

900 Series Floor-mount 3 Pedal Assembly

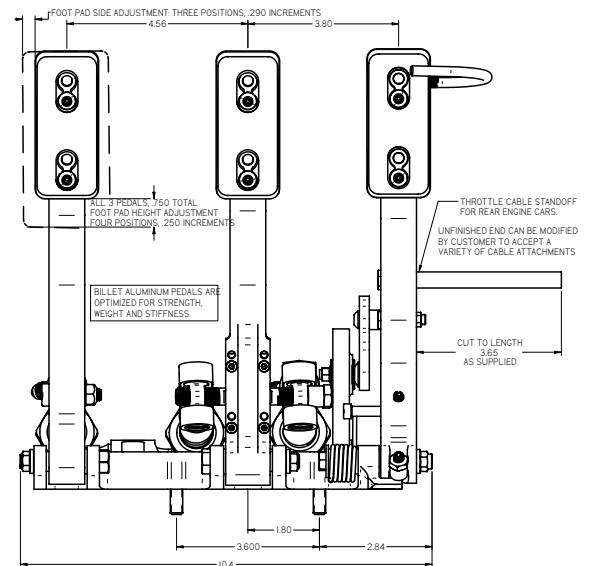
DESCRIPTION

Minimizing friction and flex in the pedal assembly and the master cylinders maximizes driver control. The Tilton floor mount pedal assembly with forward mounted pivot type master cylinders effectively handles these critical issues. In addition this assembly is highly adjustable for different drivers and tracks, easy to install and maintain, and does all of this in a very lightweight package.

MASTER CYLINDER & PEDAL ASSEMBLY INSTALLATION

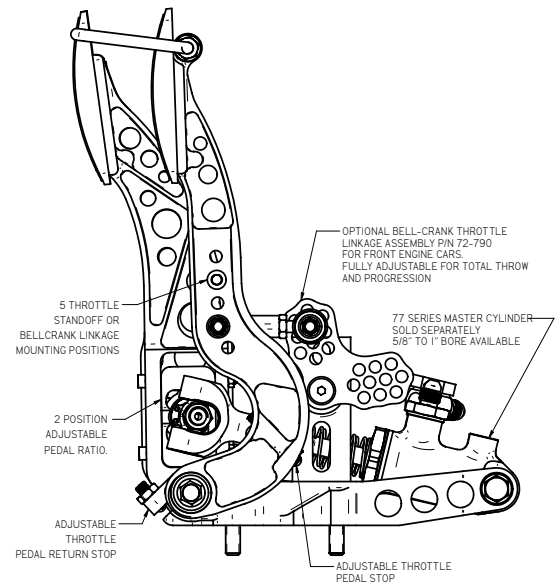
1. A pedal assembly can only be as rigid as its mounting system in the car.
Flex in the supporting structure reduces braking control as much as air in the lines. See the drawing on page 4 for the mounting bolt pattern. Multiple holes in two tubes running fore/aft in the car can allow multiple mounting positions.
2. Select the brake pedal pivot position (high or low motion ratio).
The overall pedal ratio is dependent on the pivot position combined with the foot pad position, and the ratios are marked on the brake pedal. Tighten the four fasteners to **46 in-lbs** using a 3mm hex wrench.
3. The balance bar clevises are of two different lengths; The longer clevis is to be used with the master cylinder for the front brake system and should stay on the right-hand side of the brake pedal. This configuration ensures the best remote adjuster cable clearance to the throttle pedal.
4. Set the center-to-center distance on the two balance bar clevises at **2.60"**. A good place to start is with both clevises equally spaced from the pedal (middle balance bar position).
5. Remove the long bolt that mounts the three master cylinders. Remove the four master cylinder spacers from the frame.
6. Reinstall the two center master cylinder spacers in the frame. A small amount of RTV will keep the spacers in place during assembly.
7. Install the master cylinders. It is best to install the master cylinders on the pedal assembly before placing the assembly in the car. Reinstall the mounting bolt through the three master cylinders, and tighten the nut to **120 in-lbs**.
8. Thread the three pushrods into the clevises **.710"** (*about seventeen (17) revolutions*).
This will position the pedals as shown in the drawings. Final pedal position adjustment will be made later.
9. Since the brake pushrods are threaded equal amounts and the clevises have two different lengths, the balance bar will be at a 5° angle. This is by design and will be addressed in the Pedal Positioning section.
10. Mount the pedal assembly into the car. Be sure to use high quality 5/16" or 8mm Allen head bolts of the appropriate length with a supplied AN washer under the head of each bolt.

