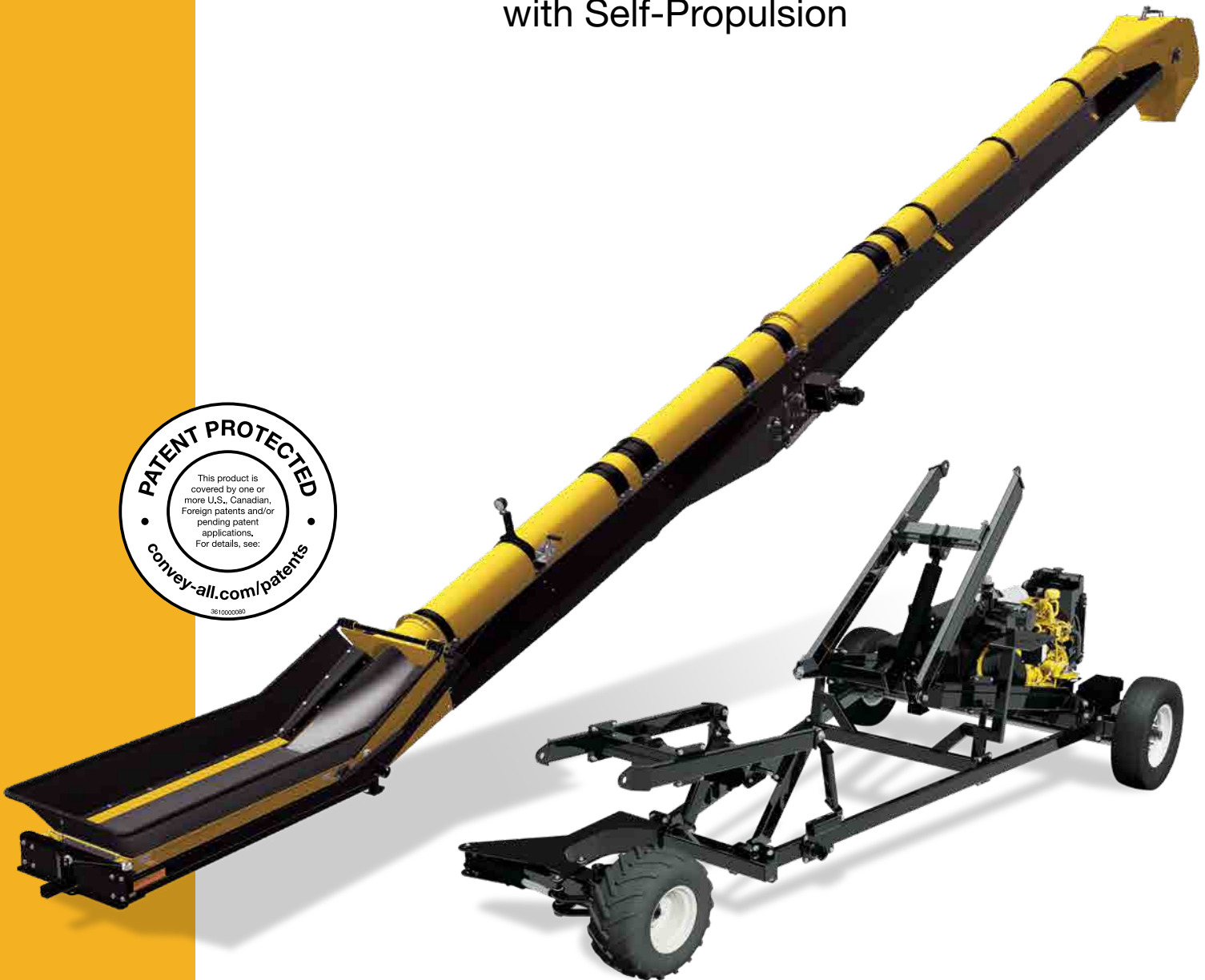


CONVEY-ALL[®]

2250 • 2258

TRUCK LOAD CONVEYOR
with Self-Propulsion



ASSEMBLY MANUAL

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Note:
Drawings and schematics are provided separately.

Section 1: INTRODUCTION

Thank you for choosing a Convey-All® truck load conveyor.

Convey-All® products are built by Meridian Manufacturing Inc. The equipment we design and manufacture meet the exacting standards of the agriculture industry.

Information provided herein is of a descriptive nature. Meridian Manufacturing Inc. reserves the right to modify the machinery design and specifications without any preliminary notice.

- Be sure the assembly area is large enough to lay out all the components. There should be sufficient clearance for people, forklifts or other equipment around all sides.
 - Assembled tube will measure 54 feet (2250-TL), 63 feet (2258-TL) laying on the ground.
 - The finished conveyor will be 9 feet wide and 14 - 16 feet high in transport position.
- Gather all the required tools and supplied.
- Have hoists, forklifts, cranes or other lifting devices with the required lifting capacity, available for use.
- Have stands on hand. They must have sufficient capacity to hold up the parts being assembled.

Keep this manual for reference and to pass on to new operators or owners. Call your dealer, distributor or Meridian if you need assistance, information, additional/replacement copies, or a digital version.

Disclaimer:

These instructions are based on standard assembly. A few popular options are described.
Many options change the location and arrangement of parts.
Your situation may necessitate a change from the described assembly instructions.

IMPORTANT:

Parts lists, drawings and schematics are shipped, along with this manual.
Refer to them, as you read this manual for specific details;
such as, measurements, fasteners to use, and position of components.

OPERATOR ORIENTATION

The directions; left, right, front and rear, as mentioned throughout this manual; are as seen from the tow vehicle's seat, facing the direction of travel. The hopper is the front, discharge is at the rear.



Meridian Manufacturing Inc. continuously enhances its product offering through product improvements and new product innovations. Marketplace feedback, technological innovation, new materials and manufacturing methods, and a philosophy of continuous improvement constantly challenge the company to develop new and better ways of addressing market needs. Meridian is committed to innovation and reinvestment and as a result, the company maintains a portfolio of patents and intellectual property. For more information on our patents please see our website:

www.convey-all.com/patents

Section 2: SAFETY

3 Big Reasons why safety is important to you:

- Accidents Disable and Kill
- Accidents Cost
- Accidents Can Be Avoided

The Safety Alert Symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert Symbol identifies important safety messages on the conveyor and in this manual.

The following signal words are used in this manual to express the degree of hazard for areas of personal safety.

When you see the symbol and/or the signal words described below, obey the accompanying message to avoid possible injury or death.



Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations. Typically for machine components which, for functional purposes, cannot be guarded.



Indicates a hazardous situation, if not avoided, could result in death or serious injury. This word identifies hazards that are exposed when guards are removed. It may be used to alert against unsafe practices.



Indicates a hazardous situation, if not avoided, could result in minor or moderate injury. It may be used to alert against unsafe practices.



Indicates practices or situations which may result in the malfunction of, or damage to equipment.



Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE assembly of your Convey-All® truck load conveyor. Be sure that everyone who will assemble, operate, maintain or work around it, is familiar with the safety procedures.


This manual will take you step-by-step through the assembly process. It will alert you to all good safety practices that should be adhered to.

Remember, you are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a regular part of your safety program. Be certain that **EVERYONE WHO WILL WORK WITH** this equipment follows these procedures.


Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.


- Conveyor owners must give assembly instructions to employees before allowing them to work with the machine.
 - Procedures must be reviewed annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

- Read and understand the Assembly Manual and all safety messages before setting up, maintaining or adjusting the equipment. 

- Only competent people should assemble the conveyor.

- Have a first-aid kit available for use should the need arise. 

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

- Do not allow riders.

- Wear personal protective equipment (PPE). This list may include but is not limited to:

- Hard hat
- Protective shoes with slip resistant soles
- Eye protection
- Work gloves
- Hearing protection
- Respirator or filter mask
- Hi-Visibility safety vest



- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment.
 - Consult your doctor about operating this machine while taking prescription medications.

2.3 WORK PREPARATION

- Personal protective equipment (PPE) include:

- Protective shoes with slip resistant soles
- Eye protection
- Work gloves
- Hearing protection



Wear them when assembling, operating, adjusting, maintaining or repairing the unit.

- Do not allow long hair, loose fitting clothing or jewelry to be around equipment.
- **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Assembling equipment can often be noisy enough to cause permanent, partial hearing loss. We recommend that hearing protection be worn on a full-time basis.



Noise over 85 db on a long-term basis can cause severe hearing loss.

Noise over 90 db adjacent to the operator over a long-term basis may cause permanent, total hearing loss.

Note:

Hearing loss from loud noise (impact drivers, tractors, radios, etc.) is cumulative over a lifetime without hope of natural recovery.

- Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
- Assemble only in daylight or good artificial light.
- Be sure assembly is in a stable position.

2.4 ASSEMBLY SAFETY

- Follow good shop practices:

- Keep assembly area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job.



- Provide adequate space for access to all sides of machine.
- Use forklifts, hoists or cranes with sufficient lift capacity to handle the heavy components.
- Two people are needed to handle the heavy, bulky components.
- Place the machine and components on heavy duty work stands before working underneath.
- Stay away from overhead obstructions when lifting the assembly. Contact can damage the components, or cause them to fail.
- Tighten all bolts and fasteners to their specified torque before using the unit.
- Removal of safety guards may be necessary while testing the assembly. Be Alert and be Careful! Replace the guards when finished.


2.5 SAFETY DECALS

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible.
- Replaced parts must display the same decal(s) as the original parts.
- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.
- Safety decals are available from your authorized distributor, dealer's parts department or from Meridian Manufacturing Inc.




2.5.1 Applying Decals:

1. Be sure the application area is clean and dry. Ensure the surrounding temperature is above 10°C (50°F).
 - a. Remove all dirt, grease, wax from surface.
 - b. Clean the area with a non-ammonia based cleaner.
 - c. Wipe the clean surface with isopropyl alcohol on paper towel, and allow to dry.
2. Determine the exact position before you remove the backing paper.
3. Peel a small portion of the split backing paper.
4. Align the decal over the specified area. Use a squeegee to carefully press the small portion, with the exposed adhesive backing, into place.
5. Slowly peel back the remaining paper and carefully smooth the rest of the decal into place.
6. Small air pockets can be pierced with a pin and smoothed out using the squeegee, or a piece of split backing paper.

2.6 HYDRAULIC SAFETY

- Never use Teflon tape to seal threads! It does not hold at high pressure. Always use Loctite® 545 Thread Sealant. 
- Always place all hydraulic controls in neutral before disconnecting and working on hydraulic systems.
- Relieve pressure in hydraulic system before maintaining or working on machine. 
- Be sure that all components in the hydraulic system are kept in good condition and are clean.
- Replace any worn, cut, abraded, flattened or crimped hoses.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
- Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of a hand to isolate and identify leaks. 
- If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.

2.7 ENGINE SAFETY

- Read and understand the operating manual provided with the engine. 
- Use proper tools to service engine.
- Do not run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.
- Store fuel in approved safety containers.
- Do not store fuel near open flame.
 - Appliances such as a stove, furnace, or water heater use a pilot light which can create a spark.
- No smoking when filling fuel tank. 
- Do not remove fuel cap while engine is running.
- Do not refuel indoors where area is not well ventilated. Outdoor refueling is preferred.
- Do not refuel while engine is running. Allow engine to cool for 5 minutes before proceeding.
- Use fresh fuel. Stale fuel can gum carburetor and cause leakage.
- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
- Do not operate engine if fuel has spilled. Move machine away. Avoid creating any ignition until the fuel has evaporated.
- Do not run engine above rated speeds. This may result in damage and injury.
- Do not tamper with the engine speed selected by the original equipment manufacturer.
- Do not operate engine with grass, leaves, dirt or other combustible materials in muffler area.
- Do not operate engine without muffler.

- Do not tamper with governor springs, governor links or other parts which may increase the governed engine speed.
- Do not strike flywheel with hard object or metal tool. This may cause it to shatter in operation.
- Keep cylinder fins/governor parts free of grass and other debris which can affect engine speed.

WARNING

HOT EQUIPMENT HAZARD

Do not touch muffler, cylinder or fins while engine is running. Contact will cause burns.

- Do not use this engine on any forest covered, brush covered, or grass covered unimproved land, unless a spark arrester is installed on muffler. The arrester must be maintained in effective working order by operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

- Inspect the muffler periodically. Replace it when necessary.
 - If engine is equipped with a muffler deflector, inspect periodically. Replace with correct part.
- Do not check for spark, or crank engine with spark plug or spark plug wire removed.
- Do not run engine with air filter or its cover removed.

NOTICE

POSSIBLE ENGINE DAMAGE

Decelerate engine slowly to stop.
Avoid choking carburetor to stop engine.
Choke only for an emergency stop.

2.8 TIRE SAFETY

- Failure to follow procedure when mounting a tire on a wheel or rim can produce an explosion and 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.
- Reference the tire side wall for information on the maximum cold tire pressure (PSI). Keep the tires inflated to this setting.



2.9 BATTERY SAFETY

- Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.
- Avoid contact with battery electrolyte: wash off any spilled electrolyte immediately.
- Wear safety glasses when working near batteries.
- Do not tip batteries more than 45 degrees, to avoid electrolyte loss.
- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of electrical system.
- Boosting the engine through the battery, or recharging the battery, may cause a short in the electrical system.
- Before using the battery, after it has been in storage, be sure it has the optimal charge.



Section 3: PREPARATION

Prepare to assemble the conveyor by: cleaning the area, gathering lift equipment, stands and tools. Measurements are made in Feet (') and Inches (").

TOOLS

Tool requirements include but are not limited to:

IMPORTANT:

Always use calibrated torque wrenches.
Using anti-seize lubricant, dirt in hole, and damaged threads can cause over-torquing.
USE TORQUE VALUES WITH CAUTION.

- Two ratchets: 3/8" drive:
 - Shallow socket: 3/8, 7/16, 1/2, 9/16"
 - Deep socket: 7/16, 1/2, 9/16"
 - Extension bar
- One ratchet 1/2" drive:
 - Shallow socket: 9/16, 5/8, 11/16, 3/4, 15/16"
 - Deep socket: 3/4, 15/16"
 - One 3" and one 6" extension bar
 - Breaker bar, 1/2" drive +/- 16"
- SAE Wrenches: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 15/16, 1", 1-1/8, 1-1/4"
- SAE Ratchets: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 15/16"
- Rivet gun
- Adjustable wrench: one 6" and one +/- 12"
- Allen keys: 1/16 to 3/8"
- Multi-Driver
- Flathead screwdriver
- 10" bent nose pliers with wide cutter
- 7" cutting pliers
- 32oz ball peen hammer
- Rubber mallet
- Cordless, heavy duty 18V, impact wrench:
 - 1/2" drive, 1/2 to 3/8" reducer
- 1/4 x 10" aligning punch
- 6" centering punch
- Grease gun
- Two rolls of electrical tape
- 100' measuring tape
- Black ink marker
- Level
- One reel of fish wire
- One ton capacity winch with 200' of cable

RECEIVING

The conveyor is shipped from the factory in two crates, with the tubes strapped on top. The first crate contains the axle with engine installed. The second contains the rest of the parts. Additional larger parts may be bundled together.

Use a forklift to unload the crate from the truck.

When the crate is unloaded:

1. Open the crate.
2. Lay out the contents on the ground.
3. Unpack the box of fasteners, clips, etc.
4. Use the packing slip as a guide. Confirm that all listed parts and supplies have been included in the crate, and accompanying packages.
5. Contact the transport company and the factory immediately if any components or bags are missing.



Fig 1 - Open crate



Fig 2 - Lay out components



Fig 3 - Documentation, fasteners & small parts

PREPARE FOR ASSEMBLY

Assembly should be done in a large, open, well-lit area. There should be access to the machine from any side, at all times.

Two people must work on assembling the unit. Together, they can handle large, heavy or unwieldy components.

Always use stands, hoists, jacks, cranes, winches and other support systems. This equipment must have enough capacity to handle all the components safely during the assembly procedure.

Section 4: UNDERCARRIAGE ASSEMBLY

The engine is normally installed onto the axle in the factory, before shipping. These instructions are included in case it needs to be assembled on site.

⚠ CAUTION

EQUIPMENT WEIGHT HAZARD
Stands must hold 2500 lb in weight,
and be stable.

4.1 AXLE AND ENGINE

1. Put the axle frame onto stands.

Note:

If equipped with a Torsion Axle,
the rear axle includes axle mount
plates instead of wheel hubs.
Refer to Section 4.7.

2. **IMPORTANT:** Bolt the right-side
(passenger-side) Stabilizer Arm to the Axle
before attaching the engine.
 - This will hold the axle upright.
 - Leave the left-side open for access during
axle assembly.
3. Bolt 4 vibration dampeners to the frame.
 - The position of the dampeners will
depend on the engine.



Fig 4 - Axle frame

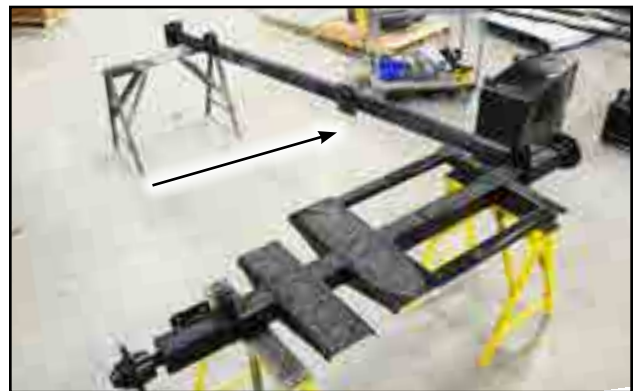


Fig 5 - Right-side Stabilizer Arm bolted to Axle



Fig 6 - Engine vibration dampeners, orientation not established

⚠ WARNING

EQUIPMENT WEIGHT HAZARD
Use lift equipment rated to hold 2000 lb.

