



BRIGHT IS ONLY THE BEGINNING

INSTALL GUIDE

2014-2024 4RUNNER XB EVO HEADLIGHTS

LF2-531/LF2-531Y



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.



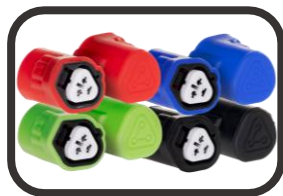
14-24 4RUNNER XB EVO HEADLIGHTS

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WHAT'S INCLUDED



2X (PAIR)
HEADLIGHTS



4X PAIRS OF MODE
SELECTORS (EXCL.
HYBRID MODEL)



2X OE HALOGEN
HARNESSES



2X OE LED
HARNESSES



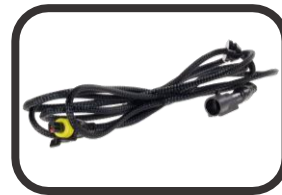
2X RESISTORS



1X FUSE TAP



1X DRL HARNESS



1X DRL HARNESS
EXTENSION







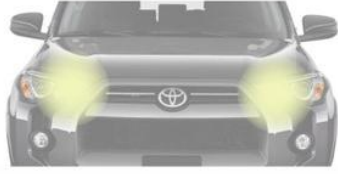
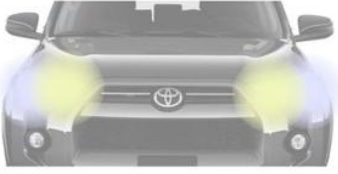

REQUIRED TOOLS

- RATCHET
- 10MM SOCKET
- PRY TOOL
- #2 PHILLIP'S HEAD SCREWDRIVER
- ZIP TIES
- DRILL AND 7/32" BIT



14-24 4RUNNER XB EVO HEADLIGHTS

BEFORE REMOVING YOUR FACTORY HEADLIGHTS, USE THE CHART BELOW TO IDENTIFY WHICH HEADLIGHTS YOUR VEHICLE CAME WITH FROM THE FACTORY. MAKE A NOTE OF THIS, AS THE WIRING WILL VARY DEPENDING ON WHICH VERSION YOU HAVE

	<i>All 2014-2020</i> HALOGEN LOW BEAM HALOGEN HIGH BEAM	<i>2021 (excl. Limited, Nightshade, TRD Pro)</i> LED LOW BEAM HALOGEN HIGH BEAM	<i>2021 Limited, Nightshade, TRD Pro All 2022-2024</i> LED LOW BEAM LED HIGH BEAM <small>FACTORY HIGH BEAM PLUG WILL BE UNUSED/CAPPED OFF WITH XB HEADLIGHTS INSTALLED</small>
DAYTIME RUNNING LIGHT*			
LOW BEAM			
HIGH BEAM			

*All 2014-2024 4Runners have a halogen Daytime Running Light (DRL). (65w 9005 High Beam @ 50% via PWM)



DISASSEMBLY

1. RAISE THE HOOD OF THE VEHICLE. REMOVE THE THIRTEEN PUSH CLIPS SECURING THE RADIATOR COVER BY DEPRESSING THE INNER PORTION OF THE CLIP, AND THEN PRYING UP ON THE OUTER PORTION. WITH THE CLIPS REMOVED, REMOVE THE RADIATOR COVER AND SET IT ASIDE



2. REMOVE THE TWO PUSH CLIPS (RED) BY PRYING UP THE MIDDLE AND THEN PRYING UP THE OUTER PORTION, AND ONE CENTER 10MM SCREW (YELLOW), FROM THE TOP OF THE GRILLE



DISASSEMBLY

3. FIRMLY PULL THE UPPER GRILLE FORWARD, RELEASING THE 6 CLIPS SECURING IT, AND REMOVE IT FROM THE VEHICLE



4. MOVING TO THE SIDE OF THE BUMPER COVER IN FRONT OF THE WHEEL, REMOVE THE THREE 10MM SCREWS FROM THE SIDE OF THE BUMPER IN FRONT OF THE FRONT WHEEL



DISASSEMBLY

5. REMOVE THE TWO 10MM SCREWS FROM THE UNDERSIDE OF THE BUMPER



6. PRY THE TWO FENDER LINER CLIPS FROM THE BUMPER

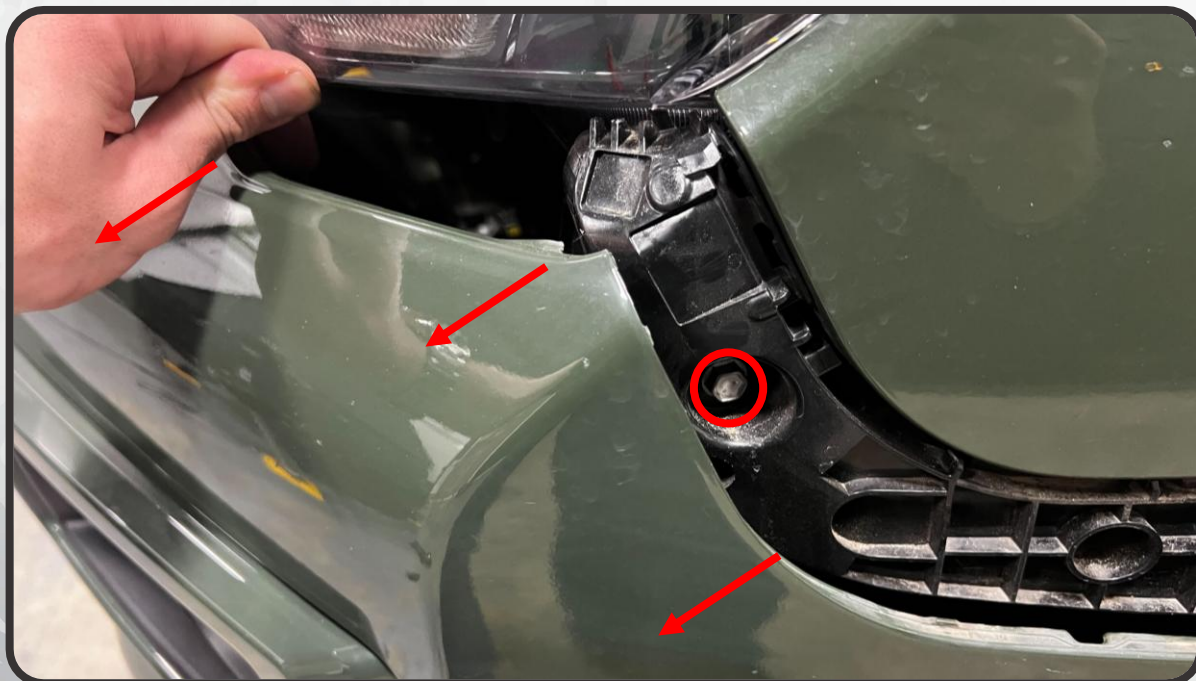


DISASSEMBLY

7. PULL THE TOP TAB OF THE BUMPER COVER BACK TOWARDS THE WHEEL, AND THEN PULL THE BUMPER COVER AWAY FROM THE FENDER



8. PULL THE SIDE OF THE BUMPER FORWARD, RELEASING IT FROM THE BUMPER COVER BRACKET ON THE BOTTOM OF THE HEADLIGHT ASSEMBLY. REMOVE THE 10MM BOLT ON THE FENDER BRACKET THAT WAS BEHIND THE SIDE OF THE BUMPER COVER

