ARM TRUCK CORP

DUMP TRUCK UPFIT

OPERATING, SAFETY AND MAINTENANCE MANUAL

Introduction

Thank you for your purchase of an ARM Dump Truck! Your machine has been designed and manufactured with heavy-duty equipment to provide your company years of reliable use.

Please take the time to read and thoroughly understand this manual. Your new power equipment is designed with your work efficiency and safety in mind. Please pay particular attention to the safety, operating and maintenance sections in this manual, as they provide important information on the proper use and care of this equipment.

Due to the custom nature of the trucks we build, some items in this manual may not apply to the truck you have purchased. This manual serves as a guideline for the typical dump truck. If there are any questions or concerns about whether items in this manual apply to your equipment, please call the ARM Service Department.

When calling for parts and service, please refer to the back cover of this manual for important information on your power equipment. This will allow us to handle your request while being time efficient.

You can also research parts and service information or contact the company directly via our website, www.TruckCorpLLC.com.

Parts & Service Phone Number:

(844) 294-5862 extension 112

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Safety Information

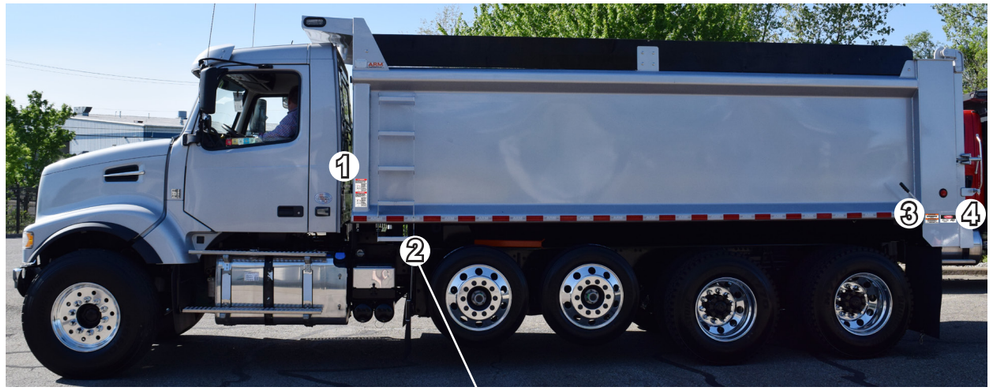
An ARM dump truck body is heavy-duty equipment. While we have tried to make it as safe as possible, you and those around you can still be seriously hurt or killed if the unit is operated or maintained improperly. It is very important that owners and operators thoroughly understand this manual and comply with all of the instructions herein.

Occupational safety and health laws require that all dump trucks be equipped with locking control levers, body props and backup alarms. It is against Federal law to operate this machinery without this equipment in place and operational.

In addition, we have provided your body with safety features which, while not mandated by federal law, are still important for your safety. These devices include warning decals, a hoist control lever that is spring-loaded to return to neutral whenever you release the control lever (this is known as a “dead man” control) and a body-up light.

NEVER OPERATE THIS DEVICE IF ANY OF THE REQUIRED SAFETY FEATURES ARE MISSING OR INOPERATIVE. REMEMBER, SAFETY IS EVERYONE’S JOB.

Safety Decals



1 MSC-00000576

2 MSC-00000566

Placement may vary based on truck layout.

4 MSC-00000312

3 MSC-00000569

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5 MSC-00000587

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***SWING GATE BODIES ONLY**

IF ANY DECALS ARE REMOVED OR DEFACED, IT IS THE CUSTOMER’S RESPONSIBILITY TO OBTAIN REPLACEMENT LABELS. CALL THE ARM PARTS AND SERVICE DEPARTMENT AT (844) 294-5862 EXTENSION 112.

Pre-Trip Inspection

OPERATE TRUCKS ONLY IN WELL-VENTILATED AREAS. RUNNING ANY VEHICLE IN AN ENCLOSED AREA CAN LEAD TO A BUILD-UP OF CARBON MONOXIDE. CARBON MONOXIDE CAN CAUSE ASPHYXIATION AND DEATH.

NEVER LEAVE A RAISED BODY UNATTENDED.

A proper pre-trip inspection is a must in order to make sure that your dump truck is in a safe and roadworthy condition before you start out on the route.

Everything on this pre-trip inspection checklist is important. The truck should never be operated if any of its equipment isn't in safe working order.

NEVER OPERATE A DUMP TRUCK UNLESS ALL OF THESE FEATURES ARE FULLY OPERATIONAL AND ALL OF THE VEHICLE'S SAFETY SYSTEMS (LIGHTS, BRAKES, WIPERS, ETC.) ARE IN GOOD OPERATING CONDITION.

The procedures outlined here pertain only to the dump body and hoist assembly and generic items that should be checked before driving any motorized vehicle on the highway. In addition to the following items, you must follow all pre-trip recommendations by the manufacturer of the chassis and all state and federal pre- and post-trip inspection requirements.

Walk-Around Inspection

1. Check the rear hinge area for visible damage, loose or missing pins, cracking, bending, or other damage to the truck frame in the area of the rear hinge.

USE CAUTION WHEN CLIMBING ON THE BODY. MAKE SURE THERE IS NO OIL, DIRT OR DEBRIS ON EITHER YOUR SHOES OR ANY OF THE CLIMBING SURFACES.

2. If you need to climb on the body of the truck at any time during the inspection process, make sure there is no oil, grease or other slippery substance on either your shoes or any of the truck surfaces. Remember to keep either both feet and one hand or both hands and one foot firmly and safely in contact with the truck or the body at all times while you are climbing.
3. Check to make sure the pins holding the tailgate at the top are fully engaged and secured by a pin keeper.
4. Check tailgate latching assembly. The hooks must be securely fastened over the pins on the tailgate.
5. Look under the truck for any dripping oil or accumulation of oil or grease on the floor or signs of leakage.
6. Check for broken windshield and door glass.
7. Check to make certain all warning decals are on the body and are clean and visible.

Pre-Trip Inspection

Leaks/Hoses

- Look for puddles on the ground.
- Look for dripping fluids on underside of engine and transmission.
- Inspect hoses for condition and leaks.

Oil Level

- See that oil level is within safe operating range.
- Level must be above refill mark.

Coolant Level

- Inspect reservoir sight glass, or (if engine is not hot), remove radiator cap and check for visible coolant level.

Power Steering Fluid

- Check for adequate power steering fluid level.
- Level must be above refill mark.

Engine Compartment Belts

- Check the following belts for snugness (up to 3/4-inch play at center of belt), cracks, or frays:
  - Power steering belt
  - Water pump belt
  - Alternator belt
  - Air compressor belt

Safe Start

- Depress clutch.
- Place gearshift lever in neutral.
- Start engine, then release clutch slowly.
- Ensure air brakes are activated by pulling yellow lever out.

Cab Check/Engine Start

Oil Pressure Gauge

- Make sure oil pressure gauge is working.
- Check that pressure gauge shows increasing or normal oil pressure or that the warning light goes off.
- If equipped, oil temperature gauge should begin a gradual rise to the normal operating range.

Temperature Gauge

- Make sure the temperature gauge is working.
- Temperature should begin to climb to the normal operating range or temperature light should be off.

Air Gauge

- Make sure the air gauge is working properly.
- Build air pressure to governor cut-out, roughly 120-140 PSI.

Ammeter/Voltmeter

- Check that gauges show alternator and/or generator is charging or that warning light is off.

Mirrors and Windshield

- Mirrors should be clean and adjusted properly from the inside.
- Windshield should be clean with no illegal stickers, no obstructions, or damage to the glass.

Pre-Trip Inspection

Emergency Equipment

- Check for spare electrical fuses.
- Check for three red reflective triangles, six fuses or three liquid burning flares.
- Check for a properly charged and rated fire extinguisher.

Wipers/Washers

- Check that wiper arms and blades are secure, not damaged, and operate smoothly.
- If equipped, windshield washers must operate correctly.

Lights/Reflectors/Reflector Tape Condition (Sides & Rear)

- Test that dash indicators work when corresponding lights are turned on:
  - Left turn signal
  - Right turn signal
  - Four-way emergency flashers
  - High beam headlight

Anti-lock Braking System (ABS) indicator

- Check that all external lights and reflective equipment are clean and functional.
  Light and reflector checks include:
  - Clearance lights (red on rear, amber elsewhere).
  - Headlights (high and low beams).
  - Taillights.
  - Backing lights.
  - Turn signals.
  - Four-way flashers.
  - Brake lights.
  - Red reflectors (on rear) and amber reflectors (elsewhere).
  - Reflector tape condition.

Horn

- Check that air horn and/or electric horn work.

Heater/Defroster

- Test that the heater and defroster work.

Parking Brake Check

- With the parking brake engaged (trailer brakes released on combination vehicles), check that the parking brake will hold vehicle by gently trying to pull forward with parking brake on.
- With the parking brake released and the trailer parking brake engaged (combination vehicles only), check that the trailer parking brake will hold vehicle by gently trying to pull forward with the trailer parking brake on.

Hydraulic Brake Check

- Pump the brake pedal three times, then hold it down for five seconds.
- The brake pedal should not move (depress) during the five seconds.
- If equipped with a hydraulic brake reserve (back-up) system, with the key off, depress the brake pedal and listen for the sound of the reserve system electric motor.
- Check that the warning buzzer or light is off.

Air Brake Check (Air Brake Equipped Vehicles Only)

The proper procedures for inspecting the air brake system are as follows:

- With the air pressure built up to governor cutoff (120– 140 PSI), shut off the engine, chock your wheels if necessary, release the parking brake (all vehicles), and the tractor protection valve (combination vehicle) and fully apply the foot brake. Hold the foot brake for one minute. Check the air gauge to see if the air pressure drops more than three pounds in one minute (single vehicle) or four pounds in one minute (combination vehicle).
- Without re-starting the engine, turn electrical power to the “on” or “battery charge” position. Begin fanning off the air pressure by rapidly applying and releasing the foot brake. Low air warning devices (buzzer, light, and flag) should activate before air pressure drops below 60 PSI or level specified by the manufacturer.
- Continue to fan off the air pressure. At approximately 40 PSI on a tractor-trailer combination vehicle (or level specified by the manufacturer), the tractor protection valve and parking brake valve should close (pop out). On other combination vehicle types and single vehicle types, the parking brake valve should close (pop out).

Service Brake Check

- This procedure is designed to determine that the brakes are working correctly and that the vehicle does not pull to one side or the other.
- Pull forward at 5 mph, apply the service brake and stop. Check to see that the vehicle does not pull to either side and that it stops when brake is applied.

Safety Belt

- Check that the safety belt is securely mounted, adjusts, latches properly and is not ripped or frayed.

Pre-Trip Inspection

Steering Box/Hoses

- Check that the steering box is securely mounted and not leaking. Look for any missing nuts, bolts, and cotter keys.
- Check for power steering fluid leaks or damage to power steering hoses.

Steering Linkage

- See that connecting links, arms, and rods from the steering box to the wheel are not worn or cracked.
- Check that joints and sockets are not worn or loose and that there are no missing nuts, bolts, or cotter keys.

Suspension

Springs/Air/Torque

- Look for missing, shifted, cracked, or broken leaf springs.
- Look for broken or distorted coil springs.
- If vehicle is equipped with torsion bars, torque arms, or other types of suspension components, check that they are not damaged and are mounted securely.
- Air ride suspension should be checked for damage and leaks.

Mounts

- Look for cracked or broken spring hangers, missing or damaged bushings, and broken, loose, or missing bolts, U-bolts or other axle mounting parts. (The mounts should be checked at each point where they are secured to the vehicle frame and axle[s]).