4. Place the engine onto the dampeners and bolt securely.
5. Bolt the power shut-off switch to the axle frame, between the engine and hydraulic oil reservoir.
6. Bolt the engine computer to the shut-off switch plate.
 - Plug in the engine connectors into the computer terminals.
 - **Note:** The engine control box will be installed on the valve table in Section 4.8.
7. Find the positive (red) battery cable from the engine starter.
 - Cut it and add connectors so it will reach the shut-off switch.
 - Connect the cable to the switch.
8. Connect the to the side of the engine.
9. Store the positive (red) and negative (black) cables until the battery is installed.

Note:

The battery will be installed with the undercarriage.

10. Bolt the pump mount plate onto the back of the engine.
11. Attach the hydraulic pump to the mount plate.
12. Bolt the plate, containing the fuel pump and filter, to the axle frame beside the engine.
13. Attach the muffler pipe.



Fig 7 - Engine



Fig 8 - Power shut-off switch mounted on plate

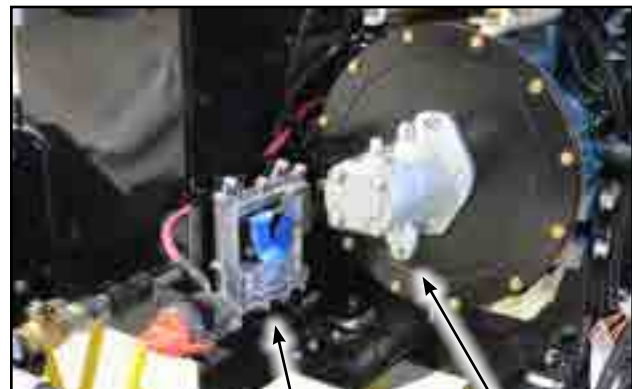


Fig 9 - Engine computer panel and hydraulic pump



Fig 10 - Fuel pump and filter

4.2 FUEL TANK AND HYDRAULIC RESERVOIR

14. The fuel tank is assembled at the factory.



Fig 11 - Fuel tank

- The drain plug is located at the bottom end.



Fig 12 - Fuel tank drain plug

- Safety decals are attached.
- The fuel cap includes a level indicator.



Fig 13 - Fuel cap with level gauge

15. The hydraulic reservoir is also assembled at the factory.

- a. Level/Temperature/ gauge is attached to the end.



Fig 14 - Hydraulic reservoir

- b. Reservoir access cover assembly:
 - A rubber gasket lays between the reservoir and cover and bolted together.
 - Use silicone to seal the top and bottom of the gasket into place.
- c. Hydraulic filler cap assembly:
 - A cork gasket lays over the filler hole.
 - The wire mesh strainer sits on the cork and in the opening.
 - Another cork gasket lays over the strainer.
 - The cap base is riveted over top.
 - Close the cap.

Note:

Filler cap and decals are shown.

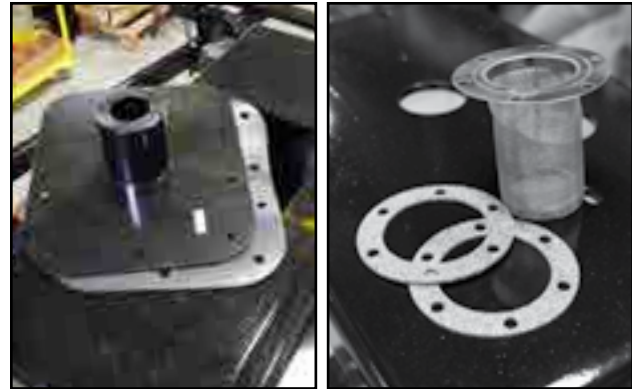


Fig 15 - Access cover and filler cap assembly



Fig 16 - Filler cap and decals

- The drain plug is located at the bottom end.



Fig 17 - Hydraulic reservoir drain plug

Note:

An optional electric oil heater patch can be attached to the bottom of reservoir.



Fig 18 - Oil heater patch

16. Bolt the Hydraulic Reservoir and Fuel Tank together.



Fig 19 - Hydraulic and fuel tanks

17. Sit the combined tanks onto rubber washers.
- Fasten to the axle frame with bolts and springs.



Fig 20 - Tanks fastened to axle frame

18. Add fittings to the fuel tank.
- Use Teflon® pipe sealant.
19. Clamp hoses to the fittings.
- Route the hoses below the reservoir.
 - Secure both hoses to the axle frame with a hose clamp.



Fig 21 - Fuel hoses

20. Run the hoses up the engine and to their destinations.



Fig 22 - Fuel hoses to engine

NOTICE

HYDRAULIC SEALANT HAZARD

Never use Teflon tape to seal threads!
It does not hold at high pressure.
Always use Loctite® 545 Thread Sealant.

Note:

Refer to schematic for specific hydraulic fittings and hose lengths.

21. Bolt the filter bracket to the top, corner of the reservoir.
22. Add the fittings, and the filter mount.
 - Use Loctite® 545 Thread Sealant.
 - Bolt the filter mount to the bracket.
23. Lubricate the filter gasket. Work it up into the threading of the filter mount head.
24. Screw on the filter.
25. Add a filter gauge to the mount.
26. Add the hydraulic fittings after the filter mount. These are the locations where the hoses will lead:
 - (a) Mover kit valve return port or Oil cooler (if equipped)
 - (b) Conveyor belt valve return port
 - (c) Steering wheel return

Note:

When installed, the spout of the Pump Inlet Extension must be angled up inside the tank. Mark the outside rim, to identify the top.

27. Insert the Pump Inlet Extension in the bottom, supply weldment.
 - Use Loctite® 545 Thread Sealant.
 - Rotate and tighten the extension so the mark, identifying that it is angled up, is to the top.



Fig 23 - Hydraulic filter bracket

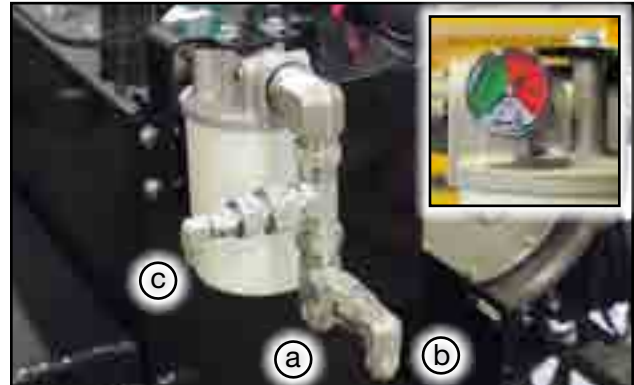


Fig 24 - Return fittings for hydraulic filter

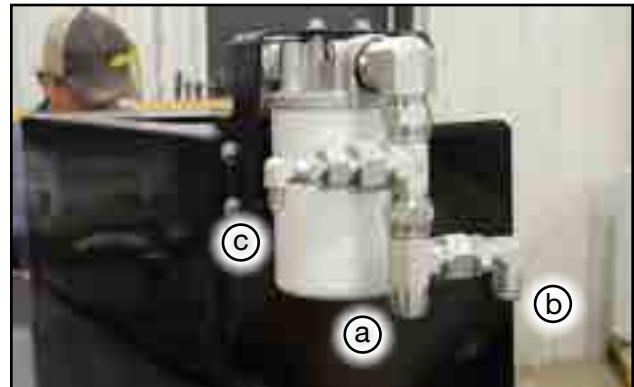


Fig 25 - Return fittings when oil cooling fan is installed



Fig 26 - Pump inlet extension

Note:

If equipped with a hydraulic oil cooling fan, the orientation of fittings on the filter need to change to give room.

28. Add the hydraulic supply fittings to the reservoir.

- Use Loctite® 545 Thread Sealant.

29. Add a ball valve to the fitting.

30. Add fittings and hoses.

- 3/4 x 21" hose from "T" fitting.
- 1-1/4 x 29" hose from the elbow fitting.

31. Bolt the hose guard to protect the supply fittings.



Fig 27 - Supply fittings at reservoir



Fig 28 - Supply fittings hose guard

Note:

If equipped with a hydraulic oil cooling fan:

- The orientation of the supply fittings will be different.
- No hose guard will be installed.

32. **If equipped with a Hyd. Oil Cooling Fan:**

- Install a 90° fitting, then the ball valve.
- Add the rest of the fittings.



Fig 29 - Supply hoses if equipped with cooling fan

Note:

For Oil Cooling Fan installation, refer to Section 4.5

33. Attach the supply hoses to the hydraulic pump.



Fig 30 - Supply hoses on standard conveyor

4.3 UNDERCARRIAGE FRAME

Note:

- The right-side stabilizer arm is already attached to secure the axle.
- leave the left-side open to allow access into the centre of the undercarriage.

34. Bolt the Stabilizer Arm Brace to the right-side arm.



Fig 31 - Right-side (passenger-side) stabilizer arm



Fig 32 - Stabilizer arm brace

Note:

The Stabilizer Arm Brace contains the battery holder.



Fig 33 - Stabilizer arm brace with battery holder

35. Bolt the plastic battery box into the metal holder.

36. Insert the battery into the box.



Fig 34 - Battery box bolts

4.4 STEERING FRAME ASSEMBLY

37. Bolt the left-side (driver-side) Stabilizer Arm to the axle.
38. Attach the Mover Kit Frame Sub Assembly to the end of the side arms.



Fig 35 - Mover kit sub-assembly

39. Bolt the Hydraulic Steering Motor to the Wheel/Motor Mount Bracket.

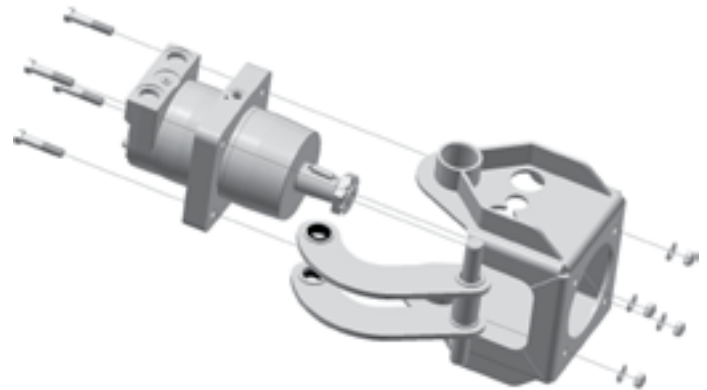


Fig 36 - Hydraulic steering motor to mount bracket

40. Remove the hexagon cap from the end of the Hydraulic motor shaft.
 - Slide the Mover Wheel Mount Hub onto the end of the motor.
 - Put the hexagon cap back over the end of the motor shaft.
 - Line up the spaces in the hex cap, with the pin hole in the shaft.
 - Insert a hair pin, and bend the ends over.

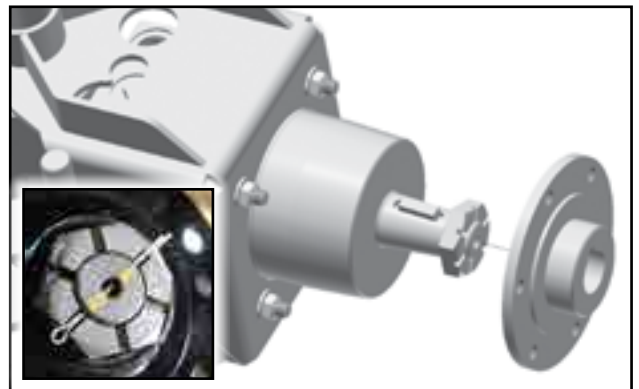


Fig 37 - Mover wheel mount hub and hexagon cap

41. Slide the Wheel/Motor Mount Bracket onto the end of the Mover Kit Frame Sub Assembly.
42. Place the Wheel/Motor Mount Pivot Pin (a) into the hole attaching the bracket to the sub assembly.
 - In the bottom of the assembly, use a bolt and nut to fasten the pin in place.

43. Add a grease zerk to the top of the pin.

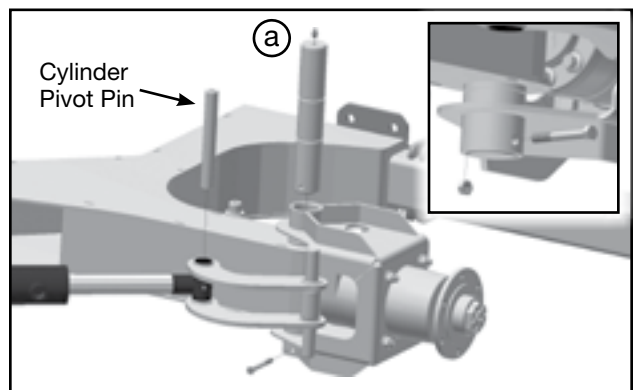


Fig 38 - Pivot pins



Fig 39 - Steering motor

44. Position the rod-end of the hydraulic cylinder (2-1/2" bore x 12" stroke) between the two fingers of the Wheel/Motor Mount Bracket.

- Insert the Frame to Cylinder Pivot Pin to fasten the cylinder in place.

45. Put the Frame to Cylinder Pivot Bracket across the sub assembly, connecting the pivot pins, top and bottom.

- Place spacer bushings, bearing flanges, and Pin Retainer Plates over the pin.
- Secure with Pin Retaining Plate, lock washer and bolt.

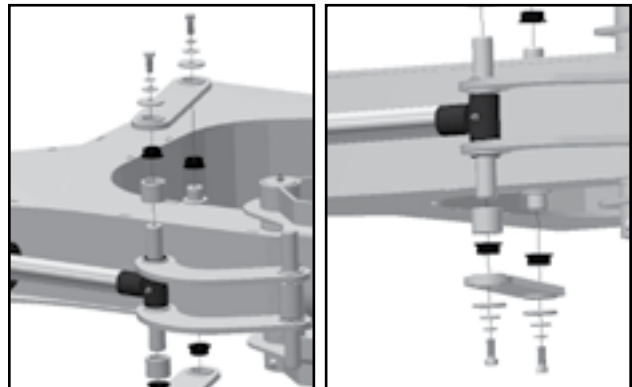


Fig 40 - Cylinder pivot brackets



Fig 41 - Rod-end of hydraulic cylinder

46. Insert the base-end of the hydraulic cylinder into the corner of the Mover Kit Frame Sub Assembly.

- Insert the Cylinder Base Pivot Pin.
- Secure with Pin Retaining Plates, washers, lock washers, and bolts.

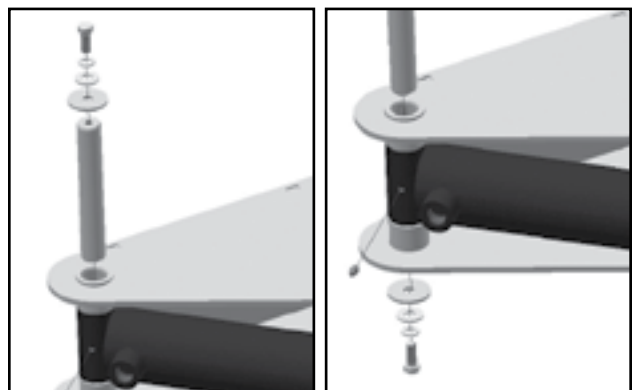


Fig 42 - Cylinder base-end pivot

47. Add a grease zerk to the both ends of the hydraulic cylinder.

4.4.1 Hydraulic Connections:

NOTICE

HYDRAULIC SEALANT HAZARD
Never use Teflon tape to seal threads!
It does not hold at high pressure.
Always use Loctite® 545 Thread Sealant.

48. Add hydraulic fittings to the motor ports.

Note:

There is more space to add fittings now, before the motor is mounted to the frame.

49. Bolt the BM40/SD5/4 (for mover kit) valve below the table, on the left side.
- Attach the BM70/SD11/1 (for conveyor belt motor) valve below the table, on the right-side.

50. Install the pressure gauges for each valve bank.
- Use Loctite® 545 Thread Sealant.

Fig 46 - Valve Drawing

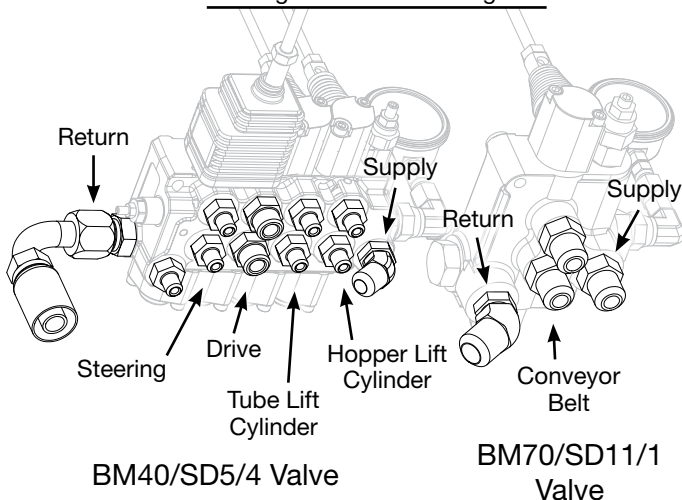


Fig 43 - Steering cylinder



Fig 44 - Hydraulic fittings on mover kit motor



Fig 45 - (a) BM40/SD5/4 - Mover kit valve
(b) BM70/SD11/1 - Conveyor belt valve

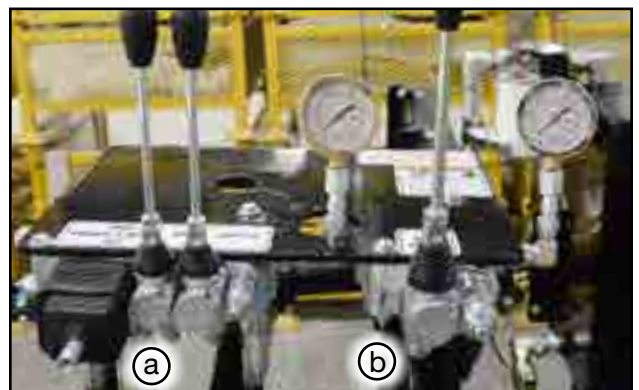


Fig 47 - (a) Mover kit valve, (b) conveyor belt valve

51. Connect the 1-1/4 x 27" and 3/4 x 27" hoses to the fittings on the hydraulic oil reservoir.
- Run these two supply hose to the ports under the pumps.
52. Attach the 3/4 x 63" supply hose from the pump, to the port on the far right side of the (BM70/SD11/1) conveyor belt motor valve.
53. Attach the 1/2 x 57" supply hose to the far right side of the (BM40/SD5) mover kit valve.

