

Installation guide – Roof Rack

RAM PROMASTER



TABLE OF CONTENTS

| | |
|--|----|
| WARNINGS | 2 |
| SECURITY WARNINGS | 2 |
| TECHNICAL WARNINGS | 2 |
| GENERAL WARNINGS | 3 |
| MAINTENANCE | 3 |
| REQUIRED MATERIEL | 4 |
| SUPPLIED MATERIAL | 4 |
| SUPPLIED HARDWARE : | 5 |
| REQUIRED TOOLS (NON-INCLUDED) | 6 |
| REQUIRED PRODUCT INCLUDED | 6 |
| REQUIRED PRODUCTS (NOT-INCLUDED) | 6 |
| INSTALLATION STEPS | 7 |
| 1. Z-SHAPED ROOF MOUNT PLATES ASSEMBLY | 7 |
| 2. SIDE PLATES ASSEMBLY | 12 |
| 3. CONNECT FRONT SIDE PLATES WITH REAR SIDE PLATES | 14 |
| 4. CROSS BARS ASSEMBLY | 16 |
| 5. WIND FAIRING ASSEMBLY | 18 |
| 6. FINAL TIGHTENING AND TIGHTENING CHECK TOUR OF ALL RACK BOLTS: | 20 |
| ANNEXE 1: SOLAR PANELS ASSEMBLY | 21 |

WARNINGS

SECURITY WARNINGS

****ATLAS Roadcamp disclaims all liability related to an injury which happened while installing, maintaining or using in any way ATLAS Roadcamp's roof rack****

The first installation of a roof rack can take up to 6 hours.

Make sur you always:

- Are 2 persons to install a roof rack.
- Are secured with an approved safety harness and an approved anchor point higher than the vehicle at all times when installing a roof rack. If it is not possible, it is imperative to use scaffolds and / or 8-foot stepladders on each side of the vehicle in order to work in a safe manner. There is a significant risk of falling from the top of a vehicle.
- Wear safety glasses and cut resistant gloves

If you have any hesitations or questions while installing a roof rack, stop the work and contact ATLAS Roadcamp.

TECHNICAL WARNINGS

- Before starting the installation, apply a protection, like cardboard or plastic wrap, to the roof of the vehicle in order to protect it.
- All bolts and nuts have to be tightened manually (using ratchets, Allen keys and torque wrenches) to the tightening torques indicated in this guide.
- NEVER use an impact driver as the hardware is in stainless steel so it can easily seize/grab and become unusable.
- At all steps where a stainless steel (SS) bolt is assembled with a nylon nut, it is mandatory, to put anti-seize on the bolt in order to ensure that the assembly does not seize.
- Nylon lock nuts are used to assemble ATLAS Roadcamp roof racks. This type of nuts shouldn't be tightened and loosened repeatedly. Therefore, it is important to carefully follow the tightening steps prescribed in this guide.
- All assemblies without nylon lock nuts require the use a threadlock such as LOCTITE 242 or LOXEAL 54-03. It is important to apply it properly on the bolts prescribed in this guide.

GENERAL WARNINGS

- Installation of an ATLAS Roadcamp roof rack or any other component (fans, air conditioning, Thule cargo box, etc.) on the roof of your vehicle may cause or accentuate hissings, vibrations and/or turbulence. Correct installation of the rack's wind fairing helps to reduce these noises. However, ATLAS Roadcamp is not responsible for any noises, hissings, turbulences and/or vibration caused by the addition of roof components.
- ATLAS Roadcamp is not responsible for the increased fuel consumption of your vehicle as a result of the installation a roof rack.
- At all time, observe the maximum roof loads as well as the maximum heights prescribed by your vehicle's manufacturer.
- Distribute, as evenly as possible, the different loads on the 4 cross bars.
- ATLAS Roadcamp roof racks are designed to support RV roof items as solar panels, roof boxes and lighting LEDs. ATLAS Roadcamp disclaims all liability for uses or installations not intended for RVs.
- Any non-approved modification or alteration to an ATLAS Roadcamp rack will void the product warranty.
- The addition of items not approved by ATLAS Roadcamp will void the product warranty

