

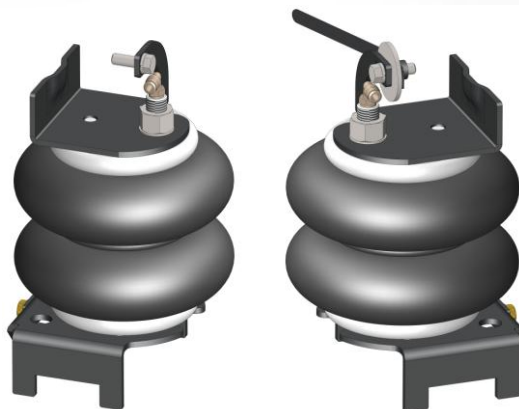


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**W21-760-3042**

**FORD RANGER / MAZDA BT-50**  
**4x2 HI RIDER & 4x4 Rear Axle**

**INSTALLATION INSTRUCTIONS**



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# Introduction

The purpose of this publication is to assist with the installation of the W21-760-3042 kit. It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information here includes a hardware list and step-by-step installation information.

It is recommended that there is no unnecessary weight in the vehicle during the installation of the kit.

The kit supplied should be able to be installed easily without modification, however we cannot guarantee that every vehicle has been made exactly the same or that any modifications have not been made after vehicle manufacture. Images shown are representational only and may differ from the actual parts.

Drive-Rite reserves the right to make changes and improvements to its products and publications at any time. Contact Drive-Rite at +353 1 861 2632 or visit us online at [www.driveriteltd.com](http://www.driveriteltd.com) for the latest version of this manual.

## IMPORTANT SAFETY NOTICE

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

**Gross Vehicle Weight Rating:** The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

**Payload:** The combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. Payload is GVWR minus the Base Curb Weight.



### **WARNING:**

Do not inflate the air spring assembly when it is unrestricted. The assembly must be restricted by the suspension or other adequate structure. With a vehicle loaded to maximum payload do not inflate beyond 4 Bar (58 psi.), most vehicles will require less than this amount. Improper use or over inflation may cause property damage or severe personal injury.

# Kit Contents



## HARDWARE LIST

<i>Item</i>	<i>Description</i>	<i>Qty</i>	<i>Item</i>	<i>Description</i>	<i>Qty</i>
1	Air Springs	2	11	Spacer	1
2	Upper Brackets	2	12	3/8" x 3/4" Flange Lock Bolt	4
3	Lower Brackets	2	13	1/4" to 1/4" Elbow	2
4	Fastener bracket	1	14	M8 Flat washers	4
5	Angle Brackets	2	15	1/4" Inflation Valves	2
6	3/4" Lock Washer	2	16	1/4" T-Piece	1
7	3/4" Nut	2	17	1/4" Tubing	5m
8	3/8" x 1 1/4" Hexhead Bolt	1	18	Cable Ties	10
9	3/8" Spring Washer	1	19	Protective Sleeves	2
10	3/8" Flat Washer	1			

# Step by Step Guide

## NOTE ON CONNECTING AIR LINE TUBING:

Cut the air line tubing with a sharp blade (utility knife), making the cut as square as possible. To connect the air line tubing to the fitting, push the tubing into the fitting as far as possible. If the tubing must be removed from the fitting, first release the air pressure from the system. To withdraw the tubing, push and hold the collar on the fitting toward the body of the fitting and then pull out the tubing. Cut the again tubing then reinserting in to the fitting.

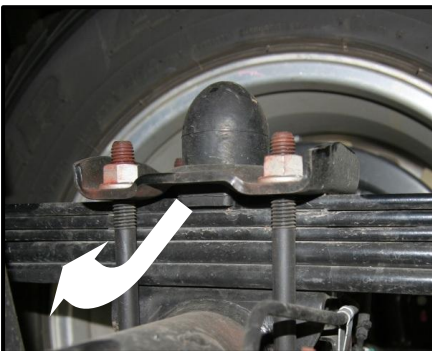


## STEP 1 – PREPARE THE VEHICLE

With the vehicle on a solid, level surface, chock the front wheels and remove the negative battery cable. It is not necessary to raise the vehicle on to stands to fit this kit, but if you do, use stands rated to the vehicles weight and position them under the rear axle. All illustrations are representational. Start by fitting the left hand side then fit the right hand side assembly simply following the same procedures.