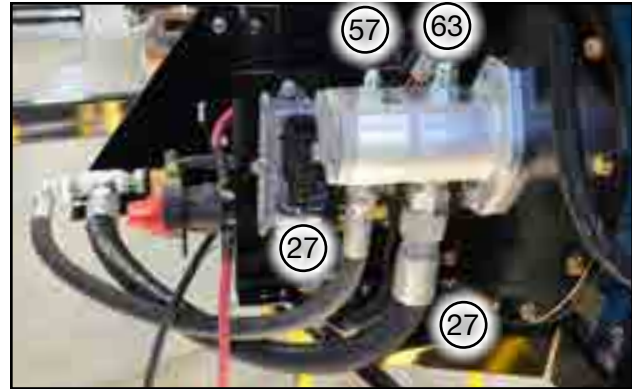


Fig 48 - Hoses to pump

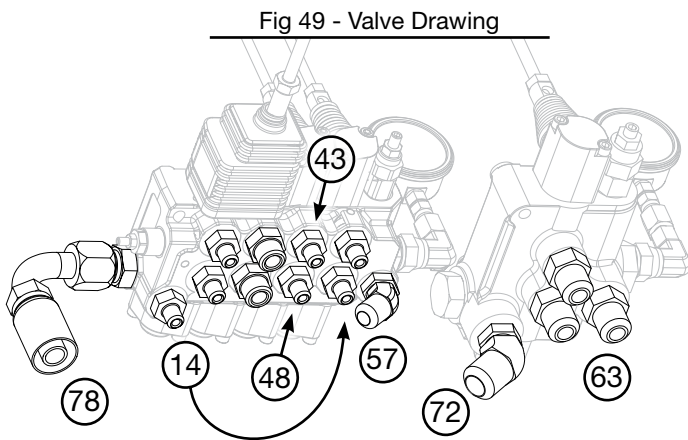


Fig 49 - Valve Drawing



Fig 50 - Hoses from hydraulic filter

54. Loop a 3/8 x 14" hose from below the return port, to the right, outer rear port.
55. Attach 3 hoses to the hydraulic filter.
- 1/4 x 165" (13' 9") hose runs down along the stabilizer arm, to the steering motor.
- 1 x 72" (6') hose runs to the return port on the conveyor belt valve.
- 3/4 x 78" (6' 6") hose runs to the return port on the left side of the mover kit valve.

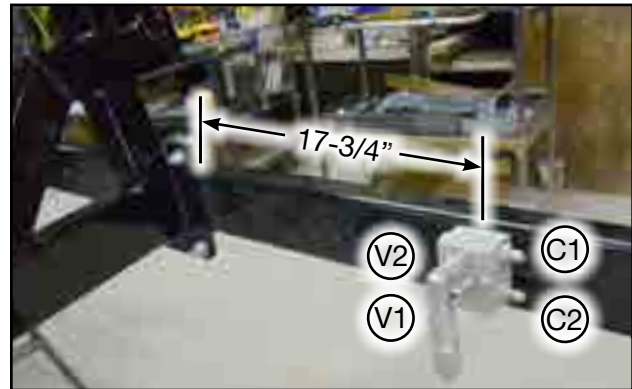


Fig 51 - PO check valve

56. Bolt a single Pilot-Operated (PO) Check Valve to the Driver Side Stabilizer Arm.
- Measure 17-3/4" from the bolt plate to the centre of the valve.
57. Leaving the check valve, towards the valve bank, fasten 2 hoses.
- 3/8 x 43" hose to the top, centre port (V2).
- 3/8 x 48" hose to the lower port (V1).

58. Attach those hoses to the third set of ports on the valve.
 - 48" hose to the right, inner, rear port.
 - 43" hose to the right, inner, front port.
59. Connect a 55" hose to the top port (C1) on the hydraulic manifold.
 - Add a 72" hose to the bottom port (C2).
60. Secure both hoses to the driver side stabilizer arm using the butterfly clamp.



Fig 52 - Check valve hoses to lift cylinder

Note:

Once the hopper lift frame's hydraulic cylinder is installed, the two hoses from the check valve can be connected.

- 3/8 x 72" (6') hose to the rod-end.
- 3/8 x 55" (4' 7") hose to the cap-end.
- Zip-tie them together.

IMPORTANT:

Always use Loctite® 545 Thread Sealant.



Fig 53 - Steering wheel hoses

61. Bolt a pressure relief valve to the corner of the Stabilizer Arm Brace, below the valve table.
62. Attach these hoses between the relief valve and the mover kit valve:
 - 3/8 x 23" hose to port 3 (P3), then to the "T" at the mover kit supply port.
 - 1/2 x 28" hose to "T" at port 2 (P2), and to the left, inner, rear port.
 - 1/2 x 27" hose to "T" at port 1 (P1), and to the left, inner, front port.

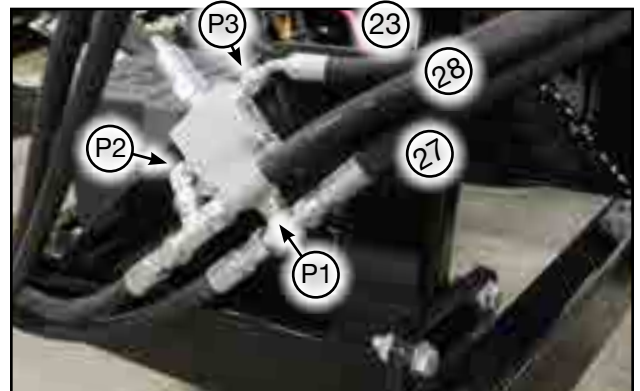


Fig 54 - Pressure relief valve hoses

Fig 55 - Valve Drawing

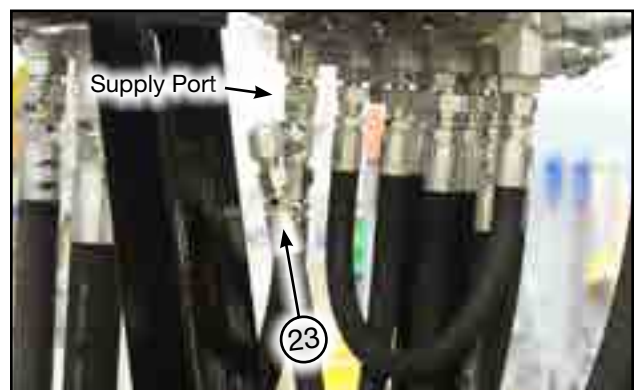
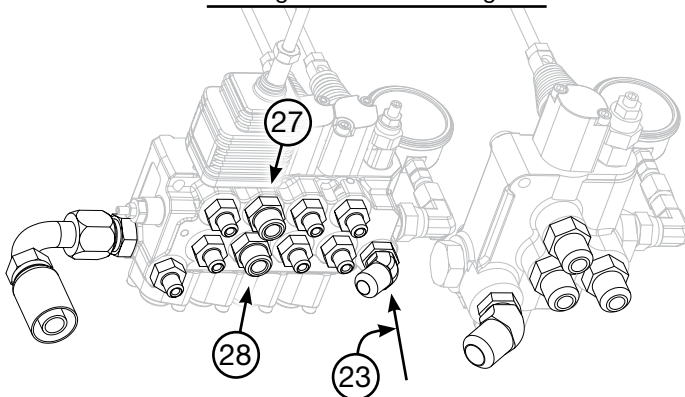


Fig 56 - Pressure relief valve hose to supply port "T"

63. On the other side of the relief valve, attach these hoses:

- 1/2 x 163.5" (a) hose to the "T" at port 2 (P2) on the side of the valve.
- 1/2 x 163.5" (b) hose to "T" at port 1 (P1) on the bottom of the valve.

64. Fasten two double-hose clamps along the Stabilizer Arm Brace.

- Fasten three double hose clamps down the Stabilizer Arm towards the steering wheel.
- Fasten another two double-hose clamps onto the Mover Kit Frame Sub-assembly.

65. Secure the two 163.5" hoses into the double-hose clamps.

- Continue all the way to the steering wheel.

66. Fasten 3/8 x 186" hoses to the steering ports on the Mover Kit valve.

- 186" (a) hose to the left, outer, rear port.
- 186" (b) hose to the left, outer, front port.

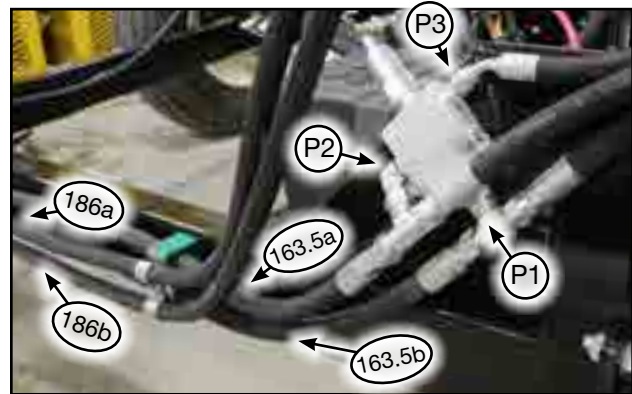


Fig 57 - Hoses to steering wheel



Fig 58 - Hoses to steering wheel

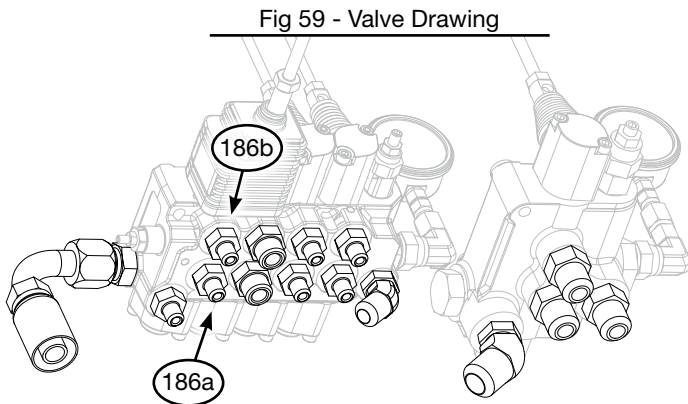


Fig 59 - Valve Drawing



Fig 60 - Hoses to steering wheel

67. Use butterfly hose clamps to attach the 186" hoses to each double-hose clamp.

68. Ziptie the 1/4 x 165" (13' 9") hose (from the hydraulic filter) to the other hoses along the stabilizer arm, to the steering motor.



Fig 61 - Return hose from steering wheel

69. Secure the two 1/2 x 163-1/2" hoses to the steering wheel drive motor.
 - Hose (a) to one port.
 - Hose (b) to the other port.
70. Attach 3/8 x 186" (15' 6") hoses to the steering hydraulic cylinder.
 - Hose (a) to the rod-end fitting.
 - Hose (b) to the cap-end fitting.
71. Connect the 1/4x 165" hose from the hydraulic filter to the return port on the steering wheel drive motor.

Note:
Zip-tie hoses as needed.



Fig 62 - Steering Wheel hose connections



Fig 63 - Steering cylinder hoses

72. Bolt the mover kit steering wheel onto the wheel hub.
 - Tighten the bolts to their specified torque.



Fig 64 - Steering wheel

4.5 OIL COOLING FAN (if equipped)

1. Bolt the Cooling Fan Cross Arm to the Stabilizer Arms in between the axle and Stabilizer Arm Brace.



Fig 65 - Cross arm with hydraulic oil cooling fan



Fig 66 - Cross arm with hydraulic oil cooling fan

2. Fasten 1 x 26" hose from the fitting (a) at the hydraulic filter to the top port on the cooling fan.
 - **Note:** Use these fittings for an easier connection:
 - 16WC-16FJX90° fitting on the filter end.
 - 16WC-16FJX fitting on the fan end.
3. Fasten the 1 x 34" hose from the bottom port on the fan to the return port at the conveyor belt valve.



Fig 67 - Return fittings when oil cooling fan is installed

Fig 68 - Valve Drawing

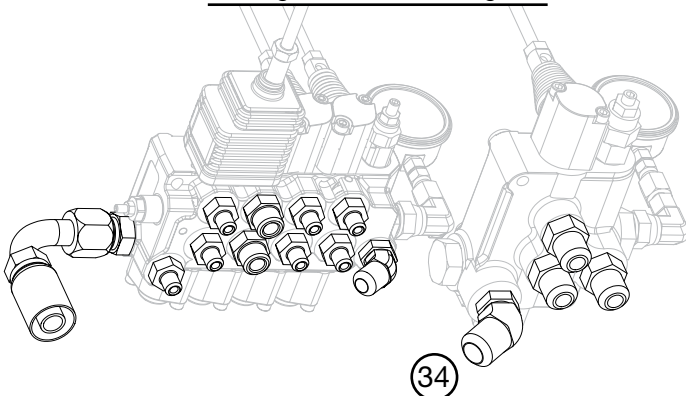


Fig 69 - Hoses to the cooling fan

4. Bolt the control box to the frame of the fan.



Fig 70 - Cooling fan wiring

5. Connect the electrical wires as shown below.

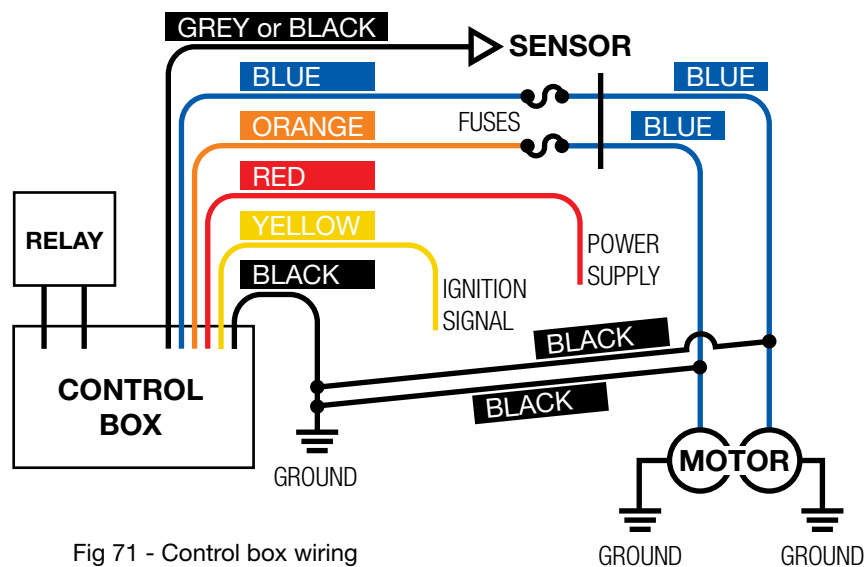


Fig 71 - Control box wiring

4.6 UNDERCARRIAGE LIFT FRAME

4.6.1 Hopper Scissor Lift Frame:

6. Bolt the Front Lower Scissor Arms (a) to the Mover Kit Steering Frame Assembly.
 - Do not tighten.
7. Bolt the Front Scissor Arm Stop (b) to the scissor arm.
 - Use 2 washers between the parts.
 - Do not tighten.
8. Then, fasten the Front Scissor Arm Stop to the stabilizer arm, forming a triangle.
 - Do not tighten.
9. Attach the Front Lower Scissor Arm Brace between the lower scissor arms.
 - Do not tighten.
10. Remove the bolt that connects the scissor arms stop to the stabilizer arms.
11. Sandwich the Front Upper Scissor Arms between the two arms and washers.
 - Reinsert the bolt with outside washers, and add the nut.

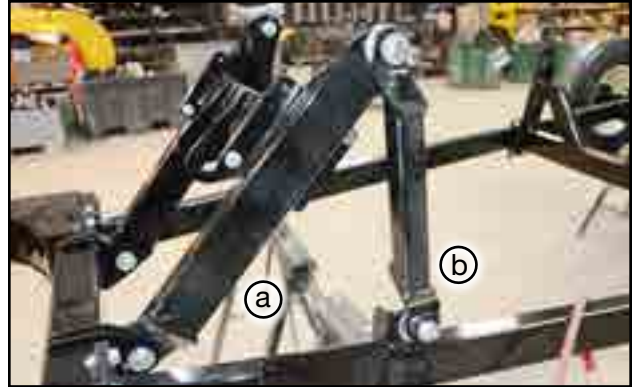


Fig 72 - (a) Front Lower scissor arm, (b) Front scissor arm stop



Fig 73 - Bolts and washers



Fig 74 - Front lower scissor arm brace



Fig 75 - Front upper scissor arms

12. Attach the Front Upper Scissor Arm Brace, to the arms which are above the Mover Kit Steering Frame Assembly.
 - Do not tighten the nuts.