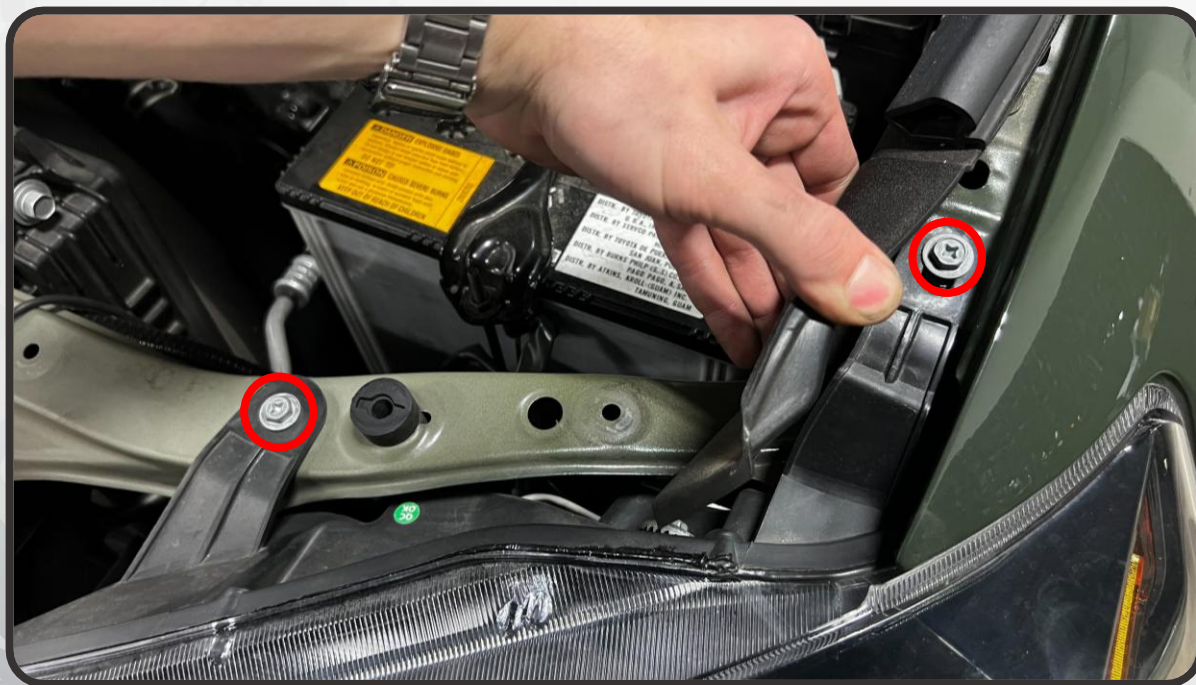


DISASSEMBLY

9. REMOVE THE 10MM BOLT ON THE INNER EDGE OF THE HEADLIGHT

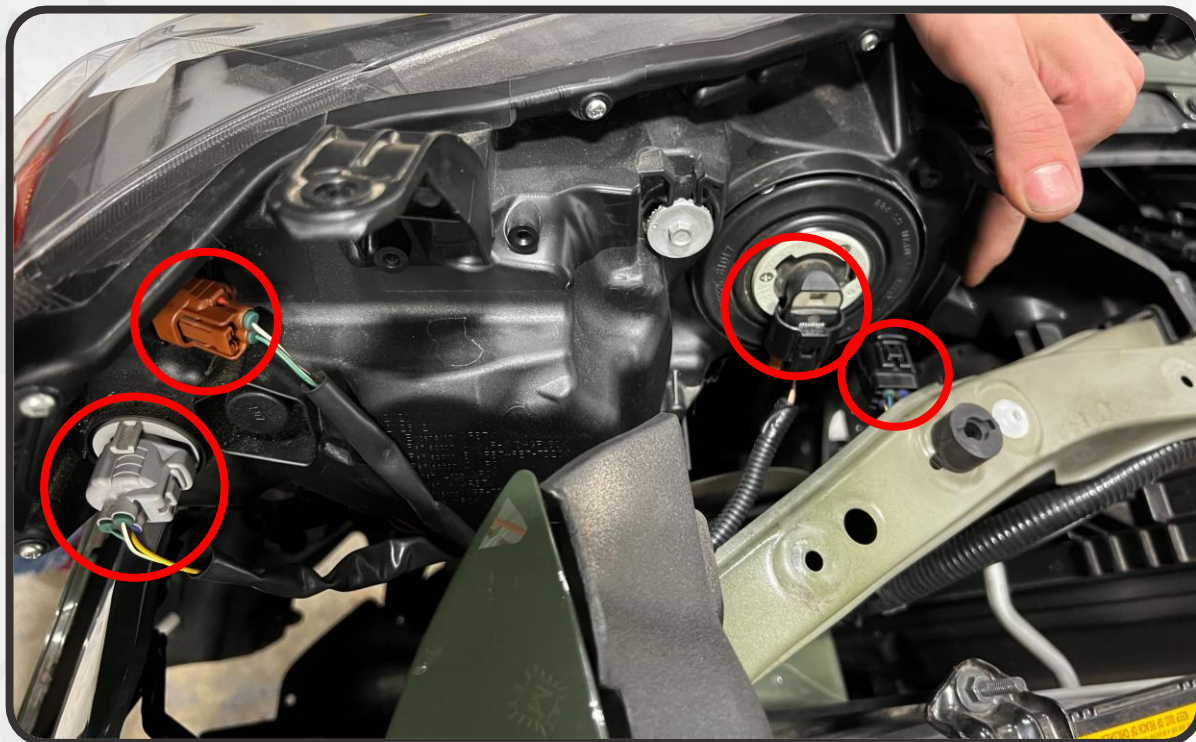


10. REMOVE THE TWO BOLTS SECURING THE TOP HEADLIGHT TABS



DISASSEMBLY

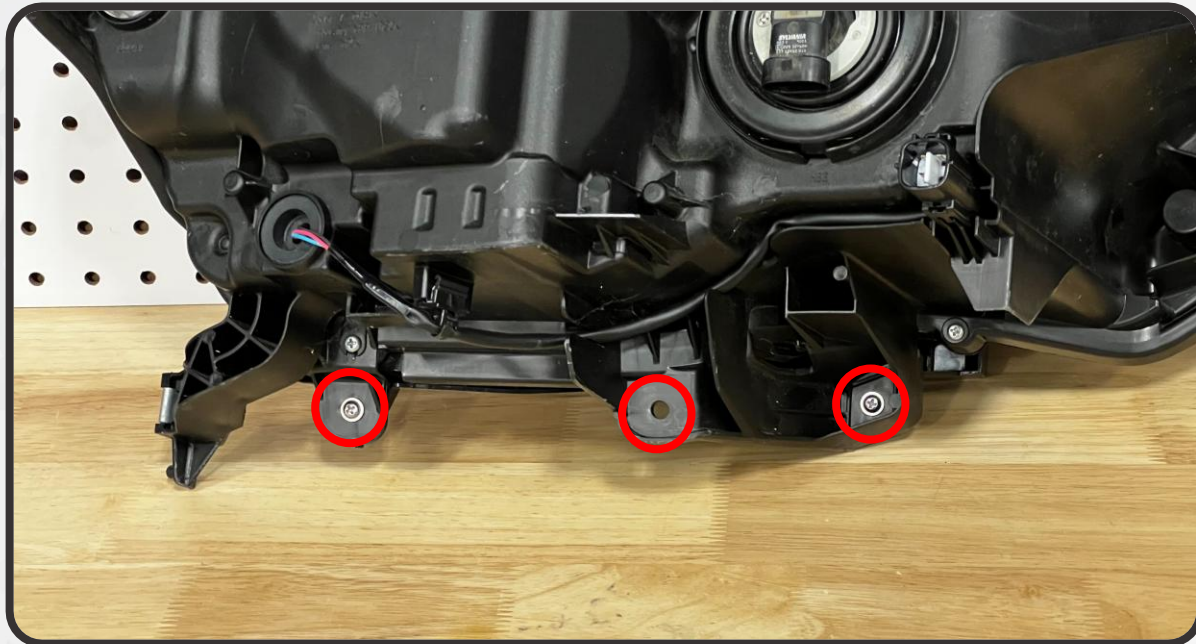
11. LIFT UP ON THOSE TWO UPPER HEADLIGHT TABS AND PULL THE HEADLIGHT FORWARD. FLEX THE BUMPER COVER OUT OF THE WAY AND PULL THE HEADLIGHT OFF OF THE VEHICLE ENOUGH TO DISCONNECT THE FOUR PLUGS ON THE BACK OF THE LIGHT. WITH THE PLUGS DISCONNECTED, REMOVE THE LIGHT AND SET IT ASIDE



