



# INSTALLATION INSTRUCTIONS

15104

## LEVELING COILOVER

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### 2019 FORD RANGER 2WD/4WD EXT CAB/ CREW CAB +1" to +3" LEVELING COILOVER

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 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 absolutely necessary when using these tools to perform procedures!

Note: It is very helpful to have an assistant available during installation. Some provided images may show addition holes / hardware, if instructions do not reference discrepancies please continue with the provided steps.

#### RECOMMENDED TOOLS

- Properly rate floor jack and two (2) support stands
- Safety Glasses
- Wheel chocks
- 1/2" or 3/8" drive wrench
- Standard/Metric socket sets
- Standard/Metric wrench sets
- Tape measure
- Marking pen



DIFFICULTY:



INSTALLATION TIME: 2-4hrs + Alignment

## KIT INSTALLATION

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

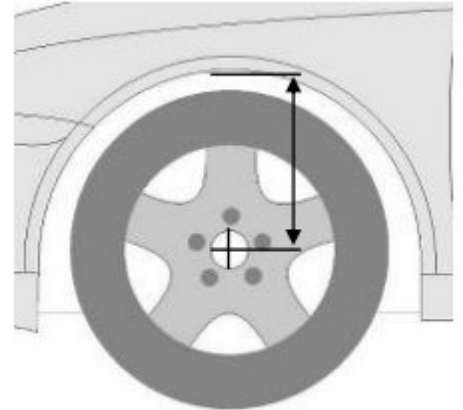
**The use of safe and proper equipment is very important!**

## KIT PRERPERATION

- a) Before beginning the install process, measure the hub to fender heights for your vehicle so you can compare the resulting height to the original. Measure vertically from the center of the wheel to the inner edge of the fender. Record results here.

LF: \_\_\_\_\_ RF: \_\_\_\_\_

LR: \_\_\_\_\_ RR: \_\_\_\_\_



## 1) JACKING, SUPPORTING AND PREPARING THE VEHICLE

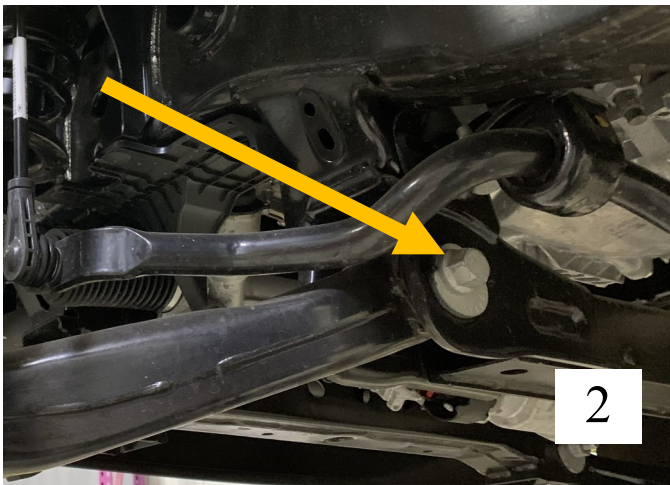
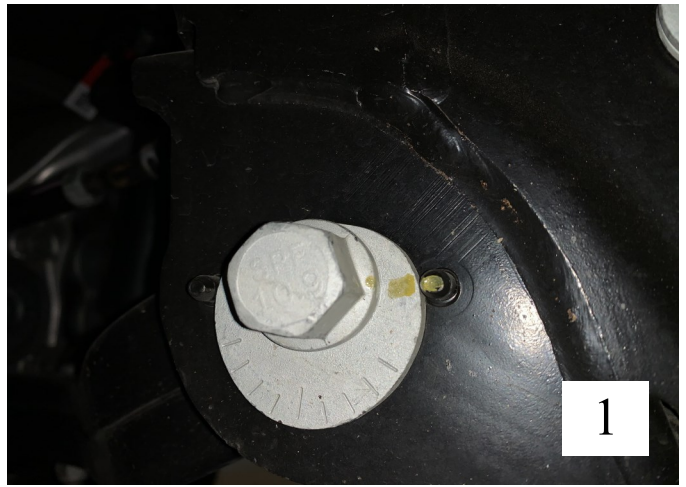
- a) Block the rear wheels of the vehicle with appropriate wheel chocks. Make sure the vehicle's transmission is in "PARK" (automatic) or 1st gear (manual). Activate the parking brake.
- b) Loosen, but **DO NOT REMOVE** the front wheel lug nuts.
- c) Lift the front of the vehicle off the ground using properly rated floor jack. Lift the vehicle so that the front tires are approximately 6-8 inches off the ground surface.
- d) Place support stands rated for the vehicles weight. The stands should be positioned in the factory specified locations. (Refer to owners manual). 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 ones self or to the vehicle.
- e) Lower the vehicle slowly onto the stands, checking that they properly and securely contacting the frame rails as described above before placing the vehicles weight completely on them.
- f) Remove the front wheels.

