

FITTING INSTRUCTIONS

BEHIND GRILLE LIGHTS

To suit Ford Ranger Raptor (V6 twin turbo), RA 2022+

2 x 7" Driving Lights



Approximate Fitting Time: 2 Hrs
NHBGF98RDL

DRIVING LIGHT KIT INCLUDES



2 x Night Hawk 7"
LED Driving Lights
(NHX180VLI)



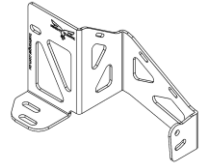
300W Wiring Harness
(NHW300DT)



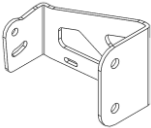
Cable Ties



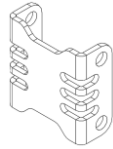
Installation Manual



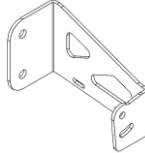
1x Right Hand Side
Bracket



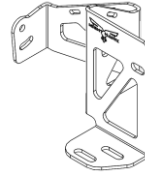
1x Right Hand
Centre Bracket



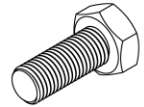
1x Centre Bracket



1x Left Hand
Centre Bracket



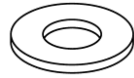
1x Left Hand
Side Bracket



4x M8x30mm Hex
Bolts



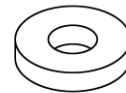
2x M6x20mm Button
Head Socket Screw



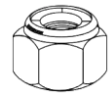
8x M8x16mm (OD)
Flat Washer (1.6mm
thick)



2x M6x12mm (OD)
Flat Washer (1.6mm
thick)



4x M8 Plastic Spacer
(3.5mm thick)



4x M8 Nyloc Nut



2x M6 Nyloc Nut

REQUIRED TOOLS



#2 Phillips Drive
Screwdriver



Trim Removal Tools



Side Cutters



Ring Spanner 13mm



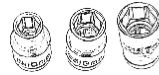
Stubby Ratchet
Spanner 13mm



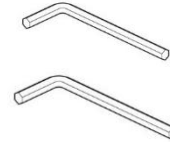
Stubby
Combination
Spanner 10mm



Socket Drive
Wrench



Sockets 8mm, 10mm
& 13mm



Hex Keys 4 & 5mm



Torx Key T30



Hacksaw

GENERAL

- For the purpose of these fitting instructions, the left-hand side (LHS) and right-hand side (RHS) of the vehicle are from the view of sitting in the driver's seat looking forward.
- Please take the time to read the instructions thoroughly before proceeding with the fitment of this Night Hawk Behind Grille Light kit.
- Ensure all components, as listed above, are received prior to commencing the fitment. Please retain all hardware until fit-up is complete.
- All wiring should be completed by a qualified auto electrician. Bushranger bears no responsibility for any failure caused by the incorrect fitment of the driving light kit.
- Ensure these fitting instructions are passed onto the vehicle owner and/or operator.

WARNINGS

- Do not use this product for any other vehicle make or model, other than those specified for this application.
- Do not modify the driving lights, brackets and wiring contained within this kit.
- All installations of driving lights and driving lights to the front of a vehicle result in an obstruction to the airflow passing through the radiator. Consider your driving needs/habits prior to installation.

BEFORE INSTALLATION

Please read these instructions carefully before installation, paying special attention to all 'Notes'. Failure to do so may result in damage of parts and/or injury.

CAUTION

Torque specifications unless otherwise stated:

- 10Nm for M6 fasteners
- 17Nm for M8 fasteners
- 44Nm for M10 fasteners
- 77Nm for M12 fasteners

Torque specifications specific to light fittings are available in the Night Hawk Manual provided with the lights.

