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SOLIHULL, WARWICKSHIRE, England  
 Telephone No. : Sheldon 4242  
 Telegrams : Rovrepair, Solihull  
 Telex No.: 33 - 156

**Rover Service News Letter No. I06**

August 1959.

**TO ALL DISTRIBUTORS AND DEALERS**

Dear Sirs,

During the past month the changes and developments set out below have taken place.

**SECTION I.**

**POLICY**

- Item 516** SUBJECT: **DISC BRAKES**  
 MODELS: Rover 3 litre.  
 REMARKS: See Item 518 in this News Letter for information on the introduction of front disc brakes.
- Item 517** SUBJECT: **BODY COLOURS**  
 MODELS: Land-Rover  
 REMARKS: Full details of the Land-Rover body colours, applicable from August 1959, will be found under Item 522 in this News Letter.

**SECTION II.**

**WORKSHOP AND PARTS INFORMATION**

- Item 518** SUBJECT: **DISC BRAKES**  
 MODELS: Rover 3 litre.  
 MODIFICATION: Introduction of Girling Servo assisted disc brakes on the front wheels only.  
 PART NUMBERS:
- |   |                  |                 |      |      |         |         |
|---|------------------|-----------------|------|------|---------|---------|
| Front brake caliper, L.H., GI 64032524 CV           | ....             | ....            | .... | 1    | 505771* |         |
| Front brake caliper, R.H., GI 64032525 CV           | ....             | ....            | .... | 1    | 505772* |         |
| Overhaul kit for caliper                            | ....             | ....            | .... | 1    | 513673* |         |
| Pad for disc brake, set, GI 64325042 CV             | ....             | ....            | .... | 1    | 513672* |         |
| Pad retaining pin, GI 64325179                      | ....             | ....            | .... | 4    | 513666* |         |
| Special split pin for retaining pin, GI 64150451    | ....             | ....            | .... | 4    | 513667* |         |
| Bleed screw for caliper, GI 377687 W                | ....             | ....            | .... | 2    | 513668  |         |
| Bolt ( $\frac{1}{2}$ " UNF x $1\frac{1}{2}$ " long) | } Fixing brake   | ....            | .... | 4    | 253864  |         |
| Lockplate   |                  | } caliper       | .... | 2    | 512742* |         |
| Shield for brake disc, L.H.                         | ....             |                 | .... | .... | 1       | 510904  |
| Shield for brake disc, R.H.                         | ....             | ....            | .... | 1    | 510903  |         |
| Disc for brake GI 64325178                          | ....             | ....            | .... | 2    | 505548* |         |
| Bolt ( $\frac{5}{16}$ " UNF x 1" long)              | } Fixing disc    | ....            | .... | 10   | 253883* |         |
| Spring washer                                       |                  | } to hub        | .... | .... | 10      | 3075    |
| Pipe, 4-way to hose, R.H.F. GI 64473172             | ....             |                 | .... | .... | 1       | 512245  |
| Pipe, 4-way to hose, L.H.F. GI 64473171             | ....             | ....            | .... | 1    | 512246  |         |
| Hose to front caliper GI 3700622 W                  | ....             | ....            | .... | 2    | 512247* |         |
| Gasket, hose to banjo GI 378711                     | ....             | ....            | .... | 2    | 233220  |         |
| Banjo GI 352062                                     | ....             | ....            | .... | 2    | 233299  |         |
| Banjo bolt GI 376102 W                              | } Fixing hose to | ....            | .... | 2    | 512235* |         |
| Joint washer  |                  | } front caliper | .... | .... | 2       | 216914  |
| Joint washer GI 378700                              |                  |                 | .... | .... | 2       | 512387* |
| Front stub axle, R.H.                               | ....             | ....            | .... | 1    | 512033* |         |
| Front stub axle, L.H.                               | ....             | ....            | .... | 1    | 512032* |         |
| Front hub   | ....             | ....            | .... | 2    | 505770* |         |
| Hub nut inner, R.H. thread                          | ....             | ....            | .... | 1    | 507647* |         |
| Hub nut inner, L.H. thread                          | ....             | ....            | .... | 1    | 507648* |         |

