

INSTALLATION INSTRUCTIONS

300 W PONTIAC WAY CLOVIS, CA 93612 local: 559-875-0222 fax: 559-876-2249 toll free: 800-445-3767

15001/16001 COILOVER 2015+ FORD F-150 2WD (-1" to -3.5")

Thank you for being selective enough to choose our high quality BELLTECH PRODUCT. We have spent many hours developing our line of products so that you will receive maximum performance with minimum difficulty during installation.

Note: Confirm that all hardware listed in the parts list (page 6) is in the kit. **DO NOT** begin installation

if any part is missing. Read the instructions thoroughly before beginning this installation.

Warning: <u>DO NOT</u> work under a vehicle supported by only a jack. Place support stands securely under

the vehicle in the manufacturer's specified locations unless otherwise instructed.

Warning: <u>DO NOT</u> drive vehicle until all work has been completed and checked. Torque all hardware to

values specified.

Reminder: Proper use of safety equipment and eye/face/hand protection is necessary when using these

tools to perform procedures!

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

RECOMMENDED TOOLS:

- Properly rated floor jack and support stands
- Wheel chocks
- Metric socket set up to 27mm
- Metric combination wrench set up to 27mm
- SAE combination wrench set up to ³/₄"

- Torque wrench
- Ball Joint puller
- Die Grinder with carbide metal cutting bit
- Safety Glasses

JACKING, SUPPORTING AND PREPARING THE VEHICLE

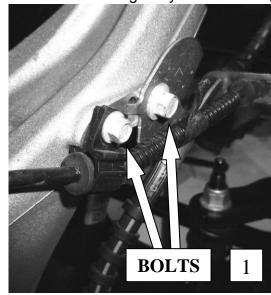
- a) Block the rear wheels of the vehicle with appropriate wheel chocks. Make sure the vehicle's transmission is in "Park" (automatic) or 1st gear (manual). Activate the parking brake.
- b) Loosen, but **DO NOT REMOVE**, the front wheel lug nuts.
- c) Lift the front of the vehicle off the ground using a properly rated floor jack. Lift the vehicle so that the front tires are approximately 6-8 inches off the ground surface.
- d) Support the vehicle using support stands rated for the vehicle's weight. The stands should be positioned in the factory specified locations (refer to owner's manual). Prior to lowering the vehicle onto stands, make sure the supports will securely contact the chassis. It is very important that the vehicle is properly supported during this installation to prevent frame

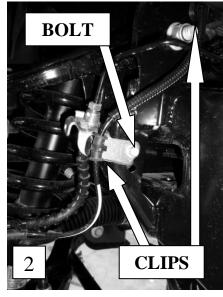
- damage and personal injury! Make sure that the support stands are properly placed prior to performing the following procedures.
- e) Lower the vehicle slowly onto the stands, checking that they properly and securely contact the frame rails as described above before placing the vehicles weight fully on them.
- f) Remove the front wheels from the vehicle.

SAFETY REMINDER: Check for safe vehicle stability before proceeding under the vehicle to begin the following procedures. Never work under a vehicle supported by only a jack. Always use properly rated support stands to support the vehicle.

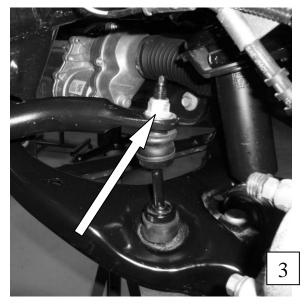
1. REMOVING THE OEM STRUT

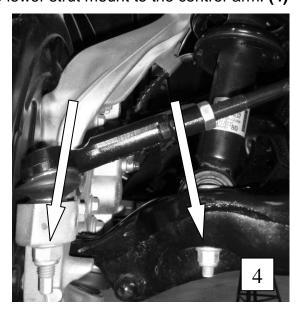
1a) Unbolt the brackets holding the brake and ABS lines from the spindle and the frame. Also remove the plastic clip holding the ABS line to the frame and brake line bracket. Be careful not to damage any of the lines. (**photo 1&2**)