OVERALL ASSEMBLY



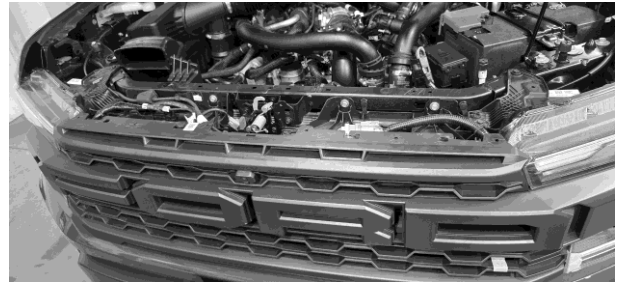
NHBGF98RDL Behind Grille Driving Light Kit

Configuration of the main components once installed in the vehicle

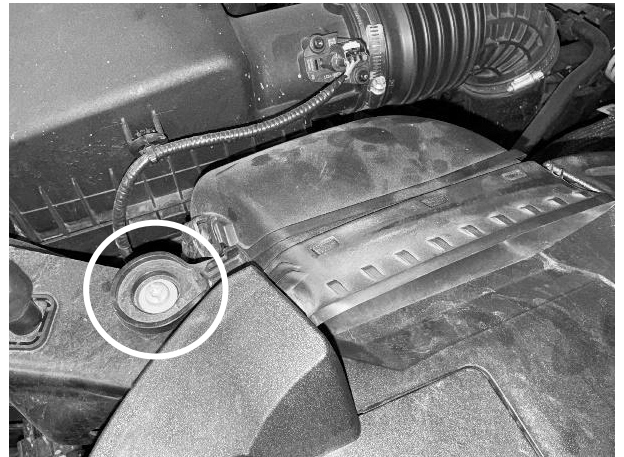
INSTALLATION PROCEDURE

Front Grille Removal

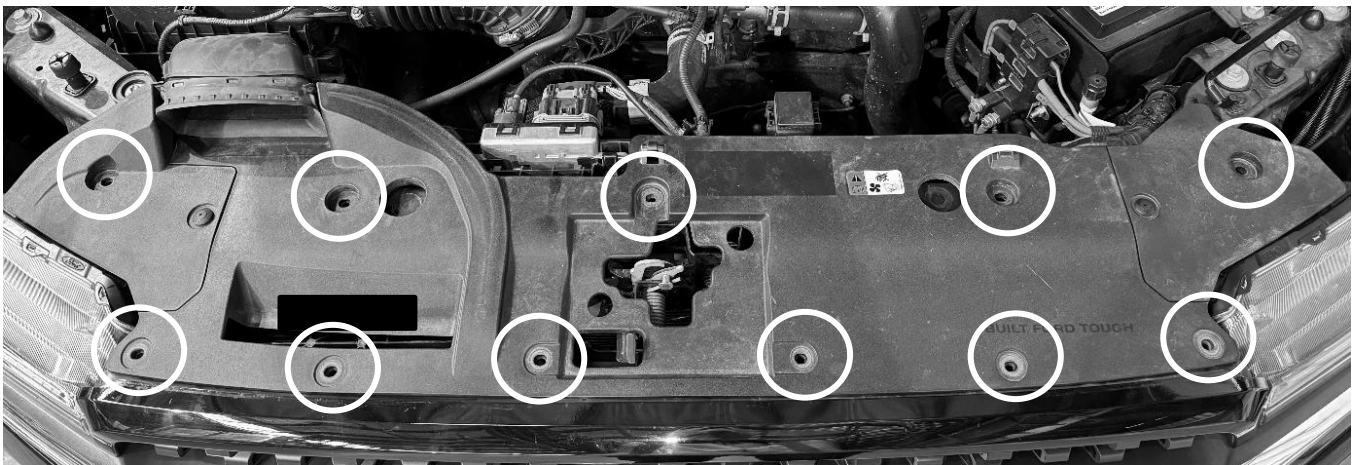
Raise the vehicle bonnet.



Remove the bolt securing the air inlet duct to the radiator support panel using a T30 Torx socket or key.

