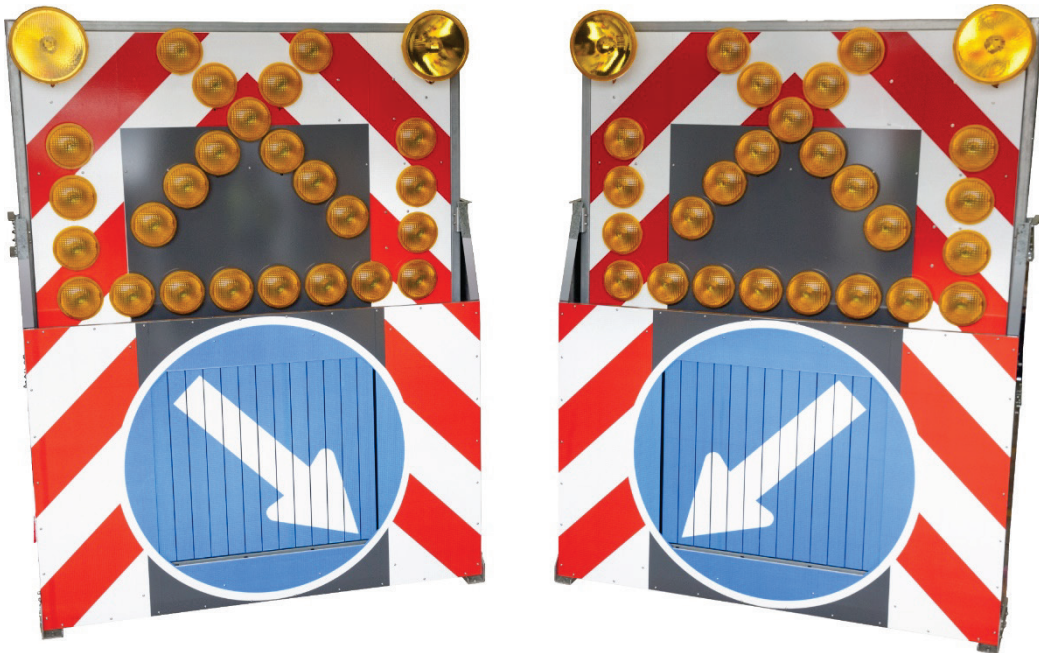




# Light Arrow System (LAS) Installation & Operating Guide



For Model:  
**V4 - Prism LAS**

**PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE  
PROCEEDING WITH THE INSTALLATION**

Version 2.0

### Light arrow unit type 8000

The light arrow unit type 8000 consists of following components:

- Control unit with functional display for light arrow and 2-fold light unit 340mm and with malfunction indication,
- Up to 25 LED lamps 200mm
- optional 2-fold xenon flashing or halogen unit 340mm
- optional Prism Sign
- optional hydraulic aggregate for lifting and lowering of the upper board
- Special adapters to connect the remote controls type 7000 and 8000

### Voltage

The light arrow unit always has to be supplied by a Battery, 12V or 24V DC and must be wired via a "kill switch".

### IMPORTANT!

It is important to observe the polarities while connecting the power supply leads, failure to comply can result in components to fail.



WEIGHT OF COMPLETE SIGN = 370 Kg

## Control unit type 8000

All external components of the light arrow unit are connected to the main circuit board. All components are selected and monitored from the control unit.

Selection and monitoring is done by a microcomputer which is mounted on a plug-in module.

To change e.g. the program only this module has to be replaced.

Up to 25 arrow lamps can be selected by the control unit. The lamps are selected and monitored individually. Lamp faults are reported to the remote control. The display of the remote control shows which and how many lamps failed (a defective lamp is shown as an X instead of a lamp symbol).

The switching stages are short-circuit proof.

The twofold xenon flashing or halogen unit flashes asynchronously to the light arrow. These lamps are also individually monitored, a failure is reported as fault and shown on the display of the remote control.

