

INSTALLATION & OPERATION MANUAL

NASL547/39
NASL847/39
NAS3547/39
NAS3847/39
NarrowStik™
LCC547/39
LC847/39
LC-Stik



NARROWSTIK™



LC-STIK



3-Up OPTIX™ NARROWSTIK™

Code 3, Inc., a subsidiary of
Public Safety Equipment, Inc.



LED NarrowStik™ LED LC-Stik

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IMPORTANT: *Read all instructions and warnings before installing and using.*
INSTALLER *This manual must be delivered to the end user of this equipment.*

Introduction

The LED NarrowStik® and the LC-Stik are both traffic directing devices that will mount in many locations including the back of a lightbar or rear panel of a truck. Each Stik is a series of lights that point traffic away from the scene of an accident or work site.

The LED NarrowStik option utilizes state-of-the-art High-Flux LED lightheads. The LC-Stik utilizes more economical and less bright Superflux LEDs. These lightheads last longer and use much less current than standard incandescent lamps.



WARNING!

The use of this or any warning device does not insure that all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes.

The effectiveness of this warning device is highly dependent upon correct mounting and wiring. Read and follow the manufacturer's instructions before installing or using this device. The vehicle operator should insure daily that all features of the device operate correctly. In use, the vehicle operator should insure the projection of the warning signal is not blocked by vehicle components (i.e.: open trunks or compartment doors), people, vehicles, or other obstructions.

This equipment is intended for use by authorized personnel only. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should check all applicable city, state and federal laws and regulations.

Public Safety Equipment, Inc., assumes no liability for any loss resulting from the use of this warning device.

Proper installation is vital to the performance of this warning device and the safe operation of the emergency vehicle. It is important to recognize that the operator of the emergency vehicle is under psychological and physiological stress caused by the emergency situation. The warning device should be installed in such a manner as to: A) Not reduce the output performance of the system, B) Place the controls within convenient reach of the operator so that he can operate the system without losing eye contact with the roadway.

Emergency warning devices often require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.

PROPER INSTALLATION COMBINED WITH OPERATOR TRAINING IN THE PROPER USE OF EMERGENCY WARNING DEVICES IS ESSENTIAL TO INSURE THE SAFETY OF EMERGENCY PERSONNEL AND THE PUBLIC.

Models:

- 1: **NASL847/39:** Standard LED-X™ 8-position Amber 47" or 39" NarrowStik
- 2: **NASL847/39XX:** LED-X™ 6-position Amber in center, flashing LEDs on the outside positions
- 3: **NASL547/39:** LED-X™ 5-position Amber 47" or 39" Narrowstik
- 4: **LC847/39:** Standard LED 8-position Amber 47" or 39" LC-Stik
- 5: **LC547/39:** LED 5-position Amber 47" or 39" LC-Stik
- 6: **NAS3847/39:** Standard 3-Up OPTIX™ 8-position Amber 47" or 39" NarrowStik
- 7: **NAS3847/39XX:** 6-position 3-Up OPTIX™ Amber in center, flashing LEDs on the outside positions
- 8: **NAS3547/39:** LED 5-position 3-Up OPTIX™ Amber 47" or 39" Narrowstik

Unpacking & Pre-installation

After unpacking the items, carefully inspect the unit and its associated parts for any damage that may have been caused in transit. Report any damage to the carrier immediately.

Installation & Mounting

The LC-Stik and the NarrowStik™ was designed with a flexible mounting system to allow its use with as many lightbars as possible. The following installation instructions provide direction for mounting the LC-Stik and NarrowStik to the Code 3® XL 5000™ Series and LP 6000™ Series Lightbar frames. Information is given, however, so that mounting on other lightbar systems should be possible. Questions about a specific application should be directed to the Technical Hotline number given on the last page of this manual.

Permanent Mounting

Prior to mounting, consideration must be given to cable location. The cable should exit the endcap on the driver's side unless otherwise specified.

