10 INSPECTION, SERVICE & MAINTENANCE

10.1 INSPECTION, SERVICE & MAINTENANCE SUMMARY CHARTS

You must inspect, maintain and service your trailer regularly to insure safe and reliable operation. If you cannot or are unsure how to perform the items listed here, have your dealer do them. Note: In addition to this manual, also check the relevant component manufacturer's manual.

Inspection and Service before Each Use		
Item	**Inspection / Service**	**Manual Section Reference**
Breakaway Brakes		
> Electric	**Check operation**	**Sections 4.3.4 & 4.4.5**
> Hydraulic	**Check fluid level**	**Section 10.2.3.6**
Breakaway Battery	**Fully charged, connections clean**	**Sections 4.3.4 & 4.4.5** **Section 10.2.3.3**
Brakes, all types	**Check operation**	**Section 8.3**
Shoes and Drums	**Adjust**	**Section 8.2 10.2.3.2**
Brakes, Hydraulic – Vacuum Actuated	**Check gauge for proper vacuum of 18 In. Hg. (inches of mercury)**	**Section 10.2.3.6**
Coupler and Hitch Ball	**Check for cracks, pits, and flats. Replace w/ball & coupler having trailer GVW Rating.** **Grease.** **Check locking device & replace when worn.**	**Section 4.3.1.2** **Section 4.3.1.2** **Section 10.2.4.1**
Gooseneck Ball	**Check for cracks, pits, and flats. Replace w/ball & coupler having trailer GVW Rating.** **Grease.** **Check locking device & replace when worn.**	**Section 4.4.2** **Section 4.4.2** **Section 10.2.4.3**
Ring & Pintle	**Check for cracks, pits and flats. Replace w/ring and pintle having trailer GVW rating** **Grease.** **Check locking device & replace when worn.**	**Section 4.3.2.1** **Section 4.3.2.1** **Section 10.2.4.2**
Safety Chain(s) & Hooks	**Check for wear and damage**	**Sections 4.3.3 & 4.4.4**

Accessories

Tires	**Check tire pressure when cold. Inflate as needed.**	**Sections 7.1 & 10.2.8**
Wheels - Lug Nuts (Bolts) & Hub	**Check for tightness** **Tighten. For new and remounted wheels, check torque after first 10, 25 & 50 miles of driving and after any impact**	**Section 7.1** **Sections 8.1 & 10.2.12**

Inspection and Service each Month		
Item	**Inspection / Service**	**Manual Section Reference**
Lubrication	**Lubricate doors and dump body pivots**	**Section 10.2.11**

Inspection and Service each 6 Months or 6,000 Miles		
Item	**Inspection / Service**	**Manual Section Reference**
Tires	**Rotate @ 5,000 miles**	**Section 10.2.8**
Brakes, electric **> Magnets** **> Controller (in tow vehicle)**	**Check wear and current draw** **Check power output (amperage) and modulation**	**Section 10.2.3.5** **Section 10.2.3.4** **See Controller Mfr's Manual**
Tires	**Inspect tread and sidewalls thoroughly.** **Replace tire when treads are worn, when sidewall has a bulge, or sidewall is worn**	**Section 10.2.8** **Section 10.2.8**

Inspection and Service Each Year or 12,000 Miles		
Item	**Inspection / Service**	**Manual Section Reference**
Brakes, all types **> Shoes and drums**	**Check for scoring and wear. Replace per manufacturer's specifications**	**Section 10.2.3.1** **See Brake Mfr's Manual**
Jack, Drop-leg	**Grease gears at top**	**See Jack Mfr's Manual**
Structure **> Frame members** **> Welds**	**Inspect all frame members, bolts & rivets. Repair or replace damaged, worn or broken parts.** **Inspect all welds. Repair as needed**	**Section 10.2.1** **Section 10.2.2.2**
Wheels **> Wheel Bearings** **> Rims**	**Disassemble / inspect / assemble and repack. Replace promptly if immersed in water** **Inspect for cracks & dents. Replace as needed.**	**Section 10.2.10 & See Axle Mfr's Manual** **Section 10.2.9**
Structure **> Axle Attachment Bolts**	**Check BY DEALER**	**Section 10.2.1**

10.2 INSPECTION AND SERVICE INSTRUCTIONS

10.2.1 Axle Bolts, Frame, Suspension, & Structure

⚠ WARNING

Worn or broken suspension parts can cause loss of control and injury may result.

Have trailer professionally inspected annually and after any impact.

