



10-2-02

**'99-'00 CHEVROLET/GMC 2WD
6" SUSPENSION SYSTEM**

P/N. 10-41000

INSTALLATION INSTRUCTIONS

NOTE: Each Lift Kit and options to Lift Kits are packaged separately. Therefore, installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning.

Parts List

Box 1 of 6

<u>Item</u>	<u>Description</u>	<u>Qty</u>	<u>Illus.</u>
20-51000-1	Front Crossmember	1	6,9
20-51000-2	Rear Crossmember	1	9,11
20-68201	Hardware Pack Containing: (Lower Control Arm)		
13-21950-Z	Hex Bolt, 5/8"-11 x 5-1/2" Lg. Gr. 8	2	9
13-21924-Z	Hex Bolt, 5/8"-11 x 5" Lg. Gr. 8	2	9
13-30369-Z	Flat Washer, 5/8" Hrdn.	8	9
13-10345-Z	Top Lock Nut, 5/8"-11	4	9
20-67876	Hardware Pack Containing: (Sway Bar)		
20-832777	Sway Bar Extension (9-1/2")	2	12
13-22743-Z	Button Head, 1/2"-13 x 3" Lg.	4	12
15-11382	Grommet	8	12
13-30668-Z	Retainer, Washer	4	12
20-68305	Hardware Pack Containing:		
13-20447-Z	Unslot Hex, #10 x 1/2"	4	
15-10966	Clamp, Black	4	
15-11395	Wire Tie, 6"	4	
15-11447	Wire Tie, 8"	2	
15-11460	Wire Tie, 11"	2	
20-68461	Hardware Pack Containing:		
13-90620	Cotter Pin, 5/32" x 1-1/2"	2	

Box 2 of 6

20-51099-5D	Front Spindles (Drvr.)	1	
20-51099-6P	Front Spindles (Pass.)	1	

Box 3 of 6

20-51000-3	Lateral Compression Struts	2	11
20-51099-22	Bracket, Strut Mount	2	11
20-51292-11	Bracket, Strut Mount	2	9,11

20-68175	Hardware Pack Containing: (Compression Strut)		
15-11148	Bushing, Red	8	11
20-830918	Sleeve, 3/4" x 2-3/4" Lg.	4	11
20-68162	Hardware Pack Containing: (Compression Strut)		
13-20069-Z	Hex Bolt, 1/2"-13 x 4" Lg. Gr. 5	4	11
13-20164-Z	Hex Bolt, 1/2"-13 x 1-1/2" Lg. Gr. 5	2	11
13-30034-Z	Flat Washer, 1/2" SAE	12	11
13-10038-Z	Nyloc Nut, 1/2"-13	6	11
20-68526	Hardware Pack Containing:		
13-21677-B	Self Tapper, 3/8"-16 X 1" Lg.	4	11

Box 4 of 6

20-20166-1	Coil Springs (Front)	2	
------------	----------------------	---	--

Box 5 of 6

20-830671	Block, Rear- 3"	2	13
13-90763	U-Bolt, 9/16"-18 x 10-3/8"	4	13
20-68188	Hardware Pack Containing: (Rear U-Bolt)		
13-30330	Flat Washer, 9/16" Hrdn.	8	13
13-10423	High Nut, 9/16"-18	8	13
20-68097	Hardware Pack Containing: (Bumpstop)		
20-51099-23	Rear, Bumpstop Extension	2	
13-22756-Z	Hex Bolt, 10mm x 1.5 x 30mm	2	
13-30577-Z	Lock Washer, 10mm	2	
13-30642-Z	Flat Washer, 10mm	2	

Box 6 of 6

BE5-6247	Shock Absorbers (Front)	2	
BE5-6240	Shock Absorbers (Rear)	2	

INTRODUCTION:

- ❑ Installation by a professional mechanic is recommended. Use of the appropriate power tools, a Chevrolet/GMC service manual and a shop hoist can greatly reduce installation time.
- ❑ Prior to installation, carefully inspect the vehicle's steering and drivetrain systems, paying close attention to the tie rod ends, Pitman and Idler Arms, Ball Joints and wheel bearing preload. Also check steering-to-frame and suspension-to-frame attaching points for stress cracks. The overall vehicle must be in excellent working condition; repair or replace worn parts.
- ❑ Read instructions carefully and study the illustrations before attempting installation. *Race Car Dynamics* is not responsible for damage, failure or injury resulting from improper installation or parts substitution of this kit.
- ❑ Separate parts according to the areas they will be used. Placing the hardware with brackets before you begin will save installation time.
- ❑ This kit is supplied as a bolt-on assembly. Do not weld anything to the components and do not weld the components to the vehicle.
- ❑ All components in this kit come with a protective coating. Do not plate (i.e. chrome, cadmium, zinc etc.) or otherwise alter the finish in any way. This could weaken the structural strength of the components
- ❑ Secure and properly block vehicle prior to beginning installation.
- ❑ Always wear safety glasses when using power tools.
- ❑ Foot pound torque readings are listed on the Torque Specifications chart at the end of the instructions unless specifically stated in an instruction. **DO NOT USE AN IMPACT WRENCH TO TIGHTEN ANY OF THE BOLTS.**

PLEASE NOTE:

WARNING: DO NOT USE WHEEL SPACERS.

Front end realignment is necessary.

