

## 50307-SU • INSTALLATION INSTRUCTIONS

## '18-'20 Subaru Outback AWD 2"/1.5" Strut Spacer Kit

Thank you for purchasing this BODY ARMOR 4X4 product. Please read through this entire document before proceeding with installation. If you are not confident in your mechanical skills, please seek the help of a professional to perform the installation. Check your packages immediately upon arrival to ensure that everything listed is included, and to check for damage during shipping. If anything is missing or damaged, call Body Armor 4X4 at (951) 808-0750 as soon as possible.

### PARTS LIST

- (1) Driver Front Strut Spacer
- (1) Pass Front Strut Spacer
- (2) Rear Strut Spacer
- (2) Front Sway Bar Bracket
- (2) Rear Sway Bar Bracket
- (2) 1/4" Thick Spacer Washer
- (4) M8 Counter Sunk Bolt
- (10) M10 Flange Nut
- (2) M12 Bolt
- (2) M12 Nut
- (4) M12 Washer

### TOOLS NEEDED

- 12mm wrench and/or socket with ratchet
- 14mm wrench and/or socket with ratchet
- 17mm wrench and/or socket with ratchet
- 19mm wrench and/or socket with ratchet
- 21mm wrench and/or socket with ratchet
- 22mm wrench and/or socket with ratchet
- Wheel Chocks
- Torque Wrench
- Floor Jack & Jack Stands

### IMPORTANT INFORMATION

- *Factory service manual is recommended to have on hand.*
- *Secure and properly block vehicle prior to beginning installation*
- *Always wear safety glasses when using power tools or working under the vehicle*
- *Modifications to any part will void the warranty associated with that product.*

- *IT IS RECOMMENDED THAT YOU HAVE YOUR VEHICLE'S ALIGNMENT CHECKED WHENEVER INSTALLING NEW SUSPENSION. IT IS ALSO RECOMMENDED THAT YOU ADJUST YOUR HEADLIGHTS WHENEVER YOUR VEHICLE'S RIDE HEIGHT IS ALTERED.*

### INSTALLATION PROCEDURE

- 1. Park the vehicle on a flat, level surface, make sure the transmission is in park (or first gear if manual transmission), the engine is turned off, and the parking brake is set. Wear safety glasses and follow basic shop safety practices for the duration of this installation.**
- 2. Open the hood and prop it open with the hood prop rod. Disconnect the negative cable from the battery.**
- 3. Jack the front of the vehicle up until the tires are just off the floor, and place jack stands under the main lifting points as denoted in the vehicle owners manual. Remove the front wheels/tires.**
- 4. Choose which side to work on first, and move the floor jack to underneath the front lower control arm on that side of the vehicle, raising the jack until it just touches the control arm but doesn't lift it.**
- 5. Remove the front sway bar end link at the strut body. This step should be completed on both sides to ease in installation at later steps.**



6. **Disconnect the brake line bracket from the strut body** (DO NOT disconnect the brake lines themselves). Let the brake line and bracket hang out of the way.



7. **Disconnect the ABS wiring harness clip from the strut body** and let hang out of the way.



8. **Remove the two large bolts that attach the strut to the steering knuckle.** Note the orientation and position of the bolts, as they will need to be re-installed in the same configuration. The bolts are specific to upper and lower mounting locations and direction of install (the upper one is a cam bolt).



9. **With the lower control arm supported by the jack stand,** release the knuckle from the strut body and let it, along with the lower control arm, hang out of the way. Be careful not to over-extend the CV axle, brake line or ABS harness (adjust the jack if necessary).



10. **Remove the three (3) nuts that attach the upper end of the strut to the strut tower** (accessed from the engine bay, as the hood should already be propped open). Do not let the strut fall as you remove the last bolt. It may be helpful to have a friend hold up strut as the bolts are removed. Carefully lower the strut and remove it from the vehicle.



11. **Install the strut extension onto the removed strut assembly** using the factory nuts and 14mm

wrench. Torque to 30ft-lbs. The strut extensions are universal for either side.



**12. Drill out the 3 strut mounting holes (per side) in** the strut tower with a 27/64" drill bit. Use touch-up paint to protect the exposed metal around the insides of the drilled holes.

