MORIMOTO

BRIGHT IS ONLY THE BEGINNING

# INSTALL GUIDE

## XB EVO HEADLIGHTS: 24+ TACOMA & 25+ 4RUNNER

LF2-528/LF2-528Y



DESIGNED + ENGINEERED + PERFECTED IN ATLANTA, GA

WARNING: IT IS THE INSTALLERS RESPONSIBILITY TO CONFIRM COMPLIANCE WITH STATE AND LOCAL LAWS. BY READING THIS DOCUMENT, YOU AGREE IT IS ONLY TO BE USED AS AN EDUCATIONAL GUIDE. MORIMOTO LIGHTING NOR ITS DEALERS MAKE GUARANTEES ON ANY FINISHED RESULTS, NOR ARE THEY TO BE HELD RESPONSIBLE FOR ANY DAMAGE, MISUSE, OR PERSONAL INJURIES. IF YOU ARE UNABLE TO CLEARLY UNDERSTAND AND ADAPT THE INFORMATION BELOW, PROFESSIONAL INSTALLATION IS RECOMMENDED.

IMPORTANT: IF YOUR VEHICLE IS EQUIPPED WITH ANYTHING BUT MORIMOTO OR OEM TAILLIGHTS, SIDE MARKERS OR OTHER OEM EXTERIOR LIGHTING; YOU MAY EXPERIENCE A HYPER FLASH AND/OR PROBLEMS WITH THE SEQUENTIAL SIGNAL SETTING ON THESE HEADLIGHTS. THIS IS NOT A DEFECT IN THE HEADLIGHT AND CAUSED BY UN-MATCHED IMPEDANCE WITH YOUR ORIGINAL VEHICLE SETTINGS.

# XB EVO HEADLIGHTS: 24+ TACOMA & 25+ 4RUNNER

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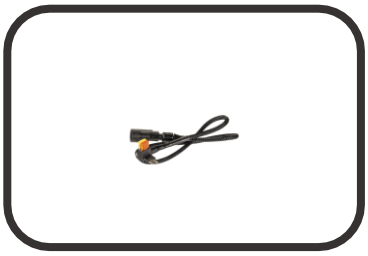
## WHAT'S INCLUDED



2X (PAIR) HEADLIGHT ASSEMBLIES



1X POWER HARNESS



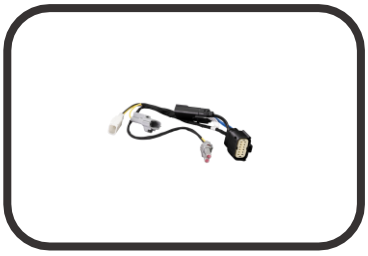
1X FUSE TAP



1X DRL RELAY



2X MAGNET-MOUNT RESISOTRS



2X INPUT ADAPTERS

# XB EVO HEADLIGHTS: 24+ TACOMA/ 25+ 4RUNNER

## WHAT'S INCLUDED



2X MODE SELECTOR KEY EXTENSIONS



4X PAIRS OF MODE SELECTOR KEYS

## OPTIONAL ADD-ONS (SOLD SEPARATELY)




2X SUPERCHARGED LED DRIVERS

## REQUIRED TOOLS

- TRIM REMOVAL TOOL
- RATCHET AND EXTENSION
- 10MM SOCKET
- #2 PHILLIPS HEAD SCREWDRIVER

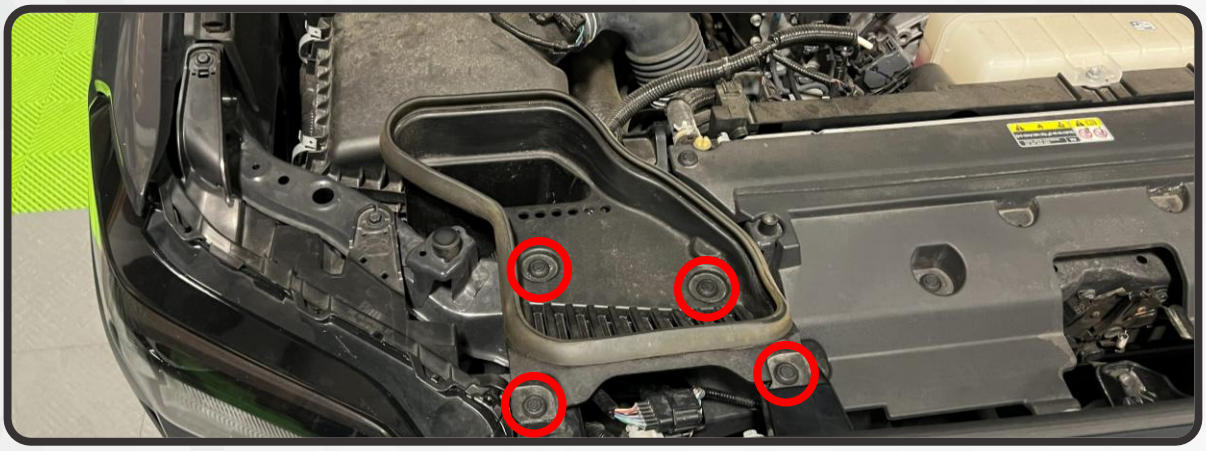
# DISASSEMBLY

THIS DOCUMENT IS MEANT TO SERVE AS A GENERAL GUIDE FOR VEHICLE DISASSEMBLY AND PRODUCT INSTALLATION. WHILE WE TRY TO COVER THE PROCESS AS THOROUGHLY AS POSSIBLE, YOUR EXPERIENCE MAY DIFFER SLIGHTLY DUE TO DIFFERENCES BETWEEN YEARS, TRIM PACKAGES, OPTIONS, OR AFTERMARKET PARTS INSTALLED

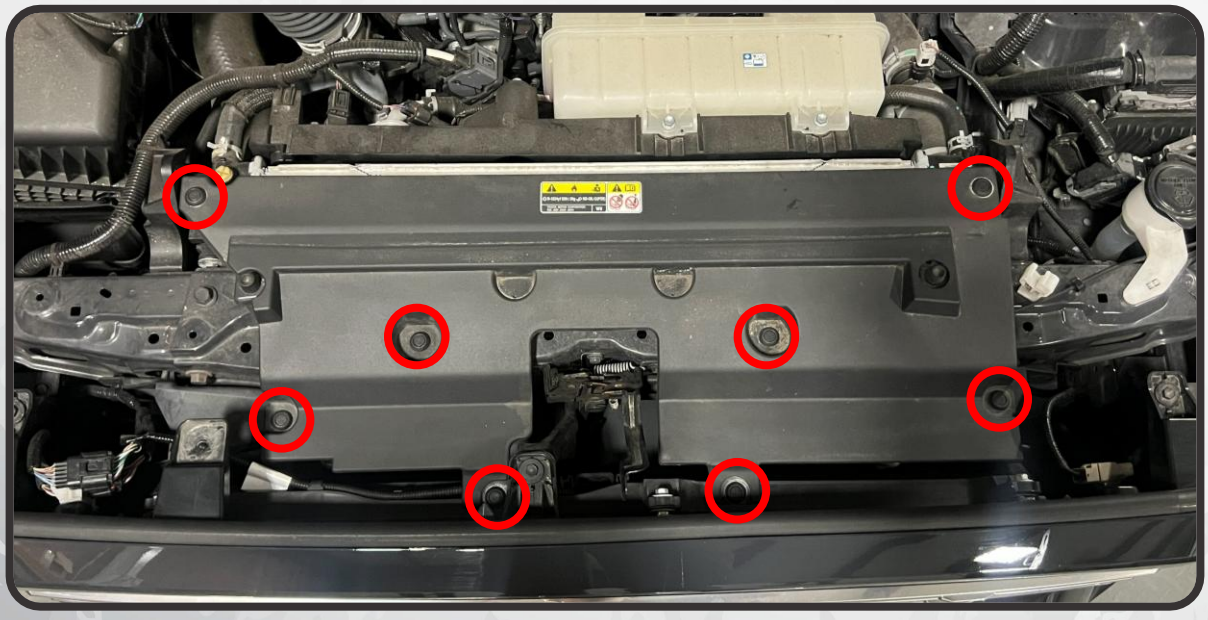
VEHICLE USED IN THIS GUIDE:
2024 TACOMA LIMITED

1. RAISE THE HOOD OF THE VEHICLE

2. REMOVE THE FOUR PLASTIC PUSH-CLIPS THAT SECURE THE ENGINE-AIR INLET BY PUSHING IN THE CENTER OF THE CLIP, THEN PULLING OUT THE BODY OF THE CLIP



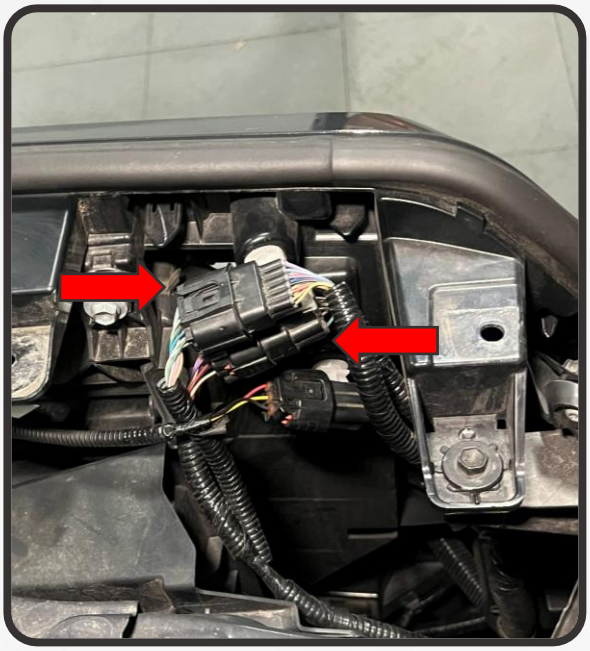
3. REMOVE THE EIGHT PLASTIC PUSH-CLIPS SECURING THE UPPER-RADIATOR COVER. WITH THE CLIPS REMOVED, REMOVE THE COVER AND SET IT ASIDE



