

Part No. 25784 Instruction Sheet

Rear JounceShock System - 2003 & Up 4Runner, 2007 & UP FJ Cruiser - Continued

See Rebuild Kit instruction sheet 98712 for more information on disassembly and reassembly. More information on tuning will be periodically posted on our website at www.lightracing.com.

What to expect from your JounceShock system:

The JounceShock system is a secondary suspension system that dramatically increases the capacity of your vehicle's suspension. Most systems are designed such that the JounceShocks do not engage the suspension of your vehicle at ride height. Therefore the system does not usually alter the ride height or on-road ride quality of your vehicle. When you have a heavy payload or take your vehicle off-road, your suspension will compress more and engage the JounceShocks. When the suspension engages the JounceShocks, you may hear the initial contact. This is normal and is an indication that the JounceShocks are being applied. As the vehicle is driven off-road you will notice a couple of performance gains. First, as you drive the vehicle over rough terrain you will notice that it never feels as though the vehicle is bottoming. Second, over medium to large inputs, you will realize that the vehicle moves up and down less... "Gross Vehicle Motion Control" as it is called. These are changes caused by the characteristic exponential air spring curve and the critical damping of the JounceShock units. These changes significantly enhance the ability of the vehicle, the durability of the vehicle, and the comfort level of the occupants. This added capacity can be misleading and care should be taken to learn the new limits of your vehicle without damage to the vehicle itself. For more discussion on JounceShock function and performance gains please visit our website at www.lightracing.com.

PART NO. 25784



Instruction Sheet JounceShock™ System Rear 2003 & Up 4Runner, 2007 & Up FJ Cruiser

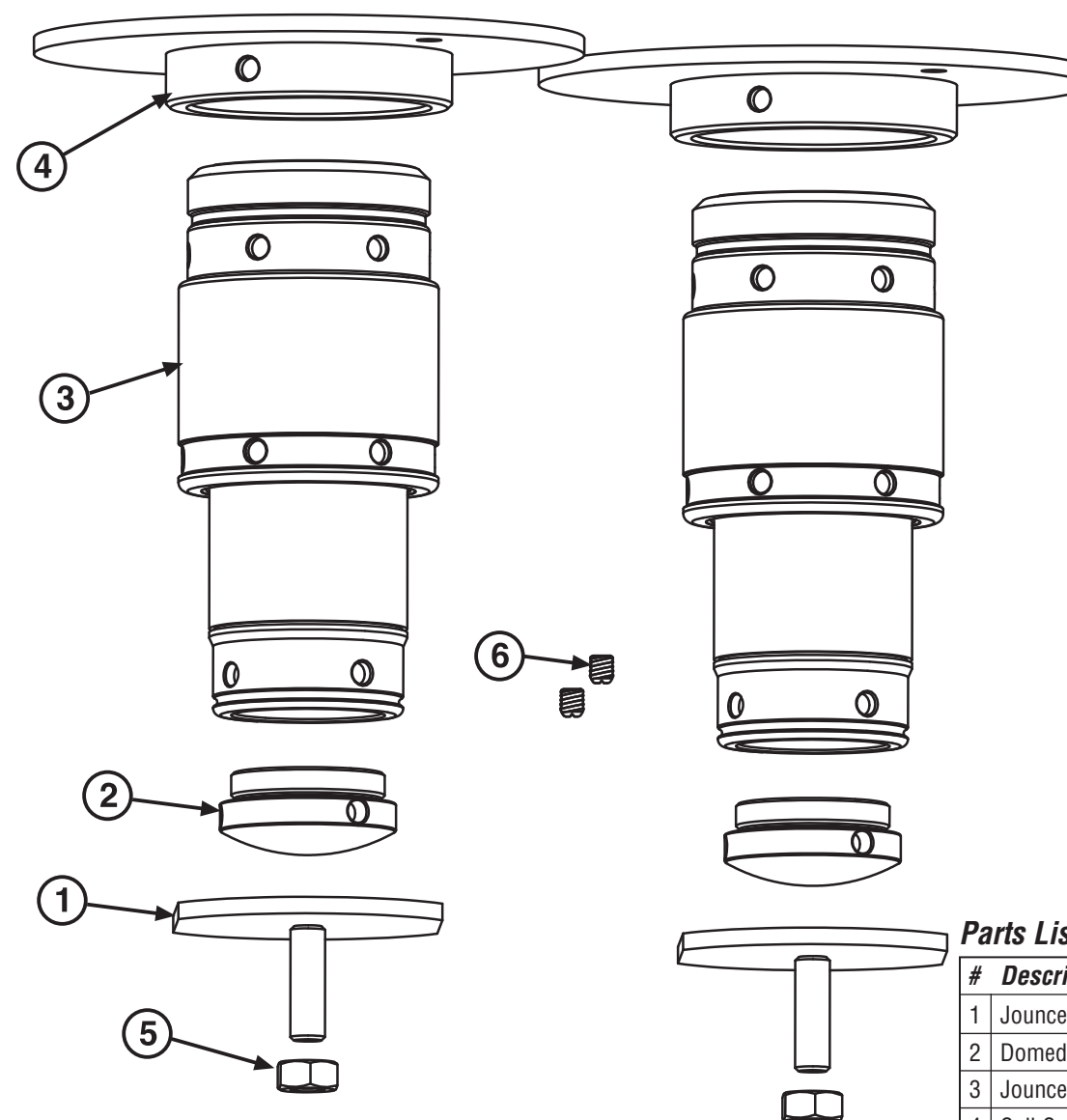
US Patent 7140601 B2

This part should only be installed by personnel who have the necessary skill, training and tools to do the job correctly and safely. Incorrect installation can result in personal injury, vehicle damage and / or loss of vehicle control.

