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Section 1 – Introduction and Warranty

A word from the MTM Trailer Manufacturing team

We thank you for choosing an MTM Trailer (Midwest Trailer Manufacturing LLC). Our Team has worked hard to engineer and deliver a trailer that, by design, will prove to be the most dependable heavy- duty end dump trailer on the market. Whether your needs are commercial, industrial, or governmental, be assured that we have the trailer designed to accomplish the task.

The rugged design of the MTM Trailer will provide you with both reliable structural support, as well as dependable service. Our overland testing ensures that each unit meets all design requirements, no matter the environment it is used in. We hope that you will use your MTM Trailer in a safe manner, allowing you to obtain the same results.

Building the MTM Trailer family of trailers has been exciting for us because we know their capabilities and stand firmly behind their performance. As a commitment to our users, your comments have been reviewed, and many have been incorporated into product design.

Thank you for choosing MTM.

Warranty

MTM Trailer Manufacturing's full Warranty is as follows:

MTM Trailer Five-year limited warranty

Midwest Trailer Manufacturing LLC (from this point on referred to as MTM) warrants each new trailer manufactured by us to be free from defects in materials and workmanship, provided the trailer warranted hereunder is operated by the purchaser in accordance with general approved practices, with loads that are not abrasive or corrosive in nature or exceeding the manufacturer's rated capacity.

Platform frame structure, body, subframe or frame parts of the equipment found to be defective within the warranty periods shall be repaired or replaced (at MTM's sole discretion as set forth below) at MTM's factory or warranty service centers. The warranty period is five years from the date of delivery of the purchased equipment and MTM shall bear only the portion of the cost of repairing or replacing defective parts of the equipment. MTM will not be liable for labor, freight, or down time. Coverage is prorated per basis: 1 year— 100%; 2 years— 90%; 3 years— 60%; 4 years— 40%; 5 years— 20%.

Time: The purchaser agrees to return the defective equipment or parts to MTM's factory location, freight prepaid, within ten days after the defective condition is discovered. The purchaser must notify MTM as soon as any defect becomes apparent. MTM must be called within 30 days after delivery of any alignment problem.

Component warranty schedule: Any parts not manufactured by MTM will carry their own warranties and are carried out according to their own individual component warranties. Example: axles, rims, hubs, suspensions, landing gear, wheels, hydraulic cylinders, brakes, valves, airbags, shock absorbers, tarps, etc. have their own warranties. This warranty does not enlarge upon, expand, or alter in any way, the warranties provided by the manufacturers and suppliers of component parts and accessories.

Paint: 12 month limited warranty on workmanship and material. Surface corrosion caused from stone chips, scratches or reverse impact are not included in the warranty.

This warranty also excludes the following: normal wear, tear and deterioration of the equipment, maintenance items including, but not limited to, light bulbs, brake lining, drums, springs, oil seals, paint and bearings, used equipment sold "as is", equipment that has been repaired, replaced or altered by someone other than MTM.

This sole liability of MTM and exclusive remedy of the purchaser arising out of the manufacture, sale or use of the equipment provided hereunder, on warranties or otherwise shall be limited to the cost of repair or replacement of defective parts herein specified. Further, MTM's maximum liability hereunder arising from any cause whatsoever, including but not limited to breach of contract price of the trailer furnished or parts of repairs made by others. In no event shall MTM be liable for removing defective parts or for reinstalling said parts when repaired or replaced by anyone other than MTM.

MTM and purchaser agree that in consideration of the above expressed warranty, all other warranties other than title, either expressed or implied, whether arising under law or equity including warranties of merchantability and fitness for a particular purpose are excluded from the contract, further the foregoing warranty is made solely to the first purchaser from MTM.

Consequential damages: Notwithstanding any other provision of this agreement, in no event shall MTM be liable whether arising under contract, tort (including negligence) or otherwise for loss of use of capital or revenue, cost of money, claim of customers, non-operation or increased expense or operation cost of purchase or replacement trailer equipment, loss of anticipated profits, damage to loads or contents of the trailer, transportation expenses due to repairs, or for any special, incidental or consequential loss or damage of any nature arising at any time or from any cause whatsoever.

Model _____VIN __Customer Signature _____ Date _____

Introduction

Congratulations on the Purchase of an MTM Heavy Duty End Dump Trailer!

Thank you for selecting an MTM Trailer. This manual has been developed to assist with understanding the proper and safe use, operation, and care of the trailer.

Operator Responsibilities
Before operating the trailer, it is essential to:

1. **Prioritize Safety:** Follow the safety guidelines outlined in this manual to ensure the protection of individuals, property, and the trailer.
2. **Understand the Equipment:** Gain a complete understanding of the controls, functions, and safety mechanisms.
3. **Read this Manual Thoroughly:** Familiarize with the equipment, controls, safety features, and maintenance recommendations.

Contents of This Manual
The manual contains detailed information on the following topics:

- **Frame Style:** Details about the structural design and its specific advantages.
- **Trailer Body and Operator Controls:** Information on features, functionality, and operational guidelines.
- **Maintenance and Service Recommendations:** A maintenance schedule and detailed instructions to maintain optimal performance.

Third-Party Components
For trailers equipped with components provided by third-party suppliers, their respective manuals and warranty documents include additional essential information. Always:

- **Review the Documentation:** These materials contain specific maintenance, service, and care instructions.
- **Follow Manufacturer Recommendations:** Adhere to the guidelines provided to ensure proper functioning and durability of these components.

Proper maintenance and operation of the MTM Trailer will ensure safe, efficient, and long-lasting performance.

Signal Words and Safety Alert Banners

The words “DANGER,” “WARNING,” and “CAUTION” are used throughout this manual, and on labels on the trailer to indicate hazards or unsafe practices. All three statements indicate that safety is involved. Observe the precautions indicated whenever you see the Safety Alert symbol no matter which signal word appears next to the Safety Alert symbol.

DANGER INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury. This type of statement is used to draw attention to a procedure that needs to be followed to prevent trailer damage.

Safety Alert Symbol

Wherever it appears, either in this manual or on safety signs on the trailer, you should be alert to the potential for personal injury or accidents. Always observe safety precautions and follow recommended procedures.

NOTICE

The illustrations and components provided in this manual may be slightly different than which are installed on your model. Contact MTM for model specific information concerning optional equipment installed by MTM.

Owner Responsibilities

The entire range of MTM Trailers is categorized as heavy-duty, over-the-road construction trailers. As such, registration is required for each trailer. Consult state-specific regulations to ensure compliance

Important Numbers and Warning Labels

The identification numbers of the trailer and component systems are important and should be kept in a safe place. Record the serial numbers, model, and registration numbers immediately after purchase for future reference. Report these numbers to the authorities in case of theft, fire damage, etc.

Warning Labels

There are warning labels or decals located at various locations on the trailer. Take notice of these warning labels and follow the recommended precautions and procedures noted on the labels.

Warranty Registration

Upon purchasing your MTM Trailer, all identifying numbers will be on file with MTM Trailers.

Vehicle Identification Number

The VIN (Vehicle Identification Number) tag is located above the king pin (Figure 1-1). The VIN tag must be clearly visible at all times and must not be altered, removed, or tampered with in any way. The VIN Is necessary for warranty questions or future transactions.

1001

Figure 1-1 – VIN Tag Location

Terminology and Parts

All view references are made from the operator's position, with the operator seated in the tractor cab, facing forward.

*Trailer photos may show optional items.

1053

Figure 3-1 – Dump Trailer Side View

Item No.	Description
1	Tarp – Stored Position
2	Dump Body
3	Tailgate Lift Cylinder
4	Tailgate
5	Side Marker Light
6	ABS Warning Light
7	Tailgate Lock Latch
8	Rear Mudflap
9	Tandem Axle and Tire Set
10	Load Support Legs – Transport Position
11	Trailer Framework – Quarter Frame shown
12	Kingpin and 5th Wheel Plate
13	Tarp Drive Chain
14	Front Access Ladder
15	Manual Tarp Extension Crank Handle
16	Rear Access Ladder

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Figure 3-2 – Dump Trailer Front View

Item No.	Description
1	Tarp – Stored Position
2	Tarp Wind Cover
3	Tarp Drive Chain
4	Front Access Ladder
5	Front Mudflap
6	Kingpin
7	Load Support Legs
8	Front Marker Light
9	Fifth Wheel Plate and Umbilical Cable Connections
10	Main Lift Cylinder
11	Lift Cylinder Hydraulic Hose

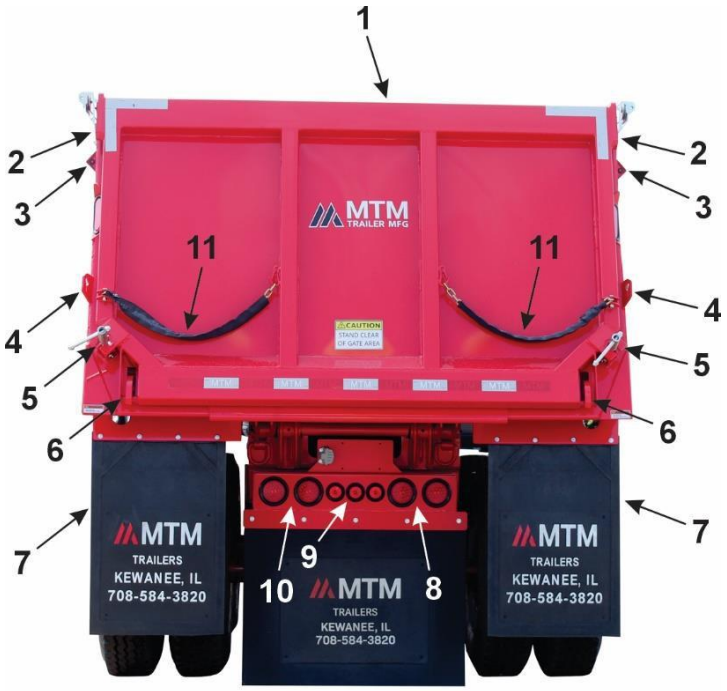

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Figure 3-3 – Dump Trailer Rear View

Item No.	Description
1	Tailgate
2	Tailgate Hinge
3	Rear Marker Light
4	Spreader Chain Lock Bracket
5	Manual Tailgate Lock
6	Remote Tailgate Latch
7	Rear Mudflap
8	Right Hand Turn Signal and Brake Light
9	Rear Marker Lights
10	Left Hand Turn Signal and Brake Lights
11	Spreader Chain

General Information

Before operating the MTM Trailer, it is mandatory that the operator fully read and understand the operator's manual to become familiar with all controls, their functions, and the safety features of the MTM Trailer.