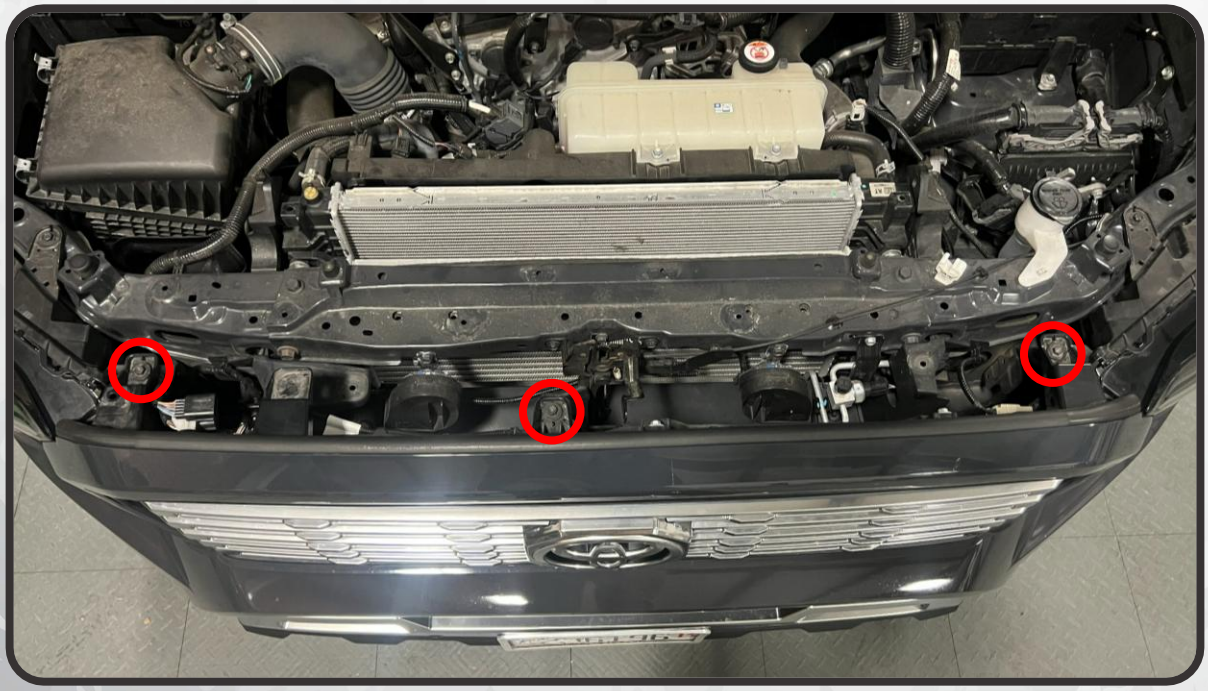
# DISASSEMBLY

4. AT THE UPPER CORNERS OF THE GRILLE, DISCONNECT THE ONE BROWN CONNECTOR ON THE DRIVER-SIDE AND THE TWO BLACK CONNECTORS ON THE PASSENGER-SIDE (ALL TRIMS MAY NOT HAVE ALL THREE CONNECTORS)



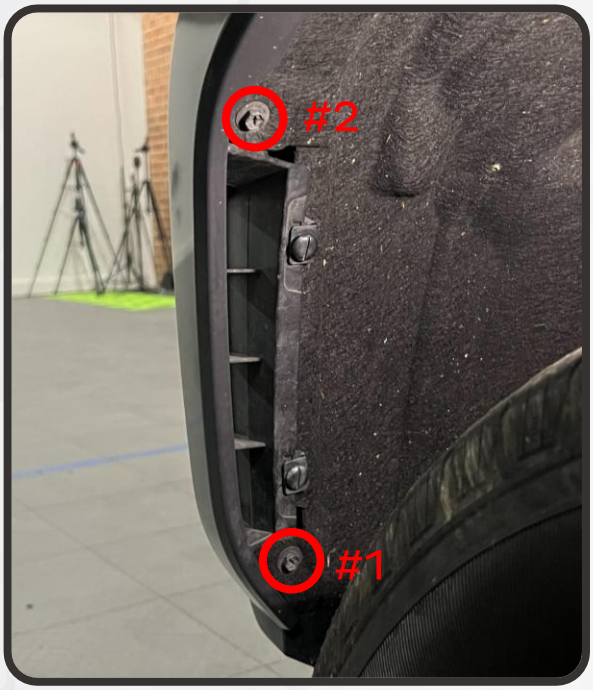


5. REMOVE THE THREE 10MM BOLTS THAT SECURE THE TOP OF THE FRONT BUMPER COVER



# DISASSEMBLY

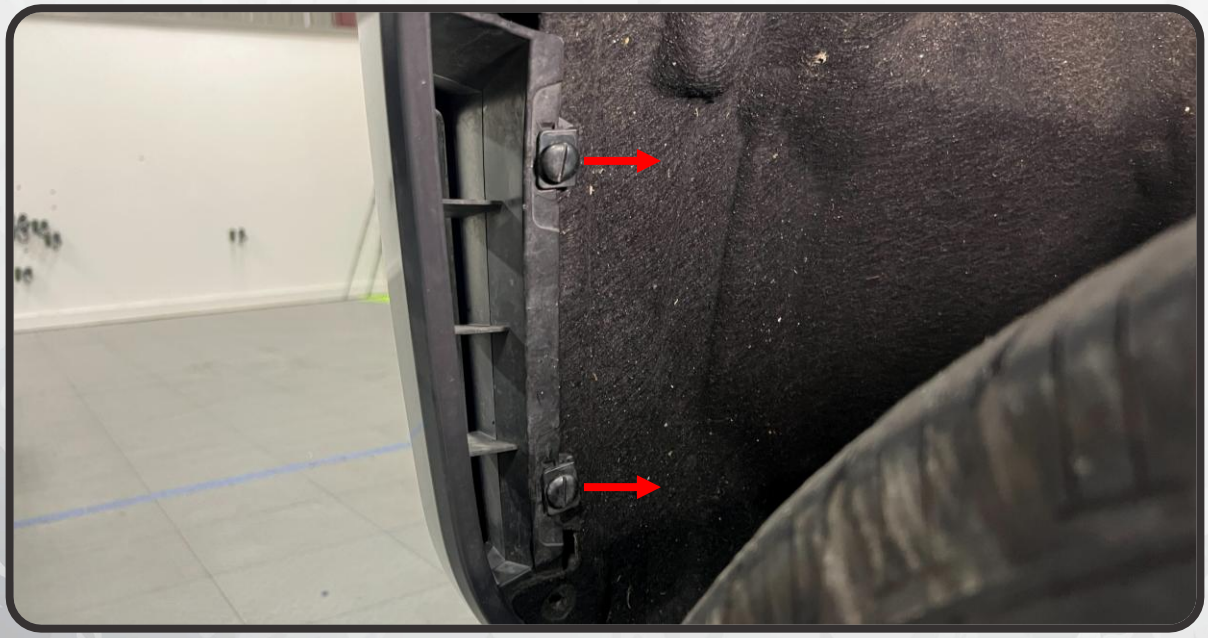
6. REMOVE THE THREE 10MM BOLTS LOCATED AT THE FRONT OF THE INNER FENDER FLARE. IF YOUR TRUCK DOES NOT HAVE REMOVABLE FENDER FLARES, THE THIRD BOLT DOES NOT NEED TO BE REMOVED







7. USING A TRIM REMOVAL TOOL, PUSH THE TWO BLACK PLASTIC TABS AWAY FROM THE FENDER FLARE TO RELEASE THE FENDER LINER



# DISASSEMBLY

8. REMOVE THE TWO 10MM BOLTS SECURING THE BOTTOM OF THE FENDER LINER



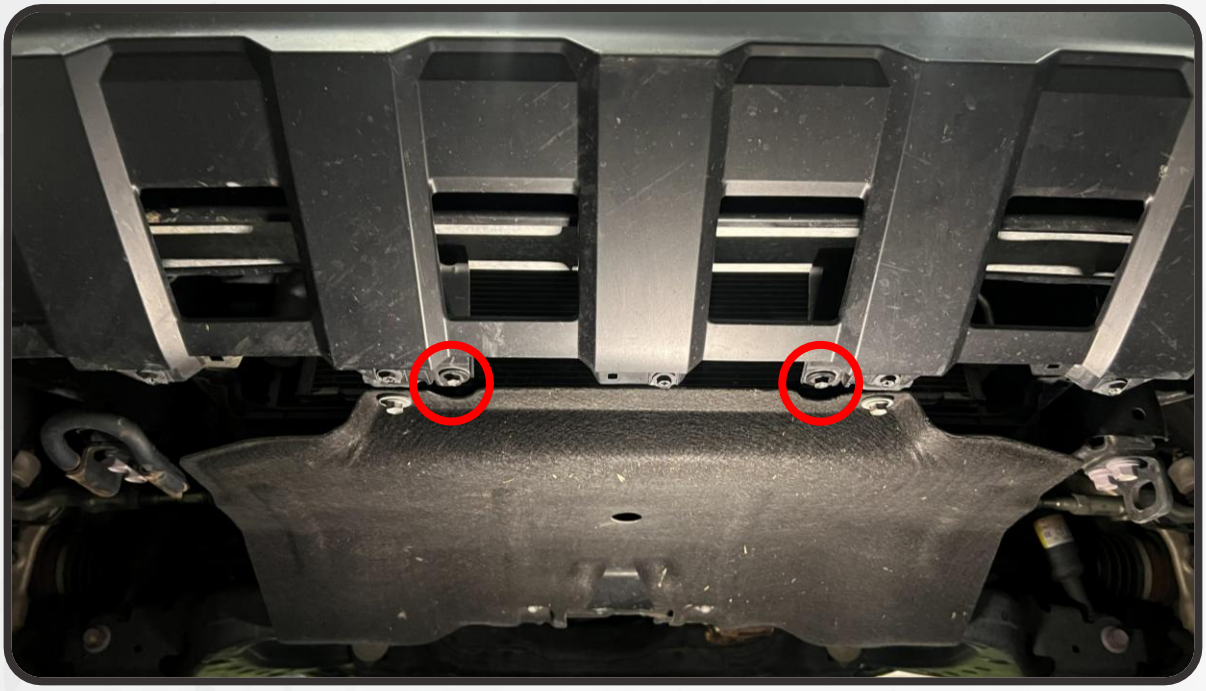
9. PULL BACK THE FENDER LINER AND REMOVE THE 10MM BOLT SECURING THE BOTTOM-CORNER OF THE BUMPER COVER

