

ASSEMBLY INSTRUCTIONS
FOR
GP310 REAR MOTORCYCLE KIT

FOR MOST V-TWIN APPLICATIONS

PART NUMBER GROUP

140-12088

**DISC BRAKES SHOULD ONLY BE INSTALLED BY SOMEONE
KNOWLEDGEABLE AND COMPETENT IN THE FUNCTIONING
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.

Brake Kit Components and Parts List

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

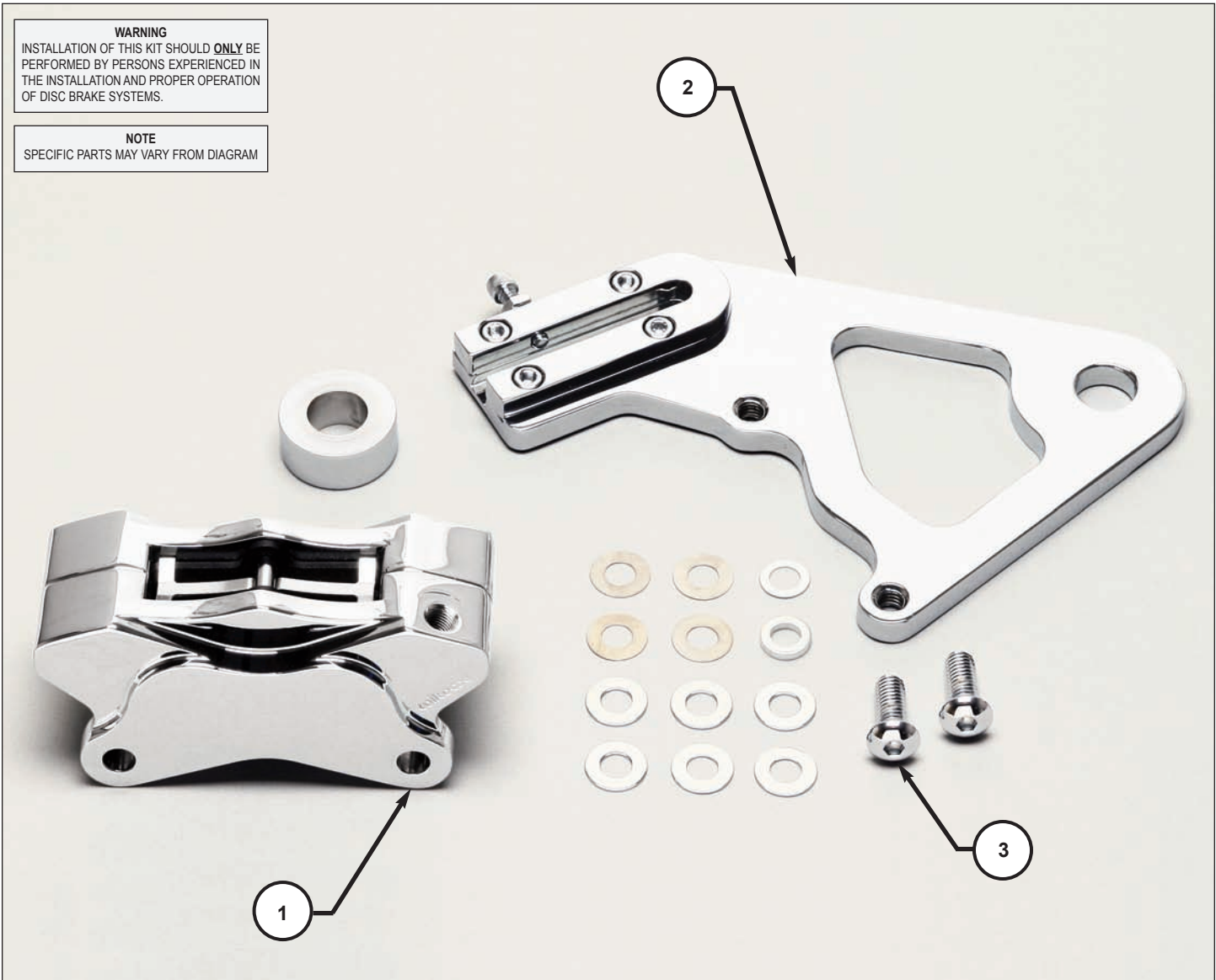


Figure 1. GP 310 Brake Kit Components

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	120-7740	Caliper, Rear GP 310, Right Hand, Chrome	1
1A	120-7740-P	Caliper, Rear GP 310, Right Hand, Polished	1
1B	120-7740-BK	Caliper, Rear GP 310, Right Hand, Black	1
2	250-8035	Bracket Kit, Chrome	1
2A	250-8035-P	Bracket Kit, Polished	1
2B	250-8035-BK	Bracket Kit, Black	1
3	230-4236	Bolt Kit	1

NOTES:

Part Number 250-8035 Bracket Kit, includes p/n's 230-3539, 230-3567, 230-3569, 230-4236, 250-3565, 250-8029 & 300-3566
 Part Number 230-4236 Bolt Kit, includes part numbers 230-3811, 240-3812, 240-3813, 240-3965 and 240-3967

Item 1A is an optional item and is available in the "-P" polished caliper kit. Add "-P" to end of part number when ordering.
 Item 1B is an optional item and is available in the "-BK" black caliper kit. Add "-BK" to end of part number when ordering.
 Item 2A is an optional item and is available in the "-P" polished bracket kit. Add "-P" to end of part number when ordering.
 Item 2B is an optional item and is available in the "-BK" black bracket kit. Add "-BK" to end of part number when ordering.

