Slip-on arms for rotating clamps
T 451 xx, T 491 xx

T 103 A  Round bar bale clamps, connected at the fork tine
T 103 AG Rubber covering bale clamps, connected at the fork tine
T 103 AG Rubber covering bale clamps, screwed on the fork tine
T 105 A  Drum arms with rubber covering for transporting one cylindrical steel drum, connected at the fork tine
T 105-1A Drum arms with rubber covering for transporting two cylindrical steel drums, connected at the fork tine
T 105-1A Drum arms with rubber covering for transporting one cylindrical steel drum, installed to the fork tine using fork pockets
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1. Introduction

1.1 Working with this manual

This operating manual is valid only in conjunction with the operating manual for the “Rotating clamps T 451 xx / T 491xx”. The safety instructions listed there must be complied with.

This operating manual deals only with the additional requirements and danger notices that concern use of the slip-on arms.

The illustrations in the operating manual may differ from the actual construction!

1.2 Warning notes and symbols

The following symbols are used in this operating manual to highlight details of special importance:

⚠ Identifies details relating to do’s and don’ts for the purpose of avoiding injury and property damage.

Specific details relating to the efficient use of the attachment and other advice.

☐ Lists are denoted by a shadowed box.

• Steps to be performed by the operator are denoted by a black dot.

(1) In illustrations, particular elements have numbered pointers. Numbers in brackets in the text refer to the corresponding elements.
2. Design / Installation

2.1 T103 A, T 103 AG, T 105 A, T105-1A (connected / screwed at the fork tines)

T103 A

T103 AG

T05-1A

T105 A

2.1 T103 A, T 103 AG, T 105 A = 25,5 mm

connected at the fork tines

T105-1A (Connected at the fork tines)
T103 AG (Screwed on the fork tines)

Design:
Slip-on bale clamp arms are fitted to the fork arms (1) and secured by means of bolts (4) in the borings (2) or screwed on with screws (8) in the fork arms (1).

The bale clamps arms T 103 A and T 103 AG (3) consist of rectangular plates to which the round bars (6), model T 103 A, are welded or are covered with rubber (5), model T 103 AG.

The slip-on drum span arms T 105 A and T 105-1A (3) have plates that are adapted to the relevant drum diameter and are covered with rubber (5).

Installation:

- Drill a hole (2) in each fork arm (1) to lock or screw the slip-on arms. The diameter of the boring depends on the relevant construction.

- Fit the complete slip-on arms (3) to the fork arms (1).

- Connected execution: Lock the slip-on arms in place by means of the bolts (4) and pin (7).

- Screwed-on execution: Mount the screws (8). Torque the screws as specified in Chapter “3.1 Screw contection”.

Drilling the fork arms reduces the original load capacity of the fork arms. Deburr the borings carefully. Have the modification approved by the fork arm manufacturer.

Choose a distance that is as close as possible to the shank. Greater distances than the standard load centre will reduce the load capacity.
Checking out:

Ensure correct seating of the slip-on arms on the fork arms and that the bolt or screws are fitted for safety.

2.2 T 105-1A / with fork pockets

The slip-on drum arms consist of fork pockets (1) including welded and rubber covered pressure plates (2). The drum arms are secured at the rear of the fork tines (5) using a pin (3) and linch pin (4).

Installation:

- Place the drum arms (1), arranged in parallel to each other, in front of the fork tines (5).
- Remove the linch pin (4) and pull the pin (3) out to the side.
- Check the area of the fork pocket for dirt or foreign matter.
- Move the drum arms (1) onto the fork tines (5).
- Using the pin (3) and linch pin (4), secure the drum arms (1) at the rear of the fork tine (5).
Commissioning:

- The drum arms must be used only as a pair.
- Ensure that the drum arms are properly secured.
- The drum arms must be used only with fork arms that are suited for using fork tines. The length of the fork tine must be at least 60% of the length of the drum arms.

### 2.3 Proper use of the equipment

KAUP slip-on clamp arms may be used only occasionally and only for a limited time. If it is necessary to use such arms permanently for the transport of drums, rolls etc., a suitable clamp for attachment to the fork carriage of the lift truck must be given preference.

Slip-on bale clamp arms T 103 xx are intended for the transport of rectangular loads, e.g. paper and fabric bales, crates etc.

Slip-on drum span arms T105 A are intended for the transport of single steel drums.

Slip-on T105-1A drum arms (connected to fork tines) are designed to clamp, rotate, and transport two ribbed cylindrical steel drums.

Slip-on T105-1A drum arms (incl. fork pockets) are designed to clamp, rotate, and transport single cylindrical steel drums.

Proper use of the machine and/or equipment includes the following:

- Observance of the operating manual at all times.
- Observance of the technical data on the identification plate on the attachment.
- Adherence to the specified inspection and maintenance instructions.