Operator and passenger training, along with proper care of your trailer, is essential to ensure that your use of this trailer will be safe and productive. In this manual we will suggest safe operating techniques, describe all components, controls and their functions, and basic maintenance procedures for the MTM Trailer.

Failure to comply with all safety precautions related to misuse, overloading, and wearing of always required personal safety equipment, can result in serious bodily injury and even death.

A pre-operation trailer inspection should be the first daily safety procedure. This procedure will Ensure the trailer, and all approved options and attachments, are in safe operational and ready condition. For assistance in conducting this pre-operation inspection, refer to the Pre-start Trailer Inspection information in this manual, as well as using the MTM Trailer inspection sheet that will assist you in making sure the MTM Trailer is safely service ready.

It is extremely important that first time operators find a smooth, level, and spacious area with no obstacles, (buildings, ditches, trees, overhead obstructions, etc.) to allow the operator to become completely familiar with the operation of all MTM Trailer controls and functions including starting, stopping, braking, turning and elevating the trailer body before putting the trailer into a working environment.

Basic Safety Recommendations

- Ensure each operator reads and understands the safety instructions in the Safety Section of this manual before operating the trailer.
- Ensure each operator reads and understands the Operating Instructions Section of this manual before using the trailer.
- Secure all gear properly before moving the trailer.
- Set hydraulic controls to the neutral (disengaged) position before starting the tractor engine.
- Keep everyone at a safe distance from the trailer during startup and operation, especially near the rear.
- Only individuals aged 21 or older, with a valid Driver's License and CDL (including required state endorsements), are permitted to operate the trailer.

Section 2 - Safety

Safety Introduction

Following the safety guidelines set forth in this manual will assist you in safely operating, maintaining, and servicing your MTM Trailers. Before operating the MTM Trailers check the regulations, restrictions, and safeguards for the area. Contact your local authorities for any information pertaining to the area where you will be operating.

Safety Precautions

MTM Trailers does not have direct control over the application or operation of its trailers. Adhering to proper safety practices is the sole responsibility of the owner and operator. The safety of this trailer depends entirely on the actions of those operating it. The safety guidelines provided in this Operator's Manual must be followed at all times.

NOTICE

The illustrations and components provided in this manual may be different than what is installed on your model. Contact MTM for unit specific information concerning optional equipment installed at the factory.

⚠ DANGER

CRUSH HAZARD: NEVER ENTER THE DUMP TRAILER BODY IF THE TAIL GATE IS RAISED. ANY WORK NEEDED UNDER AN ELEVATED TAILGATE SHALL BE PERFORMED BY A TRAINED MAINTENANCE PROFESSIONAL USING CERTIFIED LIFTING EQUIPMENT WITH PROPER FAILSAFE MECHANISMS.

- Operators must be at least 21 years of age and possess a valid Driver's License and CDL with the necessary endorsements for the state of operation.
- Do not operate the trailer under the influence of alcohol, drugs, or medications that impair awareness or judgment.
- Ensure children always remain clear of the worksite.
- Never permit a child to operate the trailer.
- Be vigilant and aware of surroundings to prevent accidents involving children. Cease operations immediately if children enter the job site and resume only when the area is secure.
- Keep all non-operating personnel at a safe distance from the trailer during operation.
- Secure and properly stow all gear before operating the trailer.
- Wearing protective gear, including hard hats, safety glasses, safety shoes, hearing protection, breathing protection, and long-sleeve clothing, is strongly recommended. Avoid clothing or footwear that exposes skin or increases vulnerability to debris.
- Wear close-fitting clothing and avoid loose garments, long hair, rings, or jewelry that could catch on trailer parts, controls, or moving components.
- Keep hands and fingers away from all moving parts.
- Avoid contact with hot trailer components, such as hydraulic cylinders, hoses, oil, and wheel brake drums.
- Use only genuine MTM Trailers parts or approved replacements. Imitation parts may cause equipment damage or injury and could void the trailer's warranty.

⚠WARNING

If the following operational requirements are not properly followed, serious injury can occur.

Pre-Operation Preparations

1. Perform the Pre-Start Trailer Inspection and Daily Trailer Maintenance to ensure the trailer is in safe operating condition. Use the Pre-Start Inspection checklist as a guide.
2. Never operate a malfunctioning trailer. Address any issues before use.
3. If the amber ABS light on the driver's side rear trailer frame is illuminated, service the brake system immediately.

1003

Figure 2-1 – Trailer ABS Light

4. Plan ahead and familiarize yourself with the job site and its safety rules before starting work.
5. Identify the location of overhead power lines, obstructions, and other potential hazards.
6. Inspect the path and worksite for hazards, such as unstable ground or obstructions, prior to unloading. Correct these hazards before proceeding or avoid the site if hazards cannot be mitigated.

Site and Equipment

7. Keep the work area clear of non-operating personnel. Halt operations if unauthorized individuals enter the site.
8. Maintain a safe distance from trees, brushes, or obstacles that may obscure vision or hide hazards.
9. Exercise extreme caution near ditches, embankments, or soft ground. Follow the shear line guidelines to prevent surface collapse under the trailer.

    The shear line is the distance from the drop off into the roadway, equal to the depth of the drop off (2, Figure 2-2) – i.e., a 6 foot drop off requires driving no closer than 6 feet from the edge of the roadway. Increased ground pressure caused by the loaded trailer can cause the roadway to shear, or collapse under the trailer.

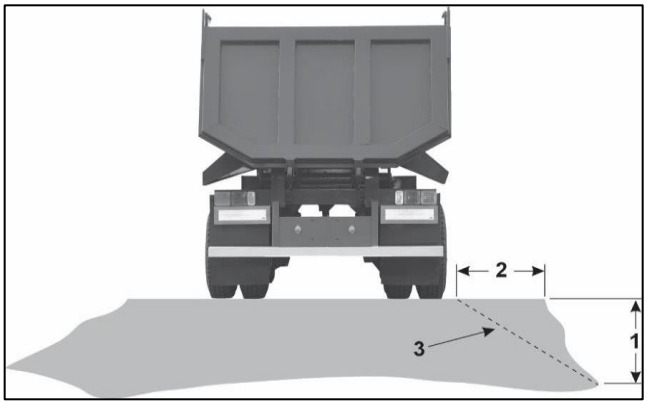

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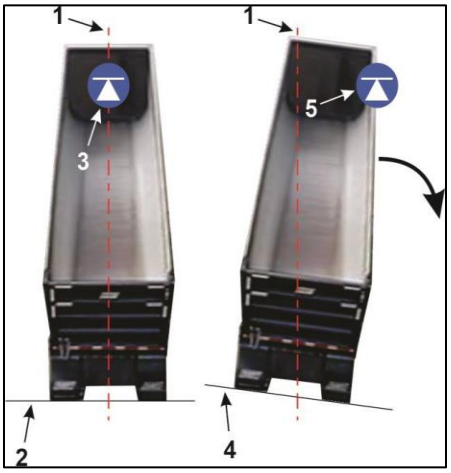
Figure 2-2 – Road Edge Shear

10. Ensure the dump area is solid, level, and free from overhead obstructions or wires.

Operational Guidelines

11. Do not exceed the trailer's rated capacity as specified in the Operator's Manual.
12. Load the trailer evenly to ensure stability during operation.
13. During dumping operations, ensure the center of gravity remains over the centerline of the trailer to avoid rollovers.

    When raising the trailer bed for dumping, Ensure that the center of gravity (3, Figure 2-3) stays directly over the centerline of the trailer (1, Figure 2-3). If the dump area or the position of the trailer is not level (4, Figure 2-3), the higher the trailer bed is raised, the farther the center of gravity (5, Figure 2-3) moves away from the centerline of the trailer (1, Figure 2-3). As the center of gravity moves towards the outside of the trailer, the greater the chance of the trailer rolling over.



1005

Figure 2-3 – Trailer Roll Over

14. Operate controls smoothly and avoid abrupt movements that could destabilize the trailer.
15. Never drive the truck forward with the trailer bed in a raised position.
16. Avoid raising the trailer in high winds to prevent instability.

General Safety Practices

17. Always remain seated in the tractor cab with the seatbelt fastened during trailer operation.
18. Stop completely before changing travel direction.
19. Reduce speed when reversing, turning, or approaching corners to maintain control.
20. Always travel in the direction of visibility.
21. Inspect the trailer thoroughly if involved in an accident or damaged during operation. Address issues before resuming use.

Hazard Avoidance

22. Never “jerk” a raised trailer bed to loosen a stuck load.
23. Do not climb onto or into a raised trailer bed.
24. Never work under a raised trailer bed or tailgate unless secured with proper bracing, such as wooden blocks.
25. Keep all hands, gloves, shoes, and controls clean to prevent slipping.

Emergency and Unattended Situations

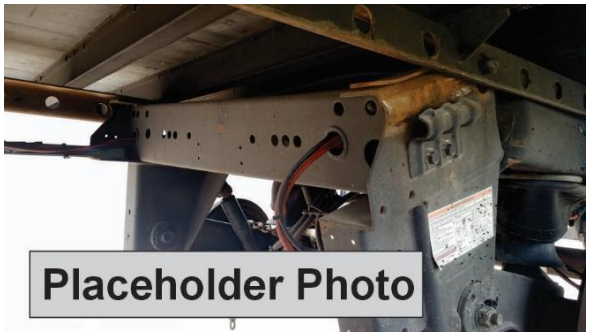
26. If unusual reactions are observed in the controls, stop operation immediately and inspect the trailer. Resume only after repairs are completed.
27. When leaving the tractor and trailer unattended, set all brakes, shut down the tractor engine, remove the key, and ensure the tractor cannot be started by unauthorized personnel.

