INSTALLATION GUIDE

CHRIS ALSTON'S Chassisworks
THE HOME OF HIGHER TECHNOLOGY

7702
Bolt-On Drag-Race Strut Clip
1962-67 Chevy II

Description: STRUT CLIP 4130 BOLT ON 62-67 CHEVY II, INCLUDES 4130 ROUND TUBE FRAME CLIP, DOUBLE-ADJUSTABLE STRUTS, ADJUSTABLE-HEIGHT UPPER STRUT MOUNTS, CONTROL ARMS WITH 4130 ROD ENDS, BILLET SATIN FINISH DRAG RACE RACK WITH BUMPSTEER-ADJUSTABLE TIE ROD ENDS, BILLET RACK CLAMPS, COMPLETE DISC BRAKE SET WITH BILLET HUBS, SOLID ROTORS & WILWOOD CALIPERS.

IMPORTANT: Read the entire assembly booklet before beginning installation.

PARTS LIST

Before beginning installation open each box and verify its contents against the following parts list.

STANDARD COMPONENTS

7702 – Drag Race Strut Clip 1962-67 Chevy II

Part Number	Qty	Description
300-3001	1	Hardware box, 5600-XX strut clip ‘62-67 Chevy II
5703-X10	1	Strut arms and rod ends
6141-50.37-1	1	Billet rack and pinion 6.13” travel, 24.50” pivot centers
6142-1	1	Billet rack clamps (pair)
6143	1	Tie-rod set, 7/16-20 x 3/8”-bore rod end, 4130
VAS 505-104	1	Strut-stem spherical-bearing housing, threaded
VAS 511-2631	1	Strut with integral spindle, 6” travel, QuickSet 2 (pair)

300-3001 – Hardware Box for 5600-XX Strut Clip, 1962-67 Chevy II

Part Number	Qty	Description
210127	1	Cut gauge for core support
905600-41	1	Hardware bag for 5600-XX strut clip ‘62-67 Chevy II

VAS 505-104 – Strut-Stem Spherical-Bearing Housing, Threaded

Part Number	Qty	Description
1277	1	Strut-height adjuster tool
1308	2	Billet aluminum bearing housing, threaded
3106-31CK0.25SP	2	Set screw 5/16-18 x 1/4”, cup point
3395	2	Spherical bearing 1-3/8” OD x 3/4” bore, Teflon lined
3679	2	Spirolox retaining ring 1.442 OD x .043 thick
899-017-2431-22	2	Detent spring
899-018-250	2	Stainless steel ball .250” diameter

VAS 511-2631 – VariStrut 6” Travel with Integrated Spindle

Part Number	Qty	Description
883H600-CC0G	2	VariStrut 6” travel main assembly
VAS 502-100	1	Strut stud base and steering arm
VAS 506-103	1	Strut 3/4” stem mount and spring seats

OPTIONAL COMPONENTS

Strut Clip Welded Assembly Mount Options

Part Number	Qty	Description
5600-40	1	Strut clip without motor-plate brackets or bumper brackets, bare 4130
5600-41	1	Strut clip with motor-plate brackets, no bumper brackets, bare 4130
5600-45	1	Strut clip with motor-plate brackets and bumper brackets, bare 4130

VariSprings 12” Rate Option

Part Number	Qty	Description
VAS 21-12XXX	1	VariSprings 12” long x 80 to 300 lb/in, silver powder coated, boxed pair

8364 – Spindle-Mount Brake Kit

Part Number	Qty	Description
3915	1	Brackets for single-piston spindle mount brakes (pair)
3918	1	Rotors 10.25” light-duty slotted (pair)
3919	1	Hat set for light-duty rotors (pair)
3988	1	Billet single-piston floating calipers (pair)

8365 – Hub-Mount Brake Kit, Light-Duty

Part Number	Qty	Description
3905 of 3906	1 pair	Rotors 10.00” light-duty solid (3906 - slotted)
3914	1	Hubs, billet aluminum for light-duty rotor (pair)
3916	1	Brackets for dual-piston hub-mount brakes (pair)
3996	1	Billet dual-piston calipers (pair)

8366 – Hub-Mount Brake Kit, Medium-Duty

Part Number	Qty	Description
3903 or 3904	1 pair	Rotors 11.75” medium-duty solid (3904 - slotted)
3910	1	Hubs, billet aluminum for medium-duty rotor (pair)
3917	1	Brackets for four-piston hub-mount brakes (pair)
3989 or 3990	1 pair	Billet four-piston calipers black (3990 - polished)

Motor Plate Options

Part Number	Qty	Description
6045	1	Small-block Chevy motor plate
6046 w/ 6047	1	Big-block Chevy motor plate, with adapter brackets

Mid Plate Options

Part Number	Qty	Description
6058	1	Chevy V8, automatic
6059	1	Chevy V8, Lakewood
6023	1	Funny car Chevy

Weld-On Clip-to-Chassis Adapter Plates

Part Number	Qty	Description
210115	2	Lower frame-clip mount
2717	2	Firewall strut mount

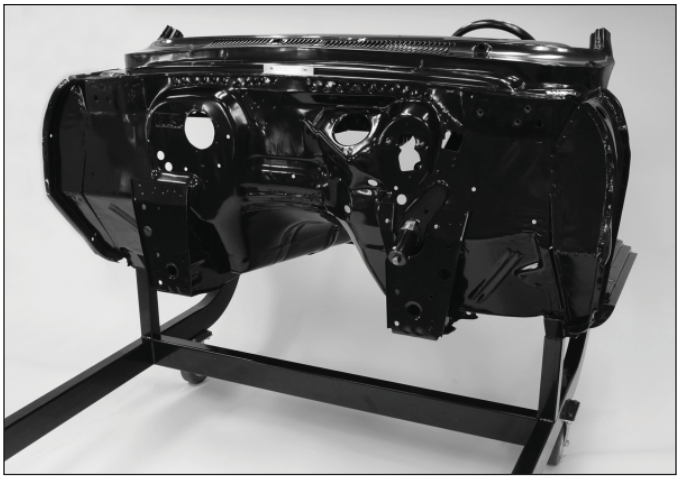
TORQUE SPECS

Use the chart as a guide when you tighten and torque all fasteners during the assembly of the strut front clip.

