



# INSTALLATION INSTRUCTIONS

## 76-116-001

OEM SHOCK ABSORBER SPACER KIT TO SUIT FORD F-250 / F-350  
4th Gen (4WD) 2017 to 2022



Lift Height Approx: 3.5" (89mm) Front / 1" (25mm) Rear - *(No Accessories Fitted)*



### NOTE

Not compatible with Tremor editions, 2WD variants, dual rear wheel models, and vehicles fitted with OEM air bag or load leveling kits.

Some images contained in these instructions are generic and are a representation of the actual model and/or parts used. Some steps may also show parts out of sequence to the instructional steps.



**6 Hours**  
Approximately



### SAFETY WARNING

IRONMAN 4X4 requires you read and understand the safety and pre-install directions on page 2 and 3 before commencing installation of this product.

Document No: 85-100-008-R01/291024

**Occupational health and safety procedures  
must be observed at all times**



## IMPORTANT WARNINGS

BEFORE COMMENCING INSTALLATION OF THIS KIT  
IT IS MANDATORY THAT YOU READ THE BELOW WARNINGS.



### SAFETY WARNING

- Read and understand instructions fully.
- Check the hardware supplied against the contents list on the following pages.
- This suspension kit can only be fitted to the vehicles Original Equipment Manufacturer (OEM) suspension components.  
Do not combine suspension lifts kits, body lifts, or other lifting devices.
- Do not use this product for any vehicle make or model other than specified in these instructions.
- It is highly recommended that this kit be installed by a certified professional mechanic. IRONMAN 4X4 CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE OR FAILURE RESULTING FROM IMPROPER INSTALLATION.
- While working on this vehicle, always use appropriate safety equipment.
- This product and or hardware must not be modified in any way. Do not remove labels from this product.
- Some images contained in these instructions are generic and are a representation of the actual model and/or parts used. Some steps may show parts out of sequence to the instructional steps.
- Fitting instructions are correct at the time of publication date and IRONMAN 4X4 cannot be held responsible for any vehicle changes from the manufacturer. It is the responsibility of the installer to ensure correct fitment.
- IRONMAN 4X4 recommends consulting a vehicle specific OEM Service Manual for proper disassembly and reassembly.  
Tighten all bolts and fasteners to the torque specifications in the OEM Service Manual unless specified otherwise.
- Generally, altering your suspension system may change the way your vehicle handles. Take care when driving both on and off the road.
- Laws in regards to suspension modification vary from state, retailer and installers must inform end users about local laws and any breaches prior to installation.
- The vehicle must be in optimal operating condition prior to fitting this suspension kit. Repair or replace any worn or damaged components before proceeding.
- After installation of this product, a wheel alignment MUST be performed
- Read SAEJ2492 warning below.



### SAEJ2492 WARNING

By installing this product, you acknowledge the suspension of this vehicle has been modified. As a result, this vehicle may handle differently than that of factory equipped vehicles. As with any vehicle, extreme care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers.

Always wear seat belts and drive safely, recognizing that reduced speeds and specialized driving techniques may be required. Failure to drive this vehicle safely may result in serious injury or death. Do not drive this vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions.

Some modifications (and combinations of modifications) are not recommended and may not be permitted in your State. Consult your owner's manual, the instructions accompanying this product and State laws before undertaking these modifications. You are responsible for the legality and safety of the vehicle you modify using these components.



### CUSTOMER INFORMATION

Customer Name: \_\_\_\_\_ Date: \_\_\_\_\_

Contact: \_\_\_\_\_

Part Number: \_\_\_\_\_ Batch Number: \_\_\_\_\_

## PRE-INSTALLATION PROCEDURES

Prior to starting the installation it is mandatory to measure vehicle heights and head light positions.

With the vehicle on a level surface, measure the vertical distance from hub center to fender on each of the four corners and recording the measurements in the below table.

Once the installation is finished, roll the vehicle forward and back to settle the suspension and then remeasure the vehicles hub center to fender values.

