

OBSTA <small>Division</small> CLAUDE Reims plant	TECHNIQUE		SPE n°	TE.21.BA.153	<u>ind.</u> D
	SPECIFICATION		Edité le 07 juin 2002 Remplace doc N° TE.21.BA.153.C		
SUJET : 90 kV - 100 kV - 115 kV - 132 kV - 160 kV <u>BALISOR EQUIPMENT ASSEMBLY</u>			Page N° 1 de 7 pages Concerne : CB.ODT.		
Etabli par :	visa :	Approuvé par :	visa :		
Y.PORET		JM.HUVET			

INTRODUCTION:

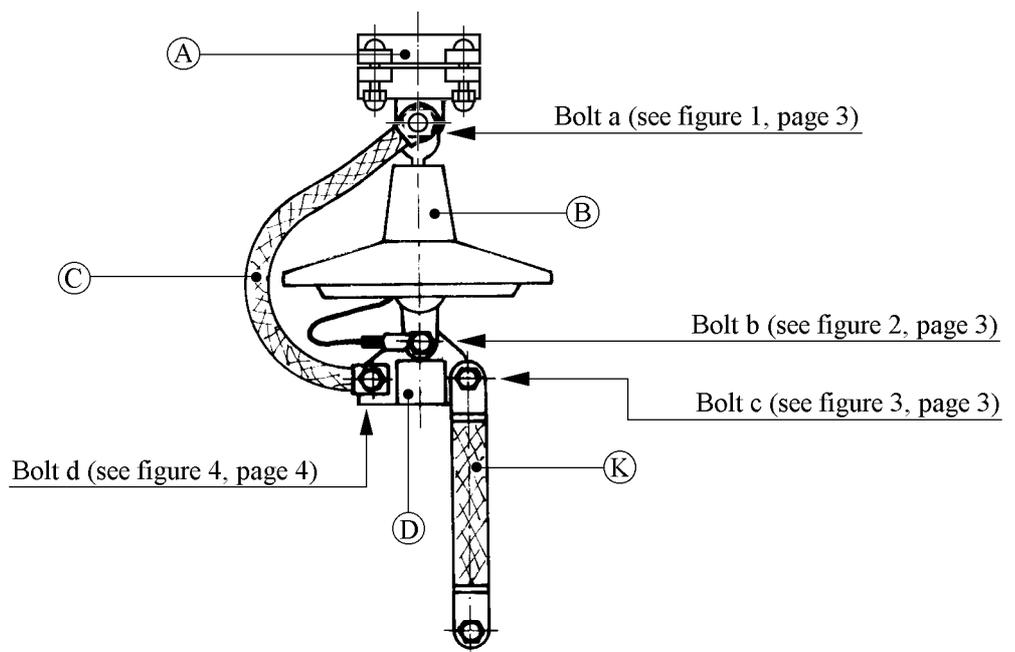
- This specification covers warning devices for transmission lines with a voltage between **90 kV** and **210 kV**.
- The five devices, **BALISOR B90 - B100 - B115 - B132 - B160**, are assembled identically whether the line is on the ground or is already installed.
- Installers shall under no circumstances change any of the component parts of a **BALISOR** during assembly and shall take care that all subassemblies are original "**OBSTA**" parts in compliance with appropriate "**OBSTA**" drawings. Subassemblies consist of parts assembled in "**OBSTA**" plants and identified on the drawings and documents by the same letters (A - B - C -, etc).

Installers shall rigorously respect the following order of assembly.

ASSEMBLY:

1. PREPARATION OF SUBASSEMBLIES:

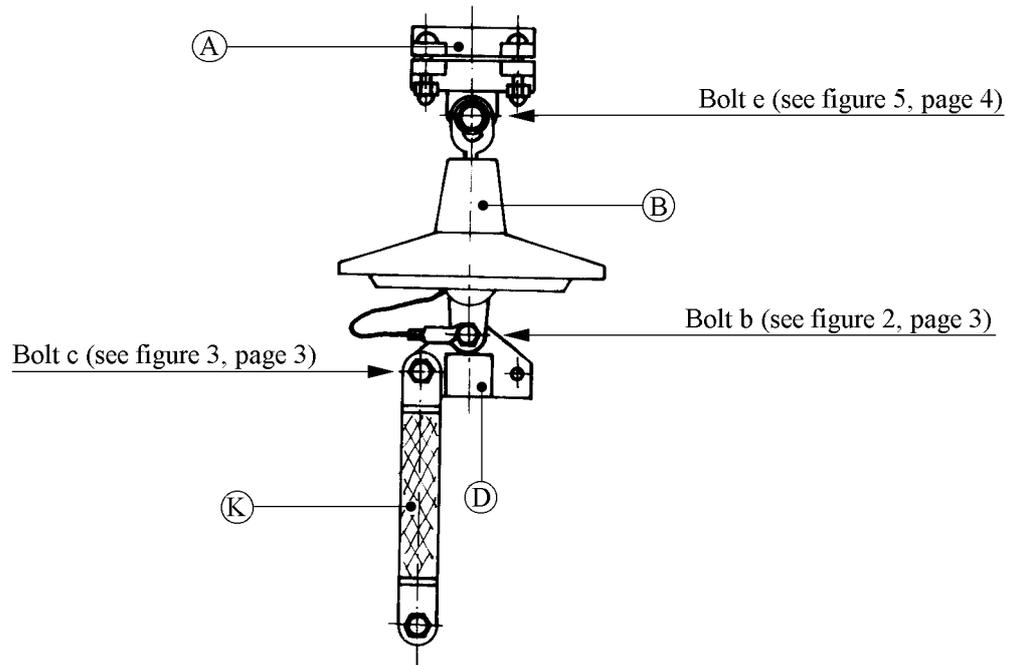
1.1. Assembly of clamp, insulator, shunt-braid, end-holder, flexible-connector.



NOTE: Lock lock-nuts a, b, c and d during assembly to the torque specified after each figure.

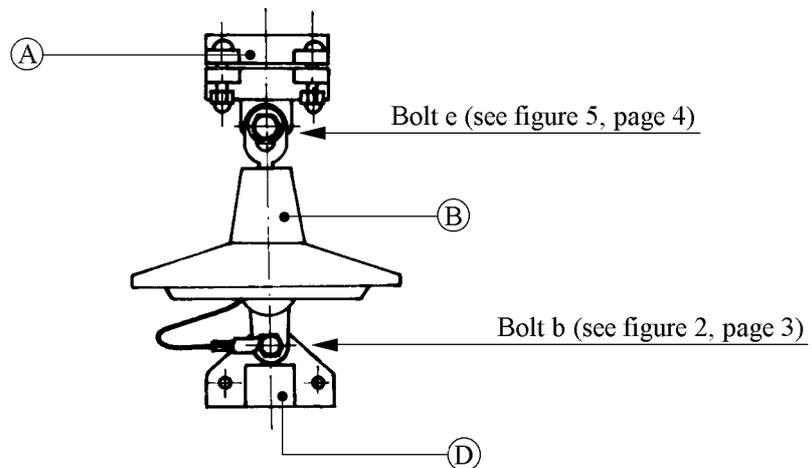
OBSTA <small>— 2002</small> Reims Plant	90 kV - 100 KV - 115 kV - 132 kV - 160 kV <u>BALISOR EQUIPMENT ASSEMBLY</u>	SPE n°	TE.21.BA.153	ind. D
---	--	---------------	---------------------	-------------------------

1.2. Clamp, insulator, end-holder, flexible-connector assembly.



NOTE: Lock lock-nuts b, c and e during assembly to the torque specified after each figure.

1.3. Clamp, insulator, end-holder assembly.



NOTE: Lock lock-nuts b and e during assembly to the torque specified after each figure.

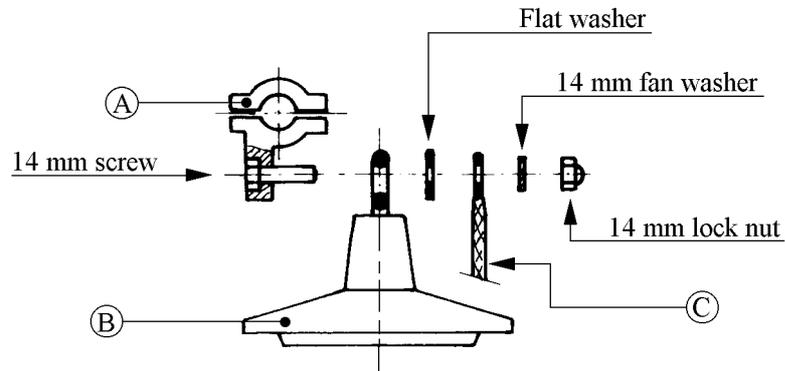
Prepare:

- 7 of the subassemblies for a "BALISOR B90"
- 6 for a "BALISOR B100"
- 5 for a "BALISOR B115"
- 4 for a "BALISOR B132"
- 3 for a "BALISOR B160".

