

HICKS

Owners Manual



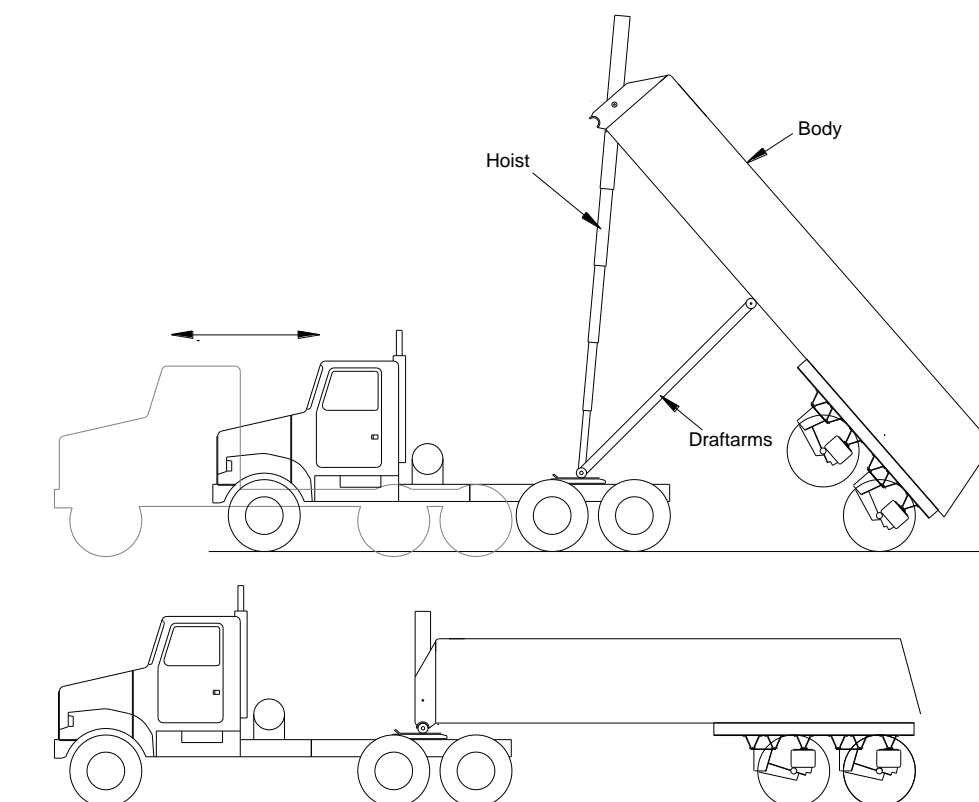
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HICKS Owners Manual

Basic Function

The Hicks frameless aluminum end dump trailer is ideal for hauling sand, gravel and dirt. The material is discharged by extending the hoist which raises the front of the body. Draftarms connect the lower end of the hoist to the middle section of the body. As the hoist extends, the tractor "drafts" closer to the trailer.



I have read the Hicks Owners Manual and understand the proper operation of the vehicle I am purchasing

Purchaser _____

Signature _____

VIN _____

Model _____

Date _____

Operation

The Hicks end dump must be operated ONLY by fully trained and qualified drivers. Owners and their drivers must read the section below, Tip Over Conditions, and be fully aware of all tip over conditions.

All Hicks trailers have Danger, Warning and Caution decals fixed on the outside of the body.



A **DANGER** indicates an instruction that must be followed exactly. Personal injury or death is likely to occur if the danger statements are not followed



A **WARNING** indicates an instruction that must be followed exactly. Personal injury or death may occur if the warning statements are not followed



A **CAUTION** indicates an instruction that must be followed exactly. Equipment damage may occur if the caution statements are not followed

Pre-Trip Inspection

Driver pre-trip inspections must be made before the first trip of the day and each trip during the day. Each pre-trip inspection should include the following equipment checks:

1. Make sure the tailgate latches open and close properly.
2. Make sure all lights work.
3. Make sure suspension air springs are inflated.
4. Check tire pressures. Tires should be inflated to manufacturer's specifications.
5. Make sure all wheel lugs are tight.
6. Check oil in the wheel hubs. Add oil as needed.
7. Visually check brake pads for wear.
8. Set trailer parking brakes. Rock back & forth to test the brakes.
9. Make sure there is sufficient oil in the hydraulic tank.
10. Check for chafed hoses or cracked fittings.
11. Inspect for any apparent damage. Look for oil or water leaks, loose nuts, cracked metal

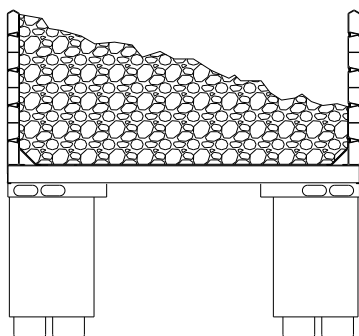
Loading

DANGER

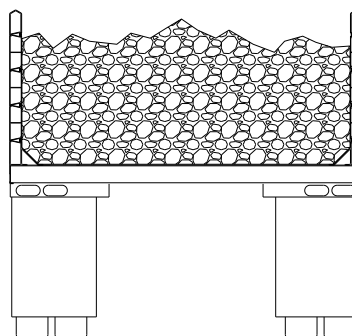
The loader often cannot see the inside of the body and may load more of the material to one side or the other. Uneven loading can contribute to a roll-over on the highway or a tip over during dumping operations.

The operator should always check the load placement. If necessary, redistribute the load to obtain a reasonably level load from side to side.

Incorrect



Correct



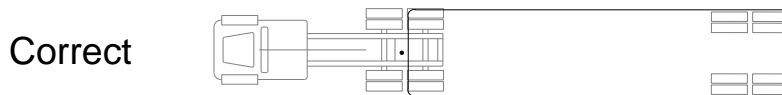
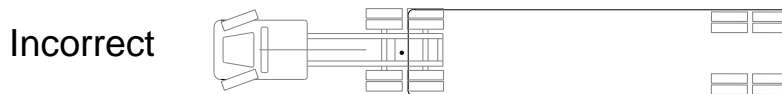
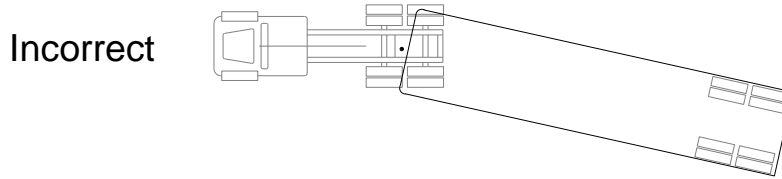
CAUTION

Never jerk the trailer by sudden braking to spread the load

Unloading

Before raising the body:

1. The tractor, steer wheels and trailer **MUST** be in a straight line.



2. Make sure the ground is firm and level.
3. Make sure there are no high or gusting winds.
4. Make sure there are no electrical wires in the immediate area.
5. Make sure tailgate locks are open.
6. Suspension air bags should be depleted.
7. All tires should be properly inflated.
8. Make sure there are no personnel nor equipment within 50 feet

While dumping:



1. Lock trailer brakes. **Never move the trailer in an elevated position.**
2. Allow the tractor to “draft” backwards toward the trailer.
3. Lower the body completely before moving the trailer.
4. Stay at controls. If the body leans or shifts, lower the body quickly.

