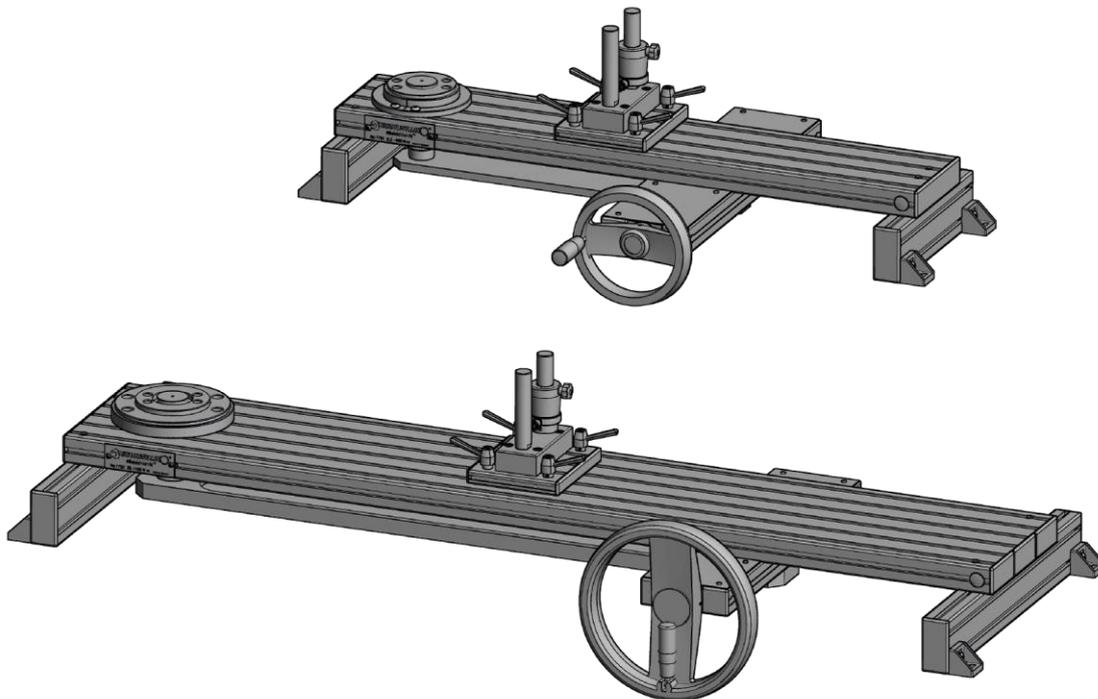


# English version of original German operating instructions

EN

STAHLWILLE

Manually operated calibration and adjustment facility 7791, 7792



Read through these operating instructions carefully to ensure safe operation. Store these instructions for further use.

Status: 02/2017

## Preface

These operating instructions help you to make

- proper,
- safe and
- economical

use of the manually-operated calibration and adjustment facility.

### Target group of these operating instructions

The operating instructions are aimed at the users of the manually-operated calibration and adjustment facility.

The information contained in these operating instructions is aimed at authorised, trained and familiarised personnel. We assume that these persons possess general technical knowledge.

Each person who

- transports
- installs,
- dismantles,
- operates,
- maintains or
- disposes of

the adjustment and calibration facility must have read and understood the corresponding contents of these operating instructions.

If you do not understand any of the information in these operating instructions or information is missing, please contact  
STAHLWILLE Eduard Wille GmbH & Co. KG.

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# Introduction to the operating instructions

## Availability

A complete and legible copy of the operating instructions must always be stored at the calibration and adjustment facility's operating location.

If these operating instructions become lost or unusable, a new copy can be requested from STAHLWILLE Eduard Wille GmbH & Co. KG.

If you have not yet registered the device, you require the name of your dealer for subsequent orders.

In addition to the operating instructions, the generally applicable and local accident prevention and environmental protection regulations must be made available and observed.

Keep all safety notices and information on dangers on the calibration and adjustment facility in legible condition.

## Supplements

Regularly add instructions to the operating instructions at the relevant operating location due to

- Legal regulations concerning accident prevention,
- Legal regulations concerning environmental protection and
- Trade association stipulations.

