TRAIL FORTRESS

BUILT FOR THE TRAIL. CHECKED FOR YOUR TRUCK.

ICON Vehicle Dynamics K53194T Installation Instructions

Stage 4 Suspension System with Tubular Arms, Toyota Tundra

Part number: K53194T

trailfortress.com/icon-vehicle-dynamics-22-25-tundra-2-3-5-stage-4-suspension-system-tubular-k53194t

Scan for fitment, price and install help

7929 Lincoln Ave. Riverside, CA 92504
Phone: 951.689.ICON | Fax: 951.689.1016

58670 INSTALLATION INSTRUCTIONS

10-5-2022 REV.C

PART #	DESCRIPTION
58670	22-UP TUNDRA 2.5 VS IR COILOVER KIT

COMPONENTS INCLUDED

(2) 154870 22-UP TUNDRA CO IR UPKG	

HARDWARE INCLUDED

(2) 150122 22-UP TUNDRA 5/16 BUMP STOP SPACER (1) 605968 VIBRATITE BLUE 2ML BULLET	(1) 611025 07-22 TUNDRA CO HARDWARE KIT

TOOLS REQUIRED

JACK JACK STANDS HAMMER BALLJOINT SEPARATOR FLAT BLADE SCREWDRIVER PLIERS TORQUE WRENCH RATCHET 12 POINT AXLE SOCKET	10MM SOCKET / WRENCH 12MM SOCKET / WRENCH 14MM SOCKET / WRENCH 19MM SOCKET / WRENCH 22MM SOCKET / WRENCH 24MM SOCKET / WRENCH 38MM SOCKET / WRENCH 9/16" 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 1.125" 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. ICON DOES NOT RECOMMEND LIFTING APPROXIMATELY 2.25" OF LIFT WITHOUT AN ICON UPPER CONTROL ARM (PN: 58461DJ OR 58561DJ). FAILURE TO DO SO CAN CAUSE DAMAGE TO AXLES.

4. FOR NON TRD MODELS, ICON RECOMMENDS USING ICON DIFF DROP (PN: 55156) OR USING TOYOTA TRD AXLES (PN: 434200C020-DRIVER, PN: 434100C020-PASSENGER). FAILURE TO DO SO COULD RESULT IN AXLE DAMAGE.

5. INSTALL TIME: 5-6 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.*

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 the sway bar link from the lower arm using a 19mm. Use a dead blow hammer to remove the link from the stud on the lower arm. Reinsert the bolt into the arm to keep track of it. **[FIGURE 1]**

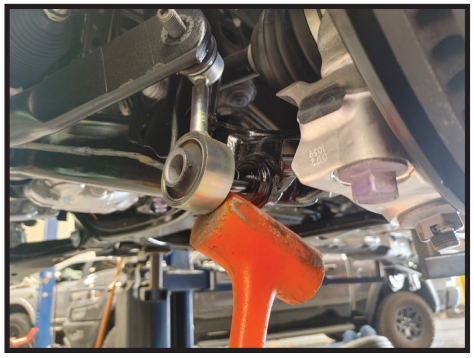


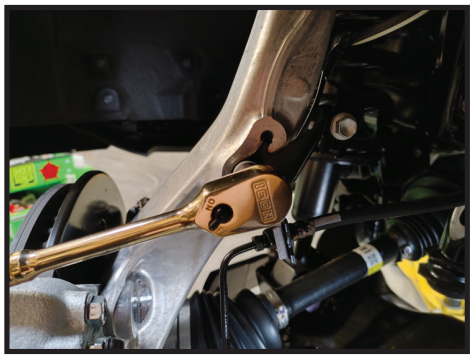
FIG.1

trailfortress.com/icon-vehicle-dynamics-22-25-tundra-2-3-5-stage-4-suspension-system-tubular-k53194t

3. Loosen and remove the nut of the upper portion of the link using a 19mm. Remove the link from the swaybar and set aside with the nut.

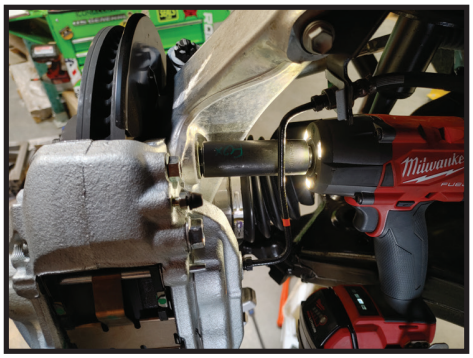
4. Remove the (2) 12mm bolts that hold the brake line and abs bracket to the spindle. **[FIGURE 2]**