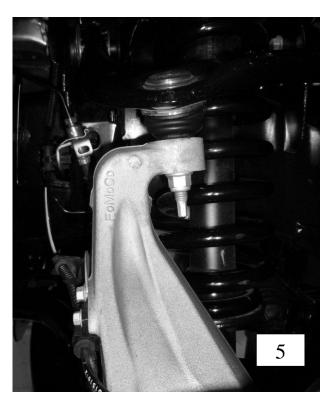


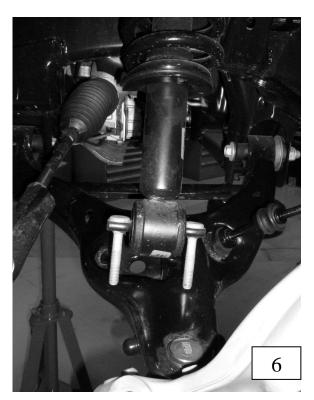
1b) Loosen and remove the upper nuts from the sway bar end links. (**photo 3**) 1c) Loosen and remove the nuts securing the lower strut mount to the control-arm. **(4)**





- 1d) Remove the nut securing the tie rod end to the steering knuckle and remove the tie rod end from the steering knuckle. This may require tapping the side of the tie rod end boss with a hammer to unseat the taper. (**photo 4**)
- 1e) Loosen and remove the nut securing the upper ball joint to the steering knuckle. Please note that the upper control arm may be under tension and, after removing the ball joint, the lower control arm will no longer be supported and may drop downward. Be careful to not allow the brake or ABS lines to become stretched or damaged during this process. Break the ball joint free from the steering knuckle using the proper ball joint puller. (photo 5)
- 1f) Push the steering knuckle and lower control arm down until the lower shock studs are clear from the control arm. Again, do not allow the brake or ABS lines to become stretched or damaged during this process. (**photo 6**)
- 1g) Remove the 3 nuts securing the upper strut mount to the chassis.
- 1h) Mark the outboard side of the spring and top mount to assist with proper reassembly and installation. Remove the strut from the chassis.





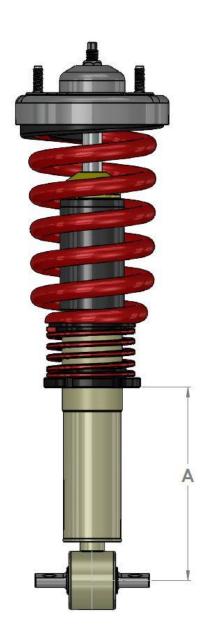
2. COILOVER HEIGHT SETUP

2a) Refer to the chart below to determine the "A" measurement to set the drop desired from OEM (Factory height)

Caution: The chart below is designed to use the Belltech 15001 pre-assembled coilover out of the box. This is, an out of the box, lowering solution. Belltech does not recommend lowering beyond what is advertised in the chart below as the performance of the shock may be greatly decreased.

2b) Using the spanner wrench provided in the kit, turn the bottom spring perch (685-10-039) clock-wise to obtain the "A" measurement that is desired.

NOTE: IT IS RECOMMENDED TO PRESET A HIGHER "A" MEASUREMENT AND ADJUST DOWN, CLOCKWISE, TO DESIRED VEHICLE HEIGHT ONCE THE COILOVER IS INSTALLED.



"A" MEASUREMENT	HUB TO FENDER (Drop from OEM)	
250 mm	25.4mm (1.0 inch)	
240 mm	38.1 mm (1.5 inch)	
225 mm	63.5 mm (2.5 inch)	
210 mm	88.9mm (3.5 inch)	

!! FOR BELLTECH KIT (16001) ONLY, PLEASE READ BELOW!!

