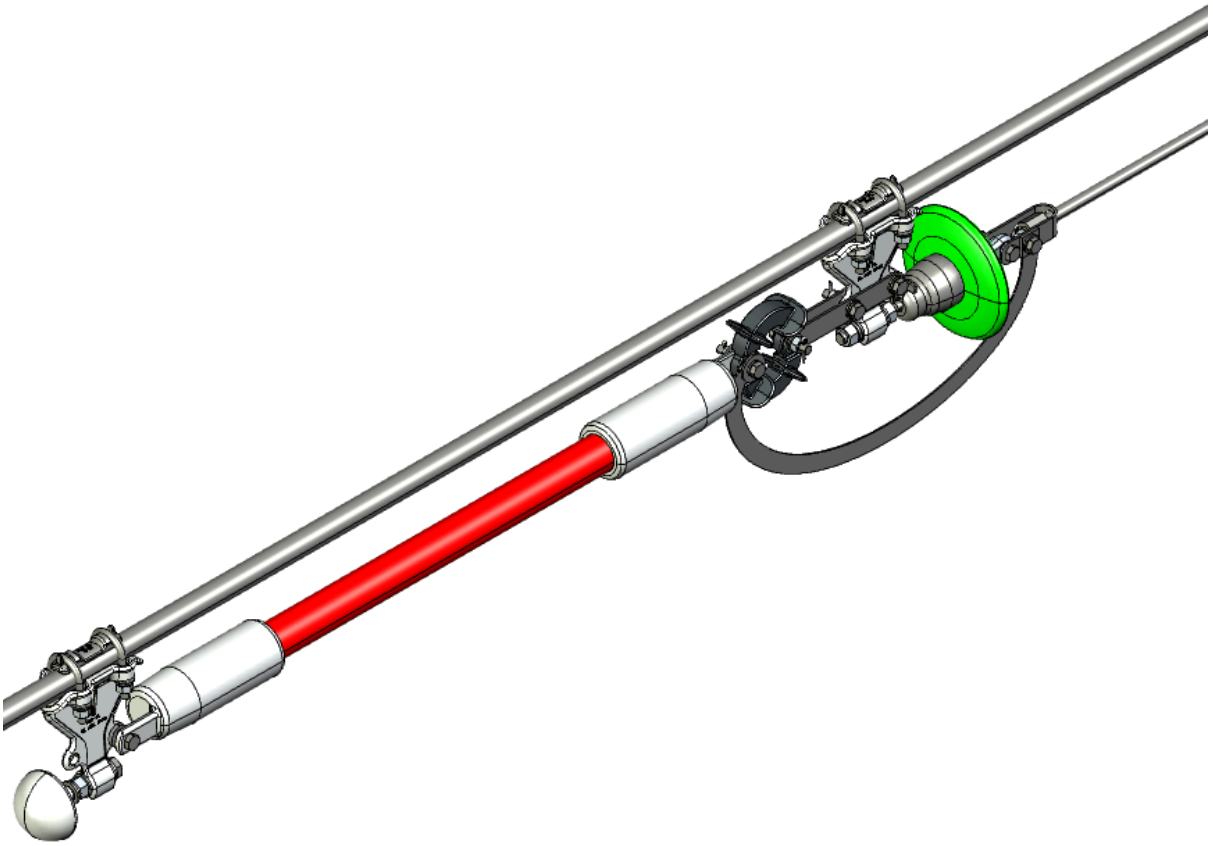
RELIABILITY IN OBSTRUCTION LIGHTING
BALISAGE AÉRIEN

BAL-225-Ø25-32 // 100904B
BAL-225-Ø32-52 // 100905B
BAL-400-Ø25-32 // 100906B
BAL-400-Ø32-52 // 100907B
BAL-63-Ø19-25 // 100900B
BAL-63-Ø25-32 // 100901B



Obsta
3, impasse de la blanchisserie
51052 Reims CEDEX - FRANCE

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1. Product name and part number

