

ASSEMBLY INSTRUCTIONS

FOR

PARKING BRAKE ADAPTER KIT REAR AXLE, VENTED ROTOR

ALL WILWOOD MODELS

PART NUMBER

140-2257

WARNING

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



FOR OFF ROAD USE ONLY

BEFORE OPERATING VEHICLE, TEST THE BRAKES UNDER CONTROLLED CONDITIONS. MAKE SEVERAL STOPS IN A SAFE AREA FROM LOW SPEEDS AND GRADUALLY WORK UP TO RACING SPEEDS. **DO NOT RACE ON UNTESTED BRAKES!** ALWAYS UTILIZE SAFETY RESTRAINT SYSTEMS WHILE OPERATING VEHICLE.

IMPORTANT

READ DISCLAIMER OF WARRANTY INCLUDED IN THE KIT.

WARNING: 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.

Exploded Assembly Diagram and Parts List

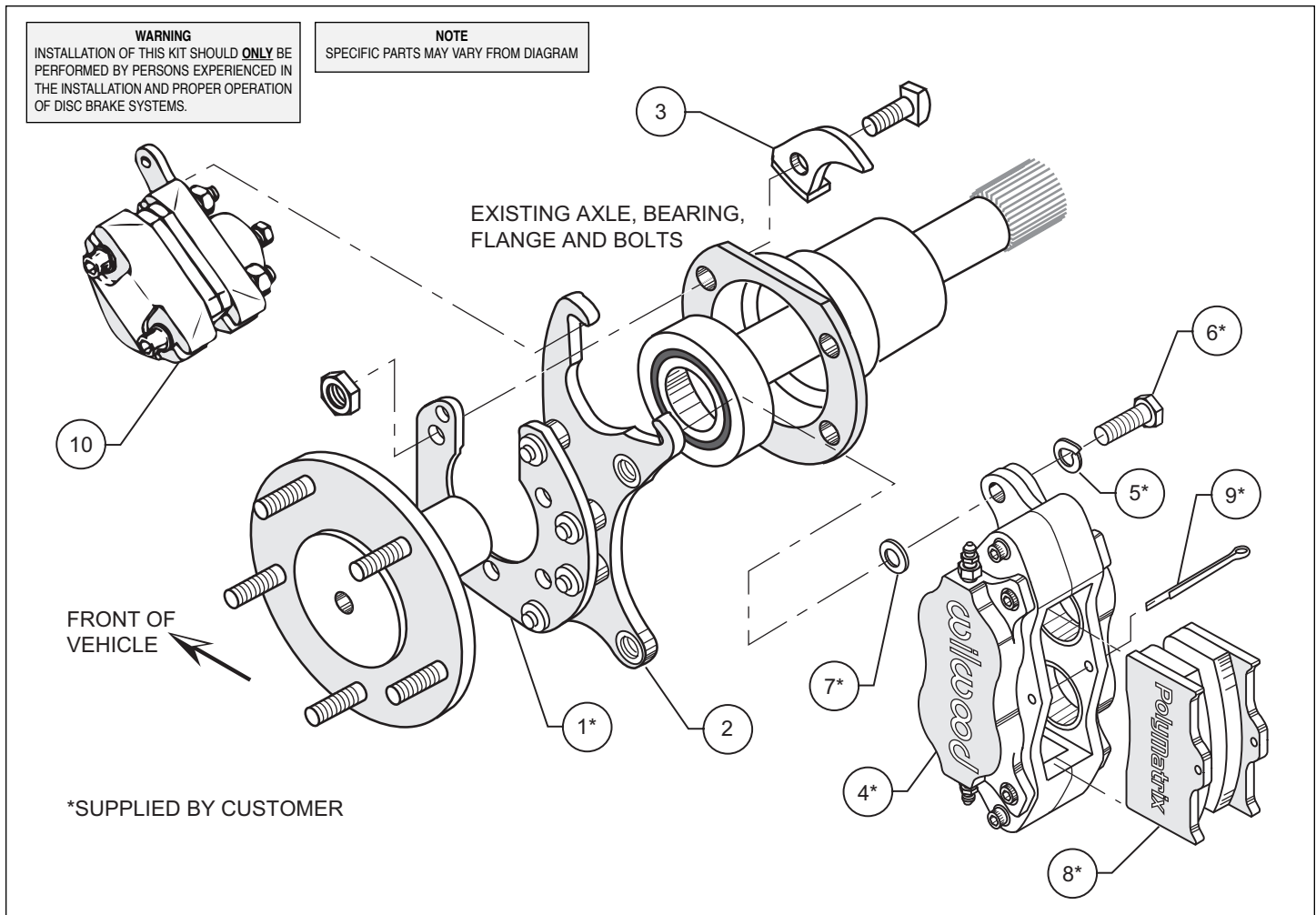


Figure 1. Typical Installation Configuration

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1*	N/A	Existing Housing Flange Bracket	2
2	249-2229/30	Brackets, Caliper Mounting (pair, one each, left and right)	1
3	250-2255/56	Cable Stop (pair, one each, left and right))	1
4*	120-4997	Caliper, Billet Dynalite	2
5*	240-0140	Washer, Lock	4
6*	230-0228	Bolt, Mounting	4
7*	240-1159	Shim	12
8*	150-3668	Pads, Soft	4
9*	180-0055S	Cotter Pin	2
10	120-2280/81	Caliper, Mechanical (pair, one each, left and right)	1

* Items are not included with this kit. These items came with the original kit and should be utilized when installing this adapter kit. They are referenced for your convenience to coincide with the assembly instructions.

