FLEET PRODUCTS

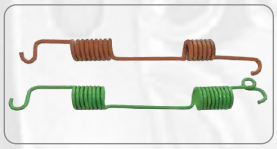
LUCAS BRAKE PROGRAM

PRODUCT UPDATE ANNOUNCEMENT

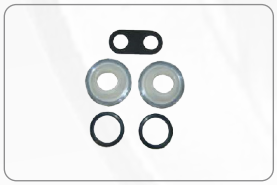
We have revised our Lucas program. Please note that ALL backing plates will now include the RC--01 check valve. Dur MA 15500-G Lucas Maxi Pot will now be supplied in new form only!

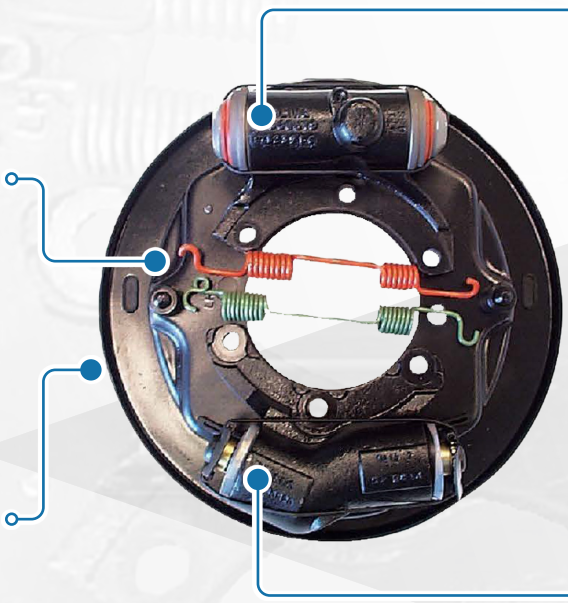
Trying to get the right product at the right price is sometimes easier said than done. At Fleet Products, we always strive to bring you the best quality product and that is why we are offering rebuilt Lucas Girling backing plates and cylinders with “new slave cylinders”. This product line will give you a better quality product at an exceptional price.

Each unit comes with a new spring kit



Each unit comes with a new RC-01 valve



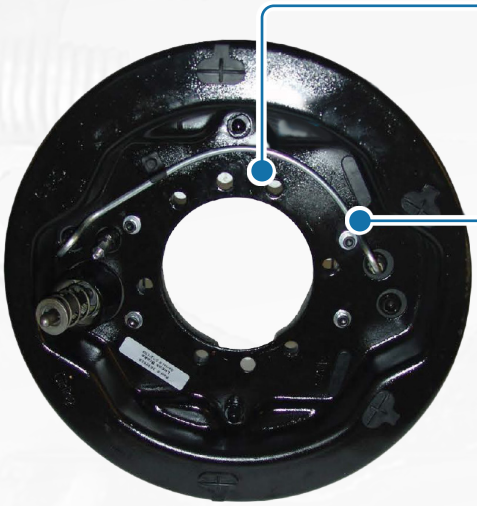


All Park Cylinders are rebuilt with the following:

- New park cylinder slave
- New seal kit

All Adjusting Cylinders are rebuilt with the following:

- New adjusting cylinder slave
- New seal kit
- New adjusting wheels



Each unit comes with a new crossover line

Each unit comes with a new bleeder screw

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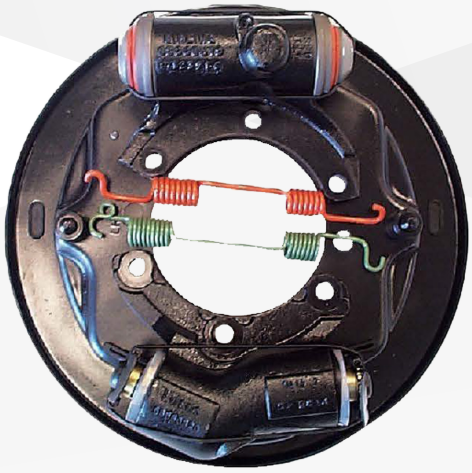
LUCAS BRAKE PROGRAM

PART #	DESCRIPTION
KB201179X	L.H. EXPANDER CYLINDER (1.750”)
KB201180X	R.H. EXPANDER CYLINDER (1.750”)
KB201183X	L.H. ADJUSTING CYLINDER (1.750”)
KB201184X	R.H. ADJUSTING CYLINDER (1.750”)
KB203261X	R.H. BACKING PLATE ASSEMBLY 6”/7” WITHOUT SHOES (W/RC-01)
KB203262X	L.H. BACKING PLATE ASSEMBLY 6”/7” WITHOUT SHOES (W/RC-01)
KB202261X	R.H. BACKING PLATE ASSEMBLY WITH 6” SHOES (W/RC-01)
KB202262X	L.H. BACKING PLATE ASSEMBLY WITH 6” SHOES (W/RC-01)
KB202271X	R.H. BACKING PLATE ASSEMBLY WITH 7” SHOES (W/RC-01)
KB202272X	L.H. BACKING PLATE ASSEMBLY WITH 7” SHOES (W/RC-01)
MA15500X	LUCAS MAXI BRAKE (HYDRAULIC)
MA15500-G	*NEW* LUCAS MAXI BRAKE (HYDRAULIC)



KB203262X

KB203262X

KB203262X

RC-01

Now Included with all backing plate assemblies!

(see next page for important informaiton!)

MA15500-G

New Unit!

