



Brake Disc Refinishing Guidelines

(Supersedes 00-088, dated November 19, 2002)

American Honda does not allow replacement of brake discs under warranty unless the brake disc is beyond its service limit for refinishing. If the brake disc is within its service limit, you must refinish it. You can find the maximum refinishing limits in the Conventional Brakes section of the appropriate service manual (Power-Assisted Brake System section for the Passport).

You need to refinish brake discs every time they are replaced. You also need to refinish brake discs when they become scored, or if there is pulsation when the brakes are applied.

American Honda recommends two tools for brake disc refinishing: the Kwik-Way Brake Lathe and the Kwik-Way Power Drive System. These tools let you refinish both front and rear brake discs *on the vehicle* for most Honda models. On-vehicle refinishing ensures against brake pulsation that can result from off-vehicle refinishing.

American Honda highly recommends using the power drive system to turn the front and rear brake discs. You can also use the vehicle's engine to turn the brake discs, depending on the model, but the power drive system turns the brake disc at the proper torque and speed, allowing the brake lathe to make a smooth, consistent cut. The power drive system also offers these advantages:

- No need to climb in and out of the vehicle to start and stop the engine or to shift the transmission.
- No need to secure the opposite wheel with a tie-down strap.
- No waiting for the engine to return to idle; no concern about engine speed changes that can adversely affect brake disc cut and finish.
- No involvement of the Traction Control System (TCS).
- Increased cutting tool life because of consistent cutting speed.

ORDERING INFORMATION

Order the Kwik-Way Brake Lathe, its component parts, and the Kwik-Way Power Drive System through the Honda Tool and Equipment Program. To place an order, call **1-888-424-6857** or use the fax order form provided in your *Honda Tool and Equipment Program Catalog*. Phone lines are open Monday thru Friday from 7:30 a.m. to 7:00 p.m. Central Time. You can also order online through the Interactive Network (iN). Click on **Service, Tool and Equipment**, and then **Online Catalog**. Click on **Alignment, Wheel, and Brake Equipment**, and then **On-Car Brake Lathe or On-Car Brake Lathe Accessories**.

WARRANTY CLAIM INFORMATION

None; this bulletin is for information only.

FRONT BRAKE DISCS

Whenever you replace a front brake disc, you must refinish the new disc *on the vehicle* to avoid brake vibration. Time for refinishing new front brake discs is included in the flat rate time for brake disc replacement.

Follow these guidelines to get the best results from your Kwik-Way brake lathe and power drive system. (For detailed instructions, refer to the appropriate operating manual.)

Setting Up the Vehicle

Put the transmission in Neutral. If you are not using the power drive system, start the engine, and let it warm up to its normal operating temperature so the idle speed will stabilize to its lowest rpm.

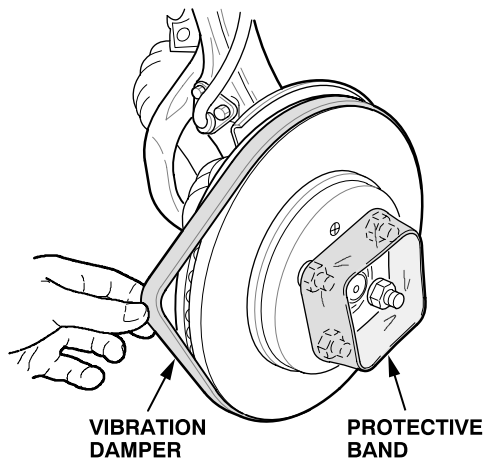
Raise the vehicle on a lift. On 4WD Passports, if you are not using the power drive system, make sure the **4WD** switch is on (the light in the switch is lit) and the transfer control lever is in **HIGH**, where applicable.

Check for loose wheel bearings. On early 4WD Passports with locking front hubs, make sure the hub nut is properly adjusted (with no end play). You must correct for loose wheel bearings or hub nut end play *before* you refinish the brake discs. If you do not, the brake lathe will not correct for brake disc runout, resulting in an uneven finish and brake pulsation.

