

ASSEMBLY INSTRUCTIONS
FOR
1955-1957 CHEVROLET WITH WILWOOD
2.00" DROP PROSPINDLE*

*For additional vehicle compatibility, visit www.wilwood.com

AERO6 FRONT BRAKE KIT
WITH 14.00" DIAMETER VENTED ROTORS

BASE PART NUMBER

140-16910

**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 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.



Need Additional Information? Use Your
SmartPhone and Jump to Our Technical
Tips Section on Our Web Site.

DISC BRAKES
wilwood

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.

Important Notice - Read This First

Before any tear-down or disassembly begins, review the following information:

- Review the Wheel Clearance Diagram (Figure 2, page 3) to verify that there is adequate clearance with the wheels you will be using with the installation.
- This brake kit does not include flex lines. OEM brake lines will not adapt to Wilwood calipers. Check the assembly instructions, or associated components section for brake line recommendations before assembly. In addition, Wilwood offers an extensive listing of brake lines and fittings on our web site: www.wilwood.com.
- Due to OEM production differences and other variations from vehicle to vehicle, the fastener hardware and other components in this kit may not be suitable for a specific application or vehicle.
- It is the responsibility of the purchaser and installer of this kit to verify suitability / fitment of all components and ensure all fasteners and hardware achieve complete and proper engagement. Improper or inadequate engagement can lead to component failure.