10. REPEAT STEPS 6-9 ON THE OPOSITE SIDE

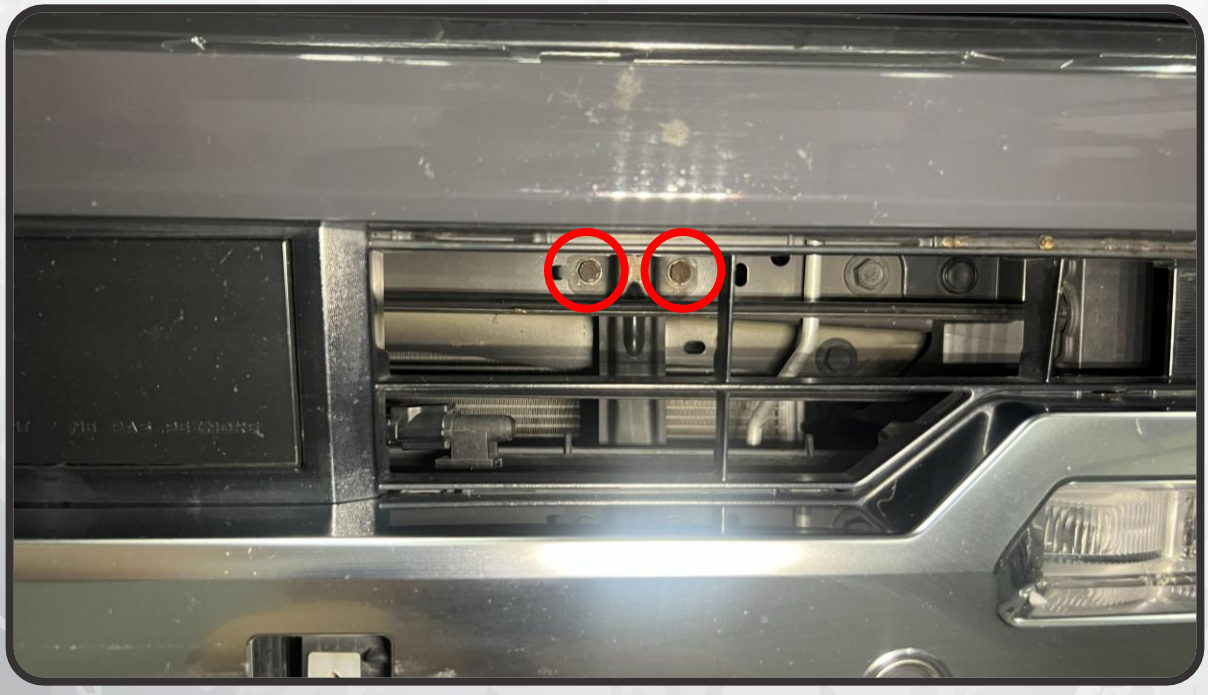


# DISASSEMBLY

11. REMOVE THE TWO 10MM BOLTS SECURING THE BOTTOM-MIDDLE OF THE BUMPER COVER



12. LOOKING THROUGH THE LOWER GRILLE, LOCATE AND REMOVE THE FOUR (TWO PER-SIDE) 10MM BOLTS



# DISASSEMBLY

MODELS WITH REMOVABLE FENDER-FLARES ONLY. MODELS WITHOUT REMOVABLE FENDER-FLARES PROCEED TO STEP 15 ON THE NEXT PAGE (10)

13. WITH THE FENDER LINER DISCONNECTED AND HARDWARE REMOVED, FIRMLY PULL THE FRONT OF THE FENDER FLARE AWAY FROM THE TRUCK TO RELEASE THE REMAINING CLIPS SECURING IT



14. WITH THE FLARE LOOSENED, REMOVE THE #2 PHILLIPS HEAD SCREW SECURING THE SIDE OF THE BUMPER COVER TO THE TRUCK



# DISASSEMBLY

15. WITH THE HARDWARE REMOVED, FIRMLY PULL THE EDGE OF THE BUMPER COVER AWAY FROM THE FENDER/HEADLIGHT TO RELEASE THE CLIPS SECURING IT




16. REPEAT STEPS 13-15 ON THE OPPOSITE SIDE OF THE TRUCK

17. THE BUMPER COVER SHOULD NOW BE FULLY RELEASED FROM THE VEHICLE. LIFT UP ON THE TABS ABOVE THE GRILLE, REMOVE THE BUMPER COVER FROM THE TRUCK, AND SET IT ASIDE