Pre-Trip Inspection

Shock Absorbers

- See that shock absorbers are secure and that there are no leaks.

Brakes

Slack Adjusters and Pushrods

- Look for broken, loose, or missing parts.
- For manual slack adjusters, the brake pushrod should not move more than one inch (with the brakes released) when pulled by hand.

Brake Chambers

- See that brake chambers are not leaking, cracked, or dented and are mounted securely.

Brake Hoses/Lines

- Look for cracked, worn, or leaking hoses, lines, and couplings.

Drum Brake

- Check for cracks, dents, or holes. Also check for loose or missing bolts.
- Check for contaminates such as debris or oil/grease.
- Brake linings (where visible) should not be worn dangerously thin.

Brake Linings

- On some brake drums, there are openings where the brake linings can be seen from outside the drum.
- For this type of drum, check that a visible amount of brake lining is showing.

Wheels

Rims

- Check for damaged or bent rims. Rims cannot have welding repairs.

Tires – The following items must be inspected on every tire:

- Tread depth:
  - Check for minimum tread depth (4/32-inch on steering axle tires, 2/32-inch on all other tires).
- Tire condition:
  - Check that tread is evenly worn and look for cuts or other damage to tread or sidewalls. Also, make sure that valve caps and stems are not missing, broken, or damaged.

Tire inflation

- Check for proper inflation by using a tire gauge.

Hub Oil Seals/Axle Seals

- See that hub oil/grease seals and axle seals are not leaking and, if wheel has a sight glass, oil level is adequate.

Lug Nuts

- Check that all lug nuts are present, free of cracks and distortions, and show no signs of looseness such as rust trails or shiny threads.
- Make sure all bolt holes are not cracked or distorted.

Pre-Trip Inspection

Spacers or Budd Spacing

- If equipped, check that spacers are not bent, damaged, or rusted through.
- Spacers should be evenly centered, with the dual wheels and tires evenly separated.

Door(s)/Mirror(s)

- Check that door(s) are not damaged and that they open and close properly from the outside.
- Hinges should be secure with seals intact.
- Check that mirror(s) and mirror brackets are not damaged and are mounted securely with no loose fittings.

Fuel Tank

- Check that tank(s) are secure, cap(s) are tight, and that there are no leaks from tank(s) or lines.

Drive Shaft

- See that drive shaft is not bent or cracked.
- Couplings should be secure and free of foreign objects.

Exhaust System

- Check system for damage and signs of leaks such as rust or carbon soot.
- System should be connected tightly and mounted securely.

Frame

- Look for cracks, broken welds, holes or other damage to the longitudinal frame members, cross members, box, and floor.

Rear of Vehicle Splash Guards

- If equipped, check that splash guards or mud flaps are not damaged and are mounted securely.

Doors/Ties/Lifts

- Check that doors and hinges are not damaged and that they open, close, and latch properly from the outside, if equipped.
- Ties, straps, chains, and binders must also be secure.
- If equipped with a cargo lift, look for leaking, damaged or missing parts and explain how it should be checked for correct operation.
- Lift must be fully retracted and latched securely.

Mounting Bolts

- Look for loose or missing mounting brackets, clamps, bolts, or nuts.
- Both the fifth wheel and the slide mounting must be solidly attached.
- On other types of coupling systems (i.e., ball hitch, pintle hook, etc.), inspect all coupling components and mounting brackets for missing or broken parts.

Hitch Release Lever

- Check to see that the hitch release lever is in place and is secure.

Pre-Trip Inspection

Locking Jaws

Kingpin/Apron/Gap

- Check that the kingpin is not bent.
- Make sure the visible part of the apron is not bent, cracked, or broken.
- Check that the trailer is lying flat on the fifth wheel skid plate (no gap).

Tongue or Draw-bar

- Check that the tongue/draw-bar is not bent or twisted and check for broken welds and stress cracks.
- Check that the tongue/draw-bar is not worn excessively.

Tongue Storage Area

- Check that the storage area is solid and secured to the tongue.
- Check that cargo in the storage area (i.e. chains, binders, etc.,) are secure.
- Make sure all bolt holes are not cracked or distorted.

Spacers or Budd Spacing

- If equipped, check that spacers are not bent, damaged, or rusted through.
- Spacers should be evenly centered, with the dual wheels and tires evenly separated.

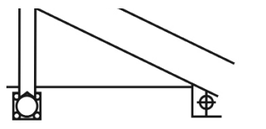
Door(s)/Mirror(s)

- Check that door(s) are not damaged and that they open and close properly from the outside.
- Hinges should be secure with seals intact.
- Check that mirror(s) and mirror brackets are not damaged and are mounted securely with no loose fittings.

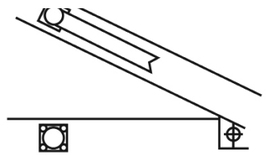
Dump Bed Console (layout may vary)

Bed Operations

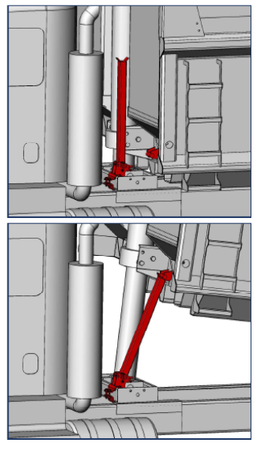
- Make sure the PTO engages.
- Raise and lower bed. Check bed limiter to make sure it is not dead heading.
- Check the body prop and ensure it is functioning properly.
- Check that the bed vibrator functions properly, if applicable.
- Cycle the tarp, if applicable.
- Ensure the heat kit controller functions properly, if applicable.
- Make sure the PTO is not engaged before transport.



Body Prop Engaged

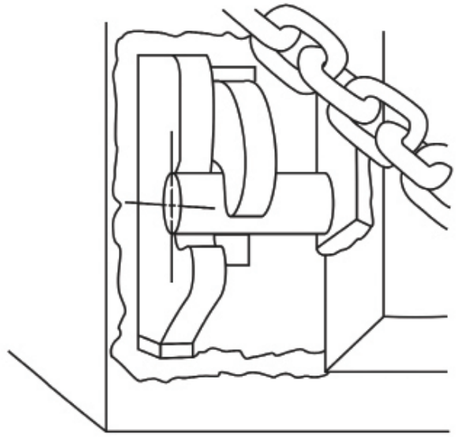


Body Prop Disengaged



Tailgate Removal

WARNING: FAILURE TO DISENGAGE THE PTO PRIOR TO MOVING THE UNIT WILL CAUSE SEVERE DAMAGE TO THE HYDRAULIC SYSTEM AS WELL AS THE PTO AND DRIVE SYSTEM.

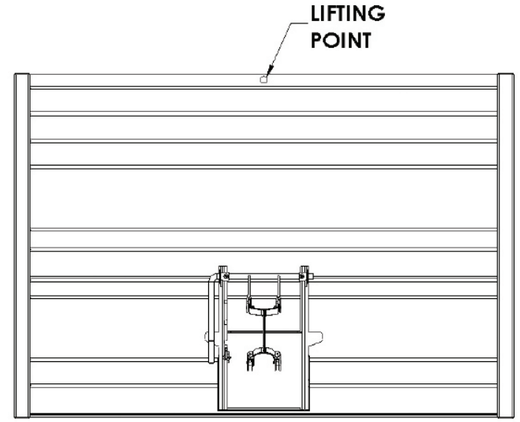


Tailgate Linkage

Tailgate

- Check to make sure the pins holding the tailgate at the top are fully engaged and secured by the pin keeper.
- Check tailgate latching assembly. The hooks must be securely fastened over the pins on the tailgate. Four different bottom tailgate and latch assemblies are in use.

- Be sure to latch the tailgate properly after dumping the load. DO NOT operate the vehicle with the tailgate unlatched.



- Release rear mud flaps. Before completely removing the tailgate, ensure that the vehicle is sitting on a level surface with clear surroundings. Put the body all the way down and turn the engine off. Ensure the brakes are applied and chock the wheels.
- When removing a tailgate, never attempt to raise it by using the upper hinges. Unlatching the upper hinges may cause the tailgate to swing down and cause property damage and/or injury or death to operator(s).
- Attach the chain to the desired lifting point. Ensure it is a point with equal weight distribution.
- Detach the upper pins.
- Release and open the lower tailgate.

Driving an Empty Truck

WARNING

- Make certain the body is down. Never drive a dump truck with the bed up, even slightly. If the body-up light is on, stop the truck immediately and determine the reason. Do not drive if the body is up.
- Never let anyone ride any place in, or about your dump truck other than inside the cab in a designated seating position, securely restrained by seat and shoulder harnesses.
- Never drive a unit with the tailgate in the down or work position.
- If so equipped, never drive a unit with a coal door that is not fully closed and latched.
- If so equipped, never drive a dump truck with a barn door in the open position.
- Never drive a dump truck with the power take off engaged. This leads to the possibility of an inadvertent raising of the bed.
- Never drive an empty dump truck without making certain that the tailgate is locked and top hinge pins are properly installed.
- Never drive a dump truck without making certain that the hoist control is locked in the neutral position.
- Never drive an empty truck without making certain that you have swept all the debris off the cab protector, rub rails, extension pan, steps, ladder, etc. Make certain that there is no grease, oil or other slippery substance on your hands, feet or the surfaces you will touch. Remember that you must keep both hands and one foot or one hand and both feet in contact with the truck at all times when climbing the truck.

A dump truck is wider and higher than a car or light pickup truck. Ensure the truck has enough clearance when going under bridges, tunnels, power lines, and any other type of overpass throughout the trip. It also has a higher center of gravity. Therefore, a dump truck is much more likely to roll over than a passenger car or light pickup truck.

Also, because of the size, the truck will take longer to stop and accelerate than a passenger car or pickup truck. When the truck chassis is empty, the rear brakes may lock up or tend to skid, causing loss of vehicle control, particularly on icy, wet, snow-covered or other slippery surfaces.

You will have to adjust your driving to the characteristics of the dump truck.

In general, you must avoid sharp lane changes, go slowly through turns and give yourself more room to accelerate. Avoid sudden stops, turns or accelerations. Slow down and prepare for stops and turns well in advance, especially in poor weather conditions.

ALWAYS DISENGAGE POWER TAKE-OFF WHEN DRIVING. DAMAGE TO PTO OR PUMP AND PERSONAL INJURY CAN OCCUR.

Pre-Loading Checklist

- Ensure the parking brake is set.
- Ensure the vehicle is resting on flat, solid ground.
- Ensure the vehicle is on manageable terrain based on the type of load that is being hauled.
- Before loading, ensure the tailgate and coal door are properly latched.

Loading

- When loading the bed, start loading toward the front and move to the back, while ensuring the load is spread evenly in the dump body.

DO NOT load the vehicle over the Gross Vehicle Weight (GVW) certification or any applicable local, state and federal weight restrictions.

- Never fill the load above the walls of the bed.
- Reduced vehicle control and increased potential for an accident results when driving overloaded.

Loading the Truck

DO NOT ATTEMPT TO LOAD THE BODY ON SOFT GROUND OR ON GROUND THAT IS NOT LEVEL. LOADING ON SOFT OR UNLEVEL GROUND COULD CAUSE THE UNIT TO TOPPLE OVER AND CREATES THE RISK OF SERIOUS INJURY OR DEATH. EVEN THOUGH THE TRUCK APPEARS TO BE STABLE WHEN IT IS EMPTY, IT CAN STILL SINK OR TIP AS THE LOAD IS BEING APPLIED.