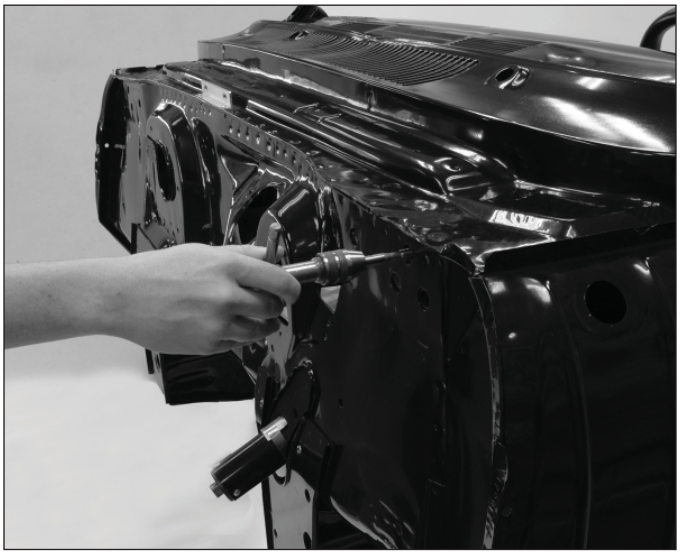
Description	Torque (lb-ft.)
Caliper socket head allens 3/8-16 x 1-1/4”	30
Caliper mount 5/16-18 flat head bolts	25
Control arm bolts 1/2-20 x 2-1/4” hex bolts	45
Frame mounting bolt 7/16-20 x 1-1/2” hex bolts	45
Forward strut to firewall 3/8 x 1-1/4” hex bolt	30
Hinge mount 5/16-18 button head allens	15
Lower strut stud castle nut 5/8-18	45
Rack clamp caps socket head allens 5/16-18 x 1”	15
Rack clamp button head allens 3/8-16 x 1”	30
Tie rod 3/8-24 x 2” hex bolt	30
Upper strut piston shaft safety nut 5/8-18	45
Wheel studs 1/2-20 x 3” 12 point	40

INSTRUCTIONS

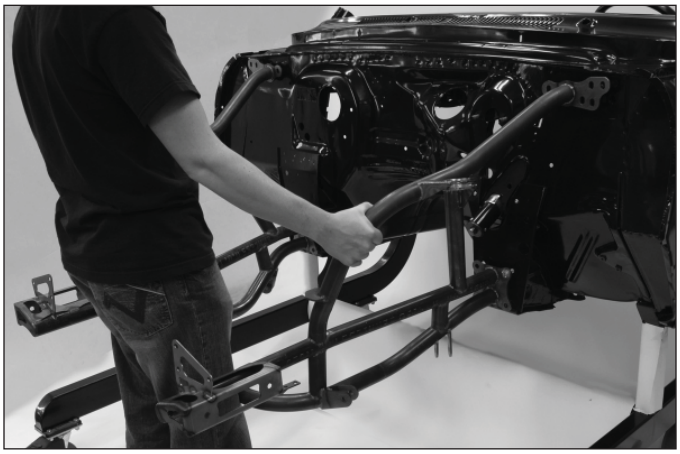
1. The entire stock front end must be removed from the vehicle. Sheet metal repairs and painting of the firewall must be completed before beginning installation.



2. Chase the threads of each factory weld nut to clear any debris.

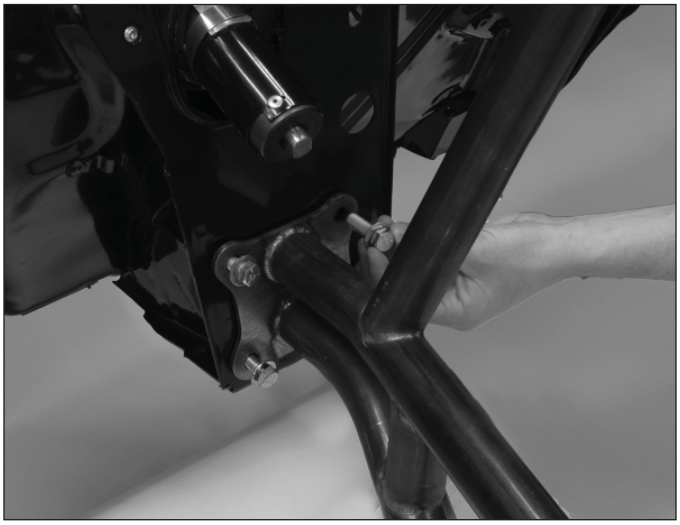


3. Raise the front clip and hold in position against the firewall until the mounting bolts can be started.



4. Attach the frame to the lower mounts using the 7/16-20 x 1-1/2” Grade-8 bolts, washers, and locknuts provided. Flat washers must be used under the head of the bolt and at the locknut. *This is a high stress area, do not substitute any other hardware.*