Special Note for Quarter Frames

⚠ DANGER

CRUSH HAZARD. INCORRECT USE OF THE QUARTER FRAME TRAILER CAN RESULT IN BENT OR TWISTED DRAFT ARMS ON QUARTER FRAME TRAILERS. DAMAGE OF THIS NATURE CAN RESULT IN THE LOSS OF TRAILER CONTROL OR ROLL OVER. TO PREVENT THIS TYPE OF DAMAGE DO NOT:

- **OVERLOAD THE TRAILER.**
- **BACK OR MOVE THE TRAILER INTO THE PILE WHILE RAISING OR WITH A RAISED TRAILER BOX.**
- **RELEASE AND REAPPLY THE TRUCK/TRAILER BRAKES WHILE DUMPING/UNLOADING.**
- **TRUCK AND TRAILER NOT IN A STRAIGHT LINE WHILE DUMPING/UNLOADING.**
- **JERKING THE TRAILER TO FREE A STUCK LOAD.**
- **DUMP THE TRAILER LOAD WITH THE TAILGATE LATCHED.**



(3, Figure 2-2).

Service & Maintenance Safety

Performing maintenance or service work on the trailer requires strict adherence to safety protocols to prevent serious injury or death. Always exercise caution and follow these guidelines:

General Safety Practices

- Use only MTM Trailers-approved replacement parts and attachments. Unauthorized or imitation parts may compromise safety, damage the trailer, and void the warranty.
- Wear appropriate protective clothing and personal safety equipment for the maintenance task.
- Park the trailer on a solid, level surface, free from obstructions and hazards.
- Ensure the work area is well-lit and adequately ventilated.
- Clean any oil, grease, mud, water, or other substances that could create slippery surfaces.
- If the trailer requires servicing, remove it from operation and attach "Do Not Operate" tags in prominent locations, such as the king pin plate and main lift
- cylinder.

Hydraulic System Safety

Hydraulic systems pose significant risks, including severe injury or death from pressurized fluid. Follow these precautions when working on hydraulic systems:

- Never use bare hands to detect hydraulic leaks. Use cardboard or wood as a detector.
- If hydraulic fluid penetrates the skin, seek immediate medical attention from a doctor trained in treating fluid injection injuries.
- Relieve all residual hydraulic pressure before performing maintenance by shutting off the tractor engine and operating the hydraulic controls.
- Allow hydraulic fluid to cool before disconnecting lines to avoid burns.
- Wear safety glasses or a full-face shield to protect against permanent eye injury from hydraulic fluid exposure.
- Exercise extreme caution when removing hydraulic components, as some may retain residual pressure even after the engine is off.

Maintenance Precautions

- Identify all pinch points and moving parts. Avoid these areas to prevent injury.
- Remove guards or covers only for the component being serviced and replace them immediately after completing the work.
- Do not adjust or service components while they are hot.
- When working beneath a raised trailer or tailgate, use approved bracing, such as a trailer gate locking service support device, to prevent falling components.
- Chock the trailer wheels with approved chocks to prevent unintended movement during maintenance.

⚠ WARNING

Maintenance work can be hazardous if not done in a careful manner. All personnel should realize the hazards and strictly follow safe maintenance practices. Failure to comply with these safety precautions may result in serious personal injury and/or death.

Hydraulic System Inspection Procedures

- Shut off the tractor engine and cycle all hydraulic controls to release residual pressure.
- Wait for hydraulic fluid to cool before disconnecting any lines.
- Wear proper eye protection, such as safety glasses or a full-face shield, during hydraulic system inspections.

⚠ WARNING

Hydraulic oil under pressure can penetrate body tissue causing serious injury and possible death. When troubleshooting a hydraulic system for leaks, always use cardboard or wood as a detector. DO NOT USE YOUR BARE HANDS. If you are injected with hydraulic oil or any other fluids, immediately seek treatment by a doctor trained in the treatment of penetrating fluid injuries.

Trailer Decal Locations

Each semitrailer is equipped with safety decals and warning labels. During the daily safety inspection, check all decals for damage or wear. Replace any damaged or unreadable decals with genuine MTM Trailers replacements. Decals are located in the same positions on both sides of the semitrailer.

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Figure 2-4 – Trailer Side Decal and Warning Label Locations

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Figure 2-5 – Trailer Nose Decals

1008

Figure 2-6 – Trailer Tailgate Decals

Table 2-1: Decal Chart

Item	Description		Part Number
1	MTM Logo Decal		
2	No Step Warning Decal		
3	ABS Warning Decal		
4	Tailgate Warning Decal		
5	Pinch Point Warning Decal		
6	Suspension and Wheel Hub Warning Labels		
7	Pinch Point Warning Decal		
8	Operational Safety-First Decals		
9	Operating Instruction Caution Decals		
	A	General Operation Warning Decal	
	B	Raised Trailer Entry Warning Decal	
	C	Overhead Obstruction Warning Decal	
	D	Correct Use Warning Decal	
	E	Tailgate Warning Decal	
10	MTM Logo Decal		
11	Stand Clear of Gate Decal		
12	Pinch Point Warning Decal		
13	Tailgate Upper Corner Reflective Decal		

Section 3 – Operation

⚠ DANGER

IMPROPER USE OF THE TRAILER COULD CAUSE SERIOUS INJURY OR DEATH. BEFORE OPERATING THE TRAILER, OR PERFORMING MAINTENANCE, THE OPERATOR MUST READ AND UNDERSTAND THE ENTIRE OPERATOR'S MANUAL, REVIEW TRAILER CONTROLS, LOCATE AND REVIEW ALL WARNINGS AND SAFETY PLACARDS AND RELEVANT OPERATOR SAFETY MATERIALS INCLUDING WRITTEN, VISUAL, VIDEO OR VERBAL INSTRUCTIONS.

Pre-Trip Inspection

A pre-trip inspection is mandatory before operation, during trips, and at the end of the day. Drivers are responsible for ensuring the tractor and semitrailer are safe for operation as required by FMCSA Section 396 and CDL Class A standards. Report any issues immediately in writing.

Before operating the semitrailer, complete the following checks to ensure it is safe and ready for use. For detailed daily maintenance procedures, refer to **Section 5.1 – Daily Maintenance**

Daily Maintenance Procedures

Perform these tasks daily to ensure the semitrailer remains safe and operational. Operators must complete these checks before and after each use, reporting any issues requiring professional repair.

Decals and Reflectors

- **Condition Check**: Inspect all warning decals, conspicuity tape, reflectors, and signs for legibility and damage. Clean as needed to ensure visibility.
- **Replacement**: Replace any unreadable or damaged items with genuine MTM replacements (see Figures 5-1 to 5-4 for locations).

Tires and Wheels

- **Tire Condition**: Strike each tire with a rubber hammer to assess inflation. If vibration is detected, measure pressure with an accurate gauge (when cool) and inflate to the tire manufacturer’s recommended PSI. Replace worn or damaged tires immediately.
- **Wheel Inspection**: Verify all lug nuts are tight (torque to 450-550 lb.-ft.) and check wheels for cracks or damage. Recheck torque after 50–100 miles on new wheels.
- **Hub Lubrication**: Inspect lubricant levels in each hub through the sight glass. Add lubricant if below the mark, avoiding overfill to prevent bearing damage.

Hydraulic System

- **Inspection:** Examine hydraulic lines, hoses, and connections at the main lift cylinder and tractor for leaks or damage. Use cardboard or wood to detect leaks—never use bare hands.
- **Pressure Safety:** Relieve residual pressure before maintenance by shutting off the tractor engine and cycling hydraulic controls, as the system may retain pressure even when disconnected.
- **Hydraulic Safety Warning:** Pressurized hydraulic oil can penetrate skin, causing serious injury or death. If injected, seek immediate treatment from a doctor trained in fluid injection injuries.
- **Action:** Remove the semitrailer from service if leaks or damage are found until repairs are completed.

Structural Integrity and Fasteners

- **Visual Check:** Inspect the trailer frame, welds, suspension, and fasteners for cracks, bends, or looseness. Tighten or replace as needed.
- **Action:** Remove the semitrailer from service if structural damage is observed until repairs are completed.

Lights and Electrical

- **Functionality:** Activate tractor lights and confirm all semitrailer lights (front marker, side marker, rear marker, brake, and turn signals) operate correctly. Clean lenses and replace faulty bulbs.
- **Wiring:** Inspect electrical wiring and umbilical cables for wear or damage. Ensure cables are supported to avoid contact with moving parts.

Air System

- **Moisture Drain:** Drain water from air tanks (located beneath the trailer behind the tandem axle frame) until only air escapes.
- **Leak Check:** Pressurize the system using the Trailer Air Supply knob or tractor protection valve. Shut off the engine, listen for leaks, and repair any issues before use. Confirm brake application audibly with the brake pedal.

Tailgate and Doors

- **Security:** Verify the tailgate or rear doors are fully closed, latched, and secured with the manual lock (if equipped).

Landing Legs

- **Position Check:** Confirm landing legs and pads are fully retracted into the travel position.
- **Securing:** Secure crank handles or manually raised legs to prevent movement during transport.

Additional Checks

- **Suspension:** Assess the axle suspension under load for proper operation. Remove from service if issues are detected.
- **Tools and Safety Equipment:** Verify the tool kit, flares, warning markers, and other safety equipment are present and in good condition.

Coupling Tractor to Semitrailer

Proper coupling and uncoupling of the tractor to the semitrailer are fundamental for ensuring safe operation of combination vehicles. Techniques vary depending on the tractor model, necessitating familiarity with the specific procedures for the tractor in use. Below are the general steps for coupling and uncoupling processes.

⚠WARNING

Incorrect coupling and uncoupling of the tractor to or from the trailer can result in accidents causing serious injury or death. Not all tractors are identical. Be aware of the differences in the vehicles you operate.

1. Inspect the fifth wheel assembly.
    a. Ensure there are no damaged or missing parts.
    b. Verify that the fifth wheel mounting to the tractor is secure, with no visible cracks in the frame, etc. (Figure 4-2).