Speedometer recalibration is necessary if bigger tires (10% more than stock diameter) are installed.

Recommended **Wheel Size:** 15" x 8" or 16" x 8"

Maximum **Wheel offset** from the inward side: 4-1/2"

Maximum **Tire Size:** 33" tall.

Special tools are required for safe removal and installation of the Tie-Rods, Steering Arms and Control Arms. These tools can be purchased from your GM Dealer.

Ball Joint Separator Tool # J 23742

Tie Rod Puller Tool # J 6627-A

Coil Spring Removal & Installation Tool # J 23028-01

FRONT DISASSEMBLY:

1) Raise the vehicle. If working without a shop hoist, support vehicle with suitable safety jack stands. Put vehicle in gear, set emergency brake and block rear wheels, in front and behind tires. Loosen Lug nuts. Lift vehicle with floor jack and place safety jack stands under frame rails, behind front wheel wells, and lower frame onto stands. Remove the front tire/wheel assemblies.

2) Remove front shock absorbers, using a wrench hold the shock absorber stem (Top) while backing nut off the stem. Remove bottom bolts from lower control arm and pull the shock out from below.

3) Remove nut, stabilizer bolt and spacer assembly from the front lower control arm (**Illustration 1**). Rotate stabilizer bar up and out of the way.

NOTE: Be sure to remove parts from both driver and passenger side of the vehicle and keep them separate. Also check all parts for wear and damage.

4) Locate the tie rod ends. Remove nut. Attach Tie Rod Puller (J-6627A) separate the tie rod end from front spindle.

5) Locate two caliper mounting bracket hex bolts attaching the caliper bracket to front knuckle (**Illustration 2**). Remove the bolts and lift caliper and bracket assembly off brake rotor. Use a length of wire to secure brake caliper out of the way to prevent damage to brake lines.

CAUTION: Do not allow the brake caliper to hang by the brake hose.

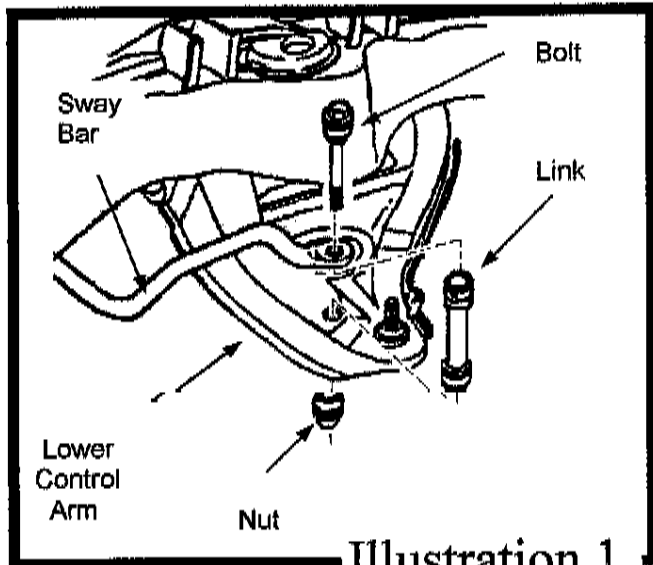


Illustration 1

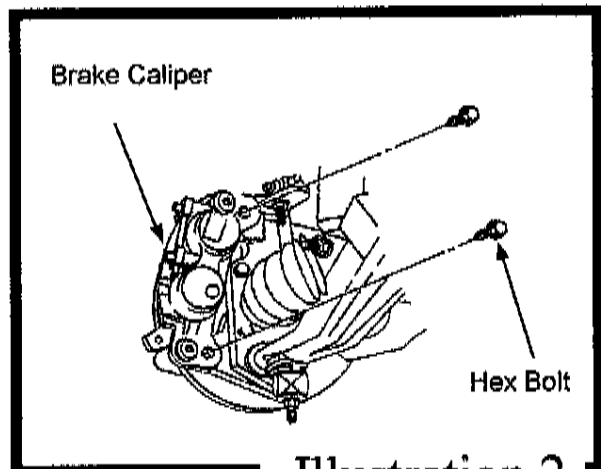


Illustration 2

6) Remove the retainer, cotter pin and hub nut from front rotor assembly and set aside.

7) Secure the front coil spring with a chain through the length of the spring and lower control arm.

8) Using a floor jack support the front lower control arm near spring seat. Raise the jack until it just supports the lower control arm.

CAUTION: Floor Jack must remain under front lower control arm spring seat during disassembly to retain the spring and control arm in position or personal injury may result.

9) Locate front lower ball joint, remove the nut from ball joint. Using Ball Joint Separator Tool (J 23742) apply pressure on tool until ball joint breaks loose from lower part of the front spindle (Illustration 3).

10) Locate front upper ball joint, remove the nut from ball joint. Using Ball Joint Separator Tool (J 23742) apply pressure on tool until ball joint breaks loose from upper part of the front spindle (Illustration 4).

