

Replacement and Conditioning of Brake Linings

Job No.

42-11

A. Replacement of Brake Linings

Since for all models the brake linings are bonded to the shoes by a special process in our works, the brake linings can only be replaced by replacing the brake shoes.

Under certain circumstances the brake linings can be riveted to the brake shoes. The procedures are the same as described for Model 190, but please note that in the case of the 50 mm wide brake shoe the mean hole distance is 32 mm instead of 41 mm and the lateral hole distance is 9 mm instead of 12 mm (see Fig. 42-11/1 in Workshop Manual 190).

B. Conditioning of Brake Linings

a) General

A satisfactory wear pattern is of the utmost importance to prevent the car from pulling to one side and to ensure fully effective braking. A satisfactory wear pattern can be obtained by wearing the brake in with the help of sand-blasted or knurled brake drums or by conditioning the brake linings by means of Brake Lining Miller 000 589 03 66.

It is particularly important to obtain a satisfactory wear pattern by the methods described above if new brake shoes have been installed, when complaints are received about uneven brake action or pulling of the car to one side and if glazed spots or signs of overheating are found on the brake linings.

b) Conditioning of Brake Linings with Sand-Blasted Drums

The brake drums can be sand-blasted by means of a sand-blasting apparatus using quartz sand or medium-grain blasting sand. It is advisable to use a special set of sand-blasted brake drums for wearing in the brakes; this set should be used exclusively for this purpose. It goes without saying that the internal diameter of these brake drums should correspond to the prescribed standard.

After installing the sand-blasted brake drums the brake should be worn in by carefully braking several times on a trial run of at least 10 km. After the trial run remove the brake drums, thoroughly clean the brakes with compressed air, and check the wear pattern. Reinstall the brake drums of the car.

If special drums for wearing in are not available, the drums of the car itself can also be used for the purpose. In this case sand-blasting must be done carefully and with a very small grain in order to ensure that there is no roughness on the braking area after the brakes have been worn in.

c) Conditioning of Brake Linings with the Brake Lining Miller

When brake linings are conditioned by means of the Brake Lining Miller 000 589 03 66 or 000 589 07 66, it is advisable to mill the brake linings down to a diameter 0.5–0.6 mm smaller than the brake drum diameter and not as was described in the Workshop Manual Model 190 to

a diameter 1.5 mm smaller. With this new procedure a satisfactory wear pattern will be obtained after a short mileage.

Before milling, re-adjust the brake shoes with mechanical adjustment by moving the adjustment eccentric on the brake anchor plates and adjust the brake shoes with automatic adjustment by means of the pressure screws on the clamps. It is not permissible to back out the adjusting screw of the miller and to turn it in again. Make sure that the brake shoe adjustment is not excessive since the miller will not work accurately when too much stock is removed.

When milling used brake linings it is advisable to remove glazed spots on the lining surface with a file before starting operations. Do not continue milling once the surface of the brake linings is perfectly smooth allround.

I. Models 180, 180 a, 180 b, 180 D, 180 Db, 190 D, and 190 Db

1. The brake shoes with adjustment eccentrics on the brake anchor plate should be pushed outward until the brake linings contact the brake drum. Then turn the adjustment eccentric back until the brake drum moves freely.
 2. Remove the brake drum and install the brake lining miller with three wheel nuts.
 3. After loosening the locking nut, adjust the miller by means of the adjusting screw in such a way that the cutter just touches the highest spot on the brake linings. In this position **turn the adjusting screw in $\frac{1}{8}$ turn**. Tighten the locking nut without turning the adjusting screw.
 4. Then move the miller over the brake linings in the opposite direction to the rotation of the cutter.
 5. If the brake shoes have to be milled several times, turn them outward by means of the adjustment eccentrics on the brake anchor plate.
- Note:** If the brake shoes are being adjusted with the wheels removed from the vehicle, the brake drums must be fixed by means of two wheel nuts.
- Note:** The Cutter 000 589 32 51 or 1205890051 (10 mm ϕ , 60 mm long) must be fixed in such a way that it does not touch the brake anchor plate.

II. Models 190 SL, 219, 220 a, 220 S, and 220 SE

The brake lining miller is used in the same way as on Model 190. Only the following differences require attention.

Adjustment of Brake Lining Miller

When the cutter has been set in such a way that it just touches the highest spot of the brake shoes in their released position, the adjusting screw of the miller should be adjusted as follows:

On brake shoes with a **clearance of 0.8 mm back out the adjusting screw $\frac{1}{4}$ turn**,
on brake shoes with a **clearance of 1.0 mm back out the adjusting screw $\frac{1}{3}$ turn**.

Note: In the case of the intermediate version where the clearance of the brake shoes on the rear axle is 1.3 mm for the leading shoe and 1.0 mm for the trailing shoe proceed from the trailing shoe and **back out** the adjusting screw of the brake lining miller **$\frac{1}{3}$ turn**.