Large loads may not completely dump because the stockpile dams the material. To complete the dump, the body should be fully lowered and the tractor moved forward. After the tractor is moved forward, the body can be raised again to complete the dump operation.

After dumping:



Be sure body is fully lowered before transporting, especially turning. **Pulling a trailer while elevated, even a few inches, can damage draftarms.**

Tip Over Conditions

To avoid a tip over, the rear portion of the trailer must remain level from side to side. If the body leans to one side at the start of the lift, it will lean more as the body rises. The top of the load gets more off center causing the tipping force to increase as the body rises.

The hoist cylinder is not strong enough to resist a tip over. If the rising nose of the body starts to move sideways because the trailer is leaning, the hoist will not stop the sideways movement.

A number of factors can lead to a tip over, but the more common and serious situation is caused by two or more factors combined. In order to avoid a tip over, any condition that causes the rising body to lean or quickly shift position must be avoided. Some of these conditions are as follows:

1. Tire Problems. Be sure tires are inflated properly.
2. Overloading. Overloading can deform the axle beam. It creates a high center of gravity that can contribute to a tip over as well as a roll-over on the highway.
3. Jackknifing. This makes it harder to see if the body is leaning.
4. Unbalanced Loads. Material can sometimes stick to one side of the body causing the trailer to be off balance. Freezing conditions and sticky material worsen this possibility. In those conditions, an observer, in a safe location, should monitor the dump and warn the driver if material sticks.
5. Movement. NEVER move a trailer with the body raised. It MUST be completely down.
6. Slopes. Never raise the body with the trailer on uneven ground. Even ground that looks flat can have enough slope to cause a raised body to lean.
7. Soft Ground. Watch out for fresh fill sites where ground can be spongy.
8. Wind Conditions. Dumping operations should be suspended during windy conditions.
9. Failure to Exhaust Suspension. The trailer must lower to the hard rubber stops inside the air springs, not be allowed to sway on inflated bags.

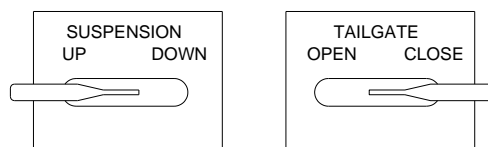
Tailgate and Axle Lift Switches

Air switches are normally installed on the driver's side of the body. The **TAILGATE** switch opens the tailgate locks and exhausts the suspension air springs. The **SUSPENSION** switch lifts the front axle. Open and close these switches as follows:

When trailer is empty

1. Shift the Tailgate switch to CLOSE. Visually inspect that the locks secure the gate and that the suspension air bags inflate. Do not travel with locks open or suspension bags deflated.
2. If desired, raise the front axle by switching the Suspension switch to UP.

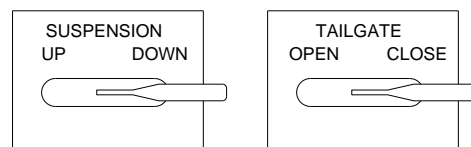
CAUTION



Before loading the trailer-

1. Visually inspect that tailgate locks have secured the gate and that the suspension air bags are inflated.
2. Make sure the Suspension switch is in the DOWN position and visually inspect that the front axle lowers to the ground. Never raise the axle with a loaded trailer.

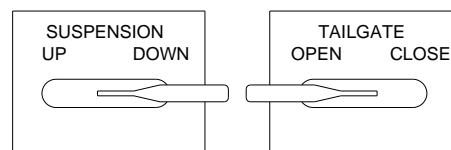
CAUTION



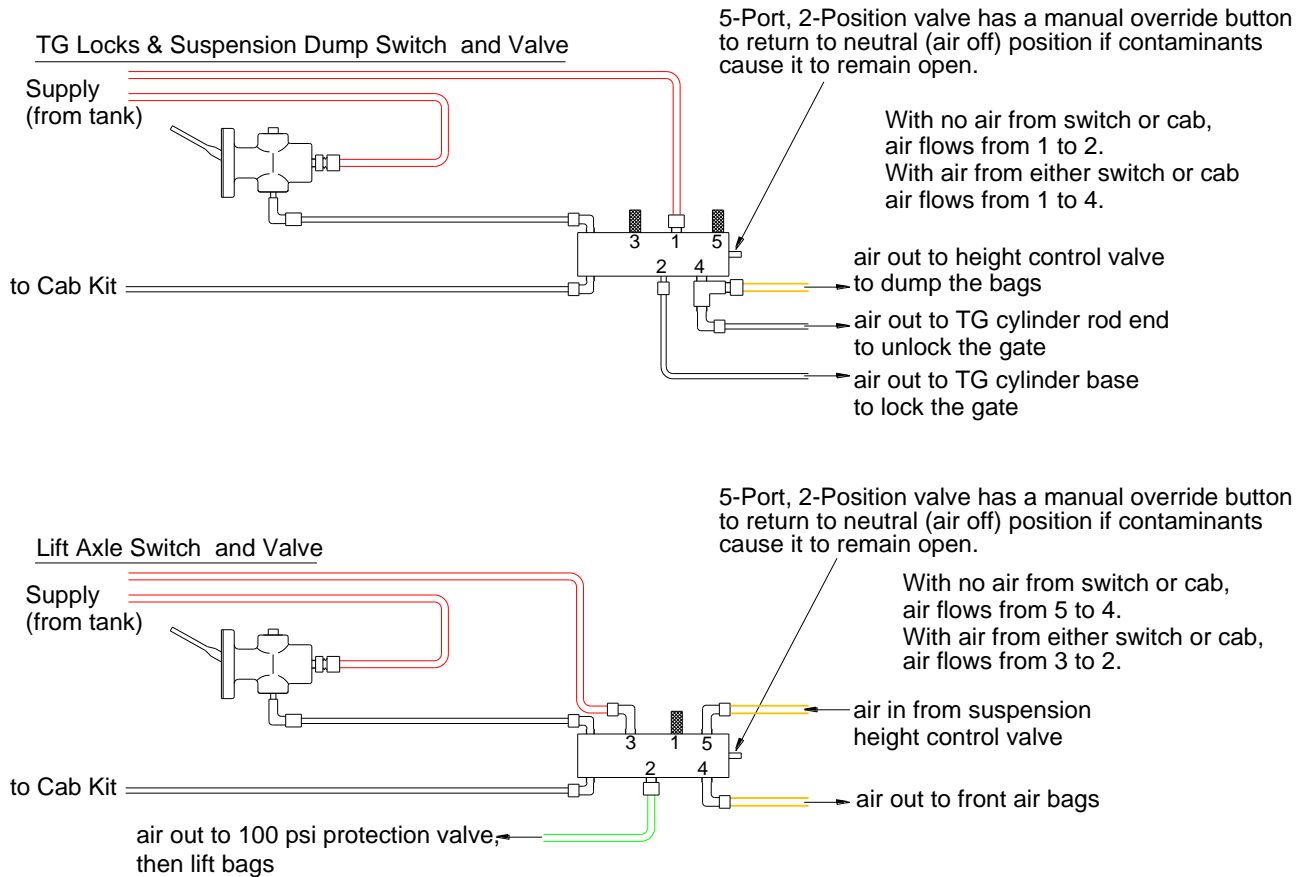
Before dumping-

1. Shift the Tailgate switch to OPEN- The tailgate locks should open and the suspension air bags should exhaust fully. Switches and valves can malfunction. You must visually inspect the locks and bags.

