

INSTALLATION INSTRUCTIONS
FOR
SIDE MOUNT SHORT REMOTE MASTER CYLINDER KIT

PART NUMBER(S)

260-12384, 260-12385, 260-12386
260-12387, 260-12388, 260-12389

**DISC BRAKES SHOULD ONLY BE INSTALLED BY SOMEONE
EXPERIENCED AND COMPETENT IN THE INSTALLATION AND
MAINTENANCE OF DISC BRAKES
READ ALL WARNINGS**



WARNING

DO NOT OPERATE ANY VEHICLE ON UNTESTED BRAKES!
SEE MINIMUM TEST PROCEDURE WITHIN

ALWAYS UTILIZE SAFETY RESTRAINT SYSTEMS AND ALL OTHER AVAILABLE SAFETY EQUIPMENT WHILE OPERATING THE VEHICLE

IMPORTANT • READ THE DISCLAIMER OF WARRANTY INCLUDED IN THE KIT

NOTE: Some cleaners may stain or remove the finish on brake system components. Test the cleaner on a hidden portion of the component before general use.

Photographic Tip

We suggest you take digital photos of the brake system setup before and during the disassembly procedure. This will aid in the event that something is not compatible with the new brake components and be a valuable tool to assist in the trouble-shooting process.

Minimum Mounting Requirements, Variations

Four Different Master Cylinder Combinations Available in One Kit

Wilwood's new short remote master cylinder combination kit can be mounted with the reservoir on the master cylinder body "direct mount" (Figure 1), or the reservoir positioned at a convenient remote location "remote mount" (Figure 2), and then connected via a flexible hose.

Both versions can utilize either a large or small mount reservoir (included in the kit), as your application warrants. Refer to Figure 3 for the minimum mounting requirements before installation begins.

