DIESEL WORLD

Level Playing Field

Air Lift Load Lifter 5000 & Wireless Controller Install

TEXT AND PHOTOS BY **MIKE MCGLOTHLIN**

With ever-increasing payload and towing capacities, the modern diesel truck is an impressive piece of equipment in stock form. Still, much is left to be desired once your rig gets saddled with ton after ton of cargo. Thanks to marketing hype and big numbers, a truck's ability to tow 10 tons without breaking a sweat looks good on paper—but we all know that doesn't necessarily mean things will pan out perfectly in the real world. Excessive tongue weight, improper load positioning and toting an unleveled payload around are just a few ways your truck's factory suspension can become compromised. Luckily, the aftermarket offers a great solution to this age-old problem: air springs.

Top 10 Benefits of Air Lift Systems

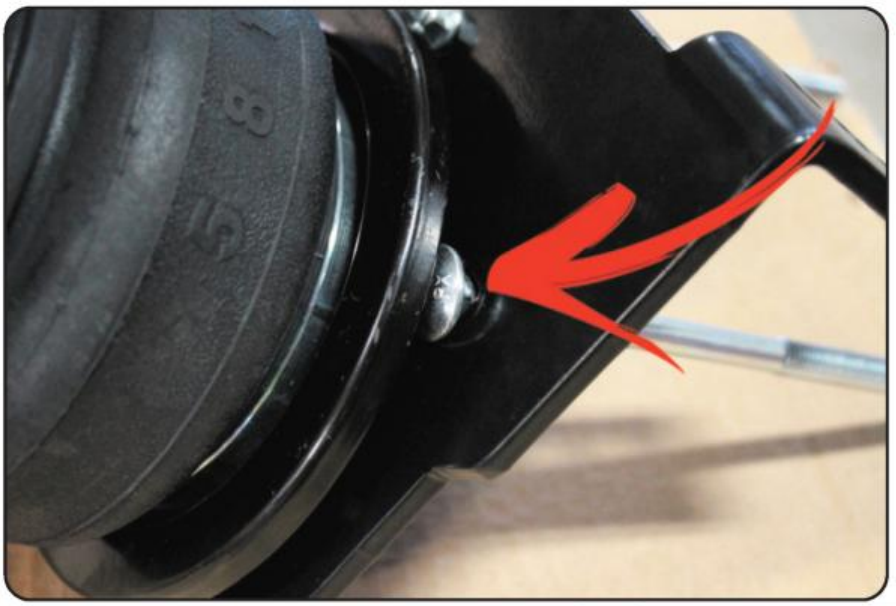
1) Level Rear Suspension
2) Reduced Trailer Sway
3) Less Body Roll
4) More Effective Braking
5) Correct Headlight Aim
6) Maintenance Free
7) Improved Ride Comfort
8) More Stable Steering Feel
9) Maximized (Existing) Load Carrying Capacity
10) Eliminates Bottoming Out

For decades, air springs have been an effective way to keep a truck's rear suspension level. And now the technology that goes into these aftermarket systems is at an all-time high. In the case of Air Lift, a company that has been building air springs for pickup trucks since the 1960s, advanced features like internal jounce bumpers and wireless compressor controllers can now be used on virtually any truck. During a recent visit to Flynn's Shop in Alexander, Illinois, we were privy to an Air Lift Load Lifter 5000 Ultimate kit and Wireless Air control system being installed on an '11 Ford F-350. After a short and seamless install, the fourth-generation Super Duty was ready to live up to its GCWR. **DW**

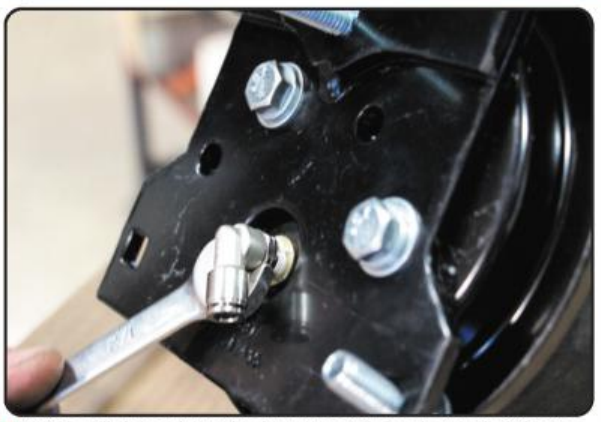
1 Air Lift's Load Lifter 5000 Ultimate air spring kit is an under frame, no-drill system that won't interfere with most in-bed or fifth-wheel hitches, and in conjunction with the factory leaf springs can provide up to 5,000 lbs. of additional load leveling capacity. This particular kit (PN 88396) is specifically made to fit '11 to '16 Ford F-250, F-350, and F-450 Super Duty's (with the exception of cab and chassis models). According to Air Lift, 16 fewer parts are now included in its kit, which leads to a much quicker install time for trained technicians (1 hour vs. 3 hours using previous kits). It's also worth mentioning that this entire system carries a lifetime warranty—meaning the air springs, brackets, hardware, fittings, and air lines are all covered, not just the air springs.

