



INSTALLATION GUIDE

TOYOTA KLUGER 03-21 ON

PN: NBT34SY



NUDGE BAR

VEHICLE FRONTAL PROTECTION SYSTEM (VFPS)
FOR AIR BAG & ADR COMPLIANT VEHICLES

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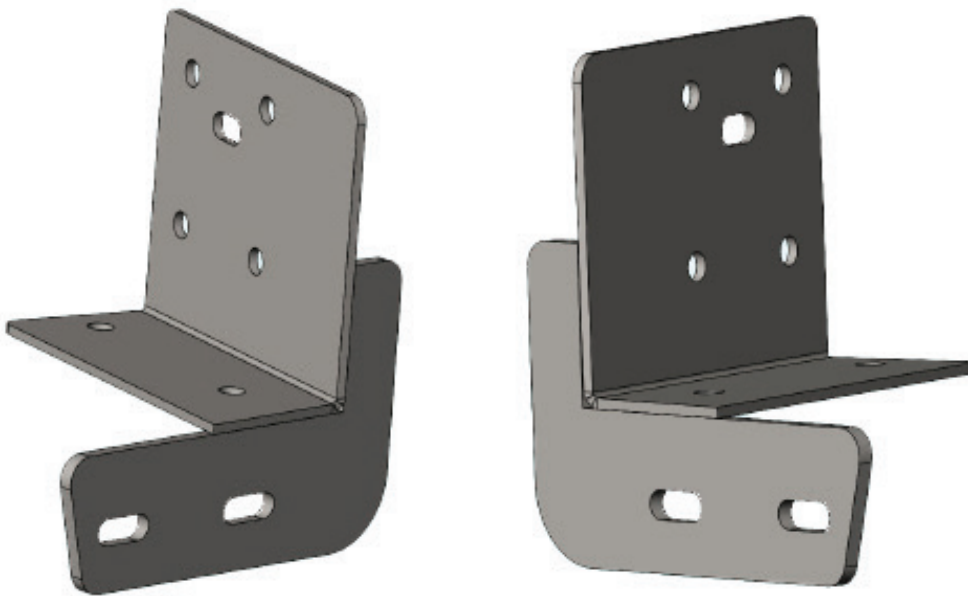
Stage 25 - Splash Guards, Connect and Checks

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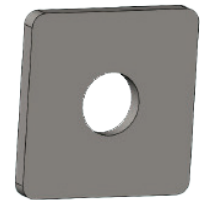
Final Checks

INSTALLATION KIT

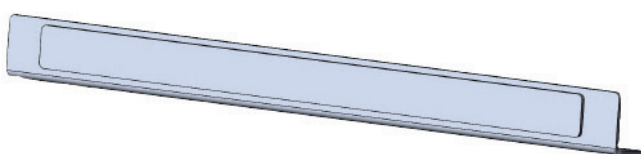
1 - Pair ECB Steel Mounting Brackets	2 - M8 X 30 Allen Head Bolt
1 - Light Blanking Plate	4 - M8 Flat Washers
1 - Camera Cover	2 - M8 Nyloc Nuts
2 - Spacer Washers 40 X 40 X 4 13mm Hole	4 - 8g/18 X 12mm Self Drilling Screws
4 - M10 X 1.5 X 40mm Bolts	12 - 320 Mm Length Single Extension Wires
2 - M10 X 1.5 X 35mm Bolts	4 - 160 Mm Length Single Extension Wires
10 - M10 Flat Washer	32 - Solder Joiners
6 - M10 Spring Washer	1 - Tube Gel Glue
4 - M10 X 1.5 Nuts	2 - 19mm Black Blanking Plugs (17mm Hole Size)
2 - M10 X 1.5 Nut And Washer On 300mm Wire	



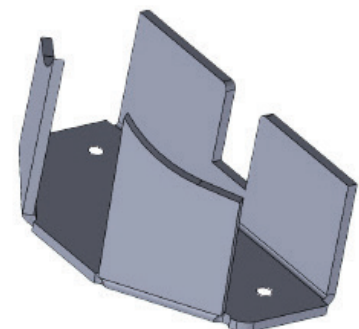
Pair ECB Steel Mounting Brackets
Fitted to Bar



4 x 40 x 40 x 4mm Spacer Washer
with 15mm Hole - P/C Black
In Bolt Kit



Nudge Bar infill (YNBT34)
Fitted to bar in correct position
NOTE: To be the same finish as the bar



Camera Cover
In Bolt Kit

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STAGE 1 - VEHICLE PREPARATION

Test drive vehicle to ensure all driver assists are correctly working and to gauge effectiveness.

