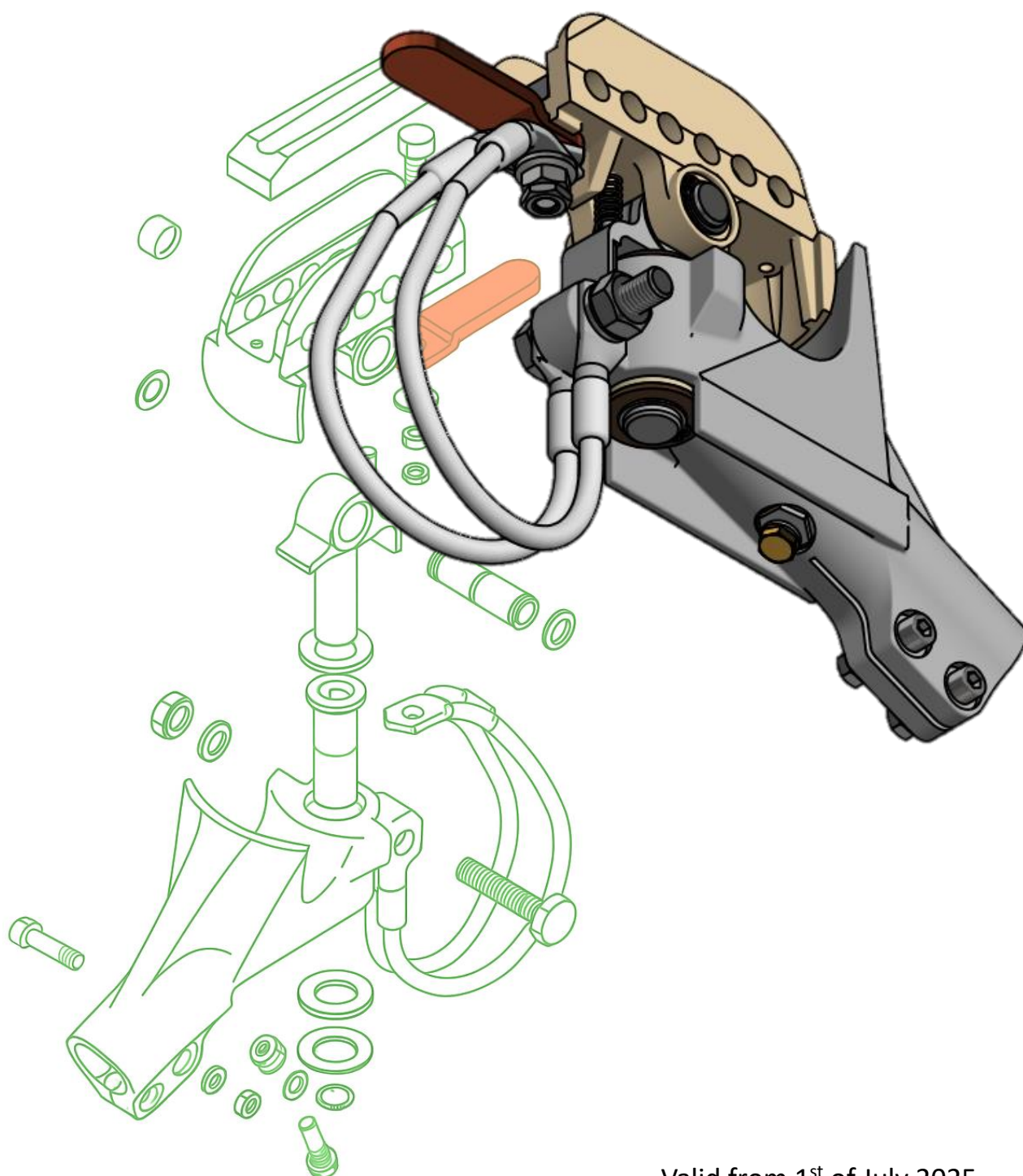


Maintenance manual for ESKO collector heads



Valid from 1st of July 2025

SERVICE MANUAL FOR ESKO COLLECTOR HEADS

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1. Introduction



ESKO collector heads are used for collecting electric current from the overhead (trolley) wire. To ensure proper functionality, safety, and long service life, a certain level of maintenance is required. The collector head consists of more than 30 components that demand appropriate attention and care.

