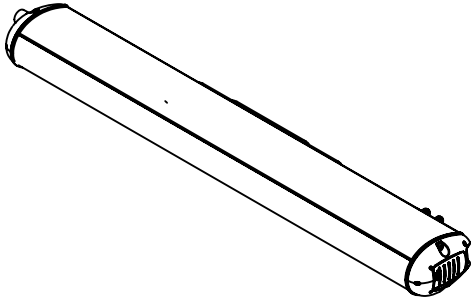


nFORCE[®] LED Traffic Controller - Interior Use Only ENFTCDGS12(xx)



IMPORTANT NOTICE TO INSTALLER: Make sure to read and understand all instructions and warnings before proceeding with the installation of this product. Ensure that the manual and any warning cards are delivered to the end user of this equipment. Proper installation of the lightbar requires the installer to have a thorough knowledge of automotive electronics, systems, and procedures. Lightbars provide an essential function of an effective visual warning system. The use of the lightbar does not insure that all drivers can or will abide by or react to an emergency warning signal, especially at high rates of speeds or long distances. The operator of the vehicle must never take the right of way for granted and it is the operator's responsibility to proceed safely. The effectiveness of the lightbar is highly dependant on the correct mounting and wiring. The installer must read and follow the manufacturer's installation instructions and warnings in the manual. The vehicle operator should verify daily that the lightbar is securely fastened to the vehicle and properly functioning before operating vehicle. The lightbar is intended for use by authorized personnel only. It is the user's responsibility to ensure they understand and operate the emergency warning devices in compliance with the applicable city, state and federal laws and regulations. SoundOff Signal assumes no liability for any loss resulting from the use of this warning device.

Components/Contents

Standard Equipment:

- 1 - nForce LED Traffic Controller built to your specifications
- 1 - Breakout Box
- 1 - 24 Pin Harness
- 1 - Mounting Hardware

Unpack Lightbar

1. Remove from box and packaging.
2. Save packaging for later shipping.
3. Check components/contents.
4. Please reference these instructions for proper wiring and installation.




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Important Information:

- To view the full Software Revision History click the  in the upper right hand corner of the nFORCE Lightbar Software application.
- Warning devices are strictly regulated and governed by Federal, State and Municipal ordinances. These devices shall be used ONLY on approved vehicles. It is the sole responsibility of the user of these devices to ensure compliance.
- DO NOT install this product or route any wires in the Air Bag Deployment Zone. Refer to your vehicle Owner's Manual for the location of any air bag deployment zones.
- DO NOT connect this device to a strobe power supply. This product is self-contained and does not require an external power supply.

⚠ WARNING

This product contains high intensity LED devices. To prevent eye damage, DO NOT stare into the light beam at close range.

NOTICE:

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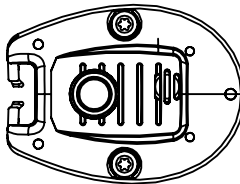
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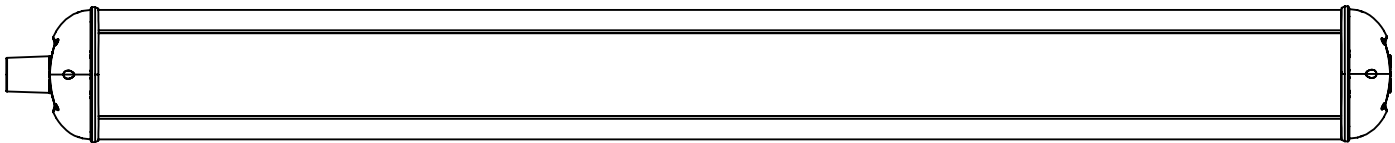
nFORCE[®] LED Traffic Controller - Interior Use Only
ENFTCDGS12(xx)

POWER SPECIFICATIONS				
Input Voltage Range:	10 -16 Vdc			
Light Bar Component	Current Draw (Average = Flashing)		Power Consumption (Watts)	
Standby Current	Ignition ON	Ignition OFF	Ignition ON	Ignition OFF
	0.010 Amps	0.002 Amps	0.13 Watts	0.03 Watts
Reverse Polarity	Protected			
Wiring	Power Cable 15ft 18 AWG Wires, (+) Red, (-) Black, (Data) White			

TECHNICAL SPECIFICATIONS	
Material:	Housing: Aluminum Alloy Lens: Polycarbonate
Operating Temperature:	-40° to +65° C
4 Module Dimensions:	19"L x 1.9"H x 2.47" D
6 Module Dimensions:	26.7"L x 1.9"H x 2.47" D
8 Module Dimensions:	35.5"L x 1.9"H x 2.47" D
Input Voltage:	10 - 16 Vdc
CURRENT CONSUMPTION PER MODULE	
	10-16 Vdc
6 LED Single 12 LED Single & 18 LED Tri-Color	<1.0A @12.8 Vdc
9 LED Single Color	<1.5A @ 12.8 Vdc
MAXIMUM WATTAGE PER MODULE	
	10-16 Vdc
6 LED Single 12 LED Single & 18 LED Tri-Color	<6.4 Watt @12.8 Vdc
9 LED Single Color	<9.6 Watt @ 12.8 Vdc
6 LED Takedown	<12.8 Watt @ 12.8 Vdc



VIEW FROM SIDE



VIEW FROM FRONT

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ELECTRICAL INSTALLATION

Featured Highlights & Terminology:

Mode Select: The nForce Traffic Controller is equipped with 4 selectable pattern configuration modes. The default input wire configuration allows for 2 modes, and an additional 2 modes may be configured with the PC Application using any available input wires. Default is Mode 1 where the Mode select input is floating, Mode 2 is in use when the input activated. This feature allows up to 4 completely different sets of patterns to be programmed into the Light-bar's non-volatile memory. Once programming configuration is complete, the Mode can be changed "on-the-fly" by an activation switch which applies voltage to the Mode input wire(s).

Front & Rear Installations:

Cruise Mode: Allows the user to program any light group(s) to "Glow" when this feature is activated. For dual / tri color bars, the color for each light group is selectable.

Takedown Mode: Allows the user to program any Light Head Group(s) to turn on steady when this feature is activated to provide steady ON takedown lighting.

Steady ON Mode: Accessable with PC App only and allows the user to program any light module to turn on steady at 50% duty cycle.