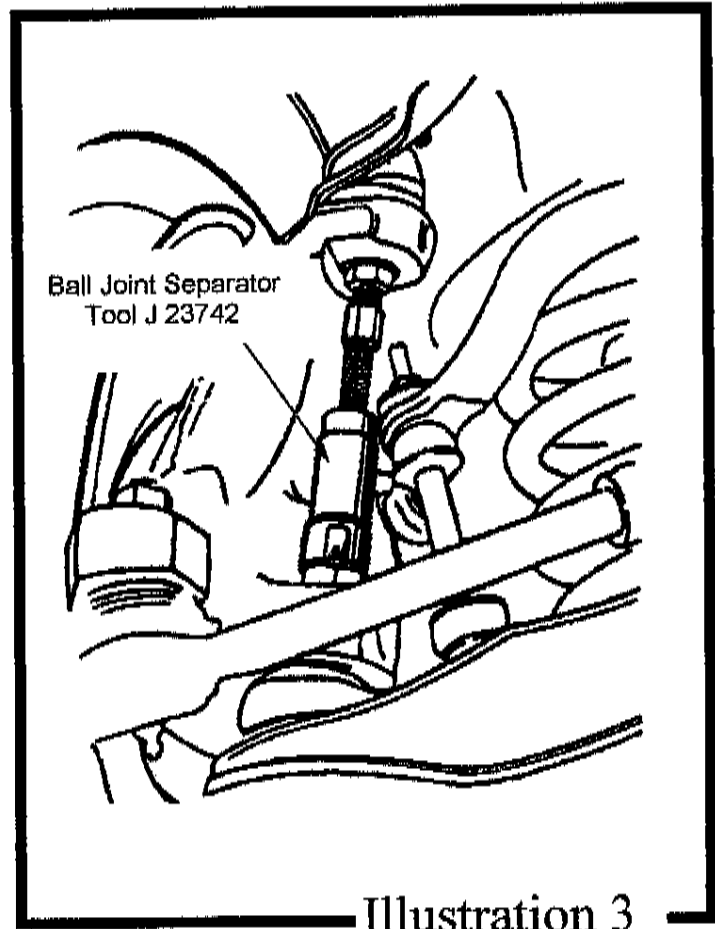


Illustration 3

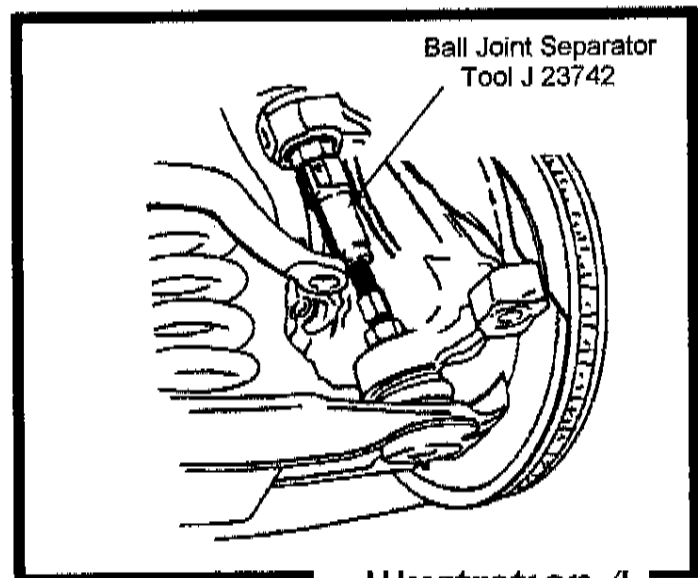


Illustration 4

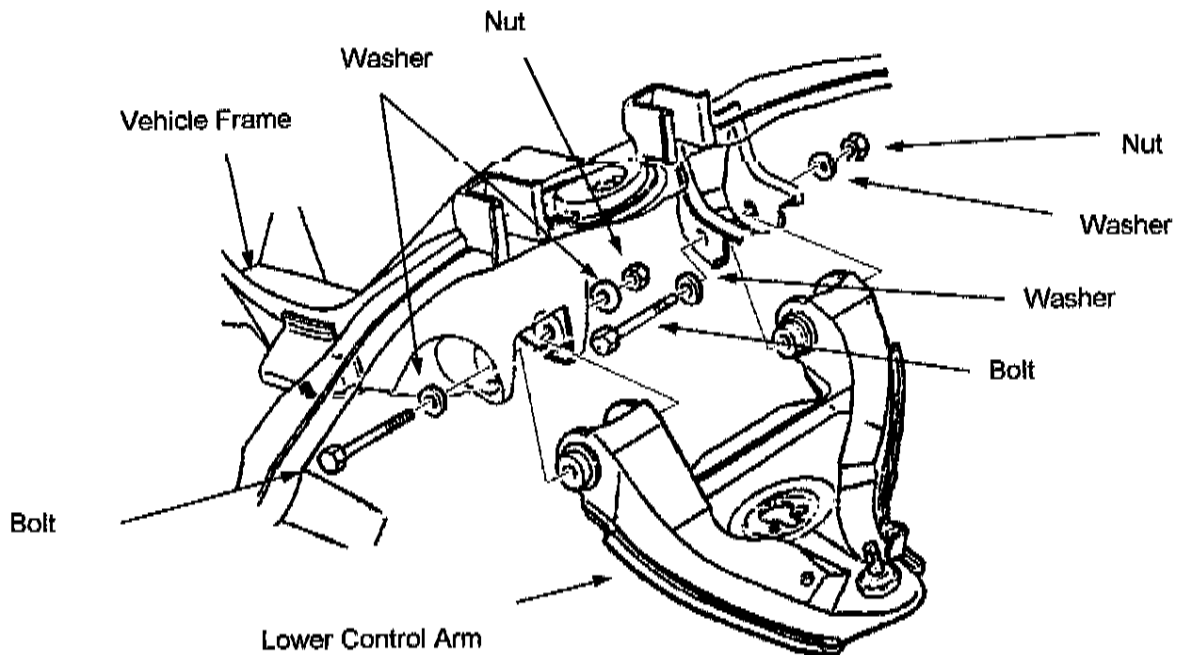


Illustration 5

11) Remove front spindle with the hub assembly attached, set aside.

