

PART #	DESCRIPTION
214200	14-UP RAM 2500 FRONT 2.5" DUAL RATE SPRING KIT

COMPONENTS INCLUDED	
(1) 218210P 14+ RAM HD FRONT 2.5" DUAL RATE COIL (PASS) (1) 218210D 14+ RAM HD FRONT 2.5" DUAL RATE COIL (DRVR)	(1) 214200H HARDWARE KIT (1) 611068 14-UP RAM HD E-BRAKE RELOCATION KIT
HARDWARE INCLUDED	
214200H HARDWARE KIT	
(2) 217120 14+ RAM 2500 REAR SWAY BAR DROP (1) 214108 14+ RAM HD BRAKE BRKT DRVR (1) 214109 14+ RAM HD BRAKE BRKT PASS	(2) 605823 M12-1.75 NYLOCK NUT (2) 605835 M12-1.75 X 70MM BHCS (2) 605230 7/16 FLAT WASHER
611068 E-BRAKE RELOCATION KIT	
(1) 210002 14-UP RAM HD E-BRAKE BRACKET (1) 605101 3/8-16 X 1.000 HHCS (1) 605121 3/8-16 NYLOCK NUT	(2) 605133 3/8 FLAT WASHER (1) 605839 M10-1.5 X 20MM BHCS
TOOLS REQUIRED	
JACK JACK STANDS 9/16" SOCKET / WRENCH 10MM SOCKET / WRENCH 13MM SOCKET / WRENCH 18MM SOCKET / WRENCH 19MM SOCKET / WRENCH 22MM SOCKET / WRENCH	27MM SOCKET / WRENCH 36MM WRENCH 42MM WRENCH 6MM ALLEN WRENCH 8MM ALLEN WRENCH PLIERS TORQUE WRENCH
TECH NOTES	
1. FAILURE TO INSTALL BRAKE LINE RELOCATION BRACKETS WITH AFTERMARKET SHOCKS WILL CAUSE THE SHOCK BODY TO CRASH INTO THE BRAKE LINE CAUSING BRAKE FAILURE.	
2. THIS SPRING KIT INCLUDES A SWAY BAR DROP BRACKET KIT AND EMERGENCY BRAKE CABLE RELOCATION KIT. THESE ITEMS MUST BE USED TO ALLOW FOR THE INSTALLATION OF ICON'S LONGER REAR SHOCK ABSORBERS.	



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 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 wheels/tires with a 22mm (stock lug nut size).

2. Support the front axle with a jack and remove the track bar bolt from the frame with a 27mm

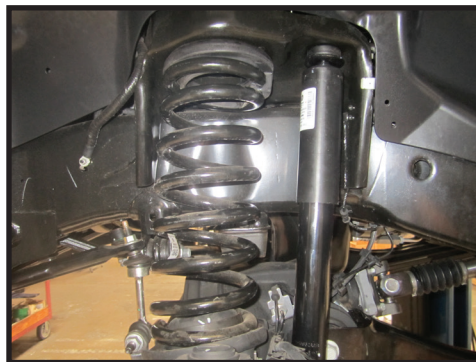
NOTE: Failure to remove the track bar bolt will slow down the process and make the install much more difficult.

3. Remove the front shocks using a 21mm for the lower and 19mm for the upper. [FIGURE 1 & FIGURE 2]

FIG.1



FIG.2



4. Remove the sway bar links from the sway bar using a 10mm and an 18mm. [FIGURE 3]

FIG.3

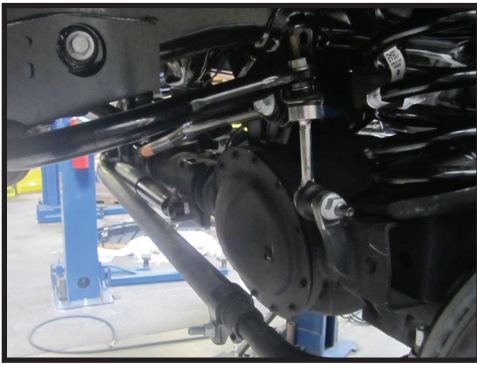


FIG.4



5. Slowly lower the axle with the support jack until both driver and passenger springs become free. Remove the factory coil springs, leave the factory rubber isolators installed and located with the locating nipple in the upper coil bucket. [FIGURE 4]

