



INSTALLATION GUIDE

TOYOTA RAV4 05-19 ON

PN: BT138SY

CRUISER MODELS



BULLBAR WITH BUMPER LIGHTS
VEHICLE FRONTAL PROTECTION SYSTEM (VFPS)
FOR AIR BAG & ADR COMPLIANT VEHICLES

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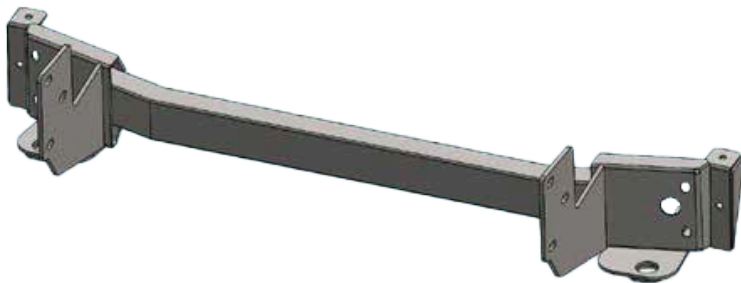
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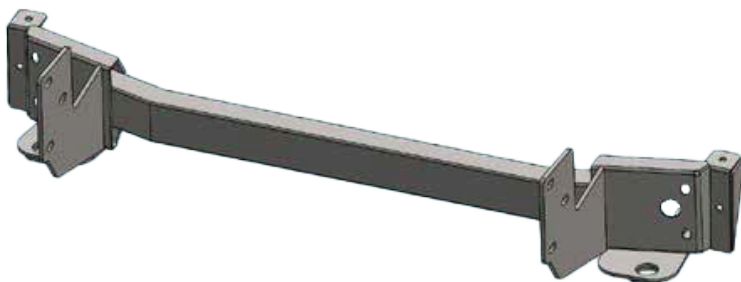
Final Checks

INSTALLATION KIT

1 - Steel Mounting Bracket	4 - M6 Flat Washer
2 - 30mm Round Spacer Washer	2 - M6 Spring Washers
6 - M12 X 1.5 X 40mm Bolts	2 - M6 Nuts
12 - M12 Flat Washers	2 - M6 Nyloc Nuts
6 - M12 Spring Washers	1 - ECB Indicator / DRL / Park Light Kit
6 - M12 X 1.5 Nuts	1 - Bumper Light Kit
2 - M10 X 1.5 X 50mm Bolt And Washer On 300mm Wire	1 - Quick Click Kit (IC10D40S1004ECBH)
2 - M10 X 1.5 X 50mm Bolts	2 - Quick Click Kit (Ic19tor4sp1h)
4 - M10 Flat Washers	4 - Bumper Light Surrounds
4 - M10 Spring Washers	1 - 2400mm Length 6mm Clip Lock
2 - M10 X 1.5 Nut And Washer On 300mm Wire	1 - 200mm Length Five Core Wire
2 - M10 X 1.5 Nuts	10 - Solder Joiners
2 - M6 X 20mm Bolts	1 - 250mm Length 10mm Convolved Tube



ECB Steel Mounting Bracket - Front View
(YBT134)
FITTED TO BAR



ECB Steel Mounting Bracket - Rear View
(YBT134)
FITTED TO BAR



Sensor Outer Mount



Sensor Inner Mount



2 x 30mm Round Spacer Washer
(BH32SY_A8MS) - P/C Black
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 - BUMPER REMOVAL

On top of bumper remove four (4) x 10mm head bolts, five (5) x push pull clips. Remove plastic trim.

From underside of vehicle remove six (6) x 10mm head bolts.

On inner guards remove one (1) Phillips head screw and two (2) x push pull clips (per side). Carefully unclip wheel arch mold from inside while pulling outwards.

Remove one (1) x clip in rear wing per side. Pull out on rear wing to unclip from guard and unplug wiring on passenger side.

Remove bumper



STAGE 3 - BUMPER REINFORCEMENT REMOVAL

Remove polystyrene infill from bumper reinforcement.

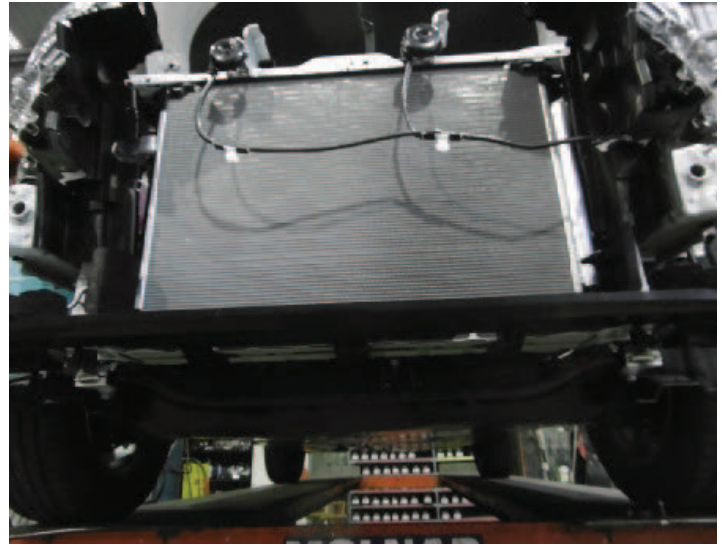
Disconnect wiring from bumper reinforcement.