OBSTA <i>Reims Plant</i>	90 kV - 100 KV - 115 kV - 132 kV - 160 kV BALISOR EQUIPMENT ASSEMBLY	SPE n°	TE.21.BA.153	ind. D
------------------------------------	---	---------------	---------------------	------------------

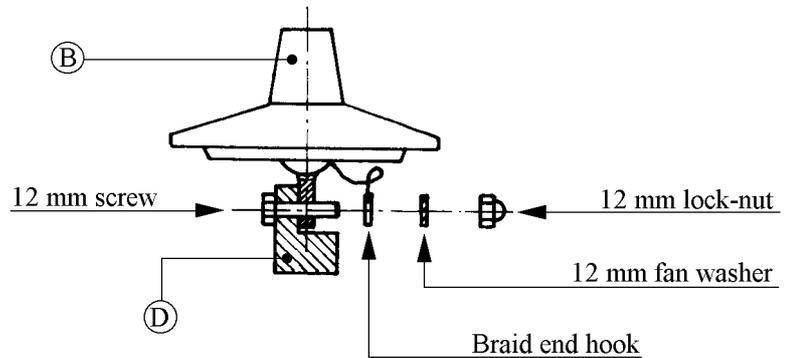
1.4. Securing points a, b, c, d and e.

1.4.1. FIGURE 1: Bolt a



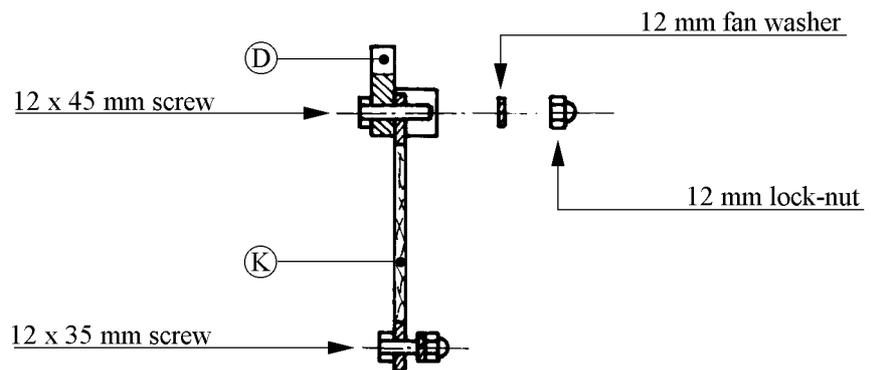
NOTE: Tighten 14 mm lock-nut to torque: 40 - 60 m.N

1.4.2. FIGURE 2: Bolt b



NOTE: Tighten 12 mm lock-nut to torque: 20 - 30 m.N

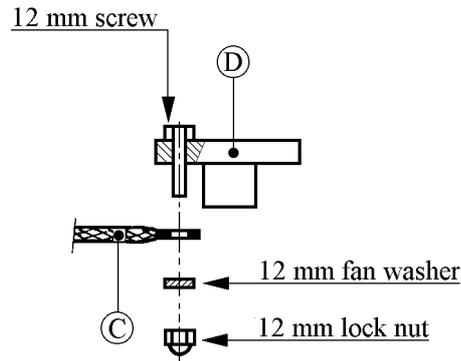
1.4.3. FIGURE 3: Bolt c



NOTE: Tighten 12 mm lock-nut to torque: 20 - 30 m.N

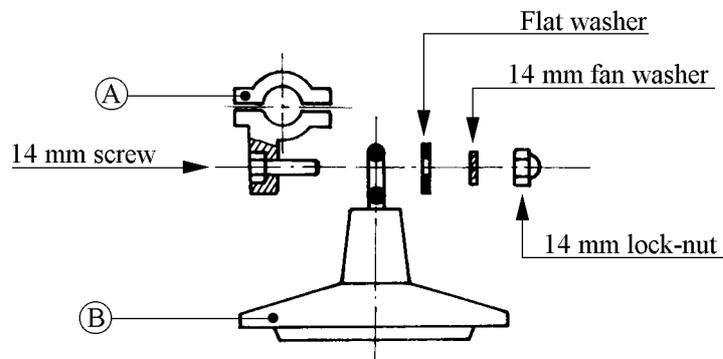
OBSTA <i>Reims Plant</i>	90 kV - 100 KV - 115 kV - 132 kV - 160 kV BALISOR EQUIPMENT ASSEMBLY	SPE n°	TE.21.BA.153	ind. D
------------------------------------	---	---------------	---------------------	-------------------------