12. REPEAT STEPS 4-11 ON THE OPPOSITE SIDE OF THE VEHICLE

HEADLIGHT SETUP

13. REMOVE THE BUMPER COVER BRACKET FROM THE BOTTOM FACTORY HEADLIGHT. IT WILL BE HELD ON BY EITHER TWO OR THREE PHILLIPS HEAD SCREWS, DEPENDING ON MODEL



14. TRANSFER THE BRACKET OVER TO THE NEW HEADLIGHT ASSEMBLY, AND SECURE IT USING THE FACTORY HARDWARE. REPEAT THESE STEPS ON THE OTHER HEADLIGHT ASSEMBLY

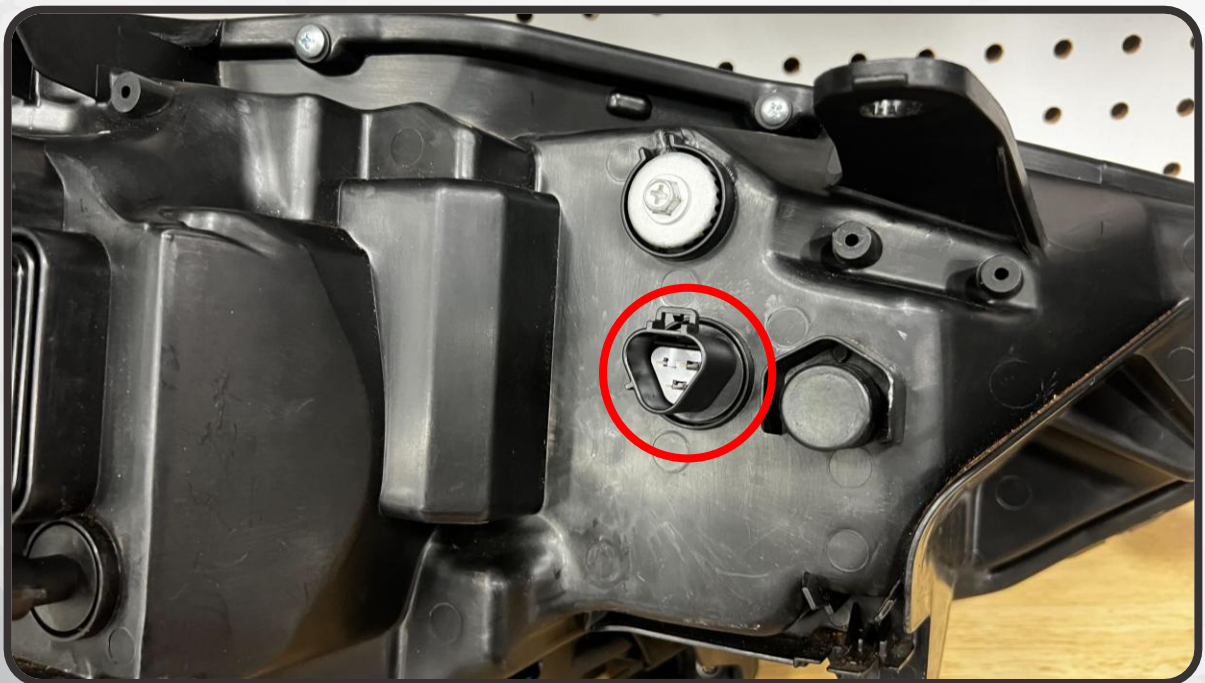


HEADLIGHT SETUP

15. 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)