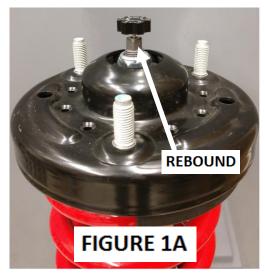
THE FRONT COILOVER IS PRE-SET (REBOUND AND COMPRESSION). PLEASE USE THE SUPPLIED ADJUSTMENT KNOB (PART #: 685-25-101) TO ADJUST THE REBOUND VALVE, SEE (FIGURE 1A). ADJUST COMPRESSION BY TURNING, THE BOTTOM, BUILT-IN KNOB CLOCKWISE OR COUNTER-CLOCKWISE. (FIGURE 2A)

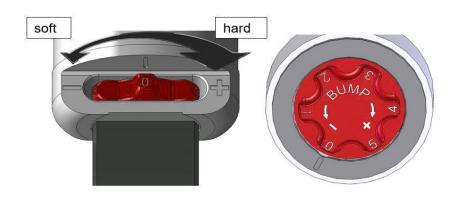
CAUTION: MAKING CHANGES TO THE REBOUND AND COMPRESSION VALVES WILL CREATE CHANGES IN THE VEHICLES DRIVING CHARACTERISTICS. PLEASE ADJUST ALL SETTINGS SAFELY AND IN SMALL INCREMENTS AND GET FAMILIAR WITH THE NEW DRIVING CHARACTERISTICS OF THE VEHICLE.

REBOUND	6 CLICKS	OPEN	COMPRESSION	7 CLICKS	OPEN
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All adjustments will be done based on a closed valve (max. hard). The closed valve can be reached by turning the adjustment wheel completely to hard (+).







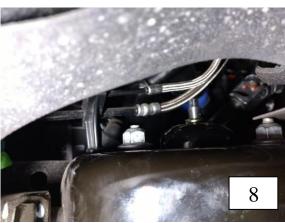


3. INSTALLING THE STRUT

- 3a) Install the top mount into the chassis and secure with the original nuts. Torque nuts to factory specifications. (Picture 7 & 8)
- 3b) Attach the lower strut mount to the lower control arm using the supplied Bolts washers and nylon lock nuts. Torque the supplied nuts to 60 ft/lbs. (Picture 9)
- 3c) Attach the upper ball joint and tie rod ends to the steering knuckle. Torque nuts to factory specifications. Do not over tighten. (**Picture 10**)
- 3d) Re-attach the upper end link to the sway bar and tighten to factory specification.
- 3e) Re-attach all brake and ABS lines using OEM bolts and re-attach plastic clips to their original location





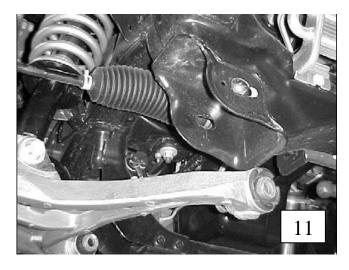


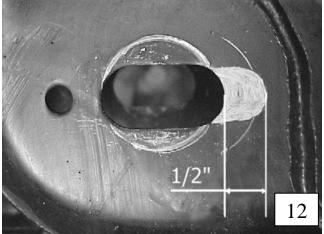


4. ALIGNMENT MODIFICATION

This process is not normally needed for the Belltech 1" to 1.5" drop but is recommended when lowering more than 1.5". This process will allow for additional adjustment to obtain factory spec alignment. If lowering vehicle less than 2", please skip to step 5

- 4a) Remove both bolts securing the lower control arm to the chassis. (**photo 11**)
- 4b) Pull the lower control arm down below the chassis.
- 4c) Scribe a line ½" inward from the edge of the factory alignment slot in the chassis. This will need to be done to all 4 slots on each side of the vehicle. (**photo 12**)
- 4d) Use a die grinder with a carbide cutting tip to carefully elongate the slot towards the center of the vehicle. Do not elongate beyond the ½" outlined as this will allow the control arm to contact the frame.
- 4e) Remove any burs after grinding and paint the exposed surfaces to prevent corrosion.
- 4f) Reinstall the lower control arms with OEM bolts and torque to factory specifications.