Remove bumper reinforcement by removing three (3) x 14mm head bolts per side.



STAGE 4 - LOWER AIR DAM

Remove lower air dam, five (5) x 10mm head bolts and allow under body guard to hang.



STAGE 5 - STEEL MOUNT INSTALLATION

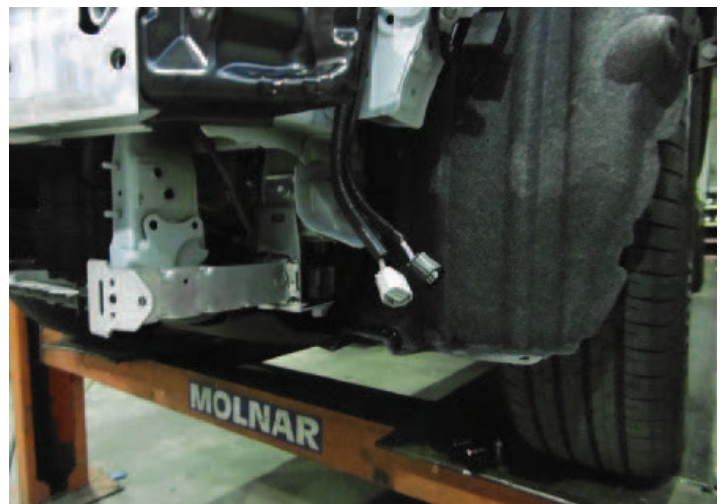
Fit steel mounting bracket (supplied) onto the end of chassis rail using original equipment bolts. Place one (1) x 30mm spacer washers per side (supplied) between chassis rail and steel mounting bracket on locator pin.

Remove lower Alloy crash can one side at a time by removing one (1) x 19mm head bolt, two (2) x 12mm head nuts and one (1) x 12mm head bolt per side.

Using steel mounting bracket as a guide, drill two (2) x 10mm holes into under side of rail. Enlarge hole in side of rail to fit bolt on wire.

BLOW FILINGS CLEAR AND TREAT ALL EXPOSED METAL WITH A RUST INHIBITOR.

In rear hole fit one (1) x M10 X 1.5 x 50mm bolt and flat washer on wire, flat washer, spring washer and nut (supplied). In front hole fit (1) x M10 x 1.5 x 50mm bolt, spring and flat washer, nut and washer on wire (supplied). Refit crash cans.

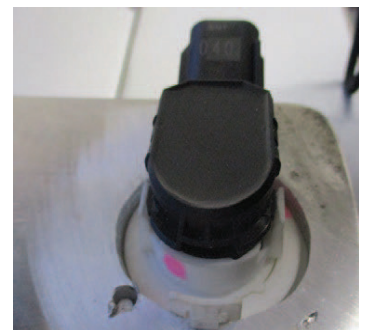


STAGE 6 - PARKING SENSORS

Remove parking sensors from bumper.

Relocate parking sensor into sensor housing in Protection Bar. **CAUTION:** Sensor plugs and mounts are directional. There is a raised segment on front under clip area of sensor.

Using Quick click harness (supplied), feed harness through sensor holes in bumper cover and connect to original equipment wiring harness.



NOTE: Holes in bumper will need to be enlarged to allow wiring harness to fit through. Try to feed wiring in an area where it will be least seen by the customer.

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STAGE 7 - BUMPER CUT

Remove camera from bumper, two (2) x Phillips head screws.

Extend camera wiring harness 200mm using wire and solder joiners (supplied). Place wiring into convoluted tubing (supplied).

Place camera into protection bar using two (2) x M6 bolts, flat washers and Nyloc nuts (supplied).

NOTE: Overheating of connectors will cause the plastic sheathe to melt, while under heating will not melt the solder enough to create a strong connection. Hold joint still until solid for good join.