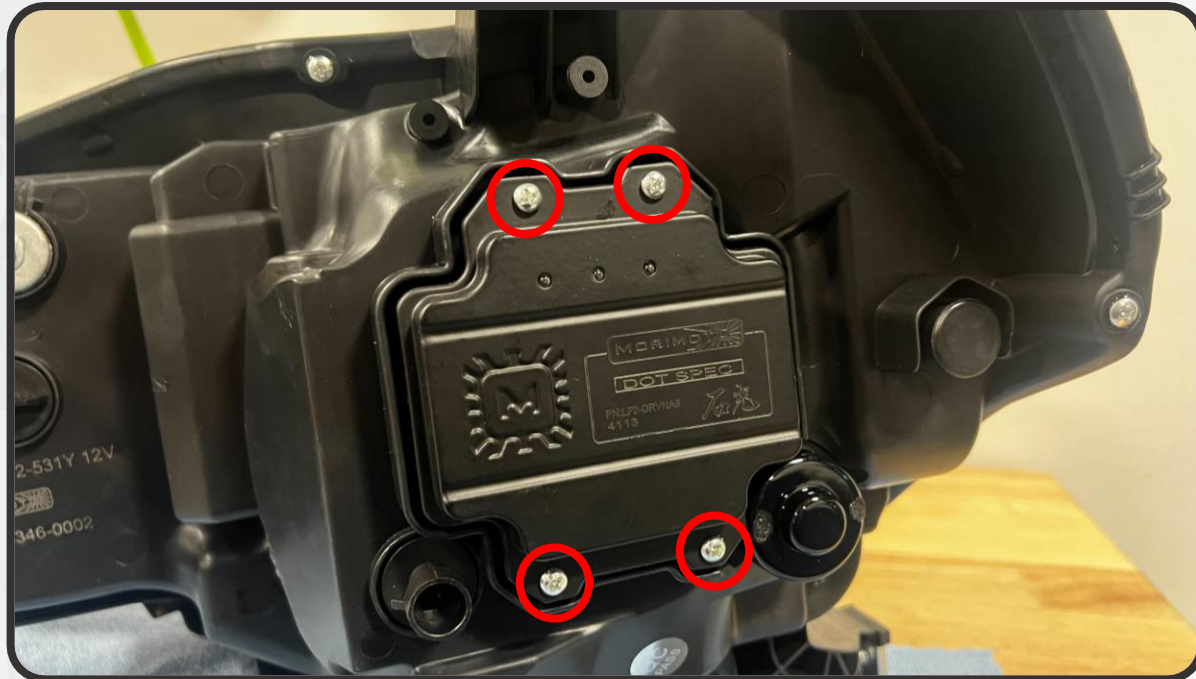
			
<ul style="list-style-type: none"> • DRL: WHITE • TURN SIGNAL: FADE-OFF 	<ul style="list-style-type: none"> • DRL: WHITE • TURN SIGNAL: SEQUENTIAL 	<ul style="list-style-type: none"> • DRL: AMBER • TURN SIGNAL: FADE-OFF 	<ul style="list-style-type: none"> • DRL: AMBER • TURN SIGNAL: SEQUENTIAL

16. 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

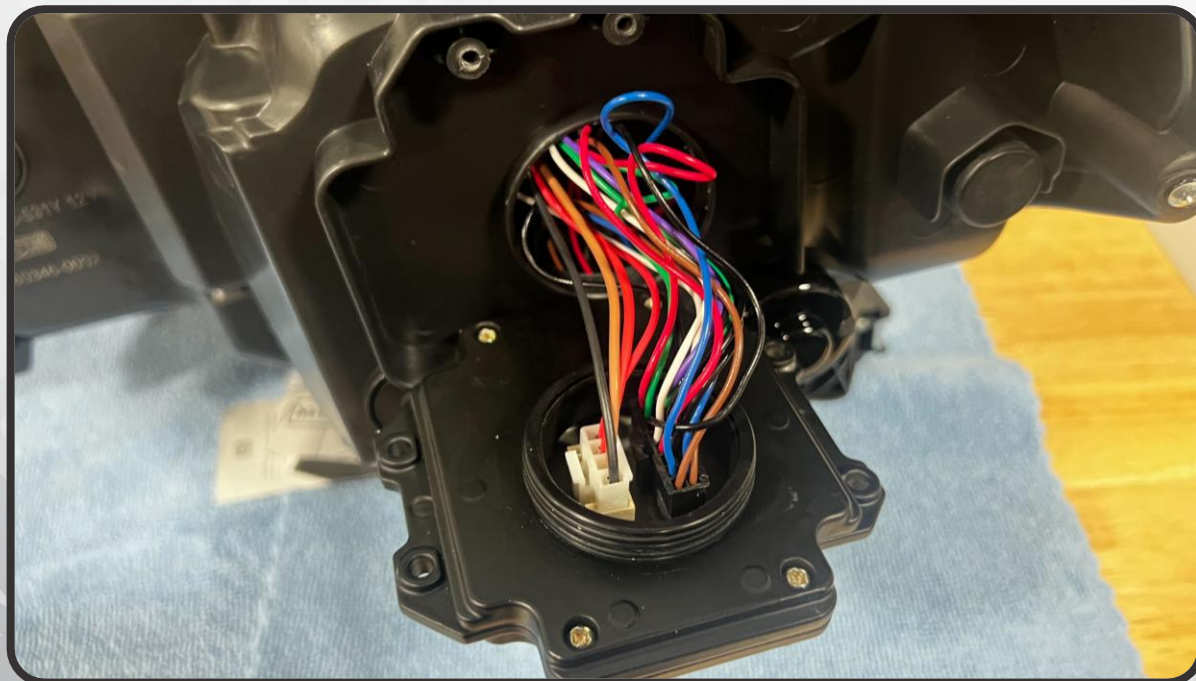


HEADLIGHT SETUP

17. 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

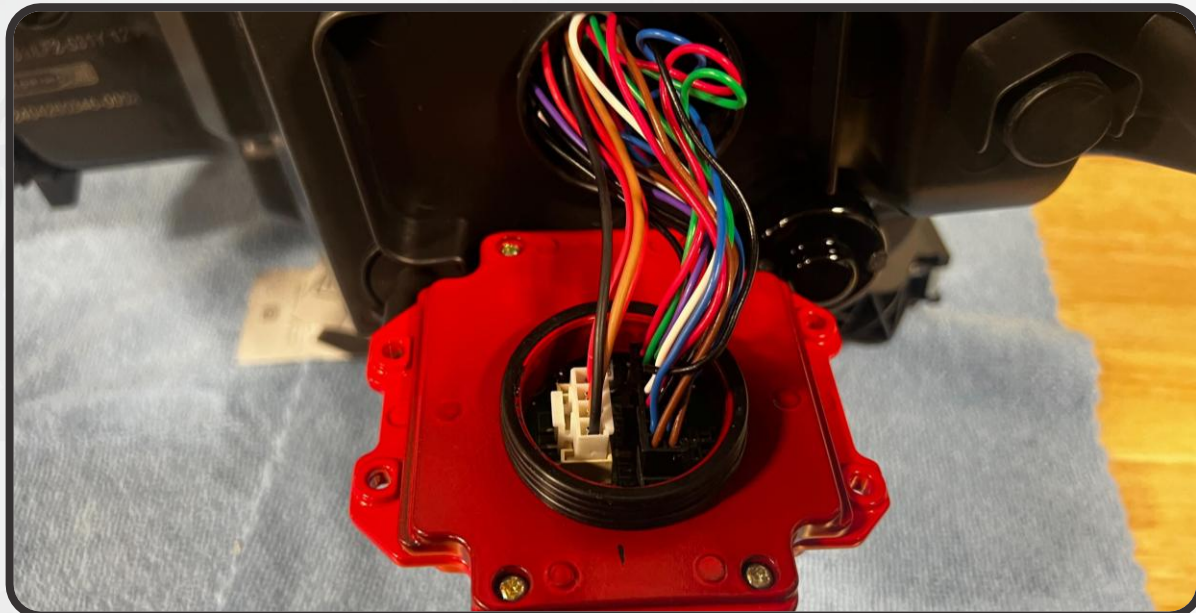


18. PULL THE DRIVER OFF OF THE HOUSING. DEPRESS THE CLIP ON EACH OF THE DRIVER CONNECTORS AND PULL TO DISCONNECT THE DRIVER FROM THE INTERNAL HEADLIGHT WIRING

