ICON Vehicle Dynamics 158509 Installation Instructions

Multi-Rate RXT Leaf Pack with Add-In Leaf for Toyota Tundra

Part number: 158509

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Scan for fitment, price and install help

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158509 INSTALLATION INSTRUCTIONS

6-30-2023 REV.D

PART #	DESCRIPTION
158509	07-21 TUNDRA MULTI RATE RXT LEAF PACK W/ ADD IN LEAF

COMPONENTS INCLUDED

(1) 158509 07-21 TUNDRA MULTI RATE RXT LEAF PACK W/ ADD IN LEAF	

HARDWARE INCLUDED

158509H HARDWARE KIT

(1) LEAF SPRING LINER (1) LEAF SPRING CENTER PIN W/ NUT	(1) LEAF SPRING U-CLIP

TOOLS REQUIRED

JACK JACK STANDS TORQUE WRENCH 9/16" SOCKET / WRENCH	7/8" SOCKET / WRENCH 12MM SOCKET / WRENCH 17MM SOCKET / WRENCH 19MM SOCKET / WRENCH

TECH NOTES

1. ICON MULTI-RATE LEAF SPRING KIT REQUIRES TOYOTA U-BOLT KIT (52050) FOR INSTALLATION.

2. THE ICON MULTI RATE LEAF SPRING IS MODULAR, MEANING THAT YOU CAN CONFIGURE THE SPRING PACK TO YOUR DESIRED SETTING FROM THESE AVAILABLE OPTIONS:

OPTION #1 - THE SPRING IS SHIPPED AT THIS SETTING (LIGHTEST SPRING RATE).

OPTION #2 - REPLACE THE 3RD SPRING (COUNTING FROM THE TOP DOWN) WITH THE ADDITIONAL LEAF.

OPTION #3 - PLACE THE ADDITIONAL LEAF BETWEEN THE 3RD AND 4TH SPRING (COUNTING FROM THE TOP DOWN). DO NOT REMOVE LEAF FROM SPRING PACK.

ICON'S MEASURED SPECS FROM THE TEST TRUCK (2016 4WD CREW CAB TUNDRA):

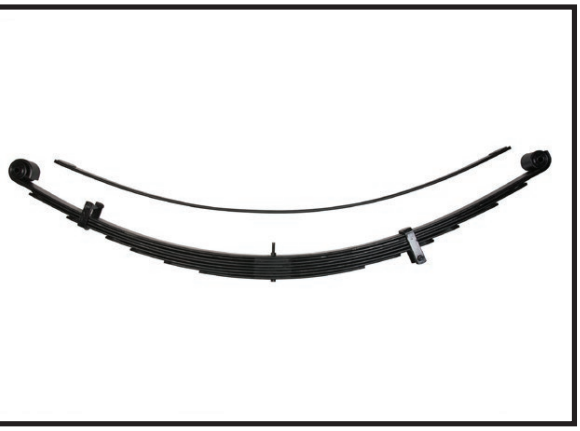
OPTION #1 - LIFT HEIGHT OVER STOCK: + 1.75" (UNLOADED)
(RECOMMENDED FOR CONSTANT LOAD UP TO 250 LBS)

OPTION #2 - LIFT HEIGHT OVER STOCK + 3.00" (UNLOADED)
(RECOMMENDED FOR CONSTANT LOAD OF 250-500 LBS)

OPTION #3 - LIFT HEIGHT OVER STOCK: + 4.00" (UNLOADED)
(RECOMMENDED FOR CONSTANT LOAD OF 500-750 LBS)

Note: Location of weight in rear of vehicle will also have an effect on rear ride height. For example, weight mounted in bumper/tailgate area will have greater reduction in rear ride height than the same amount of weight mounted toward front of bed area.

Note: Level stance with 3" front-end lift may not be achievable with rear lift heights above 1.75" over stock. Consider desired vehicle stance, available front-end lift range, as well as constant rear weight and its location when determining spring pack configuration.



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 rear of the vehicle and support the frame rails with jack stands. Ensure the jack stands aresecure and set properly before lowering the jack. NEVER WORK UNDER AN UNSUPPORTED VEHICLE. Remove the rear wheels.

