belltech®

INSTALLATION GUIDE

PART NUMBER: 6437
FLIP KIT
FORD RANGER 2WD EXTENDED CAB | 1989-1997
MAZDA B-SERIES PICKUP 2WD EXTENDED CAB | 1994-1997

300 W. PONTIAC WAY. CLOVIS, CA 93612
PHONE: 800-445-3767 | EMAIL: INFO@BELLTECH.COM

THANK YOU

Thank you for choosing our high quality Belltech product. We have spent a great deal of time developing our line of products so that you will receive maximum performance with minimal difficulty during installation. Soon your vehicle will be on the road looking and feeling much improved.

Please take a moment to read all instructions and warnings prior to installation of your new Belltech product and before operating your vehicle. If you have any questions or concerns regarding any step in the installation process, please do not hesitate to call or email our customer support specialists who are trained to help you through any portion of this process.

Before You Begin:

It is of the utmost importance that you confirm all the components listed on the parts list are in the kit. You can find this list located on the last page(s) of your instructions. Do not begin installation if any part is missing. Instead, please call our Belltech customer service specialists.

Belltech Customer Support:

Phone: 1-800-445-3767

Email: info@belltech.com

Safety Information:

Warning: Do not work under a vehicle supported only by a jack. Place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

Proper use of safety equipment and eye/face/hand protection is necessary when performing any of the following instructions.

We strive for an exceptional experience for all our valued customers. If for any reason you need assistance with your Belltech products, please do not return the product to the store you purchased from, but rather call our dedicated customer service experts, from 7am to 5pm PST.

We recommend that a qualified mechanic, in a properly equipped facility, perform this installation.

It is very helpful to have an assistant available during installation.

Before Driving Your Vehicle:

It is important to double check all brake hoses, cables, and other components to be sure there is no interference. You must also check for wheel/tire to chassis/body interference. If any issues are found, review your installation instructions to be sure no steps were missed, and any problems are corrected.

Make sure your vehicle is aligned immediately following installation.

Check all hardware and torque at intervals for the first 10, 100, and 1000 miles.

Some of Belltech's products are designed to improve your vehicle's off-road performance. Leveling/lifting your vehicle may result in an altered center of gravity. It is crucial to use extreme care when operating your vehicle to prevent rollover and/or loss of control.

Any changes in your vehicle's suspension may result in transformed handleability. Please test-drive your vehicle in a remote location so you can become accustomed to the revised driving characteristics.

Perform headlight check and adjustment.

Failure to drive any modified vehicle in a safe manner may result in harm or death.

Never operate your modified vehicle under the influence of drugs, alcohol, or lack of adequate sleep.

Always wear your seatbelt.

DIFFICULTY:

INSTALLATION TIME: 4-5 Hours

RECOMMENDED TOOLS:

- Properly rated floor jack
- Support stands
- Wheel chocks
- Metric socket wrench set
- Metric wrench set
- Rubber mallet
- Black spray paint
- Metal paint marker
- Safety glasses
- Torque wrench rated up to 200 ft lbs.

SPECIALTY TOOLS:

- Angle grinder or die grinder equipped with cutoff wheel
- Drill with drill bit set
- Face shield
- Large C-clamps
- Combination square
- Round file
- Center punch set

INSTALLATION PREPARATION:

Before beginning the installation process, measure the hub to fender heights for your vehicle and record them in the “Before” section. After your vehicle has been modified, record the new measurements in the, “After” section. This way, you can compare the resulting height to the original. When taking the measurements, measure vertically from the center of the wheel to the inner edge of the fender.

Before:

LF:_____

RF:_____

LR:_____

RR:_____

After:

LF:_____

RF:_____

LR:_____

RR:_____

JACKING, SUPPORTING, AND PREPARING THE VEHICLE

1. Park your vehicle on a smooth, level, concrete or seasoned asphalt surface.
2. Block the front wheels of the vehicle using wheel chocks. Make sure the vehicle's transmission is in "PARK" (automatic) or 1st gear (manual).
3. Activate the parking brake.
4. Prepare to detach the bed off the vehicle. Remove the bed-to-chassis hardware, all grounding straps, the hardware that secures the fuel filler neck to the vehicle box side and disconnect the wiring harness at the connectors that run to the taillights. Lift the bed off the vehicle chassis and safely set it aside.
5. Loosen, but do not remove, the rear wheel lug nuts.
6. Lift the rear of the vehicle off the ground using a properly rated floor jack. Lift the vehicle so the rear tires are approximately 6-8 inches off the ground.
7. Place support stands rated for the vehicles weight. Place four jack stands rated for this load under the chassis side rails, forward of the front leaf spring hanger and behind the rear spring hanger. Prior to lowering the vehicle onto stands, make sure the support stands will contact the chassis. It is very important that the vehicle is properly supported to prevent any harm to oneself or to the vehicle.
8. Lower the vehicle slowly onto the stands.
9. Remove the rear wheels.