## Structural features

Defined structural features are assigned to the various elements within the operating instructions. You can therefore easily determine the type of text which this involves:

Normal text,

- Lists or

➤ Action steps.

- ① Notices with this symbol contain general information and information regarding the economical use of the testing facility.

## Explanation of the warning notices

The following categories of notices are contained in these operating instructions:



### DANGER

Notices containing the word DANGER warn of hazards which lead directly to severe or fatal injuries.



### WARNING

Notices containing the word WARNING warn of hazards which may possibly lead to severe or fatal injuries.



### CAUTION

Notices containing the word CAUTION warn of hazards which may possibly lead to minor to moderate injuries.

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### *ATTENTION*

Notices containing the word ATTENTION warn of hazards in which property damage may possibly occur.

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# Safety

## Proper use, operating area

The machine is exclusively intended to be used in adjusting and calibrating torque wrenches and STAHLWILLE transducers within the framework of the technical specifications.

Proper use additionally includes:

- Compliance with all notes contained in the operating instructions
- Observance of all instruction signs on the machine
- Adherence to the inspection and maintenance intervals.

Any other use is regarded as improper, particularly bending objects.

STAHLWILLE Eduard Wille GMBH & CO. KG accepts no liability for damage arising as a result of this.

## Basic safety instructions

### Risk of injury due to damaged calibration objects

- Under certain circumstances, parts may break or fracture when loading damaged calibration objects.  
Check calibration objects and insertion tools for damage (cracks or fractures) before calibrating. Do not calibrate damaged calibration objects or insertion tools.
- To avoid risks of injury due to the calibration object or the square adapter splintering, always wear safety glasses when operating the calibration and adjustment facility.

### Risk of injury due to crushing

- On operation of the calibration and adjustment facility with an inserted calibration object, there is a risk of crushing between the supporting bolts. Make sure that nobody reaches between the supporting bolts during operation.

### Hazards due to noise

- Depending on the calibration object, a sound pressure level (torque wrench triggering impact) which causes deafness may occur.  
Wear ear protectors in these cases.

### Environmental pollution due to incorrect disposal

- Dispose of cleaning agents and lubricants according to the regulations applicable at the operating location.
- Dispose of the calibration and adjustment facility according to the regulations applicable at the operating location.

## Avoiding material damage

Avoid material damage on the device and the torque wrenches through the following measures:

- Make sure that the torque wrenches are not damaged.
- Only insert the torque wrenches in the manner described in these operating instructions.

## Warranty and liability

Warranty and liability claims in the event of personal injury and material damage are inadmissible if they are attributable to one or more of the following causes:

- Improper use of the calibration and adjustment facility.
- Improper installation, commissioning, operation and maintenance of the calibration and adjustment facility.
- Operation of the calibration and adjustment facility with defective safety facilities or improperly installed or non-functional safety and protective devices.
- Non-observance of the notes in the operating instructions.
- Unauthorised modification of the calibration and adjustment facility's characteristics.

- Inadequate monitoring of parts of the calibration and adjustment facility which are subject to wear.
- Improperly carried out repairs.
- Disasters due to the effect of foreign bodies and acts of God.
- Non-observance of the requirements contained in the relevant standard during calibration.
- Non-observance of the manufacturer's instructions on calibrating and adjusting calibration objects.

### **Changes to the design of the calibration and adjustment facility**

- Do not carry out any modifications, attachments or conversions on the calibration and adjustment facility without the approval of the manufacturer.
- Immediately exchange parts of the machine which are not in flawless condition.
- Use only genuine replacement and wearing parts. Parts procured from third-party manufacturers provide no guarantee of the fact that they have been designed and manufactured to cope with the stress and function safely.

### **Duties when handling this calibration and adjustment facility**

#### **Obligations on the part of the owner**

The owner is obliged only to allow the following persons to work on the calibration and adjustment facility:

- Persons who are familiar with the basic regulations concerning industrial safety and accident prevention, and who have been trained in handling the calibration and adjustment facility,
- Persons who have read and understood the chapter on safety and the warning notices contained in the operating instructions, and have confirmed this with their signature,
- Persons who are familiar with and have understood the requirements for calibrating torque wrenches.

