



GENERAL INSTRUCTION GUIDELINES

READ THIS FIRST:

- Read these instructions fully prior to beginning work. Verify all parts listed below are in the kit packaging, and all tools, equipment, skills and methods are on hand to safely complete the installation.
- Read the attached GENERAL INSTALLATION NOTES prior to beginning any work.
- Installation of these components should be performed by experienced and qualified mechanics, using safe and correct tools and equipment. Northwoods recommends this installation be performed by a qualified, certified automotive shop.
- Use safe methods in all work operations. Support the vehicle safely as required on a lift or hoist, or certified jack stands.

GENERAL INSTALLATION NOTES

- Installation shall be performed by qualified, experienced mechanics capable of performing this type of work. Northwoods recommends the work be performed in qualified ASE certified shops.
- Use only quality, certified tools and equipment appropriate for the job.
- Vehicle should only be supported by certified hoists, lifts, or jackstands of adequate capacity.
- Use only certified, dedicated spring compressors to compress and assemble springs. Northwoods recommends springs only be assembled and installed by qualified auto repair shops, using quality spring compression tools.
- Actual lift heights will vary by vehicle due to vehicle accessories, weights, loading, wear, initial ride height, and other factors.
- Upon completion of installation of springs or other suspensions and steering components, vehicles should be immediately aligned at a qualified shop.
- Modification to vehicle ride height requires re-alignment of headlights.
- Full inspection of all components installed should be checked after 300 miles of driving, including torque of all fasteners.
- Modified vehicles will handle and perform differently from stock vehicles, and the modified vehicle characteristics should be considered for driving safety. Modified vehicles may have affects to vehicle steering and response, and increased braking distances due to increased vehicle weight or larger tires.
- Modified vehicles may exhibit increased wear to suspension and other components, as well as an increase in vibration due to changes in component alignment and operating angles.
- Northwoods Performance Warranty, Return, and Replacement policies can be found on-line at northwoodsperformance.com, RESOURCES tab.



SKID PLATE INSTALLATION INSTRUCTIONS

2019+ Toyota RAV4

Installation time: 2-3 hours

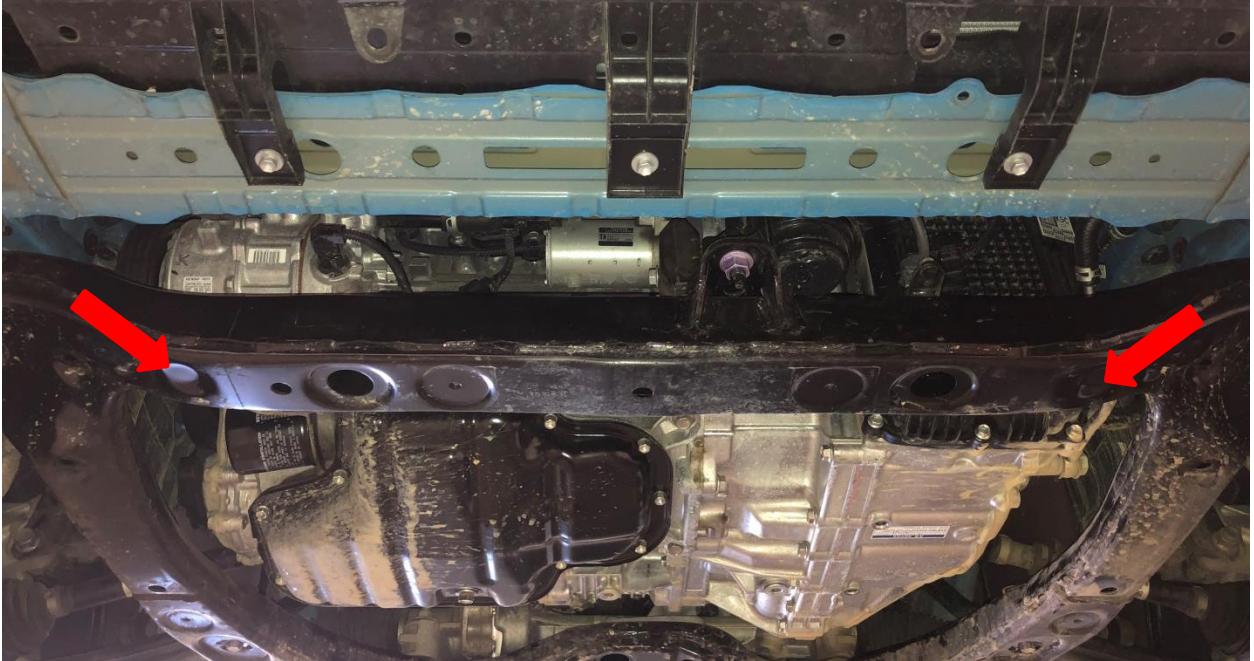
SKID PLATE KIT MATERIAL LIST

SKID PLATE

PKG 1, Front	12M-1.25 100mm bolt	2
	12M Hex Nut	4
	12M Flat Washer, large diameter	6
	12M Flat Washer, small diameter	6
PKG 2, Rear	12M-1.25 100 mm bolt	2
	12M Hex Nut	2
	12M Flat Washer, large diameter	4
	Bushing, L = 5/8"	2

SKID PLATE REMOVAL AND INSTALLATION

1. Remove the factory splash guards, both front and under engine.
2. Locate the two indents on the front sub frame cross member. Center punch the center of the indent, and drill a 1/2" hole, one on each side. The top face of the cross member already has a matching hole from the factory. Distance between the two hole centers will be 25-3/4".



