

• AMERICA'S SWAP BODY •



Hydraulic Rail Trailer Instruction Manual and Maintenance Guide

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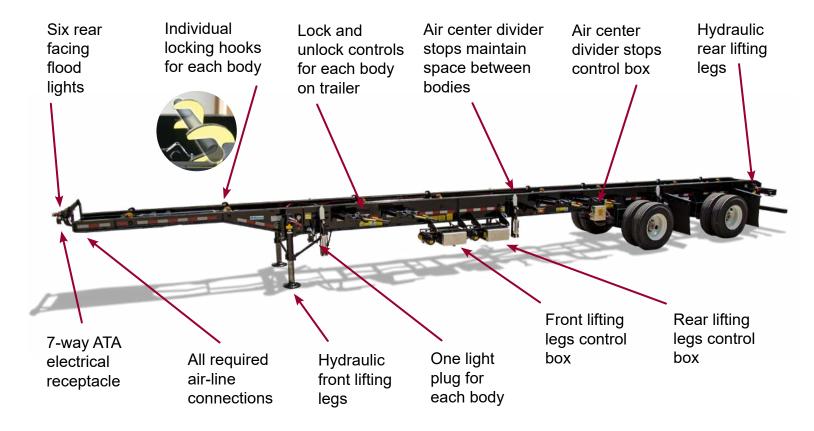
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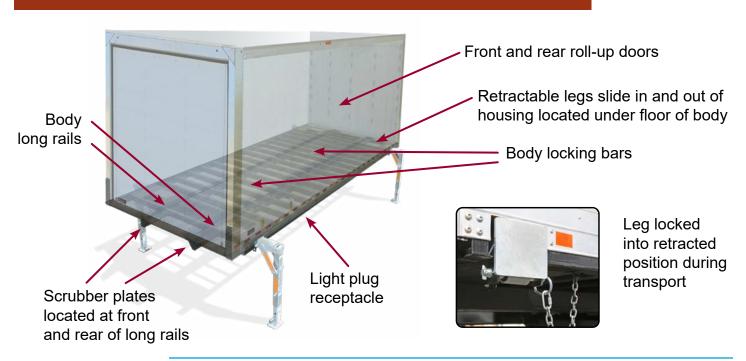
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Orientation: Warehouse on Wheels Trailer Components



Orientation: Demountable Truck Body Components



! WARNING

An improperly secured body that falls off a trailer can result in injury or death

! WARNING

It is the driver's responsibility to make sure all bodies are properly locked onto the trailer before each trip

! WARNING

Be sure all people are clear of bodies when mounting and demounting

! WARNING

Never drive on road with trailer in the fully raised or lowered position

! WARNING

Read and understand all safety labels on the equipment



! WARNING

Review the <u>Trailer and Body</u>
<u>Inspection Procedure</u> at the back of this manual before every operation and report any defect or problem on your daily driver inspection report

! WARNING

Failure to check that trailer is centered and straight when backing under or pulling out is the primary cause of damage

! WARNING

When working with legs:

- · Always wear gloves for hand protection.
- Never put fingers into the holes in the legs.

When demounting bodies:

- Be sure all legs are in proper position with leg pins locked
- Light plugs must be disconnected -- Center stops must be lowered
- · Bodies must be unlocked

When transporting bodies on trailer:

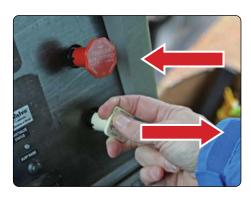
- Bodies must be locked in place -- Visually confirm by checking locking hooks and levers before each trip
- All legs must be stored inside body and locked in place
- Light plugs must be connected -- Center stops must be raised

NOTICE

Training videos available online at demount.com/videos

Prepare To Demount Truck Bodies

To place bodies in a free-standing position on legs



 Set the tractor brakes and put truck in neutral. Release trailer brakes. Increase engine idle using the throttle to keep the air pressure at about 110 lbs.