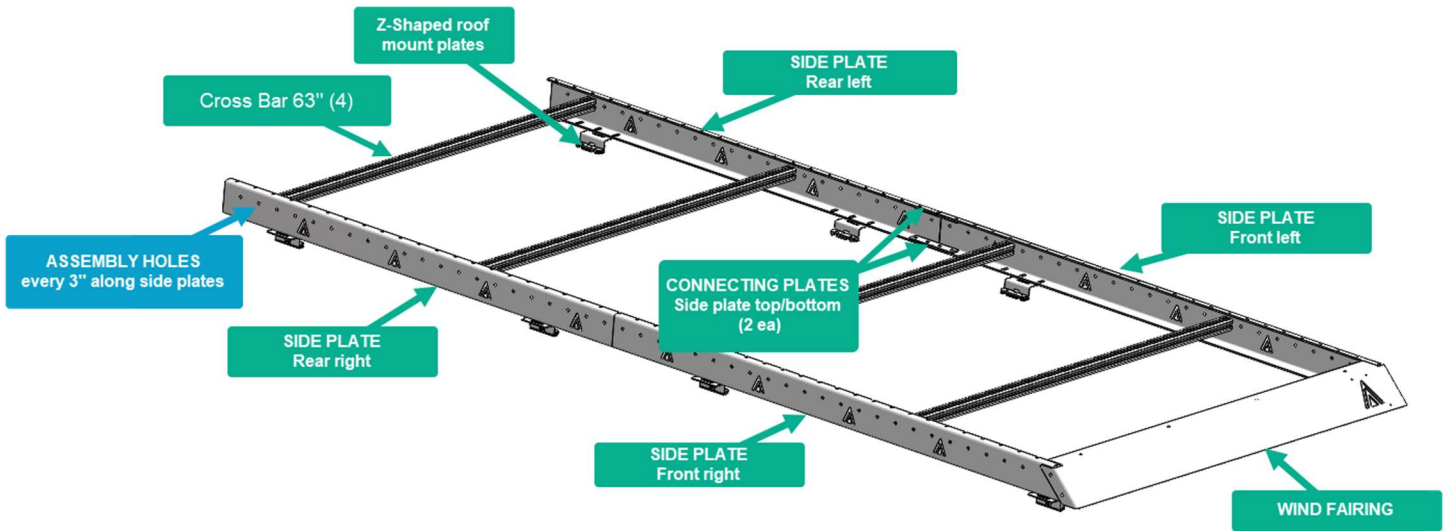
Reminder: At any time, if you have any doubts about the installation, stop immediately and contact ATLAS Roadcamp.

MAINTENANCE

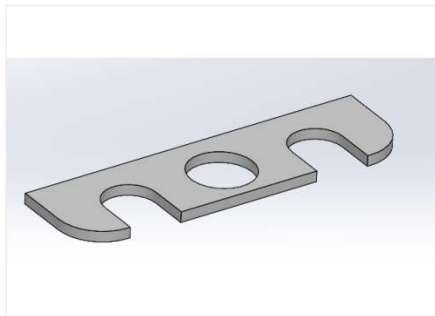
- All tightening torques must be verified after the first 100 km and 500 km traveled with your vehicle following the installation of a rack or a ladder.
- At each season change, verify the correct tightening of the hardware, the general positioning of the rack and the condition of the SIKA221 to ensure that the anchors are watertight.