### **!SAFTEY 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.**

## 2) REMOVING THE OEM STRUT

- a) Before removing any component, mark your current alignment settings and the outboard of the spring and top mount. **(PIC 1)**
- b) Working on one side at a time; loosen and remove the both OEM crossmember bolts that connect the lower control arm and frame. **(PIC 2)**
- c) Loosen and remove the nuts securing the lower strut mount to the control arm. **(PIC 3)**
- d) Push the steering knuckle and lower control arm down and back until the lower shock studs are clear from the control arm. **(PIC 4)**



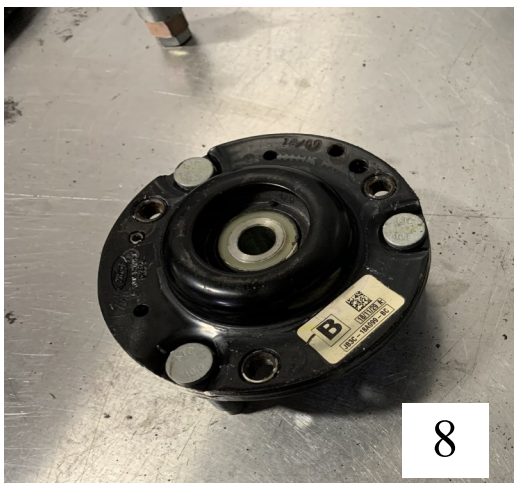
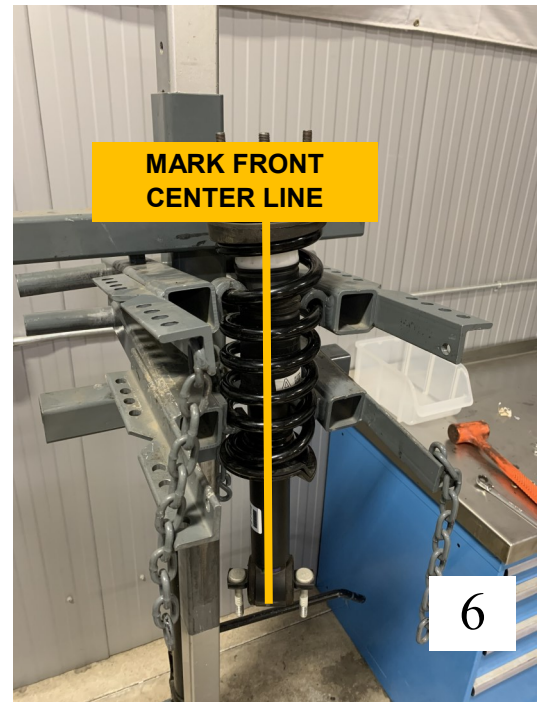
- e) Remove the 3 nuts securing the top of the strut to the chassis. **(PIC 5)**



### 3) STRUT DISASSEMBLY

**!CAUTION!** The coil spring is held in place under extreme compression. **BELLTECH** recommends the use of a heavy-duty spring compressor suitable for truck springs to perform the following steps. If unsure of your spring compressor capabilities, take this to a professional installer. Use caution during the following steps to avoid personal injury and/or damage vehicle.

