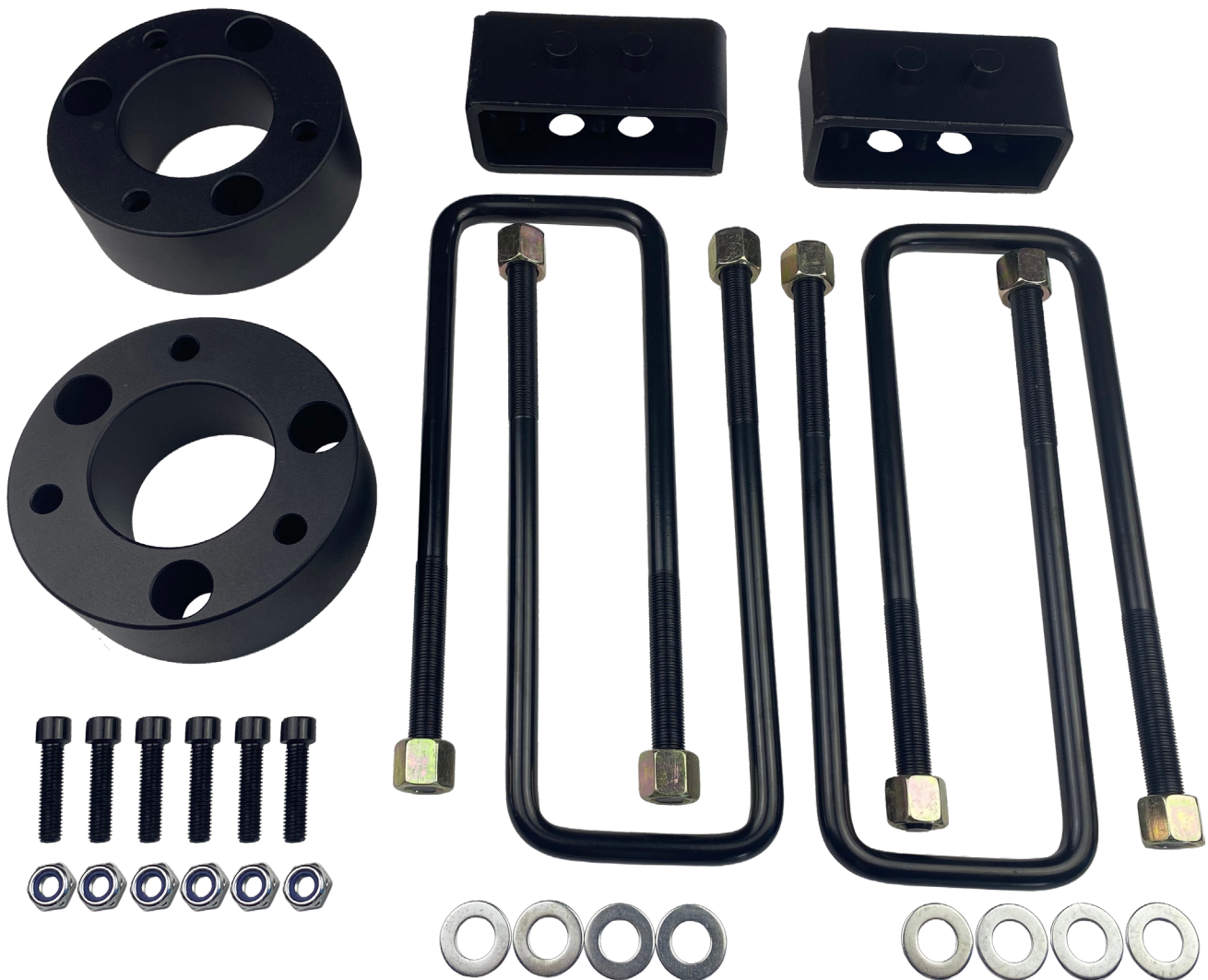




3 IN. FRONT AND 2 IN. REAR SPACER LIFT KIT

FOR FORD F150 4WD 2004-2020

INSTRUCTION MANUAL



⚠ WARNING

**READ AND UNDERSTAND THIS INSTRUCTION MANUAL
PRIOR TO USING THIS PRODUCT. FAILURE TO DO SO MAY
RESULT IN SERIOUS INJURY OR DEATH.**

Keep this instruction manual for future reference.

