

# Steeroids™ INSTALLATION INSTRUCTIONS 1968-1972 Chevelle

## Parts Inventory

Parts and finishes may vary from those pictured. (Power kit shown)

### Fastener Kit Part# 690-50069

- All Grade 8, Zinc II
- 2 - 5/8" -18 x 3.5" long bolts
- 2 - 5/8" flat washers
- 2 - 1/2" -20 x 5" long bolts
- 2 - 1/2" -20 Nylock nuts
- 4 - 1/2" flat washers
- 2 - 5/16" -24 x 1.5" long bolts
- 2 - 5/16" -24 Nylock nuts
- 2 - 5/8" -18 x 1.75" long bolts
- 2 - 7/16" -14 x 3.25" long bolts



760-89076  
4 zip ties



690-51555  
Hose Kit  
1 pressure hose  
1 return hose



520-89053  
Rack & Pinion Unit



Support bearing  
from kit 690-50067



Assembled tie rods, consisting of:  
690-72657 tie rod sleeves  
690-56515 tie rod ends  
690-50067 (2 smaller bearings from kit)



560-89055  
Main Rack Bracket



560-89052  
Removable Fitting

560-89051  
Tie Bar Bracket



650-92245  
U-joint Assembly



420-50325  
Bearing Brace



560-89053  
2 Rack dust boots



870-82217  
2 rack bushings



690-50071  
Metric Rack Bolt Kit



870-82216-01  
870-82216-02  
Aluminum  
steering arms

**PLEASE NOTE:** These components are tested and engineered to meet loads equal to what the stock steering system is exposed to during normal operation. If you or the person or firm you hire to install your Steeroids rack & pinion kit believes it is necessary to “modify” any components to make them fit and /or adjust properly PLEASE note that this can be extremely dangerous. We offer free technical phone support to assist with installation should you encounter a problem. Modifications may include cutting or welding support brackets, sawing or hammering on u-joints, or any revision, deletion or addition to the product as delivered. Any such modifications void the manufacturers warranty. Our knowledgeable staff will gladly assist you with any questions you may have during installation. In addition Class M Corporation, DBA SpeedDirect is not responsible or liable for any damages or injury resulting from any modification to the components as delivered.

1. Begin by performing an inventory of all the components in the kit. Installing the Steeroids kit requires simple hand tools. A pickle fork or ball joint separator will be useful when disassembling the old system.
2. The next step is to support the car securely on jack stands. Never support the car using only a jack.
3. Removing the entire steering system as a unit is the most effective way. The outer tie rods require removal of a cotter pin and nut before separating from the steering knuckle using a pickle fork or ball joint separator. Once both tie rods are separated from their respective steering knuckles, remove the two bolts attaching the steering shaft to the rag joint and separate the joint from the shaft. Also, remove the two cross bolts that hold the rag joint to the steering column (near the firewall) and the steering box. The steering box is attached with 3 bolts that extend through the frame from the driver's side wheel well. Remove two of the bolts. Leave the last bolt installed until you are ready to remove the entire system.
4. Disconnect the power steering hoses from the steering box. Now remove the two bolts attaching the idler arm to the frame rail. The entire steering system is ready to come out as soon as you remove the final bolt attaching the steering box to the frame. In total the steering weighs more than 50 lbs so be cautious as you loosen the last bolt.
5. Remove the steering shaft from the steering column. Also, remove the power steering hoses from the pump.

#### ASSEMBLY AND INSTALLATION

We recommend using red high strength thread lock on all threaded applications except for power steering hose fittings. Be SURE to trial fit first, and read the instructions through before going crazy with the thread lock!

6. The first step is to mount the main bracket to the frame. Remove the front, lower control arm bolts. Longer replacement bolts are supplied with the kit to attach the bracket to the frame. Place a flat washer between the bolt and the bracket mounting boss. Once installed torque the bolts and nuts to 120 Ft-lbs.
7. Assemble the rack unit and center link before you install it on the car. The small fitting attaches to the driver's side of the rack and the long center link attaches to the passenger side. The center link sits between the rack and the cross member so be sure to orient it so it passes behind the rack. Place the rubber boots on the rack first. The small diameter hole in the boot installs on the rack unit and the large hole fits on the metal cup (on the center link). Line up the slots in the end of the rack with the protrusions on the fitting and center link. Use the supplied metric bolts with some high strength thread locker on the threads to attach to the rack but don't tighten until the fitting is bolted to the center link using the 2 supplied 5/16 bolts. Now torque the metric bolts to 100 Ft-lbs.



8. Center the rack unit by turning the pinion with an adjustable wrench in one direction until it hits its stop. Now count the turns as you proceed to the opposite stop. Divide the number you get by 2 and turn the pinion this amount. This is an important step to get your steering centered for your wheel alignment.

9. Install the 3/4" rod end on the support bearing bracket and attach to the driver's side frame rail using the supplied 3.25" long 7/16 bolts. The bracket attaches at the lower steering box mounting holes.