**13. Install the completed strut assembly into the ve-**hicle making sure the notch on the lower spacer face the outside and slightly to the front of the vehicle. This is very important to ensure the proper camber and caster adjustment. If installed incorrectly, the correct camber and caster will not be able to be obtained.



Use the provided M10 hardware with flange nuts to attach the strut assembly to the strut tower. Leave the fasteners loose, to aid in installation of the knuckle.

**14. Use the jack to raise the lower control arm and** knuckle, and position them to re-attach the strut body. Install the cam bolt into the upper hole and the remaining bolt into the lower.



**15. The cam bolt's head flange has hash marks that** correspond to a notch on the strut body. Rotate the cam bolt until the hashes are facing the inside of the vehicle, and align the last hash mark with the notch. This will set camber to maximum negative. Torque both bolts to 95 ft-lbs.



**16. Re-install the brake line bracket to the strut** body, but with the bracket rotated as shown in the photo. Originally the brake line was attached from the bottom upwards to the strut, now it will be mounted to the top of the strut body using the factory hardware.



- 17. Install the Body Armor 4X4 Sway Bar Bracket to the strut using the provided M12 bolts, washers, and nuts. Do not tighten the hardware at this time.**

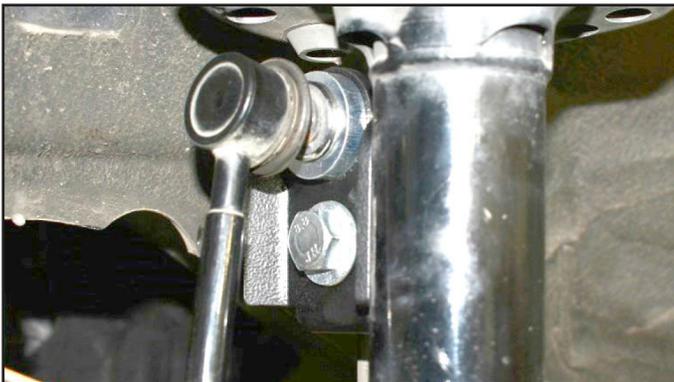
**WARNING:** Sway bar bracket is not recommended for off roading. Use of an aftermarket sway bar disconnect is required.



- 18. Install the 1/4" thick spacer washer onto the end of the sway bar link.**



- 19. Attach the sway bar end link to the newly-installed bracket using the factory hardware.**



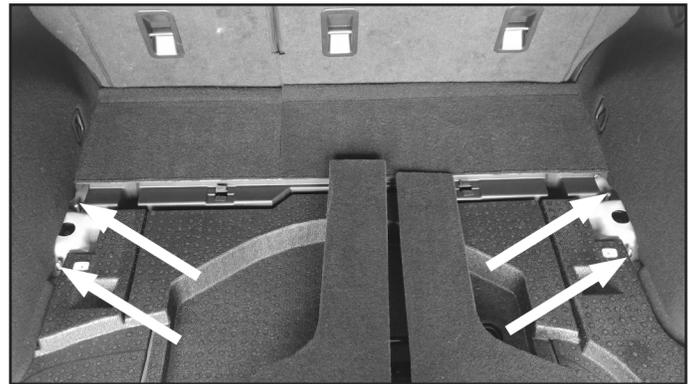
- 20. Repeat the previous steps to install the other strut spacer on the opposite side of the vehicle. Once both ends of the sway bar have been re-attached, torque the sway bar end links and brackets to 45 ft-lbs.**

- 21. Re-install the front wheels and lower the vehicle to the ground. Torque the lug nuts to the wheel manufacturers specs**

- 22. Use the floor jack to lift the rear of the vehicle up and place it on jack stands under the main lifting points, as indicated by the owners manual.**

- 23. Support the rear lower control arm with a suitable jack, and remove the rear wheels.**

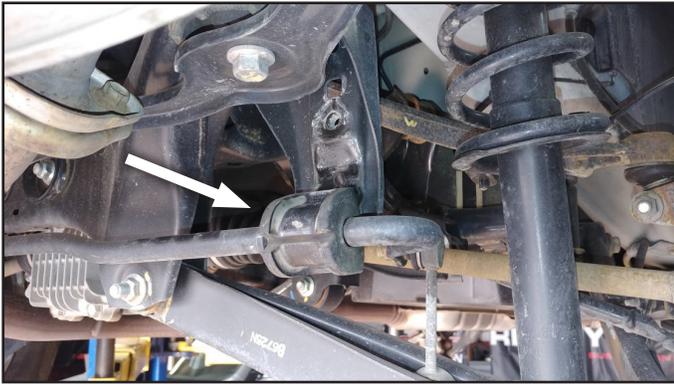
- 24. Open the hatch and remove the spare tire cover/ carpet. Remove the two outer carpeted covers closest to the fender wells and set aside. Remove the four strut mounting nuts (two per side).**