The proper procedure for loading the body is as follows:

1. Lower the body.
2. Disengage the power take off.
3. Securely latch the tailgate with the hooks completely and securely holding the tailgate pins. Both hooks must be under equal tension when moved from side to side. The hook should extend completely over the pin and it should be difficult and requires a considerable tug to cause each hook to move across the pins.
4. Fully close and securely latch the coal door if equipped.
5. If you need to climb on the body of the truck at any time during the loading process, make sure there is no oil, grease or other slippery substance on either your shoes or any of the truck surfaces. Remember to keep either both feet and one hand or both hands and one foot firmly and safely in contact with the truck or the body at all times while you are climbing.
6. Make certain there is proper clearance for the loader both from side to side and overhead.
7. Evenly distribute the load side to side. Do not operate the truck if the load is not centered.
8. Load from front to rear, distributing the load as evenly as possible.
9. When loading with an end loader, load from the center of the body's sides.
10. When loading under a hopper, always park with the body of the truck centered from side to side under the hopper opening and with the hopper opening slightly forward of the center point of the body.
11. The load must not be higher than the sides of the dump body or the sideboards, if so equipped.
12. Before leaving the loading site, remove all debris from rails, sills and other horizontal surfaces.
13. Tarp the load according to your local and state requirements and as necessary to prevent any portion of the load from escaping.

Driving a Loaded Truck

WARNING

- Unless you are engaged in spreading operations, never drive a dump truck with the bed up, even slightly. Make certain the body is down. If the body-up light is on and you are not spreading, stop the truck immediately and determine the reason. Do not continue to operate until the body is down.
- Never let anyone ride any place in, on or about your dump truck other than in the cab in a designated seating position, securely restrained by a seat belt and shoulder harness.
- Never drive a unit with the tailgate in the down or work position.
- Never drive a unit with a coal door (if so equipped) that is not fully closed and latched.
- Never drive a loaded dump truck with a barn door in the open position (if so equipped).
- Never drive a dump truck with the power take off engaged. This could result in an inadvertent raising of the bed.
- Never drive a loaded dump truck without making sure the tailgate is locked.
- Never drive a loaded dump truck without making certain that the hoist control is locked in the neutral position.
- Never drive a loaded dump truck without making certain that you have swept all of the debris off the rub rails, extension pan, steps, ladder and other horizontal surfaces. When climbing on the truck, make certain there is no grease, oil or other slippery substance on your hands, feet or other surfaces you will touch. Remember that you must keep both hands and one foot or one hand and both feet firmly in contact with the truck at all times when climbing on the truck.
- Ensure there is a clear view of the load in the mirrors from the driving position. Be aware of the possibility of load shift, particularly when hauling large objects, such as boulders, large chunks of broken concrete or liquids etc. If the load shifts outward as you are making a turn, it could cause you to lose control of the vehicle and possibly roll over.
- If your truck is loaded toward the rear (or if you have dumped a partial load, which will cause the remaining load to shift to the rear), it could have the effect of reducing the weight on the front wheels of the truck. If the unit was loaded to the rear or the load has shifted to the rear, you may encounter situations where you are unable to steer the truck, especially on wet, slippery or icy surfaces, or when braking. Further, braking could cause the front wheels to lock up, reducing the efficiency of the braking system resulting in a much longer stopping distance, particularly on wet, slippery, snowy or icy surfaces.
- Use extreme caution when traveling across an inclined surface such as the side of a hill. Never travel on soft ground when crossing a hill side. Never cross an incline greater that 6°, as the likelihood of the vehicle tipping over is too great. When crossing less steep inclines, be alert to any sign of the load shifting.

Unloading the Body

- Never leave the driver's position of the truck without shutting off the ignition, locking the door, and taking the key.
- Never leave a raised body unattended.

Now that your truck has a load in it, it may have an even higher center of gravity and it will weigh considerably more than it did empty. It is even more prone to roll over on a curve or during a sudden evasive maneuver. You will have to once again adjust your driving to the characteristics of your loaded truck . In general, you must make even more gradual lane changes, go even slower on turns and give yourself much more room to stop or accelerate or merge with traffic. Failure to do so could cause an accident involving potentially serious injury or loss of life.

- Be certain that the dump site is solid and level, to reduce the risk of tipping the vehicle.

- When a load is discharged, it does not just fall into a pile. It can be displaced outward and to the sides. Please account for this when choosing a discharge area. Ensure the discharge area is clear of people, property and objects that may be harmed in the event of a spill or equipment failure. Ensure the truck has enough clearance if dumping near bridges, tunnels, power lines, or any other type of overpass. Failure to do so may cause property damage and/or serious injury or death to operator(s).
- Remove the tarp and other accessories that may interfere with dumping.
- Hang the rear mud flaps.
- Ensure that the payload is evenly distributed throughout the body.
- To raise the bed, engage the Power Take Off (PTO) switch.
- Once the dump bed is at the desired height, return the lever to its resting position while dumping.
- To return the bed to the lowered position, the PTO does not need to be engaged. Move the lever toward the "Body Down" position.

Tailgate Operation

Traditional Single Action

Opening:

1. Actuate switch marked tailgate to unlock position

Closing:

1. Actuate switch marked tailgate to lock position

Swing Gate

Swing Style Opening:

1. Make sure pin is inserted through swing lock (above passenger side latch, pin is shown inserted). If pin is not in place, damage could occur to top hinge.

2. Pull lever down on driver's side rear post to release top driver's side hinge. (Lever is shown down)

3. Actuate switch marked tailgate to unlock position.
4. Swing tailgate open.

Swing Style Closing:

1. Swing tailgate closed. Ensure no debris is caught in tailgate latches.
2. Push lever up on driver's side rear post to engage top driver's side hinge. (Lever is shown up)

3. Actuate switch marked tailgate to lock position.

Traditional Dump Style Opening:

1. Ensure pin is removed from swing lock (Above passenger side latch. Pin is shown removed)

2. Push switch on the console to open bottom tailgate latches.

Traditional Dump Style Closing:

1. Push switch on the console to close bottom tailgate latches.

High Lift:

Opening:

1. Unlock tailgate by rocking tailgate switch to unlock position.
2. Rock High Lift switch to "up" position

Closing:

1. Return High Lift switch to "down" position
2. Wait for High Lift gate to exhaust all air, then return tailgate switch to locked position.

Tailgate Operation

Console:

Console switch configuration may vary. Several configurations shown below.

Dumping Operations

WARNING

Dumping operations have the potential to be extremely hazardous. There is a possibility that the truck can roll over, particularly if it is on uneven or soft ground. Persons on the ground could be severely injured or killed if struck by a discharging load. You or others can be injured if a load hangs up or if you have not opened the tailgates. Extreme caution must be exercised during dumping operations.

WARNING

No one should ride in, or around the truck during dumping or spreading operations except in a properly designated passenger seat with seat belts and shoulder harnesses securely fastened.

Perform the following steps when you reach the area where your load will be discharged:

1. Check the terrain. Make sure it is level, even and firm. Do not attempt to dump if there is a significant sideways slope of 6° or greater on the ground, or if it appears exceptionally muddy or moist.
2. Check carefully for overhead obstructions. Never raise the body or dump under a power line, as you or someone else could be electrocuted or killed or you could knock out power to a large area.
3. Check to make certain how many persons are in the vicinity where dumping will take place.
   - Make certain all personnel are cautioned to stay out of the area where the load may discharge.
   - When dumping, make sure all personnel are accounted for, in sight and out of the discharge area.
4. If you are planning to use the spreader chains, set them to the appropriate length and fasten them in the mounting brackets provided. Chains should be set to an equal length.
5. If you are planning to dump through a coal door, open and set the coal door at this point.
6. Check the dumping area carefully. Make certain that there is adequate clearance for the load to discharge, both to the rear and the side of the unit. Remember, when the load discharges, it will spread not only to the back of the truck, but also the sides.

You are now ready to dump your load, please follow the procedure outline.

1. Make certain your safety belt and shoulder harness are securely fastened.
2. Release the tailgate.
3. Engage power take off.
4. Double check to make certain that all personnel are in sight, accounted for and out of the discharge area. Double check the overhead clearance.
5. Begin to raise the body slowly to the desired dump angle. Continue to be vigilant to make certain that no one goes behind the truck or in the discharge area during dumping operations. Be especially vigilant on this point when dumping in confined areas.
6. When the load begins to discharge, pull forward gradually until you have dumped the

Dumping Operations

desired amount.

7. Lower the body slowly. Make sure the body is fully down and the body-up light is off.
8. Make sure the hoist control returns to, and is locked in, neutral.
9. Disengage the power takeoff.
10. Turn your engine off and remove the ignition key so you can perform the following checks.

WARNING

If you need to swing the tailgate manually, take great care not to get your fingers between the tailgate and the body of the truck, as the tailgate is extremely heavy and serious injury can occur.

NOTE: It may be necessary to clean out the end of the bed to allow the gate to swing fully closed, particularly if you have dumped a partial load.

11. Close the gate. Check to make sure that the hooks are completely over and securely holding the tailgate pins. Both hooks must be under equal tension when moved from side to side. The hook should extend completely over the pin and it should be difficult and require a considerable tug to cause hook to move across the pins.
12. If you have dumped a partial load, be especially careful that the tailgate is closed.
13. Clean off debris from all horizontal surfaces of the truck.

Power Take Off Operations

In all situations, always ensure the PTO is disengaged before moving the vehicle. The vehicle must be stationary to operate the PTO.

PTO operations on standard and automatic transmissions are different:

Standard Transmission:

1. Shift the truck into neutral.
2. Engage the clutch and shift the PTO into gear.
3. When performing these steps, you may need to release the clutch to allow the gears to properly align.

Automatic Transmission:

1. Apply the brake.
2. Shift the vehicle into drive (this stops the transmission gears).
3. Shift the PTO into gear and the vehicle into neutral. This will return the transmission gears to operation and the PTO will be functioning.

Note: When operating a dump truck in temperatures 32°F or lower, disengaged PTOs can transmit high torque that can cause unexpected shaft rotation. This is because transmission oil has a high viscosity when it is extremely cold. When this occurs, there is slippage in the PTO clutch plates, causing the oil to heat up. Then, the viscous drag rapidly decreases. The unexpected shaft rotations may cause movement in the equipment, which may result in property damage and/or injury or death.

Never attempt to work on the PTO with the engine running.

Whenever you are performing operations in a public highway right of way, you should follow the regulations promoted by the Occupational Safety and Health Administration and local laws and ordinances.

No one should ever ride on the truck during asphalt patching operations except in the cab in a designated seating position with seat belts and shoulder harnesses securely fastened.

Asphalt is very hot. Use caution to avoid getting asphalt on clothes, shoes or exposed flesh. The hot asphalt will make the dump body hot and touching the hot metal may cause burns.

To patch from the rear of the dump body - over the tailgate as a shelf or extension pan - It is important that you use at least two persons to lower the gate because the gate weighs in excess of 250 pounds; please follow the procedure outlined below.

A. Put the body in the down position. Make sure the body-up light is off.

B. Place the transmission in the park, neutral or first gear.

C. Set the emergency brakes.

D. Shut off the engine and remove the keys from the ignition before leaving the cab.

E. Set the chains to the proper length and secure them in the brackets provided.

F. Make sure that the lower hinges are latched securely with the hooks fully over the tailgate pins.

Asphalt Patching

G. If you need to climb on the body or the truck at any time during this process make sure that there is no oil, grease or other slippery substance on either your shoes or the truck surfaces that you intend to climb on. Remember to keep either both feet and one hand or both hands and one foot firmly and safely in contact with the truck or body at all times while you are climbing.

