ASSEMBLY INSTRUCTIONS
FOR
SUPERLITE 6 BIG BRAKE FRONT HAT KIT
PRO STREET APPLICATION, 12.90” DIAMETER VENTED ROTOR

1994 - 2004 MUSTANG (5 LUG, STOCK OFFSET)

PART NUMBER GROUP
140-9107

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.

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.
- Front brake kits do 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](http://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.

**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.

**Exploded Assembly Diagram**

![Exploded Assembly Diagram](image_url)

**WARNING**

INSTALLATION OF THIS KIT SHOULD ONLY BE PERFORMED BY PERSONS EXPERIENCED IN THE INSTALLATION AND PROPER OPERATION OF DISC BRAKE SYSTEMS.

**NOTE**

SPECIFIC PARTS MAY VARY FROM DIAGRAM

**Figure 1. Typical Installation Configuration**

Page 2
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.

- Make sure this is the correct kit to match the exact make and model year of the vehicle’s spindle (i.e., hubs for a 1980 Mustang spindle will not fit a 1997 Mustang spindle).

- Verify the factory hub stud pattern matches the brake hat in this kit.

- Verify your wheel clearance using Figure 2.

- Inspect the package contents against the parts list to ensure that all components and hardware are included.

Disassembly Instructions

- Disassemble the original equipment front brakes:
  
  Raise the front wheels off the ground and support the front suspension according to the vehicle manufacturer’s instructions.

  Remove the wheel. Remove the two bolts from the backside of the spindle that hold the stock caliper mounting bracket and lift off the bracket and stock caliper as one unit. If space is a problem, you may have to unbolth the stock caliper from the caliper bracket before removal. Save the stock caliper mounting bracket bolts, they will be utilized during reassembly, then slide off the stock hat and rotor assembly. Optional: Removal of the dust face plate to facilitate easy removal of additional parts and/or for aesthetic purposes if you will be running spoked wheel and would like to see the drilled/slotted rotor.

  Clean and de-grease the spindles as well as the stock caliper bracket bolts. Remove all nicks or burrs on the spindle snout and threads.

Assembly Instructions (numbers in parenthesis refer to the parts list/diagram on the preceding page):

- Apply red Loctite® 271 to the stock caliper mounting bracket bolt threads before installation of the caliper mounting bracket (1). Install the stock bolts from the near side (opposite from the way they were removed) and place a washer (2) between the spindle assembly and the caliper mounting bracket (1). Torque stock bolts to 65 ft-lb.
Assembly Instructions (Continued)

•With the larger I.D. side of the rotor (3) facing away from the hat (4), bolt rotor (3) to hat (4) through the backside of the rotor using washers (5) and bolts (6). Using an alternating sequence, apply red Loctite® 271 to the threads and torque bolts to 155 in-lb. 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. Slide the rotor/hat assembly onto the spindle. Install a couple of lug nuts (hand tighten) to keep the rotor/hat assembly in place while continuing with the installation.

•With the bleed screws pointing up, mount the caliper (7) onto the caliper bracket (1) with the self locking hex nut (8), flat washer (9), through the top of the caliper and mounting stud (10) with flat washer (11) positioned between caliper (7) and caliper mounting bracket (1). Finger tighten. View the rotor (3) through the top opening of the caliper (7). The rotor (3) should be aligned in the center of the caliper (7). If not, adjust the caliper (7) by using 0.035 inch thick shims (2) placed between the spindle assembly and the caliper mounting bracket (1). Finger tighten and recheck alignment. Lubricate caliper mounting studs and nuts with lightweight oil, reinstall the caliper, torque the caliper nuts to 30 ft-lb.

•Remove the bridge bolt from the caliper (7) and install the disc brake pads (12). Reinstall the caliper bridge bolt.

•Remove the two lug nuts that were used to hold the rotor/hat assembly in place during caliper installation.

•Install the wheel and lug nuts, torque to OEM specifications. Repeat the procedure for the other wheel.

•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. Wilwood offers a hose kit, P/N 220-6458, which includes hoses, fittings, etc., all in one package for this application.

•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, referring to additional information on the last page for proper bleeding instructions.
Additional Information and Recommendations

• Please read the following concerning balancing the brake bias on 4 wheel disc vehicles.

This Mustang kit can be operated using the stock OEM master cylinder. However, as with most suspension and tire modifications (from OEM specifications), changing the brakes may alter the front to rear brake bias. Rear brakes should not lock up before the front. Brake system evaluation and tests should be performed by persons experienced in the installation and proper operation of brake systems. Evaluation and tests should be performed under controlled conditions. Start by making several stops from low speeds then gradually work up to higher speeds. Always utilize safety restraint systems while operating vehicle.

• For optimum performance, fill and bleed the new system with Wilwood Hi-Temp® 570 grade fluid or EXP 600 Plus. 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.
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 obtains 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

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>260-1874</td>
<td>Wilwood Residual Pressure Valve (2 lb for disc brakes)</td>
</tr>
<tr>
<td>260-1876</td>
<td>Wilwood Residual Pressure Valve (10 lb for drum brakes)</td>
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<tr>
<td>260-8419</td>
<td>Wilwood Proportioning Valve</td>
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<tr>
<td>290-0632</td>
<td>Wilwood Racing Brake Fluid (Hi-Temp° 570) (12 oz)</td>
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<tr>
<td>290-6209</td>
<td>Wilwood Racing Brake Fluid (EXP 600 Plus) (16.9 oz)</td>
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<td>340-1285</td>
<td>Wilwood Floor Mount Brake Pedal (with balance bar)</td>
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<tr>
<td>340-1287</td>
<td>Wilwood Swing Mount Brake Pedal (with balance bar)</td>
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<tr>
<td>260-6764</td>
<td>Wilwood 3/4 inch High Volume Aluminum Master Cylinder</td>
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<td>260-6765</td>
<td>Wilwood 7/8 inch High Volume Aluminum Master Cylinder</td>
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<td>260-6766</td>
<td>Wilwood 1 inch High Volume Aluminum Master Cylinder</td>
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<tr>
<td>260-4893</td>
<td>1-1/16 inch Tandem Master Cylinder (aluminum housing)</td>
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<tr>
<td>250-2406</td>
<td>Mounting Bracket Kit (tandem master cylinder)</td>
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<td>260-8555</td>
<td>Wilwood 1 inch Aluminum Tandem Chamber Master Cylinder</td>
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<td>260-8556</td>
<td>Wilwood 1-1/8 inch Aluminum Tandem Chamber Master Cylinder</td>
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<td>350-2038</td>
<td>1971 - 1973 Pinto Rack and Pinion (new, not rebuilt)</td>
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<tr>
<td>270-2016</td>
<td>Quick Release Steering Hub (3/4 inch shaft)</td>
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<tr>
<td>270-2017</td>
<td>Quick Release Steering Hub (5/8 inch shaft)</td>
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<tr>
<td>220-6458</td>
<td>Flex Line Kit, 1994-up Mustang</td>
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