Technician reminder:

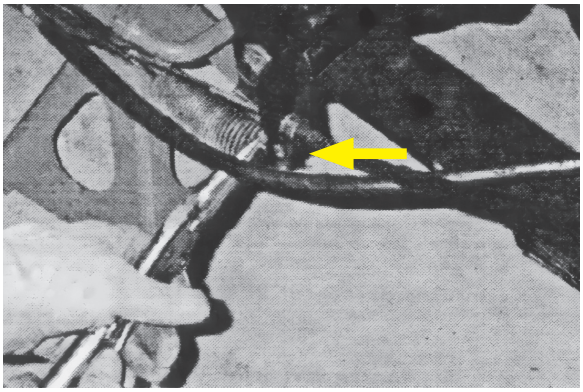
Never work under a vehicle supported only by a jack. It is necessary to place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

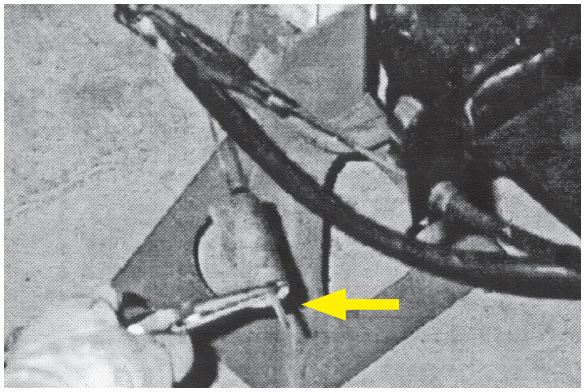
C-NOTCH AND FLIP KIT INSTALLATION

Technician warning:

Before continuing with the following procedure, ensure the frame is supported in the front and the rear of where the frame will be cut for the C-notch. Failure to do this may cause the frame to bend. Belltech recommends working on the cut and installation one side at a time.

10. Locate the emergency brake cable junction forward of the driver side (LH) forward leaf spring hanger. Use locking pliers or an equivalent tool to disconnect the emergency brake cable junction spring from the bracket outside of the front leaf spring hanger on the driver side.

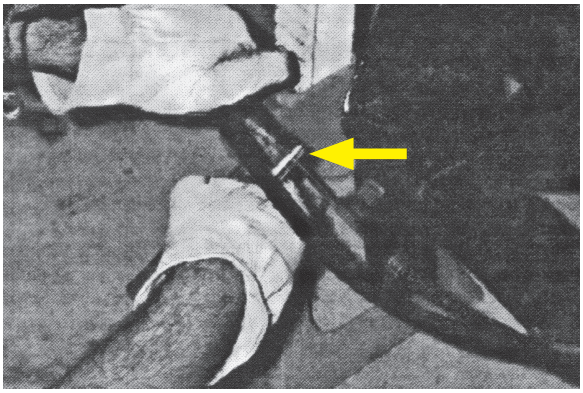


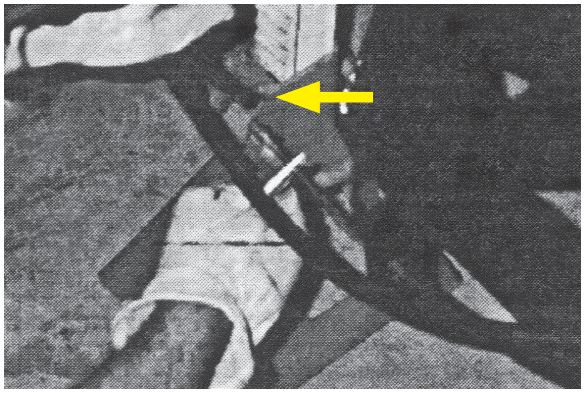


Technician warning:

The cable junction spring will be under some tension. Always wear eye protection when working around springs under tension.

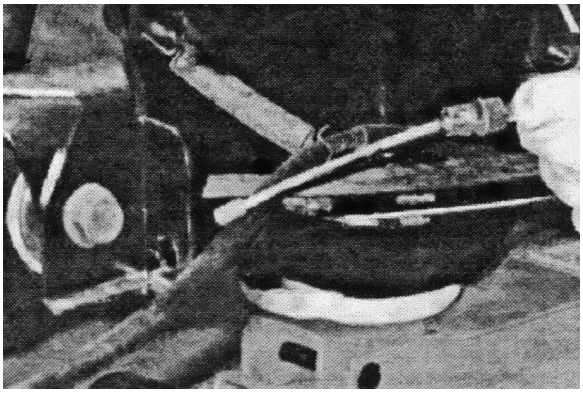
11. Use locking pliers or an equivalent tool to disconnect the emergency brake cable that goes to the passenger side (RH) rear brake from the emergency brake cable junction.

