

Mecmesin
testing to perfection

CrimpTest-1 kN Calibration Bracket



Mecmesin
FORCE & TORQUE TEST SOLUTIONS
www.mecmesin.com

431-471-02

May 2017

CrimpTest-1 kN Calibration Bracket Manual

This manual describes the operation of the calibration test rig part no. 432-671, for the purpose of checking the accuracy of the CrimpTest-1 kN loadcell.

Further instruction is available for authorised personnel to adjust the loadcell reading, between recommended recalibration dates.

2017 © Mecmesin Ltd, supplied with Mecmesin test systems and not for redistribution

Part no. 431-471-02

Contents

Overview	5
Component parts	6
Calibration check procedure	8
Step 1 - Mount the bracket	8
Step 2 - Prepare the CrimpTest-1 kN	10
Step 3 - Mount the CrimpTest-1 kN	11
Step 4 - Check the loadcell readings	13
Interpreting the results	15
Operator notes	16

Overview

The CrimpTest-1 kN calibration bracket is designed for verifying the accuracy of the loadcell readings. This ensures that the unit is measuring within specification. Authorised personnel, such as Mecmesin or your distributor, can adjust the loadcell readings but this does not replace the need for periodic recalibration.

Locally calibrated mass hangers and masses are not supplied. At no point should more than 1 kN be applied to the device. If in any doubt please contact Mecmesin support or your local Mecmesin distributor.

Component Parts

The calibration bracket rig comprises:

1 × CT-1 Calibration Bracket

To bench mount the bracket:

10 × M8 cap head bolts (in lengths: 60 mm, 70 mm & 80 mm)

10 × M8 Nuts

20 × M8 washers

To mount the CrimpTest-1 kN on to the bracket:

4 × 20 mm M6 flanged socket button bolts

To suspend mass hanger and masses:

1 × 30 mm M8 cap head bolt

1 × M8 washer

Mass hanger link:

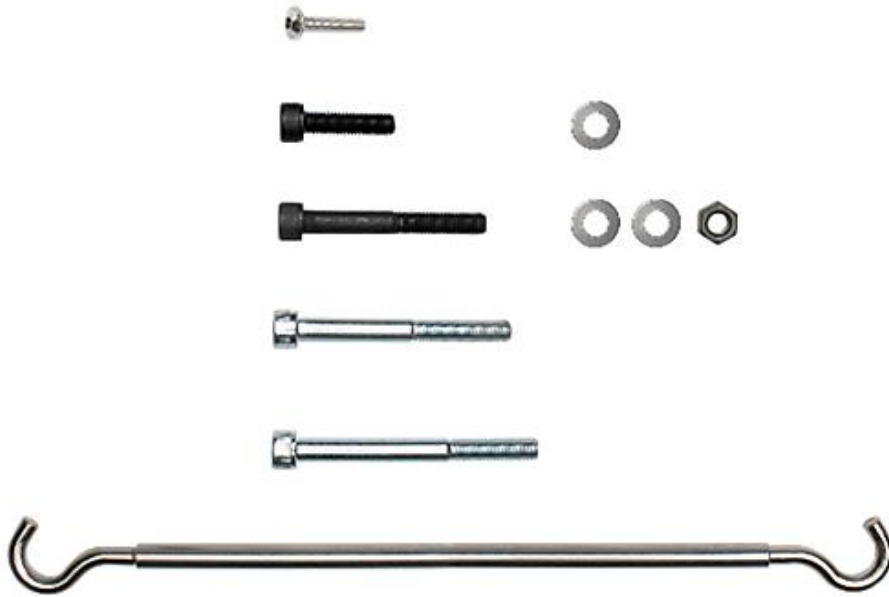
2 × Large test hooks

1 × 200 mm extension

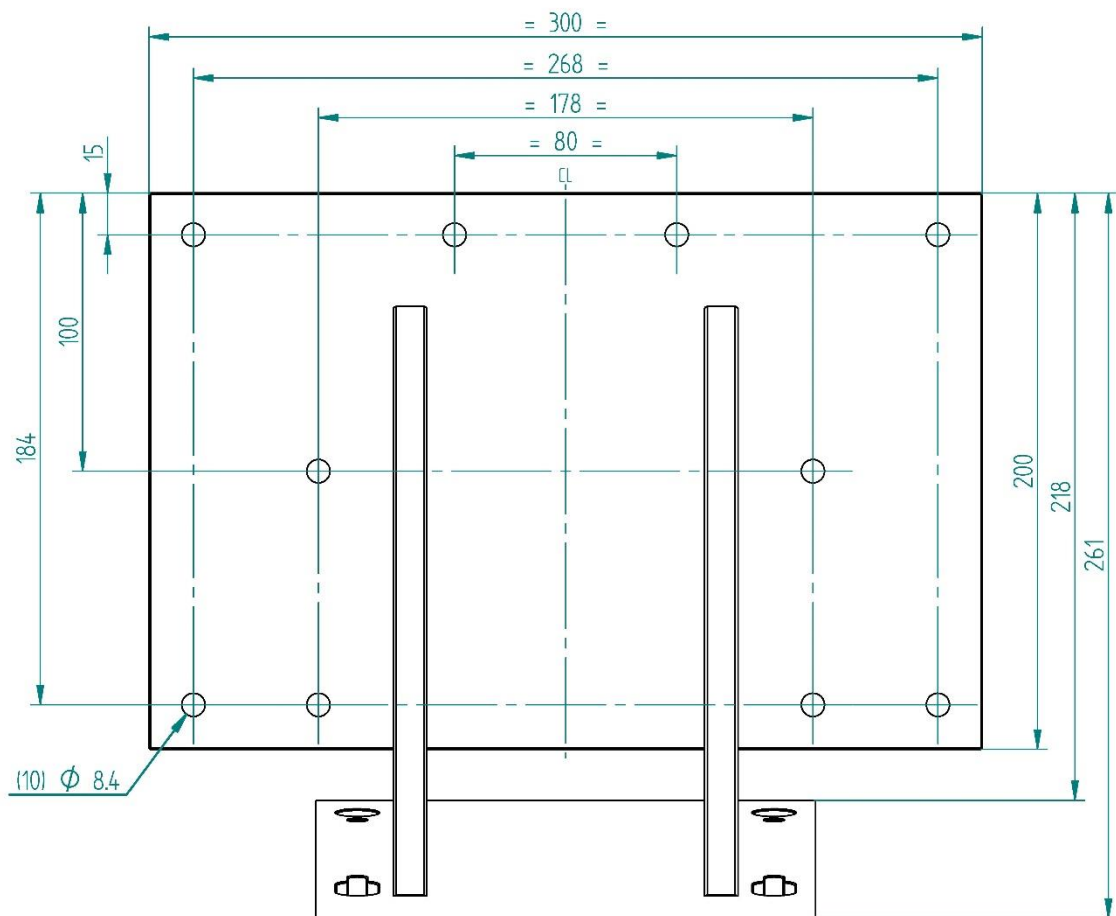
(Assembly is shown in the illustration below)

Mass hanger and masses

These are not supplied because they must be calibrated to the local gravitational force.



▲ Test hook and fixing parts



▲ CT-1 Calibration Bracket dimensions

Checking the Calibration

Step 1 - Mounting the bracket

The CT-1 calibration bracket should be bolted to a suitable work platform using the ten mounting holes and provided fixing bolts. Please ensure the platform is of suitable construction and safe to use.

The height of the platform will need to be such that the masses used do not touch the floor. Depending on the mass hanger you are using this will typically be in the order of **720 mm**.

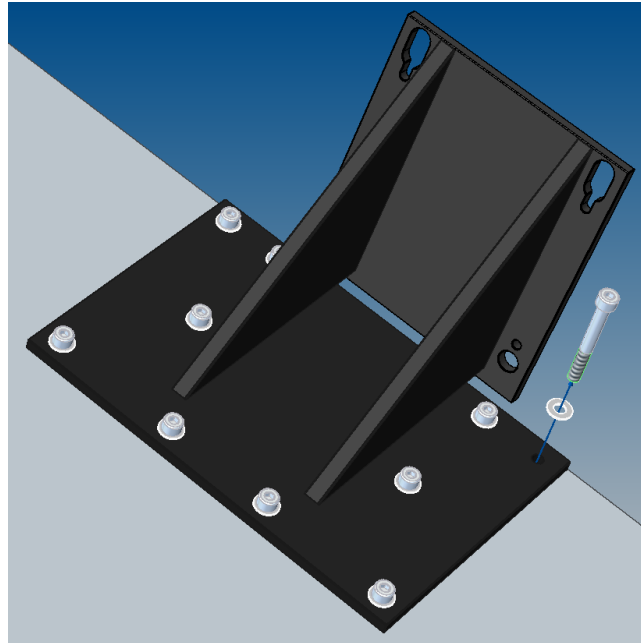


Hazard! Great care must be taken to ensure that the work platform is secured or counterweights used to adequately balance the platform so that the platform cannot topple or tilt. It is important that the masses are not allowed to fall. To avoid injury, add and remove masses one at a time.