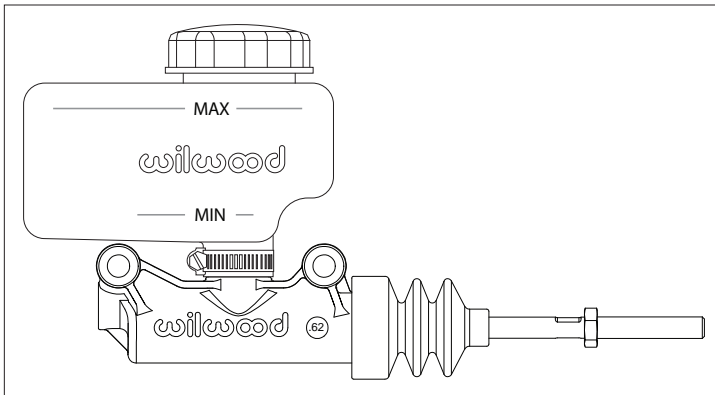


Figure 1. Direct Mounted Master Cylinder

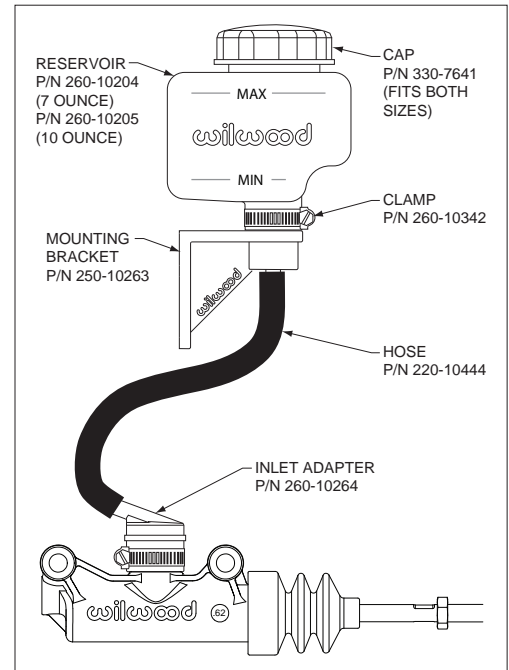


Figure 2. Remote Mounted Master Cylinder

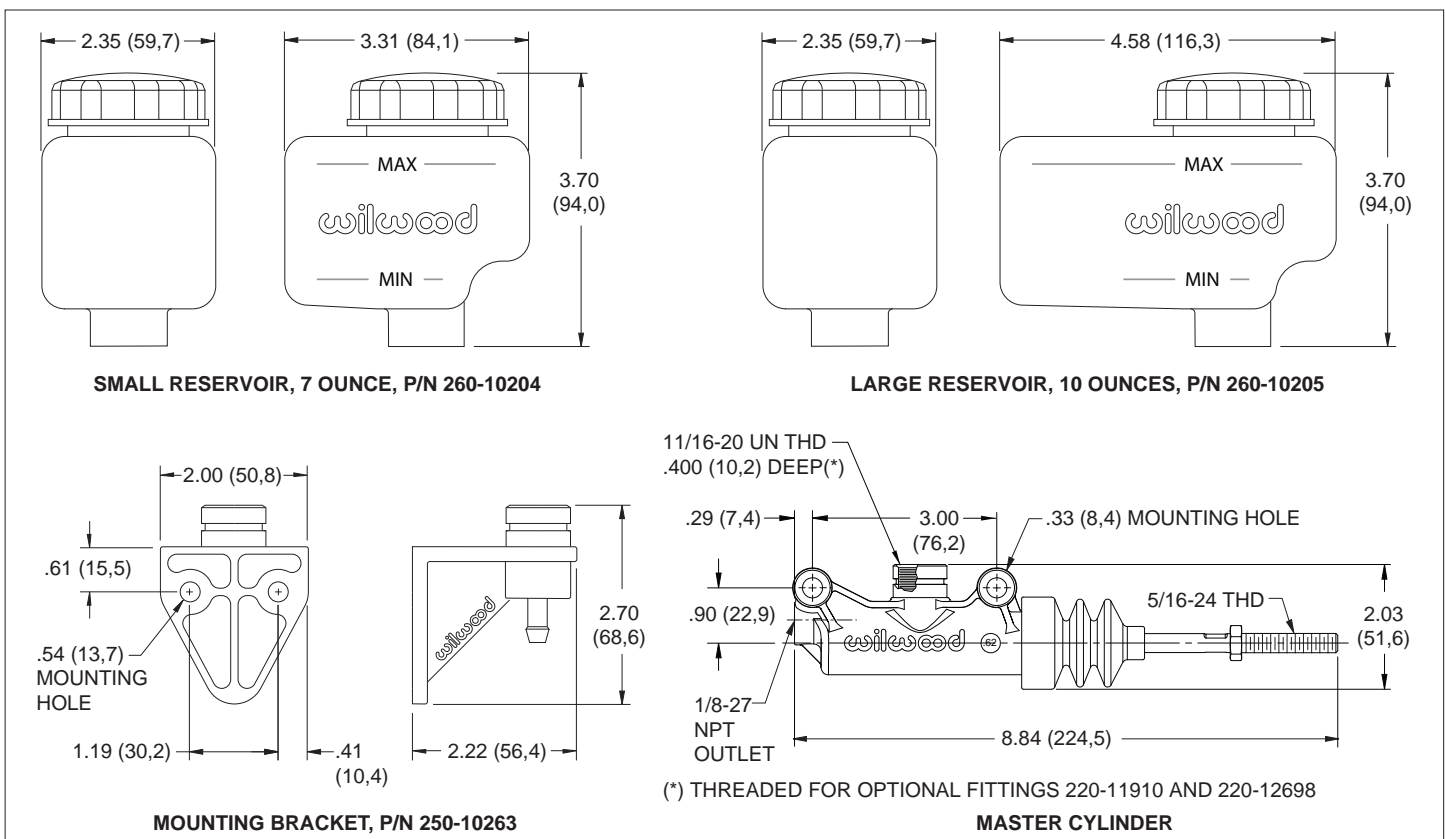


Figure 3. Minimum Mounting Requirements for Mounting Bracket, Master Cylinder and Reservoirs

General Information and Installation Instructions

Installation of this kit should **ONLY** be performed by persons experienced in the installation and proper operation of disc brake systems. Before installing the Wilwood remote master cylinder kit, read the following instructions carefully to ensure a trouble-free installation.

