



TOYOTA KLUGER 03-21 ON

PN: NBT34SY



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

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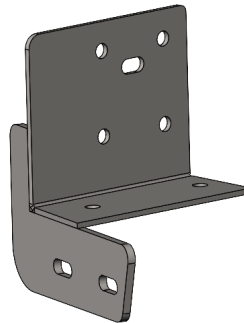
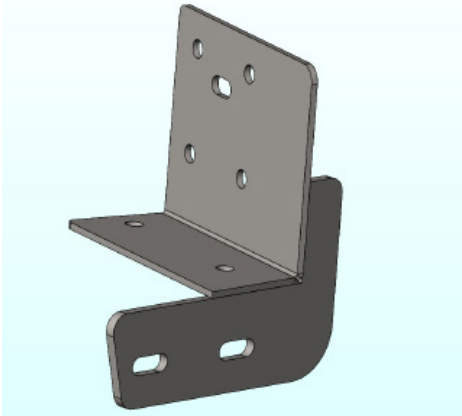
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Final Checks

INSTALLATION KIT

1 - Pair steel mounting brackets	2 - M10 x 1.5 Nut and washer on 300mm wire
1 - Light blanking plate	2 - M8 x 30 Allen head bolt
1 - Camera cover	4 - M8 Flat washers
2 - Spacer washers 40 x 40 x 4 13mm hole	2 - M8 Nyloc nuts
4 - M10 x 1.5 x 40mm Bolts	4 - 8g/18 x 12mm Self drilling screws
2 - M10 x 1.5 x 35mm Bolts	1 - 550mm length convoluted tubing
10 - M10 Flat washer	2 - Kluger sensor infill (ICSENS 21KLU INS)
6 - M10 Spring washer	10 - 150mm zip ties
4 - M10 x 1.5 Nuts	



Pair ECB steel mounting brackets - **FITTED TO BAR**

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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.

Ensure these instructions are left with the vehicle owner/operator.



STAGE 2 - RADIATOR COVER

Remove nine (9) push/pull clips from radiator plastic cover and remove.



STAGE 3 - BUMPER TOP BOLTS

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



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STAGE 4 - WHEEL ARCH/ BUMPER BOLTS

Under front of bumper at front ends of inner guards, remove three (3) 10mm head screws (per side).



STAGE 5 - SPLASH GUARD BOLTS

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



STAGE 6 - SPLASH GUARD BOLTS

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



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STAGE 7 - FLARE CLIPS

From rear of flare, remove one (1) 10mm head bolt and two (2) 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 drivers side. Unclip wiring from rear of fog light assembly (per/side).



STAGE 9 - DISCONNECT FLAARE

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

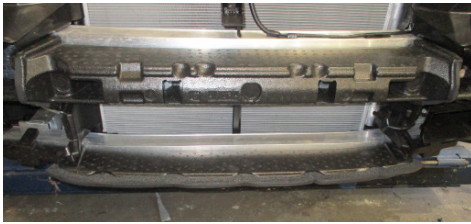
Gently unclip bumper from retaining clips where bolts are removed from inner guard and pull guard sides outwards to release from guard, carefully remove bumper from vehicle.



STAGE 11 - REMOVE POLYSTYRENE INFILLS

Remove top and bottom polystyrene infills from bumper supports.

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



STAGE 12 - WIRING REMOVAL

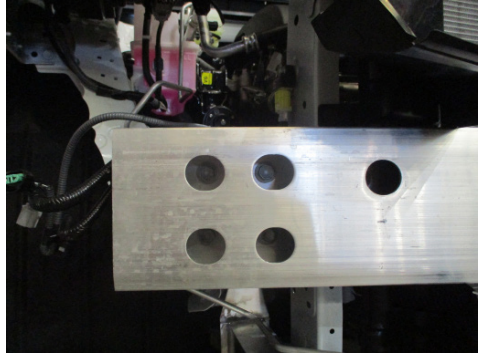
On top of alloy bumper support remove wiring and allow to hang. This will be refitted later.



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STAGE 13 - ALLOY BUMPER SUPPORT

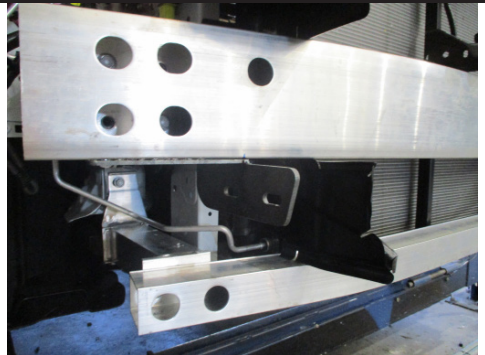
Remove top alloy bumper support, eight (8) 14mm head nuts, accessible from holes in front of support.