Exploded Assembly Diagram

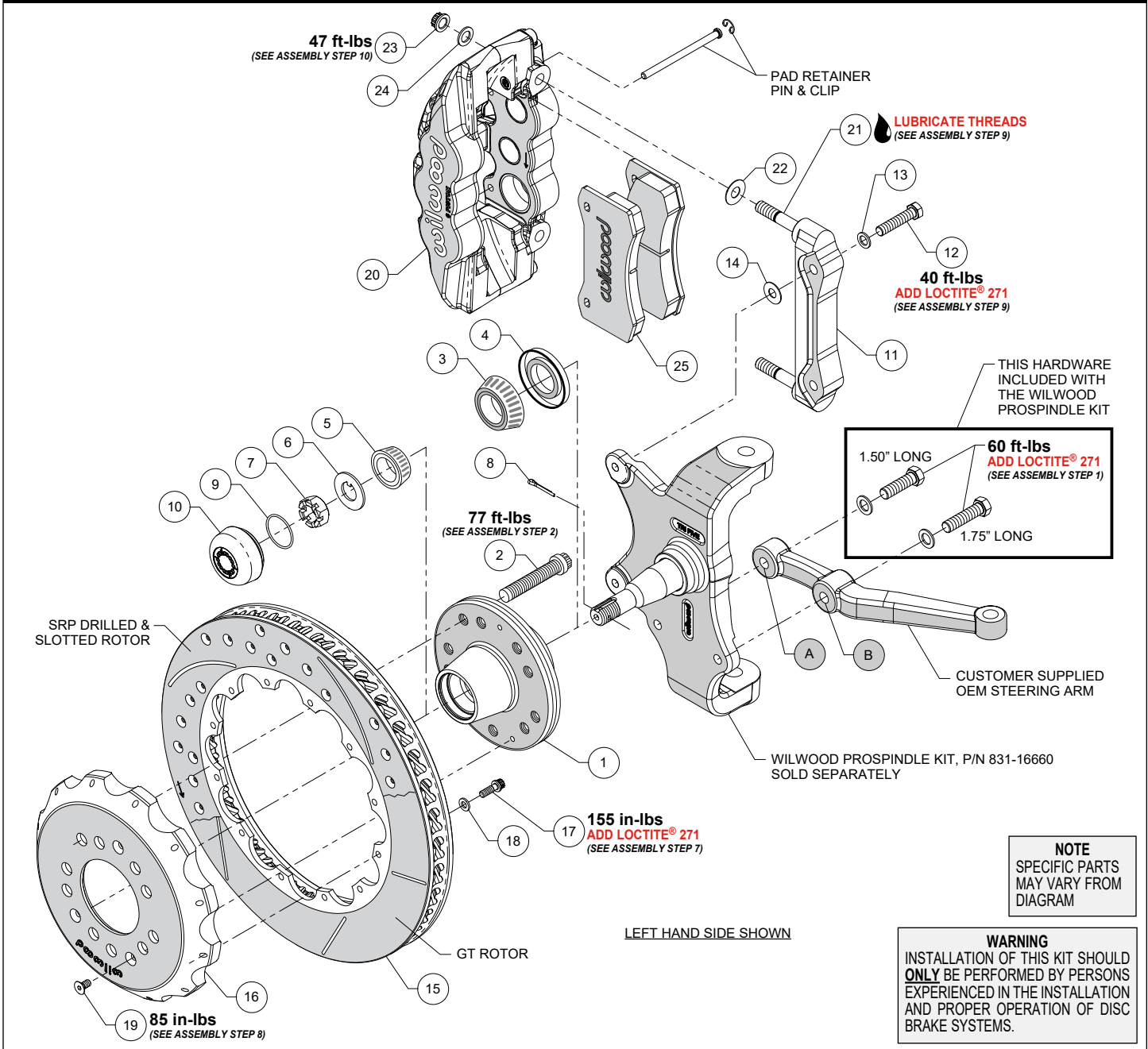


Figure 1. Typical Installation Configuration

Parts List

ITEM NO.	PART NO.	DESCRIPTION	QTY
1	270-10487	Hub Assembly	2
2	230-6959	Stud, Wheel, 1/2-20 x 2.00" Long, 12 Point	10
3	370-0879	Bearing, Inner	2
4	380-0927	Seal, Grease	2
5	370-0877	Bearing, Outer	2
6	240-2283	Washer, Spindle, 3/4"	2
7	230-9540	Nut, Spindle, 3/4-20, Castle	2
8	180-9541	Cotter Pin, Spindle	2
9	211-1674	O-ring	2
10	270-2158X	Cap, Dust	2
11	250-16916	Bracket, Caliper Mounting	2
12	230-13629	Bolt, 3/8-24 x 1.75" Long, Hex Head	4
13	240-10190	Washer, .391" I.D. x .625" O.D. x .063" Thick	4
14	240-1159	Shim, .035" Thick	16
15	160-8398/99-GTB	Rotor, GT, 14.00" Diameter x 1.25" Thick	2
15A	160-8396/97-BK	Rotor, SRP Drilled and Slotted (pair, one each, left and right)	2
16	170-12314	Hat, 12 x 8.75" Bolt Circle, 4 x 4.50"/ 4 x 4.75" Bolt Pattern, 1.00" Offset	2
17	230-8037	Bolt, 1/4-20 x .75" Long, 12 Point	24
18	240-11240	Washer, .265" I.D. x .500" O.D. x .063" Thick	24
19	230-10419	Bolt, 1/4-20 x .50" Long, Flat Head	6
20	120-13289/90-BK	Caliper, Aero6, Black, (pair, one each, left & right)	2
20A	120-13289/90-RD	Caliper, Aero6, Red, (pair, one each, left & right)	2
21	230-13776	Stud, 7/16-14 x 7/16-20 x 2.875" Long (pre-installed in bracket)	4
22	240-1848	Shim, .030" Thick	12
23	230-9182	Nut, 7/16-20, Self-Locking, 12 Point	4
24	240-11101	Washer, .453" I.D. x .750" O.D. x .063" Thick	4
25	150-20-6617K	Pad, BP-20 Compound, Axle Set	1

NOTES:

- Part Number 230-7032 Hat to Hub Bolt Kit, includes part number 230-10419
- Part Number 230-8008 Rotor to Hat Bolt Kit, includes part numbers 230-8037 and 240-11240
- Part Number 230-16919 Bracket Mounting Bolt Kit, includes part numbers 230-13629, 240-1159, and 240-10190
- Part Number 230-14200 Wheel Stud Bolt Kit, includes part number 230-6959
- Part Number 250-16917 Caliper Mounting Bolt Kit, includes part numbers 230-9182, 230-13776, 240-1848, 240-11101, & 250-16916
- Part Number 270-10487 Hub Assembly Kit, includes part numbers 211-1674, 270-2158x, & 270-9485
- Part Number 370-17116-2 Wheel Bearing Kit, includes part numbers 180-9541, 230-9540, 240-2283, 370-0877, 370-0879, & 380-0927
- Item 15A is an optional item and is included with the (D) drilled rotor kits. Add "-D" to end of part number when ordering.
- Item 20A is an optional item and is included with the (R) red caliper kits. Add "-R" to end of part number when ordering.

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.

