

# INSTALLATION INSTRUCTIONS

## COMBINATION PROPORTIONING VALVE MOUNTING KIT FOR MOPAR 4-BOLT MASTER CYLINDER

Part Number **220-16795** (Left Side) or **220-17801** (Right Side)

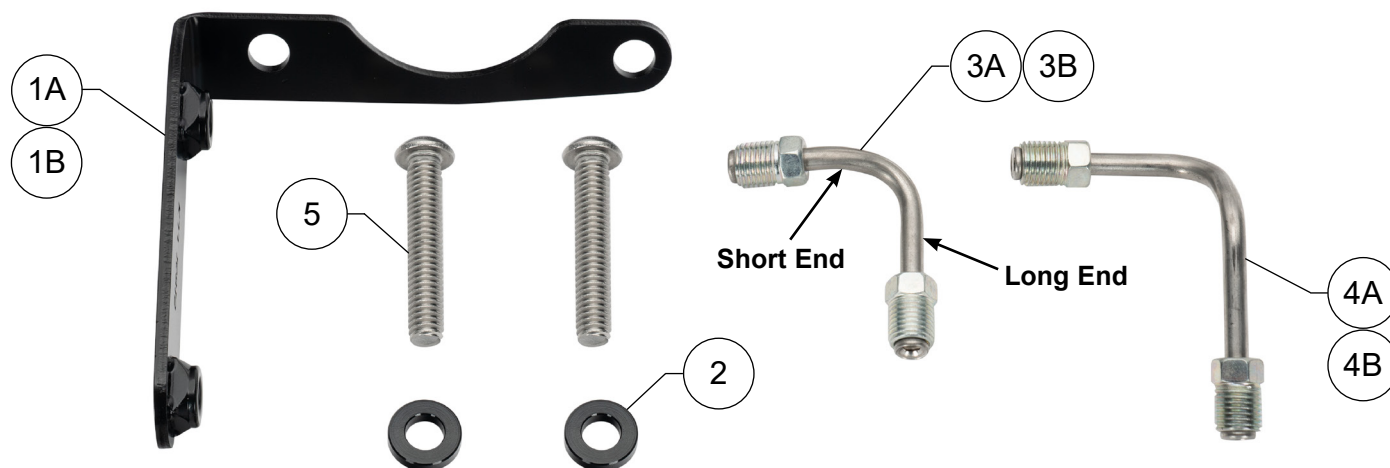


Figure 1. Proportioning Valve Installation Components (p/n 220-17801, right side shown)

### Parts List

ITEM NO.	PART NO.	DESCRIPTION	QTY
1A	250-16815	Bracket, Proportioning Valve Mounting (left side)	1
1B	250-17802	Bracket, Proportioning Valve Mounting (right side)	1
2	300-6577	Spacer, .140" Thick	2
3A	190-14245	Tube, Short, -3 IF Male to Male (left side)	1
3B	190-15668	Tube, Short, -3 IF Male to Male (right side)	1
4A	190-14246	Tube, Long, -3 IF Male to Male (left side)	1
4B	190-15669	Tube, Long, -3 IF Male to Male (right side)	1
5	230-13188	Bolt, 5/16-18 x 1.75 Long, Button Head	2

**NOTE:** Kit contains either 1A, 3A, 4A (left) or 1B, 3B, 4B (right)

### Photographic Tip

**Important and highly recommended:** Take photos of brake system before disassembly and during the disassembly process. In the event, trouble-shooting photos can be life savers. Many vehicles have undocumented variations, photos will make it much simpler for Wilwood to assist you if you have a problem.