LP 6000™ Series Frame:

See Figure 2 ,Figure 3 and Figure 4 below:

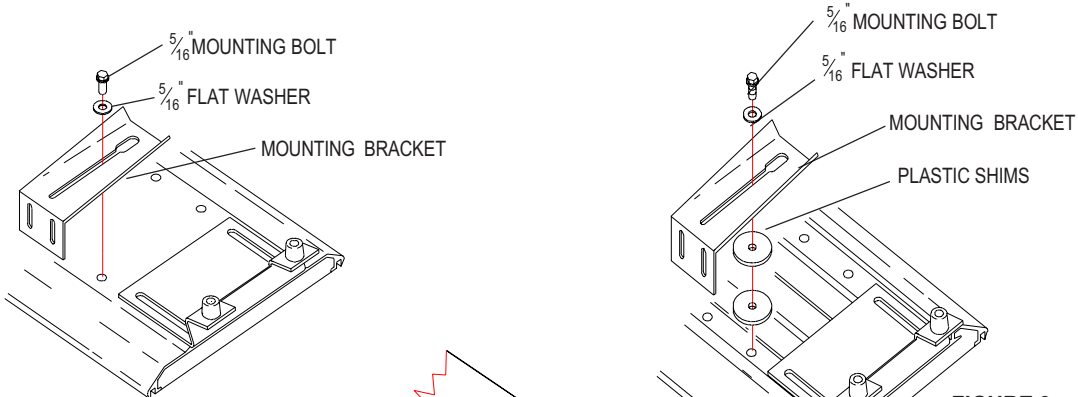


FIGURE 2
LP 6000 SERIES
(EARLY MODEL)

FIGURE 3
LP 6000 SERIES
(LATE MODEL)

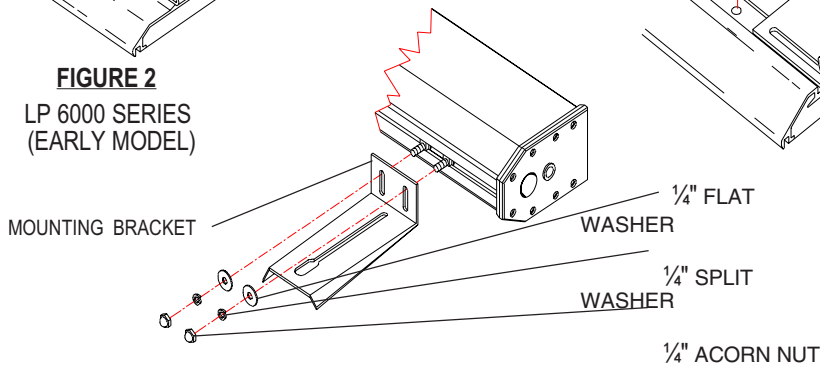


FIGURE 4

XL 5000™ Series Frame:

See Figure 5 below:

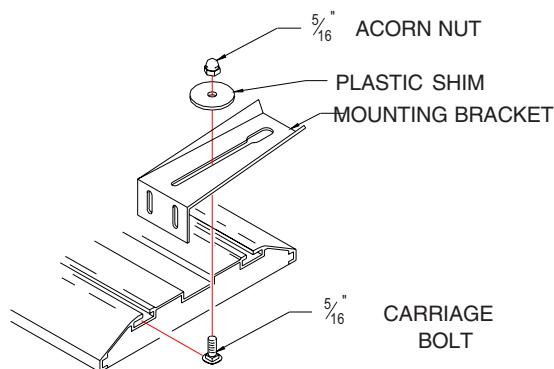


FIGURE 5

Wiring Instructions

Refer to the manual packaged with the 8 Output LED Narrowstik® Controller for detailed control head wiring, installation and operation instructions.



WARNING!

Larger wires and tight connections will provide longer service life for components. For high current wires it is highly recommended that terminal blocks or soldered connections be used with shrink tubing to protect the connections. Do not use insulation displacement connectors (e.g. 3M® Scotchlock type connectors). Route wiring using grommets and sealant when passing through compartment walls. Minimize the number of splices to reduce voltage drop. High ambient temperatures (e.g. underhood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. Use "SXL" type wire in engine compartment. All wiring should conform to the minimum wire size and other recommendations of the manufacturer and be protected from moving parts and hot surfaces. Looms, grommets, cable ties, and similar installation hardware should be used to anchor and protect all wiring.