After installation, readjust the headlights close as possible to factory heights to prevent safety hazards.

### VEHICLE HEIGHT MEASUREMENTS

	Left-hand Side Before	Left-hand Side After	Right-hand Side Before	Right-hand Side After
Front				
Rear				

Measurement is to be performed from the center of the hub to fender edge, straight up from the hub.

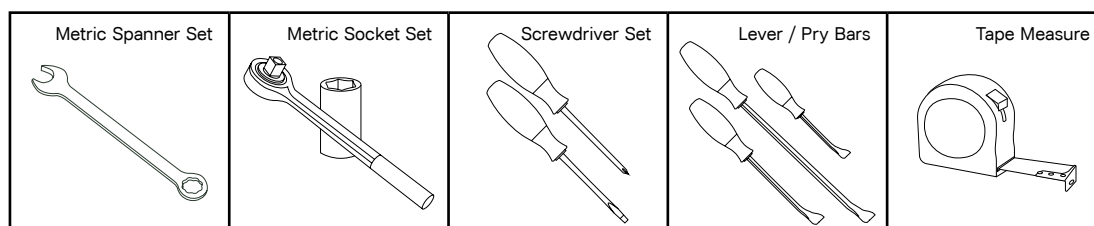
### HEADLIGHT MEASUREMENTS

Left-hand Side Before	Left-hand Side After	Right-hand Side Before	Right-hand Side After

We strongly recommend using a Factory Service Manual for the specific Year / Make / Model as reference while installing.

- Before proceeding with this installation, the vehicle should be in optimal operating condition, and any worn or damaged components replaced first.
- All lifted vehicles may require additional driveline modifications and / or balancing.
- After installation of this product, a wheel alignment MUST be performed.
- If changing +/- 10% from OEM tire diameter, a Speedometer / Computer recalibration is required.

## TOOLS REQUIRED



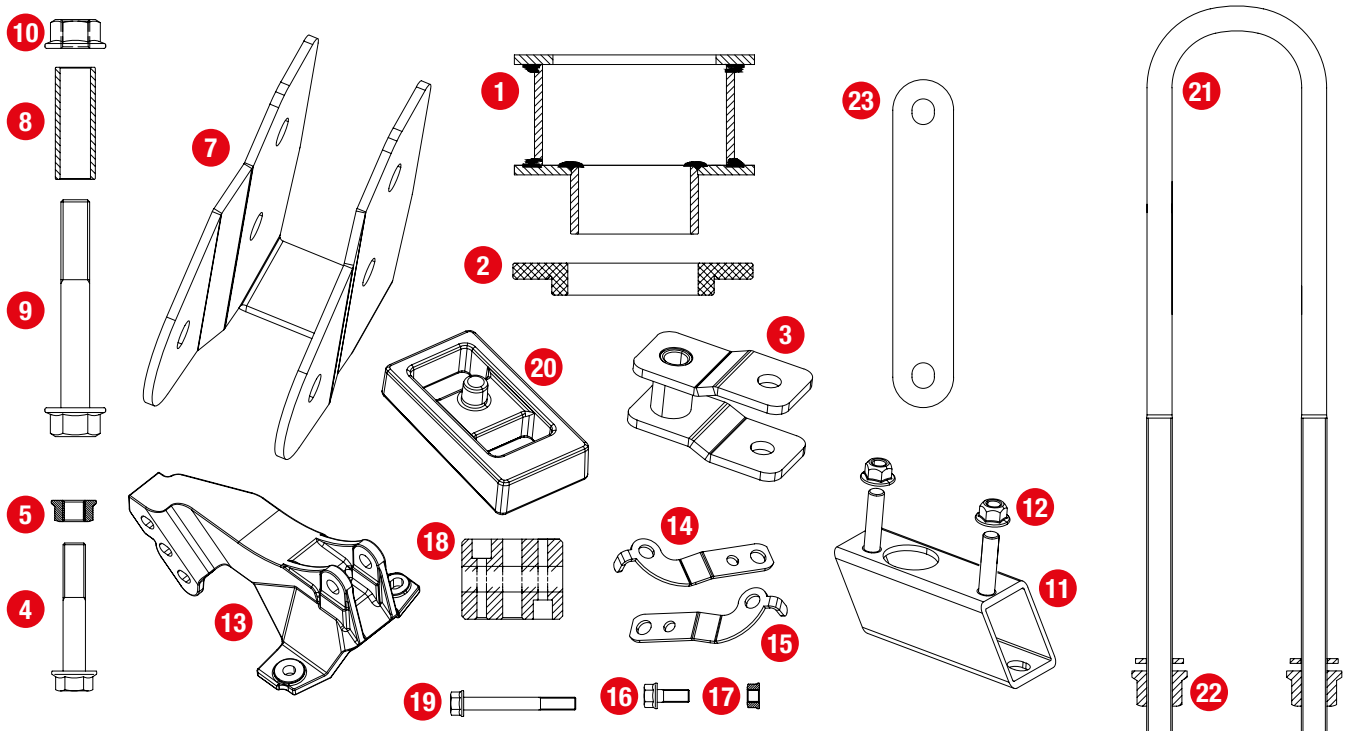
Any damage or loss caused by improper installation, application or failure to observe and follow our recommendations, goes beyond our quality warranty.