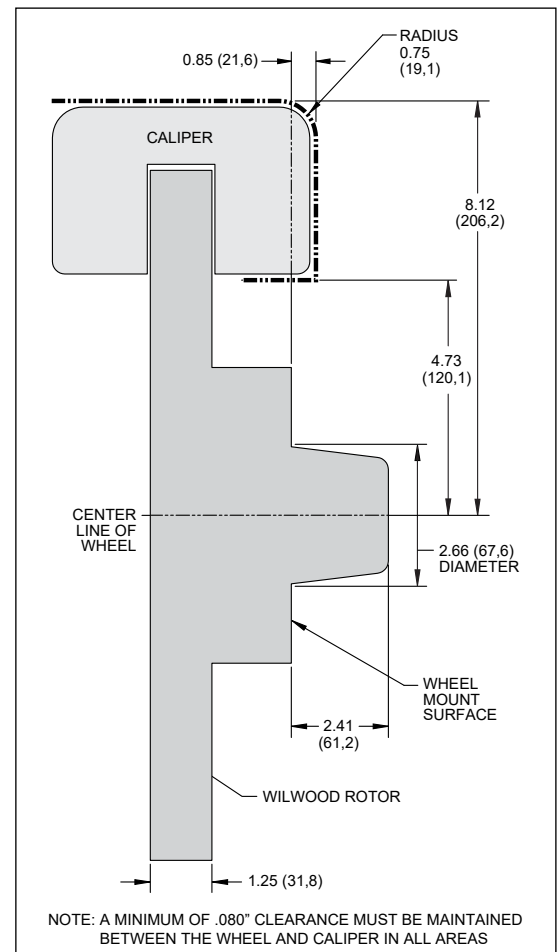


Figure 2. Wheel Clearance Diagram

General Information

•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 disc brake kit, double check the following items to ensure a trouble-free installation.

- Make sure this is the correct kit to fit the Wilwood ProSpindle which was purchased separately. Order Wilwood p/n 831-16660.
- Verify the new hub stud pattern in this kit matches the lug pattern of the vehicles wheels.
- Inspect the package contents against the parts list to ensure that all components and hardware are included.
- Verify your wheel clearance using Figure 2.

Assembly Instructions

Numbers in parenthesis refer to the parts list and Figure 1 on the preceding pages.

•**NOTE:** Wilwood's ProSpindle kit (p/n 831-16660) includes bolts and washers to mount the steering arm (customer supplied) to the spindle. The various bolts are identified by length in the following instructions and in Figure 1.

STEP 1 Orient the steering arm, and identify the hole marked "A" as shown in Figure 1. Attach arm to spindle using 1.50" long bolt and washer (from ProSpindle kit), Figure 1. Finish attaching the steering arm through the hole marked "B", using 1.75" long bolt and washer (from ProSpindle kit), Figure 1. Temporarily tighten the mounting bolts. **NOTE:** The steering arm must fit squarely against the mounting points on the spindle. Inspect for interference from casting irregularities, machining ridges, burrs, etc. Remove bolts one at a time, apply red Loctite® 271 to threads, and torque to value shown in Figure 1.

STEP 2 Install wheel studs (2) from the backside of the hub (1), Photo 1. Torque to value shown in Figure 1. **NOTE:** There are two five lug patterns in the hub (5 x 4.50" and 5 x 4.75"). Ensure the correct hub stud pattern is being used to fit the wheel application.

STEP 3 Pack the large inner bearing cone (3) with high-temp disc brake bearing grease (available from your local auto parts store) and install into the backside of the hub (1), Figure 1 and Photo 2. Install the grease seal (4) by pressing into the backside of the hub (1), flush with the end of the hub.

STEP 4 Pack the small outer bearing cone (5) with high temperature disc brake bearing grease and install into the front side of the hub (1). Slide the hub assembly onto the spindle, Photo 3. Secure using spindle washer (6) and spindle nut (7). **Bearing adjustment:** Tighten the nut while turning the hub. When there is a slight bind on the bearings, they are seated correctly. Back the nut off about 1/6 to 1/4 of a turn, or sufficiently to allow .001" to .007" end play. **WARNING:** Failure to back off adjusting nut could cause bearing to run hot and be damaged, which could cause the wheel to lock or come off. Install cotter pin (8), Photo 4.

STEP 5 Screw dust cap (10) into hub (1), Photo 5. Friction created by the o-ring (9) on the dust cap keeps it from unscrewing. **NOTE:** The O.D. of the existing OEM spindle washer may be larger than the I.D. of the dust cap not allowing it to seat against the hub face. Therefore, use the spindle washer (6) supplied with the kit instead of the OEM washer.