Unlock All Bodies from Trailer

Follow this procedure for each body on the trailer. Each body will have it's own locking assembly.



1. Remove lock key.



Push the safety handle inward to release the locking assembly



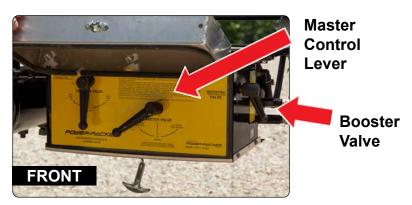
 Lower the locking bar unlock the corresponding body

NOTICE

The locking handle alarm and light will activate when the body is not locked.

Lift Trailer Using Front and Rear Control Boxes

The driver's side of the trailer has two control boxes, one for the **front** set of legs and one for the **rear** set of legs.



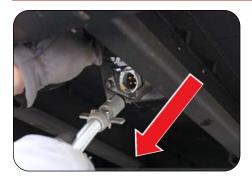


- 1. Turn the **master control levers**, on both control boxes, to the "down park" position. All four trailer legs will lower to the ground automatically.
- 2. The **booster valve** operating lever is on the right side of both control boxes.
 - Pushing it **IN** lets air flow into the system, which extends leg height to raise the trailer.
 - Push it **IN and HOLD** to stop air from flowing.
 - Pulling it **OUT** vents the air out of the system to decrease leg height which lowers the trailer.
 - Pull it OUT and HOLD to stop air from venting.
 - Cycle Booster Valve Multiple Times to raise and lower trailer. Each cycle raises or lowers trailer 1/2".

Start with the front legs. Lift the front of the trailer to the desired height. Desired height will be determined by terrain and experience level of the driver. This procedure may require lifting the tractor wheels off the ground by the fifth wheel.

3. Repeat this procedure for the rear legs.

Disconnect Light Plug



1. Disconnect the light plug from each body.

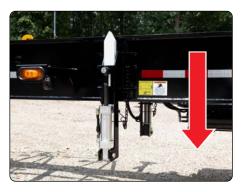


Plug into the receptacle in the side of the trailer.

Lower Center Stops



1. Pull the control knob out to lower stops between bodies.



2. Stops on driver and road side of trailer will lower.

NOTICE

Each body's stops may have a separate control

Setting the Legs

When working with legs:

NOTICE

- Always wear gloves for hand protection.
- Never put fingers into the holes in the legs.



1. Unlock and remove chained pin from the pin retainer.



2. Grab footpad ring and pull partially out. Adjust the lower leg height by removing pin, sliding leg out, and inserting pin into correct hole.



3. Pull leg the rest of the way out and lower to vertical position.

SECTION 1

DEMOUNTING BODIES



 Push leg assembly into housing until the brace touches the body side rail.



5. Put chained pin through upper brace and leg.



Check to be sure all leg pins are secure and in the locked position.



After determining ideal body standing height for your operation, mark legs. This will ensure that bodies always stand at proper height for transfer between truck and trailer.

Check Before Lowering Trailer

- ✓ All body legs are lowered, locked and pinned.
- √ Light plugs are disconnected.
- ✓ Locking handles in lowered position.

Lower Trailer



Master Control Lever

Booster Valve



- 1. Set your **master control lever** on both control boxes to "Up Travel". The trailer will lower slowly, and when the wheels are on the ground, the hydraulic legs will rise to "Travel" position and stop automatically.
- 2. Walk around trailer and verify all hydraulic legs are off the ground.
- 3. Repeat the above procedure for the rear legs.

Pulling Out From Body

- 1. Make sure there is clearance the entire length of trailer, between the bottom of bodies and top of trailer frame, before pulling trailer out from under the body.
- 2. Release parking brake.
- 3. Pull trailer forward slowly.
- 4. Be sure to pull out straight until entire trailer is out from under the bodies.