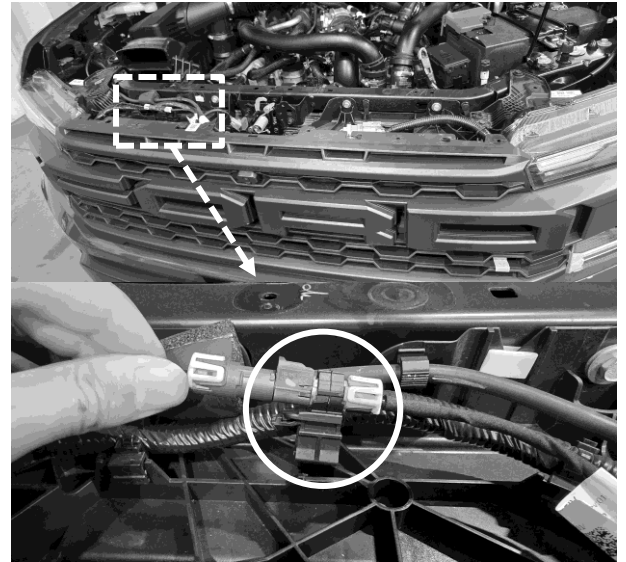


Using a #2 Phillips screwdriver and appropriate trim removal tool, remove the eleven (11) screws from the radiator cowl and remove the cowl from the engine bay.



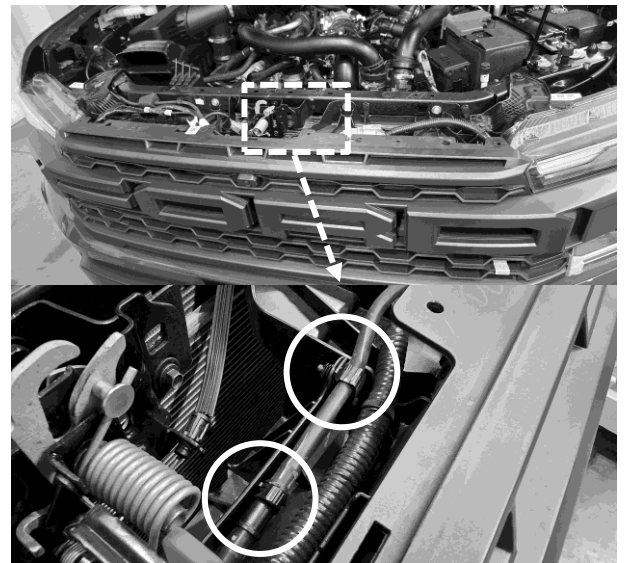
Release the retaining clip securing the front grille camera wiring to the cooling pack covering panel.

Disconnect the wiring at the brown connector.



Release the water hose from the plastic retaining clip also located on the cooling pack covering panel.

Disconnect the water hose at the black connector.



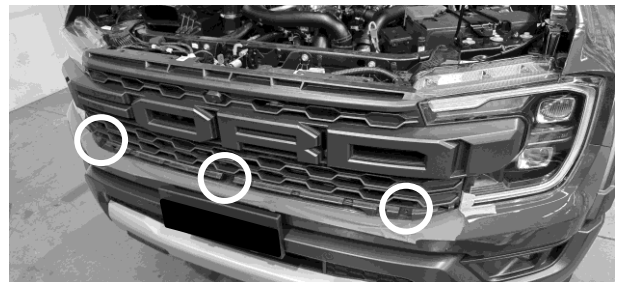
Using a socket wrench and 8mm socket, remove the two (2) M6 hex head bolts securing the top of the grille assembly.



Using an appropriate trim removal tool, loosen the trim strip on the lower edge of the grille assembly and then pull forward to release the plastic tabs.

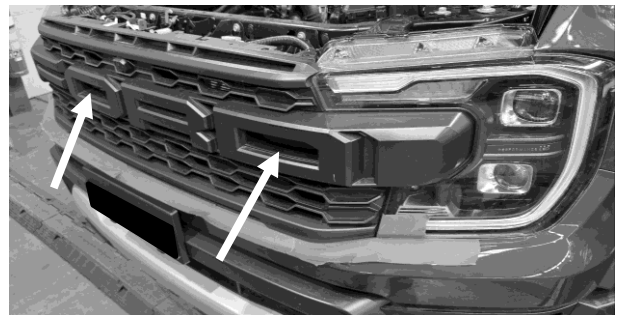


Using a socket wrench and 8mm socket, remove the three (3) bolts securing the bottom of the grille assembly, in the locations shown.