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## 76-116-001 KIT PARTS LIST

## SPACER KIT TO SUIT OEM SHOCK ABSORBERS

No.	Description	Qty	No.	Description	Qty
<b>Front Coil Spacer Kit</b>			<b>Track Bar Relocation Kit</b>		
1.	Spacer - Coil Steel	2	13.	Bracket	1
2.	Isolator	2	<b>Front Brake Line Extension Kit</b>		
<b>Front Shock Spacer Kit</b>			14.	Spacer Brake Line - LHS	1
3.	Spacer - Shock	2	15.	Spacer Brake Line - RHS	1
4.	Bolt - Hex Flange (M14 x 2.0 x 80mm)	2	16.	Bolt - Hex Flange (M8 X 1.25 x 20mm)	2
5.	Nut - Hex Flange (M14 x 2.0)	2	17.	Nut - Hex Flange (M8 x 1.25)	2
<b>Radius Drop Bracket Kit</b>			<b>Front Bump Stop Spacer Kit</b>		
7.	Bracket	2	18.	Spacer	2
8.	Sleeve	4	19.	Bolt - Hex Flange (M8 x 1.25 x 70mm)	2
9.	Bolt - Hex Flange (M18 x 2.5 x 130mm)	4	<b>Rear Leaf Spacer Kit</b>		
10.	Nut - Flange (M18 x 2.5)	4	20.	Lift Block	2
<b>Sway Bar Spacer Kit</b>			21.	U-bolt	4
11.	Spacer	2	22.	Nut - Hex Flange (M16 x 2.0)	8
12.	Nut - Hex Flange Nyloc (M10 x 1.5)	4	23.	Two Piece Driveline Spacer	1



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## PRE-INSTALLATION

1. Before installing, ensure spacer kit application is compatible with the vehicle.

Unwrap all components taking care not to damage or scratch in the process. Inspect for any damage.



### NOTE

*Retain all OEM (factory) hardware and components unless advised to discard.*



### TIP

*It is good practice to lay out all parts to cross-reference against the parts list and record Batch Numbers.*



2. All of the following steps should be repeated on the opposite side of the vehicle, unless otherwise specified.

## REMOVAL AND INSTALLATION PROCEDURES - FRONT

3. Set the vehicle on a clean, level area and block the rear wheels for safety. Engage the parking brake.

Disconnect the vehicle power by removing the ground cable from the battery.

Lift the front of the vehicle and support it with jack stands under each frame rail. Ensure the wheels are on and remain contacting ground.

Support the radius arm with a workshop floor jack.