1009

Figure 4-2 - Tractor Fifth Wheel

⚠WARNING

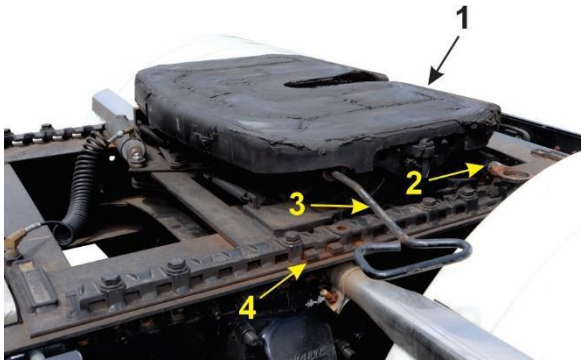
The use of a lube plate or slick plate may prevent proper coupling and create a hazardous condition. Only use SAE approved lubricants.

    c. Ensure that the fifth wheel plate is lubricated with an SAE approved grease. Failure to maintain adequate lubrication could result in steering problems and/or damage to the semitrailer due to friction between mounting surfaces.

d. Verify that the fifth wheel is in the proper coupling position with the fifth wheel plate tilted down towards rear of tractor or locked in the flat position (1, Figure 4-3) depending on the type of trailer being transported.

NOTICE

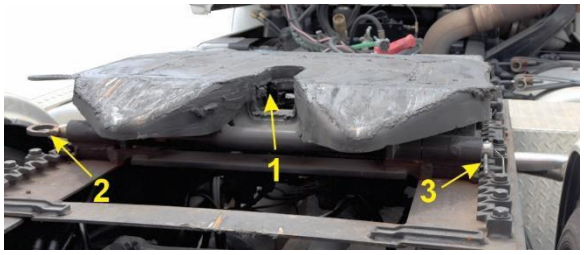
If the trailer being used is a Quarter-Frame trailer, check to Ensure that the 5th wheel tilt lock pin (2, Figure 4-4) is secured in the installed position (3, Figure 4-4).



1010

Figure 4-3 - Tractor Fifth Wheel in Coupling Position

e. Ensure that the fifth-wheel safety unlock handle (3, Figure 4-3) is in the automatic lock position
f. Confirm that the sliding fifth wheel is locked in position (4, Figure 4-3).
g. Ensure the fifth wheel jaws are fully opened (1, Figure 4-4).



1011

Figure 4-4 – Open Fifth Wheel Lock Jaws

2. Inspect the semitrailer kingpin for damage and/or wear. **NOTE**: Additional kingpin hook-up instructions are located later in this section.

1012

Figure 4-5 – Inspect King Pin

3. Inspect work area to Ensure the area is clear of workers or debris around both the tractor and semitrailer.

4. Prior to coupling the tractor.
   a. Always chock the trailer using chock blocks behind the rear axle (1, Figure 4-6) when coupling the tractor and semitrailer.

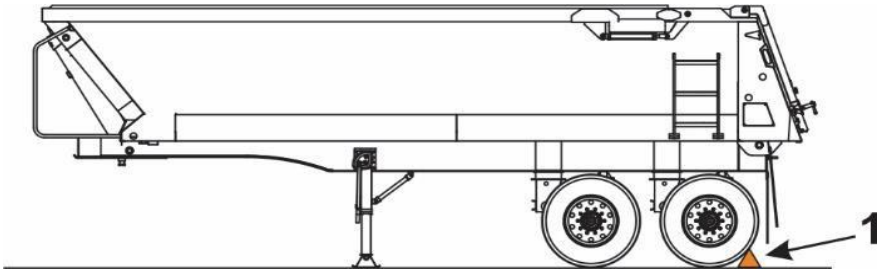


Figure 4-6 – Wheel Chock

   b. MTM Trailers have several styles of rear tailgates. Verify that the tailgate is tightly closed and securely latched by the toggle latch (1, Figure 4-7) and using the hand screw latch (2, Figure 4-7). For the manually closed rear door, Ensure that the 3-position lock lever has been secured in the latched position (3, Figure 4-7) in all locations.

Figure 4-7 – Locked Tailgates

   c. If equipped, ensure the tarp is securely stored in the uncovered position (1, Figure 4-8) for an empty trailer or secured in the covered position with a loaded trailer. **NOTE**: MTM offers several variations on the tarp systems. This manual will feature the basic manual crank tarp system.

1015

Figure 4-8 – Tarp in Stored Position

5. Check the semitrailer coupler height.

NOTICE

Quarter-frame trailers require that the tractor fifth wheel is locked in the flat, horizontal position with the locking pin (1, Figure 4-9), with the pin secured by the lock bolt (2, Figure 4-9). Confirm that the fifth wheel has been set up properly before coupling with the trailer.

1016

Figure 4-9 - Locked Fifth Wheel

a. Back the tractor in a straight line towards the semitrailer, close to the nose of the semitrailer (Figure 4-10), but DO NOT back under the trailer at this point.

1013

Figure 4-10 – Align Tractor towards Semitrailer

b. Set the tractor parking brake and shift the transmission into NEUTRAL.

c. Ensure that the semitrailer nose (2, Figure 4-11) is just slightly below the fifth wheel height (1, Figure 4-11). If the semitrailer nose is too low, it may strike the tractor. If the semitrailer nose is too high, the fifth wheel may not be coupled correctly to the king pin.
d. As needed, raise or lower the trailer nose using the landing gear support legs (3, Figure 4-11).

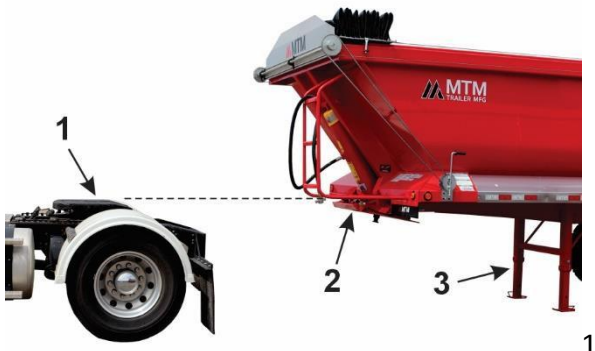


Figure 4-11 – Align 5th Wheel with Kingpin

e. Ensure the that fifth wheel and kingpin are aligned properly.

6. Check the coupler seals for any signs of wear or damage. Replace these seals as needed before connecting them to the semitrailer.

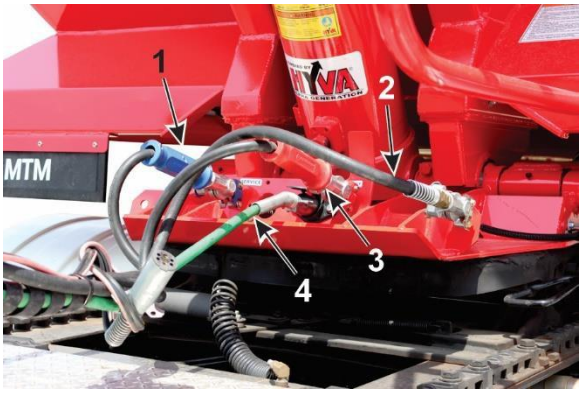
7. Connect the electrical, pneumatic and hydraulic lines to the semitrailer.
   a. Inspect all flexible tractor service lines for signs of wear or damage.

   b. Connect the tractor service control airline (1, Figure 4-12) to the semitrailer service control coupler.
   c. Connect the emergency airline (3, Figure 4-12) and universal airline (2, Figure 4-12) to the trailer connectors.

⚠ CAUTION

Upon connection of the pneumatic (air) lines to the semitrailer, air pressure will start to increase. This rising pressure will disengage the trailer brakes, permitting trailer movement. Ensure the trailer wheels are chocked prior to this step.

DO NOT STAND between the trailer nose and the tractor fifth wheel assembly to prevent potential forward movement of the trailer, which could result in severe injury.



1018

Figure 4-12 – Umbilical Connections from Tractor to Semitrailer

d. Plug the electrical cord (4, Figure 4-12) into the trailer and secure the safety catch. As the electrical cord is connected, observe the ABS light (1, Figure 4-12) at the left rear of the trailer. This light should briefly turn on and then off.

⚠WARNING

The ABS warning light (1, Figure 4-13) should turn ON briefly and then OFF when the electrical power is connected. If the light does not turn on, the warning light needs to be replaced before using the trailer. If the light turns on and remains on, the trailer brake system needs to be repaired before using the semitrailer. Failure of this system could result in severe injury or death.

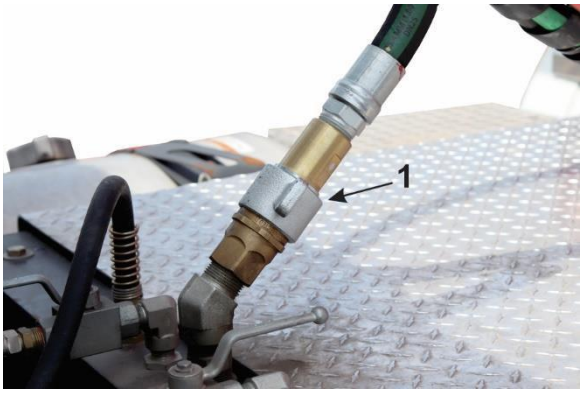
1003

Figure 4-13 – ABS Indicator Light

⚠WARNING

Hydraulic oil under pressure can penetrate body tissue causing serious injury and possible death. When troubleshooting a hydraulic system for leaks, always use cardboard or wood as a detector. DO NOT USE YOUR BARE HANDS. If you are injected with hydraulic oil or any other fluids, immediately seek treatment by a doctor trained in the treatment of penetrating fluid injuries.

e. Connect the hydraulic oil supply line (1, Figure 4-14) from the semitrailer to the tractor wet-kit quick connect. **NOTE**: The hydraulic connection to the tractor may be different than the one shown in Figure 4-14.



1019

Figure 4-14 – Connect Hydraulic Line from Tractor to Trailer

f. Ensure that all hydraulic, pressurized air and electrical lines are supported to prevent contact with any moving parts of either the tractor or semitrailer.

1021

Need new photo showing umbilical lines connected to the trailer and supported with the tractor in front of the trailer, but not backed under the trailer.

Figure 4-15 – Supported Umbilical Lines

8. From the tractor cab, push either the Trailer Air Supply knob (1, Figure 4-16) or move the tractor protection control valve from the Emergency to the Normal position. Either of these actions will provide air pressure to the semitrailer brake system. Do not move the tractor until the entire pneumatic system has returned to the normal system pressure, as shown by the air pressure gauge on the tractor dashboard. **NOTE**: The air supply controls shown in Figure 4-16 may vary from tractor to tractor.

