and finger-tighten the bolts (1, 5).
6. Tug on the cloth to ensure it is fully stretched out and has no wrinkles.



1	1/4" x 1-3/4" Elevator Bolt (GR 2)	4	Hopper Weldment
2	Hopper Cloth (with frame inserted)	5	1/4" Hex Bolt
3	Flashing		

3.23.6 Secure the Side Lower Hopper Cloth Frame and Uprights to the Hopper

Important

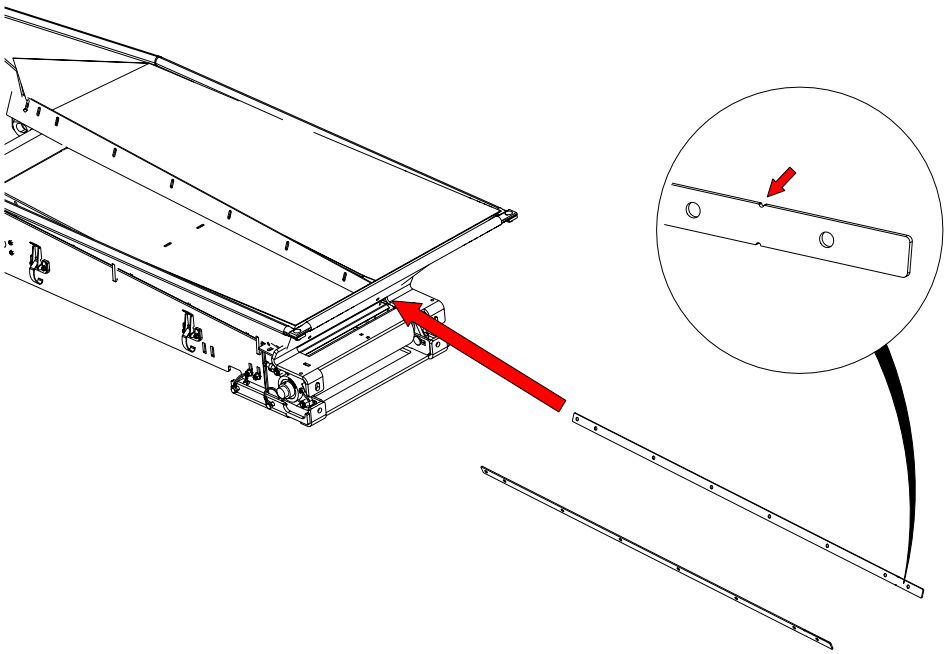
Secure the side frame and upright on one side before moving to the other.

Secure the Side Lower Hopper Cloth Frame to the Hopper

Note

Finger-tighten the bolts only.

1. Insert the side lower hopper cloth frame into the sewn pocket in the hopper cloth. Locate the notch on one



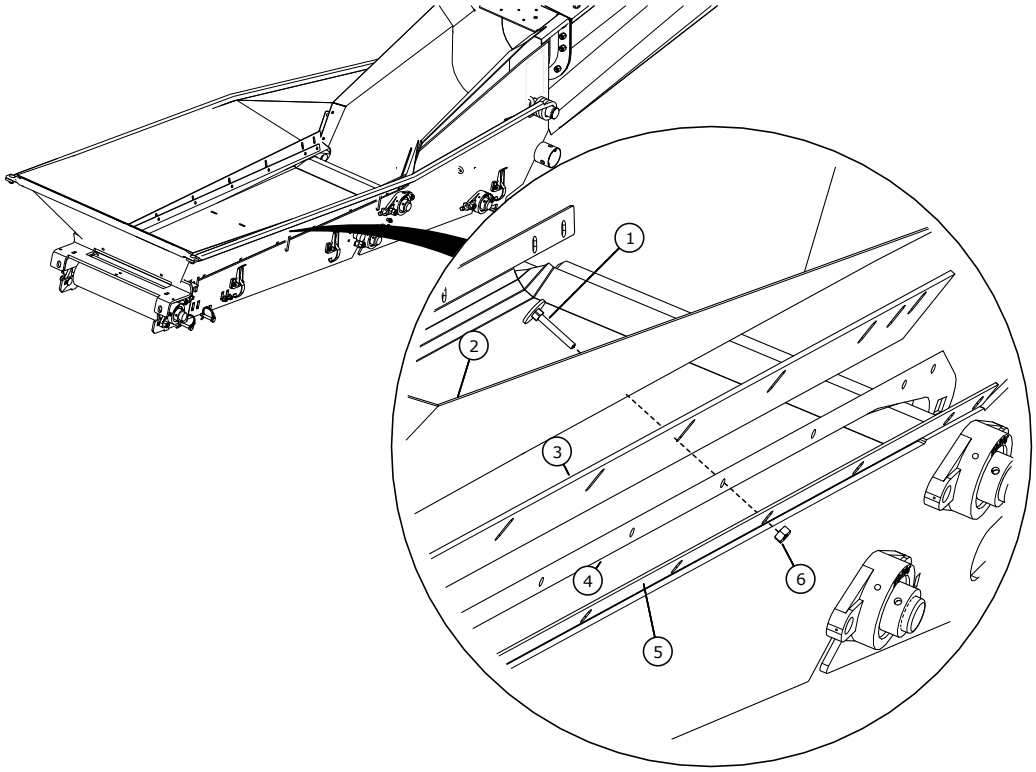
   end of the side frame.
2. Pull the cloth tight on one side until the cloth (2) lays smoothly and then slide the lower frame along the pocket until the holes in the frame align with the holes in the hopper (5).

   Note

   Ensure the cloth is fully stretched out and the upright frame can also be secured from this position
3. Starting in the middle, drill a hole in the cloth through the lower hopper cloth frame, flashing (3) , urethane seal (4), and hopper.

   Note

   Ensure that the urethane seal does not slip below the bolt.
4. Insert and finger-tighten the bolt (1,6).
5. Repeat steps 3 and 4, working out from the middle bolt until the side is secured to the hopper



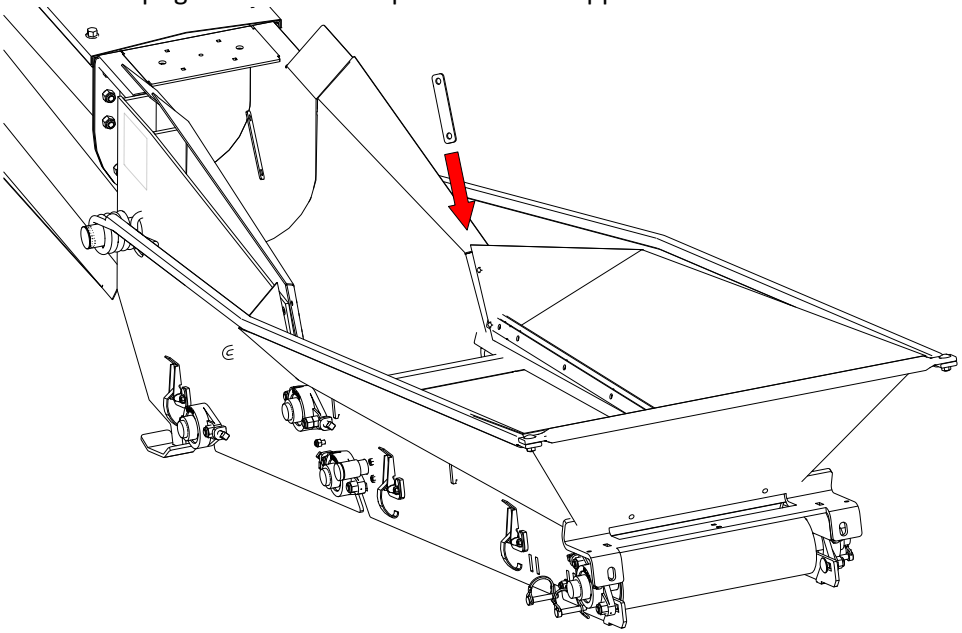
1	1/4" x 1-3/4" Elevator Bolt (GR 2)	4	Urethane Seal
2	Hopper Cloth (with frame inserted)	5	Hopper Weldment
3	Flashing	6	1/4" Hex Bolt

Secure the Uprights to the Hopper

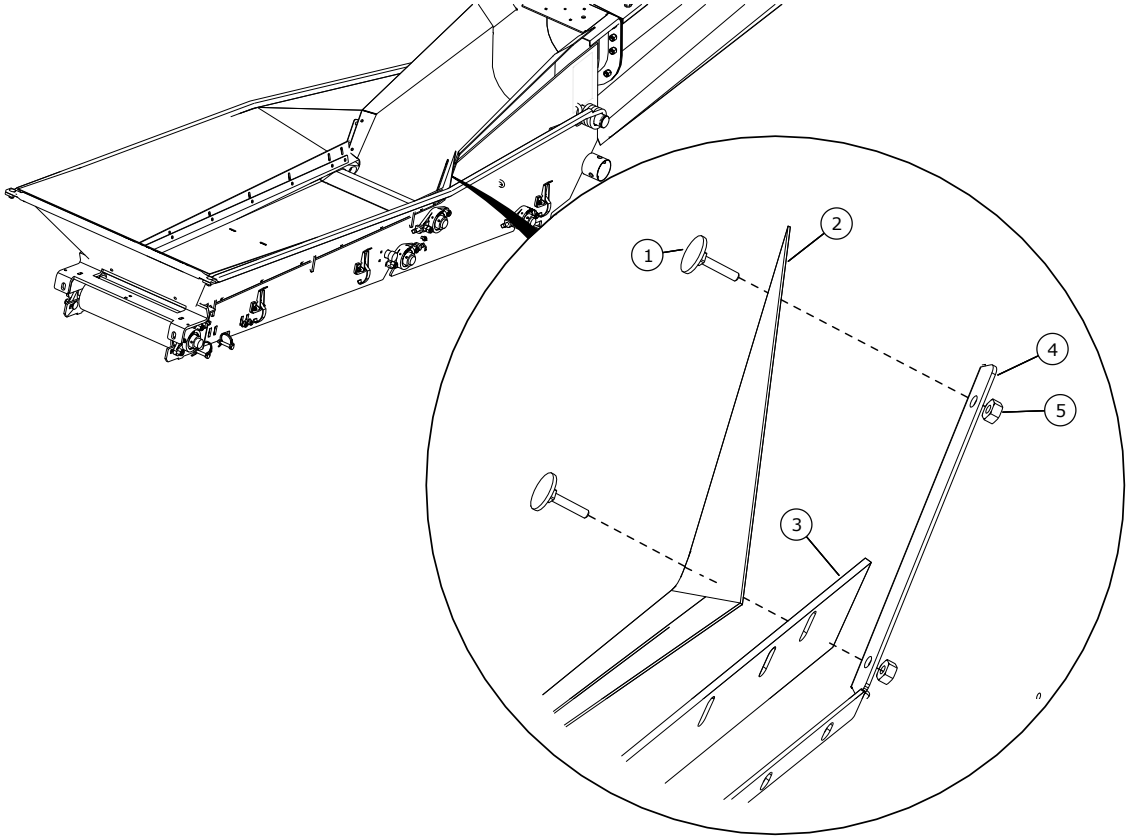
Note

Finger-tighten the bolts only.

1. Insert the upright into the sewn pocket in the hopper cloth.



2. Align the upright frame holes:
   a. The top hole is aligned with hopper (4).
   b. The bottom hole is aligned with the flashing (3) and hopper.
3. Drill holes through the cloth to match the frame holes.
4. Insert and finger-tighten the bolts.



1	1/4" x 1-1/4" Elevator Bolt (GR 2)	4	Hopper Weldment
2	Hopper Cloth (with frame inserted)	5	1/4" Hex Bolt
3	Flashing		

3.23.7 Tighten the Lower Hopper Cloth Frame Bolts

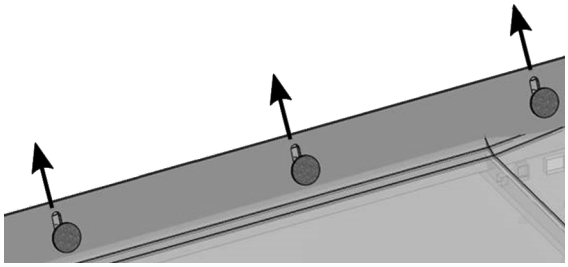
1. Tug the flashing upwards and away from the belt while tightening the bolts. Make sure the flashing is resting on the smooth part of the belt and not touching the outer diagonal cleats.
2. Gently tighten the bolts on the front and the uprights.
3. Run the conveyor belt.
4. While the belt is running, gently tighten the bolts along the sides until just past finger tight, so that the nut is locked by contact with the weldment.

NOTICE If the cloth frame is bolted down too tight, it is possible to crush the frame, seals, and belt together in a way that restricts belt movement or deforms the seals and frame. This can result in difficulty starting the belt, damage to the drive belts, leakage, and poor equipment performance.