To perform many of the inspection and maintenance activities, you must jack up the trailer.

When jacking and using jack stands, place them so as to clear wiring, brake lines, and suspension parts (springs, torsion bars, etc.). Place jacks and jack stands under the outer frame rail to which the axles are attached.

⚠ WARNING

Never crawl under your trailer unless it is on firm and level ground and resting on properly placed and secured jack stands.

10.2.2 Trailer Structure

Because the trailer floor receives the most abuse, it will most likely corrode before any other part of the structure.

Using a power washer and a detergent solution, wash the floor and walls of the trailer. Rinse the trailer floor and walls.

10.2.2.1 Fasteners and Frame Members

Inspect all of the fasteners and structural frame members for bending and other damage, cracks, or failure. Repair or replace any damaged fastener and repair the frame member. If you have any questions about the condition or method of repair of fasteners or frame members, get the recommendation of, or have the repair done by, your dealer.

⚠ WARNING

Broken or damaged fasteners or welds can cause injury or damage to trailer and contents.

Inspect for, and repair all damaged parts at least once a year.

10.2.2.2 Welds

All welds can crack or fail when subjected to heavy loads or movement of cargo that was not properly tied to prevent movement. Any time that you know or suspect that the trailer has been subjected to heavy loads or movement of cargo, immediately inspect the welds and fasteners for damage. To prevent severe damage to your trailer, inspect all of the welds for cracks or failure at least once a year.

⚠ WARNING

Broken or damaged fasteners or welds can cause injury or damage to trailer and contents.

Inspect for, and repair all damaged parts at least once a year.

10.2.3 Trailer Brakes

10.2.3.1 Brake Shoes and Drums

Properly functioning brake shoes and drums are essential to ensure safety. You must have your dealer inspect these components at least once per year, or each 12,000 miles.

The brake shoes must be adjusted after the first 200 miles of use, and each 3,000 miles thereafter. Most axles are fitted with a brake mechanism that will automatically adjust the brake shoes when the trailer is "hard braked" from a rearward direction. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, call PJ Trailers at 800-452-9116 for a free copy.

10.2.3.2 Manually Adjusting Brake Shoes

Some braking systems are not automatically adjusted by hard stopping. These brakes require manual adjustment. The following steps apply to adjust most manually adjustable brakes. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, call PJ Trailers at 800-452-9116 for a free copy.

Jack up the trailer and secure it on adequate capacity jack stands.
Be sure the wheel and brake drum rotate freely.
Remove the adjusting-hole cover from the adjusting slot on the bottom of the brake backing plate.
With a screwdriver or standard adjusting tool, rotate the starwheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn. Note: Your trailer maybe equipped with drop spindle axles. See axle manual for your axle type. You will need a modified

adjusting tool for adjusting the brakes in these axles. With drop spindle axles, a modified adjusting tool with about an 80 degree angle should be used.
Rotate the starwheel in the opposite direction until the wheel turns freely with a slight drag.
Replace the adjusting-hole cover.
Repeat the above procedure on all brakes.
Lower the trailer to the ground.

10.2.3.3 Brakes, Electric

Two different types of electric brakes may be present on the trailer: an emergency electric breakaway system, which acts only if the trailer comes loose from the hitch and the breakaway pin is pulled. The other brake is an electric braking system that acts whenever the brakes of the tow vehicle are applied.

Breakaway Brake

Breakaway Battery - This battery supplies the power to operate the trailer brakes if the trailer uncouples from the tow vehicle. Be sure to check, maintain and replace the battery according to the battery manufacturer' instructions.

Breakaway Switch - This switch causes the breakaway battery to operate the electric brakes if the trailer uncouples from the tow vehicle.

The lanyard for the pull pin is connected to the tow vehicle, and the switch is connected to the trailer. To check for proper functioning of the switch, battery and brakes, you must pull the pin from the switch and confirm that the brakes apply to each wheel. You can do this by trying to pull the trailer with the tow vehicle, after pulling the pin. The trailer brakes may not lock, but you will notice that a greater force is needed to pull the trailer.

⚠ WARNING

If electric breakaway brakes do not operate when trailer is uncoupled from the tow vehicle, death or serious injury can occur.

Check emergency breakaway brake system BEFORE each tow.