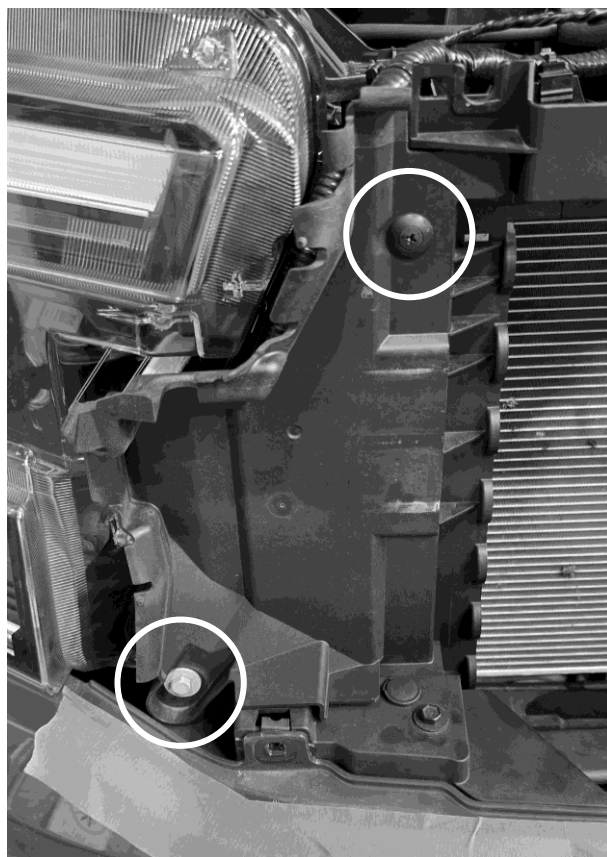
Using the locations shown to grip the grille assembly, release the grille extensions from the headlights by pulling forward.

Remove the grille assembly completely and set aside in a safe location.



Using a socket wrench and 10mm socket, remove the M6x30 hex head bolt securing the bottom of the plastic radiator end panel between the radiator opening and the RHS headlight assembly.

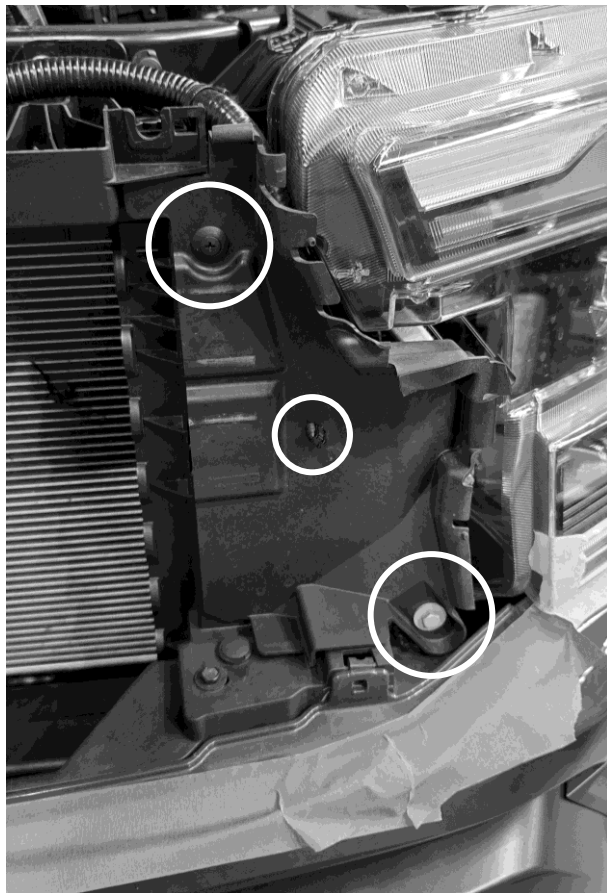
Using a #2 Phillips screwdriver remove the scrivet securing the top of the panel.



