

Rev 9/26/23

SPIKER ENGINEERING

ULTIMATE Lift ND

1984-1989 Toyota 4Runner & 1984-1988 Pickup Hood Strut Installation Instructions



NOTE: The latest version of the installation manual is on our website. Please download it and check its release date against the date of this manual (highlighted in yellow on top of page). Follow the instructions of the latest release date. Link to manual - <https://spikerengineering.com/installation>

Thank you for purchasing the Spiker Engineering *Ultimate Lift ND* hood strut kit. This kit uses premium OEM-quality components, and is designed for easy installation. Please follow this manual carefully to ensure a quality installation and many years of reliable service.

Although only the highest quality parts are used in this kit, the installation of these parts is beyond our control. Therefore, the only warranty provided is for the actual parts.

It is the customer's responsibility to understand all of the work involved in the installation process, and to ensure compatibility with their vehicle. No warranty is implied for the installation, and we will not be responsible for damage to your truck, engine, or other parts, labor, personal injury, or any other damage or injury resulting from use of these products.

Customer understands that all parts are aftermarket parts and have no OEM specifications.

If you have any questions or concerns at any point of the installation process, please contact us at service@spikerengineering.com before proceeding, and we'll be happy to help.

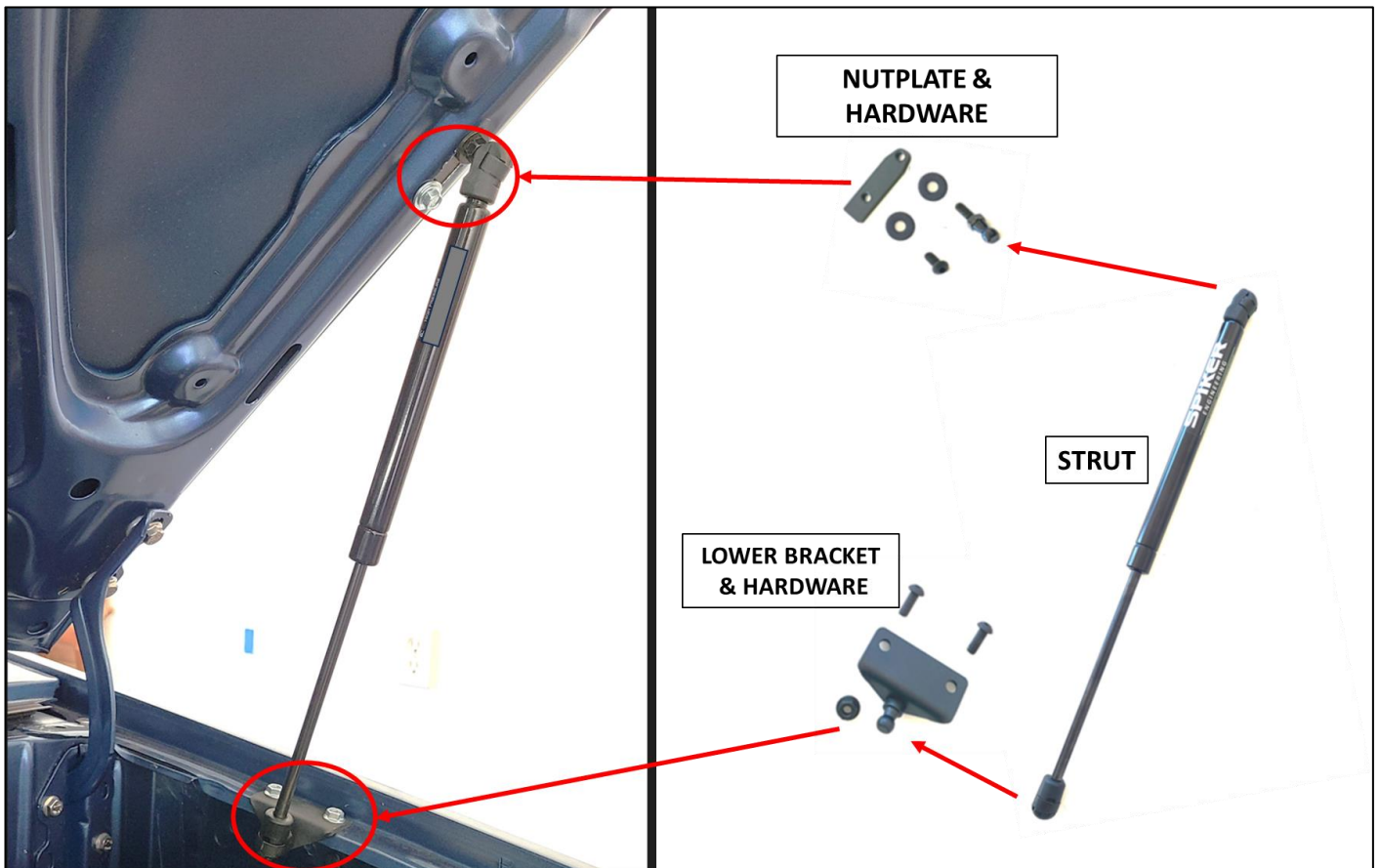
Quick Start Guide

Below is an overview of the steps involved in installation. The details of these steps are provided in the sections to follow. The typical installation should take less than 15 minutes.

Installation Overview:

- A. Preparation
- B. Install lower brackets on inner fenders
- C. Install nutplates in slots in hood reinforcements
- D. Confirm proper operation of struts and adequate clearances
- E. Enjoy a beverage of your choice to celebrate!

The figure below shows the components involved in the installation, please refer to it as you go through the steps in the following sections. Note that the exact shape of the components in your kit may vary from those shown in the figure.



