

# Signature Series A/F/X Body GM Installation Instructions

Power Disc Conversion

64 - 72 A Body / 67 - 69 F Body / 62 - 74 X Body



Your new disc brake conversion kit can be bolted up with standard hand tools. The only tools you may not find in your toolbox are listed below.

- 1. Ball joint fork or "pickle fork" \*\*\* Only needed if changing spindles \*\*\*
- 2. Spring compressor (recommended) \*\*\* Only needed if changing spindles \*\*\*
- 3. Drum brake tool (optional)

Attention: <u>Before</u> modifying, painting, or powder coating any part of this kit, please trial fit all components and check rim clearance. This kit requires 17" or larger wheels with this kit. We do not support the use of 16" or smaller wheels on this kit.

Modified, Painted, and Powder Coated parts are not returnable

# **Kit Contents:**

| Pair of Rotors (BR12ZDC)  |
|---|
| Set of Ceramic Brake Pads   |
| Pair of Calipers (BC53B/BC54B or BC53R/BC54R)   |
| Pair of Silver Caliper brackets (BCB53)   |
| Set of Black Spindle Adapters (CMB53)   |
| Pair of Aluminum Hubs (HUB6472)   |
| Pair of Braided Stainless Flex Hoses (FHK35S)   |
| Timken Wheel Bearing Kit (WBK05C)   |
| Proportioning Valve (PVK71/72. Chrome will have a letter C after the part number. For Manual and Power kits only)   |
| Master Cylinder (DBMC09/01/16/11/18 for Power Front Disc, DBMC05 for Power Four Wheel Disc or Manual Front and Manual Four Wheel Disc. Chrome upgrade will have a letter C after the part number. For Manual and Power kits only) |
| Power Booster (RPB7537/8531/9002/9016/9021/9022/1001/1003, for power kits only. Chrome will have a letter C after the part number. For power kits only)   |
| Set of Spindles (DBSP04 For Drop Spindle Kits Only, Spindles are no included in the standard height kit)  |
| Instruction Packet  |
| * See the back page of the instruction booklet to review the "Pick Ticket" used to pull your order.   |

## **Disclaimer:**

The Right Stuff values your safety above all things. For this reason, we recommend all brake systems and components be installed by professionals. The installer of the brake parts is responsible for ensuring fitment and suitability of the parts for the vehicle it is being installed on. Brakes should be tested in a controlled open area with success before driving on the road. If you are unsure or uncomfortable with any part of your kit, please call for further instructions from our tech staff before driving.

## **Installation Instructions:**

## **Lower Assembly**

#### 1. Prepare the car

Begin by securely supporting the car on jack stands. Chock the rear wheels and set the parking brake to be sure vehicle does not roll. Always work on a flat, even surface. Remove the wheels to gain access to the brake system.

#### 2. Disconnect front flex hoses

Unscrew the hard line from the flex hose, being careful not to get brake fluid on painted surfaces. Remove the flex hose-retaining clip and pull the hose out of the frame-mounted bracket.

#### 3. Remove the drum brake assembly

Start by removing the drum from the hub. Next remove the dust cap from the hub, remove the cotter pin and unscrew the castle nut from the spindle. You can now remove the hub from the spindle. After you have removed the hub from the spindle unbolt the drum brake backing plate and remove the entire assembly. There is no need to remove the individual components from the backing plate, the entire assembly will come off as one piece.

#### 4. Inspect suspension components

Now is the time to clean up and inspect your suspension components. Check the inner and outer tie rod ends and ball joints for wear and replace if needed. Inspect the rubber boots for cracks or tears. Universal replacements are available at most automotive parts stores. Also inspect sway bar links and bushings. Complete suspension rebuild kits are available to freshen up the entire front end. Call The Right Stuff for pricing and availability.

#### 5. Disconnect tie rod ends \*\*\* OPTIONAL \*\*\* ONLY IF YOU ARE REPLACING SPINDLES \*\*\*

Remove the cotter pin and castle nut that secures the tie rod to the steering arm. You will reuse the castle nuts later. Use a heavy hammer to remove the tie rod end from the steering arm. A ball joint fork or "pickle fork" may be needed to break things loose.