- 25. Support the lower control arm with a suit-able jack. Remove the rear wheels. Loos-en but do not remove the sway bar end link on the lower control arm.**



- 26. Disconnect the sway bar at the subframe and let the sway bar hang out of the way.**



**27. Loosen but do not remove the upper control arm bolts.**



**28. Loosen but do not remove the front lower control arm bolts.**



**29. Loosen but do not remove the rear lower control arm bolt at the subframe.**



**30. Support the strut and lower control arm, remove the lower strut and knuckle bolts. Lower the control arm down, while holding the strut. Remove the strut from the vehicle. A helper is recommended to hold the strut from falling.**



**31. Remove the strut assembly from the vehicle and let the control arm hang.**

**32. Locate the Body Armor 4X4 Rear Strut Spacer and attach it to the top end of the strut, using the factory hardware. Make sure each nut is started before tightening any of them. Torque to 30 ft-lbs.**



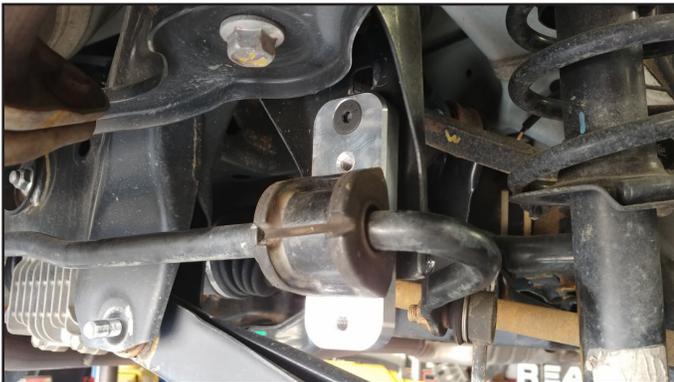
**33. Install the completed strut assembly to the car using the provided M10 flange nuts. Do not tighten at this time. A helper is recommended.**



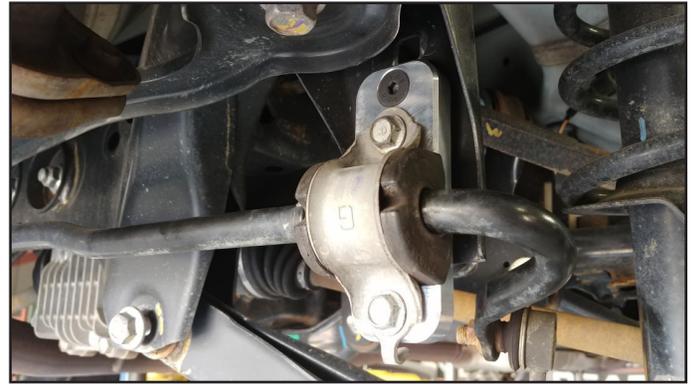
- 34. Raise the lower control arm into place and install the lower strut hardware.** Do not tighten at this time. Use the jack and raise the lower control arm up to set pre load on the strut. Re-install the lower knuckle bolt. Torque to 95 ft-lbs.



- 35. Install the Rear Sway Bar Brackets to the sub-frame using the provided M8 counter sunk bolts.** Apply a drop of thread locker to the threads before installing. Torque to 25 ft-lbs.



- 36. Install the sway bar to the brackets using the factory hardware and factory pinch bracket.** Make sure to install the factory pinch bracket with the locking tang down. Torque to 25 ft-lbs.



- 37. Re-install the rear tires/wheels,** lift the rear of the vehicle off the jack stands and set it back on to the ground. Torque the wheel lug nuts to factory specifications.

- 38. Reconnect the negative terminal at the battery** and start the car. Make sure there are not any dash lights pertaining to the suspension. Turn the steering wheel lock to lock to verify wheel clearances between all suspension components and body. Adjust as necessary.