Using a socket wrench and 10mm socket, remove the M6x30 hex head bolt securing the bottom of the plastic panel between the radiator opening and the LHS headlight assembly.

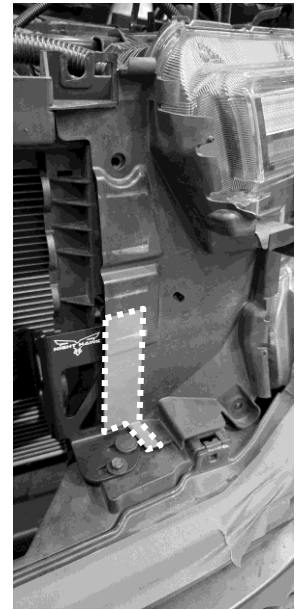
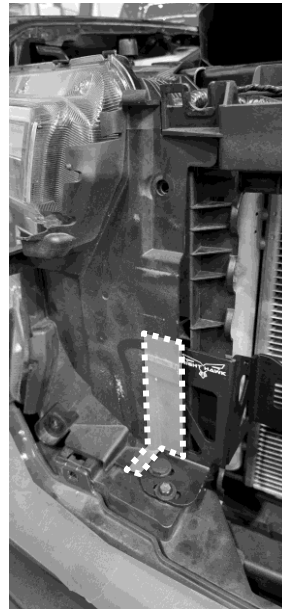
Using a #2 Phillips screwdriver remove the scrivet securing the top of the plastic panel.

Squeeze the legs of the push-in wiring clip to release it.



Radiator End Panel Trimming

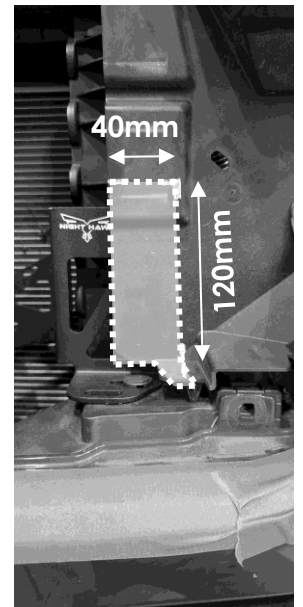
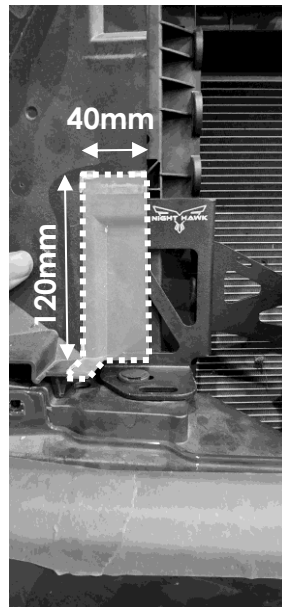
In order to correctly mount the driving light brackets, it is necessary to trim the plastic radiator end panels.



Mark a rectangle on the inside bottom of each panel, 40mm wide by 120mm high, as shown.

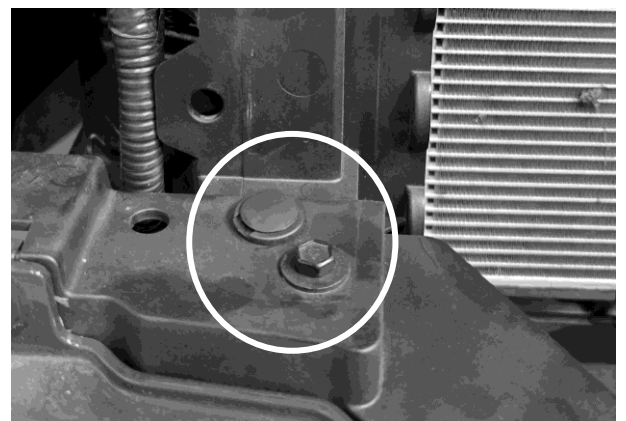
Trim the marked sections of each panel using a hacksaw.

This trimming will allow the driving light brackets to mount directly to the radiator support structure.