FIG.2



5. Remove the brake caliper from the spindle using a 19mm. Once removed, use a strap or rope to support the caliper so it does not hang by the brake line. Remove the brake rotor and set aside. **[FIGURE 3 & 4]**

FIG.3



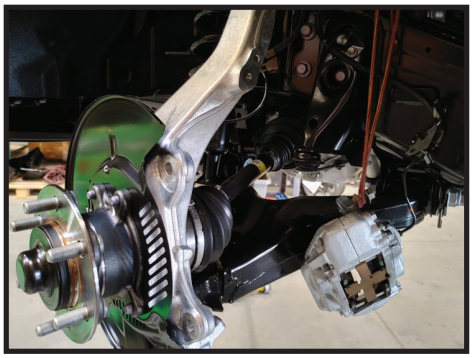
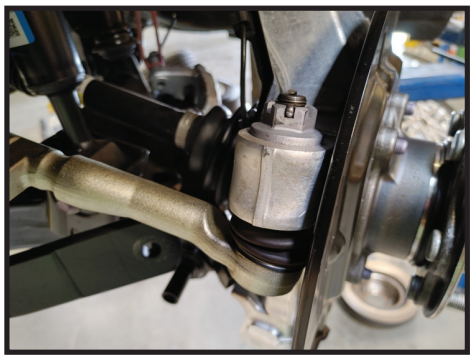


FIG.4

6. Use a pliers to remove the cotter pin from the tie rod nut/stud. Remove the tie rod nut using a 24mm. **[FIGURE 5]**

FIG.5



7. Use a ball joint separator or a hammer to loosen the tie rod stud taper from the spindle. **[FIGURE 6]**

FIG.6



8. Remove the wheel speed sensor from the front side of the spindle using a 10mm. Remove the bracket from the spindle using a 12mm. **[FIGURE 7 & 8]**

FIG.7

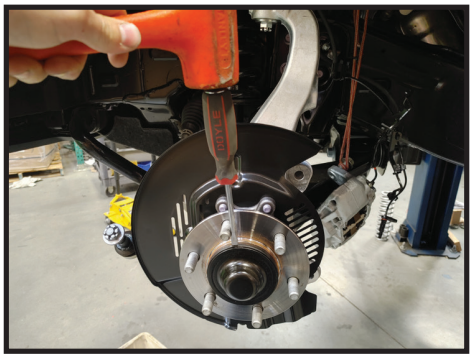




FIG.8

9. Remove the hub cap from the hub using a flat blade screwdriver to pry it away and off. **[FIGURE 9 & 10]**

FIG.9



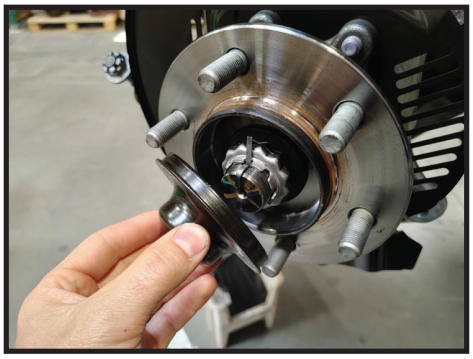
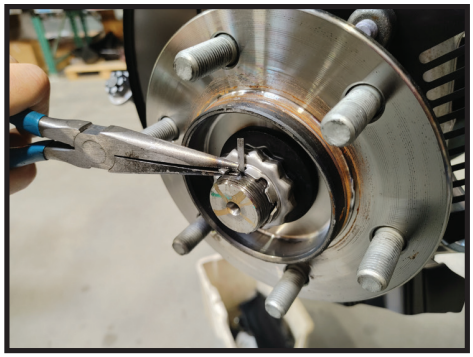


FIG.10

10. Use a pliers to remove the cotter pin holding the nut lock plate in place. **[FIGURE 11]**

FIG.11



11. Use a 38mm 12 point socket on an impact wrench to remove the axle nut. **[FIGURE 12]**

FIG.12



12. Use a deadblow hammer to hit the stub axle free of the hub. It won't come completely out of the hub yet.

13. Remove the cotter pin from the upper control arm stud/nut.

14. Use a 19mm to loosen the upper control arm ball joint nut. **[FIGURE 13]**

FIG.13



15. Use a balljoint separator or a hammer to loosen the balljoint taper from the spindle. Once loose, remove the nut and support the spindle so it does not fall free. **[FIGURE 14]**

FIG.14



16. Use a 22mm to remove the 2 bolts from the bottom side of the spindle. Remove spindle being sure the stub axle comes out of the spindle. **[FIGURE 15 & 16]**