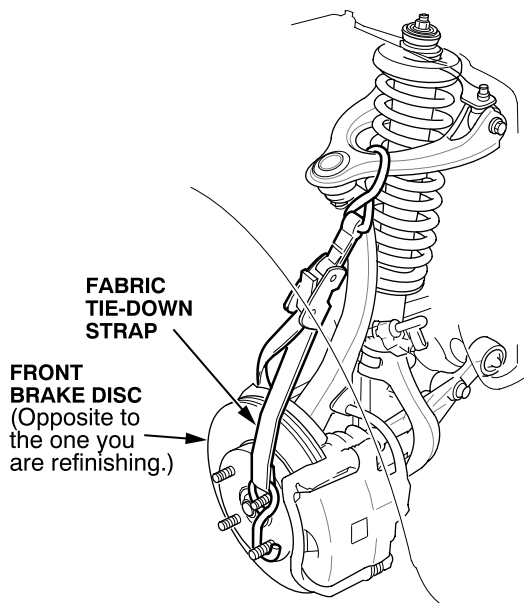
Remove the front wheels, then reinstall the wheel nuts with flat washers to compensate for the removed wheel. Torque the wheel nuts to the required specification (see the appropriate service manual).

Remove the caliper assembly. Use a wire or an S-hook to hold the caliper to the spring or shock tower. Do not kink the brake hose or use it to support the caliper. If you are not using the power drive system and the vehicle has TCS, make sure you install a brake pad spreader between the pads on the hanging caliper. Also, make sure the TCS is turned off anytime the engine is started. If the system is not turned off, the brakes could activate, causing the brake pads on the hanging caliper to hit each other or the caliper pistons to fall out.

Install the vibration damper on the brake disc. If you are not using the power drive system, make sure you install the protective band around the wheel nuts.



If you are not using the power drive system, use a fabric tie-down strap to secure the brake disc that is opposite to the one you are refinishing. If you are working on a Prelude with ATTS, do not use a tie-down strap; let both wheels turn freely.



Mounting the Brake Lathe

Remove the tool bed from the brake lathe, then mount the brake lathe to the steering knuckle with a Honda 1-Piece Speed Mount Kit (all vehicles except Passports) or the Passport Front Speed Mount Kit. These kits provide quicker, more accurate mounting, and can be ordered through the Honda Tool and Equipment Program (see **ORDERING INFORMATION**).

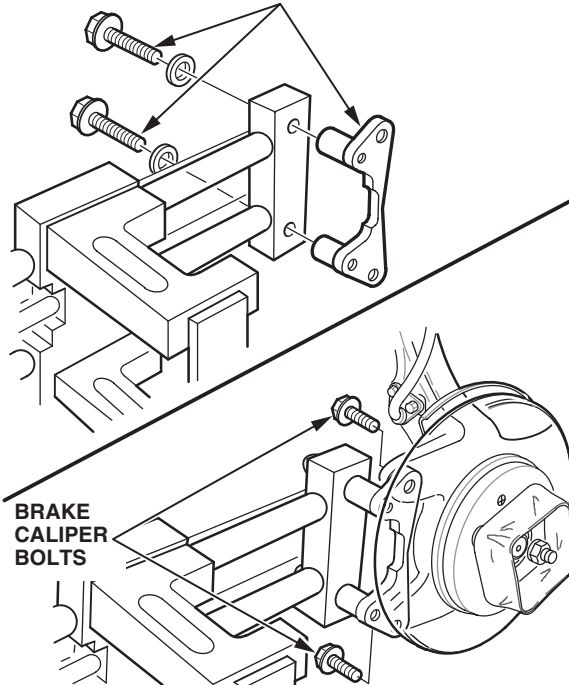
Honda 1-Piece Speed Mount Kit

P/N KWI-108003000,

P/N KWI-108004000 (for large brake discs)

KIT COMPONENTS

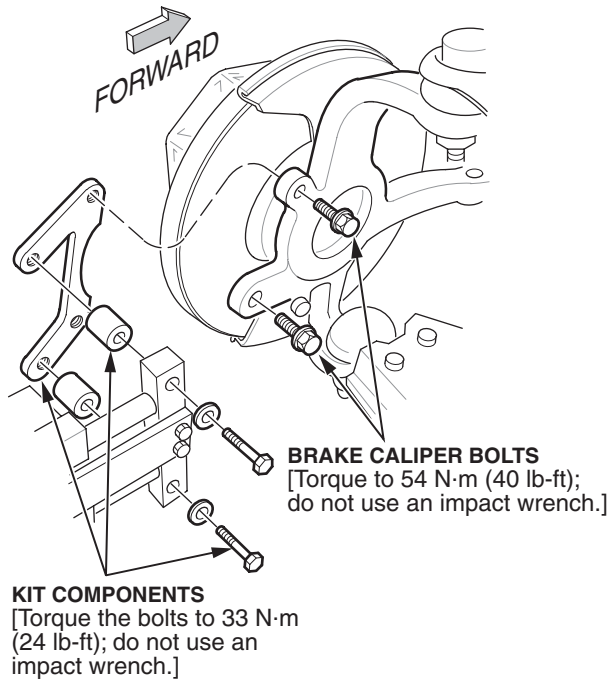
[Torque the bolts to 33 N·m (24 lb-ft); do not use an impact wrench.]



