



IS0637-00
7/28/2016



TRT SERIES LIGHTBARS

TRT-20	TRT-25	TRT-30
TRT-35	TRT-40	TRT-45
TRT-50	TRT-60	

Product Manual



Wiring

Main Power Wires

Wiring the TRT lightbar into the vehicles electrical system does not require the use of relays. The power and ground leads are connected directly to the 12Vdc to 24Vdc supply voltage and are always hot.

- Red to +Vdc
- Black to -Vdc

Control Cable

Activating the Lightbar is done by applying +Vdc to one or more of the lightbars control wires. The control wires consume only a few milliamps of current and can be used with virtually any on/off switch. There are five control wires in the Control Cable plus one +Vdc supply feed.

The control wires are color coded and control the functions shown below. Keep in mind that not all lightbars will be configured in such a way that all control wires are used.

- Orange - Group 1 lamps
- Blue - Group 2 lamps or Second Color lamps
- Brown/White - Warning Lamps
- Brown wire - Running lamps
- Green wire - Dimming of all lamps
- Red/White - +Vdc

Orange Wire – On single color single beam pattern bars the orange wire will turn on the entire bar. If the lamps in the lightbar are two beam patterns, half spot and half flood for example, the orange wire will turn on just the spot lamps.

Blue Wire – If all the lamps in the lightbar have the same beam pattern the blue wire will have no effect on the lightbar and can be ignored. If the lamps in the lightbar are two different beam patterns, some spot and some flood for example, the blue wire will turn on just the flood lamps. If you have a multi-beam pattern lightbar and just want on/off functionality simply wire both the orange and blue wires to a single switch.

If your lightbar is configured as an amber/white combination bar the orange wire will activate the white lights and the blue wire will activate the amber lights. In case both the orange and blue wires are activated at the same time the amber lights will activate and the white lights will shut off.

Brown Wire - If the lightbar is configured as an amber/white combination bar, and the amber lights are activated, the Brown wire will force one lamp to remain white to serve as the required front facing white light.

Brown/White Wire –Activates the warning lamps.

Green Wire – In all lightbars the green wire activates a low intensity or dim setting.

Red/White Wire – In all lightbars the red/white wire is a +Vdc feed that can be used to power one or more switches.



Warning Lamp Flash Patterns:

Entering Programming Mode

1. Apply power and ground to red and black input wires, ensure no other wires are powered
2. Attach the Green wire to +12Vdc.
3. Wait at least 1 second and then tap the Brown wire to +12Vdc wire twice. Note: the two taps must be made after one second but before 4 seconds. If the Red Warning lamp turns on when the Brown wire is touched to +12V, you either didn't wait long enough, or you waited more than 5 seconds. If entry into Program Mode is successful, the two Warning lamps will flash three times.
6. To advance the flash pattern tap the brown wire to +12Vdc once. To go back one step tap the brown wire to +12Vdc twice. To return to the factory default tap and hold the brown wire to +12Vdc for three seconds.

Available Flash Patterns:

Pattern # 1 - NEOBE 150 ALTERNATE - *Factory Default*

Pattern # 2 - NEOBE 150 SIMULTANEOUS

Pattern # 3 - NEOBE 150 COMBINATION

Pattern # 4 - NEOBE 75 ALTERNATE

Pattern # 5 - NEOBE 75 SIMULTANEOUS

Pattern # 6 - NEOBE 75 COMBINATION

Pattern # 7 - DOUBLE FLASH 250 ALTERNATE.

Pattern # 8 - DOUBLE FLASH 250 SIMULTANEOUS

Pattern # 9 - DOUBLE FLASH 250 COMBINATION

Pattern #10 - DOUBLE FLASH 125 ALTERNATE

Pattern #11 - DOUBLE FLASH 125 SIMULTANEOUS

Pattern #12 - DOUBLE FLASH 125 COMBINATION

Pattern #13 - SINGLE FLASH 375 ALTERNATE.