The safety instructions provided in this manual are not intended to cover all possible conditions and practices that may occur when installing or using this product.

Always use common sense and pay particular attention to all DANGER, WARNING, CAUTION, and NOTICE statements of this manual.

WARNING SYMBOLS AND DEFINITIONS	
	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
 DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Addresses practices not related to personal injury.
CAUTION	

NOTICE This instruction manual is intended for your benefit. Please read and follow the safety and installation steps described herein to ensure your safety and satisfaction. The contents of this instruction manual are based upon the latest product information available at the time of publication. The manufacturer reserves the right to make product changes at any time without notice.

UNPACKING & INSPECTION

When unpacking, please inspect the product carefully to ensure the product is intact and undamaged. If any parts are missing or broken, please call 1-800-386-0191 as soon as possible.

 **WARNING** **Do not use this product if damaged during shipment, handling, or after misuse.**
Do not use the product until the parts have been replaced or the fault rectified. Failure to do so may result in serious personal injury or property damage.

Remove the parts and accessories from the packaging and inspect for damage. Make sure that all items in the contents are included.

Package contents :

See the **PARTS LIST** at the end of this manual.

GENERAL SAFETY RULES

 **WARNING** **READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS.** Failure to follow the warnings and instructions may result in electric shock, serious injury and/or DEATH.

Save this instruction manual for future reference.

WORK AREA SAFETY

- Operate in a safe work environment. Keep your work area clean, well-lit and free of distractions. Place lights so you are not working in a shadow.
- Always ensure the vehicle is on a solid, level work surface such as concrete or asphalt that does not have an incline.
- Shift the vehicle with automatic transmission to park or to low gear, if it has a standard transmission, and apply the parking brake.
- Always use wheel chocks when lifting a vehicle.
- Use only lifting devices and jack stands that are properly maintained and in good operating condition.
- Never exceed the lift rating of the lifting device or the jack stands.
- Always set the vehicle onto jack stands and remove the lifting device from under the vehicle before getting under the vehicle.
- If working alone, always arrange to have someone check on you at pre-arranged, regular intervals.
- Do not allow children to play around or under a vehicle that has been lifted.

PERSONAL SAFETY

- Wear Personal Protective Equipment (PPE) approved by the American National Standards Institute (ANSI) or the Canadian Standards Association (CSA).
- Always wear impact safety goggles that provide front and side protection for the eyes. Eye protection equipment should comply with ANSI Z87.1 or CSA Z94.3-07 standards based on the type of work performed.
- Wear protective clothing designed for the work environment and equipment.
- Control the tool, personal movement and the work environment to avoid personal injury or damage to the equipment or vehicle.

- Do not operate any equipment or vehicle when tired or under the influence of drugs, alcohol, or medications.
- Avoid wearing clothes or jewelry that can become entangled with the moving parts of a tool. Keep long hair covered and bound.
- Do not overreach when installing. Proper footing and balance enables better control in unexpected situations.

SPECIFIC SAFETY PRECAUTIONS

WARNING

Regarding Installation:

- Installation of this product by a certified professional mechanic or technician is highly recommended.
- Read and understand all instructions before installing this product.
- Installation of this product requires professional knowledge of post installation inspection along with suspension system disassembly and reassembly procedures.
- Installation of this product requires working with compressed coiled springs. Proper procedures and tools are necessary for decompressing and compressing coiled springs. Follow all recommended safety procedures when working with compressed coil springs.
- After installing a lift kit, it is advised that the vehicle have a professional wheel alignment.
- Lifted vehicles require headlight realignment. Check and adjust the headlight aim after installation.
- Do not add, alter, mix with other brands, or fabricate the parts in this kit or the factory parts on the vehicle to increase the height intended from this kit.
- Improper installation may result in reduced vehicle suspension integrity and unsafe vehicle operation which may result in **serious injury or death**.