4. Using a 24mm and 27mm socket, unbolt the rear side of the radius arm from chassis and lower it out of the way.

**TIP**

*Perform this task on both sides at the same time.*



5. Attach the radius arm drop brackets to the frame using the supplied bolts and crush tubes. Do not tighten at this stage.



6. Install the OEM lower bolt in the radius drop bracket. It can be aligned by moving the front tires by hand. Insta111 OEM nut and tighten, but do not torque at this time.

**TIP**

*Raise or lower the radius arms with the workshop floor jack.*





- 7.** Lift the front of the vehicle and support it with jack stands under each frame rail.  
Remove the front wheels and use a suitable workshop stand to support the front axle.

**TIP**

*We suggest using a two (2) post vehicle lift if available, to lift and support the vehicle while completing the front and rear installation simultaneously.*



- 8.** Use a 10mm and 13mm socket to detach the brake line bracket from the chassis and differential.



- 9.** Use an 18mm wrench to detach the lower shock from the lower mount.



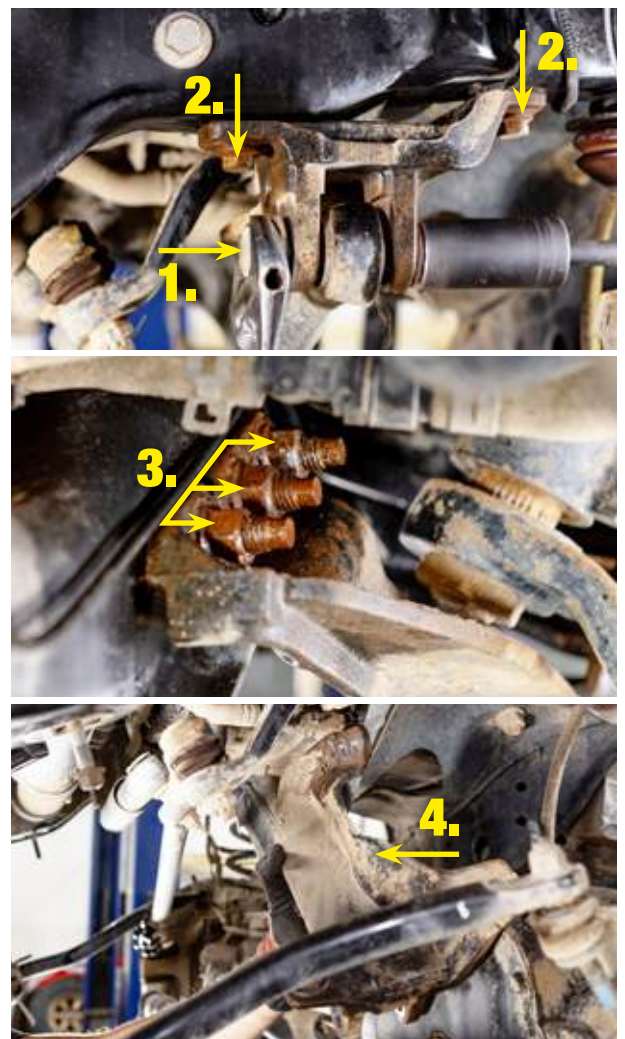
- 10.** Using 15mm wrench, remove the sway bar from the chassis.



- 11.** Unclip ABS wire from the frame.



- 12.** Remove the bolt **(1)** securing the track bar to the OEM bracket.  
Remove the two **(2)** bolts **(2)** in the underside of the track bar bracket and then remove the three **(3)** nuts **(3)** securing the side of this bracket to the chassis rail.  
Remove the track bar bracket **(4)** from the vehicle and discard.