## STEP 2 – REMOVE BUMP STOP

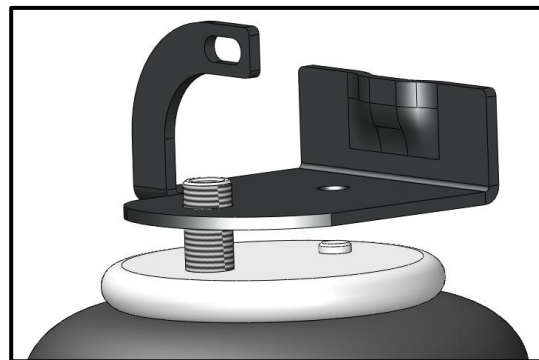
Remove the nuts from the u-bolts on one side of the rear axle and lift up the u-bolt plate, and then remove the bump stop. Put the u-bolt plate and u-bolts back in place on the leaf spring, checking that the u-bolt cap under the axle seats correctly. Torque the u-bolts to the manufacturers recommended torque setting. **Alternatively**, the bump stop can be left in place, and cut down in height to clear the bolt that holds the air spring to the lower bracket.



## STEP 3 – PRE-ASSEMBLE AIR SPRING & UPPER BRACKET

Place an upper bracket on top of an air spring.  
**IMPORTANT – ENSURE THE LOCATING PIP FEEDS IN TO ITS HOLE DURING THIS PROCESS. IF THIS DOES NOT HAPPEN THEN THE AIR SPRING WILL BE DAMAGED IN USE.**

Attach the air spring to the top bracket using the supplied 3/4" nut and internal tooth lock washer. Please note that the 3/4" nut needs to be rotated so that it has a face that is parallel to the chassis rail (front to back parts of the bracket); this allows it clear the chassis rail.



## STEP 4 – INSTALL ELBOW AIR FITTING

Install the supplied 1/4" x 1/4" elbow air fitting in the air entrance hole on the top plate (stud end) of the bellows and tighten until the nylon ring contacts the top plate then tighten a further 3/4 turn to snug the fitting. No additional thread sealant needed. If these fittings are re-fitted many times they will degrade their sealing ability.

## STEP 5 – FIT UPPER BRACKET TO CHASSIS

For the left hand side, follow step 5A, for the right hand side, follow step 5B.

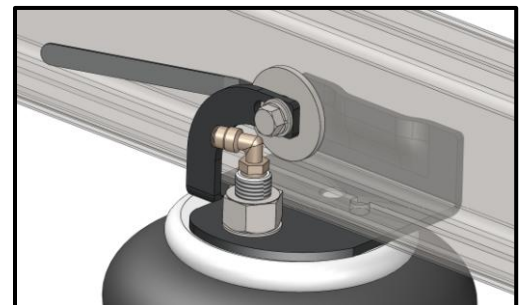
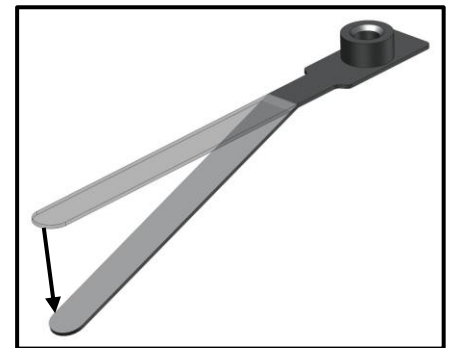
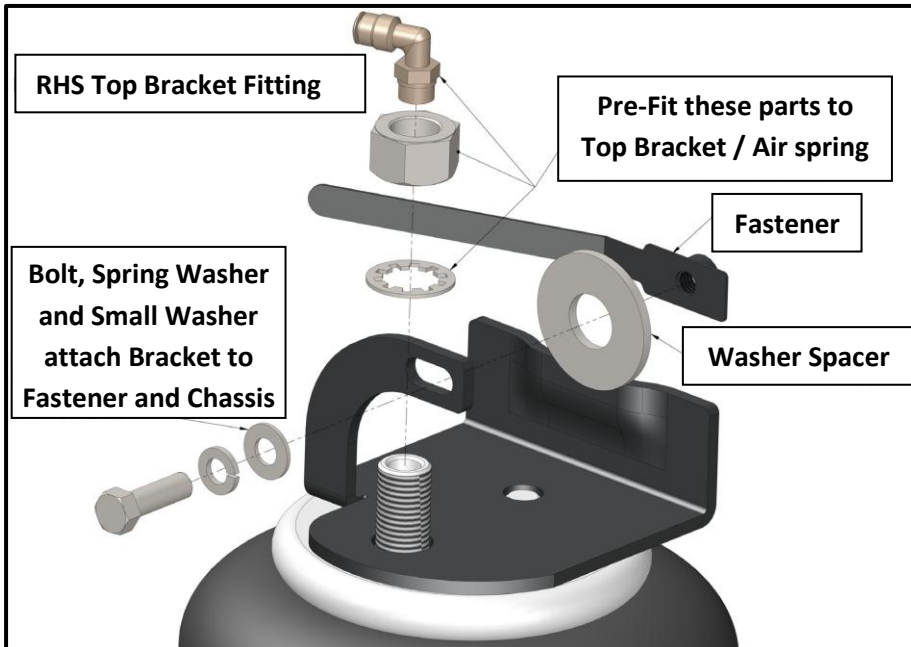
### STEP 5A - LHS