REQUIRED MATERIEL

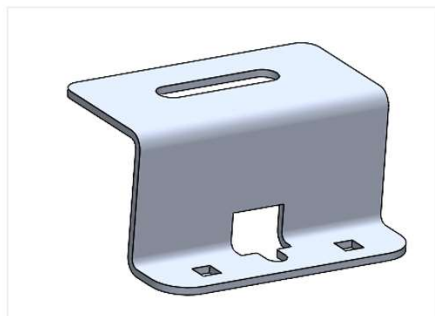
SUPPLIED MATERIAL



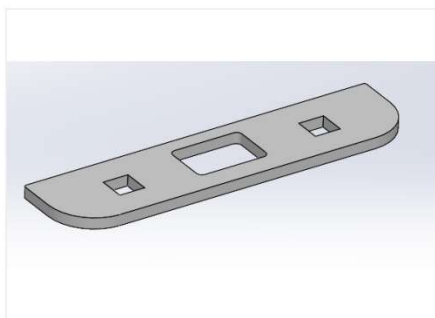
Here are the 4 items that compose the roof anchors:



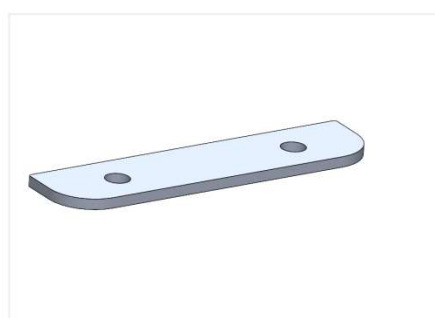
rubber sheets



z- shaped roof mount plates









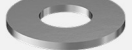






Spacer plates



Locking plates

SUPPLIED HARDWARE :

| QTY | HARDWARE ITEMS | HARDWARE IMAGES | ASSEMBLY USAGE |
|-----|---------------------------------------|---|---|
| 16 | Carriage bolt SS 1/4"-20 x 1" |  | To assemble the Z-shaped anchor plates to the roof of the vehicle |
| 8 | Carriage bolt SS 3/8"-16 x 1" |  | To assemble Z-shaped roof mount plates to side plates |
| 32 | Washer SS 3/8" |  | As Indicated in the descriptions of the installation steps |
| 12 | Button Head Bolt SS 3/8-16 X 1" |  | <ul style="list-style-type: none"> - 8 to assemble bottom connecting plates to side plates - 4 to assemble wind fairing to side plates |
| 14 | Button head SS 5/16 x 1" |  | <ul style="list-style-type: none"> - 6 to assemble top connecting plates to side plates - 8 to assemble cross bars to side plates |
| 20 | Nylock SS 3/8"-16 |  | <ul style="list-style-type: none"> - 8 to assemble Z-shaped roof mount plates to side plates - 8 to assemble bottom connecting plates to side plates - 4 to assemble wind fairing to front side plates |
| 12 | Washer SS 5/16" |  | To assemble top connecting plates to side plates |
| 6 | Nylock SS 5/16"-18 |  | To assemble top connecting plates to side plates |
| 28 | Washer SS 1/4 |  | <ul style="list-style-type: none"> 16 to assemble Z shaped anchor plates 12 to assemble 3 solar panels to the cross bars |
| 16 | Nylock SS 1/4"-20 |  | - To assemble Z shaped anchor plates |
| 12 | Hexagonal SS 1/4-20 x 5/8" |  | - To assemble 3 solar panels to the cross bars |
| 12 | Lockwasher 1/4" |  | - To assemble 3 solar panels to the cross bars |
| 12 | SS drop-in T-nut w/spring-ball 1/4-20 |  | - To assemble 3 solar panels to the cross bars |

REQUIRED TOOLS (NON-INCLUDED)

- Torque Wrench.
- Allen key or Hex key bit socket 5/32", 3/16" et 7/32" with a ratchet wrench.
- Sockets : 9/16", 7/16" et 1/2".