Scene Light Mode: Allows the user to program any Light Head Group(s) to turn on steady when this feature is activated to provide additional scene lighting. The activation of this input also activates the Takedown function

Scene Light Mode: Allows the user to program any Light Head Group(s) to turn on steady when this feature is activated to provide additional scene lighting. The activation of this input also activates the Takedown function

Low Power Mode: Operates lighting at reduced intensity.

Rear Installations:

Stop / Tail / Turn Mode: Allows the user to program any Light Head Group(s) to turn operate in 2 levels of intensity for tail and stop/turn functions.

Directional Arrow Built-in: The directional controller is built-in w/ 9 arrow patterns for each of the 3 modes (left arrow, right arrow, and center out arrow) and the color is selectable for dual / tri color bars

WARNING

ALL CUSTOMER SUPPLIED POWER WIRES CONNECTING TO THE POSITIVE (+) OR NEGATIVE (-) BATTERY TERMINAL OR LOCAL CHASSIS GROUND (-) MUST BE SIZED TO SUPPLY AT LEAST 125% OF THE MAXIMUM CURRENT AND PROPERLY FUSED AT THE POWER SOURCE WITH APPROPRIATELY RATED FUSE.

Power Cable:

1. Route lightbar power cables as close to vehicles power source (battery) as possible.
2. Install a maximum of 15 Amp Fuse (customer supplied) to the end of the RED wire of the Lightbar Power Cable.
 - a. Remove the fuse before connecting any wires to the battery.
 - b. DO NOT USE CIRCUIT BREAKER OR FUSIBLE LINK.
3. Connect the other end of the Fuse to the POSITIVE (+) terminal of the battery or other high current source.
 - a. Do NOT use any more than 2ft of wire between the power source and the fuse and ensure the wire is protected and secured from being cut into; this is non-fused wire.
4. Connect the BLACK wire to the factory chassis ground right next to the battery or other ground location capable of handling high current.
5. Connect the White wire to the Light Green wire on the breakout box (PIN 5). Make sure connection is insulated from other wire connections and vehicle ground

BREAKOUT BOX MUST BE INSTALLED INSIDE THE VEHICLE. BREAKOUT BOX IS NOT A SEALED UNIT

Ignition Wire:

1. Connect the Pink/White wire (Breakout Box PIN 12) to a switched power source.

Initial Power up Test: Breakout Box needs Power & (+12V to PIN 17) & Ground (PIN 4) in order to operate.

1. Observe the GREEN Data Link indicator LED on the Breakout Box; the LED will turn ON.
2. The Red indicator LED on the breakout box will be steady ON whenever any of the input wires are active

Low Power (Standby) Mode (reduced standby current)

If there is no input to the breakout box the lightbar will go into a "standby" mode. The standby mode is a low power mode that is used to extend the life of your battery. The lightbar will awaken from the standby mode if any input is activated on the breakout box.

**nFORCE® LED Traffic Controller - Interior Use Only
ENFTCDGS12(xx)**

ELECTRICAL INSTALLATION (CONTINUED)

Warning Flash Pattern Configuration:

- a. Set Switch #2 on Breakout box to down position (Switch #1 must be in Up position)
- b. Apply voltage to the activation wire of the function which requires pattern to be changed (i.e. Warning, Arrow etc.)
- c. Apply voltage to the Mode activation wire to configure mode 2 flash patterns, leave Mode activation wire floating to configure mode 1 flash patterns
- d. Momentarily apply voltage to the pattern select wire to change the warning flash pattern
- e. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode

FLASH PATTERNS

*fpm=Flashes per Minute

**fps=Flashes per Second

#	Name	SAE Compliant Timing	ECE Compliant Timing	California Title 13 Compliant Timing	Color	Sequence	fpm	fps
SC1	Random 1	Yes	No	No	#1	Variable	-	-
SN2	Random 2	No	No	No	#1	Variable	-	-
SC3	Quint	Yes	No	No	#1	Alternating	70	1.2
SC4	Quad 2	Yes	No	No	#1	Variable	-	-
SC5	Q-Switch	Yes	No	No	#1	Variable	-	-
SC6	Double	Yes	No	No	#1	Alternating	115	1.9
SC7	Power Pulse	Yes	No	No	#1	Alternating	180	3
SC8	Road Runner	Yes	No	Yes	#1	Alternating	115	1.9
SC9	Slow Runner	Yes	No	Yes	#1	Alternating	70	1.2
SN10	Warp	No	No	No	#1	Alternating	350	5.8
SN11	Inter-Cycle	No	No	No	#1	Alternating	-	-
SN12	Warp 1-2-3	No	No	No	#1	Alternating	-	-
SC13	E-Single	Yes	Yes	No	#1	Alternating	125	2.1
SC14	E-Double	Yes	Yes	No	#1	Alternating	125	2.1
SC15	E-Triple	Yes	Yes	No	#1	Alternating	125	2.1
SC16	E-Single Sim	Yes	Yes	No	#1	Simultaneous	125	2.1
SC17	E-Double Sim	Yes	Yes	No	#1	Simultaneous	125	2.1
SN18	Super Slow Runner	No	No	No	#1	Alternating	55	0.9
SC19	Quint Simultaneous	Yes	No	No	#1	Simultaneous	70	1.2
SC20	Road Runner Simultaneous	Yes	No	No	#1	Simultaneous	114	1.9
SC21	Quint Pass/Steady Driver	Yes	No	No	#1	-	70	1.2
SC22	Road Runner Pass/Steady Driver	Yes	No	No	#1	-	114	1.9
SC23	Quint 2	Yes	No	No	#1	-	70	1.2
SN24	Warp 2	No	No	No	#1	-	350	5.8
SN25	Inter-Cycle 2	No	No	No	#1	-	-	-
SN26	Flicker Brake	No	No	No	#1	-	-	-
SN27	Flicker Cruise	No	No	No	#1	-	-	-
SN28	Steady	No	No	No	#1	-	-	-
SN29	Manifesto	No	No	No	#1	-	-	-
SN30	Power Evert	No	No	No	#1	-	-	-
SN31	Dazzle	No	No	No	#1	-	-	-
SN32	Quiver	No	No	No	#1	-	-	-

NOTE: Takedown light patterns are limited to pattern #1 – 25

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nFORCE® LED Traffic Controller - Interior Use Only
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FLASH PATTERNS (CONTINUED)