Note

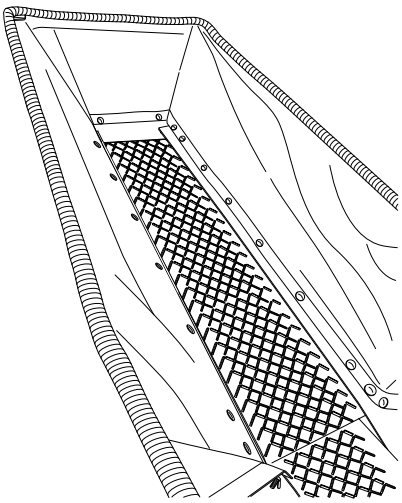
Some smoke is expected as the seals are heated and broken-in.

Tugging the Flashing Upwards



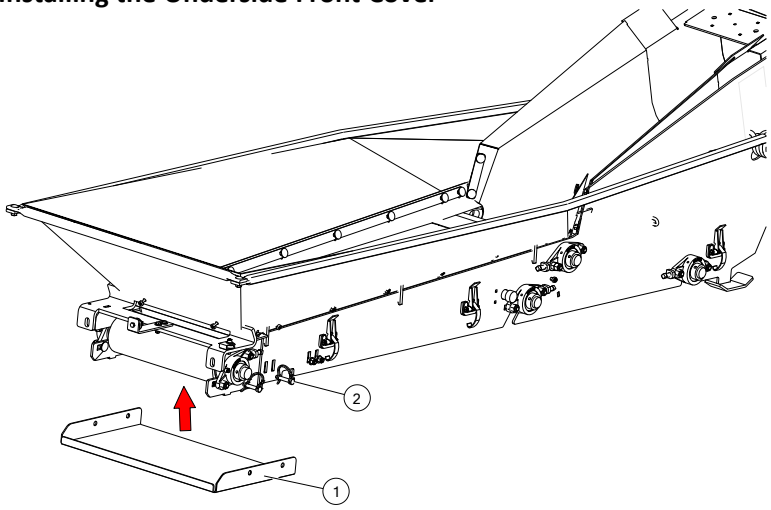
3.23.8 Install the Split Loom

1. Cut the split loom to length to cover the sides and front of the hopper. Make sure it is long enough to cover the corners.
2. Open split loom along the slit and snap over the upper frame.

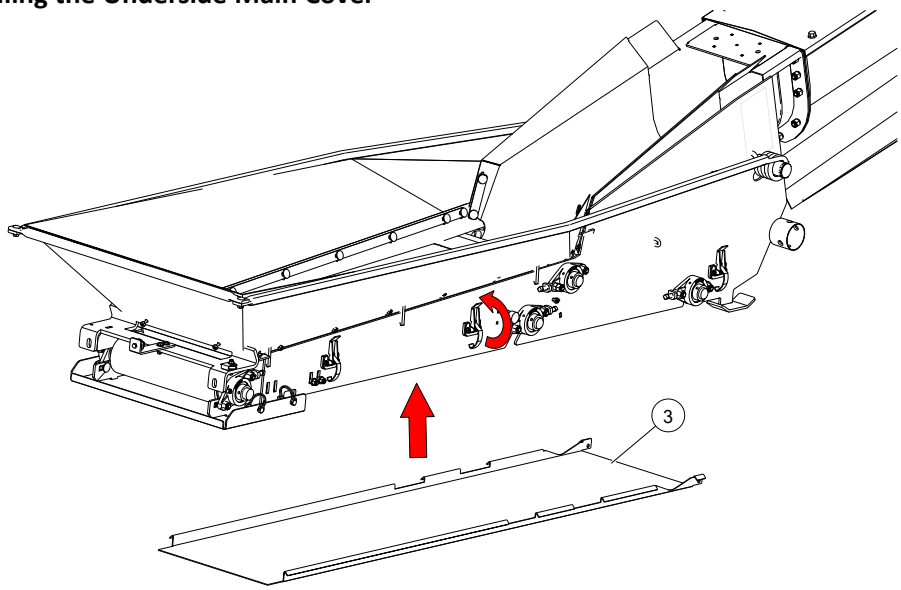


3.24. Attach the Hopper Underside Covers

Installing the Underside Front Cover



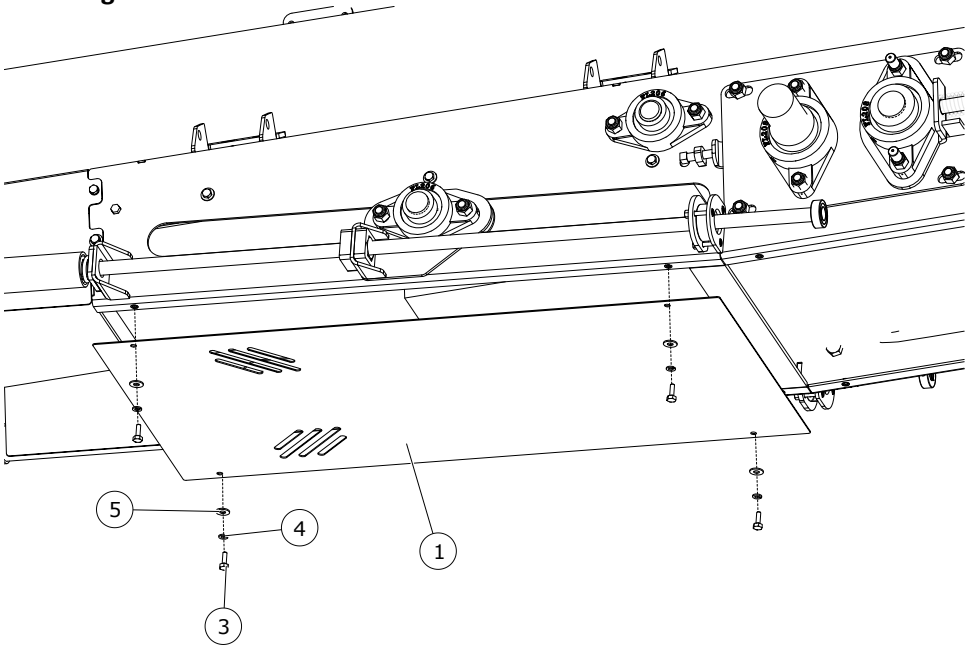
Installing the Underside Main Cover



1	Hopper Front Cover	3	Hopper Bottom Cover
2	Spring Pin		

3.25. Attach the S-Drive Bottom and Take-up Side Guards

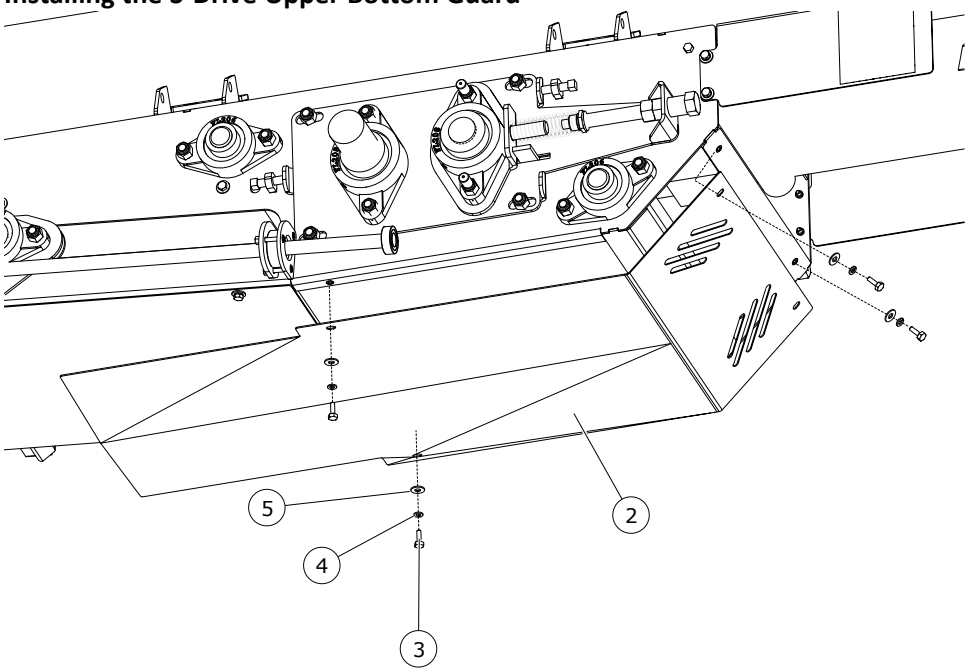
Installing the S-Drive Lower Bottom Guard



1	S-Drive Lower Bottom Cover	4	1/4" Lock Washer
2	S-Drive Upper Bottom Cover	5	1/4" Flat Washer
3	1/4" x 3/4" Hex Bolt (GR5)		

Hardware Kit: HRDW-15-44x2

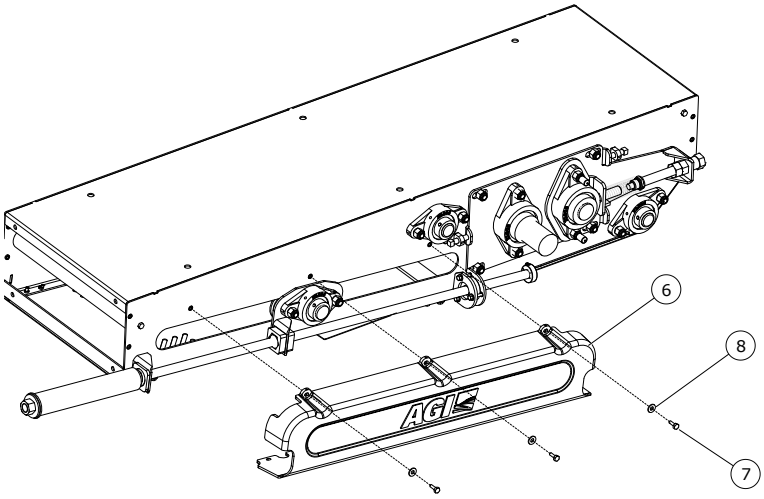
Installing the S-Drive Upper Bottom Guard



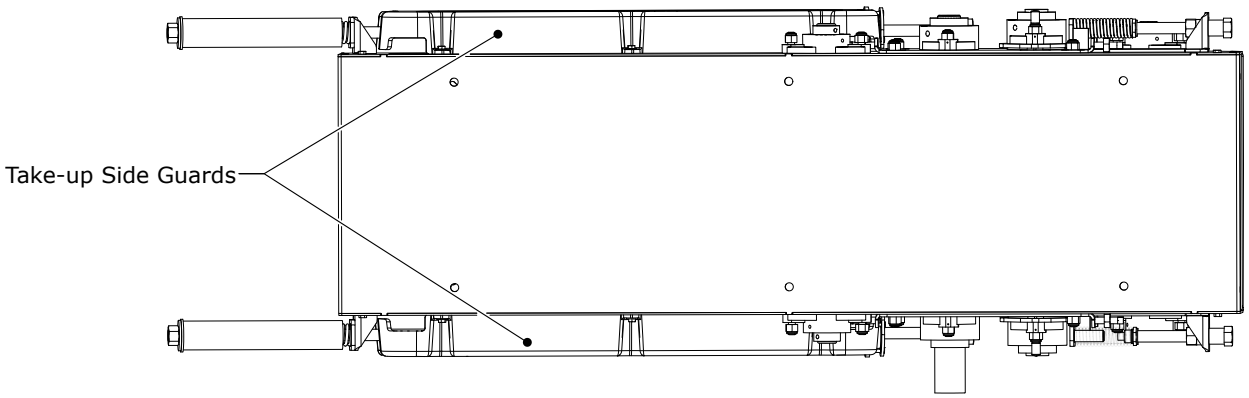
6	S-Drive Take-up Side Guard	8	1/4" Flat Washer
7	1/4" x 3/4" Hex Bolt (GR5)		

Hardware Kit: HRDW-15-114

Installing the S-Drive Take-up Side Guards

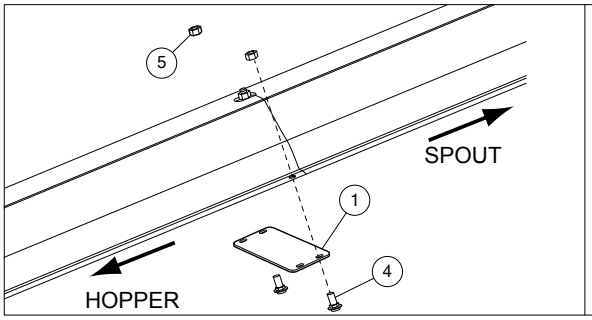


S-Drive with Take-Up Side Guards — Top View

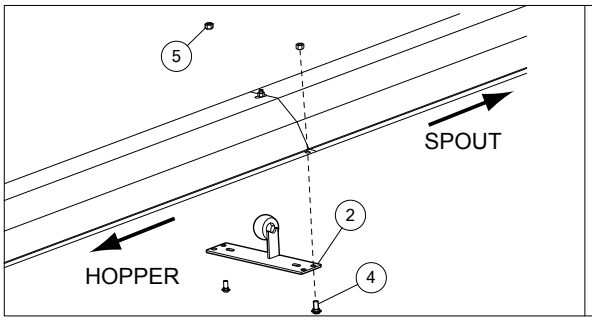


3.26. Install the Weather Guard Mount Bars

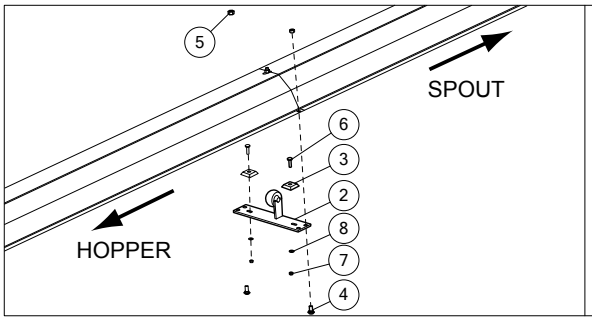
1. Install the types of mount bar assemblies which are indicated by the position arrows and identifier letters as shown on your particular conveyor model schematic that follows.
2. Adjust the position on all weather guards and mount bars to achieve the best fit.
3. Tighten all nuts.



