



LAKEWOOD

"TRACTION...ACTION" LIFT BARS

Part Number #21314

FITS 1979-1993 FORD MUSTANG, CAPRI, 1980-1985 FORD THUNDERBIRD, COUGAR
1978-1982 FORD FAIRMONT, 1981-1982 FORD GRANADA, MONARCH, ZEPHYR

INSTALLATION INSTRUCTIONS

WORK SAFELY!

For maximum safety, perform this installation on a clean, level surface and with the engine turned off.

CAUTION: To avoid any possibility of bodily injury or damage to vehicle, do not attempt installation until you are confident that the vehicle is safely secured and will not move.

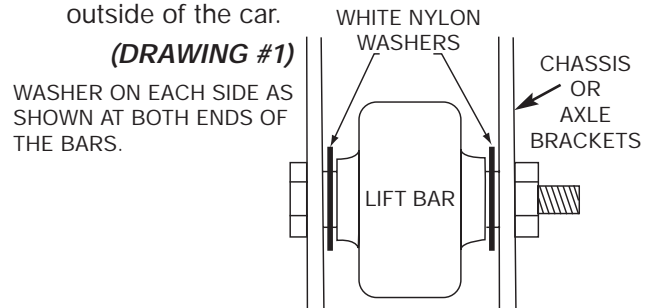
PREPARATION FOR INSTALLATION

1. Place vehicle on a solid level surface to ensure safe installation.
2. Place wheel blocks in front of and behind both front wheels to prevent movement in either direction.
3. Raise rear of vehicle and support chassis using approved automotive support stands having adequate load capacity.

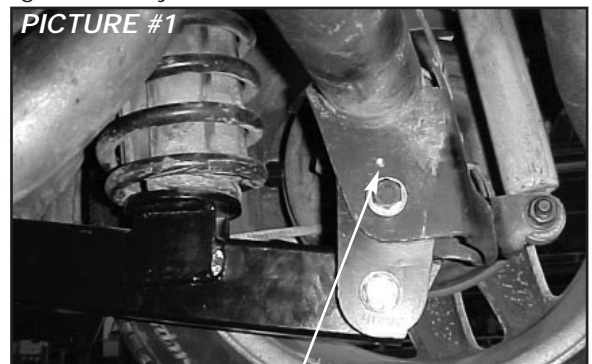
LIFT BAR INSTALLATION

1. After jack stands are in place, be sure you have placed them where the car floor pan is strong enough to support the weight of the car with two car wheels off the ground.
2. Remove both rear wheels and swaybar also remove the horizontal quad shocks (Discard them ! Do not reinstall) these are not needed when using our lift bars. removing these will not affect your car's handling. They were only installed to control the wheel hop from the factory.
3. You will need to disconnect the dual exhaust between the catalytic converters and the mufflers. Just let them hang so you have access to the front bolts of the lower control arms.
4. Raise rear axle with the floor jack and remove the lower bolts from both shock mounts and lower the rear axle all the way down. Remove both coil springs.
5. Raise rear end back up and place just the bolts back into the lower shock mounts to hold it up.
6. Now remove stock lower control arms and set aside.
7. Install grease fittings (supplied) into each end of traction bar by driving fittings into drilled hole of bushing eyelet using a hammer and either a 9/32" or 7mm socket. Use care not to damage fittings.

8. Install bars into front brackets using O.E.M. 12mm bolts and nylon washers supplied. Use a small amount of grease to hold them in place, acting like glue (*see drawing #1*) do not tighten them yet ! Swaybar bracket goes towards the outside of the car.