12) Slowly release the floor jack. Once all pressure has been released, remove chain and front coil spring.

13) Remove nuts, washers and bolts fastening the lower control arm to frame and set assembly aside (Illustration 5).

14) Repeat steps 2 thru 13 on opposite side.

FRONT INSTALLATION:

1) Install Front Crossmember (20-51000-1) into front lower control arm mounting position using the existing hardware previously removed, make sure that the bolt heads are facing to the front of the vehicle (**Illustration 6**). Do not fasten at this time.

2) Install Rear Crossmember (20-51000-2) into rear lower control arm mounting position using the existing hardware previously removed, make sure that the bolt heads are facing to the front of the vehicle, do not fasten at this time.

NOTE: On some models the existing rear crossmember will have mounting tabs located on the underside of the crossmember, these will have to be removed for clearance of the new rear crossmember.

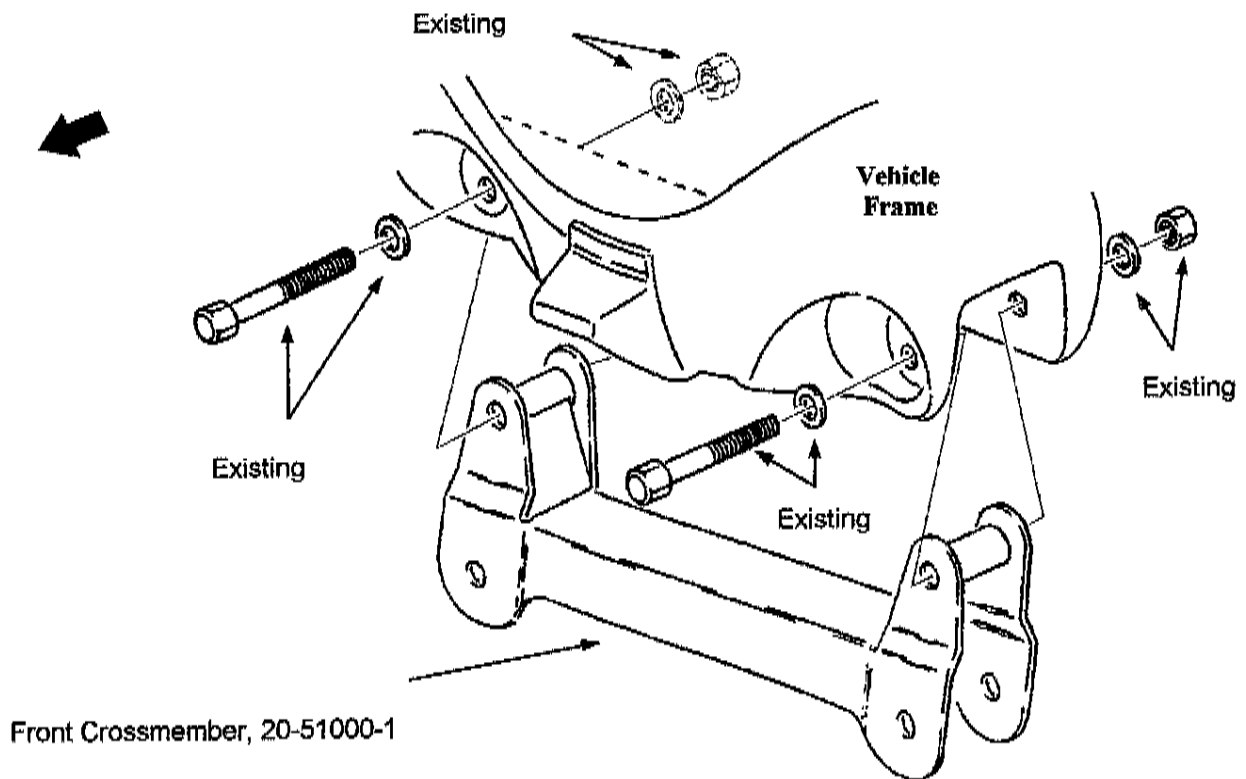


Illustration 6

3) Install existing bumpstop to new location on Rear Crossmember.

4) Remove the splash shield and hub assembly from existing front spindles. Reinstall the splash shield and hub assembly to new Front Spindles (20-51099-5D-Drvr.) and (20-51099-6P Pass.).

NOTE: Make sure that hub assemblies are reinstalled on the same side they were removed from. Apply Loctite compound to existing hardware. Torque bolts to 133 ft. lbs.