Description	Norm	Power supply	Article code (P/N)	QR code
BAL-225-Ø25-32	ICAO	High-voltage line	100904B	
BAL-225-Ø35-52	ICAO	High-voltage line	100905B	
BAL-400-Ø25-32	ICAO	High-voltage line	100906B	
BAL-400-Ø32-52	ICAO	High-voltage line	100907B	
BAL-63-Ø19-25	ICAO	High-voltage line	100900B	
BAL-63-Ø25-32	ICAO	High-voltage line	100901B	

2. Be careful

- Do not proceed with any maintenance job when the product is under operation.
- Power supply must be shut down when opening the flash-head or the cabinet.
- Installation must be performed only by an electrically skilled operator and National electrical installation rules must be respected.
- Always wear appropriate Personal Protective Equipment (PPE) when installing, maintaining or servicing the system.
- Any installation or maintenance operation performed at height must be carried out in strict compliance with fall-protection procedures.
- Do not look directly at the projector while it is in operation : Led projectors produce brilliant flashes of lights which can result in temporary or permanent eye damage.
- OBSTA products may be affected by ESD, use state of the art precaution before manipulation.
- Unless otherwise specified, all cables must be shielded and the shielding must be connected to ground.
- All cables connected to PCBs and terminal blocks must be equipped with a cable connector to prevent false contacts when connecting devices.

3. Warranty

OBSTA warrants the equipment described in the instruction manual and sold to purchasers to be free from defects in material and workmanship at the time of shipment. OBSTA's liability under this warranty being limited to repairing or replacing, at OBSTA's option, items which are returned to it prepaid within twenty four (24) months from shipment to the original Purchaser, or twelve months from commissioning, and found, to OBSTA's satisfaction, to have been defective. In no event shall OBSTA be liable for consequential damages. NO PRODUCT IS WARRANTED AS BEING FIT FOR A PARTICULAR PURPOSE AND THERE IS NO WARRANTY OF MERCHANTABILITY.

This warranty applies only if: (I) the items are used solely under the operating conditions and in the manner recommended in OBSTA's instruction manual, specifications, or other literature; (II) the items have not been misused or abused in any manner or repairs attempted thereon; (III) written notice of the failure within the warranty period is forwarded to OBSTA and the directions received for properly identifying items returned under warranty are followed; and (IV) such return notice authorizes OBSTA to examine and disassemble returned products to the extent OBSTA deems necessary to ascertain the cause of failure. The warranties stated herein are exclusive.

THERE ARE NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, BEYOND THOSE SET FORTH HEREIN, and OBSTA does not assume, nor does OBSTA authorize anyone else to assume for it, any other obligation or liability in connection with the sale or use of said products. OBSTA's liability on any claim of any kind, including negligence, for loss or damages arising out of or connected with the manufacture, sale, delivery, repair or use of any equipment or services provided by OBSTA shall in no case exceed the price allocable to the item or service or part thereof which gives rise to the claim.

The integrity and reliability of OBSTA aviation obstruction lighting systems is dependent on the use of OBSTA parts and components. To ensure the optimum performance and reliability of your OBSTA system, it is strongly advised that only components and modules manufactured by OBSTA be used.

4. General information

4.1 Scope

This manual provides information on the installation, operation and maintenance of the BALISOR system, which is a beacon that draws the necessary energy directly from the high-voltage line. The system is therefore completely autonomous. BALISOR belongs to the ICAO low-intensity category.

4.2 General description

The high voltage cables, as all electric conductors, create an electric field around them. When the voltages of these cables are high enough, the consequent electric gradient is steep and there is a noticeable voltage drop between the cables and the space close to them. Then if an isolated conductor is placed allong-side of a high voltage line, it will be at a potential different from the one of the line. The capacitor created between the auxiliary conductors and the high voltage line enables the energising of a discharge lamp when certain conditions are met.

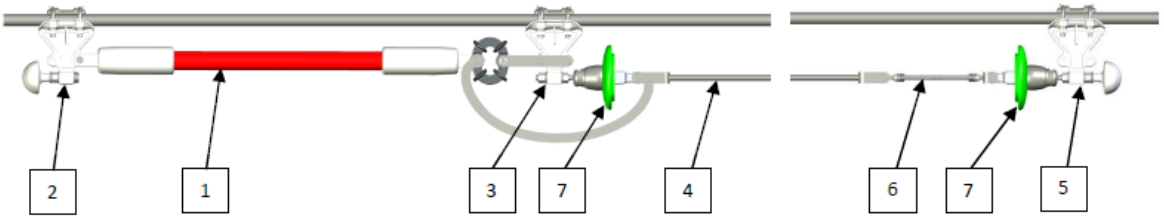
The BALISOR is available from 60 kV to 550 kV and up, between phases. They are designed to provide the minimum of 10 Cd required by the ICAO.

