



**GENERAL GUIDANCE
ON RUNNING-IN AND
CONDITIONING PROCEDURES
FOR BRAKE PADS**

M1060

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TWIFLEX LIMITED

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The running-in procedure consists of two phases: firstly bedding the pads on the disc so that the full area of the pad is making contact and the disc surface itself is beginning to polish, and secondly the generation of progressively more heat at the pad surface to condition the material by the chemical changes so caused until it is able to perform the maximum duty that will be asked of it.

The amount of bedding and conditioning that will be needed in any particular case will therefore vary somewhat according to the initial condition of the material and the severity of the duty, and the following suggested procedure may be shortened or lengthened by the Commissioning Engineer according to his observation of the performance of the pads during this period.

Before starting, ensure that both pad and brake disc surfaces are clean and dry.

Holding Brakes

If the brake is used only for static holding duties and it is not practicable to operate it with the disc in motion, the pad/disc interface may develop only 50% or even less of its friction potential, and an appropriate factor must be allowed in the design. Some improvement can generally be obtained by removing high spots on the pads to improve the area of contact. If adequate braking is still not achieved, a different pad material may help, or a smaller air gap in the case of spring-applied calipers, or a higher fluid pressure in direct-acting units.

Dynamic Brakes

The principle is to work the brake lightly at first to remove pad high spots and so achieve something approaching 100% pad contact with the disc.

Progressively heavier braking can then be applied until the full rated duty is reached.

If there are signs of distress, such as the deposition of pad material on the disc, try progressing more slowly towards the rated braking duty. This may involve gradual increases in both rubbing speed and/or pad pressure as appropriate to the type of installation. Remove any deposits on the disc braking surfaces.

Light Duties

Light braking duties will in general call for no special running-in procedure. Nevertheless, a progressive improvement in brake performance is likely to be observed over a period of time.

Heavy Duties

Emergency or other brakes operated only occasionally are often in this category. Some pad damage may be acceptable in emergency brakes, but in any case a thorough bedding and conditioning procedure as outlined above should be followed.

Spring-applied Calipers

Progressively increasing pad pressure is obtained by reducing the fluid pressure ('back pressure') until the design braking level has been reached. For a spring applied/electric released caliper operate the brake at first to remove pad high spots and so achieve something approaching 100% pad contact with the disc.

Temperature

Monitor the disc temperature during bedding-in and allow adequate cooling time to prevent excessive temperatures occurring. 250⁰C is a safe peak braking path temperature in most cases, but it is difficult to measure. Much higher temperatures may be used in emergency brakes, and these should be allowed to cool down to near ambient temperature before re-testing.

Testing

Carry out statutory and any other required tests. Inspect and clean the brake pads and their guides, and clean the braking paths if necessary. Check any other adjustments and air gaps.