### Attention!

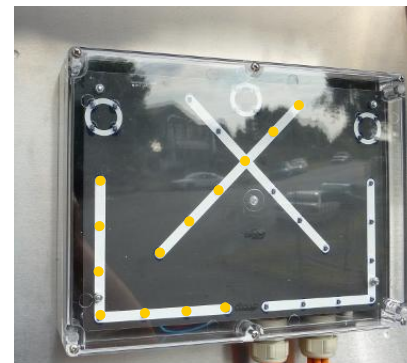
If a xenon flash unit 340mm is used it switches to self ignition in case the arrow unit fails. By this a total failure of the system is avoided.

### The "imitator" at the control unit

The LED-arrow at the "imitator" shows the direction of the light arrow, it flashes synchronously to it. The operation of the 340mm lamps is also shown on the "imitator". If a 340mm lamp fails the corresponding imitating lamp goes out, too.

If there is a fault in the system a red lamp starts blinking. The display of the remote control indicates the kind of fault.

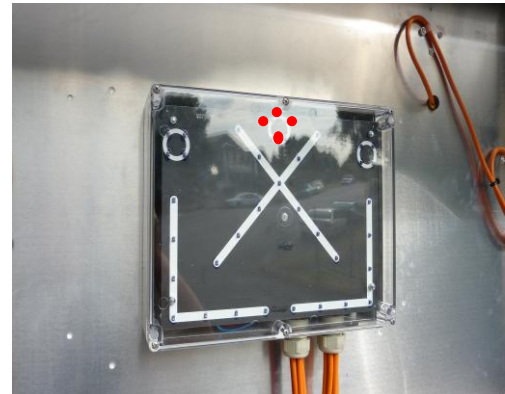
Control unit for  
light arrow unit  
type 8000



Red failure indication

The "imitator" can indicate the following malfunctions:

- Low voltage - advance warning
- Low voltage - battery totally discharged, light arrow switches off, 340mm lamps continue to flash.
- Failure of arrow lamps
- Failure of 340mm lamps
- Failure of arrow setting unit
- Interruption of the data connection to the remote control



### Twilight Switch

The brightness of the lamps is continuously adapted to the ambient light intensity. The dimming of the lamps commences at an ambient light intensity of approx. 3.000 Lux and ceases at approx. 500 Lux.

When the system is completely dimmed the lamps only have approx. 40% of their bright-ness. The exact brightness in % is indicated on the display of the remote control.

In order to ensure the full function of the twilight switch, the glass dome on top of the control unit must be kept clean!