WARNING



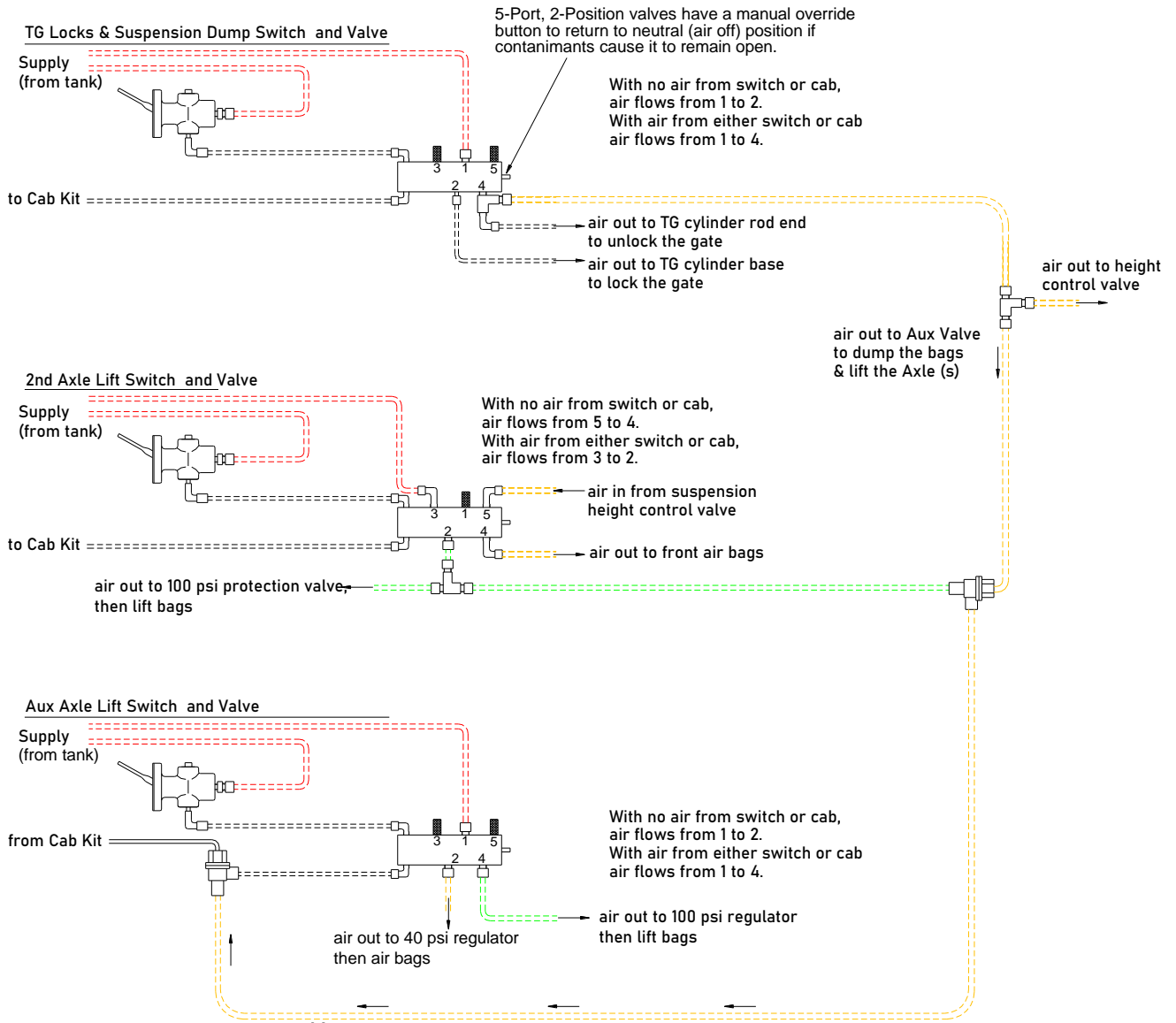
Tailgate and Axle Lift Valves



Maintenance Issues-

1. There are (2) two dust excluders on the Gate valve and (1) on the Lift Axle valve. If they get dirty, air may be unable to freely exhaust through those ports. That can cause either valve to delay or not operate at all.
2. Adding air oil to the inlet ports (1, 3 or 5) will free up the internal spool and extend the life of the valve. Disconnect the tube from the fitting, add a few drops in the tube and reconnect.
3. Air lines are often run to the front of the trailer to be controlled by user installed switches in the cab. In that case, an open switch on the trailer will disable the switch in the cab and vice versa. To operate from the tractor or trailer, be sure the opposite switches are in the closed (down) positions.
4. With dual controls, occasionally air can be trapped in the air lines to the front and will disable the switches on the trailer. In that event, bleed the air from those lines.

Valves for Tri-Axle and Quad

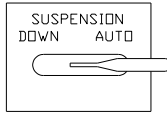


Note

This line will always raise the auxiliary axle(s) whenever the primary axles exhaust and/or the front axle lifts. And, it will stay in the raised position until both primary axles are down and bags inflated.

Automatic Axle Lift

Function

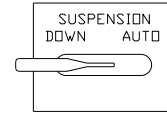


When the SUSPENSION switch is in the AUTO position the front axle will raise and lower automatically