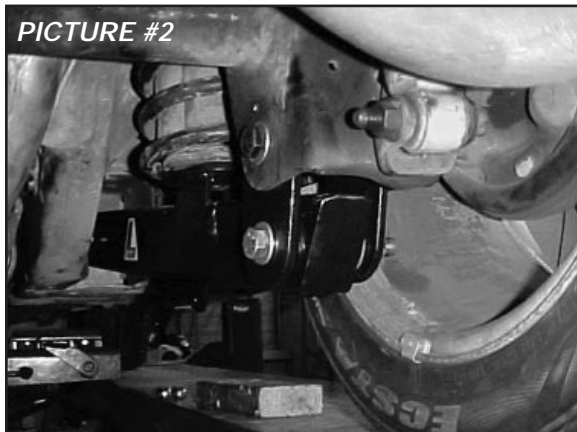
9. Assemble plates and spacers into lower axle bracket and re-install the 12mm bolts supplied into upper hole with steel tube spacer between them. Do the same to the other side. (do not tighten them yet)
10. Attach the nylon washers over steel bushing as you did above (nylon washers are to help hold in the grease around inserts, when you grease them) now swing bar into place between lower axle brackets and line up with lower hole. Install 1/2" bolt, lockwasher and nuts supplied. Do both sides the same way.
11. Now tighten the bolts on the front and rear of the bars (torque to 80 ft lbs.)
12. Raise rear end. Remove lower shock bolts. Lower rear end until there is enough room to install the coil springs back into the original position. Raise rear end back up and install lower shock bolts and tighten. Finally re-install wheels and exhaust securely.



2nd Hole must be drilled here for mounting.
Two upper bolts needed if not welded.

TO USE YOUR LOWER CONTROL ARMS TO ADJUST YOUR REAR END PINION ANGLE, FOLLOW DIRECTIONS BELOW.

13. Remove car from jack stands. Now place car upon blocks or car ramps so that the car weight is on all (4) wheels, keeping the car level, but making sure you still have room to work under the car to make your adjustments.
14. With the car up in the air you will need to check the pinion angle of the rear end and drive shaft. If you don't have one, you will need to acquire a magnetic protractor (angle finder) at any auto location.
15. **Read this before performing the next operation!** Using a magnetic protractor (angle finder) check the pinion angle. If you can't obtain the desired 4-6 degree pinion angle, then loosen the 4 lower bolts and pry between the shock stud and control arm to adjust angle. Tighten all bolts securely while checking pinion angle.
16. Do not attempt to drive the car with out securing the lift bar plate to the axle housing plate. Check (drawing # 2) and using the measurements supplied lay out the hole location in the approximate area shown. Center punch and drill starting with 3/16" as a pilot hole then step up the sizes using 1/4", 5/16", 3/8" and finishing with 1/2" for final size. Then install the 1/2" bolts, lock washers and nuts and tighten. (torque to 65 ft lbs.)
17. Remove car from the jack stands or car ramps and place it on the ground. You are now ready to Rock & Roll!

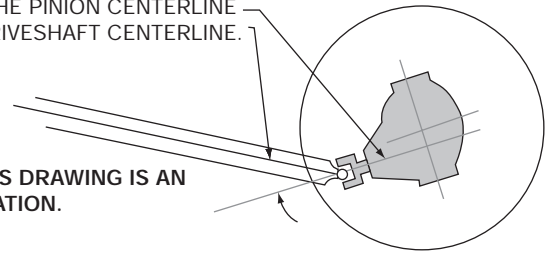


PLEASE NOTE:

- A. Be sure to check the bolts frequently. Make sure they are tight and always stay tight. You can use thermal locking liquid if you wish.
- B. Welding is optional (but not required) to secure the lower plates to the lower axle brackets.
- C. These lift bars are legal for use in NHRA Stock eliminator classes as a bolt on application only! (no welding is allowed).

PINION ANGLE

THE PINION ANGLE IS THE RELATION BETWEEN THE PINION CENTERLINE AND THE DRIVESHAFT CENTERLINE.



Pinion angle affects the efficiency of power transmission from the driveshaft to the rearend. The pinion angle is the spread between the pinion centerline and the driveshaft centerline. For maximum performance, the ideal is to have a slight pinion down angle (min. 2 degrees) under full power.