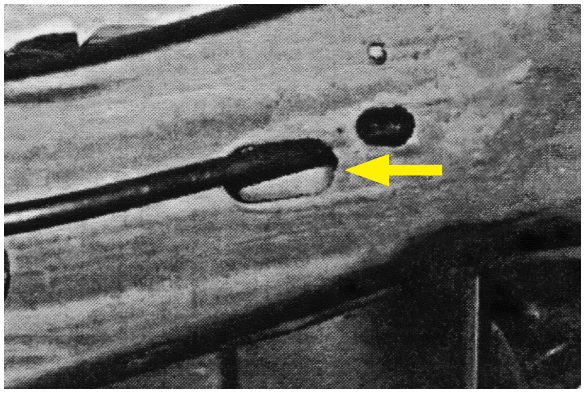




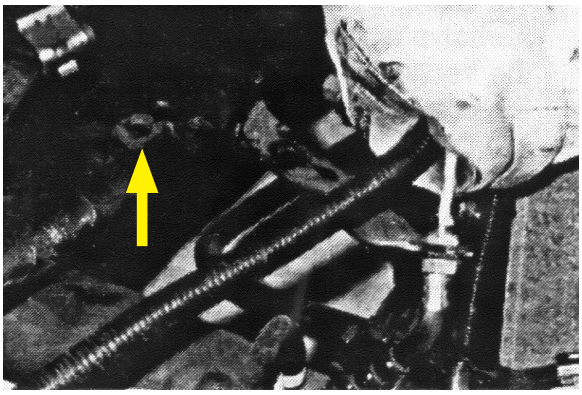
C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

12. Use the pliers to compress the cable housing end at the point where it runs through the spring hanger bracket. Pull the cable back through its original routing hole in the chassis and secure it away from the chassis side rails.





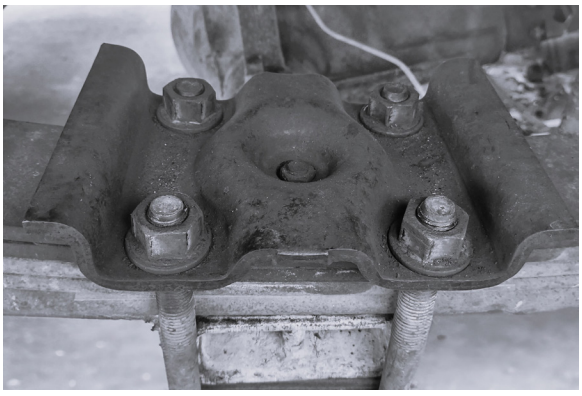
13. Remove the brake hose bracket from the chassis at the point where the brake line changes from rigid to flexible tubing.



14. Detach both rear shocks from the vehicle.

15. Use a floor jack, rated for this load, and position the jack so it just touches the bottom of the rear axle housing. Raise the floor jack another 1/8” to 1/4” to remove as much tension as possible from the rear leaf springs.

16. Remove the nuts from U-bolts and detach the U-bolt assemblies from the leaf spring packs.



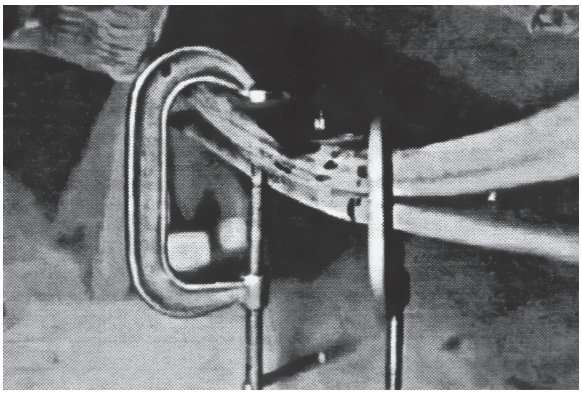
17. Slowly lower the floor jack to allow the rear axle housing to drop clear of the leaf spring pack. Ensure you do not overextend or damage the brake system lines or hoses.

C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

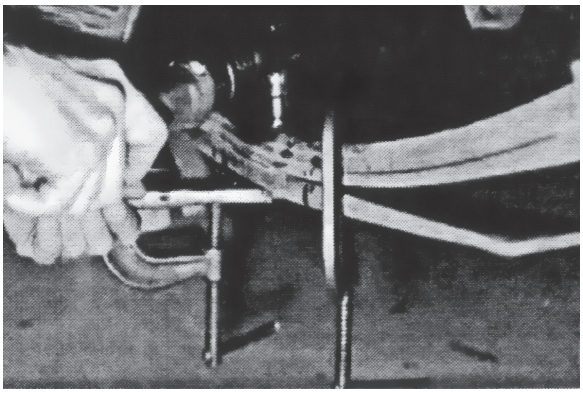
Technician warning:

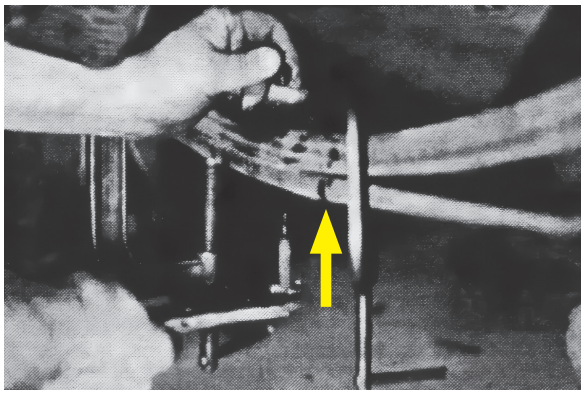
Proceed by working on only one side of the vehicle at a time.