#	Name	SAE Compliant Timing	ECE Compliant Timing	California Title 13 Compliant Timing	Color	Sequence	fpm	fps
SN33	Power Sway	No	No	No	#1	-	-	-
SN34	Evert	No	No	No	#1	-	-	-
SN35	Alternating Rapid Flash	No	No	No	#1	-	-	-
SN36	Swift Impact	No	No	No	#1	-	-	-
SN37	Tango	No	No	No	#1	-	-	-
SN38	Tremble	No	No	No	#1	-	-	-
SN39	Shake	No	No	No	#1	-	-	-
SN40	Evolver	No	No	No	#1	Simultaneous	-	-
SN41	Corner Sweep	No	No	No	#1	-	-	-
SN42	Corner Sweep Slow	No	No	No	#1	-	-	-
SN43	Full/Sweep	No	No	No	#1	-	-	-
SN44	Full/Sweep Slow	No	No	No	#1	-	-	-
SN45	Center Sweep	No	No	No	#1	-	-	-
SN46	Center Sweep Slow	No	No	No	#1	-	-	-
SN47	Orbit	No	No	No	#1	-	-	-
SN48	Orbit Slow	No	No	No	#1	-	-	-
SN49	Double Orbit	No	No	No	#1	-	-	-
SN50	Slow Double Orbit	No	No	No	#1	-	-	-
SN51	Retrograde Orbit	No	No	No	#1	-	-	-
SN52	Slow Retrograde Orbit	No	No	No	#1	-	-	-
SN53	Progressive Alternate	No	No	No	#1	-	-	-
SN54	Recurrent	No	No	No	#1	Simultaneous	-	-
DC1	Random Dual #1	Yes	No	No	#1/2	Variable	-	-
DN2	Random Dual #2	No	No	No	#1/2	Variable	-	-
DC3	Quint Dual	Yes	No	No	#1/2	Alternating	70	1.2
DC4	Quad 2 Dual	Yes	No	No	#1/2	Variable	-	-
DC5	Q-Switch Dual	Yes	No	No	#1/2	Variable	-	-
DC6	Double Dual	Yes	No	No	#1/2	Alternating	115	1.9
DC7	Power Pulse Dual	Yes	No	No	#1/2	Alternating	180	3
DC8	Road Runner Dual	Yes	No	Yes	#1/2	Alternating	115	1.9
DC9	Slow Runner Dual	Yes	No	Yes	#1/2	Alternating	70	1.2
DN10	Warp Dual	No	No	No	#1/2	Alternating	350	5.8
DN11	Inter-Cycle Dual	No	No	No	#1/2	Alternating	-	-
DN12	Warp 1-2-3 Dual	No	No	No	#1/2	Alternating	-	-
DN13	Pattern #1 Dual	No	No	No	#1/2	Variable	-	-
DN14	Pattern #2 Dual	No	No	No	#1/2	Variable	-	-
DN15	Impact Dual	No	No	No	#1/2	Variable	-	-
DN16	Explosion Dual	No	No	No	#1/2	Variable	-	-
DC17	Quint Simultaneous Dual	Yes	No	No	#1/2	Simultaneous	70	1.2

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FLASH PATTERNS (CONTINUED)

#	Name	SAE Compliant Timing	ECE Compliant Timing	California Title 13 Compliant Timing	Color	Sequence	fpm	fps
DC18	Road Runner Sim. Dual	Yes	No	No	#1/2	Simultaneous	114	1.9
DC19	Quint 2 Dual	Yes	No	No	#1/2	-	70	1.2
DN20	Warp 2 Dual	No	No	No	#1/2	-	350	5.8
DN21	Inter-Cycle 2 Dual	No	No	No	#1/2	-	-	-
DN22	Super Slow Runner Dual	No	No	No	#1/2	-	-	-
DN23	Flicker Cruise Dual	No	No	No	#1/2	-	-	-
DN24	Manifesto Dual	No	No	No	#1/2	-	-	-
DN25	Power Evert Dual	No	No	No	#1/2	-	-	-
DN26	Dazzle Dual	No	No	No	#1/2	-	-	-
DN27	Quiver Dual	No	No	No	#1/2	-	-	-
DN28	Power Sway Dual	No	No	No	#1/2	-	-	-
DN29	Evert Dual	No	No	No	#1/2	-	-	-
DN30	Alternating Rapid Flash Dual	No	No	No	#1/2	-	-	-
DN31	Swift Impact Dual	No	No	No	#1/2	-	-	-
DN32	Tango Dual	No	No	No	#1/2	-	-	-
DN33	Tremble Dual	No	No	No	#1/2	-	-	-
DN34	Shake Dual	No	No	No	#1/2	-	-	-
DN35	Evolver Dual	No	No	No	#1/2	Simultaneous	-	-
DN36	Corner Sweep Dual	No	No	No	#1/2	-	-	-
DN37	Corner Sweep Slow Dual	No	No	No	#1/2	-	-	-
DN38	Full/Sweep Dual	No	No	No	#1/2	-	-	-
DN39	Full/Sweep Slow Dual	No	No	No	#1/2	-	-	-
DN40	Center Sweep Dual	No	No	No	#1/2	-	-	-
DN41	Center Sweep Slow Dual	No	No	No	#1/2	-	-	-
DN42	Orbit Dual	No	No	No	#1/2	-	-	-
DN43	Orbit Slow Dual	No	No	No	#1/2	-	-	-
DN44	Double Orbit Dual	No	No	No	#1/2	-	-	-
DN45	Slow Double Orbit Dual	No	No	No	#1/2	-	-	-
DN46	Retrograde Orbit Dual	No	No	No	#1/2	-	-	-
DN47	Slow Retrograde Orbit Dual	No	No	No	#1/2	-	-	-
DN48	Progressive Alternate Dual	No	No	No	#1/2	-	-	-
DN49	Recurrent Dual		No	No	#1/2	Simultaneous	-	-
TN1	Pattern 1 Tri	No	No	No	#1/2/3	Alternating	-	-
TN2	Random Tri	No	No	No	#1/2/3	Alternating	-	-
TC3	Quint Tri	Yes	No	No	#1/2/3	Alternating	70	1.2
TC4	Quad 2 Tri	Yes	No	No	#1/2/3	Alternating	-	-
TN5	Pattern 2 Tri	No	No	No	#1/2/3	-	-	-
TC6	Double Tri	Yes	No	No	#1/2/3	Alternating	115	1.9
TC7	Power Pulse Tri	Yes	No	No	#1/2/3	Alternating	180	3

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FLASH PATTERNS (CONTINUED)