Responsibility for the properly executed calibration and adjustment of torque wrenches is borne by the owner or user.

#### **Obligations on the part of the personnel**

Before starting work, all persons commissioned to carry out work on the calibration and adjustment facility must be obliged:

- To observe the basic regulations concerning industrial safety and accident prevention,
- To read the chapter on safety and the warning notices contained in the operating instructions, and to confirm with their signature that they have read and understood these,
- To comply with the requirements of the relevant standard on calibration.



## Personnel training

- Only trained and familiarised personnel may work on the calibration and adjustment facility.
- The user's qualification requirements must be defined by the customer. We recommend basic technical training with advanced quality assistant training.
- The personnel's responsibilities must be clearly defined for installation, commissioning, operation, set-up and maintenance work.
- Personnel undergoing on-the-job training may only work on the calibration and adjustment facility under the supervision of an experienced person.

- The personnel must be familiar with the application and handling of calibration objects.
- The personnel must have detailed knowledge of EN ISO 6789 and standards or works' requirements to be applied by the user.
- The personnel must have knowledge of the operation of a PC and the software installed on it.

## Safety equipment

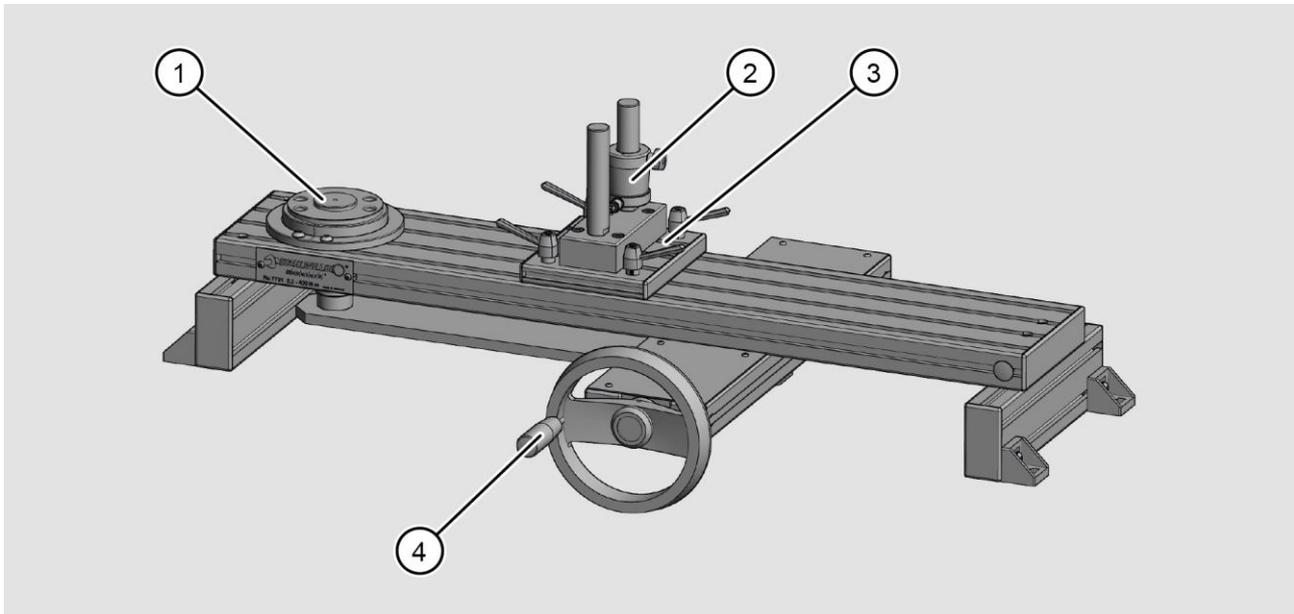
- The required personal safety equipment must be provided by the owner.

## Safety measures during normal operation

- At least once per shift, check the calibration and adjustment facility for externally visible damage and to ensure that the protective facilities are functional.