Remove the M8 bolt that holds a bright metal bracket to the inside of the chassis rail, above the bumper contact bracket, and retain the bolt. Feed the outer part of the upper bracket up the outside of the chassis rail, then push and roll the bracket up the inside of the chassis until it seats on the bumper contact bracket. Fasten the bracket using the previously removed M8 bolt.



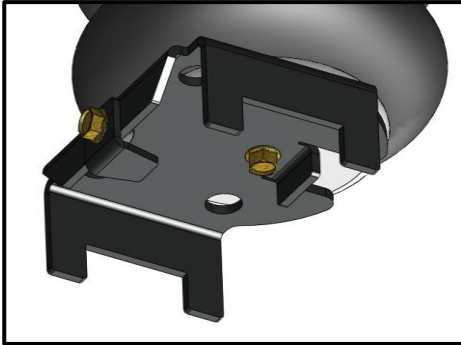
### STEP 5B - RHS

Bend the Fastener bracket to a shape as shown by hand, then insert into the slot in the inside of the chassis rail, above the bumper contact bracket. Feed the outer part of the upper bracket up the outside of the chassis rail, then push and roll the bracket up the inside of the chassis until it seats on the bumper contact bracket. Secure the bracket using the Fastener and supplied 3/8" x 1/4" bolt, spring washer and flat washer, in to the fastener.



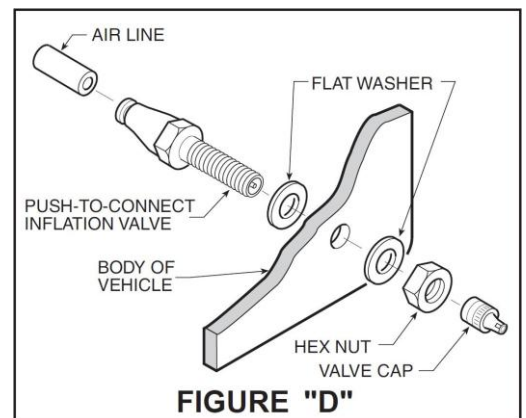
## STEP 6 – FIT LOWER BRACKET TO AIR SPRING

Fasten the air spring to the lower bracket using a supplied 3/8" x 3/4" flange lock bolt. Check the alignment on the vehicle to confirm the air spring will be visually aligned, re-position the bottom bracket as necessary and re-tighten. Fasten the lower bracket to the u-bolt plate using the supplied 3/8" flange lock bolt and angle bracket. Note that if the angle bracket is to be mounted square as possible, keep the lower bracket flat; it can be rotated once tight using the bolt head.



## STEP 7 – FIT AIR LINE TUBING

Uncoil the air line tubing and cut it into two equal lengths. **DO NOT FOLD OR KINK THE TUBING.** Try to make the cut as square and clean as possible. Insert one end of the tubing into the elbow fitting installed in the top of the air helper spring. Push the tubing into the fitting as far as possible. Select a location for the air inflation valves. The location can be on the bumper or the body of the vehicle, as long as it is in a protected location so the valve will not be damaged, but maintain accessibility for the air chuck. Drill a 8mm (5/16") hole and install the air inflation valve using two 5/16" stainless steel washers as supports, **see Figure "D"**. Run the tubing from the air helper spring to the inflation valve, routing it to avoid direct heat from engine, exhaust pipe, and away from sharp edges. Use the supplied protective sleeve to protect the tubing. Secure the tubing in place with the nylon ties provided. Push the end of the air line tubing into the inflation valve as illustrated, **see Figure "D"**.