2 Built much like a tire, the Air Lift air springs feature durable, 2-ply fabric and cords for maximum strength and growth control. Upper and lower roll plates protect the springs from sharp edges and increase load carrying capacity by up to 10 percent. A closed-cell urethane foam jounce bumper also exists internally within the spring. This helps absorb shock, eliminates jarring on rough roads, and ultimately protects vehicles carrying heavy loads.

3 Chad Flynn of Flynn's Shop began the install by piecing together both air spring and bracket assemblies. First, the supplied roll pate was attached to the bottom of each air spring, and then the lower bracket cup was fastened to the lower main bracket (shown). The lower bracket cup is what sits on the factory leaf spring block perch.



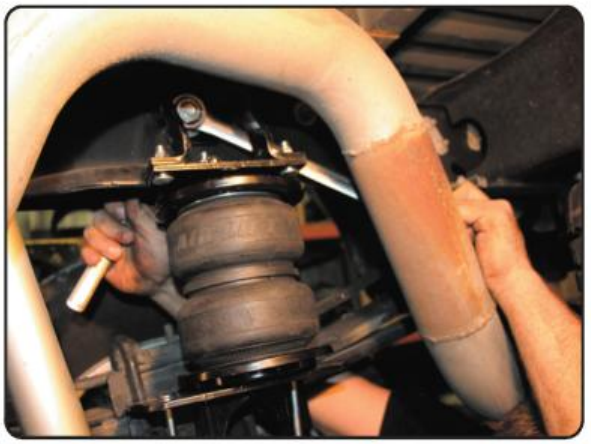
4 It's important to note that prior to the air spring being attached to the lower main bracket, Flynn had to determine which supplied 10-inch long carriage bolt went into its respective hole to clear the roll plate (the bottom support for what the air spring is seated in). Otherwise there won't be room later, as you can see here.



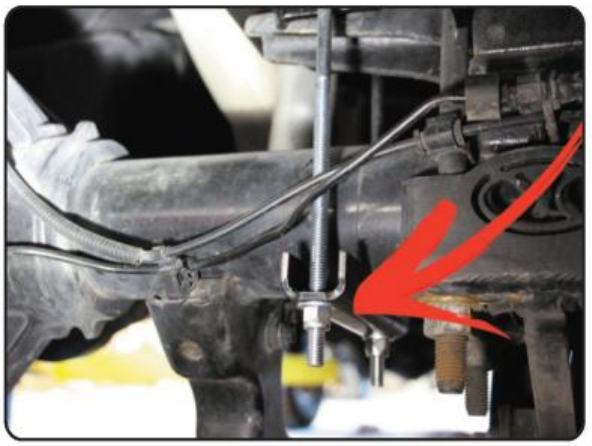
5 Next, the roll plate and upper bracket were installed on the topside of the air spring, followed by the 90-degree air fitting (swivel elbow, shown). The air fitting was first made hand-tight, and then tightened one and a half turns using a ½-inch wrench.

6 Once the air spring assemblies were built, Flynn turned his attention to the factory bump stops, which had to be discarded to install the air springs. Using penetrating oil and a 15mm socket, they were easily removed. Following that, the truck was placed on a 2-post truck lift to lower the rear axle away from the frame, relaxing the suspension.

