MORIMOTO

BRIGHT IS ONLY THE BEGINNING

INSTALL GUIDE

XB EVO HEADLIGHTS: 2023+ SUPER DUTY

LF2-507/LF2-507Y



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: 2023+ SUPER DUTY

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WHAT'S INCLUDED



2X (PAIR) HEADLIGHT ASSEMBLIES



2X HALOGEN ADAPTER HARNESSES



2X MAGNET MOUNT RESISTORS



1X MICRO FUSE TAP



1X DRL HARNESS



1X DRL RELAY



1X FUSE BOX COVER

XB EVO HEADLIGHTS: 2023+ SUPER DUTY

WHAT'S INCLUDED (EVO MODEL ONLY)



4X PAIRS OF MODE SELECTORS



2X MODE SELECTOR EXTENSIONS

OPTIONAL ADD-ONS (SOLD SEPARATELY)



2X SUPERCHARGED LED DRIVERS

REQUIRED TOOLS

- RATCHET
- 10MM SOCKET
- 18MM SOCKET
- 13MM WRENCH
- TRIM REMOVAL TOOL
- T30 TORX DRIVER
- #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.

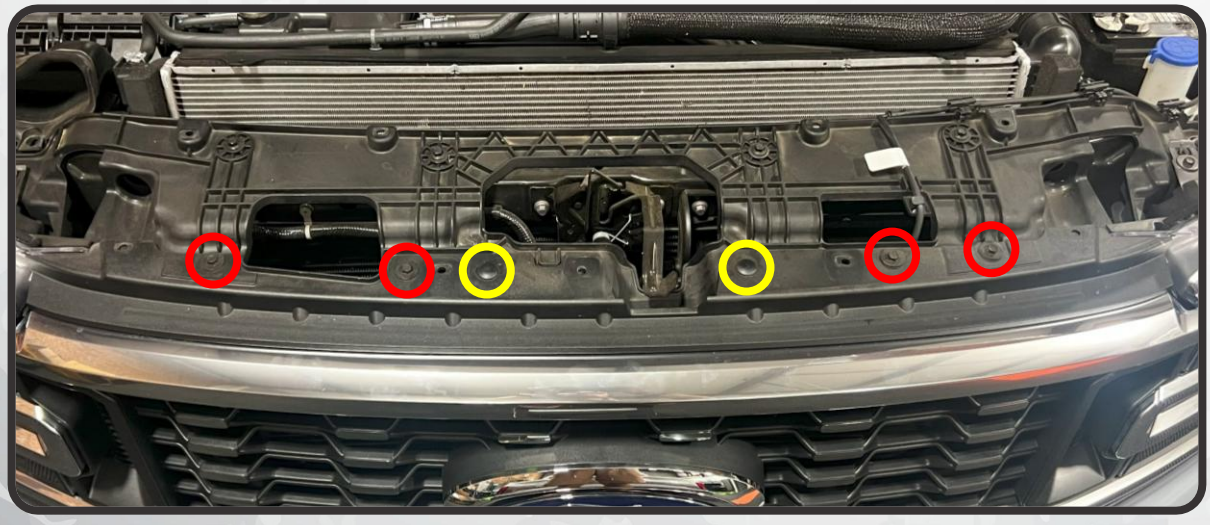
VEHICLE USED IN THIS GUIDE:

2024 FORD F450 SUPER DUTY LIMITED

1. RAISE THE HOOD OF THE VEHICLE
2. USING A TRIM REMOVAL PRY TOOL, REMOVE THE TWELVE PLASTIC PUSH CLIPS THAT SECURE THE PLASTIC RADIATOR SHROUD TO THE VEHICLE. REMOVE THEM BY FIRST PRYING UP THE CENTER PORTION, THEN PRYING OUT THE BODY OF THE CLIP. ONCE THE CLIPS ARE REMOVED, REMOVE THE SHROUD AND SET IT ASIDE

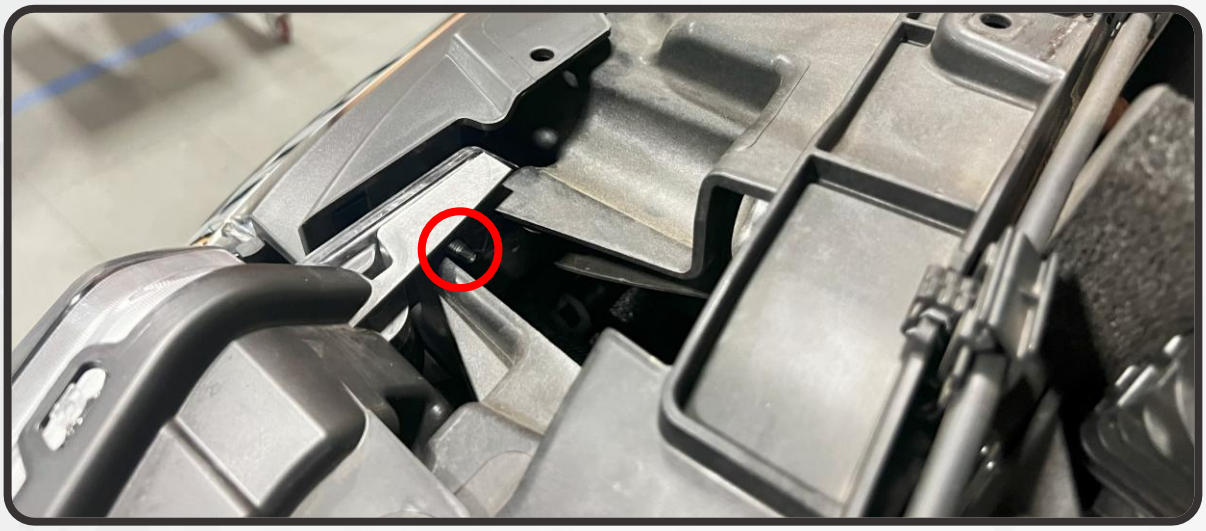


3. REMOVE THE FOUR 10MM SCREWS (RED) AND TWO PLASTIC PUSH CLIPS (YELLOW) FROM THE TOP OF THE GRILLE. THESE TWO CLIPS ARE CHRISTMAS TREE STYLE AND WILL REQUIRE SOME STRENGTH TO REMOVE, ESPECIALLY IF THIS IS THE FIRST TIME THE TRUCK HAS BEEN TAKEN APART

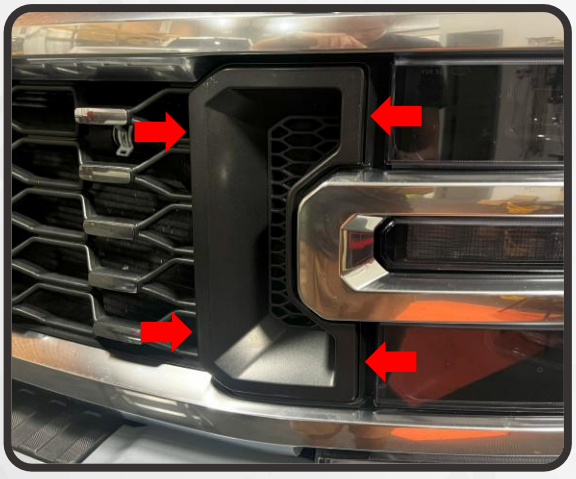


DISASSEMBLY

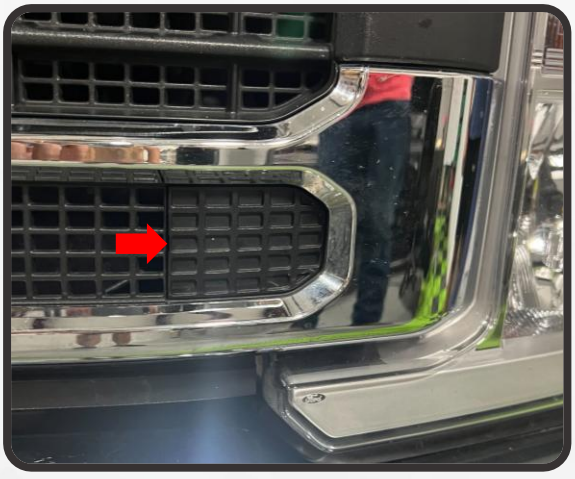
4. REMOVE THE TWO (ONE PER SIDE) 10MM NUTS FROM THE BACKSIDE OF THEUPPER CORNERS OF THE GRILLE (MAY NOT BE PRESENT ON ALL TRIMS)