General Information 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 rear axle disc brake kit, double check the following items to ensure a trouble-free installation.

•Verify that the existing kit on the vehicle is manufactured by Wilwood. Locate the part number stamped on the back of the caliper bracket. Wilwood brackets are always prefixed with the number 249 or 250. If it does not begin with a 249/250 number, it is not a Wilwood bracket and the adapter bracket supplied in this kit will not fit. Contact the retailer/chassis builder where this kit was purchased to order the entire bracket assembly as pictured in Figure 1, above.

- Make sure to order the correct kit to fit the axle housing flange, not necessarily the rear end make. Many times after market manufacturers put a different make of axle housing flange on the stock rear end housing (see Figure 2, below). Example; Big Ford rear ends with Olds-Pontiac flanges, therefore, an Olds-Pontiac rear disc brake kit would be the correct kit to order. Also, indicate the correct offset when ordering (see Figure 2, lower right hand corner).
- Inspect the package contents against the parts list to ensure that all components and hardware are included.
- Any modifications, nicks or scratches will render the parts void for exchange.

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

- Remove the caliper (4) by removing the mounting bolts (6), lock washers (5) and shims (7) from the caliper mounting bracket assembly. **NOTE:** The brake line does not need to be removed from the caliper. Retain the hardware for use during reassembly.
 - Remove the dog bone shaped caliper mounting bracket (2) from the axle housing flange bracket (1). The four 3/8-24 bolts holding the bracket assembly together have been installed using a thread sealant. A small amount of heat may be applied to the threaded end of the bolts to break the seal. Retain the bolts, lock washers and spacers for use during reassembly.
 - Apply red Loctite® 271 to the mounting bolt threads previously removed from the mounting bracket assembly (1 and 2). Assemble the caliper mounting bracket (2) to the flange bracket (1), making sure of the correct right/left hand positioning. Torque bolts to 30 ft-lb.
 - Remove the top front bolt that mounts the caliper bracket assembly to the housing flange. Position the cable stop bracket (3) on the opposite side of the housing flange than the caliper bracket assembly, reinstall the bolt. Verify the correct right/left hand positioning.
 - Apply red Loctite® 271 to the mounting bolt threads (6) that mounted the caliper (4) to the bracket assembly. Mount the Wilwood caliper (4) to the caliper mounting bracket assembly (1 and 2), using the existing lock washers (5) and shims (7). Torque to 30 ft-lb. Safety wire mounting bolts (6).
 - Disassemble the Wilwood mechanical parking brake caliper (10) before mounting. Replace the bullet pin in the operating half of the caliper (rounded side against moving arm), steel pad backing plate and the disc brake pad last. Slide this operating half of caliper (10) onto the mounting ears of the bracket assembly (1 and 2). The moving arm should point towards the front of the vehicle with the disc brake pad against rotor. Position outboard half of caliper (10) on the opposite side of rotor with the two spacers located between the caliper halves. Torque the bolts to 30 ft-lb.
 - The mechanical caliper (10) should slide onto the bracket ears (2) at this point. Loosen the adjusting nut on the backside of the mechanical caliper. Lift the arm up to its highest point and adjust the bolt until the arm can only move down 1/4 - 3/8 of an inch until pressure is applied to the rotor, tighten the nut. After the parking brake has been applied a few times, readjustment may be necessary.
- NOTE:** Clevis and cable kits which attach to the mechanical arm are not included in the Wilwood parking brake kit. Because of the numerous variations it is impossible to supply a generic style that would be applicable to all applications. Gennie Shifter, and their distributors carry a complete line of cable kits and accessories that will fit this system. They can be reached at 626 • 337-2536. Specify a Clevis kit with a 1/4 inch pin.
- Consult your local retailer or chassis builder where the kit was originally purchased if problems arise and/or further assistance is needed with this installation.