## STEP 8 – YOU ARE NOW READY TO TEST THE SYSTEM

Visually check for loose attaching bolts. Make sure that no part of the vehicle is rubbing against the air springs. Again, make sure that the vehicles brake lines are not pinched or being rubbed by any part of the kit. Once the inflation valves are installed, inflate the air helper springs to 4 Bar (58 psi) and check the fittings for air leaks with an applied solution of soap and water. If a leak is detected, deflate the air spring by depressing the valve core. The tubing can be easily removed from the fittings by pushing the collar towards the body of the fitting and then pulling out the tube. Next, check the tubing connection to ensure that the air tubing is cut as square as possible and that it is pushed completely into the fitting. If a leak is detected at the air fitting fastens into the spring, tighten the fitting, until the leak stops. Also, check the core of the inflation valve. This valve core can be tightened using the cap. Re-inflate the air spring and check for leaks again if needed. This now completes the fitting. Re-connect the battery cable and remove the wheel chocks.

**FOR BEST RIDE:** Use only enough air pressure in the air helper springs to level the vehicle to the correct height when viewed from the side (front to rear). This amount will vary depending on the load, location of the load, condition of existing suspension.

# Product Use Information

## FREQUENTLY ASKED QUESTIONS

**Q. Will installing air springs increase the weight ratings of a vehicle?**

No. Adding air springs will not change the weight ratings (GVWR) of a vehicle. Exceeding the GVWR is dangerous and voids the Drive-Rite warranty.

**Q. Is it necessary to keep air in the air springs at all time and how much pressure will they need?**

The minimum air pressure should be maintained at all times. The minimum air pressure keeps the air spring in shape, ensuring that it will move throughout its travel without rubbing or wearing on itself.

**Q. Is it necessary to add a compressor system to the air springs?**

No. Air pressure can be adjusted with any type of compressor as long as it can produce sufficient pressure to service the springs. Even a bicycle tire pump can be used, but it's a lot of work.

**Q. How long should air springs last?**

If the air springs are properly installed and maintained they can last indefinitely.

**Q. Will raising the vehicle on a hoist for service work damage the air springs?**

No. The vehicle can be lifted on a hoist for short-term service work such as tire rotation or oil changes. However, if the vehicle will be on the hoist for a prolonged period of time, support the axle with jack stands in order to take the tension off of the air springs.

## TUNING THE AIR PRESSURE

Pressure determination comes down to three things — level vehicle, ride comfort, and stability.

**1. Level vehicle**

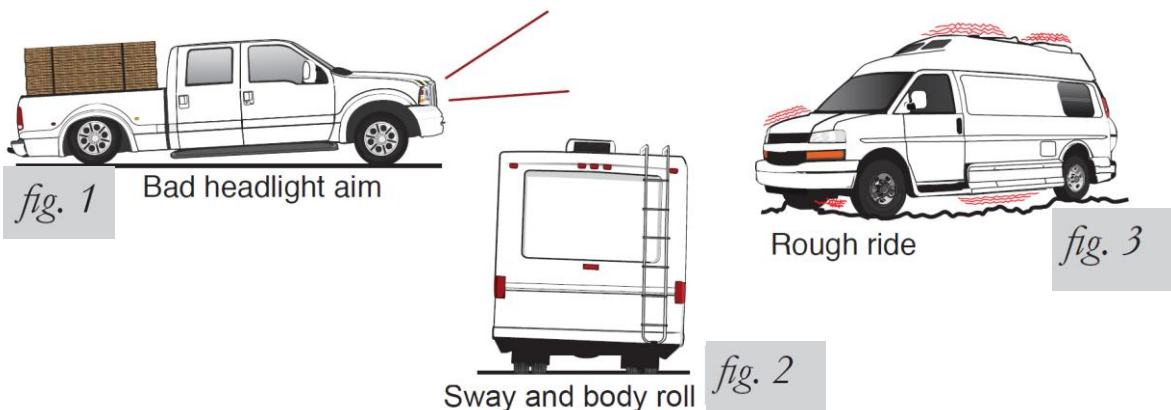
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 1). Raise the air pressure to correct either of these problems and level the vehicle.