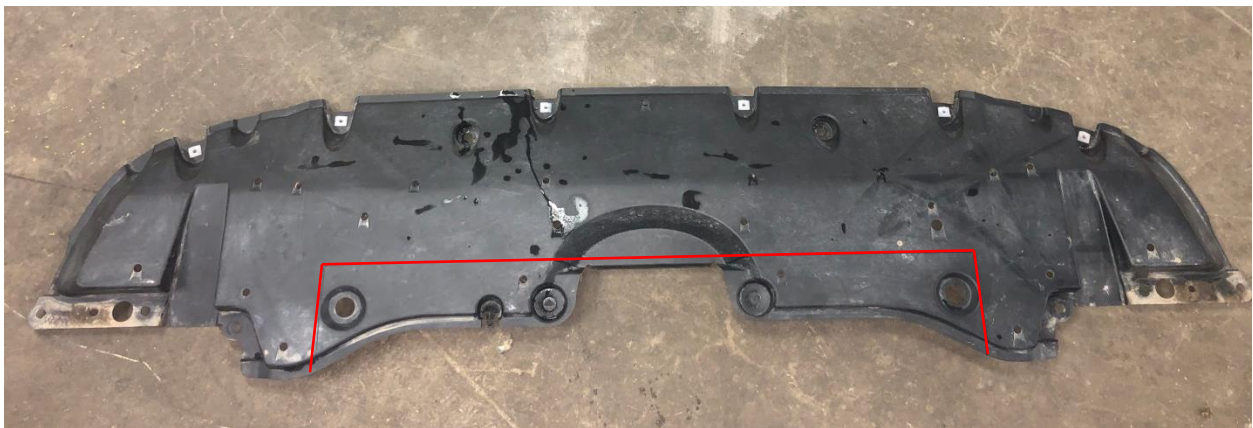
3. Install the front mounting hardware through the cross member. Install the bolt from the top down, with the stack up in this order, then tighten securely.
 - Bolt, 100mm
 - Large washer
 - Cross member
 - 3 small diameter washers
 - Hex nut



Northwoods Performance skid plate may be installed with or without portions of the factory splash guard. We recommend use of front and engine bay splash guards. Modify and cut the splash guards with a utility knife or cut off wheel.

- Mark the front splash guard as in the photo. Width of cutout is 33-1/4", and depth is 5-1/4".
- Mark engine bay splash guard as in photo. Cut just forward of the two screw mounting points.

FRONT DAM CUTOUTS

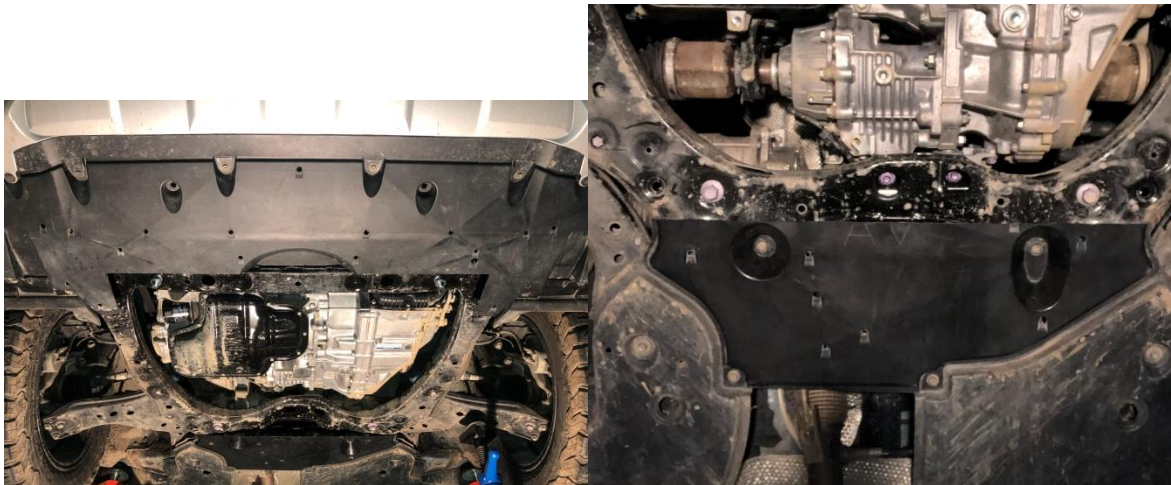




ENGINE SPLASH GUARD CUTOUTS



4. Install the front and engine bay splash guard segments using the factory hardware.



5. Install the skid plate.
 - In front, slip a large washer between the skid plate and the assembled front stud, raise the skid plate, and secure with a large washer and hex nut.

- In rear, insert bolt from bottom up, with 5/8" bushing between skid plate and frame through the factory holes. Stack up from the bottom up will be bolt, washer, skid plate, bushing, frame, washer, nut.



6. Tighten all bolts securely. Torque to 72 ft-lbs.
7. If desired, cut or grind the front bolts flush with the nuts for additional clearance.