General Information and Assembly Instructions

GENERAL INFORMATION:

Installation of this kit should **ONLY** be performed by a trained mechanic experienced in the installation and proper operation of motorcycle disc brake systems. Read these instructions carefully before beginning work to be sure that the procedures are thoroughly understood. Before assembling the Wilwood GP 310 rear caliper 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 year and model Harley-Davidson® for which installation is intended.
- Inspect the package contents against the parts list to ensure that all components and hardware are included.
- There are no unique or special tools required. All tools and appropriate sizes will be mentioned throughout the instructions as applicable, and are standard mechanic's tools.

ASSEMBLY INSTRUCTIONS: (numbers in parenthesis refer to the parts list/photo on the preceding page).

Safety Precautions:

Position the motorcycle on a flat surface, block the front wheel. Utilizing a suitable lift or stand, raise the rear wheel off the ground and secure the motorcycle so that it will not fall over.

Disassemble the original equipment:

Depending upon the configuration of your motorcycle, removal of the rear muffler or exhaust pipe may be necessary to facilitate the removal of the rear axle or rear brake caliper.

Remove the banjo fitting bolt (fluid fitting) and washers from the Original Equipment Manufacturer (OEM) caliper using a 3/8 inch box end wrench (12 point), note their positions before removal. Save the banjo fitting bolt. Brake fluid will drain from the brake line, have a suitable container handy to catch this fluid (a clear glass jar works well).

Using a 5/16 inch Allen wrench, loosen and remove the caliper mounting bolts from the stock mounting bracket, remove caliper.

Remove cotter pin and loosen axle adjusters and axle nut, then slide the axle out of the rear wheel. Remove the left wheel spacer and slowly lower the rear wheel while slipping the belt off the pulley simultaneously. Slide the rear wheel assembly away from the motorcycle. Remove the OEM caliper bracket. On some models, it may not be necessary to completely remove the rear wheel.

Installation of new caliper and mounting bracket:

Install the new Wilwood caliper bracket in the same location as the OEM caliper bracket in the reverse order as the disassembly. Install the new Wilwood caliper onto the new bracket using new hardware provided and shim as necessary. Torque caliper to bracket mounting bolts to 300 **in-lbs**. Reinstall all remaining items and connect brake fluid lines, bleed system, etc.

CAUTION:

It is critical that all components, tires, pads and rotors are thoroughly cleaned of any excess brake fluid (brake fluid acts as a lubricant if not removed). Use a suitable brake cleaner available from your motorcycle retailer. Be careful to protect painted surfaces from both the brake fluid and cleaner.

Verify the wheel turns freely and stops when the brake lever is applied. Remove the motorcycle from the stand. Road test in a suitable area at low speeds until you have ensured that the installation was performed properly. The mechanic should give the end user an overview of the new system to help familiarize the consumer with its operational capabilities and maintenance.

NOTE:

Dispose of unwanted brake fluid in an environmentally safe manner.

PROBLEMS:

If problems arise with the installation, the mechanic should consult the dealer where the kit was purchased for further assistance.

General Information and Assembly Instructions (Continued)

BRAKE PAD REPLACEMENT:

The brake pads should be inspected periodically for wear. If the pads need replacement, it may be done in the following manner.

Remove the brake caliper from its mounted position over the rotor. Note the exact amount of shims and washers used on each mounting bolt so that the caliper may be re-installed without having to realign it.

Using a screwdriver, spread the old brake pads in order to retract the pistons. Avoid cocking the pistons in their bores which may result in damage to the caliper. Be aware that when retracting the pistons, fluid is being forced back into the master cylinder fluid reservoir. During this process it may be necessary to remove the excess fluid, if the reservoir fills up.

Using needle nose pliers, remove the retaining clip from the inboard side of the caliper. Remove the pad retaining pin and slide the brake pads out (one at a time) from the bottom of the caliper. The anti-rattle spring should stay in place and does not need to be removed.

A suitable brake cleaner may be used at this time to remove dirt and brake dust from the pad and rotor cavity areas of the caliper.

After the brake caliper is clean, insert the new brake pads (one at a time) with the friction material facing each other. Simultaneously push upward on the brake pads (to align the pin holes in the pads and caliper housing) and insert the pad retaining pin. Install the retaining clip, assuring that it seats properly in its groove.

As a good maintenance practice, the caliper bridge bolts (the four bolts holding the caliper halves together) should be "retorqued" to 130-140 **in/lb** (11-12 ft/lb).

Re-install the caliper over the rotor using the exact bolt, shim and washer combinations that were removed earlier. The mounting bolts should be installed as previously described in the assembly instructions.

Verify that the brake fluid is filled to the proper level.

Use the same cautions listed earlier in the assembly instructions before operating the vehicle.

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.