#	Name	SAE Compliant Timing	ECE Compliant Timing	California Title 13 Compliant Timing	Color	Sequence	fpm	fps
TC8	Road Runner Tri	Yes	No	Yes	#1/2/3	Alternating	115	1.9
TC9	Slow Runner Tri	Yes	No	Yes	#1/2/3	Alternating	70	1.2
TN10	Warp Tri	No	No	No	#1/2/3	Alternating	350	5.8
TN11	Inter-Cycle Tri	No	No	No	#1/2/3	Alternating	-	-
TN12	Warp 1-2-3 Tri	No	No	No	#1/2/3	Alternating	-	-
TN13	Super Slow Runner Tri	No	No	No	#1/2/3	Alternating	55	0.9
TC14	Quint Simultaneous Tri	Yes	No	No	#1/2/3	Simultaneous	70	1.2
TC15	Road Runner Sim. Tri	Yes	No	No	#1/2/3	Simultaneous	114	1.9
TC16	Quint 2 Tri	Yes	No	No	#1/2/3	Alternating	70	1.2
TN17	Warp 2 Tri	No	No	No	#1/2/3	Alternating	350	5.8
TN18	Inter-Cycle 2 Tri	No	No	No	#1/2/3	Alternating	-	-
TN19	Pattern 3 Tri	No	No	No	#1/2/3	-	-	-
TN20	Flicker Cruise Tri	No	No	No	#1/2/3	-	-	-
TN21	Manifesto Tri	No	No	No	#1/2/3	-	-	-
TN22	Power Evert Tri	No	No	No	#1/2/3	-	-	-
TN23	Dazzle Tri	No	No	No	#1/2/3	-	-	-
TN24	Quiver Tri	No	No	No	#1/2/3	-	-	-
TN25	Power Sway Tri	No	No	No	#1/2/3	-	-	-
TN26	Evert Tri	No	No	No	#1/2/3	-	-	-
TN27	Alternating Rapid Flash Tri	No	No	No	#1/2/3	-	-	-
TN28	Swift Impact Tri	No	No	No	#1/2/3	-	-	-
TN29	Tango Tri	No	No	No	#1/2/3	-	-	-
TN30	Tremble Tri	No	No	No	#1/2/3	-	-	-
TN31	Shake Tri	No	No	No	#1/2/3	-	-	-
TN32	Evolver Tri	No	No	No	#1/2/3	Simultaneous	-	-
TN33	Corner Sweep Tri	No	No	No	#1/2/3	-	-	-
TN34	Corner Sweep Slow Tri	No	No	No	#1/2/3	-	-	-
TN35	Full/Sweep Tri	No	No	No	#1/2/3	-	-	-
TN36	Full/Sweep Slow Tri	No	No	No	#1/2/3	-	-	-
TN37	Center Sweep Tri	No	No	No	#1/2/3	-	-	-
TN38	Center Sweep Slow Tri	No	No	No	#1/2/3	-	-	-
TN39	Orbit Tri	No	No	No	#1/2/3	-	-	-
TN40	Orbit Slow Tri	No	No	No	#1/2/3	-	-	-
TN41	Double Orbit Tri	No	No	No	#1/2/3	-	-	-
TN42	Double Orbit Slow Tri	No	No	No	#1/2/3	-	-	-
TN43	Retrograde Orbit Tri	No	No	No	#1/2/3	-	-	-
TN44	Retrograde Orbit Slow Tri	No	No	No	#1/2/3	-	-	-
TN45	Progressive Alternate Tri	No	No	No	#1/2/3	-	-	-
TN46	Recurrent Tri	No	No	No	#1/2/3	Simultaneous	-	-

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ARROW PATTERNS

nFORCE® LED Traffic Controller - Interior Use Only ENFTCDGS12(xx)

#	Name	SAE Compliant Timing	Color	Sequence	fpm	fps
1	Single Fast	No	-	-	-	-
2	Single Slow	No	-	-	-	-
3	Chaser Fast	No	-	-	-	-
4	Chaser Slow	No	-	-	-	-
5	Fill Fast	No	-	-	-	-
6	Fill Slow	No	-	-	-	-
7	Grow/Shrink	No	-	-	-	-
8	Warning w/Arrow	No	-	-	-	-
9	Warning w/Arrow Fill	No	-	-	-	-
10	Arrow Random 1	No	-	-	-	-
11	Arrow Random 2	No	-	-	-	-

ELECTRICAL INSTALLATION (CONTINUED)

NOTE: For settings below, Switch #2 does not need to be moved to the up position after each configuration. The switch can remain in the down position until the lightbar is completely configured and then moved to the Up position to store all the settings.

Cruise Mode Configuration:

- a. Set Switch #2 on Breakout box to down position (Switch #1 must be in Up position)
- b. Determine which module inputs are needed for cruise mode
- c. Apply voltage to the Cruise Mode activation wire
- d. Apply voltage to the light group wire(s) required (i.e. Inboard 1, 2, 3, etc.)
- e. Momentarily apply voltage to the pattern select wire to change the color between Off, Color 1, Color 2, and Color 3.

NOTE: If configuring a single color or dual color module, make sure the chosen color is configured for Off and not a color which does not exist on the module. The lightbar will flash color #1 of all modules configured for cruise mode. If a module flashes every 2 seconds and is not intended to be on when Cruise mode is activated, repeat steps 'd' and 'e' until module no longer flashes.

- f. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode

Takedown and Work-light Configuration:

- a. Set Switch #2 on Breakout box to down (Switch #1 must be in Up position)
- b. Determine which module inputs are needed for Takedowns or Work-lights
- c. Apply voltage to the Takedown activation wire
- d. Apply voltage to the light group wire(s) required (i.e. Inboard 1, 2, 3, etc.)
- e. Momentarily apply voltage to the pattern select wire to change the color between Off, Color 1, Color 2, and Color 3.

NOTE: If configuring a single color or dual color module, make sure the chosen color is configured for Off and not a color which does not exist on the module. The light-bar will flash color #1 of all modules configured for takedown. If a module flashes every 2 seconds and is not intended to be on when takedown is activated, repeat steps 'd' and 'e' until module no longer flashes.

- f. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode

Scene light Configuration:

- a. Set Switch #2 on Breakout box to down (Switch #1 must be in Up position)
- b. Determine which module inputs are needed for Scene Lighting
- c. Apply voltage to the Scene light activation wire
- d. Apply voltage to the light group wire(s) required (i.e. Inboard 1, 2, 3, etc.)
- e. Momentarily apply voltage to the pattern select wire to change the color between Off, Color 1, Color 2, and Color 3.

