

600-Series Underfoot Pedal Assemblies

INTRODUCTION

Please read these instructions before installing the pedal assembly. Installation instructions for other products from Tilton Engineering are available at www.tiltonracing.com.

PEDAL ASSEMBLY MOUNTING

It is very important that the pedal assembly be mounted to a strong and rigid structure. Flex in the supporting structure reduces control as much as a flexible pedal or air in the lines. The mounting must be strong enough to withstand the loads of a driver's legs in a panic situation.

See **Diagram 1** for the pedal frame mounting pattern. Putting multiple mounting holes in two tubes running fore/aft on the car will enable multiple mounting positions, allowing the entire pedal assembly to be moved for different drivers.

Trial fit pedal assembly in place. Make sure there is enough clearance with fire-wall to allow at least 1" of pushrod stroke for all master cylinders. Be sure to use high quality fine thread fasteners for the six 5/16" or 8mm mounts on the floor, along with proper full diameter washers. Proper mounting requires fasteners be used in all six holes.

Note: If using an optional throttle linkage kit, please install it to pedal frame prior to mounting pedal assembly to chassis.

BALANCE BAR SETUP

The 7/16" diameter balance bar (P/N 72-260) included with this pedal assembly has been set at Tilton to have a 2.50" center-to-center distance for the master clevises. Please confirm this distance prior to installing master cylinders. Refer to balance bar instruction sheet (P/N 98-1250) for complete balance bar set-up information, [available for download](http://www.tiltonracing.com) at tiltonracing.com in the Installation Instructions section.

REMOTE BIAS ADJUSTER ROUTING

As set at Tilton, the longer thread section of the balance bar is on the right-side of the brake pedal. This is the end to which the remote bias adjuster cable should be attached. If the cable is attached on the left-side of the pedal, remove balance bar and rotate 180 degrees, so that the longer threaded side of the bar is on the left.

Route the remote bias adjuster cable in a manner that will not interfere with the throttle pedal or linkage. Secure the cable to the chassis, in a manner that limits the number (and degrees) of bends in the cable and allows the adjuster to operate smoothly.

THROTTLE LINKAGE

For a throttle connection system in the front of the pedal, please see Tilton's optional throttle linkage system:

Mechanical Linkage - P/N 72-793 | Drive-By-Wire System - P/N 72-794

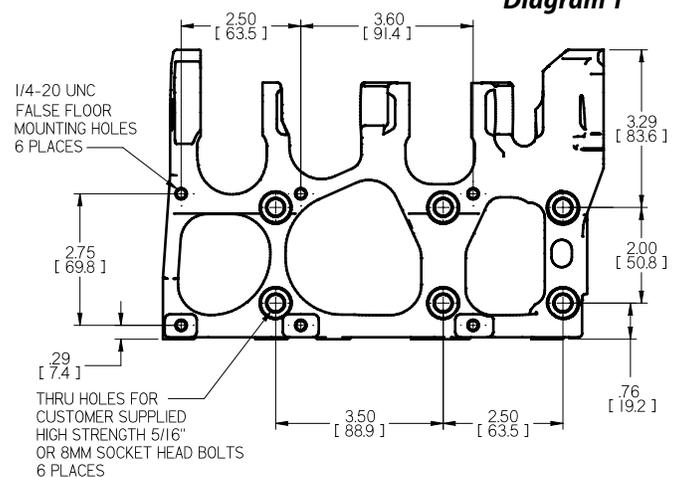
For mid and rear engine vehicles, an extension for attaching a throttle cable to the pedal is available (P/N 72-183), as shown in **Diagram 2**. Modify the end to accept your particular cable or linkage. There are three extension mounting positions on the throttle pedal to provide a wide range of motion ratios.

In general, keep the extension as short as possible while maintaining proper clearance for the foot and leg. A longer extension places a larger twisting load on the pedal and does not allow the movement to be as free.

Master cylinders and throttle linkage kit sold separately.



Diagram 1



Bias Adjuster attached



Diagram 2



MASTER CYLINDER MOUNTING

600-Series Underfoot Pedal Assemblies are designed to accept Tilton 76-Series master cylinders.

