



Hydraulic Braking System

Operating Instructions



This document will be required for all future references where you will install SIR make Hydraulic braking systems.



ALWAYS USE GENUINE SIR MAKE SPARE PARTS

Compliance Information

The Kit of parts is covered under CTA Number: **CTA-060553 (9" Hydraulic Brake assembly)**, **CTA-060554 (10" Hydraulic Brake assembly)** and **CTA-060555 (12" Hydraulic Brake assembly)**. Any deviation from the fitment instructions or change in parts from the kit supplied will not be covered under the CTA.

Operation of Hydraulic Brakes – An Overview

Primary purpose of the brakes system is to apply appropriate brakes as and when required. SIR make hydraulic brakes are like the brakes in your car. The brakes get activated by the force trailer exert towards the car. 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. When car moves again, the hydraulic pressure is released and brakes are released that enables the smooth movement.

The Hydraulic braking system also allows for the hand brake system when the trailer is stationery and not towed to a car.

The user just needs to ensure that the car towing capacity and weight does not exceed the prescribed limits. If all of that is good, then SIR Hydraulic brakes will perform as per the requirements.

Brakes Installation

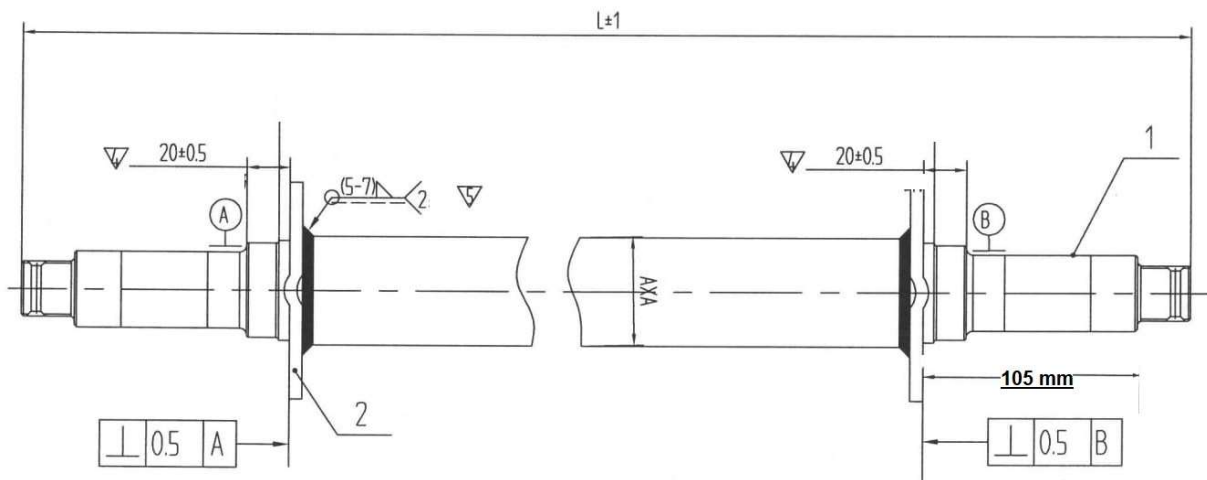
Check Brake Mounting Flange

To mount brakes to an axle, the axle must have brake flange welded to the axle. 9", 10" & 12" drum brakes fit standard 4 hole brake flanges. The brake flange connected to the axle must be square, concentric with the axle spindle and welded exactly at (Insert Value) mm from the tip of the axle. Pls see drawing below for proper understanding. If the brake flange is not properly installed, it will contribute to rapid lining wear and improper brake action. If your axle does not have flanges pre-welded to the axle, see a qualified technician to weld the plates to your axles. Improper welding can weaken the axle causing severe problems.