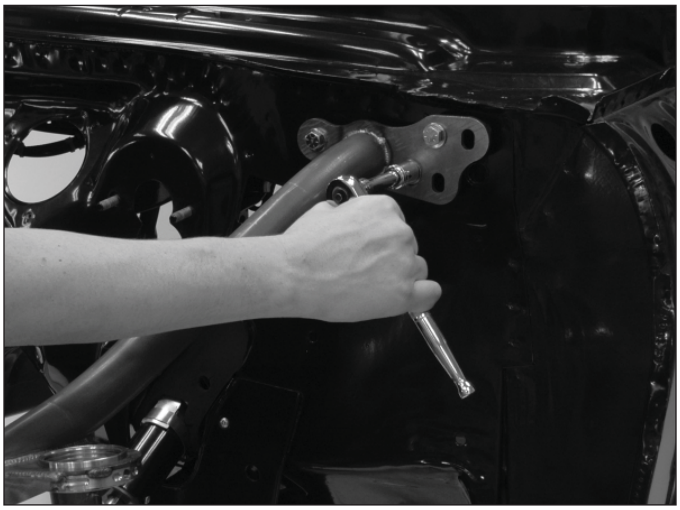
   Do not tighten the mounting hardware until after the forward struts are bolted to the firewall.



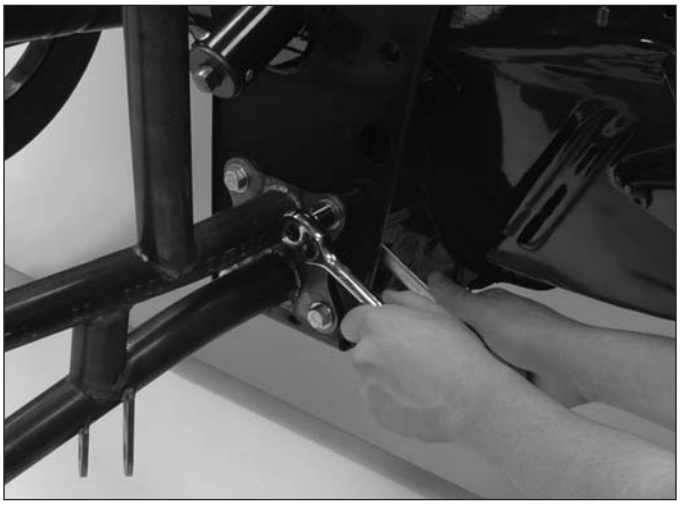
5. Use 3/8-16 x 1-1/4” hex head cap screws and flat washers to secure the forward strut to the factory weld nuts at the firewall. Do not fully tighten until both struts are in place.

   Only tighten the inboard bolts at the firewall. The outer bolts can be snugged-up, but will be removed later if the hinge-mount plates are installed.

   Final torque spec is 30 lb-ft.



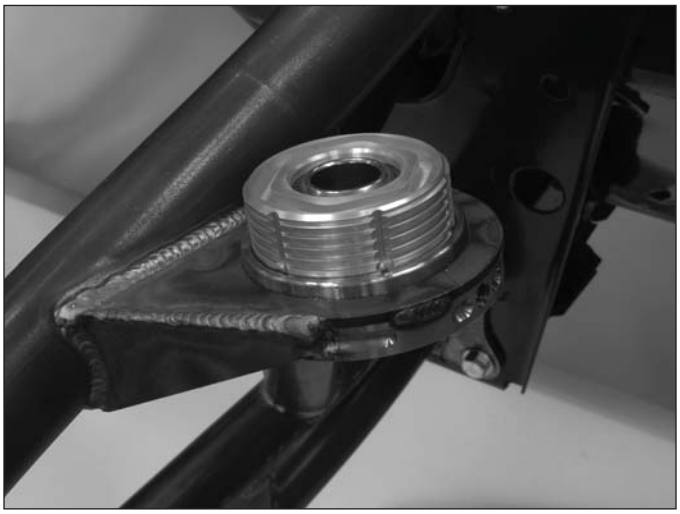
6. Torque the lower-frame mounting bolts to 45 lb-ft.



7. Press a spherical bearing into each threaded bearing housing and secure with a Spirolox retaining ring.

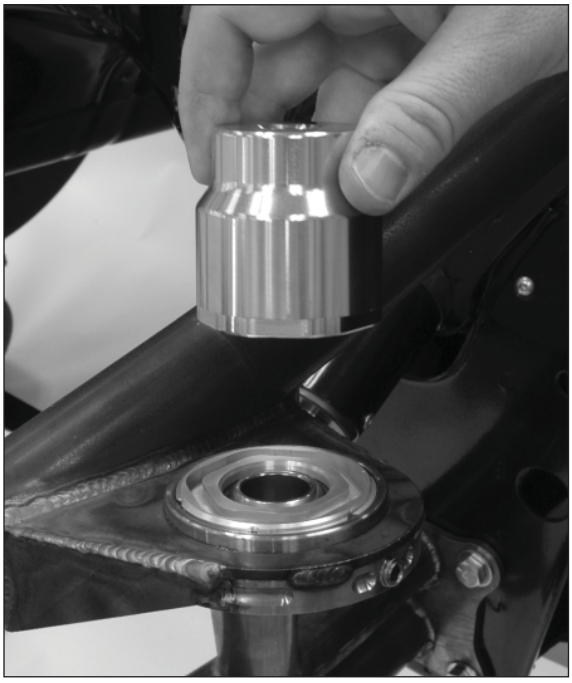
8. The upper-chassis-mount threads must be perfectly clean before installing the spherical-bearing assembly.

9. Apply anti-Seize™ or similar thread lubricant on the internal threads of the upper chassis mount, and then carefully thread the adjustable bearing housing into the chassis mount.



10. Insert a 1/4” stainless ball bearing into the threaded hole along the outside edge of the upper chassis mount followed by a detent spring and 5/16-18 x 1/4” set screw. Only thread the set screw in about 1/8” so that the ball-lock mechanism still allows the bearing housing to be rotated.

