



GUIDANCE ON PAD INSTALLATION

When installing Pagid Racing Brake Pads, we recommend you observe the following:

CLEANING DISCS:

It is always good practice to clean the surface of the disc to remove any previous pad deposits and contamination. This is best done by having the discs surface ground, if this is not possible clean the disc surface with a medium grade emery cloth. This will allow the new pad to achieve better contact with the grain of the disc surface. As many high performance friction materials impart a friction transfer layer on the disc surface, this should be cleaned away when new pads are fitted. This is especially the case when a change of compound is made. Failure to clean the disc surface will result in reduced friction and reduced brake pad life.

MOUNTING NEW PADS ON USED DISCS:

When fitting new pads to used discs care must be taken to file the top and bottom edges to 45° to allow pads to clear high ridges on disc radius. This will allow the pads to fully contact the disc surface. If the contact area is reduced, hot spots can occur and damage friction material reducing efficiency. If you are changing to Pagid RS pads from another manufacturer, please take care to remove all surface deposits from the disc. If this is not done, bedding in may prove difficult and reduce life and performance of the pads.

BRAKE DISC CONDITIONING (NEW DISCS):

When fitting new discs care must be taken to heat cycle the disc by gradually introducing moderate temperatures into the disc before high temperatures are reached. The introduction of high temperatures into the brake disc too quickly can result in thermal shock causing cracking and disc distortion. Thermal shock can be reduced by also allowing the disc and pad combination to cool gradually after extreme use, and allowing the vehicle to come to a complete stop when the brakes are at extreme temperatures should be avoided. (Holding vehicle in the pit lane on the foot brake). Thermal shock can result from the level of thermal energy applied, or from the rate the heat is applied and removed. Try to keep the energy levels gradual by using warming up cycles and cooling down cycles where possible.

This practice will prolong the life of both pad and disc, improve overall brake performance and help to prevent failures.



GUIDANCE ON BEDDING IN PROCEDURE

WHY BEDDING?

- To transfer a layer of friction material onto the brake disc faces to achieve maximum performance.
- To stabilize compressible materials to avoid a spongy pedal.
- To boil off volatile elements in the friction compound in order to have the initial 'green' fading during bedding and not during the race.
- To align the pad surface with the brake disc surface to have full contact.

If pads do not get bedded properly and / or used too hard right out of the box will likely lead to pad glazing. Pad glazing is a condition where the resins in the pad crystallize on both, the pad friction surface and the brake disc surface, resulting in poor stopping performance, brake judder and vibrations.

Also rapidly escaping volatile elements and moisture from the resin would seek an immediate escape route out of the friction compound, creating small fissures that would lead shortly to cracking and chunking.

GEOMETRIC ALIGNMENT OF PAD SURFACE TO DISC SURFACE (BASIC BEDDING IN)

4-6 brake applications with medium pedal pressure from approx 90mph to 50mph, not allowing wheels to lock. (No brake dragging)

Allow for a distance of 300 - 400metres between brake applications for cooling period.

Pads should not reach temperatures above 400°C during initial bedding in. Check that pad surfaces have at least 80% contact with disc before allowing more heat into pad surface.

Immediately followed by:

BEDDING IN AT HIGH SPEED

1 brake application with medium to high pedal pressure from approx 110mph to 50mph without allowing wheels to lock.

Allow 3-4 recovery brake applications with light pedal pressure.

Repeat high speed applications including recovery applications another 2-3 times.

Allow a cooling off distance of 500 metres between high speed applications.



BRAKE FADE TROUBLE SHOOTING

BRAKE FADE CAN BE SEPARATED INTO TWO GROUPS:-

PEDAL FADE

This is the result of the brake fluid boiling in the calipers. This will cause the brake pedal to feel spongy and pedal travel will increase.

If the brake fluid in the system has boiled, it should be immediately replaced as its ability to resist boiling has been greatly reduced. Fluid testing should be regularly done as a matter of course. It should be replaced regularly, or when tests show it has degraded.

Always use the highest-grade fluid possible

PAD FADE

This is the result of friction being lost between pad and disc surface due to the friction material exceeding its maximum operating temperature, usually due to the build up of hot gases between the pad and disc surface. The pedal feel remains constant but the vehicle is not retarded.

If pad fade regularly occurs, an upgrade to a material with a higher operating temperature should be considered. If the highest specification material is being used, consideration should be given to increasing disc size if possible, or improving cooling to the brakes.

The main problem area with high performance braking systems is always the control of the thermal energy. Brake disc and pad temperature analysis can be used to indicate the temperature range the brakes are operating in. With this information material alternatives and cooling aspects can be considered and tried.