Park on a flat level surface.

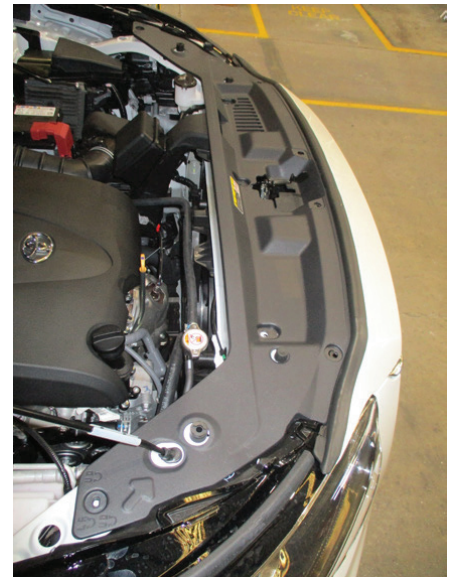
Apply parking brake and lift bonnet.

Unwrap ECB Protection Bar and disconnect mounts.
Discard bolts.



STAGE 2 - RADIATOR COVER

Remove top cover from grille, nine (9) x push pull plugs.



STAGE 3 - BUMPER TOP BOLTS

Remove four (4) x 10mm head bolts from top and center mounts.
Grille and bumper will be removed in one piece.



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STAGE 4 - WHEEL ARCH/BUMPER BOLTS

Under front of vehicle, from front ends of inner guards, remove three (3) x 10mm head screws (per side).



STAGE 5 - SPLASH GUARD BOLTS

From underside of front edge of plastic splash guard/bumper join, remove ten (10) x 10mm head screws.



STAGE 6 - SPLASH GUARD BOLTS

On center splash guard, remove three (3) x 10mm head bolts and two (2) x push pull clips. Remove center under body guard.



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STAGE 7 - FLARE CLIPS

From rear of flare, remove one (1) x 10mm head bolts, two (2) x plastic push pull clips.



STAGE 8 - DISCONNECT ELECTRICAL

Pull inner guards rearward away from front of bumper and wheel arch to allow access to rear of flare.

Disconnect bumper sensor and camera wiring loom from behind bumper on driver's side. Unclip wiring from rear of fog light assembly (per side).



STAGE 9 - DISCONNECT FLARE

Unclip flare to second clip past guard/bumper join.

Lower clips are accessed from rear of bumper whilst top two clips are push only style clips which need to be carefully levered out.



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STAGE 10 - BUMPER REMOVAL

Gently unclip bumper from retaining clips where bolts are removed from inner guard and pull guard sides outwards to release from guard.

Carefully remove bumper from vehicle.



STAGE 11 - REMOVE POLYSTYRENE INFILLS

Remove polystyrene infill from bumper supports.



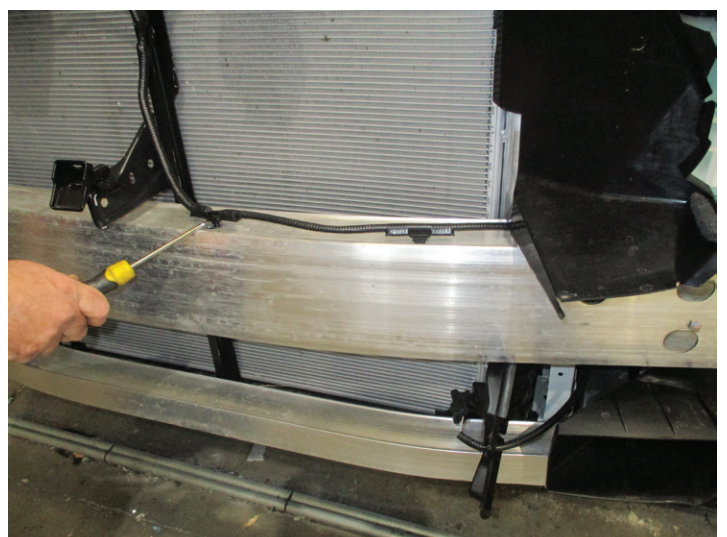
From passenger side of vehicle, remove transmission cooler shroud, three (3) x 10mm head bolts. Retain for re-fitment.



STAGE 12 - WIRING REMOVAL

From top of Alloy bumper support, remove wiring and allow to hang.

