

PART #	DESCRIPTION
95005	RAPTOR FRONT SECONDARY 3.0 ZETA BYPASS SHOCKS

COMPONENTS INCLUDED	
(1) 194962D 10+ RAPTOR SECONDARY BYPASS DRV (2) 250003 RESERVOIR BRACKET	(1) 194962P 10+ RAPTOR SECONDARY BYPASS PASS
HARDWARE INCLUDED	
(4) 611051 #40 2 1/16-3" HOSE CLAMP KIT (2) 605144 3/8-12 X .750 FLNG SELF TAP BOLT	(2) 605131 3/8 SPLIT LOCK WASHER (2) 611060 COILOVER COMPRESSION SHIM KIT
TECH NOTES	
<p>1. REFER TO CAMBURG ENGINEERING DUAL SHOCK LOWER ARM KIT INSTRUCTIONS FOR PROPER INSTALLATION OF LCA'S.</p> <p>2. FOR OPTIMUM PERFORMANCE, ICON RECOMMENDS THE FRONT COILOVERS ARE RE-VALVED TO COMPLIMENT THE ADDITION OF SECONDARY SHOCKS. (611060 SHIM KIT INCLUDED)</p>	



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.**

RESERVOIR PLACEMENT

When installing the ICON Vehicle Dynamics Raptor Secondary Front Bypass Shocks, please refer to this photo for proper reservoir placement. This placement ensures adequate clearance and prevents the wheel and tire from damaging the shock.



NITROGEN SETTING

ICON SETTING: 220 PSI

COMPRESSION TUBE 1 (SHORT)

ICON SETTING: OPEN

The short compression tube is designed to tune the “ride zone” specifically. The shocks piston is in this zone while at ride height, so any adjustments on this tube will be felt when street driving. This tube overlaps the long compression tube, therefore the long tube is used to add compression and it will affect the ride zone. The short tube can be used to counter any adjustments made to the long tube.

COMPRESSION TUBE 2 (LONG)

ICON SETTING: 3 FULL REVOLUTIONS OUT FROM CLOSED

The long compression tube affects the ride zone and the zone leading into the “bump zone”. This tube starts wide open; closing this tube off will start to affect the ride zone slightly and will start to stiffen the ride quality in the zone right after ride. If the vehicle is bottoming out easily, this tube will help increase the compression sooner and allow the shock to be slowing down more before it reaches the “bump zone”.

REBOUND TUBE

ICON SETTING: 3 FULL TURNS OUT FROM CLOSED

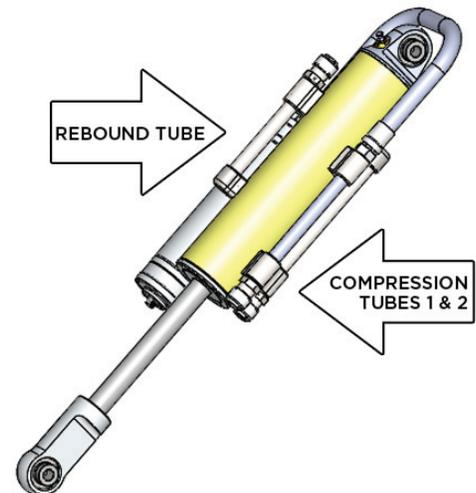
The rebound setting will have a large effect on both ride quality and performance. The most common mistake is to close the rebound too much which causes the wheel to “pack up”. This is bad for both cornering traction and ride quality. Generally you should open it as much as you feel comfortable with while still retaining decent turn in response and control of body roll. Lower speed off-road trails where you are dropping the wheel off rocks or ledges but not necessarily cycling fast is one of the circumstances where you will want to close the valve for tight rebound control. Often times harshness over small but choppy terrain is attributed to rebound being closed too far.

SHAFT

Keep an eye to make sure the shaft is free of knicks/scratches. Small abrasions allow rust to form and eat away the shaft. Abrasions also damage the seals.

HIGH QUALITY 3/4" BEARINGS (TOP/BOTTOM)

Commercial grade spherical bearings feature woven PTFE liners for smooth operation, but they are susceptible to dirt getting in and damaging the liner. Cleaning these bearings and preventing debris build up will prolong the life of these components.



FIELD TUNING GUIDE

COMPRESSION TUBE 1	VALVE ON BOTTOM, THE SHORTER OF THE 2 TUBES. THIS VALVE HAS THE MOST FLOW AND WHEN OPEN ATTRIBUTES TO A SOFT RIDE. CAN BE LEFT MOSTLY OPEN UNLESS CARRYING A HEAVY LOAD. THE MORE ITS OPEN THE FASTER THE WHEEL CAN GO OVER AN OBSTACLE WITHOUT UPSETTING THE VEHICLE WHEN HIT AT SPEED. EFFECTIVE TO 65% OF TRAVEL
COMPRESSION TUBE 2	VALVE ON BOTTOM, THE LONGER OF THE 2 TUBES. THIS VALVE SLOWS DOWN THE WHEEL AS IT GETS CLOSER TO THE BUMP ZONE. WHEN DRIVING AGGRESSIVELY THIS VALVE KEEPS THE WHEEL FROM BLOWING THROUGH THE TRAVEL THE MORE IT IS CLOSED. EFFECTIVE TO 85% OF TRAVEL
REBOUND 2	VALVE ON TOP, INDEPENDENT TUBE. THIS VALVE CONTRIBUTES MOST TO THE OVERALL FEELING OF STABILITY. THE MORE ITS OPEN THE FASTER THE WHEEL CAN FOLLOW THE GROUND WHEN CYCLING QUICKLY. THE MORE ITS CLOSED THE MORE IT HOLDS THE CHASSIS DOWN. GENERALLY HAVING IT OPEN AS MUCH AS POSSIBLE WITHOUT MAKING IT TOO “FLOATY” IS BEST FOR OFF ROAD.

RECOMMENDED SETTINGS

SETTINGS REFERENCE FULL TURNS OUT (COUNTERCLOCKWISE) FROM FULLY CLOSED (CLOCKWISE). (4 CLICKS PER TURN)

*BYPASS VALVE WILL STOP CLICKING AT 6 FULL TURNS OUT, BUT WILL CONTINUE TO TURN ONE MORE REVOLUTION TO FULLY OPEN POSITION.

	GENERAL OFFROAD	HIGH SPEED WHOOPS	UNLOADED STREET
COMP 1	7 (OPEN)*	5	7 (OPEN)*
COMP 2	3	2	4
REBOUND	3	4	5

ICON COILOVER REVALVE

ICON Vehicle Dynamics recommends that ICON coilovers being used with this secondary shock setup are re-valved to maximize performance and ride quality. The following information will aid in a proper re-valve.

STANDARD PRODUCTION VALVING

DIAMETER	X	THICKNESS
1.050	X	0.015
1.050	X	0.015
1.050	X	0.015
1.575	X	0.015
1.050	X	0.015
0.900	X	0.015
2.100	X	0.015

BLEED: 3 OPEN, 2 CLOSED

STANDARD PRODUCTION CDC VALVING

(COILOVER COMPRESSION SHIM KITS INCLUDED WITH SHOCKS - PART #611060)

W/ SECONDARY BYPASS VALVING

DIAMETER	X	THICKNESS
1.050	X	0.015
1.050	X	0.015
0.900	X	0.015
1.575	X	0.015
0.900	X	0.015
0.900	X	0.015
2.100	X	0.015

BLEED: 4 OPEN, 1 CLOSED

W/ SECONDARY BYPASS CDC VALVING

3.0 ZETA 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