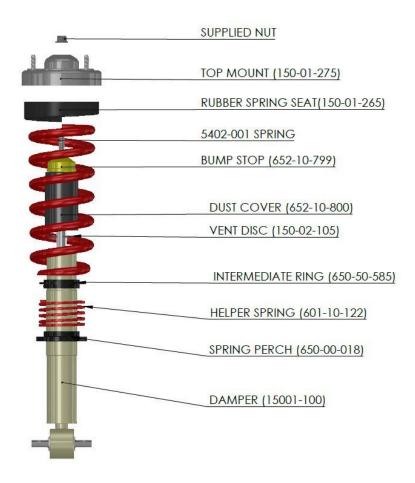


5. FINALIZING THE INSTALLATION

- 5a) All hardware being fastened to the vehicle's original fastening points should be torqued to the proper specifications. To prevent chassis damage, never over-torque the hardware.
- 5b) Check brake hoses and other components for any possible interference.
- 5c) Lift the vehicle and remove the support stands. Carefully lower the vehicle to the ground.
- 5d) Front end alignment is required immediately following this installation.
- 5e) Test-drive the vehicle in a remote location so that you can become accustomed to the revised driving characteristics and handling. Be aware that the vehicle will handle substantially different now that it has been modified.
- 5f) Installation is complete. Check all hardware and re-torque at intervals for the first 10, 100, 1000 miles.

Parts List: 15001/16001

Part #	Description	Quantity
15001-100 / 16001-100	COILOVER DAMPER	1
112058	HHCS M14-1.5 X 70MM (LOWER STRUT MOUNT)	2
112298	NYLON LOCK NUT M14-1.5	2
110660	WASHER	2
650-00-018	SPRING PERCH	1
601-10-122	HELPER SPRING	1
650-50-585	INTERMEDIATE RING	1
150-02-105	VENT DISK	1
652-10-799	BUMP STOP	1
652-10-800	DUST COVER	1
5402-001	COILSPRING	1
150-01-265	RUBBER SPRING SEAT	1
150-01-275	TOP MOUNT	1
685-25-101 (16002 ONLY)	ADJUSTMENT KNOB (REBOUND)	1





INSTALLATION INSTRUCTIONS

300 W. Pontiac Way Clovis, CA 93612 toll free: 1-800-445-3767 web: www.belltech.com

5559 REAR ANTI-SWAY BAR 2016+ FORD F-150

This anti-sway bar is designed for vehicles with flipped rear suspension!

Thank you for being selective enough to choose our high quality BELLTECH PRODUCT. We have spent many hours developing our line of products so that you will receive maximum performance with minimum difficulty during installation.

Note: Confirm that all hardware listed in the parts list is in the kit. **Do not** begin installation if any part

is missing. Read the instructions thoroughly before beginning this installation.

Warning: **DO NOT** work under a vehicle supported by only a jack. Place support stands securely under

the vehicle in the manufacturer's specified locations unless otherwise instructed.

Warning: **DO NOT** drive vehicle until all work has been completed and checked. Torque all hardware to

values specified.

Reminder: Proper use of safety equipment and eye/face/hand protection is necessary when performing

1

the outlined procedures.

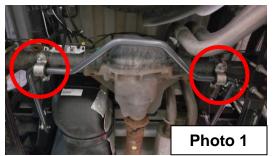
Note: It is helpful to have an assistant available during installation.

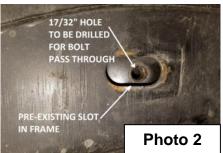
RECOMMENDED TOOLS:

- Properly rated floor jack, support stands, and wheel chocks
- 17/32" drill bit and power drill
- Electric or pneumatic grinder
- Combination wrench: (9/16", 3/4")
- Ratcheting socket wrench and sockets (9/16")
- Safety Glasses

KIT INSTALLATION

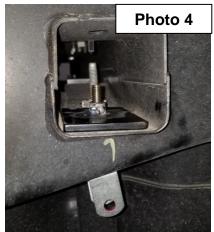
- 1. Open the hardware kit and remove it's contents. Refer to the parts list (Page 5) to verify that all parts are present.
- 2. Park the vehicle on a smooth, level concrete or seasoned asphalt surface and activate the parking brake. Chock the **FRONT** wheels of the vehicle with appropriate wheel chocks; making sure the vehicle's transmission is in 1st gear (manual) or "Park" (automatic).
- 3. Using a properly rated floor jack, lift the **REAR** wheels of the vehicle off the ground. Place support stands, rated for the vehicle's weight, in the factory specified locations. Refer to the vehicle Owner's Manual. Prior to lowering the vehicle onto the stands, make sure the supports will securely contact the chassis.
 - It is very important that the vehicle is properly supported during this installation to prevent personal injury and chassis damage! Make sure that the support stands are properly placed prior to performing the following procedures. We **DO NOT RECOMMEND** using wheel ramps while performing this installation.
- **4.** Thoroughly lubricate the **inside** of the new polyurethane bushings using the grease provided. Locate and attach the bushings on the ends of the Belltech Anti-Sway Bar (ASB) (**Photo 1**). Once located, rotate the bushings slightly to evenly spread the lubricant.
- 5. Locate the Slot on either side of the vehicle on the underside of the Frame, where the frame meets the rear cross beam. Drill a 17/32" hole, directly above, into the cross beam. The hole should be located evenly between the front and backside of the beam and allow for the bolt to pass through. (photo 2, 3 & 4 can be used for reference) Following Mounting instructions are the same for both sides.