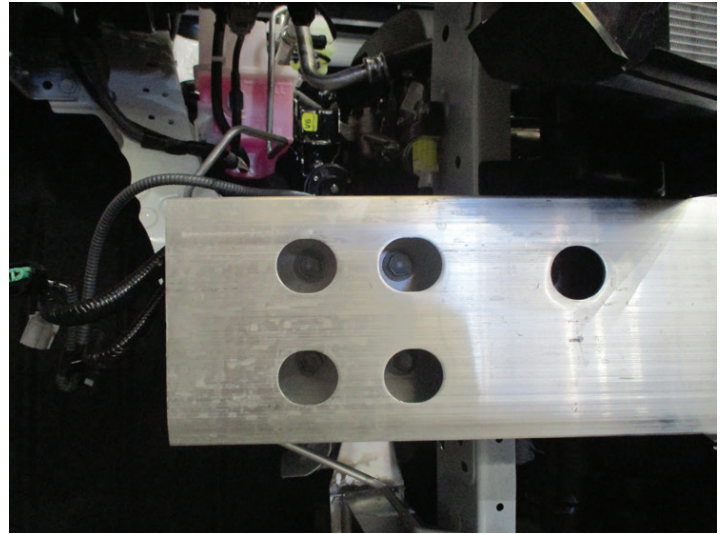
This will be refitted later.



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STAGE 13 - ALLOY BUMPER SUPPORT

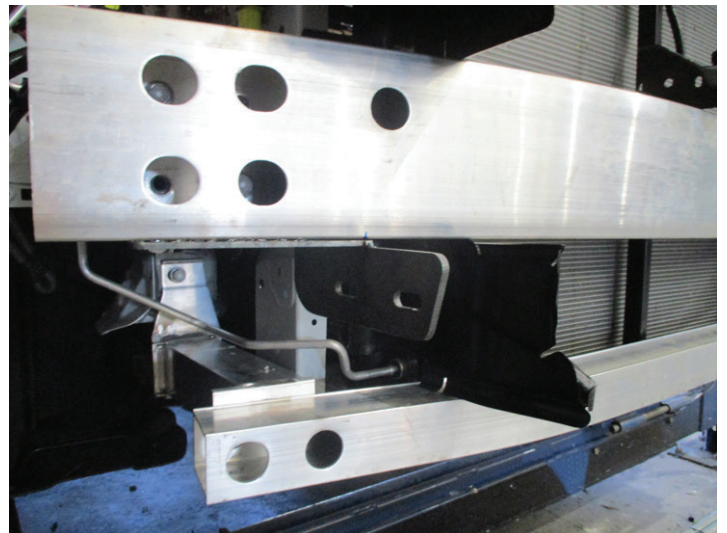
Remove top Alloy bumper support, eight (8) x 14mm head bolts, accessible from holes in front of support. Retain for re-fitment.



STAGE 14 - STEEL MOUNTING

Install ECB steel mounting brackets onto the end of chassis rail.

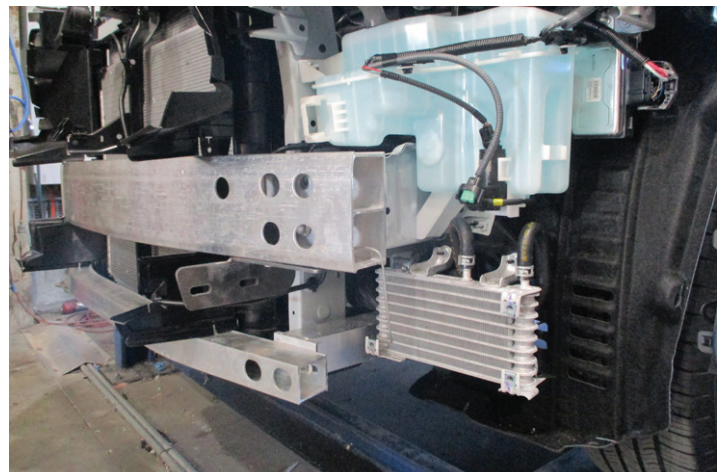
Refit alloy bumper support using original equipment bolts. **Finger tight only at this stage.**



STAGE 15 - STEEL MOUNT ALIGNMENT

Using measurement from Alloy Protection Bar, centralize and set steel mounts to fit outside Alloy mounts.