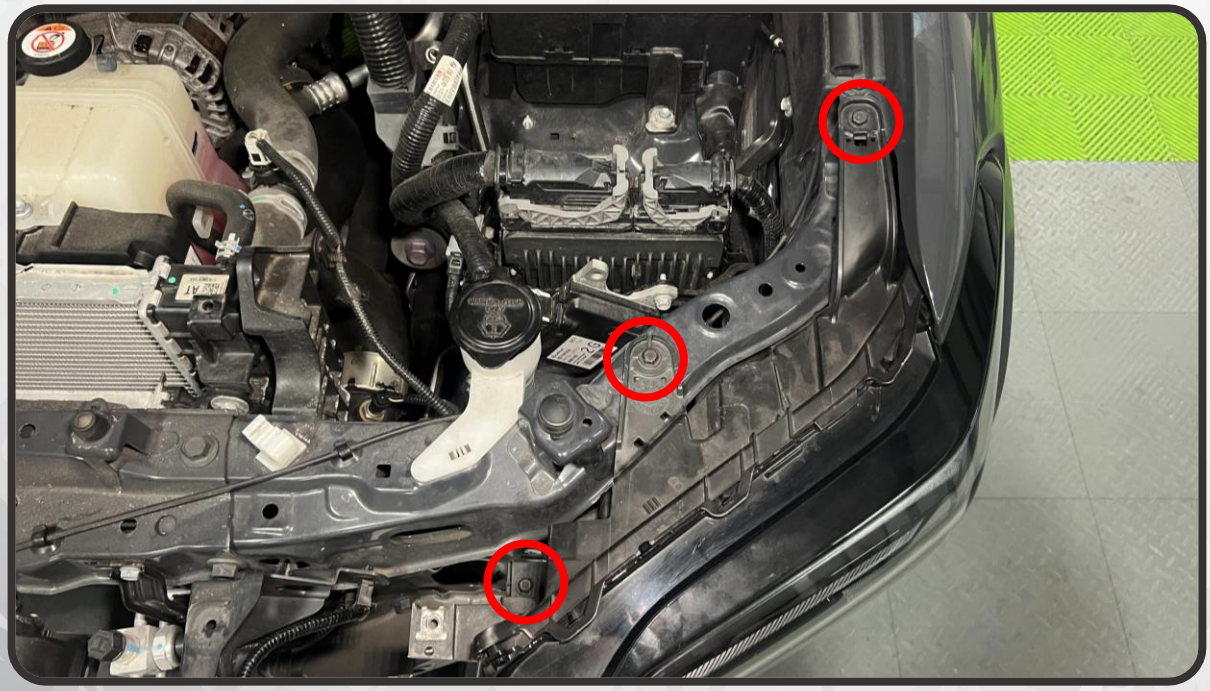


# DISASSEMBLY

18. REMOVE THE ONE 10MM BOLT SECURING THE SIDE OF THE HEADLIGHT

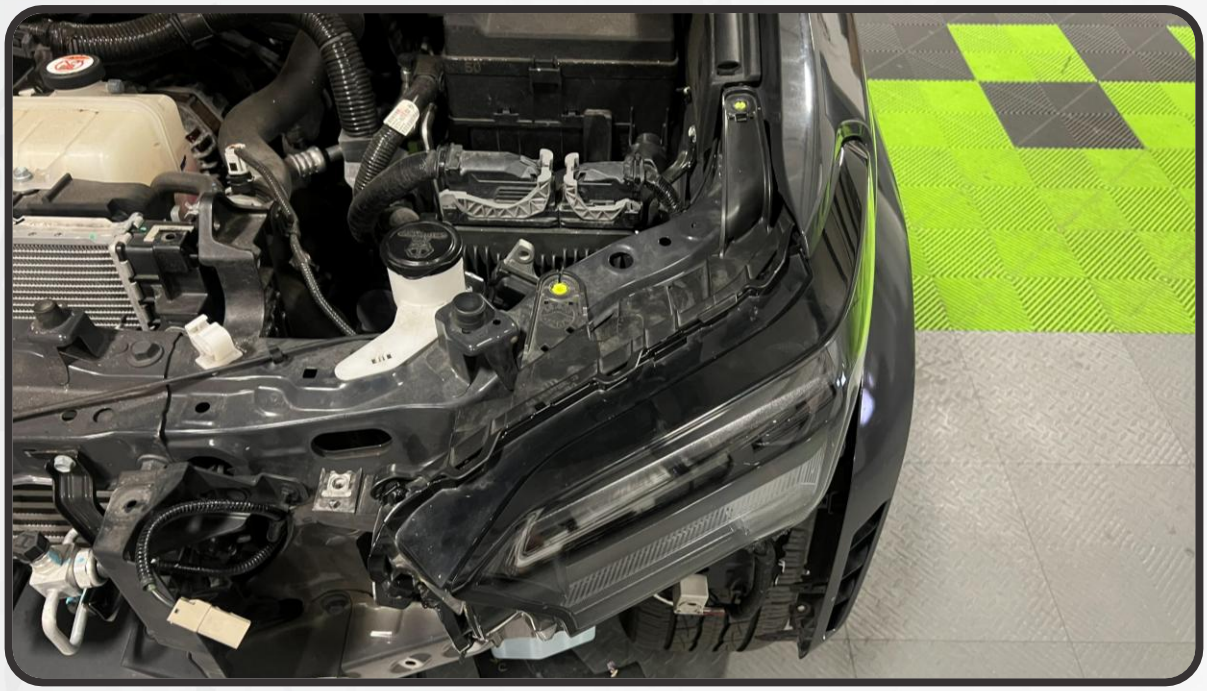


19. REMOVE THE THREE 10MM BOLTS SECURING THE TOP OF THE HEADLIGHT



# DISASSEMBLY

20. LIFT UP ON THE TWO UPPER HEADLIGHT TABS AND PULL FORWARD TO REMOVE THE HEADLIGHT FROM THE VEHILCE



21. DISCONNECT ALL CONNECTORS FROM THE BACK OF THE HEADLIGHT ASSEMBLY

22. REPEAT STEPS 18-21 ON THE OPPOSITE SIDE OF THE TRUCK

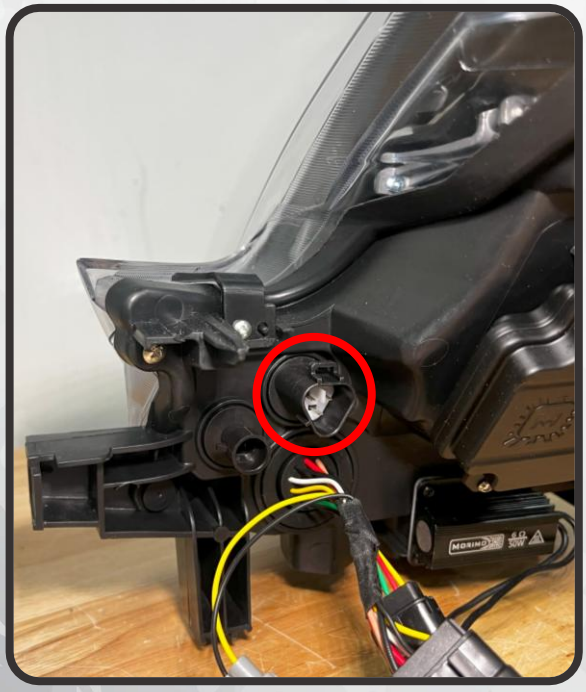


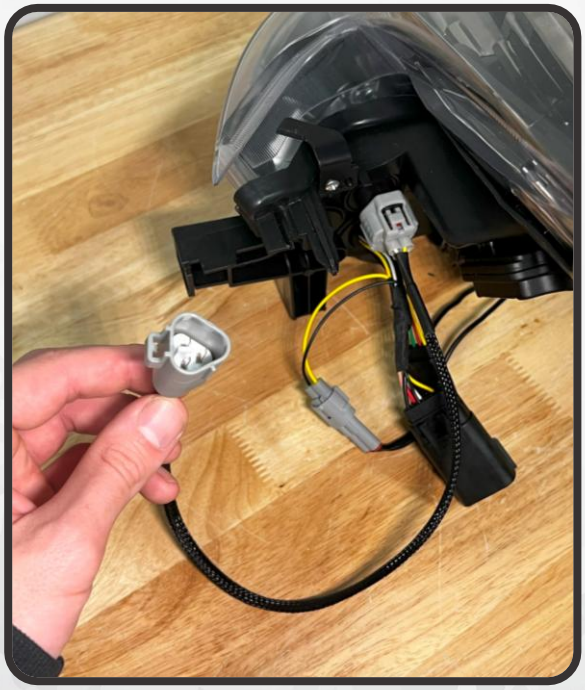
# HEADLIGHT SETUP

23. WITH THE MORIMOTO XB MODE SELECTOR KEYS, YOU CAN DECIDE WHAT STYLE YOU'D LIKE FOR YOUR DAYTIME RUNNING LIGHT AND TURN SIGNAL. CHOOSE FROM THE COLORCODED KEYS SHOWN BELOW FOR YOUR DESIRED STYLE (NOT APPLICABLE ON XB EVO HYBRID HEADLIGHTS)

| | | | |
|---|---|---|---|
|  |  |  |  |
| • DRL: WHITE<br>• TURN SIGNAL: FADE-OFF | • DRL: WHITE<br>• TURN SIGNAL: SEQUENTIAL | • DRL: AMBER<br>• TURN SIGNAL: FADE-OFF | • DRL: AMBER<br>• TURN SIGNAL: SEQUENTIAL |

24. INSTALL THE MODE SELECTOR FOR YOUR PREFERRED MODE ONTO THE 3-PIN CONNECTOR ON THE BACK OF EACH HEADLIGHT. THIS CAN ALWAYS BE CHANGED AFTER INSTALL IF DESIRED. MAKE SURE THE VEHICLE AND HEADLIGHTS ARE OFF WHEN CHANGING MODE SELECTORS. IF YOU DO PLAN TO CHANGE MODE SELECTOR KEYS LATER, AND WOULD LIKE TO MAKE THE CONNECTOR EASIER TO ACCESS AFTER INSTALL, CONNECT THE INCLUDED EXTENSION HARNESS WHICH CAN BE ROUTED TO THE ENGINE BAY DURING INSTALL



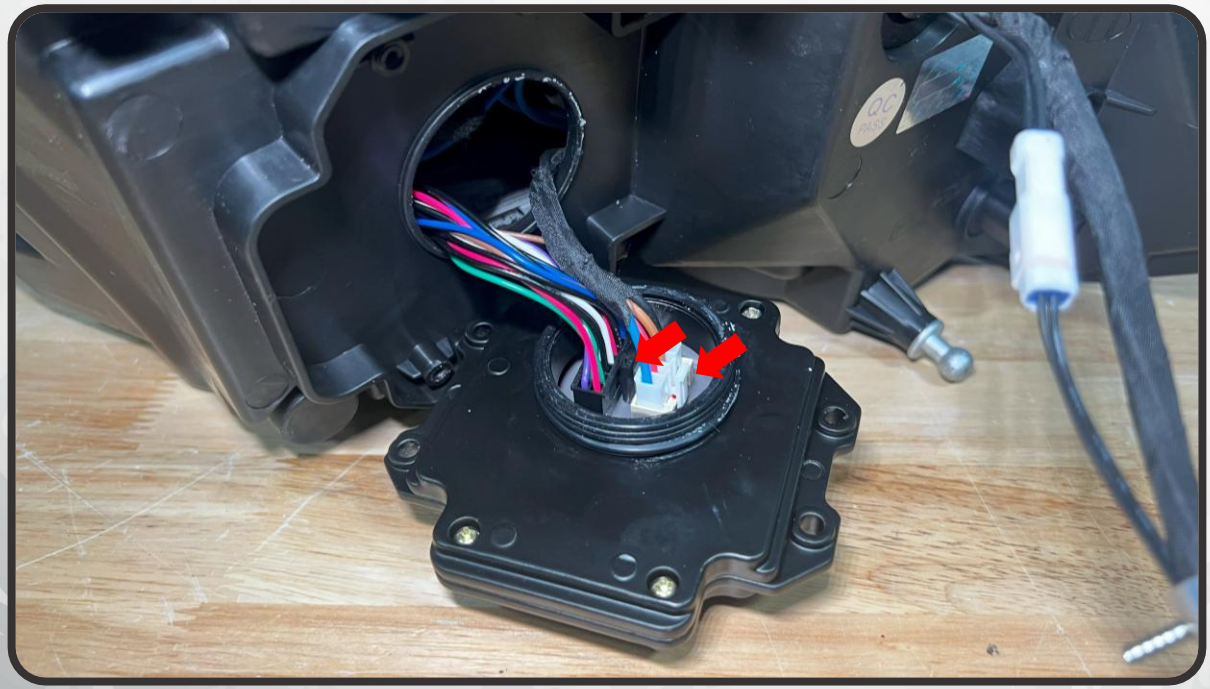


# HEADLIGHT SETUP

25. IF YOU HAVE PURCHASED THE MORIMOTO XB SUPERCHARGED HEADLIGHT DRIVERS (SOLD SEPARATELY, FOR OFFROAD USE ONLY), REMOVE THE FOUR PHILLIPS HEAD SCREWS SECURING THE STANDARD HEADLIGHT DRIVER TO THE BACK OF THE HEADLIGHT

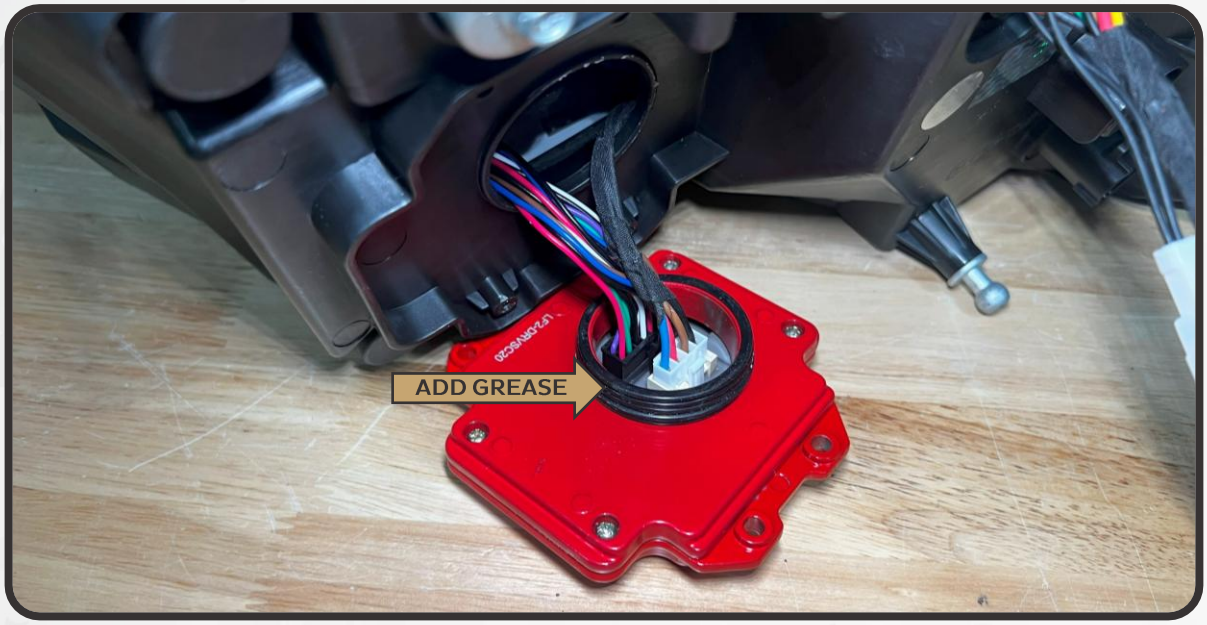



26. PULL THE DRIVER OFF OF THE HOUSING. DEPRESS THE CLIP ON EACH OF THE DRIVER CONNECTORS AND PULL TO DISCONNECT THE DRIVER FROM THE INTERNAL HEADLIGHT WIRING