Fig 76 - Hopper lift hydraulic cylinder

13. Lift the cap-end of the hydraulic cylinder (4" bore x 14" stroke) between the brackets of the lower arm brace.
 - Insert the 1-1/2 x 6-1/8" Cylinder Mount Base Pin.
 - Add the Pin Retaining Plates, washers, and 3/8 x 1" bolts.
 - Do not tighten.



Fig 77 - Hopper lift hydraulic cylinder

14. Lift the rod-end of the hydraulic cylinder to the brackets of the upper arm brace.
 - Insert the 1-1/2 x 3-7/8" pin.
 - Add the Pin Retaining Plates, washers, and 3/8 x 1" bolts.

15. Add grease zerks to each end of the cylinder.

16. Tighten all bolts on the Hopper Scissor Lift Frame assembly.

Note:

Hopper lift cylinder hoses come from the check valve on driver-side stabilizer arm.
See Figure 52, page 4-13

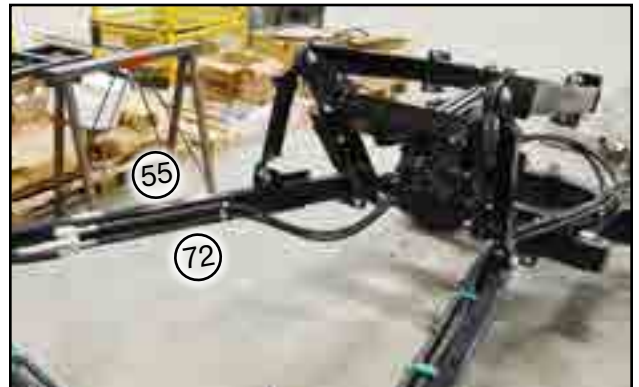


Fig 78 - Hopper lift hydraulic cylinder hoses

17. Connect the two hoses from the check valve to the hopper lift frame's hydraulic cylinder is installed.
 - 3/8 x 72" (6') hose to the rod-end.
 - 3/8 x 55" (4' 7") hose to the cap-end.
 - Zip-tie them together.



Fig 79 - Hopper scissor lift assembly

4.6.2 Tube Scissor Lift Frame:

18. Place the Rear Lower Scissor Arms - Left and Right in position on the axle.

- Lay the top end of the arms on the Stabilizer Arm Brace.

Note:

Be sure to install the arms, so the brace tubes, face inside of the fold.

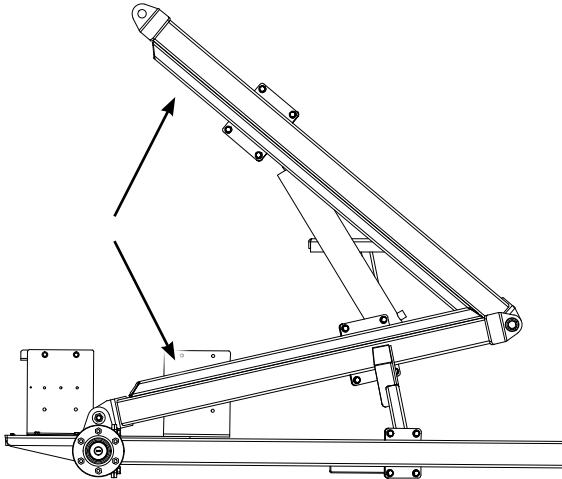


Fig 80 - Rear lower scissor arm



Fig 81 - Bushing and bolts

19. Place Scissor Bushings in the bolt holes.

- Use 3/4 x 3" bolts, washers and nuts.
- Do not tighten bolts.

20. Bolt the Rear Bottom Scissor Arm Brace between the two scissor arms.

- Do not tighten bolts.



Fig 82 - Rear bottom scissor arm brace

Note:

Install the brace, with the cylinder brackets angled up.

21. Add the Rear Upper Scissor Arm - Left and Right, to the end of the bottom Scissor arms.

- Place a washer between arm, bolt together.
- Do not tighten bolts.



Fig 83 - Rear upper scissor arm

22. Bolt the Rear Upper Scissor Arm Brace between the upper arms.
- Do not tighten bolts.

Note:

Install the upper brace, with the cylinder brackets angled down.



Fig 84 - Rear upper scissor arm brace

23. Lift the rod-end of the hydraulic cylinder (4" bore x 24" stroke) into place, between the brackets.
- Insert the 1-1/2 x 3-7/8" pin.
 - Add the Pin Retaining Plates, washers, and 3/8 x 1" bolts.
 - Do not tighten.
24. Move the cap-end of the hydraulic cylinder (4" bore x 14" stroke) between the brackets of the lower arm brace.
- Insert the 1-1/2 x 6-1/8" Cylinder Mount Base Pin.
 - Add the Pin Retaining Plates, washers, and 3/8 x 1" bolts
 - Do not tighten.
25. Add grease zerks to both ends of the cylinder.
26. Tighten all bolts on the Tube Scissor Lift Frame assembly.



Fig 85 - Tube lift cylinder rod-end



Fig 86 - Tube lift cylinder cap-end

IMPORTANT:

Be sure the stroke-end of the cylinder has a breather fitting, it is critical for proper function.

27. Insert a breather vent into the stroke end of the cylinder.

28. Connect the 3/8 x 49" hose to the cap-end port of the tube lift hydraulic cylinder.
 - Refer to the hydraulic schematic for fittings and restrictor information.
29. Fasten the hose to the Rear Lower Scissor Arm with hose clamps.
 - Guide the hose down the arm towards the axle hinge.
30. Connect a 3/8" ball valve to the end of the 3/8" x 49" hose.
31. Add a 3/8 x 90" (7' 6") hose to the other end of the ball valve.
 - Clamp the hose to the arm, on both ends of the valve.
32. Route the hose around the axle hinge.
 - Clamp the hose, giving space so it won't get trapped in the hinge movement.
33. Clamp the 90" hose along the Stabilizer Arm towards the valve bank.
34. Attach the hose from the tube lift cylinder to the right, outer, front port of the mover kit valve.



Fig 87 - Tube lift cylinder hose

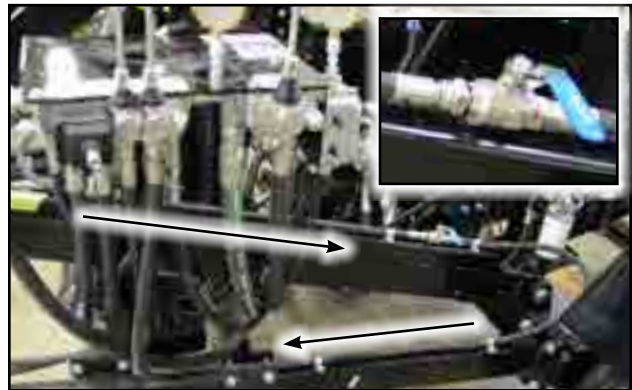
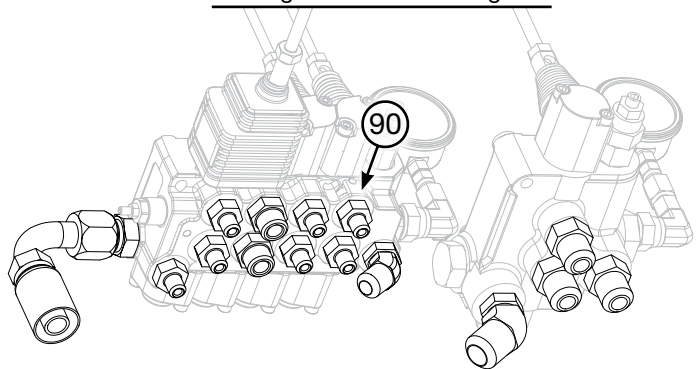


Fig 88 - Lift cylinder hose routing

Fig 89 - Valve Drawing



4.7 TORSION AXLE (if equipped)

Note:

If equipped with a Torsion Axle, the rear axle includes axle mount plates instead of wheel hubs.



Fig 90 - Torsion axle mount plate - left-side



Fig 91 - Torsion axle mount plate - right-side

1. Bolt the torsion axle to the mount plates

2. Bolt the wheels on to the axle.
 - Tighten the bolts to their specified torque.



Fig 92 - Torsion axle



Fig 93 - Torsion axle, left-side



Fig 94 - Torsion axle, right-side

3. Add the fenders and the lights.
4. Wire the torsion axle brakes and lights using the following diagram.

Note:

Once the conveyor is mounted onto the undercarriage, finish wiring the torsion axle brakes, and lights.

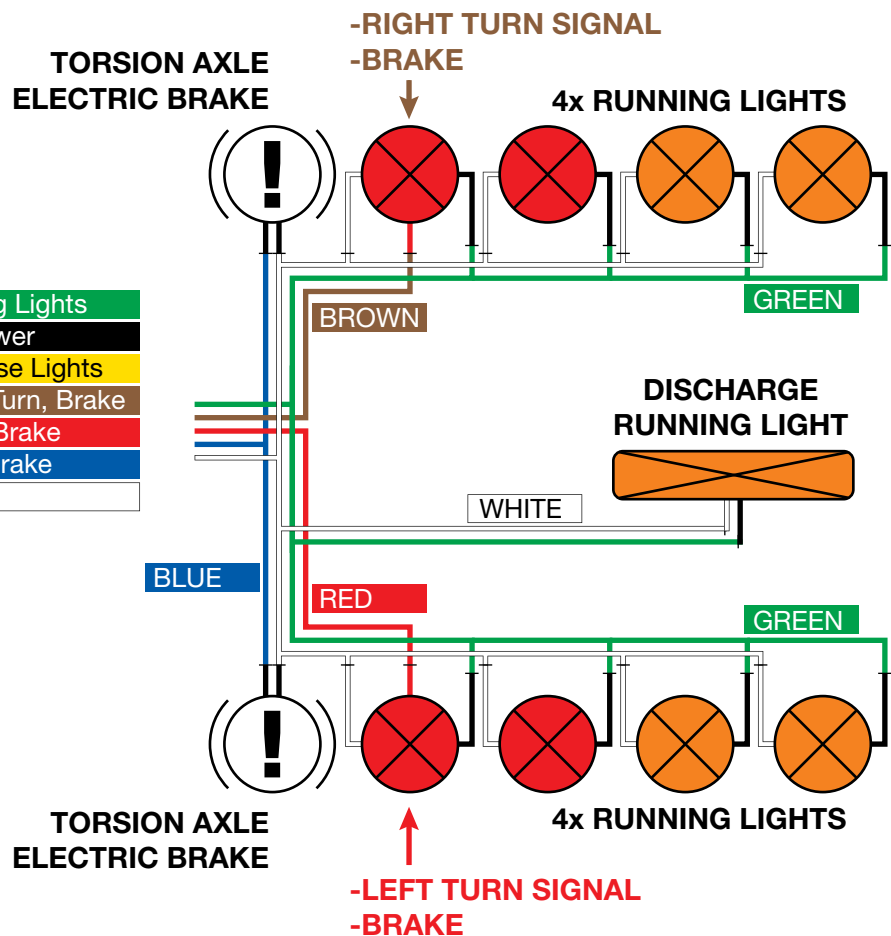
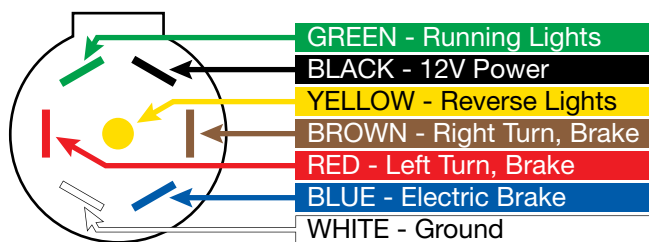


Fig 95 - Turn signal and brake light



Fig 96 - Discharge running light

TRAILER-SIDE, 7-WAY PLUG
Inside view



4.8 FINISH THE UNDERCARRIAGE

1. Bolt the wheels on to the axle.
- Tighten the bolts to their specified torque.

2. Use self-tapping screws to secure the document holder to the driver side Front Lower Scissor Arm.

3. Attach the Jack Storage Bracket to the driver side stabilizer arm below the hopper scissor lift frame.

4. Attach the engine ignition box to the rear edge of the valve table.

5. If equipped with work lights and a discharge actuator, bolt the electrical control box to the hydraulic valve hose cover.



Fig 97 - Wheels



Fig 98 - Document holder and jack storage bracket



Fig 99 - Pressure gauges and engine control box



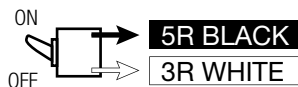
Fig 100 - Electrical control box

Note:

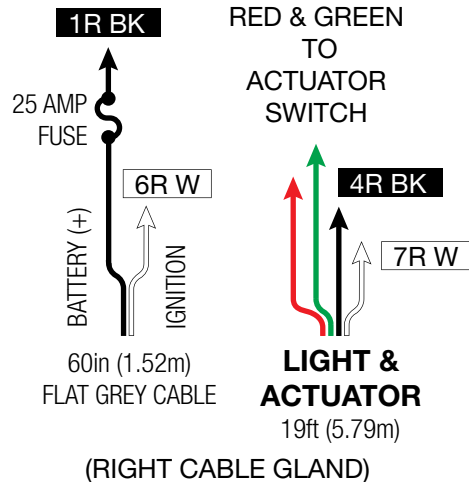
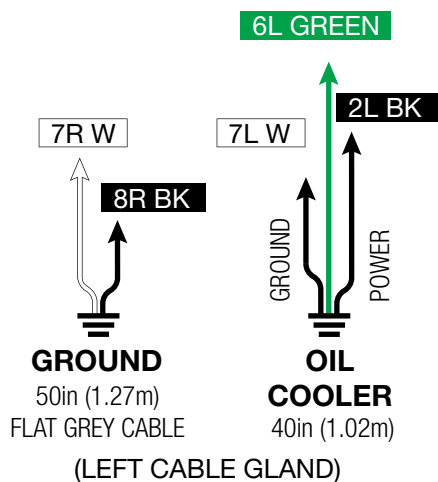
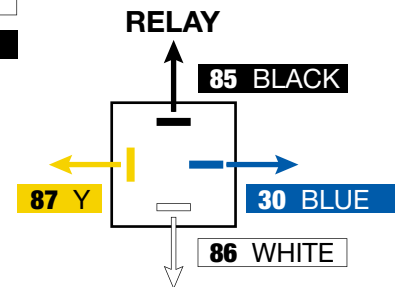
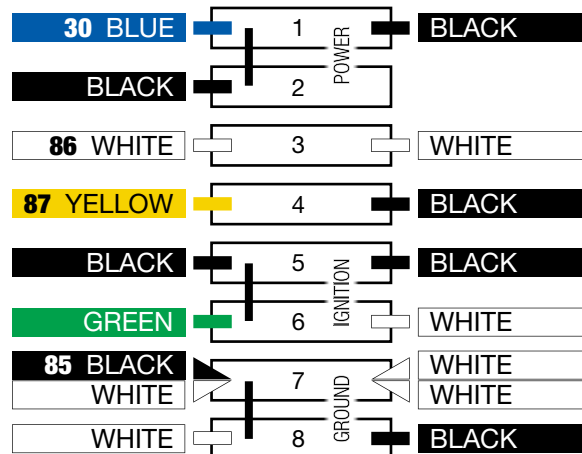
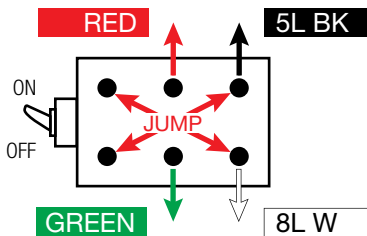
This is the wiring diagram for the control box at the valve table. The diagram includes the work light switch, discharge actuator and wiring for the oil cooler.

L = LEFT-SIDE R = RIGHT-SIDE

WORK LIGHT SWITCH



ACTUATOR SWITCH



Section 5: HOPPER ASSEMBLY

The hopper is normally assembled in factory, before shipping. These instructions are included in case assembly is required.

- The S-Neck, Open Transition Hopper with Collapsible Canvas, is standard. Refer to Section 6 for canvas and flashing installation.
- Optional Railcar Hopper - Refer to Section 5.1
- Optional Hopper with Hold-Down Wheels - Refer to Section 5.2

CAUTION

EQUIPMENT WEIGHT HAZARD

Stands must hold 2500 lb in weight,
Use lift equipment that can hold 1000 lb.

1. Slide the idler roller into place.
2. Insert 1/2" x 2" carriage bolts, from inside the frame.
 - Slide bearings over the roller shaft.
 - Fasten with washers and cone lock nuts.
 - Centre the shaft.

Note:

Some bearings come with Eccentric Locking Rings, others have integrated locking collars with set screws.

IMPORTANT:

On some bearings, the inside ring is flush with the housing. Slide a washer onto the bolts, and sandwich it between the hopper frame and the bearing so the ring doesn't rub while rotating.



Fig 101 - Open transition canvas hopper frame



Fig 102 - Install hopper rollers



Fig 103 - Idler roller with bearings

IMPORTANT:

Use anti-seize lubricant when fastening stainless steel bolts.