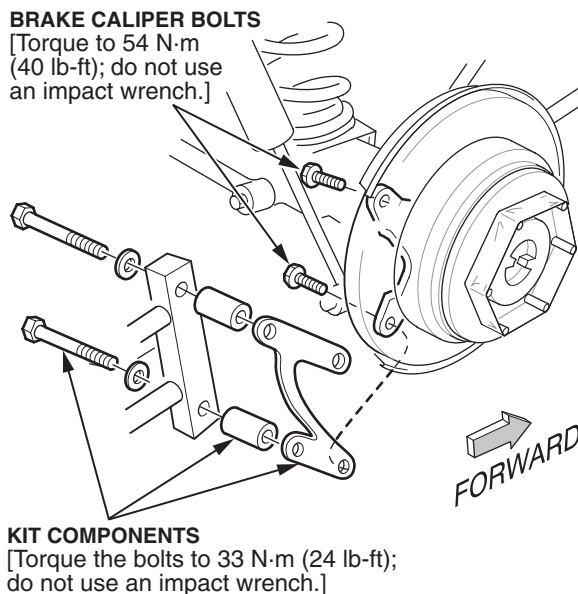
[Torque to 54 N·m (40 lb-ft); do not use an impact wrench.]

Passport Front Speed Mount Kit

Left Front Mounting:

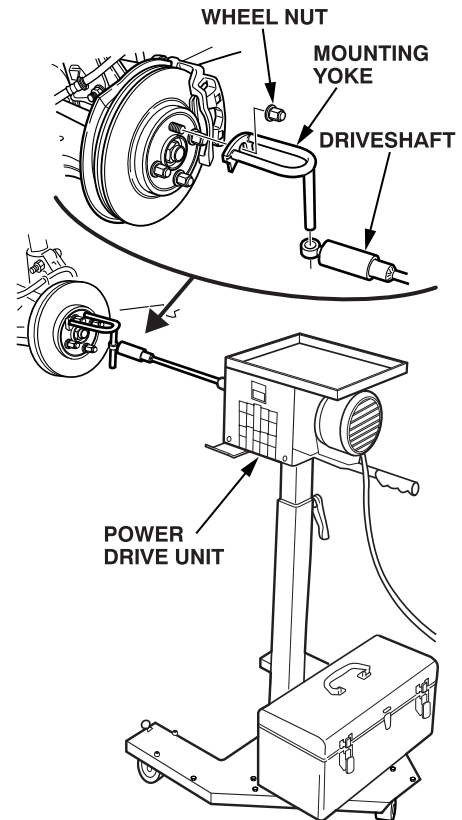


Right Front Mounting:

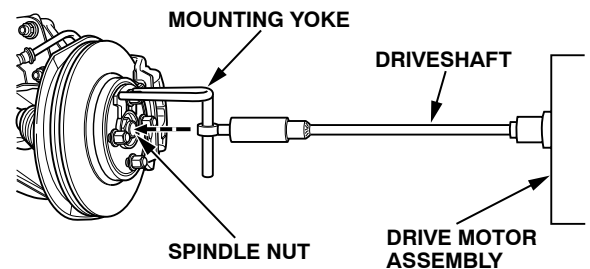


Attaching the Power Drive System

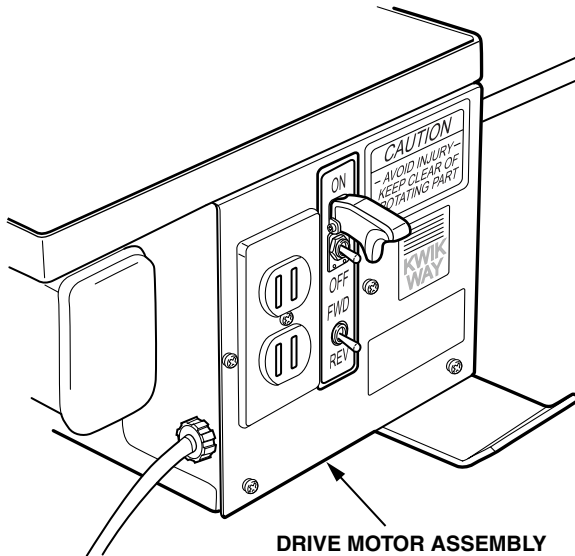
1. Make sure the drive motor assembly on the power drive system is level with the brake disc.
2. Attach the mounting yoke to the brake disc, and secure it with one of the wheel nuts. Torque the wheel nut to the required specification (see the appropriate service manual).



3. Attach the driveshaft on the drive motor assembly to the mounting yoke, making sure the center line of the driveshaft is level with the spindle nut on the wheel hub.

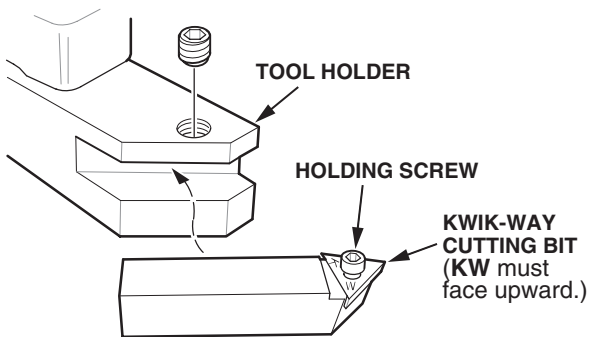


- Set the lower toggle switch on the drive motor assembly to **FWD** (counterclockwise rotation) or **REV** (clockwise rotation).

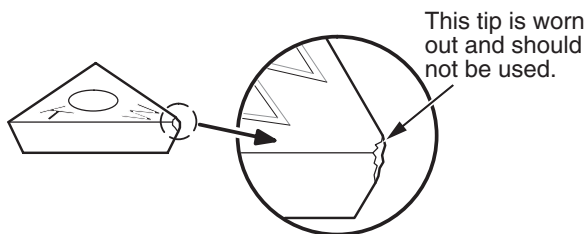


Setting Up and Adjusting the Brake Lathe

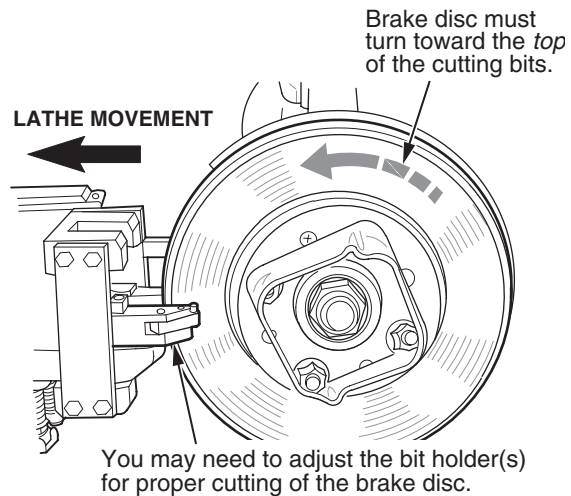
Use Kwik-Way cutting bits, P/N KWI-109109223, and the holding screws that come with them. These bits are stamped **KW** and are available through the Honda Tool and Equipment Program (see **ORDERING INFORMATION**).



Before you use the brake lathe, inspect the tips of the cutting bits with a magnifying glass to make sure the tips are not worn out. Each bit has three tips. If a tip is worn, rotate the bit, and use a new tip. A worn tip will produce a poor finish and may cause chattering.