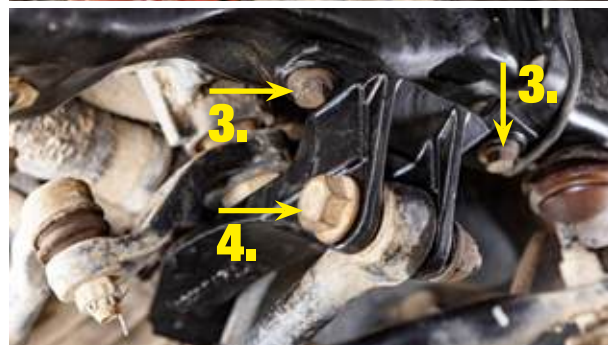
**13.** Lift the new track bar bracket **(1)** into place, replacing the one (1) just removed.  
Secure the side of the bracket to the chassis rail using the three (3) OEM nuts **(2)** previously removed.

Replace the two (2) OEM bolts **(3)** into the underside.

Torque to 95lb.ft (129Nm).

Reattach the track bar to the bracket using OEM bolt **(4)**.

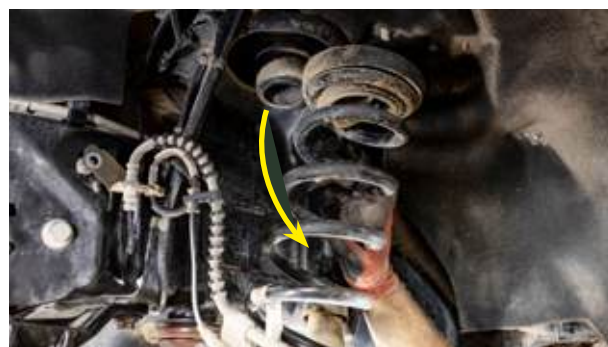
Do not tighten the track bar bolt at this time.



**14.** Lower the axle enough to remove the front springs.

Install the isolator **(1)**, coil spacer **(2)**, and then OEM rubber isolator **(3)** onto the spring and refit back into the vehicle.

Ensure IRONMAN 4X4 logo is facing out.



- 15.** Remove the OEM bump stop by prying it out.  
Remove the mount from the frame using a 14mm socket.

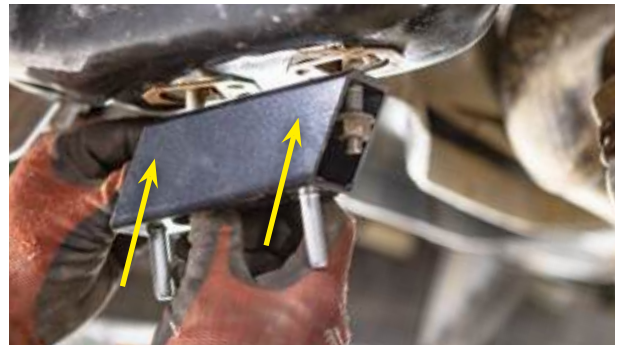


- 16.** Install the bump stop spacer and OEM bump stop mount to the frame using bolt supplied.  
Torque to 5lb.ft.  
Install the bump stop to the OEM mount by pressing it back into place.  
Ensure IRONMAN 4X4 logo is facing out.