SECTION 2

MOUNTING BODIES

Before You Back Up



1. Be sure locking hooks are in the down position



2. Be sure the center stops are lowered.



3. Turn on flood lights, the switch is located near glad-hand connections.

Backing Under Bodies



 Back straight under bodies.
 Get out and check alignment
 2-3 times before backing all the way underneath.



Reposition trailer as needed. Do not over steer. Front stops must contact body.



3. Set tractor and trailer brakes.

SECTION 2

MOUNTING BODIES



Release trailer brake and increase idle.



5. Check that trailer is centered under bodies.



Push the control knob in to raise both driver and road side center stops.

Lift Trailer

The driver's side of the trailer has two control boxes, one for the front set of legs and one for the rear set of legs.





- 1. Turn the **master control levers**, on both control boxes, to the "down park" position. All four trailer legs will lower to the ground automatically.
- 2. The **booster valve** operating lever is on the right side of both control boxes.
 - Pushing it **IN** lets air flow into the system, which extends leg height to raise the trailer.
 - Push it **IN and HOLD** to stop air from flowing.
 - Pulling it **OUT** vents the air out of the system to decrease leg height which lowers the trailer.
 - Pull it OUT and HOLD stop air from venting flowing.
 - Cycle Booster Valve Multiple Times to raise and lower trailer. Each cycle raises or lowers trailer 1/2".

Start with the front legs. Lift the front of the trailer to the desired height. Desired height will be determined by terrain and experience level of the driver. This procedure may require lifting the tractor wheels off the ground by the fifth wheel.

3. Repeat this procedure for the rear legs.

Storing the Legs



1. Unlock and remove the chained pin at the upper leg stabilizing brace.



2. Lift entire leg to horizontal position and slide partially into the leg housing.



3. Remove lower leg pin, slide in inner leg and insert pin through inner and outer leg at last hole.



 Push leg completely into housing – Keep fingers clear.



5. Insert pin through leg retainers on body and loop on foot pad.



Flip lock on pin into place. Check to be sure all legs are locked into place.

Lock Bodies



1. For each body lift the corresponding locking handle up.



2. Making sure the safety pin/ handle goes into place.



Insert the locking key in the safety pin.

MOUNTING BODIES

NOTICE

The Locking Handle Alarm & Light will turn off when the body is properly locked to the trailer.

Connect Light Plugs



1. Unplug the plug for each body from the storage receptacle on the trailer.



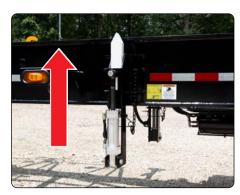
2. Connect each light plug to the receptacle on each body.

NOTICE

Check all marker lights before operating

Pre-Trip Inspection

1. Perform pre-trip inspection of entire vehicle per Federal Motor Vehicle Safety Standards.



2. Be sure that all center stops are fully raised.



2. Visually check that the trailer locking hooks are fully engaged onto body locking bars and the bodies are locked on.



Be sure that all leg pins are properly stored with leg pins in place and locked with tabs.

Pre-Trip, Continued



4. Be sure that all light plugs are plugged into each body's receptacle.



5. Be sure the locking pins are fully inserted and locking handle and alarm switch are intact and secure.

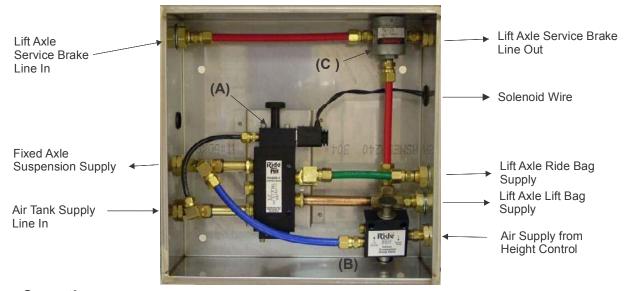


6. The unit is now ready to be driven

SECTION 3

ADDITIONAL TRAILER FEATURES

RA013S Suspension Control - (S/N - 2311100)



System Operation:

Suspension Dump: Lift knob on RA030 valve to dump all suspension ride bags. Push Down to fill.