18. Clamp the leaf spring pack assembly together with C-clamps to retain the leaf spring pack integrity.

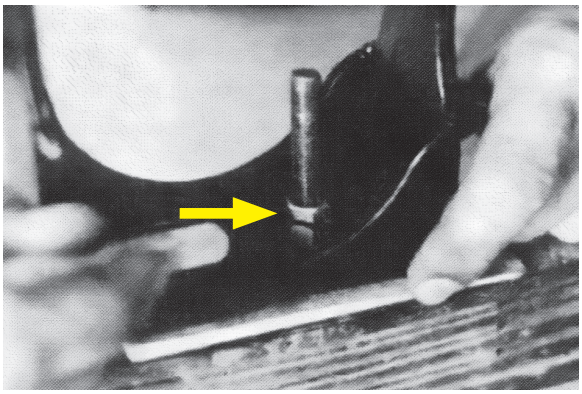


19. Remove the original leaf spring center bolt and nut. Fasten the leaf spring pack with the supplied 7/16”-20 x 5” spring center bolt and 7/16”-20 coupling nut. Place the bolt in from the bottom and the nut on the top of the leaf spring pack. Torque the nut to 90 ft lbs.



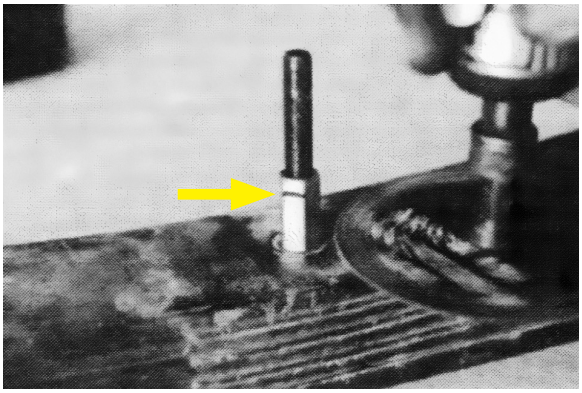


20. Place the supplied 2-degree pinion shim and the axle saddle over the leaf spring center nut. Use a paint pen to mark the spring center nut on a line measured across the lowest point in the axle tube saddle.

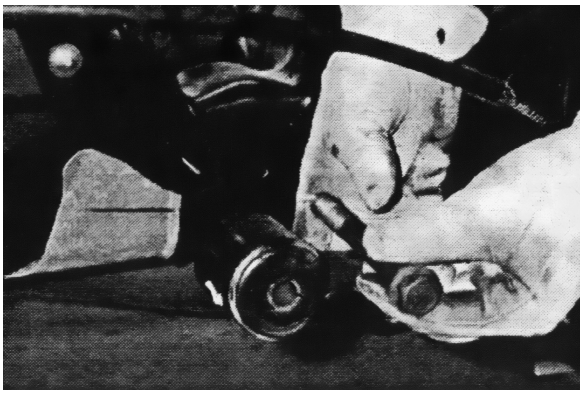


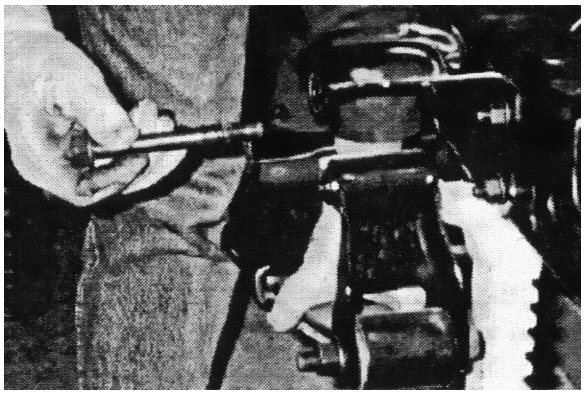
C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

21. Remove the shim and axle saddle. Use a cutting tool to cut the leaf spring center nut off at a point 1/16” – 1/8” lower than the marked point. This will allow axle tube clearance when the assembly is torqued together later in the installation.

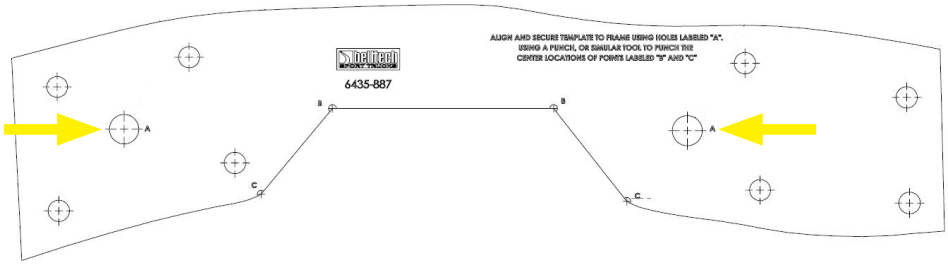


22. Support the front end of the leaf spring pack and remove the leaf spring eye bolt. Support the rear of the leaf spring pack and remove the upper shackle bolt. Detach the leaf spring assembly and set it aside for installation after the C-notch is complete.

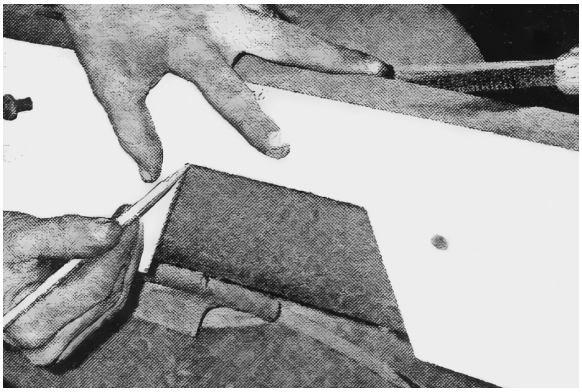




23. Place the supplied C-notch template on the chassis and align it with the holes marked “A” on the chassis as directed by the instructions on the template.



