TORRENT™ User Manual

Pre-Installation
Wiring & Functions
Vehicle Roof Installation

Adjustable Feet
- Permanent Mount
- Strap Kit Mount

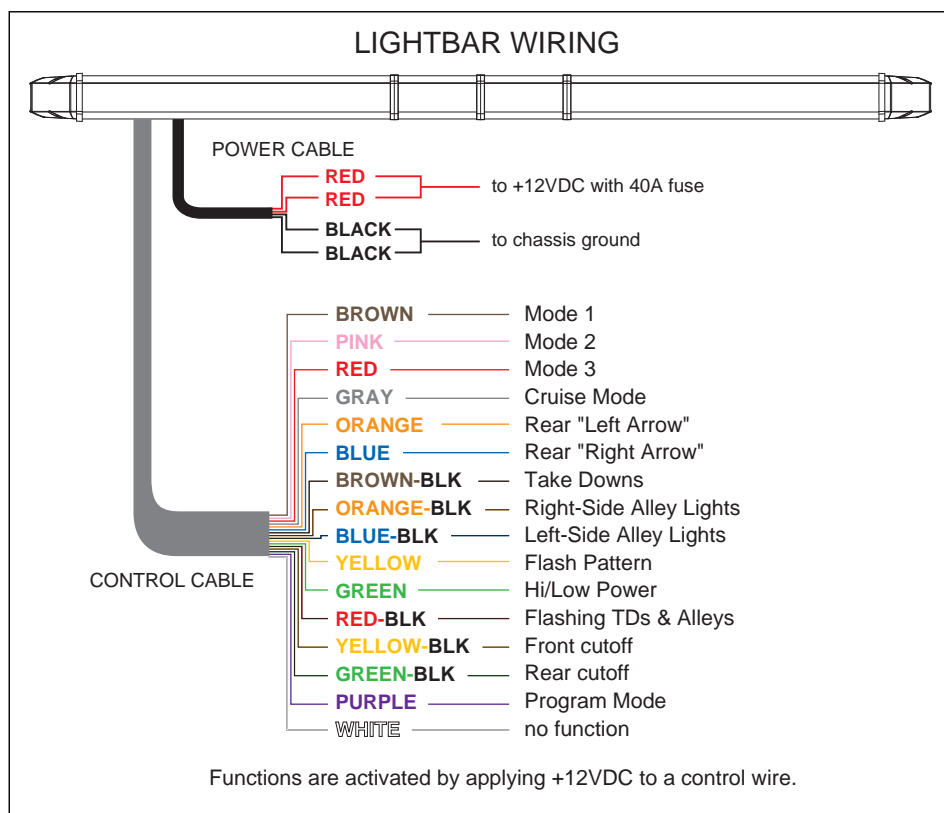Flat Surf Installation
Narrow Surface Mount
Wide Surface Mount

PRE-INSTALLATION

To prevent damage to lightbar and vehicle, ensure that all equipment operates properly, and carefully plan where to mount and wire the lightbar and controlling equipment:

1. Verify that the lightbar and mounting hardware fit the vehicle.
2. Pre-configure desired lightbar functions.
3. Determine:
    - the location to mount the lightbar.
    - the location to route the lightbar's Power Cable.
    - the location to route the Function Cable, (eg. to siren, switch box, console).

WARNING: Take extreme care when routing wires around airbag areas to not interfere with it's proper operation.

4. Separate all electronic equipment wiring from two-way radio equipment wiring.
5. To avoid interference, keep two-way radio antennas a minimum of 50cm away from warning equipment.
6. After drilling holes, deburr and smooth sharp edges, and insert grommets to protect the wires from chafing.
7. When frame-ground the equipment, use the manufacturer-supplied ground locations in the vehicle.

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WIRING & FUNCTIONS

Different applications require different functions. It is highly recommended to determine and configure the required functions prior to Installation; (refer to 'CONTROL CABLE' section).

LIGHTBAR WIRING

POWER CABLE

Wire	Function
RED	to +12VDC with 40A fuse
RED	
BLACK	to chassis ground
BLACK	

Wire	Function
BROWN	Mode 1
PINK	Mode 2
RED	Mode 3
GRAY	Cruise Mode
ORANGE	Rear "Left Arrow"
BLUE	Rear "Right Arrow"
BROWN-BLK	Take Downs
ORANGE-BLK	Right-Side Alley Lights
BLUE-BLK	Left-Side Alley Lights
YELLOW	Flash Pattern
GREEN	Hi/Low Power
RED-BLK	Flashing TDs & Alleys
YELLOW-BLK	Front cutoff
GREEN-BLK	Rear cutoff
PURPLE	Program Mode
WHITE	no function

CONTROL CABLE

Functions are activated by applying +12VDC to a control wire.