STAGE 14 - STEEL MOUNTING

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

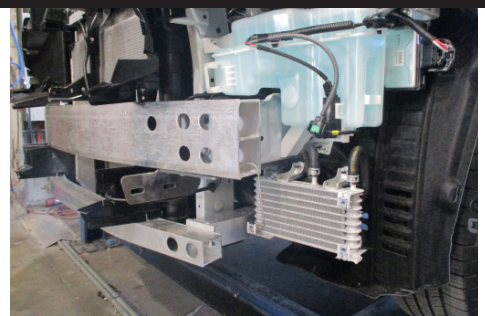
Refit alloy bumper support using original equipment bolts. Finger tight only at this stage.



STAGE 15 - STEEL MOUNTING 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

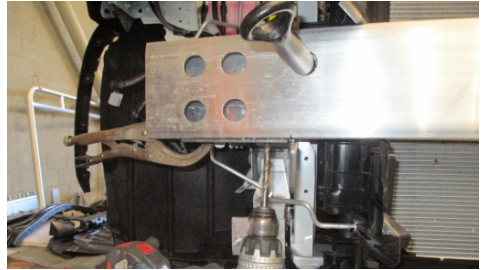
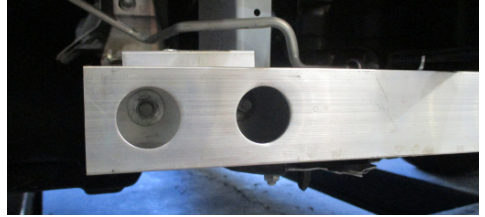
Remove lower Alloy support by removing two (2) x 12mm head nuts (per side).

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

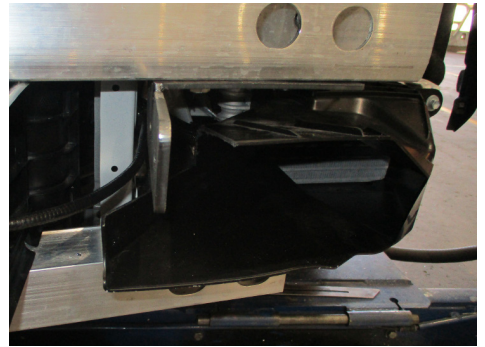
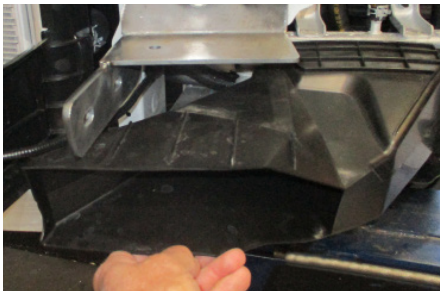
Insert 40 x 40 x 4mm steel spacer washer (supplied) between alloy and steel mount. Attach with M10 x 1.5 x 35mm bolt, spring washer, flat washer and nut and washer on wire (per/side) (supplied).

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.

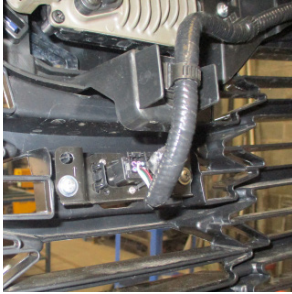


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STAGE 19 CAMERA INSTALLATION AND WIRING

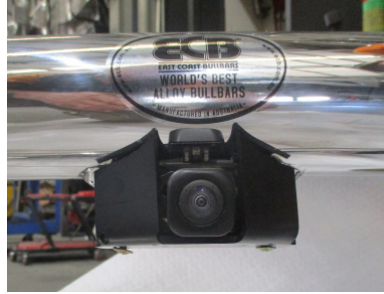
Remove camera from behind grille and relocate into protection bar using two (2) 8g x 12mm self drilling screws (supplied).

Remove camera wiring from original wiring back to the point RH sensor wiring exits



the harness. Redirect wiring to the lower side of the bumper and exit in correct position for the Nudge Bar.

Wrap Wiring in convoluted tubing. Retape and secure to inside of bumper.



STAGE 20 - SONAR INSTALLATION AND WIRING

Remove bumper sensors from bumper. Install sensor spacer to top of sensor and relocate to plastic sensor mounts in Protection Bar.

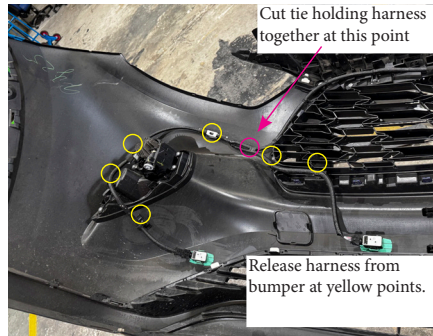
Disconnect wiring from rear of bumper.

Cut tie holding wiring harness at join point (see pink in photo).

Feed wiring through hole for inner parking sensor. Wiring is not extended.

Redirect wiring to inside of foglight to extend wiring through bumper. Attach wiring to bumper points where available using zip ties.

NOTE: Hole for inner parking sensor may need to be enlarged to accommodate the wiring connector.



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 REFITMENT

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) 8g/18 x 12mm self drilling screws (supplied) .

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



STAGE 24 - 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 VISABLE

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.
6. **Ensure these instructions are left with the vehicle owner and/or operator.**

IMPORTANT INFORMATION

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



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