Type A:
Mount Bar
(Cross Bar with No Roller)

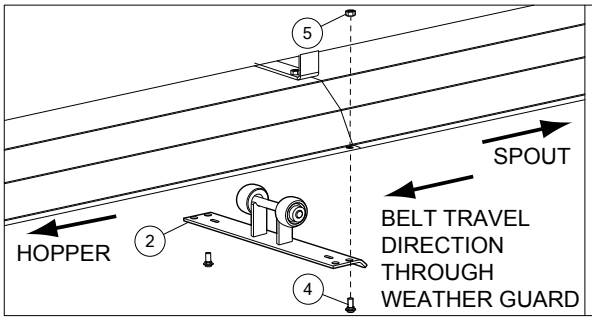


Type B:
Mount Bar with Roller



Type C:
Mount Bar with Roller
and Guide Blocks

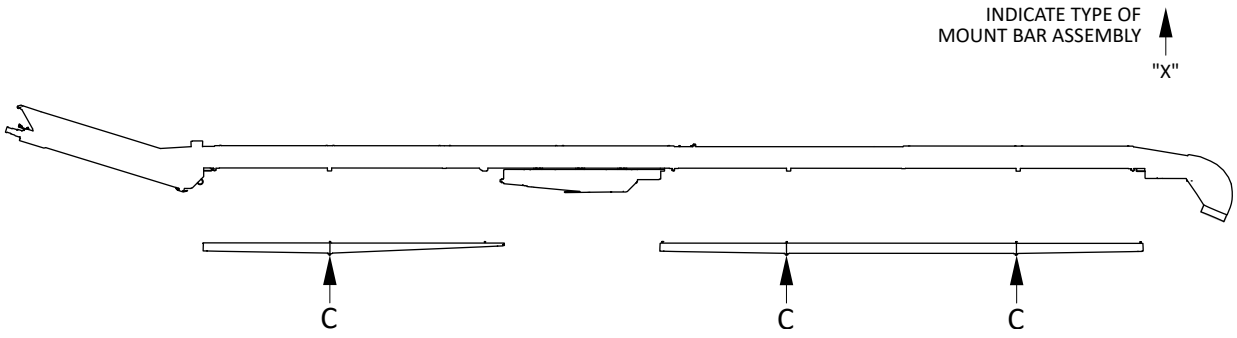
(Note: Slide belt guide blocks toward outside of slotted holes in roller mount bar once installed on weather guard.)



Type D:
Mount Bar
with Bi-Rollers

1	Mount Bar (Cross Bar with No Roller)	5	7/16" Nylon Lock Nut
2	Mount Bar with Roller	6	5/16" x 1-1/2" Carriage Bolt
3	Belt Guide Nylon Blocks	7	5/16" Hex Nut
4	7/16" x 1" Carriage Bolt	8	5/16" Lock Washer

Figure 5. Mount Bar Schematic Diagram



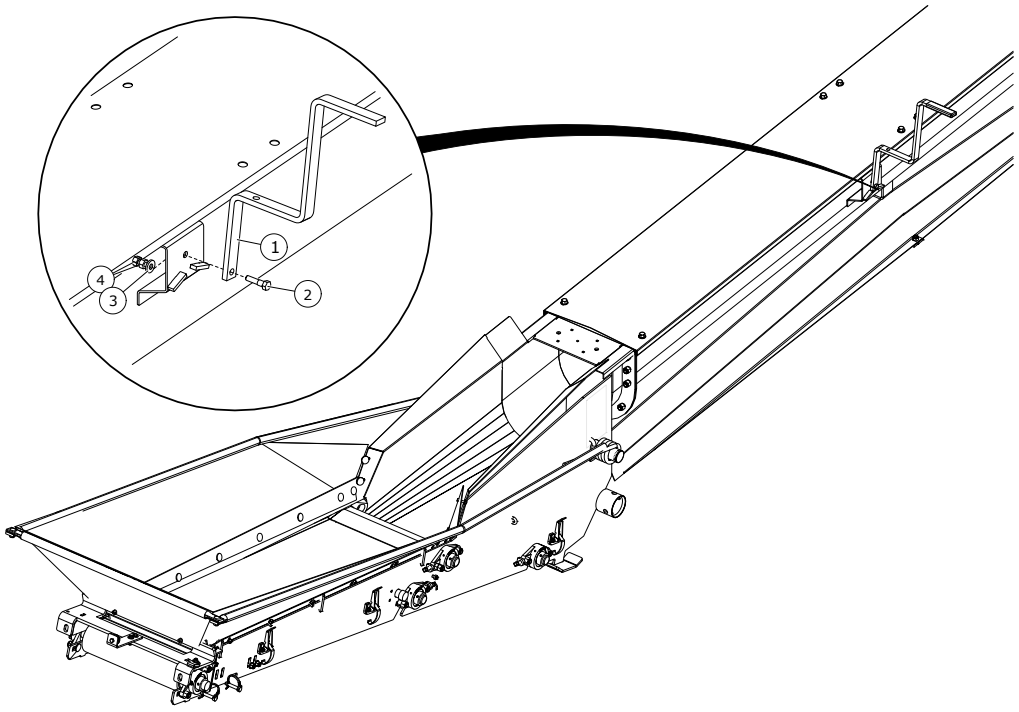
3.27. Install the Collapsible Hopper Cloth Controls

Install the Handle

1. Attach the hopper handle (1) to the handle mount using a 3/8" x 1-1/2" bolt (2), 3/8" plastic flat washer (3), and two 3/8" hex nuts (4).

   Note

   Ensure the handle can pivot after tightening the bolt.

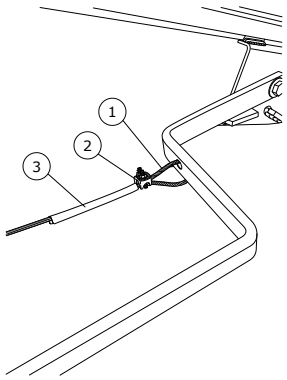


1	Hopper Handle	3	3/8" Plastic Flat Washer
2	3/8" x 1-1/2" Hex Bolt (GR8)	4	3/8" Hex Nut

Hardware Kit: HRDW-15-82

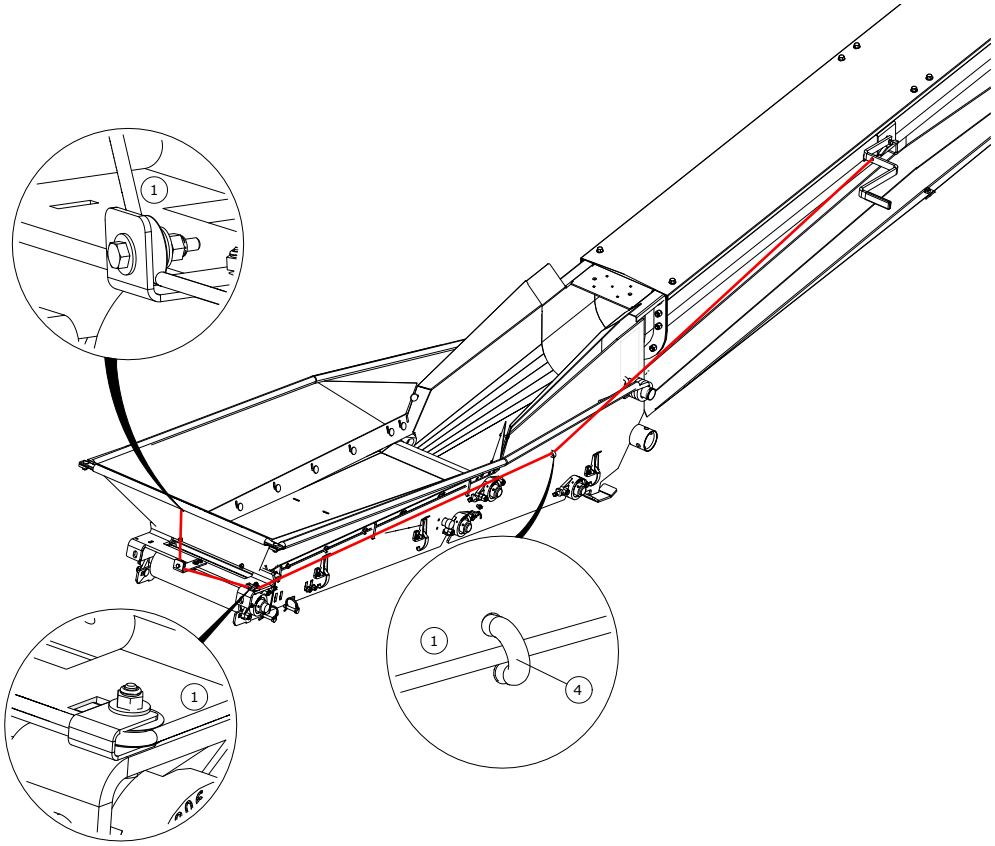
Install the Cable and Clamps

1. Point the hopper handle toward the hopper.
2. Secure the cable (1) to the handle with a cable clamp (2). Install heat shrink tubing (3) onto loose end of cable.



1	1/8" Cable 7x19 GAC	3	Heat Shrink Tubing
2	1/8" Cable Clamp		

3. Route the cable (1) through the 3/8" P-Clip (4) and around the cable sheaves.

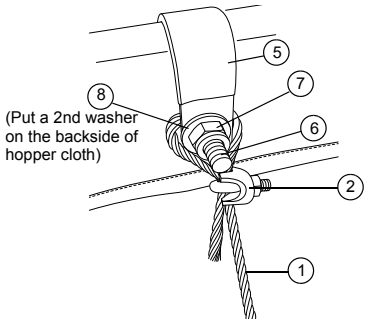


1	1/8" Cable 7x19 GAC	4	3/8" P-Clip

4. Attach a 1-1/4" P-clip (5) to the front upper frame using one 5/16" x 1" bolt (6), one 5/16" nut (7) and two 5/16" flat washers (8). Do not fully tighten.

5. Loop the cable (1) around the 5/16" x 1" bolt and secure with 1/8" cable clamp (2). Ensure trailing cable end is kept short.
6. Tighten the bolt on the P-clip once the cable is in place.
7. Test the function of the collapsible hopper cloth controls by raising and lowering the handle. Adjust cable tension as required.

Attaching the Cable to the Hopper Frame



1	1/8" Cable 7x19 GAC	6	5/16" x 1" Bolt (GR8)
2	1/8" Cable Clamp	7	5/16" Nylon Lock Nut (GR8)
5	1-1/4" P-Clip	8	5/16" Flat Washer

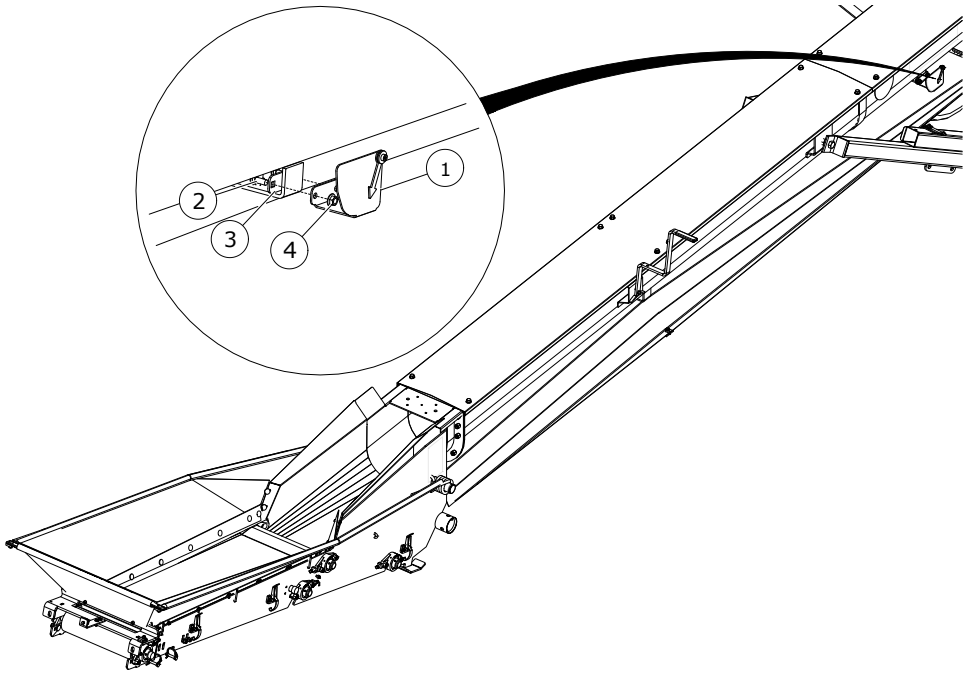
Hardware Kit: HRDW-15-82

3.28. Attach the Angle Indicator

Attach the angle indicator bracket (1) to the weather guard bracket using plate (2), 3/8" x 1" carriage bolts (3) and 3/8" flanged nuts (4).