Lift Axle Down: With the red manual control knob up and electric power off, the lift ride bags will fill to the system pressure.

Lift Axle Up: Supply 12 volt DC power to the solenoid (the red knob must be up) OR manually push the control knob down and twist to lock.

Demountable Trailer Maintenance Check List

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Trailer maintenance to be done with chassis only with no bodies attached.

NOTICE

Checklist is in addition to standard trailer maintenance procedures.

Locking Hooks
Check measurements of front hooks
Check measurements of rear hooks
Adjust front and rear hooks as required
Grease all locking shafts on the trailer
Grease locking lever at locking pin
Check that locking lever is in good working order

Center Stops
Check that center stops work smoothly
Grease center stops with spray lithium grease
Check center stop pins (if applicable)

Electrical
Check all trailer lights
Check light plug front and rear
Clean front trailer 7-way connector

Tractor Trailer Check List

INSPECT:	Inspected OK	Needs Repair	Comments
Front Locking Bar Assembly			
Rear Locking Bar Assembly			
Measurements of front hooks			
Measurements of rear hooks			
Adjust front and rear hooks as required			

Check that center stops work smoothly		
Check center stop pins		
Check all trailer lights		
Check light plug front and rear		
Check condition of air bags		
Check condition of shock absorbers		
Check all air lines and fittings for leaks or wear		
Check for loose nuts and bolts		

Hydraulic Landing Gear Check List

INSPECT: Hydraulic Landing Gear (if applicable)	Inspected OK	Needs Repair	Comments
Check Oil Level			
Inspect fully extend legs			
Check all hydraulic lines and fittings for leaks			
Check for loose bolts and nuts			

Parts

Part Number	Description
DC-1253	LIGHT PLUG 4 WAY WITH CABLE PROTECTOR
DC-1253-W10	LIGHT PLUG 4 WAY WITH 10' WIRE
DCI-DL-235	SAFETY LOCKOUT HANDLE WITH GRIP AND HARDWARE
DCI-DL-234	LOCKING SYSTEM ASSY. SPRING
DCI-DL-233	LOCKING SYSTEM ASSY. PIN SS
DCI-DL-236A	SAFETY LOCKOUT KEY WITH CABLE