WARNING

Regarding Vehicle Operation:

- Increasing the height of a vehicle's suspension will change the center of gravity which may result in an increased possibility for the vehicle to overturn or roll when driving.
- Installing a roll bar or roll cage is highly recommended.
- Seatbelts and shoulder harnesses should be worn by all occupants at all times when operating the vehicle.
- Exercise caution while operating the vehicle and avoid situations where the vehicle may overturn or roll, such as sharp cornering or turning on an incline.
- Failure to drive safely may result in serious injury or death.
- Braking performance and capability will be reduced when larger or heavier tires are used.
- Ongoing maintenance is required. Periodically inspect and provide maintenance to your altered suspension system.
- Raised and altered vehicles may have blind spots that were not present before modification. Adjust your driving behavior to accommodate people, animals and objects in your path.

YOUR LEGAL RESPONSIBILITIES

NOTICE

Modifications to a vehicle, including lifting or leveling may be subject to inspection and/or regulation. There may be limited information online regarding Lift Laws. Before installing this product, be sure to check with your state or provincial motor vehicle safety department to ensure your vehicle is street legal.

In Canada:

Check government ordinances before you modify your vehicle. Lifting or leveling a vehicle must abide by SAAQ regulations and you must submit apply for a modified vehicle to obtain a certificate of inspection.

Before lifting/leveling find out if the modification is allowed. Information may be found here:

- [Modify Your Car \(PDF, 377.4 kb\)](https://saaq.gouv.qc.ca/fileadmin/documents/publications/modify-your-vehicle.pdf)
<https://saaq.gouv.qc.ca/fileadmin/documents/publications/modify-your-vehicle.pdf>
- [Les véhicules modifiés ou de fabrication artisanale \(PDF, 1.7 Mo\)](https://saaq.gouv.qc.ca/fileadmin/documents/publications/vehicules-modifies-fabrication-artisanale.pdf)
<https://saaq.gouv.qc.ca/fileadmin/documents/publications/vehicules-modifies-fabrication-artisanale.pdf>

After you have completed modifications, you are required to make an appointment for inspection and obtain a modified vehicle record. Keep a copy of the certificate of inspection in the vehicle and present it to officials upon request.

NOTICE

In addition to ensuring your vehicle is street legal, vehicle modifications may change or affect your insurance coverage. Contact your insurance provider to ensure your coverage will remain valid.

NOTICE

Modifications made to your vehicle suspension may void any vehicle suspension or powertrain warranties provided by the dealer or manufacturer. Check with your dealer or vehicle manufacturer prior to making any modifications.

INSTALLATION

FRONT LIFT INSTALLATION

Installation is best performed using a two-post vehicle lift with safety jacks. Use a jack if a vehicle lift is not available. Retain all original hardware for re-installation.