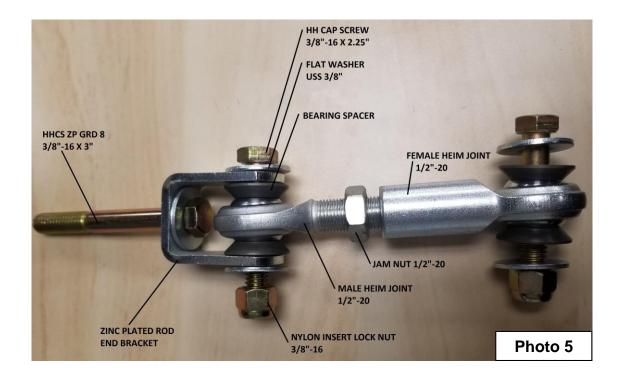




- 6. Slide the supplied end link mounting bracket plate into the crossbeam far enough for the attached nut to align with the newly drilled hole. The plate labelled 6447-050 is used on the drivers side while 6447-051 is used on the passenger side. The mounting processes are the same on both sides. (Photo 3 & 4)
- 7. Tighten the bracket to the cross beam to 80 ft•lb of torque using the 3" long 3/8" 16 Bolt. Be Careful not to overtighten and bend the bracket. It may help to insert the end links before tightening. Do not forget a washer between the head of the bolt and bracket to distribute the pressure.







- **8.** Attach the end-link assembly to the mounting bracket and secure hand tight with the supplied 3/8"-16 X 2.25" HHCS bolt, 3/8" 16 Nyloc nut and 3/8" USS flat washer on each side of the bracket. **(Photo 5)** The jam nut should be tightened to eliminate the Link from coming out of adjustment.
- 9. Insert the bar from under the vehicle positioning it under the axle with the bar ends pointed forward and above the leaf springs. Once in position, start from one side and place one U-bolt, saddle, and bushing support plate around the axle. IMPORTANT: U-bolt is to be placed under the existing brake line and the ASB is not tangled up in the parking brake cables. While holding the U-bolt with one hand, attach the Anti-Sway Bar bushing clamp with the other, and loosely thread the hardware into place using the supplied 3/8" 16 Nyloc Nut and 3/8" USS flat washer. Do the same to the other side. Do not tighten the U-bolts, as they will be securely fastened after all the other components have been put on. (See Photo 6 for position reference)
 - **WD-40™** is recommended to help remove excess lubricant. Regreasing the pivot bushings should be Performed at regular intervals.
- 10. Attach the bottom of each end-link assembly onto the Belltech anti-sway bar using the 3/8"-16 X 2.25" HHCS bolt, 3/8" 16 Nyloc nut, and 3/8" USS flat washers. The end-links should be outboard of the ASB. (Photo 7) Make sure there is a washer between the Sway bar and the fastening nut. We recommend testing the Bar in its softest adjustment, which is the hole furthest towards the front of the vehicle, each remaining adjustment will stiffen the roll resistance forces by 10%. (See Photo 5 for bolt assembly reference) The endlinks can be adjusted. Adjust the endlinks to get the swaybar as parallel with the ground as possible, while still having at least 7-8 turns of thread remaining.





