

Lea-Francis Girling Hydromechanical Brakes

Reprinted from The LeaFlet, No. 240 October 2004

© Lea-Francis Owners' Club & Sandy Skinner

Page 1 of 3

Getting the best from Lea-Francis Girling hydromechanical brakes is not difficult provided one realises that their operation is significantly different from conventional mechanical or hydraulic systems. Unfortunately different instruction sheets differ from one another and may omit important details.

The author has produced a step-by-step guide based on Girling information and checked with acknowledged experts.

He is very grateful for comments and advice from John Hayes, Peter Povey, Ron Robinson and Robin Sawers of the LFOC and Will Sparrow, who works closely with Barrie Price.

The guide fits on an A4 sheet and the author's has been laminated so that it can be taken under a car or offered to any mechanic rash enough to take on the job. Plain paper versions, for use at your own risk, are available to Club members who send a SAE to Sandy Skinner at Mill Close, Mill Lane, Winchcombe GL54 5LT.

Sandy Skinner

[Sandy's System appears on the two pages following. He has kindly sent me a copy of the A4 encapsulated version, and I can see how much more useful it would be in that form. Ed.]

Lea-Francis Girling Hydromechanical Brakes

Reprinted from The LeaFlet, No. 240 October 2004

© Lea-Francis Owners' Club & Sandy Skinner

Page 2 of 3

BRAKE ADJUSTMENT

ENSURE THAT DRUMS, LININGS AND WHEEL BEARINGS ARE IN GOOD ORDER

With the linkage correctly set all brake adjustment must be at the backplates.

Front brakes

Jack up the front of the car.

Adjustment is by two hexagon headed snail cam adjusters on each backplate.

Turn **CLOCKWISE** to bring the shoes closer to the drums.

Rear brakes

These can be adjusted with the rear wheels on the ground.

Adjustment is by a single square headed wedge on each backplate.

Turn **CLOCKWISE** until resistance is felt then release one notch or two clicks.

BRAKE FLUID

Ensure that the fluid tank is at least 2/3 full during work on the brakes. Bleed by one bleedscrew on each front backplate. Never re-use aerated fluid.

Girling and Lea-Francis instructions call for Girling Crimson brake fluid. Most commercial garages today use a non-proprietary fluid to specification DOT4, which meets or exceeds SAE J1703 (ISO4925) and offers better performance with cost savings.

NEVER MIX CONVENTIONAL BRAKE FLUID WITH HIGH PERFORMANCE SILICONE BASED FLUIDS

THE DECISION TO USE ANYTHING OTHER THAN THE RECOMMENDED GIRLING FLUID IS ENTIRELY THE RESPONSIBILITY OF THE CAR OWNER

Conventional brake fluid is hygroscopic, absorbing water from the atmosphere. It is good practice, particularly on cars seeing limited use, to change the brake fluid annually.

MECHANICAL DETAILS

A current Lockheed fluid level sensor fits the Girling reservoir. It can be powered by any supply controlled by the ignition switch.

Girling fittings on the chassis are usually 7/16 diameter X 24 tpi on 1/4 in. pipe. Modern standard is 3/8 X 24 tpi (3/8 UNF) on 3/16 in. pipe.

THIS NOTE IS PROVIDED FOR GUIDANCE ONLY.

NO GUARANTEE OF ITS ACCURACY IS OFFERED OR IMPLIED AND ANY ACTIONS BASED ON IT ARE ENTIRELY THE RESPONSIBILITY OF THE CAR OWNER

© Sandy Skinner 2004

Lea-Francis Girling Hydromechanical Brakes

Reprinted from The LeaFlet, No. 240 October 2004

© Lea-Francis Owners' Club & Sandy Skinner

Page 3 of 3

Servicing Girling hydro-mechanical brakes calls for a different approach from conventional mechanical or all-hydraulic brakes.

GET THE MECHANICAL LINKAGE RIGHT FIRST

THEN MAKE ALL ADJUSTMENTS AT THE WHEELS

SETTING THE LINKAGE

- 1 Set the handbrake fully **OFF** with front wheels chocked
- 2 Check that rear brake expanders have the correct locknuts and Thackeray (double spring) washers and can move slightly on the backplate with locknuts slackened one turn
- 3 Lock both rear wheels tightly using the wheel adjusters and disconnect the rear of the flexible cable
- 4 Adjust the brake rods to set the rear compensator lever pointing 15° - 20° back from the centre line of the axle with its mounting links parallel to the car centre line
- 5 Make sure the pedal is fully off against its stop and the master cylinder operating rod is fully to the rear
- 6 Set the balance bar on the pedal vertical against its stop
- 7 Adjust the longitudinal rod to set $1/16$ in. clearance between it and the balance bar operating peg with the relay lever pointing backwards about 15° - 20° from the vertical
- 8 Set $1/16$ in. clearance at the rear jaw of the handbrake rod
- 9 Reconnect the flexible cable using the adjustment on the rear fork if necessary
- 10 Release both rear brake adjusters one notch or two clicks

A HELPER IS USEFUL TO PRESS THE PEDAL WHILE CHECKING LINKAGES