24. Use a center punch to mark the chassis at the four points marked “B” and “C” on the template. Remove the template and mark lines between the points using a paint pen.



C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

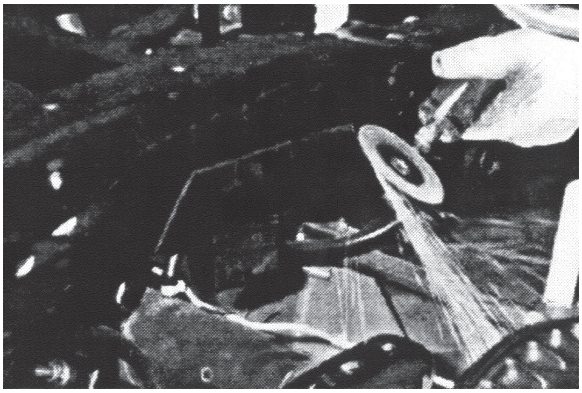
25. For the marked lines that run off the chassis rails at the bottom of the chassis, mark the lines perpendicular to the frame rail using a combination square.

26. Drill a 3/8” hole through the frame rail at the two points marked “B” in Step 24. Drill a pilot hole with a smaller drill bit first to make this procedure easier, then move up in drill bit size gradually to the final 3/8” size.

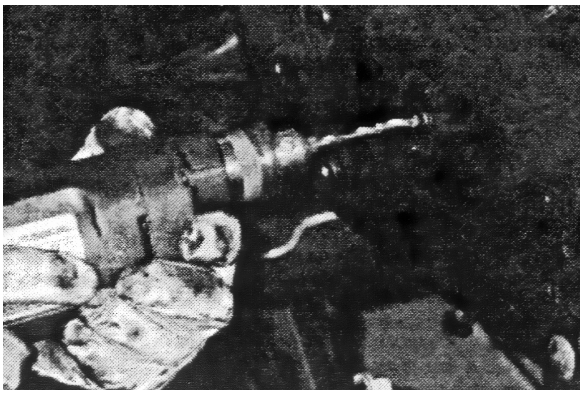
Technician warning:

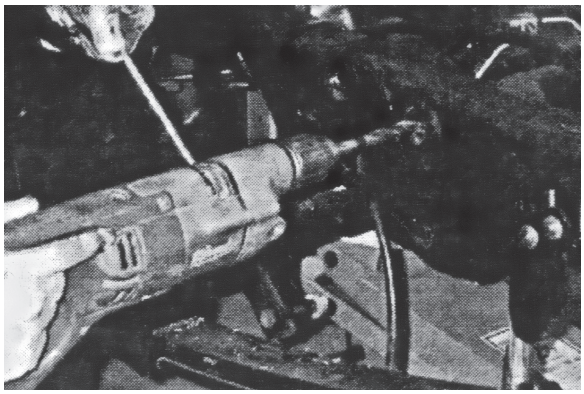
Always use eye protection when using power drills and cutting tools.

27. Use a die grinder with an abrasive wheel or a similar tool to cut out the marked section of the chassis. Deburr the edges of the cutouts on the chassis using a grinder or other suitable tool. To prevent corrosion, spray paint any bare metal surfaces.

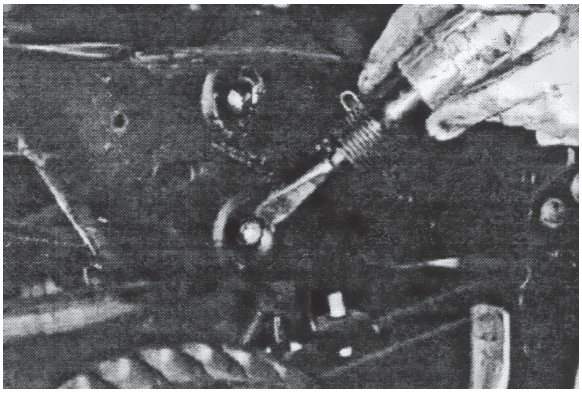


28. Remove the upper shock mount by drilling through the center of its attaching rivets with a 3/8” drill bit. Drill a pilot hole with a smaller drill bit first to make this procedure easier, then move up in drill bit size gradually to the final 3/8” size. Keep the original upper shock mount to install with new hardware later.





29. Use a chisel or air hammer to remove the head of the center-drilled rivets and punch the remaining rivet bodies out of the frame rail.