Reservoir Selection:

The small or large reservoir will mount directly on the master cylinder body, or in a remote location using the remote mounting bracket (connected by the brake hose included with the kit). Use the large reservoir with two or more large displacement calipers, otherwise the small reservoir is adequate. Always use the clamps provided with the reservoirs and remote inlet adapter. Do not over tighten.

Mounting Location:

Master cylinders should be firmly mounted to appropriate pedal assemblies and kept away from heat sources. Use tie straps, or small hose clamps to secure hose when remote reservoir is used. Check to verify that the full stroke of pushrod is unimpeded when depressing brake pedal and that pushrod is allowed to fully retract when brake pedal is released.

Residual Pressure Valves:

Use of an external residual pressure valve should be utilized when the master cylinder is mounted below the horizontal plane of the brake calipers (or drum wheel cylinders).

Bench Bleeding Instructions:

- Bolt the cylinder to a pedal bracket or gently hold it in a vise. Remove the reservoir cap. Fill the reservoir approximately 2/3 full with Wilwood Hi-Temp[®] 570 brake fluid (P/N 290-0632), or for severe braking or sustained high heat operation, use Wilwood EXP 600 Plus Racing Brake Fluid (P/N 290-6209). **WARNING: Do not use DOT 5 silicone brake fluid for racing or performance driving, use only DOT 3, DOT 4 or DOT 5.1 brake fluid.** Firmly push the cylinder rod all the way down and place a finger over the outlet fitting. Let the rod return all the way before removing the finger from the outlet hole. Repeat the process until all the fluid coming from the outlet is bubble free. Be sure to watch the fluid level in the reservoir. If the reservoir is less than 1/3 full, add fluid before further bleeding. Temporarily plug the outlet fitting and install the reservoir cap.

Alternative Bench Bleeding Method:

- **Alternative bench bleeding method:** Temporarily install a pipe thread to tubing fitting and clear plastic return line (not supplied) back to the reservoir. Slowly pump and return master cylinder piston throughout its full stroke until no bubbles return to the reservoir. Disconnect tubing and fitting while temporarily plugging the outlet fitting, then install reservoir cap.
- Install the master cylinder in the chassis. Connect the brake line being careful not to let air into the outlet fitting. Thread the push rod into the pedal clevis. Remove the reservoir cap and bleed the brake system as normal. Be sure to refill the reservoir if the fluid level falls below 1/3 full. If a power bleeder is used, follow the manufacturer's instructions.

Bleed The System:

- To properly bleed the brake system, begin with the caliper farthest from the master cylinder. Bleed the outboard bleed screw first, then the inboard. Repeat the procedure until all calipers in the system are bled, ending with the caliper closest to the master cylinder.
- A dual master cylinder application will require three people for bleeding, one pushing the brake pedal and one each on the front and rear of the car. Be sure to bench bleed and fill master cylinder with fluid, then install on the chassis. Elevate the right side of the car and bleed both front wheel and rear wheel outboard bleed screws simultaneously. Repeat the procedure for the inboard bleed screws. Lower the right side and elevate the left side of the car. Simultaneously bleed the left side front and rear outboard screws first, then the inboard. If the brake pedal does not feel firm when applying pressure, repeat this procedure starting with the right side of the car.
- If the master cylinder is mounted lower than the disc brake calipers, some fluid flowback to the master cylinder reservoir may occur, thus creating a vacuum effect that retracts the caliper pistons into the housing. This will cause the pedal to go to the floor on the first stroke until it has "pumped up" and has moved all the pistons out against the pad again. A Wilwood in-line two pound residual pressure valve, installed near the master cylinder will stop the fluid flowback and keep the pedal firm and responsive.
- After the system is bled, fill the reservoir to the max line of the top and replace the cap. Adjust the push rod for proper pedal position and tighten the jam nut against the pedal clevis. Make sure that the pedal allows the push rod to return completely.
- Inspect for leaks at all pressure connections. Use a Wilwood Pressure Gauge (P/N 260-0966) to verify line pressure at each caliper and to pre-adjust the balance bar, if used.

Maintenance:

Master cylinder rebuild kits are available for all bore sizes (see ordering information on the next page) and should be rebuilt periodically (reference Figure 4, page 4). Always inspect master cylinders before and after every race for damage or leakage. When rebuilding master cylinders, take care not to damage piston seals. Test master cylinder before usage. Use Wilwood Hi-Temp[®] 570 or EXP 600 Plus brake fluid as a lubricant when assembling.