NOTE: If configuring a single color or dual color module, make sure the chosen color is configured for Off and not a color which does not exist on the module. The light-bar will flash color #1 of all modules configured for scene light. If a module flashes every 2 seconds and is not intended to be on when scene light function is activated, repeat steps 'd' and 'e' until module no longer flashes.

- f. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode

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ELECTRICAL INSTALLATION (CONTINUED)

Stop / Turn / Tail (STT) Light Configuration:

- a. Set Switch #2 on Breakout box to down position (Switch #1 must be in Up position)
- b. Determine which module inputs are needed for Stop / Turn / Tail Lights
- c. Apply voltage to the Left Turn or Right Turn activation wires
- d. Apply voltage to the light group wire(s) required (i.e. Rear Inboard 1, Rear Inboard 2, etc.)
- e. Momentarily apply voltage to the pattern select wire to change the color between Off, Color 1, Color 2, and Color 3.

NOTE: If configuring a single color or dual color module, make sure the chosen color is configured for Off and not a color which does not exist on the module. The light-bar will flash color #1 of all modules configured for STT function. If a module flashes every 2 seconds and is not intended to be on when an STT function is activated, repeat steps 'd' and 'e' until module no longer flashes.

- f. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode

Arrow Color Configuration:

- a. Set Switch #2 on Breakout box to down position (Switch #1 must be in Up position)
- b. Determine which module inputs are needed for Arrow function
- c. Apply voltage to the Left Arrow or Right Arrow activation wires
- d. Apply voltage to the light group wire(s) required (i.e. Rear Inboard 1, Rear Inboard 2, etc.)
- e. Momentarily apply voltage to the pattern select wire to change the color between Off, Color 1, Color 2, and Color 3.

NOTE: If configuring a single color or dual color module, make sure the chosen color is configured for Off and not a color which does not exist on the module. The light-bar will flash color #1 of all modules configured for Arrow function. If a module flashes every 2 seconds and is not intended to be on when an Arrow function is activated, repeat steps 'd' and 'e' until module no longer flashes.

- f. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode.

Arrow Flash Pattern Configuration:

- a. Set Switch #2 on Breakout box to down position (Switch #1 must be in Up position)
- b. Apply voltage to the Left Arrow activation wire to set Left Arrow pattern, apply voltage to Right Arrow activation wire to set Right Arrow pattern, apply voltage to Left Arrow and Right Arrow activation wires to set Center out Arrow pattern
- c. Momentarily apply voltage to the pattern select wire to change the arrow flash pattern
- d. Set Switch #2 on Breakout box to up position to save settings and return light-bar to normal operating mode

IMPORTANT

WHEN PASSING CABLES THROUGH FIREWALL OR OTHER SHEETMETAL, INSERT GROMMET TO PROTECT THE CABLE!

⚠ WARNING

Route wires only in locations that are not subjected to potential wear. Make sure to avoid routing wires in the deployment area of your air bag. Refer to your vehicle's owner's manual for airbag deployment zone.

NOTICE:

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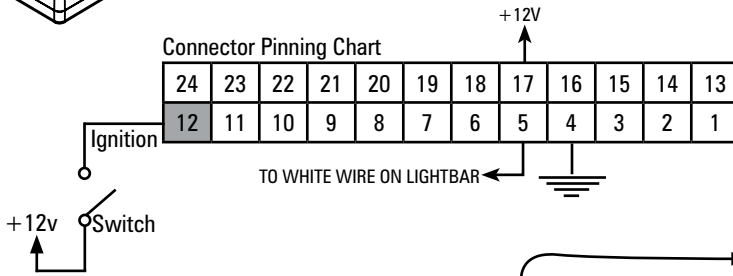
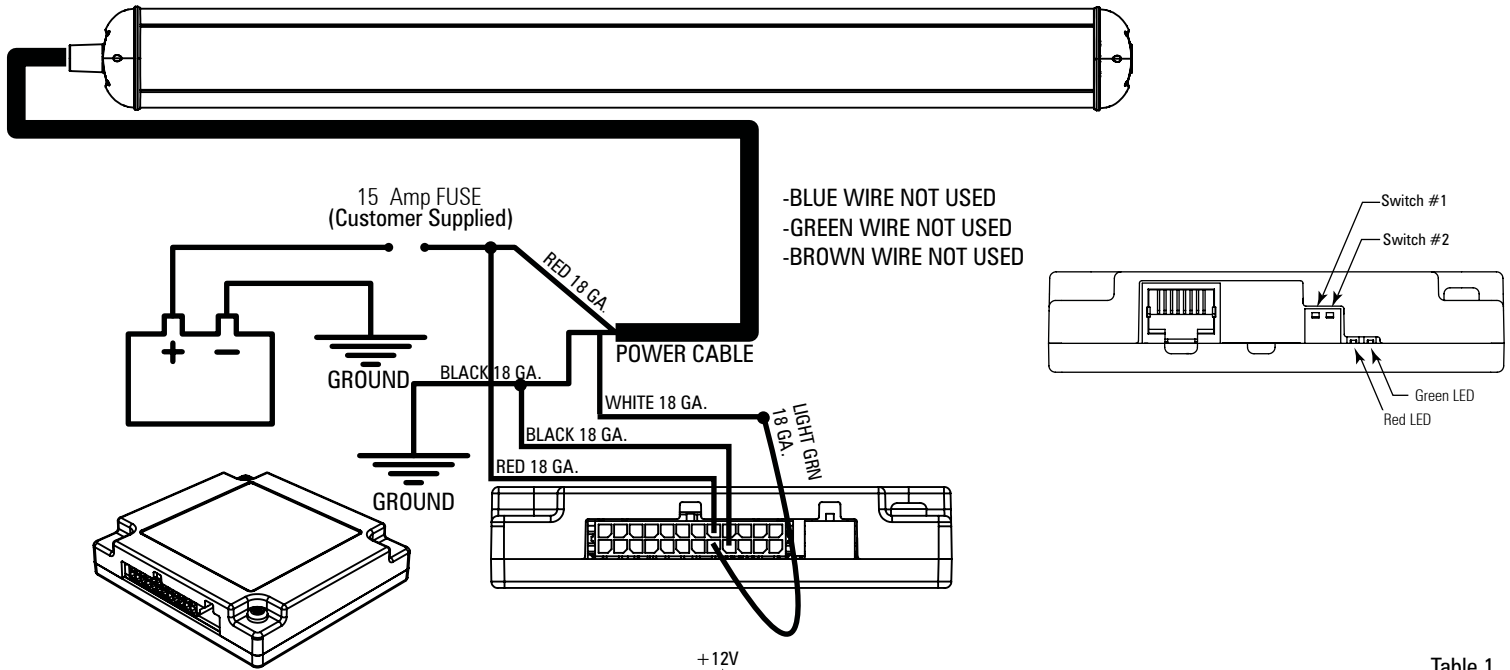
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Default Functional Inputs
Functional Inputs connect to your control head or switching unit. Applying +12Vdc to any functional Input will activate it's function (default-active high).