Track rod arm, L.H.	....	....	....	....	....	1	505550
Track rod arm, R.H.	....	....	....	....	....	1	505549
Bolt ( $\frac{3}{8}$ " UNF x $2\frac{1}{4}$ " long)	....	....	....	....	....	4	256446
Self-locking nut ( $\frac{3}{8}$ " UNF)	....	....	....	....	....	4	252162
Rear wheel cylinder, L.H. GI 390112 W	....	....	....	....	....	1	501256*
Rear wheel cylinder, R.H. GI 390113 W	....	....	....	....	....	1	501257*
Overhaul kit for wheel cylinder, rear GI SP 2003	....	....	....	....	....	1	513684*
Brake shoe assembly, rear, boxed pair	....	....	....	....	....	2	512532*
Lining for brake shoe	....	....	....	....	....	4	512171*
Master cylinder GI 64067548	....	....	....	....	....	1	510459*

Recommended stocking items are marked with an asterisk (\*)

**COMMENCING  
NUMBERS:**

Vehicles numbered:

R.H.D. Home, 4-speed models from 625901039 onwards  
 R.H.D. Export, 4-speed models from 626900178 onwards  
 L.H.D. Export, 4-speed models from 628900120 onwards  
 R.H.D. Home, Borg-Warner models from 630900499 onwards  
 R.H.D. Export, Borg-Warner models from 631900085 onwards  
 L.H.D. Export, Borg-Warner models from 633900088 onwards

**REMARKS:**

Front disc brakes can be fitted to any earlier Rover 3 litre and can be obtained from our Parts Department as a kit complete with Fitting Instructions under Part No. 512093.

**Disc brakes, Girling servo assisted**

**Description**

Disc brakes on the front wheels only are fitted to all 3 litre models from the above commencing numbers onwards, the rear wheels are fitted with the conventional drum brakes. Power assistance to all brakes is provided by the Girling vacuum servo unit.

The disc brake consists of a steel disc and a hydraulically operated caliper. The caliper contains two pads which are actuated by two pistons on to the face of the disc, so giving a clamping action. No adjustment is necessary as the brake pads are self adjusting and run with virtually no clearance. One of the benefits of this factor is that the leading edge of the pads scrape off any foreign matter on the surface of the disc and also dissipates the boundary layer of heated air on the disc.

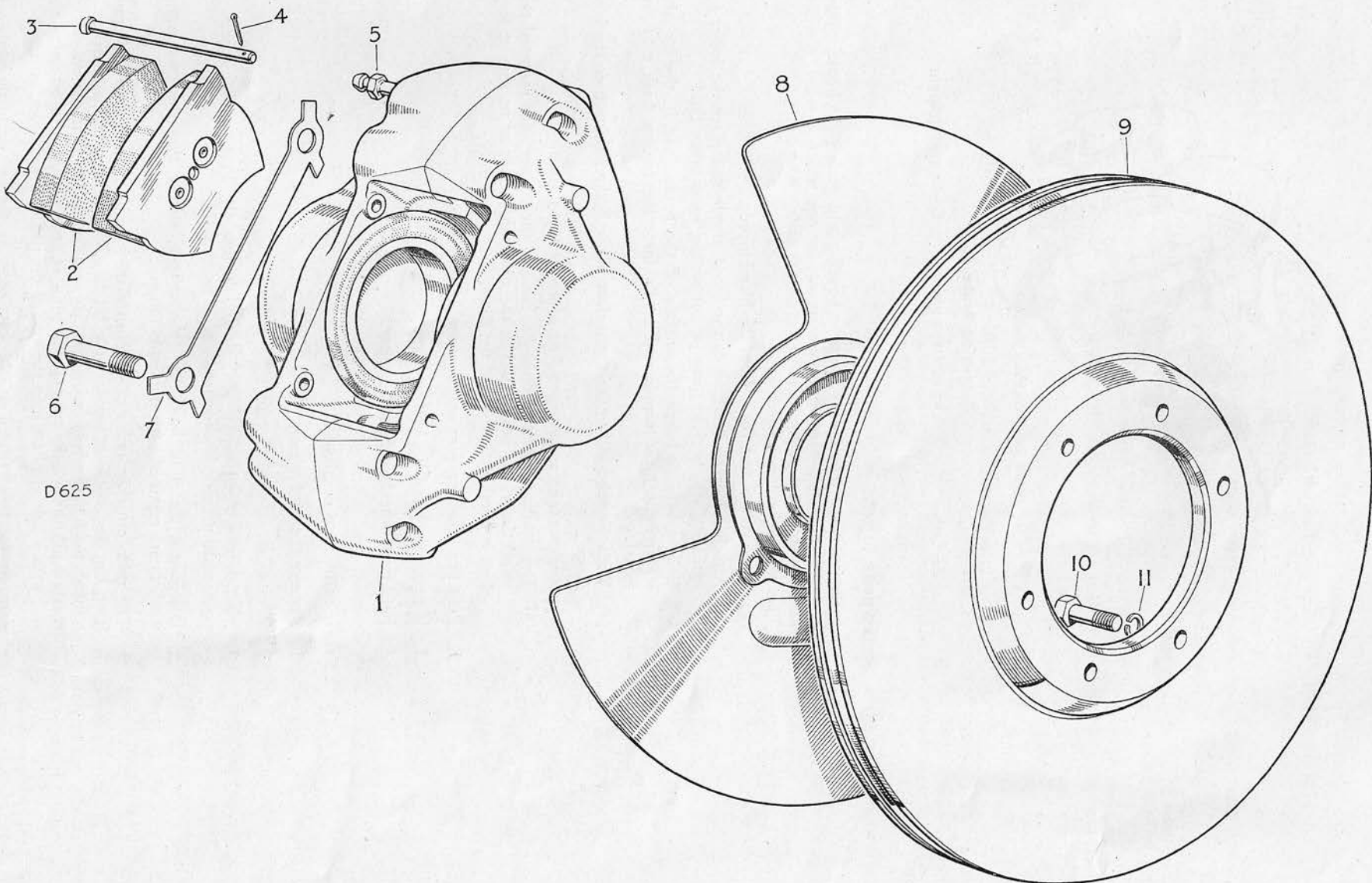
The pads are of the segmental shape to distribute energy uniformly over the braking path.