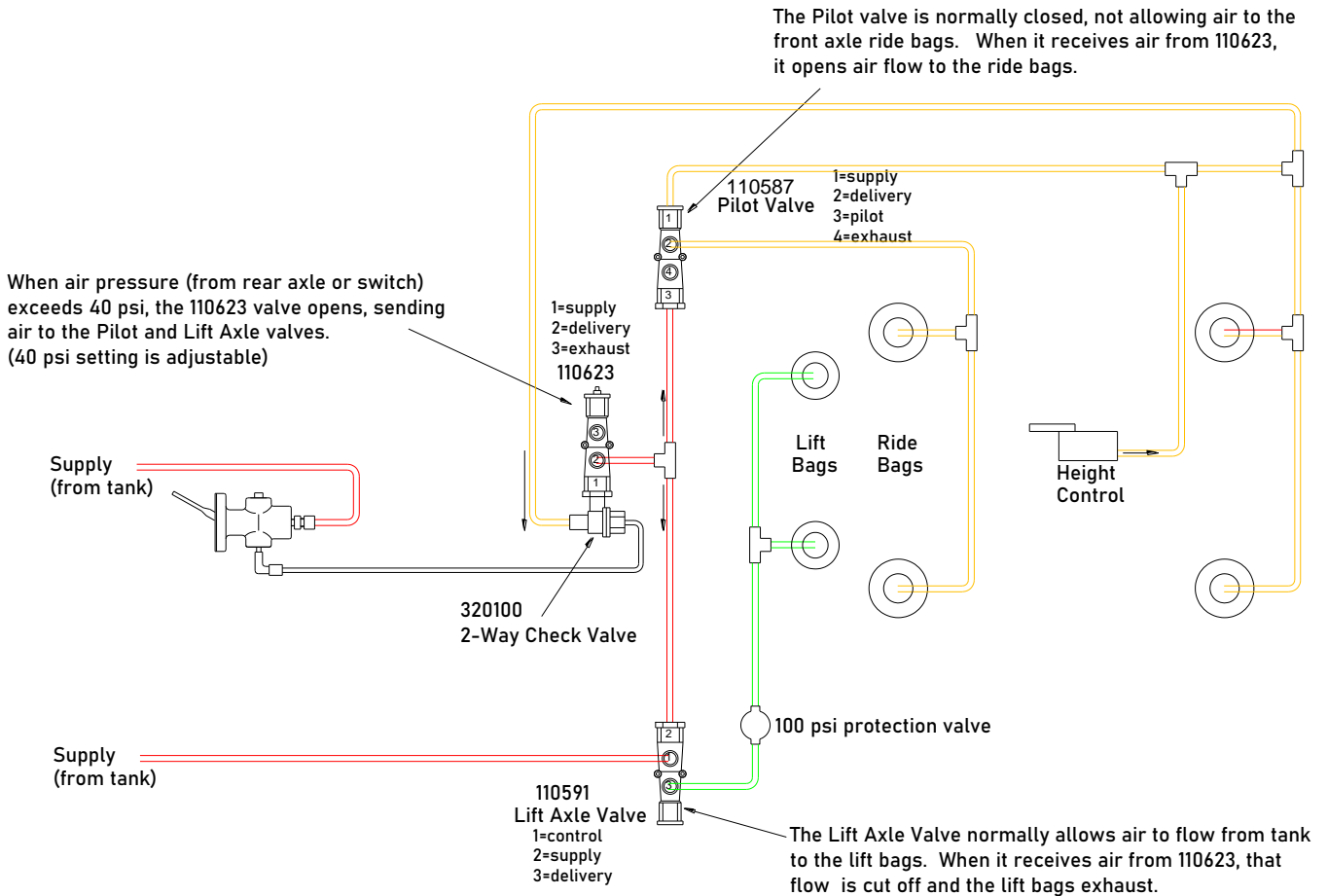
When tailgate locks are opened (ride bags exhausted), and rear axle ride bag pressure drops (to zero) the front axle automatically lifts. It will stay lifted as long as the trailer is empty.

When the trailer is loaded enough for ride bags to reach 40 psi, the front axle will lower.

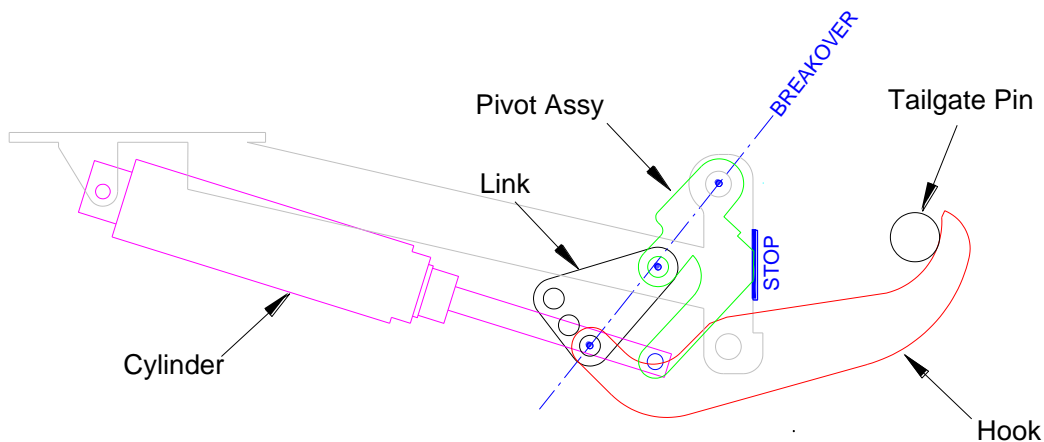
Function



When the SUSPENSION switch is in the DOWN position the front axle will not raise. Even if the switch is returned to AUTO, the axle will only raise when rear air bags are fully exhausted.



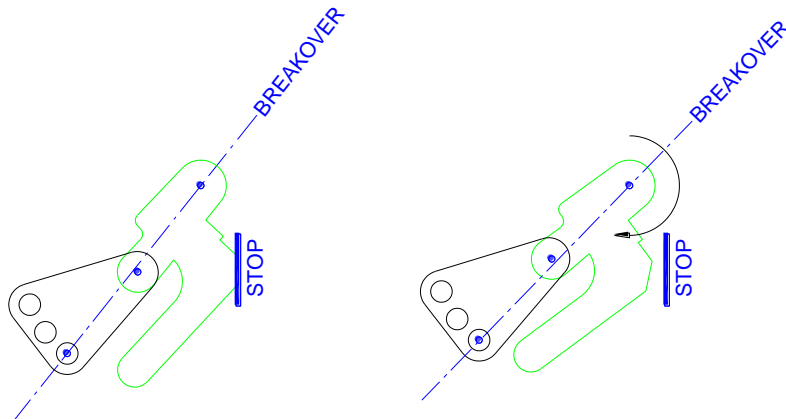
Tailgate Locks (models produced before Aug 2019)



The tailgate lock assembly has (4) four rotating components:

- Cylinder
- Pivot Assy
- Hook
- Link

As components wear, the Hook may not hold tight against the Tailgate Pin. To adjust (tighten) the Hook, change the hole that connects the Hook to the Link. The Link has (3) three positions, each with different lengths from where it connects to the Pivot Assy. By choosing a longer length, the Hook will pivot tighter to the Pin.