REQUIRED PRODUCT INCLUDED

- Anti seize tube



REQUIRED PRODUCTS (NOT-INCLUDED)

- Isopropyl alcohol 99%
- Clean rags
- Large blanket or carton
- LOCTITE 242 OU LOXEAL 54-03 :
-



****Note valid for the entirety of this installation guide: At all steps where a stainless steel (SS) bolt is assembled with a nylon nut, it is mandatory to put anti-seize on the bolt in order to ensure that the assembly does not seize.****

INSTALLATION STEPS

1. Z-SHAPED ROOF MOUNT PLATES ASSEMBLY

Final result :



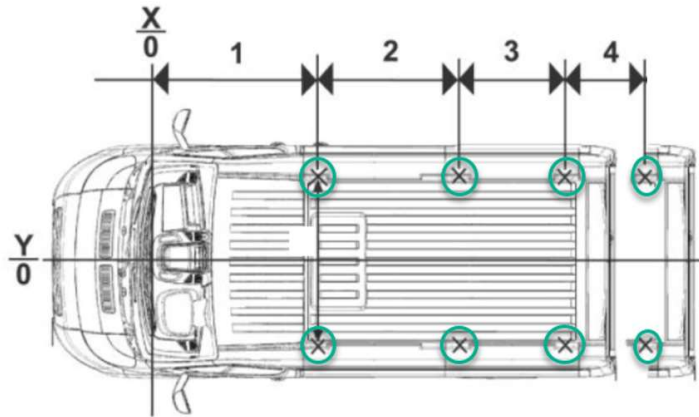
REQUIRED MATERIAL:

- 8 Z-shaped roof mount plates
- 8 rubber sheets
- 8 locking plates
- 8 spacer plates
- 16 carriage bolts 1/4"-20 x 1"
- 16 flat washers 1/4"
- 16 Nylock 1/4"-20

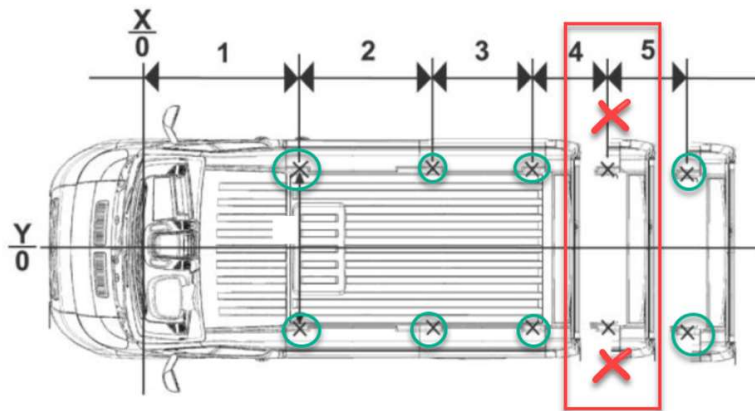
- ProMaster 136": 6 Z-shaped roof mount plates, 6 spacer plates, 6 locking plates et 6 rubber sheets

- Here are the positions diagrams of the roof anchorages to be used for RAM PROMASTER. It is imperative to respect the diagram corresponding to your vehicle.

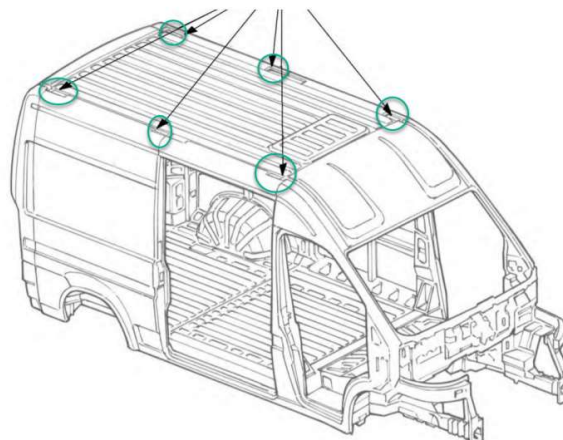
Roof anchors position diagram



PROMASTER 159"



PROMASTER 159" EXTENDED



PROMASTER 136"

- 1.1 Clean the vehicle roof near the original T-anchors with isopropyl alcohol.



- 1.2 Plate a rubber sheet (as shown on the photo)



- 1.3 Insert 2 carriage bolts 1/4"-20 x 1" head down (as shown on the photo below).



