

ASSEMBLY INSTRUCTIONS
FOR
SPINDLE MOUNT, FRONT FLOATING DISC BRAKE KIT
LIGHT DUTY, WITH 10.00" DIAMETER SOLID ROTOR

P & S SPINDLE MOUNT - FOR SPINDLE MOUNT WHEELS ONLY

PART NUMBER GROUP

140-3326

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

READ ALL WARNINGS

WARNING

IT IS THE RESPONSIBILITY OF THE PERSON SELECTING OR 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. 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.



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.

Exploded Assembly Diagram and Parts List

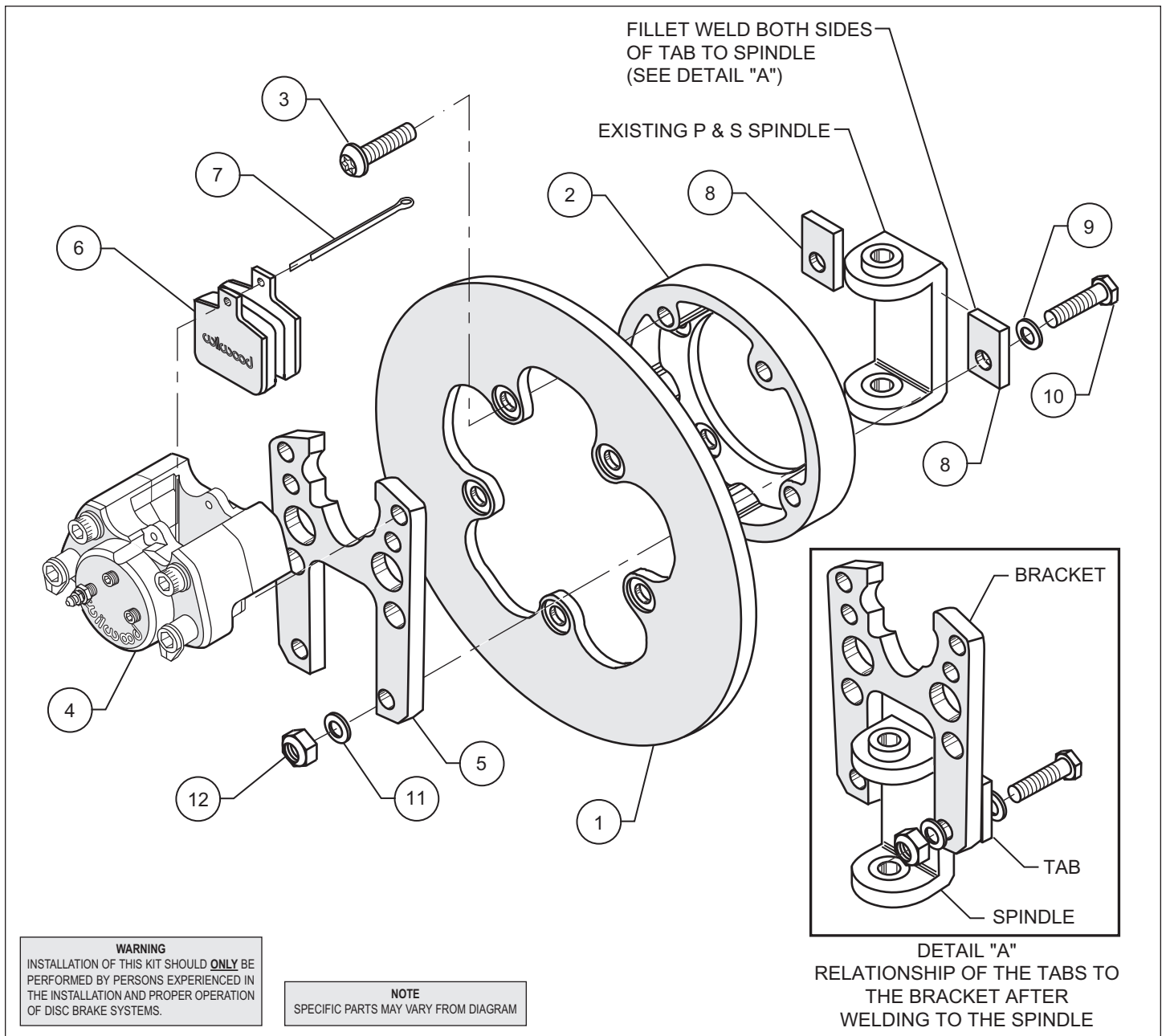


Figure 1. Typical Installation Configuration

Parts List

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	160-0867	Rotor, .25" Thk x 10.00" Dia, 5 x 5.00" Bolt Circle	2
2	170-0995	Hat	2
3	230-3784*	Bolt, 3/8-16 x 1.00 Button Head, Torx	10
4	120-2498	Caliper, Billet Dynalite Single Floater	2
5	250-3269	Bracket, Caliper Mounting	2
6	150-8937K	Pads, BP-10 Compound, Axle Set	1
7	180-0055S	Cotter Pin	2
8	250-0989	Tab, Steel Weld-on	4
9	240-0235	Washer, Flat 3/8 inch	4
10	230-1381	Bolt, 3/8-24 x 1.25 Hex Head	4
11	240-0235	Washer, Flat 3/8 inch	4
12	230-1382	Nut, 3/8-24	4

NOTES:

*A Torx driver is required for Part Number 230-3784. Also, this part number is included in kit number 230-3829.

General Information, Disassembly, and Assembly Instructions

Installation of this kit should **ONLY** be performed by persons experienced in the installation and proper operation of disc brake systems. Before assembling the Wilwood front disc brake kit, double check the following items to ensure a trouble-free installation.

- Verify the hub stud pattern in this kit matches the stud pattern of the vehicles wheels.
- Inspect the package contents against the parts list to ensure that all components and hardware are included.

Disassembly Instructions:

- Raise the front wheels off the ground. Support the front suspension by placing jack stands under the lower control arms. The lower control arms **MUST** be supported. The vehicle's weight must be on jack stands and not supported by a car jack or hoist.
- Clean and de-grease the spindles. Remove all nicks or burrs on the spindle snout and threads that may affect assembly. Remove any of the backing plate gasket which may remain on the spindles. Remove any scale or rust from the gasket area. Retain the stock spindle nut, washer and locking device.

Assembly Instructions (numbers in parenthesis refer to the part list/diagram on the preceding page): **CAUTION:** All mounting bolts must fully engage insert nuts. Be sure to check that all bolts are either flush or protruding through flanged side of insert nut after shimming.

- Install spindle into wheel and tighten spindle nut per OEM's (Original Equipment Manufacturer) specifications.

- Bolt rotor (1) to hat (2) using bolts (3). Torque bolts (3) to 22 ft-lb. Safety wire bolts (3) using standard 0.032 inch diameter stainless steel safety wire as shown in Figure 2. Please refer to Wilwood's data sheet DS-386 (available at www.wilwood.com/pdf/ds386.pdf) for complete safety wire installation instructions.

- Mount rotor/hat assembly (1 and 2) to inside of spindle mount wheel. Torque the stock wheel bolts to manufacturer's specifications.

- Apply red *Loctite*® 271 to the mounting bolts threads contained within the caliper (4). Mount caliper (4) to bracket (5). Torque these bolts to 42 ft-lb.

- Install the brake pads (6) into the caliper (4) and secure using cotter pin (7). The bracket (5) acts as the pad retainer for the inboard side pad.

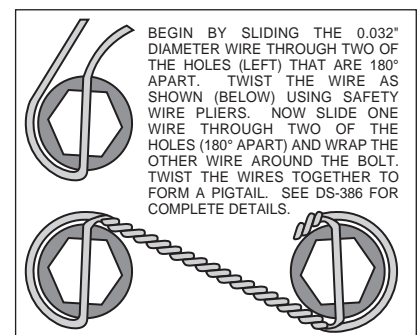


Figure 2. Safety Wire Diagram

Assembly Instructions (Continued)