5. REMOVE THE TRIM COVERING THE LOWER GRILLE BOLT ON EITHER SIDE. THE STYLE OF THE TRIM WILL VARY DEPENDING ON YOUR FACTORY GRILLE



PRY THE TRIM LOOSE BY RELEASING THE FOUR CLIPS THAT SECURE THE TRIM TO THE GRILLE



USING A FLAT HEAD SCREWDRIVER OR PRY TOOL, PRY LOOSE THE PLASTIC BOLT COVER

6. REMOVE THE 10MM LOWER GRILLE BOLT ON EITHER SIDE OF THE TRUCK

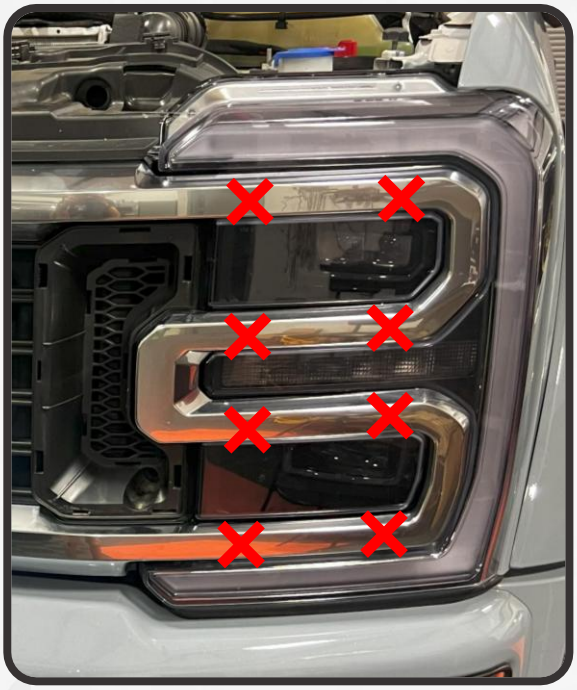


DISASSEMBLY

OE LED HEADLIGHT EQUIPPED VEHICLES ONLY

7. USING A PLASTIC PRY TOOL, CAREFULLY PRY THE ENDS OF THE GRILL OUT AWAY FROM THE HEALIGHT TO RELEASE THE CLIPS THAT SECURE THEM TOGETHER. THERE ARE EIGHT CLIPS PER HEADLIGHT, MARKED IN THE IMAGE BELOW. WE RECOMMEND PLACING SOME PAINTERS TAPE ON THE HEADLIGHT LENS TO PRY AGAINST AND PROTECT THE LENS FROM DAMAGE





DISASSEMBLY

8. GRAB ONTO THE GRILLE WITH BOTH HANDS AND FIRMLY PULL FORWARD TO REMOVE THE GRILLE FROM THE TRUCK. THERE WILL BE FOUR CLIPS ALONG THE BOTTOM OF THE GRILLE THAT WILL RELEASE AS YOU DO. ONLY PULL THE GRILLE FAR ENOUGH FORWARD TO RELEASE THE CLIPS, AS THERE MAY BE (DEPENDING ON TRIM) ADDITIONAL WIRING TO DISCONNECT BEHIND THE GRILLE



9. DISCONNECT THE FRONT CAMERA WIRING AND WASHER HOSE (IF EQUIPPED) AND SET THE GRILLE ASIDE, FACE DOWN, ON A PADDED WORK BENCH OR PANEL STAND

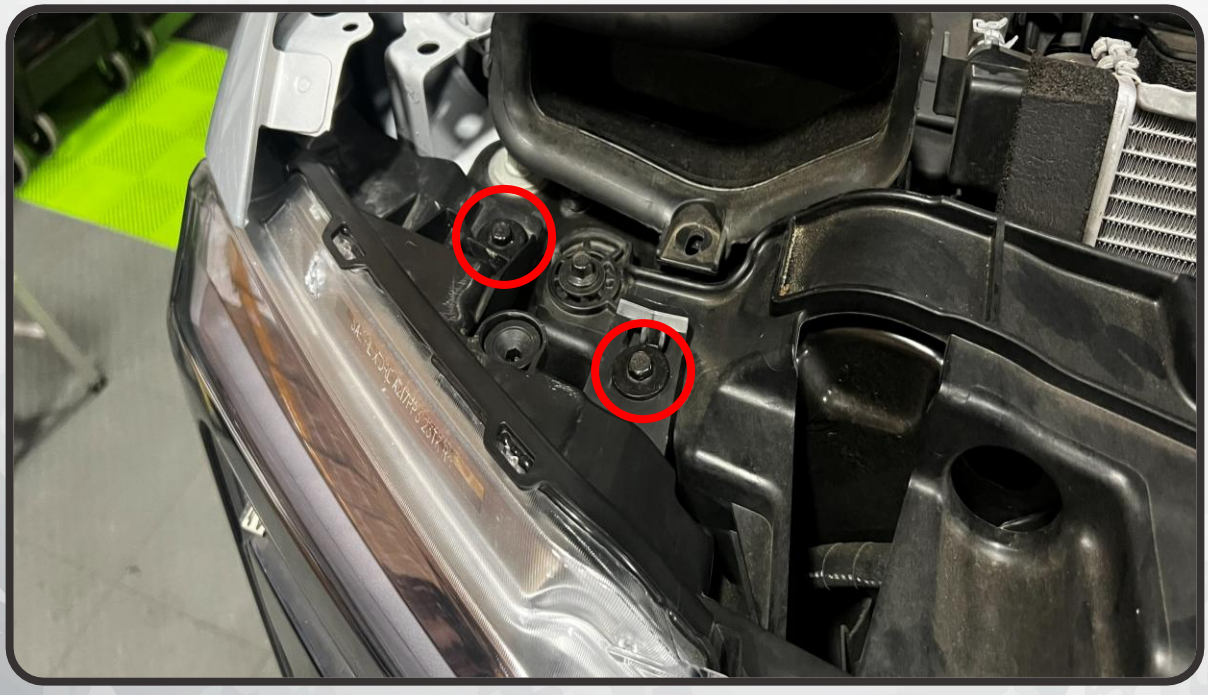


DISASSEMBLY

10. REMOVE THE FOUR METAL GRILLE CLIPS FROM THE RADIATOR SUPPORT AND SET THEM ASIDE. SOME OF THEM MAY STAY ON THE STOCK GRILLE DURING REMOVAL