Arrow setting unit type 8000



### Motor-operated Prism Sign

The setting unit accommodates

- a) the setting motor
- b) the electronic interface for the motor

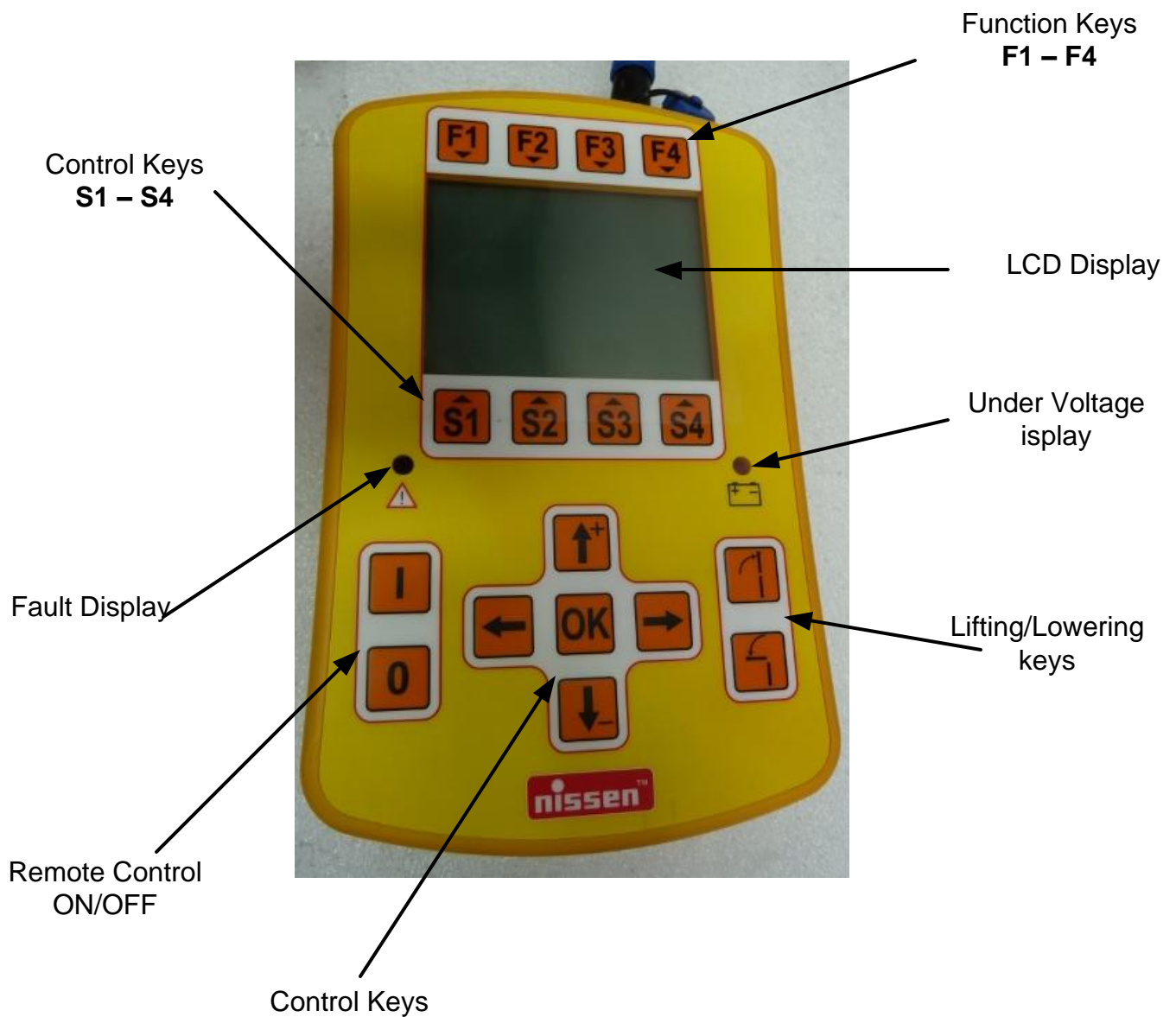
The microcomputer in the control unit has a permanent connection to the control circuit of the Triple Sign and reports the actual position.






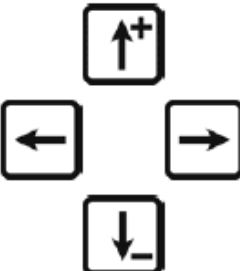

If remote control and Prism Sign control give the instruction to change the position of the white arrow the command is carried out by the Triple Sign motor . If the Motor is faulty or does not recognize the new position a malfunction is indicated. If the position is neither left nor right nor central, the display of the remote control shows the symbol in the arrow setting sign. ⚠

### Remote control for light arrow unit type 8000

The remote control is equipped with a graphic LCD display with LED background illumination and an illuminated membrane keyboard. On the right hand side of the display the actual state of the mobile warning trailer is shown. On the left hand side information about battery voltage, brightness, data connection and warning board on/off is indicated.