### WARNING

IT IS THE RESPONSIBILITY OF THE PERSON INSTALLING ANY BRAKE COMPONENT OR KIT TO DETERMINE THE SUITABILITY OF THE COMPONENT OR KIT FOR THAT PARTICULAR APPLICATION. IF YOU ARE NOT SURE HOW TO SAFELY USE THIS BRAKE COMPONENT OR KIT, YOU SHOULD NOT INSTALL OR USE IT. DO NOT ASSUME ANYTHING. IMPROPERLY INSTALLED OR MAINTAINED BRAKES ARE DANGEROUS. IF YOU ARE NOT SURE, GET HELP OR RETURN THE PRODUCT. YOU MAY OBTAIN ADDITIONAL INFORMATION AND TECHNICAL SUPPORT BY CALLING WILWOOD AT (805) 388-1188, OR VISIT OUR WEB SITE AT [WWW.WILWOOD.COM](http://WWW.WILWOOD.COM). USE OF WILWOOD TECHNICAL SUPPORT DOES NOT GUARANTEE PROPER INSTALLATION. **YOU**, OR THE PERSON WHO DOES THE INSTALLATION MUST KNOW HOW TO PROPERLY USE THIS PRODUCT. IT IS NOT POSSIBLE OVER THE PHONE TO UNDERSTAND OR FORESEE ALL THE ISSUES THAT MIGHT ARISE IN YOUR INSTALLATION.

RACING EQUIPMENT AND BRAKES MUST BE MAINTAINED AND SHOULD BE CHECKED REGULARLY FOR FATIGUE, DAMAGE, AND WEAR.

## Installation Instructions

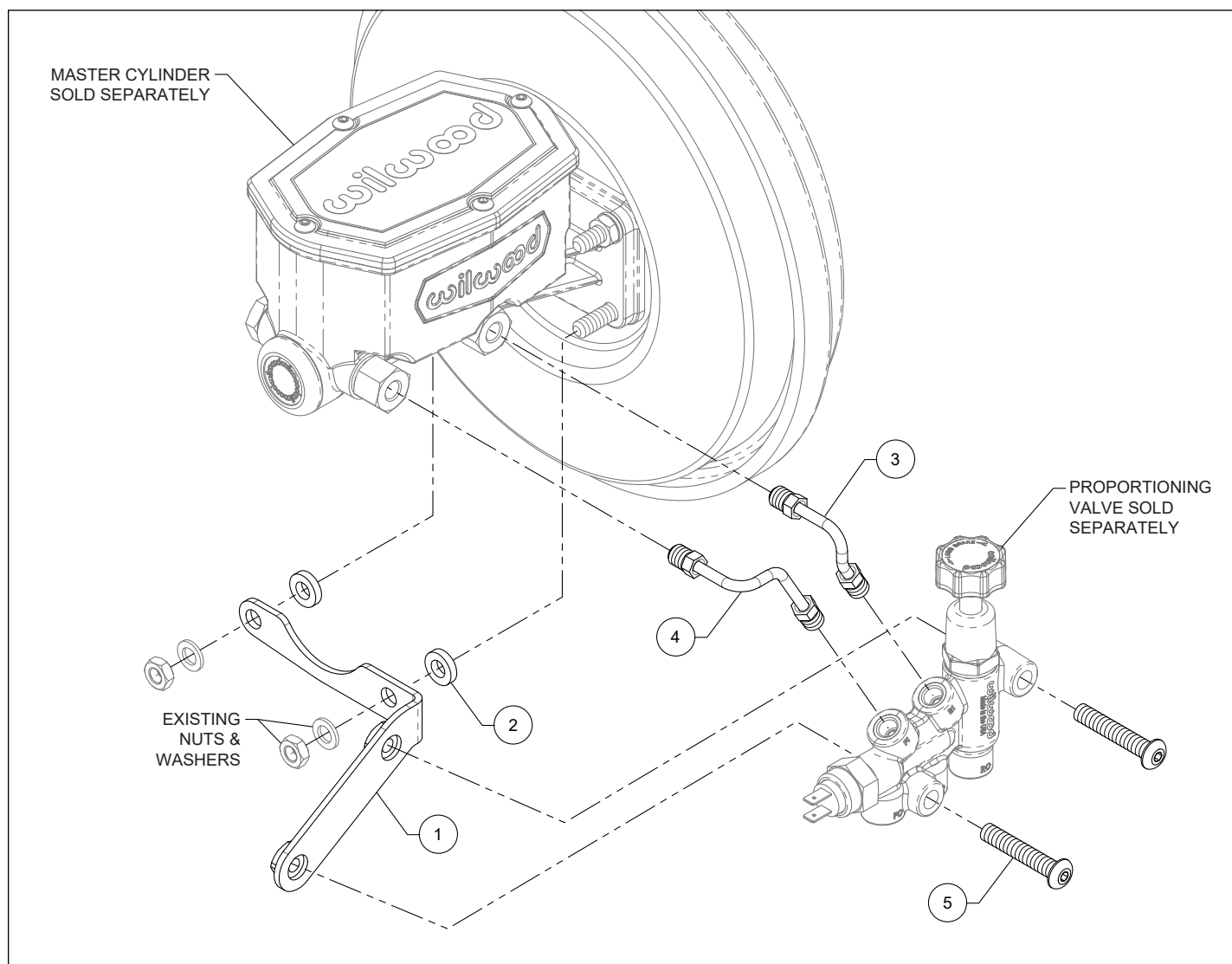
**NOTE:** Numbers in parenthesis refer to the parts list and Figures 1 and 2.