Note: For clearance reasons, Allen mounting bolts *must* be installed with the head recessed in the counterbore of the frame. Do not be tempted to use a large OD washer and a hex bolt that will not sit in the counterbore of the frame, as interference to critical moving parts will occur.



PEDAL POSITIONING

1. With the system properly bled, and the brake pedal depressed, the straight portion of the brake pedal beam should be close to square with the master cylinder pushrods as viewed from the side. To achieve this, adjust the brake pedal height by threading both brake master cylinder pushrods in or out of the clevises equal amounts. Keep at least .300" of pushrod threaded into the clevises. With the pedal depressed, check the driver's reach. The driver must not be stretching toes to reach the depressed pedal, and the knee must be slightly bent. Open a bleeder screw and confirm that the driver can fully stroke the brake pedal in event of fluid boiling, or a brake line failure. Move the entire assembly in the car if a coarse adjustment is necessary. Small adjustments in pedal position may be made by threading the pushrods in or out of the clevises. Tighten the two pushrod locknuts once the proper pedal position is achieved. The pushrod has two flats to accept a 5/16" wrench.
2. The front master cylinder will require more stroke to operate than the rear once the system has been bled. After bleeding, check to make sure the balance bar is parallel with the firewall when the brakes have been applied with the normal wheel locking force. If not, loosen the locknuts, readjust, and retighten the locknuts.
3. Thread the clutch master cylinder pushrod in or out until the desired pedal height is achieved relative to the brake pedal. Keep at least .300" of pushrod threaded into the clevis. Tighten the pushrod locking nut.
4. If your hydraulic release bearing requires the use of a positive stop, a stop threading into the frame and a locking nut have been provided. See your hydraulic release bearing instructions for adjusting the pedal stop.
5. Set the throttle return stop according to driver preference. If you are unsure, a good starting point for the throttle is to have it even with the depressed brake pedal. This allows a driver who is completing his braking maneuver with the right foot to quickly change back to the throttle.
6. For rear/mid engine cars, modify the throttle cable standoff on the right side of the throttle pedal to accept your particular cable or linkage. For front engine cars, bell crank P/N 72-791 is useful.
7. Set the throttle depressed stop so that the engine's throttle is fully open without straining the cable or linkage. If an alternate amount of throttle pedal throw or progression is desired, a wide variety of mounting holes on the pedal and P/N 72-791 can be selected.
8. The toe clip allows the driver to pull closed a throttle that would otherwise be stuck in the open position. It also provides a rest to keep the driver's foot well supported with high lateral loading. It can be re-bent as desired, rotated up or down, and moved left and right via the threaded portion. Position it so that it does not interfere with normal pedal use, yet can be easily reached should the need arise.
9. The footpad positions can be adjusted left and right in three .29" increments. The footpad position can be adjusted vertically in four .25" increments. The vertical bolt pattern is offset, so, turning the pedal pad over allows four positions with only 2 bolt patterns. Always use both mounting screws per pad and a removable thread locking compound.



BALANCE BAR ADJUSTMENT

Fixed position

If a remote adjuster will not be used remove the set screw in the right end of the balance bar and snug the balance bar locking nut up against the right clevis pivot.

Only one locking nut is required.

Remote Cable Adjuster

The right end of the balance bar has been drilled to accept the remote adjuster cable directly. No coupler is required. Slip the end of the cable into the end of the balance bar and tighten the setscrew.

Right Angle Adjuster

To solve cable routing problems use right angle adjuster part number 72-561. This is a small protected bevel gear drive unit that will allow the cable to approach the balance bar at a 90 degree angle.

PORTS

Inlet:

-6AN, crush washer seal. Connection fittings (-6AN crush washer to -4AN male taper) are sold separately, available from Tilton (P/N 77-015). Comparable Goodridge fittings are acceptable as well.

Outlet:

-3AN, crush washer or tapered seat seal.

CUTOFF PORT TRAVEL

As delivered, the Tilton 77 Series master cylinder has been blueprinted for a cutoff port travel distance within the range of .030" to .050". This can be altered by changing the thickness of the sealing ring located between the master cylinder body and the end cap (visible from outside). Increasing the thickness of this seal increases the cutoff port travel an equal amount. Reducing the thickness reduces it by an equal amount. Seal kits of varying thicknesses are available from Tilton. It is recommended not to reuse the shims since work hardening of the shim material can prevent proper sealing in the future.