- 11. Center the ASB in the bushings once the end-link hardware is tightened (**Photo 6**). Both ASB bushings and bracket assemblies should now be pushed as far outboard as possible so that the bushing is next to the bend in the bar. Anti-Sway Bar bushing clamp and hardware should be rotated onto the bottom side of the axle so that the end links are in a vertical position when looking from the side of the vehicle.
- 12. Tighten and torque the u-bolt bracket hardware to 19 ft•lbs.
- **13.** All hardware being fastened to the vehicle's original fastening points should be torqued to the proper specifications. To prevent chassis damage, never over-torque.
- **14.** Check that all components and fasteners have been properly installed, tightened and torqued.
- **15.** Check brake hoses, and other components for any possible interference.
- **16.** Lift vehicle and remove support stands. Carefully lower vehicle to ground.
- 17. Immediately test-drive the vehicle in a remote location so that you can become accustomed to the revised driving characteristics and handling. Be aware that the vehicle will handle substantially different now that it has been modified.
- **18.** Installation is complete. Check all hardware and re-torque at intervals for the first 10, 100, 1000 miles.

! BELLTECH INSTALLATION TIPS

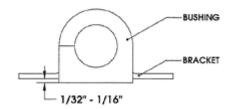
LUBRICATION

Pre-lubricating the inside of the bushing before it's installed is critical. The lubrication will greatly reduce noise and increase bushing life. Belltech recommends you use Molybdenum disulfide to protect the inside surface of the bushing due to its increased life compared to other grease types. Thoroughly lubricate the inside of the bushing with this grease.

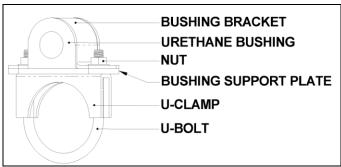
BUSHING INSTALLATION

Make sure an amount of 1/32" to 1/16" of the bushing is showing when you install it onto the bracket. See the diagram below. If the bushing is showing more than 1/16" then use a sander or a sheet of coarse grit sand paper to shave it down to the proper height.

BUSHING DIAGRAM



AXLE CLAMP DIAGRAM



PART LIST FOR 5559 ANTI-SWAY BAR KIT

QTY	Part #	DESCRIPTION
1	5559-300	PAINTED REAR SWAY BAR
2	115002-95	ZINC PLATED PIVOT BUSHING BRKT
2	115003-95	ZINC PLATED BUSHING SUPPRT PLT
2	113075	PIVOT BUSHING 1.0"
1	55000-10	GREASE PACK
2	112112	HHCS ZP GRD 8 3/8-16 X 3
8	110255	NYLON INSERT LOCK NUT 3/8"-16
14	112518	FLAT WASHER USS 3/8"
2	112260	U-CLAMP 3-1/4"
1	6447-050-99	POWDERCOATED SWAYBAR MOUNTING
1	6447-051-99	PASS POWDERCOATED SWAYBAR MOUNTING
2	112248	MALE HEIM JOINT 1/2"-20
2	112249	FEMALE HEIM JOINT 1/2"-20
8	57400-045	BEARING SPACER- TOE ADJUSTER
2	112326	JAM NUT 1/2"-20
2	71001-007- 95	ZINC PLATED ROD END BRACKET
4	112106	HH CAP SCREW 3/8"-16 X 2-1/4"

Melttech

INSTALLATION INSTRUCTIONS

2352 2" LOWERING SPINDLE

300 W. Pontiac Way Clovis, CA 93612 toll free: 1-800-445-3767 web: www.belltech.com

15-18 FORD F150 2WD CREW-CAB/ REG CAB

>>> MUST USE 20" WHEELS OR LARGER <<<

Thank you for being selective enough to choose our high quality BELLTECH PRODUCT. We have spent many hours developing our line of products so that you will receive maximum performance with minimum difficulty during installation

Note: Confirm that all of the hardware listed in the parts list is in the kit. **Do not** begin installa-

tion if any part is missing. Read the instructions thoroughly before beginning this installa-

tion.

Warning: **DO NOT** work under a vehicle supported by only a jack. Place support stands securely

under the vehicle in the manufacturer's specified locations unless otherwise instructed.

Warning: <u>DO NOT</u> drive vehicle until all work has been completed and checked. Torque all hard

ware to values specified.

Reminder: Proper use of safety equipment and eye/face/hand protection is absolutely necessary

when using these tools to perform procedures!