MAINTENANCE

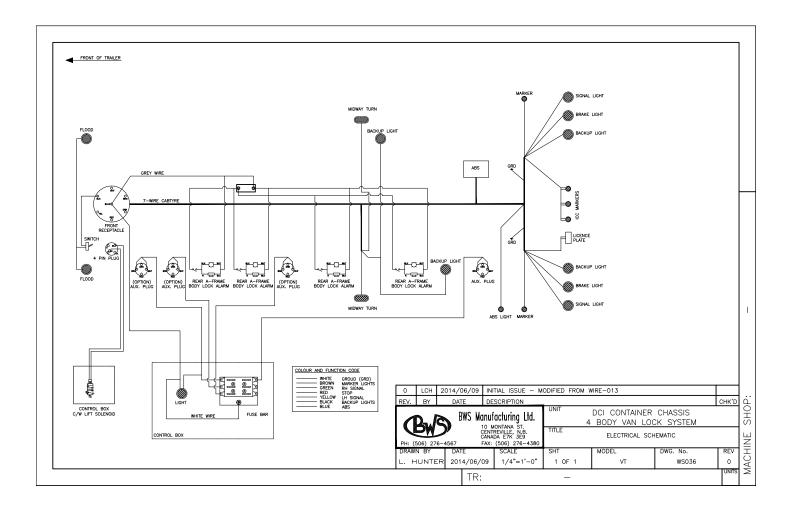
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Part Number	Description
DC-POL-21-541	SAFETY ALARM BUZZER SWITCH
DCI-DL-305R	PUMP BOX MOUNTING BRACKET - RIGHT
DCI-TR-1500	TRAILER LIFT LOWER TOOLBOX ASSEMBLY W/ LIGHT
DCI-TR-3004	TRACTOR LIFT / LOWER ASSEMBLY
DC-90554615-ASSY	PILOT VALVE WITH FITTINGS
DC-MM241416.S	UNDER BODY TOOL BOX, M STYLE 24" X 14" X 16"
DC-MU241416.UB	UNDER BODY TOOL BOX, M STYLE 24" X 14" X 16" ALUM. DIA. PLATE
DC-40808-RH	TRAILER REAR TAIL LIGHT ASSEMBLY - RIGHT
DC-40809-LH	TRAILER REAR TAIL LIGHT ASSEMBLY - LEFT
DC-306	ALARM 97 DB, BLACK
DCI-TR-225	TRAILER BODY BUMPER UHMW (BLACK) 1-3/4" X 3-1/4" X 16"
DC-1010337	AIR TANK SMALL - 1488 CI TWO MAIN PORTS
DC-1010335	AIR TANK LARGE - 2850 CI TWO MAIN PORTS
DC-90054007	HEIGHT CONTROL VALVE
DC-48100225	LEVELING VALVE LINKAGE
DC-34SL	CENTER DIVIDER SAFETY LATCH PIN
DC-34SL-ASSY	CENTER DIVIDER SAFETY LATCH PIN W/ CHAIN
DC-TR-1153	TRAILER LIGHT PLUG ASSY. (4 WAY WITH COIL CORD & TRUCK-LITE CONNECTOR)
DC-7088K85-ASY	COIL CORD (16/3) WITH 4 WAY PLUG
DC-44280	SEALED TOGGLE SWITCH 8" WIRES ON-OFF SPST 20 A 12V DC
DCI-WGS	DCI WEATHER GUARD SYSTEM
DC-110301	SUSPENSION CONTROL VALVE W/PLATE #8089 (UP/DOWN) & MOUNTING SCREWS
"Ride Air" Suspension Control (S	See Page 13)
(A) RA220-1	LIFT AXLE SOLENOID VALVE
(B) RA030	SUSPENSION DUMP VALVE
(C) RA510	PILOT VALVE
(D) RA001BS	STAINLESS STEEL BOX (ONLY)

