Drum Brake Owners Manual

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Instruction Sheet #08095

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Hydraulic Drum Brakes

If your trailer is equipped with hydraulic drum brakes, the brakes are activated by the surge actuator/coupler located on the front end of the trailer tongue. When the tow vehicle stops, the trailer pushes into the tow vehicle, compressing the master cylinder that is located inside the actuator. The master cylinder forces brake fluid to the drum brakes. Inside each drum brake is a wheel cylinder that expands with the surge of brake fluid, pushing the brake shoes against the inside of the brake drum.

Drum brakes must be periodically adjusted. Recommended service intervals are after the first 500 miles and then every 1000 miles. Drum brakes also must be flushed when submerged in salt water or towed in road conditions where salting of the roads is done to improve driving conditions.

Many marine and trailer accessory companies offer drum brake flush kits. If you use your trailer in these conditions, it is recommended that you install a flush kit, if your trailer did not come equipped with the flush kit.

To Adjust Your Drum Brakes (Applies to Both Electric & Hydraulic Brakes):
Position the trailer on a stable and LEVEL working surface. If possible, leave the tow vehicle hooked to the trailer in order to limit movement as well as keeping the front end supported and level. If the trailer is not supported on the tow vehicle, it MUST be blocked directly to the ground at the frame/tongue junction.

UNDER NO CIRCUMSTANCES IS THE TRAILER TO BE SUPPORTED BY THE TONGUE JACK WHILE BEING RAISED AT THE WHEELS! Block the wheels opposite the side being worked on both front and rear so that the trailer cannot roll.

NOTE: Using an adequate capacity floor or scissors jack, raise the side of the trailer.

NOTE: Check under frames for brake lines BEFORE lifting. DO NOT position jack in areas that may damage brake lines, etc.

NOTE: A. Tandem and tri-axle trailers should be jacked on the frame between the wheels, or directly under the axle within 8" of the backside of the tire. B. Single axle trailers can be lifted on the frame just behind the axle or directly under the axle within 8" of the backside of the tire (if lifting at the axle).

CAUTION- always support the trailer with adequate capacity support stands. DO NOT rely on the jack as the only means of support.

Initial Adjustment of Brakes (Applies to Both Electric & Hydraulic Brakes)
Adjust the brakes before removing the jacks.

A. With trailer wheel off the ground and tire mounted. Remove the rubber access hole plugs from the rear of the brake backing plate.
B. Inserting a brake spoon or flat screwdriver through the access hole(s), tighten the star adjuster while rotating the wheel in the forward direction. NOTE: Always spin wheel in the forward direction as if the trailer was traveling forward on the road. Tighten the star adjuster until the wheel reaches a point where the brake shoes start to engage.
C. Loosen the star adjustor one click at a time while turning the wheel in a forward rotation. Continue adjusting one click at a time until the wheel rotates with little effort.
D. Replace the rubber access hole plugs.
E. Repeat this procedure for all braking wheels.

Bleeding the Brake System - Hydraulic Drum Bakes Only
Use only DOT-3 heavy duty fluid. Do not re-use brake fluid. Do not use any other type of brake fluid other than DOT-3. If pressure bleeding equipment is available, follow the manufacturer's instruction in bleeding the system.

Use only DOT-3 heavy-duty hydraulic fluid in the actuator. If using a pressure type brake bleeder to bleed brakes. (This type of brake bleeder is available at your local automotive jobber.) Follow manufacturer's directions. If manually bleeding the brakes using a heavy-duty flat blade screwdriver inserted in the hole provided on top of the actuator near the front. Insert the screwdriver and use a pumping action to activate the master cylinder in order to bleed the brakes.

To bleed master cylinder and brakes, install bleeder hose on first wheel cylinder to be bled; if tandem axle trailer, bleed furthermost axle first, and the furthermost brake on that axle first. Use a loose end of hose from the bleeder valve submerged in a glass container of brake fluid to observe bubbling (hose must be submerged into clean brake fluid to keep air from traveling back into the brake cylinder).

Loosen the bleeder screw located in the wheel cylinder one turn, the system is now open to the atmosphere. The bleeding operation for that brake is complete when bubbling stops. Be sure to tighten bleeder screw securely.

Each wheel cylinder must be bleed until all air is out of the lines. Replenish the brake fluid during the bleeding process so the level does not fall below half full level in the master cylinder reservoir. When bleeding and testing is completed, make sure master cylinder is filled the reservoir and filler cap is securely in place.

When using drum or disc brakes on tandem axle trailers, both axles must be installed with brakes, Failure to install brakes on both axles will result in loss of braking performance, overheating of brakes & wheel hub, and significantly reduce brake pad life.

