ICON Vehicle Dynamics 91355 Installation Instructions

Extended Travel 2.5 VS RR Coilover Kit for Ford Ranger

Part number: 91355

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91355 INSTALLATION INSTRUCTIONS

9-28-2021 REV.B

PART #	DESCRIPTION
91355	19-UP FORD RANGER EXTENDED TRAVEL 2.5 VS RR COILOVER KIT

COMPONENTS INCLUDED

(1) 194931RD 19-UP RANGER EXT TRAVEL 2.5 VS RR COILOVER (DRVR) (1) 194931RP 19-UP RANGER EXT TRAVEL 2.5 VS RR COILOVER (PASS)	(2) 250002O 7.5 OFFSET RESI MOUNT PLATE (1) 611019 COILOVER HARDWARE KIT (PAIR) (1) 611051 STAINLESS STEEL HOSE CLAMP KIT (1) 611052 COILOVER LOWER HARDWARE KIT (PAIR)

HARDWARE INCLUDED

(2) 605131 3/8" SPLIT LOCK WASHER	(2) 605144 3/8-12 X .750 SELF TAP BOLT
611019 HARDWARE KIT	
(6) 605101 3/8 X 1.00 BOLT	(6) 605131 3/8 SPLIT LOCK WASHER
611052 HARDWARE KIT	
(4) 605205 7/16-14 X 2.750 BOLT (4) 605230 7/16 FLAT WASHER	(4) 605231 WASHER 1.00

TOOLS REQUIRED

FLOOR JACK JACK STANDS DRILL 11/32" DRILL BIT AIR HAMMER SAWZALL / ANGLE GRINDER	TORQUE WRENCH 15MM SOCKET / WRENCH 18MM SOCKET / WRENCH 5/16" SOCKET / WRENCH 9/16" SOCKET / WRENCH 5/8" SOCKET / WRENCH

TECH NOTES

1. THIS EXTENDED TRAVEL COILOVER REQUIRES AN UPPER CONTROL ARM (PN: 98510DJ) OR (PN: 98520DJ). FAILURE TO USE ICON UPPER CONTROL ARM WITH THIS SHOCK WILL LEAD TO FAILURE, NOT COVERED UNDER ICON'S WARRANTY POLICY.

2. YOUR ICON COILOVER ASSEMBLIES COME SHIPPED AT ICON'S RECOMMENDED RIDE HEIGHT. REDUCING DROOP TRAVEL WILL REDUCE RIDE QUALITY. DO NOT PRELOAD THE COIL LESS THAN .438" OR MORE THAN 2.25" OF EXPOSED THREADS BETWEEN THE BOTTOM OF THE TOP CAP AND THE TOP OF THE COIL ADJUSTER NUT. ADJUSTING PRELOAD BEYOND THIS SETTING WILL CAUSE THE COIL TO BIND AND DAMAGE WILL OCCUR TO COILOVER AND/OR VEHICLE.

3. YOUR ICON SHOCK ASSEMBLIES COME FACTORY CHARGED TO 250 PSI. RELEASING NITROGEN PRESSURE MAY LEAD TO SHOCK MALFUNCTION AND REDUCED RIDE QUALITY. FAILURE CAUSED BY LOW NITROGEN PRESSURE IS NOT COVERED UNDER ICON'S WARRANTY POLICY.

4. TO FIT ICON'S RECOMMENDED TIRE SIZE, THE FRAME HORN EXTENSION MUST BE REMOVED. ALTHOUGH THE BARS ARE EASILY UNBOLTED THEY CAN NOT SLIDE OUT OF THE MOUNTS WITHOUT CONTACTING THE BODY. THEREFORE, IT IS NECESSARY TO CUT THE BARS AND REMOVE THEM IN 2 PIECES.



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.*

INSTALLATION

1. Using a properly rated jack, raise the front of the vehicle and support the frame rails with jack stands. Ensure the jack stands are secure and set properly before lowering the jack. NEVER WORK UNDER AN UNSUPPORTED VEHICLE. Remove the front wheels.