The lining of the pad is visible when the pads are in position so that the rate of wear can be quickly checked. The pads should be renewed when the lining has worn down to  $\frac{1}{8}$  in. (3 mm) thick, they can be changed very simply as detailed in this section.

**It is most important that at no time should the pads or disc come in contact with grease. The pads and disc should always be kept scrupulously clean. Great care must therefore be used when handling these parts. Failure to do this will seriously affect the efficiency of the brakes.**

**Brake pads, to remove**

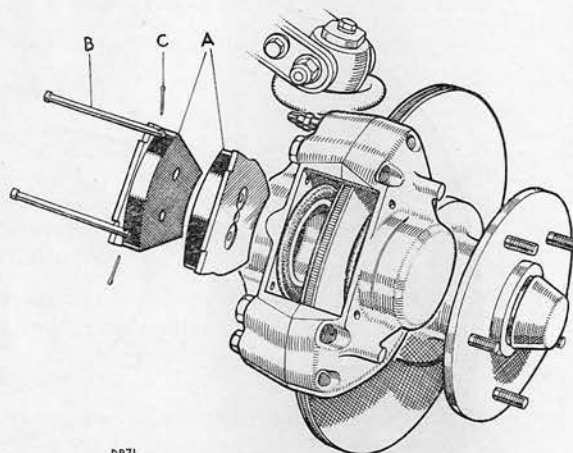
1. Remove road wheel.
2. Remove special split pins and withdraw the pad retaining pin.
3. With a pair of pliers grip the end of the pad and withdraw.
4. If the lining has worn down  $\frac{1}{8}$  in. (3 mm) or less the pad must be renewed. If the pads are to be replaced, mark each pad in order that it may be refitted to its correct relative position.