Using a socket wrench and 10mm socket, remove the two (2) M6x30 hex head bolts securing the top of the front bumper to the bumper support panel, one on each side.

Using a trim removal tool, remove the two (2) push-in trim clips that also secure the top of the front bumper to the bumper support panel, one on each side.



Driving Light Preassembly

Remove the standard mounting bracket from the driving lights, but retain the cover plates, rubber spacers and fasteners for reassembly to the brackets in the Behind Grille Driving Light kit.

Preassemble each driving light to the appropriate bracket using the M6 button head socket screws, cover plate and rubber spacer from the original driving light assembly, as shown below. The fasteners should be lightly tightened to aid in the assembly process, but will be fully tightened at a later stage following final adjustment.



Right Hand Side Assembly



Left Hand Side Assembly

Driving Light Assembly to Vehicle

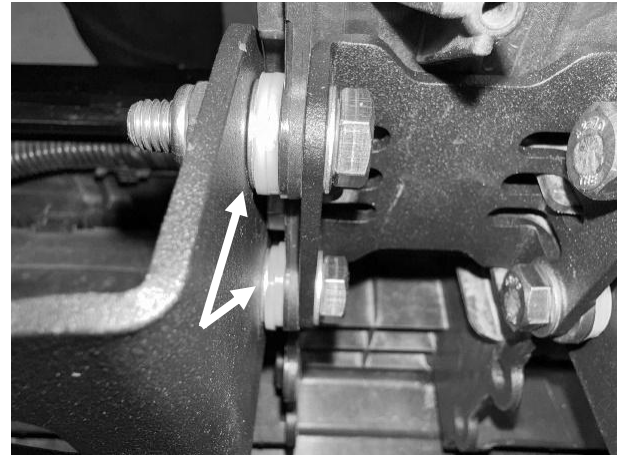
To install each driving light assembly into the vehicle, it is recommended to start by positioning the driving light assemblies behind the vehicle grille support channel prior to aligning with the centre bracket mounting holes.



Install the centre bracket in the back of the vehicle grille support channel at the location shown (note the proximity of the moulded spigot above the bracket).

Install an M8x30 hex head bolt, plastic spacer, two (2) flat washers and Nyloc nut into each of the mounting hole locations of the centre bracket and through the driving light bracket.

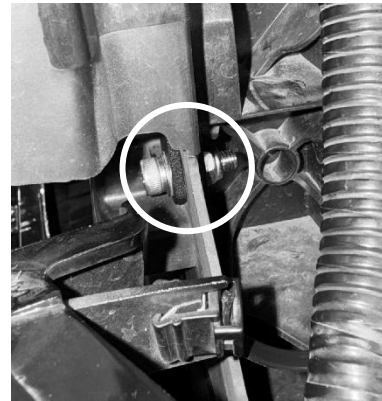
Ensure that the plastic spacer is placed between the driving light bracket and the vehicle grille support channel as shown.



Install an M6x20 button head socket screw and flat washer in the upper mounting hole of the main driving light bracket, securing it with an M6 lock nut from behind. The lock nut can then be held with a stubby 10mm open-end spanner while tightening the M6 button head socket screw.