5. Technical data

Ref	Voltage range (kV)	Conduction section (mm²)	Conductor diameter (mm)	Antenna length (m)	Mass (kg)	Luminous intensity (Cd)
100900B	63	228-299	19-25	20	26	10
100901B		336-612	25-32			
100904B	225	366-612	25-32	7	18	
100905B		1144-1600	32-52			
100906B	400	570-612	25-32	4	16	
100907B		1144-1600	32-52		19	

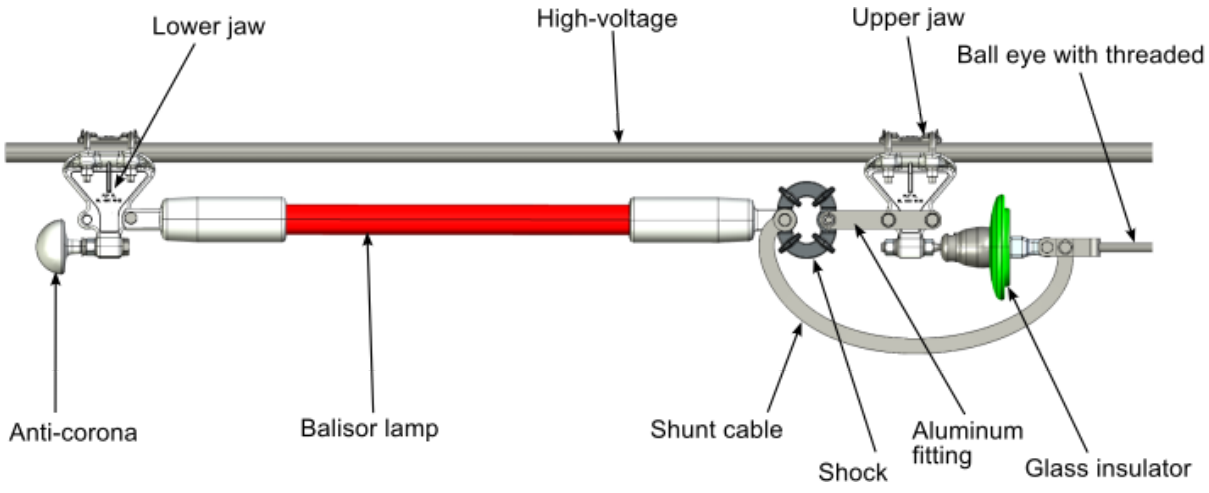
6. System component

6.1 Sub assembly



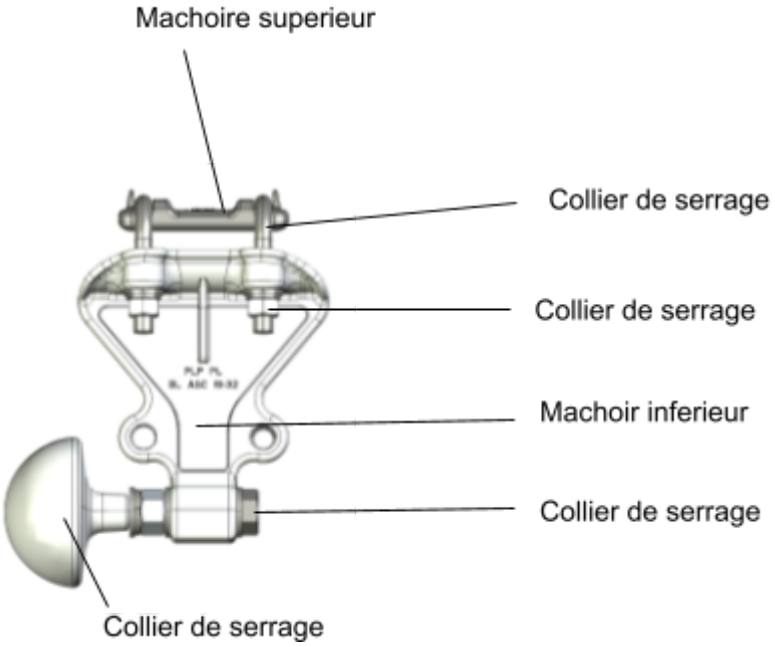
N°	Designation	Qty
1	BALISOR lamp + ear tip	1
2	-A- clamp with anti-corona ring	1
3	-B- clamp with braiding and anti-vibration system	1
4	7M antenna	1
5	-C- clamp with anti-corona	1
6	Tensioner	1
7	Insulator	1