# Technical description

## Overview



No.	Explanation
1	Transducer flange
2	Vertically adjustable rest for the calibration object
3	Longitudinally adjustable carriage
4	Hand wheel for applying the torque

## Technical data

Max. permissible relative humidity	70 % (non-condensing)
Ambient temperature in the laboratory	From 18 °C to 28 °C (as per EN ISO 6789:2003)
Working temperature range	From 10 °C to 40 °C
Dimensions (L x W x H). approx.	7791: 1069 x 704 x 323 mm 7792: 1668.5 x 722 x 323 mm
Weight	7791: 26.5 kg 7792: 57 kg

# Transportation, delivery, storage

## Transportation

Comply with the following safety instructions when transporting the calibration and adjustment facility:



### **DANGER**

Life-threatening injuries due to falling or tipping calibration and adjustment facility

- Make sure that the aids for transporting the machine parts are undamaged and have the required carrying capacity.



### **CAUTION**

Risk of injury when carried by one person.

- Only raise the calibration and adjustment facility using suitable lifting equipment or with the aid of a second person.
- Only carry the calibration and adjustment facility with the aid of a second person.

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### ***ATTENTION***

Damage due to improper transportation.

- Use transportation equipment in such a way that no parts of the machine are deformed or shifted.
-

## Delivery

### Scope of delivery

The scope of delivery includes the manually operated calibration and adjustment facility for torque wrenches.

- ❗ A transducer and a PC or laptop are required to operate the calibration and adjustment facility. These are not contained in the scope of delivery.

We recommend using the following STAHLWILLE transducers:

- 7728-1
- 7728-2
- 7728-4
- 7728-6
- 7728-10
- 7728-20
- 7728-40
- 7728-65
- 7728-80
- 7728-100

### Check on acceptance by the recipient

- Check that the delivery is complete.
- In the event of incorrect deliveries, notify us or the representative responsible for you.

### Reporting and documenting transport damage

- In the event of transportation damage, notify us or the representative responsible for you.
- Describe the damage to us.
- Document the damage.

### Packaging

- Remove the existing packaging material.
- Remove the enclosed accessories.
- Make sure that the calibration and adjustment facility is not damaged.

## Storage

- Store the calibration and adjustment facility in packaged condition.

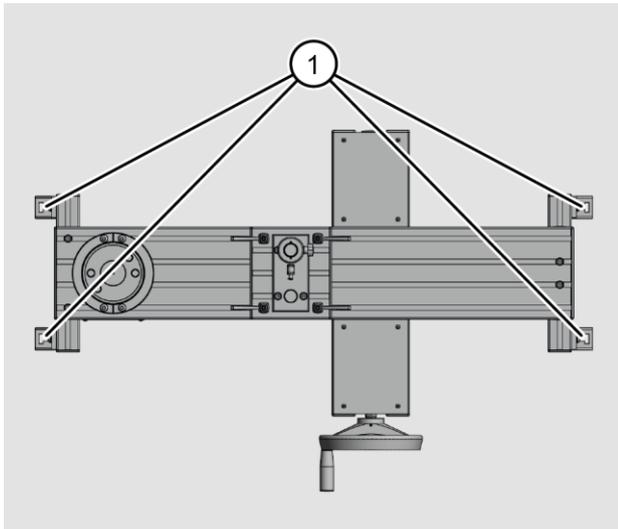
Ensure the following storage conditions:

- Relative humidity: 20-60 %, non-condensing
- Temperature: -20 to +60 °C

## Erection and mounting

The calibration and adjustment facility must be installed on a level surface with sufficient load-bearing capability. It can be fastened using the fastening holes in the side brackets. Perfect orientation and levelling of the calibration and adjustment facility are important.

- To install the calibration and adjustment facility, place it on the worktop of the workbench.
- Use size M8 bolts, material strength 8.8, washers and M8 hexagon nuts.
- Bolt the calibration and adjustment facility to the worktop using the fastening holes (1).
- Tighten the bolts to a torque of 25 Nm.
- Check the orientation of the calibration and adjustment facility.
- Make sure that the calibration and adjustment facility is perfectly oriented and securely fastened.