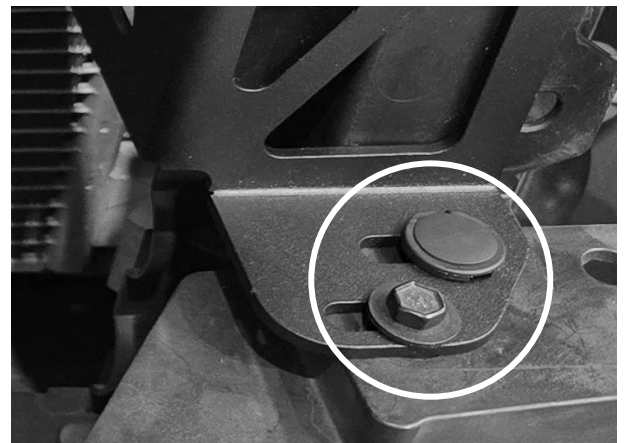


Front View

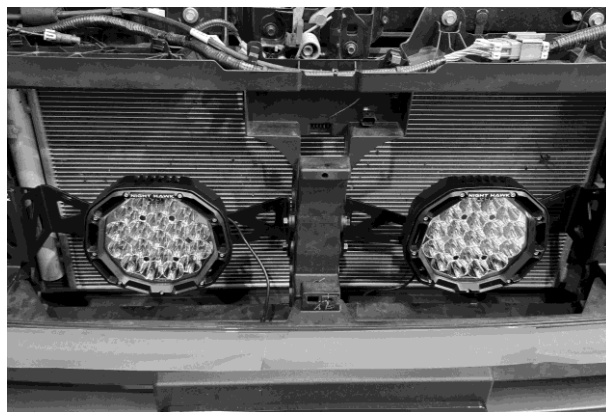


Top View

Reinstall the M6x30 hex head bolt and trim clip to secure the driving light bracket to the bumper support panel.



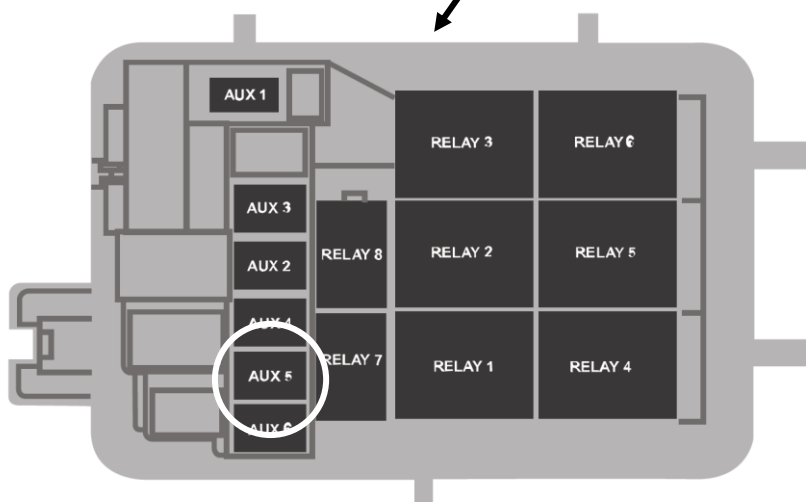
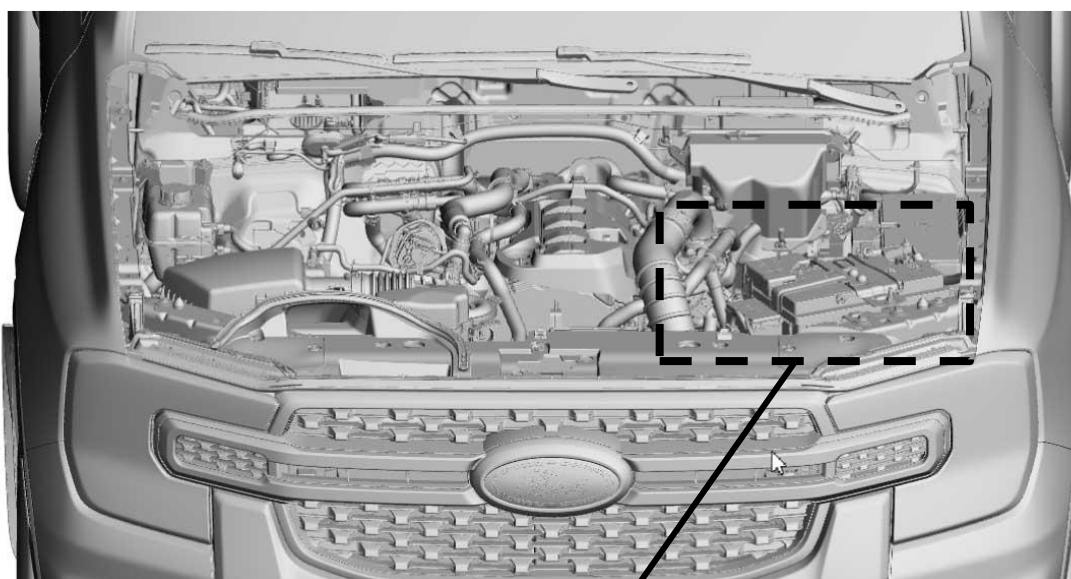
Repeat the steps above for the other driving light assembly.