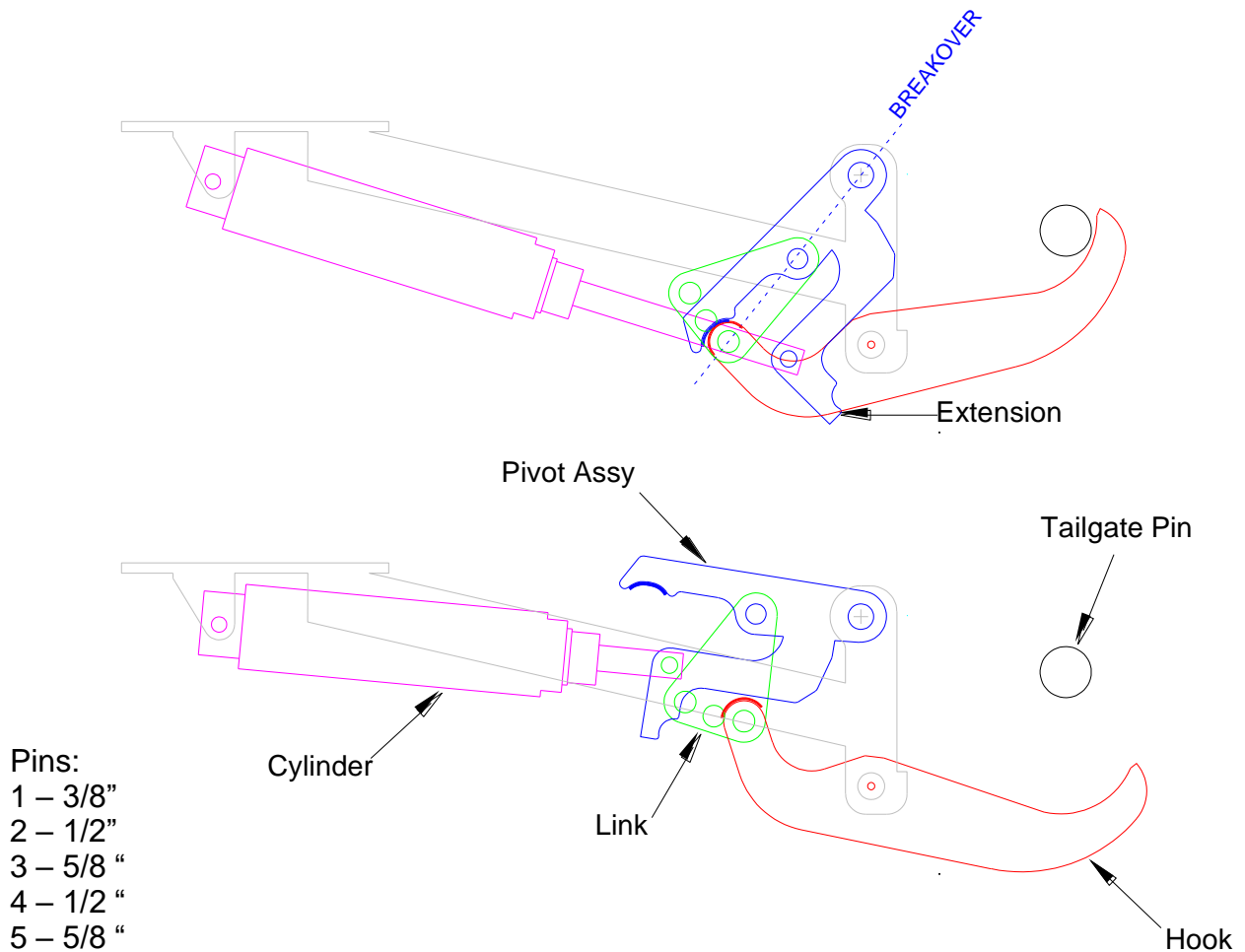


The lock assembly is designed to remain in the closed (locked) position even in the absence of air. That is accomplished by rotating the Pivot Assy until the 3 centers of the Pivot Assy and Link “breakover”. Breakover occurs when the middle center moves to the rear side of the breakover line. If it moves too far rearward, the cylinder may not have sufficient force to rotate the Pivot Assy and move the middle center to the forward side of the breakover line. Any attempt to force the Hook open only aggravates the problem. Instead, pry the Pivot Assy away from the stop pad. Then, add material (weld) to the stop pad to prevent the Pivot Assy from rotating too far.

Tailgate Locks (models produced after Aug 2019)

In newer models, the Pivot Assy has been redesigned to engage with the Hook. At that point, "breakover" has been achieved, and the Pivot Assy cannot rotate further.

The new Pivot Assy also includes an extension to provide a surface to push on in the event the locks must be manually opened.



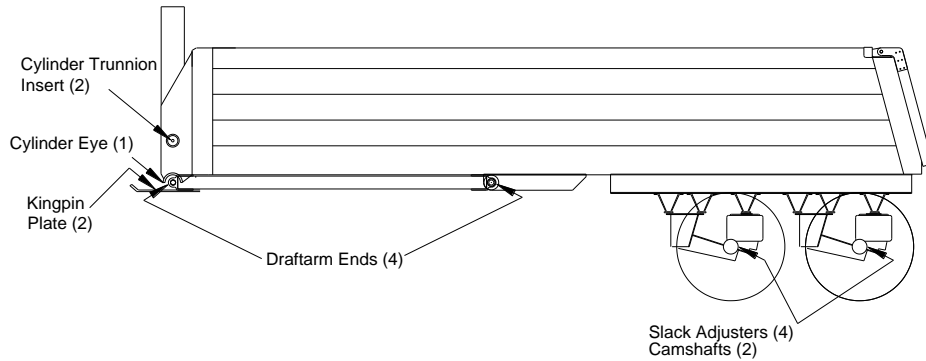
Replacement:

- remove pin 1 and let Cylinder swing down and out of the way
- remove pins 2 & 3 to replace Hook (or get access to Pivot Assy)
- remove pin 4 to replace Link
- remove pin 5 to replace Pivot Assy
- re-assemble in reverse order

To Adjust the Hook: Remove pin 2. Align the 2nd (or 3rd) hole in the link with the Hook. Replace pin 2. This will tighten the Hook against the Tailgate Pin.

Lubrication

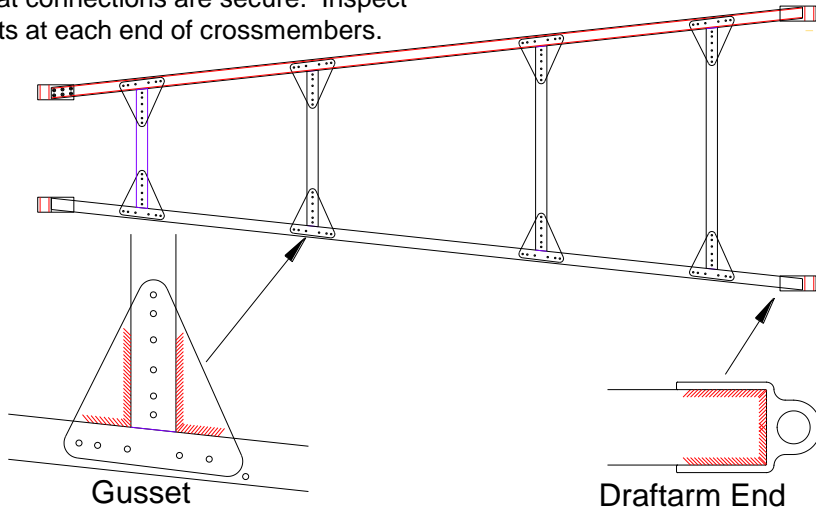
Check Weekly- Grease zerks are located in the following areas



Welding

Check Weekly- Draftarms keep the trailer stable in an elevated position. It is critical to assure that connections are secure. Inspect Welds at all 4 corners and gussets at each end of crossmembers.