1.4.4. FIGURE 4: Bolt d



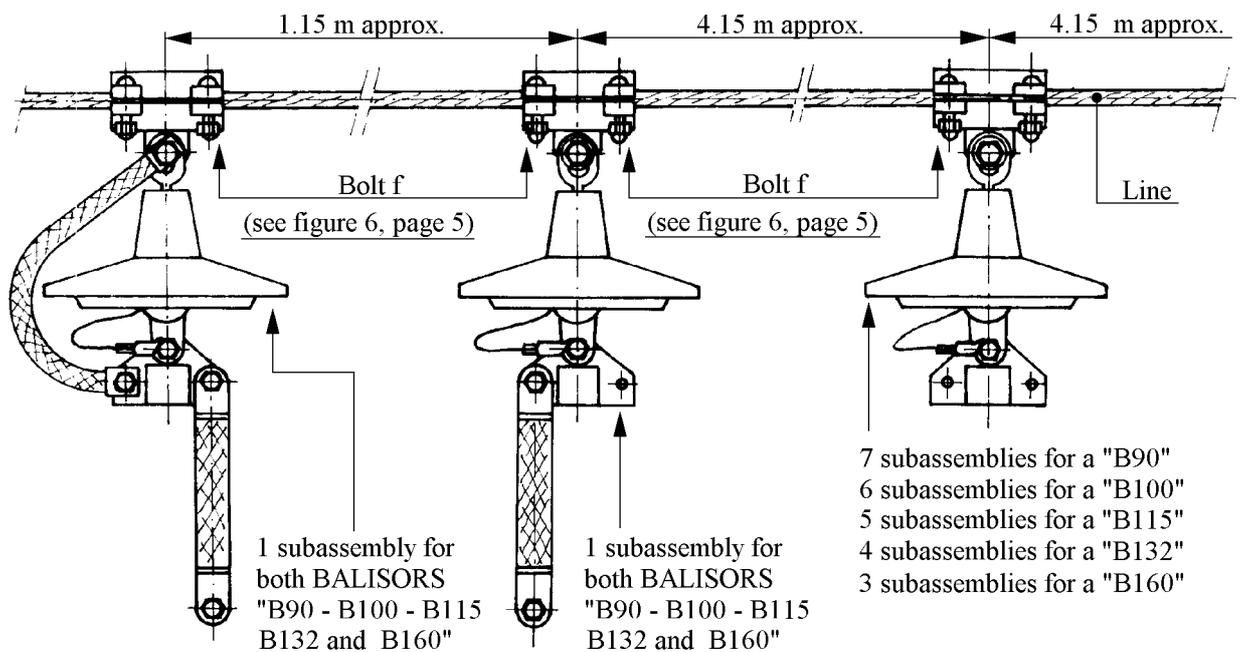
NOTE: Tighten 12 mm lock-nut to torque: 20 - 30 m.N

1.4.5. FIGURE 5: Bolt e



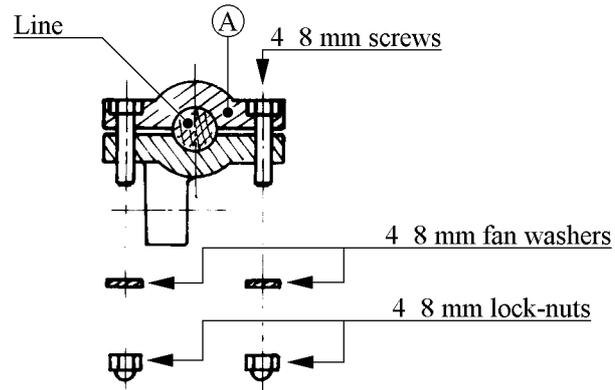
NOTE: Tighten 14 mm lock-nuts to torque: 40 - 60 m.N