H. Remove the lynch pin retainers from the top tailgate hinge pins.

I. Remove the top hinge pins. (This may require a hammer to drive the pins through.)

J. With both people assisting, slowly lower the tailgate to rest on the chains. Protect all body parts that will touch hot metal or hot asphalt.

K. Never move between work sites without raising and closing the tailgate.

If the patching operation is to be completed by using a small door (called a coal door) within the tailgate of the dump body to discharge small amounts of asphalt, please follow the procedure outlined below:

1. Follow steps A-D above
2. Make sure that the lower hinges are latched securely with the hooks fully over the tailgate pins.
3. When the patching is complete lower the body completely and assure the body-up light is off. Make sure the hoist control lever returns to neutral and is locked. Disengage the power take off. Close the coal door before moving between work sites.

Always exercise extreme caution when raising the dump bed. Make certain no one is or has moved into the discharge area during either type of dumping operation.

Delivery/20,000 Miles Checklist

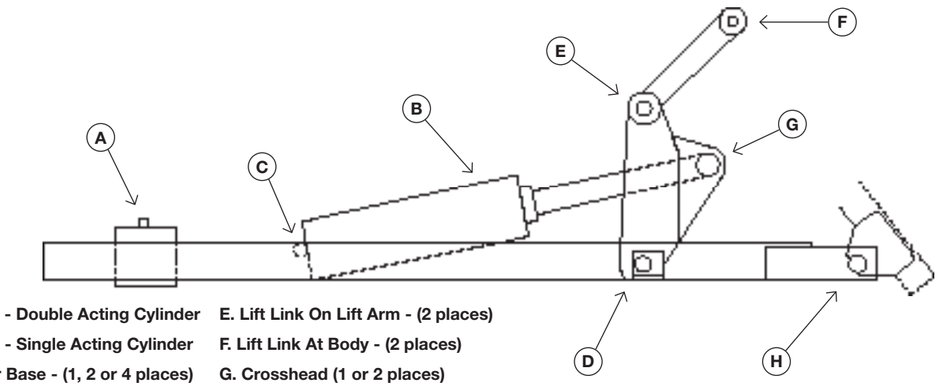
1. Check that there is power going to the control console (IE the lights come on with IGN switch).
2. Double check that the PTO engages without any delay.
3. Push tailgate switch to open the tailgate, you should hear an initial air exhaust in the console for roughly 5 seconds. This is normal, and also is the same for when you push the switch to close the tailgate. Make sure that the exhaust in the console does not continue after the latches have opened or closed.
4. Push tailgate switch to open the tailgate, go to the rear of the truck, and check the air cylinder under the tailgate to ensure it is not leaking from the cylinder seal or fittings. (A leak could cause the tailgate to not open correctly).
5. Push tailgate switch to close the tailgate, go to the rear of the truck, and check the air cylinder under the tailgate to ensure it is not leaking from the cylinder seal or fittings. (A leak could cause the tailgate to not close correctly).
6. Check both hydraulic suction and return lines at the hydraulic tank, ensure they are free from leaks and both ball valves are open and zip tied.
7. Check hydraulic lines going from the tank to the pump, ensure the fittings at the pump are not leaking.
8. Check the swivel fitting at the hydraulic cylinder, ensure that fitting is not leaking.
9. Engage the PTO, make sure the gate is closed, and raise the dump bed to check the bed limiter switch is working correctly. The bed should stop when the cylinder is roughly halfway through the last stage. If not adjusted correctly, lower the body and slightly tighten the cable at the rear of the truck going from the body to the limiter switch on the truck frame. Re-test after adjusting the cable.
10. With the bed up, check that the body prop props the body correctly, and prop the body up.
11. With the body propped and empty, inspect in between the frame rails, and double check there is no electrical, air, or hydraulic lines coming in contact with the drive shaft, or otherwise appearing to look “unsecured.”
12. Lower the body to the lowest resting position. If applicable, cycle the tarp to check the tarp functions properly.
13. Finally, open and close the tailgate to confirm the gate latches operate without any delay, binding, or popping.
14. Check that all drop axle mounting bolts are tightened to manufacturer’s specifications.
15. Check that all drop axle air pressure gauges are properly adjusted and functioning.
16. Check tailgate hinges for damage or excess play.
17. Grease all grease fittings on tailgate and body hinge points.
18. Check bed, especially bulkhead, for damage or excessive rust.
19. Look for signs of hydraulic leaks around all hydraulic fittings while checking all hydraulic connections are tight.

Lubrication

Front Telescopic Hoists

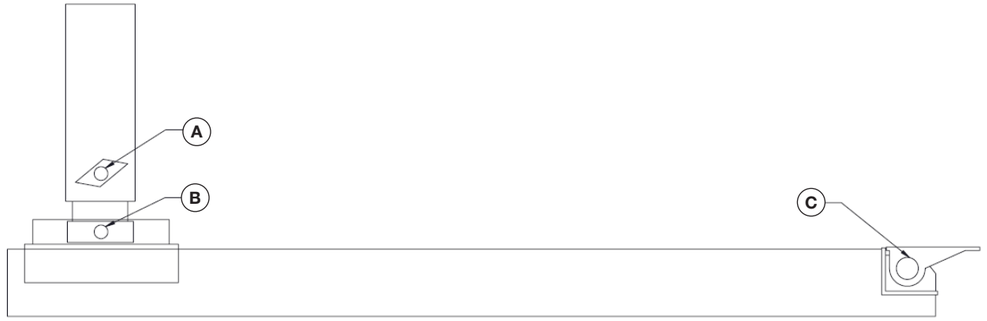
A. Air Bleeder Valve
B. Oil Filter
C. Cylinder Ram (1 place)
D. Cylinder Base (2 places)
E. Rear Hinge (2 places)

Underbody Hoists



A. Oil Filler - Double Acting Cylinder
B. Oil Filler - Single Acting Cylinder
C. Cylinder Base - (1, 2 or 4 places)
D. Lift Arm Pivot - (2 places)
E. Lift Link On Lift Arm - (2 places)
F. Lift Link At Body - (2 places)
G. Crosshead (1 or 2 places)
H. Rear Hinge (2 places)

Trunnion Hoists



A. Trunnion Mounts - Both Sides
B. Cylinder to Cradle - Both Sides
C. Hinge - Both Sides

Oil Supply

Whenever the hoist is lubricated, the condition and level of the oil supply should be checked. Dirty oil is the number one cause of expensive pump and cylinder repair and likewise expensive downtime. Dirty oil is detectable and should be replaced before considerable damage is done. A sample on the dipstick will show you its condition. Take the sample and put a drop on a cloth or paper towel. Any residue revealed means dirty oil. To replace the oil supply, drain and flush the entire system. Fill the system with suitable oil with the following specifications:

Oil Specifications

CODE 1657 RANDO OIL HD 32
Typical Appearance

Appearance	Pale
Gravity, API	30.7
Flash, COC, °F	385
Pour Pt., °F	-25
Viscosity, at 40°C	30.1
at 100°C	5.3
at 100°F	155
at 210°F	44
Viscosity Index	106
Neutralization No.	0.4

WARNING

Never use a detergent oil or used oil in the hydraulic system.

Rando Oils HD are light-colored, premium, anti-wear hydraulic oils blended from high quality paraffin distillate stock with excellent stability. They are rust and oxidation inhibited and contain a specially selected antiformant that permits very rapid release of entertained air. This later point is important because entertained air will cause system sponginess, thus affecting the rapidity and accuracy of system response. They also contain a very effective zinc-type anti-wear agent that helps minimize wear in high-speed, high-pressure vane and gear pumps while meeting the lubrication requirements of axial piston pumps having bronze-on steel metallurgy.

When purchasing hydraulic oil, show these specifications to your local dealer and ask for a similar type product.

This oil is recommended for normal climatic conditions within the continental United States Where sustained temperatures are 0°F (-18°C) and lower or in excess of +90°F (32°C), this oil should be removed and replaced with one of a viscosity rating suitable to the temperature of your region. For suitable replacement, consult your local distributor or dealer.

Proper Procedure for Filling an ARM Hoist

The following instructions are for filling single-acting hoists, double-acting hoists or telescopic hoists.

WARNING

Do not go under a raised loaded body.

WARNING

Do not go under a raised body without propping it. Body must be empty.

Single-Acting Hoists

To properly fill a single-acting hoist with hydraulic oil, perform the following steps:

1. Check to be sure that the unit is plumbed properly.
2. With everything properly installed, engage the PTO or electric power unit. Raise the body until the unit stops.
3. Add oil to the reservoir or cylinder until the hoist is fully raised to the bypass.
4. Install the pipe plug in the reservoir or special 25 PSI relief valve in the cylinder. Electric power units will have a breather.

Double-Acting Hoist

To properly fill a double-acting hoist with hydraulic oil, perform the following steps:

1. Check to be sure that the oil reservoir is installed properly.
2. Check to be sure that the unit is plumbed properly.
3. With everything properly installed, engage the PTO or electric power unit. At idle speed, extend the cylinder.
4. When the cylinder stops extending, add oil to the reservoir until the cylinder is fully extended. The lift arms should be touching the stop blocks or stop angle at this point.

Troubleshooting Tips

Cylinder is slamming or sticking.

- Possible Cause: Oil level in hydraulic tank is low, hose is sucking air out of tank.
  - Fill hydraulic oil reservoir to ¾ full to allow room for heat expansion.
- Possible Cause: Clamp is loose on suction hose, causing loss of fluid.
  - Look for air leak on suction hose. Tighten or replace clamp. Fill hydraulic oil reservoir to ¾ full to allow room for heat expansion.
- Possible Cause: Dump valve is not centered, letting air into the system.
  - Call the ARM Parts and Service Department.

Excessive oil is seeping around cylinder's head nuts.

- Possible Cause: Cylinder head nut(s) need tightened.
  - This should be done as a part of routine maintenance.
- Possible Cause: Upper seal is broken and may need replaced.
  - Call the ARM Parts and Service Department.

Cylinder seems loose.

- Always be cautious to operate cylinder on level ground and while the dump truck is not moving to avoid any damage to the cylinder. Some play in the cylinder is normal. This is so the cylinder will not destroy itself if operated in motion or on slightly unlevel ground.
  - If, after further analysis, there seems to be a deeper problem with the cylinder being loose, call the ARM Parts and Service Department.

Cylinder drifts down into the hold position.

- Possible Cause: Feathering valve is leaking, due to partially applying the valve.
  - Locate the pump actuator. Disconnect both air hose quick connects for the 1st valve section. With the feathering valve in Neutral, no air leaks should be detected on either hose. If there is air leaking on either hose, the feathering valve needs replaced. Call the ARM Parts and Service Department.
  - If there is no air leaking, the valve may be defective. Call the ARM Parts and Service Department.

The body up lever is not operating smoothly and stiffens.

- Possible cause: The seal is defective and may need replaced.
  - Call the ARM Parts and Service Department.

The body up lever will not raise dump body.

- Possible Cause: The feathering valve is defective
  - Locate the actuator at the pump. Release airlines at the pump for the feathering valve.
  - Install an air pressure gauge to the airlines.
  - Run truck until air is at maximum pressure (minimum 90 psi)
  - If one or both of the airlines is not producing enough pressure, check for kinks or leaks in the airlines.
  - If there are kinks or leaks in one or both of the airlines, reposition or replace airlines.
  - If there are no kinks or leaks in the airlines, the feathering valve may be defective.
  - Replace the feathering valve.
- Possible Cause: The PTO is not engaging.
  - Locate the actuator at the pump
  - Remove hose from air actuator.