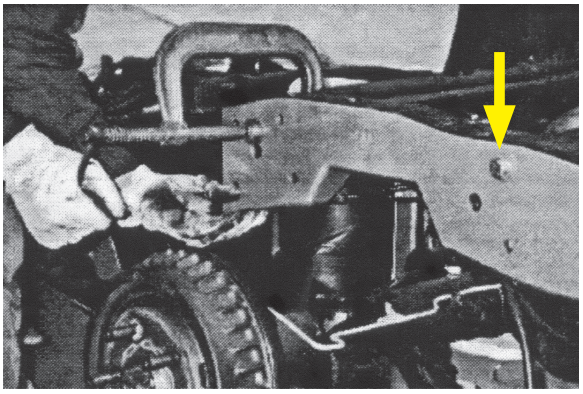


C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

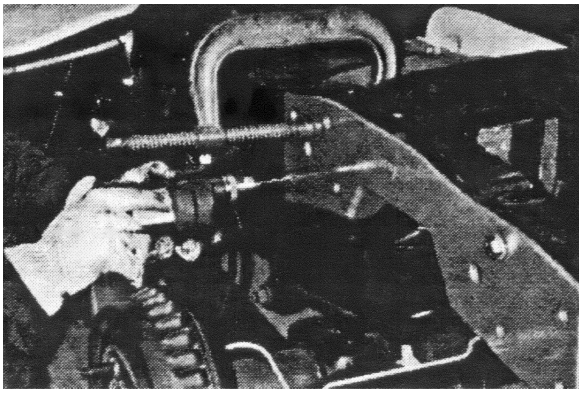
28. Place the Belltech C-notch plate on the chassis and align the holes on the C-notch plate with the new holes from upper shock mount rivets. Fasten the C-notch plate with one of the supplied 1/2”-20 x 1-1/4” bolts, 1/2”-20 lock nut, and washers in these holes to hold the plate in place. Ensure the C-notch plate is in contact with the bottom of the chassis rail. Place a C-clamp on the forward end of the plate to assist with the remainder of the installation.

Technician note:

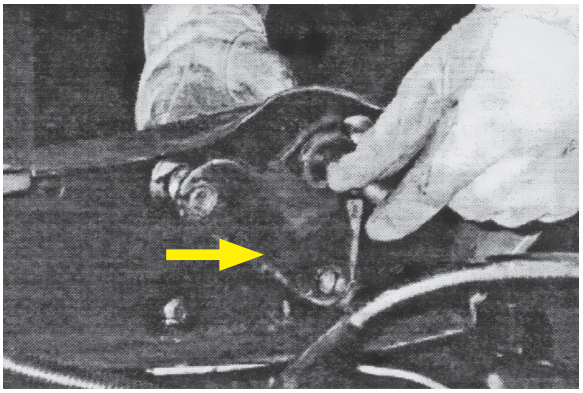
It may be necessary to clean up the rivet holes on the chassis to allow bolt insertion without damaging the bolt threads. This can be accomplished with a round file or another suitable tool.



29. Use a center punch to mark the center of the holes on the C-notch to be drilled on the chassis behind it. Drill each hole with a 1/2” drill bit. Drill a pilot hole with a smaller drill bit first to make this procedure easier, then move up in drill bit size gradually to the final 1/2” size.



30. Fasten the remainder of the C-notch plate with the supplied 1/2”-20 x 1-1/4” bolts, 1/2”-20 lock nuts, and washers. Ensure the original upper shock mount is also attached to its original position on the inside of the chassis. Torque to 145 ft lbs.



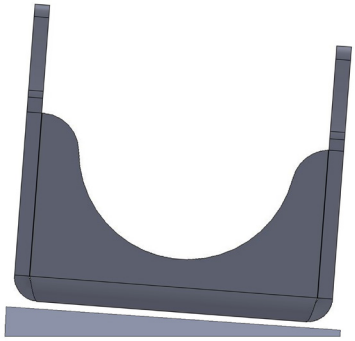
31. Repeat steps 18 through 30 for the opposite side of the vehicle.

C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

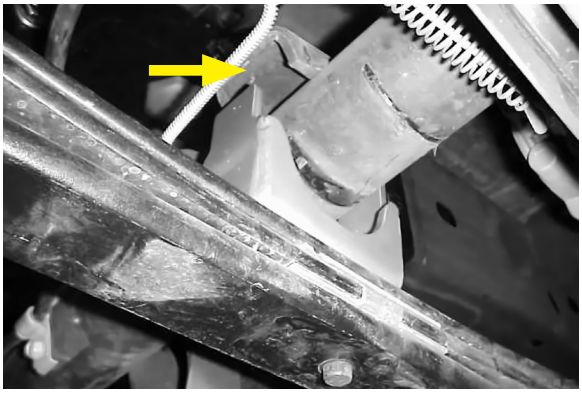
32. Raise the floor jack under the rear axle housing. Lift until the leaf spring assembly can be attached to its hanger while positioned under the axle housing. Place both leaf spring assemblies into the hangers and fasten the upper shackles with the original bolts and nuts. Fasten the forward leaf spring packs with the original bolts and nuts. Hand tighten the front and rear of the leaf spring assemblies only.

33. Place the supplied Belltech axle saddles on the leaf spring packs with the hole in the bottom of the saddle over the nut on the spring center bolt. The saddle must be positioned with the hole in the bottom forward of the saddle side-to-side centerline. This will correct the position of the axle assembly.

34. The supplied 2-degree pinion shims will be placed between the axle saddle and the leaf spring pack. Place it with the thickest part of the shim toward the rear of the vehicle.