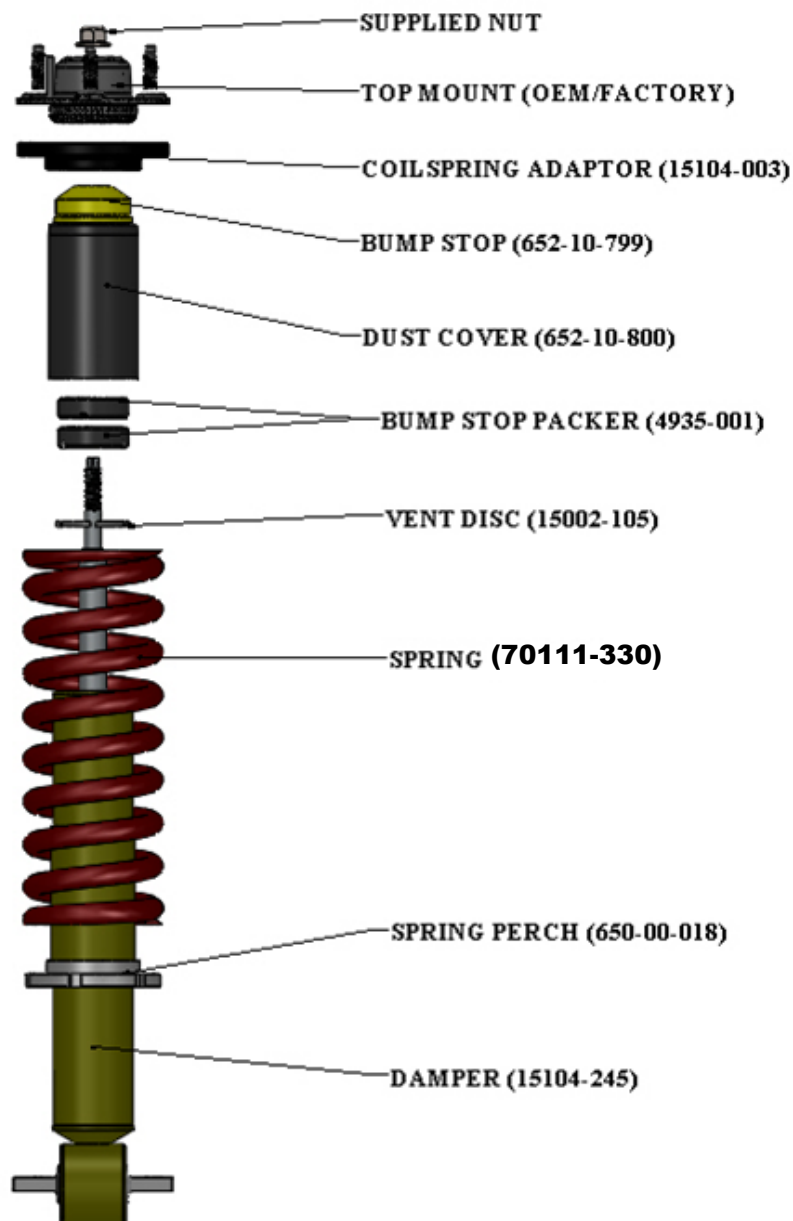
- a) Mount the entire spring/strut assembly in a spring fixture. To ease the installation of the new strut, mark a white line down the center of each piece of the assembly for alignment purposes. Note the orientation of the upper mount relative to the bottom shock bar pin and studs. **(PIC 6)**
- b) Compress the spring until the spring is no longer holding tension against the upper and lower spring perch.
- c) Hold the strut shaft from spinning and remove the top center nut from the strut. The shock will need to be supported as the nut is removed as it will fall if not supported. **(PIC 7)**
- d) Remove the shock, bump stop and rubber isolator from the assembly. You will use the OEM top mount, later **(PIC 8)**
- e) Decompress the OEM spring slowly  
\*\*Again, the spring is under extreme load, use caution\*\*. **(PIC 9)**



#### 4) COILOVER HEIGHT SETUP/ASSEMBLY

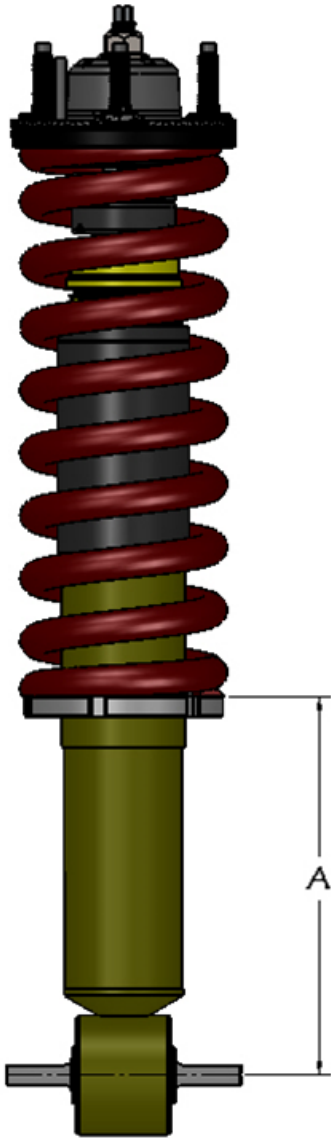
- a) Assemble the coilover using the image below: Make note that you will reuse the OEM/Factory Top mount when assembling the coilover.
- b) Align the OEM top mount with the center of the bushing using the center line that was marked before disassembly.