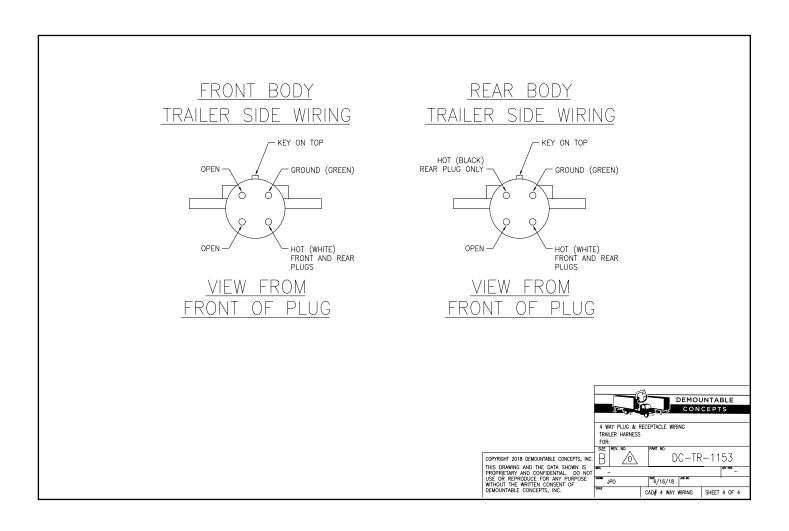


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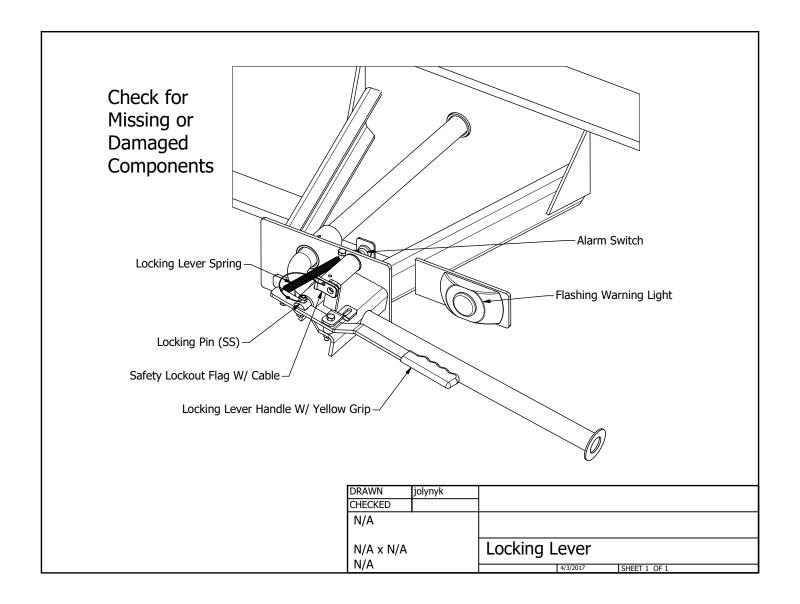
Electrical Schematic - DCI Container Chassis 4 Body Van Lock System



4-Way Plug and Receptacle Wiring Trailer Harness



Check for Missing or Damaged Components



Trouble shooting

Problem	Possible Cause	Correction
Fifth wheel lock does not fully engage	Dirt or gravel contamination	Wash and inspect
	Worn parts	Check fifth wheel locking adjustment
	Mechanism mis-adjustment	Check for excessive wear
Excessive or uneven tire wear	Over- or under-inflated tire	Inflate tire to recommended pressure
	Loose wheel nuts or clamps	Tighten wheel nuts or clamps
	Loose or tight wheel bearing	Adjust bearings.
	Axle bent or out of alignment.	Straighten, align or replace axle
	Tires not properly matched	Match tires
	Improper acting brakes	Correct brakes as required
	Rapid stopping	Apply brakes slowly when Approaching stops
	Excessive speed on turns	Reduce speed
Scuffed tires	Tire over-, or under-inflated	inflate tire to recommended pressure
	Excessive speed on turns	Reduce speed
Wobbly tires.	Tire wobble due to uneven rim clamping - Worn or damaged wheel bearings.	Torque tighten all rim clamps
	Broken or bent wheel or rim	Replace wheel or rim
	Bent axle	Replace or straighten axle
	Broken wheel studs	Replace wheel studs
Dog tracking	Leaf spring broken	Replace leaf or complete spring
	Bent axle	Replace or straighten axle

Problem	Possible Cause	Correction
	Frame or suspension (axles) out of alignment	Straighten frame or align axles
	Worn or damaged torque arms or bushings	Check or replace
Loss of tire air pressure	Puncture in tire	Repair or replace tire
	Faulty valve or valve core	Replace valve assembly or core
	Wheel or rim damage	Replace wheel or rim
Brakes do not apply evenly.	Brake valve(s) not operating correctly	Check brake adjustment and related items
	Loading of trailer not proportional	Redistribute load
Brakes do not release.	Brake shoe bound up at anchor pins	Lubricate brake operating parts
	Brake hoses restricted	Replace hoses
	Brake out of alignment	Adjust brakes
	Damaged brake assembly	Replace damaged parts
	Contaminated air valves	Clean or replace
No brakes or insufficient brakes	Source of air supply shut off at tractor	Open cutout cocks at rear of tractor cab or push control valve "IN"
	Disconnected or not properly coupled glad hands	Connect or properly couple glad hands
	Low brake line pressure	Check air pressure gauge on tractor or for inoperative compressor
	Brake pads worn or glazed	Replace pads
	Reservoir drain valve open	Close drain valve