## Mounting the extension



### CAUTION

Risk of injury on assembly of the extension.

- Wear protective gloves to prevent injuries caused by cutting on sharp edges.

Calibration and adjustment facility 7791 is designed for a maximum torque of 400 Nm.

Calibration and adjustment facility 7792 is designed for a maximum torque of 1000 Nm.

An extension can be used for calibration objects which require a higher torque. This is available as an accessory.

Extension 7791-1 for calibration and adjustment facility 7791. With the extension mounted, you can apply a maximum torque of 1100 Nm.

Extension 7792-1 for calibration and adjustment facility 7792. With the extension mounted, you can apply a maximum torque of 3000 Nm.

The scope of delivery of extension 7791-1 includes:

- Extension 7791-1
- Two caps
- Two height compensation plates (these are not required for mounting on calibration and adjustment facility 7791)
- Two bolts for fastening to the calibration and adjustment facility
- Two fasteners with a threaded hole per bolt

The scope of delivery of extension 7792-1 includes:

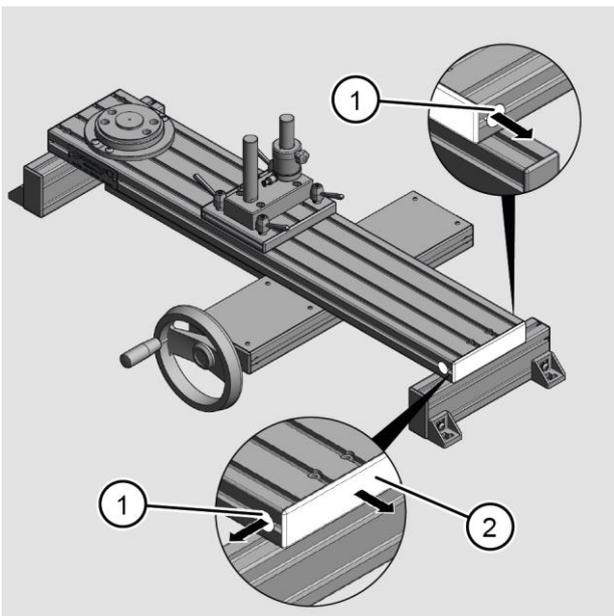
- Extension 7792-1
- Two caps
- Two bolts for fastening to the calibration and adjustment facility
- Two fasteners with a threaded hole per bolt

A ball-ended hexagon key wrench size 5 is required to mount extension 7791-1, 7791-2.

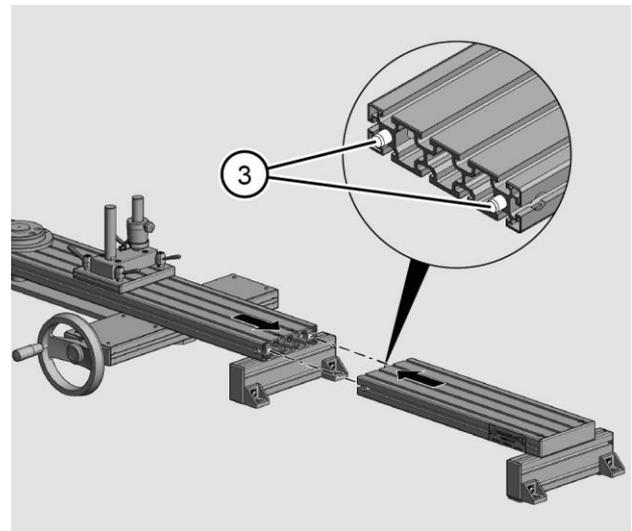
**i** Mounting extension 7791-1 on calibration and adjustment facility 7791 is described in the following.

The procedure for mounting extension 7792-1 on calibration and adjustment facility 7792 is similar.