**2. Ride comfort**

If the vehicle has a rough and harsh ride it may be due to either too much pressure or not enough (fig. 3). Try different pressures to determine the best ride comfort.

**3. Stability**

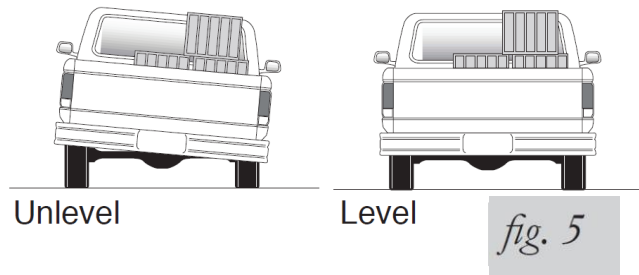
Stability translates into safety and should be the priority, meaning the driver may need to sacrifice a perfectly level and comfortable ride. Stability issues include roll control, bounce, dive during braking and sponginess (fig. 2). Tuning out these problems usually requires an increase in pressure.





## GUIDELINES FOR ADDING AIR (SEMI AIR KITS):

1. For all air systems, check the recommended Maximum and Minimum pressure for that kit in the Installation instructions. This is a rough guide for general information. *NEVER over inflate air springs as this might damage the system.*
2. Start with the vehicle level or slightly above.
3. For motor homes, start with 3-6Bar (45-90 p.s.i.) in the rear because it can be safely assumed that it is heavily loaded.
4. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
5. If it is ever suspected that the air bags have bottomed out, increase the pressure (fig. 4).
6. Adjust the pressure up and down to find the best ride.
7. If the vehicle rocks and rolls, adjust the air pressure to reduce movement.
8. It may be necessary to maintain different pressures on each side of the vehicle. Loads such as water, fuel, and appliances will cause the vehicle to be heavier on one side (fig. 5). As much as a 3Bar (45p.s.i.) difference is not uncommon.



# Warranty Policy for Aftermarket kits

## WARRANTY COVER:

Drive-Rite products, when installed and used in the correct manner as advised by Drive-Rite, and operated under normal recreational or commercial conditions, are covered under warranty for 24 months from date of sale.

*(Note: Exceptions to this standard 24 month cover may occasionally arise. In such cases, the extended or reduced warranty cover will be specified on the quotation, which overrides this general warranty policy.)*

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Warranty cover is for the replacement of parts only. No further claims beyond replacement parts shall be granted, unless in exceptional cases and where agreed on an individual case basis with Drive-Rite. Cover does not include any travel or accommodation costs. Such cover may be provided to the end customer by a distributor at his own discretion and cost.

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## WARRANTY VALIDITY:

Warranty will be invalid if any modification is made to the components which renders the component not repairable or for its intended use. This includes any alteration not previously approved by Drive-Rite.

For warranty claims relating to kits, the customer must have completed and returned the Warranty Registration Card in order to validate the warranty cover.

For warranty claims relating to individual components, the purchaser must be able to provide information relating to the date of purchase and date of installation.

Where parts are sold individually (not as a complete kit), Drive-Rite does not cover component failures, where it is deemed that these could have arisen due to incorrect system set-up configuration. In any case, where parts returned as potential warranty claims are found to be functioning within normal parameters when tested, no warranty will be given and any problems seen by the customer will be deemed to have been due either to the installation method, or to an incorrect configuration of components.

## WARRANTY CLAIMS:

Where parts are to be replaced under potential warranty cover, they should be returned to Drive-Rite as soon as possible, at the distributor's cost, accompanied by a completed RGA form. RGA forms can be requested from Drive-Rite, and are available on the Drive-Rite website. Failure to provide Drive-Rite with a completed RGA form or complete information as to the details of the claim may lead to the claim being rejected.

Replacement parts sent to the distributor are generally invoiced on initial shipment, but this invoice will be credited if accepted as a warranty case.

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**Drive-Rite makes no other warranty of any kind or character, express or implied, and any warranties of merchantability and/or fitness for a particular purpose are excluded.**

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