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LUCAS BRAKE PROGRAM

ATTENTION INSTALLER - HOW TO PROTECT YOUR INVESTMENT

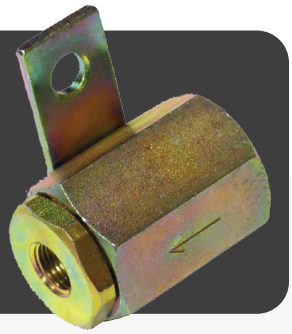
LUCAS HYDRAULIC BRAKE COMPONENTS

Installation Instructions:

1. Find the brake line union behind the cab.
2. Remove this union and replace with the residual check valve. Arrow on check valve must point toward the rear wheel. (same as direction of fluid flow).
3. In some situations, the line behind cab must be cut & re-flared to install new RC-01 valve.
4. Pump brake pedal and bleed rear brakes.

HYDRAULIC RESIDUAL CHECK VALVE

Part Number: RC-01



This hydraulic residual check valve should be used in conjunction with the Lucas Girling type braking system. Installation of the RC-01 hydraulic residual check valve will typically prevent this leakage therefore extending the life cycle of these brake assemblies. This valve maintains a small amount of residual pressure (3 - 10 psi) in the brake line to keep a positive pressure on the seals in both the backing plate adjuster and park cylinders. This small amount of pressure will help keep the seal solidly fitted against their cylinder walls, thereby preventing excessive leakage. Installation of this valve will benefit the system whether the vehicle is running or parked. ***Please note that a minimal amount of external wetness on the cylinders with this type of system is normal and acceptable.***

IMPORTANT NOTICE

Before reconnecting brake line to backing plate, fill master cylinder and flush out all dirty brake fluid. Once you see only clean fluid re-attach brake line to both back brakes and bleed out normally. Units will self adjust.

REMANUFACTURED LUCAS BACKING PLATE WARRANTY CRITERIA

If you answer YES to all of the below questions, your unit qualifies for Warranty.
If you answer NO to any of the below questions, your unit does NOT qualify for Warranty.

Warranty Period - 1 year or 100,000 miles.

1. Was the backing plate installed within 1 year or 100,000 miles?
2. Is the product tag attached or with the product? (Located on the back or mounting surface side of the backing plate)
3. Are the adjusters free from damage?
4. Is the brake fluid free of signs of dirt or contamination?
5. Was the RC-01 Check Valve installed in the system?

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TECH CORNER

Problem: **Lucas Brake System Leakage on Rear Wheels**
Solution: **RC-01 Inline Residual Check Valve**

Our most popular version of rear brakes is the complete backing plate assembly, available with or without brake shoes. The most common complaint is that this system is prone to leakage. With literally thousands of cores returned with brake shoes, there is rarely a pair of shoes that are worn out. The shoes are just saturated with brake fluid (or gear oil in case of wheel seal failure). The vast majority of warranty returns are found to have very small scratches on the cup that allow brake fluid to pass between the cups and the cylinder wall. These scratches are determined to have been caused by contaminated fluid; it raised question as to why such small scratches would cause the leakage.

Upon testing these returns, each cylinder would be pressurized with 1200 PSI of nitrogen gas and were unable to detect any leakage. This prompted us to think that perhaps the leaking was occurring at low pressure. With that in mind, we enlisted the help of a company that has the ability to not only do a sustained low pressure test; they were able to incorporate vibration at varying frequencies as well. The test pressure we used initially was approximately 10 PSI. This pressure was chosen because of our experience with cup type drum brake systems and also because of the wheel cylinder pistons in the bore. It is also important to keep the sharp lip of the cup expanded tightly against the cylinder bore when testing.

The test results were negative. Units would not leak at low pressure. Then, by chance, the employee that normally tests the sleeved cylinders prior to assembly noticed a very slight trace of tiny bubbles (sleeves are tested by submerging the casting in water and applying 1200 PSI gas pressure) after relieving the cylinder of all pressure. Like all wheel cylinder cups, the Lucas cylinder cups are relatively a hard durometer and rely on the very edge or lip of the cup to seal. Now we think we are on to something. It must be a defective residual check valve in the system causing all the leakers, right? Wrong. Since we remanufacture the master cylinders originally produced by Bendix, we knew that there was no check in the master, so perhaps it was part of the distribution (or proportioning) valve. We investigated that possibility to a dead end. So where is the elusive check valve that we know must be in the system to function properly? It does not exist, until now. It seems that of the three manufacturers involved in the design of this system, none included this important little component. The Lucas cylinders are “bottoming” self adjuster type, meaning they do not need to rely on residual pressure to keep the brake springs from collapsing the pistons. It is still a cup seal and will truly benefit from this addition.

Further testing revealed that it takes approximately 25 to 35 PSI of hydraulic pressure before there is any movement of the brake shoes. With the addition of a residual check valve to maintain pressure on the cups to enhance sealing seemed logical. Using a known leaking cylinder, we first tested using a 3 PSI valve and experienced some improvement. From there we continued to experiment with varying pressures until we found what we believe to be the optimum pressure. Once that was accomplished we were able to produce an easy-to-install piece that simply replaces an existing tube union.

Field testing, including tests with numerous school bus fleets has yielded positive results. While not designed or intended to replace worn-out cylinders, this check valve has the potential to dry up systems with minor seepage. (NOTE: Always inspect friction material and replace when necessary). If you have experienced leak problems with this otherwise well designed system, try our RC-01 and get results. With knowledgeable and experienced staff in medium / heavy duty brake systems, you can rely on Fleet Products.

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