POWER CABLE

1. Route Power Cable to the vehicle firewall towards the battery.
2. Follow factory wiring harness through the firewall. It may be necessary to drill a hole in the firewall. Ensure that there are no components that could be damaged from the drilling.
3. Route the cable to the battery.
4. Splice the 2 **RED** wires to form a single wire.
5. Install a 40Amp fuse (user-supplied) on the end of **RED** wire, then connect to battery.
6. Splice the 2 **BLACK** wires to form a single wire.
7. Connect **BLACK** wire to the factory chassis ground adjacent to the battery.

NOTE: make sure that all wires of power cable are securely connected to power source.

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CONTROL CABLE

1. Route Control Cable towards the dash area to a switch panel (user-supplied).
2. Connect the required wires to the switch panel.

MODE 1
In Mode 1, the flash patterns can be selected from a list of harmonized standard flash patterns. Activate Mode 1 by applying **+12VDC** to **BROWN** wire.

To configure its flash pattern, tap **+12VDC** to **YELLOW** wire:
- Once for next pattern (refer to Mode 1 Flash Patterns chart).
- Quickly 3 times for reset to FP#0.

FP#	Mode 1 Flash Patterns		
0	Outside-In Single	10	Single-Quad (split)
1	Outside-In Ultra	11	Single H/L (split)
2	Side-by-Side Single	12	Single (all)
3	Side-by-Side Ultra	13	Double (all)
4	Single (split)	14	Quad (all)
5	Double (split)	15	Quint (all)
6	Quad (split)	16	Mega (all)
7	Quint (split)	17	Ultra (all)
8	Mega (split)	18	Single-Quad (all)
9	Ultra (split)	19	Single H/L (all)

NOTE: While in the "split" patterns, applying **+12VDC** to **GRAY** wire will activate cross patterns.

CROSS PATTERNS
In Mode 1, the "split" flash patterns can be changed to "cross" pattern. The cross pattern allows front left lightheads to synchronize with rear right lightheads; and front right lightheads to synchronize with rear left lightheads. The 2 groups of synchronized lightheads will alternate in a cross like pattern. To activate this function, apply **+12VDC** to **GRAY** wire.

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MODE 2

In Mode 2, the flash patterns can be configured in pairs, providing very intense warning effect.   Activate Mode 2 by applying **+12VDC** to **PINK** wire. It has, has priority over Mode 1 if both modes are activated.

To configure its flash pattern:

1. Activate Mode 2 and enter PROGRAM mode by quickly tapping **+12VDC** to **PURPLE** wire 3 times within 1 second.

2. Once in PROGRAM mode, all lightheads will faintly blink every second. The inner forward-facing pair of lightheads will be activated.

NOTE: If the inner foward-facing heads are Take Downs, then tap **+12VDC** to **PURPLE** wire once to scroll to the next pair of lightheads.

3. Tap **+12VDC** to **YELLOW** wire:
   - Once for next pattern (refer to Lighthead Patterns).
   - Quickly 3 times within 1 second for reset to FP#0.

4. Scroll to the next pair of lightheads by tapping **+12VDC** to **PURPLE** wire.

5. Repeat steps 2 and 3 until all lightheads are properly configured.

6. Exit PROGRAM mode by quickly tapping **+12VDC** to **PURPLE** wire 3 times within 1 second.

FP#	Lighthead Patterns
0	Steady
1	Single Slow (split)
2	Single Mid (split)
3	Single Fast (split)
4	Double 1 (split)
5	Double 2 (split)
6	Quint (split)
7	Ultra (split)
8	Single-Quad (split)
9	Single H/L (split)
10	Random
11	Off
12	Single Slow (all)
13	Single Mid (all)
14	Single Fast (all)
15	Double 1 (all)
16	Double 2 (all)
17	Quint (all)
18	Ultra (all)
19	Single-Quad (all)
20	Single H/L (all)

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MODE 3

In Mode 3, the flash patterns can be configured in pairs similar to Mode 1. In Mode 3, the flashing TD & Alleys function will be automatically activated. Activate Mode 3 by applying **+12VDC** to **RED** wire. It has priority over Mode 1 and Mode 2 if all modes are activated.