3. Add 5/8 x 6" bolts to the weldments behind the idler roller.
 - Tighten with hex nuts.
 - **Note:** These bolts will be used to adjust the belt tension at the roller.
4. Install the three rollers in the transition.
 - Position the Transition Roller Guide Plates inside the frame on both sides.
 - Insert the rollers through the guide plates and the frame.
 - Insert the bolts from inside the frame.
 - Add the bearings to both sides.
 - Add the washers.
 - Fasten with washers and cone lock nuts.
 - Centre the shafts.
5. Slide the third roller up from the bottom corner, below the transition.
 - Insert the bolts from inside the frame.
 - Add the bearings to both sides.
 - Add the washers.
 - Fasten with washers and cone lock nuts.
 - Centre the shafts.
6. Position an eccentric locking ring (off-centre fit) onto both ends of each roller.
 - Be sure the roller shafts are centred.
7. Use a hammer and punch. Tap the locking ring to tighten it onto the cylinder.
8. Tighten the locking ring's set screw.



Fig 104 - Idler roller tension bolt



Fig 105 - Transition rollers with guide plates

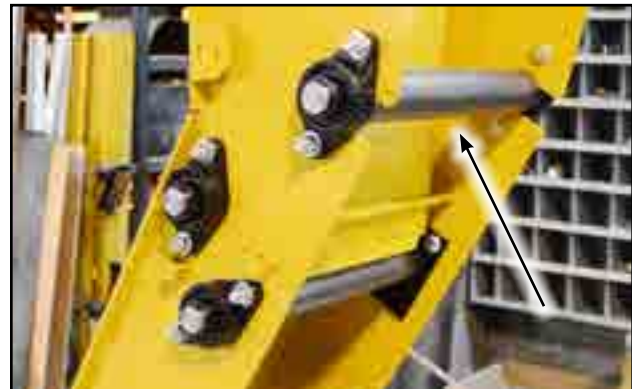


Fig 106 - Third roller



Fig 107 - Tighten Eccentric Locking Ring

9. Bolt the hitch to the front of the hopper.



Fig 108 - Hopper hitch

10. Bolt the hopper frame along the sides.

Note:

Refer to Section 6 for
canvas and flashing installation.



Fig 109 - Hopper frame, shown with canvas installed

5.1 RAILCAR HOPPER (if equipped)

The railcar hopper is an alternative to the standard collapsible canvas hopper.

- The rollers are installed similar to the beginning of Section 5.
- Idler Roller Flashing covers the front of the hopper.
- Rubber Bed Flashing-Lower covers the sides of the conveyor belt and leads into the transition.
- Metal Hopper Flashing strips hold down the rubber flashing.
- Rubber Bed Flashing-Upper covers the steel flaps.
- Hopper Transition rubber and metal Flashing and metal is attached above the transition.
- Cable guides are attached to the corners above the transition.
- Flap cables are also attached to the flaps and secured for shipping.

Note:

- The bed flashing will need to be removed before installing the conveyor belt.
- The flap cables will be attached to the winch in Section 6.6.3, page 6-25.

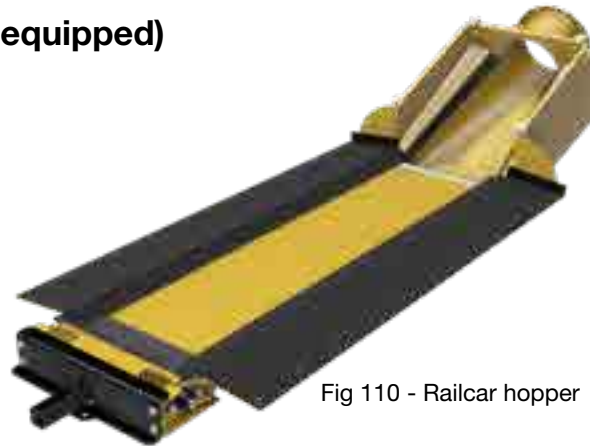


Fig 110 - Railcar hopper



Fig 111 - Railcar hopper transition rollers



Fig 112 - Stainless steel railcar hopper shown



Fig 113 - Railcar flap cables

5.2 HOPPER with HOLD-DOWN WHEELS (if equipped)

This hopper is designed with wheels to hold down the belt while it transitions between the hopper and tube.

The hopper has the same spring-loaded canvas frame as the standard open transition, s-neck hopper.

All hoppers have rubber flashing to seal the junction between the belt and the sides of the hopper.

- The bed flashing will need to be removed before installing the conveyor belt.

Inside the access panel, on top of the hopper, are two adjustment bolts. Use these bolts to adjust the hold-down wheels which will set the belt tracking:

1. Open the first access panel above the hold-down wheels.
 - Remove the washers from inside oval cut-outs.
 - Expose the 2 adjustment bolts, which raise and lower the wheel assembly.
2. Use the bolts to adjust the wheel height until the belt tracks in the centre.
3. Close the access panel above the hold-down wheels.



Fig 114 - Hopper with hold-down wheels



Fig 115 - Hold-down wheels



Fig 116 - Hold-down wheel access panel

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Section 6: TUBE ASSEMBLY

Check drawings and bill of materials for component placement, size of bolts and other fasteners to use during assembly.

Tube Layout:

- 2250-TL has two, 12 gauge tube sections.
 - 2258-TL has a third shorter section which is placed at the discharge end.
1. Lay out the 12 gauge tube sections.
 - Locate the tube seam, this marks the top of tube.
 2. Bolt the tubes together, and tighten.



Fig 117 - Tube section seams



Fig 118 - Tube section, male and female ends

3. Roll tube back and forth, over a flat surface to check tube straightness.

If tube is crooked, shim the inside of bend:

- Sandwich washer(s) between tube flanges.
- Tighten the bolts.
- Roll back and forth, checking again.



Fig 119 - Shim tube

4. Place the Hopper in front of tube.
Note: Follow the same procedure for canvas or railcar hopper.
 - Raise discharge end of tube.
 - Fit the tube over the hopper flange.

IMPORTANT:

Ensure tube seam is to the top.

5. Bolt the tube to the hopper.
 - Use lock washer together with regular washers.
 - Tighten them.
6. **2258-TL Note:**
 - At the hopper, leave the top two centre bolt holes empty.
 - At the discharge, leave one on either side of the centre bolts empty.
 These holes will be used by the cable bridging eye bolts.
7. Bolt the Discharge Housing to the other end of the tube.

Note:

The tube flange seam should be on top.

8. Lift the tube up, and place the discharge and hopper ends on stands.
9. Level the discharge and hopper.
 - Shim the stands to make level, if necessary.
10. Measure from tube flange at the hopper.
 - Mark measurements as required, for placing components on the tube.

Note:

Measurements are to the hopper-side of component.

Always place part on discharge-side of mark.



Fig 120 - Attach hopper, tube seam to top



Fig 121 - Attach discharge housing



Fig 122 - Level hopper



Fig 123 - Measure and mark tube for components

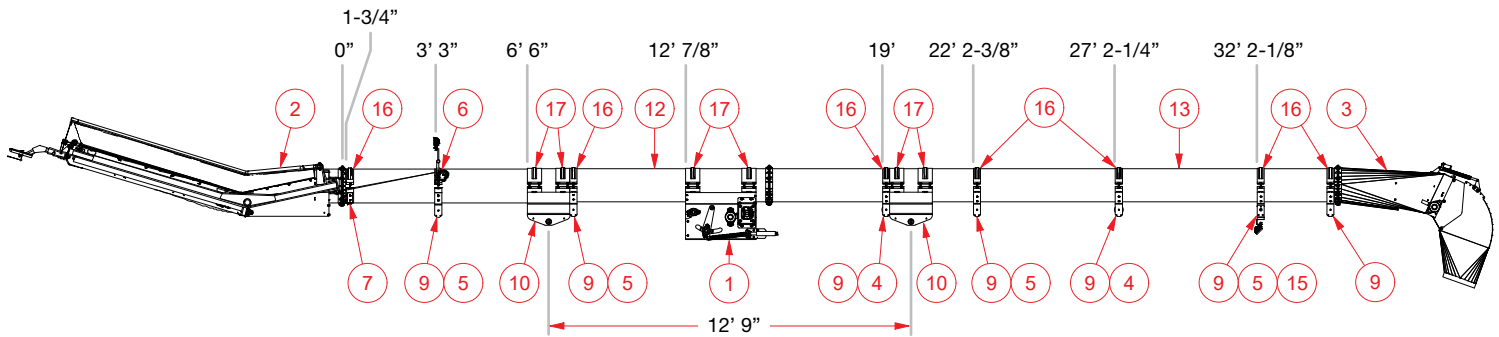


Fig 124 - 2250-TL tube component locations

Table 1 - Tube Components

ITEM	PART #	DESCRIPTION
1	503055	POSITIVE DRIVE BOX W/FIXED DRIVE ROLLER
2	504221	OPEN TRANSITION HOPPER
3	503804	DISCHARGE
4	501113	RETURN ROLLER FL - 1-7/8 X 23-11/16 X 7/16
5	500021	RETURN ROLLER - 7/16 X 23-11/16 X 25-3/8
6	405749	LIGHT/WINCH MOUNT BRACKET
7	405692	WIND GUARD MOUNT BRACKET
8	405550	14" TUBE CLAMP W/BRIDGING TAB - 6" WIDE
9	400096	RETURN ROLLER BRACKET

10	405123	UNDERCARRIAGE MOUNT
11	400037	TUBE - 12GA X 14D X 90L
12	400035	TUBE - 12GA X 14D X 180L
13	400034	TUBE - 12GA X 14D X 240L
14	117693	BRIDGING TOWER #1 - MAIN ANGLE
15	117472	LIGHT MOUNT
16	101081	TUBE CLAMP - TYPE 3
17	101080	TUBE CLAMP - TYPE 6

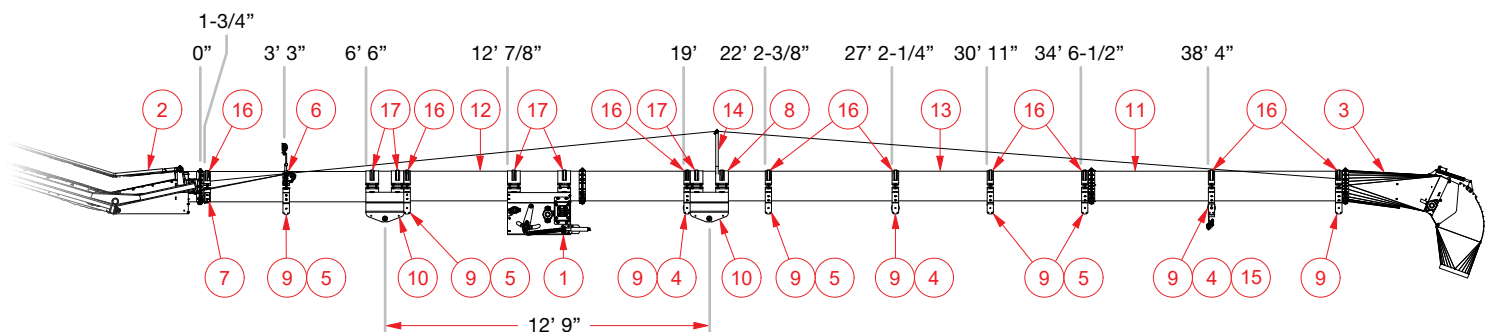


Fig 125 - 2258-TL tube component locations

11. Attach the Windguard Mount Bracket to a tube clamp, and place it next to the hopper flange.
 - Snug up, but do not tighten bolts.



Fig 126 - Windguard mount bracket

12. Place the Light/Winch Mount Bracket at the 3' 3" measurement.
 - Clamp a Return Roller Bracket to it underneath the tube.
 - Add the bolts, but do not tighten.

If equipped with a railcar hopper:

- Refer the the drawings for location of the winch for the hopper flaps.



Fig 127 - Light/winch mount bracket w/ return roller bracket

13. Lift an Undercarriage Mount into position.
 - Clamp two Type 6 (6") Tube Clamps over the tube.
 - Add the bolts, but do not tighten.
14. Bolt a Return Roller Bracket to a Type 3 (3") Tube Clamp.
 - Place it up against the discharge end of the Undercarriage Mount.
 - Add the bolts, but do not tighten.



Fig 128 - Lower undercarriage mount

15. Lift the Drive Box into position below the tube.
 - Clamp two Type 6 Tube Clamps over the tube.
 - Add the bolts, but do not tighten.

IMPORTANT:

Position Drive Box so
Tension Bolts point to the discharge.



Fig 129 - Drive box

16. Bolt a Return Roller Bracket to a Type 3 Tube Clamp at.
 - Add bolts, but do not tighten them.
17. Lift an Undercarriage Mount into position on the discharge side of the bracket.
 - Clamp two Type 6 Tube Clamps over the tube.
 - Add the bolts, but do not tighten.

2258-TL Note:

The second Type 6 Tube Clamp (on discharge-side) will contain brackets for the cable bridging support arm.

18. **2250-TL:** Bolt 3 more Return Roller Bracket to Type 3 Tube Clamps.
 - Do not tighten the bolts.

2258-TL: Bolt 4 Return Roller Brackets to clamps on the second tube.

- Add 2 return roller brackets to the third tube.
- Do not tighten bolts.

19. Level all tube components.

20. Now, tighten all the bolts.

21. Use self-threading screws to secure both upper and lower Undercarriage Mounts to the tube.
 - Place the screws off centre, one to the left-side and one to the right-side.



Fig 130 - Upper undercarriage mount



Fig 131 - Level components

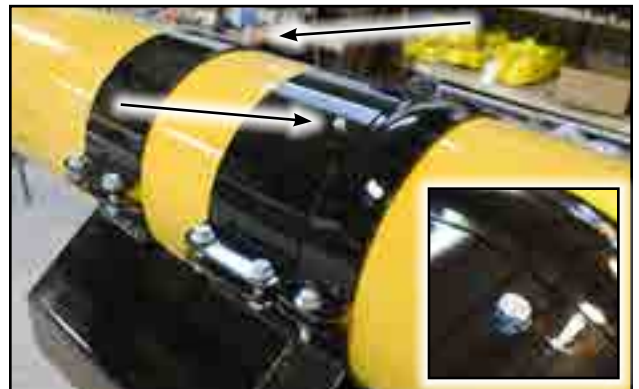


Fig 132 - Secure undercarriage mounts

22. Bolt the Winch onto its mount.

23. Place the Flanged and regular Return Rollers into their brackets.
Refer to Figure 102 or 103

Note:

One end of the roller shaft is fixed.
Insert it first.

The other end is spring-loaded.
Insert it last.

IMPORTANT:

There should be 1/16 inch (1.5mm)
spacing between roller and bracket leg.
Use rubber mallet to bend, setting space.

24. If equipped with work lights:

- Attach a work light to the light mount near the hopper.
- Bolt the Light Mount to the Return Roller Bracket before the discharge.
- Attach the work light.



Fig 133 - Winch



Fig 134 - Utility work lights



Fig 135 - Utility work lights

6.1 CONVEYOR BELT

25. Hang the conveyor belt roll off the ground between the drive box and the second Undercarriage Mount.

IMPORTANT:

Be sure the belt is rolled smooth side up.

26. Thread the belt through the Undercarriage Mount, and over the return rollers.
27. Pull the belt out, between the Discharge Housing frame and the discharge roller.



Fig 136 - Conveyor belt under tube



Fig 137 - Lay belt over return rollers

28. Fish a cable from the hopper, through tube, out the discharge.
29. Lace a small piece of belt, to the end of the main belt.
30. Attach cable to the end of the belt.



Fig 138 - Belt at discharge

31. Pull the cable, with the belt, back through the tube, towards the Hopper.

IMPORTANT:

As the belt is being fed into the tube, be sure to bend the corners upward. Then the belt will sit correctly in the tube. If not, the belt corners may catch and flip the belt over.

32. Once the belt is to the hopper, remove the cable, and the small piece of belt.



Fig 139 - Feed belt into discharge

Note:

Review the transition schematic for threading the belt through hopper. Follow the same belt path for canvas or railcar hopper.

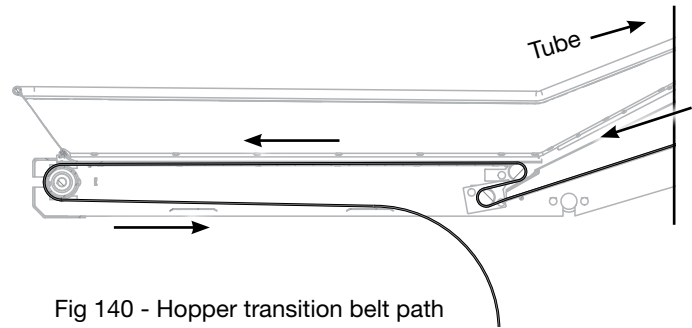


Fig 140 - Hopper transition belt path

33. From the tube, feed the belt underneath, before the first transition rollers.
34. Pull a long length of belt out the bottom of the hopper.



Fig 141 - Lead belt under transition

35. From below the transition, feed the belt around the lower roller.
 - Between the 2 rollers.
 - Around the top roller, onto the bed of the hopper.

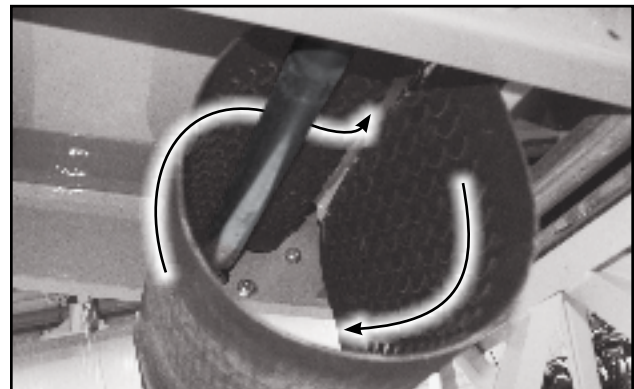


Fig 142 - Belt around transition rollers

IMPORTANT:

If hopper assembly is already complete with canvas and flashing, or if equipped with a railcar hopper, be sure to feed the belt underneath the rubber flashing.