Align and **tighten all bolts.**



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STAGE 16 - STEEL MOUNTING

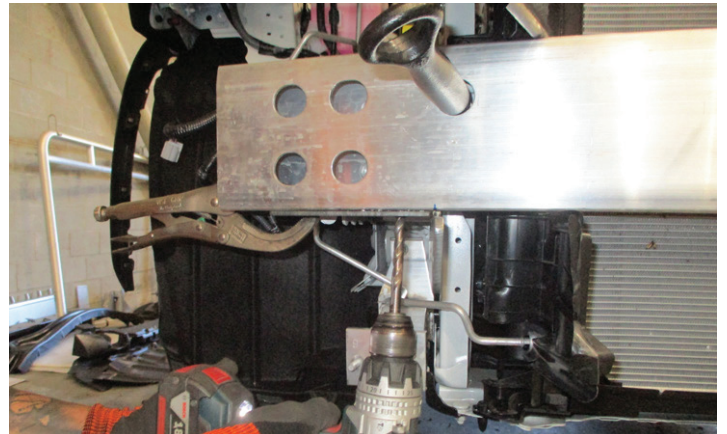
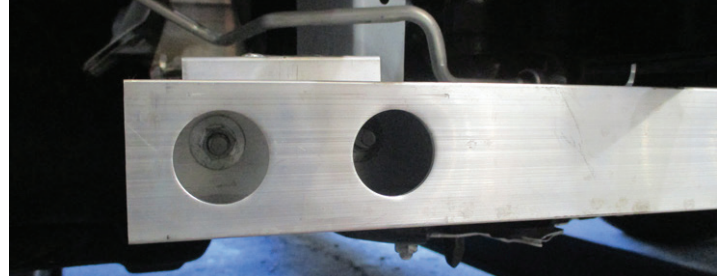
Remove lower Alloy support by removing two (2) x 12mm head nuts (per side).

Using steel mount as a guide, drill a 10mm hole into under side of top Alloy support (per side).

Blow filings clear and treat all exposed metal with a rust inhibitor.

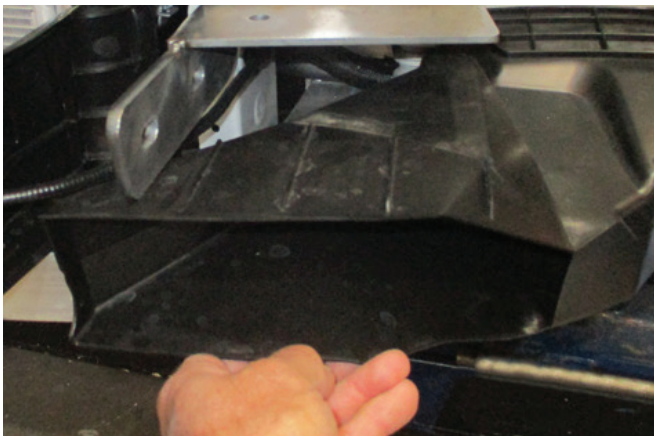
Insert 40 x 40 x 4mm steel spacer washer (supplied) between Alloy and steel mount. Attach with M10 x 1.5 x 35mm bolt, spring washer, flat washer and nut and washer on wire per side (supplied).

Refit Alloy support using original equipment.



STAGE 17 - TRANSMISSION DUCTING REFIT

Using steel mount as a guide mark, cut air duct on transmission cooler for steel mounting bracket to fit.

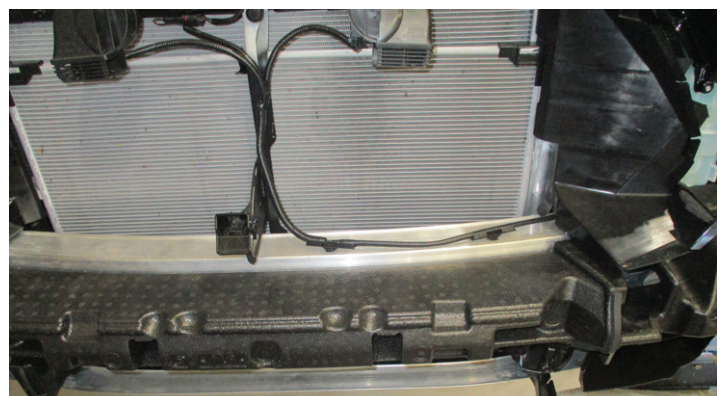


STAGE 18 - WIRING AND POLYSTYRENE REFIT

Refit wiring to top of Alloy support.

Refit polystyrene infill to top support only.

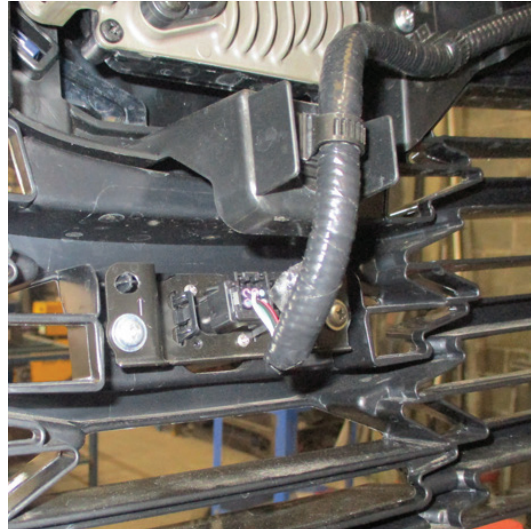
DO NOT FIT LOWER POLYSTYRENE AT THIS STAGE.