Important

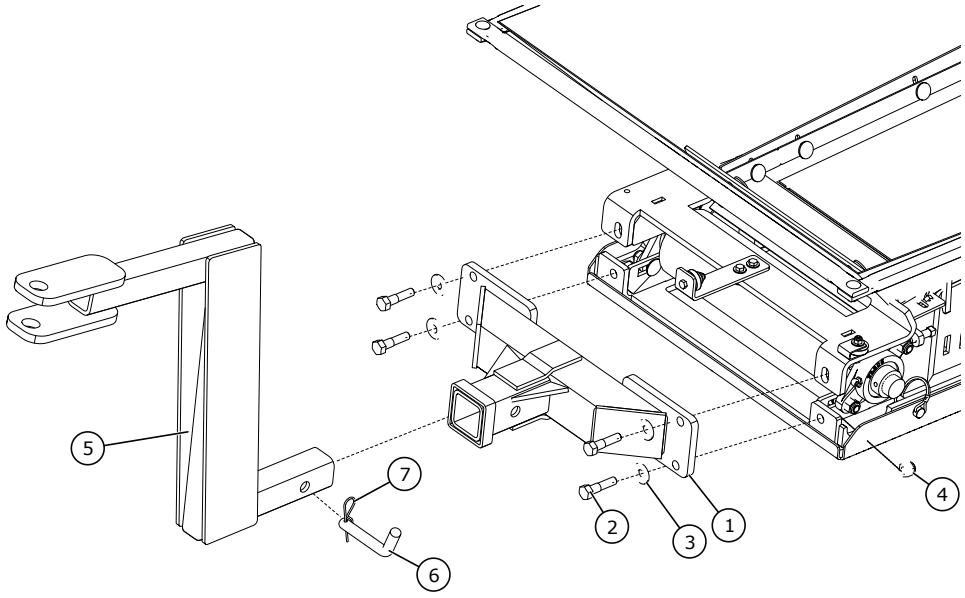
Ensure that the angle indicator base is level with the flat top of the weather guard.



1	Angle Indicator Bracket	3	3/8" x 1" Carriage Bolt
2	Plate	4	3/8" Flanged Nut

3.29. Attach the Hitch

1. Attach the hitch (1) to the hopper weldment using 1/2" x 2" bolts (2), 7/16" flat washers (3), and 1/2" nuts (4).
2. Insert the tongue (5) into the tongue stub.
3. Secure the tongue in place using 5/8" x 3" hitch pin (6) and 3/16" x 3-1/4" hairpin (7).

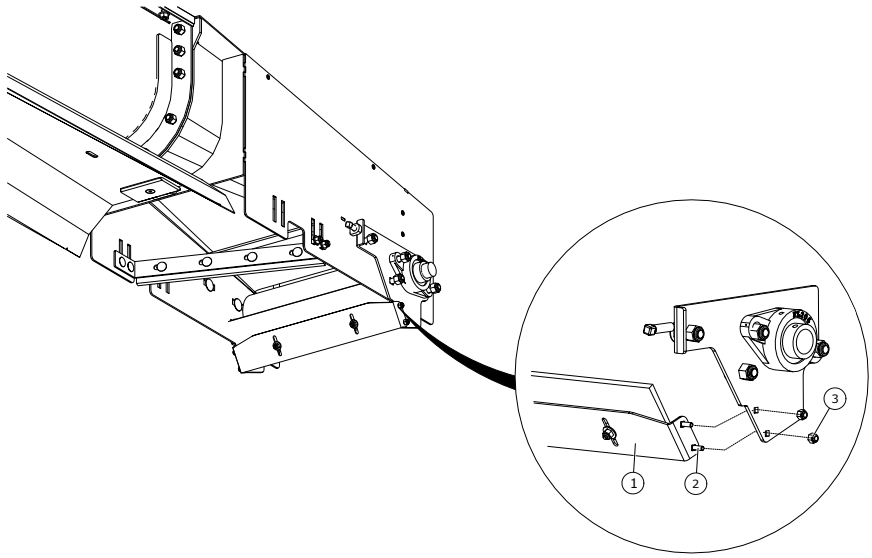


1	Hitch FL	5	Tongue - Drop FL
2	1/2" x 2" Hex Bolt (GR8)	6	5/8" x 3" Hitch Pin
3	7/16" Flat Washer	7	3/16" x 3-1/4" Hairpin
4	1/2" Nylock Nut (GR8)		

Hardware Kit: HRDW-15-16

3.30. Attach the Spout Brush

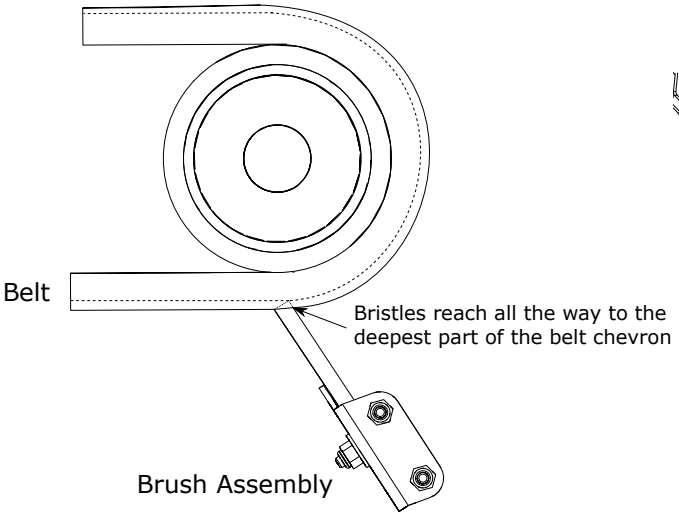
1. Attach the brush (1) to the roller plates with 1/4" x 3/4" carriage bolts (2) and 1/4" lock nuts (3).

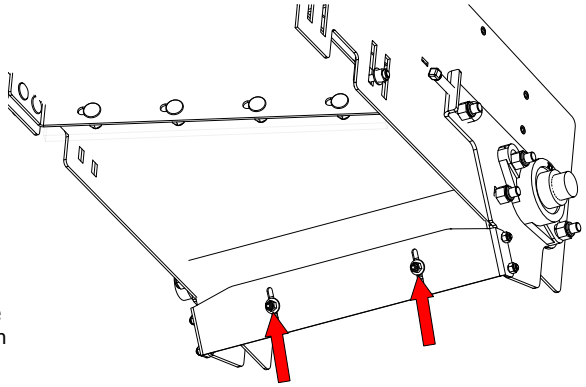


1	Spout Brush	3	1/4" Lock Nut (GR8)
2	1/4" x 3/4" Carriage Bolt (GR5)		

2. Adjust the position of the brush using the slots so that the bristles reach all the way to the deepest part of the chevron on the belt.
3. Tighten the nuts.

Adjusting the Spout Brush

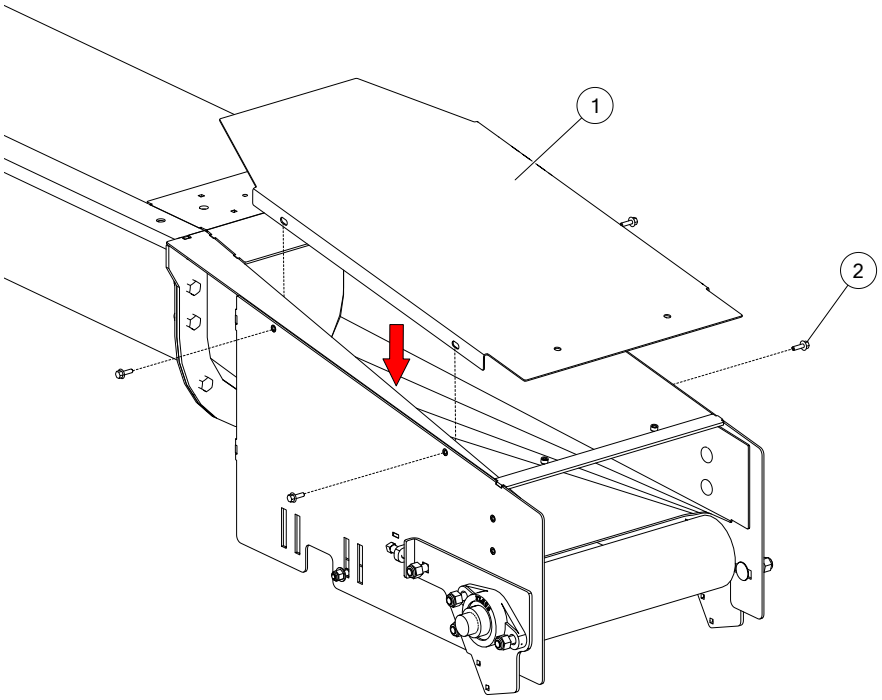




3.31. Install the Spout Cap and Hood

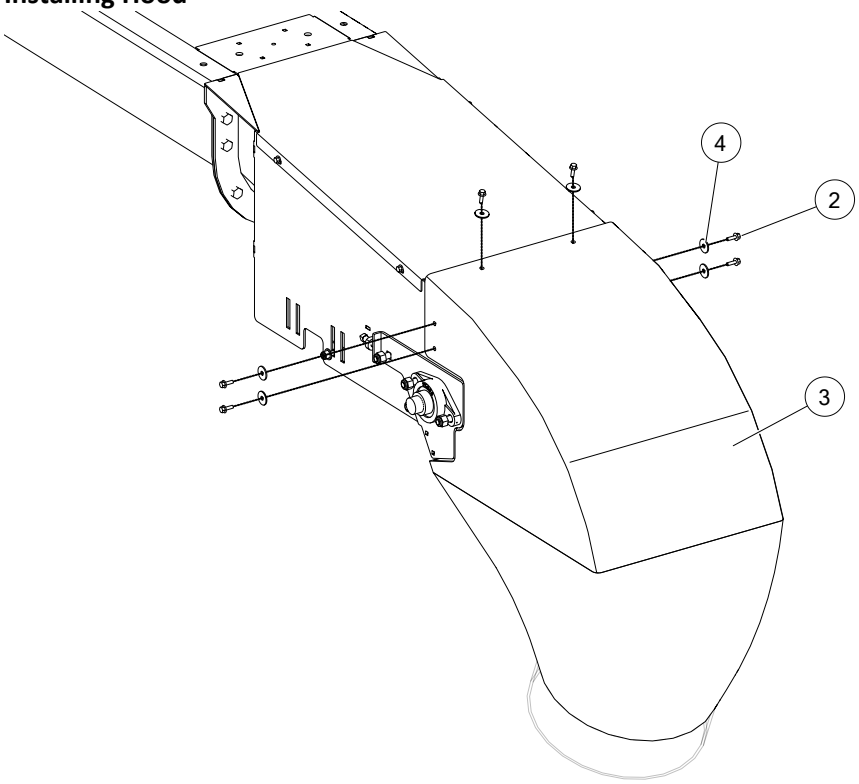
1. Attach the spout cap (1) to the spout using four 1/4" x 3/4" serrated hex flange bolt (2).
2. Place the hood (3) around the bearing assembly.
3. Use 1/4" x 3/4" serrated hex flange bolt (2) to secure the hood to the conveyor spout.