Problem	Possible Cause	Correction
Grabbing brakes	Oil, grease or foreign material on brake lining	Reline brakes
	Brakes out of adjustment	Adjust brakes
	Brake drum out of round	Replace brake drum
	Damaged brake chamber or internal assembly.	Replace complete brake chamber.
	Leaking or broken hose between valve and brake chamber	Replace or repair as required
Brakes dragging	Brakes set too tight	Adjust brakes (slack adjuster)
	Binding cam, anchor pins or chamber rod end pin	Lubricate and free up
	Diaphragm leaking in brake chamber	Replace broken chamber
	Air valve contamination	Clean and replace
	Damaged brake assembly or brake drum out of round	Replace
Slow brake application or release	Lack of lubrication	Lubricate brake operating parts
	Excessive travel in brake chamber push rod	Adjust brakes
	Restriction in hose or lines	Repair or replace
	Defective brake valve(s)	Replace defective valve(s)
Improper suspension spring action	Broken or cracked spring leaves	Replace complete spring
	Uneven load distribution	Rearrange load for proper distribution
	Weak spring	Replace spring
	Springs out of alignment in hangers due to loose U-bolts	Align springs and tighten U-bolts to proper torque

Problem	Possible Cause	Correction
All air springs flat	Insufficient air supply	Build up and maintain tractor air pressure at least 85 psi.
		Check couplings and valves from tractor and trailer
	Leaking or broken air line in air suspension system	Inspect and test for leaks, repair
	Malfunctioning height control valve	Inspect, test and replace as required
One air spring flat	Air spring leaking or punctured	Replace air spring.
	Supply lines pinched or broken	Repair or replace
Air suspension deflates rapidly when parked	Leak in air system	Locate and repair leak(s)
Trailer rides too high or too low	Improperly adjusted height control valve - Control valve broken or disconnected	Check height and readjust height control valve - Inspect and repair or replace leakage
Excessive shock absorber wear	Defective height control valve	Replace valve
	Damaged air spring	Replace air spring(s)
Height control valve not functioning.	Dirt or foreign matter in air supply line	Check and clean air filter - Inspect, clean or replace height control valve
Dim or flickering lights.	Battery on tractor not sufficiently charged	Charge battery
	Bad connection	Check electrical system circuits
	Damaged wire in jumper cable	Repair or replace cable
	Poor ground sockets	Repair as necessary
Complete loss of trailer lights.	Broken main harness	Repair or replace

Problem	Possible Cause	Correction
	Frayed wires	Check circuit breaker at front
	Broken/damaged jumper cable	Replace jumper cable
	Loose or corroded connection in ground lead between tractor and trailer	Repair or replace
Light plugs do not have power	Loose 7-way plug connection between tractor and trailer	Connect 7-way plug securely in harness
	Corroded connections between tractor and trailer	Clean corrosion build up, replacing the connector is a better option
	No power to the brown wire on 7-way plug from tractor	Test brown wire (marker) and white wire (ground) on 7-way plug for power
	Broken main harness	Repair or replace harness
	Blown fuses in lift/lower control box	Check and replace fuses if blown
Lock alarm does not turn on	No power to the center pin (blue wire) on 7-way plug from tractor	Test center pin (blue wire) and white wire (ground) on 7-way plug for power
	Bad alarm	With switch open test alarm for power, replace if needed
	Alarm switch	With switch open test switch for power, replace if needed
Hooks are hard to lock	Not backed up far enough under body	Back up until front stops are in contact with body
	Hooks are not adjusted properly	Call 844-364-4021 for information on adjusting hooks