1020

Figure 4-16 – Tractor Air Supply Controls

9. When full pneumatic system pressure has been reached, shut off the tractor engine and listen for any air leaks. Locate and repair any air leaks before using the semitrailer.

10. With the tractor engine off, press the brake pedal and audibly confirm the trailer brakes being applied.

11. If there are no problems with air leaks, start the tractor engine and allow the pneumatic system to rebuild to full system pressure.

12. When full system pressure has been achieved, set the trailer brakes by pulling the Parking Brake control knob (2, Figure 4-16) outwards. Release the trailer brakes by pressing inwards on the Parking Brake control knob.

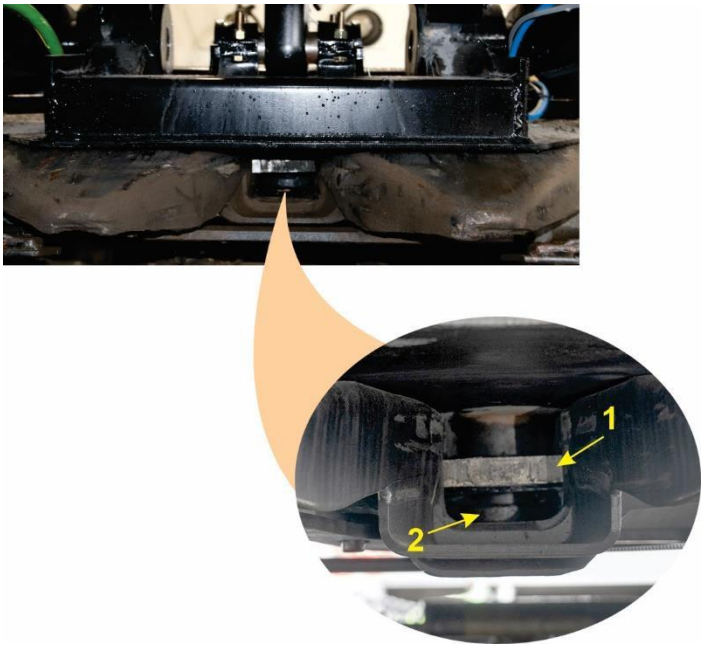
13. Couple the tractor to the semitrailer.

⚠WARNING

Never back under the semitrailer at an angle. The pressure from an angled tractor could cause the landing gear to collapse, potentially rolling the trailer over.

Back tractor under the semitrailer slowly. DO NOT collide with the semitrailer

a. Slowly back the tractor in a straight line under the trailer until the fifth wheel contacts the king pin, and the fifth wheel jaws (1, Figure 4-17) securely lock around the king pin (2, Figure 4-17). Stop moving the tractor as soon as the kingpin has been fully engaged and securely locked.



1022

Figure 4-17 – Locked Kingpin

b. Engage the tractor transmission in Neutral.
c. Ensure that the semitrailer parking brakes are engaged.
d. Using the crank handle, or adjusting the manually raised legs, slightly raise the support legs until there is a small space between the parking area grade and the landing pad (1, Figure 4-18). **Note**: Support leg adjust information is shown later in this section.

1023

Figure 4-18 – Tractor and Semitrailer Coupled

e. With the trailer brakes still applied, pull the semitrailer slightly forward to confirm a secure connection between the tractor and semitrailer.

14. Shut off the tractor engine and inspect the fifth wheel coupling.

⚠WARNING

Crush Hazards

Shut off the tractor engine and remove the ignition key to prevent unauthorized movement of the semitrailer.

Ensure that the king pin is properly secured to the fifth wheel before moving the trailer.

a. After shutting off the engine and removing the ignition key, check the connection between the fifth wheel and the kingpin. There should be no space between these items. If there is space, the kingpin may be on top of the fifth wheel jaws (1, Figure 4-15), which would allow the trailer to come loose when the tractor is moved forward. **NOTE**: Figure 4-18 shows an incorrect and dangerous condition.

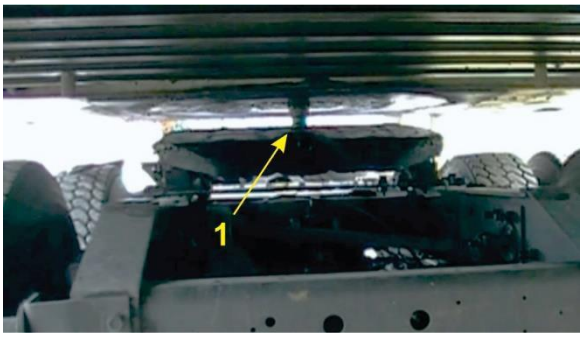


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Figure 4-18– Kingpin On Top of Fifth Wheel

b. Confirm that the kingpin has latched with the fifth wheel. Inspect the coupling to Ensure the fifth wheel jaws have fully closed around the kingpin (1, Figure 4-19).

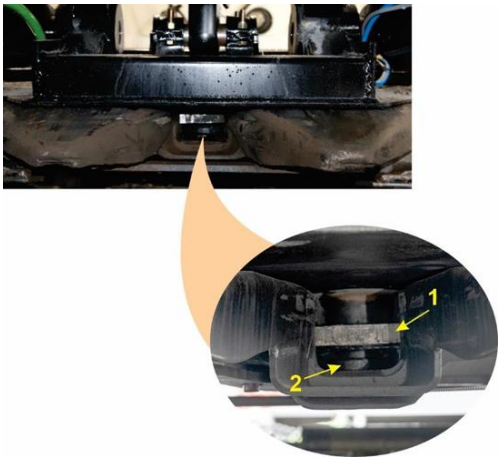


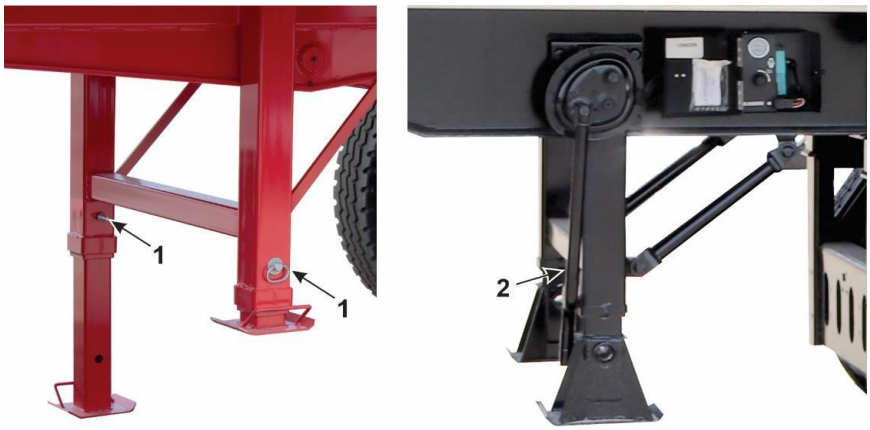
Figure 4-19 – Locked Kingpin

c. Also check that the fifth wheel kingpin locking lever (1, Figure 4-20) is in the LOCK position. **NOTE:** Ensure that the safety catch is in position over the locking lever. On some fifth wheel systems, this safety catch needs to be positioned by hand.

1025 Figure 4-20 – Fifth Wheel Lock lever

d. If the coupling is not correct, DO NOT drive the truck.

15. MTM Trailers offer two types of support legs, the manually raised support leg, and the crank handle version.
    - For the manually raised version, remove the lock pin (1, Figure 4-21), lift the support leg to the transport position, and reinsert and secure the lock pin. Repeat this procedure for the opposite side of the semitrailer.
    - The crank handle version raises both support legs by rotating the crank handle (2, Figure 4- 21) until the support legs are in the transport position. When the support legs are fully raised, secure the crank handle.



1026 Figure 4-21 – Load Support Legs

16. With the tractor engine running and the trailer brakes set, test the hydraulics on the semitrailer by slightly raising the body of the semitrailer.
17. Finally, if equipped, ensure that the tarp system is working properly.

Semitrailer Operation

Operation of the semitrailer requires thorough understanding of this manual, including all safety precautions, controls, and procedures. Adherence to the following instructions ensures safe and efficient performance.

The following procedures are shown with the understanding that the tractor and semitrailer have been properly coupled.

Pre-Operation Checks

1. **Complete Daily Maintenance and Inspections**: Perform all tractor and semitrailer daily maintenance tasks as outlined in the "Daily Maintenance" section and the tractor's operator manual.
2. **Bleed Air Tanks**: Drain moisture from pressurized air tanks on both tractor and semitrailer to maintain system integrity.
3. **Cab Preparation**:
    - Engage parking brake.
    - Start engine and monitor oil pressure and warning indicators.
    - Verify low air pressure warning activates and deactivates as system pressure normalizes.
    - Activate hazard warning lights, marker lights, and headlights.
4. **External Inspection**:
    - Confirm wheels, lug nuts, hubs, and tires meet operational standards (proper inflation, no leaks).
    - Verify electrical, pneumatic, and hydraulic lines are securely connected and supported.
    - Ensure support legs and landing pads are fully retracted and secured.
    - For quarter-frame trailers, confirm fifth wheel is locked in flat, horizontal position with locking pin and bolt secured.
    - Check kingpin latch engagement with fifth wheel.
    - Inspect and clean marker lights, reflectors, and conspicuity tape.
    - Verify rear tailgate or doors are fully closed and latched.
    - Assess tarp functionality (accordion or flip style Figure 4-28) and secure as required.

1033 and 1034 – Figure 4-28: Accordion style on the left, flip tarp on the right for reference.

Loading Procedures

1. **Weight Compliance**: Adhere to Gross Vehicle Weight Rating (GVWR) and Gross Axle Weight Rating (GAWR) as indicated on the certification plate. Avoid overloading.

2. **Load Distribution**: Distribute payload evenly from front to back. For materials with poor flow characteristics, reduce load at the front to prevent instability during dumping.

3. **Pre-Loading Verification**:
   - Ensure semitrailer is securely coupled to tractor.
   - Confirm rear doors or tailgate are fully closed and latched.
   - For Frameless and Quarter Frame Trailers – ensure draft arms have no damage to them

4. **Post-Loading**:
   - Activate tarp (if equipped) to cover load securely, preventing material loss during transport.

⚠WARNING

DO NOT OVERLOAD

Dumping Procedures

1. **Site Assessment**:
   - Select a solid, level dumping surface free of overhead obstructions (e.g., power lines, structures).