2. Disconnect the UCA from the spindle using an 18mm. Loosen the nut to the end of the shank but do not remove entirely so that the nut protects the threads. Dislodge the taper by either using a ball joint separator or by striking the spindle on the outside of the taper with a large hammer. **[FIGURE 1]**

FIG.1

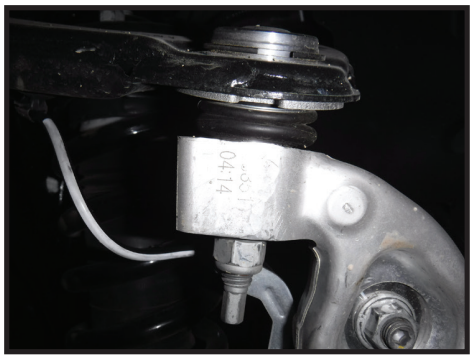



FIG.2

3. Remove the studs from the lower shock bar pin mount where it attaches to the lower arm. This can be difficult, it is recommended to use an air hammer to knock the studs out. It can be done with a heavy hammer or hand sledge. **[FIGURE 2]**

4. Remove the nut from the rear stud first, leaving the front one tight, as this is the harder one to get to. Doing this will help to hold the bar pin securely while you hammer the rear one out. The stud has a press fit knurled surface. Hammer the stud up and out of the bar pin. Now remove the nut from the front of the bar pin and hammer out the other stud.

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5. Disconnect the tie rod from the spindle using an 18mm. Loosen the nut to the end of the shank but do not remove entirely so that the nut protects the threads. Dislodge the taper by using a ball joint separator or by striking the spindle on the outside of the taper with a large hammer. **[FIGURE 3]**

FIG.3



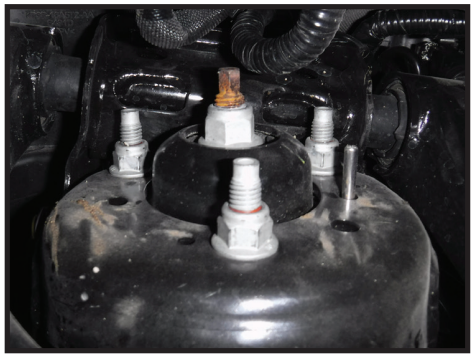


FIG.4

6. Using a 15mm, remove the (3) nuts from the upper mount. DO NOT loosen or remove the large nut in the center of the coil assembly! **[FIGURE 4]**

7. Install the ICON coilover. This may require you to pry downward on the lower arm to get the rod end into the lower control arm pocket.

8. Mount the top of the coilover to the frame using (3) bolts and washers from the (611019) hardware kit. Rotate the charge port of the shock outward and forward 30 degrees so that the correct set of threaded holes aligns with the coil bucket. Fasten using a 9/16". [Torque to 30 ft-lbs] **[FIGURE 5]**

FIG.5





FIG.6

9. Mount the bar pin to the lower control arm: Confirm that the nut on the bar pin is facing forward. Use the supplied (611052) hardware kit to install the 7/16" bolts and washers up through the arm and into the bar pin. There are two washers per bolt, the heavy black washer goes against the arm and the standard washer goes against the head of the bolt. Start the bolts, slide the bottom of the coilover as far forward as you can in the pocket and then tighten with a 5/8" socket wrench. [Torque to 50 ft-lbs] **[FIGURE 6]**

10. Position the reservoir on the reservoir bracket against the frame to find the mounting hole location. Mark the hole position for drilling. **[FIGURE 7]**

FIG.7

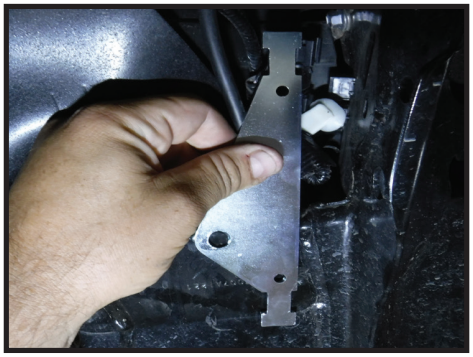




FIG.8

11. Use an 11/32" drill bit to drill a hole in the position indicated. **[FIGURE 8]**

12. Using the supplied 3/8” self taping screws and a 9/16” socket, tighten the screws to form threads in the hole. After the hole is fully threaded, remove the screw. **[FIGURE 9]**