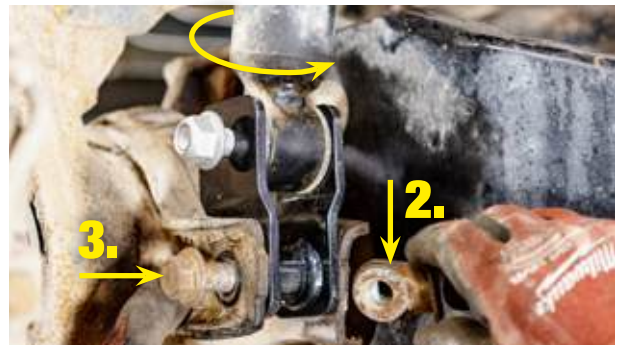




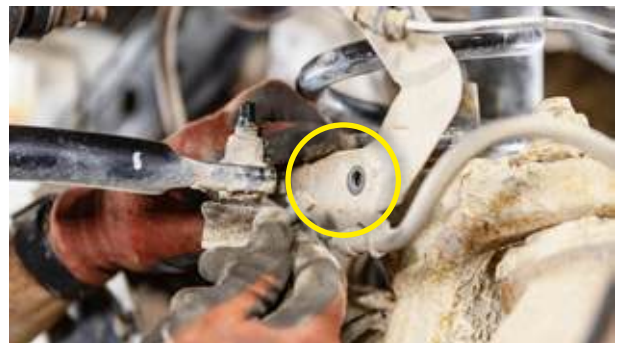
- 17.** Raise the axle enough to hold the spring assembly in place.  
Install the sway bar drops to the frame using OEM hardware.  
Torque to 25lb.ft (34Nm).  
Install the sway bar to the sway bar spacer studs using the nuts supplied.  
Torque to 35lb.ft (47Nm).



- 18.** Install the shock spacer using an 18mm and 21mm wrench.  
The bolt **(1)** must be inserted into the extension and shock eye first.  
Once the bolt is in place, rotate the shock and the extension 90° to sit correctly.  
With the OEM nut plate **(2)** in behind the shock mount, secure the base of the extension in place with OEM bolt **(3)**.  
Torque to 45lb.ft.



- 19.** Reattach the brake line bracket at the axle using OEM hardware.  
Torque to 5lb.ft (7Nm).





- 20.** Install the brake line bracket to the OEM brake line using fasteners supplied.
- Fit the bolt with the head between the bracket and the chassis.
- Torque to 10lb.ft (13.5Nm).



- 21.** Carefully lower the metal brake line while aligning the bracket with the original holes in the chassis.
- Install using OEM hardware.
- Torque to 10lb.ft (13.5Nm).



 **NOTE**

*Take care with the brake lines as they can be easily damaged and buckled.*

- 22.** Refit the wheels and lower the vehicle to the ground.
- Torque lug nuts to manufacturer specification.
- Bounce the vehicle a few times to settle the suspension to the new ride height.



 **NOTE**

*Skip this step if you are using a hoist to lift the vehicle and complete the install.*

## REMOVAL AND INSTALLATION PROCEDURES - REAR

- 23.** Block the front wheels and raise the rear of the vehicle using a suitable jack and support with jack stands at each frame rail.

 **NOTE**

*Skip the above if you are using a hoist to lift the vehicle and complete the install.*

Support the axle with a suitable jack stand.



- 24.** Using the axle stand, preload the shock 1/4" and remove lower shock bolt using a 21mm socket and 18mm wrench.



- 24.** Loosen the left-hand side u-bolts slightly without removing them.  
Completely remove the right-hand side u-bolts and discard them.



- 25.** Lower the axle just enough to remove the OEM block. Retain the factory block being careful not to overextend the brake and ABS lines.  
Install the IRONMAN 4X4 lift block **(1)** on the axle with the OEM block **(2)** ontop, ensuring the arrow faces toward the front of the vehicle (see image).

Ensure blocks are aligned.

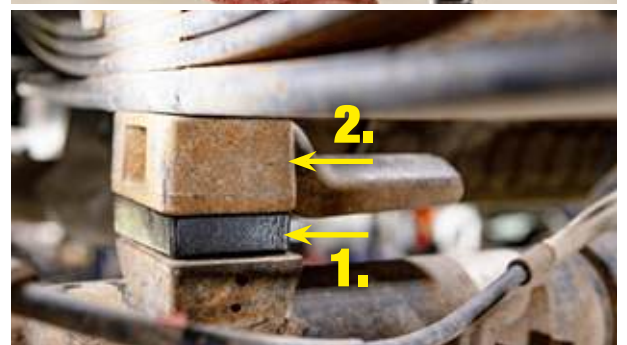


**WARNING**

*Do not overextend the ABS and brake lines.*

Install the IRONMAN 4X4 lift block **(1)** on the axle and the OEM block **(2)** on top

Ensure the arrow is facing towards the front of the vehicle and the blocks are aligned.