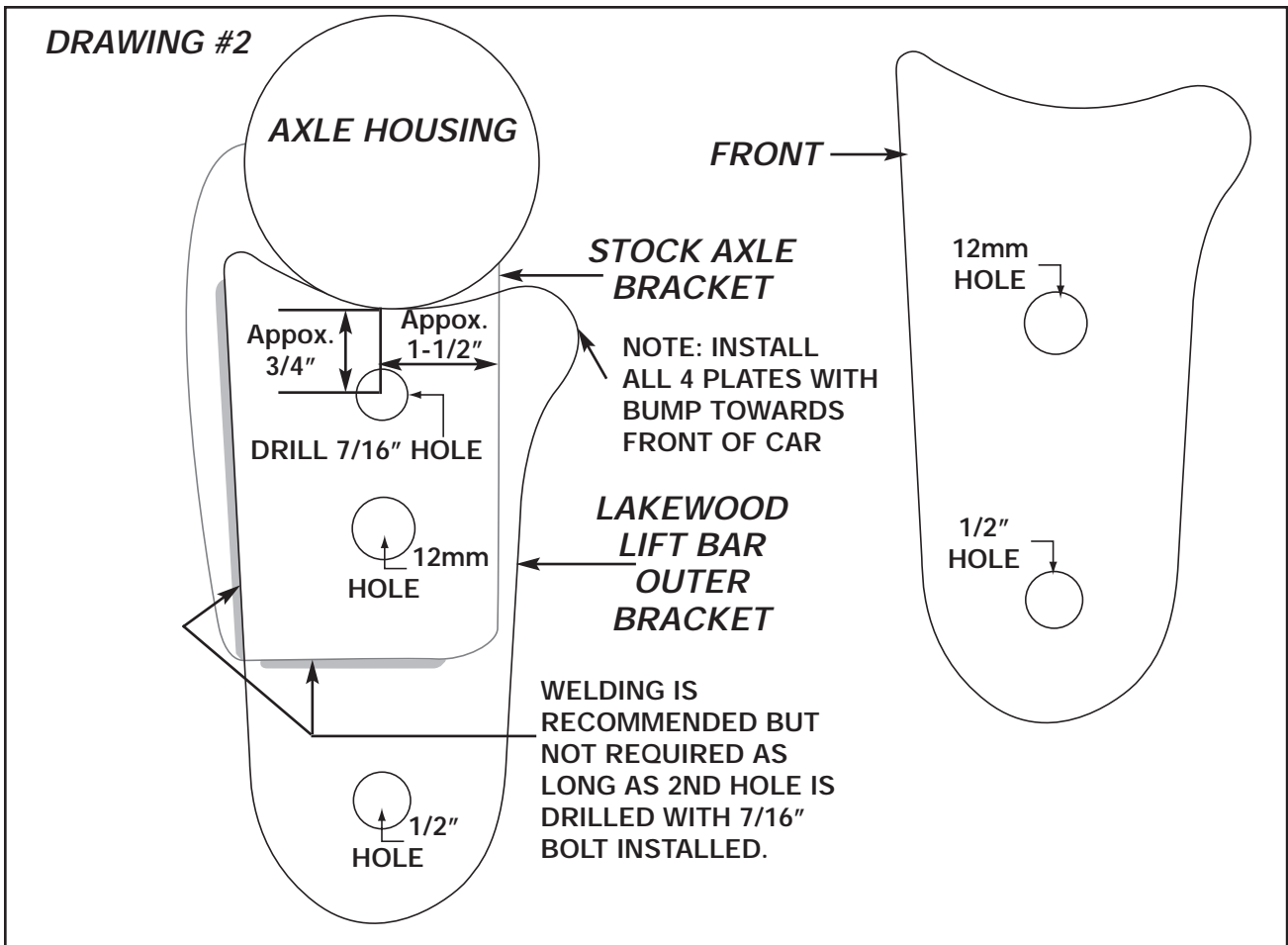
Obviously, the pinion angle changes as power is applied, so the axle housing begins to twist as the pinion tries to drive the ring gear. Rear axle wind-up can take some of the initial energy or "hit" away from the launch. As a general rule, a leaf spring rear suspension should have between 5-7 degrees of static pinion angle (pinion down); and a factory four-link should be set between 4-6 degrees.