1.4 Insert the assembly through the vehicle's T-anchor.



1.5 Insert a spacer plate.



1.6 Insert a locking plate.



1.7 Insert 2 flat washers 1/4" and 2 nylock 1/4"-20.



1.8 Repeat steps 1.1 à 1.7 for the other anchors.



1.9 Complete the final tightening of all Z-shaped mount plates bolts using a torque wrench to: **12 Nm**

2. SIDE PLATES ASSEMBLY

Final result :



REQUIRED MATERIAL:

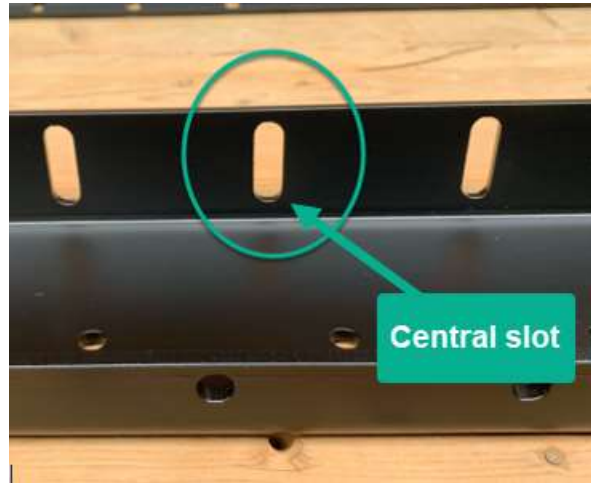
- 2 front side plates (right and left)
- 2 rear side plates (right and left)
- 8 carriage bolts SS 3/8''-16 X 1''
- 8 flat washers SS 3/8''
- 8 Nylon lock nuts SS 3/8''-16

2.1. Insert a carriage bolt into the oblong hole of a Z plate (insert from the bottom up, so the bolt head is down) and hold it firmly.

****Put anti-seize on the bolts****



2.2. Place a side plate over the Z plates by inserting the carriage bolt into a central slot in the side plate.



2.3. Insert a 3/8" flat washer and a 3/8" - 16 nylon lock nut on the 3/8" carriage bolt. Finger tighten the nut only.
****To allow easy insertion of the crossbars later, do not tighten the bolts firmly at this time****



2.4 Repeat steps 2.1 à 2.3 for all Z-shaped plates with their corresponding side plate

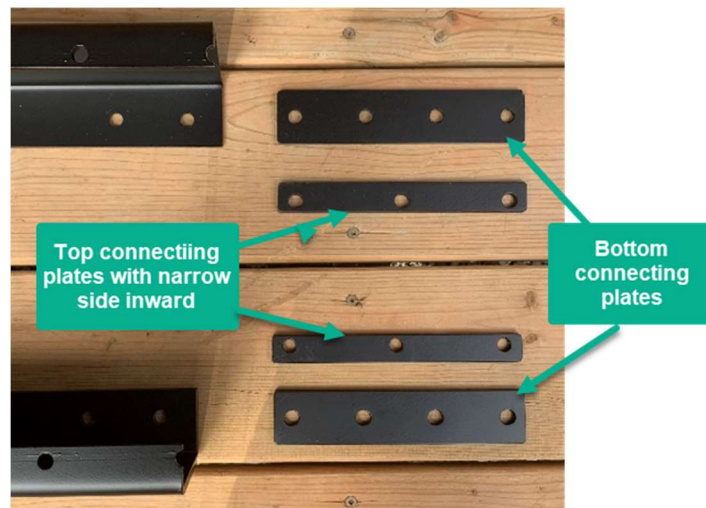
3. CONNECT FRONT SIDE PLATES WITH REAR SIDE PLATES

Final result:



REQUIRED MATERIAL

- 2 top connecting plates
- 2 bottom connecting plates
- 8 button Head Bolts SS 3/8"-16 X 1"
- 16 flat washers SS 3/8"
- 8 nylon lock nuts SS 3/8-16"
- 6 button head SS 5/16" X 1"
- 12 flat washers SS 5/16"
- 6 nylon lock nuts SS 5/16"



