

PART #	DESCRIPTION
62511	20-22 FORD F-250/F-350 FRONT 2.5" DIESEL DUAL RATE SPRING KIT

COMPONENTS INCLUDED	
(2) 168520 20-UP FSD 2.5 DUAL RATE COIL SPRING	(2) 167008 FSD ALIGNMENT CAM (2) 605900 1/8 X 2.000 COTTER PIN
HARDWARE INCLUDED	
N/A	
TOOLS REQUIRED	
JACK JACK STANDS PLIERS TORQUE WRENCH HAMMER BALL JOINT SEPARATOR 3/4" SOCKET / WRENCH	10MM SOCKET / WRENCH 13MM SOCKET / WRENCH 18MM SOCKET / WRENCH 21MM SOCKET / WRENCH 24MM SOCKET / WRENCH 30MM SOCKET / WRENCH
TECH NOTES	
1. LIFT HEIGHTS ARE BASED ON CREW CAB DIESEL F-250 CONFIGURATIONS.	



### 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 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 front wheels.

**2.** Remove the sway bar links from the sway bar using an 18mm socket/wrench. Leave them connected to the differential. [FIGURE 1]

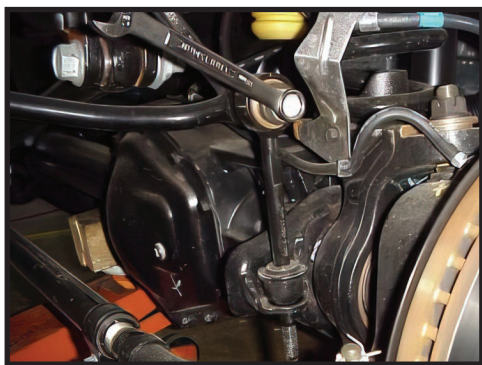


FIG.1

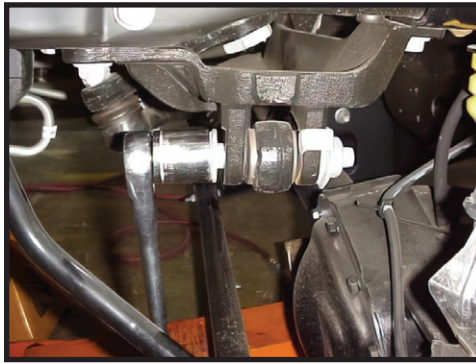
**3.** Disconnect the upper brake line brackets from the frame using a 13mm socket/wrench and lower brake line brackets from the differential using a 10mm socket/wrench. [FIGURE 2]



FIG.2

- 4.** On the driver side of the track bar, remove the nut and the upper track bar bolt using (2) 30mm socket/wrenches. **[FIGURE 3]**

**FIG.3**



- 5.** Support the axle with a floor jack and remove the front shocks. The shocks are limiting droop so make sure that the axle is supported or it will fall when the shocks are removed. (21mm socket/wrench, 18mm socket/wrench)
- 6.** Slowly lower the axle, the coils will unload from the mounts and can be removed. Be careful not to stretch or damage any lines connected to the axle or radius arms.
- 7.** Lower the axle just enough to install the new springs. Place the original rubber isolator on top of the new coil and install. Be careful to not stretch or damage any lines. Check the rotation/clocking of the coil to make sure it is properly seated in the lower spring perch.
- 8.** Lift the axle high enough to connect the shocks but be careful not to lift the truck off of its supports. Use the original bolt on the lower shock mount and tighten with an 18mm socket/wrench [Torque to factory spec]. Tighten the stem top nut using a 3/4" socket/wrench. (Refer to shock Instructions)
- 9.** Install the alignment cams (167008). Remove the cotter pin from the ball joint castle nut then remove the castle nut from the upper ball joint using a 24mm. Using a hammer (or ball joint separator), strike the knuckle to dislodge the taper, be careful not to damage the threads. Remove stock alignment cam.
- 10.** Install the new alignment cam: Make sure the arrow is pointing toward the front of the truck and the flat end of the cam is aligned with the flat end of the knuckle. Use the old sleeve to tap the new one down into the taper. Install the castle nut using a 24mm [Torque to 69 ft-lbs]. Install the new cotter pin.
- 11.** Repeat steps 9-11 for the opposite side.
- 12.** Connect the sway bar links to the sway bar using an 18mm socket/wrench. [Torque to factory spec]
- 13.** Reconnect the upper brake line bracket to the frame using a 13mm socket/wrench and the lower bracket using a 10mm socket/wrench [Torque to factory spec]. Depending on the year of the truck, the brake line may need to be manipulated down to not overextend at full droop.
- 14.** Reconnect the track bar using (2) 30mm socket/wrenches. [Torque to factory spec]
- 15.** Install the wheels and lower the vehicle to the ground.
- 16.** Have the vehicle professionally aligned.