To configure its flash pattern:

1. Activate Mode 3 and enter PROGRAM mode by quickly tapping **+12VDC** to **PURPLE** wire 3 times within 1 second.

2. Once in PROGRAM mode, all lightheads will faintly blink once every second. The inner forward-facing pair of lightheads will be activated.

NOTE: If the inner foward-facing heads are Take Downs, then tap **+12VDC** to **PURPLE** wire once to scroll to the next pair of lightheads.

3. Tap **+12VDC** to **YELLOW** wire:
   - Once for next pattern (refer to Lighthead Patterns).
   - Quickly 3 times within 1 second for reset to FP#0.

4. Scroll to the next pair of lightheads by tapping **+12VDC** to **PURPLE** wire.

5. Repeat steps 2 and 3 until all lightheads are properly configured.

6. Exit PROGRAM mode by quickly tapping **+12VDC** to **PULE** wire 3 times within 1 second.

NOTE: Traffic Arrow functions cannot be activated while in MODE 3.

FP#	Lighthead Patterns
0	Steady
1	Single Slow (split)
2	Single Mid (split)
3	Single Fast (split)
4	Double 1 (split)
5	Double 2 (split)
6	Quint (split)
7	Ultra (split)
8	Single-Quad (split)
9	Single H/L (split)
10	Random
11	Off
12	Single Slow (all)
13	Single Mid (all)
14	Single Fast (all)
15	Double 1 (all)
16	Double 2 (all)
17	Quint (all)
18	Ultra (all)
19	Single-Quad (all)
20	Single H/L (all)

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FLASHING TDs & ALLEYs

Activate Flashing TDs & Alleys by applying **+12VDC** to **RED**-**BLK** wire. To scroll to a different configuration, tap **+12VDC** to **YELLOW** wire:

- TDs and Alleys flashing
- Alleys only flashing
- TDs only flashing

NOTE: Flashing TDs & Alleys have priority over the steady burn functions.

CRUISE MODE

Activate Cruise mode by applying **+12VDC** to **GRAY** wire. All corner lightheads will be activated in low power steady burn. To activate more lightheads tap **+12VDC** to **PURPLE** wire while in CRUISE mode; the lightheads immediately next to the corner lightheads will be activated.

TRAFFIC ARROWS

During Mode 1, Mode 2, or Cruise mode, activate Traffic Arrow functions by applying **+12VDC** to:

- **ORANGE** wire for Left Arrow.
- **BLUE** wire for Right Arrow.
- **ORANGE** & **BLUE** wires for Center Out.

To configure the Traffic Arrow flash patterns, tap **+12VDC** to **YELLOW** wire:

- Once for next pattern (refer to Traffic Arrow Patterns chart).
- Quickly 3 times within 1 second for reset to FP#0.

FP#	Traffic Arrow Patterns
0	Sweep Single
1	Sweep Double
2	Sweep Triple
3	Sweep Single End-Double
4	Solid
5	Solid End-Double
6	Solid Chaser
7	Solid Fade
8	Blink Double
9	Blink Triple
10	Blink Solid

NOTE: If the bar is equipped with the Dual Color Traffic Arrow option, the rear lightheads will automatically switch to Amber when the Traffic Arrow function is activated; and will automatically switch back when the Traffic Arrow function is deactivated.

OTHERS

To activate other functions, apply **+12VDC** to:

- **BROWN**-**BLK** wire for Take Down Lights
- **ORANGE- BLK** wire for Right-Side Alley Light
- **BLUE**-**BLK** wire for Left-Side Alley Light
- **YELLOW- BLK** wire for Front cutoff
- **GREEN- BLK** wire for Rear cutoff
- **GREEN** wire for Low Power

VEHICLE ROOF INSTALLATION

ADJUSTABLE FEET

Install Mounting Feet on the Lightbar
1. Turn the lightbar upside down.
2. Place mounting feet over the carriage bolts.
3. Attach a lockwasher and a nut on each of the carriage bolts, but do not completely tighten the bolts. Leave them loose enough to reposition the mounting foot.