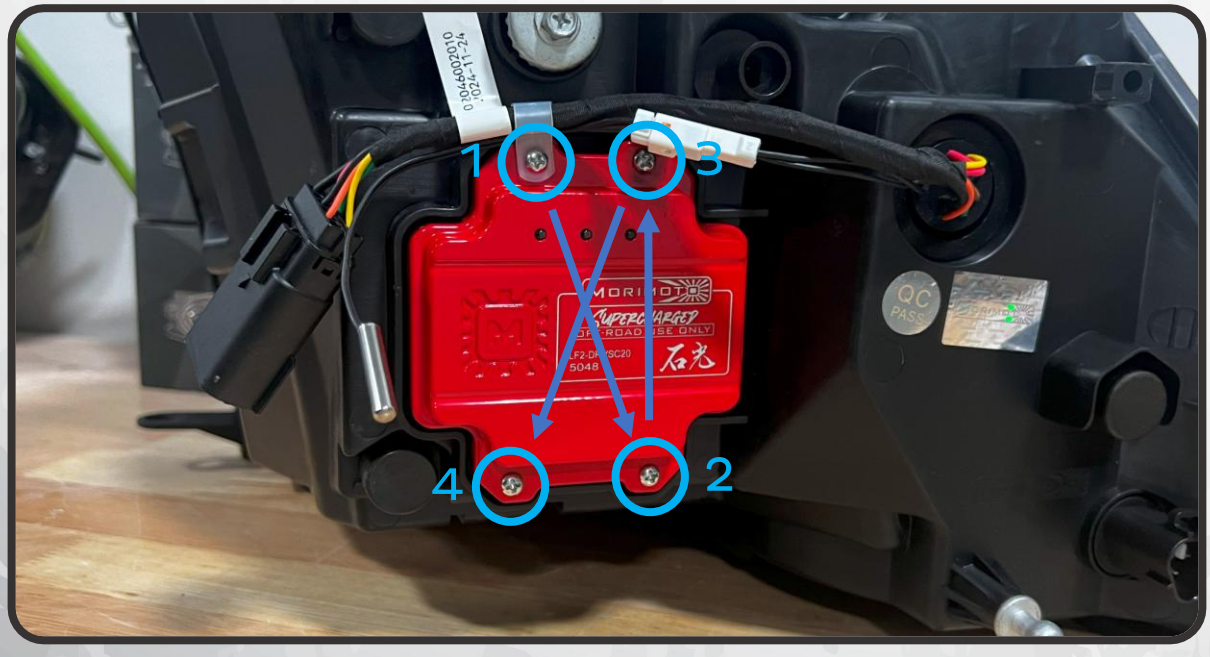


# HEADLIGHT SETUP

27. CONNECT THE NEW SUPERCHARGED DRIVER TO THE INTERNAL HEADLIGHT WIRING, MAKING SURE THE TAB ON EACH OF THE CONNECTOR'S CLIPS SECURELY INTO PLACE. APPLY A THIN LAYER OF THE INCLUDED GREASE TO THE OUTER EDGE OF THE SEAL ON THE NEW DRIVER

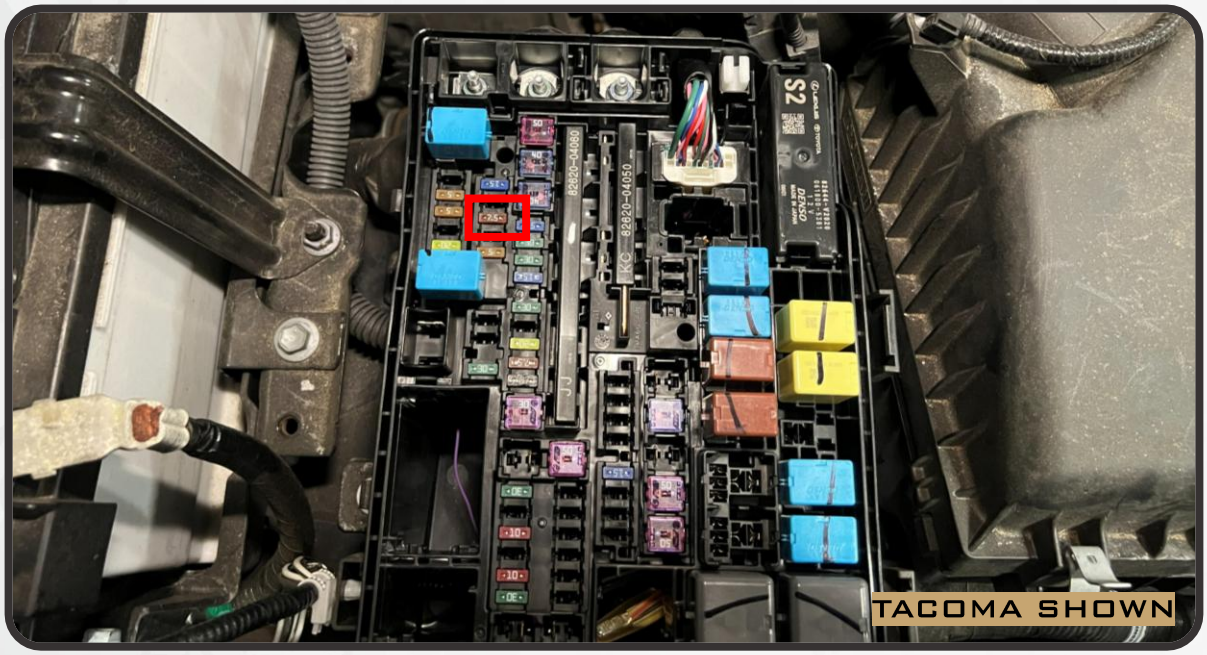


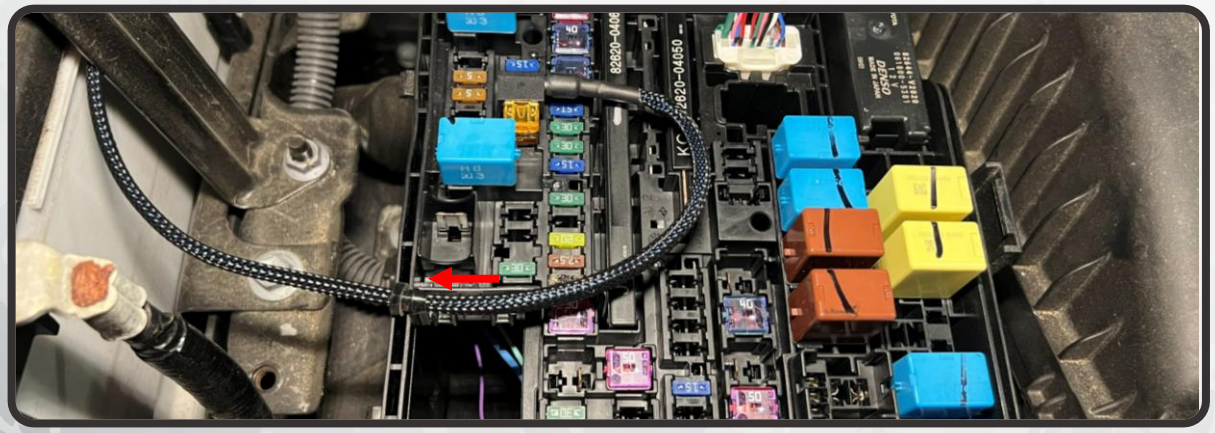

28. PRESS THE SUPERCHARGED DRIVER STRAIGHT INTO THE MOUNTING LOCATION, MAKING SURE THE RUBBER SEAL IS SEATED PROPERLY AND DOES NOT GET PINCHED OR BUNCHED UP. SECURE THE DRIVER TO THE HOUSING USING FOUR OF THE PROVIDED PHILLIPS HEAD SCREWS, HAND TIGHTENTING THEM DOWN IN A STAR PATTERN TO ENSURE THE DRIVER SEATS EVENLY AGAINST THE HOUSING



# WIRING

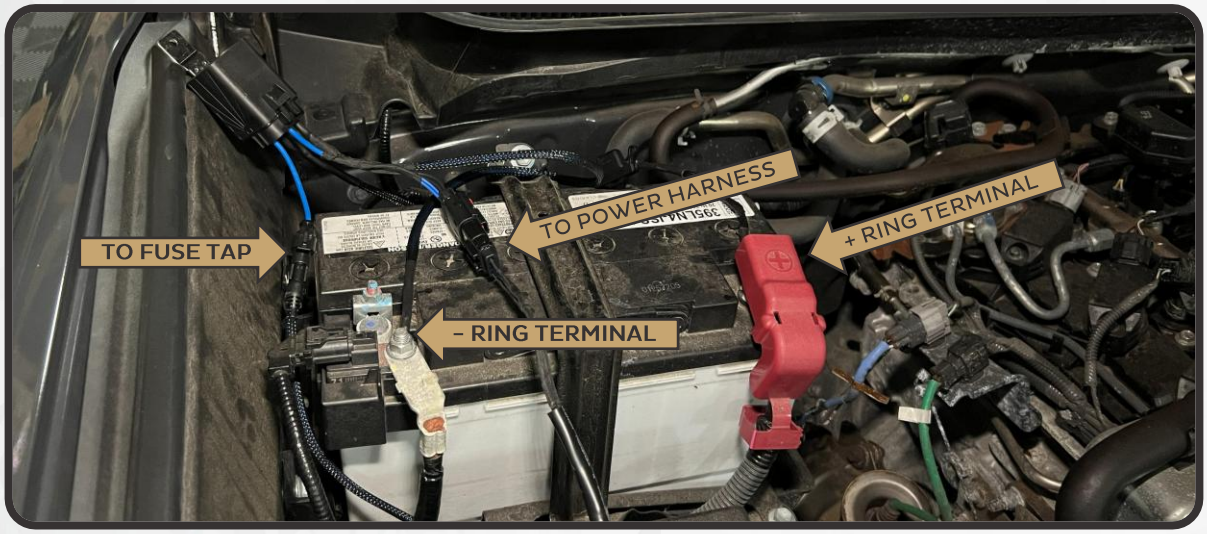
29. OPEN THE UNDER-HOOD FUSE BOX ON THE PASSENGER-SIDE OF THE ENGINE BAY
    A. TACOMAS: LOCATE AND REMOVE THE 7.5A FUSE IN THE "TOWING/IGR" SLOT
    B. 4RUNNERS (GAS MOTOR EQUIPPED): LOCATE AND REMOVE THE 7.5A FUSE IN THE "ENG-IGR NO.1" SLOT
    C. 4RUNNERS (HYBRID MOTOR EQUIPPED): LOCATE AND REMOVE THE 7.5A FUSE IN THE "IGCT NO. 5" SLOT
30. INSTALL THE PROVIDED FUSE TAP INTO THE APPROPRIATE SLOT AND ROUTE THE WIRE OUT OF THE FUSE BOX. USING A DRILL WITH A 5.5MM/7/32" DRILL BIT OR A SMALL CUTTING TOOL, MAKE A NOTCH IN THE SIDE WALL OF THE FUSE BOX LID SO THAT THE LID CAN CLOSE OVER THE GROMMET ON THE DRL FUSE TAP WIRE



