



# 99-2004 Lightning

## *Rear Drag/Street System*

*For any questions, please contact us at: 727-347-9915 Monday-Thursday 8am est – 6pm and Friday's 8am-4pm.*

*\*Installation of this kit should only be performed by persons experienced in the installation and proper operation of disc brake systems.*

### **Step 1; Disassembly of parts:**

\*Raise the rear wheels off the ground and support the rear suspension according to the vehicle manufacturer's instructions.

\*Remove the rear wheels, calipers, rotors, and dust shields.

### **Step 2; Preassembly of parts and mounting:**

\*Using the existing housing end bolts, attach the brackets with grove toward housing end. Be sure to red Loctite these bolts.

- \*Bolt rotors to hats using the 5/16-18x ¾ low head screws. Make sure to clean all oil off bolts using acetone and use red Loctite to secure. The rotor hat should be mounted on the flat side of the rotor with the low head bolt heads recessed on the other side.
- \*Slide rotor and hat assembly axle flange and lightly install a couple lug nuts to hold in place. At this time measure the spacing between the rotor and bracket. Spacing should be between .050-.080. Install caliper to the bracketry with the bleeder towards to the top (highest point). The inlet port of the caliper is an 1/8-27 pipe thread. Stock hoses will not work, Aerospace Components sells line kits for most applications. Using the (4) zinc plated slider pins, mount the caliper to the caliper bracket. Torque to 35 ft-lbs and use red Loctite. Make sure the caliper slides freely on the pins.
- \*Drop the brake pads into the calipers with friction side facing rotor and secure them with the pad retaining bolt and nyloc nut. Be sure the bolt extends through the locking feature of the nut. Make sure the brake pads are the only thing touching the rotor and that the rotor spins freely.

### *Step 3; Check all fasteners:*

- \*Make sure all fasteners are tightly red loctited in place. Check for wheel clearance between calipers and rims, as well as brake lines.

### ***Final Check:***

1. Make sure all fasteners are tightly loctited in place.
2. Make sure all fittings are tight

3. Check for wheel clearance between brakes and wheels as well as brake lines and wheels/tires.



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**For best results when installing your *Aerospace Components* brake kit use the following:**

- At least two 12 oz. bottles of brake fluid with a minimum wet boiling point of 298 degrees and a minimum dry boiling point of 450 degrees. Do not use silicone based brake fluids.
- Teflon tape for brake line fittings.
- Red Loctite®

**Please consider the following for safe operation of your *Aerospace Components* brakes:**

- If the master cylinder is mounted level with or lower than the calipers, a 2lbs. residual valve is required.
- Check all brake lines. Worn lines are not recommended.
- A 1 1/8" master cylinder diameter bore is recommended for your *Aerospace Components* brake kit. Check for proper wheel clearance by fitting the kit up inside the wheel.

**Pre-assembly of parts:**

- Make sure that all caliper brackets line up properly to the spindle or rear end housing.
- All bolts that will be used need to be cleaned with acetone to insure no grease will contaminate the Red Loctite®.
- Make sure the bearings fit the spindle snout and make sure the grease seal is the proper size. Do this before packing the bearings.
- This is a good time to install the wheel studs in the front hubs, making sure to Red Loctite® them in. Torque the wheel studs to 50ft/lbs.
- If the front kit is a veined rotor street kit, install the rotor adapter to the hub. Do this by placing the hub on a flat surface so the nose cap is facing downward. Take the rotor adapter and place it over the hub with the five counter sunk holes facing upward. Fasten the adapter with the flat head 3/8-16 bolts using the nylock nuts to the hub. Next place the rotor over the adapter so that the tabs on the rotor are facing upwards. Finally fasten the rotor to the adapter with the 5/16-18 low head bolts using Red Loctite®. Torque to 30ft/lbs.

**Brake Lines:**

The inlet port of the caliper is 1/8" x 27-pipe thread. If you choose to use the factory stock flex hose, an adapter for a 1/8" male pipe thread will be needed. Wrapping the threads with Teflon tape will allow a tighter seal at a lower torque.

**Note:**

On rear kits if using factory hard line, a 1/8 pipe to a 3/16 inverted flare adapter is needed. If you have A 3/16 hard line, a 1/8 pipe to 1/4 inverted flare adapter is needed if you have 1/4 hard line.

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**Bleeding the System:**

An initial gravity bleeding is recommended to remove most of the air in the system. This is accomplished by filling the master cylinder with fresh fluid and opening the bleed ports. Leave the top off the master cylinder. Fluid will flow into and fill the calipers. Be sure to keep fluid in the reservoir to keep air out of the system. This process will take some time.

A final bleeding is accomplished by firmly pressing the brake pedal and having someone open the bleed port until the pedal goes to the floor, closing the bleed port before the pedal is lifted. Do not pump the pedal while bleeding. This only foams the fluid and prevents proper bleeding. Repeat this process for all brakes until pedal is high and firm. Be sure no air bubbles come from the calipers.