- This Combination Proportioning Valve Bracket Mounting Kit is specifically designed to work in conjunction with Wilwood's Proportioning Valve (P/N 260-11179, sold separately) and Mopar 4-Bolt Compact Tandem Master Cylinders. It may be used with either a manual or power booster setup.
- Mount the bracket (1) to the master cylinder using spacers (2) and existing nuts used to mount the master cylinder, as shown in Figure 2. Finger tighten.
- Install the short tube (3), "short end" into the fluid inlet "RI" in the proportioning valve, finger tighten. Install the long tube (4) into the "FI" fluid inlet, finger tighten.

- Connect the fluid tubes to the master cylinder, finger tighten.

**NOTE:** If connecting to a previously installed master cylinder, be sure to plug the fluid inlets immediately when disconnecting the existing fluid lines and use a container to catch any fluid that may leak. Mount the proportioning valve to the bracket (1) using bolts (5), finger tighten. Check to be sure that everything fits and the tubes do not bind.

- Once everything is installed and aligns correctly, remove the bracket mounting nuts one at a time, apply red *Loctite*® 271 to bolt threads and torque nuts to 25 ft-lb. Remove the bolts securing the proportioning valve to the bracket one at a time, apply red *Loctite*® 271 to threads and torque to 180 in-lb. Tighten tube nuts.



**Figure 2. Proportioning Valve Bracket Kit Installation**  
Left side shown (p/n 220-16795), right side opposite (p/n 220-17801)

## Bleed The Brake System

- Fill and bleed the new system with Wilwood Hi-Temp° 570 grade fluid, or for severe braking or sustained high heat operation, use Wilwood EXP 600 Plus Racing Brake Fluid. Used fluid must be completely flushed from the system to prevent contamination (even if re-bleeding your existing system). **NOTE: Silicone DOT 5 brake fluid is NOT recommended for racing or performance driving, and remember to never mix different grade brake fluids.**
- 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. **NOTE: When using a new master cylinder, it is important to bench bleed the master cylinder first.** Please refer to Wilwood's data sheet DS-487 available at [www.wilwood.com/PDF/DataSheets/ds487.pdf](http://www.wilwood.com/PDF/DataSheets/ds487.pdf). Or access this URL below to watch a typical master cylinder bench bleed video [www.wilwood.com/video/VideoDisplay.aspx?id=](http://www.wilwood.com/video/VideoDisplay.aspx?id=).
- Test the brake pedal. It should be firm, not spongy and stop at least 1 inch from the floor under heavy load.
  - If the brake pedal is spongy, bleed the system again.
  - If the brake pedal is initially firm, but then sinks to the floor, check the system for fluid leaks. Correct the leaks (if applicable) and then bleed the system again.
  - If the brake pedal goes to the floor and continued bleeding of the system does not correct the problem, a master cylinder with increased capacity (larger bore diameter) may be required. Wilwood offers various lightweight master cylinders with large fluid displacement capacities.
- If after following the instructions, you still have difficulty in assembling or bleeding your Wilwood disc brake components, consult your local chassis builder, or retailer where the item was purchased for further assistance. Additional information is also available on our web site [www.wilwood.com](http://www.wilwood.com), or email [info@wilwood.com](mailto:info@wilwood.com).

### 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.

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### WARNING

THIS COMPONENT IS DESIGNED FOR USE IN CUSTOM BRAKE SYSTEMS ON PERFORMANCE, RACING, AND OTHER SPECIAL PURPOSE BUILT OFF-ROAD VEHICLES. IT IS NOT INTENDED AS A DIRECT REPLACEMENT FOR ANY OEM APPLICATION.

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