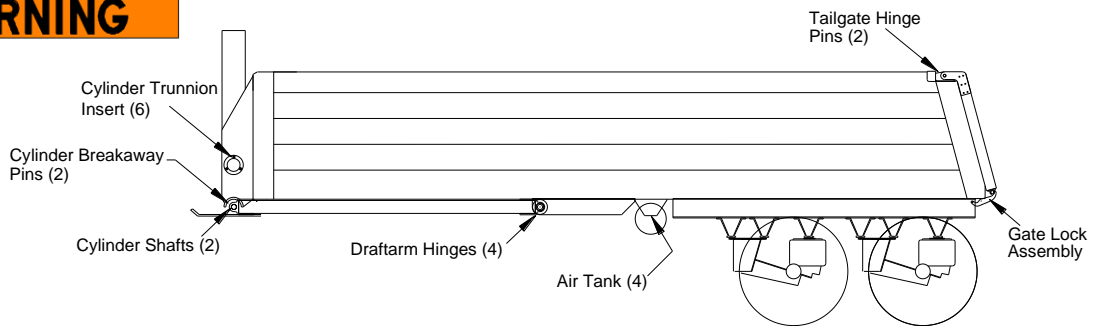
⚠ WARNING



Nuts & Bolts

Check Daily- bolts and pins in the following areas are critical

⚠ WARNING

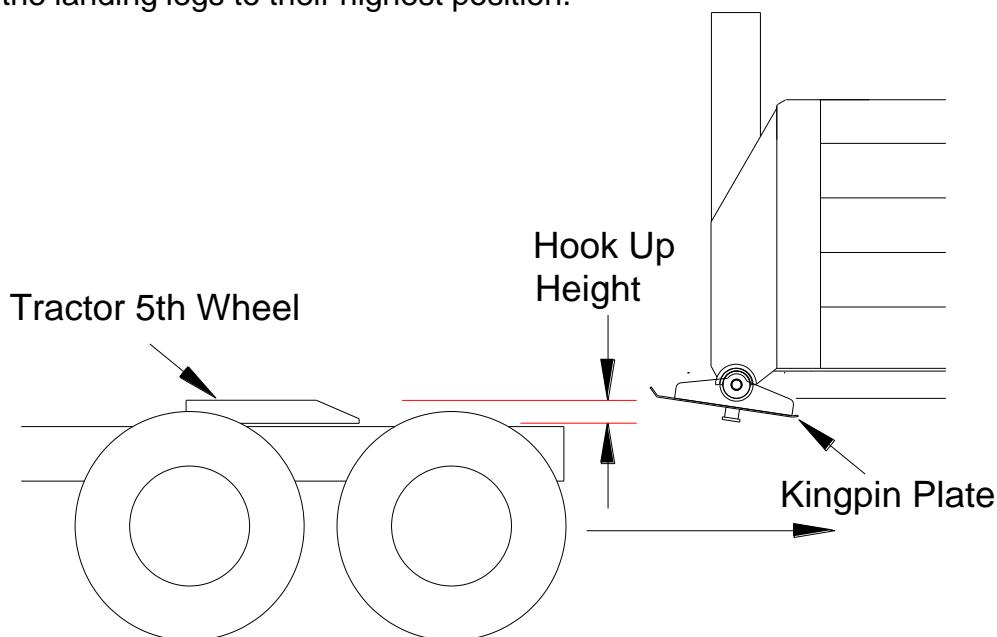


Coupling

CAUTION

The T6 kingpin plate is an oscillating plate. Therefore, the tractor 5th wheel cannot be a rocking 5th wheel, or it must be pinned to keep it from rocking.

1. Chock the rear of the trailer tires to keep it from shifting backwards during coupling.
2. Make sure the centerlines of the tractor and trailer are aligned.
3. The height of the trailer must allow the kingpin to engage with the 5th wheel in the “Hook Up Height” range. If not, damage can occur to the tractor and/or trailer. Adjust the landing gear to achieve the correct height.
4. Back the tractor until the 5th wheel coupler jaws engage the kingpin. When the kingpin is engaged, pull the vehicle forward to check for positive hookup.
5. Attach air, electric and hydraulic lines.
6. Make sure the kingpin is locked in the 5th wheel jaws and that the 5th wheel release handle is not pulled.
7. Enter the cab and charge the trailer brakes with air. Power the tractor-trailer back and forth to ensure the trailer is coupled.
8. Raise the landing legs to their highest position.

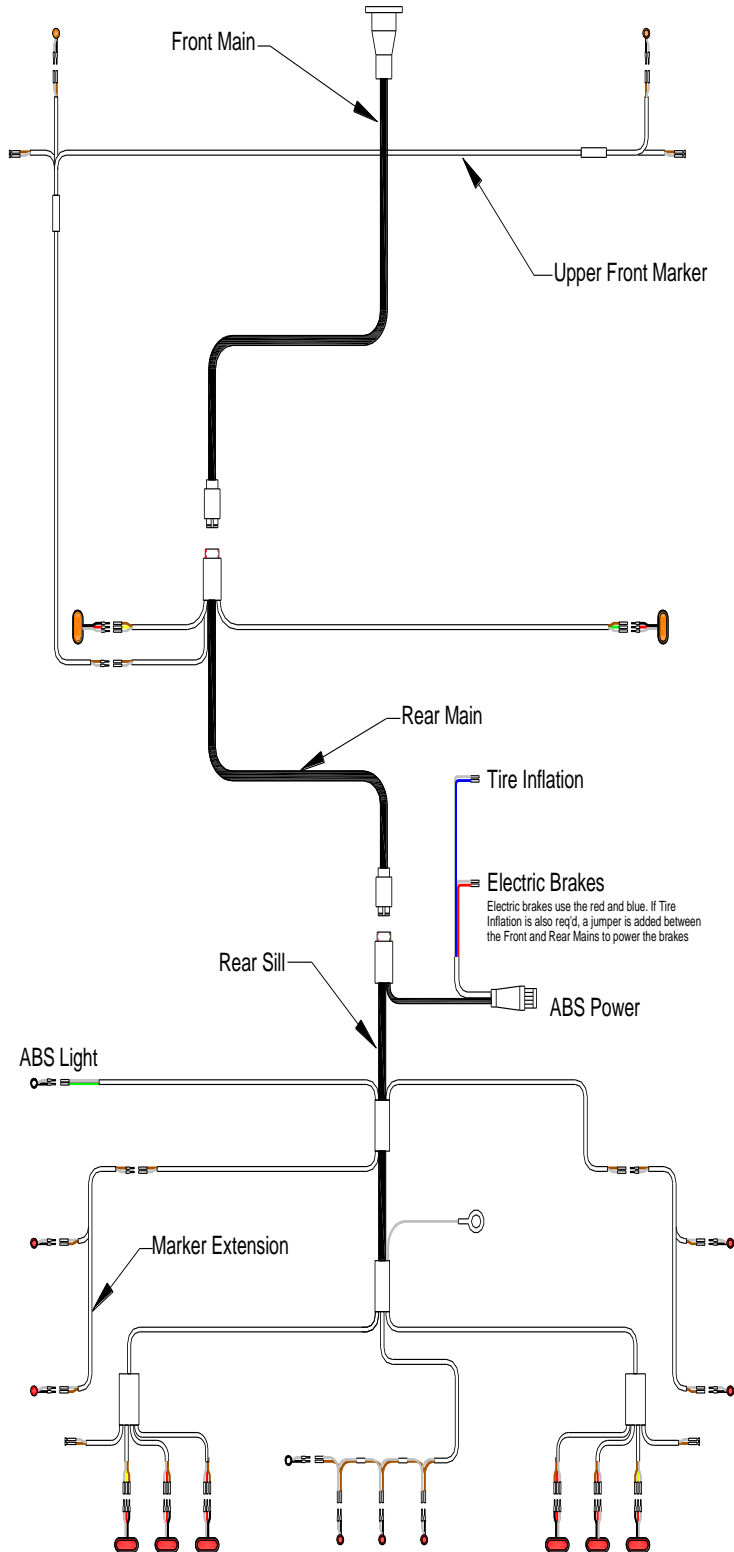


Uncoupling

1. Set the trailer parking brakes and chock the front of the trailer tires.
2. Position the landing legs as close to the ground as possible.
3. Disconnect the air, electric and hydraulic lines.
4. Pull and lock the 5th wheel release handle.
5. Slowly move the tractor forward until it is clear of the trailer.