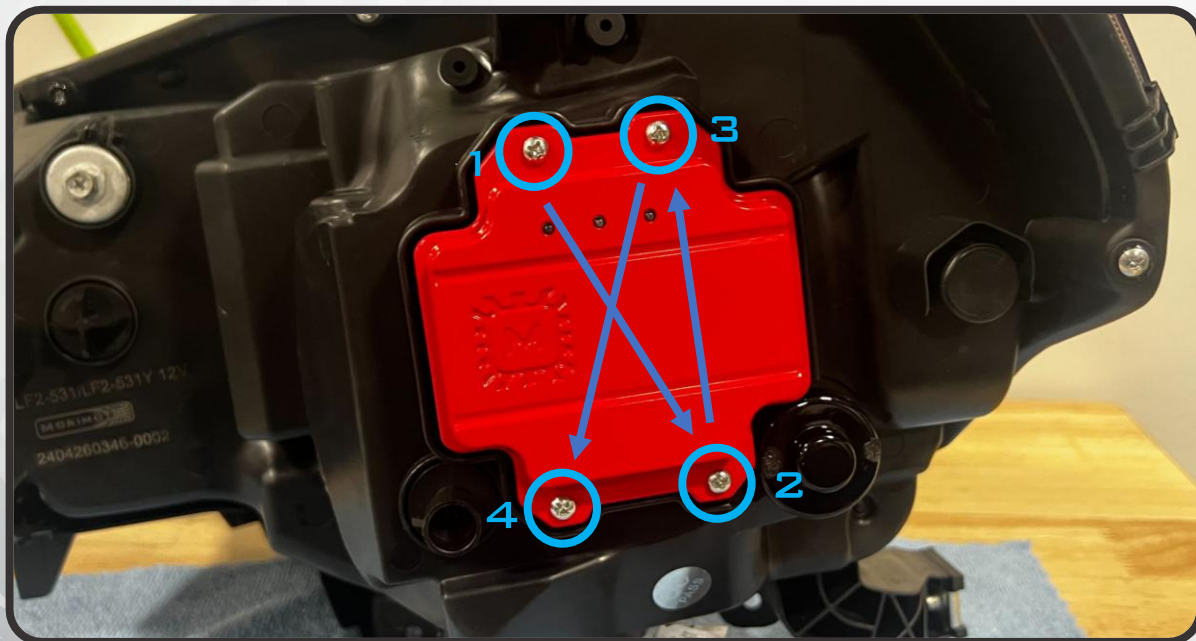


HEADLIGHT SETUP

19. CONNECT THE NEW SUPERCHARGED DRIVER TO THE INTERNAL HEADLIGHT WIRING, MAKING SURE THE TAB ON EACH OF THE CONNECTOR'S CLIPS SECURELY INTO PLACE



20. APPLY A THIN LAYER OF THE INCLUDED GREASE TO THE OUTER EDGE OF THE SEAL ON THE NEW DRIVER. 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



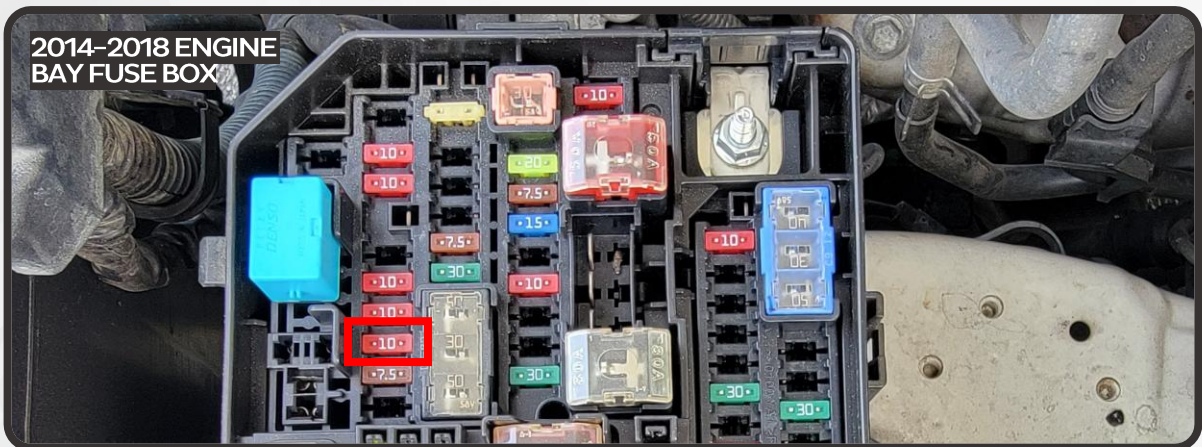
WIRING

21. THE DAYTIME RUNNING LIGHT AND LENS HEATER (IF EQUIPPED) ARE POWERED VIA THE INCLUDED FUSE TAP HARNESS. THE FUSE TAP NEEDS TO BE INSTALLED INTO A FUSE SLOT ON YOUR VEHICLE WITH SWITCHED IGNITION POWER (CONSTANT 12V WHEN THE VEHICLE IS ON, AND OFF WHEN THE VEHICLE IS OFF).

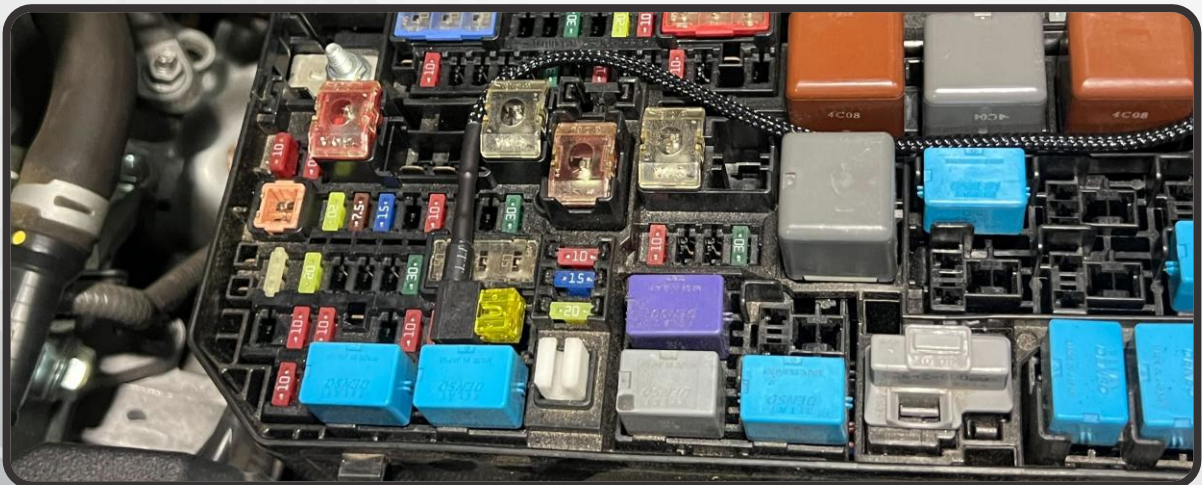
- FOR 2014-2018 MODEL YEAR VEHICLES, WE RECOMMEND USING THE 10A INJECTOR FUSE (LABELED "INJ") IN THE UNDER-HOOD FUSE BOX. FOLLOW THE INSTRUCTIONS BELOW
- FOR 2019-2024 MODEL YEAR VEHICLES, WE RECOMMEND USING THE 15A CIGARETTE LIGHTER/POWER OUTLET FUSE (LABELED P/OUTLET) IN THE INTERIOR FUSE PANEL UNDER THE DASH. SKIP TO STEP 25 ON THE NEXT PAGE (15)