3.1 Manually align the front and rear side plates as straight as possible

3.2 Place the bottom connecting plate on the seat of the side plate.



3.3 Insert a flat washer on a 3/8"-16 x 1" button head bolt.

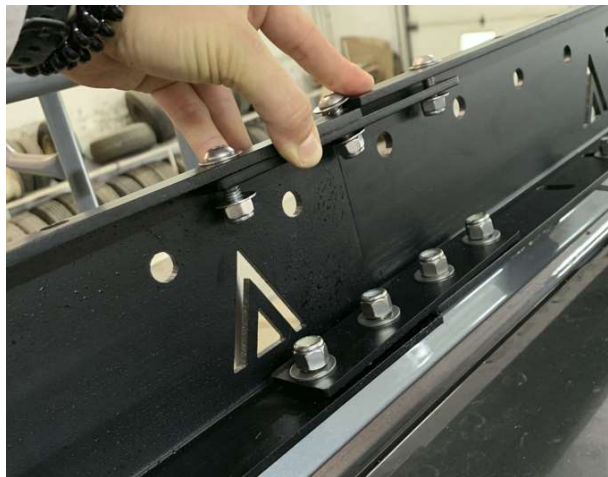
3.4 Insert the button head bolt (with the washer) through the side plate's seat and the bottom connecting plate.

3.5 Insert a flat washer and a nylon lock nut. Finger tighten the lock nuts.

3.6 Repeat these steps for the other 3 bottom connecting plate bolts.

****For the top connecting plates, the narrow side of the holes should face inward so as not to protrude from the side plate****

3.7 Repeat these steps for the three 5/16"-18 x 1" button head bolts assembling the top connecting plate.



3.8 Complete the final tightening of all bolts of the connecting plates using a torque wrench.

- 6 button head bolts 5/16" (3 per top connecting plates): **12 Nm**
- 8 button head bolts 3/8" (4 per bottom connecting plates): **16 Nm**

4. CROSS BARS ASSEMBLY

Final result:



REQUIRED MATERIAL:

- 4 black anodized aluminum crossbars 1.5" x 1.5" x 63"
- 8 button head bolts SS 5/16 X 1"
- Threadlock LOCTITE 242 or LOXEAL 54-03

4.1 Move the left and right side plates as far apart as possible (facilitates the insertion of the crossbars).

4.2 Position the 4 crossbars on the seats of the side plates lined up with the assembly holes of your choice (assembly holes are present every 3" along the side plates). Position the crossbars according to the configuration of the accessories of your vehicle roof and pay particular attention to the dimensions of your solar panels so as not to have to move the crossbars again.

** Crossbars should be distributed as evenly as possible. Minimum 1 crossbar assembled to the rear side plates **



4.3 Add a drop of threadlock on the end of a button head bolt 5/16"x1.".

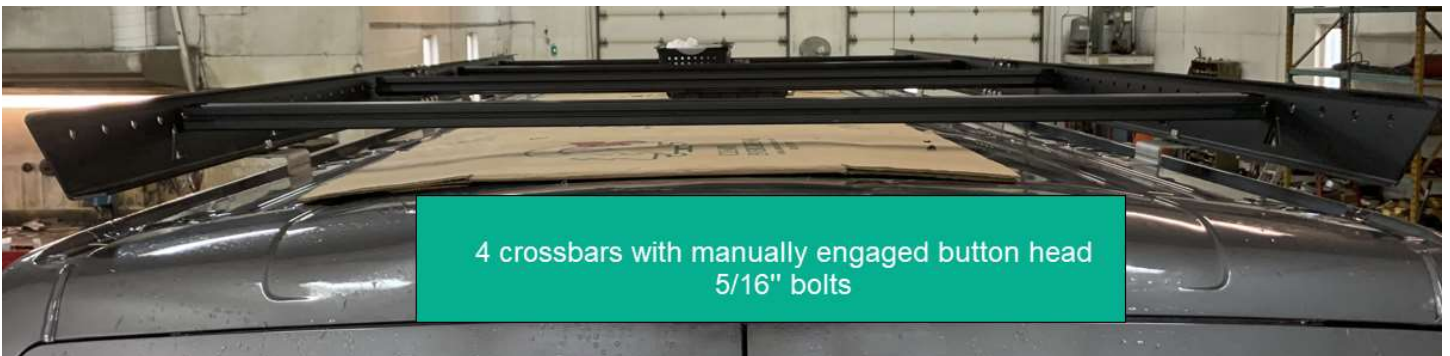
4.4 Engage the bolt, with the threadlock added on it, through the side plate and manually screw a few turns into the crossbar.