2. Remove the lower shock bolt using (2) 19mm.

3. Disconnect the parking brake bracket from the axle using a 12mm.

4. Support the axle using the floor jack. Remove the U-bolts from one side of the truck using a 19mm.

5. Slowly lower the axle being careful to not overextend brake lines or ABS wires.

6. Remove the pivot bolt from the front frame mount using (2) 19mm. **[FIGURE 1]**

7. Remove the upper and lower nut from the spring shackle using a 19mm.

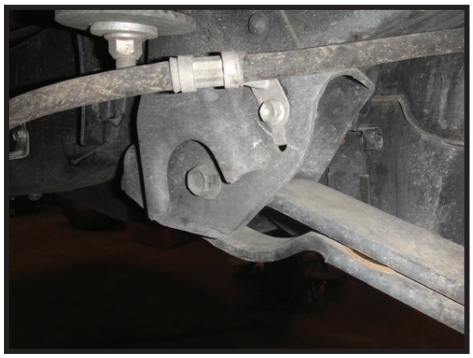


FIG.1

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8. Remove the shackle plate from the nut side of the shackle. **[FIGURE 2]**

FIG.2



9. Remove the shackle from the inside of the frame rail. This may require removal of the spare tire.

10. Lift the factory spring out being careful to not damage brake lines, hoses, and ABS wires. Two people are recommended, as leaf springs are very heavy.

If adjusting the MULTI RATE spring configuration:

A. Remove the front clip bolts and rear clip using a 9/16". **[FIGURE A]**

FIG.A





FIG.B

B. Clamp the pack on both sides of the center pin. **[FIGURE B]**

C. Use locking pliers to hold the head of the center pin and remove the nut using a 9/16".

D. Carefully release the clamps from the spring pack. Use caution, as the pack may still have tension upon release.

E. Remove the top two leafs from the spring pack. **[FIGURE C]**

FIG.C



F. Configure the spring pack as desired from the available options.

G. You can either replace the 3rd leaf (counting from the leaf down) with the additional leaf, or add the additional leaf between spring #3 and #4.

Option #1: Standard (as shipped) = 30% reduced ride rate from stock. (+1.75" over stock unloaded)
Option #2: Additional leaf #3 = 20% over standard ICON configuration. (+3.00" over stock unloaded)
Option #3: Standard + Additional leaf = 40% over standard ICON configuration. (+4.00" over stock unloaded)

Option #1: Recommended for constant loads up to 250lbs.
Option #2: Recommended for constant loads from 250-500lbs. (+250lbs = 2.00" lift | +500lbs = 1.35" lift)
Option #3: Recommended for constant loads from 500-750lbs. (+750lbs = 1.50" lift)

H. Be sure there is a liner between each leaf.

I. Slide the center pin through the pack and clamp together using clamps on both sides of the center pin. Once the center pin is through the whole pack, start the nut. [Torque to 15 ft-lbs]

J. Install the appropriate clips for the configuration. Longer clips are provided for additional pack thickness.

11. Lift the MULTI RATE spring pack into place. Loosely install the shackle, shackle plate, and nuts. Do not tighten.

12. Mount the spring in the front frame pocket using the factory bolt and nut. Do not tighten. Lift the axle and guide the center pin into the location hole in the spring pad on the axle tube.

13. Place the factory bump stop or ICON striker plate on top of the spring. The center pin may need to be trimmed. **[FIGURE 3]**

FIG.3





FIG.4

14. Install the U-bolts and tighten. **[FIGURE 4]**

15. Connect the parking brake brackets to the axle using a 12mm and the factory bolt.

16. If the rubber brake lines are too tight at full droop, the brake line bracket (on top of the rear differential) can be hand formed upwards for some extra clearance.

17. Install shocks and wheels and set the vehicle on the ground.

18. Torque shackle nuts and front spring bolt to factory spec. **[FIGURE 5 & 6]**

FIG.5

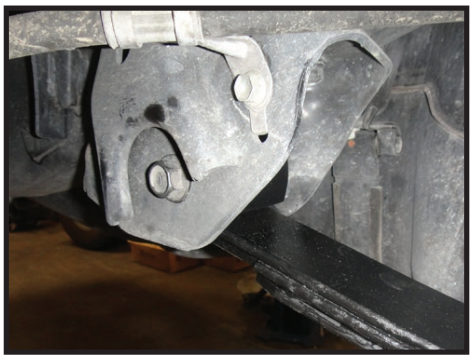




FIG.6

19. Torque U-bolts to 90ft-lbs.

VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.

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

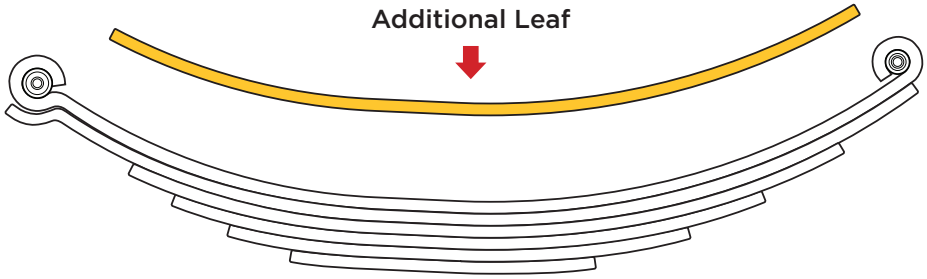
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MULTI-RATE LEAF SPRING RATE CHANGE OPTIONS