Pattern #14 - SINGLE FLASH 375 SIMULTANEOUS

Pattern #15 - SINGLE FLASH 375 COMBINATION

Pattern #16 - SINGLE FLASH 150 ALTERNATE

Pattern #17 - SINGLE FLASH 150 SIMULTANEOUS

Pattern #18 - SINGLE FLASH 150 COMBINATION

Pattern #19 - SINGLE FLASH 75 ALTERNATE

Pattern #20 - SINGLE FLASH 75 SIMULTANEOUS

Pattern #21 - SINGLE FLASH 75 COMBINATION

Pattern #22 - MULTI-FLASH 1 (1, 8, 13, 2)

Pattern #23 - MULTI-FLASH 2 (4, 11, 16, 20)

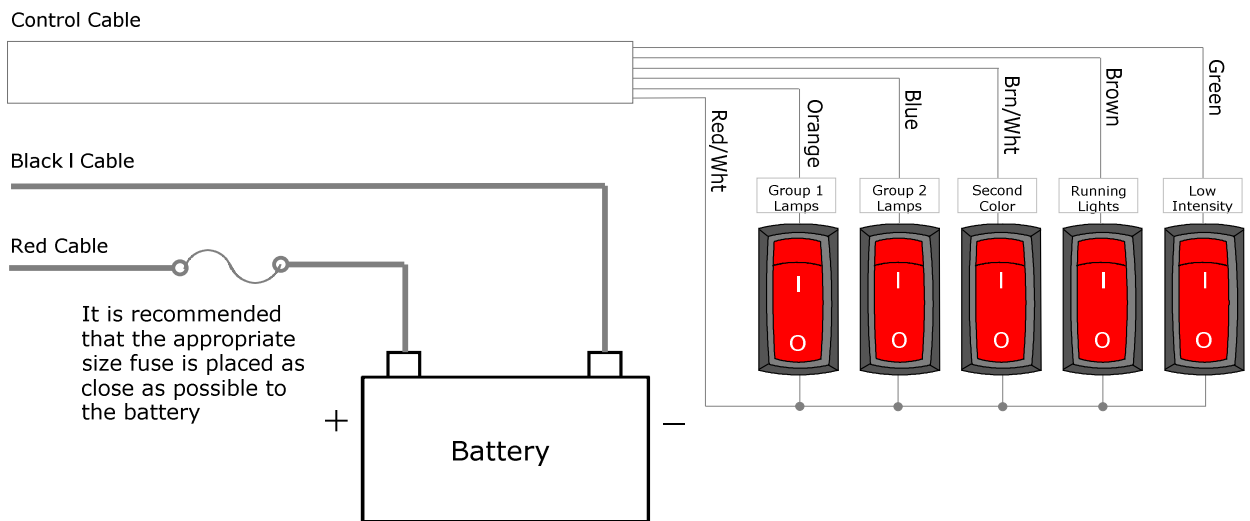


Wire Runs

The table below lists the maximum recommended wire run for the power and ground cables in feet. The control cable can be the same length as the power cables but 20 gauge wire is sufficient in all cases.

Part Number	Lamps	WIRE GAUGE					
		18	16	14	12	10	8
TRT-03	1	89	142	225	361	575	914
TRT-06	1	51	81	129	206	328	522
TRT-10	2	25	40	64	103	164	261
TRT-15	3		27	42	68	108	174
TRT-20	4		20	31	50	82	130
TRT-25	5		16	25	41	65	104
TRT-30	6			21	34	54	86
TRT-35	7			18	29	46	74
TRT-40	8				25	41	65
TRT-45	9				22	36	57
TRT-50	10					32	52
TRT-60	12					27	43