#### Key function:



|   |  |
|---|--|
|    | <p>Function keys. The function of these keys can change, depending on operation. It is indicated by a symbol on the display below the key.</p> |
|    | <p>Control keys. With these keys the direction of arrow setting unit and light arrow is set.</p>   |
|    | <p>"On" key. The <b>remote control</b> is switched on by pressing the key for approx. 2 seconds.</p>   |
|   | <p>"Off" key. The <b>remote control</b> is switched off by pressing the key for approx. 2 seconds.</p>   |
|  | <p>Lifting/lowering keys. These keys are only used for lifting and lowering the upper board.</p>   |
|  | <p>Control keys to select different functions.</p>   |
|  | <p>Entry key. With this key each entry is finished and confirmed.</p>  |

**Main menu:**



The text beside  indicates the function of the light arrow:

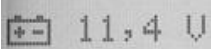
- On = Light arrow switched on
- Off = Light arrow switched off.
- Cross = Light cross active
- Altern. = Light arrow blinks left/right alternately
- Test = Light arrow is in test run



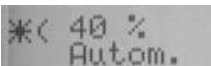
(cable connection) .



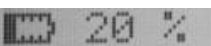
(at radio operation) indicates the state of the data connection between remote control and control unit of the light arrow. When OK is indicated the data connection is stands. When ??? is indicated, the data connection via cable or radio is interrupted.



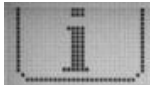
indicates the battery voltage of the light arrow.



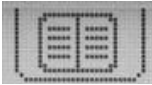
indicates the brightness of the light arrow in %. In this example the lamps are dimmed to 40% of the total brightness. When the unit is equipped with a "tunnel dimmer" the state of the day/night switch is indicated (automatic or manual).



Battery symbol for radio remote controls  
This symbol indicates the state of the battery inserted into the remote control. Each line means approx. 20% battery capacity. The value is also shown behind the symbol in 20% steps. A symbol which builds up indicates that the battery is being charged. If the battery is shown as full symbol with 100% the charging process is finished.



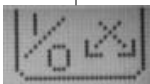
By pressing this key (F1) you can request information, e.g. program and version of remote control and control unit of the light arrow.  
In case of a fault information about the kind of disturbance is indicated here. In this case the symbol starts blinking (see also failure indication).



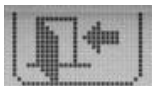
By this key (F2) you can reach the setting menu where you can set contrast, language etc. (see also setting menu).



By the F3 key the Xenon strobes is switched on resp. off.

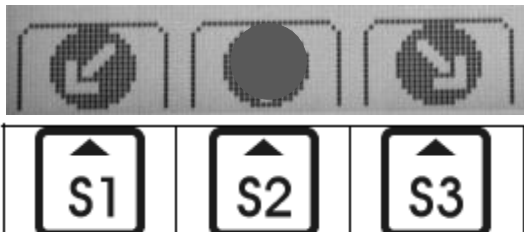


By the F4 key the light arrow is switched on resp. off.



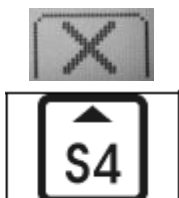
The F2 key is used for cancelling.  
By pressing this key a selected function can be cancelled without having caused any change of settings

### Changing the direction of arrow setting unit and light arrow



Select the requested direction by pressing the keys S1 to S3. The function of the keys is delayed which is indicated on the display by a clock. If you stop pushing the key during this time the selection is cancelled immediately. After the time has passed the new direction is indicated on the display and transferred to the control unit. When the arrow setting unit is in it's position the light arrow is switched over. The new function is shown on the right side of the display.

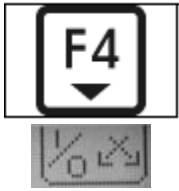
### Switching on the light cross




The light cross can be switched on by pressing the key S4. The key has the same delay as above mentioned. After the time has passed the position is indicated on the display and transferred to the control unit. The arrow setting unit takes the selected position automatically.