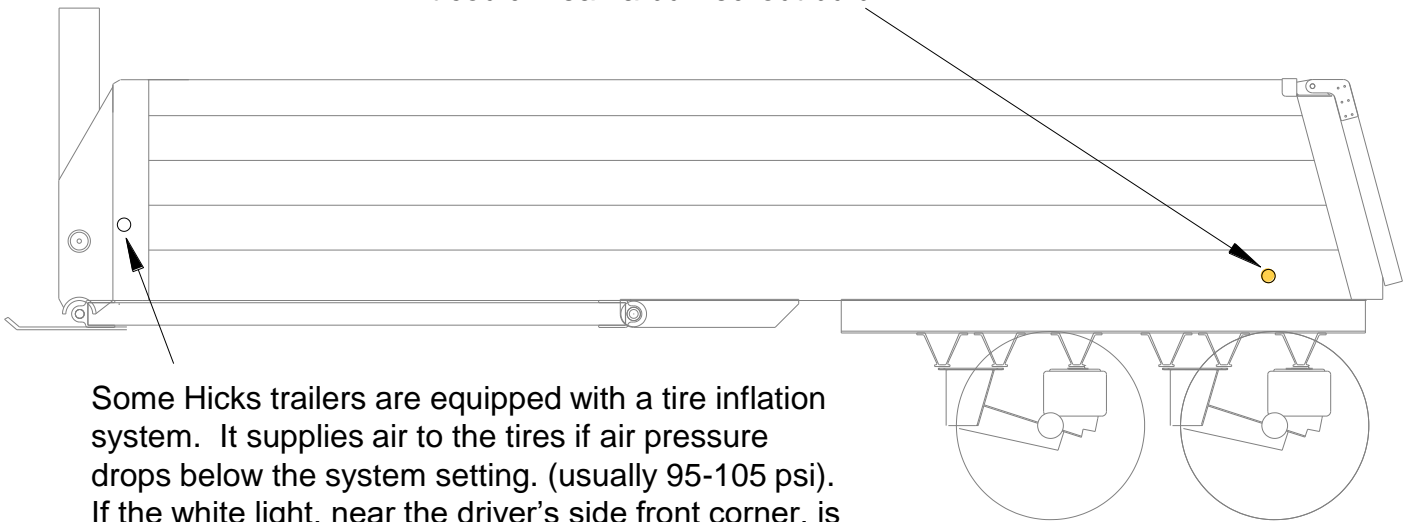
Wiring System

All components in the Hicks wiring system are joined by .180" bullet connectors. These make a tight, sealed connection and provides for easier future maintenance.



Various Light Indicators

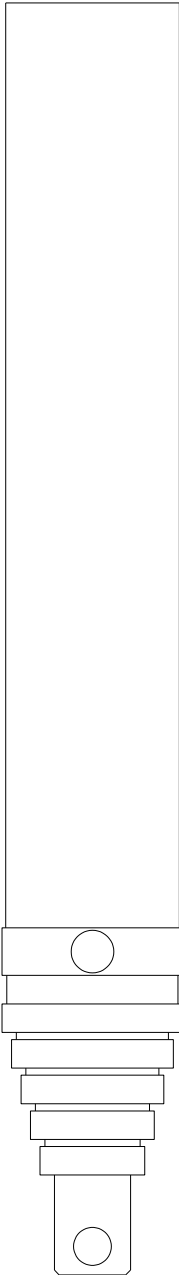
All Hicks trailers are equipped with anti-lock brakes (ABS). When the vehicle is started, an amber lamp, located near the rear driver's side, should come on momentarily. If it stays on, the ABS system is malfunctioning. If it doesn't come on at all, it could mean a burned-out bulb.



Some Hicks trailers are equipped with a tire inflation system. It supplies air to the tires if air pressure drops below the system setting. (usually 95-105 psi). If the white light, near the driver's side front corner, is on, air is being supplied. That indicates a tire leak.

Hydraulic Hoist

8-Inch, 5-Stage Hydraulic Cylinder



A typical tractor wet kit should include a 50-gallon reservoir and a 46 GPM pump @ 1800 RPM

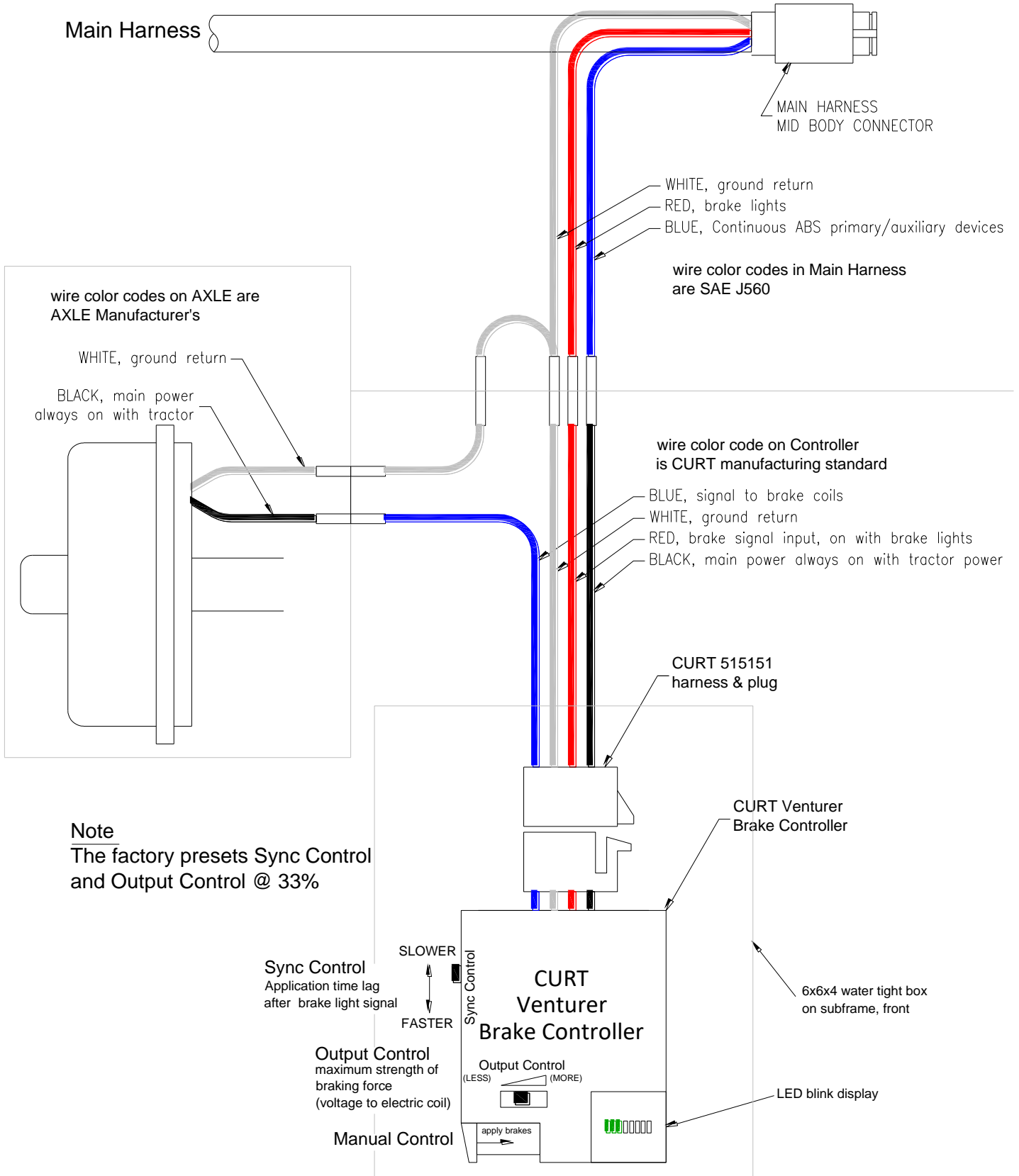
Use an SAE 10 or 20 hydraulic oil. Never use a detergent oil, crank case drainings, kerosene fuel oil, or any non-lubricating fluid (such as water)

Check oil periodically to avoid reservoir being drained during cylinder cycle. Do not over fill. Always allow adequate air space.

