ASSEMBLY INSTRUCTIONS
FOR
REAR MOTORCYCLE CALIPER
GP 300

1984 - 1999 HARLEY-DAVIDSON® SOFTAIL
PART NUMBER(S)
140-3964-P, 140-4174

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.
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Figure 1. Typical GP 300 Rear Caliper Installation

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 *</td>
<td>120-3935-P</td>
<td>Caliper, Polished, Rear GP 300</td>
<td>1</td>
</tr>
<tr>
<td>1 *</td>
<td>120-4172</td>
<td>Caliper, Chromed, Rear GP 300</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>250-3958</td>
<td>Mounting Bracket, Caliper</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>230-3539</td>
<td>Bolt, Socket Head Cap, 1/4-20 x 1.00 Long</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>230-3569</td>
<td>Nut, Hex, Jamb, 1/4-20</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>230-4011</td>
<td>Bolt, 12 Point, 3/8-16 x 1.00 Long</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>240-3812</td>
<td>Shim (washer), 3/8 I.D. x 3/4 O.D. x .010 Thick</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>240-3813</td>
<td>Shim (washer), 3/8 I.D. x 3/4 O.D. x .030 Thick</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>240-3967</td>
<td>Washer, Seal (top), 5/8 O.D. x .032 Thick, Banjo Bolt</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>240-3965</td>
<td>Washer, Seal (bottom), 5/8 O.D. x .128 Thick, Banjo Bolt</td>
<td>1</td>
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<tr>
<td>10</td>
<td>400-4175</td>
<td>Logo, Wilwood Button</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pad, Brake, GP 300</td>
<td>2</td>
</tr>
</tbody>
</table>

*The kit includes one of these calipers, depending on which kit was ordered.
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.
- The thinner washer (8) goes on the top and the thicker washer (9) is used on the bottom. Align the fitting to the same position as with the stock caliper. Using a torque wrench equipped with a 3/8 inch socket (12 point), tighten the banjo fitting bolt to 30-40 in/lb (32-33 ft/lb).
- Install a 3/16 I.D. hose, approximately 24 inches long over the bleed screw and put the other end into the glass jar (the one you used earlier) to catch the brake fluid during the bleeding process. DO NOT reuse brake fluid that is bled from the system.

Installation (Refer to Figure 1 as necessary):
- Position the GP 300 caliper mounting bracket into the same position as the stock bracket, being sure that the tab on the frame is in the slot on the front of the bracket.
- Slip the rear wheel assembly into position and reinstall the stock axle bolt, tighten, but do not torque at this time.
- Install the banjo fitting onto the Wilwood caliper utilizing the stock bolt and the new washers (8 and 9). The thinner washer (8) goes on the top and the thicker washer (9) is used on the bottom. Align the fitting to the same position as with the stock caliper. Using a torque wrench equipped with a 3/8 inch socket (12 point), tighten the banjo fitting bolt to 30-40 in/lb (32-33 ft/lb).
- Install a 3/16 I.D. hose, approximately 24 inches long over the bleed screw and put the other end into the glass jar (the one you used earlier) to catch the brake fluid during the bleeding process. DO NOT reuse brake fluid that is bled from the system.

Remove the spacer between the brake pads. Position caliper (1) over the rotor and slip the top mounting bolt (5) through the bracket (2), finger tighten. Use a small mirror (looking from the bottom) to determine if the caliper is centered over the rotor correctly. If not, use shims (6 and 7) between the caliper (1) and caliper mounting bracket (2) to adjust the alignment. Use as many shims in whatever combination as necessary to achieve the correct alignment. Always use the same amount of shim(s) (6 and 7) between the upper and lower mounting ears (uneven shimming could cause the rotor to be misaligned and cause it to jam). Recheck the caliper/rotor alignment with a mirror. If the alignment is correct, remove the bolts one at a time and reinstall them using a thread-locking compound similar to Loctite® 242 to coat the threads. Using a torque wrench, torque the bolts to 280-300 in/lb (23-25 ft/lb).

Screw the jam nut (4) all the way down onto the anti-rattle bolt (3). Install this assembly into the threaded hole on the underside of the brake bracket (2) and secure against the motorcycle frame. Tighten the jam nut (4) up against the bottom of the brake bracket (2).

Loosen the rear axle nut and slide the wheel back into approximately the correct alignment. Refer to the OEM service manual for realignment of the rear wheel and belt adjustment. Torque the axle bolt to manufacturers specifications and install a new cotter pin. Reinstall the OEM rear muffler or exhaust pipe if applicable.

With the new caliper properly installed, finish bleeding the brakes. With the help of an assistant, squeeze the brake lever several times to build pressure. Loosen the bleed screw while maintaining pressure on the brake lever. Do not release the brake lever until the bleed screw is closed. Continue this process until all air has been purged from the system and a firm brake lever is achieved. Occasionally check the fluid level in the reservoir during this process.

Remove bleed hose and torque the bleed screw to 30-40 in/lb. Verify that brake fluid is filled to the proper level and reinstall the reservoir cover.
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.

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.

1. 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.

2. 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.

3. 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.