# WIRING – GAS MOTOR EQUIPPED TRUCKS

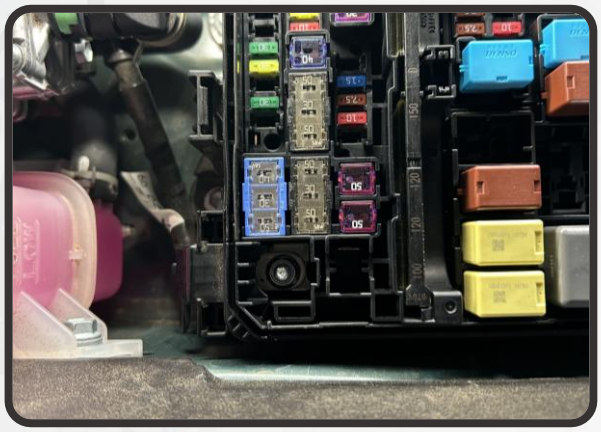
31. LAY OUT THE DRL RELAY NEXT TO THE BATTERY AND FUSE BOX AND CONNECT THE RELAY AS FOLLOWS:
    - CONNECT THE FUSE TAP TO THE RELAY
    - CONNECT THE POWER HARNESS TO THE RELAY
    - CONNECT THE RING TERMINAL WITH THE FUSED WIRE TO THE POSITIVE TERMINAL ON THE BATTERY
    - CONNECT THE RING TERMINAL WITHOUT THE FUSE TO THE NEGATIVE TERMINAL ON THE BATTERY
32. WITH THE RELAY CONNECTED, SECURE IT IN THE UPRIGHT POSITION NEAR THE BATTERY AND FUSE BOX

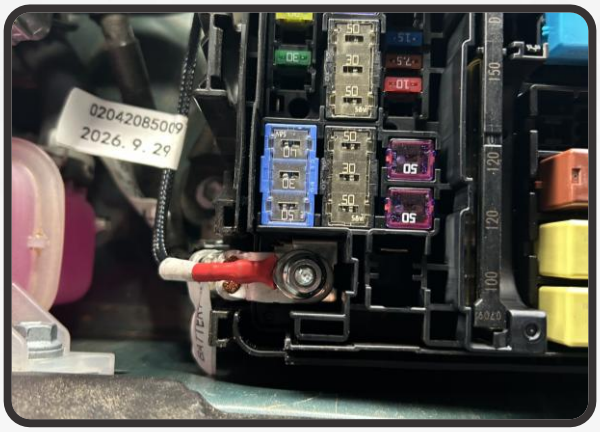


# WIRING - HYBRID EQUIPPED TRUCKS

29. PRESS AGAINST THE TWO TABS ON THE SIDE OF THE FUSE BOX WALL AND REMOVE THE PLASTIC CAP

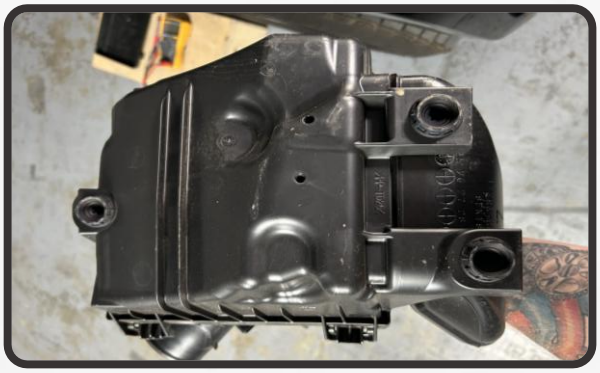
30. REMOVE THE 10MM NUT AND ATTACH THE RING TERMINAL LABELED “BATTERY +”






31. ON THE ENGINE AIR FILTER HOUSING, DISCONNECT THE SENSOR PLUG AND LOOSEN THE HOSE CLAMP SECURING THE PIPING. LIFT THE AIRBOX UP AND OUT OF THE ENGINE BAY, RELEASING THE THREE CLIPS AS YOU DO



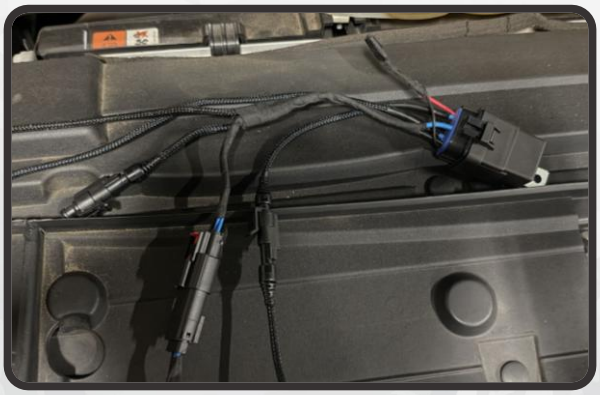


31. SECURE THE RING TERMINAL LABELED “GROUND–” TP THE FACTORY GROUND LOCATED UNDER THE AIR BOX

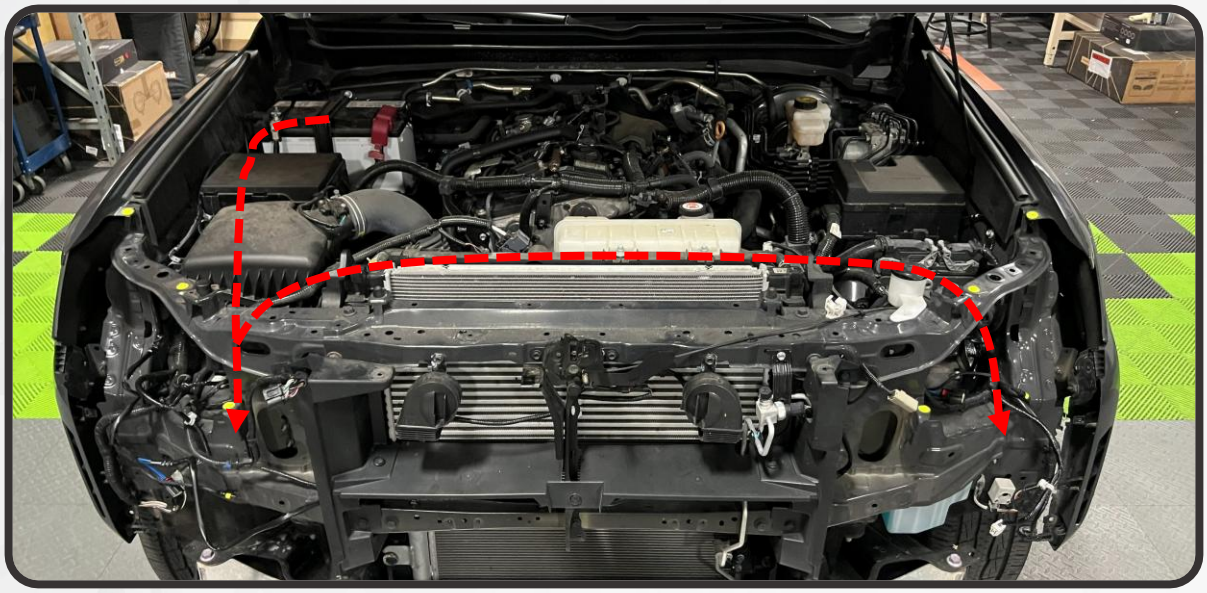
32. CONNECT THE POWER HARNESS AND FUSE TAP TO THE RELAY