BREAKOUT BOX HOOKUP:

- Refer to Table 1 for Breakout Box input wire default functions
- Make sure the 24-pin connector is snapped in securely.
- Follow the label for the wire color to connect to a 12Vdc source, which turns on that given light or lights.
- Make sure your wire connections are secured and isolated from any other wire.
- Connect Red wire to +12V
- Connect Black wire to Ground.
- Connect Pink/White wire to ignition.
- Connect Light Green wire to White wire from Traffic Arrow.

BREAKOUT BOX MUST BE INSTALLED IN THE INTERIOR OF THE VEHICLE. BREAKOUT BOX IS NOT A SEALED UNIT.

Table 1.

Wire Pin #	Wire Color	Wire Function
1	Blue/White	Rear Inboard 4
2	Green/White	Rear Inboard 1
3	Gray	Mode Select
4	Black	Ground
5	Light Green	Data
6	Brown/White	Takedown Flash
7	Purple	Low Power
8	White	Pattern Select / Tail
9	Black/White	Left STT
10	Gray/White	Arrow - Right
11	Purple/White	Arrow - Left
12	Pink/White	Ignition Input
13	Blue	Not Used
14	Green	Not Used
15	Yellow	Not Used
16	Orange	Not Used
17	Red	V+ Input
18	Pink	Scene
19	Red/White	Cruise
20	Brown	Takedown 1
21	Yellow/White	Rear Inboard 2
22	Orange/White	Rear Inboard 3
23	Red/Black	Right Turn
24	Light Green/White	Future use - Sync 2

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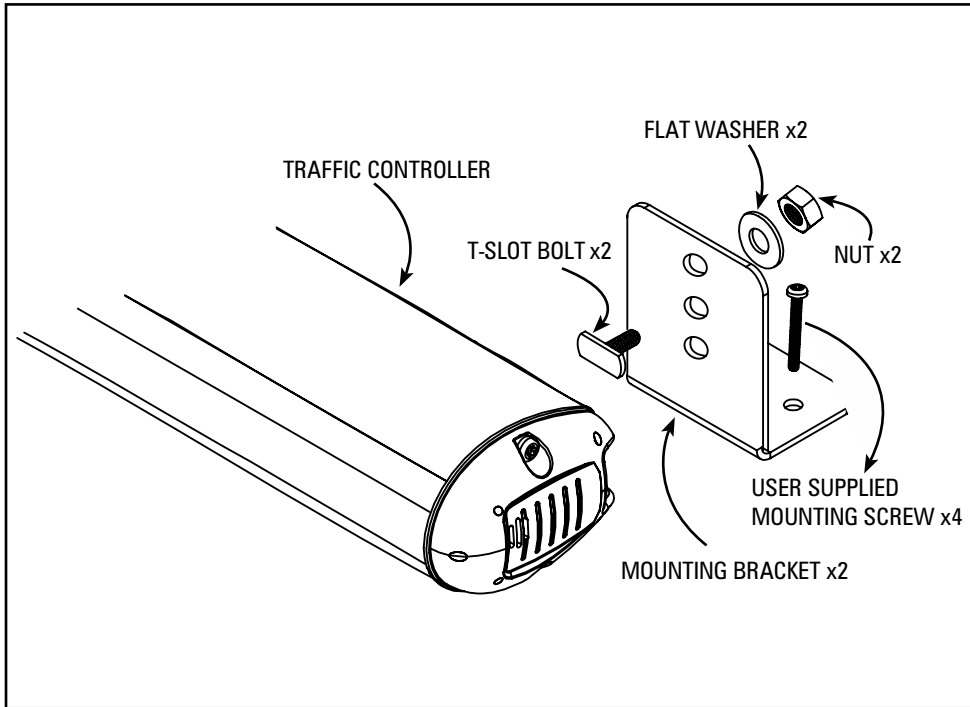
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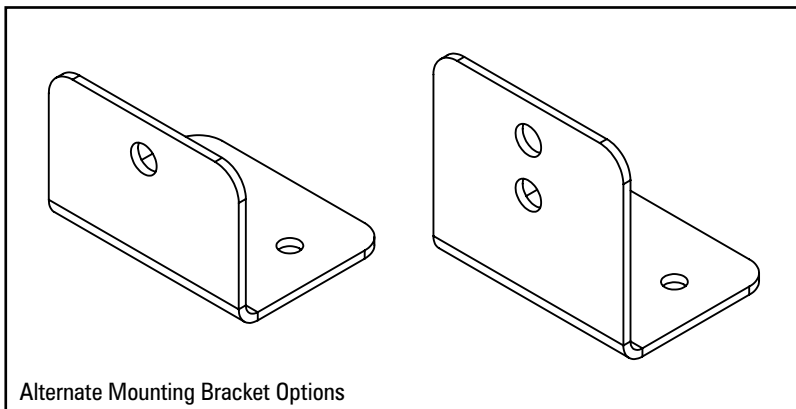
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INSTALLATION INSTRUCTIONS

1. Locate where you want to install the nFORCE Traffic Controller.
2. Using the screw holes on the mounting brackets as a template, mark the hole locations on the vehicle.
3. Drill screw holes.
4. Screw the mounting bracket to the vehicle using user supplied screws.
5. Slide T-Bolts into the channel on the back of the Traffic Controller.
6. Choose the height you would like to mount your Traffic Controller and insert the T-Bolt into the coordinating hole being sure that it is oriented correctly. The side with the "BOTTOM" label should be facing down.
7. Tighten the Traffic Controller onto the mounting bracket with the supplied flat washer and nut.



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nForce TROUBLESHOOTING

NORMAL OPERATION

Under Normal operation with ignition input powered, the breakout box will have the Green LED ON and the Red LED light will be ON whenever an input is active and both switches are in the UP (off) position.