General Information and Installation Instructions (Continued)

Ordering Information:

5/8" Combination Master Cylinder Kit (1.12 stroke)	260-12384
3/4" Combination Master Cylinder Kit (1.12 stroke)	260-12385
13/16" Combination Master Cylinder Kit (1.12 stroke)	260-12386
7/8" Combination Master Cylinder Kit (1.12 stroke)	260-12387
1" Combination Master Cylinder Kit (1.12 stroke)	260-12388
1-1/8" Combination Master Cylinder Kit (1.12 stroke)	260-12389

5/8" Combination Rebuild Kit	260-10513
3/4" Combination Rebuild Kit	260-10514
13/16" Combination Rebuild Kit	260-10515
7/8" Combination Rebuild Kit	260-10516
1" Combination Rebuild Kit	260-10517
1-1/8" Combination Rebuild Kit	260-10518

If after following the instructions, you still have difficulty in installing or bleeding your Wilwood master cylinder, consult your local chassis builder, or retailer where the kit was purchased for further assistance.

Exploded Diagram

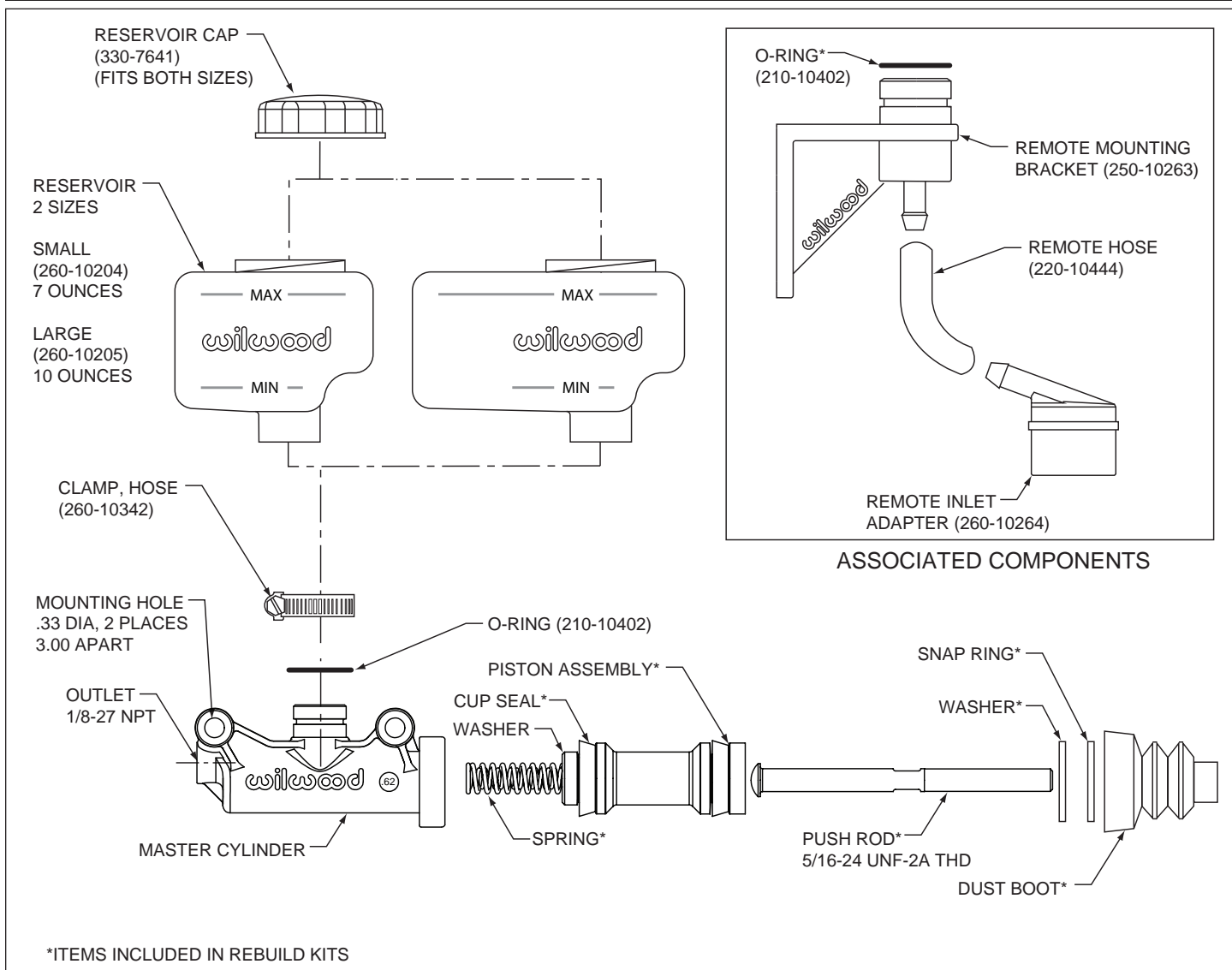


Figure 4. Master Cylinder and Associated Components

Brake Testing and Pad Bedding

WARNING • DO NOT DRIVE ON UNTESTED BRAKES BRAKES MUST BE TESTED AFTER INSTALLATION OR MAINTENANCE MINIMUM TEST PROCEDURE

- Make sure pedal is firm: Hold firm pressure on pedal for several minutes, it should remain in position without sinking. If pedal sinks toward floor, check system for fluid leaks. DO NOT drive vehicle if pedal does not stay firm or can be pushed to the floor with normal pressure.
- At very low speed (2-5 mph) apply brakes hard several times while turning steering from full left to full right, repeat several times. Remove the wheels and check that components are not touching, rubbing, or leaking.
- Carefully examine all brake components, brake lines, and fittings for leaks and interference.
- Make sure there is no interference with wheels or suspension components.
- Drive vehicle at low speed (15-20 mph) making moderate and hard stops. Brakes should feel normal and positive. Again check for leaks and interference.