!!! Important

Pay special attention to the following during inspections:

- Condition and fastening of the connecting wire
- Condition and fastening of the arcing tip
- Condition and stiffness of the spring that ensures the carbon holder to tilt down when the collector pole drops from the overhead line

This manual forms an integral part of the product. It is mandatory for all users and maintenance staff to be fully acquainted with its contents.

ESKO offers training for personnel in the maintenance and servicing of collector heads.

2. Safety notice

- Disconnect the power supply to prevent electric shock.
- Maintenance tasks may only be performed by trained personnel.
- Use appropriate personal protective equipment (PPE).
- Do not use damaged tools or components.
- If you witness unsafe behavior or improper handling, report it immediately to a supervisor.
- ESKO offers training programs.

3. Maintenance

Maintenance consists of three different types – visual, basic, and scheduled. Each of them varies in terms of their time intervals and levels of difficulty.



Most used tools:

- Wrenches 9/10, 12/14 a 13/17
- Allen key 6
- Pliers and snap ring pliers
- Lubricant A00 (except high current heads)

3.1 Visual inspection

The visual inspection is carried out once a day, specifically before the vehicle is dispatched. The following items are mainly checked:

- **Carbon insert** (check if its present and its wear condition)
- **Interconnecting cable** (check that the cable is not broken or severed)
- **Arcing tip** (check if its present and its wear condition)
- **Spring** (collector head at rest should not move back)

If the collector head is struck during collector pole detachment, the collector head's movement in the pivot joints must be checked.

If at least one of the parameters does not comply, a correction is necessary.

3.2 Basic inspection

Regular inspection is carried out every 14 days. This involves checking multiple parameters and will require tools and measuring instruments..

- **Connecting wire** – check fastening – inspect and tighten screws
 - Mounting bolt M10 – tightening torque 30Nm (22.1 lb-ft)
- **Carbon holder** – check for wear
- **Arcing tip** – inspect condition and fastening in the collector head
- **Spring** – check if it has sufficient stiffness
- **Vertical and horizontal pin** – check mobility of the shoe in the pivots

3.3 Regular maintenance

This is the most demanding inspection and is carried out approximately once a month. The exact interval depends on operating conditions, the number of overhead line fittings, and the condition of the catenary system.

In addition to inspection, this maintenance includes the replacement of components such as the bushings in the pivot mounts.

The maintenance consists of::

- **Inspection of pivot play** (replace bushings if necessary)
- **Inspection for overall damage** – must be performed by a qualified technician with appropriate experience. If the technician identifies any defect, damaged or worn components, they must be replaced. The following parts are inspected:
 - Pins
 - Carbon holder
 - Aluminum beam
 - Arcing tip
- **Lubrication of pins** – use A00 grease on heads equipped with grease fittings. Other vertical pivots, especially those using insulating bushings in current-carrying heads, must not be lubricated!
- **Inspection of fastening strength on the trolleybus pole** – if inadequate, tightening is required
 - Tightening of M6 mounting screws with a torque of 14 Nm (10.3 lb-ft)

!!! Important

In unfavorable weather conditions, it is advisable to shorten the inspection intervals

!!! Important

The brass locking screw (order no. 0070.126) must not be replaced with another type!!! **It serves a safety function!**

!!! Important

Use A00 grease on heads equipped with grease fittings. Other vertical pivots, especially those using insulating bushings in current-carrying heads, must not be lubricated!

4. Legal Notice

The manufacturer shall not be held liable for any damage resulting from failure to follow the instructions in this manual.

Maintenance may only be carried out by trained personnel.

The use of unapproved spare parts or unauthorized modifications will void the warranty. The user is required to keep records of all maintenance performed, which may be requested during the warranty claim process.