NO OPERATION

No Green LED on Breakout box;

Check input power and ground to lightbar and breakout box

Check Ignition Input wire and verify a minimum of 10.0 Volts is present on the wire

NO or INCORRECT WARNING LIGHTs

No steady Red LED on breakout box;

Check 24-pin connector at breakout box (insure it is snapped in correctly), check appropriate input to breakout box for output lights which should be on. Verify voltage is present at the wire input to the breakout box for the function being tested

NO TAKEDOWNS LIGHTS

Breakout box LED's operating correctly;

Verify configuration and make sure light modules are configured for takedown function

No steady Red LED on breakout box;

Check 24-pin connector at breakout box (**ensure it is snapped in correctly**), check appropriate input to breakout box for output lights which should be on

INCORRECT OR NO ARROW OPERATION

Breakout box LED's operating correctly;

Verify configuration and make sure light modules are configured for arrow function

No steady Red LED on breakout box;

Check 24-pin connector at breakout box (**ensure it is snapped in correctly**), check appropriate input to breakout box for output lights which should be on.

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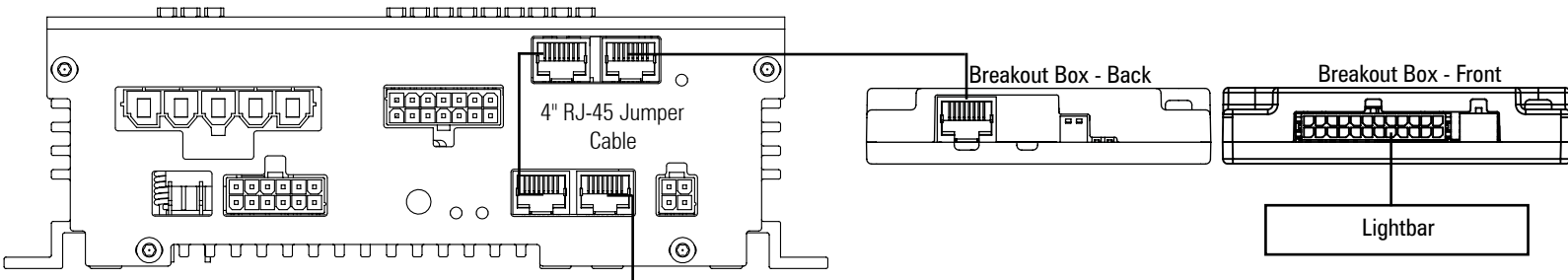
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Connection of Lightbar Breakout Box to SoundOff Signal Siren:

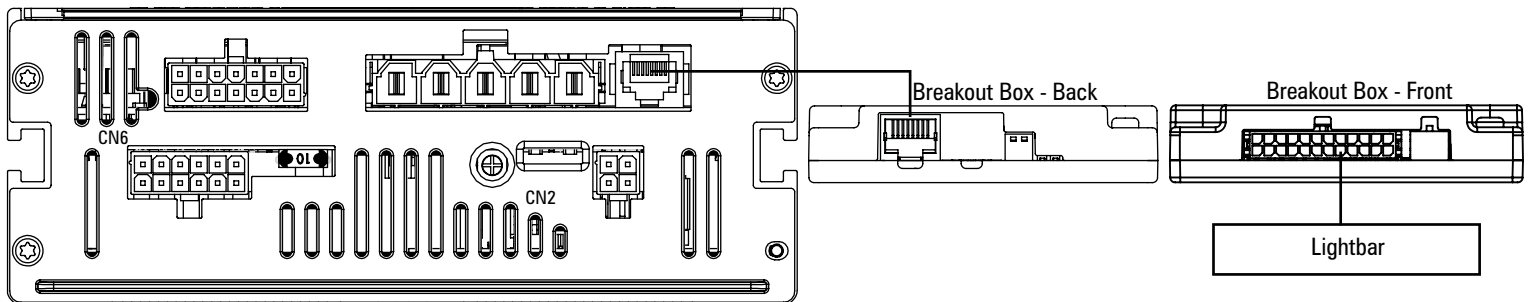
Note: Requires PC configuration app to map siren control switches to lightbar functions

Plug 1 end of RJ-45 cable to available jack on siren amplifier
Plug other end of RJ-45 cable to 'siren'