FOOT PAD

STOP NUT

SPLIT LOCKWASHER

MOUNTING FOOT

CARRIAGE BOLT

This side down
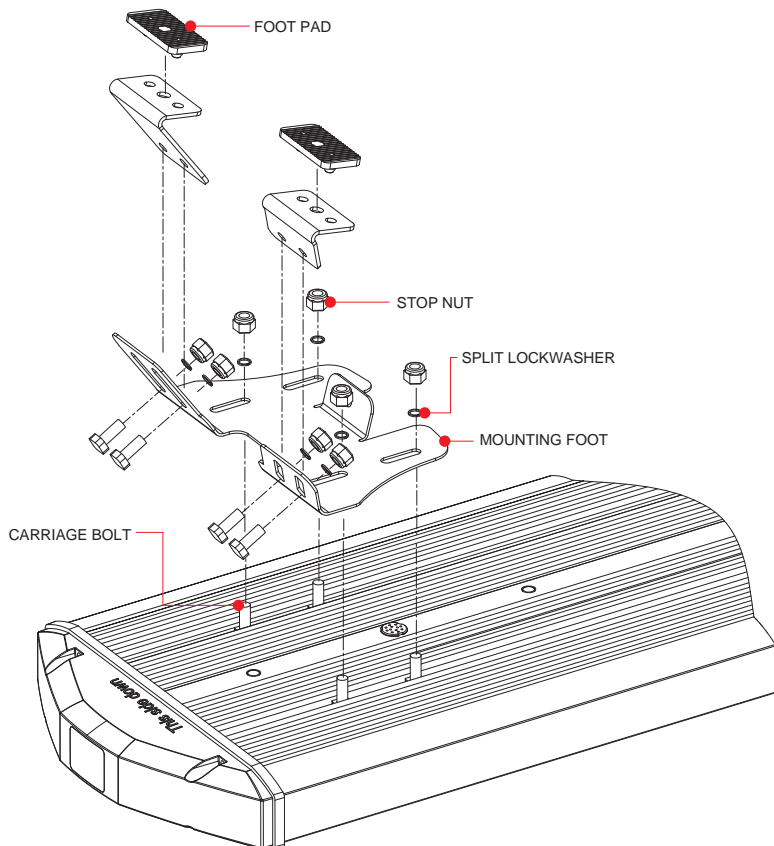
Upside down view of lightbar with mounting foot

PERMANENT MOUNT

Installation includes centering the lightbar on the vehicle's roof, leveling the lightbar, and scribing and drilling holes for mounting the lightbar permanently to the roof.

1. Place lightbar on the vehicle roof at the desired location. The lightbar is usually centered on the door center post (B-pillar).
2. Adjust both mounting feet in or out as necessary until the foot pads rest near the edge of the roof or gutter where the roof is the most rigid. Make sure the lightbar and the mounting feet are centered left to right on the vehicle.
3. Level the lightbar by shifting the lightbar slightly forward or back.
4. Using the mounting feet as a template, mark two drilling holes on each end of the vehicle roof.
5. Carefully remove the lightbar and turn it upside down, and ensure that the mounting feet do not shift place.
6. Tighten the nuts that secure the mounting feet to the lightbar.
7. Drill four holes at the previously marked drilling positions.

WARNING: DO NOT DRILL THROUGH the roof support structure that spans the distance between the driver's and passenger's side. Drilling through this will weaken the roof of the vehicle.

NOTE: Before drilling holes, ensure that the holes will go through sheet metal and not the upholstery. And ensure that no damages are caused to the vehicle components.

8. Place lightbar on the vehicle roof and align the mounting holes with the mounting feet. Secure mounting feet to vehicle roof with carriage bolts.
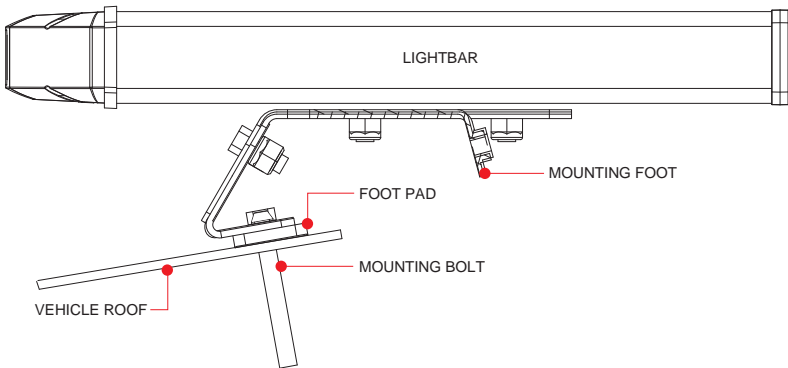
Front view of lightbar with Permanent mount

NOTE: After installation, frequently inspect the lightbar and mounting feet to ensure that all fasteners and brackets are tight.