Wiring Harness Installation

For further details of the wiring harness installation, refer to the wiring diagram supplied in the NHW300DT wiring loom owner's manual.

In order to control the driving lights using the auxiliary switch panel located in the overhead console of the vehicle, the wiring harness may be connected directly to the AUX 5 fused output within the Auxiliary Fuse Box. This is located in the engine bay as shown below.



Final Assembly and Adjustment

To adjust the driving light projection angle up or down, simply loosen the two (2) M6 button head socket screws on each side of the driving light on its mounting bolts, rotate the driving light to the desired angle and then fully tighten all four (4) M6 button head socket screws of the driving light.



Once final adjustment is complete, fully tighten all fasteners to the appropriate torques as shown.



Secure the driving light cables and wiring loom using the cable ties supplied in the kit. Ensure that all cables and looms are secured in such a way as to prevent damage and to not impede the normal vehicle functions.

Final Checks

- Ensure that all fasteners are tensioned as specified in these instructions.
- Ensure that all wiring is clear of any sharp edges and other moving components to eliminate the possibility of abrasion damage during vehicle operation.
- Check the vehicle's original lighting and signalling systems are still functioning correctly after the installation of the driving light kit.

Vehicle Reassembly

Reinstall the grille assembly onto the vehicle, making sure to first align the posts near the top mounting bolts into their location holes.



Reattach the grille assembly by firmly pushing the headlight extensions to engage the clips in those areas.

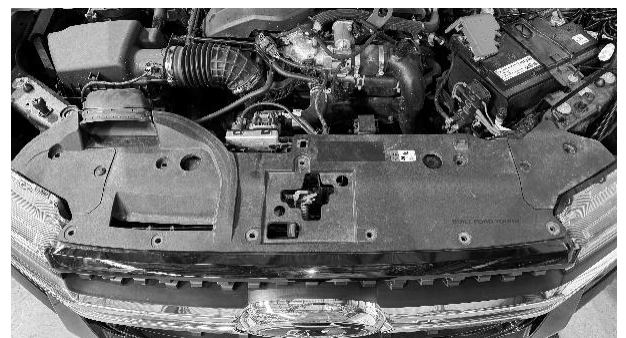
Reinstall the factory hex head bolts into the three (3) mounting locations on the lower edge of the grille assembly.

Reinstall the trim strip and firmly push to engage the clips.

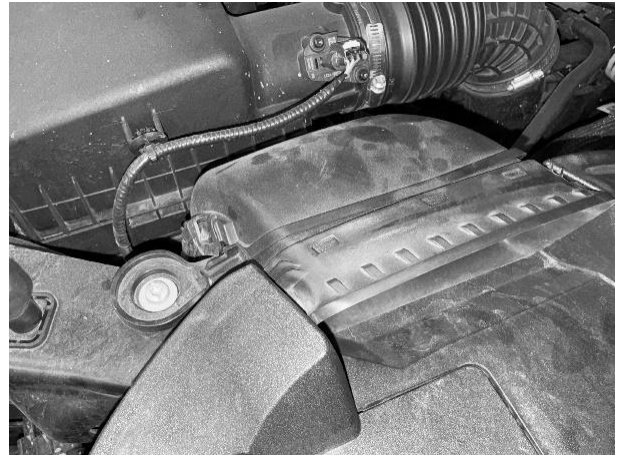
Reinstall the trim strip to the lower edge of the front grille.

Reinstall the two (2) M6 hex head bolts and tighten using an 8mm socket to secure the grille assembly to the vehicle.

Replace the radiator cowl and reinstall the eleven (11) screws to secure it.



Reinstall the bolt securing the air inlet duct and tighten using a T30 Torx socket or key.



The installation of the Nighthawk Behind Grille Driving Light kit is now complete.



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