1. Park the vehicle on a clean FLAT surface such as a concrete or asphalt surface.
2. Set the steering wheel so that the wheels are straight.
3. Engage the parking brake, then chock the rear wheels for safety.
4. Disconnect power at the ground terminal on the battery.
5. Loosen the lug nuts on the front wheels/tires, but do not remove them.
6. Raise the front of the vehicle using a jack and place jack stands under the frame of the vehicle behind the front wheels.
7. Carefully lower the vehicle onto the jack stands.
8. Use a lug wrench or impact wrench with an impact socket to remove the front wheels/tires.
9. Remove the front skid plate if the truck is equipped with one.
10. Prior to any installation, and for models 2011 and up, if equipped, remove the Electronic Power Assist Steering (EPAS) Plug located on the steering assembly next to the front differential.
11. Place a floor jack under the lower control arm so it supports the spindle/knuckle but does not raise it.
12. Remove any brake line brackets or wiring to provide slack in the lines.
13. Loosen and remove the upper strut nuts.
14. Loosen the upper ball joint nut but do not completely remove it. Use a ball peen hammer to strike the side of the spindle/knuckle where the ball joint is seated to break the taper fit. Do not strike the ball joint itself. If using a pickle fork, be careful not to damage the ball joint boot. Ideally, if available, use a Pitman arm puller to separate the ball joint from the spindle/knuckle.
15. Use a prybar to apply downward pressure on the upper ball joint to remove the nut completely.
16. Remove the steering linkage nut. Use a ball peen hammer to strike the side of the spindle/knuckle where the linkage ball joint is seated to break the taper fit. Do not strike the linkage ball joint itself. If using a pickle fork, be careful not to damage the ball joint boot. Ideally, if available, use a Pitman arm puller to separate the ball joint from the spindle/knuckle.
17. Remove the sway bar bushing and nut from the top and disconnect the sway bar.
18. Remove the cap on the end of the spindle, then remove the CV shaft nut.
19. Remove the lower strut bolt from the lower control arm. **Note the direction that the bolt is installed.**
20. With the control arm supported by the floor jack, slowly lower the control arm and spindle/knuckle to allow the strut assembly to be removed from the vehicle.
21. Install and tighten to 30 ft-lbs the M10 x 40 Socket Head Cap Screws ③ onto the Front Spacer ① with the threads of the M10 x 40 Socket Head Cap Screws protruding from the face.
22. Place the Front Spacer with the installed M10 x 40 Socket Head Cap Screws onto the studs of the strut assembly, then install and tighten the M10 Nuts ④ on the strut assembly studs to 30 ft-lbs.
23. Rotate the strut assembly 180 degrees and replace the strut assembly with the Front Spacer into the vehicle. Note: It may be necessary to pry the lower control arm downwards to reinstall.
24. Reinstall the upper strut nuts and torque to the manufacturer's recommended torque.
25. Use the floor jack to raise the lower control arm to raise the spindle/knuckle. Reinstall the CV shaft nut and tighten to the manufacturer's recommended torque. Replace the CV nut cap on the end of the spindle.
26. Install the lower strut bolt **in the same direction as when it was removed**. Tighten the nut to the manufacturer's recommended torque.
27. Use a pry bar to lower the upper control arm and reinstall the upper ball joint. Tighten the nut to the manufacturer's recommended torque.
28. Reinstall the steering linkage ball joint. Tighten the nut to the manufacturer's recommended torque.
29. Reinstall all brake line brackets and wiring.
30. Repeat steps 11 through 29 for the other side.
31. Reinstall the Electronic Power Assist Steering (EPAS) Plug located on the steering assembly next to the front differential.
32. Reinstall the front skid plate.
33. Raise the Front of the vehicle using a jack and remove the jack stands.
34. Lower the vehicle so that it is resting on the ground, and remove the jack.
35. After the vehicle is on the ground, install the sway bar links using the retained hardware and tighten to the manufacturer's recommended torque. Note: it may be necessary to turn the steering wheel to help align the sway bar to the mounting hole. **DO NOT INSTALL THE SWAY BAR WHILE VEHICLE IS STILL ON JACK STANDS: VEHICLE MUST BE SITTING ON GROUND TO COMPLETE THIS STEP.**
36. Retighten the upper and lower control arms.
37. Check that all bolts are tightened to manufacturer's recommended torque and ensure all hoses and wiring have clearance and do not bind, bend, or have the potential to fail.

REAR LIFT INSTALLATION

Installation is best performed using a two-post vehicle lift with safety jacks. Use a jack if a vehicle lift is not available.