11. Your hardware kit includes a special socket to adjust the upper strut bearing housing.



12. Use the socket to turn the bearing housing until it is flush with the mounting boss and one of the housing grooves is clicked into a lockable position.

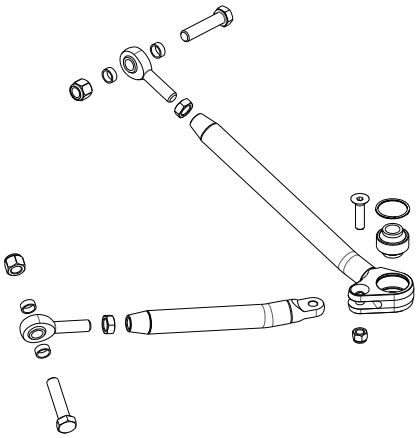
    Once the vehicle is completely assembled, a 1/2”-drive ratchet will be used with the socket to operate the ride-height adjustment mechanism.

    Do not make ride-height adjustments at either the bearing housing or lower spring collar with the weight of the vehicle on the strut.

13. Use a T-handle allen wrench to tighten the set screw.

    The set screw must be loosened to operate the ride-height adjuster and tightened to lock the adjustment.

14. Assemble the driver side lower control arm using the instructions included with the control arm (915703-X10).



15. Bolt the assembled control arm to the clip with the 1/2-20 x 2-1/4” bolts, misalignment bushing, and locknut included. A misalignment bushing must be placed on each side of the rod end’s spherical bearing.

16. Slide the urethane bump stop over the strut piston rod followed by the upper spring seat with thrust bearings and thrust stand.

    Insert the piston rod into the upper strut mount spherical bearing, and then thread the 5/8-18 safety nut onto the piston rod. The collars at the top of the thrust stand and bottom of the safety nut will go into the spherical bearing.

    Hand tighten the safety nut until the strut has no vertical play.

17. Insert the strut's lower stud into the A-arm bearing, and then lift the arm until the spherical bearing is fully seated against the stud shoulder.

    Slide the pivot spacer into the strut stud followed by the 5/8-18 castle nut.

18. Torque the castle nut to 45 lb-ft., and install the cotter pin.

19. The assembly should look like this. The coil-spring has not been installed so that the suspension can be more easily manipulated during the build.

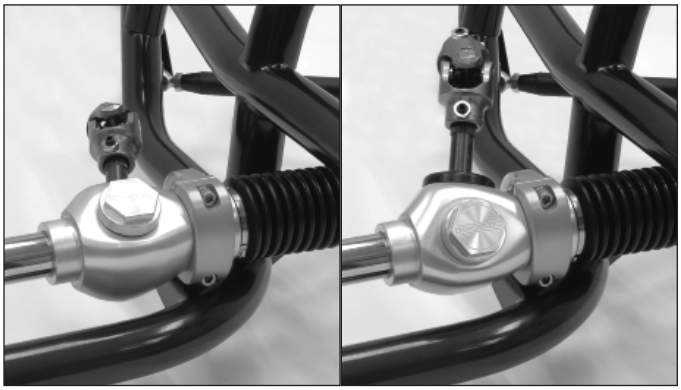
20. Loosely bolt the billet rack mount base to the welded chassis mount using the hardware specified in installation guide (916142) packaged with the rack mounts.

21. Set the rack and pinion into the mounts and install the clamps with the 5/16-18 x 1” socket head allen bolts and 5/16” high collar lock washers.

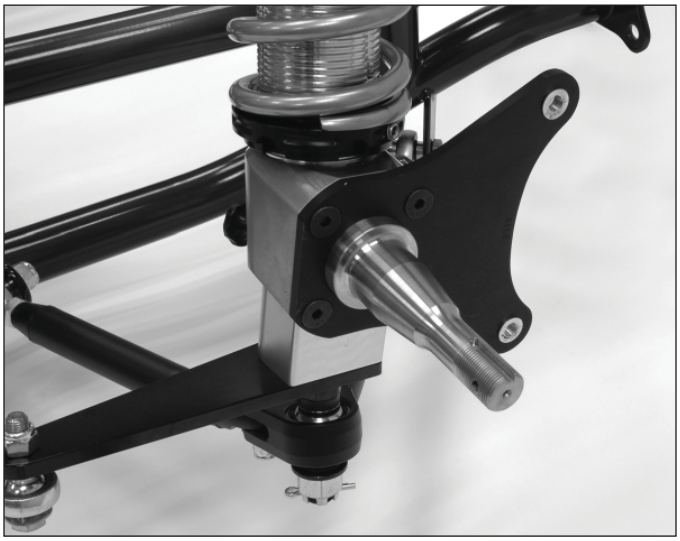
    Snug-up the bolts to correctly align the mount bases with the rack body.

The rack-and-pinion input shaft can be rotated to clear headers, oil pump etc. These two photos show the pinion at various points of rotation.

When correctly positioned, torque the socket-head cap screws to 15 lb-ft, and then the mount-base hardware to 30 lb-ft.



22. Attach the caliper mount bracket to the strut using the self-locking 5/16-18 flat head bolts provided. Torque to 25 lb-ft.



The following steps are performed to find the rack's center of travel position.

23. Place a U-joint over the pinion shaft and turn the rack toward the passenger side until it stops at the full-lock position.

    On the driver side, measure from the rack-mount clamp to the end of the tie-rod. Record this as 'Measurement A'.

24. Turn the rack toward the driver side until it stops at the full-lock position.

    On the driver side, measure from the rack-mount clamp to the end of the tie-rod. Record this as 'Measurement B'.

25. Add measurements 'A' and 'B' together, then divide by 2 to find the center of travel position.

    The following dimensions are provided as an example. Actual measurement is required.