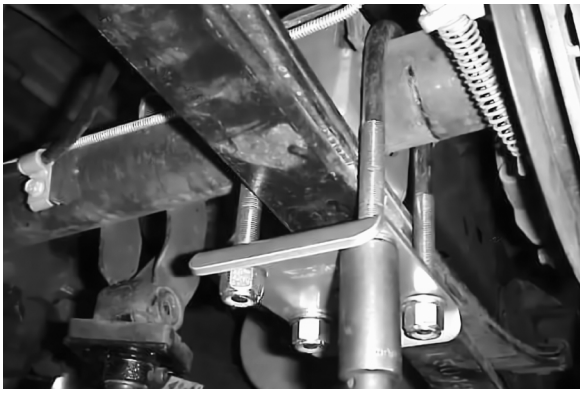


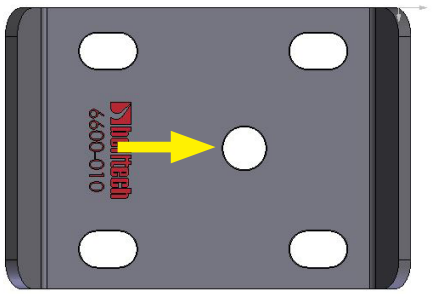
35. Slowly, lower the axle onto the saddles. The saddle “ears” should fit into the stock spring perches on the axle tube. Ensure both ears on each saddle locate completely in the perches.



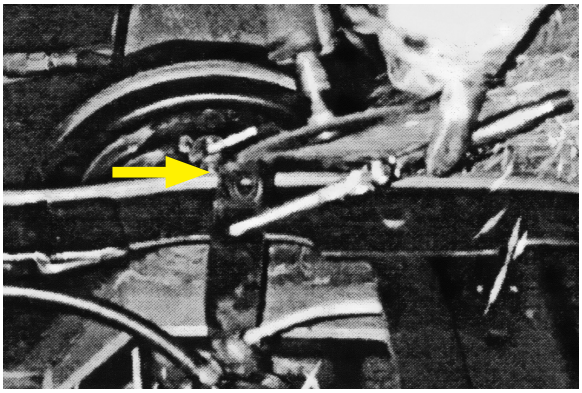
C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

36. Place the supplied U-bolts, 2 per spring, over the axle tube on each side of the leaf spring pack with the threaded ends facing downward. Attach the new U-bolt plates below the leaf springs with the offset hole forward of the side-to-side center line. The U-bolts will pass through the appropriate bolts on the plate. Fasten the U-bolts to the plates with the supplied 9/16”-18 Nyloc nuts and washers. Torque the U-bolt nuts, in a cross pattern to 90 ft lbs.

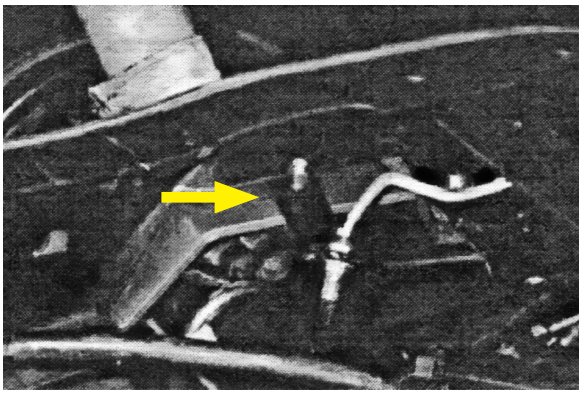




37. Hold the brake line bracket to the chassis using a C-clamp. Use a cutoff wheel or other suitable tool to trim the 90-degree bent portion of the brake line bracket, leaving the hole in the bracket.

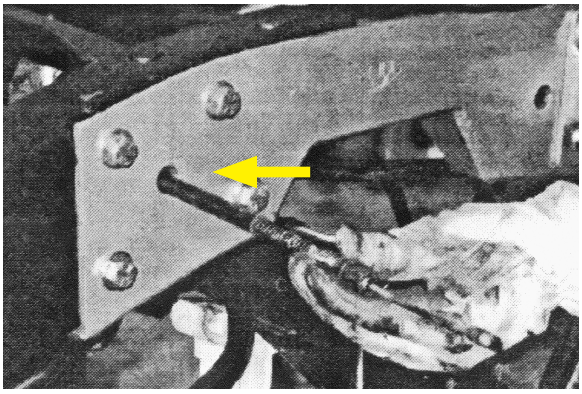


38. Attach the original the bump stops to the bottom of the C-notch plates using the original nuts and washers. Attach the brake line bracket under the nut and washer on the driver side (LH) bump stop stud. The brake line may need to be reconfigured. If so, use a tubing bender of the proper size and use caution as the brake line can be damaged if handled improperly.