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

Assembly Instructions (Continued)

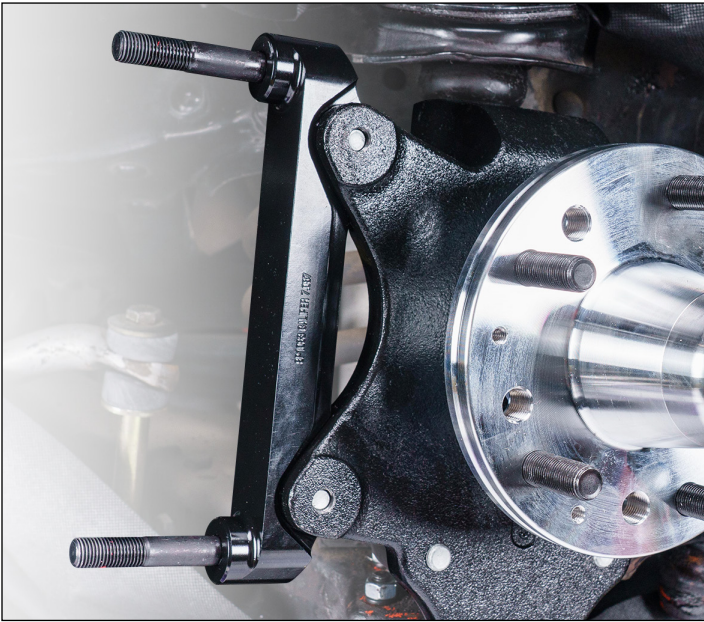


Photo 6

STEP 6 The caliper mount bracket (11) should initially be installed with clean, dry threads on the mounting bolts. Orient the bracket as shown in Figure 1 and Photo 6, and install using bolts (12) and washers (13). Initially place one .035" thick shim (14) on each bolt between the bracket and spindle, Figure 1. Temporarily tighten the mounting bolts. **NOTE:** *The bracket must fit squarely against the mount bosses on the spindle.* Inspect for interference from casting irregularities, machining ridges, burrs, etc. Later, after the caliper alignment has been checked, the mount bolts will be secured using red *Loctite*® 271.

STEP 7 Orient the rotor (15) and the hat (16) as shown in Figure 1 and Photo 7. Attach rotor to hat using bolts (17) and washers (18). Apply red *Loctite*® 271 to the bolt threads and torque to value shown in Figure 1 using a criss-cross pattern. For an added measure of security, the bolts may be safety wired using standard 0.032 inch diameter stainless steel safety wire as shown in Figure 3. Please refer to Wilwood's data sheet DS-386 (available at www.wilwood.com/Pdf/DataSheets/ds386.pdf) for complete safety wire installation instructions.

STEP 8 Slide the hat/rotor assembly (16 and 15) onto the hub assembly. **NOTE:** *The hat must fit flush against the hub flange or excessive rotor run out may result.* Install set screws (19) to keep the hat/rotor assembly in place while continuing with the installation, Photo 8. Torque to value shown in Figure 1.

STEP 9 **NOTE:** *This kit contains distinct right and left hand calipers that must be mounted in a specific direction, as described below.* Lubricate the caliper mounting studs (21) with lightweight oil. Initially place one .030" thick shim (22) on each stud between the caliper and the bracket, as shown in Figure 1 and Photo 9. Mount the caliper (20) onto the bracket (11) using lock nuts (23) and washers (24), Figure 1. Temporarily tighten the lock nuts. Ensure that the caliper is mounted so the largest pistons are at the rotor exit end of the caliper, in relation to the forward rotation of the rotor. View the rotor through the top opening of the caliper. The rotor should be centered in the caliper, Photo 10. If not, adjust by adding or subtracting shims (14) between the bracket and the spindle. Always use the same amount of shims on each of the two mounting bolts. Once the caliper alignment is correct, remove the bracket mounting bolts (12) one at a time, apply red *Loctite*® 271 to the threads, and torque to value shown in Figure 1.