11. REMOVE THE TWO 10MM BOLTS THAT SECURE THE TOP OF EACH HEADLIGHT

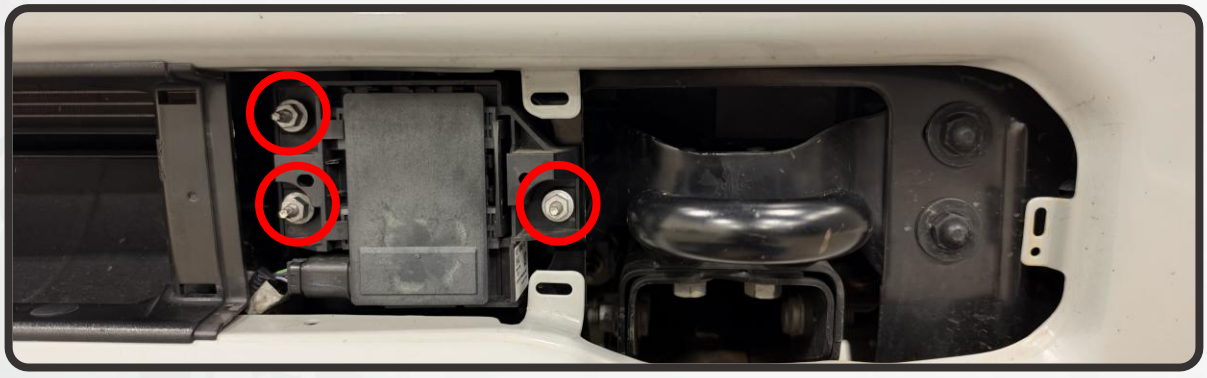


DISASSEMBLY

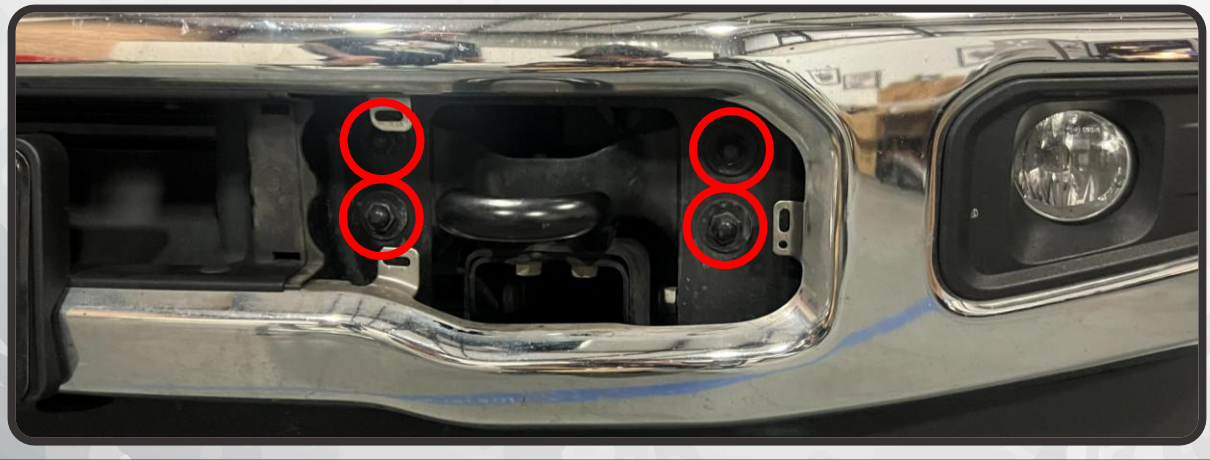
12. REMOVE THE PLASTIC TRIM SURROUNDING THE FRONT TOW HOOKS BY PULLING IT FORWARD, OFF OF THE TRUCK



13. IF EQUIPPED, REMOVE THE THREE 11MM NUTS SECURING THE FRONT RADAR MODULE ON THE DRIVERS-SIDE AND MOVE THE MODULE OUT OF THE WAY

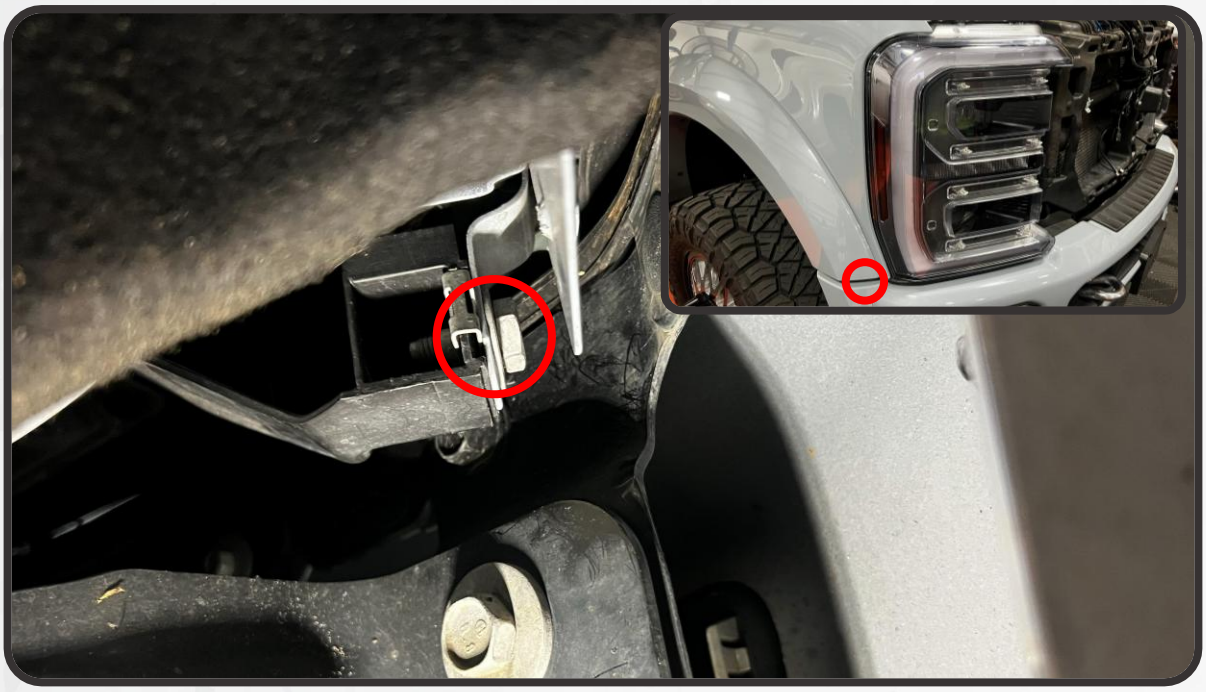


14. LOOSEN THE FOUR 18MM BUMPER BOLTS SECURING THE FRONT BUMPER ON EACH SIDE TO ALLOW THE BUMPER TO BE SHIFTED DOWN. THIS WILL MAKE IT EASIER TO REMOVE THE HEADLIGHTS

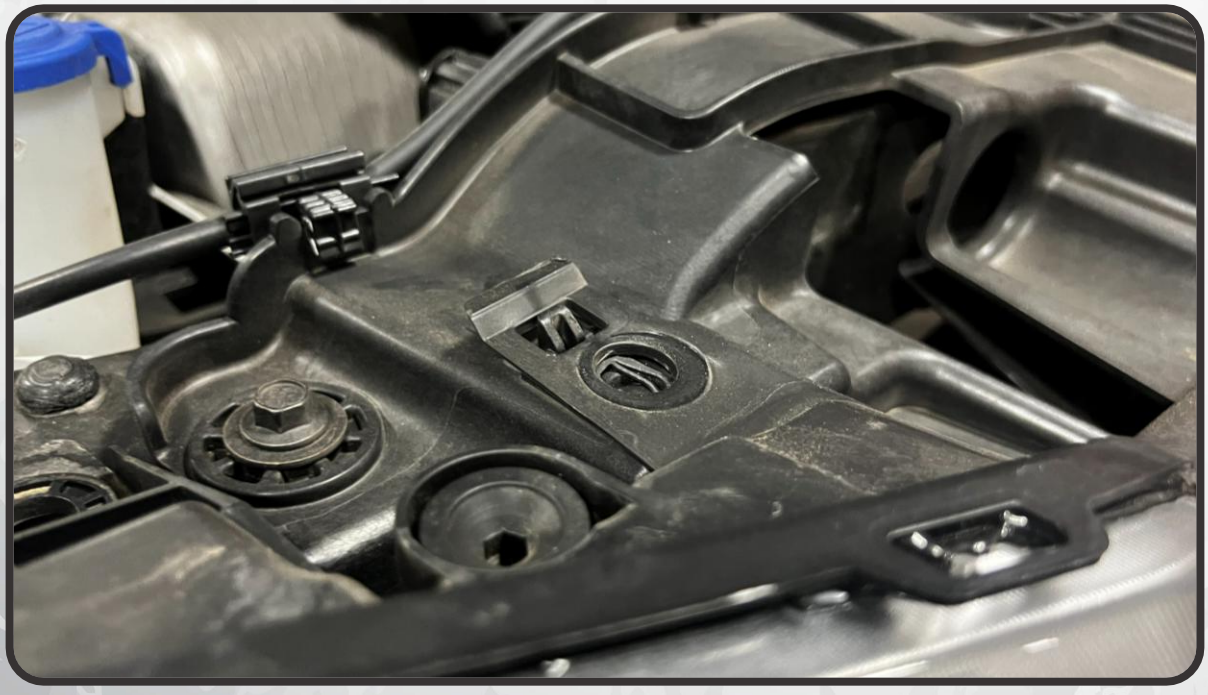


DISASSEMBLY

15. REACH BEHIND THE FENDER/BUMPER AND USE A 13MM WRENCH TO REMOVE THE 13MM BOLT THAT SECURES THE LOWER CORNER OF THE HEADLIGHT ASSEMBLY