**NOTE: Refer to the chart on the next page to set your spring perch height and bump stop packer setup**



b) Refer to the chart below to determine the “A” measurement to set the desired lift from OEM. (Factory Height)

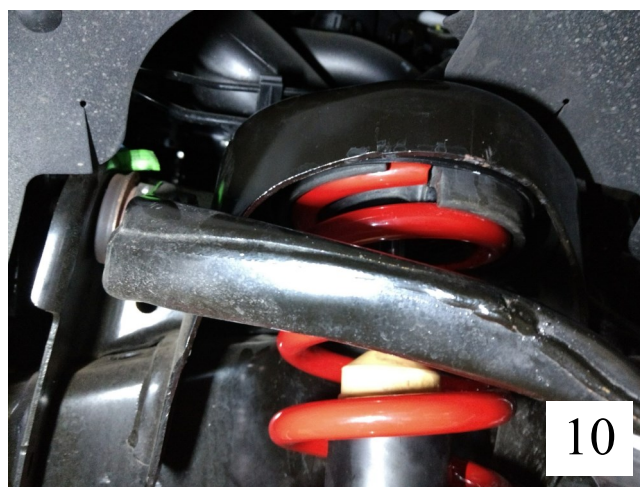
**! CAUTION!** The chart below is designed to use the *BELLTECH 15104 Coilover* with the OEM vehicle factory top mount. *BELLTECH* does not recommend total lifting beyond the highest specification on this chart, as the shock performance may be decreased and or damage the shock and/or vehicle.



"A" MEASUREMENT	LIFT FROM OEM (HUB TO FENDER)	BUMP STOP PACKER 15mm (0.59 inch)
<b>240mm (9.45in)</b>	76.2mm (3.0 inch)	<b>2</b>
<b>217mm (8.54in)</b>	50.8mm (2.0 inch)	<b>1</b>
<b>202mm (7.95in)</b>	25.4mm (1.0 inch)	<b>0</b>

## 5) INSTALLING BELLTECH COILOVER

- a) Install the top mount in to the chassis and secure with the original OEM nuts. Torque nuts to factory specifications. **(PIC 10)**
- b) Attach the lower strut mount to the lower control arm using the supplied flanged bolts and nylon lock nuts. Torque the supplied nuts to 60 ft-lbs. **(PIC 11)**
- c) Attach the lower control arm back in to the frame using the original OEM alignment hardware. **DO NOT** tighten or torque until the vehicle is on the ground. . **(PIC 12)**
- d) Set alignment settings to the markings made before uninstall.



## 9) FINALIZING THE INSTALLATION

- a) Re-install wheels and torque to the Manufacturer's specifications.
- b) Check that all components and fasteners have been properly installed and torqued.
- c) Lift the vehicle and remove the support stands. Carefully lower vehicle to the ground.
- d) **TORQUE** the lower control arms to Manufacturer's specifications.
- e) Check brake hoses, cables and other components for any possible interference.
- f) Check for wheel/tire to chassis/body interference.
- 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 leveled.
- g) Take the vehicle to a qualified shop for a 4-wheel alignment.
- h) Check all of the hardware and re-torque at intervals for the first 10, 100, and 1000 miles.

**NOTE: Front end alignment is required immediately following the installation. Due to the manufacturer's design, lifting past a certain setting, the vehicle will maintain a positive camber setting that will not be capable of more adjustment. Maintaining proper TOE settings, and responsible tire rotations, will result in even tire wear.**

PARTS LIST		
PART #	DESCRIPTION	QUANTITY
15104-100	COILOVER DAMPER	1
112307	FLANGED BOLT M14X1.75-75MM	2
112308	FLANGED NYLON LOCK NUT M14X1.75	2
65000018	SPRING PERCH	1
65050585	INTERMEDIATE RING	1
65210799	BUMP STOP	1
65210800	DUST COVER	1
70111-330	BELLTECH LINEAR COILSPRING	1
15104-003	SPRING ADAPTOR	1
4935-001	15MM PACKER	2
68510039	SPANNER WRENCH	1