



SAFETY INFORMATION & INSTALLATION INSTRUCTIONS

HI-MAX, OPTIMAX, MIDI-MAX and LO-MAX LIGHTBARS

Read these instructions before commencing installation and use. Pass this leaflet to the end user.

Safety Information

- To ensure safe installation and use this product should be used only in accordance with the instructions and should not be modified. Modification may invalidate product approvals.
- It is the responsibility of the installer to ensure safe installation of this product in accordance with the applicable national regulations.
- If you have any doubts at all as to the installation or use of this product, consult a competent person.
- To avoid risk of electric shock disconnect electrical supply before installation.
- Ensure that the supply voltage is compatible with that marked on the product rating label.
- Lamp Replacement : See 'Maintenance Lamp & Xenon Tube Replacement' below. Disconnect the power supply before changing a lamp. Light fittings and lamps are hot whilst running, allow to cool before touching.
- **Xenon strobe tubes – Xenon strobe power supplies produce high voltages with the risk of electric shock. To allow the internal capacitor to discharge, wait a minimum of 10 minutes after disconnecting the power supply before touching wiring, changing a lamp or attempting servicing.**
- All lightbar mounting bolts should be periodically checked for tightness.

Installation Instructions

1. Mounting Instructions

Lightbars can be either permanently mounted to the vehicle or mounted by means of the optional hook-on mount kit.

The instructions for mount kit assembly are packed separately in the kit supplied with the lightbar.

When using the hook-on kit it is important to ensure that the mounting bolts are sufficiently tight to prevent movement of the bar. It should not be necessary to over tighten to the point of deformation of the roof or guttering.

Using the correct mount kit will ensure that the air gap between roof and bar is not reduced, thus avoiding unnecessary wind resistance. The ventilation holes in the lightbar base must not be obstructed.

With high performance vehicles, depending upon the mounting position of the lightbar, a high pitch whistle may occur at high speed. To eliminate this noise, the nylon tube provided may be cut to length and inserted into the mounting bolt grooves along the underside of the lightbar.

2. Wiring Guidelines

The cable colour codes, functions and current rating applicable to each lightbar function are shown on the lightbar wiring sheet which is attached to the lightbar wiring harness.

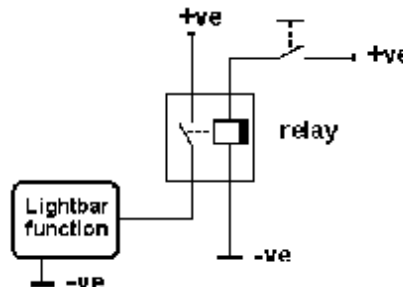
Each circuit in the lightbar should be provided with an appropriately rated supply, switched by a suitable relay or switch and fitted with a fuse.

The negative (ground) return is via the lightbar base section and the black cable in the harness, a secure negative connection to the battery or vehicle chassis is essential.

In keeping with normal automotive wiring practice, lightbar functions over 2amps should be switched using a suitable relay. This avoids the need to route heavy current cables to the dashboard. An example of wiring for one function is shown right.

Cable screen - If screening is fitted to cable it is connected to ground inside the lightbar. The screen does not require connection to ground at the loom end and should be cut back approximately 10cm and insulated with tape to prevent a short circuit to positive connections.

If it is necessary to extend the wiring loom, the recommended cable sizes for given current ratings are shown in the table below.



AUTOMOTIVE CABLE			RISTEX CABLE (HIGH TEMPERATURE INSULATION)			
NUMBER & DIAMETER OF CONDUCTORS	NOMINAL CROSS – SECTION AREA mm ²	MAXIMUM CURRENT RATING (AMPS)	NUMBER & DIAMETER OF CONDUCTORS	NOMINAL CROSS – SECTION AREA mm ²	APPROX DIAMETER mm	MAXIMUM CURRENT RATING (AMPS)
9/0.30	0.65	5	7/0.23	0.30	0.69	5
21/0.30	1.5	10	19/0.23	0.75	1.15	10
44/0.30	3.0	20	19/0.41	2.50	2.05	20

Illuminated Signs

The optional illuminated sign fitted to certain models has a current consumption of between 1.25 and 5 Amps at 12 Vdc depending on the size of the sign, and will require a power supply of at least 5 Amps.

If required the sign can be supplied via the vehicle sidelight circuit so that the sign will illuminate when the vehicle lights are switched on.

Ancillary Lights

Depending upon specification, various other lamps may be fitted e.g. Brake/Tail/Turn repeaters or additional headlamps. These lamps may require integration with existing vehicle wiring, care should be taken to ensure that the vehicle systems are not adversely affected.

Xenon Lamps

Xenon lighting systems consist of a power supply unit with various lamp options. The power supply wiring will vary with the type and will be shown on the lightbar wiring sheet. If Xenon strobe leads are extended, the joints should be sealed with RTV Silicone to prevent ingress of moisture.

