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PART #	DESCRIPTION
91255	19-UP FORD RANGER EXTENDED TRAVEL 2.5 VS IR COILOVER KIT

COMPONENTS INCLUDED

(1) 194931D 19-UP RANGER 4WD EXT TRAVEL 2.5 VS IR COILOVER (DRVR)	(1) 611019 COILOVER HARDWARE KIT (PAIR)
(1) 194931P 19-UP RANGER 4WD EXT TRAVEL 2.5 VS IR COILOVER (PASS)	(1) 611052 COILOVER LOWER HARDWARE KIT (PAIR)

HARDWARE INCLUDED

611019 HARDWARE KIT

(6) 605101 3/8 X 1.00 BOLT	(6) 605131 3/8 SPLIT LOCK WASHER
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611052 HARDWARE KIT

(4) 605205 7/16-14 X 2.750 BOLT	(4) 605231 WASHER 1.00
(4) 605230 7/16 FLAT WASHER	

TOOLS REQUIRED

FLOOR JACK	15MM SOCKET / WRENCH
JACK STANDS	18MM SOCKET / WRENCH
TORQUE WRENCH	9/16" SOCKET / WRENCH
AIR HAMMER	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 BEYOND 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.



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 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 1]

FIG.1



FIG.2



3. 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 2]
4. Separate the UCA from the spindle. Support the spindle so that it does not overextend the CV joints when detached.

5. Remove the nuts from the bar pin of the lower shock mount using an 18mm. [FIGURE 3]

FIG.3



FIG.4

6. Using an air hammer, hammer the studs up and out of the lower control arm. [FIGURE 4]

7. 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 5]

FIG.5

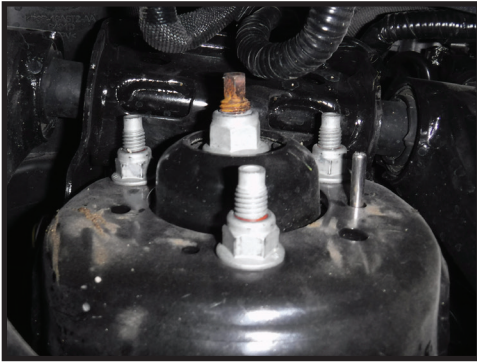


FIG.6

8. 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.

9. Mount the coilover to the frame using a 9/16" and the supplied (611019) hardware kit. [Torque to 30 ft-lbs] [FIGURE 6]

10. Mount the bar pin to the lower control arm using a 5/8" and the supplied (611052) hardware kit. [Torque to 50 ft-lbs] [FIGURE 7]

FIG.7



FIG.8

11. Refer to the appropriate ICON UCA instructions and follow directions for installation. [FIGURE 8]

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

13. Repeat steps for opposite side.

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

15. 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.

ALIGNMENT NOTE

A MAJOR PERFORMANCE ADVANTAGE OF ALL ICON UPPER CONTROL ARMS IS INCREASED CASTER OVER STOCK. DISCUSS WITH A PROFESSIONAL ALIGNMENT SHOP THAT YOU WANT THE VEHICLE ALIGNED WITH THE CASTER AT THE MAX OF THE FACTORY RECOMMENDED SETTINGS IF YOU WANT TO TAKE ADVANTAGE OF THE DYNAMIC EFFECTS OF INCREASED CASTER.

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/>



ICON VEHICLE DYNAMICS®
PERFORMANCE SUSPENSION SYSTEMS AND SHOCK ABSORBERS

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