36. Pull the belt across the hopper bed.



Fig 143 - Pull belt across hopper

37. Feed belt around the hopper tail roller.

IMPORTANT:

Be sure hopper end-flashing stays in place.
Belt goes under flashing.
Flashing sits on top.



Fig 144 - Return belt beneath hopper

38. The belt now leads under the hopper.

39. Beneath the hopper, feed the belt, inside the bottom panels of the hopper frame.

40. Pull belt the length of the hopper, back towards the tube.
- Feed it between the bottom hopper frame and the roller.



Fig 145 - Belt below transition

41. Go to the remaining belt left on the roll, under the tube.
- Thread that end of the belt back towards the Drive Box.

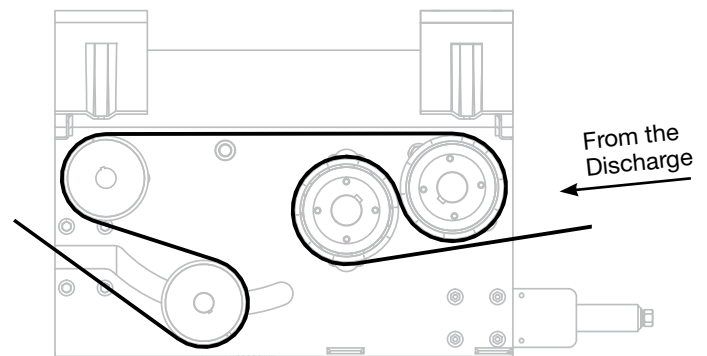


Fig 146 - Drive box belt path

42. Feed the belt into the Drive Box.
- Pull it below and around, the inside, rear roller.
- Between the 2 rollers.
- Around and over the outside, rear roller.



Fig 147 - Thread belt around drive rollers

43. Bring the belt over the outside, rear roller, and back through the drive box to the front.
44. Guide the belt around the top, front roller.
 - Back inside, and around the bottom, front roller.
 - Pull the belt out.
45. Thread it over the return roller.
 - Then through the first Undercarriage Mount.
46. Pull both ends of the conveyor belt together.
47. Connect the two ends of the belt lacing.
48. Thread the lacing cable through to fasten the belt.

Note:

Cordless drill can be used to thread cable.
Proceed slowly.

49. Cut off the excess cable.
50. Crimp the lacing to lock the cable in place.
51. Cut and taper the corners of the trailing end of the belt.

IMPORTANT:

Taper the belt corners, so they don't catch when running.

52. Set the adjustment bolts on the hopper roller to 3 inches (77 mm), as a starting position.
 - Set both sides equally, so the belt tracks correctly when running.



Fig 148 - Belt towards hopper



Fig 150 - Thread lacing cable

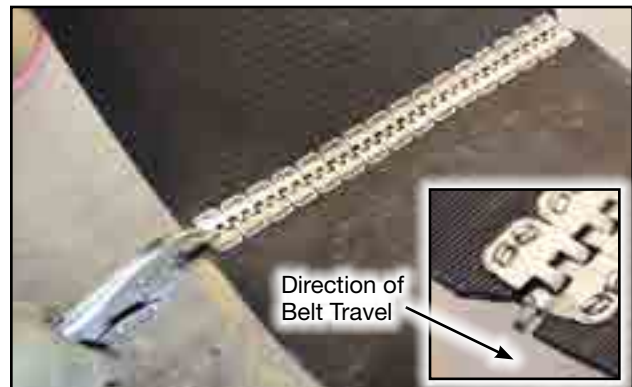


Fig 151 - Crimp lacing and cut trailing corner



Fig 149 - Tighten hopper adjustment bolts

6.1.1 Belt Tension and Tracking:

53. Tighten the bolts on the tail roller bearings.
54. Measure the distance between tail roller shaft ends and front edge of the hopper.
 - The measurements must be equal, for the belt to track correctly when running.
55. Adjust the Drive Box roller position by tightening the Tension Bolts.

Tighten the tension bolts completely.

When the conveyor belt is tensioned correctly, the arm at the end of the spring should sit vertical. It can also be angled back, away from the tension bolt by as much as 2 inches. This indicates that the belt is a good length.

The arm should never be angled towards the tension bolt. This indicates the belt is too long. Measure the angle. If the belt angles 2 inches away from vertical, cut and re-lace the belt 4 inches shorter.

If the arm touches the far right edge, the belt is too short. Remove and replace with longer belt.

Note:

Adjust both sides the same amount.

56. Connect external hydraulics to the drive box motor.
 - Run the belt.
 - Check its alignment and tension.

IMPORTANT:

Listen, check for problems.
Correct and adjust immediately.
Belt must run smoothly!



Fig 153 - Tension bolts



Fig 154 - Drive box roller arm



Fig 152 - Something catching on belt lacing

The belt is properly aligned when it rotates in the centre of the rollers. Check it at the discharge roller, hopper rollers, and in the drive box.

Note:

If belt is out of alignment,
it will move to the loose side.
Tighten loose side or loosen tight side.

**Belt Tracking at the Idler, Transition
and Discharge Rollers:**

57. Remove the discharge spout to view the roller.
58. Rotate the conveyor belt slowly, and check the position of the belt on the rollers.
59. Adjust one side of roller at a time.
 - Loosen bearing housing, and adjust.
60. Tighten the roller bearing housing.
61. Run the belt slowly, and check the position of the belt on the rollers.
 - Repeat steps until the belt tracks correctly.
62. Replace housing guard.

Belt Tracking inside Drive Box:

Use drive roller to make the adjustments to the position of the belt inside the drive box.

63. Adjust one side of the drive roller at a time.
 - Loosen the bearing housing, then adjust.
64. Tighten the roller bearing housing.
65. Run the belt slowly, and check the position of the belt.
 - Repeat steps until the belt tracks correctly.
66. Replace the bearing housing guard.



Fig 155 - Hopper idler roller



Fig 156 - Inside discharge spout

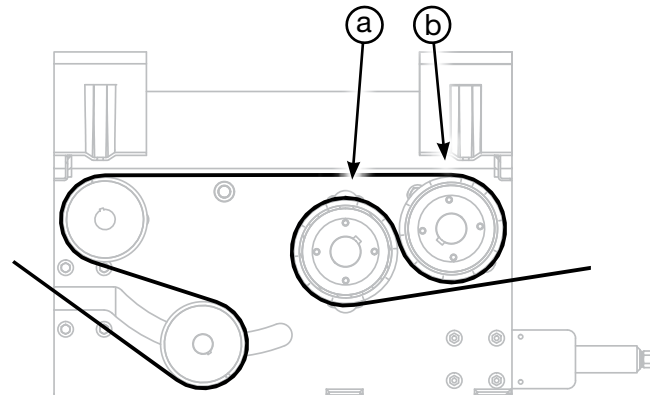


Fig 157 - Drive box, pinch roller (a) & drive roller (b)

6.2 DISCHARGE SPOUT

The discharge comes in two parts:

- Discharge hood
- Discharge spout



Fig 158 - Discharge

67. Lift the hood into place.

Bolt the hoop to the housing on both sides.

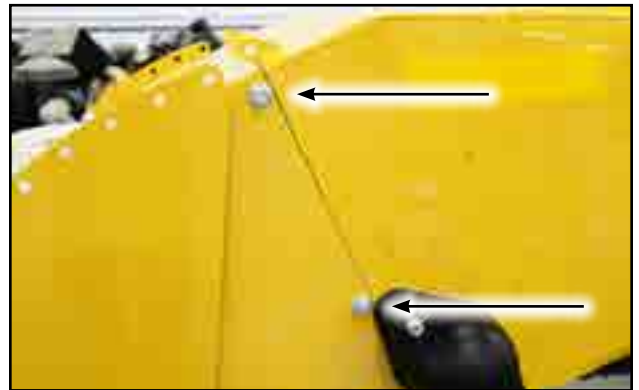


Fig 159 - Attach discharge hood

68. Lift the spout over the hood.

69. Bolt the bottom corners of the spout to the hood.



Fig 160 - Attach discharge spout

Note:

There are brackets on the top edges of the spout where the discharge angle can be adjusted.

70. Fasten the top of the spout to the hood using the discharge angle adjustment brackets.

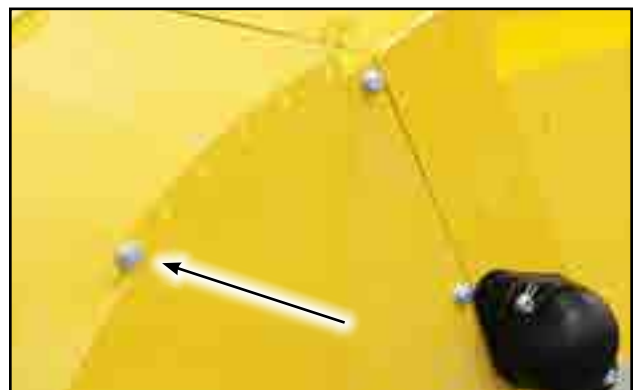


Fig 161 - Fasten spout at desired angle

6.2.1 Electric Actuator (if equipped):

If the conveyor includes an electric actuator and it's wiring harness kit, install it now. Refer to Section 6.5 to run electric cables.

71. Bolt the Electric Actuator Mount onto the top of the discharge housing.



Fig 162 - Electric actuator mount

72. Attach the Electric Actuator Bracket across the Spout.

Note:

Do not bolt the discharge spout to the hood as described in instruction #70, page 6-13.

73. Fasten the Electric Actuator to the mount, on the housing.
- Then attach the actuator to the bracket on the spout.



Fig 163 - Discharge spout

Note:

The electrical cables will be connected after the windguards are installed.



Fig 164 - Electric actuator on discharge

6.3 - 2258-TL CABLE BRIDGING

Note:

Only the 2258-TL has cable bridging.

1. Attach the Cable Bridging Support Arms to the second Type 6 Tube Clamp (contains brackets) on the upper Undercarriage Mount.
 - Bolt on the cross brace.
 - Level the cross brace.
 - Tighten bolts.
2. Place cable clamps on both ends of the cross brace.
3. Attach thimbles to the eye bolts.
4. Insert two eye bolts into the top two bolt holes on the tube flange, at the hopper.
5. Insert two more eye bolts (with thimbles) into the discharge flange.
6. Lay the bridging cables along the tube.
7. Thread two cable clamps on the ends of both cables.
8. Thread cables through eyebolts and around thimble, at one tube flange.
 - Pull 13" (inches) of dead-end cable around the thimble.



Fig 165 - Cable bridging support arms

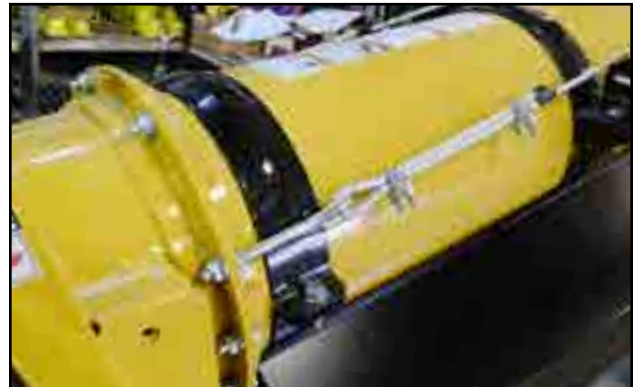


Fig 166 - Eye bolts in tube flange at hopper



Fig 167 - Eye bolt in discharge tube flange



Fig 168 - Secure cable at hopper

IMPORTANT:

Position “U” of bolt over dead-end of cable.

Live-end rests in saddle.

Tighten nuts evenly, alternate from one nut to other until recommended torque is reached.

9. Tighten both cable clamps.
 - Position the second clamp 4 inches in from the end of dead end cable.
10. Repeat the process to secure the cables at the discharge.
11. Remove the U-bolts from the cable clamps on the support arms.
12. Lift each cable onto the clamp saddle.
13. Install the U-bolts and snug up, but do not tighten the nuts.
(Clamps to be tightened at end of tube assembly)
14. Wrap electrician’s tape around the ends of the cable.

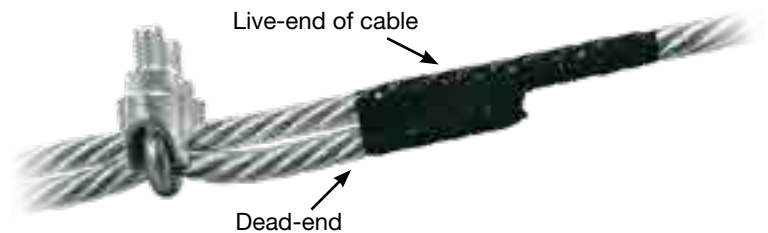


Fig 169 - Live-End and Dead-End of clamped cable



Fig 170 - Cables at bridge support



Fig 171 - Wrap cable ends

6.3.1 Cable Tension:

Note:

Hold cable thimble when adjusting eye bolt.
Keep the cable straight.

IMPORTANT:

Snug up hopper-end eye bolts.
Set tension with discharge-end eye bolts.

Leave as much adjustment capacity
as possible, at hopper end.
It can be easily reached for future adjustments.

15. Tighten hopper end eye bolts until five threads go through the nut.
 - Then tighten the eyebolt lock nuts.
16. Adjust discharge eye bolts until they extend 1-1/2 inches (38 mm) out from the nut.
 - Tighten the lock nuts.
17. Lift the conveyor tube, just above centre, with a winch.

The discharge will rise off the stand.
Hopper should stay sitting on its stand.
18. Sight along the top of the conveyor tube, to confirm it is straight, side to side.

Note:

If curved: tighten cable on outside of arc,
or loosen cable on inside of arc.

19. Sight along the side of the tube, to confirm it is straight.
 - Tighten cable with the discharge eye bolts.



Fig 172 - Tighten discharge eye bolts



Fig 173 - Discharge cable



Fig 174 - Straight, side to side

6.4 WINDGUARDS

IMPORTANT:

Windguards are to be installed starting at the discharge.

- Overlapping the windguard towards the discharge will protect them when the conveyor is transported at highway speeds.
- Windguards are intended to shield against wind, they are not meant to be waterproof.

Note:

- Refer to page 6-19 for locations.
- Refer to drawings for specifics.
- Some trimming is required. Cut with a grinder to reduce flaring.

- Discharge windguards are precut to fit, and are side specific.
- Drive Box windguards are tapered towards it, and are side specific.
- Hopper windguards go between it and Drive Box. They are side specific.

⚠ CAUTION

AWKWARD COMPONENTS
Have 2 people available;
one to hold, another to fasten.

Note:

Return roller brackets are positioned to fasten the windguards to.

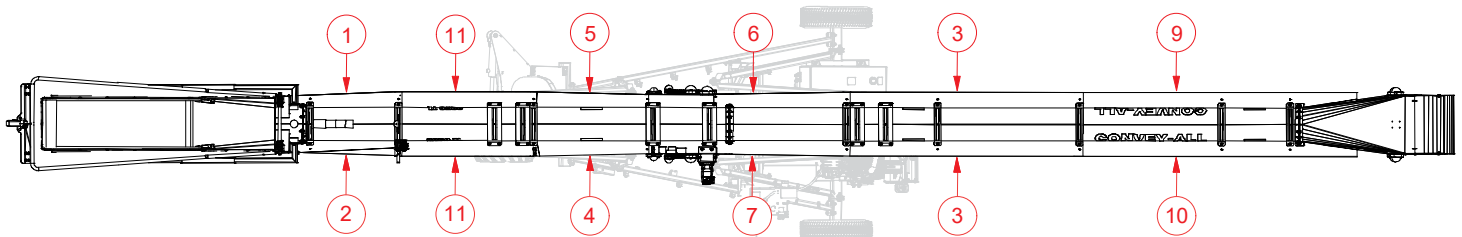


Fig 175 - 2250-TL windguard location

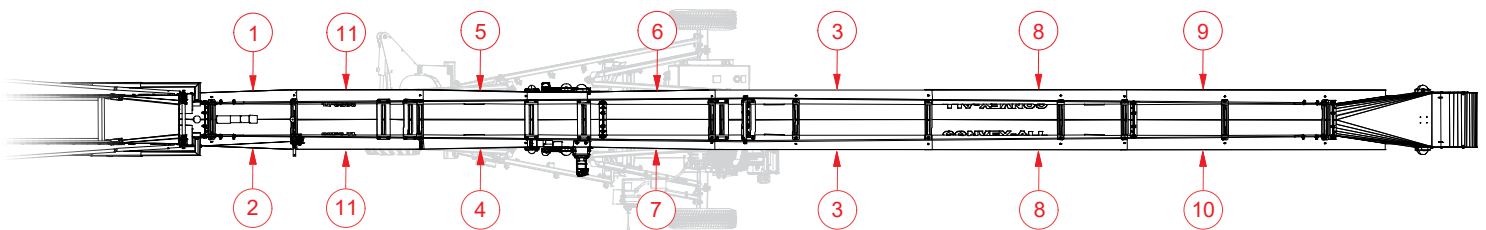


Fig 176 - 2258-TL windguard location

Table 2 - Windguard Locations

ITEM	PART #	DESCRIPTION
1	119268	OPEN TRANSITION HOPPER WIND GUARD - RIGHT
2	119266	OPEN TRANSITION HOPPER WIND GUARD - LEFT
3	117113	WINDGUARD - TYPE 101 1/4
4	116564	HOPPER TO DRIVE BOX WINDGUARD - LEFT
5	116563	HOPPER TO DRIVE BOX WINDGUARD - RIGHT
6	116556	DRIVE BOX TO DISCHARGE WINDGUARD - RIGHT
7	116554	DRIVE BOX TO DISCHARGE WINDGUARD - LEFT
8	112304	WINDGUARD - TYPE 91
9	112302	DISCHARGE WINDGUARD - TYPE 120 - RIGHT
10	112298	DISCHARGE WINDGUARD - TYPE 120 - LEFT
11	111252	WINDGUARD - TYPE 60

1. Lay out the windguards along side of the tube.
2. Install the precut Discharge Windguard first.

Note:

Position windguard against Return Roller Bracket support arm weld, and lay it down on the arm.