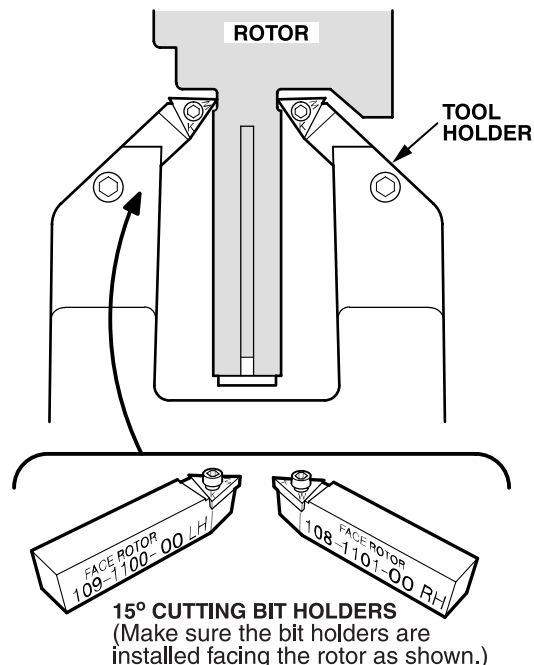


Reinstall the tool bed on the brake lathe with the top of the cutting bits facing up and the feed knobs facing down. Adjust the tool bed until the brake disc is centered between the cutting bits. For proper refinishing, the brake disc must turn toward the *top* of the cutting bits.



Do not set the cutting depth on the brake lathe to more than **0.2 mm (0.008 in.)**. This is *two* divisions on the cutting knob. Make sure you start your cut at least **3 mm (0.12 in.)** beyond the worn area on the brake disc.

If you are cutting a larger diameter brake disc such as that used on 1999 and later Odysseys, make sure you use the 15° cutting bit holders. These bit holders, available through the Honda Tool and Equipment Program (see **ORDERING INFORMATION**), supersede the original bit holders and provide better cutting coverage for larger diameter brake discs. Each bit holder is clearly marked for proper installation on the tool holder.



Cutting the Brake Disc

To get the smoothest cut and the best brake disc finish, always use the slowest feed speed on the tool bed feed motor. Place the drive belt on the *smallest* pulley of the feed motor and on the *largest* pulley of the hand wheel.

Make sure the lower toggle switch on the power drive system drive motor assembly is set to the proper rotation to turn the brake disc toward the top of the cutting bits. Plug the tool bed feed motor into the power outlet on the drive motor assembly, then turn on the drive motor with the upper toggle switch on the assembly.

If you are not using the power drive system, make sure the transmission is in 1st gear (2nd gear on Preludes with ATTS) or reverse and the engine is idling, but not at a fast idle. If the transmission and engine are at higher gears and speeds, you will damage the cutting bits.

Turn on the tool bed feed motor, and snap it into place; there should be tension on the feed belt. Cut the brake disc until the cutting bits clear the outer edge of the disc. The cutting bits should produce a smooth, consistent finish with no chatter marks or grooves.

If the disc did not clean up entirely on the first pass, reset the brake lathe and make a second pass. When done, turn off the tool bed feed motor, and turn off the drive motor on the power drive system. If you are not using the power drive system, turn off the engine, and wait until the wheels come to a complete stop; do not press the brake pedal. If the vehicle has A/T, do not put the transmission in Park until the engine is off and the wheels have stopped.

Finishing the Job

Remove the vibration damper and the protective band (if used). Use a micrometer to measure the thickness of the brake disc. Make sure the thickness is within the service manual specifications. Clean the brake disc with soapy water or brake cleaner, then wipe it dry. Use a vacuum cleaner to remove any dust or chips, but do not use compressed air.

Unplug the tool bed feed motor from the drive motor assembly, and remove the mounting yoke from the brake disc. Remove the speed mount from the steering knuckle.

Apply a small amount of Molykote 77 grease to the brake pad shims. Reinstall the caliper assembly. (If you did not use the power drive system, use the brake pad spreader to push the pistons back into the caliper.) Torque the nuts and bolts to the required specification (see the appropriate service manual).

Refinish the other front brake disc using the same guidelines. If you used a fabric tie-down strap, make sure you switch it to the other side. When you are done refinishing the brake disc, reinstall the front wheels, and torque the wheel nuts to the required specification (see the appropriate service manual).

Lower the vehicle. Check the brake fluid level, then test-drive the vehicle to make sure the brake pedal is firm and does not pulsate. Lightly apply the brakes about 20 times during the test-drive to seat the brake pads.

REAR BRAKE DISCS

Refinish the rear brake discs *on* the vehicle using the Kwik-Way Brake Lathe and the Kwik-Way Power Drive System (on S2000s and Passports, if you are not using the power drive system, you need *only* the brake lathe); or, refinish them *off* the vehicle using conventional brake disc refinishing equipment.