4.5 Repeat these steps for the opposite end of the crossbar.



4.6 Repeat these steps for the other 3 crossbars



4.7 Tighten the 8 crossbar bolts to a torque of **12 N·m** using a torque wrench.

5. WIND FAIRING ASSEMBLY

Final result:

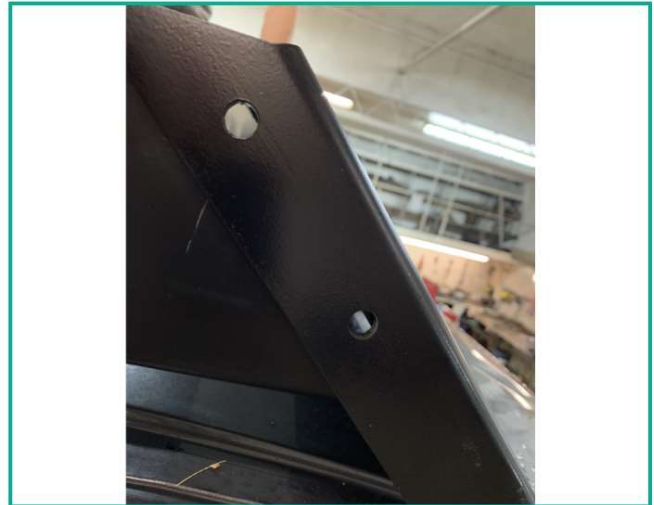


REQUIRED MATERIAL:

- 1 wind fairing.
- 4 button head Bolt SS 3/8"-16 X 1".
- 4 flat washer SS 3/8".
- 4 nylon lock nut SS 3/8"-16.

5.1. Wind fairing and front side plates assembly.

Position the wind fairing so as to align its assembly holes to the assembly holes of the side plates.

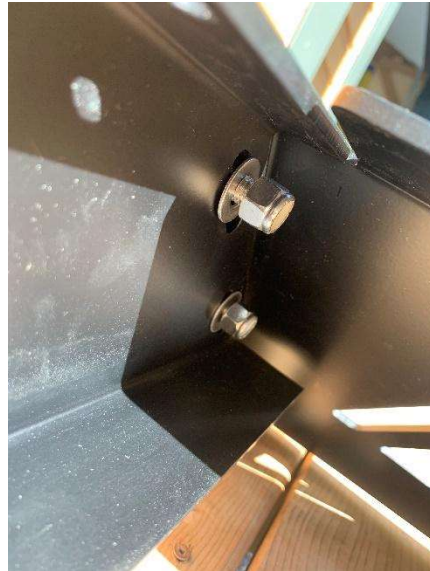


5.2. Insert the 3/8"-16 x 1" bolts through the wind fairing and than the side plate.

*****IMPORTANT: Put anti-seize on the bolts*****



5.3 Insert a 3/8" flat washer and a nylon lock nut 3/8" on the bolts



5.4 Finger tighten the lock nuts to secure the assembly.

5.5 Firmly press the bottom of the wind fairing in the center with the roof of the vehicle to avoid any possibility of vibration when driving.