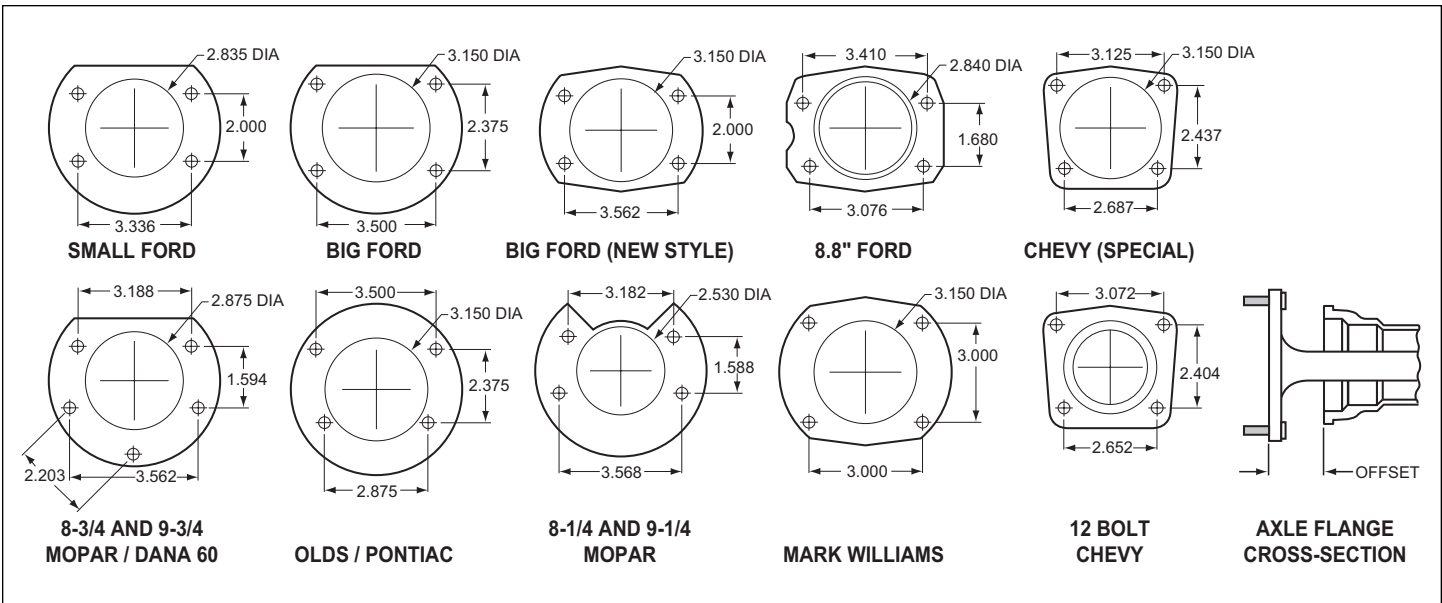


Figure 2. Rear Housing Flange Chart and Axle Flange / Offset Cross-Section

Additional Information and Recommendations

- With the Wilwood disc brake system completely installed, use either of the two methods listed to balance the brake bias front to rear.
 - The Most Efficient Method:**
A Wilwood brake pedal/balance bar assembly (either floor or swing mount) and two single master cylinders (either two 7/8 inch or two 1 inch) mounted side by side. Dialing the balance bar left or right transfers the pressure from front to rear, or rear to front and allows the smallest of pressure adjustments to be made without any loss to the overall brake system line pressure.
 - The More Popular Method:**
An OEM 1-1/16 inch bore dual outlet master cylinder with a Wilwood adjustable proportioning valve plumbed into either the front or rear brake line. **NOTE:** A proportioning valve is an in-line pressure reducing device. Output pressure is reduced proportionally to input pressure. Net result is that the line pressure is reduced, forcing the remaining brakes to do more of the work.
- 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.
- 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.
- If the master cylinder is mounted lower than the disc brake calipers, some fluid flowback to the master cylinder reservoir may occur, creating a vacuum effect that retracts the caliper pistons into the housing. This will cause the pedal to go to the floor on the first stroke until it has “pumped up” and moved all the pistons out against the pad again. A Wilwood in-line two pound residual pressure valve, installed near the master cylinder will stop the fluid flowback and keep the pedal firm and responsive.
- 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) will 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.
- On some models of disc brake spindles there are “ears” where the OEM calipers were mounted and these “ears” interfere with the assembly of the Wilwood disc brake kit. If it becomes necessary to remove these “ears”, remove as little as possible being careful not to cut away any of the mounting holes that may be required to bolt on the caliper mounting bracket.
- 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.

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)
260-2220	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)
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)
220-0149	Fitting, Straight (1/8-27 NPT to -4)
220-0842	Fitting, 90° Elbow (1/8-27 NPT to -4)
	(Consult the Wilwood Catalog for a complete parts list)

Bolt Torque Specifications

BOLT SIZE	TORQUE
1/4-20	85 in-lb
1/4-28	103 in-lb
5/16-18	180 in-lb
5/16-24	198 in-lb
3/8-16	22 ft-lb
3/8-24	30 ft-lb
7/16-14	42 ft-lb
7/16-20	47 ft-lb
1/2-13	65 ft-lb
1/2-20	77 ft-lb
9/16-12	95 ft-lb
9/16-18	105 ft-lb
5/8-11	110 ft-lb
5/8-18	120 ft-lb

NOTE: This bolt torque specification list is for use with specific grades of bolts as supplied in the particular Wilwood kit and is not intended as a guide for any other application.