



BRIGHT IS ONLY THE BEGINNING

INSTALL GUIDE

XB EVO HEADLIGHTS: 21-23 FORD F-150

LF2-498/LF2-498Y



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.



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WHAT'S INCLUDED (ALL VERSIONS)



2X (PAIR) HEADLIGHT ASSEMBLIES



2X HALOGEN ADAPTER HARNESSES



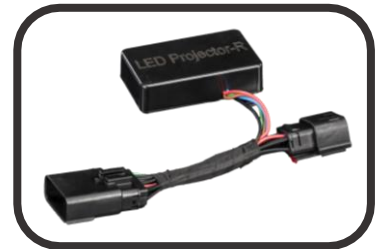
2X MAGNET MOUNT RESISTORS



1X FUSE TAP



1X DRL HARNESS



2X (PAIR L/R) LED PROJECTOR MODULES



XB EVO HEADLIGHTS: 21-23 FORD F-150

WHAT'S INCLUDED (EVO MODEL ONLY)



**4X PAIRS OF MODE
SELECTORS**



**2X MODE SELECTOR
EXTENSIONS**



**2X TEMPURATURE
SENSOR HARNESSSES**

OPTIONAL ADD-ONS (SOLD SEPARATELY)



**2X SUPERCHARGED
LED DRIVERS**

REQUIRED TOOLS

- **RATCHET**
- **7MM SOCKET**
- **8MM SOCKET**
- **10MM SOCKET**
- **PRY/TRIM REMOVAL TOOL**
- **#2 PHILLIPS HEAD SCREWDRIVER**



XB EVO HEADLIGHTS: 21-23 FORD F-150

BEFORE BEGINNING THE INSTALL, IDENTIFY YOUR FACTORY-EQUIPPED HEADLIGHTS BELOW



HALOGEN



LED REFLECTOR



LED PROJECTOR



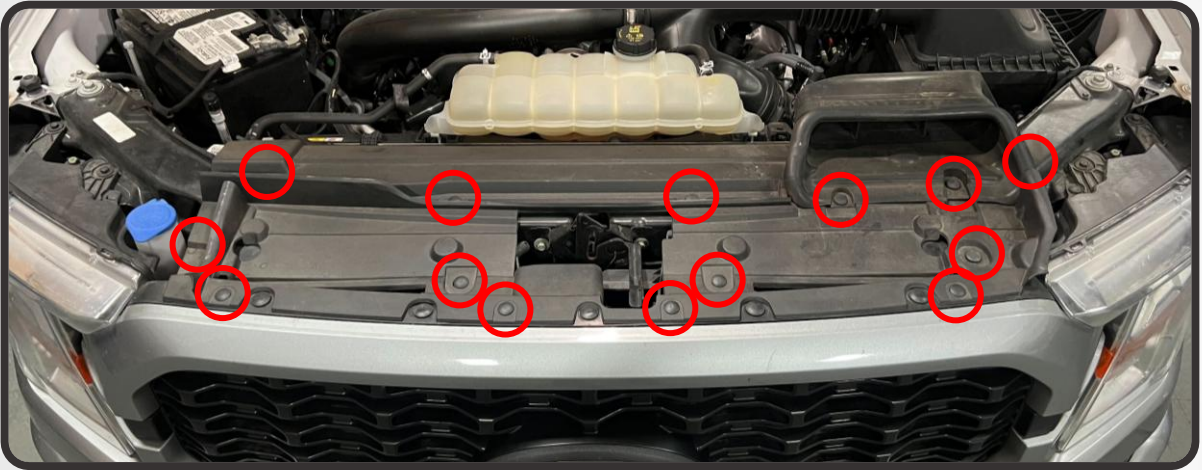
DISASSEMBLY

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

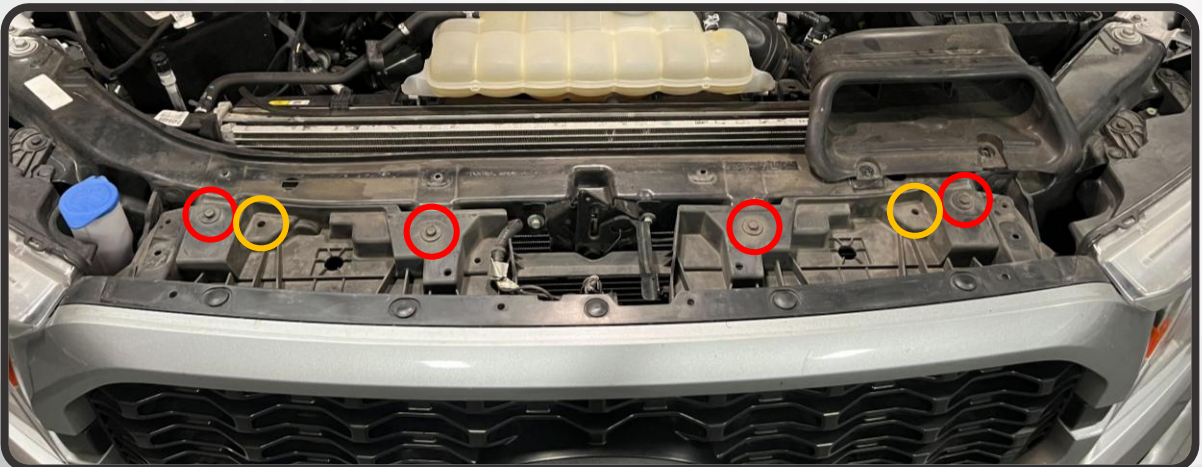
VEHICLE USED IN THIS GUIDE:

2023 FORD F-150 STX W/ HALOGEN HEADLIGHTS

1. RAISE THE HOOD OF THE TRUCK
2. REMOVE THE FOURTEEN PLASTIC CLIPS THAT SECURE THE UPPER GRILLE COVER AND SET THE COVER ASIDE

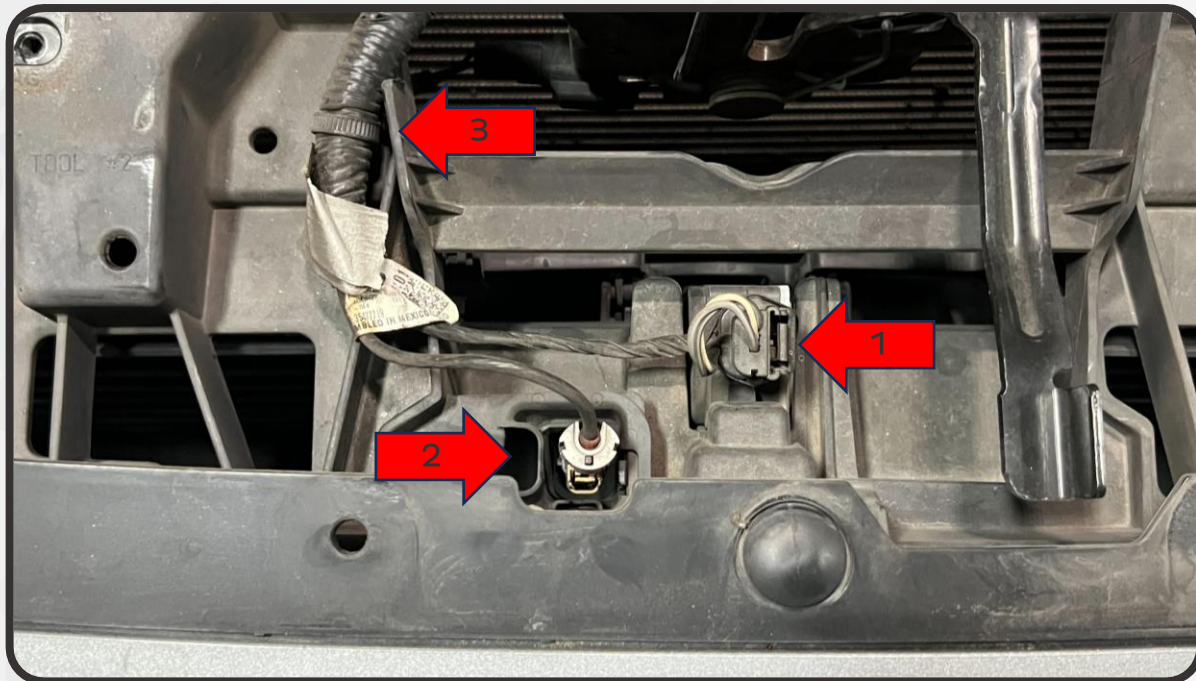


3. REMOVE THE FOUR 10MM BOLTS (RED) AND TWO PLASTIC CLIPS (YELLOW, IF EQUIPPED) THAT SECURE THE TOP OF THE GRILLE ASSEMBLY



DISASSEMBLY

4. AT THE TOP OF THE GRILLE, DISCONNECT THE ACTIVE GRILLE MOTOR (1), THE FRONT CAMERA AND WASHER (2) (IF EQUIPPED), AND WIRE HARNESS CLIP (3)



5. REMOVE THE TWO 7MM SCREWS THAT SECURE THE END OF THE UPPER-BUMPER TRIM. WITH THE SCREWS REMOVED, PULL THE END OF THE TRIM PANEL AWAY FROM THE VEHICLE TO RELEASE IT FROM THE FENDER. REPEAT ON THE OPPOSITE SIDE OF THE TRUCK



DISASSEMBLY

6. WITH THE ENDS RELEASED FROM THE FENDERS, PULL THE UPPER-BUMPER TRIM PANEL FORWARD, AWAY FROM THE TRUCK, TO RELEASE THE SIX TABS THAT SECURE IT TO THE GRILLE. ONCE FULLY REMOVED, SET THE PANEL ASIDE