    Example: A = 11" and B = 17"
    11 + 17 = 28
    28 / 2 = 14
    Center of travel is at 14" (example only)

26. Turn the rack toward the passenger side until the end of the tie rod is at the calculated center-of-travel dimension.

27. Install the tie-rod ends.

    Thread the 7/16-20 jam nut onto the rod end until there are 5-6 threads left between the jam nut and the rod end body. Apply Anti-Seize™ to the rod end threads and screw it into the tie-rod tube until the jam nut makes contact.

    Place a 3/8" stainless steel flat washer over a 3/8-24 x 2" hex bolt. Insert through the rod end, and then place two 3/8" aircraft washers over the bolt. Thread the bolt into the steering arm loosely install the locknut until after the alignment settings have been made.

ALIGNMENT

Baseline Specifications
The following alignment settings are provided as a baseline starting point. Driver preference and vehicle performance must be used to determine the correct settings for each specific vehicle application.

Caster	Camber	Toe-In
+10°	0°	1/32” to 1/8”

- The vehicle’s chassis must be level to the ground. This can be measured at the rocker panel.
- The strut must be position at the correct ride-height length.
- The rack and pinion must be at its center of travel.
- A digital protractor and tape measure can be used to accurately measure the spindle’s alignment.

Setting Caster
1. Thread the 3/8-24 x 1-1/4” socket head cap screws (found with the caliper hardware) into the caliper mounting bracket. The caliper mounting holes are perpendicular to the strut body.
2. Place the digital protractor against the side of the bolts to measure caster.
3. Caster is adjusted by unbolting the lower A-arm from its mount closest to the firewall and screwing or unscrewing the rod end. *Maximum adjustment is 13 threads showing between the jam nut and rod end body.*

Setting Camber
1. Place the digital protractor flat against the caliper bracket to measure camber.
2. Camber is adjusted by unbolting the lower A-arm from both of its mounts and screwing or unscrewing both rod ends equal amounts. *Maximum adjustment is 13 threads showing between the jam nut and rod end body.*

Preparation to Measure Toe-In
To accurately measure toe-in we must simulate the outside diameter of the tire.
1. Cut a length of light tubing or angle iron to 28” in length.
2. Position the material against the caliper bracket so that it is horizontal and centered with the spindle.
3. Mark the material at the upper caliper mounting hole.
4. Remove the material from the spindle and drill a 3/8” hole at the mark.
5. Bolt the length of material to the caliper bracket so that it is level to the ground centered in relation to the spindle.
6. Mark each end of the material at 12-1/2” from the spindle centerline to indicate the tires outside diameter.

Setting Toe-In
1. Measure from the vehicle centerline to the inside edge of the mark closest to the front bumper (front of tire).
2. Measure from the vehicle centerline to the inside edge of the mark closest to the firewall (rear of tire).
3. The front measurement must be 1/64” to 1/16” shorter than the rear measurement to be within our recommended toe-in range. Doubling this measurement gives the total toe-in dimension. (i.e. 1/16” times 2, equals 1/8”)
4. Toe is adjusted by loosening the tie-rod-end jam nut and turning the tie-rod tube to lengthen or shorten the tie-rod assembly. A 1/2” open-end wrench can be used on the machined flats of the tie-rod tube.

Check Bump Steer
The procedure for checking bump steer is explained in the 6143 tie-rod-ends instruction sheet.
1. Once bump steer is checked and corrected if necessary, thread the 3/8-24 locknut onto the steering-arm hex bolt. Torque to 30 lb-ft.
2. Unbolt the top of the strut to install the coil spring.
3. Torque the safety nut at the top of the strut 45 lb-ft.
4. Verify all hardware is correctly installed and tightened to its specified torque value.

BRAKE INSTALLATION

1. Pack the inner wheel bearings with grease before installing them into the hub. The bearing races have already been pressed into the hubs at the factory.

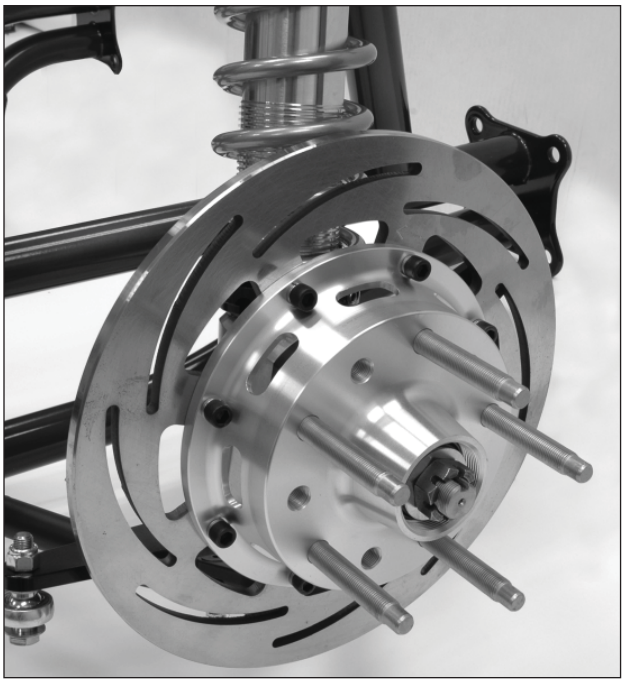
2. Place the hub on a wood surface and install the seal using a hammer and seal installer. Make sure the seal is completely seated.