2. ASSEMBLY OF LINE SUSPENSION SUBASSEMBLIES:



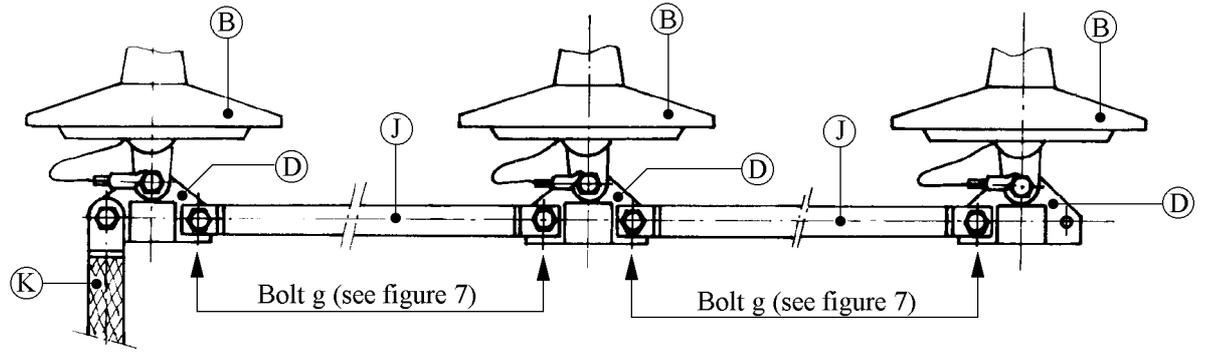
OBSTA <i>Reims Plant</i>	90 kV - 100 KV - 115 kV - 132 kV - 160 kV BALISOR EQUIPMENT ASSEMBLY	SPE n°	TE.21.BA.153	ind. D
------------------------------------	---	---------------	---------------------	-------------------------

FIGURE 6: Bolt f



IMPORTANT: Do not lock the nut-locks of bolt f during assembly in order to allow any necessary longitudinal movement of the subassemblies on the line.
 Lock them after assembly of the auxiliary tubing and the lamp.

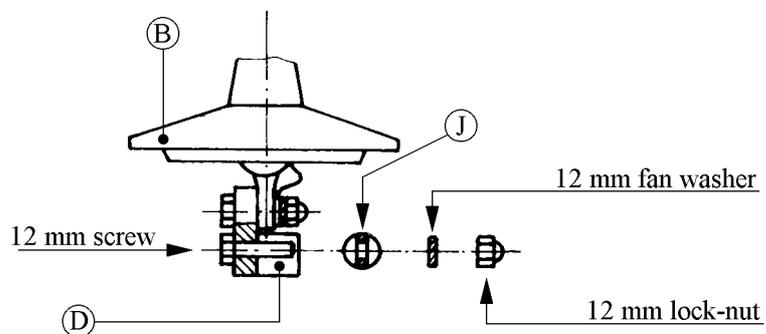
3. ASSEMBLY OF AUXILIARY TUBING:



NOTE:

- 7 auxiliary tubings are required for a BALISOR B90.
- 6 auxiliary tubings are required for a BALISOR B100.
- 5 auxiliary tubings are required for a BALISOR B115.
- 4 auxiliary tubings are required for a BALISOR B132.
- 3 auxiliary tubings are required for a BALISOR B160.