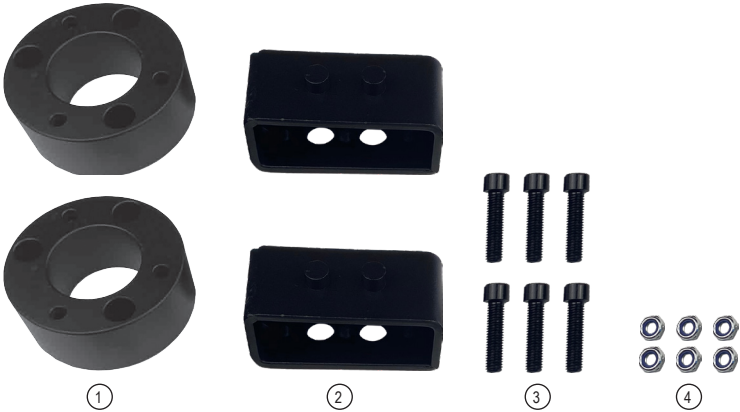
1. Park the vehicle on a clean FLAT surface such as a concrete or asphalt surface.
2. Set the steering wheel so that the wheels are straight.
3. Engage the parking brake, then chock the front wheels for safety.
4. Disconnect power at the ground terminal on the battery.
5. Loosen the lug nuts on the rear wheels/tires, but do not remove them.
6. Raise the rear of the vehicle using a jack and place jack stands under the frame of the vehicle in front of the rear wheels.
7. Carefully lower the vehicle onto the jack stands.
8. Place the jack underneath so it supports but does not raise the rear axle.
9. Use a lug wrench or impact wrench with an impact socket to remove the rear wheels/tires.
10. Remove any brake line brackets or wiring from to provide slack in the lines.
11. Remove the lower shock mount nut and bolt.
12. Remove the U-bolt nuts, clamp, and U-bolts.
13. Carefully and slowly lower the rear axle so the axle separates from the leaf springs, then remove the stock rear spacer.
14. Place the Rear Spacer ② with the holes aligned on the axle studs and **the short/narrow end of the Rear Spacer is pointing towards the front of the vehicle.**
15. Raise the rear axle so the spacer is touching the leaf spring, then install the 11-7/16" U-bolts ⑤ onto the U-bolt bracket on the top of the leaf spring.
16. Use the 9/16" Washers ⑦ and Nuts ⑥ to secure the axle to the leaf springs. Torque the U-bolt nuts to the manufacturer's recommended torque.
17. Reinstall the lower shock mount bolt and nut.
18. Repeat steps 11 through 16 for the other side.
19. Reinstall all brake line brackets and wiring.
20. Re-install the wheels/tires and tighten the lug nuts to the manufacturer's recommended torque.
21. Raise the rear of the vehicle using a jack and remove the jack stands.
22. Lower the vehicle so that it is resting on the ground, and remove the jack.
23. Check that all bolts are tightened to factory recommended torque and ensure all hoses and wiring have clearance and do not bind, bend, or have the potential to fail.

RECOMMENDED MAINTENANCE

- Before operating your vehicle, check that all fasteners are tightened to the vehicle manufacturer's recommended torque.
- Test the brake system to ensure there are no leaks or loss of pressure.
- After installation, operate the vehicle in an area without traffic for five miles. Pay close attention to the suspension system, vehicle handling, check for any abnormal vibrations and listen for any strange noises. If the vehicle has any abnormality, stop the vehicle immediately then troubleshoot and fix the cause of abnormality.
- Check and adjust the headlight aim after installation.
- Have your vehicle aligned to factory specifications by a certified alignment center professional before driving.
- Check the clearance on all newly assembled parts and on the vehicle.
- Ensure any oversized tires will not rub while in operation or when the steering wheel is turned to its maximum positions, both left and right.
- Check that all fasteners are tightened to the vehicle manufacturer's recommended torque after every 500 miles (800 km).
- Have your vehicle suspension inspected by a professional mechanic after every 3000 miles (4800 km).