#### 6. Remove original steering arms \*\*\* OPTIONAL \*\*\* ONLY IF YOU ARE REPLACING SPINDLES \*\*\*

Remove the dust cap, cotter pin, and washer from the old spindles. Pull off the hub and remove the brake shoes to allow access to the steering arm bolts. Unbolt the Steering arm and prep it for reuse. New bolts are provided in your conversion kit. If you do not have the original steering arms for your project, they are available for purchase. Early 4-Lug Nova owners will need to purchase 5-Lug steering arms for proper alignment.

**Note**: Some of the early steering arms did not use 1/2" bolts. You will need to drill out the original mounting holes in the steering arms. If you are not comfortable with drilling your arms you can purchase them from us for \$69.00 a pair. The A-Body arms are part number DBSA01 and the part number for the F/X-Body arms is DBSA02.





F/X Body

#### 7. Install the new disc brake spindles \*\*\* OPTIONAL \*\*\* ONLY IF YOU ARE REPLACING SPINDLES \*\*\*

Place the spindle on the lower ball joint and attach it with the original castle nut. Torque the nut to the specifications provided in the assembly manual. Fix it in place with the new cotter pin supplied with your kit.

**Note**: Both of your new spindles are identical. There is no left or right.

Pull the upper control arm down and insert the upper ball joint into place. Attach the upper ball joint with the original castle nut. Torque the nut to the specifications provided in the assembly manual (Most are 40-60 ft/lbs.). Fix it in place with the new cotter pin supplied with your kit.

# 8. Release the pressure on the coil spring \*\*\* OPTIONAL \*\*\* ONLY IF YOU ARE REPLACING SPINDLES \*\*\*

You are now ready to release the pressure on the coil spring. If you used a spring compressor, you can release it slowly and reinstall the shock absorber.

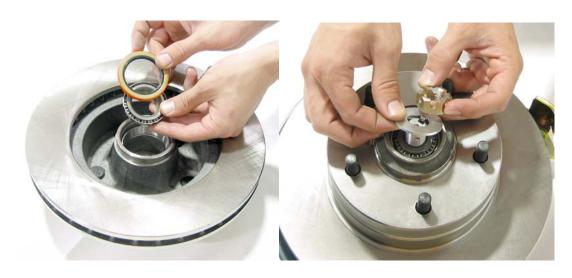
#### 9. Install the set of Black Spindle Adapters \*\*Part number CMB53\*\*

Remove the rear bolt that attaches your steering arm to your spindle. Leave the front bolt in place. Bolt the black caliper bracket to the face of your spindle. If you are using drum brake spindles no spacers are necessary on the top bolt. If you are using disc brake spindles you will need to install the included spacer at the top bolt location to fill the gap. Install the bracket towards the rear of the spindle. Once finished the caliper will be on the rear of the rotor. Apply *Locktight* and tighten the top bolt to 120 ft/lbs. Then install the new included steering arm bolt to go through the bottom bracket hole, spindle and steering arm. Torque the steering arm bolt to original factory specifications.

\* If you had disconnected your tie rod ends to install new spindles now would be the time to reinstall them. Place the tie rod end back into the steering arm and fasten it with the original castle nut. Torque the nut to the specifications provided in the assembly manual. Now is also a good time to reattach the sway bar link if you removed it earlier.

#### 10. Grease the bearings and install the aluminum hub part number

You are now ready to install the bearings and hub. Start by placing the hub face down. Races come preinstalled in the hubs. If you received additional races with your bearings, they will not be used. Apply a little bearing grease to the bearing race already in the rotor and pack the larger of the two bearings (Inner) with grease. Install the bearing into the hub and place the grease seal on the hub. Tap the seal into place being careful not to damage the rubber portion of the seal. A small block of wood works well to protect the seal.