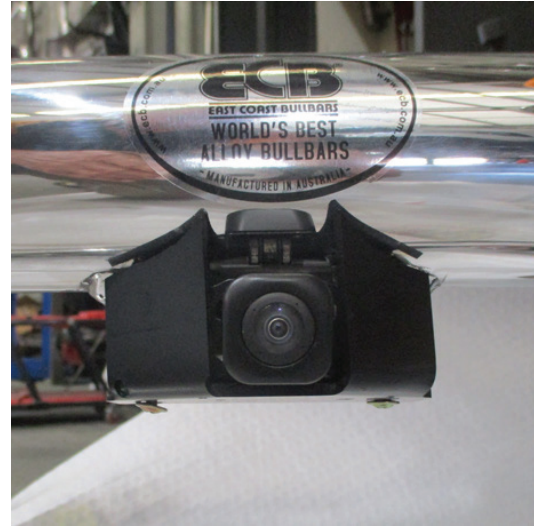
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STAGE 19 - CAMERA INSTALLATION AND WIRING

Remove camera from behind grille and relocate into Protection Bar using two (2) x 8g x 12mm self drilling screws (supplied).



Extend camera wiring with solder joiners and 160mm wire extensions (supplied).



STAGE 20 - SONAR INSTALLATION AND WIRING

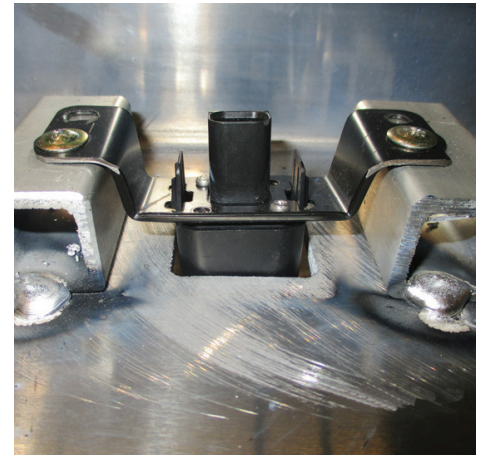
Remove center bumper sensors and bumper sensor clips from bumper and relocate to Protection Bar using VHB tape (not supplied) or gel glue (supplied).

Extend sensor wiring with solder joiners and 320mm wire extensions supplied.

NOTE: Use minimum wire to reach the sensors only. Too much wire can cause sensors to fail.

CAUTION: Care must be used to not glue the sensor to the mounting bracket. This will cause sensor failure.

Where sensors are not fitted, install black plugs (supplied) into holes in cross bar.



STAGE 21 - BUMPER GRILLE TRIM

Using steel mount measurement as a guide, mark and trim lower grille for Alloy mount to fit.



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STAGE 22 - BUMPER RE-FITMENT

Refit bumper as per reverse steps of 2 to 10.



STAGE 23 - PRODUCT FITMENT

Fit Protection Bar onto steel mount using M10 x 1.5 x 40mm bolts, flat washers, spring washers and nuts (supplied).

Align Protection Bar and **tighten all bolts.**

Connect camera and attach cover plate using two (2) x 8g/18 x 12mm self drilling screws (supplied).

NOTE: Access to steel mounting bracket is from underside of vehicle.



STAGE 25 - SPLASH GUARDS, CONNECT AND CHECK

Refit lower polystyrene and under body guard using original bolts and clips.

Connect all electrical equipment and check for correct operation.



FINAL CHECKS

ENSURE NUMBER PLATE IS CLEARLY VISIBLE

Note: When fitting/refitting the licence plate to the vehicle, ensure there is no obstruction to licence plate vision in accordance with local authorities. If required relocate licence plate to an alternate location.

FURTHER VFPS NOTES

1. Do not attach VFPS to the vehicle using anchorages not intended for this purpose (e.g. engine mounting bolts)
2. Do not use this product for any vehicle make or model, other than those specified by the VFPS manufacturer
3. Do not remove the plaque or label from the VFPS
4. Do not modify the structure of the VFPS in any way
5. No accessory or fitment should project forward of the VFPS forward profile

IMPORTANT INFORMATION

Periodically check bolts and nuts for correct tightness, especially if traveling on rough roads.



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REPLACES: N/A
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