7. REMOVE THE TWO 8MM SCREWS (ONE PER SIDE) SECURING THE BOTTOM OF THE GRILLE ASSEMBLY



8. PULL THE GRILLE ASSEMBLY FORWARD, AWAY FROM THE TRUCK, AND SET IT ASIDE

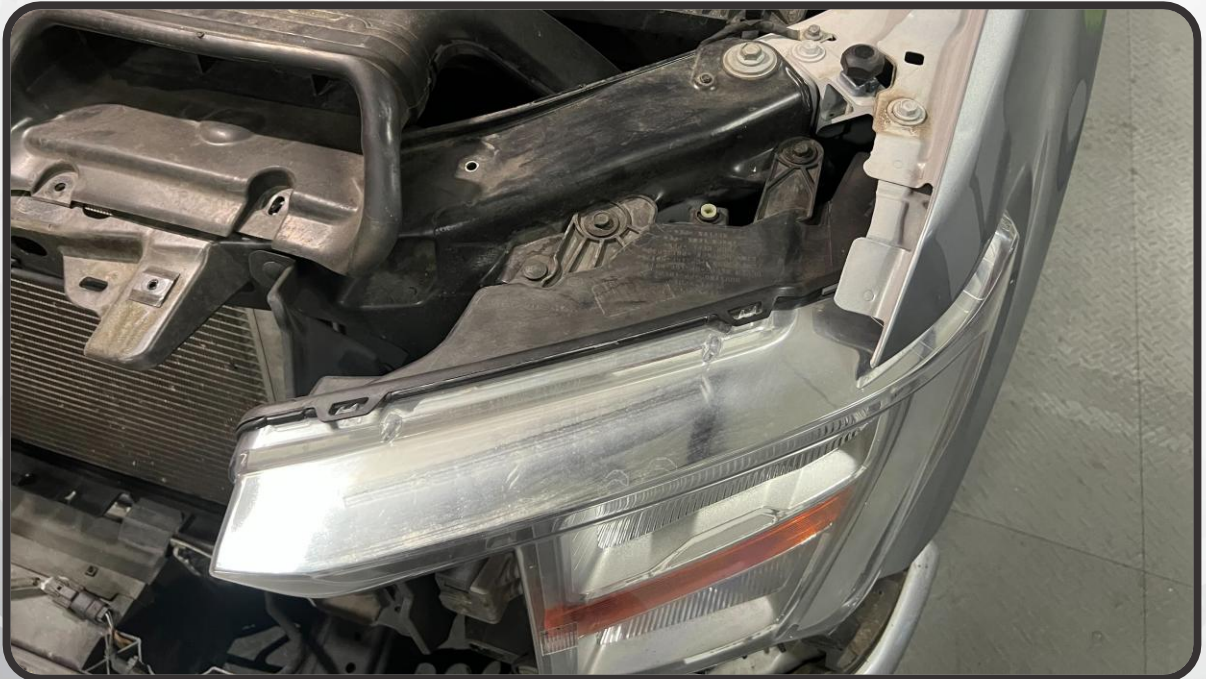


DISASSEMBLY

9. REMOVE THE 8MM SCREW AND 10MM NUT SECURING THE BOTTOM OF THE HEADLIGHT ASSEMBLY

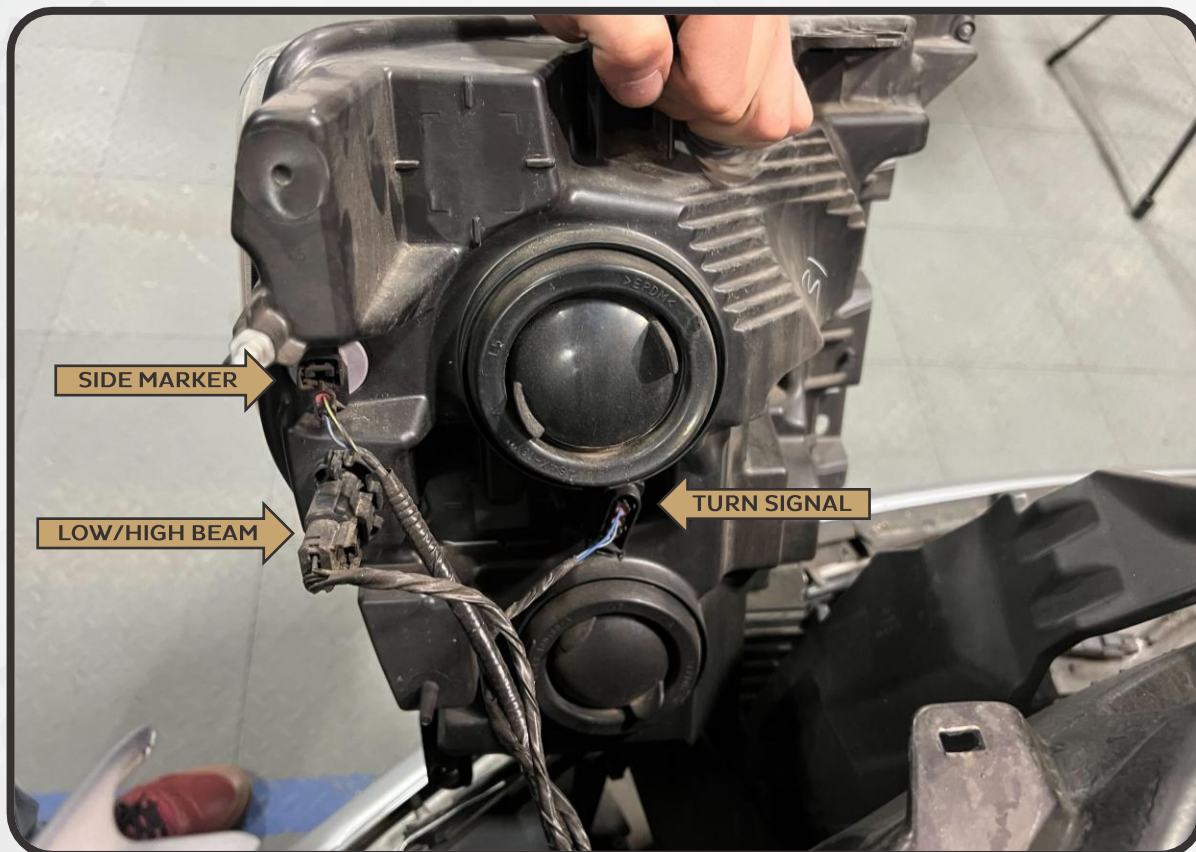


10. REMOVE THE TWO 10MM BOLTS AND ONE PLASTIC PLUSH-CLIP SECURING THE TOP OF THE HEADLIGHT



DISASSEMBLY

11. DISCONNECT ALL WIRING FROM THE BACK OF THE HEADLIGHT (MAY VARY BETWEEN MODELS) AND SET THE HEADLIGHT ASSEMBLY ASIDE



12. REPEAT STEPS 9-11 ON THE OPPOSITE SIDE