FIG.15



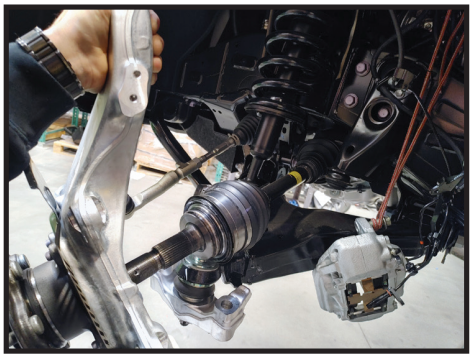
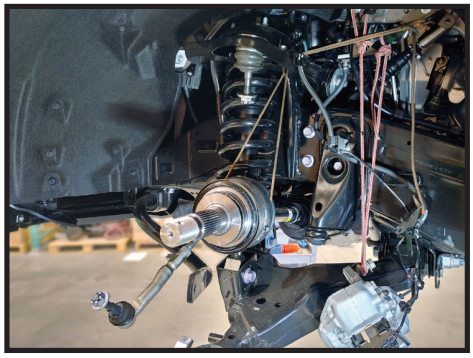


FIG.16

17. Use a rope or strap to support the cv/axle assembly out of the way. **[FIGURE 17]**

FIG.17



18. Support lower control arm and loosen the pivot bolts at the frame using a 24mm.

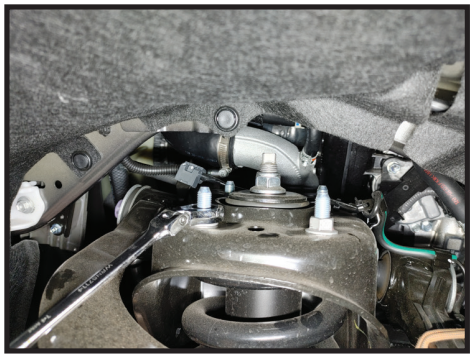
19. Remove the lower shock bolt using a 22mm. **[FIGURE 18]**

FIG.18



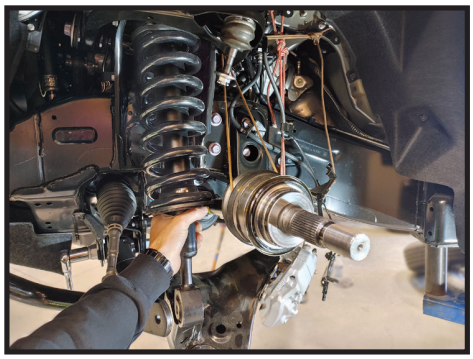
20. Remove upper shock mount nuts using a 14mm. **[FIGURE 19]**

FIG.19



21. Lower the control arm and remove the coilover assembly. **[FIGURE 20]**

FIG.20



22. Grind/cut the lower shock pocket on the control arm to add clearance for the new ICON coilover assembly. Removing the control arm can help make this easier, if removed, be sure the bolts go back into the same place and orientation. After cutting is complete, paint over the raw metal to prevent rust. **[FIGURE 21 & 22]**

FIG.21

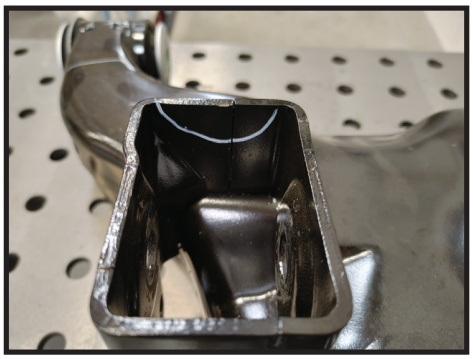




FIG.22

23. Reinstall the control arm now, if removed.

24. Install the new ICON coilover, lower eyelet first with the spacers, then the upper mount. Torque the upper bolts to 35 ft-lbs, and the lower bolt to factory spec. **[FIGURE 23 & 24]**

FIG.23

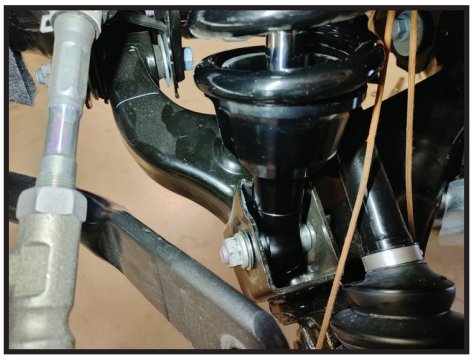




FIG.24

25. If an ICON UCA was purchased, install that now.

26. Reinstall spindle, insert the stub axle back into the hub, making sure the splines are aligned. Insert the lower 2 bolts into the spindle.

27. Install the upper control arm balljoint into the spindle and secure with the nut.

28. Torque the lower balljoint bolts to factory spec. Torque the upper balljoint to factory spec if using the OEM arm, or 70 ft-lbs for ICON Delta Joint Pro.