(General application for all models. Refer to these instructions for specific rates)

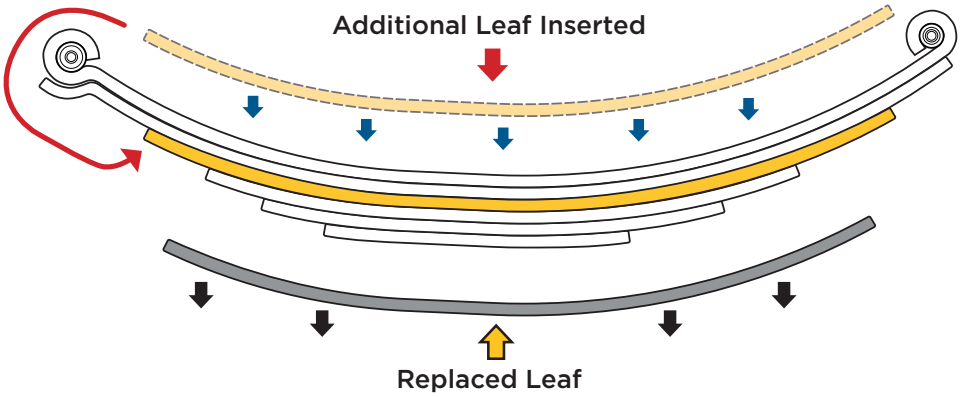
OPTION 1

ADDITIONAL LEAF NOT USED



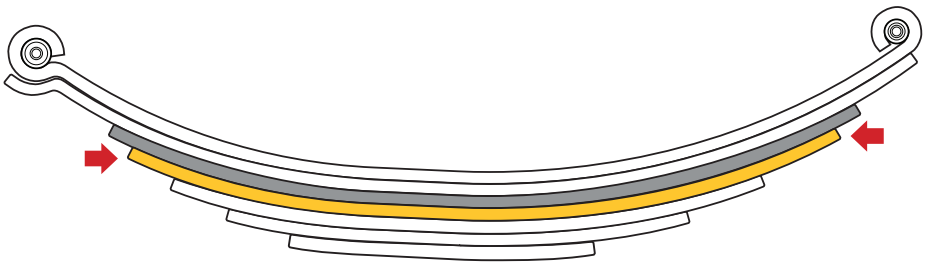
OPTION 2

ADDITIONAL LEAF REPLACES LEAF



OPTION 3

ADDITIONAL LEAF ADDED TO PACK





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ICON VEHICLE DYNAMICS®

2007-2017 TOYOTA TUNDRA
RXT MULTI-RATE LEAF SPRING

OPTION 1

INSTALL SPRING IN ORIGINAL CONFIGURATION, LEAVING ADDITIONAL LEAF OUT

LIFT HEIGHT OVER STOCK:

1.75”

(UNLOADED)

IMAGE SHOWN WITH NO WEIGHT IN BED

AS SHIPPED



OPTION 2

REPLACE THE 3RD SPRING IN THE PACK WITH THE ADDITIONAL LEAF PROVIDED IN KIT

LIFT HEIGHT OVER STOCK:

3.00”

(UNLOADED)

2.00”

(250LB LOAD)

IMAGE SHOWN WITH 250LB LOAD IN BED

LEAF REPLACEMENT



OPTION 3

ADD THE ADDITIONAL LEAF PROVIDED TO THE PACK, IN BETWEEN THE 3RD AND 4TH SPRING

LIFT HEIGHT OVER STOCK:

4.00”

(UNLOADED)

1.50”

(750LB LOAD)

IMAGE SHOWN WITH 750LB LOAD IN BED

LEAF ADDITION



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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.

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ICON does not make any representations or warranties regarding the fitness of any ICON product for a particular installation or conformance of any ICON product with a particular vehicle application. Installation of any ICON suspension system is at the sole discretion of the end user and in making a purchase of any ICON suspension system, the purchaser assumes the responsibility and liability for any and all damage or injury, of any kind or nature whatsoever, caused by, resulting from, arising out of, or occurring in connection with the use or installation of any ICON suspension system. ICON is not liable for and specifically disavows any installation that is not in conformance with original equipment manufacturer's recommendations or instructions. Purchaser agrees that in the event of any claim or lawsuit arising out of the installation or use of an ICON suspension system, purchaser shall indemnify and hold harmless ICON, its agents, employees, officers and owners from and against any and all loss, expense, damage or injury that ICON may sustain as the result of such claim. [If applicable, ICON defers to and recommends recalibration of any/all vehicle stability systems after suspension installation.]

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