WARNING

Brakes should always be flushed with fresh water after using trailer in corrosive conditions. **This includes salt water, fertilizers and other corrosive materials. Before storing trailer remove brakes and clean thoroughly. It is also wise to repack the bearings at the same time.**

WARNING

DO NOT REUSE BRAKE FLUID. Always use fresh DOT 3 fluid from a fresh container. Failure to maintain proper levels of fluid will cause brake failure.

Electric Drum Brake Information

Electric brakes are activated by a brake controller located in the tow vehicle. This is generally an accessory that must be purchased separately. Please research before buying. Some controllers work better with different brand tow vehicles. ***Electric drum brakes are not recommended for marine applications***

Electric brakes are individually adjusted in the same way the hydraulic drum brakes are adjusted that is covered in this manual. The electric drum brakes work by an electrical current going to the brakes and activating a magnet. The magnet is then attracted to the inside wall of the drum hub. This drags the magnet and pushes the brake shoes out against the drum hub. The brake controller is generally adjustable to regulate the amount of current given to the magnets/drum brakes. This adjustment controls the amount of braking force applied.

Wires are connected to the brakes by one of two methods:

1. Plug in wires 2. Twist wires with a wire cap cover.

There is not a specified positive/negative connection at the brakes

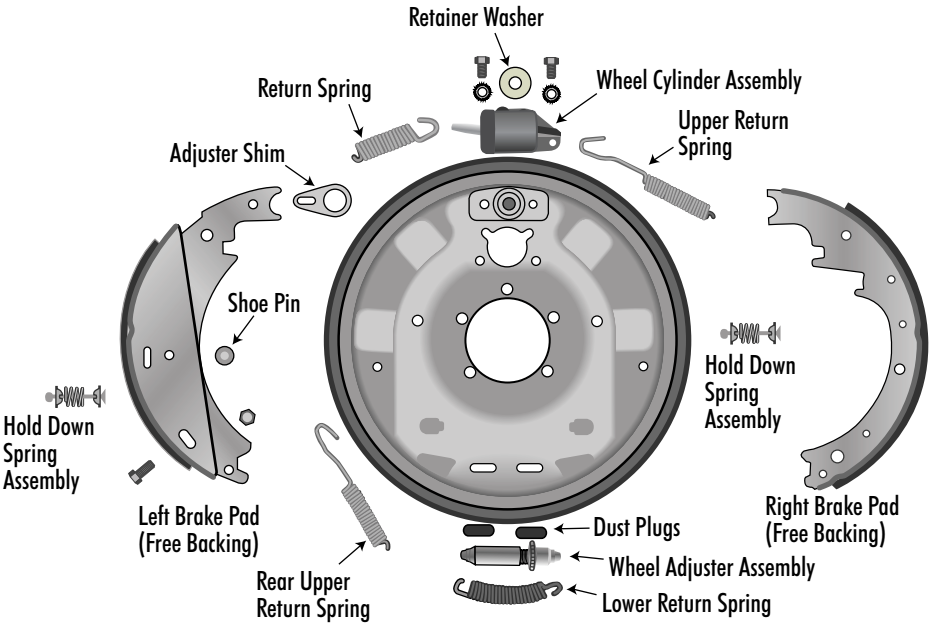
Hydraulic Drum Brake Trouble Shooting

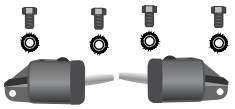
Symptoms	Possible Cause
Noise or brake chatter.	Improper brake adjustment. Brake fluid or grease on lining. Improperly adjusted or worn wheel bearing. Drum out of round. Dirt on drum or lining surface. Dust in rivet holes. Lining glazed or worn. Scored drum. Loose backing plate. Weak or broken return springs.
Only one brake is activating.	Improper brake adjustment. (see brake adjustment) Brake line is restricted. Improperly adjusted or worn wheel bearing. Drum out of round. Loose backing plate. Faulty wheel cylinder. Weak or broken shoe return spring. Glazed or worn lining. Loose lining. Air in hydraulic system. Dirty brake fluid.
All brakes drag.	Faulty actuator. Mechanical resistance at actuator or shoes. Brake lines restricted. Dirty brake fluid. Faulty back up solenoid (if used).
Brakes do not apply.	Leaks or insufficient brake fluid. Air in hydraulic system. Improper brake adjustment. Faulty actuator. Lining glazed or worn. Brake fluid or grease on lining. Dirty brake fluid.
Leaking wheel cylinder.	Check and replace wheel cylinder and bleed brakes.
Seized wheel cylinder piston.	Check and replace wheel cylinder and bleed brakes.