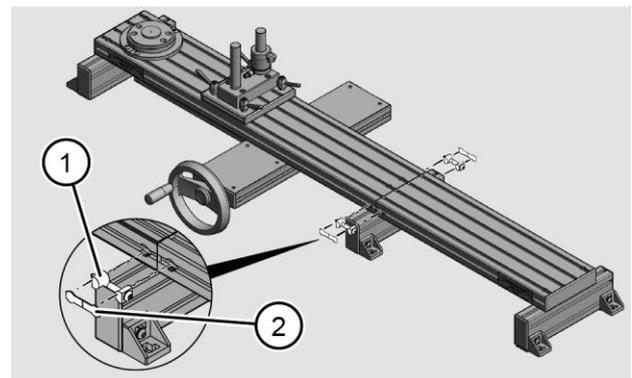
- Remove the caps (1, 2) from the side and face end of the calibration and adjustment facility.



The extension is equipped with two centring pins (3) for mounting.



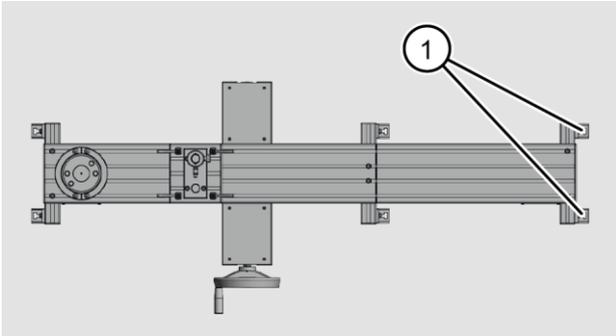
- Insert the extension with the two centring pins into the intended mountings on the calibration and adjustment facility.
- Insert one bolt with fastener (1) in each of the intended openings.



- Initially tighten the bolts on both sides hand-tight.
- Tighten the bolts to a torque of 15 Nm.
- Seal the openings for the bolts with the caps (2).

## Preparing for operation

- Bolt the extension to the worktop using the fastening holes (1).
- Tighten the bolts to a torque of 25 Nm.



A socket for a 3-pin Lemo connector is located on the circumference of the transducer. The PC can be connected here. To do this, use only cable 7751-1 and the USB adapter from STAHLWILLE.

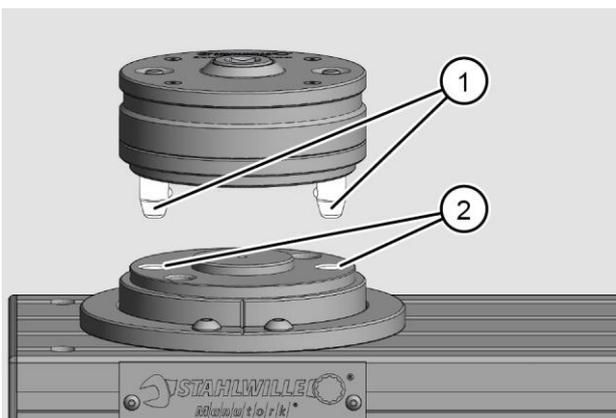
- Connect the transducer to the PC or the display unit.

## Preparing for operation

### Preparing the calibration and adjustment facility

The following points must be guaranteed before the calibration and adjustment facility is operated for the first time:

- Check all parts of the calibration and adjustment facility for proper function and visible damage.
- Make sure that no damage impairs the function of the calibration and adjustment facility.
- Make sure that all attaching parts are firmly seated.
- Position the transducer (1) in the flange (2).

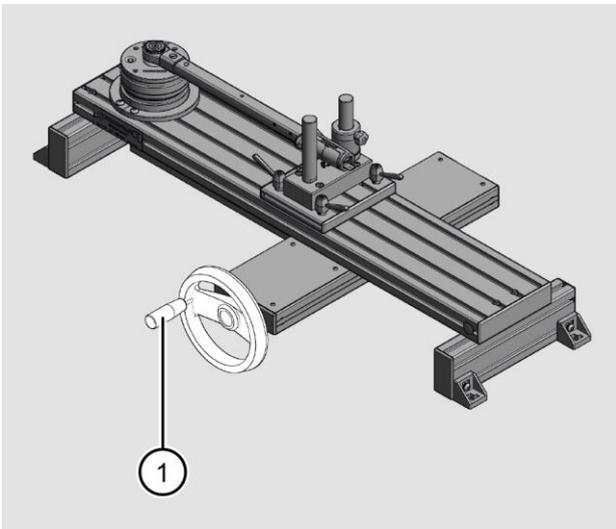


## Calibrating and adjusting torque wrenches

- Only operate the calibration and adjustment facility if all parts of the device are functional.
- Make sure that nobody can be endangered before introducing a torque.