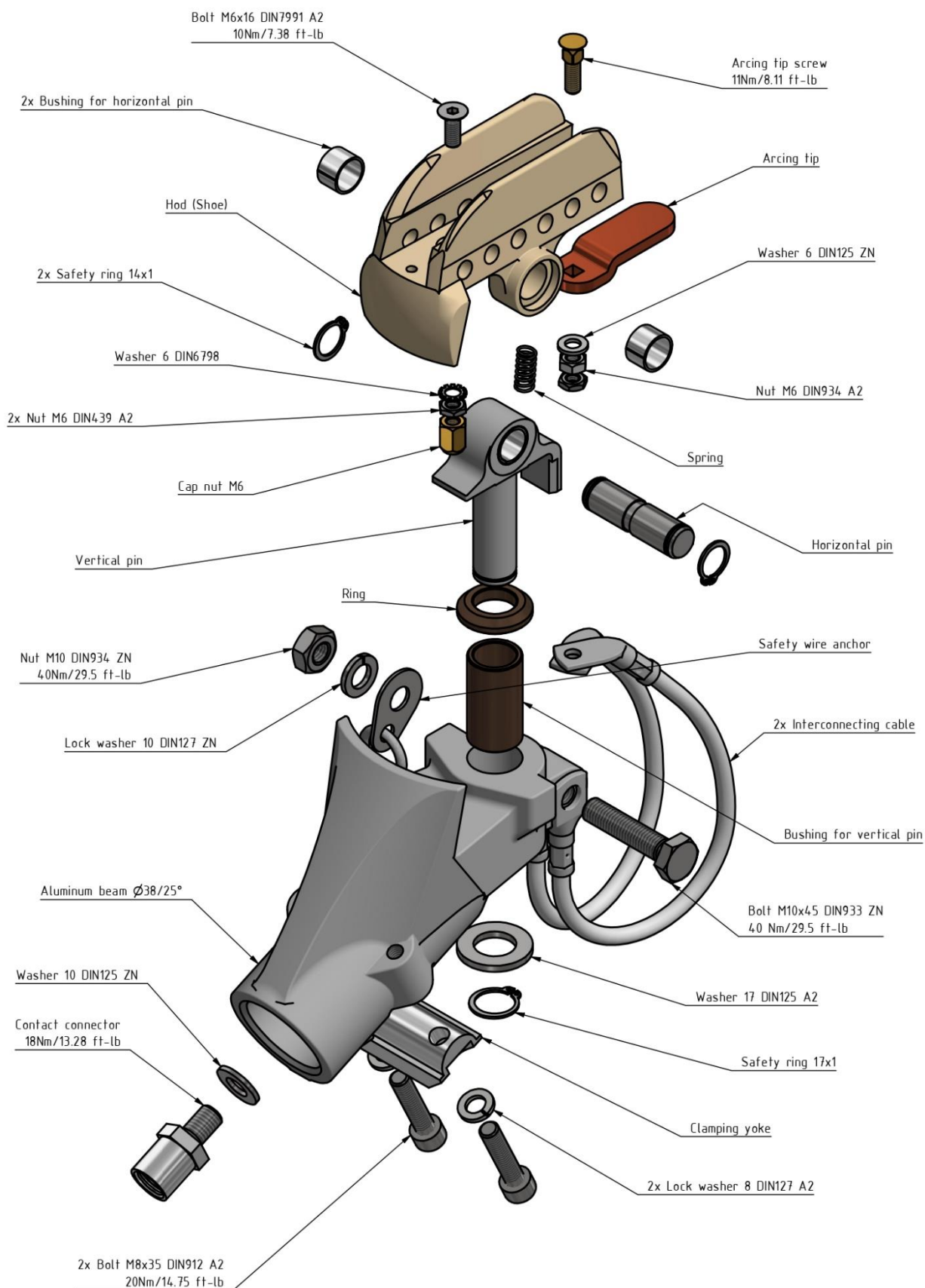
!!! Important

The lifespan and wear rate of components depend heavily on operating conditions, particularly:

- Climatic conditions (cold, rain, dust, etc.)
- Technical condition of the route

In demanding operating conditions, it is advisable to shorten the maintenance intervals!

Valid from 1st July 2025



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