Common Switch Wiring Configuration

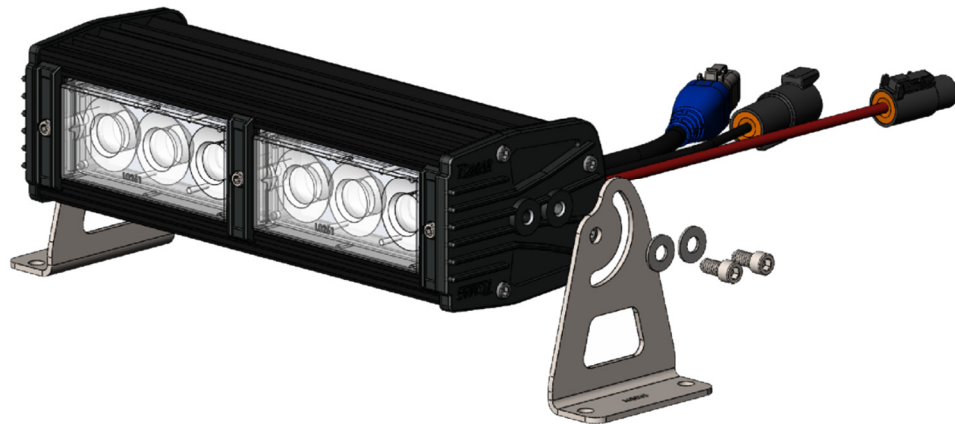




Mounting

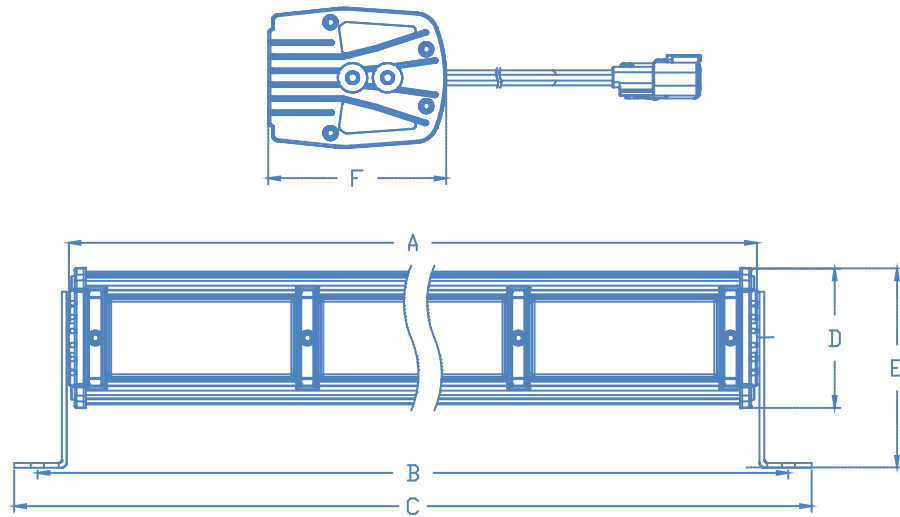
TRT lightbars include an L shape mounting brackets designed to secure the lightbar to a flat surface. The bracket will allow a 135° range of motion. For additional mounting options visit www.tomaroff-road.com.

1. Attach the mounting foot to the lightbar using the 1/4 -20 socket head screws and 1/4" flat washers included with the lightbar, leaving the screws finger tight.
2. Place the lightbar with attached mounting feet on a flat surface that has sufficient strength to support its weight. Using the holes in the mounting brackets as a template mark the location of the mounting holes. The mounting holes in the bracket are designed to free fit 1/4 inch hardware. Recommended drill sizes for 1/4" hardware are 17/64" for clearance holes and 13/64 for tapered holes. Note: the hole pattern on the foot is on 2" centers. For the hole spacing between the mounting feet refer to the Dimensions section below.
3. Once the lightbar is secured to the mounting surface, adjust the lightbar to the desired angle and tighten the 1/4-20 socket head screws to approx. 36 in/lb.