2014-2018 RECOMMENDED INSTALL

22. OPEN YOUR ENGINE BAY FUSE BOX AND LOCATE THE 10A INJECTOR FUSE (LABELED "INJ") IN THE #68 SLOT AND REMOVE IT



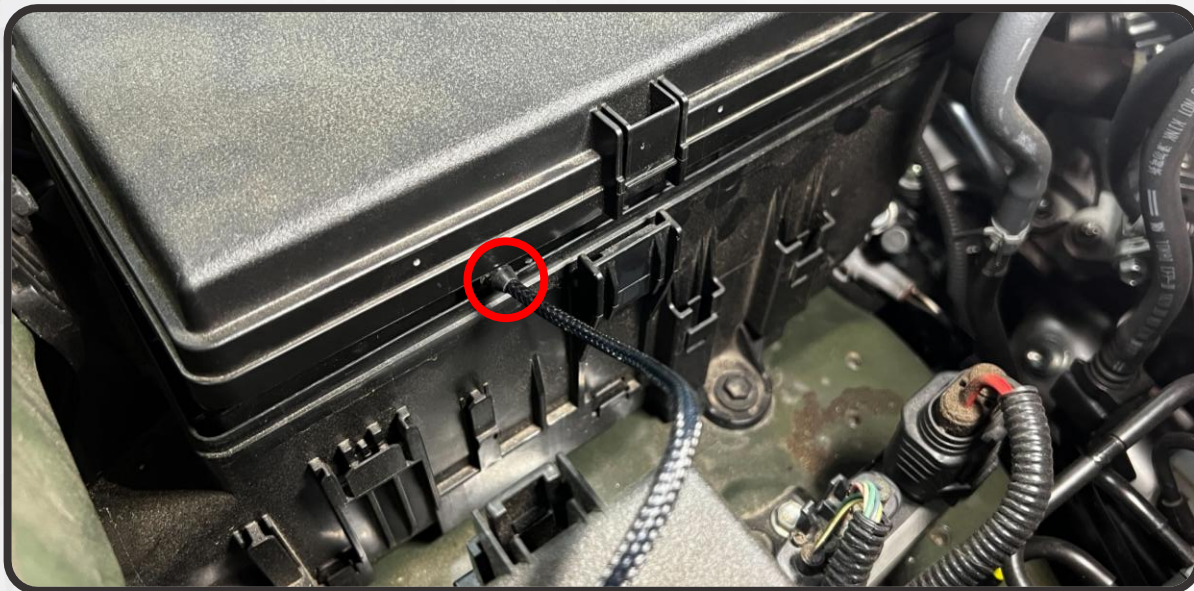
23. INSERT THE FUSE YOU REMOVED FROM THE FUSE BOX INTO THE EMPTY FUSE SLOT OF THE LOW-PROFILE MINI FUSE TAP HARNESS. THEN, INSERT THE FUSE TAP INTO THE INJECTOR FUSE YOU REMOVED THE



WIRING

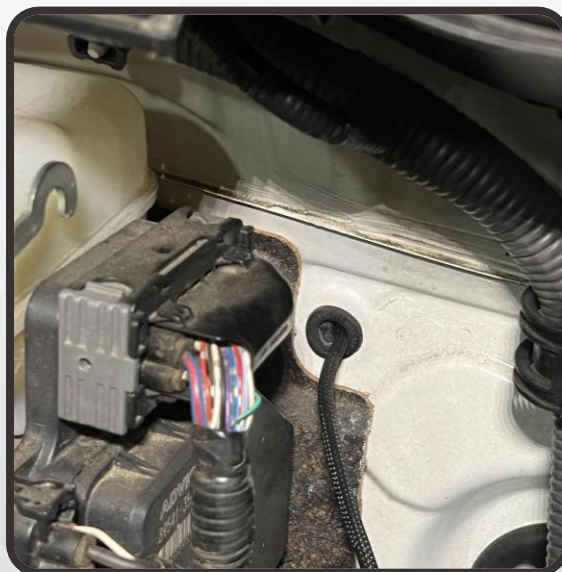
24. ROUTE THE FUSE TAP OUT OF THE FUSE BOX. USING A DRILL WITH A 5.5MM/7/32" DRILL BIT OR A SMALL CUTTING TOOL, MAKE A NOTCH IN THE SIDE WALL OF THE FUSE BOX LID FOR THE HARNESS TO PASS THROUGH, AND INSERT THE GROMMET ON THE FUSE TAP INTO THE NOTCH. CLOSE THE FUSE BOX LID DOWN OVER THE HARNESS

PROCEED TO STEP 28 ON PAGE 17



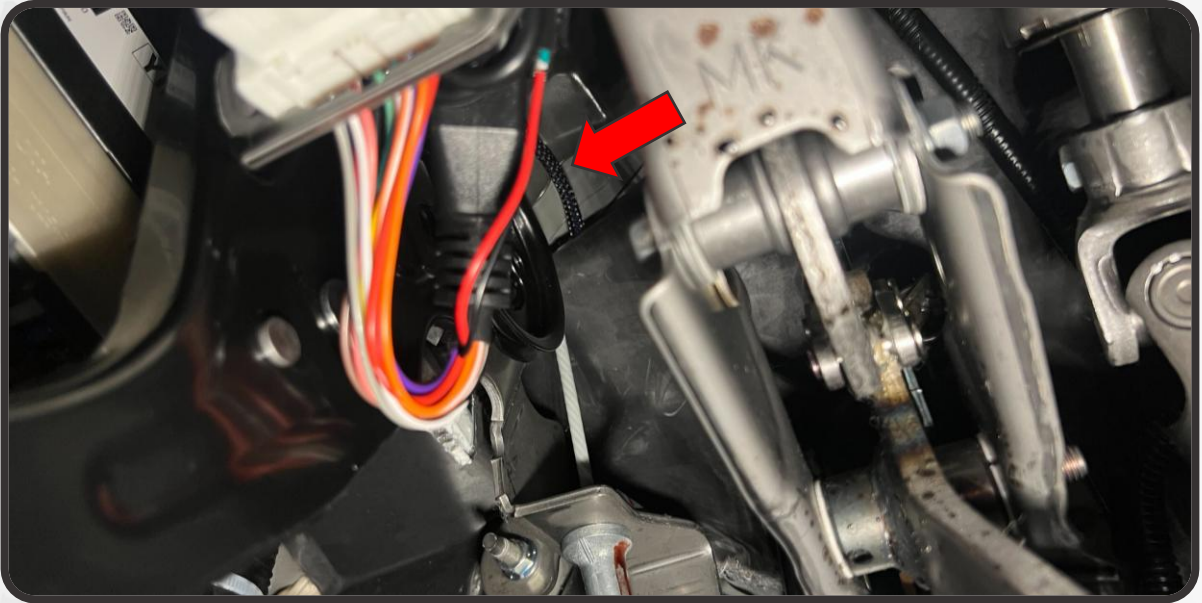
2019-2024 RECOMMENDED INSTALL

25. LOCATE THE FIREWALL GROMMET SHOWN BELOW AND REMOVE IT. CUT A SLIT IN THE MIDDLE OF THE GROMMET. PASS THE PROVIDED FUSE TAP EXTENSION THROUGH THE GROMMET AND REINSTALL IN INTO THE FIREWALL