Read instructions completely before beginning installation.

Required Tools:

- Metric sockets and wrenches
- Large channel lock pliers or pipe wrench
- Pry bar
- Floor jack or lift w/ jack stands
- Torque wrench 100 lb-ft
- 1/4" Pin style spanner
- Vise
- 1/8" hex key



There is no warranty stated or implied due to the inability to monitor the part's modification, installation, and use, except that Specialty Products Company warrants its products to be free from defects in material and workmanship for 90 days after purchase under normal use. In that case, parts returned must be determined by Specialty Products to be defective and Specialty Products's obligations under that warranty are solely limited to repairing or replacing, at its option, any part proven defective.

Final determination of the suitability of the parts for use contemplated by the buyer is the sole responsibility of the buyer. Specialty Products Company shall not be liable for any special, direct, indirect, incidental, or consequential damages that might be claimed as a result of the failure of any part, including claims for delay, loss of profits or labor. Specialty Products Company shall not be liable for any damage or injury to persons or property resulting from improper installation or misuse of any part subject to this warranty. There are no other warranties expressed or implied extending beyond those set forth above.

Parts List:

#	Description	Qty.
1	JounceShock Target Plate	2
2	Domed Foot	2
3	JounceShock, 1.5" Travel	2
4	Coil Carrier Mount	2
5	M10 Nut	2
6	1/4-20 x 5/16", Cup Point, Set Screw	2



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Installation process:

1. Confirm that you have all parts and tools required to complete job.
2. Safely raise vehicle per manufacturer's specifications and support rear axle on jack stands.
3. Remove lower shock bolts and pull shocks off of lower mounts.
4. Lower rear axle to un-load coil springs. Care must be taken to not overextend suspension, brake lines, or wiring running from axle to frame.
5. Thread cylinder end of 1.5" JounceShock into mount until it bottoms. Apply a small dab of medium strength thread locker (Blue Loctite) to the 1/4"-20 set screw and install into mount snug tight using 1/8" hex key. Install JounceShock unit into Coil Carrier Mount and tighten using 1/4" pin style spanner on JounceShock. (Use vise to hold Coil Carrier Mount.)
6. Thread Domed Foot into shaft end of JounceShock until it bottoms.
7. Remove coil spring and stock bump stop that is inside spring as seen in **FIGURE 1**.
8. Replace stock bump stop with JounceShock and Coil Carrier Mount assembly as shown in **FIGURE 2**.
9. Reinstall coil spring with JounceShock into vehicle.
10. Place JounceShock Target Plate into existing holes on axle coil mount as shown in **FIGURE 3**.
11. Apply small dab of medium hold thread locker (Blue Loctite) to supplied M10 Nut and thread onto stud on bottom of JounceShock Target Plate. Tighten using channel lock pliers to hold target plate while turning nut. (Follow all Loctite cure time instructions.)
12. Repeat installation steps 5-11 for opposite side of vehicle.
13. Lower vehicle onto coil springs. Ensure coil springs are seated properly.
14. Reinstall shocks and tighten fasteners to manufacturer's specifications.
15. Remove stock secondary bump stops from under frame rails. Finished system is shown in **FIGURE 4**.
16. Re-torque all fasteners after 100 miles.
17. Retain stock bump stops for the ability to return to stock configuration.

Tuning the JounceShock:

Light Racing has tuned this system specifically for your vehicle. However, vehicle handling and dynamics is a matter of personal preference and this system can be tuned to suit individual tastes and uses. There are four parameters of the JounceShocks that may be tuned; the initial nitrogen pressure, the compression damping, the rebound damping, and the oil fill.

Nitrogen Pressure-

The primary tuning parameter, and the one that makes the biggest performance difference, is the initial nitrogen pressure or charge. Nitrogen can be discharged and recharged to a different setting. To do this the JounceShock must be removed from the vehicle, but it does not need to be disassembled. The oil in the JounceShock is mixed with the nitrogen so care should be taken when discharging the nitrogen to assure that no oil is lost. It is recommended that the JounceShocks be stored with the shaft end (Schrader valve) up for 20-30 minutes prior to being discharged. This will allow the oil and nitrogen to separate and the oil to fall to the bottom of the JounceShock. Then the JounceShocks may be carefully and slowly discharged while keeping the Schrader valve upright to avoid oil loss. Access to the Schrader valve is gained by removing (unthreading) the contact foot at the end of the shaft (e.g. domed foot or cupped foot). You will see a yellow Schrader valve cap recessed in the end of the shaft.