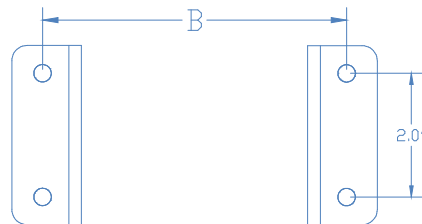




Dimensions



Outside Dimensions



Mounting Hole Spacing

Nominal Length	Lamps	Dim "A"	Dim "B"	Dim "C"	Dim "D"	Dim "E"	Dim "F"
3	1	3.41	4.66	5.66	3.00	4.25	3.82
6	1	5.68	6.93	7.93	3.00	4.25	3.82
10	2	10.23	11.48	12.48	3.00	4.25	3.82
15	3	14.78	16.03	17.03	3.00	4.25	3.82
20	4	19.33	20.58	21.58	3.00	4.25	3.82
25	5	23.88	25.13	26.13	3.00	4.25	3.82
30	6	28.43	29.68	30.68	3.00	4.25	3.82
35	7	32.98	34.23	35.23	3.00	4.25	3.82
40	8	37.53	38.78	39.78	3.00	4.25	3.82
45	9	42.08	43.33	44.33	3.00	4.25	3.82
50	10	46.63	47.88	48.88	3.00	4.25	3.82
60	12	55.73	56.98	57.98	3.00	4.25	3.82



Recommended Fuse/Breaker Sizing

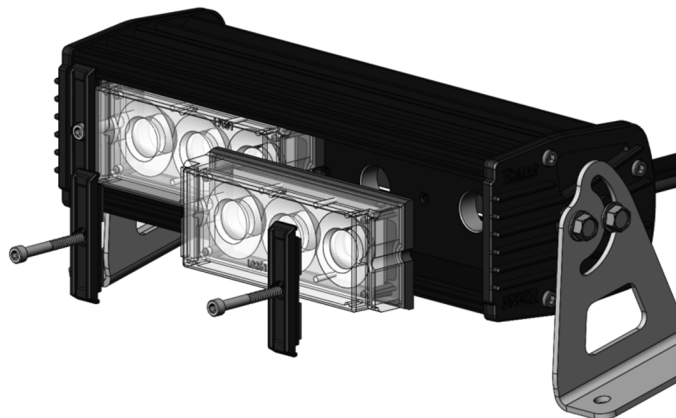
Part Number	Lamps	Amp draw @13.8Vdc	Fuse/Breaker Size (A)
TRT-03	1	1.3	3
TRT-06	1	2.1	5
TRT-10	2	4.2	10
TRT-15	3	6.3	12
TRT-20	4	8.4	15
TRT-25	5	10.5	20
TRT-30	6	12.6	25
TRT-35	7	14.7	30
TRT-40	8	16.8	35
TRT-45	9	18.9	40
TRT-50	10	21.0	45
TRT-60	12	25.2	50

Replacing a lamp module

All TRT lamp modules are interchangeable and can be used in any position on the lightbar. This offers the flexibility to configure a lightbar for any mission with perfect balance of flood, spot or dual color amber white modules. Keep in mind that only the outboard positions will have flash patterns.

With this modular design the replacement of a TRT Lamp couldn't be easier. Each module is hermetically sealed so replacement will not compromise the watertight integrity of the lightbar or void the warranty.

To replace a lamp module simply remove the two lamp clips using a 9/64" hex tool. Unplug the lamp from the waterproof connector, plug in the new lamp and reattach the lamp clips.





Maintenance

The best cleaning method is to gently wash the lightbar with a solution of mild soap and lukewarm water, using a soft cloth or sponge to loosen any dirt or grime. Thoroughly rinse with clean water to remove any cleaner residue and dry the surface with a soft cloth to prevent water spotting.

If using a high-pressure water cleaner and/or a steam cleaner the pressure should not exceed 1,450psi. The use of additives to the water and/or steam should also be avoided.

Important Considerations for Lexan lenses:

- Never use abrasive or highly alkaline cleaners.
- Never use aromatic or halogenated solvents like toluene, benzene, gasoline, acetone or carbon tetrachloride.
- Contact with harsh solvents such as methyl ethyl ketone (MEK) or hydrochloric acid can result in surface degradation and possible crazing.
- Never scrub lenses with brushes, steel wool or other abrasive materials.