Photo 7



Photo 8



Photo 9

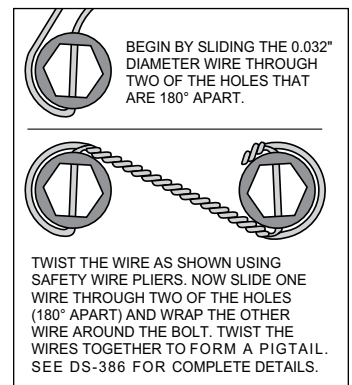


Figure 3.
Safety Wire Diagram

Assembly Instructions (Continued)

STEP 10 Remove the caliper from the bracket, then remove the caliper pad retainer clip and pin. Insert the brake pads (25) into the caliper from the bottom side, with the friction material facing the rotor, as shown in Photo 11. Mount the caliper and check that the top of the brake pad is flush with the outside diameter of the rotor. If not, adjust by adding or subtracting shims (22) between the caliper and the bracket. After the caliper pad height is set, reinstall the pad retaining pin and clip, Photo 12. Torque the caliper lock nuts (23) to value shown in Figure 1.

STEP 11 Temporarily install the wheel and torque the lug nuts to the manufacturer's specification. Ensure that the wheel rotates freely without any interference. Remove wheel for the next step.

STEP 12 Attach brake line to caliper. **NOTE:** OEM rubber brake hoses generally cannot be adapted to Wilwood calipers. Wilwood offers a brake flex line hose kit to fit this application (sold separately), order P/N 220-7699. Hose kit includes hoses, fittings, etc., all in one package for this application. The caliper inlet fitting is a 1/8-27 NPT (use PTFE tape on pipe threads of adapter fitting for proper sealing to caliper). **Ensure hoses are routed to prevent contact with moving suspension, brake or wheel components.**

•**NOTE:** Wilwood hose kits are designed for use in many different vehicle applications and it is the installer's responsibility to properly route and provide adequate clearance and retention for brake hose components.

•**NOTE:** 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.

•**CAUTION:** 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. It is the installer's responsibility to ensure that all fittings and hoses are the correct size and length, properly seal, and that they will not be subject to crimping, strain and abrasion from vibration or interference with suspension components, brake rotor or wheel.

STEP 13 Bleed the brake system, referring to the 'Additional Information and Recommendations' on page 7 for proper bleeding instructions. Check system for leaks after bleeding.

STEP 14 Install the wheel and torque the lug nuts to manufacturer's specifications.

•**CAUTION:** 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 an interval relative to the usage of vehicle.

STEP 15 Bed-in the brake pads per the procedure on page 8.

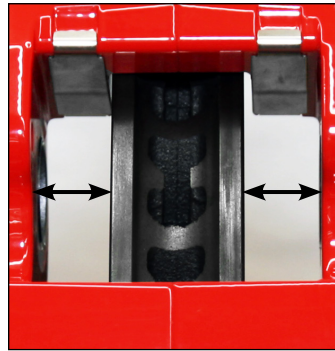


Photo 10



Photo 11

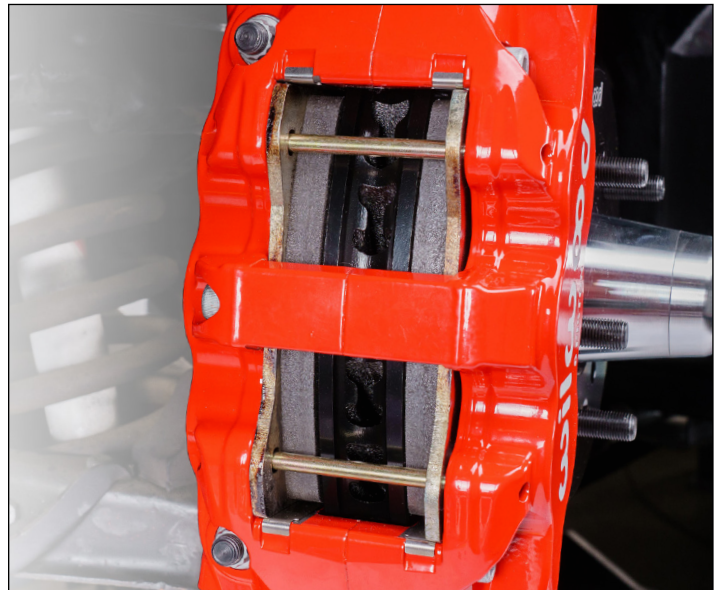


Photo 12



Photo 13

Additional Information and Recommendations

- Fill and bleed the new system with Wilwood Hi-Temp[®] 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 for racing or performance driving.*
- 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.*
- 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.
- **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.*
- 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. Additional information is also available on our web site at www.wilwood.com, or e-mail technical assistance: info@wilwood.com.