Installing Spout Cap



1	Spout Cap	2	1/4" x 3/4" Serrated Hex Flange Bolt (GR5)

Installing Hood



2	1/4" x 3/4" Serrated Hex Flange Bolt (GR5)	4	1/4" Fender Washer
3	Hood		

Hardware Kit: HRDW-15-97

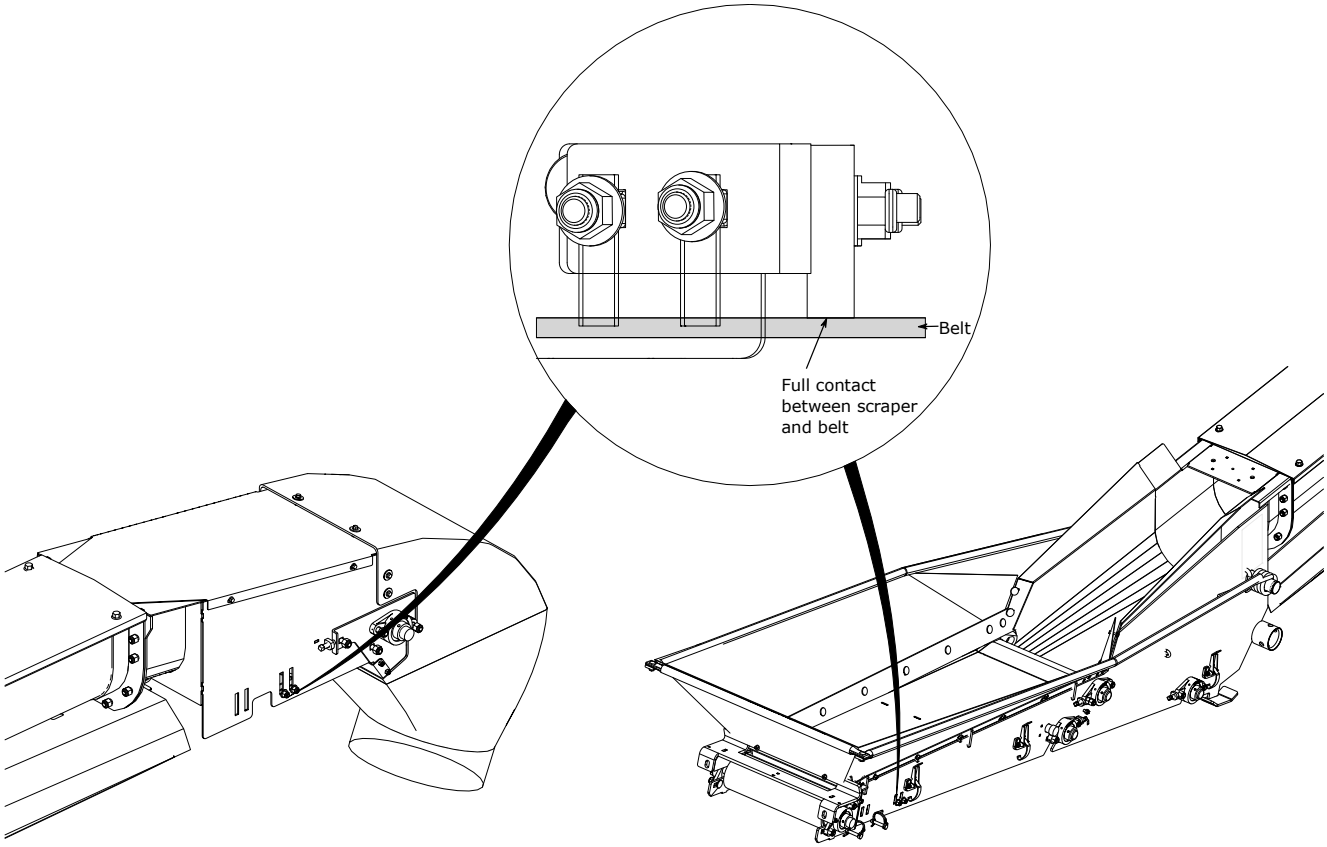
3.32. Adjust the Hopper and Spout Scraper

1. Loosen the nuts (on both sides) holding the scraper to the hopper or spout.
2. Lower scraper until it rests on the belt with light pressure.

   Important

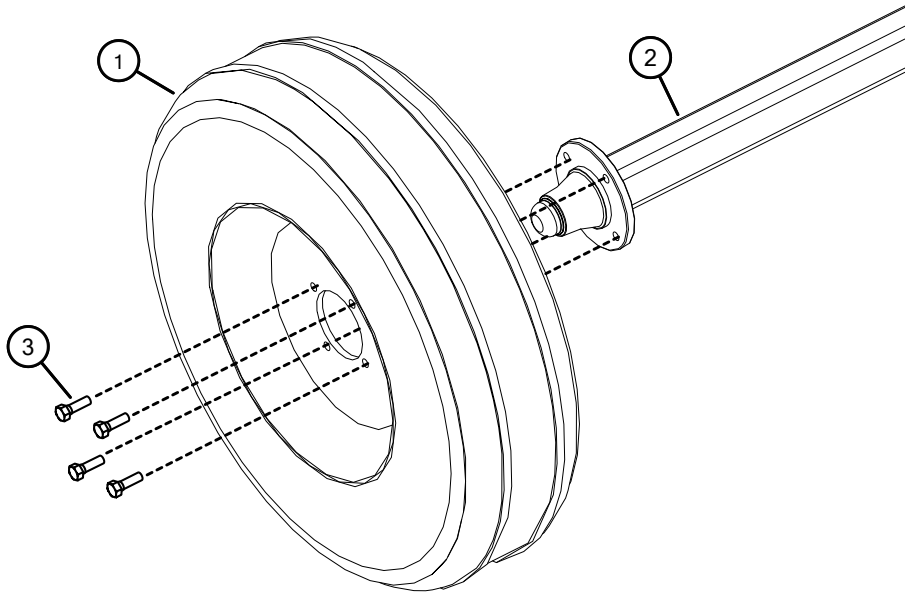
   Ensure no part of the metal scraper mount contacts the belt.

3. Tighten the nuts.



3.33. Install the Wheels

1. Check if the pressure of tires matches the pressure indicated on the tire sidewall.
2. Mount the wheels (1) to the axle (2) with wheel bolts (3) provided.



Assembly Note:

- Wheels may have four or six bolts, depending on the model of conveyor.

1	Tire Assembly	3	Wheel Bolt
2	Axle		

3.34. Assemble the A-Frame

Ensure the wheels are mounted to the axle before beginning this procedure.

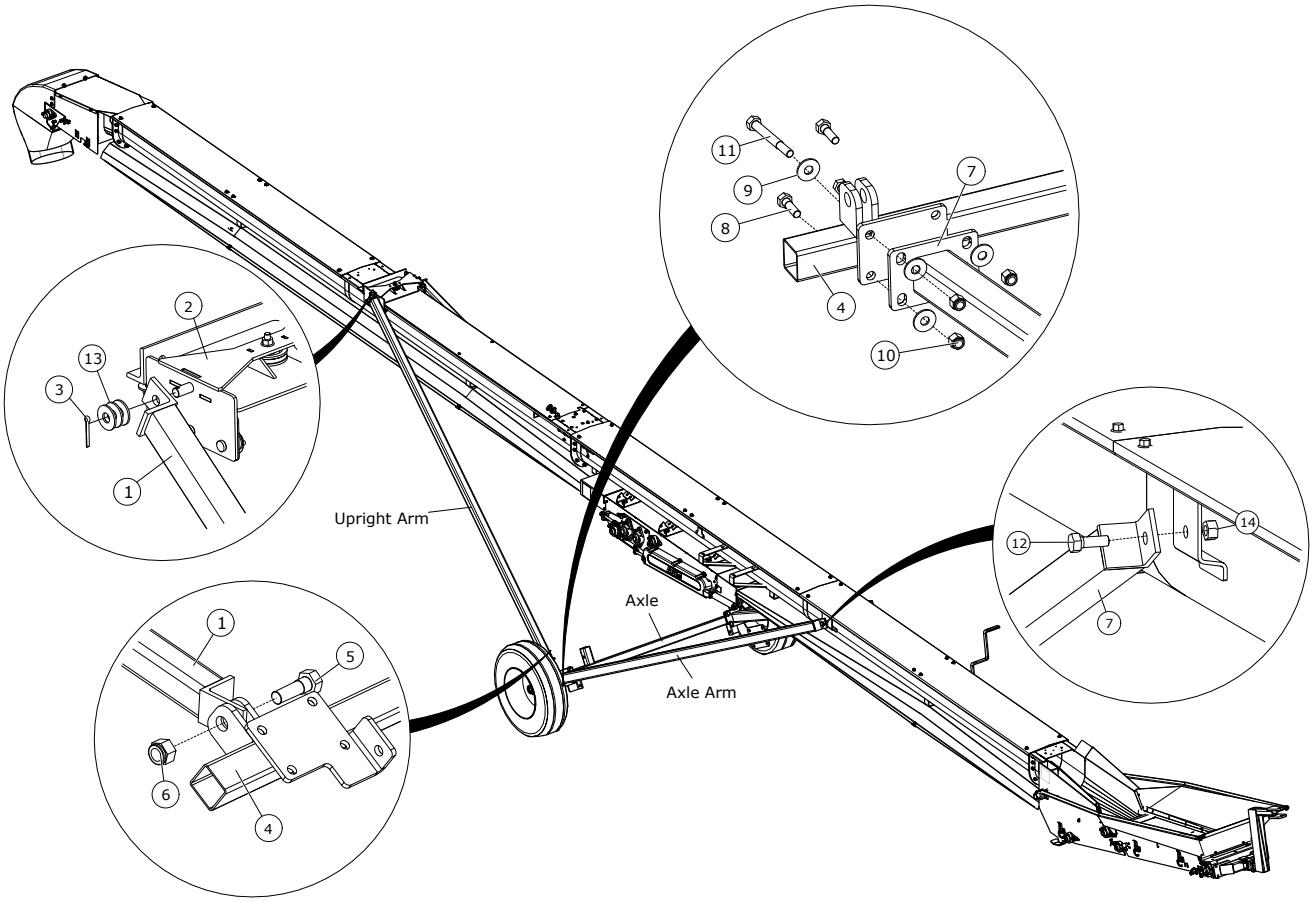
1. Loosely fasten the axle arms (7) to the axle (4) using one 5/8" x 5" bolt (11), three 5/8" x 2" bolts (8), five 5/8" flat washers (9), and four 5/8" nylon locknuts (10).

   Note

   The axle arms will be tightened after the upright arms have been installed.

2. Fasten the axle arms to the suspension bracket using 3/4" x 2" hex bolts (12) and 3/4" nylon locknuts (14).
3. Secure the slider (2) to the end of the track (towards the spout) using vise-grips.
4. Fasten upright arms (1) to the slider (2) using 1/4" x 2" cotter pins (3) and 3/4" flat washers (13).
5. Lift the spout end of the U-trough assembly until the loose ends of the upright arms align with their brackets on the axle.
6. Fasten the upright arms (1) to the axle (4) using 1" x 3" hex bolts (5) and 1" nylon locknuts (6).
7. Tighten the bolts that fasten the axle arms to the axle.
8. Lower the U-trough assembly and remove vise grips.

⚠ WARNING Do not remove the U-trough support(s) until the conveyor is fully assembled.



1	Upright Arm	8	5/8" x 2" Hex Bolt (GR8)
2	Slider	9	5/8" Flat Washer
3	1/4" x 2" Cotter Pin	10	5/8" Nylon Locknut (GR8)
4	Axle	11	5/8" x 5" Hex Bolt (GR8)
5	1" x 3" Hex Bolt (GR8)	12	3/4" x 2" Hex Bolt (GR8)
6	1" Nylon Locknut (GR8)	13	3/4" Flat Washer
7	Axle Arm	14	3/4 " Nylon Locknut (GR8)

Hardware Kit: HRDW-15-31, HRDW-15-123

3.35. Install the U-Trough Lift Cable

1. Wrap the cable (1) around the bottom side of the winch drum with three complete wraps around the drum when conveyor is in transport position.

   ⚠ WARNING Failure to follow could result in conveyor collapse and cause serious injury.