10.2.3.4 Tow Vehicle Operated Electric Brakes

The electric brakes that operate in conjunction with the tow vehicle brakes must be "synchronized" so that braking is properly distributed to the tow vehicle brakes and the trailer brakes. For proper operation and synchronization, read and follow the axle/brake and the brake controller manufacturers' instructions. If you do not have these instructions, call PJ Trailers at 800-452-9116 for a free copy.

10.2.3.5 Magnets for all Electric Brakes

To make certain an electrically-operated braking system will function properly, you must have your dealer inspect the magnets at least once a year, or each 12,000 miles. See the brake manual for wear and current inspection instructions.

10.2.3.6 Brakes, Hydraulic (vacuum, air or electric operated)

If your trailer has hydraulically-operated brakes, they function the same way the hydraulic brakes do on your tow vehicle. The hydraulic braking system must be inspected by a dealer, at least as often as the brakes on the tow vehicle, but no less than once per year. This inspection includes an assessment of the condition and proper operation of the wheel cylinders, brake shoes, brake drums and hubs.

You must check the fluid level in the master cylinder reservoir at least every three months. If you tow your trailer an average of 1,000 miles per month in a hot and dry environment, you must check the brake fluid level once a month. The brake fluid reservoir is located on the tongue of the trailer or near the gooseneck. Fill with DOT 4 brake fluid.

Vacuum-Operated Hydraulic - When towing a trailer, the vacuum gauge, which is located inside the cab of the tow vehicle, must indicate 18 In. Hg. (inches of mercury) or more at all times.

⚠ WARNING

Vacuum gauge in tow vehicle must be at or above 18 In. Hg. If not, brakes may be rendered inoperable and unsafe. Low vacuum will cause damage to the brake system.

Air Pressure-Operated Hydraulic - Air/hydraulic braking systems are typically used when the tow vehicle has a diesel engine. The tow vehicle has an air compressor that routes the air to an air/hydraulic mechanism, which sends brake fluid to the wheel cylinders.

The air pressure gauge in your tow vehicle indicates the current air pressure. See your tow vehicle manual for the proper air pressure.

Electrical-Operated Hydraulic - Electric/hydraulic braking systems, which are mounted on the trailer, use a small electrically-driven pump to generate hydraulic pressure, which operates the brake cylinders. Like electrical brakes, an electric/hydraulic braking system is operated by an electrical signal from the tow vehicle.

10.2.4 Trailer Connection to Tow Vehicle

10.2.4.1 Bumper Pull Coupler and Ball

The coupler on the trailer connects to the ball attached to the hitch on the tow vehicle. The coupler, ball and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the coupler to the ball for proper operation.

See the coupler manufacturer's manual for other inspection and maintenance activities. If you do not have this manual, call PJ Trailers at 800-452-9116 for a free copy.

If you see or feel evidence of wear, such as flat spots, deformations, pitting or corrosion, on the ball or coupler, immediately have your dealer inspect them to determine the proper action to prevent possible failure of

the ball and coupler system. All bent or broken coupler parts must be replaced before towing the trailer.

The coupler handle lever must be able to rotate freely and automatically snap into the latched position. Oil the pivot points, sliding surfaces, and spring ends with SAE 30W motor oil. Keep the ball pocket and latch mechanism clean. Dirt or contamination can prevent proper operation of the latching mechanism.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

10.2.4.2 Ring and Pintle

The ring on the trailer connects to the pintle attached to the hitch on the tow vehicle. The ring, pintle and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ring with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the pintle to the ring for proper operation.

See the pintle manufacturer's manual for other inspection and maintenance activities. If you do not have this manual, call PJ Trailers at 800-452-9116 for a free copy.

If you see or feel evidence of wear, such as flat spots, deformations, pitting or corrosion, on the ring or pintle, immediately have your dealer inspect them to determine the proper action to prevent possible failure of the ring and pintle system. All bent or broken coupler parts must be replaced before towing the trailer.

The pintle handle lever must be able to rotate freely and automatically snap into the latched position. Oil the pivot points, sliding surfaces, and spring ends with SAE 30W motor oil. Keep the ring pocket and latch mechanism clean. Dirt or contamination can prevent proper operation of the latching mechanism.

When replacing a ring, the load rating must match or exceed the GVWR of the trailer.

10.2.4.3 Gooseneck Ball Receiver

The gooseneck receiver on the trailer connects to a hitch-mounted ball on the towing vehicle. The receiver, ball and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the receiver to the ball for proper operation.