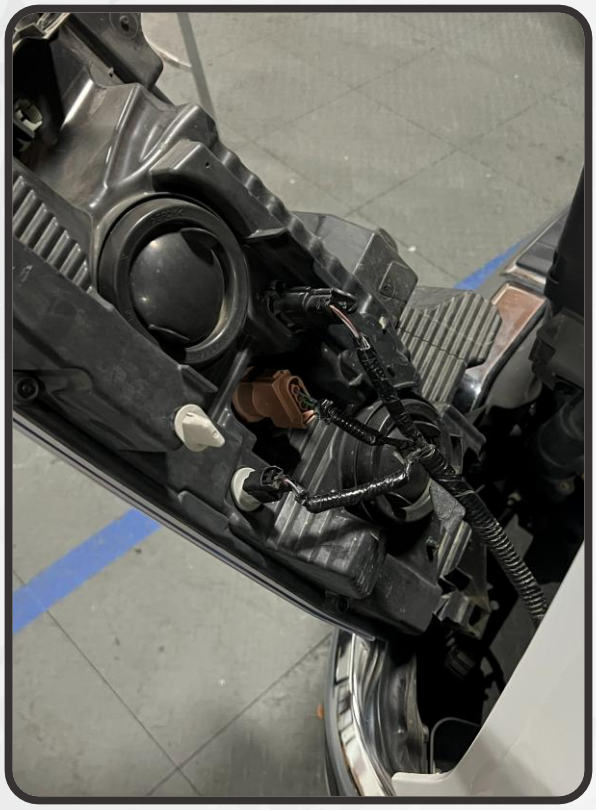


16. LIFT SLIGHTLY UP ON THE TAB ON THE TOP OF THE HEADLIGHT ASSEMBLY AND BEGIN TO PULL THE HOUSING FORWARD



DISASSEMBLY

17. PULL THE HEADLIGHT ASSEMBLY FORWARD AND OUT OF THE CAVITY. THE FIT IS TIGHT, SO IT WILL TAKE SOME MANEUVERING TO REMOVE FROM THE VEHICLE. DISCONNECT THE HEADLIGHT WIRING FROM THE BACK OF THE ASSEMBLY AND SET THE HEADLIGHT HOUSING ASIDE

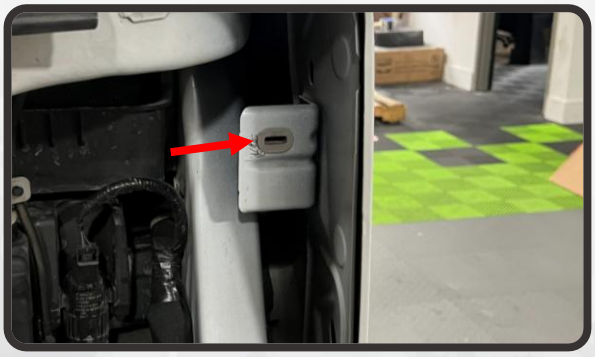




18. THE PLASTIC CLIP THE HEADLIGHT FITS INTO OFTEN LIKES TO COME OFF OF THE TRUCK WITH THE HEADLIGHT. IF YOURS HAS COME OFF WITH THE LIGHT, REMOVE IT FROM THE LIGHT AND REPLACE IT ON THE BODY OF THE TRUCK

19. REPEAT STEPS 15-18 ON THE OPPOSITE SIDE OF THE TRUCK



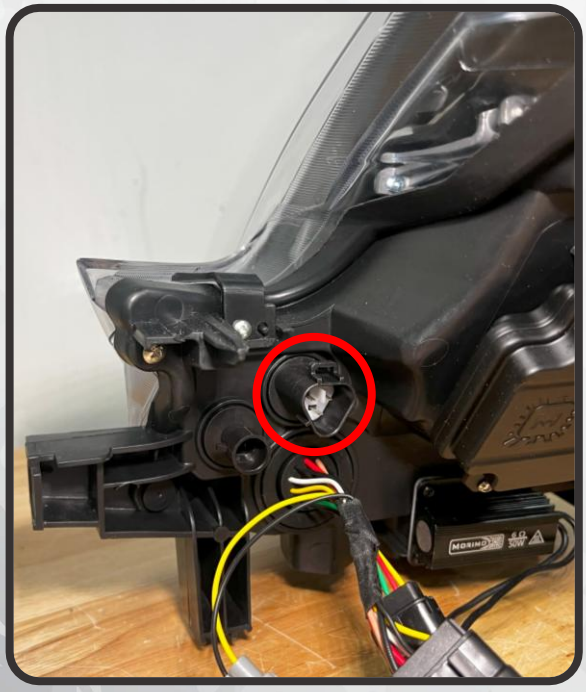


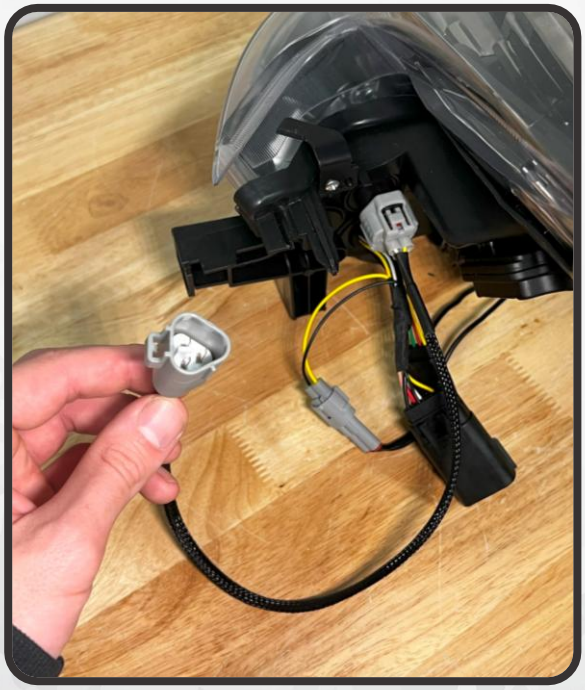
HEADLIGHT SETUP

20. 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 • TURN SIGNAL: FADE-OFF	• DRL: WHITE • TURN SIGNAL: SEQUENTIAL	• DRL: AMBER • TURN SIGNAL: FADE-OFF	• DRL: AMBER • TURN SIGNAL: SEQUENTIAL