3. Maintenance

Cleaning - Lightbars may be cleaned with a detergent/water mixture. **DO NOT USE ABRASIVE OR SOLVENT BASED CLEANERS AS THESE WILL DAMAGE THE SURFACE OF THE LENSES.** In order to avoid condensation build-up, lightbars are ventilated through the base of the unit. Over-enthusiastic use of high power jet washers may result in some water penetration through the vent holes. However, drain holes in the base will allow any water accumulation to drain away, and operation of the unit should not be affected.

Lamp & Xenon Tube Replacement

Access to the interior of the lightbar is obtained by removal of one or more lenses.

Lens Removal

1. Remove the lens fasteners from the end and top of the each lens by partially unscrewing or pulling out the centre of the fastener then removing the complete fastener (See fig. A / B / C below). Lift the end of the lens to allow the internal locating lugs to clear the base. Slide the lens towards the end of the bar to free the lens from the bridge moulding and lift clear.
2. If removing a central lens (where fitted), first remove the end lens then slide the bridge moulding towards the end of the bar to free the centre lens and lift the lens clear.
3. To refit lenses : **Lubricate the bridge moulding seal with a soap solution** and locate on the end of the lens, **lubricate the seal around the base of the lightbar**, then insert the lens and seal into the bridge moulding and press the lens down onto the base.
4. To prevent water ingress and risk of detaching at speed, it is important that all lenses and seals are correctly located before replacing the fasteners.
5. To replace fastener, push the female part of the fastener into the hole. With this in position, push the centre screw into the fastener to lock the assembly into position. Note that two spare fasteners are attached to the inside of the lightbar.

Lamp & Xenon Tube Replacement - Rotating lights / Directional lights with H1 type lamps

1. Remove the lamp clip from the rotator assembly and pull the lamp upwards out of the lamp connector and insulator.
NOTE: To improve access, the reflector can be removed by prising the clips at the back upwards and sliding the reflector upwards to clear the mounting bracket.
2. Push the new lamp into the connector, taking care not to handle the glass envelope. If it is touched remove any finger marks with methylated spirit.
3. Refit the lamp clip ensuring that the lamp flange is retained by the clip. Test the rotator operation to ensure that the lamp unit is working.
4. Replace lenses by reversing the removal sequence.

Other Lamps

Lamps fitted to ancillary lighting will generally be bayonet lamp cap, requiring push & twist fitting. To change alley-light lamps in Lo-max, it may be necessary to loosen the screws holding any adjacent strobe lamp, and swing one end clear to provide space to remove the alley light lamp.

Xenon Tubes

Xenon tubes will be plug in lamps with 8-pin bases or linear tubes which can be removed by unclipping from the reflector. Where sealed beam units are fitted, the complete unit must be disconnected from the power supply by unplugging the wiring loom at the rear of the lamp.

NOTE: Xenon power supplies have input voltages between 10-30 Volts, but are designed to produce high voltage output to the lamps at approximately 400V with the consequent risk of electric shock.

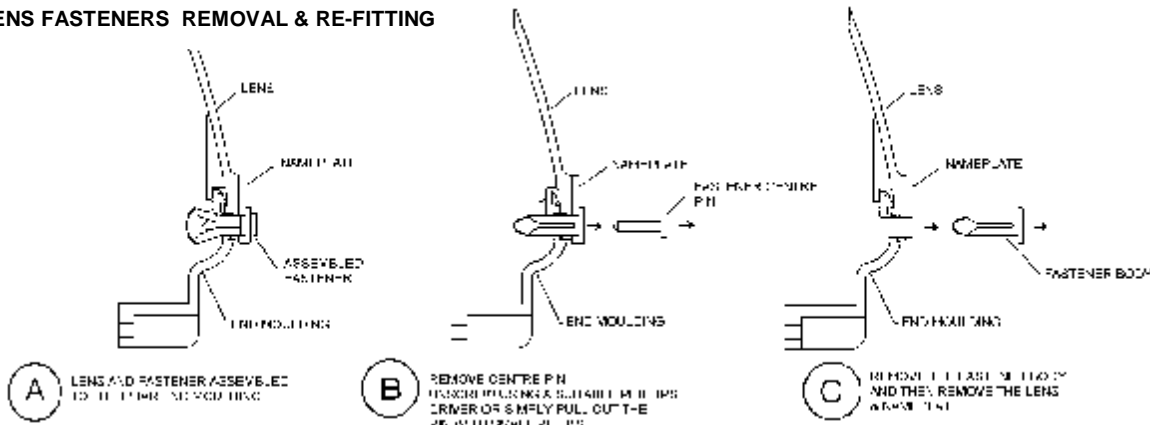
⚠ To allow the internal capacitor to discharge wait a minimum of 10 minutes after disconnecting the power supply before touching wiring, changing a lamp or attempting servicing.

Approvals

Optimax Hi-max - Approved to Regulation ECE65 (Halogen only)
Midimax Lo-Max - Approved to Regulation ECE65 (Halogen and Blue Xenon only)
Midimax Optimax Hi-max - Approved to EMC directive 95/54EC
Lo-max - Approved to EMC directive 95/54EC

Approval numbers and documentation are available on request from Premier Hazard Sales.

LENS FASTENERS REMOVAL & RE-FITTING



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