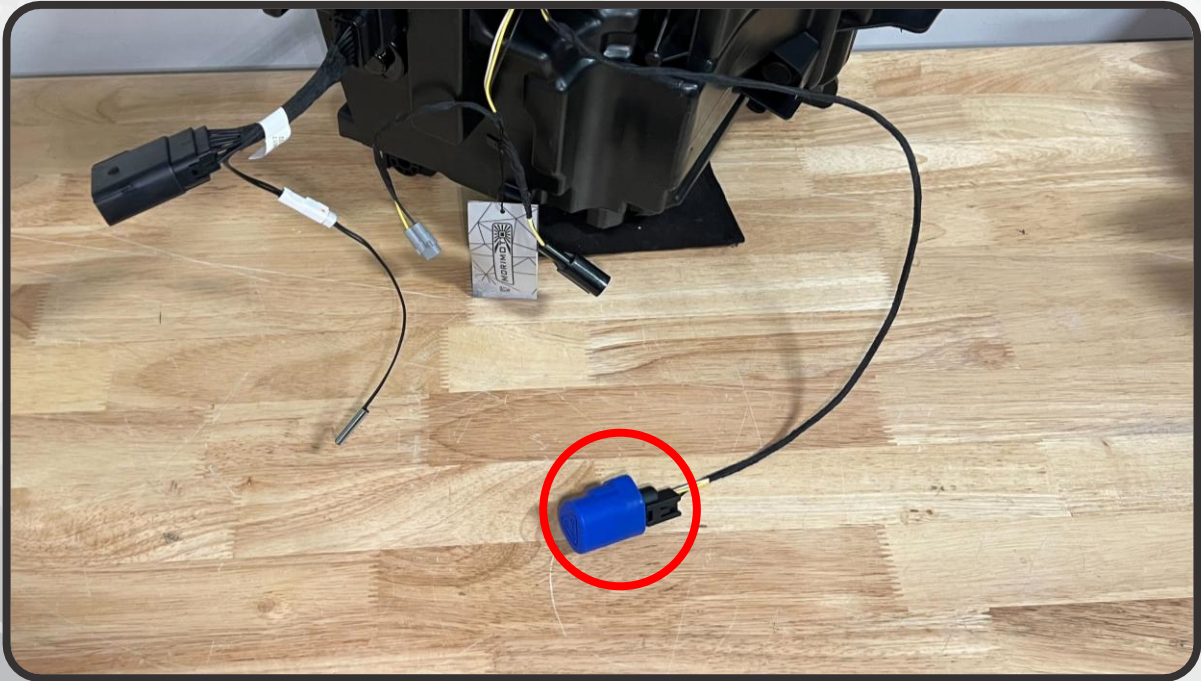


HEADLIGHT SETUP

13. 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

14. INSTALL THE MODE SELECTOR FOR YOUR PREFERRED MODE ONTO THE 3-PIN CONNECTOR ON THE HARNESS ON 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, THE HARNESS CAN BE ROUTED TO THE ENGINE BAY DURING INSTALL TO HELP MAKE THE CONNECTOR EASIER TO ACCESS AFTER INSTALL. AN EXTENSION IS INCLUDED AS WELL IF EXTRA LENGTH IS NEEDED

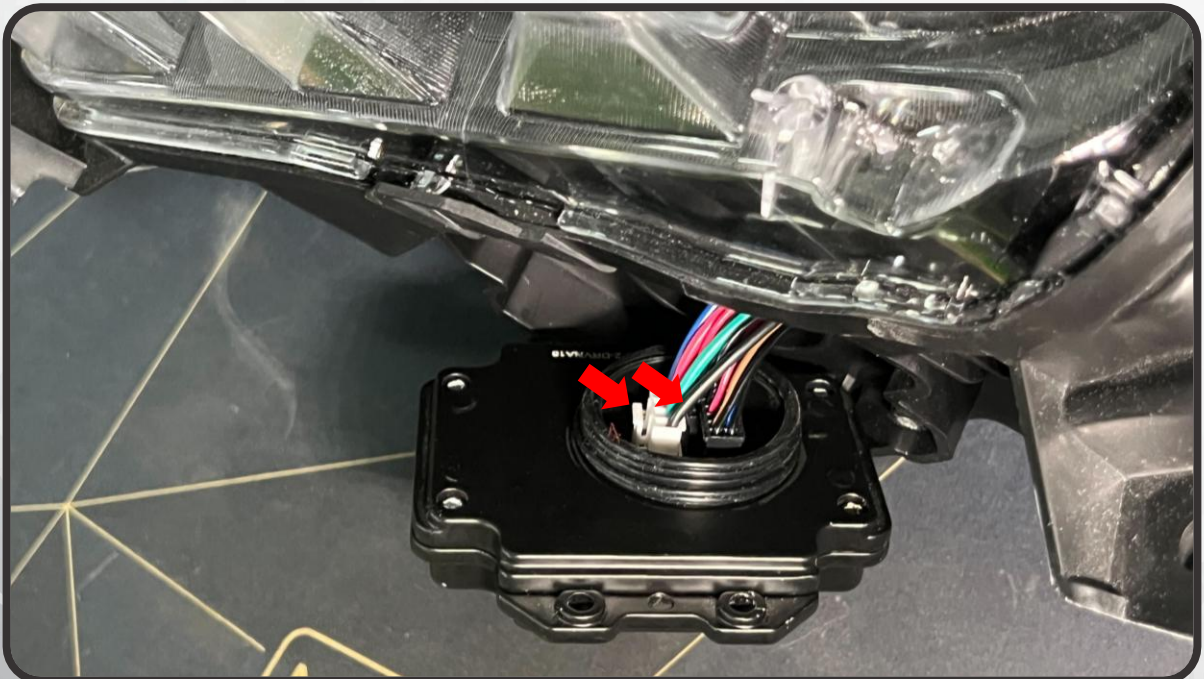


HEADLIGHT SETUP

15. 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 BOTTOM OF THE HEADLIGHT