Inner Bearing Assembly

Outer Bearing Assembly

Tech Support: (800) 405-2000

\*\*\*\* Image above is just an example. Your hub will not have the rotor attached \*\*\*\*

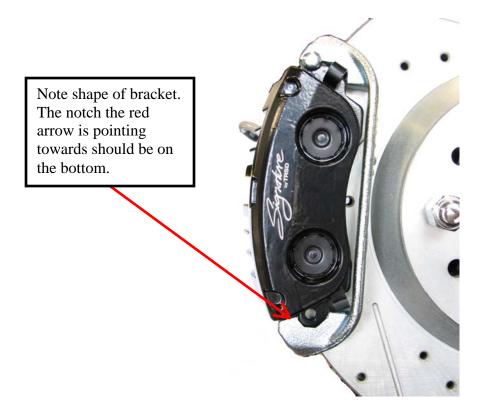
Turn the hub face up and screw the wheel studs into the hubs. Pick the size that matches the lug nuts you plan on using, both 7/16" and ½" studs are included in your kit. Next grease the bearing race. Pack the smaller bearing (Outer) and place it in the hub. Slide the hub onto the spindle being careful that the outer bearing does not fall out of place. Install the keyed washer and castle nut and tighten the nut to seat the bearings. Then back the nut off and hand tighten till the rotor will spin freely and you can place a cotter pin in the end of the spindle. Fix it in place with the new cotter pin supplied with your kit. Install the dust cap with a mallet and a large socket placed over the dust cap. A screwdriver can also be used along the edges. After you have completed the above steps you are ready to move on to step 11.

#### 11. Slide rotors onto aluminum hubs

Now it is time to install your rotors. Do this by simply sliding them onto the aluminum hubs that you just installed. Pay attention to direction of the slots. You can put them on whatever direction you would like, there is no wrong way. Screw on one lug nut to keep the rotor from falling off of the hub and possibly injuring your hand or foot.

# 12. Install the silver caliper mounting brackets \*\*Part number BCB53\*\*

Attach the silver caliper mounting brackets (part number BCB53) to the black spindle adapter (part number CMB53) you previously installed. Attach the brackets as shown below, apply *Locktight* and tighten the bolts to 85 ft/lbs. After you have performed this step you are ready to proceed to the next step and install the calipers and brake pads.



\*\*\*\* This is a photo of the passenger side \*\*\*\*

#### 13. Mount the break pads, calipers and flex hoses

After you have attached the silver caliper mounting bracket, install the brake pads into the calipers. There is an inboard and an outboard pad for each caliper. You can identify the pads by the hole that is in one side of the backing plate. The hole in the pad's backing plate should be at the top of the caliper. The top of the caliper is the side of the caliper with the bleeder screw.

After you have installed the pads into the caliper you are ready to install the caliper into the silver bracket. To do this first insert the bottom portion of the caliper into the bracket then tilt the top portion on the caliper forward into the bracket. Once you have slid the caliper into the bracket, install the retaining pin into the top of the bracket as shown in the photo below. The retaining pin will go through the top hole in both of the brake pad backing plates.

Install one pin in the top of the caliper and sliver bracket. Only one pin is needed.

\*\*\*\* This is a photo of the passenger side \*\*\*\*

After you have installed the caliper you are ready to install the flex hose. Install the flex hose by attaching it to the caliper with the supplied banjo bolts and washers. When installing the bolt make sure you have a copper washer on each side of the hose. So if looking at it from the side you would have caliper seat, copper washer, flex hose head, copper washer then banjo bolt head.

If you are changing your booster, master cylinder or brake valve you are now ready to move on to the next step. If you are not, your installation is complete and you are now ready to bleed your new brake system. See page 13 for the brake bleeding procedure.

## **Upper Assembly**

## \*\*\*\* For power and manual kits only \*\*\*\*

#### 1. Remove the old master cylinder assembly

Remove the master cylinder brake lines being careful not to get fluid on any painted surfaces. Remove the clevis from the pedal rod under the dash. If your original system was power, you should be able to remove the booster mounting nuts from the firewall and remove the booster/master assembly. If your original system was not power, simply remove the master cylinder mounting nuts from the firewall and remove the master cylinder.

#### 2. Mount the new master cylinder and booster assembly

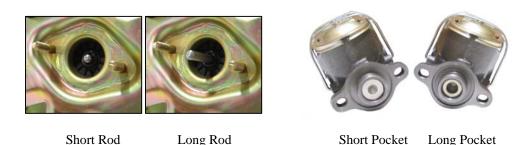
a. Bolt the booster brackets to the booster (Riveted on 11" Boosters), bolt on as shown below in the photograph of the back of the booster.