See the gooseneck ball receiver manufacturer's manual for other inspection and maintenance activities. If you do not have a manual for the receiver, call PJ Trailers at 800-452-9116 for a free copy.
If you see or can feel evidence of wear, such as flat spots, pitting or corrosion, on the ball or receiver, immediately have your dealer inspect them to determine the proper action to prevent possible failure of the ball and receiver system.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

10.2.5 Landing Leg or Jack

If a grease fitting is present, you must use a grease gun to lubricate the jack mechanism. Grease the gears in the top of hand-cranked jacks once a year, by removing the top of the jack and pumping or hand packing grease into the gears.

10.2.6 Lights and Signals

Before each tow, check the trailer taillights, stoplights, turn signals and any clearance lights for proper operation.

⚠ WARNING

To avoid collisions, taillights, stoplights and turn signals must work.

10.2.7 Accessory Battery

Your trailer may be outfitted with an accessory battery that operates lighting, electric landing gear or other accessories. An accessory battery

may be kept charged either by the tow vehicle or by an external battery charger.

A disconnect switch may be provided to disconnect the accessory battery when you do not plan to be using the trailer for an extended period, such as seasonal storage. If there is no disconnect switch, then remove the cables from the battery terminals.

The accessory battery must be kept in a charged condition during storage. The battery could freeze and break if it becomes discharged.

10.2.8 Tires

Before each tow, be sure the tire pressure is at the value indicated on the Certification / VIN label. Tire pressure must be checked while the tire is cold. Do not check the tire pressure immediately after towing the trailer. Allow at least three hours for a tire to cool, if the trailer has been towed for as much as one mile. Replace the tire before towing the trailer if the tire treads have less than 2/32 inch depth or the telltale bands are visible.

A bubble, cut or bulge in a side wall can result in a tire blowout. Inspect both side walls of each tire for any bubble, cut or bulge; and replace a damaged tire before towing the trailer.

⚠ WARNING

Worn, damaged or under-inflated tires can cause loss of control, injury and damage.

Check tires before each tow.

10.2.9 Wheel Rims

If the trailer has been struck, or impacted, on or near the wheels, or if the trailer has struck a curb, inspect the rims for damage (i.e. being out of round); and replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

10.2.10 Wheel Bearings

A loose, worn or damaged wheel bearing is the most common cause of brakes that grab.

To check your bearings, jack trailer and check wheels for side-to-side looseness. If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced.

Refer to the axle manufacturer's information for service and maintenance on the axle.

10.2.11 Lubrication Points – Dump Trailers

⚠ Danger

Risk of death by crushing.

Empty dump body before using body prop.

⚠ WARNING

Risk of death by crushing.

Dump body can drop unexpectedly.

Never go under a raised dump body.

Use body prop for maintenance.

⚠ WARNING

Risk of death by crushing.

Make sure dump body is empty.

DO NOT manipulate the body safety prop if a person is near the control.

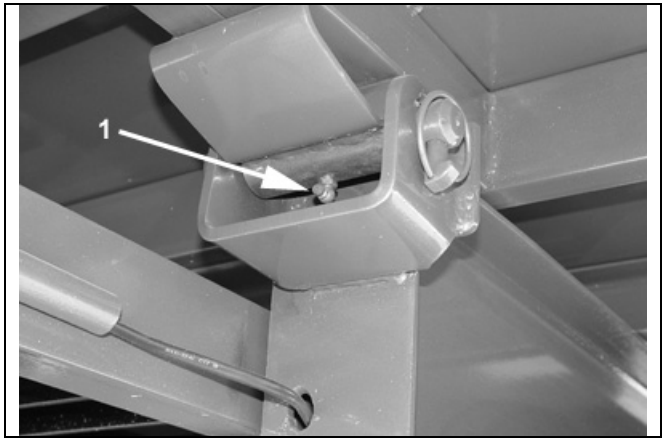
The body prop supplied as part of the trailer is to be used only when the dump body is empty. The purpose of the body prop is a back-up to the

hydraulic system and will hold the empty dump body in a raised position while performing maintenance on the hoist, trailer body, or the trailer itself.