- Clear personnel and equipment from the dump zone.

⚠ DANGER

ELECTOCUTION HAZARD. WHEN RAISING THE TRAILER, MAKE SURE THAT THE TRAILER DOES NOT CONTACT ANY OVERHEAD OBSTRUCTIONS, SUCH AS ELECTRICAL POWER LINES OR OVERHEAD STRUCTURES.

2. **Stability Precautions**:
    - Maintain center of gravity over semitrailer centerline during bed elevation to prevent rollover.
    - Avoid dumping in high winds or uneven terrain.

When raising the semitrailer bed for dumping, make sure that the center of gravity (3, Figure 4-29) stays directly over the centerline of the semitrailer (1, Figure 4-29). If the dump area or the position of the semitrailer is not level (4, Figure 4-29), the higher the semitrailer bed is raised, the farther the center of gravity (5, Figure 4-29) moves away from the centerline of the semitrailer (1, Figure 4-29). As the center of gravity moves towards the outside of the trailer, the greater the chance of the trailer rolling over.

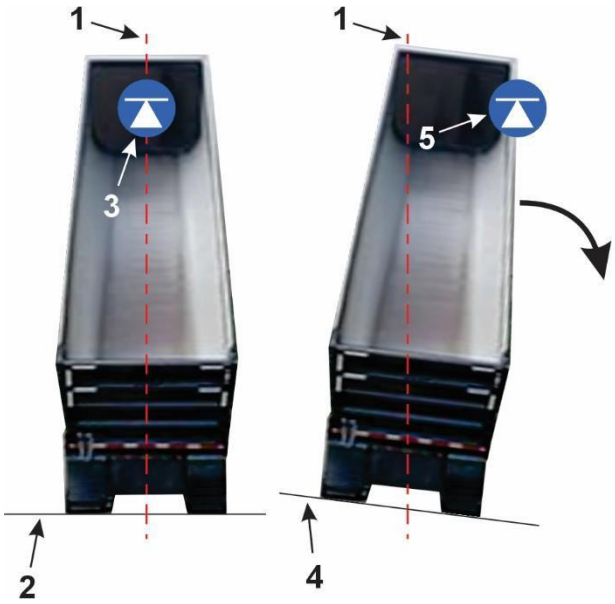


Figure 4-29 – Center of gravity schematic

3. **Operation Sequence**:
    - Apply tractor brakes; leave semitrailer brakes disengaged.
    - FULLLY Retract tarp to stored position (manual crank or automatic control, per equipment configuration). For an automatic tarp system, move the TARP control (1,

Figure 4-30 to the OPEN position. Wait until the tarp has fully retracted before raising the semitrailer bed.

- For manual tailgate operation, exercise caution during unlocking to manage load discharge.
- Engage wet kit controls (generic description, systems will vary):
  - Move PTO to "IN" position (confirm activation via indicator light). **NOTE:** Some PTO controls have a safety lock (4, Figure 4-30) to prevent accidental PTO engagement. When the PTO is active, the red PTO light (6, Figure 4-30) will turn on.

1035

Figure 4-30 – Tractor Wet Kit Controls

  - For hydraulic high lift tailgate, set shut-off valve to "ON" and shift TAILGATE control to "OPEN" to unlock and raise gate. (1, Figure 4-31). Pull the TAILGATE button (3, Figure 4-30) upwards to the OPEN position. This will unlock the tailgate and it will raise to the fully open position.

1036 Figure 4-31 – Hydraulic High Lift Gate Valve

        - For pneumatic high lift tailgate, activate TAILGATE control to "OPEN" for air pressure release and gate elevation.
        - For side-swing manual tailgate, exit cab, release lock lever, open gate fully, and secure in position.
        - Shift HOIST lever to "RAISE" to elevate semitrailer bed. (2, Figure 4-30)
    - Monitor stability during elevation, ensuring no tipping occurs.
    - Lower bed to transport position using HOIST lever "LOWER" setting once load is discharged.
    - Close and secure tailgate using TAILGATE control "CLOSE" or manual locking mechanism.

Operational Guidelines

- Maintain smooth control inputs to avoid destabilizing semitrailer.
- Refrain from moving tractor with bed elevated.
- Halt operation and inspect equipment if unusual control responses occur, resuming only after repairs are completed.
- For spreading operations, ensure travel surface is level and smooth.

Safety Considerations

- Adhere to all hazard avoidance protocols (e.g., no jerking of raised bed, no entry into raised bed).
- Exercise extreme caution to prevent contact with overhead obstructions during dumping, mitigating electrocution risks.
- For quarter-frame trailers, avoid actions that could bend or twist draft arms (e.g., overloading, misaligned dumping, jerking stuck loads).

Strict compliance with these procedures ensures operational safety and equipment longevity. Cease operations immediately if equipment or site suitability is compromised.

Uncoupling Tractor from the Semitrailer

⚠WARNING

Uncouple the tractor only from an empty semitrailer. The semitrailer's load legs are not designed to support the weight of a fully loaded, uncoupled semitrailer.

Hydraulic Safety Warning: Hydraulic oil under pressure can penetrate skin, causing serious injury or death. When checking for hydraulic leaks, use cardboard or wood as a detector—never use bare hands. If hydraulic oil or other fluids penetrate your skin, seek immediate medical attention from a doctor trained in treating fluid injection injuries.

Procedure for Uncoupling

1. **Site Preparation**
    - Select a parking area capable of supporting the semitrailer's weight and ensure it is as level as possible.
2. **Alignment**
    - Position the tractor and semitrailer in a straight line while backing into the parking spot. Uncoupling with the tractor at an angle to the semitrailer may exert sideways force, potentially damaging the support legs or kingpin coupler.
3. **Securing the Semitrailer**
    - Shut off the air supply to the semitrailer. As air pressure decreases, the semitrailer brakes will automatically engage, locking it in place.
4. **Releasing Kingpin Pressure**
    - Once the brakes are engaged, slowly back the tractor to push against the semitrailer, relieving pressure on the kingpin. Apply the tractor brakes to maintain this backward pressure.
5. **Lowering the Support Legs**
    - Lower the support legs until they make firm contact with the ground. Continue raising the semitrailer slightly to transfer some of its weight off the tractor's fifth wheel.
6. **Disconnecting Lines**
    - Disconnect the airlines, electrical cables, and hydraulic line from the semitrailer. Securely stow these cables and hose(s) at the back of the tractor cab to prevent damage.
7. **Releasing the Kingpin**
    - Stand to the side of the tractor and pull the kingpin lock release handle to unlock the kingpin.
8. **Separating the Tractor**
    - Slowly drive the tractor forward, allowing the semitrailer to slide off the fifth wheel and transfer its full weight onto the support legs.
9. **Stability Check**

- Before fully pulling away, confirm that the ground adequately supports the semitrailer.

10. Final Departure

- If the semitrailer is stable, return to the cab, release the tractor brakes, and drive clear of the semitrailer.

11. Post-Uncoupling Inspection

- Conduct a post-trip inspection of the semitrailer. Document any operational issues, safety concerns, or maintenance needs beyond the scope of daily operator-level maintenance.

Section 4 – Routine Service and Maintenance

⚠ DANGER

Improper operation or maintenance of the semitrailer can result in serious injury or death. To ensure safe use, before operating the semitrailer or performing any maintenance, the operator must:

Read and fully understand this entire operator's manual.

Familiarize themselves with the semitrailer controls.

Locate and review all warning labels, safety placards, and relevant safety materials, including written instructions, visual aids, videos, or verbal guidance.

⚠ WARNING

Hydraulic oil under pressure can penetrate body tissue causing serious injury and possible death. When troubleshooting a hydraulic system for leaks, always use cardboard or wood as a detector. DO NOT USE YOUR BARE HANDS. If you are injected with hydraulic oil or any other fluids, immediately seek treatment by a doctor trained in the treatment of penetrating fluid injuries.

Service and Maintenance Schedule for Semitrailer

The following procedures outline the required maintenance for the semitrailer to ensure safe and reliable operation. Maintenance tasks are categorized by frequency: Daily, Weekly, Monthly, Annual, and Semi-Annual. Some tasks, particularly those under Monthly, Annual, and Semi-Annual categories, may require a qualified semitrailer mechanic. Always adhere to safety protocols, especially when working with hydraulic and pneumatic systems, as hydraulic oil under pressure can penetrate tissue, posing a risk of severe injury or death. Use cardboard or wood to detect hydraulic leaks, and seek immediate medical attention from a qualified physician if injected with hydraulic fluid.

Table 5-1 – Service and Maintenance Schedule

Table 5-1: Service and Maintenance Schedule

	Activity	Daily	New Trailer (200 Miles)	Weekly	Monthly	Annual
1	Safety decals	✓ & R				
2	Axle U-bolts					✓ and T
3	Frame and Structure	✓				
4	Leaf Spring Suspension	✓				✓
5	Cracks in semitrailer assemblies or welds	✓				
6	Inspect Tire Pressure	✓ and A				
7	Inspect Tire Damage	✓			✓	
8	Inspect Wheel Lug Nuts	✓	✓		✓	
9	Wheel Bearings	✓		✓		✓
10	Axel Alignment				✓	
11	Brake System	✓		✓	✓ ***	✓ ***
12	Hydraulic Hoses	✓				
13	Inspect Hydraulic Lift Cylinder	✓			✓	
14	Grease				✓	
15	Visual Check for Loose/Missing Fasteners	✓				
17	Check Trailer Lights and Wiring	✓ & D			✓	
18	Air Line Water Separator	✓				
19	Check Safety Equipment and Tools	✓				
20	Check for air leaks from pneumatic System	✓				

Service Cycle:
R = Replace
✓ = Check
T = Tighten
D = Drain
T = Refer to engine manual for oil change cycles.
* First 200 miles, then follow the normal service cycle.
** Service every 12,000 miles or annually.
*** Check brake shoes every 3,000 miles

*See following section for detailed descriptions number in accordance with the chart

Daily Maintenance Procedures

The operator must perform the following daily checks before operating the semitrailer to ensure safety and functionality:

1. **Safety Decals (Check and Replace)**

   Inspect all warning and instructional decals for legibility and condition. Replace any damaged or illegible decals with genuine MTM Trailers replacement decals. Additionally, examine and clean conspicuity tape, reflectors, and warning signs, replacing any damaged items. Refer to **Table 2-1** on page 21

2. **Frame and Structure (Inspect)**

   Prior to each use, inspect the semitrailer chassis for structural damage, including cracked welds, bent frame members, or loose/missing fasteners. Tighten or replace fasteners as needed. If damage is observed, remove the semitrailer from service immediately for repairs.