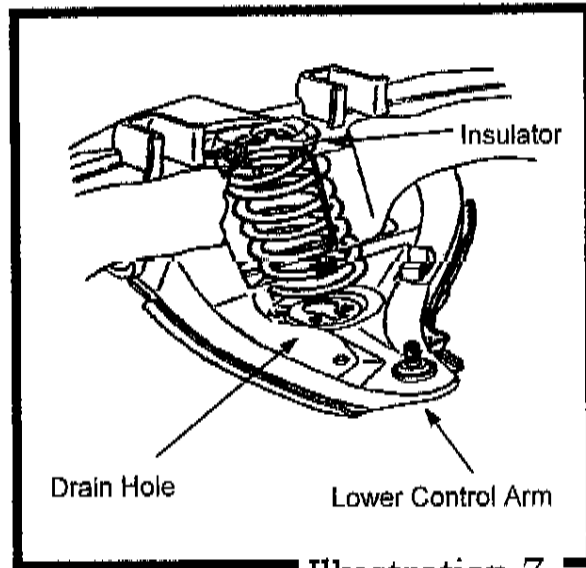


Illustration 7

5) Attach driver side front spindle to the driver side upper control arm, use castellated nut previously removed. Torque nut to 37 ft. lbs.

6) Attach driver side lower control arm to front spindle. Use castellated nut previously removed. Torque nut to 74 ft. lbs.

7) Install the existing coil spring insulator on top of new Coil Spring (20-20166-1).

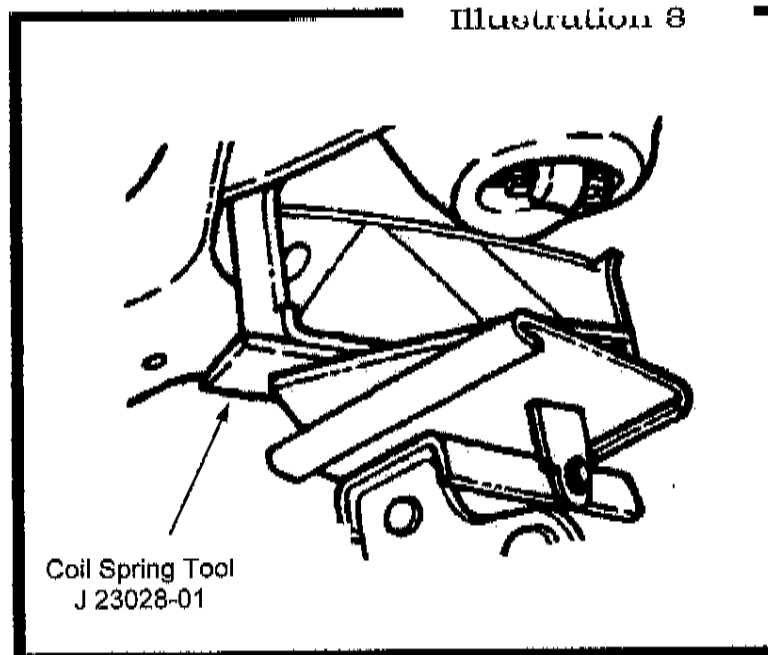


Illustration 8

8) Insert coil spring into the driver side upper frame spring pocket. Place the bottom of the coil spring on the lower control arm. Align the spring so that it leaves one of the drain holes (in the lower control arm) uncovered (Illustration 7).

9) Support the lower control arm with coil spring remover tool (J 23028-01) attached to a floor jack (Illustration 8).