- Always test vehicle in a safe place where there is no danger to (or from) other people or vehicles.
- Always wear seat belts and make use of all safety equipment.

PAD BEDDING STEPS:

Once the brake system has been tested and determined safe to operate the vehicle, follow these steps for bedding of all pad materials and rotors. This procedure should be performed on a race track or other safe location where you can safely and legally obtain speeds up to 65 MPH while also being able to rapidly decelerate.

- Proceed with a series of 8-10 hard stops from 55-65 MPH down to 25 MPH allowing 20-30 seconds of cool down time between each stop.
- Drive at a moderate cruising speed, with the least amount of brake contact possible, until most of the heat has dissipated from the brakes. Avoid sitting stopped with the brake pedal depressed to hold the car in place during this time. Park the vehicle and allow the brakes to cool to ambient air temperature.

Associated Components

<u>PART NO.</u>	<u>DESCRIPTION</u>
260-1874	Wilwood Residual Pressure Valve (2 lb for disc brakes)
260-1876	Wilwood Residual Pressure Valve (10 lb for drum brakes)
260-2220	Wilwood Proportioning Valve
290-0632	Wilwood Racing Brake Fluid (Hi-Temp° 570) (12 oz)
290-6209	Wilwood Racing Brake Fluid (EXP 600 Plus) (16.9 oz)
340-1285	Wilwood Floor Mount Brake Pedal (with balance bar)
340-1287	Wilwood Swing Mount Brake Pedal (with balance bar)
260-6764	Wilwood 3/4 inch High Volume Aluminum Master Cylinder
260-6765	Wilwood 7/8 inch High Volume Aluminum Master Cylinder
260-6766	Wilwood 1 inch High Volume Aluminum Master Cylinder
260-4893	1-1/16 inch Tandem Master Cylinder (aluminum housing)
250-2406	Mounting Bracket Kit (tandem master cylinder)
350-2038	1971 - 1973 Pinto Rack and Pinion (new, not rebuilt)
270-2016	Quick Release Steering Hub (3/4 inch shaft)
270-2017	Quick Release Steering Hub (5/8 inch shaft)
220-0149	Fitting, Straight (1/8-27 NPT to -4)
220-0842	Fitting, 90° Elbow (1/8-27 NPT to -4)

(Consult the Wilwood Catalog for a complete parts list)