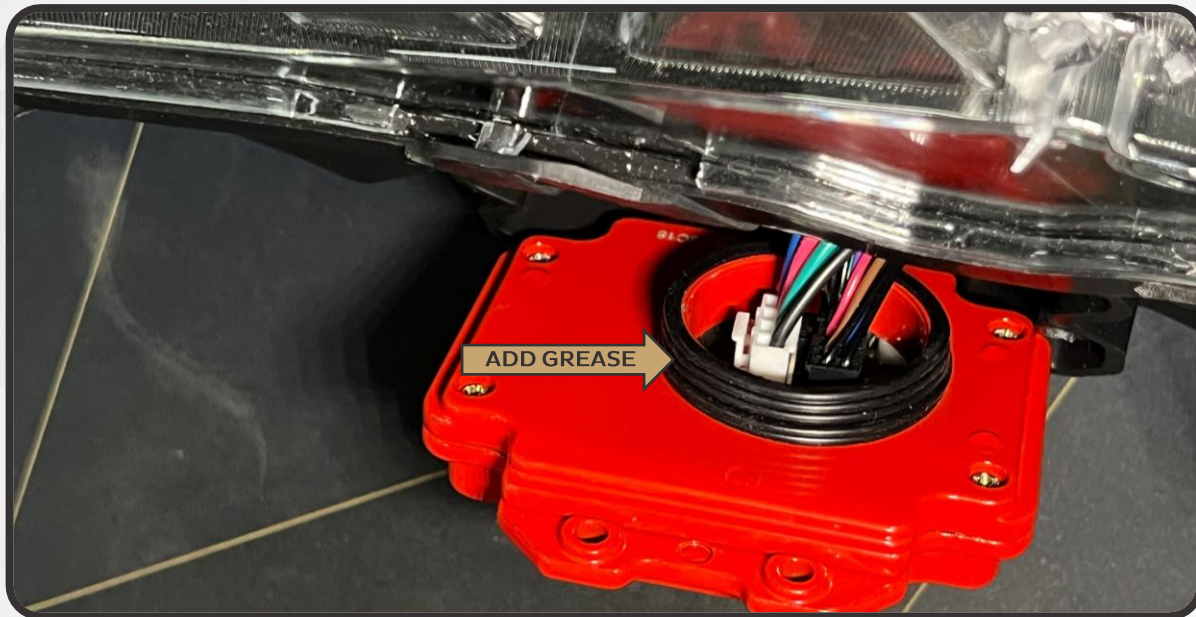


16. PULL THE DRIVER OFF OF THE HOUSING. DEPRESS THE CLIP ON EACH OF THE DRIVER CONNECTORS AND PULL TO DISCONNECT THE DRIVER FROM THE INTERNAL HEADLIGHT WIRING

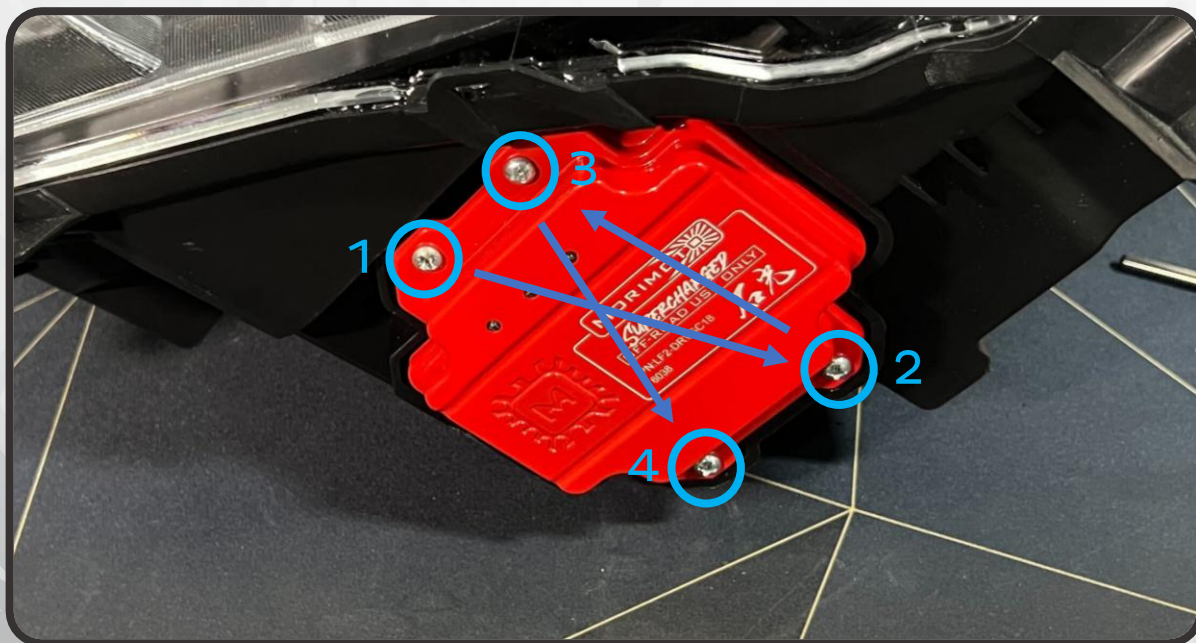


HEADLIGHT SETUP

17. 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



18. 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 THE ORIGINAL FOUR PHILLIPS HEAD SCREWS, HAND TIGHTENING THEM DOWN IN A STAR PATTERN TO ENSURE THE DRIVER SEATS EVENLY AGAINST THE HOUSING