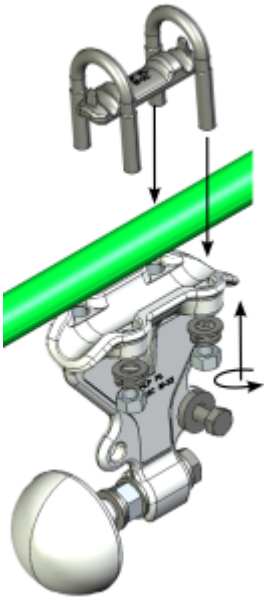
6.2 Détail



7. Mounting

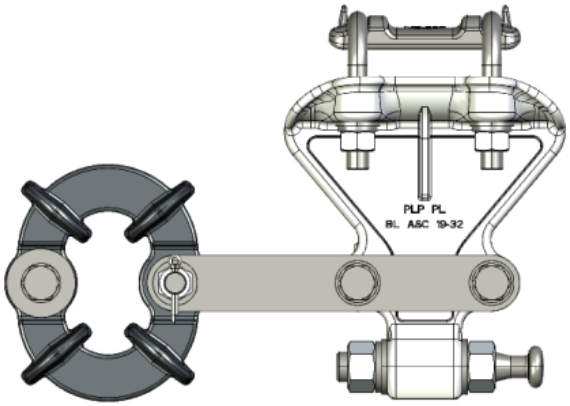
7.1 Sub assembly -A-





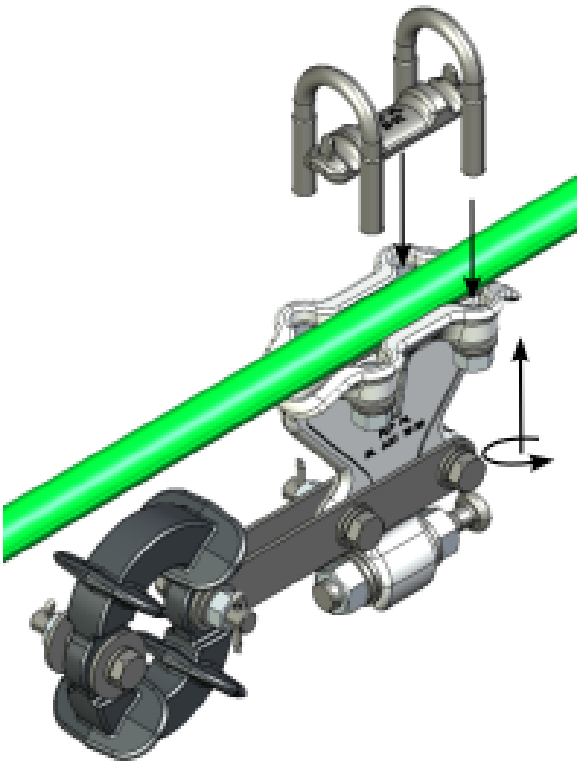
1. Install nuts, clamps and upper jaw.
2. Tighten slightly to allow adjustment
3. After adjusting the assembly, tighten to 45 Nm while ensuring that the upper jaw remains correctly positioned over the high-voltage cable.