TROUBLE SHOOTING

Problem	Possible Cause	Correction
	Ice, snow, debris or obstruction on the front of body	Remove any obstruction on the front of the body
	Ice, snow, debris or obstruction on top of trailer	Remove any obstruction on top of trailer

Trouble shooting - Hydraulic Legs

Probable Cause	Diagnosis	Corrective Action
Problem: Legs leak down		
Defective check valve seat	Extend legs so that they support the trailer 3-6" above jack stands. Disconnect air. Cycle master valve handle back and forth to vent air pressure from system. Remove both lines at each leg. Wipe any oil from around ports. Leave sit until oil is noticed leaking from one port or the other. If the TOP PORT leaks, the check valve is defective. If the BOTTOM PORT leaks, the leg seals are defective.	Rebuild or replace check valve or leg
Defective leg seals	See above.	Rebuild leg
Check valve stuck down	Leg leaks down very fast.	Rebuild check valve, polish piston and cavity with fine steel wool.
Problem: Oil being exhausted from exhaust port of master valve		
Overfilled tank(s)	With leg fully retracted, remove oil fill cap of main oil tank. If oil comes out, tank is overfilled. Replace fill cap. Fully extend legs. Remove fill plug.	Drain tank(s) to proper level. Oil level should be even with bottom of filler/level plugs.

Trouble shooting - Hydraulic Legs

Probable Cause	Diagnosis	Corrective Action	
Problem: Leg will no	Problem: Leg will not free-travel (legs must be boosted down or pried up)		
Split collars too tight	Check the gap between the two split collar halves. There should be about 1/2 inch.	Loosen split collars and retighten to 20-25 ft-lbs.	
Swollen or damaged seals	Raise the trailer with a trailer jack. Extend legs with booster pump as required. If legs must be boosted over entire stroke, then the leg should be rebuilt. If the leg will function normally over part of the stroke, then a bent leg is likely.	Rebuild legs. Check to see that an approved fluid is being used.	
Bent piston rod or other leg parts	If leg operation is tight in only a limited area, this is the most likely reason.	Rebuild leg and replace bent parts.	
Kinked or blocked lines	Check all lines for kinks or obstructions.	Reroute lines to eliminate kinks and clear out all obstructions in lines.	
Pro	blem: Legs extend, but will not ret	ract	
Dirty or corroded check valve piston cavity	Disassemble check valve and inspect.	Polish piston and cavity with fine steel wool, coat all areas with 0-00 grease.	
Check valve vent hole plugged	Inspect vent holes.	Clear obstruction.	
Problem: Legs leak from retracted position to ground			
Master valve handle left in center position		Keep master valve in "up travel" position.	
Air supply removed		Reconnect air supply.	
Problem: Legs do not lift load (legs free-travel but lift load slowly or not at all)			
Low air pressure	Booster pump does not cycle.	Build air pressure to at least 100 psi.	

Trouble shooting - Hydraulic Legs

Probable Cause	Diagnosis	Corrective Action
Low oil level in main oil tank	Unit lifts load to about the same position each time. Then the booster pump cycles but there is no lift. If the tank level is very low, the unit may not lift at all.	Fully retract legs. Fill main tank to bottom of fill port.
Check valves in booster nozzle are not sealing	Booster pump cycles, main oil tank full, but unit does not lift.	Rebuild booster pump. Replace steel fittings if required.
Ice in system	Problem only occurs in cold weather.	Requires supply air dryer. Thaw system.
Vent hole in booster pump plugged	Booster pump does not cycle.	Remove obstruction from vent hole.
Booster pump seals leaking	Air or oil leaking from booster pump vent hole.	Rebuild booster pump.
Booster pump will not cycle	Auto booster logic valves malfunction (Auto Booster units only).	Call 844-364-4021
Booster pump cylinder tube damaged or rusted on the I.D.	Booster pump does not cycle.	Remove rust or replace tube.



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For Service and Parts:

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