- 26.** Raise the axle and the block up to the spring, ensuring to align the center pin.

**NOTE**

*You may need to push the axle forward a little to line up the pin.*

Install the provided u-bolts, and using a 24mm socket, snug the u-bolt nuts but do not fully tighten at this time.

Repeat steps for left-hand side u-bolts.



- 27.** Cut the u-bolts to desired length after tightening nuts.





- 28.** Raise the lower axle just enough to align and refit the lower shock bolt.  
Torque to 45ft.lb (61Nm).



- 29.** Lower the vehicle to the ground and check the torque on the lug nuts are to the wheel manufacturer specifications.  
Torque the u-bolts to 110ft.lb (149Nm).



- 30.** If the vehicle has a 2 piece driveline complete this step.  
Using a paint maker, draw a line from the frame to the carrier bearing.  
Support the drive shaft with suitable jack.  
Remove the OEM carrier bearing bolts and lower the shaft.  
Fit the drive line spacer.  
Lift the drive shaft and reattach to the frame using the OEM fasteners.  
Align the bearing carrier with the chassis using the marker lines.  
Torque to 50ft.lb (68Nm)



- 31.** Bounce the vehicle to get the suspension to settle to the new ride height.

On the front, torque the radius arm brackets and arm bolts to 200lb.ft (271Nm) and the track bar to 250lb.ft (339Nm).

- 32.** Reconnect the battery ground terminal.

With the steering wheel centered, turn the tie rod ends until the tires are straight. If the steering wheel is not centered properly, the ABS/traction control lights may activate.

Turn the wheels from lock to lock and to ensure brake lines and ABS routing clear all suspension components adequately and reposition if necessary.

Measure and record ride height after initial test drive and record these on the table on page 3.

- 33.** Ensure a mandatory wheel alignment is performed by a qualified technician and the alignment is set to the recommended specs following.

**NOTE**

*On completion of the installation, have the suspension and headlights realigned.*

*After 310 miles (500km) recheck for proper torque on all newly installed hardware. Recheck all hardware for tightness after off road use.*

*Make sure to have any, and all electronic systems calibrated as indicated by the manufacturer for the features of your vehicle.*

*This includes but not limited to the steering wheel angle sensors, yaw sensors, cruise control, lane departure, etc.*

**WHEEL ALIGNMENT****NOTE**

*Professional wheel alignment is required.*

A strong understanding of wheel alignment procedure is required. IRONMAN 4X4 recommends wheel alignment be carried out by a trained alignment professional only.

Adjustments to caster, toe and the centering of steering wheel will be required. This should be performed to OEM specifications.

Always set wheel alignment settings in relation to tire wear for each individual vehicle.

## ONCE INSTALLED...



### POST-INSTALLATION WARNINGS

It is mandatory to perform post-installation checks after installing suspension components.

Failure to do so can lead to dangerous consequences, including vehicle damage, personal injury, or even death, therefore, post-installation safety checks are essential before driving the vehicle.

#### POST-INSTALL INSPECTION AND REFINEMENT

- Torque wheel lug nuts to manufacturer specifications.
- Inspect and test all steering, brake and suspension components for tightness and proper operation.
- Inspect wheels, brake lines/hoses and ABS lines, ensure adequate tire clearance and adequate looseness at full extension by turning the steering wheel completely to the left and then to the right.
- Inspect all rubber parts ensuring correct torque at ride height.
- Seat suspension components correctly by rocking the vehicle back and forth.
- A full professional wheel alignment to OEM specifications is mandatory and must be performed by a certified alignment technician.
- Inspect and adjust vehicle headlights to ensure correct aim and alignment.
- If vehicle is fitted with active or passive safety/collision monitoring and/or avoidance systems, these should be professionally checked and adjusted to ensure correct aim and function.
- Recheck all bolts and suspension components for correct torque values after two weeks or at 310 miles (500km).



*Any damage or loss caused by improper installation, application or failure to observe and follow our recommendations, goes beyond our quality warranty.*