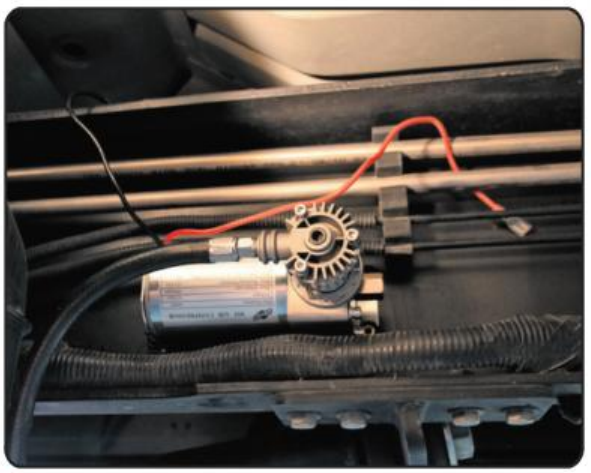
7 After the passenger side air spring assembly and top bracket spacer had been mocked up, Flynn tightened the nut on the bracket spacer. The primary link tying the air spring assembly to the frame rail would be the supplied passenger side upper brace.



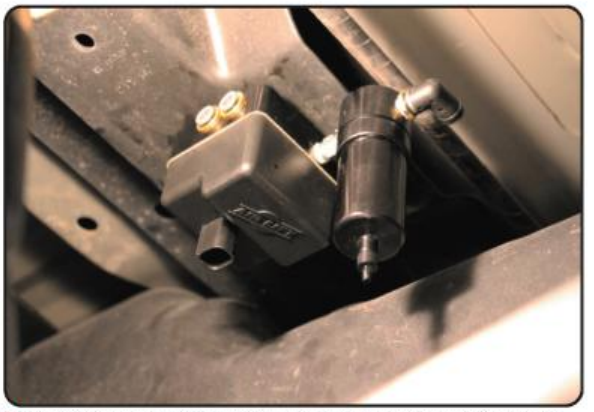
8 Because our '11 F-350 already had an aftermarket gooseneck hitch from B&W installed, Flynn did not need to use the supplied hardware to connect the passenger side upper brace to the frame. Instead, the ¾-inch frame rail hardware from the B&W hitch was reused, while the remaining hardware supplied by Air Lift bolted the upper brace to the upper air spring assembly bracket.



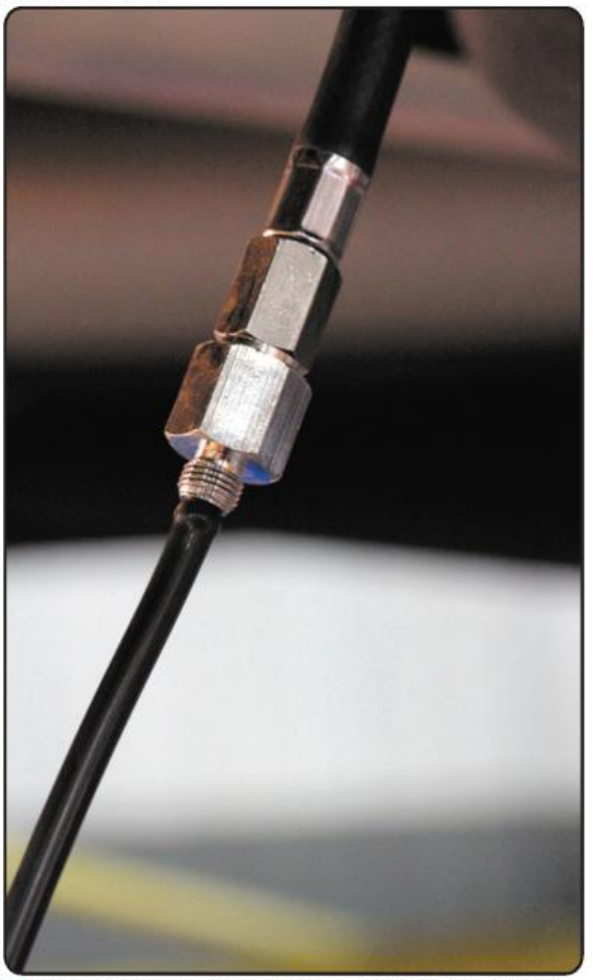
9 The final piece in securing the air spring assemblies rested in the supplied clamp bars, which bolt to the bottom of the axle tube. Per Air Lift's instructions, the axle clamp bar bolts were torqued to the recommended 16 ft-lb. specification.