- With the hole in the tab (8) in the downward position (see Figure 1), bolt the steel tabs (8) to the bracket (5) utilizing the washers (9) and bolts (10) slid through the hole on the hat side. Position another washer (11) over the bolts (10) and secure to the bracket (5) using nuts (12). Finger tighten only.
- NOTE:** Please reference the caution statement at the beginning of the assembly instructions. With the spindle in its correct upright position, position the caliper/bracket assembly (4 and 5) over the top of the rotor (1) at the 12 o'clock position. Align the steel tabs (8) onto the side of the spindle. While maintaining the location of the steel tabs (8) in relationship to the side of the spindle, raise the caliper assembly (4 and 5) so that the top of the brake pads (6) are level with the top of the rotor (1). At this point, mark the side of the spindle where the steel tabs (8) are located for welding, or spot weld each steel tab (8) to the spindle side to retain the caliper assembly (4 and 5) in its current position.
- Remove the caliper assembly (4 and 5) from the steel tabs (8) and rotor (1). Fillet weld the steel tabs (8) to the side of the spindle at the marked location.
- Position the caliper assembly (4 and 5) back on the rotor (1) at the 12 o'clock position and bolt the bracket (5) to the steel tabs (8) using the washers (9) and bolts (10) as performed earlier. Position another washer (11) over the bolts (10) and secure to the bracket using nuts (12). Torque bolts (10) to 30 ft-lb.
- NOTE:** OEM rubber brake hoses generally cannot be adapted to Wilwood calipers. The caliper inlet fitting is a 1/8-27 NPT. The preferred method is to use steel adapter fittings at the caliper, either straight, 45 or 90 degree and enough steel braided line to allow for full suspension travel and turning radius, lock to lock. **Carefully route lines to prevent contact with moving suspension, brake or wheel components.** Wilwood hose kits are designed for use in many different vehicle applications and it is the installer's responsibility to properly route and ensure adequate clearance and retention for brake hose components.
- Specified brake hose kits may not work with all Years, Makes and Models of vehicle that this brake kit is applicable to, due to possible OEM manufacturing changes during a production vehicle's life. It is the installer's responsibility to ensure that all fittings and hoses are the correct size and length, to ensure proper sealing and that they will not be subject to crimping, strain and abrasion from vibration or interference with suspension components, brake rotor or wheel.
- In absence of specific instructions for brake line routing, the installer must use his best professional judgment on correct routing and retention of lines to ensure safe operation. Test vehicle brake system per the 'minimum test' procedure stated within this document before driving. After road testing, inspect for leaks and interference. Initially after install and testing, perform frequent checks of the vehicle brake system and lines before driving, to confirm that there is no undue wear or interference not apparent from the initial test. Afterwards, perform periodic inspections for function, leaks and wear in a interval relative to the usage of vehicle.
- Bleed the brake system. Reference the general information and recommendations on page 5 for proper bleeding instructions.

Balancing the Brake Bias on 4 Wheel Disc Vehicles

•OE Style or Single Mount Race Pedal with Tandem Outlet Master Cylinder:

Front to rear caliper piston sizes, rotor diameters, and pad compounds must be initially configured to provide the correct range of vehicle bias when using a single bore / tandem outlet master cylinder. If excessive rear brake bias is experienced, an inline adjustable proportioning valve can be used to decrease the rear line pressure to help bring the vehicle into balance. If excessive front brake bias is experienced, first consideration should be given to increasing the rear brake bias to bring the vehicle into overall balance.

•Race Pedal with Dual Master Cylinders and Balance Bar:

Master cylinders must be sized to match the calipers and allow the pedal balance bar to operate near the center of its travel. If it is not possible to fine tune the bias within the adjustable range of the balance bar, then consideration must be given to changing a master cylinder bore size or some other aspect of the brake system to bring the car into balance. Larger bore master cylinders will generate less pressure while decreasing pedal travel. Smaller bores master cylinders will generate higher line pressures with an increase in pedal travel.

Additional Information and Recommendations

- Fill and bleed the new system with Wilwood Hi-Temp^o 570 grade fluid or higher. 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.
NOTE: Silicone DOT 5 brake fluid is **NOT** recommended.
- 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.
- If the master cylinder is mounted lower than the disc brake calipers, some fluid flowback to the master cylinder reservoir may occur, 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 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.
- 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) will be required. Wilwood offers various lightweight master cylinders with large fluid displacement capacities.
- **NOTE:** With the installation of after market disc brakes, the wheel track may change depending on the application. Check your wheel offset before final assembly.
- On some models of disc brake spindles there are “ears” where the OEM calipers were mounted and these “ears” interfere with the assembly of the Wilwood disc brake kit. If it becomes necessary to remove these “ears”, remove as little as possible being careful not to cut away any of the mounting holes that may be required to bolt on the caliper mounting bracket.
- If after following the instructions, you still have difficulty in assembling or bleeding your Wilwood disc brakes, consult your local chassis builder, or retailer where the kit was purchased for further assistance.

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 PROCEDURE:

• Pump brakes at low speed to assure proper operation. On the race track, or other safe location, make a series of hard stops until some brake fade is experienced. Allow brakes to cool while driving at moderate speed to avoid use of the brakes. This process will properly burnish the brake pads, offering maximum performance.

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)
260-8419	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)
260-8555	Wilwood 1 inch Aluminum Tandem Chamber Master Cylinder
260-8556	Wilwood 1-1/8 inch Aluminum Tandem Chamber 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)
220-7056	Flexline Kit, Universal, 14 Inch, Domestic
220-7699	Flexline Kit, Universal, 16 Inch, Domestic
220-8307	Flexline Kit, Universal, 18 Inch, Domestic