Secure the master cylinders to the pedal frame with the provided serrated flange nuts. Master cylinder pushrods may be too long for some applications and may have to be shortened to obtain correct pedal position (see **Pedal Positioning & Adjustments**). If you need to shorten the pushrod, chamfer the end of the threads after cutting for easy adjustment (threading) of pushrod length.

Attach the hydraulic lines to the master cylinders.

The brake system is gravity fed. Mounting the reservoirs above the caliper level is important to maintaining a firm pedal, and is more reliable than using a residual pressure valve. Locate your reservoirs accordingly.

Detailed bleeding instructions are included with every Tilton master cylinder kit. As with any balance bar system, always bleed a front and rear caliper at the same time to allow full master cylinder stroke.

PEDAL POSITIONING & ADJUSTMENTS

Foot pads can be adjusted vertically (pedal ratio), horizontally and in angle to suit driver preferences. See **Diagram 3** and **Diagram 4** for further detail.

The position of the brake and clutch pedals is set by adjusting the length of the master cylinder pushrods. The position of the throttle pedal is set by adjusting the stop screws (if applicable). Ensure the pushrods engage at least 1/2" (12mm) into the clevises. In short, set pedal position so that the driver is comfortable and safe.

Pedal Ratios - The pedal ratios on this assembly can be adjusted by moving the foot pad position. For available ratios, Ratios between 5.4:1 to 6.9:1 can be achieved (See **Diagram 4**).

Brake Pedal - With the system properly bled, and the pedal depressed, the pedal should be vertical or leaning slightly towards the driver. The driver should not be stretching their toes to reach this pedal position, and their knees should be slightly bent. Keep in mind, as the race progresses, any problems with pad knock back or fade will only increase the distance the pedal must travel. Tighten the pushrod jam nuts after the pedal positioning is set.

Throttle Pedal - A good starting point for the throttle pedal position is to have it even with the brake pedal in the depressed (full braking) position. This allows a driver who is completing their braking maneuver with the right foot, to make a quick change back to the throttle. Some drivers prefer the throttle to be slightly closer to them. Set the throttle stops accordingly and tighten the jam nuts.

With the throttle linkage attached, adjust the throttle stop so that the engine throttle fully opens without straining the cable or linkage. The positive stop must stop pedal movement, not the linkage, which could bend or break.

Clutch Pedal - The position of the clutch pedal is mostly a matter of driver preference. Adjust the pedal position accordingly and tighten the pushrod jam nuts.

Most racing clutch and release bearings require the use of a positive stop on the clutch pedal. Setting this stop properly will prevent damage to the clutch and allow the clutch to release cleanly. The clutch stop setting is usually 1/4" – 3/8" (6.4mm – 9.5mm) past the point of clean clutch disengagement, measured at the foot pad.

FALSE FLOOR

Shown here, and in **Diagram 5**, are examples of a "False Floor" for use with 600-Series Underfoot Pedal Assemblies.



Diagram 3

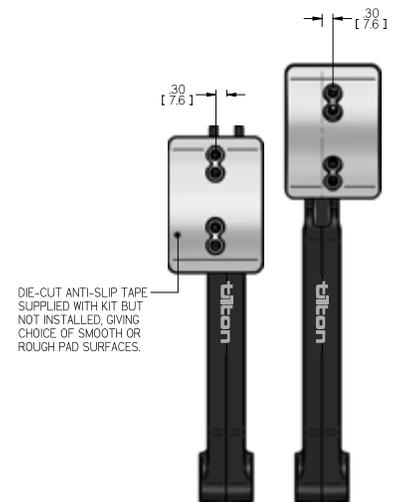


Diagram 4

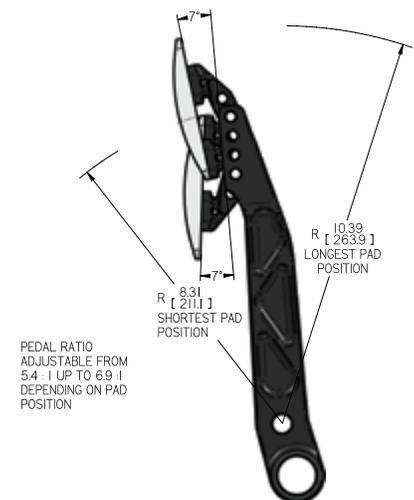


Diagram 5