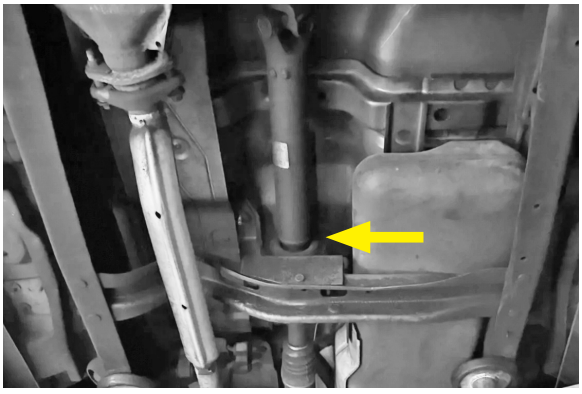


C-NOTCH AND FLIP KIT INSTALLATION CONTINUED

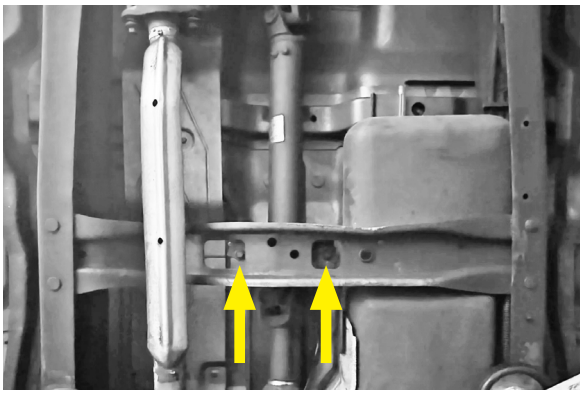
39. Route the emergency brake cable back through the original hole in the chassis and the through the c-notch plate. Route the cable through the leaf spring hanger bracket hole and reconnect the cable to the cable junction. Place the brake junction spring in the original hole in the driver side (LH) leaf spring hanger.

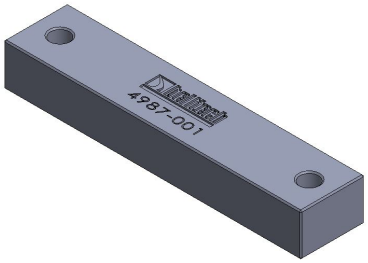


40. Attach the rear shocks in their original position with the original hardware. Torque the upper and lower bolts to 46 ft lbs.
41. Mount the rear wheels and tighten the lug nuts but do not torque yet.
42. Raise the floor jack to unload the jack stands and remove them from under the vehicle. Lower the vehicle to the ground and jounce the suspension to help it settle. Torque the leaf spring eye and shackle bolts to 95 ft lbs.
43. For the two-piece drive shaft, the center carrier bearing must be relocated. Use a floor jack to support the driveshaft.



44. Remove the bolts that hold the center carrier bearing to the chassis cross member. Lift the driveshaft to create space between the carrier bearing and the cross member. Place the supplied spacer, part# 4987-001, on the cross member and lower the driveshaft to position the carrier bearing onto the spacer. Align the bolt holes and fasten the center carrier bearing with the spacer onto the cross member with the supplied 7/16”-20 x 2” bolts, 7/16” Stover lock nuts, and washers. Torque the bolts to 90 ft lbs.



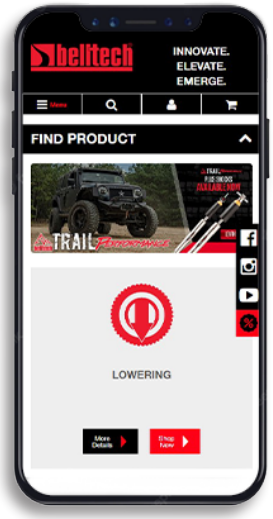


FINALIZING THE INSTALLATION

45. Torque the lug nuts to 85 ft lbs.
46. Place and fasten the bed onto its original position on the chassis. Attach the grounding straps, the hardware to secure the fuel filler neck to the vehicle box side and connect the wiring harness at the connectors that run to the taillights.
47. Check that all components and fasteners have been properly installed and torqued.
48. Read and perform all tasks in the “Before Driving Your Vehicle” section of page 1 of your instructions.

THANK YOU FOR CHOOSING BELLTECH.

You are now a part of the Belltech family and we are eager to catch a glimpse of your newly modified vehicle. Give us a shout out and let us know how much you love our product. Don’t forget, we offer other Belltech related merchandise for you and your vehicle on our website www.belltech.com



belltechsuspension

Belltech Suspension

@belltechsuspension

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If you have any questions, concerns, or warranty related issues regarding your Belltech product, please call or email our experienced customer service specialists.

Belltech Customer Support:

Phone: 1-800-445-3767

Email: info@belltech.com

KIT CONTENTS

6437		
Part number	Description	Qty
6435-001-99	C-NOTCH PLATE (LH)	1
6435-002-99	C-NOTCH PLATE (RH)	1
6435-005-99	AXLE SADDLE	2
6600-010-99	U-BOLT PLATE	2
11U2006-955	9/16”-18 X 8 U-BOLT	4
6435-889	TEMPLATE	1
6437-777	HARDWARE KIT	1

6437-777		
Part number	Description	Qty
110321	7/16”-20 X 1-1/8” COUPLING NUT	2
110402	1/2”-20 STOVER LOCK NUT	16
110455	9/16”-18 NYLOC NUT	8
110660	1/2” WASHER	32
110670	9/16” WASHER	12
110314	7/16”-20 X 5” SPRING CENTER BOLT	2
110408	1/2”-20 X 1-1/4” BOLT	16
4975	2 DEGREE PINION SHIM SET	1
4987-001-99	CARRIER BEARING SPACER	1
110303	7/16”-20 STOVER LOCK NUT	2
110645	7/16” WASHER	4
110312	7/16”-20 X 2” BOLT	2

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