STRAP KIT MOUNT

The Strap Kit is designed for specific make and mode of vehicle. Before installation, ensure that the correct strap kit is used.

1. Place the lightbar on the vehicle roof at the desired location. Usually, the lightbar should be centered on the center door post (B-pillar).

NOTE: Water may leak into the vehicle interior if the straps are improperly positioned. Ensure that the straps are positioned above or near the center door post (B-pillar).

2. Determine where the straps will attach to the vehicle.

Front view of lightbar with Strap Kit mount
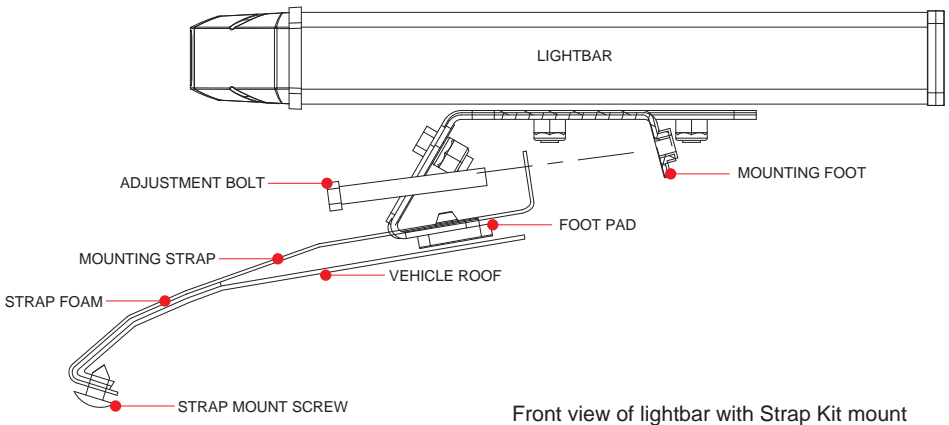
3. Place the straps in position on the roof sheet metal as shown in diagram.
4. Use the straps as a template and mark the drilling hole locations.
5. Drill holes according to the marked locations.
6. Apply a silicone sealant (user-supplier) around the holes before attaching the straps.
7. Secure the straps with the sheet metal screws.

NOTE: After installation, frequently inspect the lightbar and mounting feet to ensure that all fasteners and brackets are tight.

8. Place the lightbar on the vehicle roof, and align strap bolt holes with lightbar mounting feet bolt holes. .
9. Insert adjustment bolt through strap bolt hole all the way to mounting feet bolt hole.
10. Tighten bolts.

FLAT SURFACE INSTALLATION

NARROW SURFACE MOUNT

1. Turn the lightbar upside down.
2. Place mounting feet over the carriage bolts.
3. Attach a lockwasher and a nut on each of the carriage bolts, but do not completely tighten the bolts. Leave them loose enough to reposition the mounting foot.
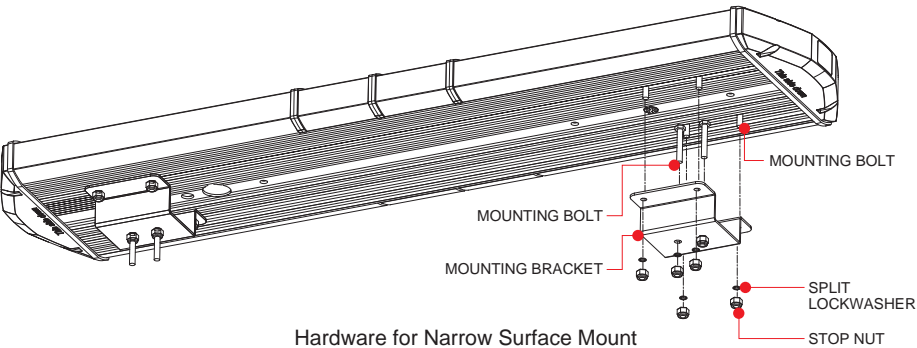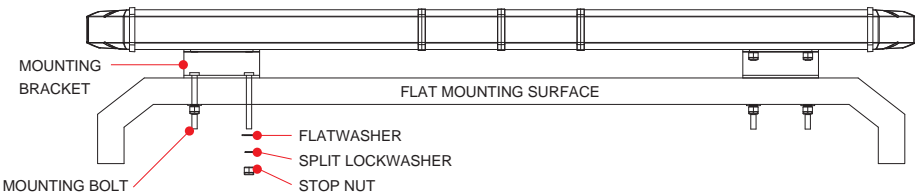