Note: It is very helpful to have an assistant available during installation. Some provided images

my show addition holes / hardware, if instructions do not reference discrepancies please

continue with the provided steps.

RECOMMENDED TOOLS:

- Properly rated floor jack and two (2) support stands
- Wheel chocks
- 1/2" drive torque wrench
- Metric socket wrench set
- Metric wrench set
- Tape measure
- Safety Glasses

KIT INSTALLATION

WE RECOMMEND that a qualified mechanic, at a properly equipped facility, perform such installation. **WE RECOMMEND** that the installation be performed on a firm, flat and level surface such as seasoned asphalt or concrete.

The use of safe, and proper equipment, is very important!

1) JACKING, SUPPORTING AND PREPARING THE VEHICLE

- **a)** Block the rear wheels of the vehicle with appropriate wheel chocks. Make sure the vehicle's transmission is in "PARK" (automatic) or 1st gear (manual). Activate the parking brake.
- b) Loosen, but DO NOT REMOVE the front wheel lug nuts.
- **c)** Lift the front of the vehicle off the ground using properly rated floor jack. Lift the vehicle so that the front tires are approximately 6-8 inches off the ground surface.
- d) Support the vehicle using two (2) support stands, rated for the vehicle's weight. The stands should be positioned in the factory specified locations. (Refer to the vehicle Owner's Manual) Prior to lowering the vehicle onto the stands, make sure the supports will securely contact the chassis. It is very important that the vehicle is properly supported during this installation to prevent frame damage and personal injury! Make sure that the support stands are properly placed prior to performing the following procedures.
- **e)** Lower the vehicle onto the stands slowly and check for possible interference with any brake lines, wire and or cables.

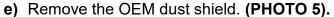
!SAFEY REMINDER!

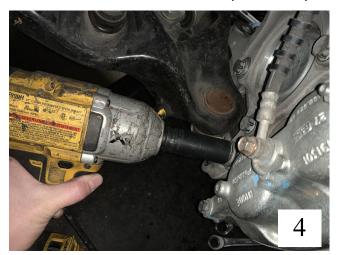
Check for safe and vehicle stability before proceeding under the vehicle to the begin the following procedures. Never work under a vehicle supported by ONLY a jack. Always use properly rated support stands to support the vehicle.

2) STEERING KNUCKLE REMOVAL

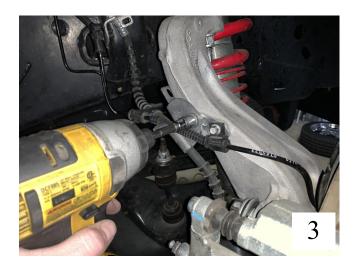
- **a)** Starting on the passenger's side of the vehicle; remove the wheel from the vehicle. **(PHOTO 1)**
- b) Remove the steering arm tie rod end. (PHOTO 2)
- c) Remove the brake line bracket attached to the steering knuckle. (PHOTO 3)
- d) Remove the brake caliper assembly from the steering knuckle. (PHOTO 4) With a metal hook/ wire or Zip-tie, attach the caliper to chassis sot that it doesn't dangle and damage the brake line. Remove the Rotor.







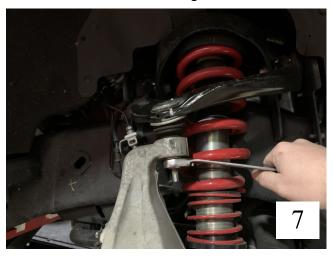


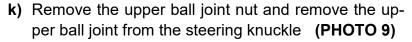




2) STEERING KNUCKLE REMOVAL cont...

- f) Remove the ABS sensor from the hub. (PHOTO 6)
- **g)** Unthread the upper control arm ball joint nut, but do not completely remove. **(PHOTO 7)**
- h) Use a hammer, and hit the side of the ball joint to release it from the steering knuckle. (PHOTO 8)
- i) Unthread the lower control arm ball joint nut, but do not completely remove.
- j) Use a hammer, and hit the side of the ball joint to release if from the steering knuckle.