STAGE 8 - LIGHT WIRING

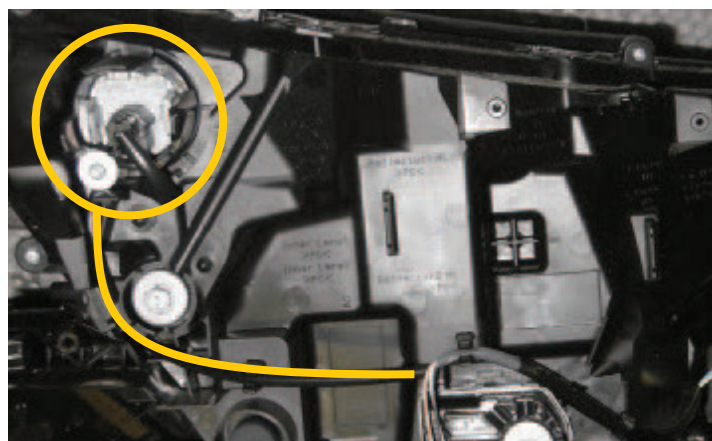
On this vehicle there are two types of headlight - a hybrid headlight and a standard halogen headlight.

NOTE: Both headlights look similar from the front.

For the purposes of wiring the lights there is a main factor to tell them apart. On the rear outer corner of the headlight, behind the edge of the DRL on the standard light is a black connector connected to an Aluminium heat sink. On the other light the connector and heat sink are missing and the casing has been left blank.

Stage 8A (NEXT PAGE) is the wiring for the Halogen style headlight.

Stage 8B (NEXT PAGE) is the instruction for the full LED headlight. This is technically advanced, so if you are not confident regarding wiring to the inside of the vehicle, please consult an auto electrician.



STAGE 8A - LIGHT WITH HEAT SINK ON DRL

Splice ECB wiring harness into wiring harness behind headlight. Two wires are used on the headlight and two wires on the headlight main connector.



Find indicator and DRL connector on inside and outside of rear of light respectively. With lock to top, Pin 1 is on the left side of the plug.

- + Positive wire » Indicator Plug pin 1
- + Positive wire » Park Plug pin 2
- + Positive wire » Main Light Harness pin 4
- Earth wire » Main Light Harness pin 12

Ensure harness is clear of sharp edges and moving parts.

Connect ECB Quick Click bumper light wiring harness (supplied) into original wiring harness.

It is recommended to solder and cover all connections on this light.

Indicator Plug



Park Plug



Wiring Information



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STAGE 8B - HYBRID LIGHT, BLANK REAR

Fitment to the headlight is as per the wiring of the non-hybrid headlight as specified in Stage 8A. From the headlight the signal for the indicator, DRL and earth (ground) can be found on the rear of the headlight. Signal for the parking light is found within the steering column.

PARKING LIGHT

Carefully press sides of steering column trim from under the join to unclip the top of the trim.

Unclip both sides and front.

CAUTION: Top of the steering column trim is attached to the dash panel. **Do not** remove.

Turn the steering wheel to access and remove two PK screws.

Remove PK screws from lower centre of trim.

Remove lower trim.

Under the steering column locate the yellow plug.

DO NOT REMOVE THIS PLUG, it is attached to the air bag system. Any electrical spark or rough handling could cause the airbags to deploy. Care is required.

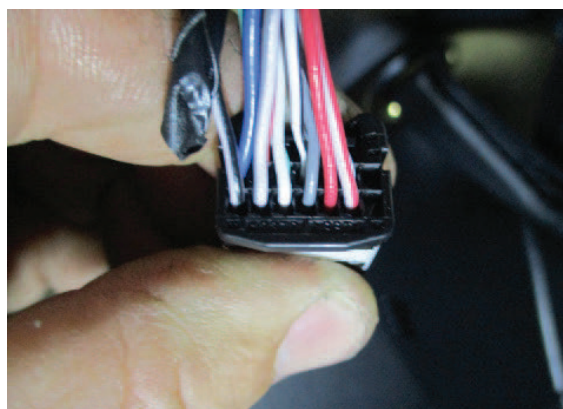
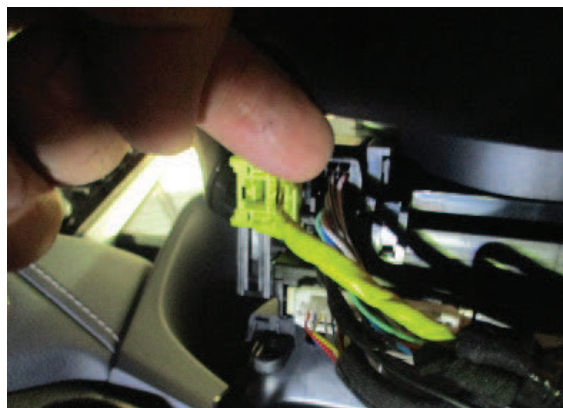
Beside the yellow plug is a black plug, remove this plug for ease of access.

