



## Brake Service and Maintenance

Brake service and repair is probably one of the most common additional jobs that are linked in connection to the interval service. Every mechanic has to master the basics of brake servicing and be able to perform it on different brake system structures, be this an older passenger car or a new electric car.



- Recognising different structures and components, and knowing how they function
- Assessing the need for service and repair
- Front- and rear brake service
- Drum brake service
- Attending to electric- and mechanical parking brakes
- Brake cylinder inspection and service
- Bleeding the brake fluid circuit correctly
- Changing the brake fluid

Language: English

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## LEARNING OUTCOMES

In the training module you will receive the basic knowledge and skills of brake servicing. By combining this knowledge and the practical brake service training you've done, you're ready to work as a mechanic with the skillset to perform inspections during interval services and additional jobs according to visual defects.

### Certificate

After completing your module of study and approved completion of the exercises, you will be allowed to take the final exam. After completing the final exam, you can print a Prodiags certificate from your attainments register as proof of your expertise.



## INTRODUCTION

### Why this module?

Brake service is an essential part of the work required on a vehicle, especially for mechanics. Brake component wear needs to be checked regularly, you assess the condition, and perform the service or replacement of the parts. Brake service is part of the basic skills for a mechanic, both at work and in training.

### What will you learn?

You begin learning about brake servicing by familiarising yourself with typical structures and components. You learn the names of components which comes in handy e.g. when ordering parts. When the structures are familiar you go on to assessing the service requirements. You find out how inspections are done during test-use and while lifted on the vehicle ramp. When you put these skills into practice, you notice how difficult doing a complete assessment of the service need is without disassembling the structures.



In the study about Front Brake Service, the service procedure is gone through step-by-step. With the help of pictures and examples you will learn more about different structures, and the disassembly of brake structures.

Home icon | Rear Disc Brake Service

### Releasing the Parking Brake

- Parking Brake within the Caliper
- Parking Brake with Brake Shoes
- Electric Parking Brake**

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Parking Brake Service Mode ACTIVATE

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There are different types of electrical parking brake structures. The electrical actuator may be placed as a separate unit, from which the brakes are actuated by cables. The actuator may also be directly on the caliper.

Despite structure-differences, releasing the parking brake in a safe and proper manner will almost always require a testing device. With the help of the testing device, the actuator is put into service mode and can also be locked. When locked, unintentional use of the parking brake is prevented. Despite the electronic lock, it is advisable to lock the vehicle or otherwise prevent unauthorised entry to the vehicle during the service. The electronic lock may only prevent the automatic functions and the parking brake can still be able to perform a so-called emergency braking.

The test device functions are typically found in the control module for either the electric parking brake or the brake system (ABS/ESP).

The training module covers a wide variety of rear brake structures, such as; disc brakes with parking brake, disc brake with separate parking brake shoes and drum brakes. Additionally, the module also covers attending to the electric parking brake, so you can avoid possible dangerous situations and damage.

Home icon | Rear Drum Brake Service

### Removal and Inspection of the Brake Shoes

When inspecting brake shoes, observe the general condition of the friction surface, uniformity of the wear, cracks and thickness. A brake fluid leak causes fading braking force by glazing the friction surface. Overheating can in a worst case scenario cause the friction surface to come off the brake shoe. The friction surface can be roughened with sanding paper, but the fix is often only temporary and the brake shoes should be replaced.

An evenly worn brake shoe's friction surface should be 3-4 mm thick to last until the next brake service.

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Home icon | Bleeding and Changing Brake Fluid

### Bleeding the Brakes

- Pressurising
- Circuit Bleeding Order**
- Pressurising with Brake Pedal

**SERVICE MANUAL**

**Bleeding brakes**

After test tool activation start brake bleeding in following order:

- right rear
- left rear
- ~~right front~~
- left front.

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After the wheel-specific brake service, the service is finished up by going more deeply into changing the brake fluid, correct bleeding procedures and examples for controlling the functionality.

The training module also consists of assessments and practical tasks to challenge your knowledge of brake servicing. Brake service, as a whole, is a task that requires strong practical knowledge and a lot of experience. The best final assessment and test of your skills is to perform a lot of brake service jobs to gain more practical competence. In your work, you can utilise the inspection card found in the printable student material. To ensure a professional service experience is delivered, you can give the correctly filled inspection card to the customer.

**Brake Service**

Reg. No. RVG-679    Make Renault    Model McGane    Odometer reading 108 400

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**Assessing Service Need**

Checking function of indicator lights  
 Functionality of the brake and parking brake (travel, release and feel of the mechanisms)  
 External Inspections (brake assembly, cables, brake dust shields, dust boots, wiring)

Inspection of the pipes, hoses and clamps  
 Checking Brake Fluid Level  
 Controlling the brake fluid boiling point: 115 ?

Checking the brake pads and -shoes: (brake and parking brake)

Assessment of condition:

6-7 mm    6-7 mm  
 2 mm    4 mm  
 - mm (P)    - mm (P)

Safety limit (40% friction surface)

Checking the rotors and brake drums: (brake and parking brake)

Assessment of condition:

Safety limit (thickness within manufacturer's reference values, no cracks or glazing)

Observations: The condition of the rear brake pads and rotors indicates that the calipers are sticking

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**Additional Works**

Recommendation:

Adding brake fluid  
 Brake fluid change  
 Front axle - brake pad replacement  
 Front axle - rotor replacement  
 Rear axle - brake pad / -shoe replacement  
 Rear axle - rotor / brake drum replacement  
 Brake hose replacement    LF  RF  LR  RR   
 Brake pipe replacement  
 Brake Caliper/cylinder replacement or rebuild    LF  RF  LR  RR   
 Other: \_\_\_\_\_

Performed additions:

PRIDIAGS

## PREREQUISITES

No pre-knowledge required.

## System Requirements

Internet connection and PC or laptop with browser.  
 Recommended screen resolution 1024 x 768 or higher.

## Updates

We want to make sure that you always have the latest version of our product. Prodiags reserves the right to make real time updates and changes. This way you'll always have the best version, without extra fees.

## Content Equivalence

This modules topics and objectives correspond in scope to a conventional 2 day training event. Once you have made your payment, you get immediate access to the content. You'll save time and money by not needing to travel.