WIRING

26. MOVING TO THE DRIVER FOOTWELL, LOOK UP THE FIREWALL AND LOCATE THE BIT OF HARNESS YOU PUT THROUGH THE HOLE. IT MAY HELP TO HAVE A SECOND PERSON IN THE FOOTWELL WHILE PASSING THE HARNESS THROUGH THE FIREWALL. PULL THE HARNESS THROUGH AND DOWN TO THE INTERIOR FUSE BOX



27. REMOVE THE LID FROM THE INTERIOR FUSE BOX AND LOCATE AND REMOVE THE 15A CIGARETTE LIGHTER/POWER OUTLET FUSE (LABELED P/OUTLET) IN THE #47 SLOT. INSTALL THE PROVIDED FUSE TAP INTO THIS FUSE SLOT AND CONNECT THE FUSE TAP TO THE EXTENSION HARNESS. TUCK AND SECURE ANY LOOSE/EXCESS WIRING IN THE FOOTWELL, AND ENSURE THE WIRES WILL NOT BE PINCHED BY ANY MOVING COMPONENTS SUCH AS THE PEDALS



WIRING

28. CONNECT THE SECOND-LONGEST END OF THE DRL HARNESS TO THE FUSE TAP OR FUSE TAP EXTENSION (DEPENDING ON YOUR INSTALL)



29. ROUTE THE SHORTER END OF THE DRL HARNESS FORWARD TO THE DRIVER-SIDE HEADLIGHT CAVITY



WIRING

30. ROUTE THE LONG END OF THE HARNESS ACROSS TO THE PASSENGER-SIDE HEADLIGHT CAVITY. WE RECOMMEND ROUTING IT ACROSS THE TOP OF THE RADIATOR SUPPORT AND SECURING IT IN PLACE WITH ZIP TIES. MAKE SURE ANY LOOSE/EXCESS WIRING IS TUCKED AWAY IN A SAFE LOCATION AND SECURED

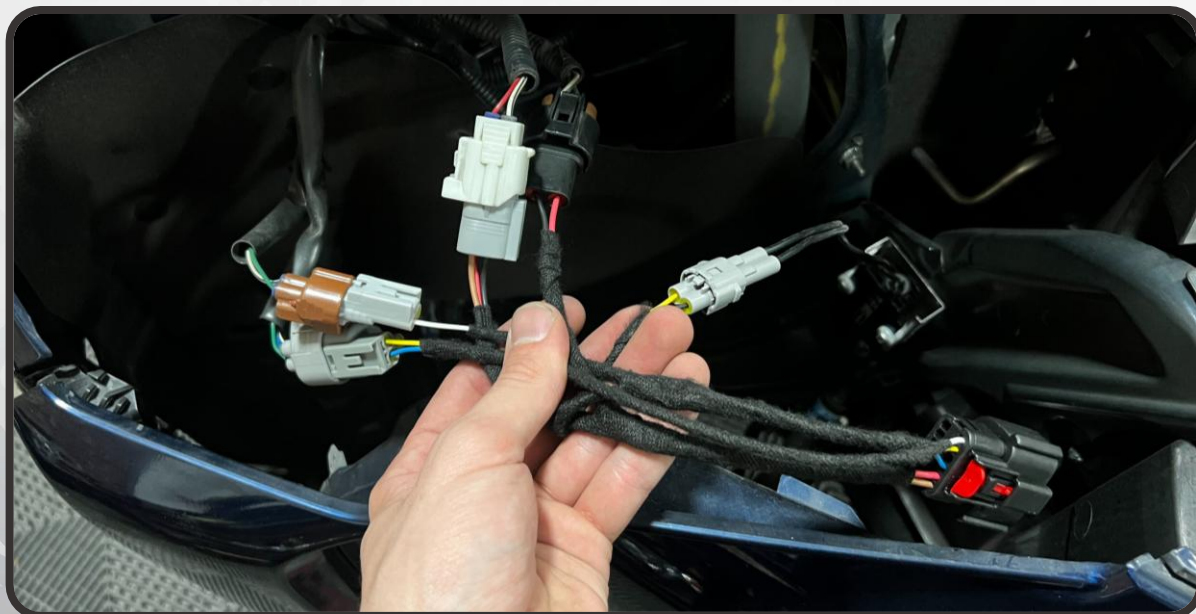


INSTALLATION

31. MOUNT ONE OF THE MAGNET MOUNT RESISTORS IN THE HEADLIGHT CAVITY ON EACH SIDE. MAKE SURE THE RESISTOR IS OUT OF THE WAY OF THE HEADLIGHT



32. IF YOUR VEHICLE CAME EQUIPPED WITH THE FULLY HALOGEN FACTORY HEADLIGHTS, TAKE THE HALOGEN ADAPTER HARNESS AND MATCH THE FOUR CONNECTORS ON IT TO THE FOUR FACTORY HEADLIGHT CONNECTORS ON THE VEHICLE, AND THE SINGLE REMAINING CONNECTOR TO THE RESISTOR. REPEAT ON THE OPPOSITE SIDE OF THE VEHICLE

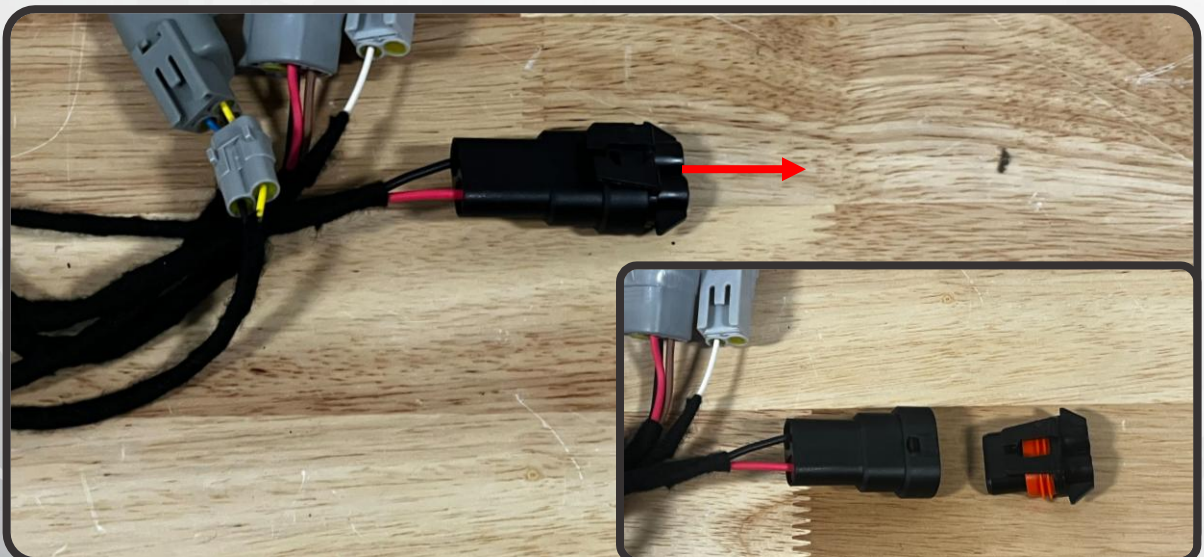


INSTALLATION

33. IF YOUR VEHICLE CAME EQUIPPED WITH THE LED LOW AND HIGH BEAM HEADLIGHTS, TAKE THE LED ADAPTER HARNESS AND MATCH THE FOUR GREY CONNECTORS ON IT TO THE THREE CORRESPONDING FACTORY HEADLIGHT CONNECTORS ON THE VEHICLE AND THE SINGLE CONNECTOR ON THE RESISTOR. **THERE SHOULD BE ONE VEHICLE-SIDE CONNECTOR LEFT DISCONNECTED (CIRCLED IN RED BELOW). THIS CONNECTOR IS NOT USED, SO INSTALL THE INCLUDED CONNECTOR CAP ONTO IT.** REPEAT ON THE OPPOSITE SIDE OF THE VEHICLE