21. 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



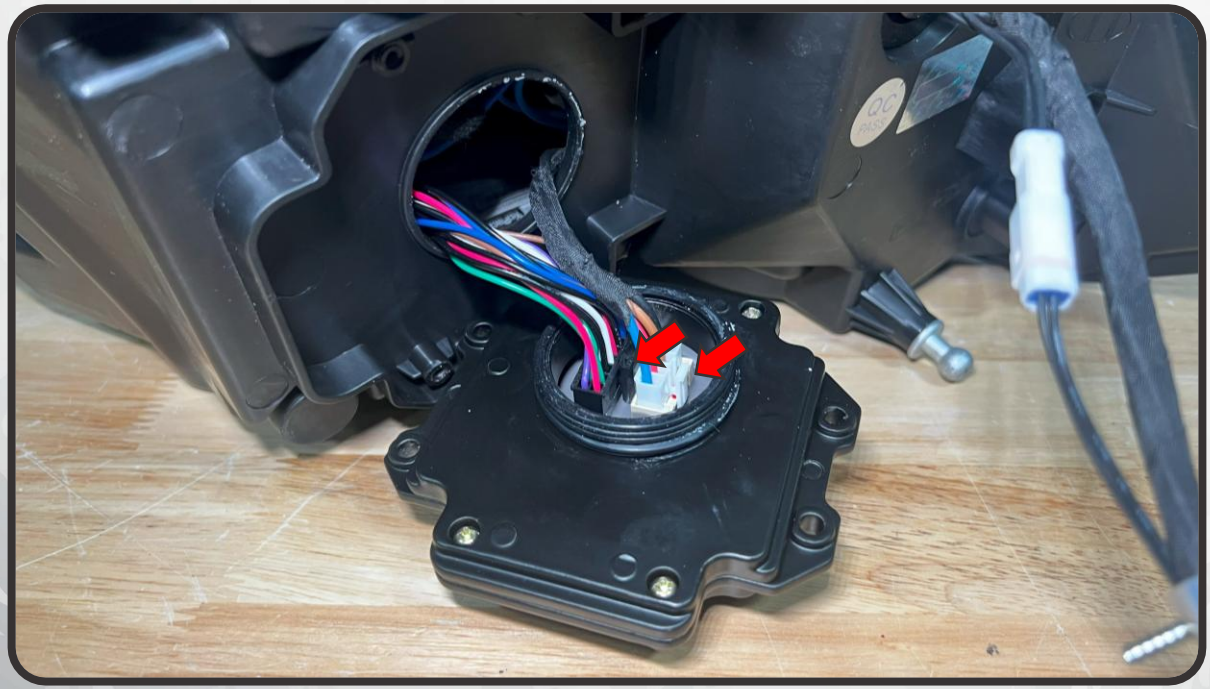


HEADLIGHT SETUP

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

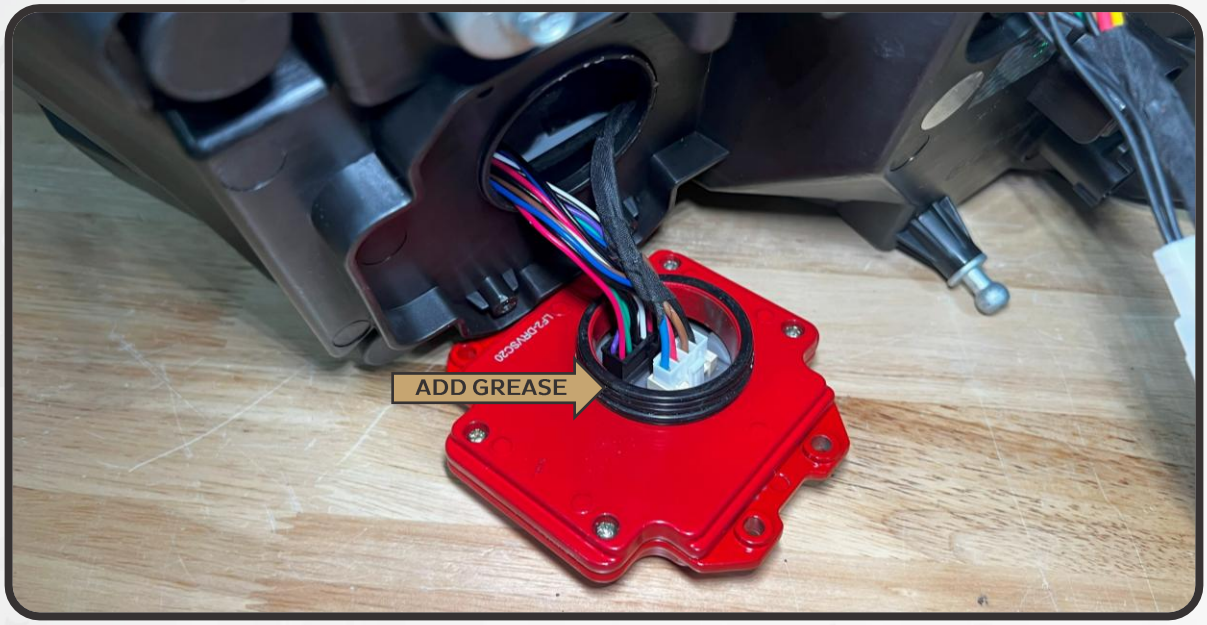


23. PULL THE DRIVER OFF OF THE HOUSING. DEPRESS THE CLIP ON EACH OF THE DRIVER CONNECTORS AND PULL TO DISCONNECT THE DRIVER FROM THE INTERNAL HEADLIGHT WIRING