Keep in mind that these pinion angles are for competition. If you primarily drive your car on the street, you shouldn't have more than a 5 degree angle, max. The u-joints are designed to run at this angle, which allows the cups to rotate, avoiding premature wear and failure. This doesn't affect leaf spring suspension, since it runs well within this tolerance.

The height of the rear end (relative to the rest of the driveline) will affect the pinion angle. Using an angle finder, which is a tool that combines a bubble level and protractor, to determine the correct pinion angle for your car. Position the angle finder on the driveshaft and record the measurement, and then place the angle finder on the pinion (the u-joint yoke rotated to vertical position will give an accurate reading) and record the measurement. The pinion angle is a combination of the two measurements.

Example:

(Pinion 0 Degrees & Driveshaft 6 Degrees = 6 Degrees Total)
(Pinion 2 Degrees & Driveshaft 4 Degrees = 6 Degrees Total)
(Pinion 3 Degrees & Driveshaft 3 Degrees = 6 Degrees Total)
(Pinion 4 Degrees & Driveshaft 2 Degrees = 6 Degrees Total)
(Pinion 6 Degrees & Driveshaft 0 Degrees = 6 Degrees Total)



THE FOLLOWING ARE FINE-TUNING TIPS FOR YOUR SUSPENSION:

You can purchase Lakewood Drag Shocks for both front and rear applications. These shocks are available from your local speed shop, or mail order suppliers. If you can't find shocks designed for your specific application, you'll have to check in a shock catalog for O.E.M. Applications. You may have to use shocks from another make or model that has the same mounts at each end, and the same length, or an inch or two longer, which won't hurt, because it allows for more suspension travel, so you don't hit the end of your shock travel and pull the rear wheels off the ground.

CHASSIS WORK

To help the effects of the lift bars, especially on uni-body cars, you can greatly improve the chassis reaction by tying the subframe together with subframe connectors. Also, a minimum of six point cage to stiffen the chassis up would help. That way the chassis is not absorbing the energy or hit or the bars, and all the energy will be directed to the tires, to help lay out a bigger tire footprint.

COIL SPRING REAR SUSPENSION

Use Lakewood 90/10 front shocks on small block cars, 80/20 or 70/30 on big blocks cars, and high horsepower small blocks. Except on short wheel base cars like Mustangs and Capri's, use the 80/20 or 70/30 settings. Use 50/50 rear shocks along with an air bag in the right rear coil spring only (4-8 lbs. Air), this you will have to play with to find the best setting for your car. The air bag is used to counteract the engine torque wanting to lift the front corner.

Recommended chassis modifications:

For serious drag racing, we recommend reinforcing the upper and lower control arm chassis mounts. They are only spot welded in place from the factory but should be fully welded to the floor pan for added strength.

Drawing #3 shows what happens to the instant center (imaginary intersection point between the upper and lower control arms) when the lower control arms are attached to the new axle housing brackets.

When the differential pinion gear is turned by the drive shaft, which is driven by the engine, the pinion gear turns the ring gear causing the axle housing to rotate, pulling back on the upper control arms and pushing forward on the lower control arms. These forces theoretically meet at the instant center point (as shown on the illustration). The shorter the instant center point is, the more the tires will separate from the body upon launch.

Recommended optional Lakewood products:

- For drag racing, the factory gas shocks should be replaced with a 50/50 ratio rear shock absorber #40301(1979-1993 Mustang)

- Front Drag Struts are also available for 1979-93 model years in ratios of 70/30 #40501 or 90/10 #40511. Also (1994-2000 Mustang) uses 70/30 #40506 and 90/10 #40516
- Heavy-duty upper control arms with polyurethane bushings reduce flex and provide stability #20152 (1979-2001 Mustang)
- Bolt-on Subframe Connectors, for 1979-93 Mustang, will help eliminate body flex and greatly strengthen the chassis #20485
- Bolt-in Drive Shaft Safety Loop for 1979-2001 Mustang #18017

See your local retailer of Lakewood products for:

- Specific Prices
- Eibach Springs
- Lakewood U-Joints

DRAWING #3