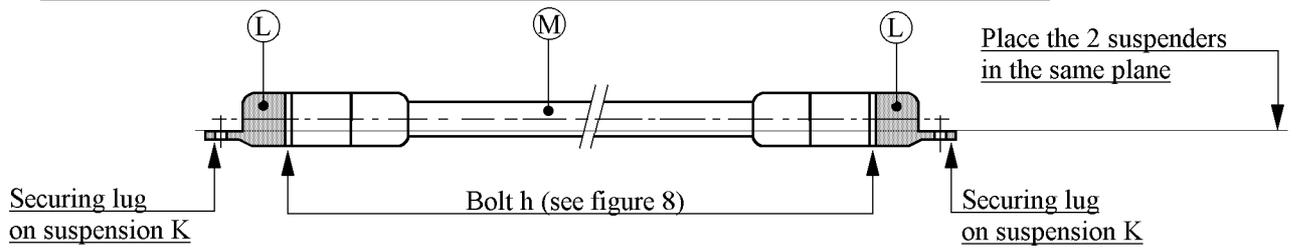
FIGURE 7: Bolt g



NOTE: Tighten 12 mm lock-nut to torque: 20 - 30 m.N

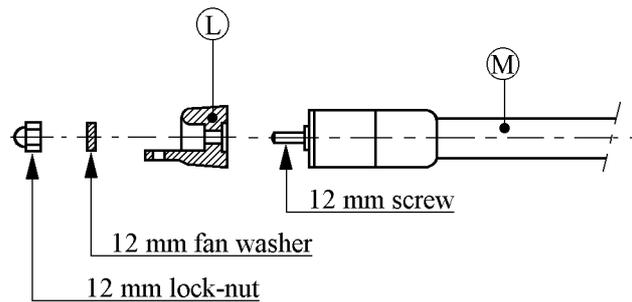
OBSTA <small>— 2002</small> Reims Plant	90 kV - 100 KV - 115 kV - 132 kV - 160 kV BALISOR EQUIPMENT ASSEMBLY	SPE n°	TE.21.BA.153	ind. D
---	---	--------	--------------	-----------

4. PREPARATION OF THE LAMP (Assembly of lamp end suspenders):



IMPORTANT: Make sure during assembly of suspenders L that their securing lugs are in the same plane.

FIGURE 8: Bolt h



NOTE: Tighten 12 mm lock-nut to torque: 20 - 30 m.N

5. ASSEMBLY OF LAMPS ON THEIR FLEXIBLE-CONNECTORS:

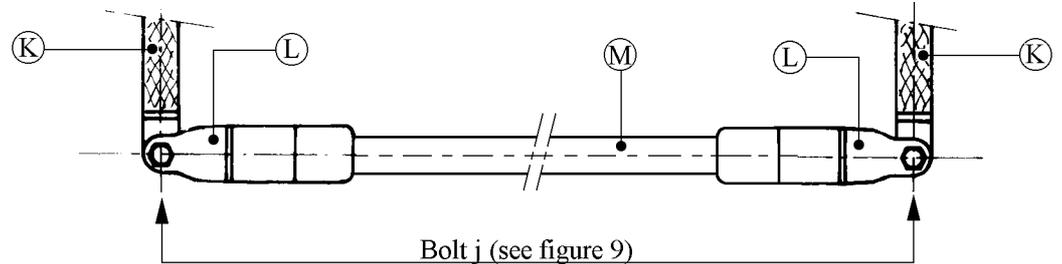
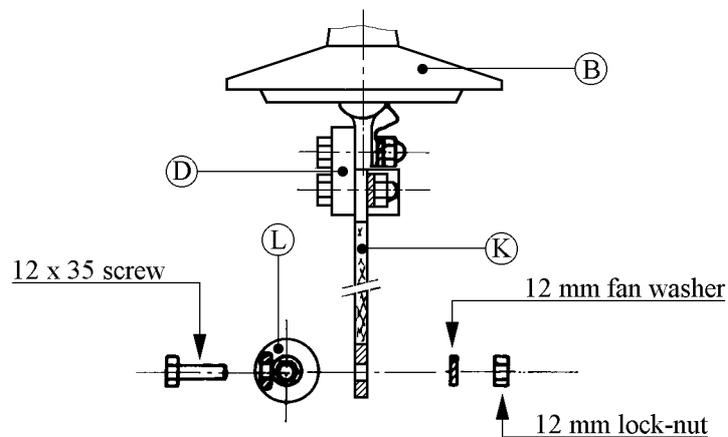


FIGURE 9: Bolt j



NOTE: Tighten 12 mm lock-nut to torque: 20 - 30 m.N

OBSTA <small>2005</small> <i>Reims Plant</i>	<u>90 kV - 100 KV - 115 kV - 132 kV - 160 kV</u> <u>BALISOR EQUIPMENT ASSEMBLY</u>	SPE n°	TE.21.BA.153	<u>ind.</u> D
---	---	---------------	---------------------	-------------------------

6. FINAL INSTALLATION OF WARNING DEVICE:

- After assembly of the auxiliary tubing and the lamp, it may prove necessary to slightly change the spacing of the clamps on the line (9 clamps for the BALISOR B90, 8 clamps for the BALISOR B100, 7 clamps for the BALISOR B115, 6 clamps for the BALISOR B132 and 5 clamps for the BALISOR B160).
- Because their screws and nuts were not locked when they were attached to the line, they can be moved longitudinally to their required spacing (see drawing page 4).
- When the clamps are correctly positioned, it is essential that the line be raised in the air when securing the clamps to the cable with 8 lock-nuts (4 for each clamp).

The purpose of this is to make sure that the warning device is solid with the H. V. line.

NOTE: Tighten 8 mm lock-nuts to torque: 10 - 15 m.N