FIG.9



13. Mount the reservoir bracket using the self-tapping screw and a 9/16”.

14. Mount the reservoir to the bracket using the supplied hose clamps and a 5/16”. **[FIGURE 10 & 11]**

FIG.10





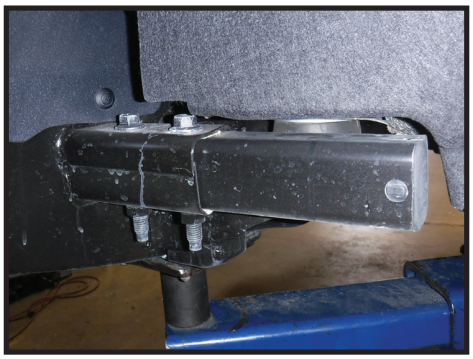
FIG.11

15. Refer to the appropriate ICON UCA instructions and follow directions for installation.

16. Connect the tie rod to the spindle using an 18mm. [Torque to factory spec]

17. To fit ICON’s recommended tire size, the frame horn extension must be removed. Although the bars are easily unbolted they can not slide out of the mounts without contacting the body. Therefore, it is necessary to cut the bars and remove them in 2 pieces. Using a sawzall or cutting disc cut the tubes as shown. Unbolt and remove the remaining inner pieces. **[FIGURE 12 & 13]**

FIG.12



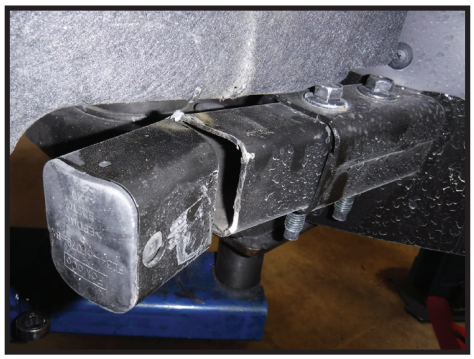


FIG.13

18. Repeat steps for opposite side.

19. Install the front wheels and lower the vehicle to the ground. [Torque lugs to factory spec]

20. Have the vehicle professionally aligned.

VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.

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

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2.5 VS SERIES SHOCK & COILOVER TECHNICAL INFORMATION

MAINTENANCE

ICON shock absorbers are a high quality rebuildable race style shock absorber designed for optimal performance. With a unit of this caliber on your vehicle, routine maintenance is required to keep them looking and operating in like new condition. Residual oil and assembly lube may be present at all seal paths from the factory out of the box and is considered normal. Pooling of oil however is not acceptable at any time and one should contact the ICON dealer where purchased.

BELOW ARE GUIDELINES BASED ON HOW YOU USE YOUR VEHICLE BUT YOUR MILEAGE MAY VARY:

STREET USE:

- Send in for factory servicing every 40,000 miles or if a leak develops, ride quality decreases, or they begin to make excessive noise.
- Remove any buildup of road salt, mud, or debris from shocks and coil springs anytime accrued
- Clean with mild soap and water with each oil change or anytime you notice build up.
- Wax the cylinders yearly with automotive wax to prevent corrosion.
- Check nitrogen pressure yearly. (252004 charge needle assembly available at any ICON distributor)
- Check bearings for excessive wear yearly.
- DO NOT apply any type of lube to the upper and lower bearings.

STREET/DIRT:

- Send in for factory servicing every 15,000 miles or if a leak develops, ride quality decreases, or they begin to make excessive noise.
- Clean with mild soap and water with each oil change, offroad trip, or anytime you notice build up.
- Wax the cylinders yearly with automotive wax to prevent corrosion.
- Check nitrogen pressure each dirt outing. (252004 charge needle assembly available at any ICON distributor)
- Check bearings for excessive wear yearly.
- DO NOT apply any type of lube to the upper and lower bearings.

DIRT USE:

- Send in for factory servicing every 1,000 miles.
- Check nitrogen pressure each outing. (252004 charge needle assembly available at any ICON distributor)
- Remove any buildup of mud or debris from shocks and coil springs after every outing.

SELF-SERVICE:

- Contact ICON for service kits & tools at (951) 689-4266.

PRODUCT REGISTRATION

Please visit: http://www.iconvehicledynamics.com/tech-support/registration/ to register your product.

ICON VEHICLE DYNAMICS SHOCK ABSORBER WARRANTY

This shock absorber has a 1 year warranty against any manufacturer's defects. If a shock fails within the initial year of ownership, the shock must be shipped to ICON Vehicle Dynamics for inspection and service. If a shock is inspected and it has been determined the shock failed due to neglect, damage caused by improper installation or any other reason besides "normal wear and tear", the owner of said shock is responsible for all service costs. This includes labor, parts, and shipping.

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.

To send a shock in for warranty please visit our website http://www.iconvehicledynamics.com/tech-support/shock-service/

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