Attach wire to the light grey/black (pin 7) of this plug.

Carefully refit plug. Refit trim.

Run wiring to passengers side of vehicle, through firewall and forward to both headlights. Encase wiring in split loom tubing and zip tie to existing wiring of vehicle.

Connect and test all wiring.



STAGE 9 - BUMPER RE-FITMENT

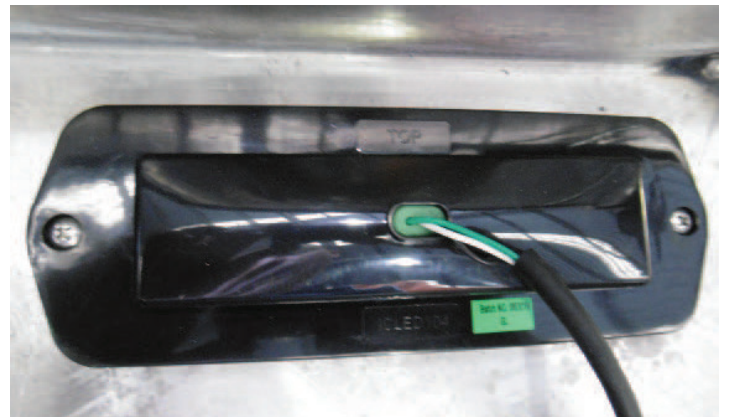
Refit bumper to vehicle in the reverse of stage 2, using original equipment fixings.



STAGE 10 - INDICATOR/PARK LIGHT FITMENT

Fit ECB LED indicator/DRL /park lights into Protection Bar as per instructions supplied with the LED indicator kit.

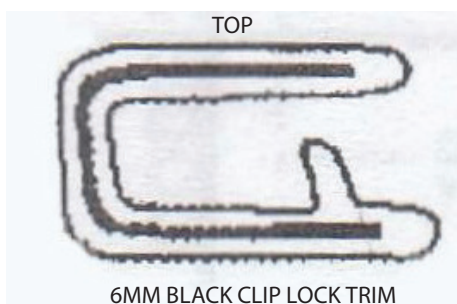
NOTE: Ensure park light is to top.



STAGE 11 - CLIP LOCK TRIM FITMENT

Attach 6mm clip lock trim (supplied) to top of ECB Protection Bar.

NOTE: Trim off lower edge on an angle so trim will sit flush with end of Protection Bar.



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STAGE 12 - PROTECTION BAR INSTALLATION

Fit ECB Protection Bar onto steel mounting brackets using three (3) x M10 X 1.5 x 40mm bolts, flat washers, spring washers and nuts per side (supplied).

Align Protection Bar with vehicle.

Tighten all bolts.

Check sensors for correct operation.

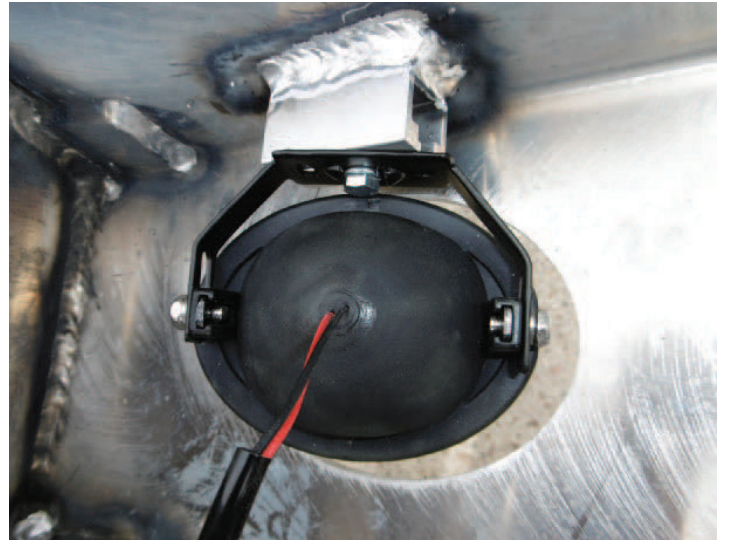


STAGE 13 - BUMPER LIGHT INSTALLATION

Attach ECB bumper lights to Protection Bar.

Place M6 x 20mm bolts, spring washers (supplied) through light mount from inside and attach nut to top. Slide assembly into light mount in Protection Bar and centralize light to hole. **TIGHTEN FIRM ONLY.**

Install bumper light surrounds (supplied) to fog light openings and tow hook openings. Large side of surround to inside of opening.



STAGE 14 - CHECK AND TEST

Connect and check all lights.

Test drive vehicle to ensure the correct operation of all driver assists.



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: 23.03.20
REVISED: 09.07.24