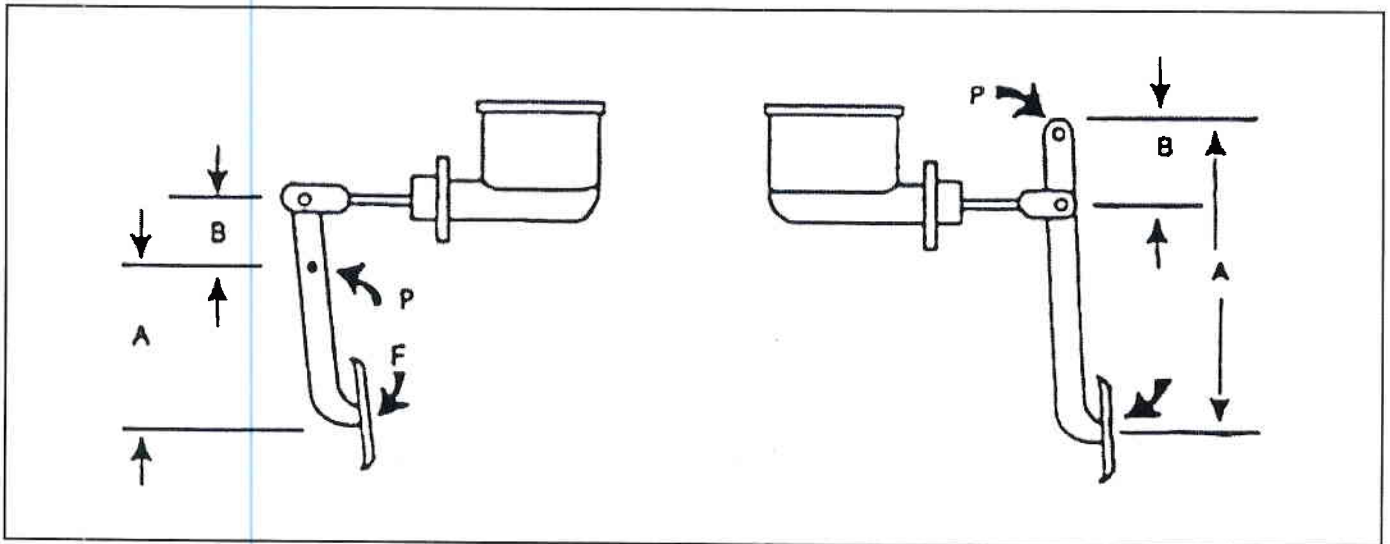
**Brake pad bedding:**

New brake pads require a bedding process. This bedding procedure starts by pumping your brakes at a very low speed to ensure proper brake operation. Make a series of hard stops at progressively higher speeds. Continue this process until brake fade is felt. Park the car and give the pads a chance to cool completely. Improper pad bedding results in glazed pads diminishing stopping ability.

Brake pads should be checked regularly. If pads are wearing evenly, they can be used almost down to the packing plate.

**Getting the right ratio:**

In order to get the correct ratio for your Aerospace Components braking system, a few measurements must be taken. First, remove the old master cylinder. Measure from the center line of the pivot point "P" of the brake arm to the pivot point of the master cylinder rod to get length "B". Next, measure from the pivot point of the master cylinder rod to the center of the footpad to get length "A". Finally, divide length "A" by length "B". This will give you your pedal ratio. The recommended ratio should be 7:1. For example, if length "A" was 14 " and length "B" was 2", then  $14/2=7$ .





# **WARNING:**

ALL AEROSPACE PRODUCTS ARE FOR OFFROAD USE ONLY AND ARE NOT INTENDED FOR STREET USE!

SAFETY IS A REQUIREMENT!! TO ENSURE SAFETY A PARACHUTE, ROLL CAGE, 5 POINT HARNESS, D.O.T. OR SNELL APPROVED HELMET, FIRESUIT AND ALL OTHER NHRA OR IHRA REQUIRED SAFETY DEVICES SHOULD BE UTILIZED AND KEPT UP TO DATE. ALL RACERS SHOULD HOLD A VALID LICENSE FOR THE CLASS IN WHICH THE VEHICLE IS DESIGNED TO RUN. PROPER INSTALLATION OF COMPONENTS IS OF THE UPMOST IMPORTANCE. MAKE SURE THE PERSON INSTALLING ANY COMPONENT ON YOUR RACE CAR IS FAMILIAR WITH THE PROPER INSTALLATION OF THAT COMPONENT. Aerospace Components is not liable for any damages or injuries that may occur due to incorrect installation of parts or components!

*Please remember, racing pushes all components that make up a vehicle to their max stress levels. When any part or component is pushed to the max its chances of failure rise dramatically. This is why race parts and components carry no warranty. This is also the same reason why safety gear should be used at all times and why fastener and part inspections should be performed regularly. By installing any Aerospace Components parts you agree that Aerospace components can not be held liable for any damages or injuries resulting from part or component failure. Remember this is racing.... parts break, systems may fail so be prepared mentally before a race. Know where the chute handle is, know where the kill switch is, make sure your safety restraints are tight and have a plan in mind for when things go wrong. Never place the transmission into park, reverse or use the transmission brake to stop a moving race car; if you try YOU WILL CRASH! The best way to stop a runaway race car is to release the parachute and kill the ignition. Please be safe at all times and hope for the best but plan for the worst.*

**MOTORSPORTS ARE EXTREMELY DANGEROUS  
AND MAY RESULT IN SEVERE INJURY OR EVEN DEATH.  
RACE AT YOUR OWN RISK!**