### Switching the light arrow on or off



The light arrow can be switched on or off by key F4. The key function is delayed. The chosen function is indicated behind the symbol 

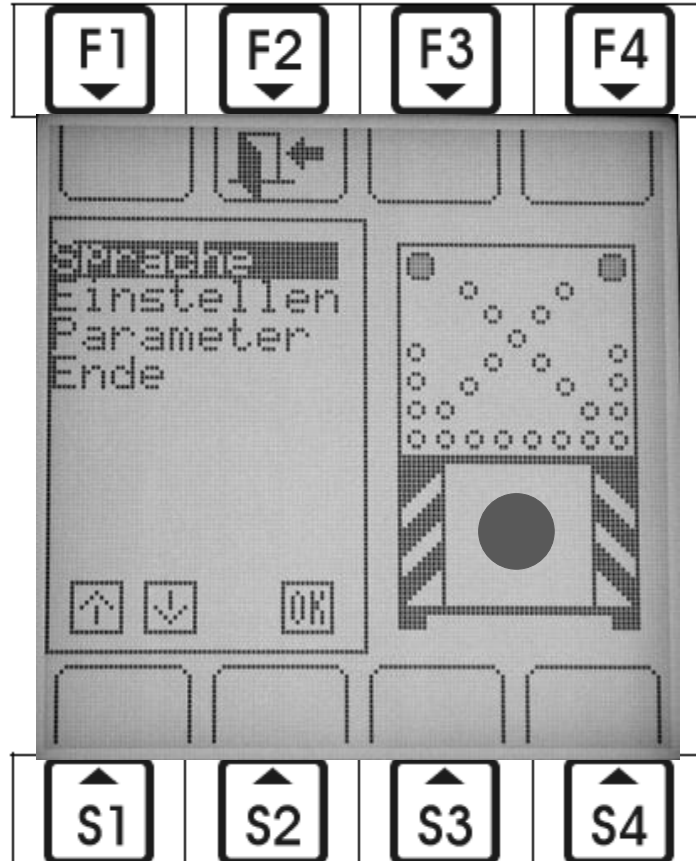
### Switching the Xenon strobes on or off



The Xenon strobes can be switched on or off by key F3. The key function is delayed.

### Setting menu

By pressing the key F2 the main selection of the setting menu opens up.



The requested item can be selected by the keys  $\uparrow$  and  $\downarrow$ . This menu point is entered by pressing the key OK.

**Language:** Setting of the language.  
You can select between German, English French and Italian. The language can be selected by the keys ↑ and ↓ and has to be confirmed with the key "OK".

**Settings:** Display and key settings:  
Contrast  
BL-display (brightness of display lighting)  
Automatic switch-off of the remote control  
Escape

Select the required item with the ↑ and ↓ arrow keys and confirm with "OK". Adjust the brightness or contrast with the ↑ and ↓ arrow keys.  
Use the "OK" key to adopt the changed values. Then complete the setting and leave the menu item with "Esc"

**Parameter:** Basic settings of the control unit for the light arrow.  
This item is set by the factory and can only be changed by inserting a PIN code.

**End:** The setting menu must always be left through this item. The key F2 is only meant for cancelling a setting process.

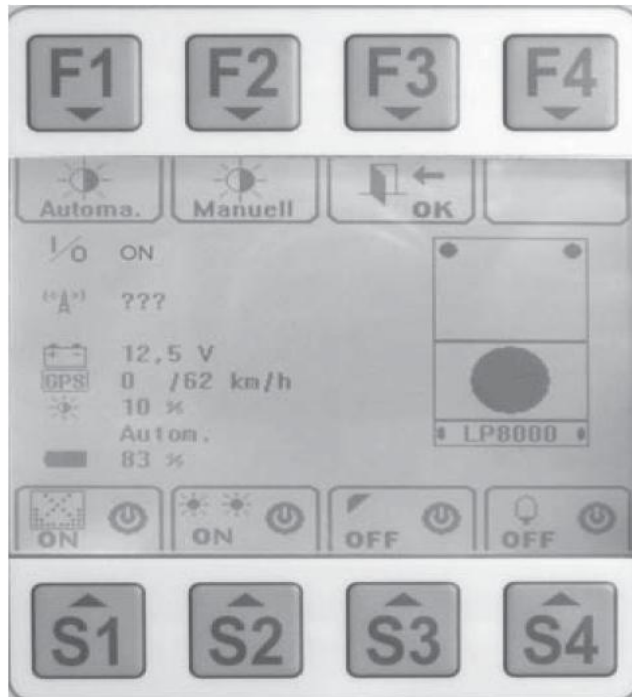
## Light-Sensitive Switch and switching Menu F3

