

INSTALLATION INSTRUCTIONS

Master Cylinder Kits

A. How It Works

Tilton Master Cylinders are engineered to provide optimum performance at a moderate cost. There are many configurations that can be assembled with the wide range of components that are included. The universal mounting design allows you to mount the master cylinder from the side, the flange or both. The master cylinders are made of lightweight aluminum and have a clear anodized coating to prevent wear and corrosion. The kits include one large (10.7 oz) and one small (4.0 oz) reservoir. Two fittings are supplied: a 3/16" inverted flare and AN-3 line adapter. The Tilton master cylinders set the standard for the industry and are a direct replacement for master cylinders that have a 2.25" spaced, 2-bolt mounting pattern.

Installation notes

- Decide which reservoir size and style fits your application.
- The 4.0 oz reservoir is recommended for clutch applications and brake systems used in short races where brake pad wear is at a minimum.
- The 10.7 oz reservoir is recommended for use on brake master cylinders when there is a significant amount of pad wear during an event. They also have more reserve capacity in the event of a fluid leak somewhere in the system.
- Mount the reservoirs above the calipers to prevent fluid bleed-back from the calipers to the master cylinders.
- Make sure that all of the parts are clean before assembling.

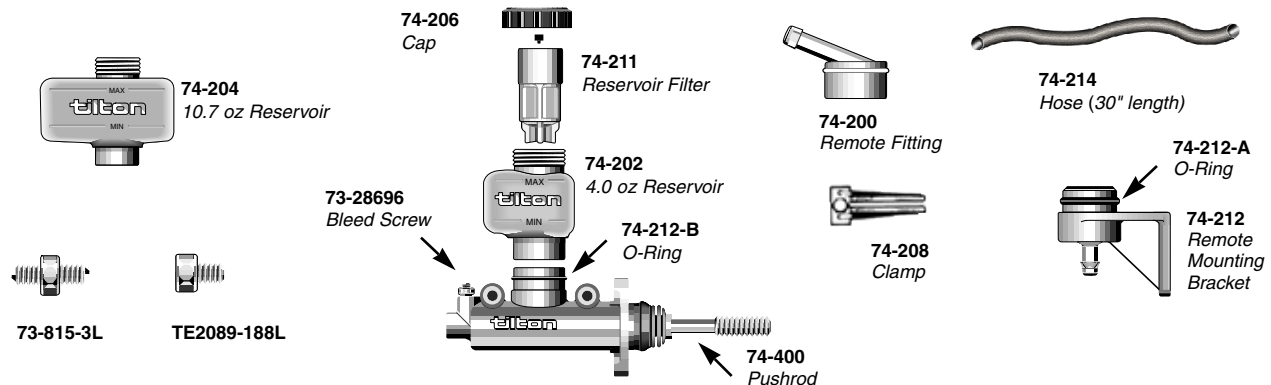


Diagram 1 - Master Cylinder Kit and Replacement Parts

B. Installation

Master Cylinder with Direct Mount Reservoir

1. Remove the dust cover from the master cylinder reservoir opening.
2. Make sure that the o-ring is seated properly in the groove of the reservoir entry port on the master cylinder body.
3. Apply a small amount of rubber grease (P/N: RG-17) onto the o-ring.
4. Do not damage the o-ring or move it out of position when installing the reservoir or the remote fitting.
5. Slide the selected reservoir onto the master cylinder body along with the wire clamp.
6. Place the wire clamp so that one wire of the clamp is above the o-ring and the other is below the o-ring.
7. **Do not over tighten the wire clamp** or you may damage the reservoir. It should be "snug".
8. Insert the reservoir filter into the reservoir properly by referring to **Diagram 1**.
9. Thread the reservoir cap onto the reservoir to keep dirt out.
10. Select the appropriate fitting for your application and attach this fitting to the master cylinder body.
11. Mount the master cylinder on the vehicle and proceed to the brake bleeding section.
12. Proceed to the brake bleeding section.

Master Cylinder with Remote Mount Reservoir

- Determine the location for mounting the remote mounted reservoir.
- The supplied rubber hose is 30" long and can be cut to length. Select the location for the remote mounted bracket accordingly.