3. Slide the hub and rotor assembly onto the correct spindle. (Rotors are directional.)

4. Pack the outer wheel bearings with grease before installing them into the hub.

5. Slide the bearing over the spindle followed by the spindle washer and castle nut.

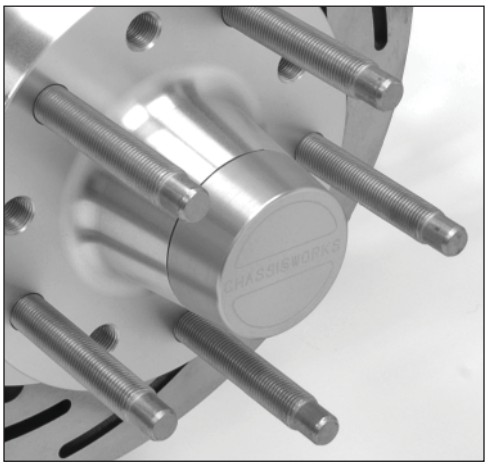
6. While turning the rotor assembly forward by hand, tighten the castle nut to 12 lb-ft. This procedure removes excess grease between the bearings and races.



7. Back off the castle nut to the “just loose” position and then hand tighten. There should be .001” to .005” end play.

8. Insert the cotter pin through the castle nut and spindle shaft. *Do not tighten the castle nut when aligning the cotter pin; only loosen it.*

9. Apply anti-seize to the dust cap threads and screw into the hub, hand-tight.



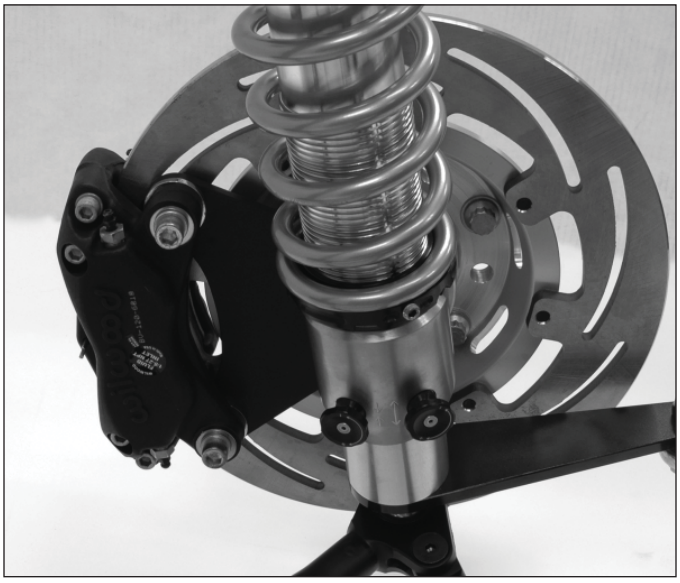
10. Insert the brake pads into the calipers with the metal backing toward the pistons.

11. Slide the caliper, with pads, over the rotor and align with the caliper mounting bracket.

12. Secure using 3/8-24 x 1-1/4” socket head allens, lock washers, and flat washers. The lock washer must be in contact with the head of the fastener.

13. Tighten the mounting hardware, and then slowly rotate the rotor to check for any clearance issues between the rotor and caliper. The caliper can be shimmed in either direction if necessary.

14. Torque mounting hardware to 30 lb-ft.



RADIATOR CORE SUPPORT

In order to use a factory radiator-core support with the Chevy II strut clip the core support's boxed section must be removed and the corners of the support trimmed for proper fit.

1. Using a center punch, find and mark the center of each factory spot weld along front of the boxed support. Each punched detent provides a pilot point for the spot weld removal bit.

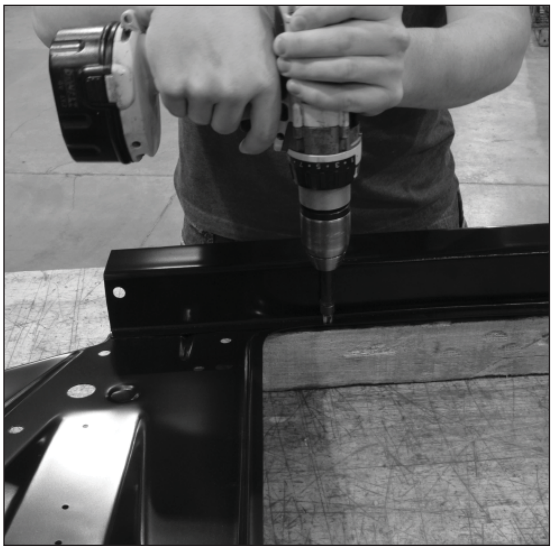
We recommend using a 3/8" spot-weld-removal bit with a spring-loaded pilot pin.

2. Center punch each of the spot welds along the bottom of the boxed support.

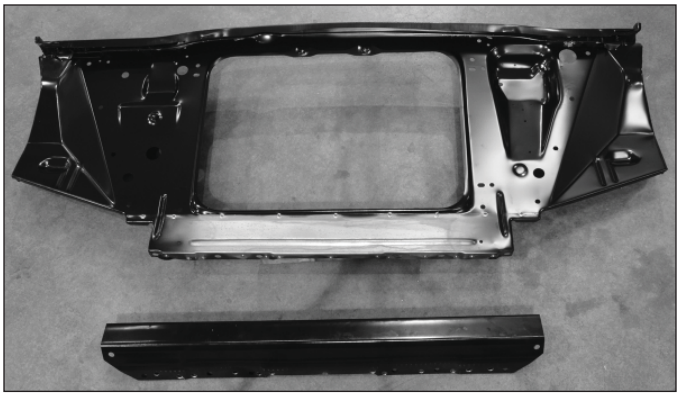
3. Drill through each of the bottom spot welds. Align the bit's pilot pin with the punched detent and drill through the first layer of sheet metal only.

   The boxed support may have to be lightly pried with a small pry bar to separate it from the core-support panel.