HEADLIGHT SETUP

19. FOR XB EVO HEADLIGHTS (EXCL. HYBRID MODEL), INSTALL ONE OF THE PROVIDED TEMPURATURE SENSOR HARNESSES ONTO EACH OF THE HEADLIGHT ASSEMBLIES



20. IF YOUR TRUCK CAME WITH FACTORY LED PROJECTOR HEADLIGHTS, CONNECT ONE OF THE PROVIDED LED PROJECTOR MODULES ONTO EITHER THE TEMPURATURE SENSOR HARNESS (FOR EVO MODEL) OR DIRECTLY ONTO THE CONNECTOR ON THE BACK OF THE HOUSING (HYRBID MODEL) ON EACH OF THE HEADLIGHT ASSEMBLIES. THE LED PROJECTOR MODULES ARE SIDE-SPECIFIC, SO CHECK THE TEXT ON THE MODULE CASING

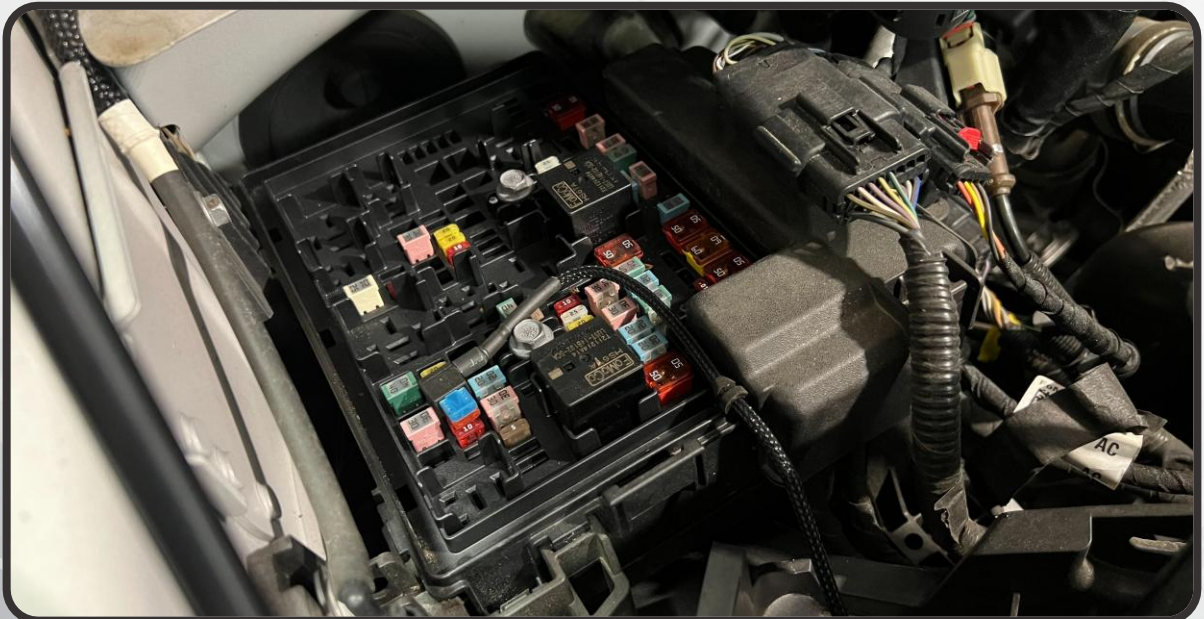


WIRING

21. LOCATE THE UNDER-HOOD FUSE BOX ON THE PASSENGER SIDE OF THE ENGINE BAY BY THE FIREWALL. OPEN THE LID TO THE FUSE BOX AND LOCATE AND REMOVE THE 10A FUSE FROM SLOT #25