Fuses or circuit breakers should be located as close to the power takeoff points as possible and properly sized to protect the wiring and devices.

Particular attention should be paid to the location and method of making electrical connections and splices to protect these points from corrosion and loss of conductivity.

Ground terminations should only be made to substantial chassis components, preferably directly to the vehicle battery.

The user should install a fuse sized to approximately 125% of the maximum Amp capacity in the supply line to protect against short circuits. For example, a 30 Amp fuse should carry a maximum of 24 Amps.

DO NOT USE 1/4" DIAMETER GLASS FUSES AS THEY ARE NOT SUITABLE FOR CONTINUOUS DUTY IN SIZES ABOVE 15 AMPS.

Circuit breakers are very sensitive to high temperatures and will "false trip" when mounted in hot environments or operated close to their capacity.

1. After installing the Narrowstik / LC Stik, route the 11-wire cable into the vehicle to where the control head will be mounted.
2. Cut the cable to length and strip back the cable insulation on the 11-wire cable.
3. Connect the red and red/white wires in the 11-wire cable, to the **positive** (+12V) side of the battery through a user supplied 15 amp fuse or breaker using an 16 gauge minimum wire or larger.
4. Route a minimum 16 gauge black wire to the battery negative (ground) (earth). Use the 1/4" insulated quickslide located in control head parts bag and connect the black 16 gauge wire control head.
5. Remove the 14 position terminal plug from the back of the control head. Connect the remaining wires, in the 11-wire cable, to the plug as shown in Figure 5, page 5. Connect power to the control head. See control head manual for auxiliary wire functions.

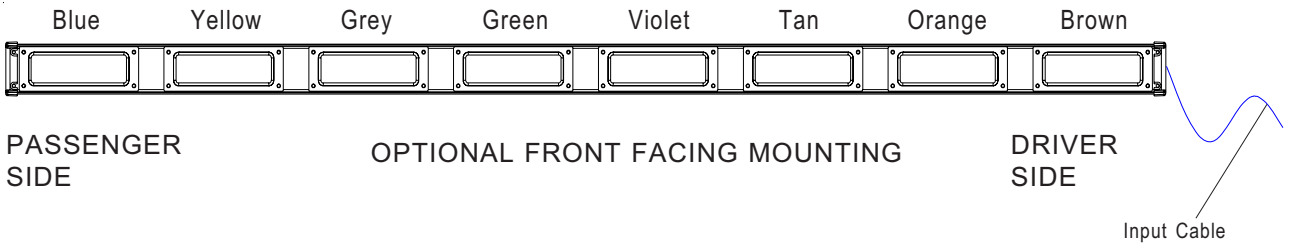
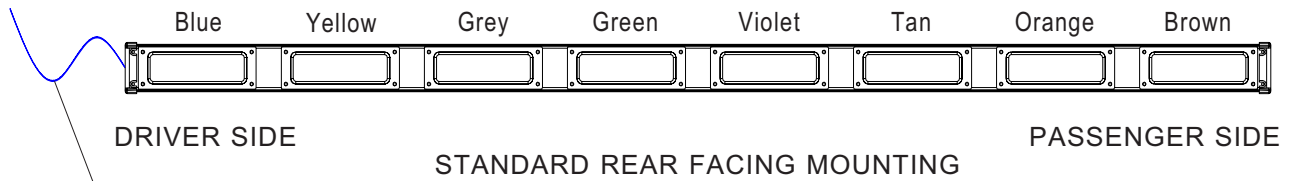
Note: When installing the Narrowstik / LC-Stik as a **Front Facing** system, or if it is desired to have the cable exit from the **Passenger** side, the LED module control wires will be reversed. See Figure 5, page 5, for details.

6. Check all connections for frayed or shorted wires. Insert the plug back into the Narrowstik control head.

WARNING!