- 39. Put the car into gear and roll forward and backwards** a few feet at a time while turning the steering wheel lock to lock to settle the suspension components. Torque the upper / lower control arm and trailing arm hardware, using a 17mm wrench and socket, that was left loose at the frame and knuckle to 95 ft-lbs.

- 40. Rotate the tie rod cams** using a 21mm and 22mm wrench, in the rear until the wheels look as straight as possible then torque to 50 ft-lbs. Final torque to be set by the alignment technician. Have the alignment set by a reputable alignment shop using the provided specs.

FRONT	DRIVER	PASS	TOLERANCE
CAMBER	+0.0	+0.0	+/-0.5
CASTER	+4.5	+4.5	+/-0.5
TOE	+0.0	+0.0	+/-0.5
REAR	DRIVER	PASS	TOLERANCE
CAMBER	+0.3	+0.3	+/-0.5
TOE	+.07	+.07	+/-0.05

*Congratulations, you have completed the installation!*

**WARRANTY POLICY & PROCEDURE**

Contact your Body Armor 4x4 Distributor or Body Armor 4x4 directly regarding any issue prior to removing product from vehicle. If it appears said product is warrantable, you will be given a Return Authorization Number (RA #) and asked to return said product freight pre- paid. The RA # must appear on the outside of the carton/box of any returned product. Unauthorized returns will be refused. RA # must be given by Body Armor 4x4 in advance of return.

**BODY ARMOR LIMITED LIFETIME WARRANTY**

Body Armor 4x4 (BA) warrants to the original purchaser that these products will be free from defects in material and workmanship prior to shipping and/or installation for the life of the product. This non-transferable limited lifetime warranty does not cover damage or impairment in any part due to misuse, improper installation, accident or contact with on-road or off-road hazards, product modification, improper or inadequate cleaning and/or maintenance. All other warranties and representations express or implied are hereby disclaimed, including fitness for merchantability and buyer's intended use or purpose.

BA products are built and sold for highway and off-road use. The original purchaser assumes all risks as to the selection, suitability and performance of all goods and products purchased.

BA's sole and exclusive obligation under this warranty shall be to repair or replace the item(s) and their discretion and BA will not issue any credit or refund to the consumer. Proof of purchase is required on all warranty claims. BA may require pictures to diagnose the warranty claim and may require the product(s) be returned if determined by BA to be necessary. If a return is required then a RGA number will be issued by BA. Any item arriving to BA without a valid

RGA number will be refused and sent back. Upon evaluating the RGA and no valid warranty claim is made, the RGA will be returned to the consumer at their expense or disposed by BA after 60 days. BA will not be responsible for incidental charges such as removal, installation, shipping costs or lost during transit. Any items that are ordered in error, refused or cancelled are not considered a valid warranty claim and cannot be returned to BA.

**WARRANTY PROCESS**

Contact an authorized BA dealer to initiate warranty process. Authorized dealers must contact BA to assist in evaluating the warranty claims. Valid warranties will have a RGA issued. Once issued the dealer will request the product be returned to BA facilities. Products purchased through an authorized BA dealer will be refunded and/or credited by that BA dealer.

Warranty contact: [orders@bodyarmor4x4.com](mailto:orders@bodyarmor4x4.com)

Return address: Body Armor 4x4, 1050 N. Vineyard Ave. Ontario CA, 91764, P: 951-808-0750

**FINISH WARRANTY**

The finish is warranted to be free of defects for a period of 3 years from date of purchase. Product(s) that have been abused, altered, incorrectly installed or used in competition are void of said warranty. Surface rust, pitting or discoloration is a direct result of improper maintenance is not covered by this warranty. It is the responsibility of the owner to preserve and maintain the finish of their product(s). In areas where high concentrations of road salts and other corrosive agents are used, rust or damage to the finish may occur if BA product(s) are not properly maintained. Lack of proper maintenance in these areas may void the finish warranty. See below for routine maintenance tips and recommendations.

**PRODUCT CARE AND MAINTENANCE**

Textured coat finished should be cleaned ONLY with a mild soap on a damp sponge.

BA recommends wiping down the product with a light coat of lubricate (i.e. WD40) periodically to maintain its luster.

DO NOT apply polish or wax that requires buffing for removal as this may damage the finish.

DO NOT coat the product with any type of shine such as Tire Shine or glossy aerosol or gel. This can cause discoloration, staining or bubbling.