### Operating the hand wheel

Force application into the calibration object is carried out using the hand wheel (1) on the front of the device.

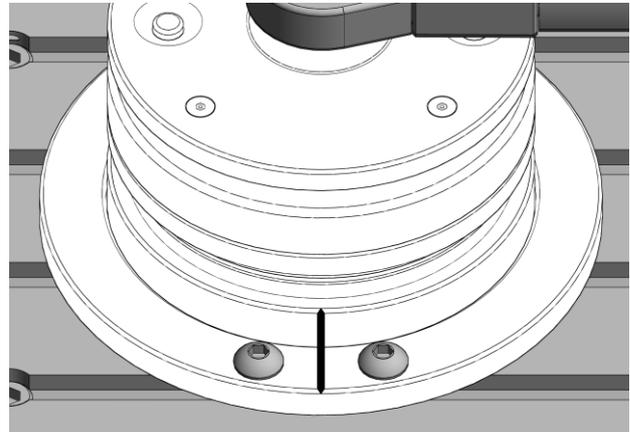


- Unfold the hand wheel's handle.
- To apply right-handed torque to the calibration object, turn the hand wheel clockwise.
- To apply left-handed torque to the calibration object, turn the hand wheel counter-clockwise.
- To relieve the calibration object, turn the hand wheel in the relevant, opposite direction.
- Fold up the hand wheel's handle following use.

### Set-up mode

ⓘ This is only required for calibration and adjustment facility 7791.

- Turn the hand wheel so that the transducer is in the neutral position as illustrated.

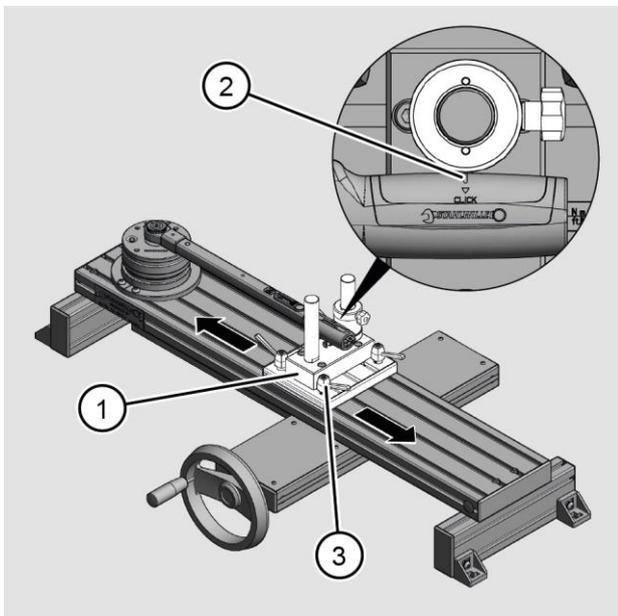


Proceed as follows for calibration and adjustment facility 7792:

- Make sure that the square of the transducer is located in a neutral position and that the torque wrench can be removed without force.

## Testing and adjusting

- Insert the torque wrench with the corresponding calibration square or calibration adapter into the transducer.
- Adjust the longitudinal carriage (1) so that the rest is located centrally to the handle (2) of the calibration object.
- Lock the longitudinal carriage with the levers (3).
- Align the calibration object in the calibration and adjustment facility as specified in the relevant standard.
- Turn the hand wheel in the desired direction until the required torque is achieved.



- Align the calibration object in the calibration and adjustment facility as specified in the relevant standard.
- Turn the hand wheel in the desired direction until the required torque is achieved.
- After triggering (click), relieve the calibration object by turning the hand wheel in the opposite direction.