29. Install the axle nut and torque to factory spec. Install nut lock plate and cotter pin. Then use a dead blow hammer to install the hub cap.

30. Install rotor onto hub and install brake caliper back onto spindle. [Torque bolts to factory spec]

31. Reconnect brake line and ABS brackets onto spindle.

32. Install ABS sensor back into the spindle and the bracket.

33. When lifting above 2.25" install (PN: 55154, sold separately). Remove the sway bar mounting bracket from the frame using a 17mm and install the new drop spacers between the bracket and frame. Reinstall with the new bolts and torque to factory spec. **[FIGURE 25 & 26]**

FIG.25



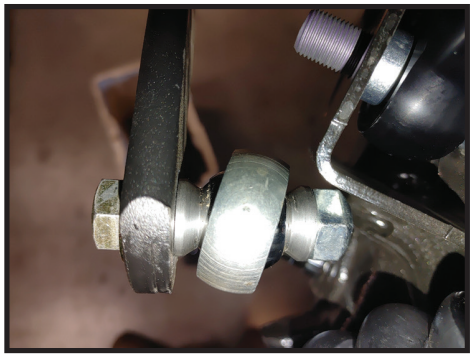


FIG.26

34. If installing (PN: 55155) Icon sway bar end links, do so using Step 35.

35. Install new ICON sway bar links, the rod end side with supplied hi-misalignment spacers onto the sway bar using the supplied 9/16" bolt, washer only on the sway bar side and nut. 13/16" bolt head and 7/8" nut. Torque to 80 ft-lbs. **[FIGURE 27]**

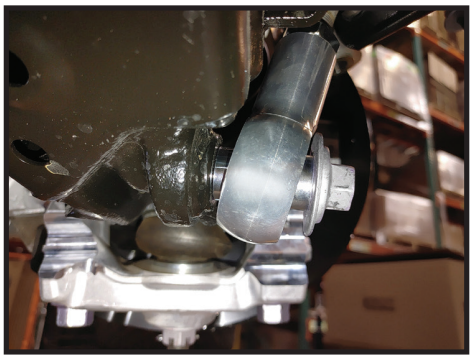
FIG.27



trailfortress.com/icon-vehicle-dynamics-22-25-tundra-2-3-5-stage-4-suspension-system-tubular-k53194t

36. Install the lower end of the sway bar link onto the lower control arm stud. First the sleeve, then the link and second sleeve. Reuse the factory bolt and torque to factory spec. **[FIGURE 28 & 29]**

FIG.28



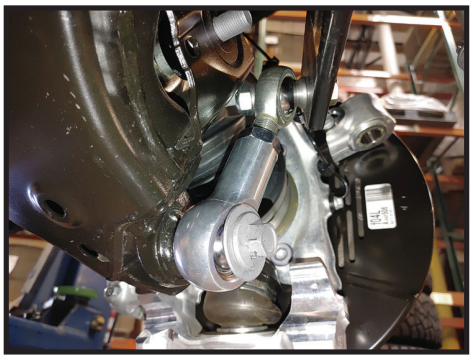


FIG.29

37. Install tie rod and nut. Torque to factory spec and reinstall cotter pin.

38. Remove factory bump stop from the frame and install the supplied 5/16" thick washer between the bump stop and frame. Apply thread locker to the threads of the bump stop and tighten back onto the frame. **[FIGURE 30]**

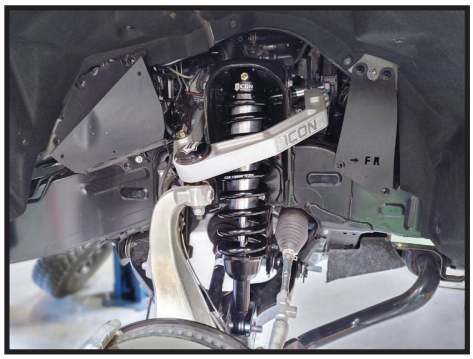
FIG.30



39. Repeat steps on opposite side.

40. Install wheels and tires, lower vehicle to the ground. Torque lug nuts. **[FIGURE 31]**

FIG.31



41. Get vehicle professionally aligned.

VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.

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

trailfortress.com/icon-vehicle-dynamics-22-25-tundra-2-3-5-stage-4-suspension-system-tubular-k53194t

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

7929 Lincoln Ave. Riverside, CA 92504 Phone: 951.689.ICON Fax: 951.689.1016
www.iconvehicledynamics.com

FOLLOW US ON FACEBOOK!

trailfortress.com/icon-vehicle-dynamics-22-25-tundra-2-3-5-stage-4-suspension-system-tubular-k53194t