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



11-Wire Cable Wire Designations	
RED, RED/WHITE	Narrowstik® / LC-Stik Power (+12V)
WHITE	DIM Control wire
BROWN ORANGE TAN VIOLET GREEN GREY YELLOW BLUE	INDIVIDUAL L.E.D. MODULE CONTROL WIRES (SEE FIGURE 5)

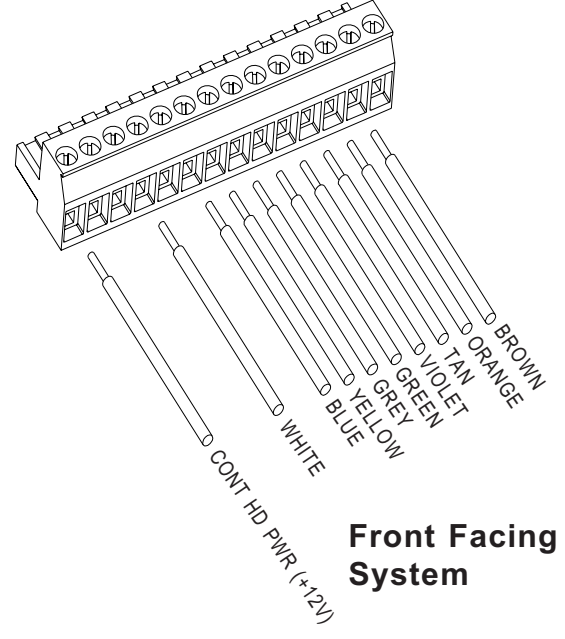
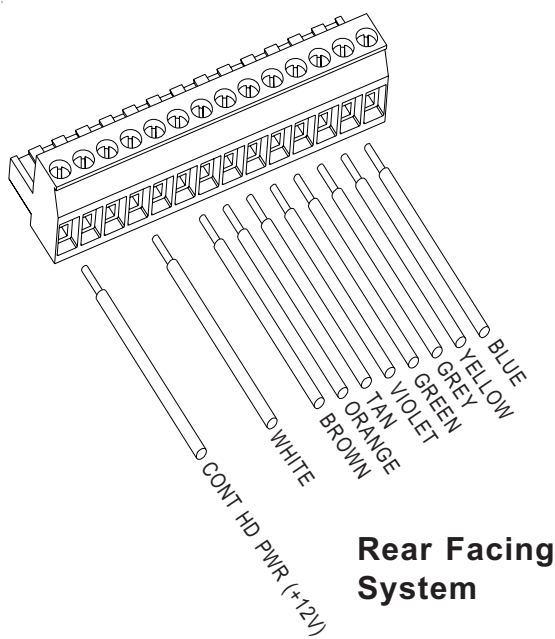


Figure 5

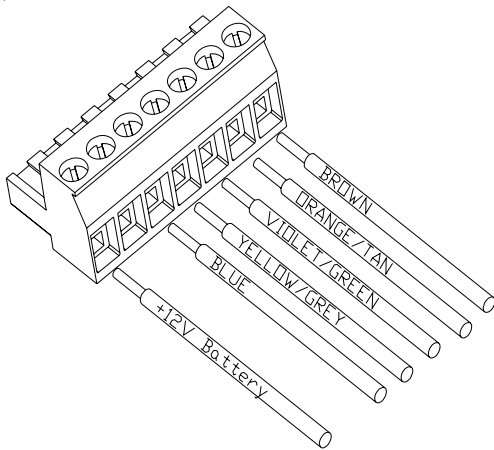
LED Narrowstik / LC-Stik wire designations for front / rear facing mounting

Connecting An 11-wire LED Narrowstik cable to a 5 Output Control Head or RLS System

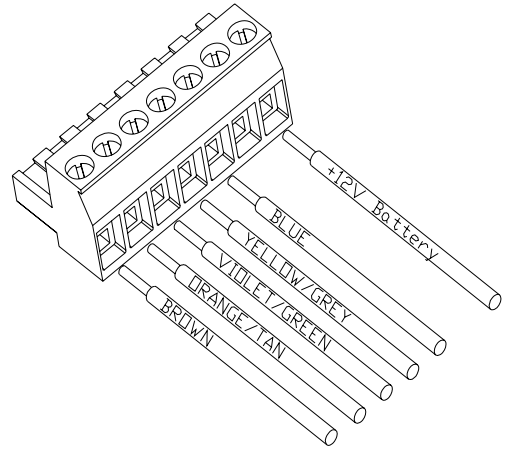
It may be necessary to retrofit the new 11-wire cable to a 5 output control system. The required connections are shown below, in Fig. 6, to connect a 5 output control head or a 5 output RLS. Stand alone LED Narrowstiks and internal Lightbar LED Narrowstiks will follow the same wire designations. **Refer to the 5 output control head user manual, or RLS manual, for control head operation.**