PARTS LIST

Item	Description	Qty	Item	Description	Qty
①	Front Spacer	2	④	Nut, Self Locking M10	6
②	Rear Spacer	2	⑤	U-Bolt, 9/16"-18 x 3-7/16" x 11-7/16"	4
③	Socket Head Cap Screw, M10 x 40	6	⑥	Nut, 9/16"-18	8
			⑦	Washer, 9/16"	8



[illegible]

90 DAY LIMITED WARRANTY

Star Asia-USA, LLC (hereinafter "seller") warrants to the original purchaser only, that this product will be free from defects in material or workmanship for a period of 90 days from date of purchase for home domestic use.

Warranty Performance

Warranty coverage is conditioned upon purchaser furnishing seller or its authorized service center with adequate written proof of the original purchase date. Products returned, freight prepaid and insured, to our factory or to an Authorized Service Center will be inspected and repaired or replaced, at seller's option, free of charge if found to be defective and subject to warranty. Defective parts not subject to normal wear and tear will be repaired or replaced, at our option during the above stated warranty periods. In any event, reimbursement is limited to the purchase price paid. Other than the postage and insurance requirement, no charge will be made for repairs or replacements covered by this warranty. Under no circumstances shall the manufacturer bear any responsibility for loss of the unit, loss of time or rental, inconvenience, commercial loss or consequential damages. There are no warranties which extend beyond the description of the face hereof.

Exclusions

This warranty does not cover parts damaged due to normal wear, abnormal conditions, misapplication, misuse, abuse, accidents, operation at other than recommended pressures or temperatures, improper storage of freight damage. Parts damaged or worn by operation in dusty environments are not warranted. Failure to follow recommended operating and maintenance procedures also voids warranty. Additional items not covered under warranty: product failure caused by rain, excessive humidity, corrosive environments or other contaminants; cosmetic defects that do not interfere with product's functionality. This warranty shall not apply when: the product has been used for commercial or rental purposes; defects in materials or workmanship or damages result from repairs or alterations which have been made or attempted by others or the unauthorized use of nonconforming parts; this damage is due to abuse, improper maintenance, neglect or accident; or the damage is due to use of the product after partial failure or use with improper accessories. Warranty does not apply to accessory items. Seller will not be liable for: labor charges, loss or damage resulting from improper operation, maintenance or repairs made by persons other than a Star Asia-USA, LLC Authorized Service Center. The use of other than genuine Star Asia-USA, LLC repair parts will void warranty.

Warranty Disclaimers

NO WARRANTY, ORAL OR WRITTEN, OTHER THAN THE ABOVE WARRANTY IS MADE WITH REGARD TO THIS PRODUCT, ANY IMPLIED WARRANTIES OF SELLER REGARDING THIS PRODUCT INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED. BUYER'S OR USER'S REMEDIES ARE SOLELY AND EXCLUSIVELY AS STATED ABOVE. STAR ASIA-USA, LLC SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR SPECIAL DAMAGES. IN NO EVENT, WHETHER AS A RESULT OF A BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, SHALL SELLER'S LIABILITY EXCEED THE PRICE OF THE PRODUCT WHICH HAS GIVEN RISE TO THE CLAIM OR LIABILITY. ANY LIABILITY CONNECTED WITH THE USE OF THIS PRODUCT SHALL TERMINATE UPON THE EXPIRATION OF THE WARRANTY PERIODS SPECIFIED ABOVE.

Limitations on Warranty Disclaimers

Any implied warranties shall be limited in duration to 90 days from the date of purchase. In some states of the U.S.A. and in some provinces of Canada there is no limitation for how long an implied warranty is valid, so the aforementioned limitation may not apply to you. In no event shall a seller be liable for any incidental or consequential damages (including but not limited to liability for loss of profits) arising from the sale or use of this product. In some states of the U.S.A. and in some provinces of Canada the exclusion or limitation of incidental or consequential damages is not allowed, so that aforementioned limitation or exclusion may not apply to you.

This Limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state in the U.S.A., Canada and the Commonwealth of Puerto Rico. For warranty coverage within other countries, contact your local star Asia-USA, LLC dealer or importer.

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