Pressing the “F3” function key in the main menu opens a new menu. Select between light-sensitive switch, light arrow and warning lamps.

Special switching functions can also be selected.

Function keys F1-F3 and S1-S4 now have new functions.

The symbols (S-keys) always display the “actual state”.



### Key Functions

- F1 Switches the light-sensitive switch to automatic mode.
- F2 Switches the light -sensitive switch into manual mode. The desired brightness is selected with the up and down arrow keys and confirmed with “OK” or F3 key.
- F3 Ends the menu and confirms the chosen brightness of the manual dimmer. The “OK” key can be used optionally.
- S1 Switches the complete light arrow device ON/OFF
- S2 Switches the warning lamps ON/OFF
- S3 Switches the working headlights ON/OFF (Optional)
- S4 Switches the revolving beacon ON/OFF

## **FAULT DISPLAY**

### **Low voltage battery**

The yellow LED on the right above the battery symbol signals that the batteries of the light arrow are 90% depleted.

### **Fault on device**

In the case of all other malfunctions not related with a low voltage supply, the red LED on the left above the Attention sign lights.

### **Calling up fault information**

Information on all faults can be called up with the "F1" function key. The first display after pressing "F1" indicates the component on which the fault has occurred (e.g. "Remote control" or "light arrow"). Further detailed information on the type of fault can be requested by selecting the "↑", "↓" keys and confirming with "OK"

# Light Arrow System (LAS) Quick Install Reference

## Power Requirements

The LAS requires Either 12/24 volt DC (auto switching)  
The Current draw V4 Prism LAS is as follows

|                        |      |                        |       |
|------------------------|------|------------------------|-------|
| 1. Board going Up      | 7.5A | 6. Standby display off | 250mA |
| 2. Board going Down    | 3A   | 7. Standby display on  | 300mA |
| 3. Strobes alone       | 1A   |                        |       |
| 4. Strobes with a X    | 1.3A |                        |       |
| 5. Strobes with arrows | 1.5A |                        |       |

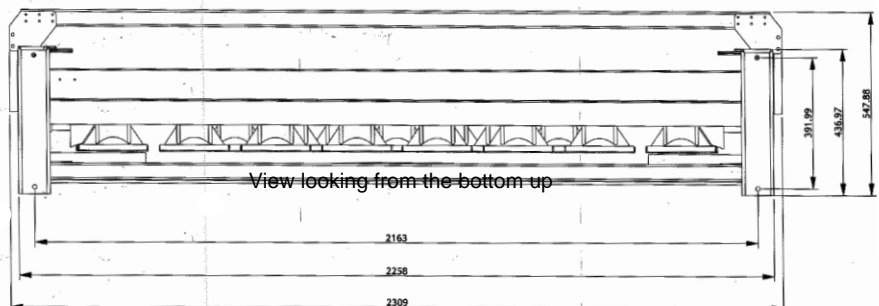
## Mounting Guidelines



Mounting Options for LAS

1. Secure with 4x M12 bolts
2. Weld steel mounting foot to truck bed.

Note: When welding remove positive terminal + from truck battery.