A. Preparation

1. Check kit contents:

- (2) Gas Struts
- (2) Nutplates
- (2) M6 x 1.0 x 12 mm bolts
- (4) M6 x 1.0 x 16 mm bolts
- (2) M6 x 1.0 nuts
- (4) Flat washers
- (2) Ball Studs
- (1) Window Sticker

2. Required tools:

- Standard mechanics tool set

3. It is recommended that you watch the videos on our website at <https://spikerengineering.com/installation> for an overview of the installation process. However, this manual contains additional steps, tips and details, so please follow the manual carefully. In case of any conflict between the videos and this manual, follow the instructions in **this manual**.

4. Confirm clearance for the struts. When the hood is closed, the struts are stowed along the inside of the fenders. Stock 4Runners have the required clearance (see Step 25), but those with aftermarket add-ons along the fenders may need to be modified to provide the needed clearance. Contact us at service@spikerengineering.com if you have questions about potential interference, we can recommend solutions for some common issues.

5. Open the hood and support it with the factory prop rod.

B. Lower Bracket Installation

6. Remove the screw holding the driver side rear hood bumper to the fender (silver screw in Fig 1). Leave the bumper in place.
7. Place one supplied lower bracket on the fender so that the bracket's front hole lines up with the hood bumper bolt hole, and the bracket's rear hole lines up with the rear hole in the fender (Fig 2).
8. Thread one supplied M6 x 1.0 x 16 mm bolt into the front hole (do not tighten yet) (Fig 3). Be sure to use the longer (16 mm) bolt.



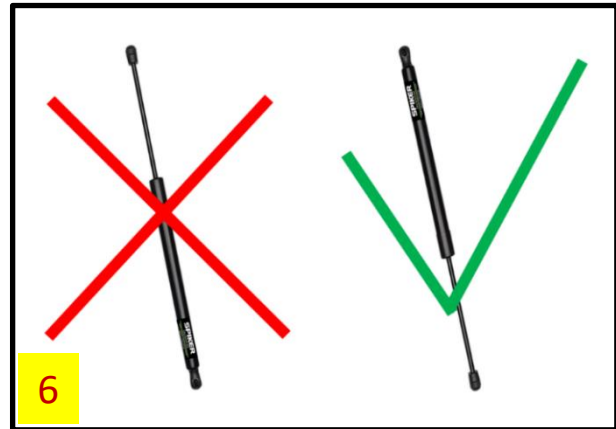
9. Insert another supplied M6 x 1.0 x 16 mm bolt into the rear hole in the bracket, and thread a supplied M6 x 1.0 nut onto the back side of the bolt (Fig 4).

10. Tighten both bolts securely.

11. Take one supplied gas strut, and check to make sure that both end fittings are threaded tightly onto the tube and rod ends. Push down on the strut against the floor until it is nearly fully compressed. Repeat this a couple of times. This relieves the initial high stiction that is commonly found in brand new struts.