***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.



**ICON VEHICLE DYNAMICS®**  
PERFORMANCE SUSPENSION SYSTEMS AND SHOCK ABSORBERS

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[www.iconvehicledynamics.com](http://www.iconvehicledynamics.com)



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PART #	DESCRIPTION
66512	05-UP FSD 4WD 0-2.5" FRONT 2.0 VS

COMPONENTS INCLUDED	
(1) 164912 05-UP FSD 4WD 0-2.5" FRONT 2.0 VS	(1) 611006 9/16" HD STEM BUSHING KIT
HARDWARE INCLUDED	
611006 HARDWARE KIT	
(2) HEAVY DUTY 9/16 ID STEM BUSHING (2) HEAVY DUTY STEM BUSHING RETAINER	(1) M12-1.25 NUT THIN (1) M12-1.25 JAM NUT
TOOLS REQUIRED	
JACK JACK STANDS TORQUE WRENCH	17MM SOCKET / WRENCH 18MM SOCKET / WRENCH 19MM SOCKET / WRENCH 21MM SOCKET / WRENCH
TECH NOTES	
N/A	

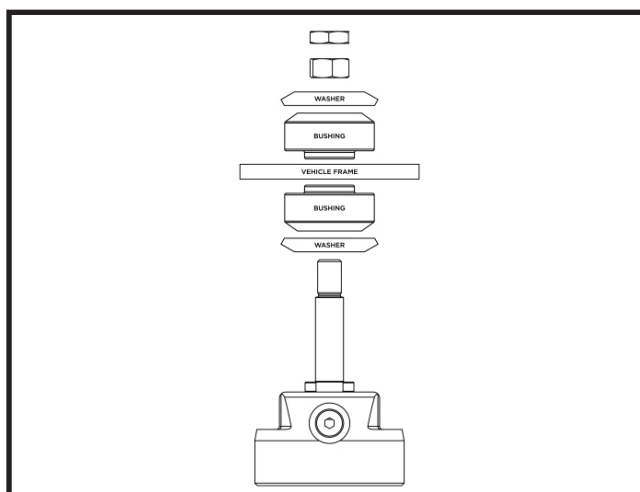


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## INSTALLATION

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. Remove the factory shocks using a 17mm and 18mm socket/wrench.
3. Install the shock stem bushing kit onto the factory shock mount as follows: 9/16" stem washer, stem bushing (locator lip up), factory shock mount, stem bushing (locator lip down), 12mm stem washer, 12mm nut. Fasten until bushing assembly is snug but do not overtighten. (19mm) Install the factory lower bolt. (18mm & 21mm) [FIGURE 1]

FIG.1



4. Reinstall 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.**

## 2.0 ALUMINUM SERIES 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 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)

#### **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)

#### **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 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.

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To send a shock in for warranty please visit our website <http://www.iconvehicledynamics.com/tech-support/shock-service/>

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PART #	DESCRIPTION
66516	17-UP FSD 4WD 0-2" REAR 2.0 VS IR

COMPONENTS INCLUDED	
(1) 164917 17-UP FSD 4WD 0-2" REAR 2.0 VS IR	
HARDWARE INCLUDED	
N/A	
TOOLS REQUIRED	
JACK JACK STANDS TORQUE WRENCH	18MM SOCKET / WRENCH 21MM SOCKET / WRENCH
TECH NOTES	
1. YOUR ICON SHOCK ASSEMBLIES COME FACTORY CHARGED TO 180 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.	



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## 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.
2. Remove the factory shocks using 18mm and 21mm socket/wrenchS.
3. Slide the shock into the upper shock mount and fasten using an 18mm with the factory hardware. [Torque to factory spec]
4. Position the rod end in the lower mount and slide the bolt in. Fasten using an 18mm and 21mm with the factory hardware. [Torque to factory spec]
5. Lower the vehicle back to the ground.

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- Remove any buildup of road salt, mud, or debris from shocks 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)

#### **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)

#### **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 after every outing.

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