10. Assemble the rod ends to the tie rod sleeves making sure to put anti-seize compound on the threads. Now attach the rod ends to the center link using the supplied 5/8" bolts. Use a high strength thread locker on the threads of the bolts.

11. Now install the aluminum rack bushings in the rack with the thick flange toward the mounting bracket. Install the rack on the bracket with 5/8" bolts and a flat washer under the head. Use high strength thread locker and torque to 100 Ft-lbs.

12. Installing the steering arms requires removing the wheels and perhaps the brake disk. There are two bolts holding the steering arm on. Loosen the nuts and remove the arm. Replace with the new arm and torque to 85 Ft-lbs.

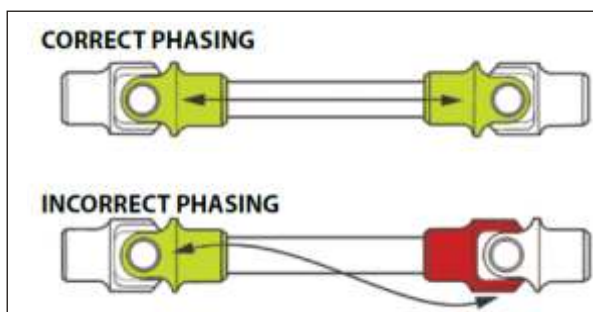
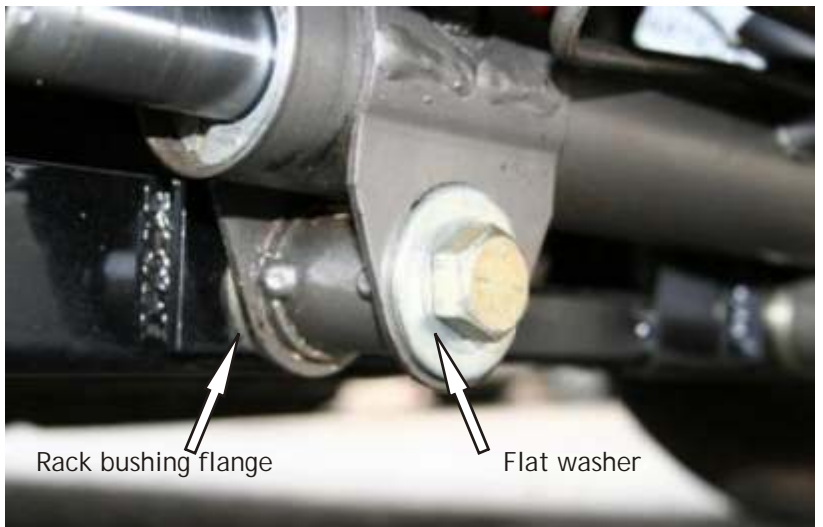
13. Tie rod ends. Spacers have been provided to adjust bumpsteer. Stock ride height setting has been preassembled. To adjust, match the tie rod angle to parallel the lower control arm when vehicle is on the ground. Now install the tie rod ends on the steering arms and torque the upper nut to 35 Ft-lbs and the lower nut on the stud to 40 Ft-lbs. Note that the flange below the taper may not seat against the steering arm- this is not a problem.

14. The steering shaft is assembled by installing the double u-joint on the pinion of the rack unit, but do not yet tighten. Next install the shaft through the support bearing and into the double u-joint (tolerances are tight, shaft may require sanding to fit, DO NOT HAMMER into support bearing).

The support bearing is installed on the bracket with two jam nuts. During installation it may be easiest to allow the bearing to float between the upper and lower u-joints, so don't tighten the jam nuts yet. Now center your steering wheel and install the upper u-joint on the steering column and then on the steering shaft. Be certain that the upper and lower u-joint are phased the same way on the shaft (see diagram below). If they are not they can prematurely fail. Also make sure that the shaft ends do not protrude into the inside of the u-joints.

15. Once the u-joints have fully engaged the shaft you can tighten the set screws and jam nuts on the u-joints. The set screws on the pinion need to be tightened in the proper sequence of the flat side of the pinion first and then the curved side. If this is not done there will be play in the connection after a few miles of driving.

16. The support bearing now needs to be set to minimize the angle the lower u-joint needs to go through in order to attach to the rack. Be sure to leave a gap between the end of the u-joint and the bearing to accommodate for frame flexing. Tighten the jam nuts.



### U-Joint Orientation

When two joints are used on a shaft, the forks of the yokes closest to each other should be in line, or "in phase." Premature wear or binding can result if the u-joints are not phased properly. Sometimes if the u-joints are at a severe angle, even if they are phased correctly, a hard spot in the steering may occur for no apparent reason. If this happens, index the u-joints two or three splines in one direction. The hard spot should disappear or be minimized.

17. Adjust the tie rod sleeves so both wheels are pointing straight ahead. Make sure both tie rods are of equal length and that there is an even amount of threads showing on all rod ends (both inboard and outboard rod ends).