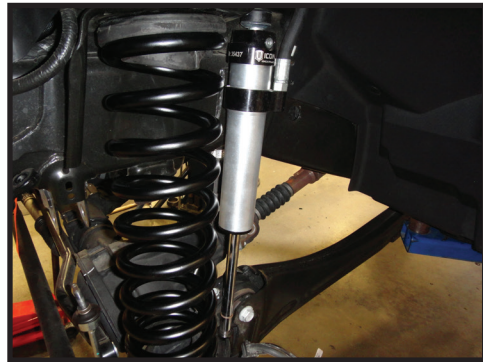
6. Remove the factory brake line tabs mounted to the radius arm with a 13mm. Slide the pressure clip off of the back of the brake line and bracket using pliers. Only grab from the tang of the clip. Pull the ABS line off of the top of the bracket. Replace with the supplied bracket on the driver side (PN: 214108) and on the passenger side (PN: 214109). Do not over-tighten the bolt. Push the ABS line isolator through the top of the bracket and remount the brake line clip. [FIGURE 5]

NOTE: Failure to use this relocation bracket will cause the shock body to crash into the brake line causing brake failure.

FIG.5



FIG.6



7. Lower the axle enough that the ICON coil springs (PN: 218210) can be installed with the progressive windings down towards the axle. [FIGURE 6]

NOTE: Installing the progressive coil windings at the upper coil bucket instead of at the axle side will not allow the factory rubber isolator to seat properly.

8. Raise the jack to preload the springs slightly and verify proper engagement of the top and bottom coil seats.

9. Mount the shocks using a 19mm for the upper and 21mm for the lower. Using the support jack, line up the lower mount after the upper is loosely mounted. Refer to shock installation instructions for more detailed instruction. [Torque to factory spec]

NOTE: Use the handle of a hammer or large screwdriver to pry between the plastic fender liner and the coil bucket to increase access to the upper stem top hardware.

10. Reinstall the factory track bar bolt with a 27mm. [Torque to factory spec]

11. Reconnect the sway bar links to the sway bar using a 10mm and an 18mm. [Torque to factory spec]

12. Remove the factory emergency brake bracket from the top of the rear differential using a 14mm. Mount the supplied emergency brake cable relocation bracket to the differential using the factory bolt and the supplied (605839) bolt. Tighten using a 14mm and 6mm allen wrench. [FIGURE 7]

FIG.7



- 13.** Mount the factory emergency brake cable bracket to the ICON relocation bracket using the supplied 3/8" hardware, tighten using a 9/16". [Torque to 35 ft-lbs]
- 14.** Install the wheels and set the vehicle on the ground. [Torque the lugs to factory spec]
- 15.** Center the steering wheel by loosening the jam nuts on the drag link with 36mm and 42mm and turn until the wheel is straight. Once the wheel is centered, tighten jam nuts. [Torque to factory spec]
- 16.** Supplied in this kit are rear billet sway bar drop brackets (PN: 217120) to allow longer than stock rear shocks. Remove the factory swaybar link from the chassis and mount the billet drop using the factory nut and bolt to the chassis. Use the supplied 12mm hardware to attach the link to the billet drop with a 8mm allen and 19mm socket/wrench. [Torque to 50 ft-lbs] [FIGURE 8]

FIG.8



NOTE: Failure to use these brackets with ICON rear shocks cause the swaybar links to overextend and will cause permanent damage. These brackets are only sold with the spring kit and not available separately and can be used on a vehicle with stock rear shocks. It is ICON's recommendation if you plan to purchase longer than stock rear shocks in the future to install them now.

- 17.** Reinstall the wheels and lower the vehicle to the ground. [Torque lugs to factory spec]

VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.

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

ICON VEHICLE DYNAMICS LIMITED LIFETIME WARRANTY

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.



