Project

Rock Drill Lifting Aid

Title

COP 4050MUX Sling Choke

Approval Record

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Amendment Record

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1 General

1.1 Existing Method

Lifting the COP 4050MUX rock drill through the use of powered, hydraulic or mechanically assisted equipment is carried out by rigging slings to the front (removable) eye bolt and rear (fixed) lifting eye.

This method is suitable only when:
- the rock drill is level,
- the rock drill is new or in unused condition,
- the front eye bolt thread and tapped hole are examined prior to use, and
- The front eye bolt is correctly installed in accordance with the manufactures instructions.

1.2 New Method

Slinging the rock drill in preparation for lifting where the rock drill is not level, in new or unused condition and the tapped hole is not suitable, a new method has been identified.

To prevent unwanted movement of the front sling and reduce the risk of injury or equipment damage a lifting aid has been developed so that this new method of lifting can be used.

New method tasks:
1. Remove the front sling.
2. Remove the lifting eye (if attached).
3. Bolt sling choke lifting aid, part number 9772035539, to front head of rock drill.
4. Choke wrap soft sling around front head and pass through sling choke lifting aid.
5. Lift the rock drill by slings attached to the front head and rear lifting eye.
2 Design

2.1 Description
The COP 4050MUX Sling Choke Lifting Aid has been designed as a bolt on attachment to the front head of the rock drill. Once attached the lifting aid provides a fixed ring that the soft sling can be passed through to keep the sling in place.

Sling Choke Lifting Aid attached to rock drill can be found in Appendix 1.

2.2 Designated Use
The COP 4050MUX Sling Choke Lifting Aid is designed exclusively for providing support and to prevent slipping of the soft sling mounted to the front head section of the rock drill. The soft sling must be rigged to the front head in a choke type lift arrangement and only used in conjunction with the rear lifting eye (2 point lift). All other areas of use are considered unsuitable.

Examples of inappropriate use are:
- Lifting and/or towing attachment anchor point.
- Single point lifting.
- Use on any other rock drill other than COP 4050MUX.

2.3 Non-Designated Use
Use of the COP 4050MUX Sling Choke Lifting Aid for purposes other than that mentioned is considered contrary to its designated use. The manufacturer and/or supplier cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user.

- It is essential the technician has read and comprehends the operator, maintenance and repair manuals as well as the maintenance schedules for COP 4050MUX rock drills.
- The lifting aid must only be used and maintained by personnel well conversant with the equipment and the dangers involved.
- It is essential that personnel observe general and local safety and health regulations.
- Personal shall only use lifting equipment if they are suitably trained, competent and are qualified to do so.
3 Procedure

3.1 Prepare For Lift

Caution

Look for signs of wear, stretch, kinks, cuts, heat or chemical damage. Make sure that item(s) deemed unfit are removed from service.

1. Inspect the lifting aid prior to use.
   - Make sure lifting aid is not damaged in any way.
   - Make sure lifting aid is the correct type for the lift and is suited to the rock drill by inspecting the identification markings.

![Image of lifting aid](image-url)

2. Inspect lifting equipment prior to use.
   - Lifting devices and straps must be approved for lifting at least 500 kg.

3. Clean the rock drill.
   - Make sure rock drill is free from oil and debris.
   - Caps and plugs are installed on all hydraulic oil ports to prevent spills.
   - Remove any loose items.

4. Make sure the lifting corridor is clear and surrounding personal are aware of lifting activities.
3.2 **Remove Hardware**

1. Undo bolt (18) and remove washer (19), bushing (10) and pin (20).
2. Undo the side bolt nuts (21) and remove washers (22) from the top two side bolts.
3. Dismantle the bracket (23) and sleeves (24).

3.3 **Attach Lifting Aid**

1. Line up top two side bolts and install lifting aid (30).
2. Replace washers (22) and side bolt nuts (21).
   - Tighten the nuts to secure lifting aid in place.
   - Torque the nuts in accordance with COP 4050MUX maintenance instructions.
3.4 Lift Rock Drill

**Caution**
Beware of suspended loads. Never stand or walk beneath a suspended load. Use tag lines to control the suspended load.

**Rock Drill Weight:**

| COP 4050MUX | 485 kg |

1. Attach soft sling to the rear lifting eye with shackle and onto the lifting device hook.
2. Wrap and choke soft sling around front head.
3. Pass the front soft sling through the lifting aid hole and onto the hook.
4. Raise the hook to take the weight of the rock drill.
   - Lower the hook to adjust set up if required.
5. Change the sling length on the front head to achieve the desired lifting angle.

### 3.5 Lower Rock Drill

1. Lower the rock drill and secure in place to prevent unwanted movement.
2. Lower the hook and remove slings.
   - Examine the slings for damage and discard if required.
   - Replace on sling rack if suitable for further use.
3. Remove the lifting aid from front head.
4. Replace the front head bracket (if fitted) and side bolt nuts and washers.
   - Torque the nuts in accordance with COP 4050MUX maintenance instructions.
5. Replace the pin, bushing, washer and bolt through front head bracket.
   - When the bolt has been tightened, there must be no play between the bushing and bracket.
Appendix 1 – COP 4050MUX Sling Choke Lifting Aid