

# INSTALLATION INSTRUCTIONS

98-1233

## 75-Series Master Cylinder Kits

### DESCRIPTION

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. The master cylinders are made of lightweight aluminum and have a black anodized coating to prevent wear and corrosion. Two reservoirs are included in the kit; 7.0 ounce and 4.0 ounce. Also included are a 3/16" inverted flare fitting and AN-3 line adapter. 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 ounce reservoir is recommended for clutch applications and brake systems used in short races where brake pad wear is at a minimum.
- The 7.0 ounce 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.

### INSTALLATION

#### 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 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 or remote fitting 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 or remote fitting. 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.
12. Proceed to the **Brake Bleeding** section.

#### Master Cylinder with Remote Mount Reservoir

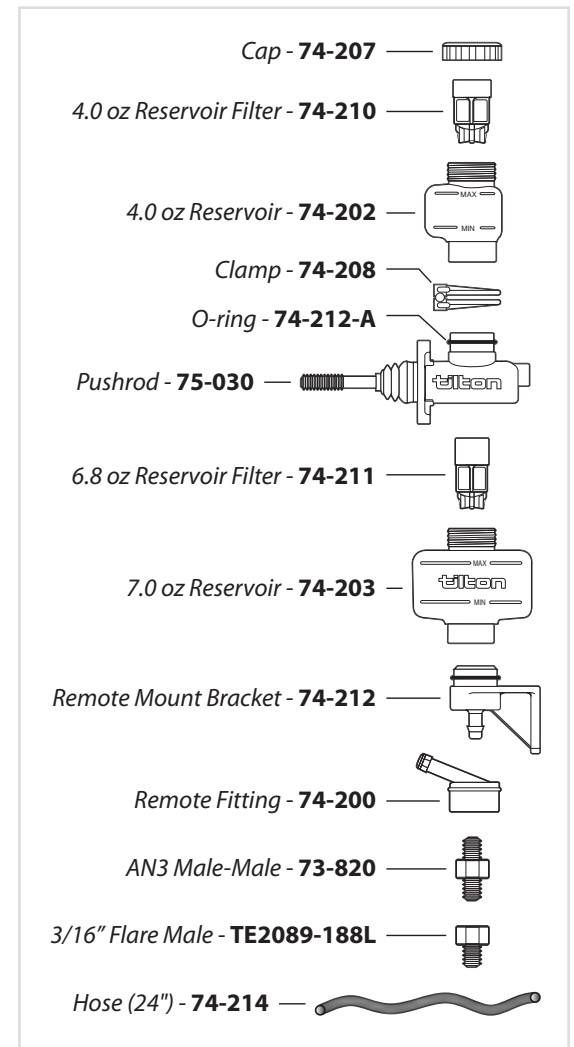
1. Determine the location for mounting the remote mounted reservoir.
2. The supplied rubber hose can be cut to length. Select the location for the remote mounted bracket accordingly.
3. After selecting the location for mounting the remote reservoir, drill the two 1/4" diameter mounting holes on 1.20" centers.
4. Install the remote-mounting bracket with the appropriate hardware.
5. Apply a small amount of rubber grease (P/N: RG-17) onto the o-ring on the remote fitting.
6. Do not damage the o-ring or move it out of position when installing the reservoir or the remote fittings.

### ABS WARNING:

May not be suitable for use with some ABS (anti-lock braking) systems due to the high pressure pulsations that they may send back to the master cylinder, potentially damaging the high-pressure seal.



Diagram 1 - Master Cylinder Kit and Replacement Parts



7. Slide the selected reservoir onto the remote-mounting bracket and secure it with the wire clamp.
8. 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.
9. Do not over tighten the wire clamp or you might damage the reservoir. It should be "snug".
10. Insert the reservoir filter into the reservoir properly by referring to **Diagram 1**.
11. Thread the reservoir cap onto the reservoir to keep dirt out.
12. Attach one end of the rubber hose onto the nipple of the remote-mounting bracket.
13. Secure the hose to prevent damage or wear against other components.

## BRAKE BLEEDING

### Required Equipment

- Bleeder kit
- Proper 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. See **Bleeding Order** section for proper order.

### Priming Master Cylinder

1. Fill the master cylinder reservoir with brake fluid.
2. Slightly loosen the fitting at the master cylinder.
3. Gently depress and release the brake pedal until fluid emerges.
4. Tighten the fitting.
5. Select the bleeding order that fits your application from **Bleeding Order** section.

### 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 bleed-screw.
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 bleed-screw.
6. Allow the pedal to drop to the fully depressed position.
7. Close the caliper bleed-screw.
8. Allow the pedal to return to the relaxed position.
9. Wait several seconds and then repeat steps 4 through 8 until air has been removed from the system.

## MAINTENANCE

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

## MASTER CYLINDER REBUILD KITS

Refer to this table for the appropriate rebuild kit.

Cylinder Bore Size	Cylinder Kit	Rebuild Kit
5/8" bore	75-625U	75-625RK
7/10" bore	75-700U	75-700RK
3/4" bore	75-750U	75-750RK
13/16" bore	75-812U	75-812RK
7/8" bore	75-875U	75-875RK
1" bore	75-1000U	75-1000RK

## BLEEDING ORDER

### Fixed calipers, 2 Master Cylinders

1. Front & rear passengers side, inboard
2. Front & rear passengers side, outboard
3. Front & rear drivers side, inboard
4. Front & rear drivers side, outboard

### Floating calipers, 2 Master Cylinders

1. Front & rear passengers side
2. Front & rear drivers side

### Floating calipers, 1 Master Cylinder

1. Start at the caliper furthest from the master cylinder.
2. Work your way in, bleeding the next closest caliper.

### Fixed calipers, 1 Master Cylinder

1. Start at the caliper furthest from the master cylinder. Bleed the inboard side and then the outboard side.
2. Proceed to the next closest caliper.

### Upon Completion

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.