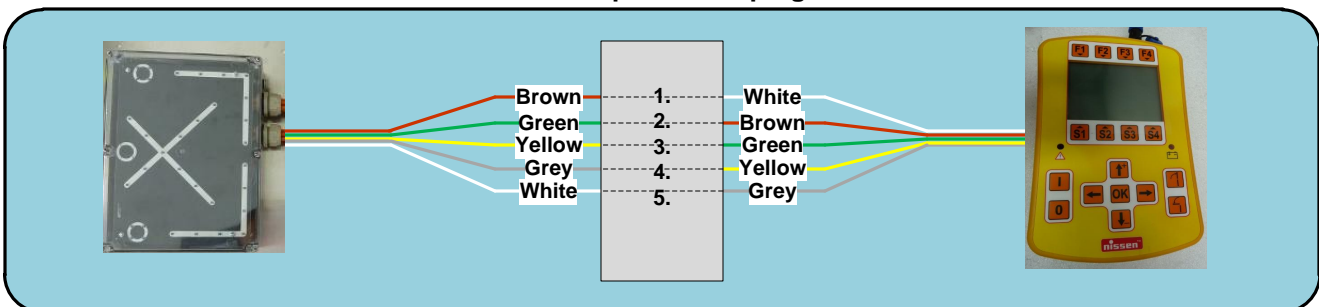
## Cable Connections

Cable Connections from LAS

1. Positive 4mm<sup>2</sup> red cable. To Positive of truck battery via a fuse, place fuse as close to battery as possible.
2. Negative 4mm<sup>2</sup> black cable. To Negative of truck battery and/or Chassis
3. Control Cable to hand controller Plug into hand controller lead.

**If it is not possible to use the large silver connectors they may be bypassed.**

**Note: The colors do not match up between plugs. Color codes as follows**



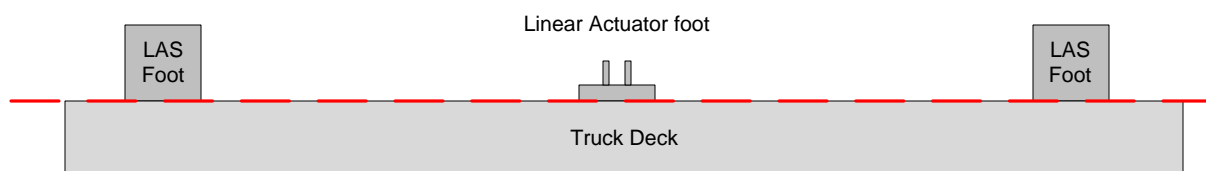
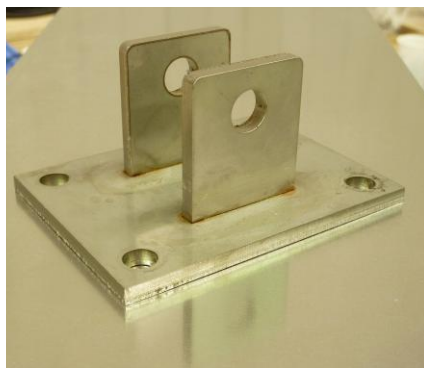
# Light Arrow System (LAS) Linear Actuator Notes

## Mounting the foot of the Linear Actuator

The foot **MUST** be mounted on the same plane as the bottom of the frame of the LAS.  
The Linear actuator must be completely vertical before marking foot position.

If not it will either pull down too hard and strip the gears, or it will not travel low enough causing it not to reach the sensors.

**And will void the warranty.**



Modifying the Lifting Bracket in any way will **void the warranty**

# Light Arrow System (LAS) Quick Install Reference

For models fitted with a Linear Actuator

The Linear Actuator's foot must be bolted to the truck bed.

The Up/Down buttons have a push and hold 4 second delay to operate. After 4 seconds you may release your finger from the up or down buttons and the LAS will automatically raise or lower. If you wish to stop the LAS raising or lowering just press either the up or down button and it will instantly stop.



## Customer Supplied lifting Device

Customers must ensure that the proximity sensors are reached when lifted by hydraulic or other means.

## Troubleshooting