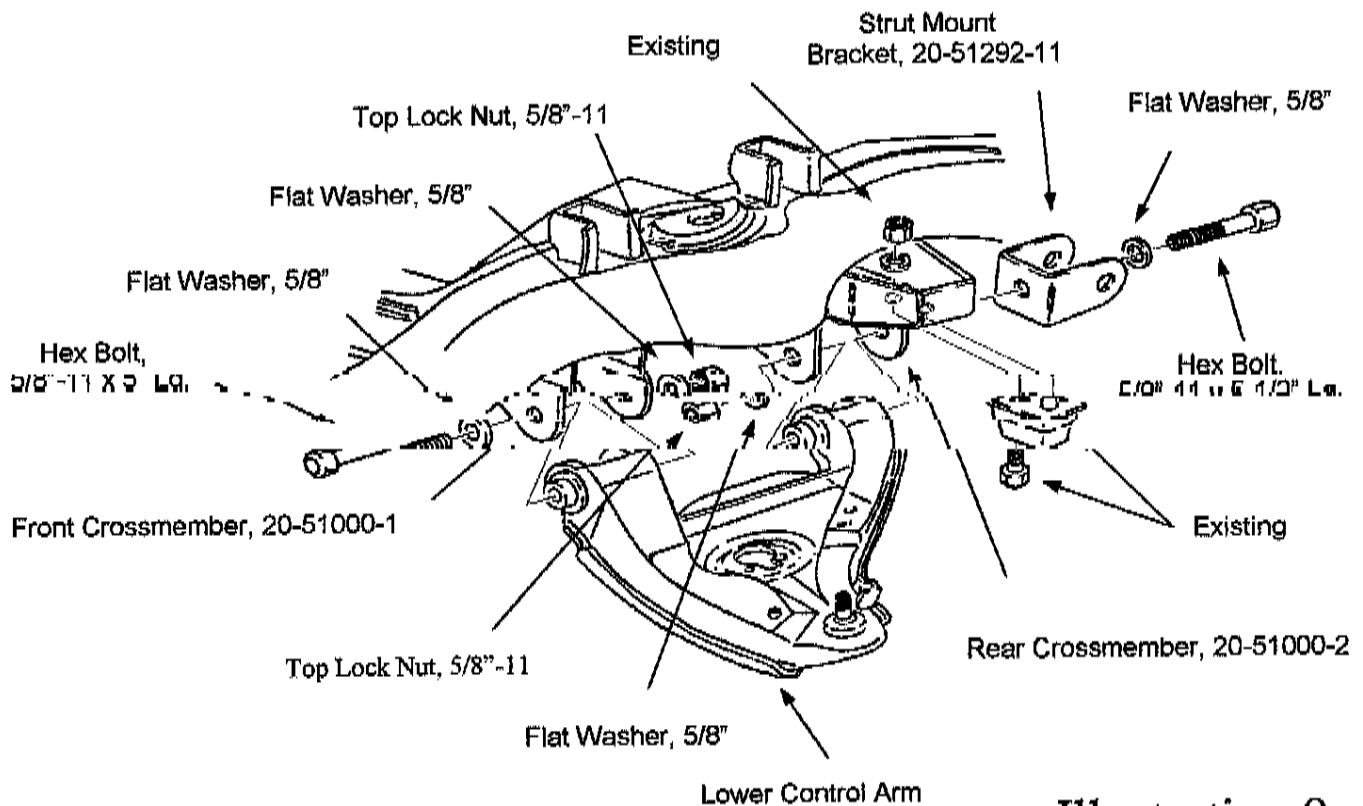


Illustration 9

10) Secure the coil spring to the lower control arm with a safety chain. Carefully raise the lower control arm into new crossmember pockets. Attach Strut Mount Bracket (20-51292-11) to Rear Crossmember and lower control arm. Make sure bolt head is installed with bolt head facing to the rear of the vehicle (See Illustration 9).

NOTE: Do not torque lower control arm nuts until vehicle is at normal ride height. Lower the vehicle to the ground, torque 5/8" hardware to specification chart on last page.

11) To attain proper alignment remove tie rod end and cut 3/8" off threaded shaft (Illustration 10). Install tie rod and attach tie rod to front spindle. Fasten to spindle using nut previously removed. Torque nut to 46 ft. lbs.

12) Repeat steps 5 thru 11 on passenger side.

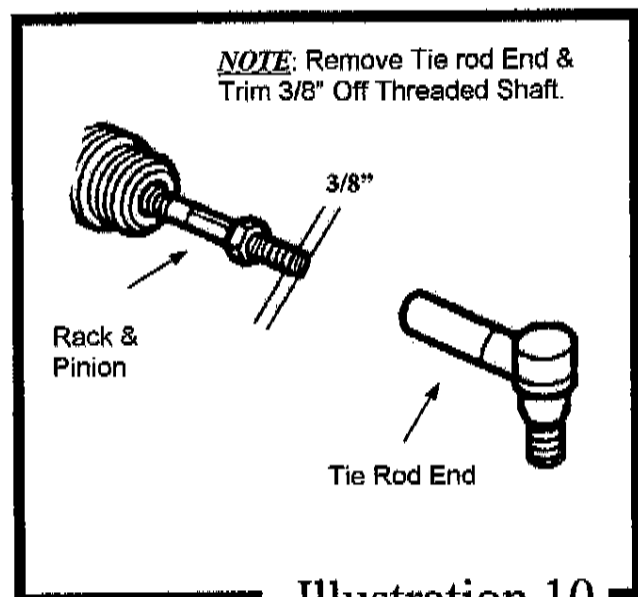


Illustration 10

13) Install brake rotor. Attach front caliper assembly with previously removed existing hardware. Torque Hex Head caliper-to-spindle mounting bolts to 129 ft. lbs.

14) Cycle suspension through full travel cycle, while turning the steering wheel lock to LOCK. CHECK adequate clearance of parts that may rub together during full travel, or make contact with any other components.

15) Install new longer front Shock Absorbers (BES-6247).

16) Install Bushings (15-11148) and Sleeves (20-830918) into both ends of the Lateral Compression Struts (20-51000-3). Attach lateral compression strut to strut mount bracket located on Rear Crossmember using hardware provided (**Illustration 11**). Do not fasten at this time.

17) Attach Strut Mount Bracket (20-51088-22) to opposite end of compression strut. Rotate the compression strut assembly upward until bracket contacts the bottom of the frame rail. Using the bracket as a guide, mark and center punch the mounting hole locations. Drill $11/32$ " diameter hole at each of the marked locations. Install using the $3/8$ " self-tapping hardware provided.

