ICON Vehicle Dynamics K93001 Installation Instructions

Stage 1 Suspension System for Ford F-150 4WD (2009-2013)

Part number: K93001

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Scan for fitment, price and install help

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91700 INSTALLATION INSTRUCTIONS

9-25-2015 REV.B

PART #	DESCRIPTION
91700	09-13 F150 4WD 2.5 VS IR COILOVER KIT

COMPONENTS INCLUDED

(2) 194941 09-13 F150 4WD 2.5 CO IR	(1) 611019 COILOVER HARDWARE KIT (PAIR) (1) 611046 09-13 F150 LCA CO MOUNT HARDWARE (PAIR)

HARDWARE INCLUDED

611019 HARDWARE KIT	
(6) 605101 3/8-16 X 1.000 HHCS GR8	(6) 605131 3/8 SPLIT LOCK WASHER GR8
611046 HARDWARE KIT	
(2) 605502 5/8-11 X 4.500 HHCS GR8 (2) 605520 5/8-11 NYLOCK NUT GR5	(4) 605530 5/8 SAE FLAT WASHER GR8 (4) 197012 09-13 F150 & RAPTOR ADAPTER LCA

TOOLS REQUIRED

JACK JACK STANDS TORQUE WRENCH 15MM SOCKET / WRENCH	21MM SOCKET / WRENCH 27MM SOCKET / WRENCH 29MM SOCKET / WRENCH 9/16" SOCKET / WRENCH 15/16" SOCKET / WRENCH

TECH NOTES

1. YOUR ICON COILOVER 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.

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 2.625" OF EXPOSED THREADS BETWEEN THE BOTTOM OF THE TOP CAP AND THE COIL ADJUSTER NUT. ADJUSTING PRELOAD BEYOND THIS SETTING WILL CAUSE THE COIL TO BIND AND DAMAGE WILL OCCUR TO COILOVER AND/OR VEHICLE.



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 INSTALLTION 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 outer tie rod end using a 21mm socket/wrench. Loosen the nut a few turns. Strike the end of the steering arm with a large hammer to dislodge the taper. Remove the nut and swing the tie rod out of the way. **[FIGURE 1 & 2]**

FIG.1





FIG.2

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3. Support the lower control arm with a jack and remove the (3) nuts securing the upper shock mount to the coil bucket using a 15mm socket/wrench. Do not loosen or remove the larger center nut securing the spring seat to the shock shaft. This will result in the stock coil assembly to come apart violently, causing possible damage to components and injury. **[FIGURE 3]**

FIG.3





FIG.4

4. Use a 29mm socket, and a 27mm socket/wrench to remove the bolt holding the lower shock eye to the lower control arm. **[FIGURE 4]**

5. Lower the jack and remove the stock coilover assembly. Due to rubber bushing stiffness you may need to pull down on the suspension to make room for removal. To make this easier you can use a pry bar over the top of the upper control arm and under the pivot bolt for additional leverage. Be careful not to damage any brake lines or wires that may be routed down the arm.

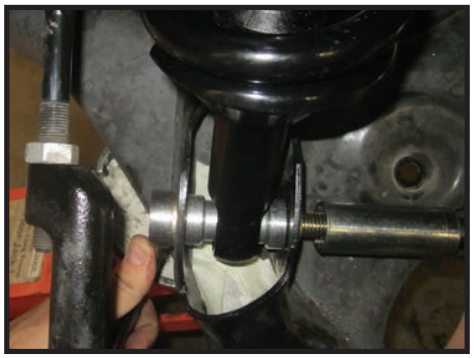
6. Install new ICON coilover assembly. Install upper mount with the charge port facing outward using three (605101) bolts and three (605131) lock washers. Tighten using a 9/16" socket/wrench. [Torque to 35 ft-lbs] **[FIGURE 5]**

FIG.5



7. NOTE: Stuff a rag in the lower control arm pocket in case spacers fall in pocket. Install lower shock mount to lower control arm: First install the adapter (197012) into the lower mount as shown. Cut the zip tie off the lower shock eye and make sure that the spacers don't fall out. Slide the lower end of the shock between the adapters (197012) and install the supplied lower (605502) bolt with (605530) washers. Tighten using a 15/16" socket/wrench. [Torque to 150 ft-lb]
[FIGURE 6]

FIG.6



8. Reinstall the outer tie rod end using a 21mm socket/wrench [Torque to factory spec] and install cotter pin.

9. Install front wheels and lower vehicle back to the ground. [Torque to factory spec]

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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PERFORMANCE SUSPENSION SYSTEMS AND SHOCK ABSORBERS

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