## OFF - ROAD RACING SHOCKS

## Installation Instructions (Page 1)

### 2018+ Jeep Wrangler JL Rear Bump Stop Kit

King Shocks 12472 Edison Way Garden Grove, CA 92841 714-530-8701 www.kingshocks.com

#### Rear Parts List:

- 2 JL Rear Bump Stop Brackets (20AB425-114)
- 2 JL 1.5" Stroke Rear Compact Bump Stops 0-2" Lift kits (20AB001-102)
- 2 JL 2" Stroke Rear Compact Bump Stops 2.5"- 5" Lift kits (20AB001-103)
- 1 JL Rear BS Hole Template (TMP-1003)



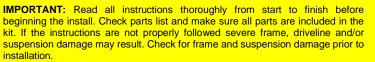
Tools Required: Floor Jack/Jack Stands Standard Wrench/Socket Set Metric Wrench/Socket Set Grinder, Grinding/Sanding pads Cutoff Wheel or Reciprocating Saw Welder – Welding Equipment Drill, Drill Bits, 2-5/16" Hole Saw



**<u>REAR</u>**: With the vehicle on level ground, block the front tires. Using a floor jack, raise the rear end and support the frame rails with jack stands for safety. Remove rear tires. **<u>NOTE: Never work under an unsupported vehicle.</u>** 

1. Remove rear tires then remove the rear shocks. (**Do Not Weld** on vehicle with shocks installed) Pull the factory foam bump stops from the frame mounts by pulling to the side and down.







This kit <u>DOES</u> require welding. All welding must be performed by a professional welder. Do not weld on any shock or bump stop components. Welding near or on shocks may void the warranty and/or cause the product to fail. If any parts are missing, or for tech assistance; Contact King Off Road Racing Shocks: 714-530-8701 Most important after the install, Feel the difference and have fun.



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2. Move brake lines while cutting and welding. Remove the bolt holding the brake line bracket using a 10mm socket. Secure brake lines out of the way while cutting and welding.



3. Using a cut off wheel or reciprocating saw cut the small welds on each side of the factory foam bump stop mount. Carefully cut the welds only, do not cut into the frame!



**IMPORTANT:** Read all instructions thoroughly from start to finish before beginning the install. Check parts list and make sure all parts are included in the kit. If the instructions are not properly followed severe frame, driveline and/or suspension damage may result. Check for frame and suspension damage prior to installation.





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4. Grind the surface smooth and flat. Grind the welds flat with the frame and remove any weld splatter in the area where the new bump stop bracket will sit.



5. Use the template provided in the kit to mark the center of the hole for the hole saw. Hold the template against the inside edge of the frame as shown. Line up the slotted hole in the template with the existing hole in the frame. Use a punch in the small hole next to the slotted hole in the template to mark the center for the hole saw.



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6. Drill a pilot hole at the mark you just made using a small drill bit (1/8 - 3/16).



7. Drill the large hole using a 2-5/16" hole saw. Line up the center pilot bit of hole saw with the new pilot hole you just drilled and drill through the bottom of the frame.



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8. Test fit the new bump stop bracket. Place the bracket in the hole as shown and look for any high spots that may be holding the bracket away from the frame. Grind any high spots and test fit until the bracket is sitting as flat as possible to the frame – Due to the way the frame is shaped and overlapped there will be a gap along the outside edge which will get filled with weld... just make sure the majority of the bracket that contacts the frame is sitting flat.



The short flat sections on the back side of the bracket will line up with the radius on the inside edge of the frame. The center section will stick out past the inside edge and does not get welded.



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9. Prep frame for welding. Grind away all paint from frame along outside and inside edge of frame.



10. Prep work area for welding. Protect the surrounding area from weld splatter. Pay special attention to fuel lines, fuel tank, wiring, brake lines, brakes, etc.