Follow the same guidelines you used for refinishing front brake discs, noting these differences:

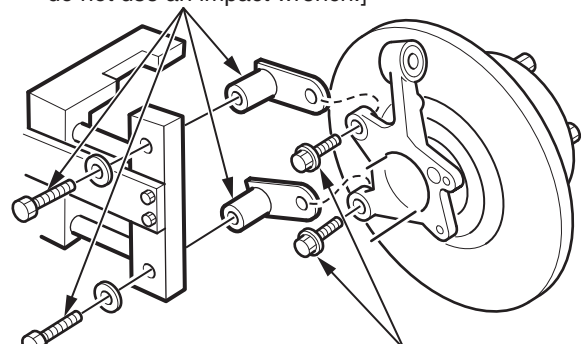
- *All vehicles except Passport.* Mount the brake lathe to the *rear* knuckle with the Honda 2-Piece Adapter (P/N KWI-108002000). You can order the 2-piece adapter through the Honda Tool and Equipment Program (see **ORDERING INFORMATION**).
- *Passport.* Mount the brake lathe to the *rear* knuckle with the Passport Rear Speed Mount Kit (P/N KWI-108102570). You can order the rear speed mount kit through the Honda Tool and Equipment Program (see **ORDERING INFORMATION**).

Honda 2-Piece Adapter

P/N KWI-108002000

KIT COMPONENTS

[Torque the bolts to 33 N·m (24 lb-ft); do not use an impact wrench.]

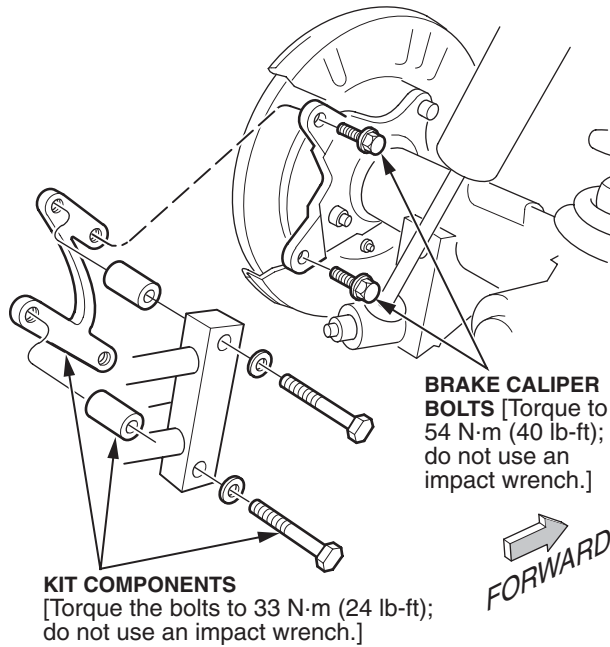


BRAKE CALIPER BOLTS

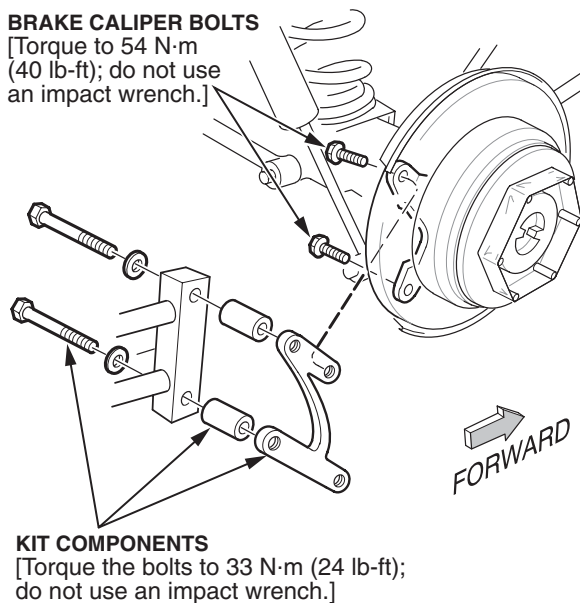
[Torque to 54 N·m (40 lb-ft); do not use an impact wrench.]

Passport Rear Speed Mount Kit

Left Rear Mounting ('94–02 Models):



Right Rear Mounting ('94–97 Models):



Right Rear Mounting ('98–02 Models):

NOTE: On these models, mount the kit bracket *upside down* to allow clearance for the brake lathe.

