ASSEMBLY INSTRUCTIONS

FOR

PRO-MATRIX OE UPGRADE PAD AND ROTOR KIT, FRONT WITH 12.40” DIAMETER VENTED ROTOR

1995 - 1999 BMW E36, M3
1998 - 2001 Z3 (3.2 LITER)

PART NUMBER GROUP

140-8801

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:

- **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

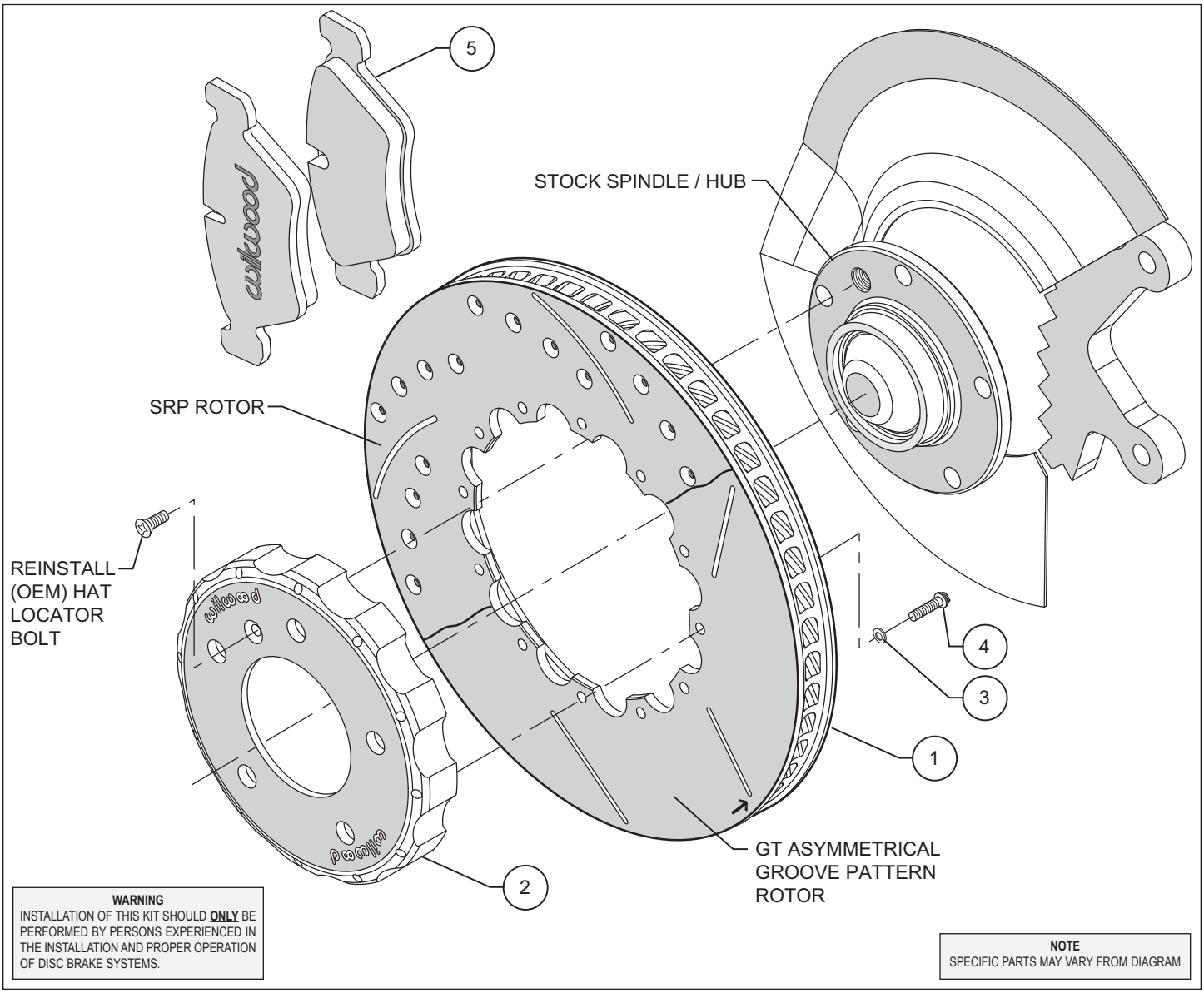

Figure 1. Typical Installation Configuration

Parts List

ITEM NO.	PART NO.	DESCRIPTION	QTY
1	160-8704/05	Rotor, GT - 1.10" x 12.40" Dia, 12 x 6.75" Bolt Circle (one each, right and left)	2
1A	160-8706/07	Rotor, SRP Drilled and Slotted (one each, right and left)	2
2	170-8687	Hat	2
3	240-11240	Washer, .265 I.D. x .500 O.D. x .063 Thick	24
4	230-8037	Bolt, 1/4-20 x .750 Long, 12 Point	24
5	150-9006K	Pads, Wilwood, Axle Set	1
6	220-8803	Stainless Steel Braided Flexline Kit (not shown)	1
7	290-6209	Brake Fluid, Wilwood EXP 600 Plus, Bottle (not shown)	2

NOTES:
Part Number 230-8008 Rotor Bolt Kit, includes part numbers 230-8037 and 240-11240
Item 1A is an optional item and is included with the "-D" kits. Add "-D" to end of part number when ordering

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 installation begins, please read the complete procedure thoroughly to familiarize yourself with the process, and double check the following items to ensure a trouble-free installation.

•Make sure this is the correct kit to fit the exact make and model year. This kit is specifically designed as a direct bolt-on OE replacement for the BMW E36, M3 hubs, model years 1995-1999.

•Verify the hub and bolt pattern in this kit matches the bolt pattern of the vehicle's wheels.

•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 bolts that hold the stock caliper to the stock caliper mounting bracket. Remove the caliper and hang off to the side using a piece of wire. Remove brake pads from caliper. Remove the hat locator bolt (save for use during reassembly) and slide off the rotor assembly. Remove all nicks or burrs on the hub face or registration diameter.

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