## Measuring calibration

- Insert the torque wrench with the corresponding calibration square or calibration adapter into the transducer.
- Set the desired calibration value on the calibration object.
- Adjust the longitudinal carriage (1) so that the rest is located centrally to the handle (2) of the calibration object.
- Lock the longitudinal carriage with the levers (3).
- Align the calibration object in the calibration and adjustment facility as specified in the relevant standard.
- Turn the hand wheel in the desired direction until the required torque is achieved.
- Once the desired torque is achieved, compare the displays on the monitor and the calibration object.

## Clicking calibration

- Insert the torque wrench with the corresponding calibration square or calibration adapter into the transducer.
- Set the desired calibration value on the calibration object.
- Adjust the longitudinal carriage (1) so that the rest is located centrally to the handle (2) of the calibration object.
- Lock the longitudinal carriage with the levers (3).

## Maintenance

### Cleaning

Perform cleaning and care work as required according to the following work rules:

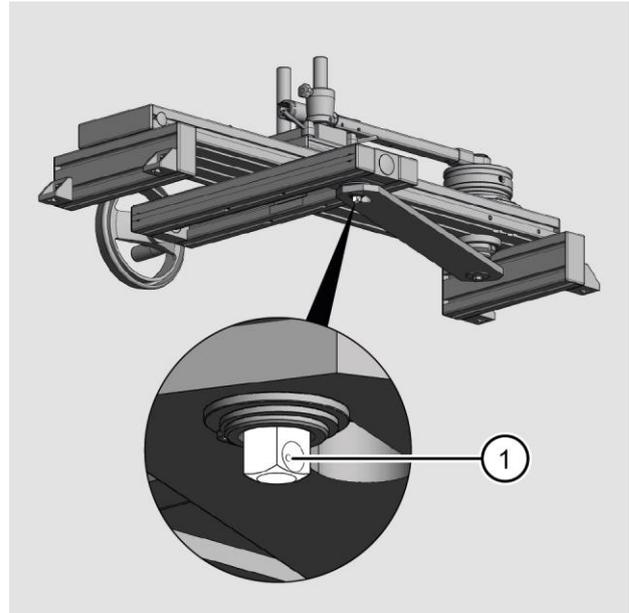
- Do not use compressed air for cleaning the system. Ingressed dirt damages seals and bearings.
- Clean all machine components, covers and splash guards with a rag soaked in mild soap solution.
- Clean lines and plastic parts with mild soap solution.
- Observe and adhere to the cleaning agent manufacturers' instructions.
- Prevent soap solution from entering bearings and seals.
- Clean areas of corrosion and coat them with grease or oil if permissible.
- Replace damaged, illegible or missing labels and signs.
- Store cleaning agents and lubricants according to the valid regulations.
- Dispose of cleaning agents and lubricants according to the valid regulations.

### Lubricating

Calibration and adjustment facility 7791 is equipped with a lubricating nipple (1), which has to be lubricated every three months.

Calibration and adjustment facility 7792 does not need to be lubricated, and has no lubricating nipple.

 We suggest Fin Grease MP 2/3 from Interflon.



To lubricate the lubricating nipple, proceed as follows:

- Turn the hand wheel clockwise to the left stop.
- Lubricate the lubrication point with two squirts of the grease gun.

## Maintenance schedule

Interval	Component	Check	Findings	Measures
Daily	Threaded connections	Tight seating	Loose	Tighten threaded connections
3 months	Lubricating nipple (7791 only)	Noises	The calibration and adjustment facility has to be lubricated every three months.	Lubricate the lubricating nipple with two squirts of the grease gun.
Annually	Transducer flange	Function	Worn out	Have the transducer flange replaced by the manufacturer.

- i** Further service and maintenance work on the calibration and adjustment facility may only be carried out by specialist personnel from STAHLWILLE.

## Disposal

Dispose of the calibration and adjustment facility via a certified specialist disposal company. Observe and comply with the applicable regulations. If in doubt, contact your municipal or local administration.

The calibration and adjustment facility primarily consists of the following materials:

- Steel
- Aluminium
- ABS plastic



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