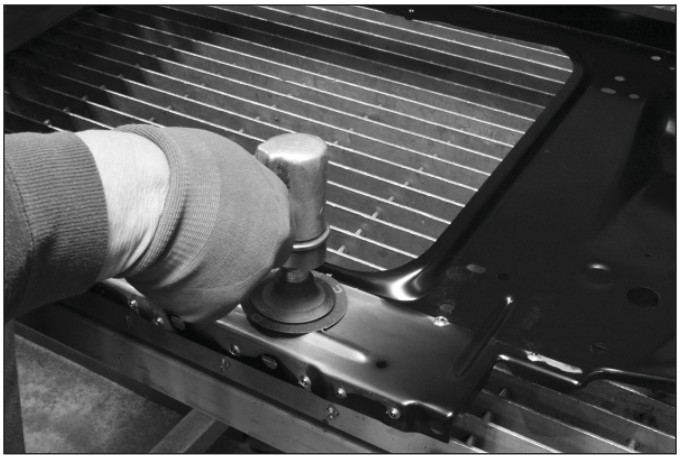
4. Remove each spot weld from the front lip of the boxed support and separate from the panel.



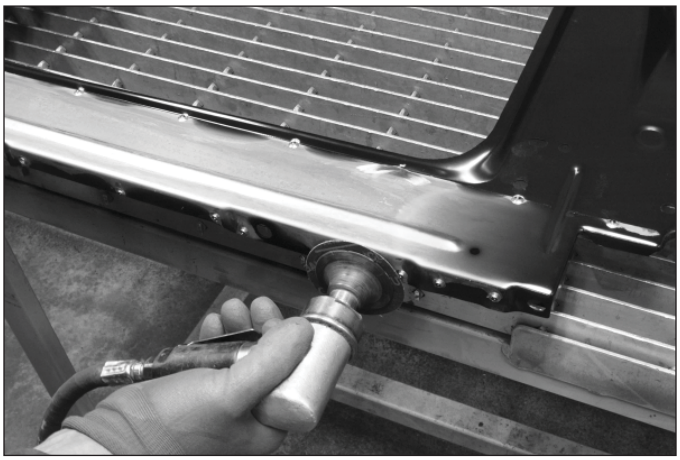
5. The core support should now look like this with the box removed.



6. Use a grinding disc to clean up the remains of the spot welds on the face of the core support.



7. Use a grinding disc to clean up the remains of the spot welds along on the bottom of the core support.

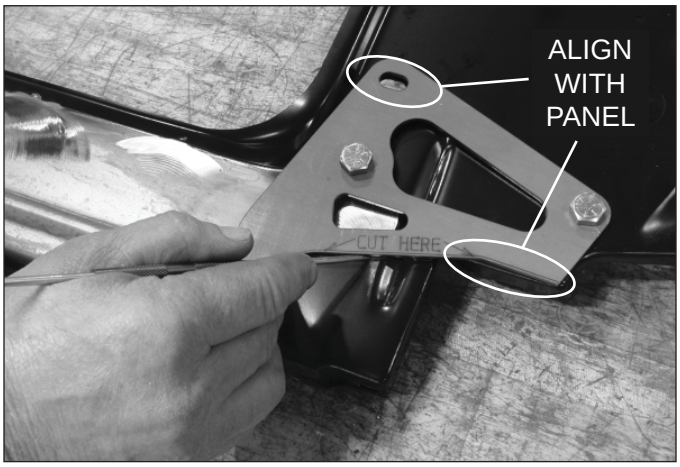


8. The core support will now be trimmed to fit the brackets on the strut frame clip. A cut gauge is included to accurately mark the core support.

9. Working the driver side first, insert 5/16” bolts through the gauge and into the matching holes in the core support. There will be a small amount of play in the bolt holes.

10. Line up the elongated hole and the edge to the right side with the lip in the core support.

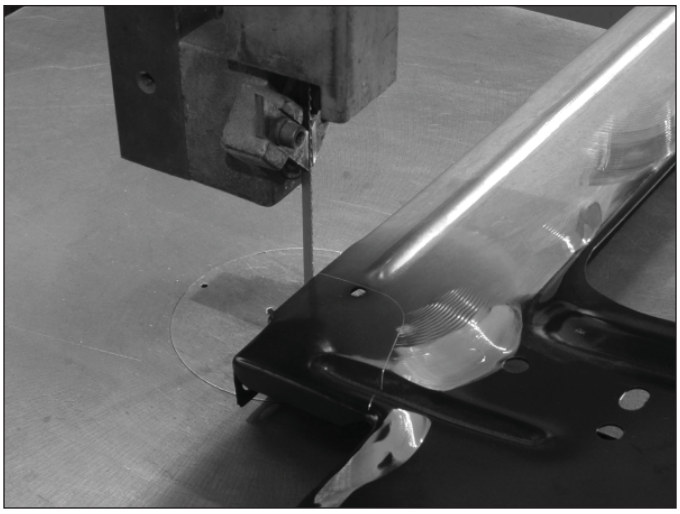
11. Scribe a line on the core support along the “CUT HERE” line on the gauge.



12. Make sure the scribed line is clearly visible.

13. Flip the gauge over and repeat the procedure for the passenger side of the core support.

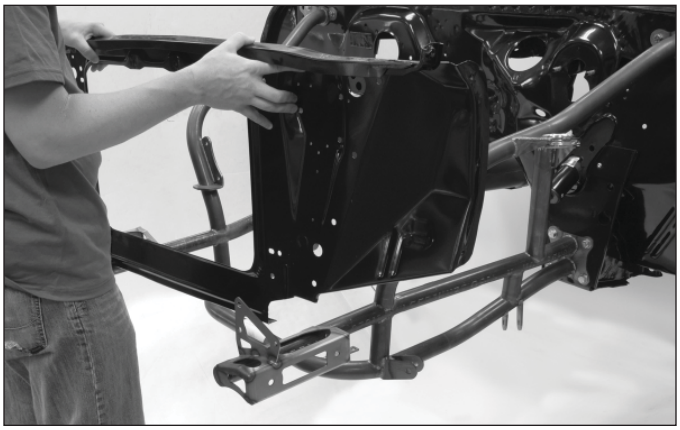
14. Carefully saw along the scribed line using a band saw or saber saw equipped with a fine-toothed metal cutting blade.