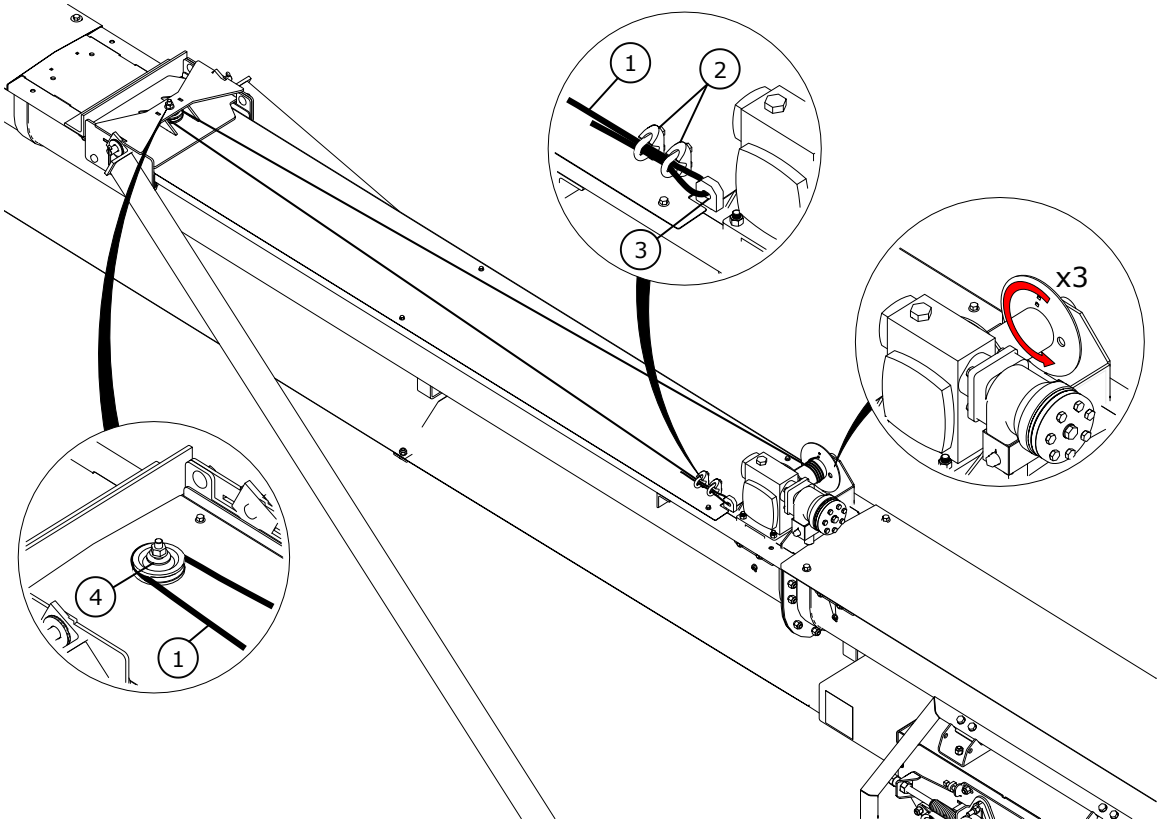
2. Thread cable onto drum and secure with spool anchor.
3. Run the cable towards the spout and thread it through the slider pulley.
4. Run the cable from the slider pulley towards the hopper and stop at the winch cable lug (3).
5. Loop the cable in the winch cable lug and secure it with two 5/16" cable clamps (2).
6. Trim excess cable.
7. Test the function of the winch by lifting the conveyor to its raised position.

   ⚠ WARNING Crushing/impact hazard

   Do not stand under the conveyor while testing the winch. The conveyor may drop unexpectedly. Ensure all equipment and personnel are clear of the conveyor while testing the winch.

   NOTICE The U-trough lift components may become damaged.

   Stop the test if anything should slide, slip, or jam. Correct the issue before continuing.



1	Cable length: 40'	3	Winch Cable Lug
2	5/16" Cable Clamp	4	Cable Pulley

3.36. Align the Winch

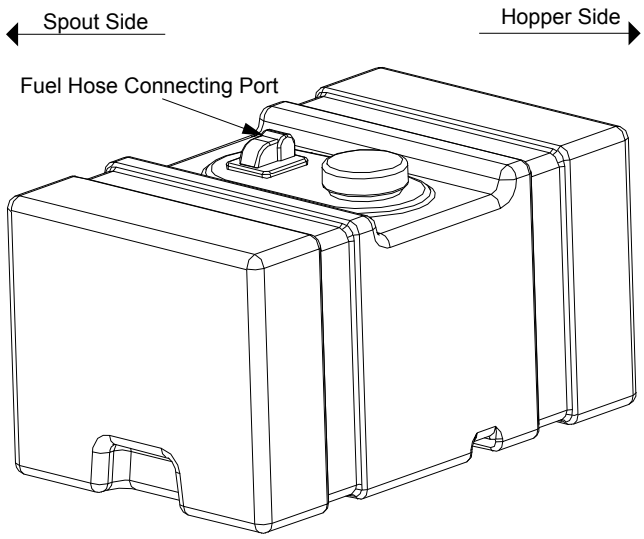
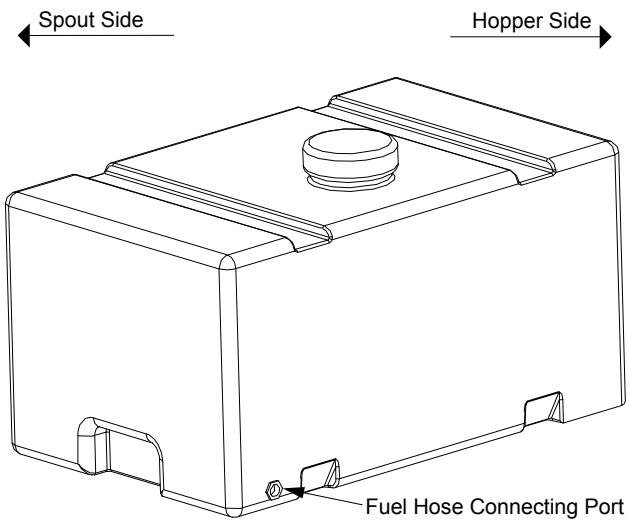
This procedure describes the alignment of the winch.

1. Check the alignment of the winch by watching the cable wrapping on the drum as the conveyor is raised. Proper alignment is achieved when the cable indexes, filling each row on the drum evenly and not piling up against one side.
2. Lower the conveyor fully if the cable does not index properly until there is slack in the cable.
3. Loosen the bolts holding the winch, adjust the winch, re-tighten bolts and retest.

3.37. Install the Tank Kit and the Primer Bulb

Depending on the region two different versions of tank kit are provided with the conveyors. The size and shape of the fuel tank can vary depending on the conveyor series. Examples of gas tank are shown below:

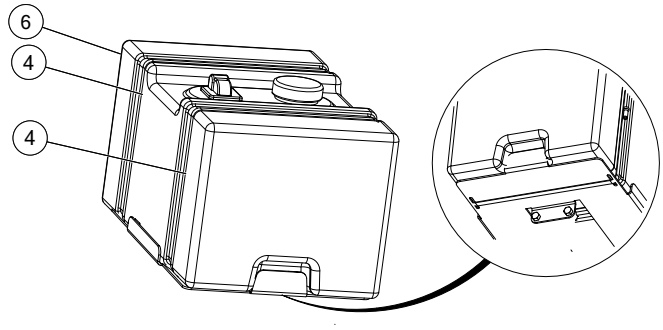
Gas Tank Type

Low Emission Gas Tank (US only)	Gas Tank (Outside US)
	

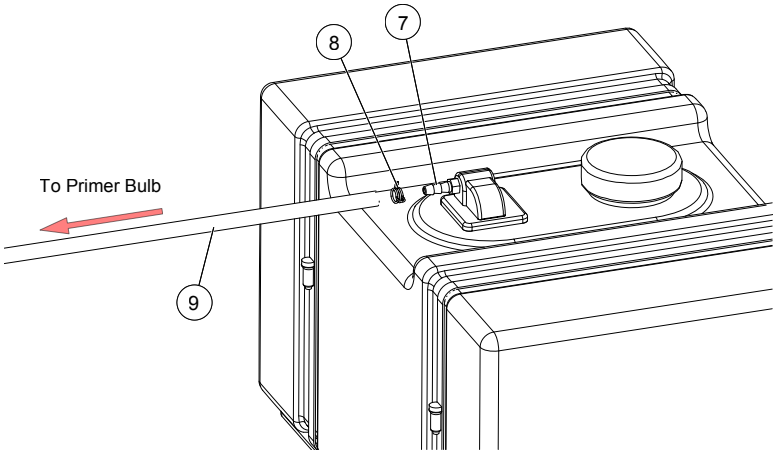
3.37.1 Install the Low Emission Tank (for USA only)

1. Secure the tank (6) to the tank bracket with gear clamps (4).
2. Attach the 1/4" hose barb (7) to the tank outlet.
3. Connect the 1/4" fuel line (9) to the hose barb with hose clamp (8).
4. To install primer bulb, see Section 3.37.3 – Install the Primer Bulb on page 107.

Gas Tank



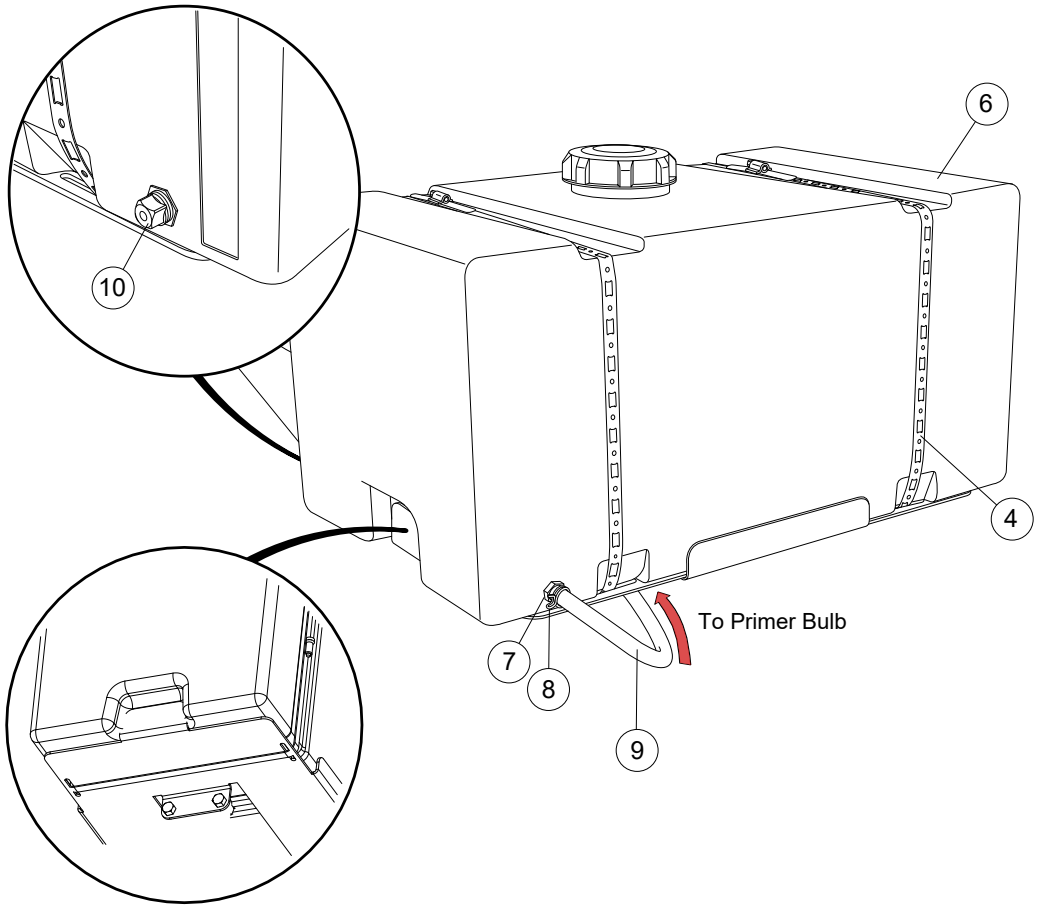
Fuel Line



4	36" Gear Clamp	8	1/2" Hose Clamp
6	45 L (12 gal) Gas Tank w/Cap Fitting	9	1/4" ID Fuel Line — 20'
7	1/4" MPT x 1/4" Hose Barb		

3.37.2 Install the Tank (for outside USA)

1. Secure the tank (6) to the tank bracket with gear clamps (4).
2. Attach the 1/4" hose barb (7) to the tank outlet.
3. Connect the 1/4" fuel line (9) to the hose barb with hose clamp (8).
4. Insert the square plug (10) into the hole in the bottom of the tank nearer to the spout. To install primer bulb, see Section 3.37.3 – Install the Primer Bulb on page 107.