12. Press the rod end fitting of the strut onto the lower fender bracket (Fig 5).

NOTE: Do **NOT** push the tube end fitting of the strut (with the SPIKER sticker) onto the fender ball bracket. See **Fig 6** for correct strut orientation.

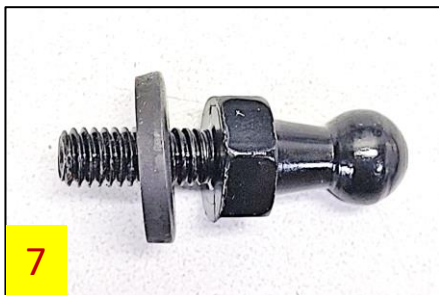


C. Hood Nutplate Installation

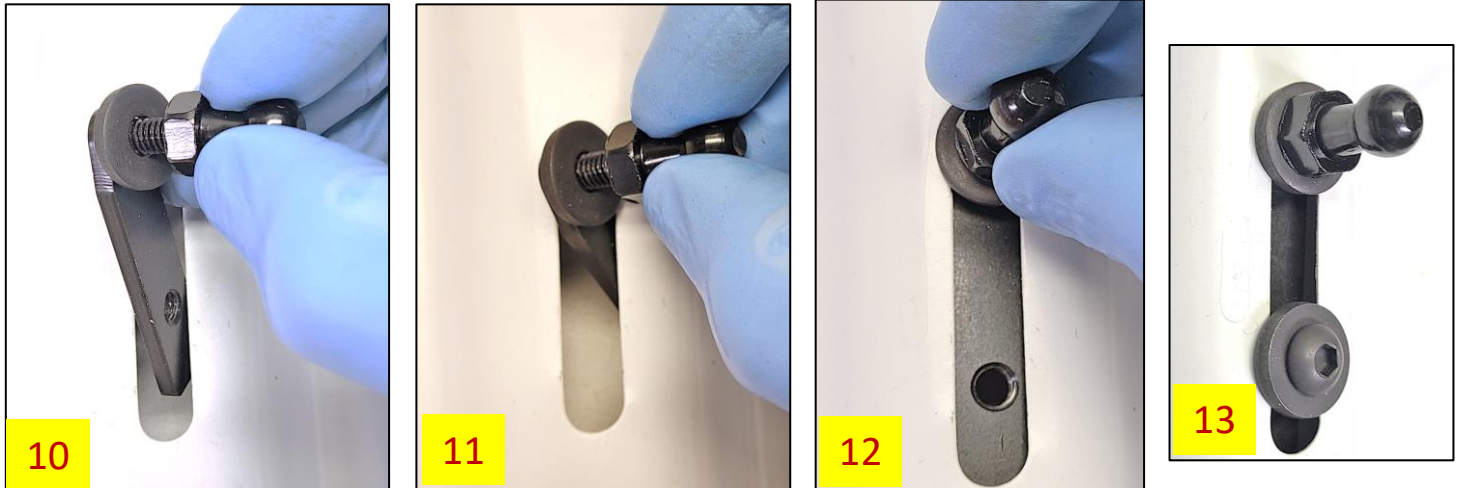
13. Place one supplied M6 fender washer over an M6 x 1.0 ball stud (Fig 7).

14. Loosely thread the ball stud into the front hole of the nutplate, until the ball stud threads just start to protrude through the nutplate (Fig 8).