•With the larger I.D. side of the rotor (1) facing away from the hat (2), bolt the rotor (1) to the hat (2) through the backside of the rotor using bolts (4) and washers (3) as shown in Figure 1. Be sure all bolts thread in smoothly and are snug. Then, torque all bolts in an alternating sequence to 85 **in-lbs.** The rotor mounting bolts (4) must be lockwired 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.

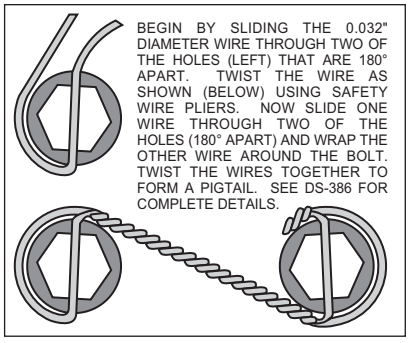

Figure 2. Safety Wire Diagram

•Align the hole pattern on the hat (2) with the bolt pattern on the hub. Slide the hat and rotor assembly (1 and 2) onto the hub. Check to be sure the hat seats squarely against the hub face. The hub must be free from any rust, debris, casting burrs, machining irregularities, etc. Use the hat locator bolt (saved from disassembly) and several wheel bolts to hold the rotor and hat firmly against the hub face.

•Install new Wilwood BP-10 brake pads (5) into stock caliper.

•Bolt the caliper onto the bracket in the original configuration.

Assembly Instructions (Continued)

•Torque the caliper mounting bolts to manufacturer's specifications.

•***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 using Wilwood EXP 600 Plus Racing Brake Fluid, supplied. Reference the general information and recommendations on page 5 for proper bleeding instructions.

•Remove the wheel bolts that were holding the rotor in place. Install the wheel and torque the wheel bolts to manufacturer's specification. Check to see that the wheel rotates freely without interference.

•Repeat this procedure for the other wheel.

Additional Information and Recommendations

•Fill and bleed the new system with Wilwood EXP 600 Plus Racing Brake. 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*.

•Properly bleed the brake system according to the vehicle manufacturer's instructions, generally beginning with the caliper farthest from 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.

•***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 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

PART NO.	DESCRIPTION
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)
220-8803	Flexline Kit, BMW E36, Front