New Standard 11-Wire Cable Designations	
RED, RED/WHITE	Power (+12V) wires
WHITE	LED DIM Control
BROWN ORANGE TAN VIOLET Wires	Individual LED Control
GREEN	
GREY	
YELLOW BLUE	

Existing 7-Wire Cable Designations	
RED, RED/WHITE	Power (+12V)wires
BROWN ORANGE VIOLET YELLOW BLUE	Individual LED control Wires



NASLDC, 5 Output Control Head Connections



RLS 5 Output Connections

As shown, the **Orange and Tan, Violet and Green, and the Grey and Yellow** wires will need to be paired into each single output as indicated. **Note that the each wire shown with two color designations is actually representing two individual wires into a single output.**

Fig. 1

Wiring for Narrowstik™ / LC-Stik models with outboard flashing modules:

When independently flashing modules are selected to replace the standard modules in the outboard positions the **BLUE** and the **Brown** wires will be used to activate these modules and will not be connected to the **Blue / Brown** outputs on the control head as usual. Instead the **Blue* (positive)** wire can be connected to **+12V** and the **Brown* (negative)** wire can be connected to the **AUX** output on the control head. When the AUX button is activated the flashing modules will be enabled. Refer to the control head manual for further details on use of the AUX function.

Alternatively the **Blue (positive)** wire can be connected through a switch to **+12V** and the **Brown (negative)** wire can be connected to **ground**. When the switch is closed the Flashing modules will be enabled.

Dual Color LC-Stik models:

To enable the **Red/Blue** half of the dual color heads, touch the **White** wire to ground. To disable the red/blue half of the dual color heads when the control head is active, you will need the LC-Stik override circuit (S81499) which is included with all dual color LC-Stik models. When installed this module will disable the red/blue half of the LC-Stik. See the override circuit manual for specific wiring details.

Note: The White wire on a dual color LC-Stik module is not for dimming. There is no dimming feature on an LC-Stik.

Dimming

All Narrowstik models come equipped with a DIM, low power, mode as standard that allows the user to reduce the L.E.D. intensity, if desired. The current consumption is also significantly reduced in this mode (approximately 60%). Dim mode is controlled by the White wire in the 11-wire cable, see figure 5, page 5. When +12V is applied to this white wire the modules will DIM until removed. The Narrowstik control head has an output dedicated to provide this +12V, see the Control Head manual for details.

Note: This feature is not available on LC-Stik models.



The Dim setting reduces the light output of emergency warning lights reducing the effectiveness of them especially in brightly lit areas. Failure to use adequate light for the circumstances can cause motorists to fail to see the emergency vehicle and lead to serious personal injury or death. Never use the DIM setting in a brightly lit area. Use of the DIM setting may cause emergency lights to not comply with applicable emergency warning light standards. Use caution when using the DIM setting to assure that motorists can clearly see the emergency vehicle.

Specifications

NASL-847 & LC847

LC/NASL-847 Size: 48-1/2" L, 2-7/8" W, 2" H

Operating Voltage : 10 - 16VDC

Current Draw :

	8 Head NASL	5 Head NASL	8 Head LC	5 Head LC
Average :	4 A	2.5A	1.0A	.625A
Maximum :	8 A	5 A	2.0A	1.2A

Note: Current consumption is reduced by approximately 60% when in DIM mode. LC-Stik versions do not have a DIM mode.