Troubleshooting Tips

  - Install an air pressure gauge to the hose.
  - Run truck until air is at maximum pressure (minimum 90 psi)
  - If the hose is not producing enough pressure, check for kinks or leaks in the hose.
  - If there are kinks or leaks in the hose, reposition or replace the hose.
  - If there are no kinks or leaks in the hose, the PTO switch may be defective or broken.
  - Call the ARM Parts and Service Department to receive a replacement PTO switch.
- **Note:** If the body is raising too slowly, there may not be enough air pressure to support it. Check for crimped airlines.

Air tailgate switch is leaking in the cab.

- Possible Cause: Air tailgate cylinder is bound and bypassing air through the cylinder seal, causing it to leak in the cab.
  - Check all pivot points on air tailgate cylinder and make sure they are lubricated properly and moving freely.
  - Remove the pin from the yoke that attaches the air tailgate cylinder to the tailgate linkage.
  - Detach the air tailgate cylinder.
  - Operate the air tailgate switch.
  - If the switch is still leaking in the cab, replace the air tailgate cylinder.
  - If the switch stops leaking in the cab, this proves that the tailgate linkage is bound up.
  - Call the ARM Parts and Service Department.

PTO switch is not engaging PTO.

- Possible Cause: Defective air relay or blown fuse.
  - Locate the actuator at the pump. Remove air hose.
  - Install an air pressure gauge to the hose.
  - Engage the PTO switch.
  - If there is adequate air pressure, the shifter head may be malfunctioning.
    - Call the ARM Parts and Service Department.
  - If there is no air pressure, check for a blown fuse.
  - If a fuse is blown, replace fuse.
  - If there is no air pressure and no blown fuse, there may be a defective air relay in the console.
    - Call the ARM Parts and Service Department.

Body up light is malfunctioning.

- Possible Cause: Body up switch is faulty or damaged.
  - Check for broken or loose wires or a blown fuse.
  - Remove screws to body up switch cover. Unhook both wires and connect them together. The body up light should turn on with the ignition switch on.
  - If the light comes on, replace the body up switch.
  - If light does not come on, call the ARM Parts and Service Department.

One strobe light is not working.

- Possible Cause: Damaged wiring or defective light.
  - Check for damaged wiring to light or defective (burnt out) light.
  - If wiring is damaged, repair or replace wiring.

Troubleshooting Tips

- If light is defective, call the ARM Parts and Service Department for a replacement.

All strobe lights are not working.

- Possible Cause: fuse is blown.
  - Check for blown fuse. If fuse is blown, replace. If fuse is not blown, call the ARM Parts and Service Department.

Tailgate is stiff during operation.

- Possible Cause: Tailgate top hardware pins need greased (maintenance item).
  - Tailgate hardware needs greased weekly or it will seize in the top hardware bushings.

Tailgate will not operate.

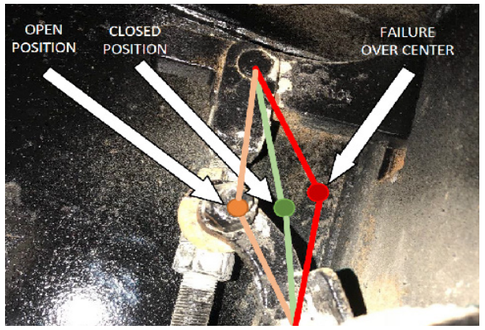
- Possible Cause: blown fuse in console
  - With key on, check for switch illumination. If no illumination is present, check fuse.
  - If fuse is blown, replace fuse.
  - If fuse is not blown, call the ARM Parts and Service Department.
- Possible Cause: Tailgate solenoid is defective
  - Open console and press red manual override on tailgate air solenoid. If tailgate operates, replace air solenoid.

Tailgate is leaking material at the bottom seal.

- Possible Cause: Tailgate linkage is too loose.
  - Loosen the jam nut on the tailgate linkage turnbuckle and tighten the turnbuckle as needed.
  - Secure the turnbuckle back by tightening the jam nut.
  - Be careful not to tighten the turnbuckle too tight, as this will cause the cross rod not to snap over center.
- Possible Cause: Tailgate linkage is broken or bent.
  - Call the ARM Parts and Service Department.

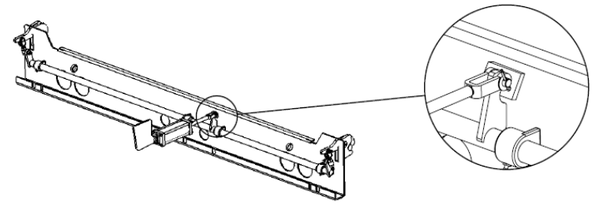
Tailgate latches will not lock over center or lock out.

- Possible Cause: If the lock nuts have allowed the linkage arms to come out of adjustment, the linkage could go too far over center when the tailgate latches are closed and the cylinder will be unable to overcome this position to allow the latches to open.



  - Remove the air pressure from the circuit and adjust the linkage nut “up” to begin bringing the linkage assembly to just over “center”. When engaged, the locking mechanism should be slightly over center with the cylinder bracket contacting the rear bumper.
  - Tailgate pins should be slightly squeezed by the jaws of the system. Lowering the pivot will make the latch system close tighter on the pins, while raising it will do the opposite.
  - Once you have made adjustments to one side of the system, repeat for the other side.
  - If there is no more room for adjustment, spot weld a piece of ¼” flat stock where the cylinder bracket comes in contact with the rear bumper. If this gives you the adjustment needed in the outer linkages, then go ahead and weld into place.

Troubleshooting Tips



  - Note: system **MUST** be passed slightly over center when locked.
- Possible Cause: Linkage is too tight.
  - Loosen the jam nut against the turnbuckle, back the turnbuckle off until tailgate linkage locks over center, and re-tighten jam nut against the turnbuckle.
- Possible Cause: Material may be wedged in bottom hardware, trapped around tailgate linkage or will not allow tailgate to fully close.
  - Remove trapped material. If material stretches the tailgate linkage, it may need adjusted after material is removed.
  - Keep hands and body parts away from moving parts.

PTO or pump is leaking.

- Determine where the assembly is leaking by wiping the area clean and then inspecting where the leak is coming from.
  - Determine what color the leaking fluid is. Clear fluid is hydraulic oil, while red or green fluid is transmission fluid.
  - Call the ARM Parts and Service Department.

PTO or pump is making noise.

- There are a multitude of different factors in a PTO application that may create noise, and noise is normal. These factors include, but are not limited to, torsional activity generated by the drivetrain, gear design, gear mesh tolerances, and manufacturing tolerances of the transmission and PTO. Noise is subjective and can be perceived as audibly objectionable. However, the noise that has been described will not adversely affect the life of the PTO, given that the PTO was installed and operated properly.
- If the noise is excessive or increases from the typical range, disengage the PTO immediately and call the ARM Parts and Service Department.

PTO light is not working.

- Possible Cause: the detent switch is defective.
  - Unplug the single-wire (manual transmission) or double-wire (automatic transmission) connector at the detent switch. Jump wire to ground. If PTO light illuminates, replace the detent switch.
  - If the PTO light does not illuminate, check for a blown fuse. If a fuse is blown, replace the fuse.
  - If the fuse is not blown, call the ARM Parts and Service Department.

Tarp does not operate.

- Possible Cause: Drive shaft bolt is broken.
  - When switch is activated, check to see that motor is running.
  - If motor is running, there may be a broken bolt or damaged gear in the motor.
  - If the bolt is broken, replace the bolt.
  - If bolt is not broken, call ARM
  - If motor does not run, check for a blown fuse.
    - If fuse is blown, replace fuse.
    - If fuse is not blown, call the ARM Parts and Service Department.
- Possible Cause: Switch is defective or broken.
  - Call the ARM Parts and Service Department.

Troubleshooting Tips

Body vibrator does not operate.

- **Possible Cause:** corroded or loose cable at vibrator motor
  - Visually inspect cable. If cable is loose, tighten the stud on the motor. If connection is broken, call the ARM Parts and Service Department.
- **Possible cause:** Tripped breaker
  - Breaker is located inside the battery box. Check the breaker to see if it has tripped. If it is tripped, reset it.
  - If it is not tripped, call the ARM Parts and Service Department.
- **Possible cause:** Fuse is blown.
  - Check fuse in console. If it is blown, replace.
  - If it is not blown, call the ARM Parts and Service Department.

Body heat kit is malfunctioning.

- **Possible Cause:** Fuse is blown.
  - Does temperature control unit illuminate? If not, the fuse is blown. Replace blown fuse in console.
  - If it does illuminate, the fuse is okay.
  - Check temperature set point. The body heat kit must be set to a higher temperature than the body temperature reader already displays.
- **Possible Cause:** Verify that air supply is connected to solenoid. If air supply is present, call ARM.
- **Possible Cause:** There is damage to heat valve linkage
  - Inspect heat valve linkage for damage.
  - If damaged, call the ARM Parts and Service Department.

Lift axles do not rise or drop.

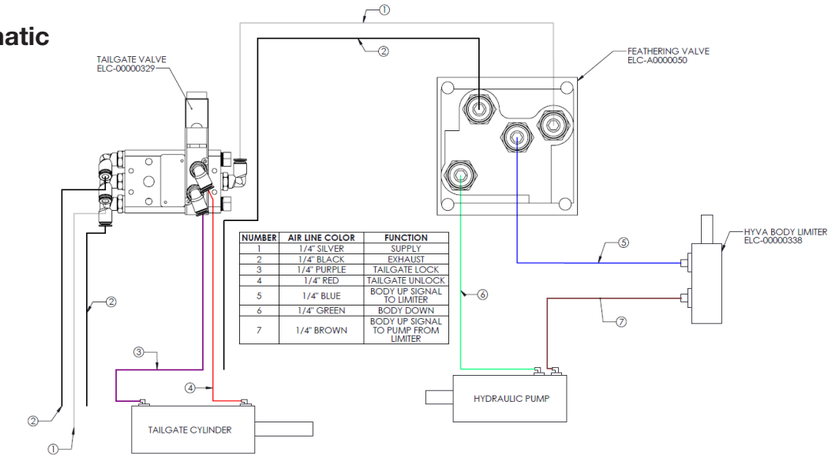
- **Possible Cause:** low air pressure
  - Make sure truck air pressure is fully charged before beginning to operate.
  - If air pressure does not build, check system for leaks.
- **Possible Cause:** axle regulator is leaking
  - After pressure is charged, listen for a leak in the console. If air is leaking, check the hose connections at the regulator. If connections are loose, re-insert hose correctly. If damaged, replace hose.
  - If connections are secure, call the ARM Parts and Service Department.
- **Possible Cause:** fuse is blown
  - Check if axle switches are illuminated. If no illumination is present, check the fuse and replace if necessary.
  - If fuse is not blown, call the ARM Parts and Service Department.

Cannot adjust pressure in lift axles.

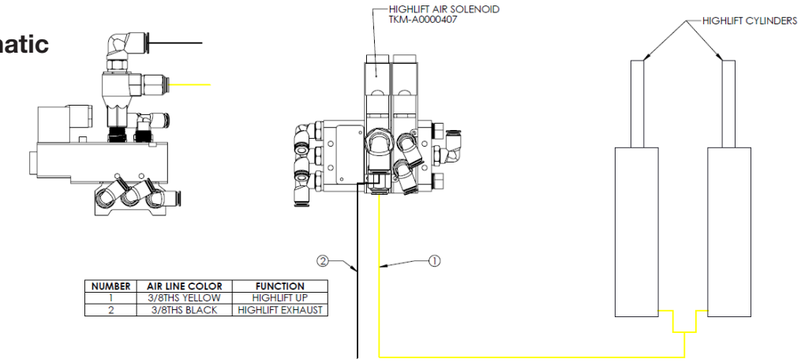
- **Possible Cause:** low air pressure
  - Make sure truck air pressure is fully charged before beginning to operate.
  - If air pressure does not build, check system for leaks.
- **Possible Cause:** regulator is defective.
  - Call the ARM Parts and Service Department.