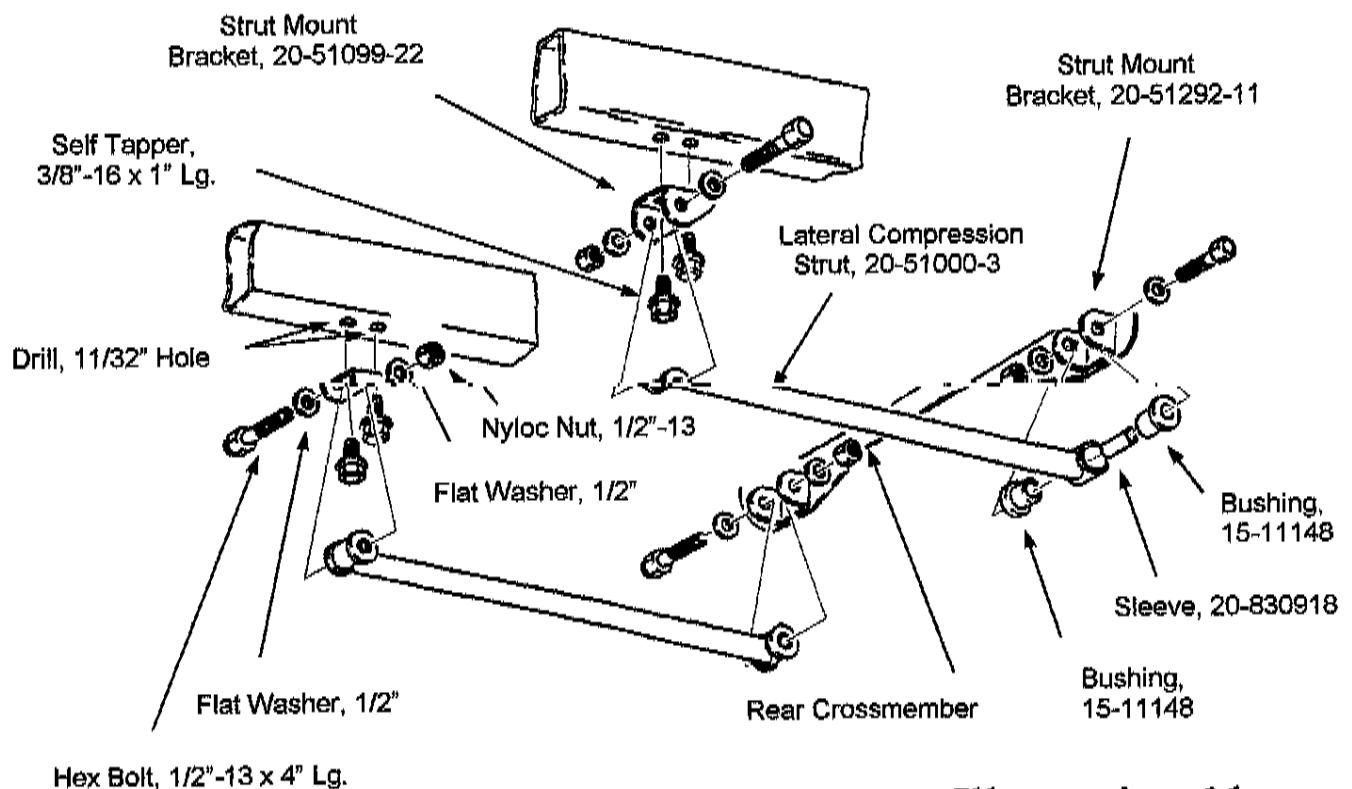


Illustration 11

18) Install front wheels and lower the vehicle to the ground. Torque the lug nuts to 90-120 ft. lbs.

19) When vehicle is at ride height, torque the lower control arm to front and rear crossmember's pivot nuts to 107 ft. lbs.

20) Install existing sway bar to lower control arm using Sway Bar Extension (20-832777) and hardware provided (**Illustration 12**). Torque Button Head bolts to 66 ft. lbs.

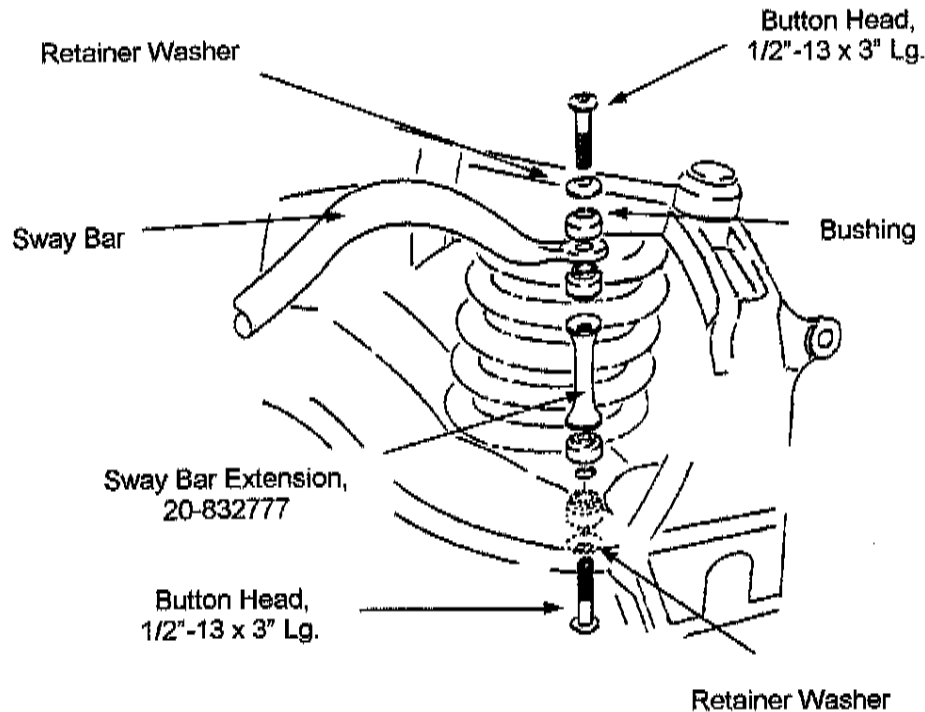


Illustration 12

REAR INSTALLATION:

- 1) Place floor jack underneath rear axle and raise vehicle. Place jack stands under frame to support vehicle and remove rear wheels.
- 2) Raise the rear axle enough to relieve tension on the shock absorbers and remove them.
- 3) Remove rear U-bolts attaching rear axle to driver side leaf spring. Carefully lower rear axle.