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PART #	DESCRIPTION
217802P	14-UP RAM 2500 2.5" FRONT 2.5 REMOTE RESERVOIR SHOCKS

COMPONENTS INCLUDED	
(2) 214946R 14+ RAM HD 2.5" FRONT 2.5 RR (2) 250006 7.5 UNIVERSAL 90 DEGREE RESI MT (4) 605124 3/8-16 LOCKNUT THIN (4) 605133 3/8 WASHER	(4) 605136 3/8-16 X 1.000 BUTTON HEAD (2) 611006 9/16 HD STEM BUSHING KIT (1) 611051 HOSE CLAMP KIT
HARDWARE INCLUDED	
611006 CONTENTS	
(2) 255200 STEM BUSHING 9/16 ID (2) 254200 9/16 STEM WASHER	(1) 605809 M12-1.25 JAM NUT (1) 605810 M12-1.25 NUT
611051 CONTENTS	
(4) 605931 1/2 X 2 1/16 - 3 ID #40 SS HOSE CLAMP	
TOOLS REQUIRED	
JACK JACK STANDS TORQUE WRENCH DRILL 7/16" DRILL BIT	7/32" ALLEN 5/16" NUT DRIVER 9/16" WRENCH 19MM WRENCH (X2) 21MM SOCKET / WRENCH
TECH NOTES	
1. FAILURE TO INSTALL THE BRAKE LINE RELOCATION BRACKETS (PART #214108/214109) SUPPLIED WITH THE ICON 2.5" SPRING KIT (PART #214200) WILL LEAD TO BRAKE LINE FAILURE FROM THE SHOCK CRASHING INTO THE BRAKE LINES.	



WARNING!

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**** ICON VEHICLE DYNAMICS RECOMMENDS THAT YOU EXERCISE EXTREME CAUTION WHEN WORKING UNDER A VEHICLE THAT IS SUPPORTED WITH JACK STANDS.**

INSTALLATION

1. Raise the vehicle, secure the frame on jack stands high enough so the front axle can droop five inches past the stock droop limit.
2. Support the front axle with a jack and remove the driver side and passenger side front shocks using a 21mm for the lower shock mount and 19mm for the stem.
3. Install the shock using the 254200 stem washer on the stem, followed by a 255200 bushing and then inserting the shock stem into the factory mount. Install the supplied 255200 9/16 bushing and then a 254200 washer on top of the bushing followed by the taller m12 nut. Install the nut only a few turns so the upper assembly is loose. (FIGURE 1)

FIG.1



NOTE: Installing the upper stem bushing tight before installing the lower bolt will increase the difficulty of the lower bolt installation due to the way the radius arm swings as it cycles down. Leaving it loose allows it much more freedom.

NOTE: Take care not to wedge the reservoir hose against the clip referenced in FIGURE 1 as it will cut the hose casing.

4. With the upper assembly loose, line up the shock in the lower mount using the jack to position the axle at the right height to install the factory lower shock bolt with a 21mm. [Torque to factory spec.] (FIGURE 2)

FIG.2



FIG.3



5. Fasten the supplied 605810 large nut until 2-3 threads are showing and then install the supplied 605809 thin jam nut to lock it against the tall nut. [Torque the jam nut to 50ft-lbs.] (FIGURE 3)

6. Locate the reservoir bracket and clamp it to the coil bucket to mark the two holes that need to be drilled. (FIGURE 4)

FIG.4



FIG.5



7. Remove the bracket and protect the backside of where you will be drilling thru. Drill two holes with a 7/16 drill bit. (FIGURE 5)

8. Spray paint the exposed metal to prevent corrosion.

9. Install the bracket with supplied 3/8 button head screws and supplied washers and lock nuts. Use a 7/32 allen and 9/16 to tighten. [Torque to 30 ft-lbs.] (FIGURE 6)

FIG.6



FIG.7



10. Attach the reservoir to the bracket using the supplied hose clamps and a 5/16 nut driver. (FIGURE 7)

11. Repeat on the passenger side.

NOTE: Over tightening the large stem nut will cause too much bushing preload which will cause premature wear on internal shock components and also effect vehicle ride characteristics.

VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.

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

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.

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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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