Supplemental Materials

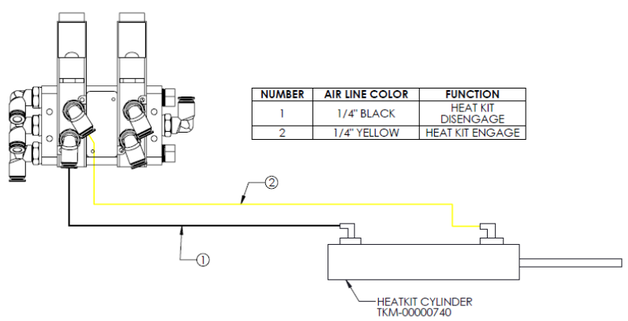
General Plumbing Schematic



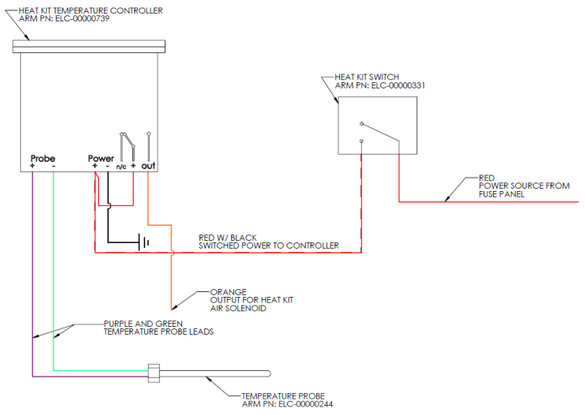
High Lift Plumbing Schematic



Heat Kit Plumbing Schematic

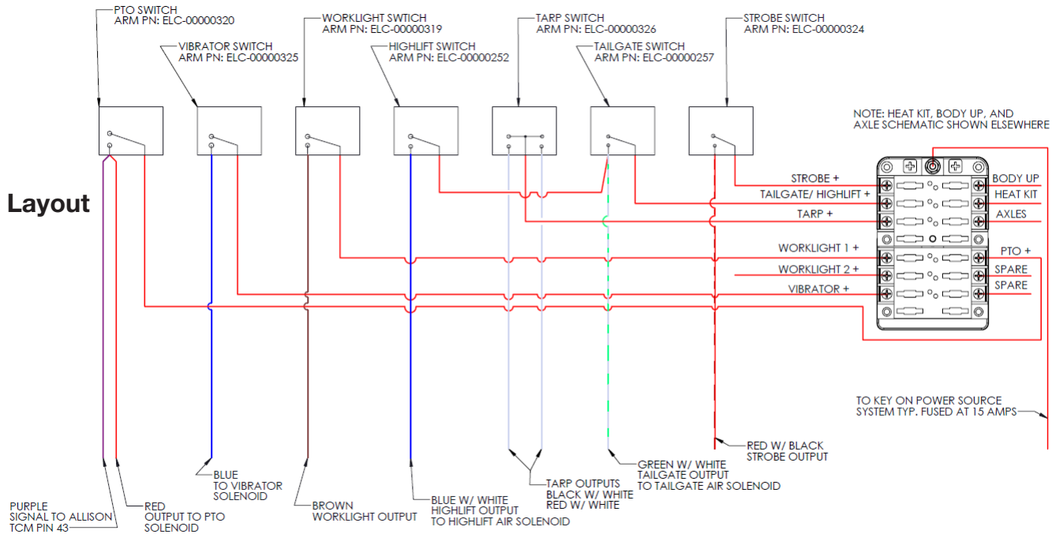


Heat Kit Wiring Schematic

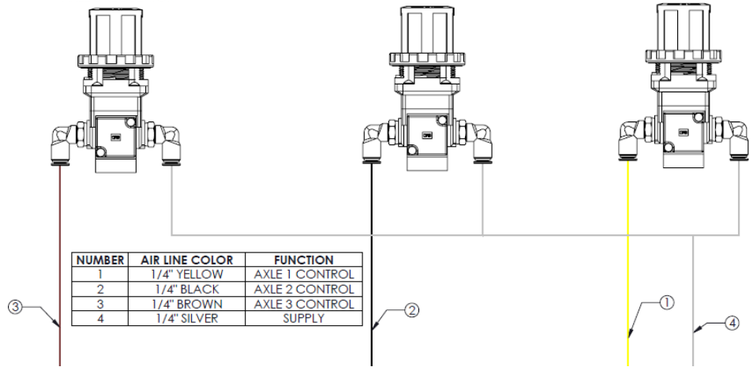


Supplemental Materials

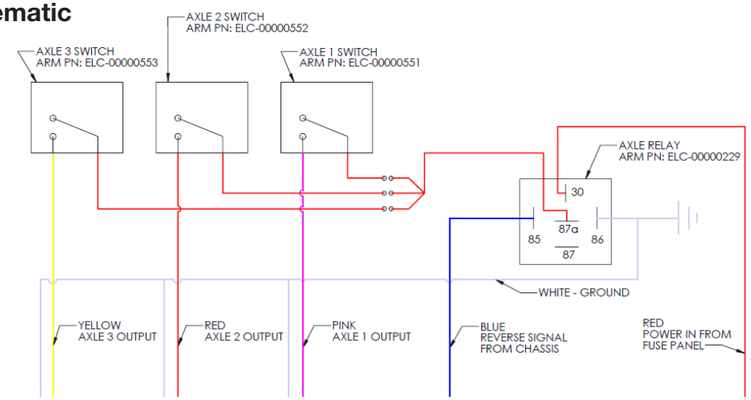
General Electric Layout



Axle Plumbing

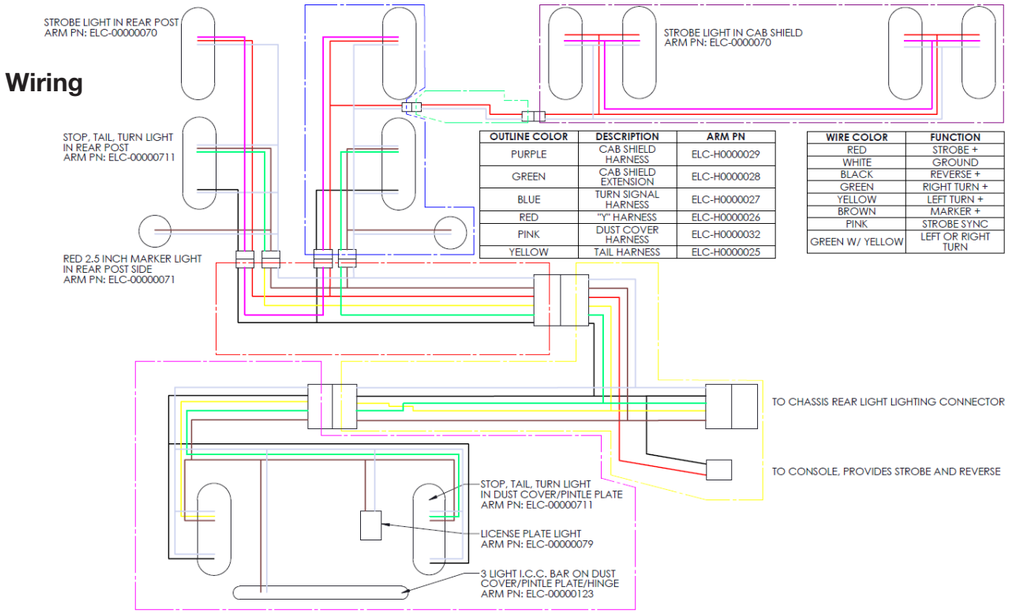


Axle Electrical Schematic

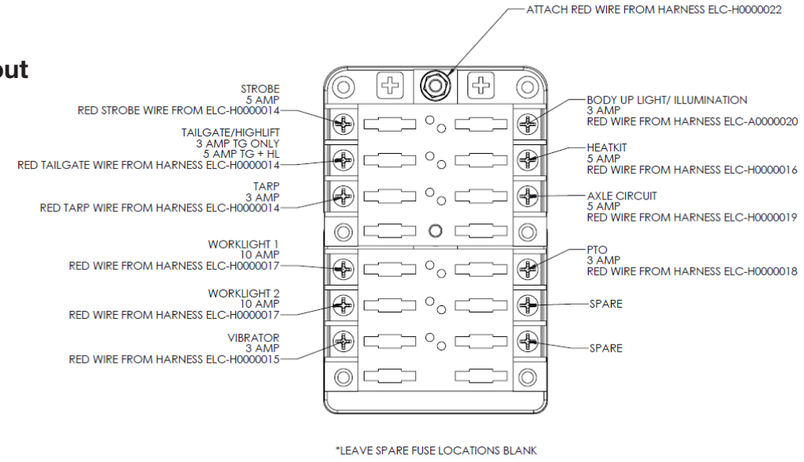


Supplemental Materials

Tail and Body Wiring

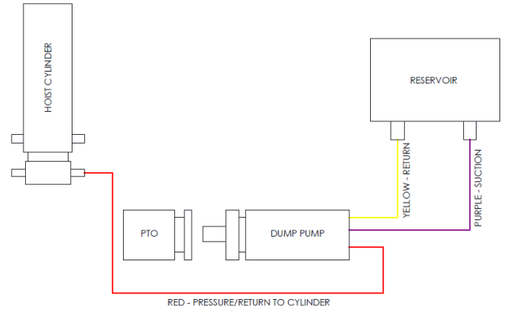


Fuse Panel Layout



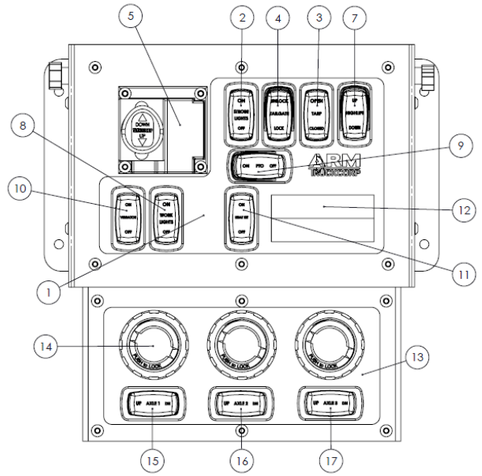
*LEAVE SPARE FUSE LOCATIONS BLANK

Hydraulic Schematic



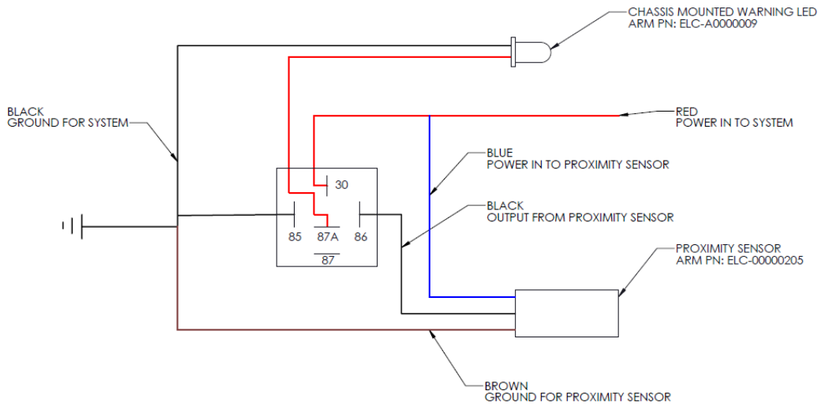
Supplemental Materials

Console Parts List

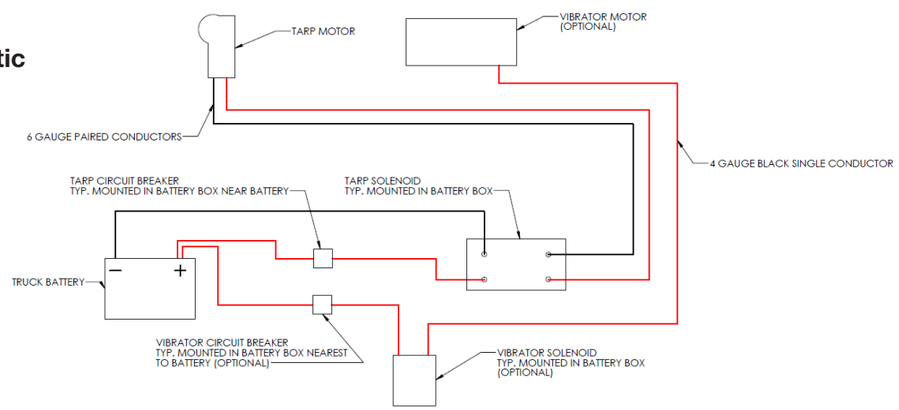


ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	TKM-00001637	ARM CONSOLE 3, SWITCH PLATE PLASTIC	1
2	ELC-00000324	STROBE LIGHT SWITCH	1
3	ELC-00000326	TARP SWITCH	1
4	ELC-00000257	TAILGATE LOCK SWITCH	1
5	ELC-A0000050	FEATHERING VALVE	1
6	ELC-00000536	FUSE PANEL (NOT SHOWN)	1
7	ELC-00000252	HIGH LIFT SWITCH	1
8	ELC-00000319	WORKLIGHT SWITCH	1
9	ELC-00000320	PTO SWITCH	1
10	ELC-00000325	VIBRATOR SWITCH	1
11	ELC-00000331	HEAT KIT SWITCH	1
12	TKM-00000739	HEAT KIT TEMPERATURE CONTROLLER	1
13	TKM-00001646	ARM CONSOLE 3, AXLE PLATE PLASTIC	1
14	MSC-00000675	REGULATOR W/BUILT-IN PRESSURE GAUGE	3
15	ELC-00000551	AXLE ONE SWITCH	1
16	ELC-00000552	AXLE TWO SWITCH	1
17	ELC-00000553	AXLE THREE SWITCH	1
18	ELC-00000329	AIR SOLENOID, TAILGATE, HIGHLIFT, HEAT KIT	1

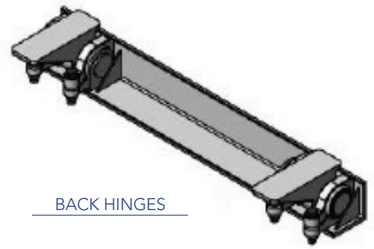
Body Up Light Schematic



Tarp and Vibrator Schematic



Parts



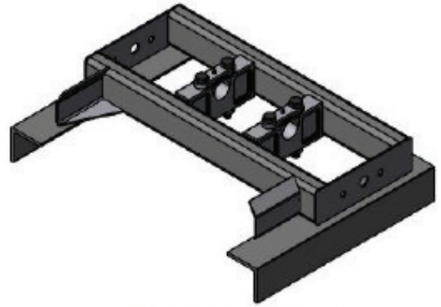
BACK HINGES

SWING GATE UPPER HINGE

TKB-00000313

SWING GATE HINGE WITH PIN

TKB-00000395



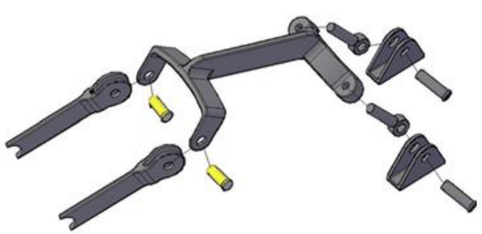
CRADLE, CYLINDER GUIDES & SUPPORT ANGLES

COLLAR

Mounting Replacement Parts						
Body Length (Feet)	Cradle (Ton Capacity)	Cradle Part Number	Hinge (Ton Capacity)	Hinge Part Number	Collar (Ton Capacity)	Collar Part Number
10-12.5	20-24	TKB-00000044	30-40	TKB-00000042	10-30	TKB-00000102
13-15.5	30-35	TKB-00000045	30-40	TKB-00000042	10-30	TKB-00000102
16-19	40	TKB-00000046	30-40	TKB-00000042	40-50	TKB-00000110
19.5-22	50	TKB-00000047	50	TKB-00000043	40-50	TKB-00000110

Parts

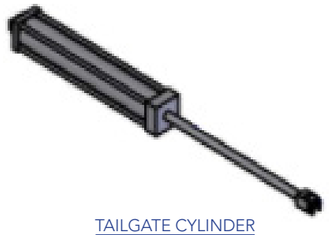
COAL CHUTE HARDWARE REPLACEMENT KIT



TKB-00000394

ADJUSTING I-BOLT FOR COAL CHUTES

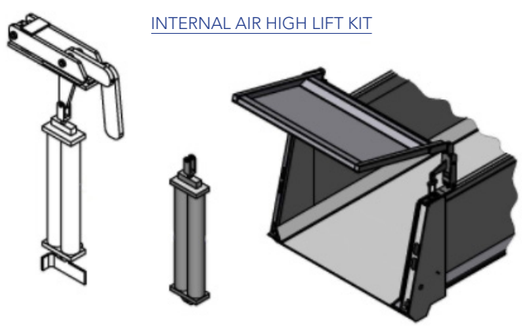
TKB-00000315



TAILGATE CYLINDER

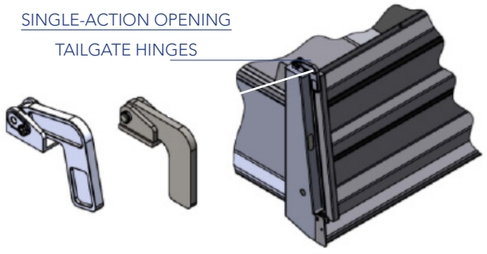
TKB-00000105

INTERNAL AIR HIGH LIFT KIT



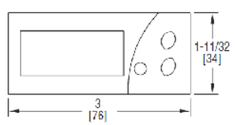
TKB-00000442

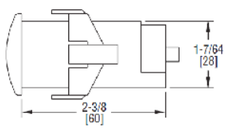
SINGLE-ACTION OPENING TAILGATE HINGES

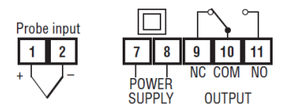


Steel TKB-00000448 Stainless Steel TKB-00000443

Heat Kit







WIRING DIAGRAM

INSTALLATION

Note: Unit must be mounted away from vibration, impacts, water and corrosive gases.

- Cut hole in panel 2.80 x 1.14 inches (71 x 29 mm).
- Apply silicone (or rubber gasket) around the perimeter of the hole to prevent leakage.
- Insert unit into hole of panel.
- Slide removable fitting clips onto unit from the back until secure to panel.
- Remove back cover to wire unit.
- Wiring diagram is displayed on the top of the unit.
- (Note: PROBE CABLE LENGTH MUST NOT EXCEED 238 ft (100 m). DO NOT INSTALL PROBE CABLE NEAR POWER CABLES).