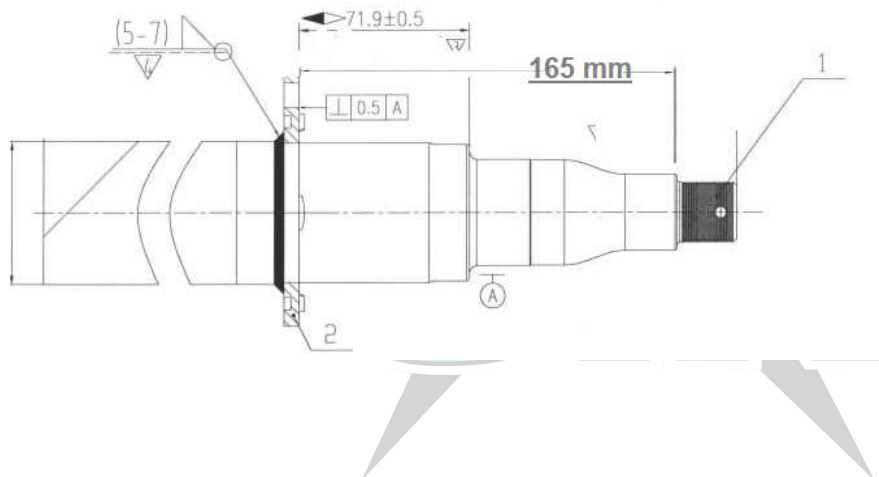


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PARALLEL/ SLIM LINE AXLE



2 TON AXLE



Brakes Installation

THE KEY FACTOR

Brakes are marked as "RIGHT" (RH) and "LEFT" (LH). The "LEFT" brake travels on the passenger's side of the trailer. Place the brake against brake flange with the adjuster wheel at the bottom. Secure with appropriate hex head bolts for the brakes. Use lock washers or lock nuts w/flat washers on the back side of the flange. Torque at (To be confirmed).



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Installing Brake Drum

After the brakes have been correctly assembled to the brake flanges, TAKE NOTE which direction the spoon needs to be moved in order to open the star wheel, mount the brake drum to the spindle. If re-using drum and bearings, check for wear or pitting in the bearings and cup surfaces. Check drum for surface wear. Replace any parts that show wear. Pack the inside bearing with suitable wheel bearing grease. Force grease through and around the rollers. Place the bearing in the hub and install the grease seal flush with the end of the hub using an arbor press or soft mallet. The bearing seal should be lubricated before putting it on the brake drum. Remove excess grease.

Lubricate and install the outer bearing on spindle. Place thrust washer and new locking tab washer (if applicable) and castle nut on spindle. Turn the brake drum as you tighten spindle nut. When a pronounced drag is felt in the bearings, back off the spindle nut one complete slot and install cotter pin or bend tab on locking tooth washer (if applicable) and dust cap.

Caution: Do not over pack hub with grease. Excessive grease may leak into brake drums causing brake failure.



Initial Adjustment of Brakes

- A.** 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 the drum 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 adjuster 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.
- F.** Now, install the brake lines supplied with the kit. The length of the brake lines supplied will depend on the size of the axle. Therefore, it is critical to install the brake



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lines supplied with the kit.

G. There will be two sizes of brake lines with the kit (one longer than the other), the brass T piece and a flex hose. The nuts of the long brake line will be tightened with the 'LH' brake on one side and the other side will be tightened with the T piece.

H. For the shorter brake line, one side will be installed with the 'RH' brake and the other side onto the T piece. Lastly, install the flex hose onto the third hole on the T piece.



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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.



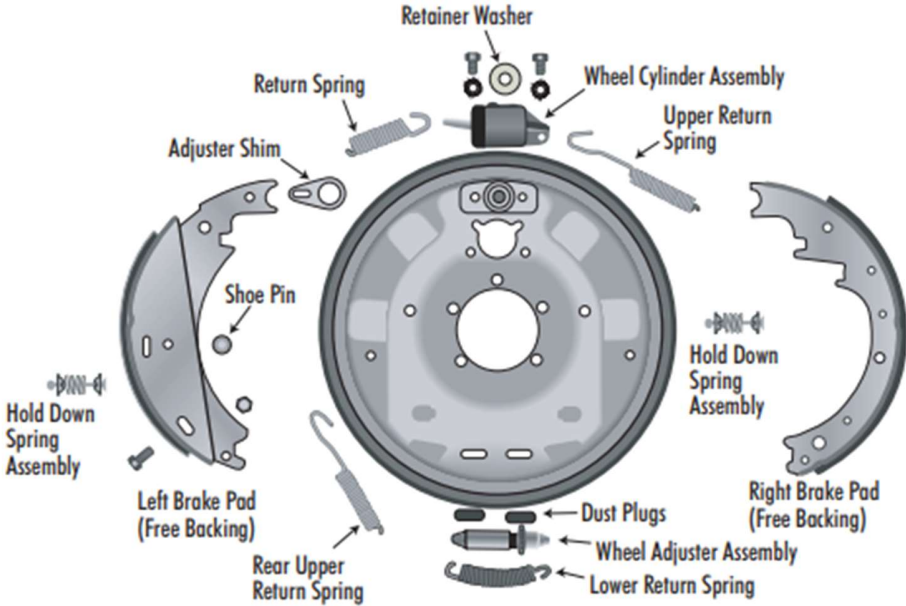
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	Glazed or worn lining.
	Loose lining.
	Air in hydraulic system.
	Dirty brake fluid.
All brakes drag.	Faulty actuator.
	Mechanical resistance at actuator or shoes.
	Brake lines restricted.
	Dirty brake fluid.
	Faulty back up solenoid (if used).
Brakes 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



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Hydraulic Drum Brake Replacement Parts



THE KEY FACTOR



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