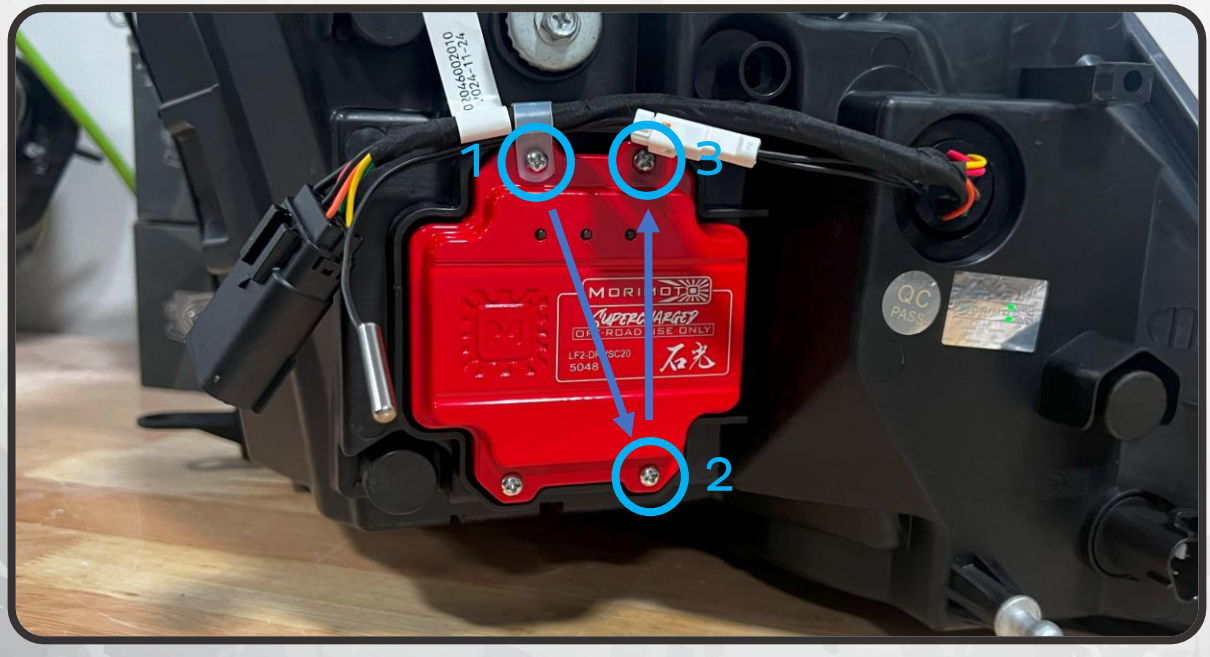


HEADLIGHT SETUP

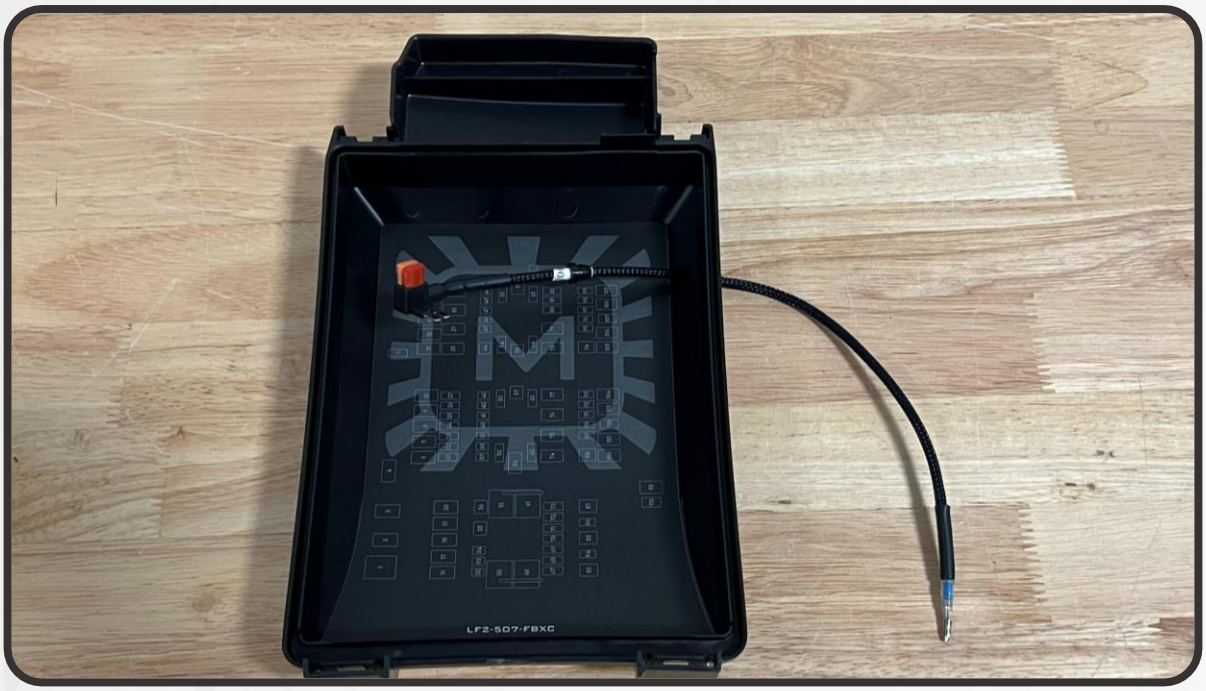
24. CONNECT THE NEW SUPERCHARGED DRIVER TO THE INTERNAL HEADLIGHT WIRING, MAKING SURE THE TAB ON EACH OF THE CONNECTOR'S CLIPS SECURELY INTO PLACE. APPLY A THIN LAYER OF THE INCLUDED GREASE TO THE OUTER EDGE OF THE SEAL ON THE NEW DRIVER



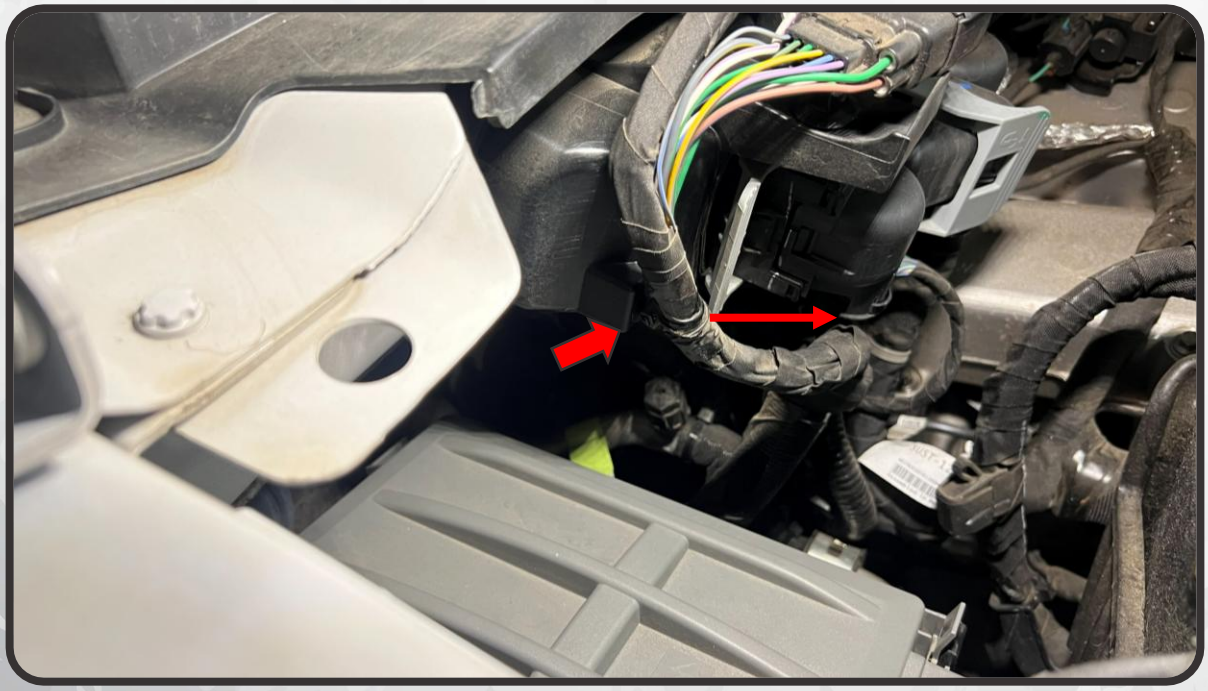
25. PRESS THE SUPERCHARGED DRIVER STRAIGHT INTO THE MOUNTING LOCATION, MAKING SURE THE RUBBER SEAL IS SEATED PROPERLY AND DOES NOT GET PINCHED OR BUNCHED UP. SECURE THE DRIVER TO THE HOUSING USING THREE OF THE PROVIDED PHILLIPS HEAD SCREWS, HAND TIGHTENTING THEM DOWN IN A STAR PATTERN TO ENSURE THE DRIVER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



