

## 600 Series Forged Aluminum Floor-mount Pedal Assemblies

**WARNING: NOT DESIGNED FOR USE WITH ABS SYSTEMS. SEE 800/850-SERIES AND 900-SERIES PEDAL ASSEMBLIES WITH 79-SERIES MASTER CYLINDERS FOR APPLICATIONS WITH ABS SYSTEMS.**

### INTRODUCTION

Please read these instructions before installing the pedal assembly. Installation instructions for other products from Tilton Engineering are available at [www.tiltonracing.com](http://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.

Visit [www.tiltonracing.com/technical/installation-drawings](http://www.tiltonracing.com/technical/installation-drawings) for of pedal assembly installation drawings that contain pedal from mount 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.

A bulkhead is not required to further support the pedal assembly/master cylinders. If mounting through a firewall, make sure there is enough firewall clearance to allow at least 1" of pushrod stroke for all master cylinders.

Trial fit pedal assembly in place. Be sure to use high quality fine thread fasteners for the four 5/16" or 8mm mounts on the floor, along with proper full diameter washers. Proper mounting requires fasteners be used in all four holes.

**Note:** If using optional throttle linkage kit (P/N 72-791 or 72-792), please install it to pedal frame prior to mounting pedal assembly to chassis.

### BAR BALACE SET-UP (P/N 72-603, 72-604, 72-614)

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 the enclosed balance bar instruction sheet, P/N 98-1250, for complete balance bar set-up information.

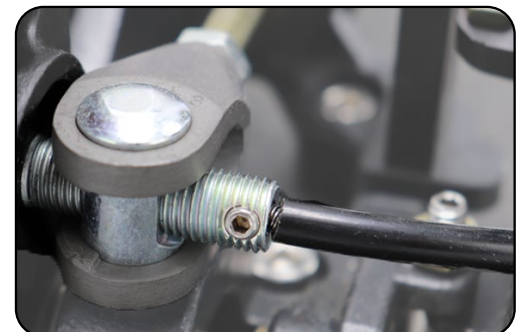
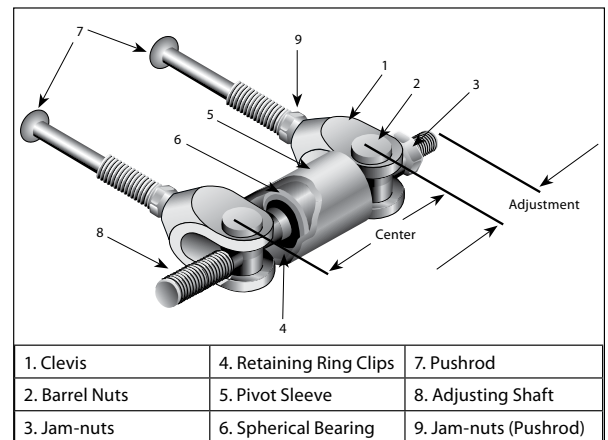
### REMOTE BIAS ADJUSTER ROUTING (P/N 72-603, 72-604, 72-614)

Insert end of remote brake bias adjuster cable into the hole at the end of the balance bar. Tighten set screw to secure cable to the bar.

Route the remote bias adjuster cable in a manner that will not interfere with the throttle pedal throughout the full brake pedal stroke range. This is very important to prevent an application of the brakes from depressing the throttle pedal. 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.



**Balance Bar Diagram**



**Bias Adjuster attached**



Scan to watch a video on Tilton Balance bars: How to Set-up and Adjust Balance Bars or visit [www.tiltonracing.com/technical/technical-videos/](http://www.tiltonracing.com/technical/technical-videos/)

## MASTER CYLINDER MOUNTING

Tilton 600-Series Pedal Assemblies are designed to accept Tilton 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 instructions are included with each TB&C master cylinder.

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.

## THROTTLE LINKAGE (P/N 72-603 ONLY)

An optional extension, P/N 72-183, for attaching a throttle cable to the pedal is available, as shown in **Diagram 1**. Modify the end to accept your particular cable or linkage. There are five 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.

For a throttle connection system in the front of the pedal, please see Tilton's optional throttle linkage system, P/N 72-791 (Shown installed in **Diagram 2**).

## PEDAL POSITIONING & ADJUSTMENTS

The proper pedal positioning is highly dependent on the driver preferences. 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. See the chart in **Diagram 3** for the pedal ratio options available depending on pedal pad position.

**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 (P/N 72-603 only)** - A good starting point for the throttle pedal position is to have it even with the brake pedal in the depressed (full throttle) 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.

## Tilton Master Cylinders

**73-Series:** Large integral reservoir master cylinder.

**74-Series:** Tilton's original universal master cylinder kit.

**75-Series:** Short-bodied universal master cylinder kit.

**76-Series:** Short-bodied AN4 remote inlet master cylinder.

Go to [www.tiltonracing.com](http://www.tiltonracing.com) for further information.

**Diagram 1**



**Diagram 2**



**Diagram 3**

FOOT PAD POSITION				
RATIO	LOW	MED-LOW	MED-HIGH	HIGH
	5.29	5.44	5.61	5.75



Scan to watch a video on Tilton Pedal Assemblies: How to Install Master Cylinders or visit [www.tiltonracing.com/technical/technical-videos/](http://www.tiltonracing.com/technical/technical-videos/)