5.6 Tighten the 4 bolts/nuts assemblies to a torque of **16 N·m** using a torque wrench

6. FINAL TIGHTENING AND TIGHTENING CHECK TOUR OF ALL RACK BOLTS:

Tighten each of the following bolts/assemblies to the specified torque:

- 16 carriage bolt 1/4"-20 x 1" : **12 N·m**
- 8 Carriage bolt SS 3/8-16 X 1" : **16 N·m**
- 8 – SS 3/8"-16 x 1" button head bolts (bottom connecting plates with side plates): **16 N·m.**
- 6 – SS 5/16"-18 x 1" button head bolts (top connecting plates to side plates): **12 N·m.**
- 8 – SS 5/16"-18 x 1" button head bolts (side plates to crossbars): **12 N·m.**
- 4 – SS 3/8"-16 x 1" (wind fairing with side plates): **16 N·m.**

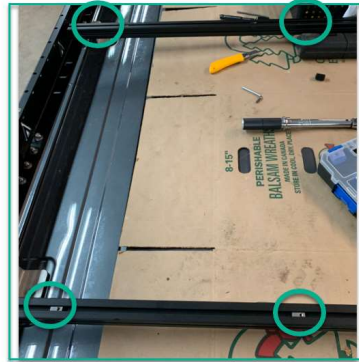
ANNEXE 1: SOLAR PANELS ASSEMBLY

REQUIRED MATERIAL:

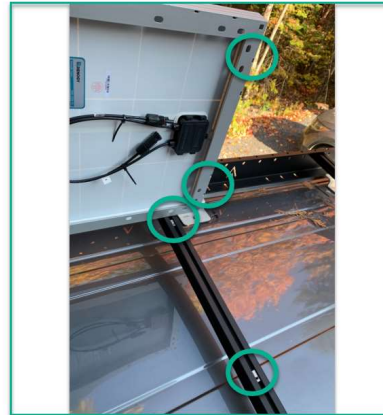
- 12 SS drop-in T-nut w/spring-ball 1/4"-20
- 12 lock washers 1/4"
- 12 Hex. head 1/4"-20 x 0.625" bolts

STEPS:

- 1.1. Insert 2 spring nuts 1/4"-20 in the groove of a crossbar provided for this purpose.



- 1.2. Position the spring nuts at the same distance as the assembly holes of your solar panel to be installed.



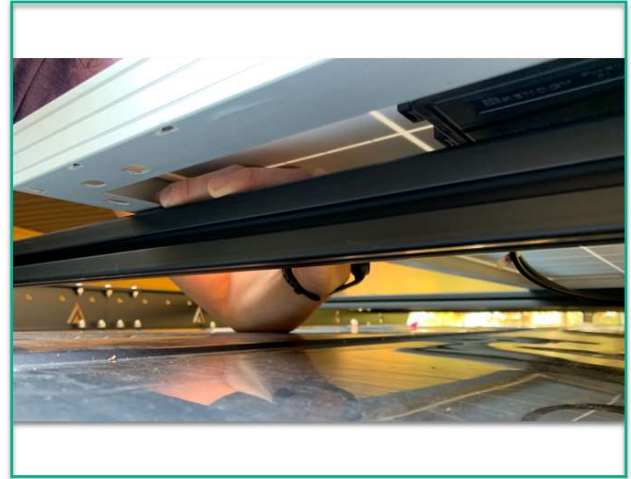
- 1.3. Repeat these steps on the other selected crossbar to install your solar panel on.

- 1.4. Place a panel on the crossbars.

- 1.5. Insert a 1/4" lock washer on a hex. Head 1/4"-20 x 5/8" bolt.



- 1.6. Insert the assembly through the solar panel and manually screw into a spring nut.



- 1.7. Repeat these steps for the other 3 corners of your solar panel.
- 1.8. Tighten all bolts securely using a 7/16" ratchet wrench.
- 1.9. Repeat these steps for each solar panel (material provided for the installation of 3 panels).