

9.2 INSPECTION AND SERVICE INSTRUCTIONS

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 go under trailer unless it is on firm and level ground and resting on properly placed and secured jack stands.

WARNING

Crushing hazard.

The tow vehicle and trailer could be inadvertently moved while a person is under the trailer.

The tow vehicle engine must be off, ignition key removed and parking brakes set before entering the area under the trailer.

9.2.1 TRAILER STRUCTURE

Wash the trailer as needed with a power washer and a detergent solution.

9.2.1.1 FASTENERS AND FRAME MEMBERS

Inspect all 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 can cause injury or damage to trailer and contents.

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

9.2.1.2 WELDS

All welds can crack or fail when subjected to heavy loads or movement of cargo that was not properly secured. 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. If a weld failure is detected, contact your dealer.

WARNING

Do not attempt to repair a cracked or broken weld unless you have the skills and equipment to make the repair.

Improper weld repair will lead to early failure of the trailer structure and serious injury or death.

See your dealer for weld repairs.

WARNING

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

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

9.2.2 TRAILER BRAKES - ELECTRIC

9.2.2.1 BRAKE DISCS, 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. Brake adjustment is not covered under the axle warranty.

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. Trailer disc brakes are self-adjusting and do not need to be periodically adjusted. Using pads or shoes without enough brake lining material can result in brake damage, create excessive heat and potentially cause the loss of braking capacity. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, contact your dealer for assistance.

9.2.2.2 MANUALLY ADJUSTING BRAKE SHOES

Some braking systems are not automatically adjusted. 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, contact your dealer for assistance.

1. Jack up the trailer and secure it on adequate capacity jack stands.

2. Be sure the wheel and brake drum rotate freely.
3. Remove the adjusting-hole cover from the adjusting slot on the bottom of the brake backing plate.
4. With a screwdriver or standard adjusting tool, rotate the star wheel 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.
5. Rotate the star wheel in the opposite direction until the wheel turns freely with a slight drag.
6. Replace the adjusting-hole cover.
7. Repeat the above procedure on all brakes.
8. Lower the trailer to the ground.

9.2.2.3 ELECTRIC BRAKES

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 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's instructions. Your trailer may use the hydraulic system battery to operate the breakaway brakes.

CAUTION

Extreme cold weather can degrade battery performance and cause brakes to not operate properly.

Check battery charge level before towing.

Breakaway Switch - This switch engages the electric brakes if the trailer uncouples from the tow vehicle. 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.

9.2.2.4 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, contact your dealer for assistance.

9.2.2.5 ELECTRIC BRAKE MAGNETS

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.

9.2.3 TRAILER BRAKES - SURGE (IF EQUIPPED)

9.2.3.1 SURGE BRAKE MASTER CYLINDER

Check fluid level prior to using the trailer. The master cylinder is normally located on the tongue of the trailer. The fluid level must be maintained at full mark on reservoir. Check with your dealer for the type of brake fluid used in the brake system.

9.2.3.2 HYDRAULIC SURGE BRAKE

Before each tow, perform the following steps:

1. Check that the brake master cylinder level is as instructed above. Check for leaks and repair as required.
2. Examine the actuator for wear, bent parts, corroded/seized parts, or other damage. Have the affected components replaced with genuine service parts.
3. Check to determine that the actuator mounting bolts are tightened to the manufacturer’s specification.
4. Test the actuator and brake function as described in the Coupling To Tow Vehicle section of this manual. Actuator travel over one inch indicates that the brakes need adjustment (or that the actuator has been structurally damaged). Actuator travel is the distance the coupler case assembly moves to the outer case during braking. Adjust the brakes following the instructions given in the brake installation manual. Failure to adjust brakes will result in loss of braking.
5. Before storage or after extended use, apply motor oil to the coupler components and the internal rollers to keep them moving freely and to prevent corrosion.
6. See the surge brake manufacturer’s manual for other inspection and maintenance activities. If you do not have this manual, contact your dealer for assistance.

9.2.3.3 MASTER CYLINDER BLEEDING

Remove the master cylinder's cap and fill the reservoir to three quarters full with DOT-3 or DOT-4 brake fluid. DO NOT allow brake fluid to contact painted surfaces since it will damage the finish. Wipe up any spills immediately and wash the area with water.