33. WITH THE RELAY CONNECTED, SECURE IT IN THE UPRIGHT POSITION NEAR THE FUSE BOX

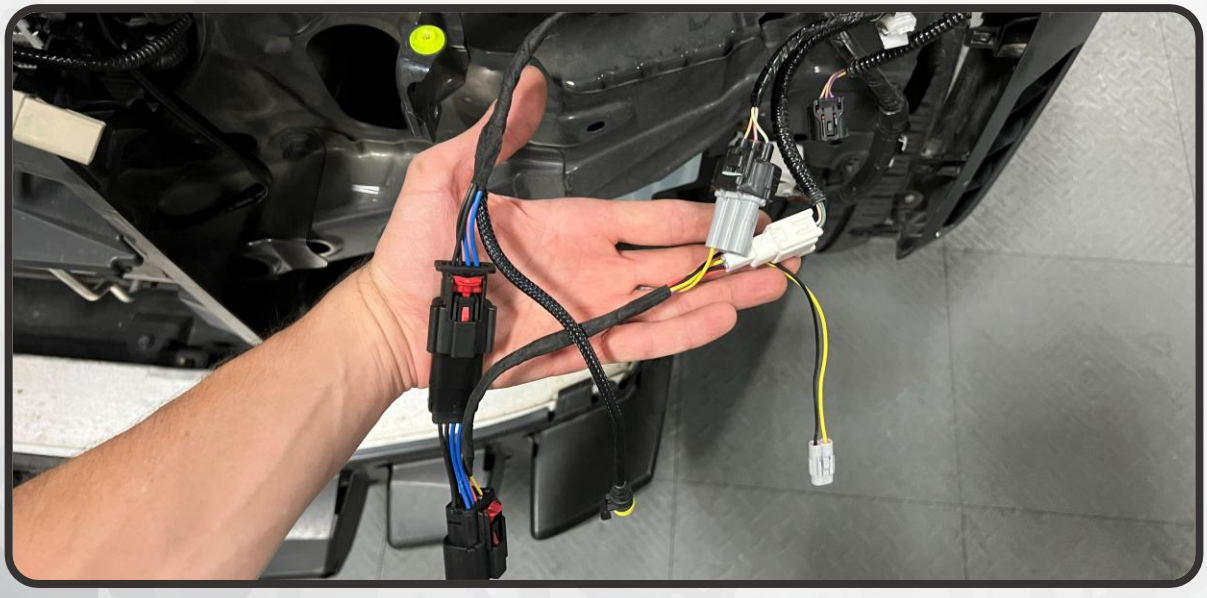


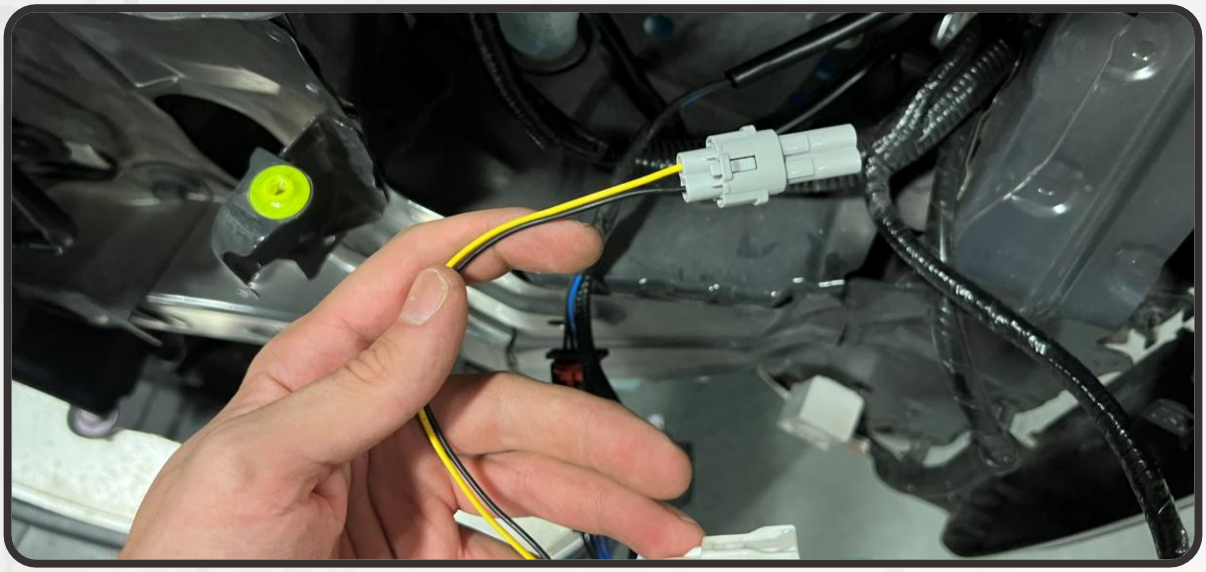
33. ROUTE THE SHORTER END OF THE POWER HARNESS FORWARD TO THE PASSENGER-SIDE HEADLIGHT CAVITY, AND THE LONGER END ACROSS THE RADIATOR SUPPORT TO THE DRIVER-SIDE HEADLIGHT CAVITY



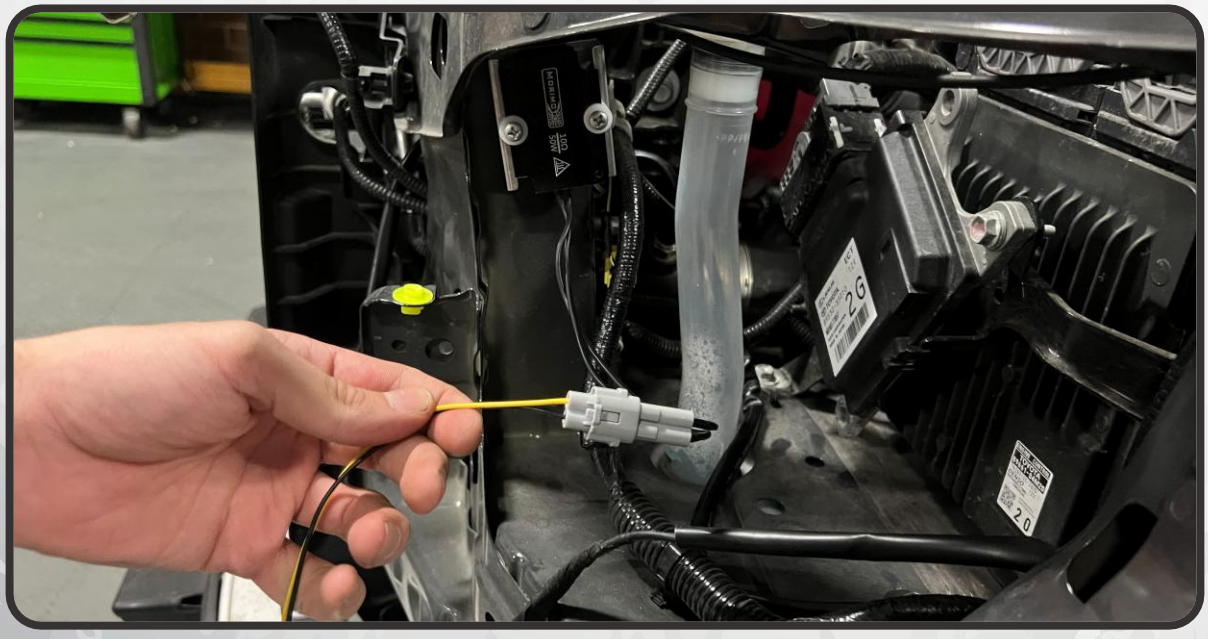
34. INSTALL THE HEADLIGHT INPUT ADAPTER BY CONNECTING IT TO THE FACTORY HEADLIGHT CONNECTORS AND THE 4-PIN CONNECTOR FROM THE POWER HARNESS



35. LOCATE THE GREY TWO-PIN CONNECTOR SHOWN BELOW ON THE HEADLIGHT INPUT ADAPTER
    - LED TURN SIGNAL EQUIPPED TRUCKS: LEAVE THIS CONNECTOR CAPPED OFF A PROCEED TO STEP 37 ON THE NEXT PAGE
    - INCANDESCENT TURN SIGNAL EQUIPPED TRUCKS: REMOVE THE CAP FROM THE CONNECTOR

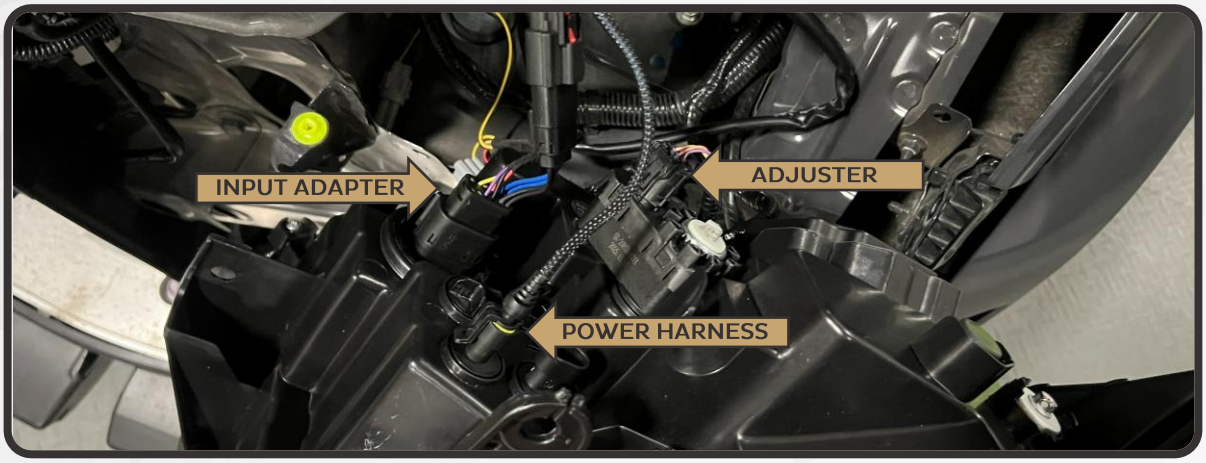


36. INCANDESCENT TURN SIGNAL EQUIPPED TRUCKS ONLY: ATTACH ONE OF THE PROVIDED MAGNET-MOUNT RESISTORS INTO EACH HEADLIGHT CAVITY AND CONNECT IT TO THE HEADLIGHT INPUT ADAPTER. MAKE SURE IT IS OUT OF THE WAY OF THE HEADLIGHT ASSEMBLY



# HEADLIGHT INSTALLATION

37. LIFT THE NEW HEADLIGHT ASSEMBLY UP TO THE VEHICLE AND CONNECT THE INPUT ADAPTER, ADJUSTER MOTOR, AND THE SINGLE-PIN CONNECTOR ON THE POWER HARNESS TO THE BACK OF THE HEADLIGHT HOUSING. FIT THE HEADLIGHT INTO THE HEADLIGHT CAVITY. ENSURE NONE OF THE WIRING IS PINCHED IN THE PROCESS. SECURE THE HOUSING TO THE VEHICLE USING THE FACTORY HEADLIGHT HARDWARE. REPEAT THIS STEP ON THE OPPOSITE SIDE




38. TEST AND CONFIRM THAT ALL FUNCTIONS ARE WORKING PROPERLY



DAYTIME RUNNING LIGHT | PARKING LIGHT | TURN SIGNAL | LOW BEAM | HIGH BEAM

- THERE ARE THREE LEDS ON THE BACK OF THE LED DRIVER THAT INDICATE WHEN POWER IS BEING RECEIVED BY THE HEADLIGHT. IF ANY OF THESE INDICATOR LIGHTS ARE NOT ILLUMINATED WHEN THE CORRESPONDING FUNCTION SHOULD BE POWERED, RECHECK YOUR CONNECTIONS AND RELEVANT FUSES