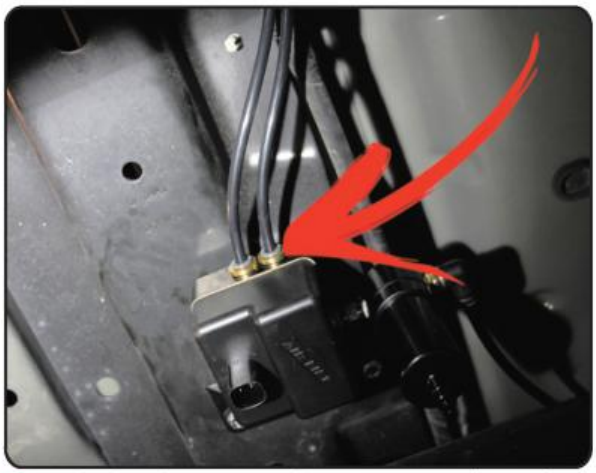
10 The compact size of the heavy-duty air compressor Air Lift provides makes finding a spot to mount it much easier than with other air spring kits on the market. Flynn chose to mount the air compressor along the frame rail directly in front of the fuel tank, which called for four 7/32-inch holes being drilled in the frame.



11 Due to the electrical harness's length, the air manifold (what routes air to the air springs) had to be mounted within 24-inches of the compressor. On our Super Duty test mule, this didn't pose much of a problem; however, Flynn found a safe and secure spot on the cross member spanning just above the fuel tank. He was also able to utilize pre-existing holes in the cross member to mount it. The Air Lift manifold has an automatic draining filter attached to it and must be installed vertically (as shown). A top-of-the-line piece, the manifold can regulate the desired pressure between both air springs to within 3 psi by exhausting or activating the compressor as needed.

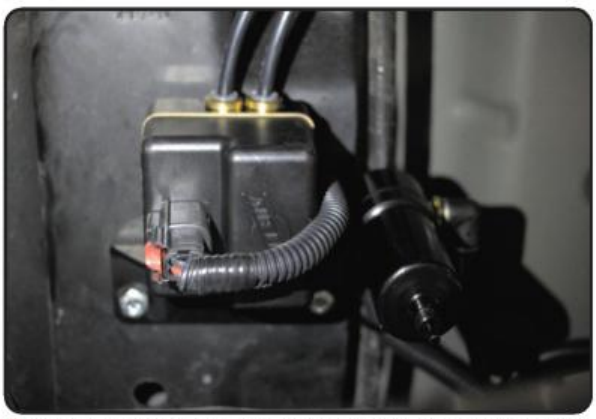


12 Next, a section of the supplied ¼-inch DOT approved air line was cut to length and attached to the compressor leader hose for the manifold filter. To get the hardy line over the barb, it was warmed slightly using a heat gun.



13 From there, the air lines running to each air spring were cut to the correct length and installed in the manifold (arrow). The air line on the left feeds air to the passenger side air spring, while the line on the right sends air to the driver side unit. All air lines were routed in and out of the frame rail and crossmembers at the rear of the truck to keep them safely out of harm's way, and zip ties were used throughout the routing process.

14 Given the positioning of the air compressor, Flynn was able to zip tie the compressor filter to the frame rail-mounted fuel filter assembly (arrow). Keeping the filter up and near the floorboard is important in keeping the compressor from ingesting any moisture.



15 The last order of business was wiring up the system. Once the supplied harness was plugged into the manifold (shown) the compressor's ground wire was fastened to the frame; the ground to battery wire was attached to the negative battery terminal, and Flynn tied into a 15-amp power source on the truck's ignition circuit. It's important to note that, while Flynn wired up this system according to Air Lift's directions, on '05-newer Super Dutys, you have the option of tying into the factory upfitter switches, should the truck be equipped with them.

16 Complete versatility is probably the best way to explain the Wireless Air controller. The LCD display allows you to view your air adjustments (between 5 to 100 psi) control the air springs independently, receive status updates of the system's operation, and can even display fault detection messages. Sleep mode, increasing pressure in increments of 10 psi or 1 psi at a time, and utilizing two programmable settings (for the loads you tow most often) are just a few of the controller's key functions. Last but not least, being that the controller is 100-percent wireless, you can make adjustments while looking at the vehicle (perfect for stabilizing an unlevel load). It's easy to see why the Wireless Air system is one of Air Lift's best-selling products.

17 After passing a leak and functionality test, the guys at Flynn's quickly put the air springs to good use. A 35-foot gooseneck trailer and 7,500 lbs. worth of '08 Super Duty were hitched up to try out the system in real time. With rear suspension squat eliminated, a comfortable, level ride, and correct headlight aim, the Air Lifter LoadLifter 5000 and Wireless Air control systems effectively transformed this F-350 into a much-improved tow monster.

SOURCES

AIR LIFT COMPANY
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