

## Disc and pad bedding and running in

### 1. Pre-bedding at Alcon

Most discs and pads supplied by Alcon are pre-bedded. The purpose of pre-bedding the disc is to deposit an even transfer layer of friction material on to the surface of the disc. The secondary reason for pre-bedding the disc is to thermally condition the disc. The objective of pre-bedding the pad is to take the pad through a heat cycle during which the resins contained within the pad are cured, additionally, any high spots on the surface of the pad are removed.

After the discs have been pre-bedded and allowed to cool, the disc and pads can be bolted on to the car and should be ready for competition use providing that the discs and pads are “run-in” correctly.

### 2. Use of pre-bedded discs in competition

Care needs to be taken during “running-in” to obtain the best performance and life from pre-bedded discs and pads. The running-in of discs and pads on the car immediately prior to competition use ensures that the face of the disc and pad are mated, removing any high spots. Lightweight discs are particularly sensitive to potential problems during use, failure to correctly run-in the discs and pads can result in problems including:

- Long pedal
- Poor feel and modulation
- Vibration
- Premature wear
- Disc cracking

All discs can suffer from premature cracking, this is normally caused by thermal shock, occurring when the disc is either cooled or heated too quickly. Additionally, an excessive rate of disc temperature increase can result in failure of the heat to be absorbed into both braking faces and the vanes evenly. Any significant temperature variation between the opposing flanges, including the mounting flange, can cause and promote disc coning and stresses within the disc cheeks, normally leading the problems listed above.

Heavier-weight discs are more stable and less prone to these problems, due to the increased structural rigidity gained from 48 vane design and generally increased flange thickness. It is still advisable to run-in the discs carefully as per instructions to follow.

To prevent these problems, an appropriate and proven “running-in” procedure needs to be followed, during rallies and tests. We suggest that the following procedures are employed:

### 3. “Running – in” instructions

#### 48 vane discs

- Make 5 – 10 light stops from slow speed and light pedal pressure to complete system check.
- Undertake 15 decelerations from 80 to 40 kph, light to moderate pedal pressure. (2.5 - 3.0 seconds, line pressure 20 bar)
- Undertake 15 decelerations from 120 to 60kph, light to moderate pedal pressure. (4.0 seconds, line pressure 20 bar)

#### 24 vane discs

- Blank cooling duct completely (if possible)
- Make 5 – 10 light stops from slow speed and light pedal pressure to complete system check.

- Undertake 15 decelerations from 60 to 40 kph, light pedal pressure. (2.0 seconds, line pressure 25-30 bar)
- Undertake 15 decelerations from 80 to 40 kph, light to medium pedal pressure, (2.5-3.0 seconds, line pressure 20 bar), surface temperature should be around 3500 C.
- Remove ducting blank (again, if possible)