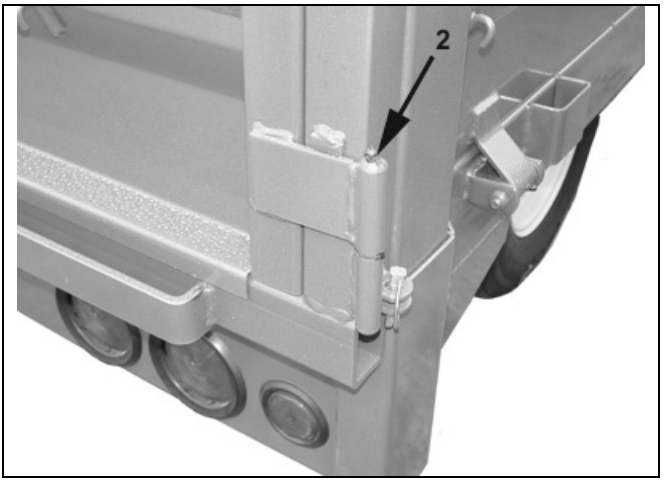
DO NOT use the body prop to support a loaded dump body.

DO NOT perform maintenance under a raised dump body without first supporting the empty dump body up with the body prop.

Pump grease into the each fitting (1) on the dump body pivot hinges and rear door hinges (2) every month. See figures 8-1 and 8-2.

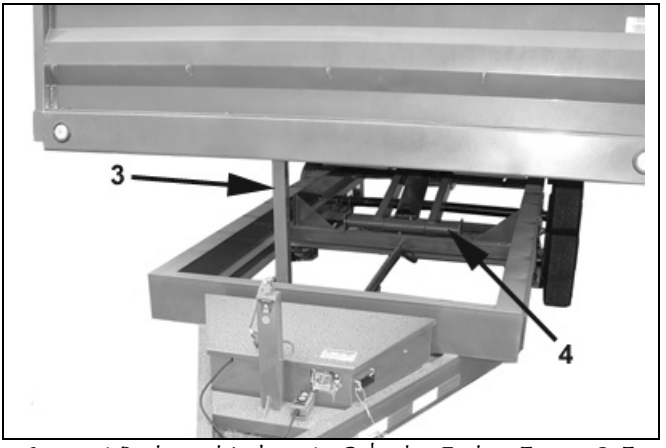


Lubricate Dump Body Pivot Hinges – Figure 8-1



Lubricate Door Hinges – Figure 8-2

Park the trailer on a firm and level surface. Raise the dump body and hold the body safety prop (3) in the upright position. Lower the dump body so the body safety prop engages the socket on the dump body. See figure 8-3. Pump grease into the fittings (4) on each end of the cylinder(s) and in the scissor mechanism (if equipped). The number of grease fittings and location on the scissor mechanism will vary by trailer model.



Support Body and Lubricate Cylinder Ends – Figure 8-3

10.2.12 Lug Nuts

Lug nuts are prone to loosen right after a wheel is mounted to a hub. When driving on a remounted wheel, check to see if the lug nuts are tight after the first 10, 25 and 50 miles of driving, and before each tow thereafter.

⚠ WARNING

Lug nuts are prone to loosen after being first assembled. Death or serious injury can result.

Check lug nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.

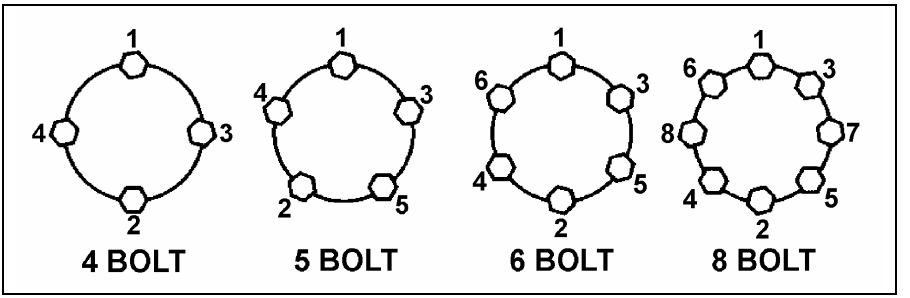
⚠ WARNING

Metal creep between the wheel rim and lug nuts (bolts) will cause rim to loosen.

Death or injury can occur if wheel comes off.

Tighten lug nuts (bolts) before each tow.

Tighten the lug nuts to the proper torque for the axle size on your trailer, to prevent wheels from coming loose. Use a calibrated torque wrench to tighten the fasteners. Verify that wheel studs are free of contaminates such as paint or grease, which may result in inaccurate torque readings. Over-tightening will result in breaking the studs or permanently deforming the mounting stud holes in the wheels.



Lug Nut Torque Sequence

Stud Size	Pound Feet of Torque
1/2 inch	80-90
9/16 inch	130-150
5/8 inch cone with tension ring	175-225
5/8 inch two-piece flanged	130-170