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## Installation Instructions (Page 7)

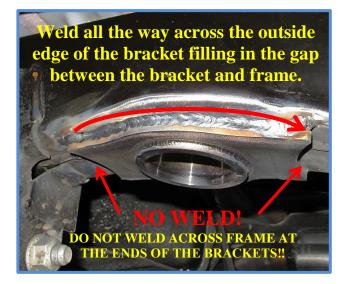
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- 11. <u>Welding the bracket:</u> Welding must be performed by a certified welder. Be sure to pay special attention to all safety hazards including but not limited to:
  - Disconnect battery
  - Protect all surrounding areas from weld splatter Fuel tank, Fuel lines, wiring, brakes, brake lines and anything flammable in the surrounding area.
  - Always have fire extinguisher nearby and ready to use.
  - NO WELDING with shocks or bump stops installed on the vehicle welding on the vehicle with shocks and bump stops installed can cause an arc from the welder to go through the shock which will damage the shock or bump stop. DO NOT WELD ON VEHICLE WITH SHOCKS INSTALLED!









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12. Prep the frame for painting and paint the bracket and any bare metal on the frame to prevent rusting.



13. Reinstall the brake line brackets to the frame.



14. <u>Install bump stops and adjust position</u> – You will need to install bump stops and adjust the position before you finalize installation. If you are using the 1.5" stroke bump stops then you will most likely thread them all the way in as shown below. The 1.5" stroke bump stops are intended for maximizing up travel on stock vehicles with no lift or with mild lifts up to 2".

The 2" stroke bump stops are intended for vehicles with lifts over 2 inches. A good starting point for the 2" stroke bump stop is to have about  $1 \frac{1}{2}$ " between the cap and the lock ring as shown below, this will vary on every vehicle depending on the vehicle itself, your shocks, lift kit and other accessories, etc.



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15. <u>Cycling suspension and adjusting bump stops</u> – Now that the bump stops are installed you will need to adjust the position so the bump stop is setup properly for your vehicle. Remove the rear coil springs and install your rear shocks then jack the axle up until the shocks are bottomed out (Fully Compressed). Now adjust the bump stop so that it bottoms out just before the shock does.

NOTE: JL SPRINGS ARE SIDE SPECIFIC!! MAKE SURE SPRINGS ARE ORIENTED PROPERLY WHEN REINSTALLING.

Photo to the right shows the rear suspension completely assembled without the springs installed. Jack the axle up until the shocks are bottomed out, and then adjust bump stops so they bottom out before the shocks do. You should have a 1/4" or more of the shock shaft showing when the bump stop is bottomed out. You will want to articulate the suspension after the install with the tires you'll be using to check for tire clearance and proper bump stop setup.... Adjust if necessary. Now is also a great time to check all suspension components for clearance issues while cycling the suspension.



Photo below shows the suspension bottomed out with shocks installed and bump stops properly adjusted.



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<u>Additional note for setting up bump stops:</u> Tire size may play a role in setting up bump stops. If you are running 35" or larger tires you will want to install a tire while cycling suspension to check if you need to limit up travel for tire clearance issues. Bump stops and spacers can be set up to limit up travel to prevent tires from hitting fenders. However, maximizing wheel travel is also important for optimal suspension performance. Be sure to check all suspension components while cycling the suspension. Also be sure to install a tire while cycling suspension to make sure tire clearance isn't an issue. If tire clearance is an issue there are several aftermarket fender options that allow larger tires while maintaining full wheel travel. Fender trimming is also an option or use the spacers provided with your lift kit and adjust bump stops to limit up travel so that tires do not contact fenders.

16. Once the final position of the bump stop has been determine you will want to record the position of the bump stop so you can remove it and reinstall in the exact same position. Remove the bump stops and apply a small amount of locktite to the bump stop and reinstall into the bracket. Use a hammer and punch or screwdriver to tighten the lock ring. Apply locktite to the set screws and tighten the set screws (if accessible).



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17. Now that the bump stops are installed you can finish installing the remaining suspension components. NOTE: JL SPRINGS ARE SIDE SPECIFIC!! MAKE SURE TO INSTALL SPRINGS ON PROPER SIDE.

## DOUBLE CHECK ALL HARDWARE:

Make sure everything is installed correctly and all hardware is tight before reinstalling tires. Install tires; remove jack stands and lower vehicle to the ground. Recheck all hardware and lug nuts after 100 miles and periodically after that as part of routine maintenance.



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