Layout of disc brakes

D625

- |  |                            |                   |
|--|----------------------------|-------------------|
| 1. Front brake caliper                 | 5. Bleed screw for caliper | 9. Disc for brake |
| 2. Pad for disc brake                  | 6. Set bolt                | 10. Set bolt      |
| 3. Pad retaining pin                   | 7. Lock plate              | 11. Spring washer |
| 4. Special split pin for retaining pin | 8. Shield for brake disc   |                   |
- } Fixing caliper  
to stub axle
- } Fixing disc  
to hub



Removing brake pad

A—Pad

B—Pad retaining pin

C—Special split pin

**Brake pads, to refit**

1. Insert the pads into their respective housing and push right home. When a new pad is being used as a replacement, for one which is worn, it will be necessary to bleed off the fluid in the caliper piston housing. This should be done as follows:—
  - (a) Remove the dust cover from the bleed nipple.
  - (b) Attach a length of tubing to the bleed nipple and place the lower end of the tube in a clean glass jar containing some brake fluid.
  - (c) Ensure tube is below the surface of the brake fluid in the jar, then slacken the bleed nipple and gently force the pistons back into their housings.
  - (d) With the tube still under the surface of the brake fluid tighten the bleed screw.
  - (e) Remove tube and replace dust cover for bleed nipple.
  - (f) Due to the amount of fluid displaced in the caliper, it is essential that, at all times, the brake fluid in the reservoir is kept at its correct level, that is filled to the base of the filter.
2. Refit pad retaining pins and new special split pins.
3. If necessary bleed the brake system.
4. Refit front wheels and road test car.

**Brake caliper, to remove**

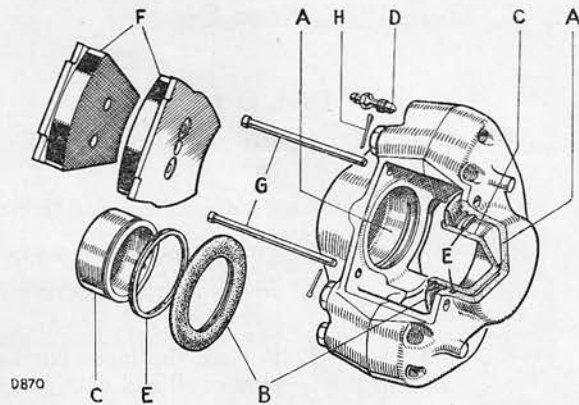
1. Remove the road wheel.
2. Remove all external dirt from the caliper.
3. Slacken the bleed nipple and slowly depress the brake pedal, wedge in position to prevent unnecessary loss of brake fluid.
4. Disconnect the fluid hose from the caliper, ensure that the two sealing washers are retained with the banjo union.
5. The pads must be removed to ensure that the caliper can be withdrawn from the disc without unnecessary binding, if the original pads are to be refitted, mark the pads in order that they may be fitted to their correct relative position. Withdraw the special split pins, remove the two pad retaining pins and with a pair of pliers grip the end of the pad and withdraw.
6. Prise up the tab washers on the bolts securing the caliper to the stub axle, remove bolts and withdraw the caliper from the stub axle and disc.

**Brake caliper, to refit**

1. Fit the caliper to the stub axle ensuring bleed nipple is in the upper position, secure in position with bolts and tab washers tighten bolts to 57-63 lbs/ft. (7,5-8,5 kgm).
2. Refit the pads to their respective housings and push right home.
3. Fit two pad retaining pins and refit special split pins.
4. Connect fluid hose to caliper, ensure that two new sealing washers are correctly situated either side of the banjo union, the smaller washer fitting on the underside of the banjo.
5. Remove the wedge from the brake pedal and bleed the brakes.

**Brake caliper, to strip**

1. Absolute cleanliness is essential.  
With the brake caliper removed, clean off all external dirt.  
It is important that the bolts securing the brake caliper together are not disturbed; pistons and seals must be removed and replaced without separating the brake caliper.
2. Slacken the bleed screw then carefully ease the rubber boot from the piston housing.
3. Withdraw the piston and if necessary prise out the rubber sealing ring.

**Exploded view of brake caliper**

A—Piston housing	B—Rubber boot	C—Piston
D—Bleed nipple	E—Sealing ring	F—Pad
G—Securing pin	H—Special split pin	

**Brake caliper, to assemble**

Wash all components in Girling Crimson brake fluid.  
Absolute cleanliness is essential.

1. Clean out piston sealing ring groove, fit new piston sealing ring into the groove.
2. Apply Girling Crimson brake fluid to the piston bore and the piston exterior.
3. Fit the smaller diameter lip of the rubber boot to the groove around the mouth of the piston bore, offer the piston to the piston bore and insert squarely. Excessive pressure should not be required to insert the piston.
4. With the piston fully inserted, lift the lip of the rubber boot on to the top of the piston, then carefully insert the lip of the boot into the external annular groove in the piston.