7.2 Sub assembly -B-

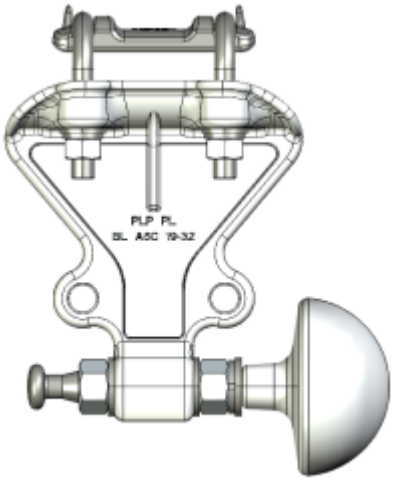


1. Install nuts, clamps and upper jaw.

2. Tighten slightly to allow adjustment. This sub-assembly must be left free for adjustment, and tightening will be carried out in the next steps.

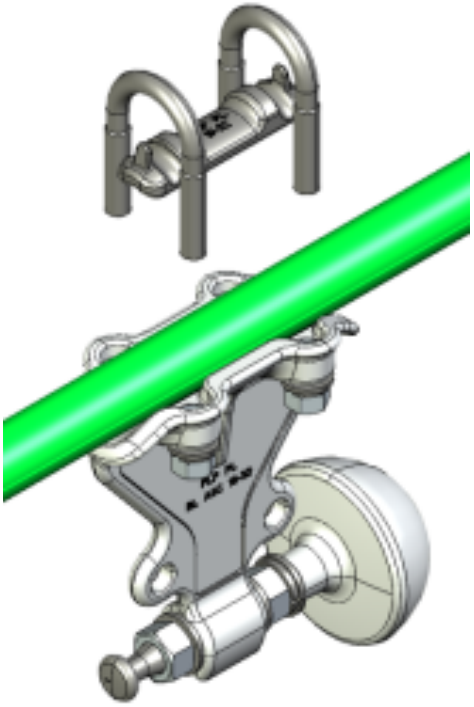


7.3 Sub assembly -C-



1. Install nuts, clamps and upper jaw.

2. Tighten slightly to allow adjustment. This sub-assembly must be left free for adjustment, and tightening will be carried out in the next steps.

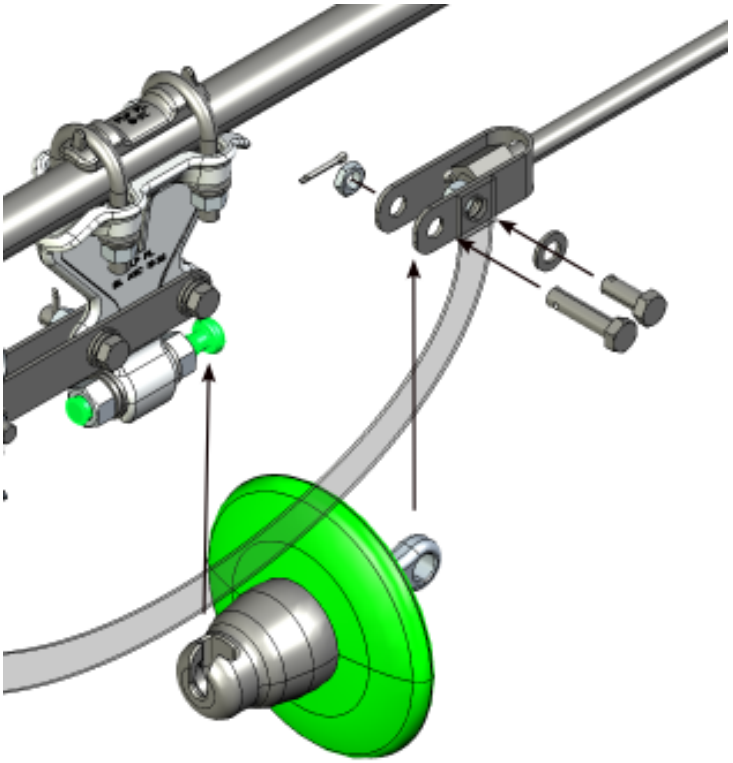


7.4 Insulators and antenna

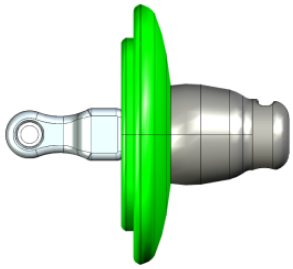
1. Clip the insulator onto the -B- sub-assembly. Make sure it is securely in place.