### 2.4 Improper use

- Exceeding the allowable load capacity and load centre.
- Dragging or pushing loads with the attachment
- Transporting persons with the load or load handling devices
- Mounting auxiliary equipment on the attachment such that the original mode of usage is changed, (e.g. fork extensions) must be authorised by the manufacturer.
- **T105A / T105-1A models (incl. fork pockets):** Transporting two drums side by side.
3. Maintenance and servicing

3.1 Screw connections

Screw connections can loosen due to vibration of the attachment. During routine maintenance check that screw connections are correctly torqued and replace screws which are visibly damaged.

Note the following tightening torques which are valid for screws with connecting surfaces according to ISO 4762, ISO 4014, ISO 4032 etc.:

<table>
<thead>
<tr>
<th>Screw/bolt rating</th>
<th>8.8</th>
<th>10.9</th>
<th>12.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 thread</td>
<td>9.3Nm</td>
<td>14Nm</td>
<td>16Nm</td>
</tr>
<tr>
<td>M8 thread</td>
<td>23Nm</td>
<td>33Nm</td>
<td>39Nm</td>
</tr>
<tr>
<td>M10 thread</td>
<td>45Nm</td>
<td>66Nm</td>
<td>77Nm</td>
</tr>
<tr>
<td>M12 thread</td>
<td>77Nm</td>
<td>115Nm</td>
<td>135Nm</td>
</tr>
<tr>
<td>M16 thread</td>
<td>190Nm</td>
<td>280Nm</td>
<td>330Nm</td>
</tr>
<tr>
<td>M20 thread</td>
<td>385Nm</td>
<td>550Nm</td>
<td>640Nm</td>
</tr>
</tbody>
</table>

Failure of the safety devices (e.g. the pressure relief valve and the non-return valve) and incorrect connection of the controls to the actuators can cause malfunctioning of the attachment and damage to it.

After mounting and before initial operation, check the functions and the identification of the attached equipment with the movement directions of the operating elements (operating lever, joystick, etc.).

3.2 Significant modification

Significant modifications are, for example, those which affect the stability, performance, speed and strength of components.

The EC Declaration of Conformity is invalidated by a significant modification of the attachment.

Modifications to the attachment may only be made with prior approval by the manufacturer.

3.3 Schedule for routine maintenance and lubricants

The specified maintenance schedules can change as a result of the operating conditions such as extreme cold, heat and dust or poor ground conditions and this must be taken into account by the owner.

With other loads, such as fork arms with a length of over 2,400 mm or raised load centres, amended/shorter maintenance intervals should be agreed by the user with the manufacturer.
3.3.1 T 103A, T 103 AG, T 105 A, T 105-1A (connected at / screwed on the fork tines):

Connected on the fork tines

T 105-1A (connected at the fork tines)

T103 AG (screwed on the fork tines)
Before commencing work

Ensure correct seating of the slip-on arms on the fork arms and that the bolt and screws are fitted for safety.

After 50h / every 500h thereafter

Check:

- Screws (4) on the slip-on arm (5) / fork tine (6).

Replace loose or damaged screws. Torque the screws as specified in Chapter 3.1 Screw connections.

Every 200h

Check wear on:

- Bolts (1).
- Rubber coat (2).
- Round steel (3).

Replace worn pieces.

3.3.2 T105-1A (including fork pockets)
Every 200h

- Check wear on:
  - Bolts (1).
  - Replace worn pieces.

Annually

- Check the drum arms (2) for breaks, deformations, incipient cracks, and wear.
- Use a dye penetration method to check the welded seam (3) at the bracket (4).

3.3.3 Forks

Annually

- Inspect the heel of the fork for wear and cracks.
- Remove forks from service when wear exceeds 10% of the thickness of the fork.

As necessary

- Bent forks are not safe to operate and their continued use should be prevented.
- Straightening of forks may only be performed by the manufacturer of the fork or by one of his authorised workshops.
- You can increase the service life of forks by using forks especially protected against wear.
3.3.4 Warning notices

Modell T103 A, T103AG

Modell T105 A

Modell T105-1A
### Troubleshooting

Troubleshooting should only be performed by qualified and authorised personnel.

### Spare parts list (not part of the Operating Manual)
6. EC Declaration of Conformity (Summary)

KAUP GMBH & Co. KG •
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we hereby declare that the machinery

<table>
<thead>
<tr>
<th>Model:</th>
<th>Slip-on arms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>T103xx, T105xx</td>
</tr>
</tbody>
</table>

conforms to the latest valid version of the Machinery Directive 2006/42/EG.

The person authorised to compile the technical documents:

see EC-Declaration of Conformity

KAUP GmbH & Co. KG