- Replace cover once wiring is complete.

SPECIFICATIONS

Probe Range: 32 to 999°F (0 to 700°C) for Type J thermocouple; 32 to 999°F (0 to 999°C) for Type K or S thermocouples.

Input: Type J, K or S thermocouple.

Output: SPDT relay rated 16A @ 240 VAC resistive.

Horsepower Rating (HP): 1 HP.

Control Type: ON/OFF.

Power Requirements: 115 VAC, 230 VAC, 12 VAC/VDC or 24 VAC/VDC (depending on model).

Accuracy: ±1% FS.

Display: 3-digit, red, 1/2˝ (12.7 mm) digits, plus sign.

Resolution: 1°.

Memory Backup: Nonvolatile memory.

Temperature Limits:

Ambient: 32 to 158°F (0 to 70°C);

Storage Temperature: -4 to 176°F (-20 to 80°C).

Weight: 2.3 oz (65 g).

Front Panel Rating: IP64.

Agency Approvals: CE, cUR, UR.

BUZZER

In the event of alarm or error condition, the internal buzzer is activated. To silence the buzzer, press and hold the SET and Down keys.

LED INDICATIONS

- **OUT** This indicates the load is connected. The system waits for the programmed minimum stop time of the load.

DISPLAY MESSAGES

In normal operation, the probe temperature will be shown on the display. In case of alarm or error, the following messages will be shown:

- **Er** = Memory Error
- **--** = Short-Circuit Probe Error (output determined by c2).
- **oo** = Open Probe Error (output determined by c2).

MAINTENANCE/REPAIR

After final installation of the TCS Series Digital Thermocouple Switch, no routine maintenance is required. A periodic check of system calibration is recommended. The devices are not field repairable and should be returned to the factory if recalibration or other service is required. Call the ARM Parts and Service Department at (844) 294-5862 extension 112.

Heat Kit

PARAMETERS

	Description	Units	Range
SP	Set Point		r1 to r2
r0	Differential or Hysteresis		1 to 99°
r1	Lower Value Set Point		0 to 999°
r2	Higher Value Set Point		0 to 999°
d0	Heating or Cooling Control	Option	Ht/Co
c0	Min. Stop Time for Load		0 to 59
c2	Load Status During Probe Error	0/1	Off/On
P1	Ambient Probe Adjustment		-10 to 10°
P5	Ambient Probe Type	Option	tcJ, tch, tcS
P6	Probe Response		0 to 3
H5	Parameter Access Code		0 to 255 (Set at 0 from factory)
A0	Alarm 1 Hysteresis		1 to 999°
A1	Alarm 1 Threshold		0 to 999°
A2	Alarm 1 Exclusion Time		0 to 999
A3	Alarm 1 Configuration	Option	0, 1, or 2
A4	Alarm 2 Hysteresis		1 to 999°
A5	Alarm 2 Threshold		0 to 999°
A6	Alarm 2 Exclusion Time		0 to 999
A7	Alarm 2 Configuration	Option	0, 1, or 2

PARAMETER PROGRAMMING

Set Point (SP) is the only parameter the user can access without code protection.

- Press SET. SP text will appear on the display.
- Press SET again. The real value is shown on the display.
- The value can be modified with the UP and DOWN arrows.
- Press SET to enter any new values.
- Press SET and DOWN at the same time to quit programming or wait 1 minute and the display will automatically exit programming mode.

*The keyboard code can be reset to ZERO by turning off the controller and turning it on again while keeping the SET key depressed.

Access to all code protected parameters.

• Press SET for 8 seconds. The access code value 00 is shown on the display. (Unit comes with code set at 00 from factory).

• With the UP and DOWN arrows, code can be set to user needs.

• Press SET to enter the code. If code is correct, the first parameter label is shown on the display (SP).

• Move to the desired parameter with the UP and DOWN keys.