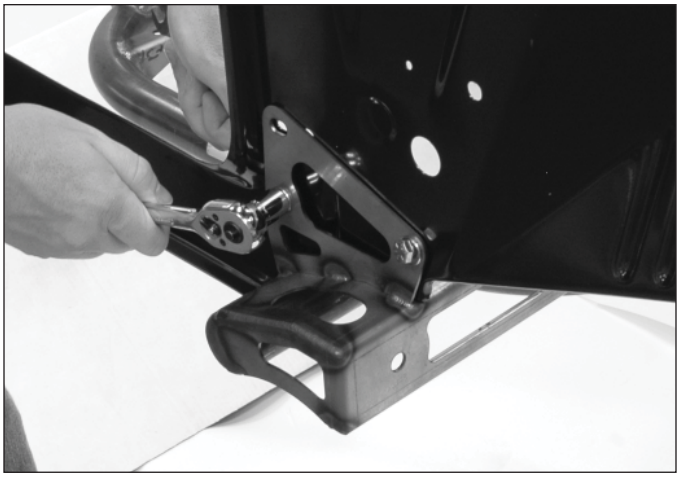
15. Use a grinding disc to clean up any sharp edges along the cut.

16. The core support should be painted before installing onto the strut-front-clip mounting brackets.

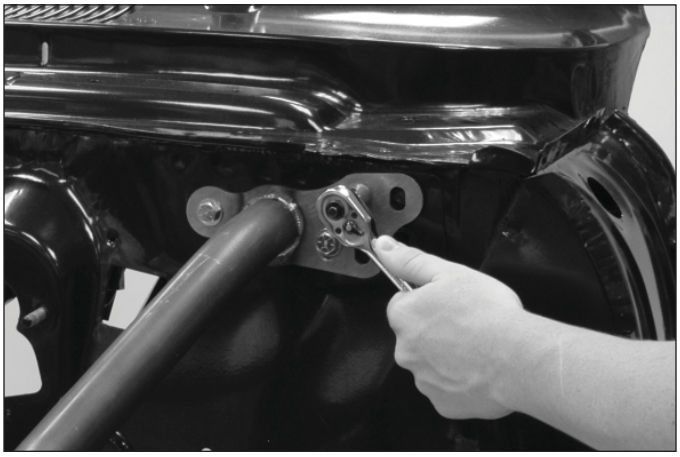
17. Set the core support onto the strut clip brackets.



18. Secure using two 5/16 x 3/4” bolts, flat washers, and locknuts at each bracket. Torque to 15 lb-ft.



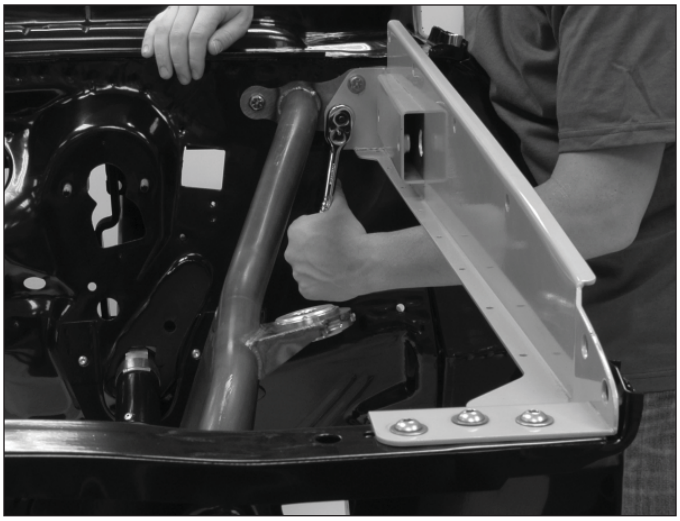
19. Remove the two outer bolts at the strut tube’s firewall mount. Do not remove the inner bolt.



20. Hold the driver-side hinge mount against the firewall and loosely install the 3/8-16 x 1-3/4” hex bolts.

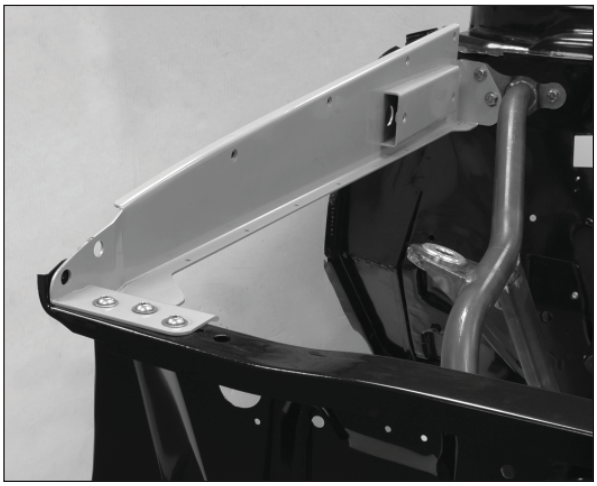
21. Bolt the hinge mount to the core support using three 5/16-18 x 3/4” button-head cap screws with flat washers. Torque to 15 lb-ft.

22. Torque the firewall mounting hardware to 30 lb-ft.



23. Repeat the procedure for the passenger-side hinge mount.

24. Verify that all hardware is correctly installed and torqued to specification.



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Chris Alston's Chassisworks
8661 Younger Creek Drive
Sacramento, CA 95828
Phone: 916-388-0288
Technical Support: tech@cachassisworks.com

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