Maintenance

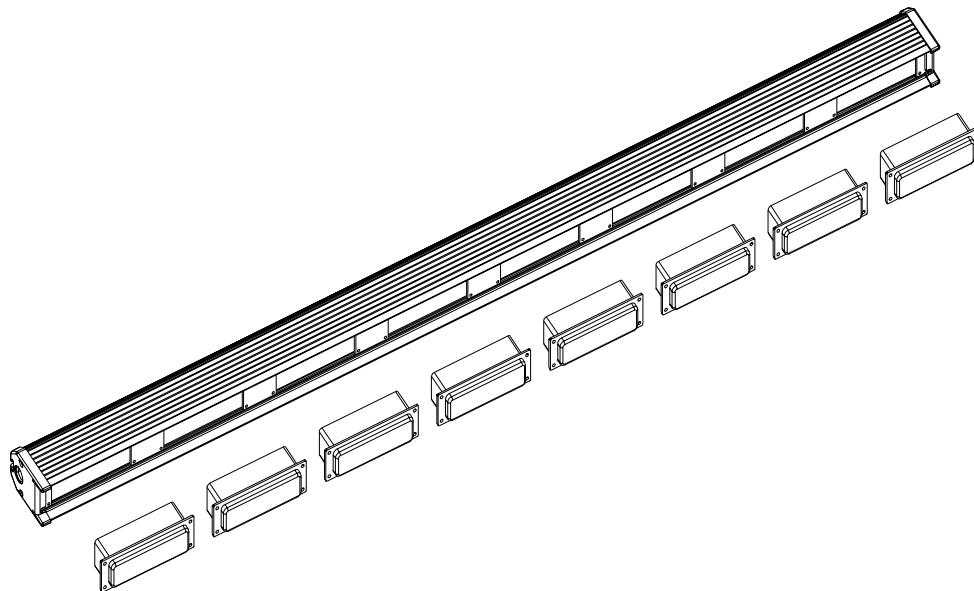
The NarrowStik™ and LC-Stik require minimal routine maintenance. Occasional cleaning of the lens is all that is required to sustain maximum light output. Water or Code 3® lens polish and a very soft cloth is needed for cleaning. The plastic scratches easily, so cleaning is recommended only when necessary. The lens should not be removed at any time.

Parts List

Name	Type	Part Number
LED Lightheads	Narrowstik	Contact Code 3 for Replacements
	LC-Stik Amber	T07090
	LC-Stik Red/Amber	T07549
	LC-Stik Blue/Amber	T07550
Chassis Extrusion	39"	T07964
	47"	T07965
Cable 22'	Narrowstik	T09695
	LC-Stik	T13195
Endcap		T09502

Troubleshooting

Verify that all connections for the Narrowstik / LC-Stik are correct as detailed in this manual. Each head can be checked by placing POWER on the red and red/white wires while grounding each individual LED control wire (see figure 5, page 5). If any heads do not light replace with a new L.E.D. module or return the entire unit for service. If all heads are functioning refer to the control head manual for troubleshooting details related to the control head. Refer to the back page of this manual for service information.



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WARRANTY

Code 3, Inc. L.E.D. emergency devices are tested and found to be operational at the time of manufacture. Provided they are installed and operated in accordance with manufacturer's recommendations, Code 3, Inc. guarantees all parts and components to a period of 5 years (unless otherwise expressed) from the date of purchase or delivery, whichever is later. Units demonstrated to be defective within the warranty period will be repaired or replaced at the factory service center at no cost.

Use of inappropriate or inadequate wiring or circuit protection causes this warranty to become void. Failure or destruction of the product resulting from abuse or unusual use and/or accidents is not covered by this warranty. Code 3, Inc. shall in no way be liable for other damages including consequential, indirect or special damages whether loss is due to negligence or breach of warranty.

CODE 3, INC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY INCLUDING, WITHOUT LIMITATION, WARRANTIES OF FITNESS OR MERCHANTABILITY, WITH RESPECT TO THIS PRODUCT.

PRODUCT RETURNS

In order to provide you with faster service, if you are going to return a product for repair or replacement*, please contact our factory to obtain a Return Goods Authorization Number (RGA number) before you ship the product to Code 3®. Write the RGA number clearly on the package near the mailing label. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

*Code 3, Inc. reserves the right to repair or replace at its discretion. Code 3, Inc. assumes no responsibility or liability for expenses incurred for the removal and/or reinstallation of products requiring service and/or repair.; nor for the packaging, handling, and shipping; nor for the handling of products returned to sender after the service has been rendered.

NEED HELP? Call our Technical Assistance Hotline - (314) 996-2800.

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