Bracket

1. Select the location for mounting the remote reservoir and drill the two 1/4" diameter mounting holes on 1.2" centers.
2. Install the remote-mounting bracket with the appropriate hardware.
3. Apply a small amount of rubber grease (P/N: RG-17) onto the o-ring on the remote fitting.
4. Do not damage the o-ring or move it out of position when installing the reservoir or the remote fittings.
5. Slide the selected reservoir onto the remote-mounting bracket and secure it with the wire clamp.
6. Place the wire clamp so that one wire of the clamp is above the o-ring and the other wire is below the o-ring.
7. **Do not over tighten the wire clamp** or you might damage the reservoir. It should be "snug".
8. Insert the reservoir filter into the reservoir properly by referring to **Diagram 1**.
9. Thread the reservoir cap onto the reservoir to keep dirt out.
10. Attach one end of the rubber hose onto the nipple of the remote-mounting bracket.
11. Secure the hose by using one of the supplied tie wraps. Trim the excess tie wrap.

Master Cylinder

1. Remove the dust cover from the master cylinder reservoir opening.
2. Make sure that the o-ring is seated properly in the groove in the reservoir entry port on the master cylinder body.
3. Apply a small amount of rubber grease (P/N: RG-17) onto the o-ring.
4. Do not damage the o-ring or move it out of position when installing the reservoir or the remote fittings.
5. Slide the remote fitting onto the master cylinder body and secure it with the wire clamp.
6. Place the wire clamp so that one wire of the clamp is above the o-ring and the other wire is below the o-ring.
7. **Do not over tighten the wire clamp** or you might damage the remote fitting. It should be "snug".
8. Mount the master cylinder on the vehicle.
9. Attach the other end of the rubber hose to the nipple of the remote fitting.
10. Secure the hose by using one of the supplied tie wraps, trim excess tie wrap.
11. Select the appropriate fitting for your application and attach this fitting to the master cylinder body.
12. Proceed to the Brake Bleeding section.

B. Brake Bleeding

Priming Master Cylinder

1. Fill the master cylinder reservoir with brake fluid.
2. Open the bleed fitting at the master cylinder.
3. Gently depress and release the brake pedal until fluid emerges.
4. Select the bleeding order that fits your application from the four shaded text boxes below.

Brake Bleeding

1. Fill a clear bottle with enough brake fluid to keep the hose ends submerged.
2. Attach the other end of the plastic bleeder hose to the caliper bleedscrew.
3. Be sure the hoses stay submerged throughout the procedure to prevent sucking air on the return stroke of the pedal.
4. Depress the brake pedal with slow and gentle foot pressure.
5. Open the caliper bleedscrew.
6. Allow the pedal to drop to the fully depressed position.
7. Close the caliper bleedscrew.
8. Allow the pedal to return to the relaxed position.
9. Wait several seconds and then repeat step 4 through 8 until air has been removed from the system.

Bleeding Order: Fixed calipers, 2 Master Cylinder

- Front & rear passenger's side, inboard
- Front & rear passenger's side, outboard
- Front & rear driver's side, inboard
- Front & rear driver's side, outboard

Bleeding Order: Floating calipers, 2 Master Cylinder

- Front & rear passenger's side
- Front & rear driver's side

Bleeding Order: Floating calipers, 1 Master Cylinder

Start with the caliper located farthest from the master cylinder and work your way in.

Required Equipment

- Bleeder kit, P/N 72-503
- Proper bleed screw wrenches
- An adequate supply of DOT 3 or 4 brake fluid
- **If the vehicle has a dual master cylinder brake system then both of the systems must be bled simultaneously**

Bleeding Order: Fixed calipers, 1 Master Cylinder

Start with the caliper located farthest from the master cylinder. Bleed the inboard side and then the outboard side before proceeding to the next closest caliper.

After bleeding, minimal brake pedal travel should be observed. Properly bleeding the brakes does not require any power equipment or a massive amount of applied pedal force.

Bore Size	Kit	Rebuild Kit
5/8" cylinder bore	74-625U	74-625RK
7/10" cylinder bore	74-700U	74-700RK
3/4" cylinder bore	74-750U	74-750RK
13/16" cylinder bore	74-812U	74-812RK
7/8" cylinder bore	74-875U	74-875RK
15/16" cylinder bore	74-937U	74-937RK
1" cylinder bore	74-1000U	74-1000RK
1 1/8" cylinder bore	74-1125U	74-1125RK

Table 1 - Master Cylinder Kits & Rebuild Kits

C. Maintenance

The brake system should have the brake fluid replaced and the brake bleeding procedure performed before each event.

D. Master Cylinder Rebuild Kits

Refer to **Table 1** for the appropriate rebuild kit.