**Bolt On Booster Brackets** 

b. Bolt your booster to the four studs on the firewall (**Note**: It is normal for the booster to be tilted up at the approximately 30 deg. angle that it is tilted up at, excluding 62 – 67 Novas)

- c. For three stud style boosters found on 62 67 Novas (RPB9020) knock out the two studs on your firewall. Then remove the inspection plate from your firewall. You should see a small divot on your firewall below the hole your master cylinder used to protrude through. Drill a hole in your firewall through the divot. Then bolt the booster to the firewall in the three holes that you have made.
- d. Inspect the booster rod length and master cylinder pocket depth. The booster rod should protrude from the booster face approximately the same length as the depth of the pocket in the master cylinder. Short systems use a ¼" rod and pocket. Long systems use a rod and pocket of approximately 1 ½".



**Note**: Delco style boosters come with a long and a short rod. Insert the short rod into the hole in the front of your booster in you have a short pocket master cylinder. Use the long rod if your master cylinder has a pocket over 1" deep.

e. Place the master cylinder over the two studs of the booster and hold it in place with a nut on the passenger's side stud only.

**Note**: After you place the master onto the face of the booster it should sit flush up against the face without any resistance at all. If you have resistance sliding the master cylinder onto the face of the booster then either the rod in the center of the booster is too long or the plug needs to be removed from the back of the master.

**Note**: If you still have a ¼" or less resistance then the rod may not be seated all the way in the face of the booster (for removable rod Delco style booster) or on some fixed rod boosters there is a 1/8" knurled piece of brass that sits behind the cap nut on the tip of the booster rod. You can remove this by removing the cap nut remove the brass piece, then screw the cap nut back on so it sits flush on the tip of the rod. This will effectively shorten the booster rod an additional 1/8".

f. Slide the valve bracket over the driver's side stud of the booster and loosely tighten it down with the nut.

**Note**: Leave the mounting nuts a little loose at this point. It makes the lines much easier to install if there is a little play in the bracket.

- g. Bolt the proportioning valve to the outside (driver's side) of the bracket with the hardware supplied in your kit.
- h. Now you're ready to install the master cylinder lines. If you purchased lines with your conversion kit, the two small lines are the master cylinder lines.
- i. Tighten up both of the mounting nuts
- j. Supply vacuum from the intake or carburetor to the booster check valve. We suggest a minimum of 14 in/mg (16 18 in/mg desired) of vacuum at idle for proper booster function. If you do not have this amount of vacuum your booster may not function properly.



11" Delco Style Booster (RPB1003), Dual Bail Style Master Cyl. (DBMC09), and Combination Valve (PVK71) Pictured Above

#### 3. Install and adjust the pedal rod

Hold the brake pedal approximately 1/8" down from the stop. Adjust the pedal rod so that when connected the pedal will be at this location 1/8" down from the stop. If needed we have included an extension rod to make up the distance to your pedal. After you have adjusted the pedal rod connect the clevis to the pedal. Be sure to tighten all jam nuts on the pedal rod to lock it in place after all your adjustments are made. If the extension rod is too long for your application it is ok to cut it down to the appropriate length.

**Note:** The pedal rod should not be put in a bind when attaching it to the pedal assembly. If there is only one hole in your pedal, you may need to drill a second hole about 1" lower than the original hole. Let the pedal rod and clevis "show" you where to locate the new hole.

## Bleeding the system

If you are concerned with the damaging effects of DOT 3 brake fluid, The Right Stuff suggests synthetic DOT 5. The Right Stuff is not liable for damage caused by system fluids.

Working your way forward from the wheel farthest from the master cylinder will help insure a good bleed and a firm pedal. It is important to bleed the system in the following order:

- 1. Right Rear
- 2. Left Rear
- 3. Right Front
- 4. Left Front

If you have a spongy pedal, be sure the bleeder screws are pointed up and try re-bleeding the system.

### **Technical Support**

We want your conversion project to go smoothly. Double check that you have followed these instructions correctly and those included with any upgrade components you may have purchased. If you need additional help getting your new disc brakes to function properly, we're here for you. You can visit our website at <a href="www.GetDiscBrakes.com">www.GetDiscBrakes.com</a> for Tech Tips, Tricks & Videos. If you cannot find the assistance you need from that source feel free to send us an email from the Tech support section of the website for priority service. If you are still unable to get the help you need, please give us a call at (800) 405-2000.

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## **Pick Ticket:**