5. Tighten the bleed screw, then refit the brake caliper and secure with bolts and tab washers, tighten securing bolts 57-63 lbs/ft. (7,5-8,5 mkg).
6. Bleed brakes.

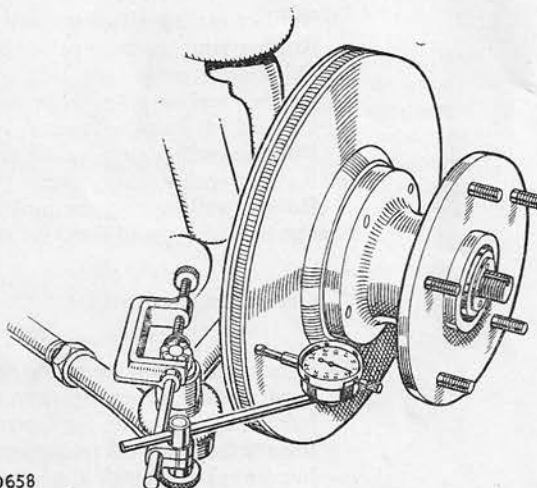
**Disc, to remove**

1. Remove road wheel, slacken the banjo bolt just sufficiently to swing it away from the disc; re-tighten banjo bolt.
2. The pads must be removed to ensure that the caliper can be withdrawn from the disc without unnecessary binding, withdraw the special split pins, remove the two pad retaining pins and with a pair of pliers grip the end of the pad and withdraw. If the pads are to be refitted, mark the pads, in order that they may be refitted to their correct relative positions.
3. Prise up the tab washers on the bolts securing the caliper to the stub axle, remove bolts and withdraw the caliper from the stub axle and disc, suitably support the caliper so that the brake hose is not strained.
4. Prise off the hub grease cap and release the lock washer.
5. Remove the outer nut, left-hand thread on right-hand side and right-hand thread on left-hand side, remove the key washer, inner nut, and peg, and withdraw hub and disc assembly.
6. If the disc is to be refitted, mark the disc in relation to the hub, then remove the securing bolt and spring washers and detach the disc from the hub.
7. If necessary remove the two self-locking nuts and bolts and remove shield from hub.

**Disc, to refit**

1. If removed refit the shield to stub axle, secure with self-locking nuts and bolts.
2. Fit disc to hub and tighten by diagonal selection to 30 lbs/ft. (4,5 mkg).
3. Fit hub and disc on to stub axle complete with inner bearing and oil seal.
4. Apply a small quantity of hub grease and refit the inner member of the outer race.
5. Replace the inner nut and tighten, with special tool Part No. 263057, to remove all end float, but still allowing the disc to revolve.
6. Using a dial test indicator and suitable bracket, check the disc for radial run-out, the tolerance permitted is 003 in. (0,07 mm). If the run-out exceeds this figure remove the hub and disc, remove the bolts securing disc to hub and revolve disc on hub, re-assemble and check run-out. If the run-out is still not satisfactory repeat the process with another disc. If satisfaction is still not obtained, fit a new hub and disc, as the mating surface on the hub has possibly been distorted.
7. When the correct radial run-out on the disc has been obtained, mount a suitable bracket and dial test indicator on one of the wheel studs, then set the hub end float which should be .004-.006 in. (0,10-0,15 mm).
8. If necessary adjust the inner nut to obtain correct end float, then lock the inner nut with peg and key washer. Fit the tab washer and tighten outer nut.
9. Re-check the hub end float and lock the outer nut with the tab washer if reading is satisfactory, but should the reading be incorrect, the outer nut must be removed together with the tab washer, peg and key washer, to allow re-adjustment of the inner nut. The final reading must be taken with the outer nut fully tightened.
10. Refit caliper and secure, with bolts and tab washers, tighten securing bolts to 57-63 lbs/ft. (7,5-8,5 mkg).
11. Slacken banjo union bolt and align the brake hose so that it lies immediately beneath the securing nut of the upper ball swivel, re-tighten banjo bolt.