Electric Drum Brake Trouble Shooting

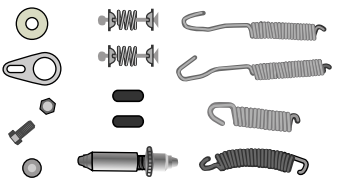
Symptoms	Possible Cause
Noise or brake chatter.	Improper brake adjustment. Oil or grease on lining. Improperly adjusted or worn wheel bearing. Drum out of round. Dirt on drum or magnet surface. Dust in rivet holes. Lining glazed or worn. Scored drum. Loose backing plate. Weak or broken return springs.
Only one brake is activating.	Improper brake adjustment. (see brake adjustment) Improperly adjusted or worn wheel bearing. Drum out of round. Loose backing plate. Weak or broken shoe return spring. Glazed or worn lining. Loose lining. Bad connection at tow vehicle. Broken or disconnected wire. Bad magnet. Dirt or grease inside hub surface.
All brakes drag.	Faulty or improperly adjusted brake controller. Improperly wired brake connection. Mechanical resistance at actuator or shoes.
Brakes do not apply.	Faulty brake controller. Improperly adjusted brake controller. Brake wires not connected to tow vehicle. Bad Magnets. Improper brake adjustment. Lining glazed or worn. Dirt or grease inside hub surface. Damaged wiring.

Hydraulic Drum Brake Replacement Parts



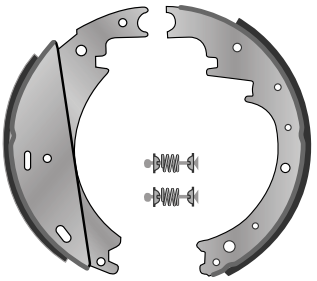


Drum Wheel Cylinder Kit for 10" & 12" Brakes
includes; LH & RH Wheel Cylinder and mounting screws — Part #80994



Drum Replacement Parts Kit
(Freebacking & Uni-Servo) includes all parts shown, excluding pads, back plate and wheel cylinder

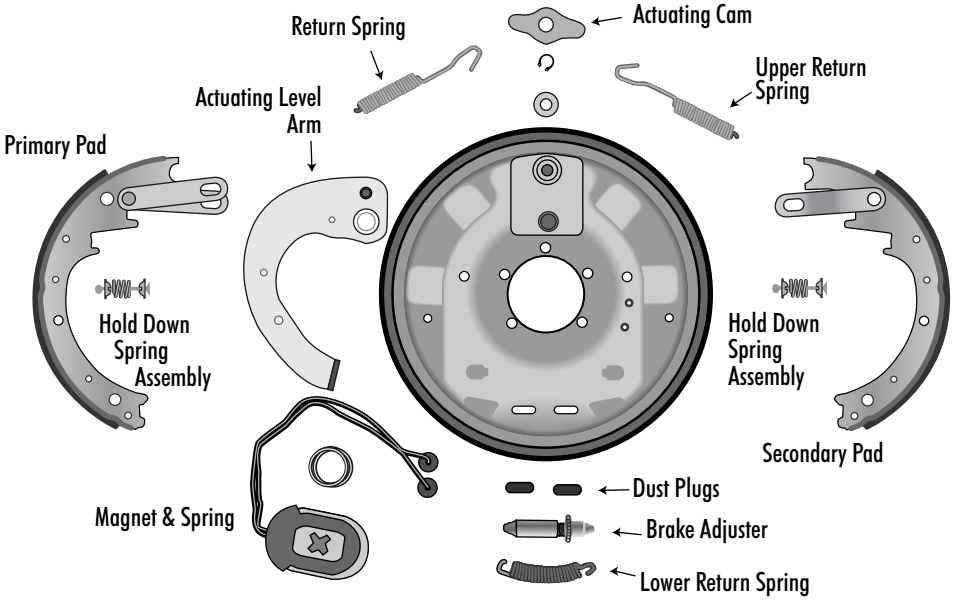
10" Parts Kit	Part #81096
12" Parts Kit	Part #81095

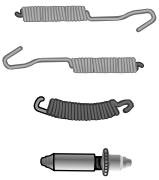


Brake Pad Replacement Kits
Kits include brake pad sets for left and right side brakes

7" Freebacking Shoe (lining) Kit	Part #81113
10" Freebacking Shoe (lining) Kit	Part #81108
12" Freebacking Shoe (lining) Kit	Part #81109
10" Uni-Servo (lining) Kit	Part #80995
12" Uni-Servo (lining) Kit	Part #80996

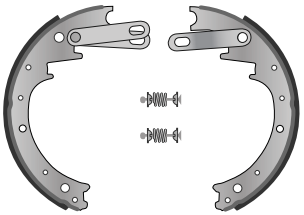
Electric Drum Brake Replacement Parts/Kits





Spring/Adjuster Replacement Kit
for 10″ & 12″ brakes — Part #82075

Magnet, Wiring & Spring Assembly
10″ Magnet Assembly — Part #82078
12″ Magnet Assembly — Part #82079



Pad Replacement Kits
10″ Electric Shoe (lining) Kit — Part #82076
12″ Electric Shoe (lining) Kit — Part #82077