Bleed the brake system manually or with a pressure bleeder. Pressure bleeding equipment simplifies the process, and is available at most automotive supply stores. Use the instructions provided with the pressure bleeder. If you chose to manually bleed the system, an assistant is required. Use the following steps to manually bleed the brake system:

1. Disconnect the trailer from the tow vehicle and jack the trailer's tongue until it is horizontal. Make sure that the wheels are blocked so that the trailer will not roll away.
2. Fill the master cylinder with correct fluid.
3. Install a bleeder hose on the bleeder screw of the farthest wheel cylinder from the actuator. If the trailer has multiple axles, bleed the rear axle first. Submerge the other end of the hose in a glass container of brake fluid, so that air bubbles can be observed.
4. Open the bleeder screw and have an assistant stroke (but not release) the actuator. Brake fluid and / or air bubbles will flow into the jar. Close the bleeder screw. The helper can then allow the actuator to return to its rest position.
5. Repeat the process until no more bubbles are released with the stroke. Air trapped in the brake lines will greatly reduce your braking efficiency. Be sure to close the bleeder screw securely when the cylinder is fully bled. Repeat the bleeding operation at each wheel cylinder. During the bleeding process, replenish the master cylinder reservoir with fresh brake fluid so that the level does not fall below half full. This will ensure that no air is drawn into the system.
6. After all brakes have been bled, refill the master cylinder before operating. Be sure to install the master cylinder filler cap.

WARNING

Use only fresh brake fluid from a sealed container. DO NOT reuse fluid. After filling and bleeding, refill the actuator.

Failure to maintain an adequate fluid level may cause brake failure.

9.2.4 TRAILER CONNECTION TO TOW VEHICLE

9.2.4.1 COUPLER AND BALL

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 procedures. If you do not have this manual, contact your dealer for assistance.

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 latch 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.

9.2.4.2 RING AND PINTLE

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, contact your dealer for assistance.

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.

9.2.5 LANDING LEG OR JACK

If a grease fitting is present, 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.

9.2.6 LIGHTS AND SIGNALS

Before each tow, check all trailer lights for proper operation.



WARNING

To avoid risk of collisions, all lights must work.

9.2.7 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. Replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

9.2.8 TIRES

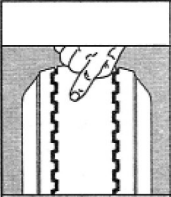
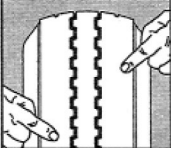
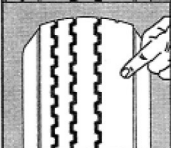
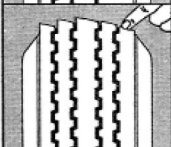
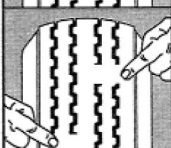
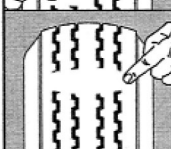
Before each tow, check the tire pressure to make sure it is at the level indicated on the tire sidewall or VIN label. Tire pressure must be checked while the tire is cold. Do not check tire pressure immediately after towing the trailer. Allow at least three hours for the tires to cool, if the trailer has been towed for as much as one mile. Tires can lose air over a period of time.

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.

If you are storing your trailer for an extended period, make sure the tires are inflated to the maximum rated pressure indicated on the sidewall or VIN label and that you store them in a cool, dry place such as a garage. Use tire covers to protect the tires from the harsh effects of the sun.

TIRE INSPECTION CHART

	Condition	Possible Cause	Remedy
	Even Center Wear	Over Inflation	Check & Adjust Pressure When Cold
	Inside & Outside Wear	Under Inflation	Check & Adjust Pressure When Cold
	Smooth, Side Wear - One Side	Loss of Camber or Overloading	Check & Unload As Necessary Have Alignment Checked
	"Feathering" Across The Face	Axle Not Square To Frame or Incorrect Toe In	Square Axles Have Alignment Checked
	Cupping	Loose Bearings or Wheel Balance	Check Bearing Adjustment and Wheel & Tire Balance
	Flat Spots	Wheel Lockup	Adjust Brakes

WARNING

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

Check tires before each tow.

9.2.9 WHEEL BEARINGS

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

To check your bearings, jack up the trailer and secure it on adequate capacity jack stands. Check wheels for side-to-side looseness.

If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced.

WARNING

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

If your axle(s) are equipped with a grease zerk on the ends of the axle(s), the bearings must be greased every 6 months or 6,000 miles to ensure reliable and safe operation of your trailer.