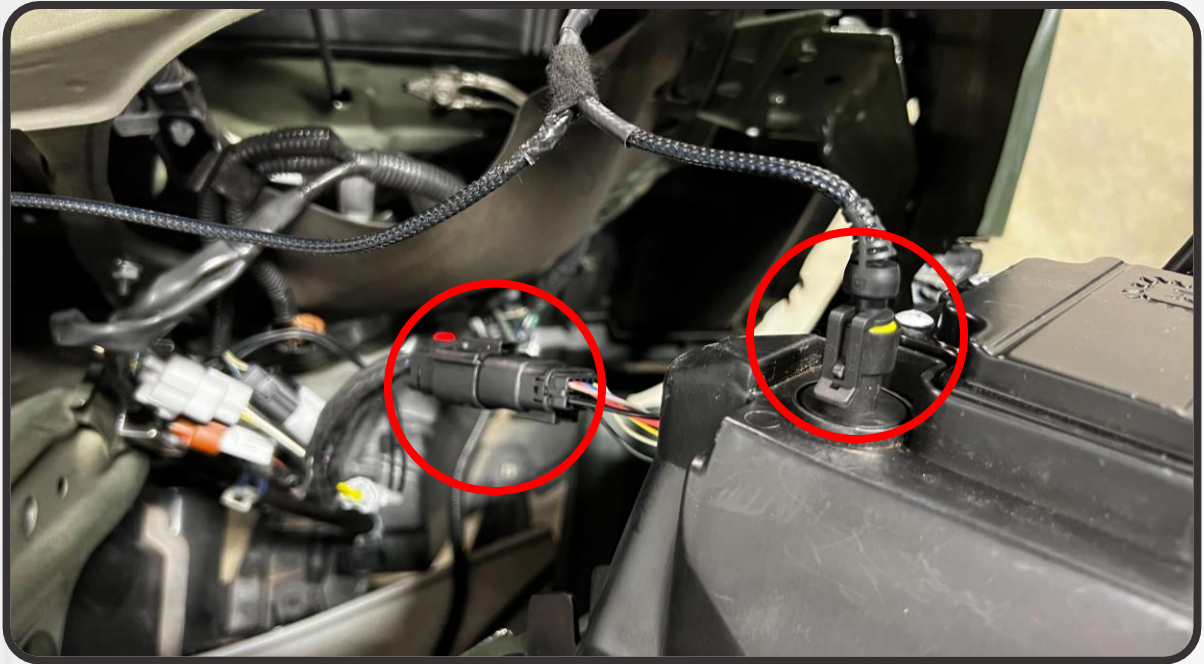


34. IF YOUR VEHICLE CAME EQUIPPED WITH THE LED LOW BEAM AND HALOGEN HIGH BEAM FACTORY HEADLIGHTS, TAKE THE LED ADAPTER HARNESS AND REMOVE THE CAP ON THE BLACK CONNECTOR. THEN, MATCH THE FOUR FACTORY HEADLIGHT CONNECTORS TO THE FOUR CORRESPONDING CONNECTORS ON THE HARNESS, AND THE SINGLE REMAINING CONNECTOR TO THE RESISTOR. REPEAT ON THE OPPOSITE SIDE OF THE VEHICLE



INSTALLATION

35. LIFT THE HEADLIGHT UP TO THE HEADLIGHT CAVITY, AND CONNECT THE DRL HARNESS AND HEADLIGHT ADAPTER HARNESS TO THE CONNECTORS ON THE BACK OF THE HEADLIGHT ASSEMBLY



36. FIT THE HEADLIGHT ONTO THE VEHICLE AND REINSTALL THE FACTORY HEADLIGHT HARDWARE

37. REPEAT STEPS 35 AND 36 ON THE OPPOSITE SIDE

38. GET IN THE VEHICLE, AND CONFIRM THAT ALL HEADLIGHT FUNCTIONS ARE WORKING PROPERLY

- 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 FRONT OF THE VEHICLE IN THE REVERSE ORDER OF DISASSEMBLY



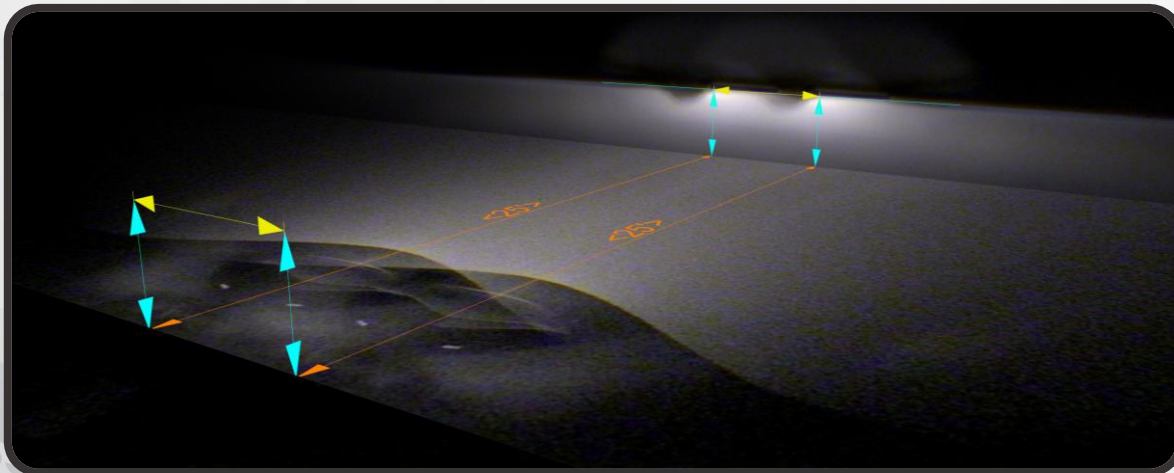
AIMING

40. 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 OF THE OUTERMOST PROJECTOR IN THE HEADLIGHT

- 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 AS THE HEADLIGHT MEASUREMENT YOU TOOK
- IF THE HEIGHT IS BETWEEN 35"-39", ADJUST THE CUTOFF TO 2" BELOW YOUR HEADLIGHT MEASUREMENT
- IF THE HEIGHT IS GREATER THAN 39.5", ADJUST THE CUTOFF TO 3" BELOW YOUR HEADLIGHT MEASUREMENT



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



14-24 4RUNNER XB EVO HEADLIGHTS



- ENJOY YOUR NEW MORIMOTO XB HEADLIGHTS! -