4	36" Gear Clamp	8	1/2" Hose Clamp
6	Gas Tank — 22 x 14 x 11.5 — 53 L (14 gal) — red	9	1/4" ID Fuel Line — 14'
7	1/4" MPT x 1/4" Hose Barb	10	Square Plug (threaded)

Hardware Kit: PARTK-15-96

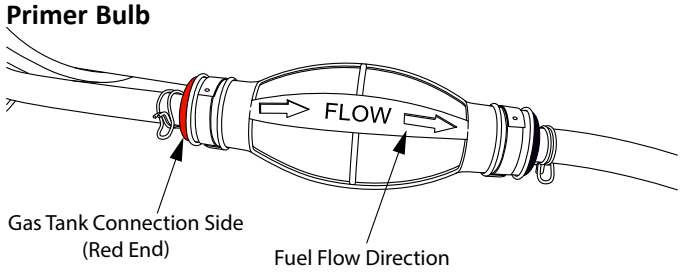
3.37.3 Install the Primer Bulb

Important

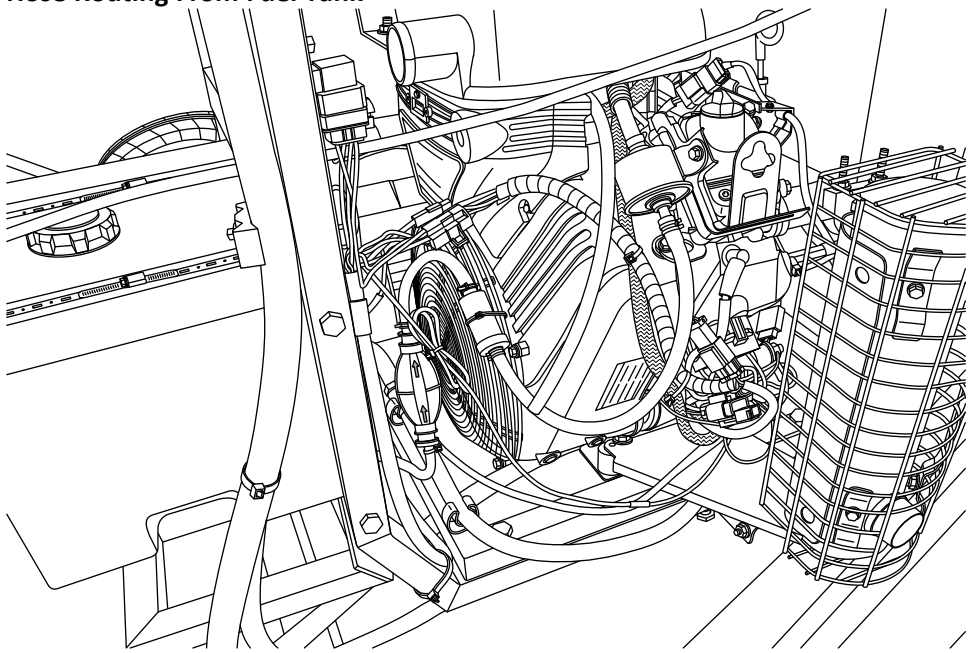
Check the primer bulb for setup orientation for proper fuel flow direction. The red end points of the bulb must connect to the gas tank side. Arrows, imprinted on the primer bulb, indicate the direction of fuel flow, which has to be from gas tank to gas engine. Check for any defects in the bulb and hoses prior to installation.

1. Route fuel hose of reasonable length from the fuel tank to the primer bulb. Connect the fuel line to the primer bulb with hose clamp.

Primer Bulb

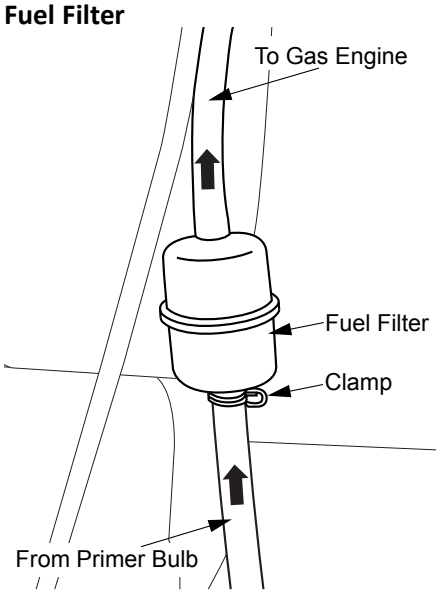


Hose Routing From Fuel Tank



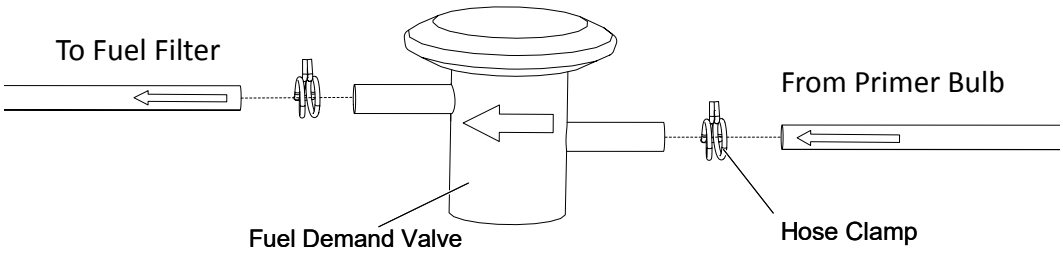
2. Connect a fuel filter using 1/4" fuel line to the primer bulb. Use a reasonable length of fuel line so that the fuel demand valve can easily be installed between the primer bulb and the fuel filter.

Fuel Filter



3. If equipped with an low emission tank kit, install a fuel demand valve. Cut the fuel line between the primer bulb and the fuel filter. Insert the fuel demand valve into the fuel line with hose clamps.

Fuel Demand Valve



4. Connect the fuel line to the engine using hose clamp.
5. Secure the fuel hoses with zip ties.

After installation check

Note

Before checking the primer bulb, please proceed and complete all the assemblies first and after the conveyor is completely assembled, place finishing zip-ties on all fuel hoses to ensure all lines are snug in place. Also zip-tie the gearbox breather to the fuel hose above the fuel filter.

1. Prime the fuel system with the primer bulb until fuel is seen in the fuel filter.
2. Run the machine and check all connections for any leaks or loose fitting.

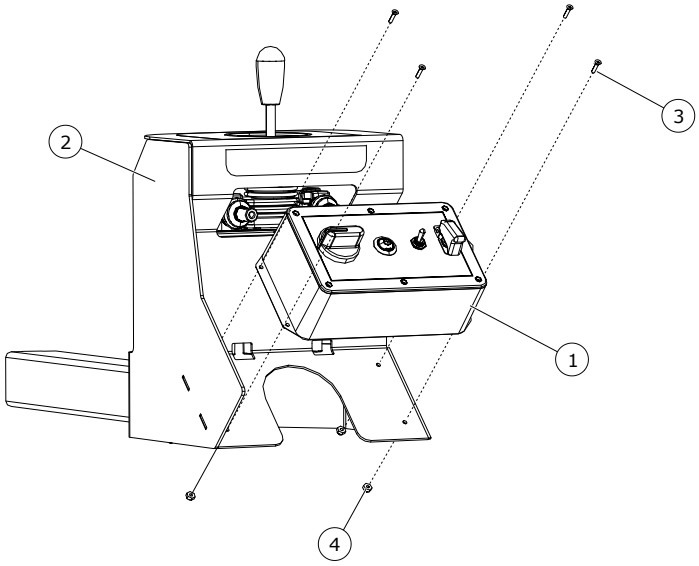
Important

Do not start the engine on empty fuel, before pumping the primer bulb. Otherwise you risk wearing out the battery, and may risk of engine failure.

3.38. Install the Gas Drive Control Box

Note

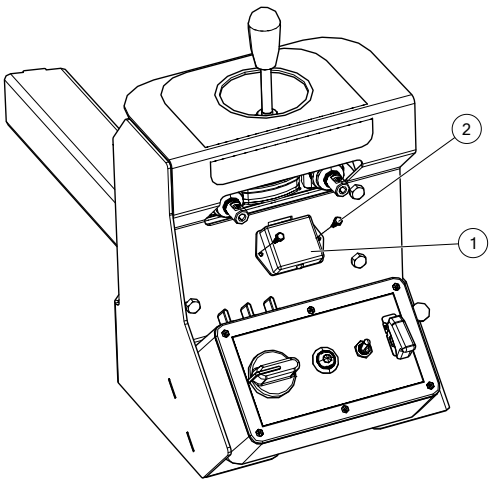
Install control box after connecting mover kit to the conveyor (refer to Mover Kit manual 8210-00021).

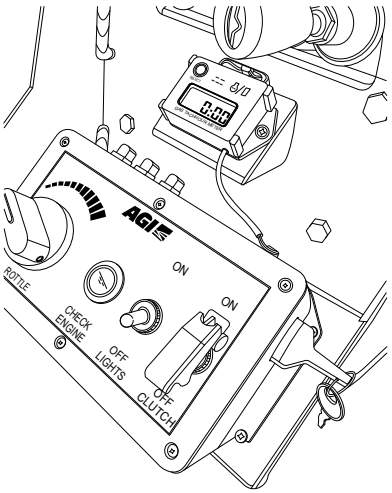


1	Control Box	3	#8 x 3/4" Flat Head Screw
2	Control Box Mount (Welded to the Control Stand)	4	3/4" Nylon Locknut

Hardware Kit: HRDW-15-107

3.39. Install the Tachometer





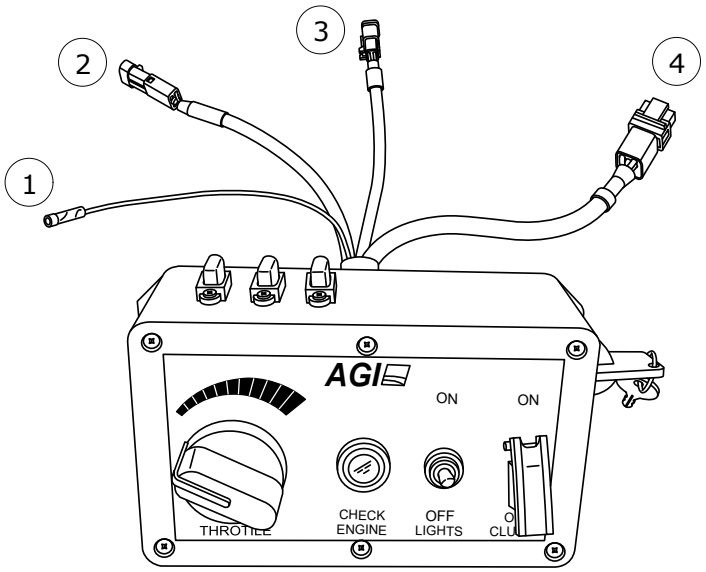
1	Digital Tachometer	2	Self-Drilling Screw

3.40. Connect the Gas Drive Control Box Wiring

Important

- Consult the OEM (original equipment manufacturers) manual to make all required electrical connections.
- Before you begin wiring, make sure to take the key out of the control box.

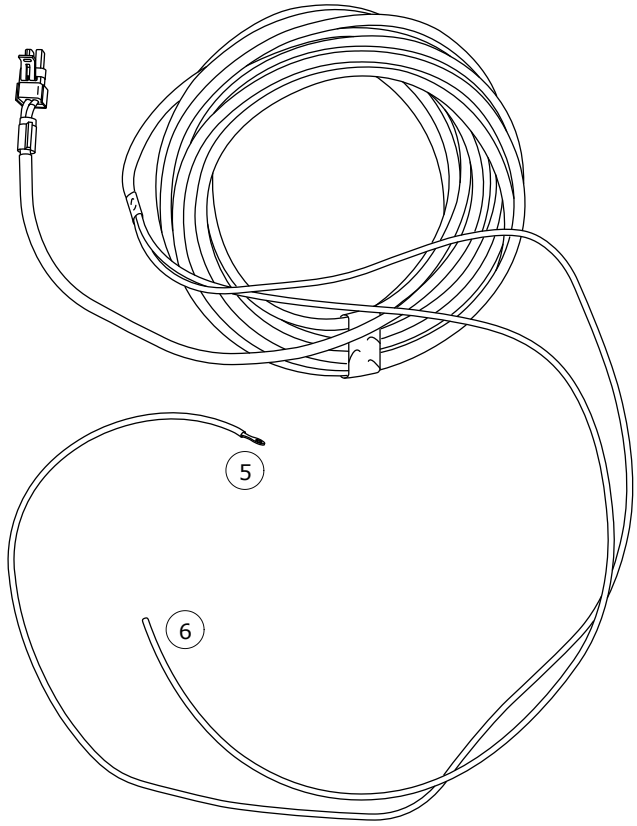
Control Box Wiring Connections



1	Tachometer Ground Wire	3	Lighting Harness Cable
2	Clutch Cable	4	Engine Harness Cable

Throttle Harness

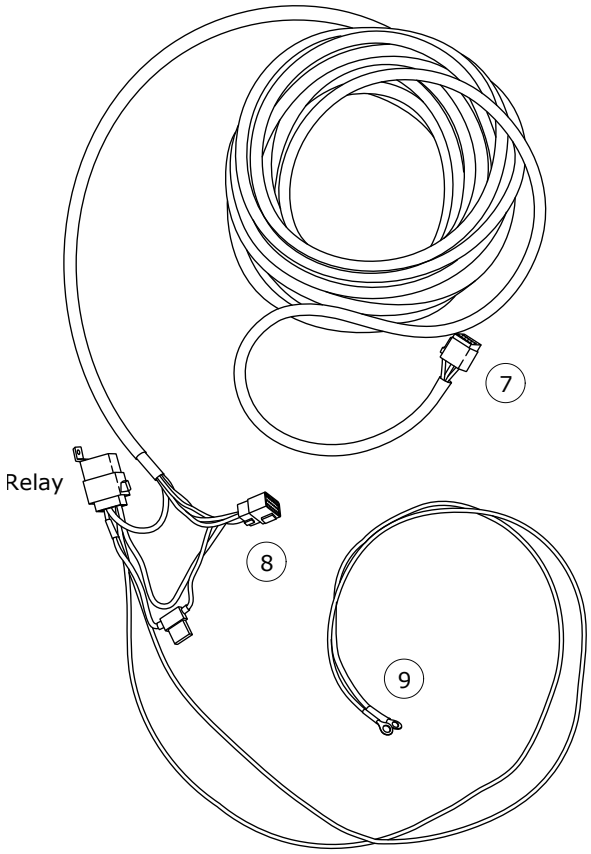
1. Connect the throttle harness to the clutch cable (2) coming off the control box.