12. Insert the pads into their respective housings and push right home.
13. Refit pad retaining pins and fit new special split pins.
14. Ensure there is sufficient grease in the hub cap, if not repack with one of the recommended lubricants and refit .
15. Refit road wheels and bleed brakes. Road test car.



Checking disc radial run-out

<b>Item 519</b>	<b>SUBJECT:</b>	<b>BRAKES</b>																												
	<b>MODEL:</b>	1959 Land-Rover 109.																												
	<b>MODIFICATION:</b>	Introduction of Mintex bonded brake shoe linings.																												
	<b>PART NUMBERS:</b>	<table border="0"> <tr> <td>Brake shoe assembly, rear, boxed pair</td> <td>....</td> <td>2</td> <td>512417</td> <td></td> </tr> <tr> <td>Brake shoe assembly, L.H. front, boxed pair</td> <td>....</td> <td>1</td> <td>512415</td> <td></td> </tr> <tr> <td>Brake shoe assembly, R.H. front, boxed pair</td> <td>....</td> <td>1</td> <td>512416</td> <td></td> </tr> <tr> <td>Lining for brake shoe, front</td> <td>....</td> <td>4</td> <td>510573</td> <td rowspan="3">} Export only, riveted type lining replacement for bonded original.</td> </tr> <tr> <td>Lining for brake shoe, rear</td> <td>....</td> <td>4</td> <td>510575</td> </tr> <tr> <td>Rivet for lining</td> <td>....</td> <td>96</td> <td>242034</td> </tr> </table>	Brake shoe assembly, rear, boxed pair	....	2	512417		Brake shoe assembly, L.H. front, boxed pair	....	1	512415		Brake shoe assembly, R.H. front, boxed pair	....	1	512416		Lining for brake shoe, front	....	4	510573	} Export only, riveted type lining replacement for bonded original.	Lining for brake shoe, rear	....	4	510575	Rivet for lining	....	96	242034
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Lining for brake shoe, rear	....	4	510575																											
Rivet for lining	....	96	242034																											

**COMMENCING NUMBERS:**

Axles numbered:

- 109 R.H.D. front axles from 151904901 onwards
- 109 L.H.D. front axles from 154902068 onwards
- 109 All rear axles from 151906968 onwards

**REMARKS:**

The bonded type brake shoes can be used as replacements on all earlier 107 and 109 models with 11 in. brakes, provided they are fitted, preferably in vehicle sets, or at least in axle sets.

The brake shoes are pre-drilled, thus enabling a riveted type replacement brake lining to be used; these linings will be supplied on the Export market only, on the Home market the brake shoes must be returned for reconditioning under the normal reconditioning scheme.

**Item 520** **SUBJECT:** **GASKET AND OIL SEAL SETS FOR BORG-WARNER AUTOMATIC GEARBOX**

**MODELS:** 1959 Rover 3 litre, Borg-Warner models.

REMARKS: Distributors and Dealers have requested details of the components of the gasket and oil seal kits for the Borg-Warner Automatic Transmission to prevent duplication when ordering these parts as kits and also the individual items.

The parts contained in each kit are shown below:

Overhaul oil seal set	.....	.....	.....	.....	.....	.....	.....	1	506064
comprises:									
Rubber sealing ring for band pistons, lipped 3¼" dia.	.....	.....	.....	.....	.....	.....	.....	5	505404
Rubber ring for reverse band brake cylinder plate	.....	.....	.....	.....	.....	.....	.....	5	505408
Oil seal for mainshaft, rear	.....	.....	.....	.....	.....	.....	.....	1	505463
Rubber sealing ring, large, for collector ring	.....	.....	.....	.....	.....	.....	.....	1	505308
Oil seal for front oil pump	.....	.....	.....	.....	.....	.....	.....	1	505307
Rubber sealing ring, small, for rear ring gear	.....	.....	.....	.....	.....	.....	.....	1	505323
Rubber sealing ring, large	.....	.....	.....	.....	.....	.....	.....	1	505340
Rubber sealing ring for multi-disc clutch piston, lipped 3" dia.	.....	.....	.....	.....	.....	.....	.....	1	505343
Oil seal for selector control shaft	.....	.....	.....	.....	.....	.....	.....	1	505390

Gasket set overhaul kit ..... 1 506065  
comprises:

Joint washer, collector ring to main casing	.....	.....	.....	.....	.....	.....	.....	1	505282
Joint washer, inner, for reverse band brake cylinder plate	.....	.....	.....	.....	.....	.....	.....	1	505405
Joint washer, inner, for forward and low brake cylinder plate	.....	.....	.....	.....	.....	.....	.....	1	505427
Joint washer for oil pump cover 0.008 in.	.....	.....	.....	.....	.....	.....	.....	1	505496
Joint washer, manifold to convertor valve body	.....	.....	.....	.....	.....	.....	.....	1	505455
Joint washer, base plate to relief valve body	.....	.....	.....	.....	.....	.....	.....	1	505448
Joint washer for sump	.....	.....	.....	.....	.....	.....	.....	1	505278
Joint washer for oil pump cover 0.003 in.	.....	.....	.....	.....	.....	.....	.....	1	505493
Joint washer, housing to extension casing	.....	.....	.....	.....	.....	.....	.....	1	505504
Joint washer for oil pump cover	.....	.....	.....	.....	.....	.....	.....	1	505492
Joint washer for oil pump cover 0.006 in.	.....	.....	.....	.....	.....	.....	.....	1	505495
Joint washer, rear pump to extension casing	.....	.....	.....	.....	.....	.....	.....	1	505499
Joint washer for cover	.....	.....	.....	.....	.....	.....	.....	1	505521
Joint washer for extension casing	.....	.....	.....	.....	.....	.....	.....	1	505290
Joint washer for oil pump cover 0.005 in.	.....	.....	.....	.....	.....	.....	.....	1	505494
Joint washer, outer, for reverse band brake cylinder plate	.....	.....	.....	.....	.....	.....	.....	1	505409
Joint washer, outer, for forward and low brake cylinder plate	.....	.....	.....	.....	.....	.....	.....	1	505423
Joint washer, manifold to base plate	.....	.....	.....	.....	.....	.....	.....	1	505438

**Item 521 SUBJECT: EXHAUST SYSTEM**

MODEL: 1959 Rover 3 litre.

MODIFICATION: Introduction of shorter centre exhaust pipe.

PART NUMBER: Centre exhaust pipe ..... 1 513011

COMMENCING NUMBERS: 3 litre 4-speed models, Home, R.H.D. from 625900710 onwards  
3 litre 4-speed models, Export, R.H.D. from 626900105 onwards  
3 litre 4-speed models, Export, L.H.D. from 628900063 onwards  
3 litre Borg-Warner models, Home, R.H.D. from 630900287 onwards  
3 litre Borg-Warner models, Export, R.H.D. from 631900022 onwards  
3 litre Borg-Warner models, Export, L.H.D. from 633900041 onwards

REMARKS: The new centre exhaust pipe, which was introduced in order to accommodate expansion of the exhaust system, can be used as a replacement on all earlier 3 litre models.

**Item 522 SUBJECT: BODY COLOURS**

MODELS: Land-Rover.



REMARKS:

As from August 1959 the body colours for the Land-Rover will be as detailed below.

Home Market:	<i>Body colour</i>	<i>Road wheels</i>
	Bronze green	Bronze green
	Light green	Limestone
	Marine blue	Limestone
	Mid-grey	Limestone
	Mist coat-grey	Prime only

Export Market:	Bronze green	Bronze green
	Sand	Limestone
	Light green	Limestone
	Marine blue	Limestone
	Mid-grey	Limestone
	Mist coat-grey	Prime only

Special range subject to non-standard procedure:

Dark grey	Limestone
Red	Red

Constants with all colours:

All tropical roofs	.....	Limestone
Hard top	.....	Limestone
Rear seat	.....	Mid-grey
Rear seat and grab rail—109 Station Wagon	.....	Mid-grey
Rear seat lower fittings—88 Station Wagon	.....	Black
Door trim finishers and floor cover retainers	.....	Black
Chassis frame and rear step	.....	Black
Base colour for name plates	.....	Black

Trim: Grey  
Hood: Khaki

Exceptions: Fire tenders, special orders

Yours faithfully,  
for THE ROVER COMPANY LIMITED,

*M. Brewster*

*Publications Editor,  
Technical Service Department.*