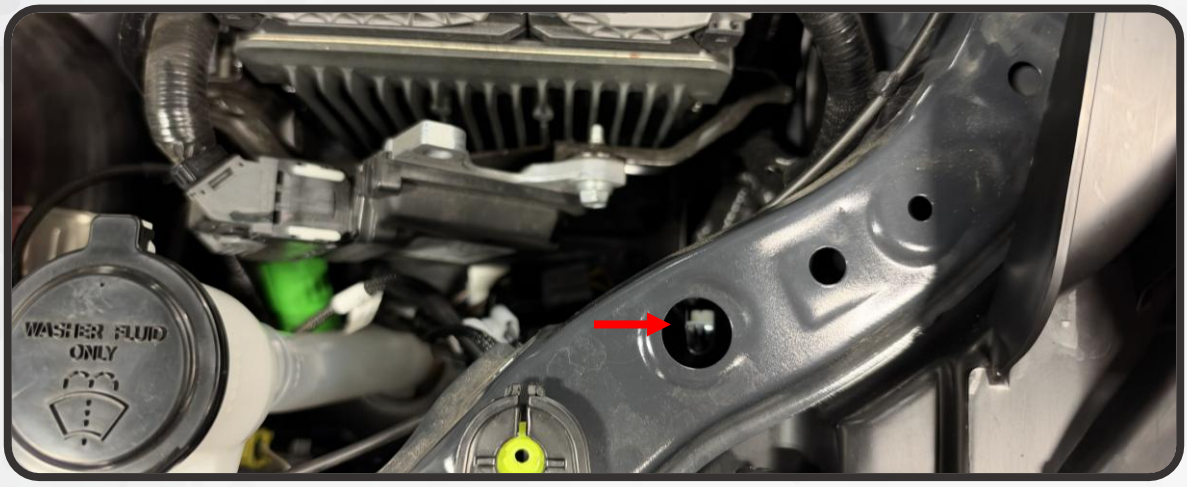



- GREEN – LOW BEAM
- BLUE – HIGH BEAM
- RED – FUSE TAP

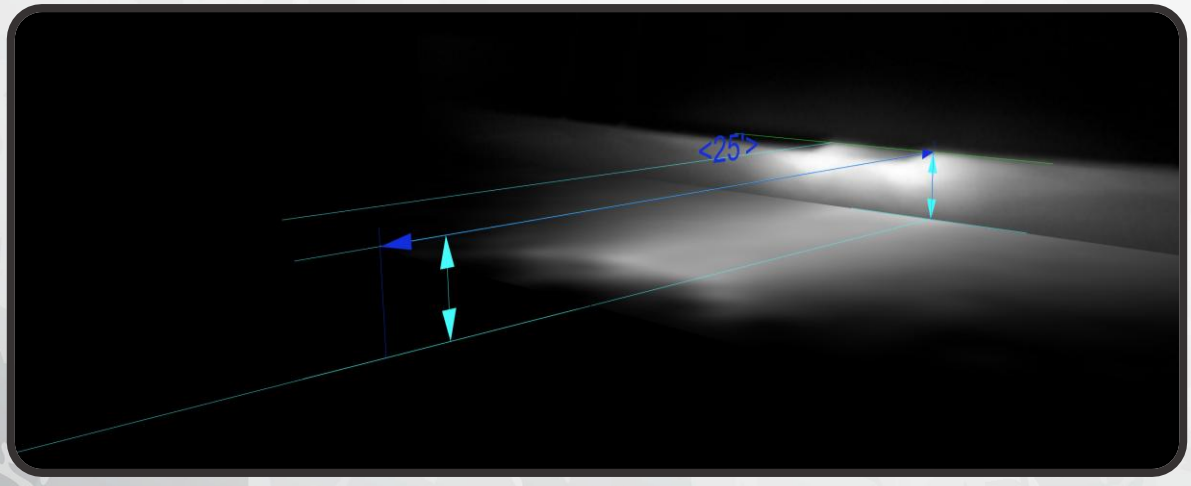
39. REASSEMBLE THE VEHICLE IN THE REVERSE ORDER OF DISASSEMBLY. RECHECK ALL WIRING AND CONFIRM ALL CONNECTORS ARE FULLY SEATED AND ANY LOOSE/EXCESS WIRING IS SECURED

# AIMING

40. THE HEADLIGHTS COME OUT OF THE BOX AIMED FOR STOCK RIDE HEIGHT, HOWEVER FINE TUNING THE AIM OF YOUR LOW BEAM AFTER INSTALLATION IS REQUIRED REGARDLESS. USING A LONG PHILLIPS HEAD SCREWDRIVER DOWN THE BACK OF THE HEADLIGHT TO THE ADJUSTER GEAR, FOLLOW THE INSTRUCTIONS BELOW TO PROPERLY ALIGN YOUR HEADLIGHTS' LOW BEAM CUTOFF (THE UPPER HORIZONTAL EDGE OF THE LOW BEAM)




41. WITH THE VEHICLE PARKED ON LEVEL GROUND, 25' FROM A WALL, MEASURE THE DISTANCE FROM THE GROUND TO THE OPTICAL CENTER MARK ON THE HEADLIGHT (THE CIRCULAR MARK ON THE LENS IN FRONT OF THE PRIMARY PROJECTOR)
    - IF THE DISTANCE FROM THE GROUND TO THE OPTICAL CENTER IS LESS THAN 34.5", ADJUST THE TOP OF THE HEADLIGHT CUTOFF TO THE SAME HEIGHT ON THE WALL AS THE HEADLIGHT MEASUREMENT YOU TOOK
    - IF THE HEIGHT IS BETWEEN 35"-39", ADJUST THE CUTOFF ON THE WALL TO 2" BELOW YOUR HEADLIGHT MEASUREMENT
    - IF THE HEIGHT IS GREATER THAN 39.5", ADJUST THE CUTOFF ON THE WALL TO 3" BELOW YOUR HEADLIGHT MEASUREMENT. FACTORY RIDE HEIGHT TYPICALLY FALLS IN THIS RANGE AT APPROXIMATELY 41"




NOTE: AIMING SHOULD NOT REQUIRE MORE THAN THREE FULL TURNS OF THE ADJUSTER IN EITHER DIRECTION. OVER-ADJUSTING THE LIGHT MAY RESULT IN DAMAGE TO THE ADJUSTER

# LENS HEATER ACTIVATION

## (NOT APPLICABLE ON XB EVO HYBRID HEADLIGHTS)

THE HEATING SYSTEM HAS BEEN DESIGNED TO MITIGATE SNOW AND ICE BUILDUP ON THE FRONT LENSES OF YOUR HEADLIGHTS WHILE DRIVING IN INCLEMENT CONDITIONS. WHILE IT MAY ACT AS AN AID, IT WAS NOT DESIGNED TO DEFROST/MELT HEAVY BUILDUP FROM AN OVERNIGHT SNOWSTORM.

AS A BASIC REQUIREMENT: IT WILL ONLY ACTIVATE IF THE AMBIENT EXTERNAL TEMPERATURE SENSOR READS AT/BELOW 5°C (41°F). IF IT'S TOO WARM OUTSIDE, THE HEATING ELEMENTS WILL NOT RUN TO AVOID CREATING EXCESS/UNNECESSARY HEAT WITHIN THE HOUSINGS.

TO ENABLE THE SYSTEM, FOLLOW THE STEPS OUTLINED BELOW:

WITH THE VEHICLE RUNNING (AND AFTER THE WELCOME SEQUENCE HAS COMPLETED) FLASH YOUR HIGH BEAMS 4 TIMES WITHIN 4 SECONDS. THE HEATING SYSTEM IS NOW AWAKE: THE HIGH BEAMS WILL RESPOND ONE OF TWO WAYS.

TWO FLASHES: HEATING SYSTEM FULLY ACTIVE. POWER IS ACTIVELY BEING DELIVERED TO THE HEATING ELEMENTS AND CONVECTION FANS.

ONE FLASH: REQUEST ACKNOWLEDGED, BUT SOME CONDITION* HAS NOT BEEN MET. SYSTEM IS IN AUTOMATIC STANDBY FOR OPERATION IF ALL CONDITIONS ARE MET.

ONCE ACTIVATED: THE SYSTEM IS AUTOMATICALLY MONITORED THROUGH A CLOSED-LOOP CONTROL SYSTEM TO MAINTAIN AN IDEAL TEMPERATURE TO KEEP THE FRONT LENS CLEAR. IT WILL TURN ON/OFF AS NECESSARY UNTIL YOU TURN THE IGNITION OFF COMPLETELY OR MANUALLY DISABLE THE HEATER. FOR EACH IGNITION KEY CYCLE, THE DEFAULT STATE OF THE HEATING SYSTEM IS OFF UNTIL REQUESTED ON.

MANUAL DISABLING: JUST FLASH THE HIGH BEAMS AGAIN (4X WITHIN 4 SECONDS) AND THE SYSTEM SHOULD RESPOND WITH ONE FLASH, ACKNOWLEDGING YOUR REQUEST.

*EXAMPLES OF CONDITIONAL REQUIREMENTS:

- AMBIENT TEMPERATURE NOT LOW ENOUGH (AT BELOW 5°C / 41°F)

- LENS TEMPERATURE ALREADY AT TARGET TEMPERATURE

- PRIMARY HEATING ELEMENT TEMPERATURE TOO HIGH

- INSUFFICIENT BATTERY VOLTAGE

- SYSTEM NOT REQUESTED ON

IF YOUR HEADLIGHTS ARE NOT RESPONDING TO YOUR REQUEST, THE AUTO HIGH BEAM FEATURE CAN SOMETIMES INTERFERE WITH THE LENS HEATER SYSTEM. TURN OFF THE AUTO HIGH BEAMS AND RETRY YOUR REQUEST

# XB EVO HEADLIGHTS: 24+ TACOMA & 25+ 4RUNNER



**- ENJOY YOUR NEW MORIMOTO XB EVO HEADLIGHTS! -**