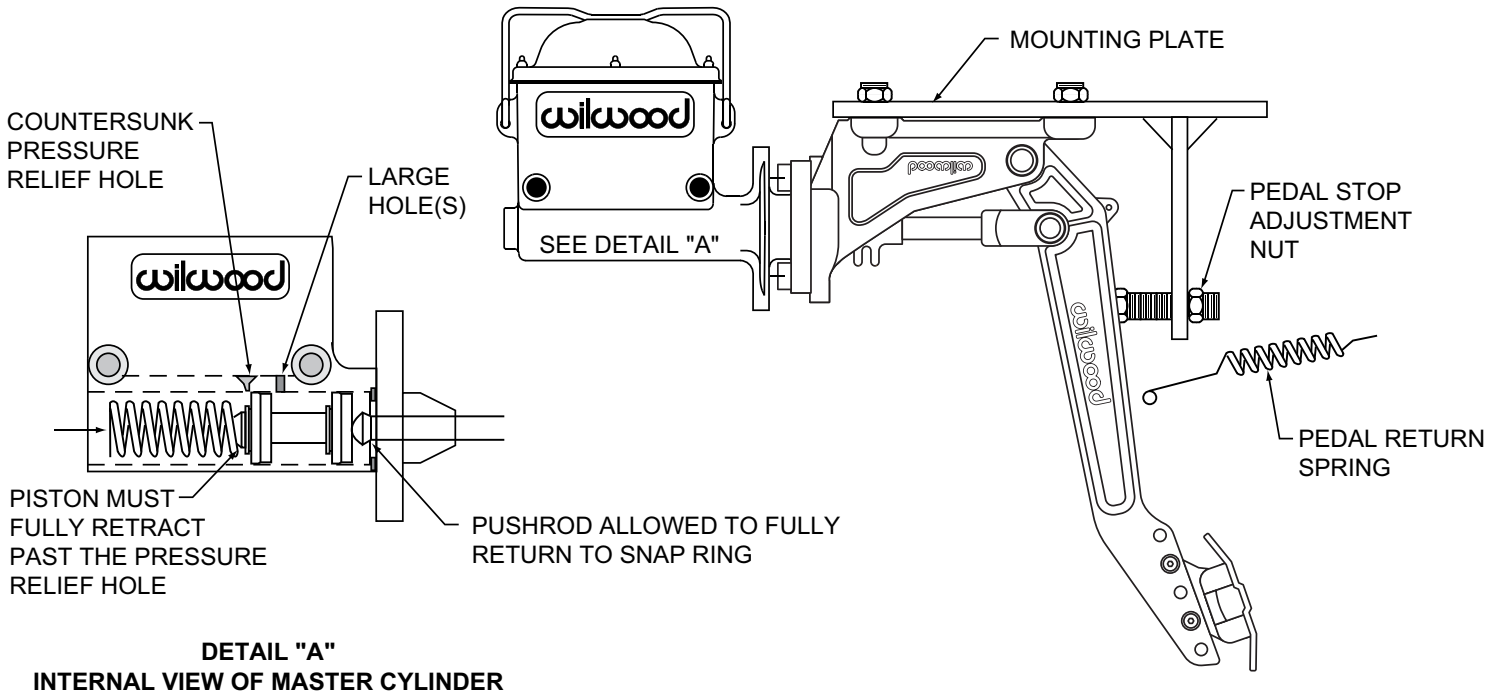
BALANCE BAR / BRAKE PEDAL GUIDELINES

Wilwood pedal assemblies and integrated balance bars have been designed specifically for racing applications. Properly set-up, this assembly will allow for the precise adjustment of front-to-rear brake bias.

The advantages of an adjustable balance bar and dual master cylinders are:

- Brake proportioning can be adjusted by use of different size master cylinder bores for front and rear brakes. Front-to-rear brake balance can be fine-tuned by adjusting the balance bar. With two independent hydraulic systems, should one master cylinder fail, the other system may remain functional.
- Brake pedals should be mounted securely. When possible, keep the master cylinder reservoir level higher than the horizontal plane of the calipers to prevent excessive fluid drain back, which can result in double pumping of the pedal. If this is not possible, a two pound residual pressure valve should be plumbed into the brake line at the exit of the master cylinder to prevent fluid drain back (do not confuse the two pound valve with the ten pound version; the ten pound valve is for use with drum brakes only).
- Brake pedals should be free to return when no pressure is being applied, allowing the master cylinder pushrod to return to its undepressed position. In some cases, the master cylinder spring (internal) may not be strong enough to fully return the pushrod; in this case, an additional pedal return spring can be used.



DETAIL "A"
INTERNAL VIEW OF MASTER CYLINDER

The brake pedal should have an adjustable return stop on it when a strong pedal return spring is used. This prevents the master cylinder from excessively banging the snap ring stop inside the master cylinder bore (visible under the rubber boot). Adjust the stop so the pedal stops returning at the point when the master cylinder piston retracts against the snap ring.

The master cylinder piston must fully retract. If the master cylinder piston is not allowed to fully retract when the brake pedal is not applied, the primary inside seal will not return past the small pressure relief hole (visible within the master cylinder reservoir on some master cylinders). This can cause excessive residual line pressure and contribute to brake drag and an overheating condition.