3. **Leaf Spring Suspension (Inspect)**

   - Inspect suspension mounting bolts (1, Figure 4-1) and brackets (2, Figure 4-1) on both sides of the semitrailer to ensure they are secure and undamaged.
   - Check the leaf springs (2, Figure 4-1) for broken or cracked leaves. If any issues are found, take the semitrailer out of service immediately.

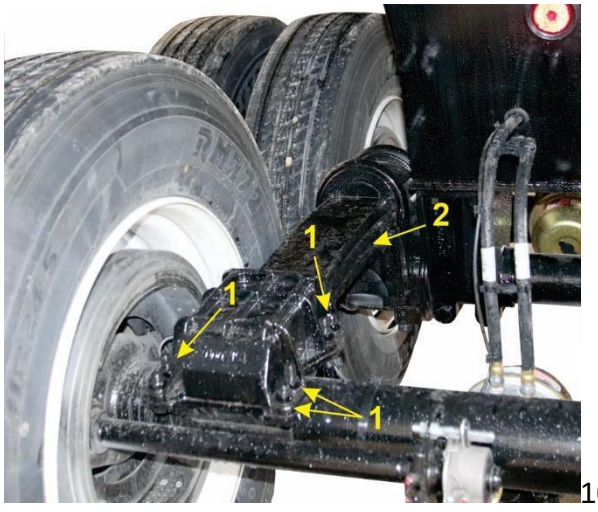


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Figure 4-1 – Trailer Suspension

4. **Cracks in Semitrailer Assemblies (Inspect)**

   Examine the semitrailer for cracks in welds, tubes, steel components, and fasteners. Welds may fail under heavy loads, wear, or cargo movement. If cracks are detected, remove the semitrailer from service immediately.

5. **Wheel Tire Pressure (Check and Adjust)**

   - Perform a pre-trip inspection of tire air pressure using an accurate gauge. Strike each tire with a rubber hammer or equivalent tool to assess condition; vibrations indicate the need for pressure measurement. Reinflate or replace underinflated tires before operation.
   - Ensure tires are inflated to the pressure recommended by the tire manufacturer, checking when tires are cool. Adjust pressure to the maximum PSI listed on the tire sidewall when fully loaded. Underinflation can lead to overloading, excessive heat buildup, and internal tire damage, potentially causing severe injury or death.
   - Inspect tires for wear, damage, or improper inflation. Remove the semitrailer from service if tires or wheels/rims are damaged. Note that trailer tires may wear out despite sufficient tread due to constant weight, even when not in use.

6. **Inspect Tire Damage (Visual Check)**

   - While checking tire pressure, inspect tires and wheels for visible damage, including cracking (2, 3, Figure 4-2) and worn mating faces on hubs or drums. Replace any defective parts.
   - Ensure studs, nuts, and mounting faces of hubs and wheels are clean and free of grease or debris. Do not intermix wheel types when replacing wheel assemblies.

1068

Figure 4-2 – Wheel Inspection Locations

7. **Inspect Wheel Lug Nuts (Check and Torque)**

    - Verify that all wheel lug nuts (1, Figure 4-2) are tightened and torqued to specified values. Recheck torque after 50–100 miles on newly assembled wheels, as lug nuts may loosen.
    - Check for loose, broken, or cracked studs (2, Figure 5-5) in the hub and replace any damaged parts. Loose lug nuts can cause wheel shimmy, leading to part damage, extreme tire wear, or stud/disc failure, which may result in serious injury or death.

1069

Figure 4-3 – Wheel Hub Inspection

8. **Wheel Bearings (Inspect Lubricant Levels)**

    - Check lubricant levels in each hub (1, Figure 4-3) before every trip. Add lubricant if below the mark on the hub cap sight glass, avoiding overfilling to prevent wheel bearing damage.
    - Inspect wheel hub gaskets and seals for leaks, as leaking seals can damage wheel bearings and lead to axle or brake failure.

9. **Brake System (Inspect)**

    - Inspect the brake system daily, ensuring all components are functional. Most axles have an automatic brake shoe adjustment mechanism activated by hard braking while reversing.
    - **Note**: Brake shoes must be adjusted after the first 200 miles of use and every 3,000 miles thereafter (see Semi-Annual Maintenance).

12. **Hydraulic Hoses (Inspect)**

    - Examine hydraulic lines, hoses (1, Figure 4-23), and connections at the main lift cylinder (2, Figure 4-23) and tractor (3, Figure 4-23) for damage or leaks. Hydraulic

systems may retain pressure even when disconnected from the tractor. If leaks or damage are found, take the semitrailer out of service.

- Inspect the main dump body lift cylinder (1, Figure 4-4), hydraulic cylinder connection port (2, Figure 4-4), and tractor hydraulic line (3, Figure 4-4) for leaks or damage, removing the semitrailer from service if issues are detected.
- **Warning**: Hydraulic cylinders are not to be used as stabilizers on a dump body or trailer.

1070

Figure 4-4 – Hydraulic Cylinder and Hydraulic Hose Inspection

13. **Inspect Hydraulic Lift Cylinder (Check for Leaks)**

- Verify the hydraulic system meets the tractor Wet Kit requirements: a pump with 20-25 GPM, 2,000 PSI pressure, and a 65-gallon reservoir (minimum 60 gallons for a 280” main lift cylinder stroke length). Ensure no leaks are present in the lift cylinder system.

15. **Visual Check for Loose/Missing Fasteners (Inspect)**

- Inspect the entire semitrailer chassis for loose or missing fasteners, tightening or replacing them as needed.

17. **Check Trailer Lights and Wiring (Inspect and Drain)**

- Verify the functionality of all semitrailer lights by activating the tractor lights. Inspect the front marker light (1, Figure 4-5), side marker light (2, Figure 4-5), rear marker lights (4, 5, 7, Figure 4-5), and upper rear side frame marker lights (3, Figure 4-5) on both sides. Activate 4-way flashers and confirm brake lights and turn signals (6, Figure 4-5) operate correctly with brake pedal engagement. Additional marker lights may be present depending on the trailer model.
- Inspect electrical wiring and umbilical cables (1, Figure 4-6) for wear or damage, ensuring cables are properly supported to prevent disconnection during jackknifing. Take the semitrailer out of service if damage is noted.

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Figure 4-5 – Semitrailer Marker, Stop and Turn Signal Lights

1021

Figure 4-6 – Properly Supported Umbilical Cables

18. **Air Line Water Separator (Check and Drain)**

- Drain moisture from the air line water separator (1, Figure 4-7) beneath the trailer behind the tandem axle frame. Open the drain cock to release water until only compressed air exits. The separator's style and location may vary by tractor.

1071

Figure 4-7– Air Line Water Separator

19. **Check Safety Equipment and Tools (Inspect)**

- Ensure the tool kit, safety kit (including flares and warning markers), and other safety equipment are present and in good condition. These are essential for minor repairs or adjustments during operation.

20. **Check for Air Leaks from Pneumatic System (Inspect)**

- From the tractor cab, activate the Trailer Air Supply knob (1, Figure 4-8) or move the tractor protection control valve to the Normal position to pressurize the semitrailer brake system. Do not move the tractor until full system pressure is achieved.

1020

Figure 4-8 – Tractor Air Supply Controls

- Shut off the tractor engine and listen for air leaks. Locate and repair any leaks, or take the semitrailer out of service if repairs cannot be made.
- With the engine off, press the brake pedal to confirm the trailer brakes engage. Restart the engine, build full system pressure, and set/release the trailer brakes using the Parking Brake control knob (2, Figure 5-8).

Additional Daily Tasks (Not Numbered in Chart):

- **Axle Suspension Under Load**: Assess the axle suspension system under load to ensure proper operation. Remove the semitrailer from service for immediate repairs if issues are detected.

Weekly Maintenance Procedures

The following tasks should be performed weekly in addition to daily checks:

8. **Inspect Wheel Lug Nuts (Check and Torque)**
   - Re-inspect and tighten all wheel lug nuts to ensure they remain torqued to specified values.
9. **Wheel Bearings (Inspect)**
   - Re-check wheel hub gaskets and seals for leaks to prevent potential damage to bearings, axles, or brakes.
10. **Brake System (Inspect)**
    - Perform a weekly inspection of the brake system to ensure continued functionality, focusing on the automatic adjustment mechanism for brake shoes.

17. **Check Trailer Lights and Wiring (Inspect)**

- Re-verify the functionality of all lights and inspect wiring for wear or damage, ensuring all connections remain secure.

18. **Air Line Water Separator (Check and Drain)**
    - Drain the airline water separator weekly to prevent moisture buildup in the pneumatic system.

Monthly Maintenance Procedures

Monthly maintenance includes all daily and weekly tasks, plus the following:

2. **Axle U-Bolts (Check and Tighten)**
    - Inspect and tighten axle U-bolt nuts to the required torque to ensure proper axle alignment and stability.
3. **Leaf Spring Suspension (Inspect)**
    - Re-inspect the spring assemblies for excessive sag, shifted or broken leaves, loose/damaged spring clips, or damaged/leaking air bag suspension components. Check leaf spring U-bolts for proper torque. Remove the semitrailer from service if damage is noted.
    - Check radius rod rubber bushings to ensure they are in good condition and free of oil or grease.
4. **Inspect Wheel Lug Nuts (Check and Torque)**
    - Tighten all wheel lug nuts spring clips, and U-bolts to specified torque values.
5. **Wheel Bearings (Inspect)**
    - Continue monthly inspections of wheel hub gaskets and seals for leaks, ensuring lubricant levels remain adequate.
6. **Axle Alignment (Check)**
    - Verify proper axle alignment, as misalignment is a common cause of tire wear. Take the semitrailer out of service if tracking issues are detected.
11. **Brake System (Inspect and Adjust)**
    - Check the travel of the brake chamber push rod and adjust brakes if necessary, keeping push rod travel at a minimum of 1/2" without dragging.