- I) Repeat step for the lower ball joint.
- m) Once steering knuckle is removed, remove the back hub bolts; remove hub from OEM steering knuckle. (PHOTO 10)



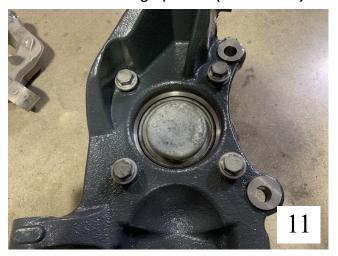






3) **BELLTECH STEERING KNUCKLE INSTALLATION**

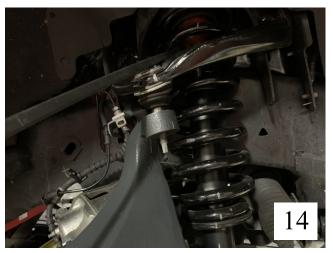
a) Install the OEM hub onto the BELLTECH 2352 steering knuckle.. (PHOTO 11) Make sure the ABS sensor is facing upward. (PHOTO 12)





- **b)** Install the *BELLTECH* steering knuckle onto the bottom ball joint first. Secure the bottom nut; hand tight only. **(PHOTO 13)**
- c) Install the upper ball joint on to the *BELLTECH* steering knuckle, Secure upper ball joint nut; hand tight only (PHOTO 14)





d) Tighten the upper ball joint and bottom ball joint (PHOTO 15 & 16)

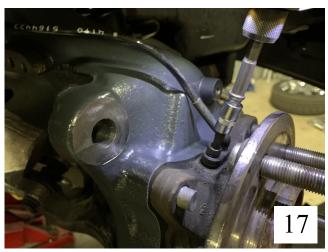


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3) **BELLTECH STEERING KNUCKLE INSTALLATION cont...**

- e) Install the ABS sensor onto the BELLTECH 2352 steering knuckle. (PHOTO 17)
- f) Install the OEM dust shield and rotor onto the BELLTECH steering knuckle. (PHOTO 18)

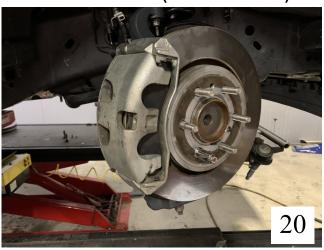




g) Install the rotor & caliper onto the BELLTECH steering knuckle using the OEM bolts.







- h) Install the OEM brake line brackets onto the BELLTECH steering knuckle. (PHOTO 21)
- i) Install and tighten the steering tie rod onto the BELLTECH steering knuckle. (PHOTO 22)

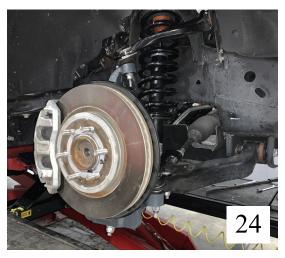




3) **BELLTECH STEERING KNUCKLE INSTALLATION cont...**

- j) Double check all the OEM brake lines are secured. (PHOTO 23)
- k) Installation complete. Repeat process on driver side. (PHOTO 24)





4) FINALAZING INSTALLATION

- a) Check that all components and fasteners have been properly installed, tightened and torqued.
- **b)** Check the brake hoses, and any other components for any possible interference.
- c) Install both passenger and driver side wheels.
- d) Lift the vehicle and remove the support stands. Carefully lower the vehicle to the ground.
- **e)** Visually inspect the wheel alignment after the vehicle has been set down and rolled to relieve any tension. It may be necessary to manually adjust the toe on the steering arms before the vehicle is driven.
- f) Test-drive the vehicle in a remote location so that you can become accustomed to the revised driving characteristics and handling. Be aware that the vehicle will handle substantially different now that it has been modified.
- **g)** We recommend the vehicle be taken in to a qualified wheel alignment facility to be aligned to factory specifications. This should be done after the vehicle has been test driven and all modifications have been completed.
- h) Check ALL of the hardware and re-torqued at intervals for the first 10, 100, 1000 miles.

PARTS LIST			
PART #	DESCRIPTION	QUANTITY	
2352-325	STEERING KNUCKLE LH	1	
2352-425	STEERING KNUCKLE RH	1	