5	System Ground Wire (black)	6	Clutch Signal Wire (white)

2. Route the throttle harness along the U-trough assembly towards the gas drive.
3. Connect the system ground wire (5) to the battery.
4. Connect the clutch signal wire (6) to the clutch wire using a butt connector.

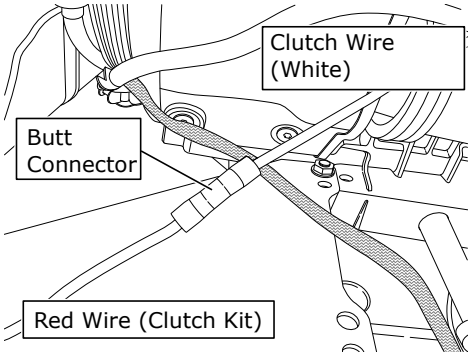
Engine Harness

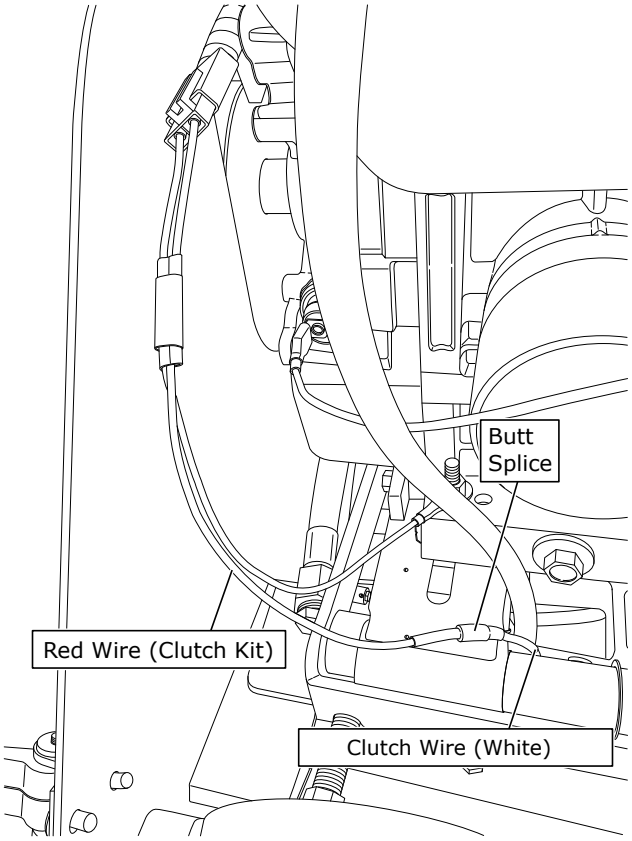


7	8 Pin Female Deutsch (Control Box Connector)	9	Black and White Wire (to Battery)
8	5 Pin Delphi (Engine Connector)		

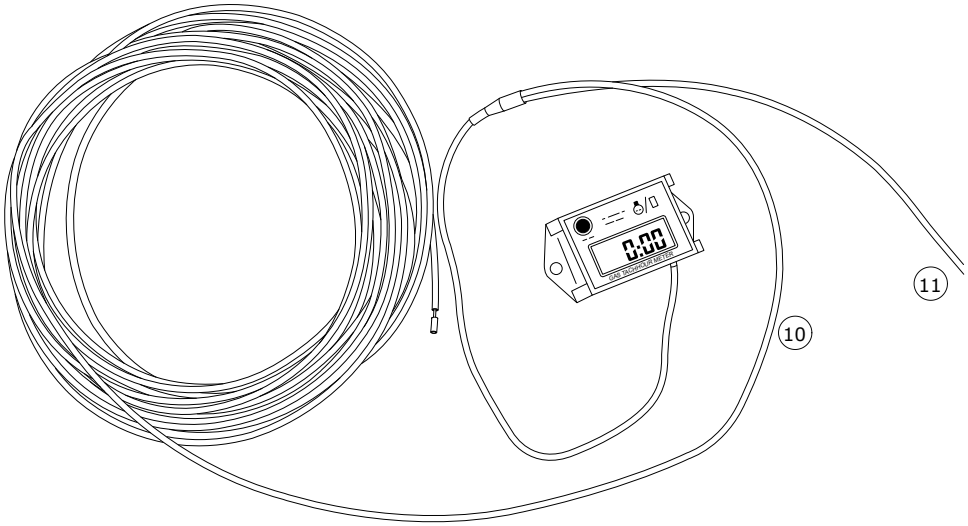
1. Connect 8 pin connector (7) to the engine harness cable (4) coming off the control box.
2. Route the engine harness along the conveyor U-trough towards the gas drive.
3. Connect engine connector (8) to the corresponding engine plug.
4. Secure the relay to a nearby support bar using Tek screw.
5. Connect clutch white wire to the clutch pigtail red wire using butt connector. Crimp the butt connector and gently tug on both sides of the connector to test the integrity of the joint.
6. Use heat shrink tubing to completely isolate the joint from the environment.

Clutch Wiring





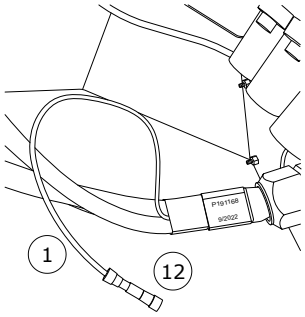
Tachometer

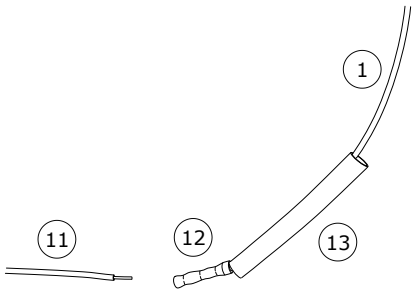


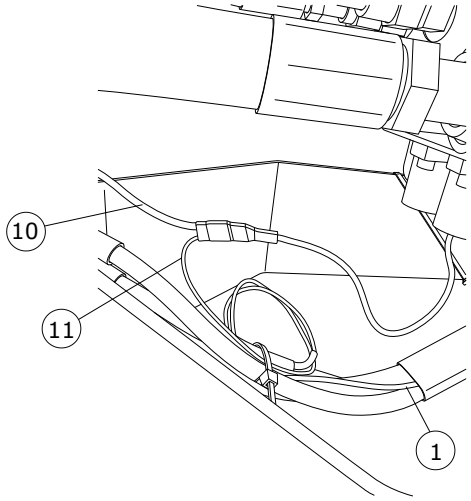
10	Tachometer Signal Wire (red)	11	Tachometer Ground Wire (black)

1. Wrap the tachometer signal wire (10) 5-6 turns around the spark plug wire. Trim the excess wire.
2. Route the red wire away from other electrical wires.

3. Connect the tachometer ground wire (11) to the Tachometer ground wire (1) coming off the control box using butt connector (12).
4. Isolate the connection from the environment using a heat shrink tubing (13). Use a zip tie to secure the cables.







1	Tachometer Ground Wire (from Control Box)	13	Heat Shrink
12	Butt Connector		

5. Check the tachometer stroke setting.

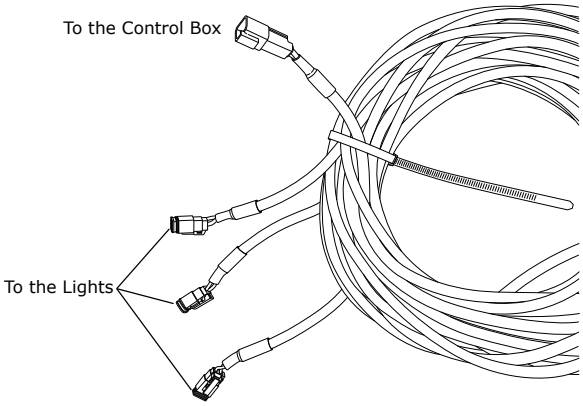
   It should be set at 1P2R.

   Two ways to check the setting:

   - toggle through the setting until the 1P2R stroke setting appears, or
   - check the displayed RPM speed when starting the engine. The RPM displayed should be 1800 at idle and 3600 at full throttle.

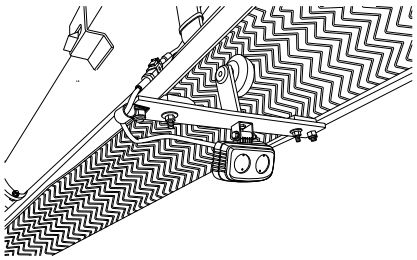
Lighting Harness

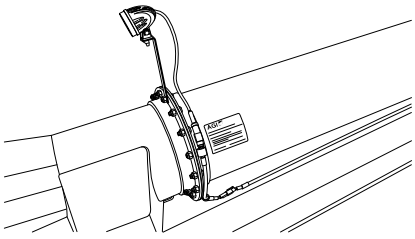
1. Attach the female connector to the lighting harness cable (3) coming off the control box.

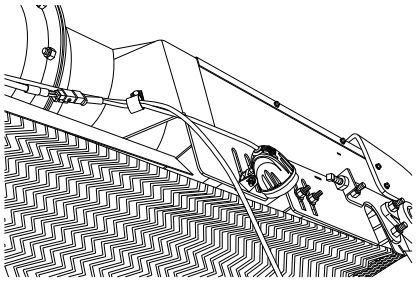


Cable Description
4' cable for mover light
9-1/2' cable for hopper light
33' cable for the spout light

2. Route the cables along the U-trough assembly towards individual lights. For mover light, tuck the 4' cable underneath the U-trough assembly and attach to the weather guard mount bar.
3. Attach the orange connectors to the lights.


Mover Light


Hopper Light


Spout Light

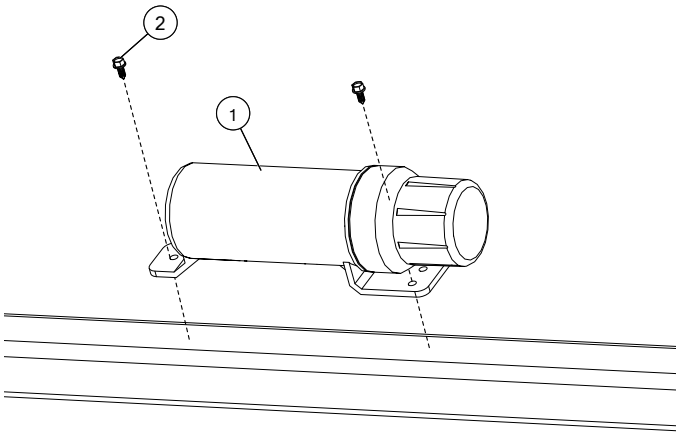
Secure Cables and Wiring

After the conveyor is completely assembled, place finishing zip-ties on all cables and wiring to ensure all lines are snug in place.

3.41. Install the Manual Container

1. Position the manual container (1) on the axle arm.
2. Secure the container with two self-tapping screws (2).

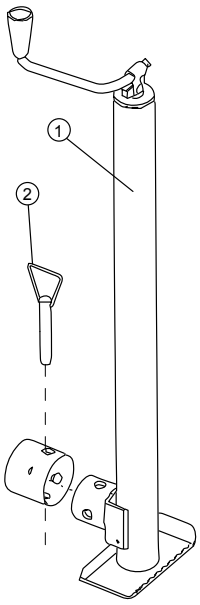
Screw-on Manual Container



1	Manual Container	2	#14 x 5/8" Self-Tapping Screw

3.42. Attach the Jack

1. Insert the jack (1) into the jack stub (located on the conveyor hitch).
2. Secure the jack in place with the pin (2) provided.



1	Jack	2	Pin

4. Appendix

4.1. Bolt Torque

Table 1 gives the correct torque values for various hardware. Tighten all bolts to the torque specified, unless otherwise noted. Check tightness periodically, using Table 1 as a guide. Replace the hardware with the same strength bolt, contact AGI if you are unsure.

Table 1. Recommended Bolt Torque[1]

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	-	-

1. 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%.

4.2. 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 2. 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 3. 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 4. 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
-5	1/2" - 20	17-19	23-26

Table 4 Stud End O-Ring Boss (ORB) SAE (U/UF) – Carbon Steel (continued)

Tube Size	Thread UNF-2A	Max ft-lbs	Max N-m
-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 5. 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

5. Specifications

Specifications

Table 6. 1549 UCX³ Field Loader

MODEL	**1549 UCX³**
DIMENSIONS	
Conveyor U-Trough Diameter	10"
Belt Length	110'8"
OTHER	
Gas Drive (HP)	40
Gear Box Oil Type	80W90 or SAE Approved Equivalent
Hydraulic Oil	ATF Dexron III or Equivalent
Hitch Pin Size (Min. Diameter x Length)	1/2" x 3"

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Please include the part number listed on the cover page in your message.