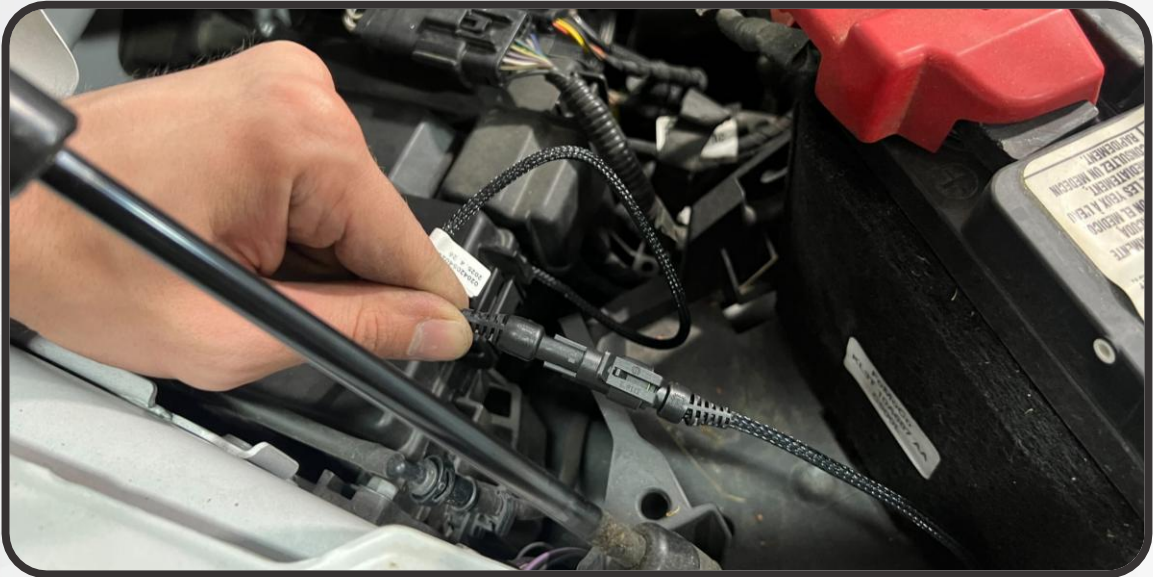


22. INSERT THE FUSE TAP INTO THE # 25 SLOT AND ROUTE THE HARNESS OUT OF THE FUSE BOX. USING A DRILL WITH A 5.5MM/7/32" DRILL BIT OR A SMALL CUTTING TOOL, MAKE A NOTCH IN THE SIDE WALL OF THE FUSE BOX LID SO THAT THE LID CAN CLOSE OVER THE GROMMET ON THE DRL FUSE TAP WIRE



WIRING

23. CONNECT THE SECOND-LONGEST END OF THE DRL HARNESS TO THE FUSE TAP



24. 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

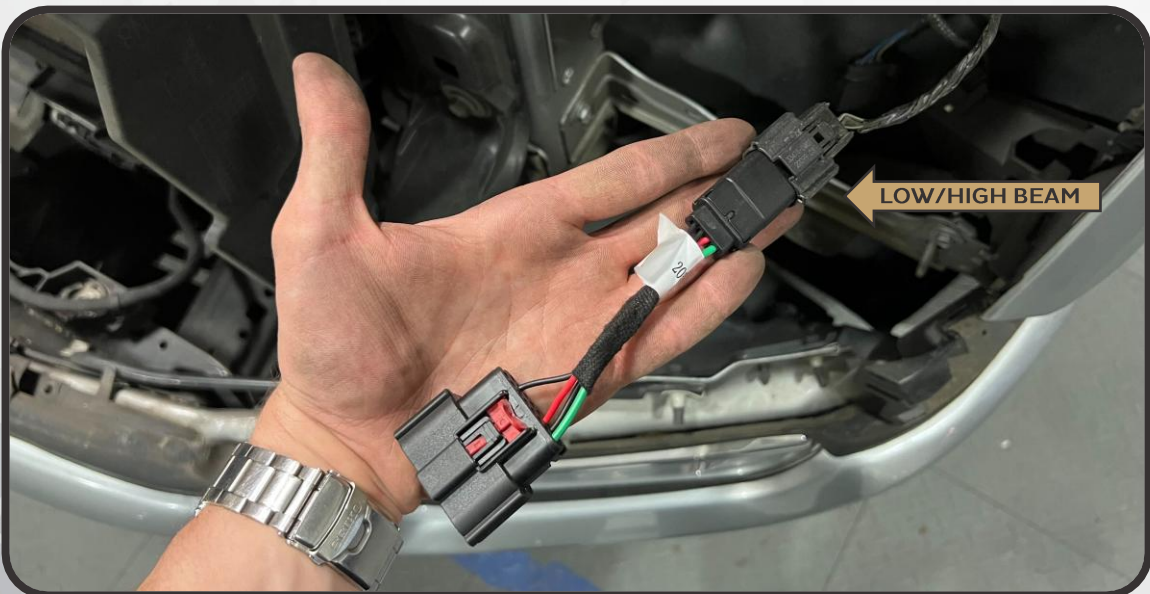
IF YOUR TRUCK WAS ORIGINALLY EQUIPPED WITH FACTORY LED PROJECTOR HEADLIGHTS, SKIP AHEAD TO STEP 27 ON THE NEXT PAGE (17). IF YOUR TRUCK WAS ORIGINALLY EQUIPPED WITH FACTORY HALOGEN OR LED REFLECTOR HEADLIGHTS, FOLLOW THE STEPS BELOW