• Press SET to view the value on the display.

• The value can be modified with the UP and DOWN arrows.

• Press SET to enter the value and exit to text parameter.

• Repeat until all necessary parameters are modified.

• Press SET and DOWN at the same time to quit programming or wait 1 minute and the display will automatically exit programming mode.

PARAMETER DESCRIPTIONS

SP= Set Point- Desired Regulation Temperature

r0= Differential or Hysteresis

r1= Lower Set Point Limit

r2= Higher Set Point Limit

d0= Heating or Cooling Control-Regulation cycles only performed, neither defrosting nor continuous cycles exist. *Heating: To choose Heating Control: Set d0=Ht (The output is active when TS1 (temperature of ambient probe) is less than or equal to Set Point.) TS1<=SP. It then disconnects when TS1>=SP-r0. Cooling: To choose Cooling Control: Set d0=Co (The output is activated when TS1>=SP+r0.) The display will switch off when TS1<=SP.*

c0= Minimum Time Between Start to Stop.

c2= Load Status During Probe Error. In the event of an open or short circuited probe, the unit will connect or disconnect the load as defined by this parameter.

P1= Ambient Probe Calibration. Offset degrees to adjust ambient probe. If the probe is not placed in the exact point that is to be measured, use a standard thermometer and adjust the difference with parameter.

P5= Ambient Probe Type. (tcJ = Type J, tch = Type K, tcS = Type S.)

P6= Probe Response Rate. (0 = 8 sec, 1 = 4 sec, 2 = 2 sec, 3 = 1 sec.)

H5= Access to Probe Parameters. (The code is set to 0 from the factory.)

A0= Alarm 1 Hysteresis. The differential associated with A1 parameter.

A1= Alarm 1 Threshold. Number of degrees to the working set point that initiates an alarm condition.

A2= Alarm 1 Exclusion Time. The amount of time the alarm is disabled from instrument activation.

A3= Alarm 1 Configuration. Determines the alarm type: A3=0 alarm is disabled; A3=1 alarm is activated if the ambient temperature >=SP+A1 and deactivated if <+SP+A1-A0; A3=2 alarm is activated if the ambient temperature <=SP+A1 and deactivated if >+SP+A1-A0.

A4= Alarm 2 Hysteresis. The differential associated with A5 parameter.

A5= Alarm 2 Threshold. Number of degrees to the working set point that initiates an alarm condition.

A6= Alarm 2 Exclusion Time. The amount of time the alarm is disabled from instrument activation.

A7= Alarm 2 Configuration. Determines the alarm type: A7=0 alarm is disabled; A7=1 alarm is activated if the ambient temperature >=SP+A5 and deactivated if <+SP+A5-A4; A7=2 alarm is activated if the ambient temperature <=SP+A5 and deactivated if >+SP+A5-A4.

Limited Warranty

A. GENERAL PROVISIONS

The warranties described below are provided by ARM, a TruckCorp LLC Company ("ARM"), to the original purchaser of new equipment purchased directly from ARM or an authorized reseller of new ARM products. The limited warranties are non-transferable once activated and the original proof of purchase is required at time of registration. Under these warranties, ARM will repair or replace, at its option, any covered part that is found to be defective in material or workmanship during the applicable Warranty Term.
All repairs, replacements or credits are at ARM's discretion. ARM reserves the right to deny any claim which does not meet any or all the requirements herein.
Warranty service must be performed by ARM. Alternatively, at ARM's discretion, an authorized dealer or service center may be used to perform warranty work provided authorization is given by ARM before work begins. ARM will not reimburse for work performed without prior authorization. Invoices must indicate the Return Authorization / PO Number or reference number issued by ARM to be recognized. Invoices received without this identifying information will not be paid. Warranty service will be performed by ARM without charge to the purchaser for parts and labor. The purchaser will be responsible, for any service call and/or transportation of product to and from ARM's facility, any premium charged for overtime labor requested by the purchaser, and any service and/or maintenance not directly related to any defect covered under the warranties below.
ARM expressly disclaims and shall not be liable under any cause of action for a claim under Ohio Revised Code §2307.78 for "liability of supplier" or "supplier liability," as those terms are used in the statute or any similar state law, as applicable. ARM shall not be liable for any damage to person or property, whether directly or indirectly caused by the product and shall not be liable for any incidental and consequential damages, loss of profit, loss of income or other economic or non-economic loss claimed to be associated with or result from a defective product.

B. WHAT IS WARRANTED

All parts and components that are manufactured by ARM are warranted to be free from defects in material and workmanship under normal use or service, when properly maintained and operated for the duration of the Warranty Term for each specified item.

C. (I) ITEMS COVERED SEPARATELY

This warranty does not apply to components that are part of the equipment but not manufactured by ARM, post-production changes or dealer modifications. These items include but are not limited to any vehicle chassis, engines, power take offs, pumps, tarp, vibrator, bodies, or standalone components, pintle plate, hitch, valves, axles, jack stands or controls. These items are subject to their own manufacturer's warranties, which may be different from the warranties provided herein.

(II) WHAT IS NOT WARRANTED

Pursuant to the terms of these warranties, ARM IS NOT RESPONSIBLE FOR THE FOLLOWING: (1) Used equipment. (2) Any equipment that has been added, altered, or modified by a different company than ARM. (3) Any equipment that uses non-factory original replacement parts. (4) Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions/recommendations, misuse, lack of proper protection during storage, vandalism, the elements, collision or accident, rust, storm damage, exposure to extreme temperatures, hoist failure because of being in the raised position for extended periods of time, and other situations outside of ARM's control. (6) Normal maintenance, including parts and service. (7) Damage to any part of a plow unit, hitch, plowing vehicle or loss of use incurred by the striking of movable or immovable objects while using the equipment, plowing, or removing snow. (8) Environmental damage or damage resulting from time spent on dealer lots. (9) Paint warranty is limited to adhesion to metal surfaces only and does not include either the inside or the understructure of truck bodies. (10) Fit, form, function, or failure of the chassis. Dealerships and distributors are responsible for the condition of the chassis prior to delivery to the customer. Damage occurring to the chassis before arriving at or leaving the ARM premises shall not be warranted. Cosmetic damage resulting from transportation will be covered only if the unit is hauled by ARM or a third party authorized by ARM and only if the damage is reported within 24 hours of delivery. (11) Any secondary charges, travel, loss of use, down time or other incidental or consequential expenses. (12) Any charges for field service, labor, mileage, or other expenses incurred by the purchaser, user or charged by a third-party service organization or authorized dealer, unless previously approved by ARM in writing with all claims accompanied by a valid Return Authorization Number.

D. SECURING WARRANTY SERVICE

To secure warranty service, the purchaser must: (1) Complete the warranty registration form on TruckCorpLLC.com within 14 calendar days from the date of sale and upload proof of purchase. (2) Report the claimed product defect to ARM in writing within 7 days of discovered failure and

Limited Warranty

request repair within the applicable Warranty Term. (3) Once approval is received from ARM in writing, return the equipment within 30 days of claim to ARM's facility located at 3026 Saratoga Avenue Canton, Ohio 44706, transportation, or freight prepaid. When freight costs might be excessive, photos may be sent in lieu of actual component if damage/defect can be clearly identified, at the discretion of the ARM warranty administrator.

E. NO IMPLIED WARRANTY, REPRESENTATION OR CONDITION
To the extent permitted by law, neither ARM, nor any company affiliated with ARM makes any warranties, representations, conditions or promises, express or implied, as to the quality, performance, or freedom from defect of the Equipment covered by these warranties other than those set forth herein. NO STATUTORY OR IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR PURPOSE ARE MADE BY ARM. ALL IMPLIED WARRANTIES ARE SPECIFICALLY DISCLAIMED AND EXCLUDED HEREIN. TO THE EXTENT LEGALLY REQUIRED, ANY IMPLIED WARRANTIES OR CONDITIONS SHALL BE LIMITED IN DURATION TO THE APPLICABLE PERIOD OF WARRANTY SET FORTH IN TABLE 1. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON THE EQUIPMENT ARE THOSE SET FORTH HEREIN. IN NO EVENT WILL ARM, OR ANY COMPANY AFFILIATED WITH ARM, BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES.

F. NO DEALER WARRANTY
The selling dealer has no authority to make any warranty, representation, condition or promise on behalf of ARM, or to modify the terms of limitations of this warranty in any way and makes no warranty on any other item unless it delivers to the purchaser a separate written certificate specifically warranting the item.

G. JURISDICTION AND VENUE
The limited warranties provided hereunder shall be construed and enforced under Ohio law. Any legal action regarding a dispute under this warranty or an action to enforce the terms hereof shall be brought in the State Court located in Stark County, Ohio or in the Federal District Court for the Northern District of Ohio.

H. ENFORCEABILITY
Any provision of this Limited Warranty which is determined to be invalid or unenforceable under Ohio law shall not affect the validity or enforceability of any other provision contained herein, which provisions shall be enforced to the full extent permitted by the law.

TABLE 1: Warranty Terms

Upfits and Major Equipment
- Dump Body Upfit Packages
- Hook Lift Units
- Individual Snowplows
- Vacuum Leaf and Debris Collectors
- Snow and Ice Upfit Packages

1 year for structural defects and 90 days for all other defects from the date of the sale to the end user/customer within a maximum time of 6 months from the sale of the product to the distributor/dealer.

Spreader Systems
- Under Tailgate Salt Spreaders
- V Box Spreaders
- Brine Systems

90 days for all defects from the date of the sale to the end user/customer within a maximum time of 6 months from the sale to the distributor/dealer.

Supplemental Items
- Loose Bolts
- Loose or Ungreased Fittings
- Hydraulic Leaks
- Tailgate Pins
- Tailgate Hinge Bushings
- Hydraulic Cylinder Pins
- Torque of Bolts
- Electrical Connections
- Loose Lift Axle Mounting Hardware

90 days from the date of sale to the end user/customer, within a maximum time of 6 months from the sale to the distributor/dealer. Issues of this nature reported after 90 days shall be considered the result of normal wear subject to regular maintenance by the customer as detailed in the owner's manual for the truck body and/or equipment/accessories and are not covered by ARM warranty.

Failure to follow the maintenance regimen outlined in the owner's manual for the truck body and /or equipment will void the warranty.

Service & Warranty Guidelines

Warranty Registration

To register for warranty coverage, the purchaser MUST fill out the Warranty Registration Form within 14 calendar days of purchase. Scan the QR code to the right or visit:
https://www.truckcorpllc.com/parts-service/warranty-registration/

Warranty Registration

Warranty Work

All warranty work MUST be scheduled through ARM in writing. If ARM chooses to send the truck to a dealer or service center for repair work, a written estimate must be sent to ARM for approval. The estimate MUST be approved before work is started or ARM is not responsible to pay for the warranty work.

Non-Warranty Shop Service

The ARM service rate is $135.00 per hour. A flat rate of $25.00 will be charged for use of shop supplies on each job.

A $250.00 diagnostic charge will apply for any estimates completed where ARM is not contracted to perform the service work.

An estimate will be given for work to be performed. This estimate is subject to change based on problems that may arise during the repair. Customer authorization for additional repair items is required.

CONTACT CUSTOMER SERVICE:

Phone: (844) 294-5862 extension 112

E-mail: info@truckcorpllc.com

Part	Model #	Serial #
Dump Body		
PTO		
Pump		
Hydraulic Cylinder		

VIN_____

NEED SERVICE?

CALL OR VISIT:

(844) 294-5862 EXT. 112

TRUCKCORPLLC.COM

RESOURCES

WARRANTY REGISTRATION