18. Turn the steering wheel back and forth through at least one full rotation in each direction. The steering should feel smooth with no notchy or uneven feeling. If there is then re-adjust the support bearing to eliminate the binding in the u-joint. DON'T drive the car if the u-joints are even slightly binding. This will cause significant damage to the u-joints.

19. Now connect the power steering hoses. Place an o-ring on the end of each tube, lubricate it with a small amount of power steering fluid and thread into the rack. Torque the large fitting to 21 Ft-lbs and the smaller fitting to 13 Ft-lbs.

20. Install the rubber boots using the supplied zip ties. RTV can be used but allow it to set up before installing the zip ties. Install zip ties on all ends of the boots (4 total).

21. IMPORTANT: if you are using an existing power steering pump you will need to completely flush the pump of fluid and be absolutely certain that the reservoir is free from debris and contaminants. A steering rack is highly sensitive to contaminants. If this is not done then rack unit could be plugged which would require disassembly of the unit to correct.

22. Attach the hoses to the pump. Bleed the system by turning the wheels all the way to the left. Add fluid to the "cold" mark on the dipstick. Start the car and allow it to idle. Fill to the "cold" mark as needed. Now turn the wheels side to side but not to the stops. Check the fluid level frequently while proceeding. Allow the engine to run for a few minutes before shutting off. Add fluid as needed.

23. Now re-check every bolt and nut to be sure all are tight. Test-drive the car at low speed for a brief period. Check every bolt for tightness again. If the engine is at operating temperature, check the power steering fluid level. Fill to the "hot" mark as needed.

24. The final step is to have the front end aligned to the specs below and re-check all bolts for tightness after the first 100 miles. If the person installing the kit ignores these recommendations and it is aligned to factory specs, the car will handle very poorly. This is seriously important.



DETAILS FOR ALIGNMENT:

Camber

0 - .25 negative camber

Caster

2.5 - 5 positive

Toe

0 to 1/8" toe in



**WARNING:** FAILURE TO ADJUST THE UPPER U-JOINT SO THAT THERE IS NO BINDING WILL RESULT IN PREMATURE WEAR AND FAILURE! IF YOU FEEL ANY BINDING IN THE STEERING WHEEL, ADJUSTMENT IS STILL REQUIRED AS DETAILED IN STEP 18.

WARRANTY DISCLAIMER

Seller disclaims any express or implied warranty of merchantability with respect to the goods sold. Seller disclaims any warranty of fitness for any particular purposes whatsoever with respect to the goods being sold.

Seller disclaims all liability for any personal injury or damage which may result from the sale, installation, or use of any product sold. Labor charges, and/or damage incurred in installation, repair or replacement as well as incidental and consequential damages connected therewith are excluded and will not be paid by seller. The installation of this product may adversely affect a manufacturer's warranty with respect to certain vehicles and/or manufactured goods. Improper installation, modification and/or abuse voids any warranty.

This warranty is the only express warranty made by seller. Seller will repair or replace any product which proves to be defective in material and/or workmanship under normal installation, use and service.

This disclaimer is limited only by applicable state laws.



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# PRODUCT EVALUATION SHEET

Telling us what you like and don't like determines what we make and how we make it. We would appreciate it if you would take just a few minutes of your time to answer the following questions about the parts you ordered from us. You can fax it to us at 940-769-2940 or simply fold this form on the dotted lines, seal with tape and mail it to us. *Do not use staples and make sure our address faces out.*

SpeedDirect will not disclose the information it collects to outside parties. SpeedDirect does not sell, trade or rent your personal information to others. Your privacy is important to us.

1) Kit: Chevelle Steroids

2) Where did you learn about this kit?

- Magazine Ad       Friend
- Internet Search       Forum
- Mechanic       Catalog
- Car Show
- Other (specify) \_\_\_\_\_

3) What influenced you the most to buy this kit?

- Magazine Ad       Price
- Recommendation       Testimonials
- Internet       Forum
- Other (specify) \_\_\_\_\_

4) Did you have any trouble understanding the written instructions? If yes, please explain.

- Yes       No

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5) Did you have any trouble understanding any of the photographs? If yes, please explain.

- Yes       No

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6) Was any of the installation difficult for you? If yes, please explain.

- Yes       No

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7) Were any of the kit parts:

- Damaged       Missing

If you checked any of the above boxes, did you contact our customer service department to resolve the problem?

- Yes       No

8) Were they helpful in resolving the problem?

- Yes       No

9) What did you like most about this kit?

- Instructions       Hardware Supplied
- Ease of Install       Price
- Final Performance       Other:

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10) What did you like least about this kit?

- Instructions       Hardware Supplied
- Ease of Install       Price
- Final Performance       Other:

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11) Have you driven/used the product and are you satisfied with the final installation?

Please explain:

- Yes       No

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12) What is your age group?

- 18-29       30-39       40-49
- 50-59       60-69       70+

We care about what you think. Is there anything else you would like to tell us or any products you would like to see us make in the future?

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Fold here

Fold here

PLACE  
STAMP  
HERE

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