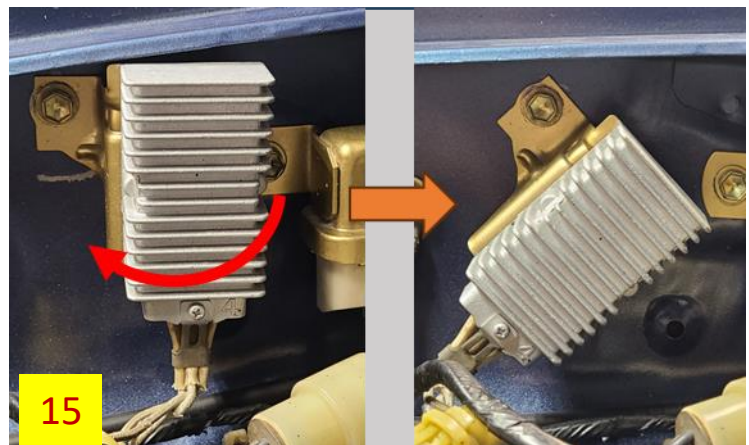
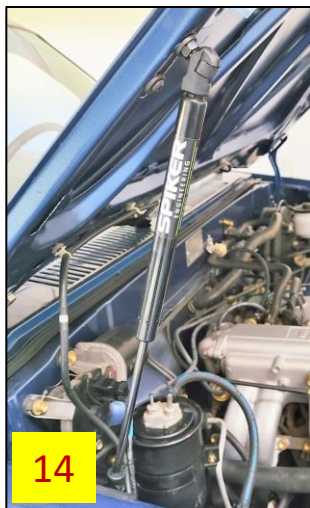
15. In the following steps, you will insert the nutplate into the forward (upper) slot in the hood reinforcement circled in orange in Fig 9.



16. Slip the back part of the nutplate into the forward slot (Fig 10).
17. Continue to insert the nutplate until it is fully behind the slot, and the fender washer is on top of the slot (Fig 11).
18. Rotate the nutplate assembly until the rear hole lines up with the slot (Fig 12).
19. Thread an M6 x 1.0 x 12 mm bolt and fender washer into the second (rear) hole in the nutplate (Fig 13). Be sure to use the shorter (12 mm) bolt. Do not tighten the bolt yet.



20. With the ball stud and bolt loosely installed, push the assembly forward (up) until the ball stud rests against the front of the slot.
21. While keeping the assembly against the front of the slot, center the bolt stud and the bolt in the slot (left to right). It's not critical to get it perfectly centered.
22. With the assembly resting against the front of the slot, and centered in the slot left to right, tighten the ball stud and the bolt securely. Do not overtorque, it just needs to be snug.
23. Raise the hood strut and push the tube end fitting onto the ball stud (Fig 14). You may need to release the prop rod, as the height with the struts will be a little higher than the prop rod.
24. Repeat Steps 6 through 23 for the passenger side strut.
25. Loosen the mounting bolt for the EFI resistor on the passenger side fender. Rotate the resistor clockwise by at least 45 degrees or more, to provide clearance for the strut when the hood is closed (Fig 15). Tighten the mounting bolt.



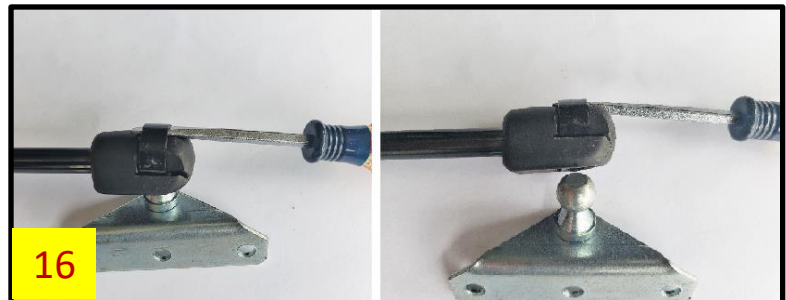
D. Wrapping Up

26. At this point you can remove the prop rod and marvel at the improved access to your engine compartment. But don't slam your hood closed yet.

27. During the first closing, watch the struts carefully as you are closing the hood slowly, especially in the last few inches, to ensure that clearance is maintained throughout travel. Check for any potential interferences, and make adjustments as required.

28. Once you've confirmed proper operation, have a beverage of your choice to celebrate your accomplishment!

29. If you ever need to remove a strut from a ball bracket, use a flat blade screwdriver to lift the semi-circular clip at the back of the strut end fitting, until the fitting can be removed from the bracket. Do not fully remove the clip (**Fig 16**).



E. Additional Notes

After installation, open and close the hood a few times to break in the struts for consistent operation.

During normal operation, you will need to open the hood by hand about 10-15" until the struts take over and fully open the hood.

Once you've installed this kit, we'd love to see a picture of your truck with the hood open, showing off the newly installed hood struts and the open hood. Please email us photos of your truck to service@spikerengineering.com, and let us know if it's OK to post them on the website or social media.

Thank you again for purchasing this kit, we hope you enjoy it for many years to come!