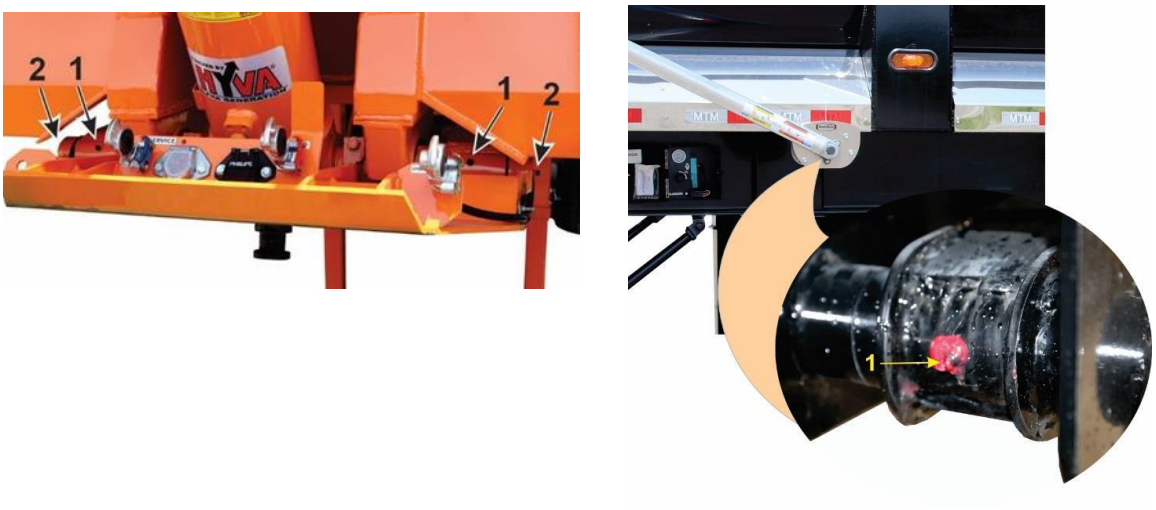
- Inspect brake linings (1, Figure 4-9) for thickness, replacing them if excessively worn.

(1033) Figure 4-9 – Brake Lining Inspection

- Examine hose assemblies and gaskets for abrasions, swelling, or damage, replacing them as needed.
- Inspect tractor brake fluid reservoir and brake lines, ensuring lines are properly fastened, connections are tight, and lines are supported to avoid rubbing on other trailer parts.

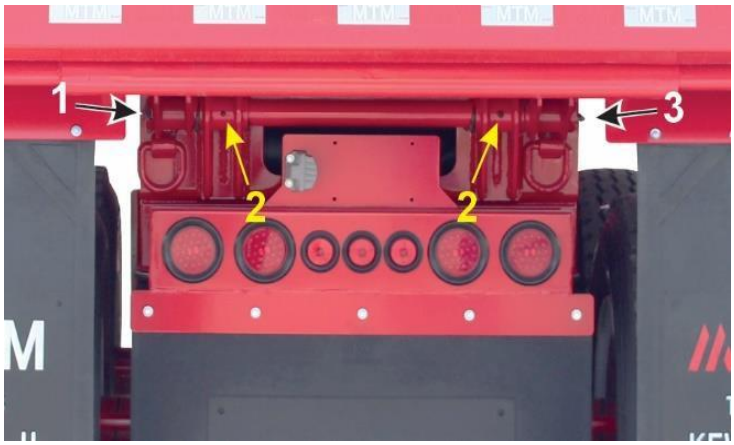
14. **Grease (Lubricate)**

- Lubricate all grease zerks, including:
  - Trailer support arms and main pivot shaft (1, 2, Figure 4-10a).
  - Center pivot tarp support arm (optional, 3, Figure 4-10b).
  - Quarter frame trailer front frame pivot points (1, 2, Figure 4-10c).
  - Rear pivot shaft above taillights (1, 2, 3, Figure 4-9d).
  - Tailgate pivots:
    - High lift/gravity tailgate assembly (1, 2, 3, Figure 4-10e).
    - Barndoor tailgate latch and hinge pivots (1, 2, 3, Figure 4-10f).
  - Slider tarp drive system bearing pillow blocks (1, Figure 4-10g).
- Note: A ladder may be required to access some grease zerks.

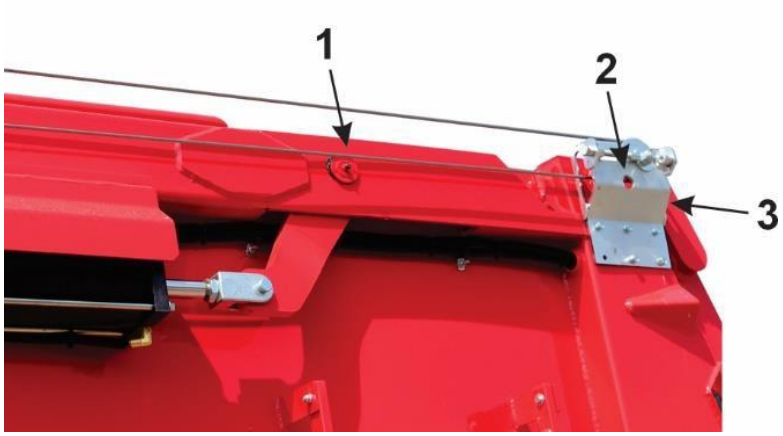


(1072) Figure 4-10 a – Trailer support arms and main pivot shaft
(1073) Figure 4-10 b – Tarp pivot arm grease zerk

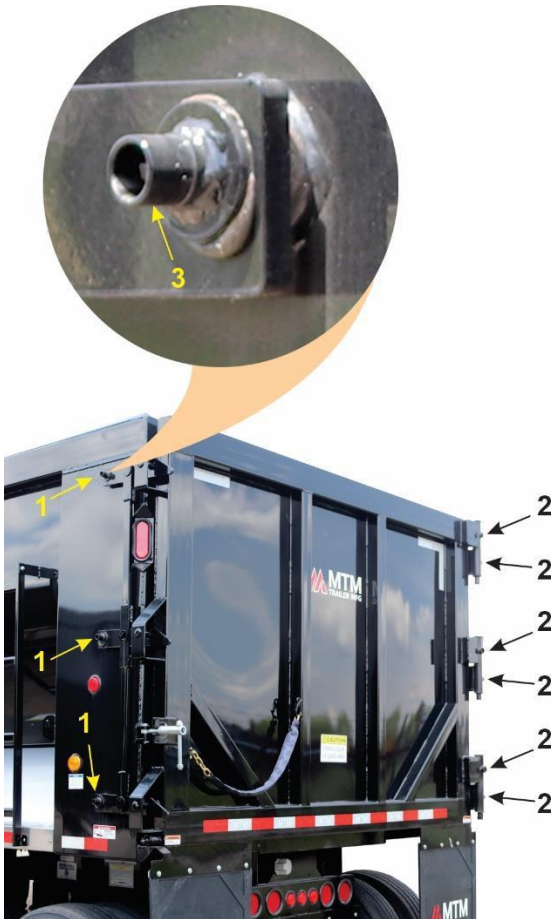
(1074) Figure 4-10 c – Quarter frame front grease zerk



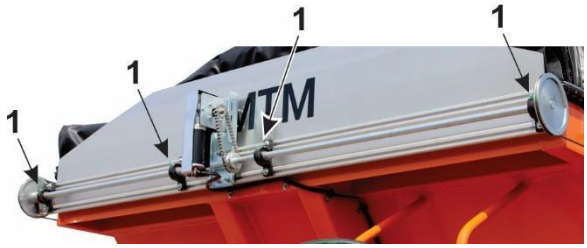
(1075) Figure 4-10 d – Rear pivot grease zerk



(1076) Figure 10-9 e – High Lift Tailgate grease zerks



(1077) Figure 4-10 f – Barndoor tailgate grease zerks



(1078) Figure 4-10 g – Slide Tarp Drive System Lubrication

17. **Check Trailer Lights and Wiring (Inspect)**

    - Inspect lights, wiring, and coupling sockets, ensuring all lights are clean and functional. Replace any non-working lights and secure loose wires to the semitrailer frame.
    - Ensure cables and hoses between the tractor and semitrailer (1, Figure 4-11) are properly supported, do not rub on the tractor frame, and show no signs of wear or damage.

(1021) Figure 4-11 – Properly Supported Air and Brake Lines

Additional Monthly Tasks (Not Numbered in Chart):

- **Tire Condition**: Measure and check all tires for proper mating and unserviceable conditions. Rotate serviceable tires showing abnormal wear to other wheel positions and correct any apparent mechanical defects.
- Underside Inspection: Check the underside of the trailer frame, axle mounts, and springs for trapped debris, clearing as necessary.

Annual Maintenance Procedures

Annual maintenance includes all daily, weekly, and monthly tasks, plus the following, and should be performed by a qualified semitrailer mechanic:

2. **Axle U-Bolts (Check and Tighten)**

    - Re-inspect and tighten axle U-bolt nuts to the required torque, ensuring proper axle alignment to prevent tire wear.

3. **Leaf Spring Suspension (Inspect)**

    - Conduct a thorough inspection of spring assemblies for excessive sag, shifted or broken leaves, loose/damaged spring clips, or damaged/leaking air bag components. Verify leaf spring U-bolt torque. Remove the semitrailer from service if damage is detected.

4. **Wheel Bearings (Inspect for Leakage)**
    - Inspect all inner sides of the hub for leakage at least once a year or every 60,000 miles, whichever comes first, as a preventative measure. Add lubricant to the specified level (1, Figure 5-22) if needed, avoiding overfilling.
5. **Brake System (Inspect)**
    - Perform a comprehensive annual inspection of the brake system, ensuring all components are in good condition and functioning properly.

Semi-Annual Maintenance Procedures (Every 12,000 Miles or Annually)

The following task is required every 12,000 miles or annually, whichever comes first:

11. **Brake System (Service)**
    - Service the brake system every 12,000 miles or annually, including a full inspection and any necessary adjustments or replacements.

Additional Semi-Annual Task (Not Numbered in Chart):

- **Brake Shoe Adjustment:** Adjust brake shoes after the first 200 miles of use and every 3,000 miles thereafter to maintain optimal braking performance.