Leaking oil could be caused by worn packing or defective or loose/open bleeder valve. Consult an hydraulics technician for repair.

| Cylinder Number | Gallons of Oil | |
|-----------------|----------------|--------|
| | Fill | Extend |
| 85-4499-200 | 6.6 | 25.6 |
| 85-4499-220 | 7.3 | 28.2 |
| 85-4499-235 | 7.8 | 30.1 |
| 85-4499-250 | 8.2 | 32.0 |
| 85-4499-265 | 8.7 | 33.9 |
| 85-4499-280 | 9.2 | 35.8 |

Electric Brakes (on aux axles)



Tire Inflation System

A tire inflation system functions by:

1. continuously sensing air pressure in tires
2. adding air whenever air pressure drops below desired level
3. warning the driver when air is being added

The control box is located on the front side of the subframe. The air inlet has a shut-off valve. The air delivery has a gauge to indicate what pressure the system is maintaining.



Inside, a control dial allows the system pressure setting to be increased or decreased. The manufacturer generally sets the system to 95-105 psi.

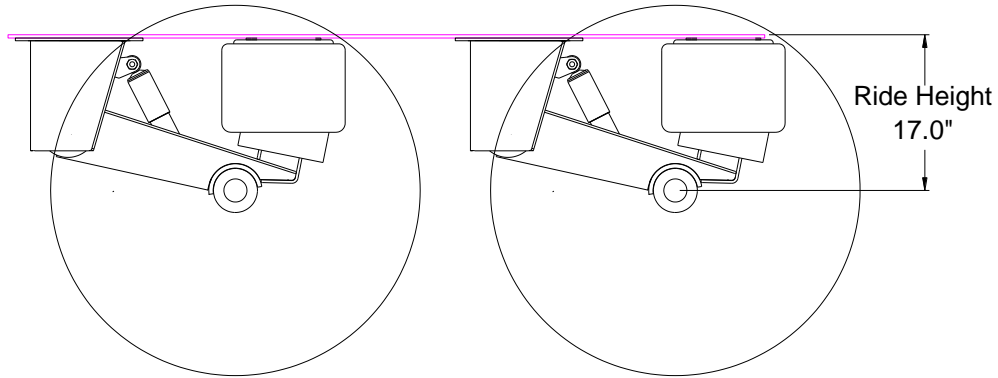


The system detects air pressure in all (8) tires. If that pressure drops below the control setting, air is delivered until pressure reaches that setting. A white indicator light, located at the front driver's side of the trailer, will illuminate while air is being delivered. When air delivery stops, the light will go off.



Air Suspension Ride Height

Ride Height is controlled on the rear axle. It is factory set at 17.0". It is critical to maintain this height within 0.25"

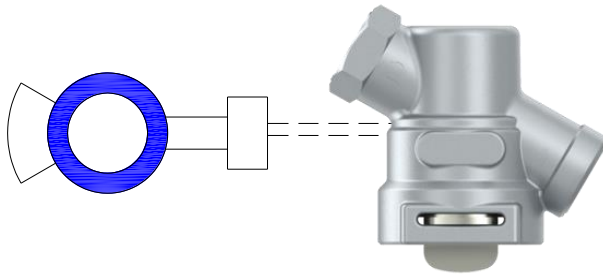


The lower end of the Ride Height Valve must be set in a position that fills the air springs enough to hold the vertical distance between the top of the suspension and the axle center at 17.0"

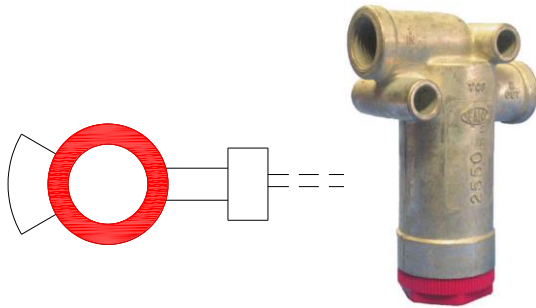
Failure to keep ride height near 16.5" can cause suspension damage, tire interference, and/or overload on auxiliary axles

Air Line Filters

Hicks installs filters in both the supply and control lines. These are used to catch contaminants in the air lines before they reach the brake system. Doing so will extend the life of the braking system. It is recommended that they be cleaned every 90 days.

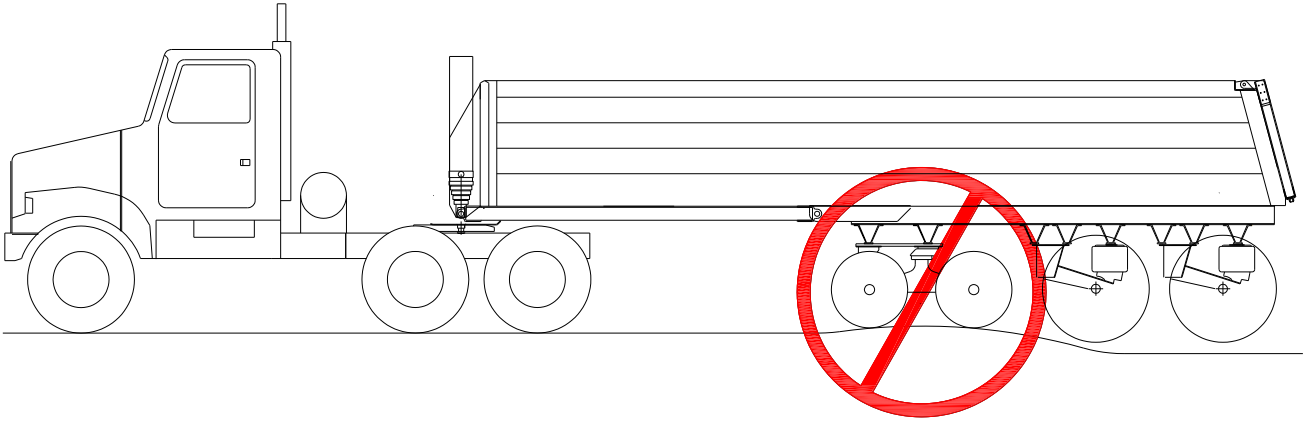


Control Line Filter - 4325000050



Supply Line Filter – 2550

Caution – Auxiliary Axle(s)



The front lifting auxiliary suspension on this trailer is designed to provide limited supplemental support for assisting this vehicle's compliance with the Federal Bridge Law and is intended for highway use only. It is not designed to be the primary support of this trailer and will suffer damage if overloaded. It will not support this trailer loaded nor empty in a "high center" condition or curbing. When making sharp turns, excessive scuffing can damage the suspension.

It is the driver/operator's responsibility to raise the axle when making sharp turns and operating off the highway.