

| PART #  | DESCRIPTION                        |
|---------|------------------------------------|
| IVD6140 | 24 FORD RANGER RAPTOR LEVELING KIT |

| COMPONENTS INCLUDED   |   |
|---|---|
| (2) 147009 FRONT C/O SPACER   |   |
| HARDWARE INCLUDED   |   |
| (6) 605101 3/8-16 X 1.000 HHCS GR8 YZINC<br>(6) 605131 3/8 SPLIT LOCK WASHER GR8 YZINC  | (6) 605133 3/8 SAE FLAT WASHER GR8 YZINC  |
| TOOLS REQUIRED  |   |
| RATCHET<br>EXTENSIONS<br>TORQUE WRENCH<br>SPRING COMPRESSOR<br>GRINDER OR CUT OFF WHEEL<br>6MM HEX KEY                          | 15MM SOCKET / WRENCH<br>18MM SOCKET / WRENCH<br>21MM SOCKET / WRENCH<br>24MM SOCKET / WRENCH<br>9/16" SOCKET / WRENCH<br>5/8" SOCKET / WRENCH |
| TECH NOTES  |   |
| 1. ADAS RECALIBRATION REQUIRED AFTER INSTALL.<br>2. FITS ONLY RANGER RAPTOR MODELS ONLY.<br>3. ESTIMATED INSTALL TIME: 3 HOURS. |   |


**WARNING!**

**\*\* READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION! IF THESE INSTRUCTIONS ARE NOT PROPERLY FOLLOWED SEVERE FRAME, SUSPENSION AND TIRE DAMAGE MAY RESULT TO THE VEHICLE!**

**\*\* ICON VEHICLE DYNAMICS RECOMMENDS THAT YOU EXERCISE EXTREME CAUTION WHEN WORKING UNDER A VEHICLE THAT IS SUPPORTED WITH JACK STANDS.**

**\*\* ICON VEHICLE DYNAMICS RECOMMENDS ALL INSTALLATION TO BE PERFORMED BY A PROFESSIONAL SHOP/SERVICE TECHNICIAN. PRODUCT FAILURE CAUSED BY IMPROPER INSTALLATION WILL NOT BE COVERED UNDER ICON'S WARRANTY POLICY.**

## FRONT INSTALLATION

**1.** Lift vehicle and securely place heavy duty jack stands under the manufacturer recommended lifting locations for the front of the vehicle. Take care when lifting the vehicle, and allow 3-4" of ground clearance from the tire. Remove front tires. NEVER WORK UNDER AN UNSUPPORTED VEHICLE. Remove the wheels.

**2.** Disconnect sway bar from the factory knuckle using a 18mm wrench. Rotate sway bar and links up away from the knuckle. [FIGURE 1]

FIG.1



**3.** Remove the ABS wire bracket front the steering knuckle using a 10mm wrench. [FIGURE 2]

FIG.2



**4.** Locate the Fox live valve shock plug on the frame and disconnect the plug from the harness and trace it back to the shock removing it from the frame. [FIGURE 3]

FIG.3



**5.** Using a 18mm socket loosen the upper ball joint keeping the nut on. [FIGURE 4]

FIG.4



**6.** Strike the steering knuckle at the where the upper ball joint is connected to dislodge the taper. [FIGURE 5]

FIG.5



**7.** Using a jack to support the lower control arm, use a 27mm socket remove the lower shock bolt. [FIGURE 6]

FIG.6



**8.** Remove the three upper shock bolt from the coilover using a 15mm wrench. [FIGURE 7]

FIG.7



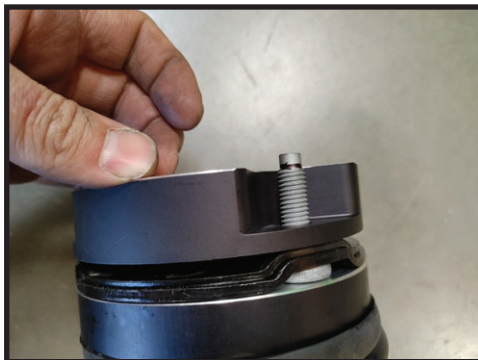
**9.** Remove the upper ball joint. Remove the coilover from the vehicle. [FIGURE 8]

FIG.8



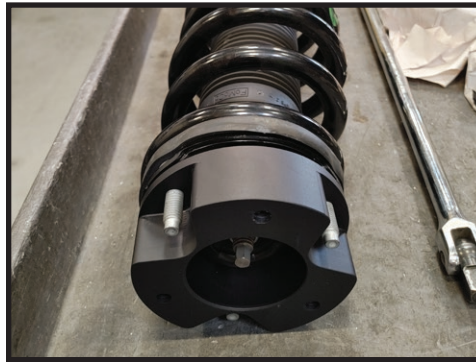
**10.** Installing the top load spacer (PN: 147009) place spacer on to coilover and mark the factory studs for cutting. Cut the marked area of the coilover studs, use a paint pen on the exposed metal surface. [FIGURE 9]

FIG.9



**11.** Rotate the factory upper coilover mount 180° before mounting the (PN: 147009) coilover spacer. Using factory bolt torque to factory specs . [FIGURE 10]

**FIG.10**



**12.** Reinstall coilover back into coil bucket using supplied 3/8" hardware (x3) 605101 & (x3) 605131. Torque to 35 ft-lbs.

**13.** Install the coilover in the lower shock pocket. Leave the factory bolts snug. Torque to factory specs once the vehicle is back on its own weight.

**14.** Reinstall the upper ball joint. [Torque to factory specs]

**15.** Reinstall factory sway bar and Fox live valve wiring harness.

**16.** Repeat steps on opposite side.

**17.** Reinstall wheels/tires. [Torque to factory specs]

**18.** Have the vehicle professionally aligned.

**19.** Have the ADAS system recalibrated.

***VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.***

***RETORQUE ALL NUTS, BOLTS AND LUGS AFTER 100 MILES AND PERIODICALLY THEREAFTER.***

### **ICON VEHICLE DYNAMICS LIMITED LIFETIME WARRANTY**

ICON Vehicle Dynamics warrants to the original retail purchaser who owns the vehicle on which the product was originally installed. ICON Vehicle Dynamics does not warrant the product for finish, alterations, modifications and/or installation contrary to ICON Vehicle Dynamics instructions. ICON Vehicle Dynamics products are not designed, nor are they intended to be installed on vehicles used in race applications, for racing purposes or for similar activities. (A "race" is defined as any contest between two or more vehicles, or a contest of one or more vehicles against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America and Canada.

ICON Vehicle Dynamics' obligation under this warranty is limited to the repair or replacement, at ICON Vehicle Dynamics' discretion, of the defective product. Any and all costs of removal, installation or re-installation, freight charges and incidental or consequential damages are expressly excluded from this warranty. Items that are subject to wear are not considered defective when worn and are not covered.

ICON Vehicle Dynamics components must be installed as a complete kit as shown in our current application guide. Any substitutions or exemptions of required components will immediately void the warranty. Some finish damage may happen to parts during shipping and is not covered under warranty.

This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been improperly installed, modified or customized subject to accident, negligence, abuse or misuse.



**ICON VEHICLE DYNAMICS®**  
PERFORMANCE SUSPENSION SYSTEMS AND SHOCK ABSORBERS

7929 Lincoln Ave. Riverside, CA 92504 Phone: 951.689.ICON Fax: 951.689.1016  
[www.iconvehicledynamics.com](http://www.iconvehicledynamics.com)



**FOLLOW US ON FACEBOOK!**