1. Remove the rubber plug from the axle end.
2. Place grease gun on zerk.
3. Pump grease until new grease begins to appear. Use a different color grease each time so you will know when the new grease begins to appear.
4. Install rubber plug and cap. Repeat for remaining wheel bearings.

If your trailer axle(s) are not equipped with grease zerks, refer to the axle manufacturer's manual for service and maintenance information.

9.2.10 LUG NUTS OR BOLTS

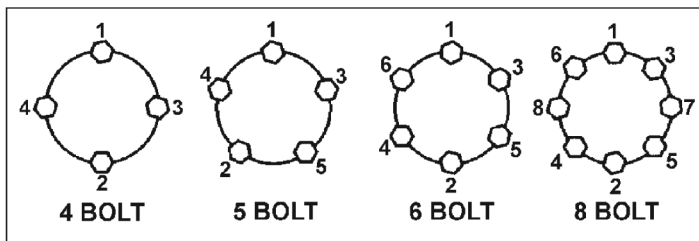
Lug nuts or bolts are prone to loosen right after a wheel is mounted to a hub. When driving on a remounted wheel, check to see if the lug nuts or bolts are tight after the first 10, 25, and 50 miles of driving, and before each tow thereafter.

WARNING

Tighten lug nuts or bolts before each tow. Lug nuts or bolts, are prone to loosen after being first assembled.

Metal creep between the wheel rim and lug nuts or bolts can cause rim to loosen. Death or injury can occur if wheel comes off.

Tighten the lug nuts or bolts in three stages to the final torque for the axle size on your trailer, to prevent wheels from coming loose. Tighten each lug nut or bolt in the order shown in the following figure.



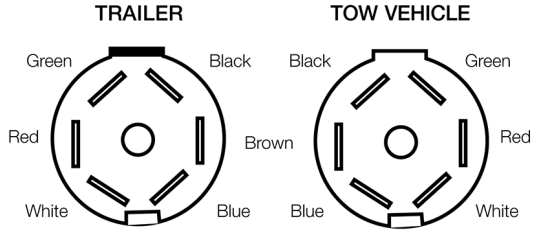
Use a calibrated torque wrench to tighten the fasteners. Verify that wheel studs are free of contaminants such as paint or grease, which may result in inaccurate torque readings. Over-tightening will result in breaking the studs or permanently deforming the mounting stud holes in the wheels, and will void the axle warranty.

See your axle manufacturer's manual or your dealer for wheel nut or bolt torque specifications.

9.2.11 WIRING DIAGRAMS

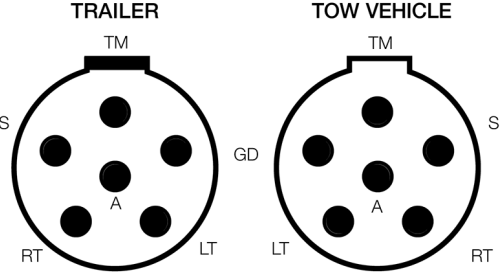
7 RV

Plug Says	Trailer Wired	Function
White	White	Common Ground
Center Pole	Red	Back-up Lights
Green	Brown	Tail Markers
Blue	Blue	Electric Brake
Brown	Green	RT Turn/Brake
Red	Yellow	LT Turn/Brake
Black	Black	Battery Charger



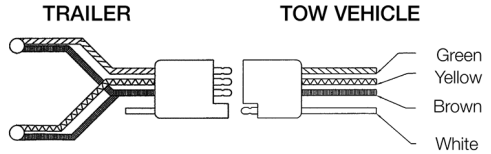
6 Round

Plug Says	Trailer Wired	Function
Yellow (LT)	Yellow (LT)	Left Turn/Stop
Green (RT)	Green (RT)	Right Turn/Stop
Blue (S)	Blue (S)	Electric Brake
White (GD)	White (GD)	Ground
Brown (TM)	Brown (TM)	Tail/Marker
Black (A)	Black (A)	Auxillary



4 Flat

White . . . Ground
 Brown . . . Tail Marker
 Yellow . . . Left Turn
 Green . . . Right Turn



7 Semi

Plug Says	Trailer Wired	Function
Yellow	Yellow	Left Turn
Green	Green	Right Turn
Brown	Brown	Tail/Marker
White	White	Common Ground
Red	Red	Stop
Black	Black	ID & Marker
Blue	Blue	ABS/Elec. Brakes