Brake Testing

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 and Rotor Bedding

BEDDING STEPS FOR NEW PADS AND ROTORS – ALL COMPOUNDS

Once the brake system has been tested and determined safe to operate the vehicle, follow these steps for the bedding of all new pad materials and rotors. These procedures should only 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.

- Begin with a series of light decelerations to gradually build some heat in the brakes. Use an on-and-off the pedal technique by applying the brakes for 3-5 seconds, and then allow them to fully release for a period roughly twice as long as the deceleration cycle. If you use a 5 count during the deceleration interval, use a 10 count during the release to allow the heat to sink into the pads and rotors.
- After several cycles of light stops to begin warming the brakes, proceed with a series of medium to firm deceleration stops to continue raising the temperature level in the brakes.
- Finish the bedding cycle with a series of 8-10 hard decelerations from 55-65 MPH down to 25 MPH while allowing a proportionate release and heat-sinking interval between each stop. The pads should now be providing positive and consistent response.
- If any amount of brake fade is observed during the bed-in cycle, immediately begin the cool down cycle.
- 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.

COMPETITION VEHICLES

- If your race car is equipped with brake cooling ducts, blocking them will allow the pads and rotors to warm up quicker and speed up the bedding process.
- Temperature indicating paint on the rotor and pad edges can provide valuable data regarding observed temperatures during the bedding process and subsequent on-track sessions. This information can be highly beneficial when evaluating pad compounds and cooling efficiencies.

POST-BEDDING INSPECTION – ALL VEHICLES

- After the bedding cycle, the rotors should exhibit a uniformly burnished finish across the entire contact face. Any surface irregularities that appear as smearing or splotching on the rotor faces can be an indication that the brakes were brought up to temperature too quickly during the bedding cycle. If the smear doesn't blend away after the next run-in cycle, or if chatter under braking results, sanding or resurfacing the rotors will be required to restore a uniform surface for pad contact.

PRE-RACE WARM UP

- Always make every effort to get heat into the brakes prior to each event. Use an on-and-off the pedal practice to warm the brakes during the trip to the staging zone, during parade laps before the flag drops, and every other opportunity in an effort to build heat in the pads and rotors. This will help to ensure best consistency, performance, and durability from your brakes.

DYNO BEDDED COMPETITION PADS AND ROTORS

- Getting track time for a proper pad and rotor bedding session can be difficult. Wilwood offers factory dyno-bedded pads and rotors on many of our popular competition pads and **Spec 37** GT series rotors. Dyno-bedded parts are ready to race on their first warm up cycle. This can save valuable time and effort when on-track time is either too valuable or not available at all, Dyno-bedding assures that your pads and rotors have been properly run-in and are ready to go. Contact your dealer or the factory for more information on Wilwood Dyno-Bedding services.


NOTE: NEVER allow the contact surfaces of the pads or rotors to be contaminated with brake fluid. Always use a catch bottle with a hose to prevent fluid spill during all brake bleeding procedures.

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Associated Components

<u>PART NO.</u>	<u>DESCRIPTION</u>
260-13706	Wilwood Residual Pressure Valve (2 lb for disc brakes)
260-13707	Wilwood Residual Pressure Valve (10 lb for drum brakes)
260-8419	Wilwood Proportioning Valve, Knob Style
260-8420	Wilwood Proportioning Valve, Lever Style
260-11179	Wilwood Combination Proportioning Valve with Brake Light Switch
290-0632	Wilwood Racing Brake Fluid (Hi-Temp° 570) (12 oz)
290-6209	Wilwood Racing Brake Fluid (EXP 600 Plus) (16.9 oz)
340-13831	Wilwood Floor Mount Brake Pedal (with balance bar)
340-13832	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
260-8555	Wilwood 1 inch Aluminum Tandem Chamber Master Cylinder
260-8556	Wilwood 1-1/8 inch Aluminum Tandem Chamber Master Cylinder
220-7056	Stainless Steel Braided Flexline Kit, Universal, 14 Inch, Domestic, 3/8-24 IF
220-7699	Stainless Steel Braided Flexline Kit, Universal, 16 Inch, Domestic, 3/8-24 IF
220-8307	Stainless Steel Braided Flexline Kit, Universal, 18 Inch, Domestic, 3/8-24 IF
220-11238	Stainless Steel Braided Flexline Kit, Universal, 20 Inch, Domestic, 3/8-24 IF
220-11237	Stainless Steel Braided Flexline Kit, Universal, 22 Inch, Domestic, 3/8-24 IF