26. FEED THE INCLUDED FUSE TAP THROUGH THE GROMMET ON THE PROVIDED FUSE BOX LID



27. PRY LOOSE THE WIRE HANESS CLIP ABOVE THE FACTORY FUSE BOX

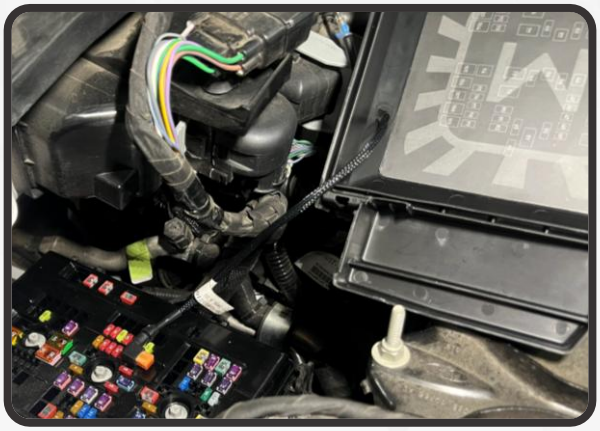


WIRING

28. OPEN THE UNDER-HOOD FUSE BOX AND LOCATE AND REMOVE THE 10A FUSE IN THE "SNOW PLOW" FUSE SLOT #42

29. INSTALL THE PROVIDED FUSE TAP INTO THE "SNOW PLOW" SLOT AND INSTALL THE NEW FUSE BOX LID

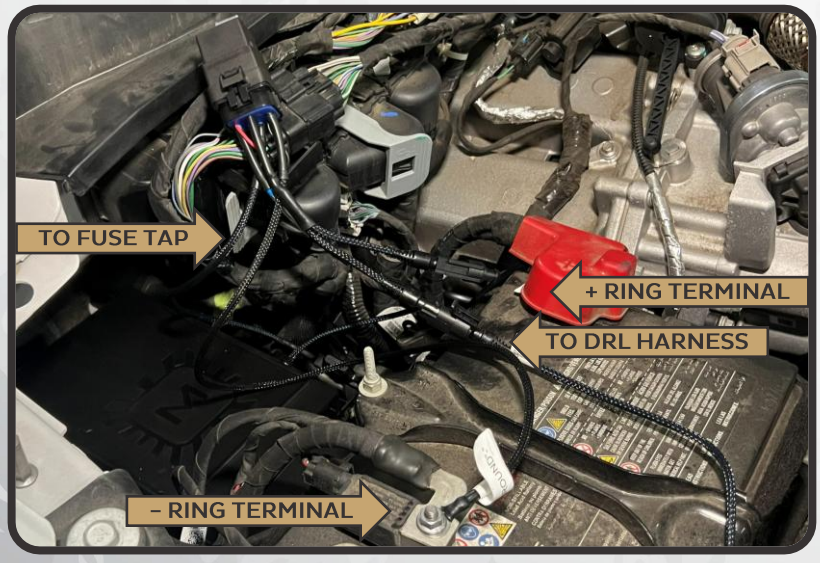




30. LAY OUT THE DRL RELAY NEXT TO THE BATTERY AND FUSE BOX AND CONNECT THE RELAY AS FOLLOWS:

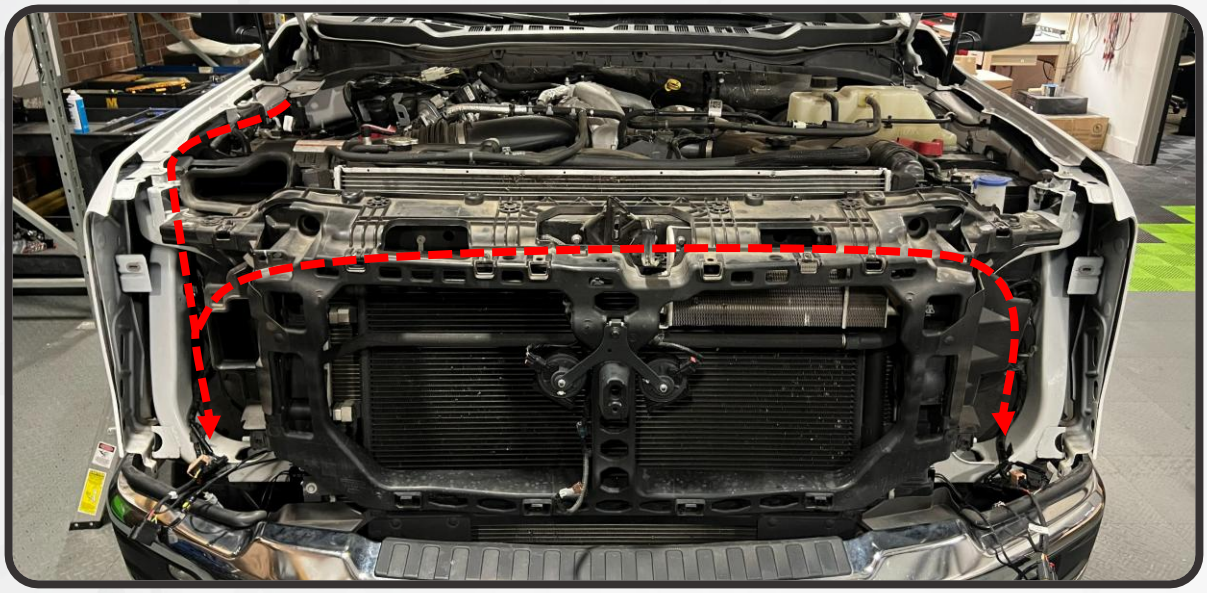
- CONNECT THE FUSE TAP TO THE RELAY
- CONNECT THE POWER HARNESS TO THE RELAY
- CONNECT THE RING TERMINAL LABELED "POWER +" WITH THE FUSED WIRE TO THE POSITIVE TERMINAL ON THE BATTERY
- CONNECT THE RING TERMINAL LABELED "GROUND –" WITHOUT THE FUSE TO THE NEGATIVE TERMINAL ON THE BATTERY

31. WITH THE RELAY CONNECTED, SECURE IT IN THE UPRIGHT POSITION NEAR THE BATTERY AND FUSE BOX





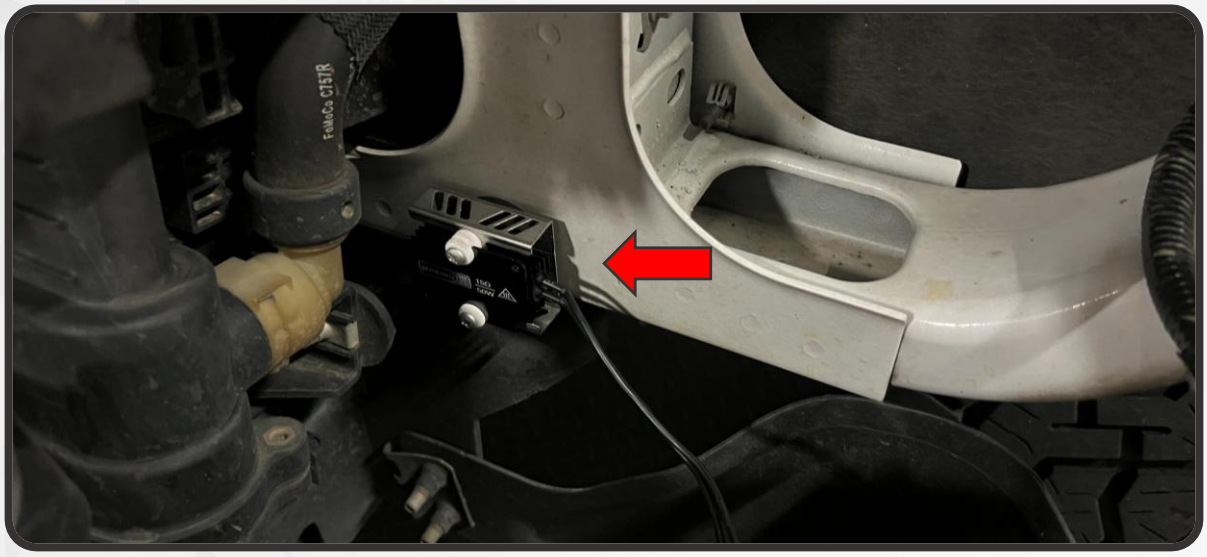
32. ROUTE THE SHORTER END OF THE DRL HARNESS FORWARD TO THE PASSENGER-SIDE HEADLIGHT CAVITY, AND THE LONGER END ACROSS THE RADIATOR SUPPORT TO THE DRIVER-SIDE HEADLIGHT CAVITY



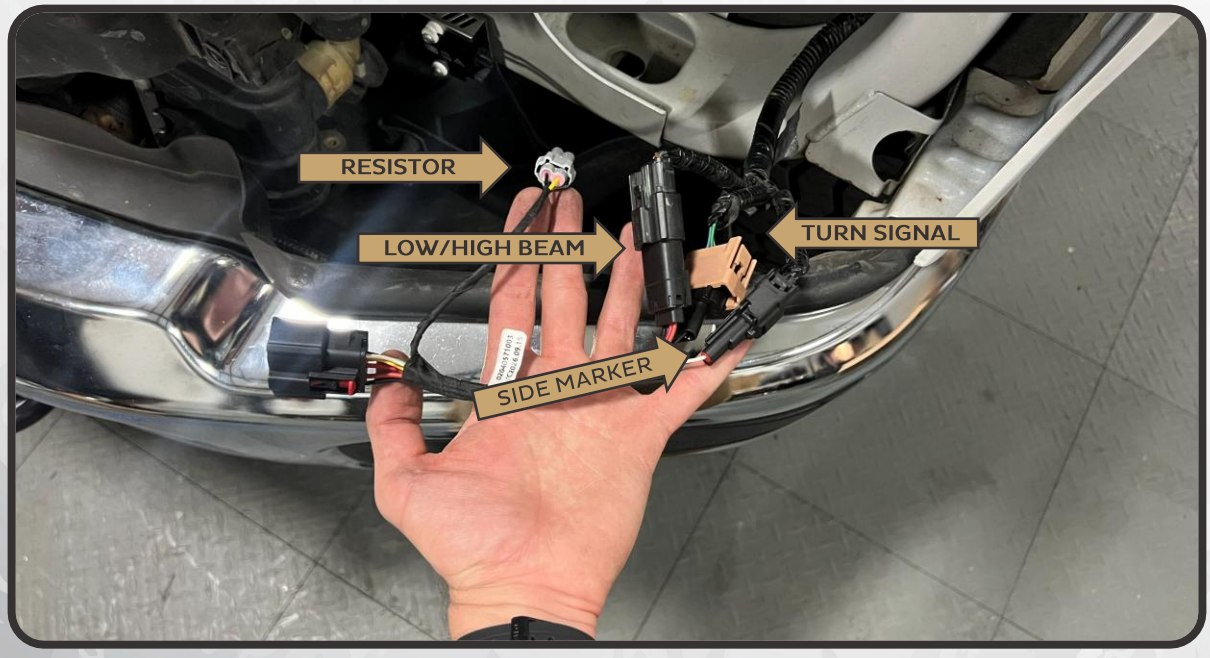
WIRING

IF YOUR TRUCK WAS ORIGINALLY EQUIPPED WITH FACTORY HALOGEN HEADLIGHTS, FOLLOW THE STEPS BELOW. IF YOUR TRUCK WAS ORIGINALLY EQUIPPED WITH FACTORY LED HEADLIGHTS, SKIP AHEAD TO STEP 35 ON THE NEXT PAGE (19)