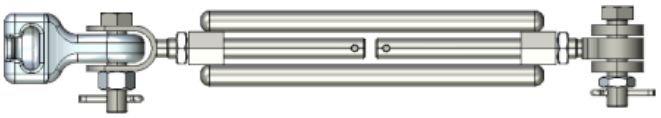
2. Assemble the other end of the insulator to the antenna using the ball socket, then secure the braid to the antenna using the respective fasteners.

Once correctly positioned, eliminate any play in the connections and tighten all fasteners to 45 Nm, then secure with pins.

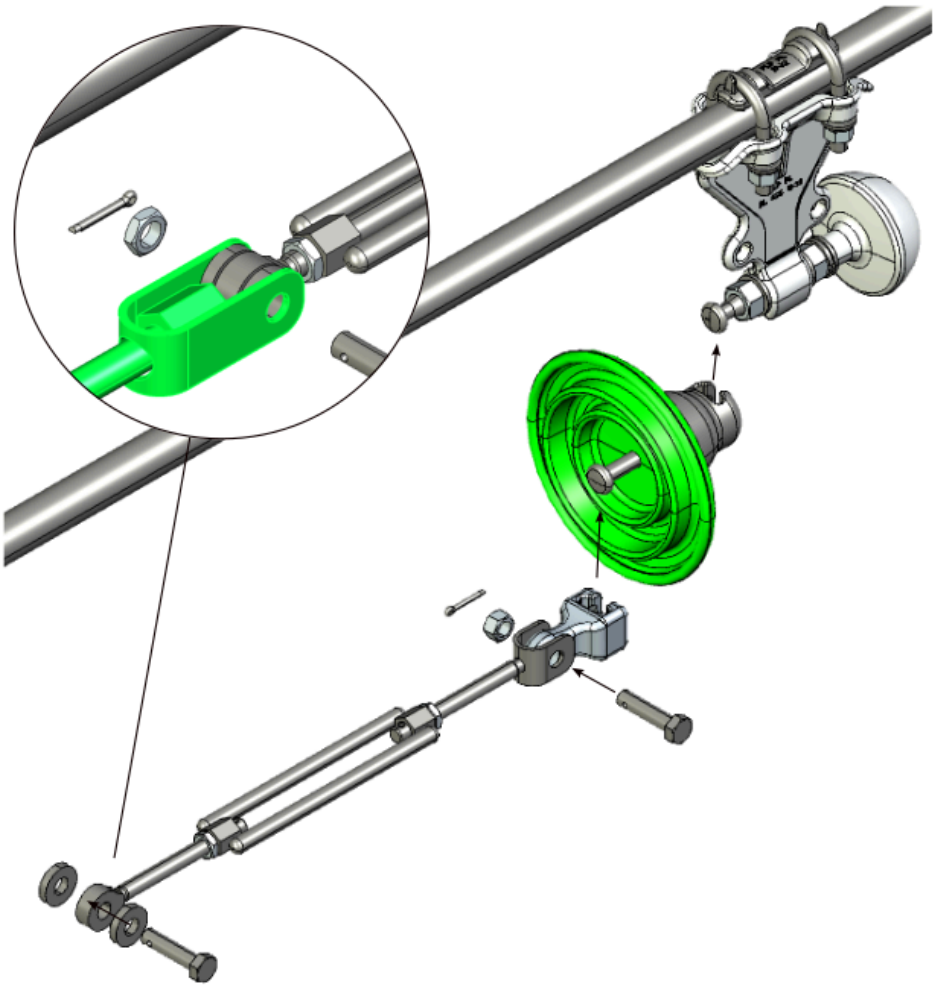


7.5 Insulator and Tensioner



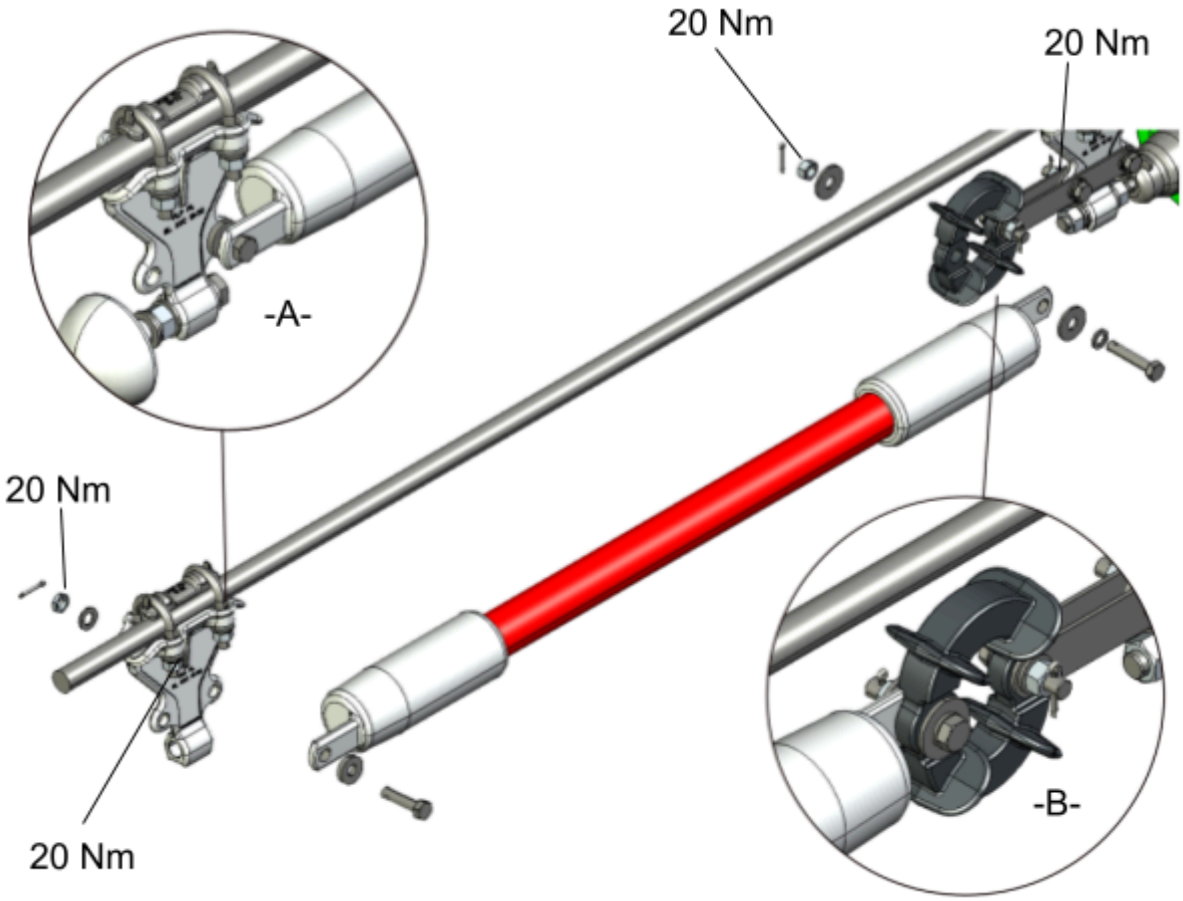


1. Assemble the tensioner on the antenna, tighten all fasteners to 45 Nm and secure them with pins.
2. Loosen the tensioner as much as possible.
3. Assemble the insulator to the -C- assembly, then the tensioner to the insulator.
4. Assemble the other end of the tensioner. If necessary, move the -C- assembly to tension the antenna for the first time, then lock the -C- assembly in position. Tighten jaws to 45 Nm.
5. Finalize antenna tension using the tensioner.



7.6 Balisor mounting

1. Assembled BALISOR lamp to sub-assembly -A-.
2. Loosely tighten screws
   Caution:
   - Do not exert excessive force on the lamp during assembly.
   - Make sure the blade is properly secured.
3. Assembled BALISOR lamp to sub-assembly -B-.
   Caution:
   - Do not exert excessive force on the lamp during assembly.
4. Once correctly positioned, eliminate any play and tighten the ends of the balisor and then the upper jaw to 45 Nm, then secure with the pins.



7.7 Shock absorber attachment (option)

One or two elastomers are present between -B- and -C- depending on the reference models. They must be attached between the conductive cable and the capacitive cable. Each elastomer must be attached at equal distances from the ends of the capacitive cable.