The yellow Schrader cap must be removed to access the Schrader valve for both charging and discharging. A fill extension (P/N 25515) is required to charge the JounceShock as the Schrader valve is recessed in the end of the shaft. The nitrogen charge in the 1.5" JounceShock for the rear of the 4Runner / FJ Cruiser is preset at 60 psi. We do not recommend charging below 40 psi or above 500 psi. Screw the fill extension onto the Schrader valve body and snug hand tight to get a good seal. (Warning: Care should be taken when installing and removing the fill extension. Over tightening of the fill extension could cause the Schrader body to back out when removing.) Nitrogen is recommended for charging as it is inert and has good temperature characteristics. An air chuck will work to charge the shock by engaging the end of the fill extension. Set the nitrogen tank regulator to the desired pressure and engage the air chuck long enough to assure that the pressure has equalized in the JounceShock. Remove the air chuck quickly to minimized pressure loss.

Compression and Rebound Damping-

Compression and rebound damping can be adjusted externally without removing JounceShock from the vehicle. There are two ports crossed drilled in the shaft end that accept a 1/8" hex key. These ports are shown in **FIGURE 5**. The compression damping port is marked with a "C" and the rebound is marked with an "R". Turning the adjuster clockwise will increase the damping. These adjustments are for fine tuning and can be turned all the way in (clockwise) or all the way out (counter clockwise) up to the snap ring retainer. Care should be taken when adjusting to full open so as to not force the adjuster past the snap ring, causing possible depressurization.

Oil Fill-

Oil level in the JounceShock is set at the factory. Oil level is adjustable, but tuning of oil level is complex. Factory setting for the oil level will work in the majority of applications. The easiest practice is to measure oil drained during rebuild and refill JounceShock with the same quantity of oil. Oil may be purchased separately (Torco Shock Oil Part No. T830007).

Figure 1

Remove coil spring and stock bump shock

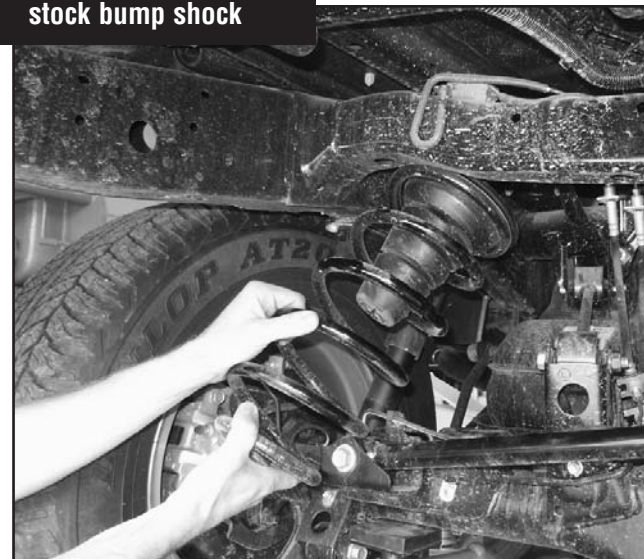


Figure 3

Place JounceShock Target Plate into existing holes on axle coil mount



Figure 2

Replace stock bump stop with JounceShock and Coil Carrier Mount assembly



Figure 4

Remove stock secondary bump stops from under frame rails

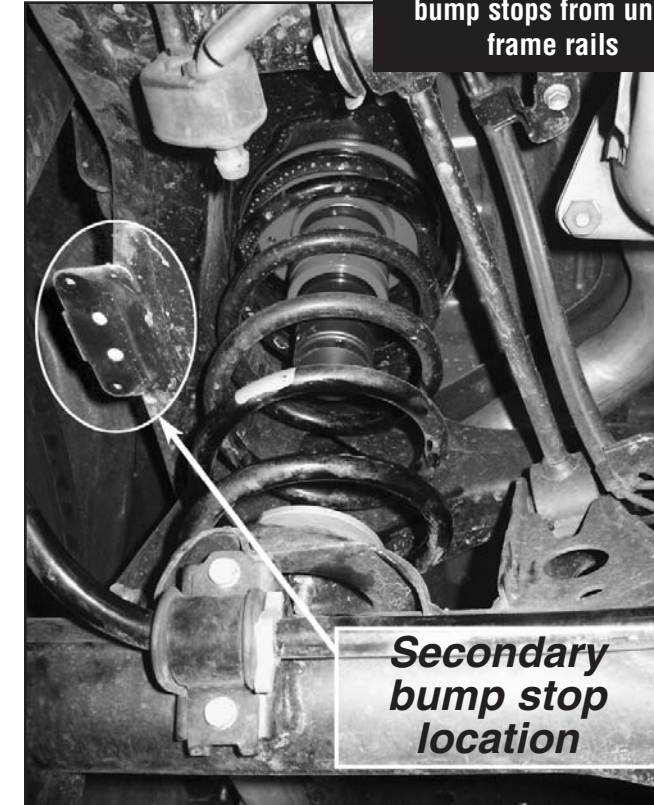


Figure 5