33. ATTACH ONE OF THE PROVIDED MAGNET-MOUNT RESISTORS TO A SUTABLE STEEL SURFACE IN EACH HEADLIGHT CAVITY. MAKE SURE IT IS OUT OF THE WAY OF THE HEADLIGHT ASSEMBLY



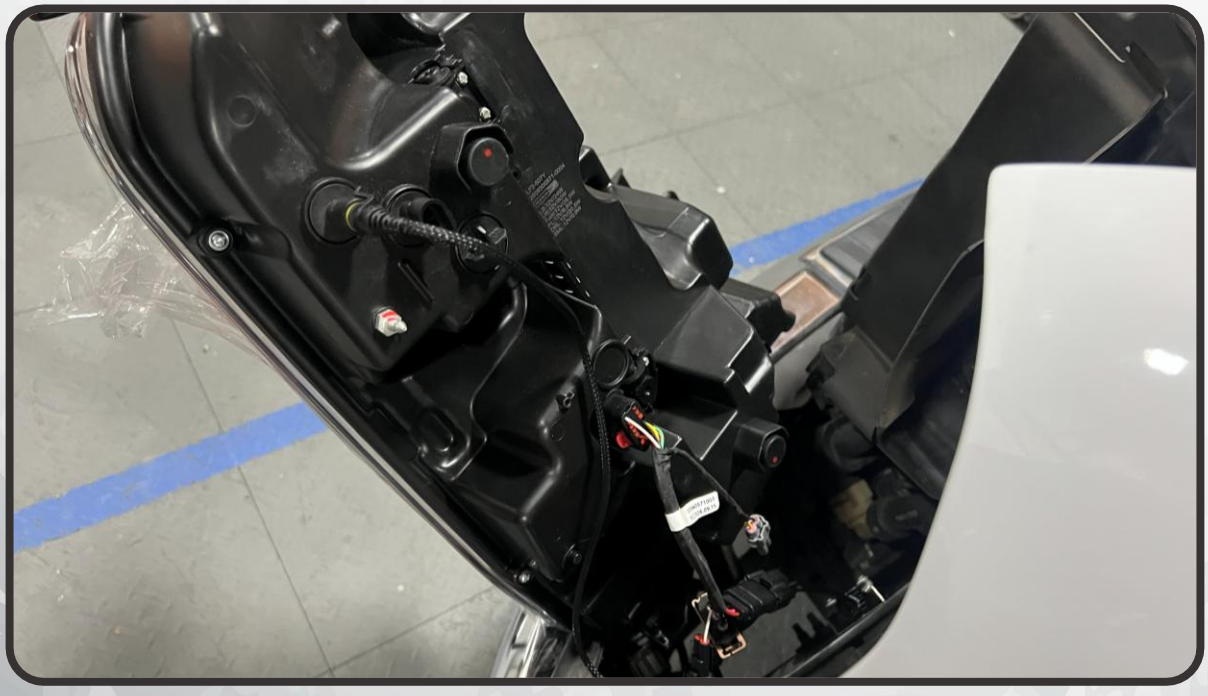
34. CONNECT THE HALOGEN INPUT ADAPTER HARNESS TO THE SIDE MARKER CONNECTOR, TURN SIGNAL CONNECTOR, RESISTOR, AND THE LOW/HIGH BEAM CONNECTOR, AS SHOWN BELOW, ON EACH SIDE OF THE TRUCK



35. IF YOU ARE INSTALLING THE MORIMOTO XBG LED GRILLE AS WELL, CONNECT THE GRILLE ADAPTER HARNESS TO YOUR PASSENGER-SIDE HEADLIGHT WIRING



36. LIFT ONE OF THE NEW HEADLIGHT ASSEMBLIES UP TO THE HEADLIGHT CAVITY OF THE VEHICLE. CONNECT THE DRL HARNESS AND EITHER YOUR FACTORY HEADLIGHT CONNECTOR (OE LED TRUCKS), OR THE INPUT ADAPTER HARNESS (OE HALOGEN TRUCKS), TO THE BACK OF THE HEADLIGHT HOUSING



HEADLIGHT INSTALLATION

37. SLIDE THE HEADLIGHT ONTO THE VEHICLE, ENSURING THAT NONE OF THE WIRING IS PINCHED IN THE PROCESS. SECURE THE HEADLIGHT TO THE TRUCK USING THE FACTORY HARDWARE.

38. REPEAT STEPS 36 AND 37 ON THE OPPOSITE SIDE OF THE VEHICLE

39. 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

40. IT IS RECOMMENDED TO SET THE AIM OF YOUR HEADLIGHTS AT THIS POINT WHILE THE TRUCK IS STILL DISASSEMBLED. SEE THE AIMING INSTRUCTIONS ON PAGE #21

41. TUCK AND SECURE ALL LOOSE/EXCESS WIRING

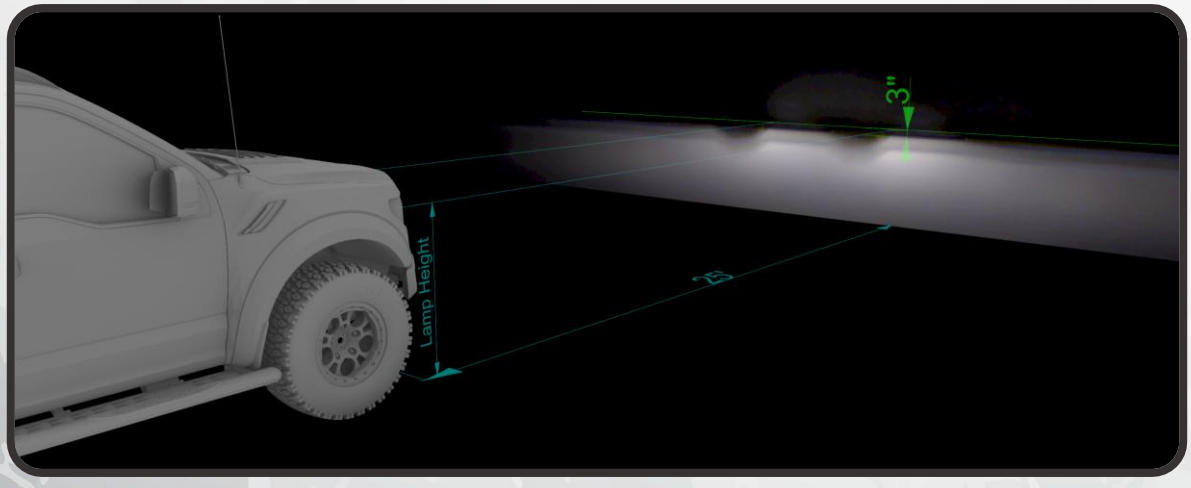
42. REASSEMBLE THE FRONT OF THE VEHICLE IN THE REVERSE ORDER OF DISASSEMBLY

AIMING

43. THE HEADLIGHTS COME OUT OF THE BOX AIMED FOR STOCK RIDEHEIGHT, HOWEVER IT IS RECOMMENDED TO FINE TUNE THE AIM OF YOUR LOW BEAM AFTER INSTALLATION REGARDLESS. USING A T30TORX DRIVER ON THE ADJUSTER GEAR ON THE BACK OF THE HEADLIGHT, FOLLOW THE INSTRUCTIONS BELOW TO PROPERLY ALIGN YOURHEADLIGHTS' LOW BEAM CUTOFF (THE UPPER HORIZONTAL EDGE OF THE LOW BEAM)



44. 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 UPPER 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 44"



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: 2023+ SUPER DUTY



- ENJOY YOUR NEW MORIMOTO XB EVO HEADLIGHTS! -