CAUTION: Do not allow axle to hang by any hoses or cables.

- 4) Insert new riser Block (20-830671) on axle pad. Make sure the pin in the block indexes into the hole of the axle housing spring pad. The short end of the block goes toward the front of the vehicle. Carefully raise rear axle until block makes contact with leaf spring. Make sure center bolt is aligned with hole in block (**Illustration 13**).

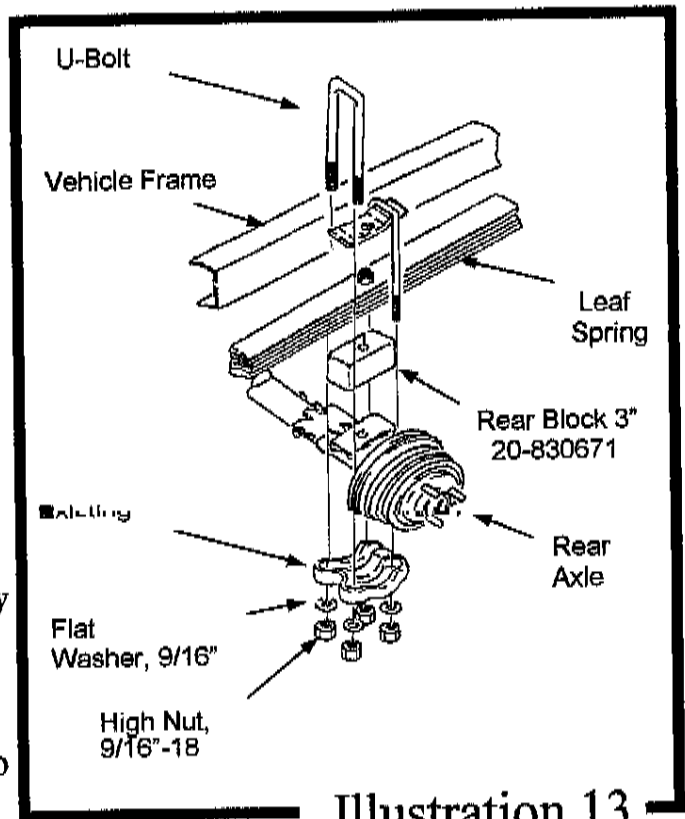


Illustration 13

- 5) Re-mount axle to spring using the new U-bolts, washers and nuts and existing spring plates. Torque U-bolts nuts to 85-100 ft. lbs.
- 6) Repeat steps 3 through 5 on passenger side.
- 7) Install new longer Shock Absorber (BE5-6240), using the existing hardware attach the shock to lower axle mount and torque nuts to 52 ft. lbs. Attach shock to upper frame mount and Torque to 13 ft. lbs.
- 8) Remove existing rear bumpstop from the bottom of the frame rail.
- 9) Assemble existing bumpstop to Rear Bumpstop Extension (20-51099-23) using the original hardware. Install rear bumpstop assembly to the frame rail at the original bumpstop location, using hardware provided. Torque 10mm nuts to 30 ft. lbs.
- 10) Repeat steps 8 thru 9 on opposite side.
- 11) Install rear wheels and lower the vehicle. Torque lug nuts to 90-120 ft. lbs.

SOME FINAL NOTES:

- Once installation is complete, double check that all nuts and bolts are tight. Refer to the torque specifications chart below page.
- If new tires are installed that are more than 10% taller than original tires, the speedometer must be recalibrated for the Rear Wheel Anti-Lock Brake System to function properly. Contact an Authorized GM dealer for details on recalibration.
- With vehicle on the floor, cycle steering lock to lock and inspect steering, suspension and driveline systems for proper operation, tightness and adequate clearance. Recheck brake/hose fitting for leaks. Be sure all hoses are long enough.
- Have headlights readjusted to proper setting.
- Realign front end to factory specifications. Be sure vehicle is at desired ride height prior to realignment.

TORQUE SPECIFICATIONS *(Grade 8 & Class 10.9)*

5/16" NUTS	20 ft. lbs.	M6	9 ft. lbs.
3/8" NUTS	35 ft. lbs.	M8	23 ft. lbs.
7/16" NUTS	60 ft. lbs.	M10	45 ft. lbs.
1/2" NUTS	90 ft. lbs.	M12	75 ft. lbs.
9/16" NUTS	160 ft. lbs.	M14	120 ft. lbs.
5/8" NUTS	175 ft. lbs.	M16	165 ft. lbs.

EXISTING HARDWARE TORQUE SPECIFICATIONS

LOWER CONTROL ARM NUTS	107 ft. lbs
TIE ROD NUTS	46 ft. lbs
LOWER BALL JOINT NUTS	74 ft. lbs.
UPPER BALL JOINT NUTS	37 ft. lbs.
HUB AND BEARING NUT	133 ft. lbs.