Hardware for Narrow Surface Mount

4. Place lightbar on the mounting surface at the desired location.
5. Adjust both mounting foot assemblies in or out as necessary. If possible, try to keep mounting feet near the ends of the lightbar.
6. Using the mounting feet as a template, mark two drilling holes on each end of the mounting surface.
7. Carefully remove the lightbar and turn it upside down, and ensure that the mounting feet do not shift place.
8. Tighten the nuts that secure the mounting feet to the lightbar.

NOTE: Before drilling holes in ANY part of the vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged, such as brake lines, fuel lines, electrical wiring, or other vital parts.

9. Drill four holes at the previously marked drilling positions.
10. Place lightbar on the mounting surface and align mounting holes with the mounting feet.
11. Secure mounting feet to mounting surface with carriage bolts.

Lightbar mounted on flat narrow surface

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WIDE SURFACE MOUNT

1. Turn the lightbar upside down.
2. Place mounting feet over the carriage bolts.
3. Attach a lockwasher and a nut on each of the carriage bolts, but do not completely tighten the bolts. Leave them loose enough to reposition the mounting foot.

LOCK NUT
SPLIT LOCKWASHER
FOOT PAD
MOUNTING BRACKET
CARRIAGE BOLTS
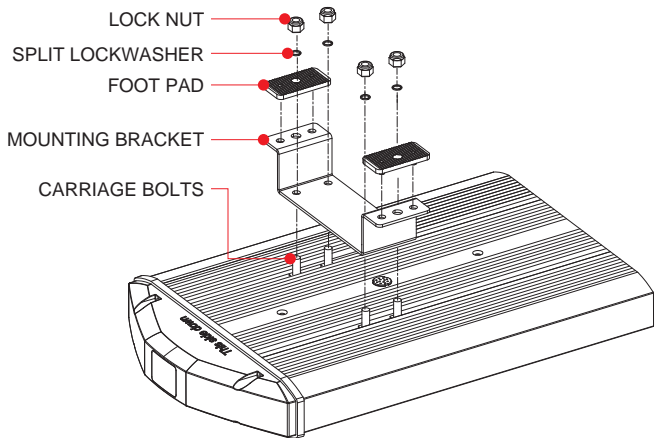
Upside down view of lightbar with mounting foot

4. Place lightbar on the mounting surface at the desired location.
5. Adjust both mounting foot assemblies in or out as necessary. If possible, try to keep mounting feet near the ends of the lightbar.
6. Using the mounting feet as a template, mark two drilling holes on each end of the mounting surface.
7. Carefully remove the lightbar and turn it upside down, and ensure that the mounting feet do not shift place.
8. Tighten the nuts that secure the mounting feet to the lightbar.

NOTE: Before drilling holes in ANY part of the vehicle, be sure that both sides of the mounting surface are clear of parts that could be damaged, such as brake lines, fuel lines, electrical wiring, or other vital parts.

9. Drill four holes at the previously marked drilling positions.
10. Place lightbar on the mounting surface and align the mounting holes with the mounting feet.
11. Secure mounting feet to mounting surface with carriage bolts.

MOUNTING BRACKET
FLAT MOUNTING SURFACE
FLATWASHER
SPLIT LOCKWASHER
LOCK NUT
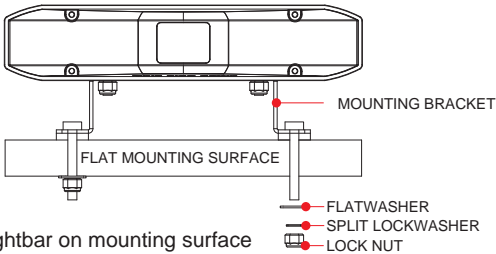
Side view of lightbar on mounting surface

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