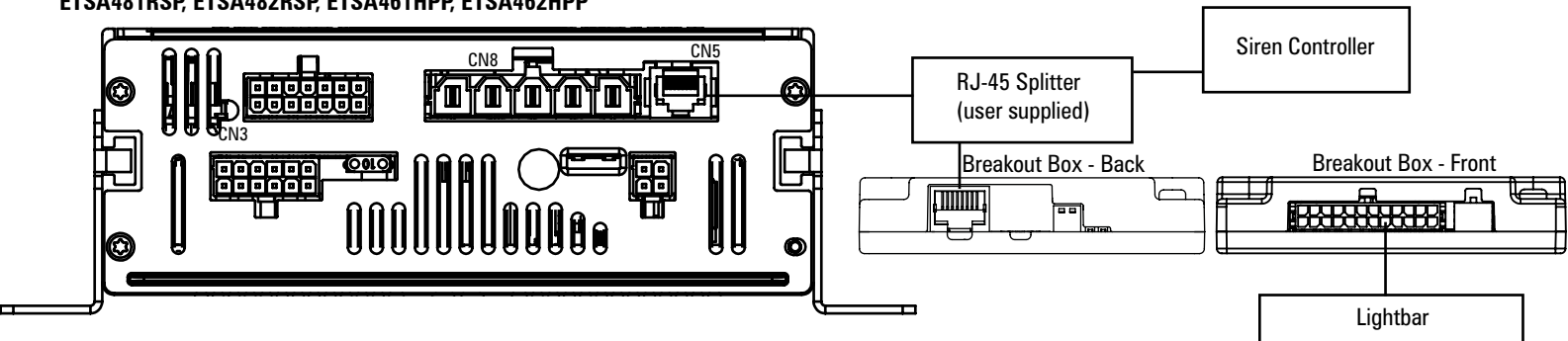
ETSA380R or ETSA385HR



ETSA481CSR or ETSA482CSR



ETSA481RSP, ETSA482RSP, ETSA461HPP, ETSA462HPP



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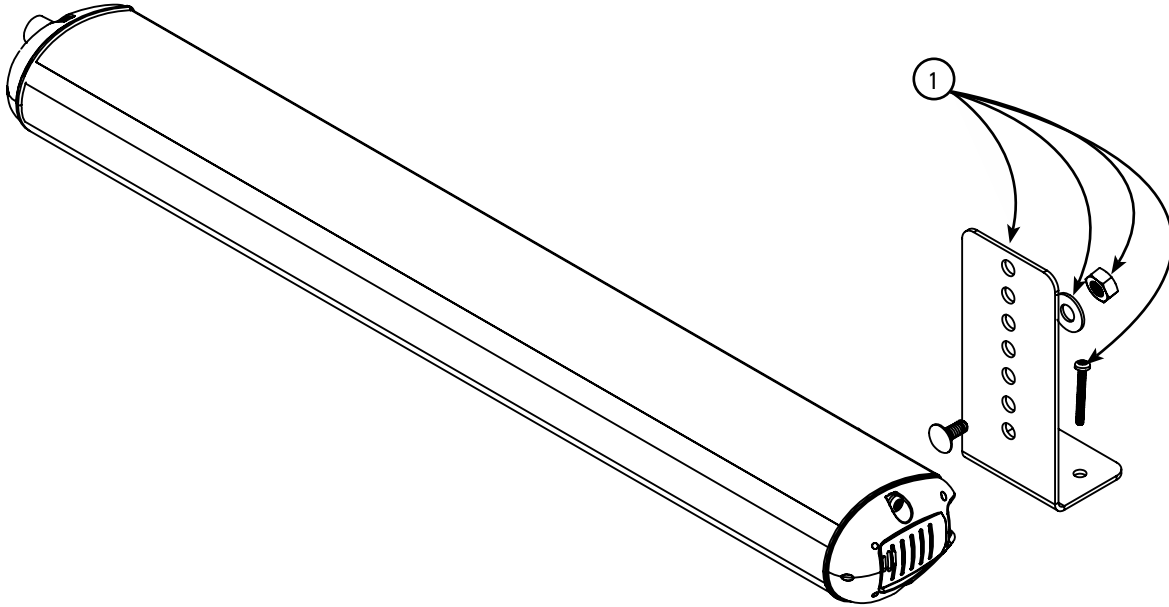
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REPLACEMENT PARTS & ACCESSORIES

ITEM #	PART#	DESCRIPTION
	PNFTCM01	nFORCE Traffic Controller D/G Mount Kit (1 Hole - Short)
	PNFTCM02	nFORCE Traffic Controller D/G Mount Kit (2 Hole - Medium)
	PNFTCM03	nFORCE Traffic Controller D/G Mount Kit (3 Hole - Long)
1	PNFTCM07	nFORCE Traffic Controller D/G Mount Kit (7 Hole - Extra Long)
	PNFWBJ00	Breakout Box
	PEPL9BBHN(x)	Breakout Box Harness - Short/Long

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WARRANTY & RETURN GOODS PROCEDURE

MOUNTING INTEGRITY:

A review of bolt/hardware/mounting bracket integrity should be performed at the beginning and end of each shift.

WARNING MESSAGES - PLEASE READ: _____

WARNING - DRILLING ANY HOLES INTO THE LIGHTBAR IS NOT RECOMMENDED! THE RISK OF DAMAGING INTERNAL COMPONENTS AND THE RESULTING FAILURE OF THE LIGHTBAR WILL VOID ANY WARRANTY OF THIS PRODUCT.

WARNING - CARE MUST BE TAKEN WHEN DRILLING THROUGH THE ROOF OF THE VEHICLE NOT TO DRILL INTO ANY EXISTING WIRING AND NOT TO DRILL THROUGH THE HEADLINER OR SUPPORT MEMBERS OF THE VEHICLE. CHECK BOTH SIDES OF THE MOUNTING SERVICE PRIOR TO DRILLING. DE-BURR ANY HOLES AND REMOVE ANY METAL SHARDS OR REMNANTS. INSTALL GROMMETS INTO ALL WIRE PASSAGE HOLES.

WARNING - ROUTE WIRES ONLY IN LOCATIONS THAT ARE NOT SUBJECTED TO POTENTIAL WEAR. MAKE SURE TO AVOID ROUTING WIRES IN THE DEPLOYMENT AREA OF YOUR AIR BAG. REFER TO YOUR VEHICLE OWNER'S MANUAL FOR AIR BAG DEPLOYMENT ZONES.

WARNING - ALL CUSTOMER SUPPLIED POWER WIRES CONNECTING TO THE POSITIVE (+) OR NEGATIVE (-) BATTERY TERMINAL OR LOCAL CHASSIS GROUND (-) MUST BE SIZED TO SUPPLY AT LEAST 125% OF THE MAXIMUM CURRENT AND PROPERLY FUSED AT THE POWER SOURCE WITH APPROPRIATELY RATED FUSE.

IMPORTANT: When passing cables through fire wall or other sheet metal, insert grommet to protect the cable!

WARRANTY RETURN PROCESS:

Please contact your SoundOff Signal Sales Representative, Customer Services staff or our Technical Department (800.338.7337) for a RMA #, Return Merchandise Authorization Number.

The following information is required for issuance of the RMA #:

- Reason for returning the product*
- Address where replacement product is to be shipped*
- Telephone number where you may be reached*
- SoundOff Signal invoice number on which product was purchased**
- SoundOff Signal part number and serial number**
- E-mail address where RMA # should be e-mailed**
- Fax number where RMA # should be faxed**

* RMA # will not be given without this information.

** If available, please provide this information.

SoundOff Signal will NOT accept returns without an RMA #. Each RMA # is good for only one (1) return and will expire (10) days after the date it was issued. Products must be shipped back to SoundOff Signal and the RMA # clearly marked on the outside of the package near the shipping label. Please use the following address on your shipping label:

SoundOff Signal
ATTN: RMA # / Technical Services
3900 Central Parkway
Hudsonville, MI 49426

WARRANTY EXCLUSIONS:

Shipping & Handling, labor and service fees are non-refundable. SoundOff Signal is not liable for any damage due to installation or personal injury as a result of using SoundOff Signal product.

WARRANTY FORFEITURE:

Warranty will not be granted if the Warranty Return Policy & Procedure rules are not strictly followed. Physical damage resulting from customer abuse will void warranty. Warranty will also be voided if any SoundOff Signal and/or manufacturer serial tags, product stickers, seals, or the like, are removed, altered or tampered with. Returned product that is damaged by shipping via the RMA # procedure is not the responsibility of SoundOff Signal.

Document effective date on cover and below supersedes previously dated policies and statements.

There are no other warranties, expressed or implied, including, but not limited to, any implied merchantability or fitness for a particular use. SoundOff Signal reserves the right to modify this warranty statement at any time; or to discontinue, modify, or upgrade any products of its manufacture with design improvements without prior notice.

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