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



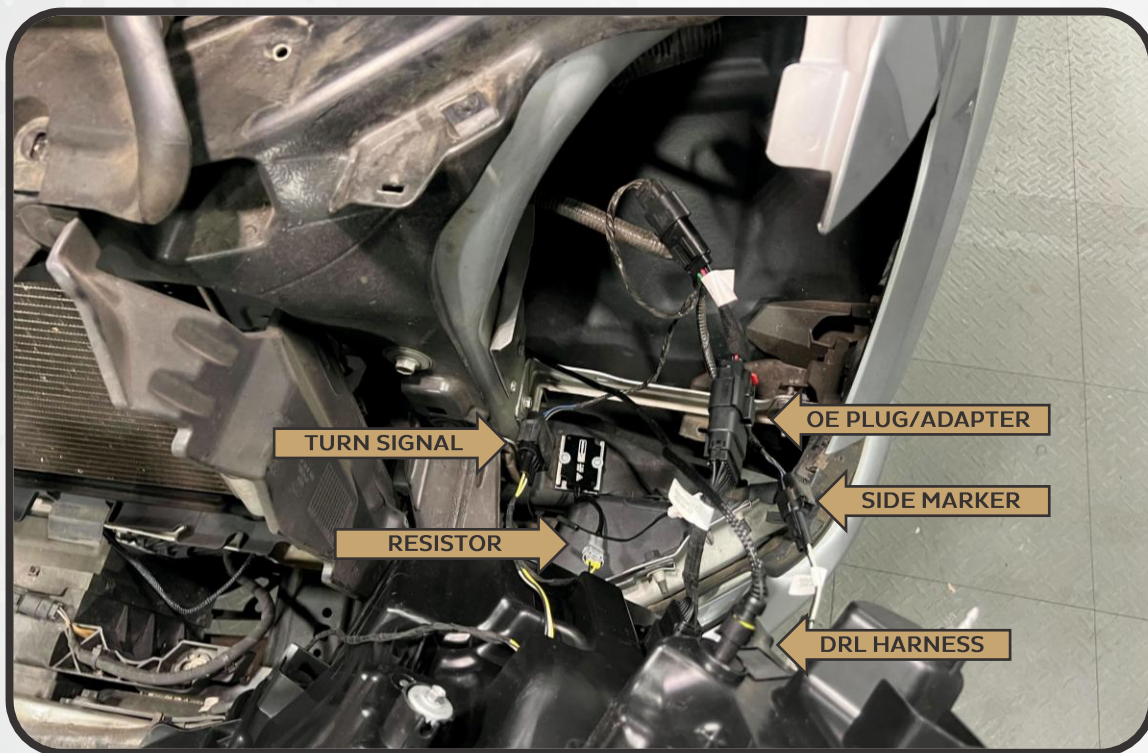
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26. CONNECT THE HALOGEN INPUT ADAPTER HARNESS TO THE LOW/HIGH BEAM CONNECTOR, AS SHOWN BELOW, ON EACH SIDE OF THE TRUCK



HEADLIGHT INSTALLATION

27. LIFT ONE OF THE NEW HEADLIGHT ASSEMBLIES UP TO THE HEADLIGHT CAVITY OF THE VEHICLE.
- HALOGEN AND LED REFLECTOR EQUIPPED TRUCKS: CONNECT THE DRL HARNESS, RESISTOR, SIDE MARKER, AND EITHER YOUR FACTORY HEADLIGHT CONNECTOR (OE LED TRUCKS), OR THE INPUT ADAPTER HARNESS (OE HALOGEN TRUCKS), TO THE BACK OF THE HEADLIGHT HOUSING
 - LED PROJECTOR EQUIPPED TRUCKS: CONNECT THE DRL HARNESS TO THE BACK OF THE HOUSING, AND THE VEHICLE'S FACTORY HEADLIGHT CONNECTOR TO THE LED PROJECTOR MODULE



28. 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.
29. REPEAT STEPS 27 AND 28 ON THE OPPOSITE SIDE OF THE VEHICLE

HEADLIGHT INSTALLATION

30. 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

31. TUCK AND SECURE ANY LOOSE/EXCESS WIRING

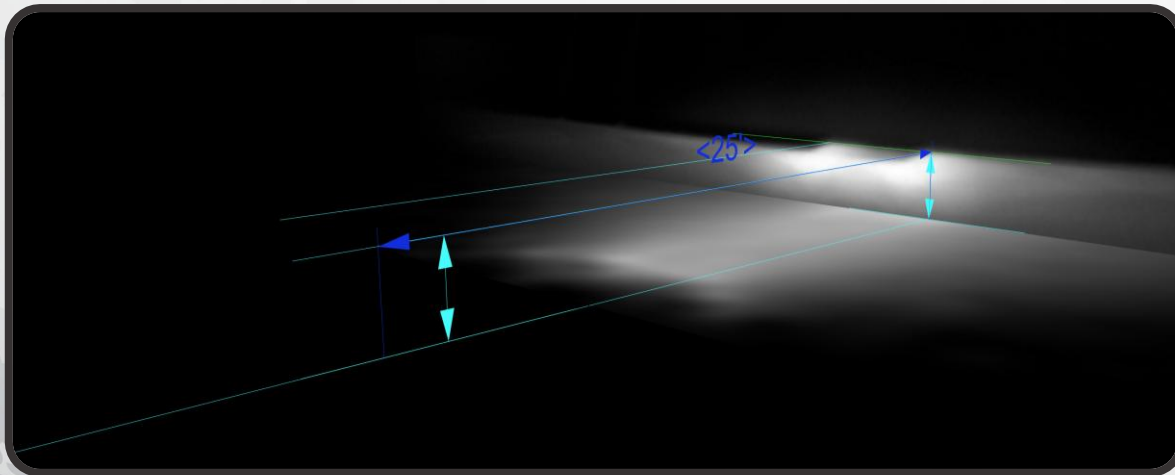
32. REASSEMBLE THE FRONT OF THE VEHICLE IN THE REVERSE ORDER OF DISASSEMBLY

HEADLIGHT AIMING

33. THE HEADLIGHTS COME OUT OF THE BOX AIMED FOR STOCK RIDE HEIGHT, HOWEVER IT IS RECOMMENDED TO FINE TUNE THE AIM OF YOUR LOW BEAM AFTER INSTALLATION 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)



34. 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 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 40"



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: 21-23 FORD F-150



- ENJOY YOUR NEW MORIMOTO XB EVO HEADLIGHTS! -