3. Position and hold the windguard.
 - Drill holes.
 - Use self-tapping screws to attach windguard to return roller bracket.
4. Place the next windguard, overlapping previous:
 - Drill holes at each Return Roller Bracket.
 - Use 2 self-tapping screws. Secure windguard to bracket.

5. Place the Drive Box to Discharge Windguard.
 - Attach the windguard to the roller bracket.
 - Then, secure the windguard to the drive box.



Fig 177 - Discharge windguard



Fig 178 - Attach windguard to return roller bracket



Fig 179 - Windguard



Fig 180 - Drive box to discharge windguard

6. Position the Hopper to Drive Box Windguard.
 - Attach windguard to the return roller bracket, next the Undercarriage Mount.
 - Also, attach it to the drive box.



Fig 181 - Hopper to drive box windguard

7. Install the Hopper Windguard.
8. Install the windguards for the other side.
 - Start at the discharge, and follow the same procedures as the first side.



Fig 182 - Hopper windguard

6.5 WIRING HARNESS AND LIGHT KIT (if equipped)

1. Connect the coloured wires on the electric actuator to the corresponding colours in the #16 gauge wire cable.
 - Encase wire connection in conduit.

Note:

8" long, Fir Tree Push Mount Zip-Ties are supplied.



Fig 183 - Electrical cable from actuator

2. Drill 7/32" holes where needed.
 - Then insert a zip-tie.
3. Use the zip-ties to fasten the electrical cable to the discharge housing and along the windguards.

IMPORTANT:

Do not drill into the return roller brackets.
Drill the hole beside them.



Fig 184 - Electrical cable

4. Install the work light onto its mount below the second last (from the discharge) return roller bracket.
 - Secure the cable by drilling 7/32" holes and insert zip-ties.

Note:

Mount anchor clips using the top screw at each roller bracket.
Drill 1 or 2 holes between for additional clips.



Fig 185 - Wire discharge working light

5. Connect the wires from the light to the #16 gauge wire, laid along the tube.
 - Encase the "T" joint in conduit.
 - Wrap the joint with electrical tape.
 - Secure the cable with anchor clips to the windguard using existing screws.

6. Route the cable around tube flange(s).
 - Insert zipties on both sides.
7. The #16 gauge electrical cable from the discharge, should end at the Upper Undercarriage Mount.



Fig 186 - Cable around tube flange

8. Connect the wires from the hopper light, to the #16 gauge cable.
 - Wrap the wire connection in conduit.
 - Use anchor clips to attach the wire to the windguard.
 - Bring the wire to the Upper Undercarriage Mount.



Fig 187 - Hopper work light

9. Bolt the control box to the side of the valve table.



Fig 188 - Kit control box

6.6 COMPLETE THE TUBE

6.6.1 Apply Decals and Reflectors:

1. Be sure the application area is clean and dry. Ensure the surrounding temperature is above 10°C (50°F).
 - Remove all dirt, grease, wax from surface.
 - Clean the area with a non-ammonia based cleaner.
 - Wipe the clean surface with isopropyl alcohol on paper towel, and allow to dry.
 - a. Determine the exact position before you remove the backing paper.
 - b. Peel a small portion of the split backing paper.
 - c. Align the decal over the specified area. Use a squeegee to carefully press the small portion, with the exposed adhesive backing, into place.
 - d. Slowly peel back the remaining paper and carefully smooth the rest of the decal into place.
 - e. Small air pockets can be pierced with a pin and smoothed out using the squeegee, or a piece of sign backing paper.
2. Apply amber reflector strips:
 - To each side of the hopper and discharge.
 - In equal intervals of less than 15 feet up the tube.
 - On the Reflector Mounting Plates in front of both wheels.
3. Apply a red reflector strip to the end of the discharge spout.
4. Apply red reflector strips to the rear of the axle beside each wheel.



Fig 189 - Logo



Fig 190 - Amber reflectors



Fig 191 - Decals

- Convey-All logo on sides of tube at discharge.
- Red reflectors: on discharge spout, and discharge-side of axle.
- Amber Reflectors: on sides of hopper, at less than 15 ft intervals along tube, and on hopper-side of axle.

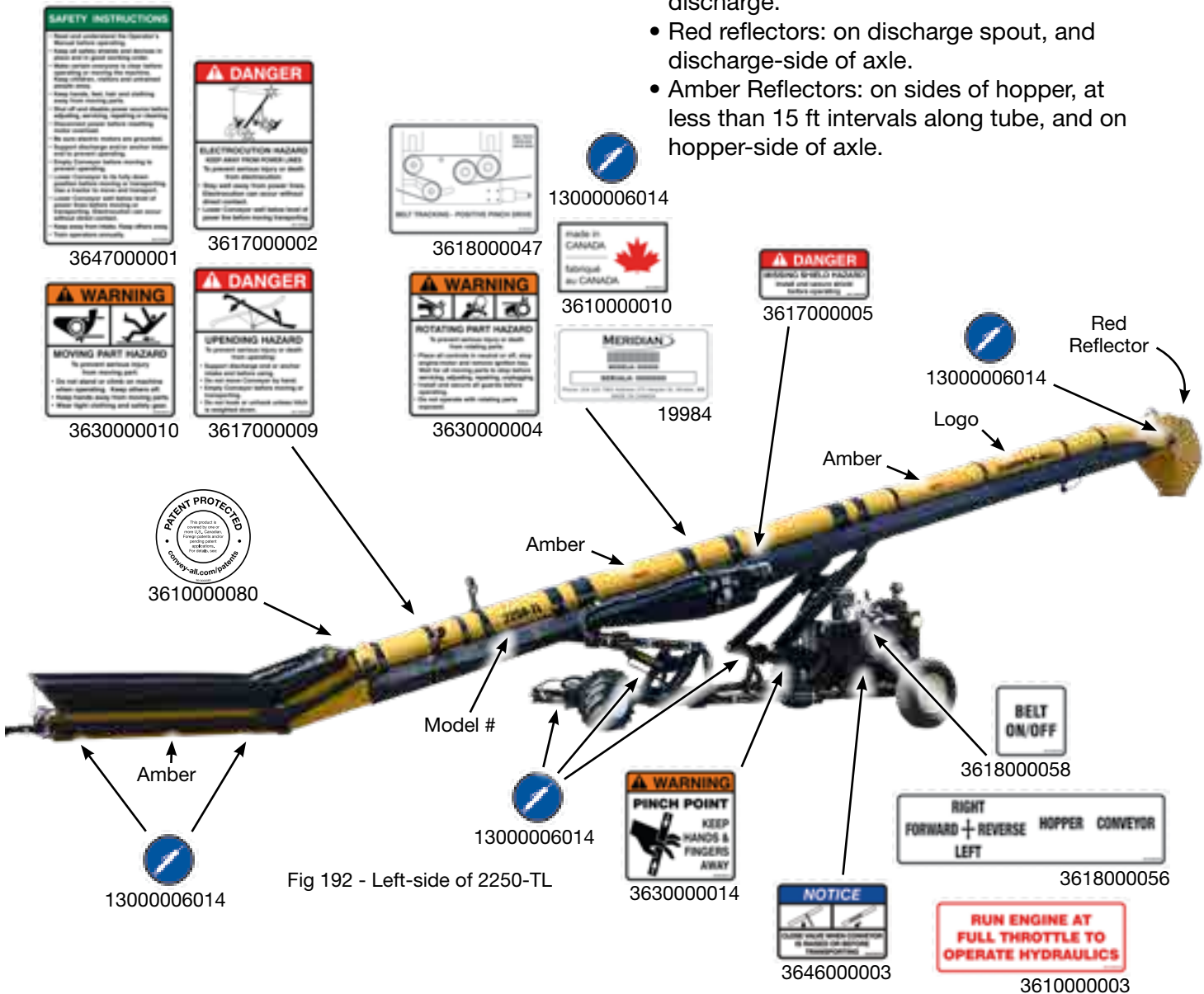


Fig 192 - Left-side of 2250-TL



Fig 193 - Right-side of undercarriage

6.6.2 Install Bearing Covers:

5. Place covers over all roller bearing housings:
 - Hopper roller ends
 - Transition roller ends
 - Drive box roller ends
 - Discharge roller ends



Fig 194 - Bearing covers

6.6.3 Railcar Hopper Flap Cables (if equipped):

6. Attach the flap cables to the winch.
 - a. String the cable through each cable guide, around the hopper corner and to the winch.
 - b. Insert the cable into the spool on the winch.
 - c. Use winch cable clamp to fasten the cable to the spool.
 - d. Crank the winch to lift the flaps.



Fig 195 - Railcar flap cables

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Section 7: CANVAS HOPPER ASSEMBLY

The tube should already be complete and its length is straight. The belt has been tested and is tensioned and is tracking correctly.

WARNING

HIGH SPRING TENSION

Be aware of tension on the spring when the Hopper Hoop is in place. Sudden release of hoop will cause injury.

Note:

Hopper hoop has a downward bend. Work the canvas onto the hoop with the stitching to the outside, smooth side inward. Canvas should hang down and to the inside.

1. Work the canvas around the hopper hoop.
2. Place the straight end of both Collapsible Hopper Springs into the hopper frame.
3. Push the Hopper Hoop Mount Bar through the bolt-on brackets above the transition.
 - Push the bar through the springs.



Fig 196 - Belt has been Tested



Fig 197 - Canvas on hopper hoop



Fig 198 - Springs inside hopper hoop mount bar

4. Lay the hopper hoop with canvas installed, over the tube.

Note:

When installed over the hopper bed, the hoop arms will angle down.

5. Insert hoop ends over each end of the Mount Bar.
6. Insert the cotter pin, to hold the hoop in place.
 - Bend the cotter pins to secure them.
7. Swing the hopper hoop over the transition into place over hopper bed.
 - Ensure springs engage the hoop arms.
 - Keep the canvas from being caught between the spring and hoop.
8. **IMPORTANT:** Securely strap the end of the hoop to the frame.
9. Work the canvas between the spring-end and the hopper hoop.
 - Adjust the canvas so it hangs well.



Fig 199 - Hoop laying on tube



Fig 200 - Canvas over hopper



Fig 201 - Canvas over hopper



Fig 202 - Canvas under spring

10. Insert the Tail Canvas Insert (flat bar) in the sleeve at the bottom of the hopper canvas.



Fig 203 - Tail canvas insert

11. Work the Transition Canvas Inserts (flat bar) into the end of the side sleeves, one on both sides.



Fig 204 - Transition canvas insert

12. Slide the Side Canvas Insert (flat bar) into the canvas sleeve on both sides.

Note:

The end of the Insert with the screw hole closest to the end, goes in first.
The holes will match the pre-drilled holes on the side bracket.



Fig 205 - Side canvas insert

13. Centre the Tail Canvas Insert inside the front sleeve.
 - Drill holes, and insert elevator bolts.



Fig 207 - Elevator bolts



Fig 206 - Bolts in tail end of canvas

14. Gather the patent pending flashing kit components.

- 22in hopper standard flashing kit part #: 650505795

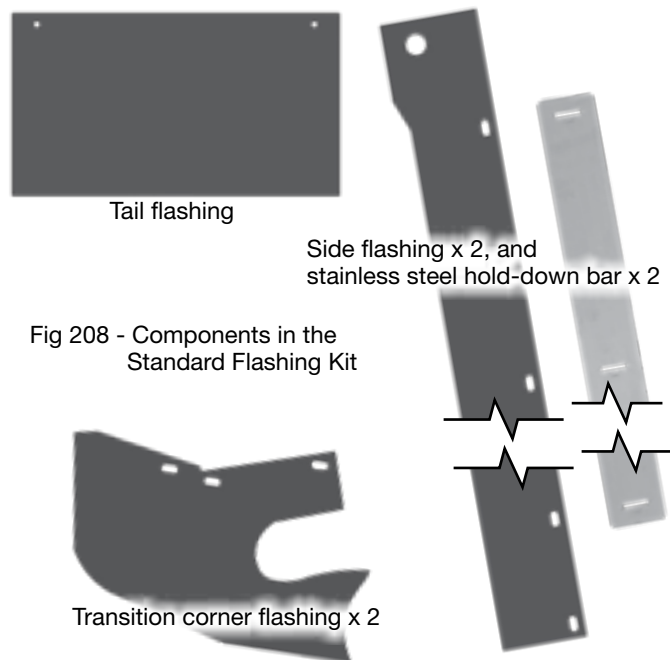


Fig 208 - Components in the Standard Flashing Kit

15. Lay the rubber side flashing down on the angled side brackets of the hopper.
- The end with the large hole, will lay under the tail flashing.

16. Lay the tail flashing on top of the side flashing.

17. Insert the elevator bolts:
- First, through the flat bar inside the canvas.
 - Second, through the tail flashing.
 - Third, through the large hole in the side flashing.
 - Fourth, fasten to the tail bracket on the frame.

Note:

The side flashing should lay flush along their metal brackets.

18. Drill holes through the canvas, using the holes in the flat bar inserts as guides.

19. Insert elevator bolt through the flat bar inside the canvas, side and transition flashing pieces and fasten to the hopper frame.
- Do not tighten the bolts yet.



Fig 209 - Canvas and flashing



Fig 210 - Drive holes using canvas inserts as guides

20. Fasten the rest of the canvas at the transition.
 - The third bolt will only hold the corner flashing to the bracket.
 - **Do Not** fasten the side flashing with the third bolt.
21. Drill holes through the side canvas, using the holes in the flat bar side inserts as guides.
22. Sandwich the stainless steel hold-down bar between the canvas and the side flashing.
23. Start at the centre, inserting elevator bolts through:
 - Canvas and flat bar insert
 - Stainless steel hold-down bar
 - Side flashing
 - Bracket on the hopper frame
24. Fasten, but do not tighten bolts yet.
25. Install the rest of the flashing on both sides.
 - Do not tighten the bolts yet.
26. Push the stainless steel bar up behind the canvas, so the bolts are at the bottom of the slots.

Note:

As the side flashing wears from use, lower the hold-down bar, to push the flashing tight against the belt.

27. Install the rest of the flashing on both sides.
 - Do not tighten the bolts yet.
28. **IMPORTANT:** Be sure the corner flashing fits tightly around the roller and deep into the transition.
 - It must cup the belt, tightly.



Fig 211 - Secure canvas and flashing to frame bracket



Fig 212 - Layer side flashing pieces

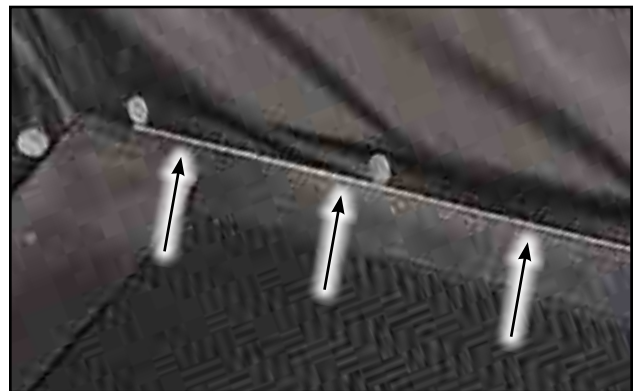


Fig 213 - Push stainless steel bar up



Fig 214 - Corner flashing must fit tight around the belt

29. Place the Flashing Clamps to hold down the corner flashing.
- Align the clamps with the fold lines in the hopper transition.
 - Drill into the hopper frame, above the belt.
 - Use self-tapping screws to fasten it.



Fig 215 - Tighten bolts and install flashing clamp

30. Finally, tighten all the elevator bolts and nuts



Fig 216 - Tighten bolts and install flashing clamp

31. Make a small opening in the centre, at the front of the hopper canvas, to access the hoop inside.
- Work a cable thimble around the hoop tube, inside the canvas.



Fig 217 - Hopper hitch

32. Thread the cable through a swage.
- String the cable around the thimble, inside the canvas.
 - Insert the end of the cable into the swage.
 - Tighten up the cable and swage.
 - Crimp tight.

33. Tuck the thimble into the canvas.

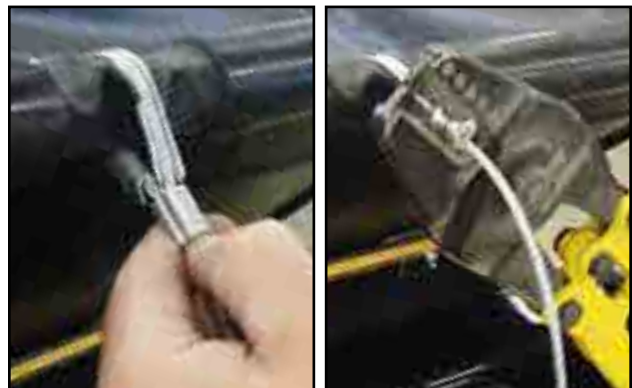


Fig 218 - Cable guides

Note:

Cable guides should already be fastened to the hopper frame. If not, attach them now. They may be white or black.



Fig 220 - Two-piece cable guide

34. Attach a cable guide inside the front bracket on the hopper hitch.
 - There are two pieces to each cable guide.
35. Attach another guide to the corner of the hitch frame.
36. Bolt a third and fourth cable guide to the frame, at the transition.
37. String the cable through each cable guide, around the corner and to the winch.
38. Insert the cable into the spool on the winch.



Fig 219 - Hopper cable guides



Fig 221 - Transition cable guide



Fig 222 - Winch

39. Use winch cable clamp to fasten the cable to the spool.
40. Crank the winch to tighten the hopper cable.



Fig 223 - Winch cable clamp

41. Work rubber tubing over the canvas frame, to protect the canvas edges.



Fig 224 - Rubber tubing

42. Add covers to the hopper bearings.

Hopper is complete.



Fig 225 - Bearing covers

Section 8: TUBE ONTO UNDERCARRIAGE

WARNING

OVERHEAD EQUIPMENT HAZARD
Secure raised components.
Use caution when working under tube.

1. Use two winches to lift the tube off its stands.
2. Wheel the undercarriage into place under the tube.
3. Use the Scissor Bushings to bolt the Rear Upper Scissor Arms to the Undercarriage Mount.



Fig 226 - Position rear arms of undercarriage to tube



Fig 227 - Scissor bushing and bolt



Fig 228 - Attached undercarriage

4. Lower the hopper to line up the undercarriage mount with the front scissor arms.



Fig 229 - Position front arms to undercarriage mount

5. Again, use the Scissor Bushings to bolt the arms to the undercarriage mount.



Fig 230 - Arms attached to undercarriage mount



Fig 231 - Tube on undercarriage

8.1 HYDRAULICS AND ELECTRICAL

IMPORTANT:

Always use Loctite® 545 Thread Sealant.

6. Connect the 3/4 x 257" (21' 5") hose to the outer port on the conveyor belt's hydraulic motor.
 - Connect the 3/4 x 264" (22') hose to the inner port.
7. Secure the hoses to the windguards at the return roller brackets.
 - Route the hoses down the Front Upper Scissor Arm. Clamp them to the arm.
8. Continue on towards the valve bank.
 - Clamp the hoses to the Driver Side Stabilizer Arm.
9. Attach the 257" hose to the rear port on the BM70/SD11/1 conveyor belt motor valve.
10. Attach the 264" hose to the front port.

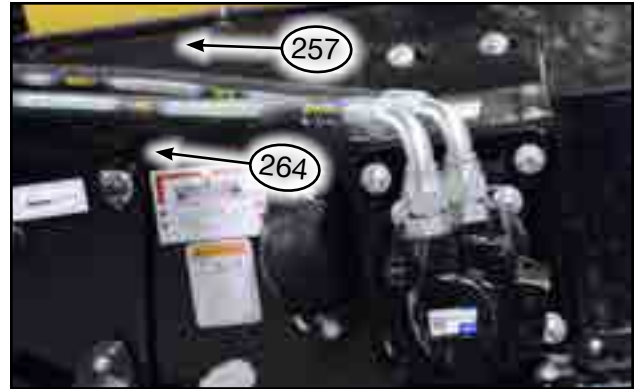


Fig 232 - Hoses from belt motor



Fig 233 - Route hoses down driver-side arm

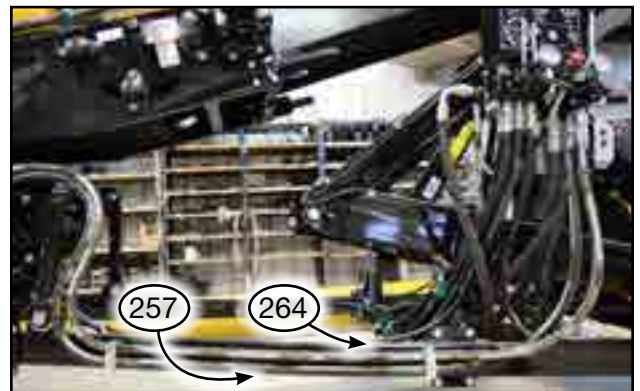
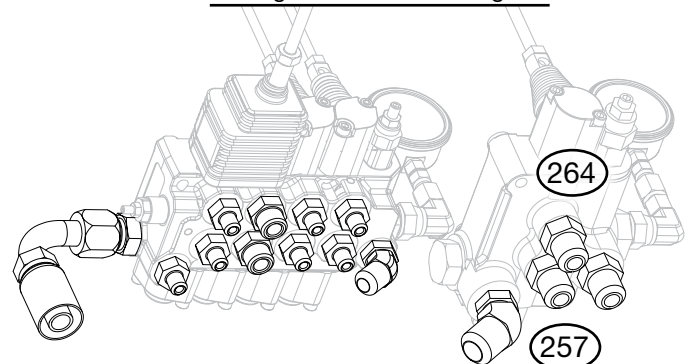


Fig 234 - Clamp hoses to stabilizer arm

Fig 235 - Valve drawing



11. Combine the electrical cables (from the working lights and discharge actuator), which are hanging from the windguard.
 - Wrap them both inside conduit, and use electrical tape to seal the ends.
12. Clamp the cable to the Rear Upper Scissor Arm.
13. Route the cable down the arm and over the hinge.
 - Clamp it to the Lower Scissor Arm.
14. Zip-tie the cable to the hydraulic hose, down the arm.
15. At the bottom hinge, combine it with the electrical cable from the engine.
 - Wrap them together inside the same conduit.
 - Seal the conduit with electrical tape.
16. Clamp the combined cable along the stabilizer arm towards the junction box.
17. Wire the light and actuator switches in the electrical kit control box.
18. Wire the engine control box.



Fig 236 - Arms attached to undercarriage mount



Fig 237 - Tube on undercarriage

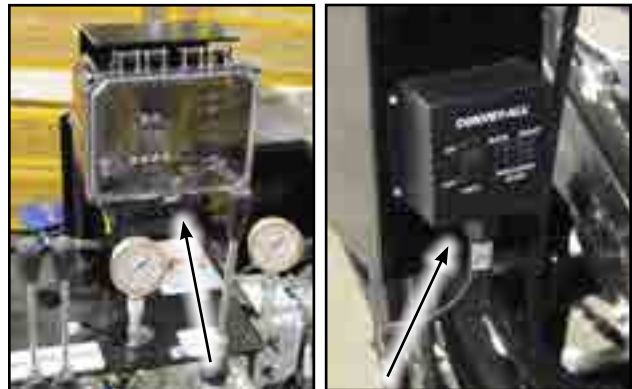


Fig 238 - Engine and electrical kit control boxes

Section 9: REFERENCE

For information not included here, or for a digital copy of this manual, please call your dealer, or Meridian Manufacturing Inc. directly for assistance: (800) 665-7259.

Specifications and measurements are subject to change without notice.

Table 4 - Specifications

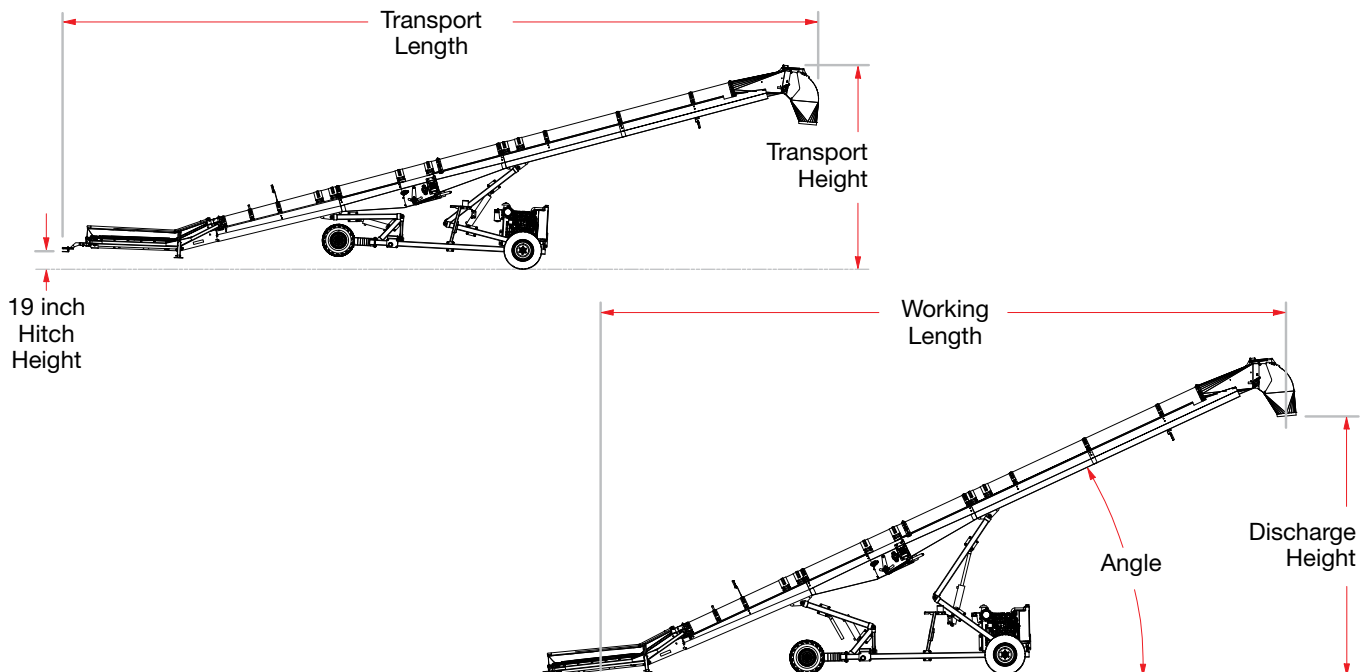
MODEL	TYPE OF UNDER-CARRIAGE	TUBE DIAMETER	BELT WIDTH	AXLE WIDTH	TRANSPORT HEIGHT	TRANSPORT LENGTH	GAS POWER	DIESEL POWER
2250-TL	Scissor Lift	14"	22"	8' 4"	13' 6"	51' 6"	n/a	50hp
2258-TL	Scissor Lift	14"	22"	8' 4"	15' 4"	58' 10"	n/a	50hp

Transport lengths are measured from end to end
Transport heights use 19 inch hitch height

Table 3 - Working Measurements

MODEL	15°		20°		25°		30°	
	HEIGHT	LENGTH	HEIGHT	LENGTH	HEIGHT	LENGTH	HEIGHT	LENGTH
2250-TL	n/a	n/a	12' 2"	49' 1"	16' 3"	47' 9"	19' 9"	46' 3"
2258-TL	n/a	n/a	15' 9"	58' 7"	20' 7"	56' 11"	24' 6"	55' 2"

Working lengths are measured from centre of hopper to centre of discharge



9.1 BOLT TORQUE

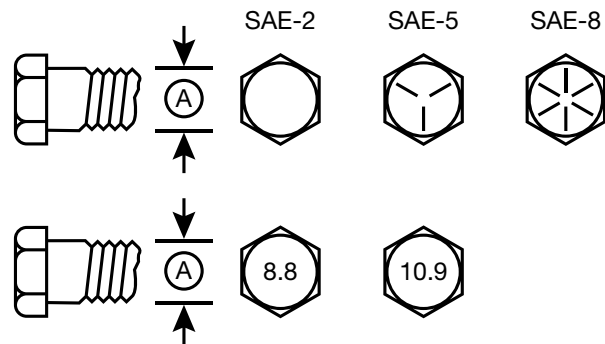
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Table 5 - English Torque Specifications

BOLT DIA. "A"	BOLT TORQUE*					
	SAE 2 (Nm) (ft-lb)		SAE 5 (Nm) (ft-lb)		SAE 8 (Nm) (ft-lb)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970

Table 6 - Metric Torque Specifications

BOLT DIA. "A"	BOLT TORQUE*			
	8.8 (Nm) (ft-lb)		10.9 (Nm) (ft-lb)	
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



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

* Torque value for bolts and capscrews are identified by their head markings.

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LIMITED WARRANTY

for Convey-All Conveyors and Tenders

Meridian Manufacturing Inc, hereafter referred to as Meridian®, warrants each new product (the "Goods") to be free from defects in material and workmanship under normal use and service for a period of one (1) year or six (6) months in the case of commercial use, from the shipment date, from the Meridian dealer (FCA).

1. This warranty does not apply to:
 - a. To any merchandise or components thereof, which in the sole and unfettered opinion of Meridian, have been subject to misuse, unauthorized modifications, alteration, accident, negligence, product abuse or lack of required maintenance.
 - b. If repairs have been made with parts or by persons other than those parts or persons approved by Meridian.
 - c. To parts and accessories not manufactured by Meridian including, but not limited to, engines, batteries, tires, belts, PTO shafts or other trade accessories. Such parts shall be covered by the warranty given by the actual manufacturer, if any.
 - d. To failure of parts; or failure of parts to perform due to wear under normal or excessive service conditions; or to failure due to use by the Purchaser for purposes other than originally intended at time of manufacture, including without limitation using the Goods for mixing fertilizer, etc.; or used in excess of the built specifications.
 - e. To Goods used in areas exposed to corrosive or aggressive conditions including, but not limited to, salt water from either inside or outside the Goods.
 - f. To failures or defects arising out of damage during shipment or during storage.
 - g. To materials replaced or repaired under this warranty, except to the extent of the remainder of the applicable warranty.
2. The obligation of Meridian under this warranty shall not arise unless Meridian is notified and this warranty is presented together with a written statement specifying the claim or defect within thirty (30) days after the failure is first detected or made known to the Purchaser and within one (1) year, or six (6) months in the case of commercial use, from the shipment date, from the Meridian dealer (FCA). Meridian in its sole and unfettered discretion shall determine if the claim is valid and whether correction of the defect or failure shall be made by repair or replacement of the materials.
3. Title to any replaced materials Meridian wishes to have pass to it, shall pass to Meridian.
4. The obligation of Meridian hereunder extends only to the original Purchaser or Buyer to whom the Goods were initially sold. This warranty shall not be subject to any assignment or transfer without the written consent of Meridian.
5. The purchaser acknowledges that it has made its own independent decision to approve the use of the Goods and also the specific fabrication and construction procedures utilized to complete the Goods, and has satisfied itself as to the suitability of these products for its use.

6. This warranty is subject to the following limitations, provisions and conditions:
 - a. Meridian shall have no liability hereunder for any claims, including field re-work.
 - b. Meridian shall not be liable for any incidental loss or damage, however caused, including, without limitation, normal wear and tear.
 - c. Meridian makes no express or implied warranties of any nature whatsoever except for such express warranties as set out herein. The warranty provided herein is in lieu of and excludes all other warranties, guarantees or conditions pertaining to the Goods, written or oral, statutory, express or implied, (except the warranty as to title) including any warranty as to the merchantability or fitness for any particular purpose. Meridian expressly disclaims all other representations, conditions or warranties, expressed or implied, statutory or otherwise and any representations, warranties or conditions that may arise from a course of dealing or usage of trade. The warranty provided herein shall constitute Meridian's sole obligation and liability and the Purchaser's sole remedy for breach of warranty. No other warranty has been made by any employee, agent, or representative of Meridian and any statements contained in any other printed material of Meridian is expressly excluded here from. Meridian shall not be responsible for any warranty offered by the Purchaser to its customers with respect to the Goods and the Purchaser shall indemnify Meridian with respect to same if any of those customers makes a claim against Meridian relating to any such warranty.
 - d. Subject to Meridian's obligations contained in paragraph 1 herein, none of Meridian, its officers, directors, servants or agents shall be liable, or responsible for any loss or damage (including strict liability and liability for loss or damage due to items which the manufacturing processes are designed to identify) whether such loss or damage is caused by negligence in any manner whatsoever (including gross negligence, error, misrepresentation, misstatement, imprudence, lack of skill or lack of judgement).
7. The sole financial obligation of Meridian under this warranty shall be limited to the repair or replacement of the Goods as originally supplied and in no event shall they exceed the original cost of the Goods supplied.
8. Meridian shall not have any obligation under any warranty herein until all accounts have been paid in full by the Purchaser.
9. The construction and interpretation of this Warranty shall be governed by the laws of the Province of Manitoba.

Register your product at: www.meridianmfg.com
For warranty information send an email to: warranty@meridianmfg.com

WARRANTY REQUEST PROCEDURE

- The product must be registered with Meridian Manufacturing Inc.
- The purchaser must contact the dealer, from where the unit was purchased, immediately upon discovery of any defects.
- A completed Warranty Request (Claim) Form must be submitted by the dealer to Meridian's warranty representative for review and any subsequent course of action.
 - Warranty requests must be completed with ALL required information in order it to be considered for approval.
 - Send photographs of the entire piece of equipment, and of the specific area of concern.
- Warranty repair work will only be performed by Meridian or an approved representative of Meridian. Warranty work completed prior to Meridian's approval will NOT be honoured. Failure to follow this procedure may affect any or all of this warranty.
- All warranty requests will be adjudicated at the sole discretion of Meridian and in accordance with the terms and conditions of the warranty.

CONVEY-ALL[®]

(800) 665-7259 | www.convey-all.com | conveyors@convey-all.com