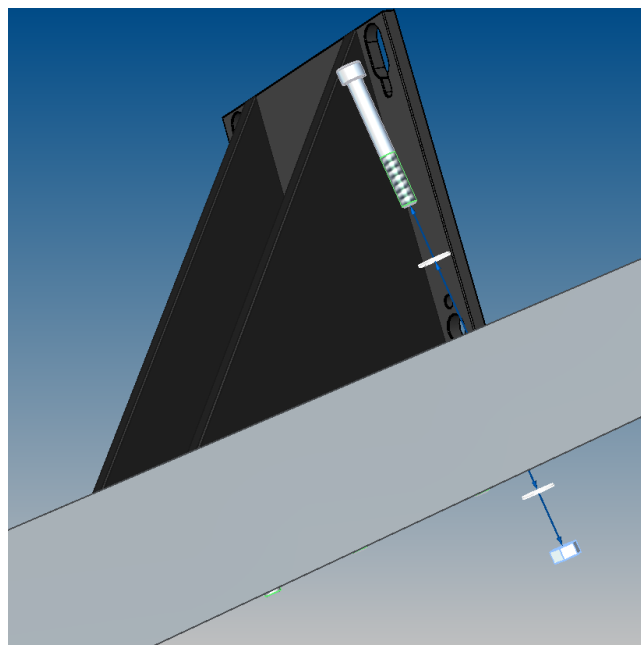


Important! Before mounting the bracket it is crucial to use a spirit level to ensure the work platform is completely level.

The bracket must be bolted in place using one of the three sets of **M8 cap head bolts**, selection is based on the thickness of work platform. Use washers against both surfaces of the worktop.



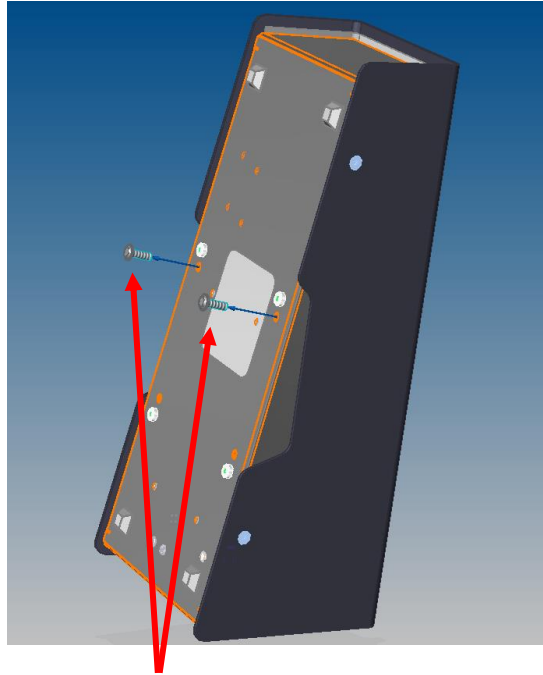
▲ Bolting the CT-1 calibration bracket to a suitable work platform



▲ Side view: washers should be used on both sides of the platform

Step 2- Prepare the CrimpTest-1 kN

Remove all grips and fixtures. Turn the unit over and loosely screw in two **M6 x 20 mm** flanged socket button bolts into the front mounting holes, leaving about 8 mm free to pass through the bracket. This will be the top when the unit is mounted.

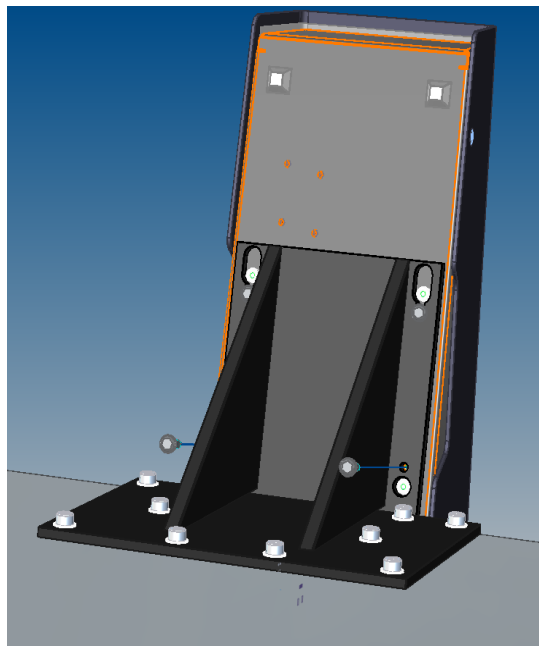


▲ Fitting points for M6 x 20 mm flanged socket buttons

Step 3 - Mount the CrimpTest-1 kN

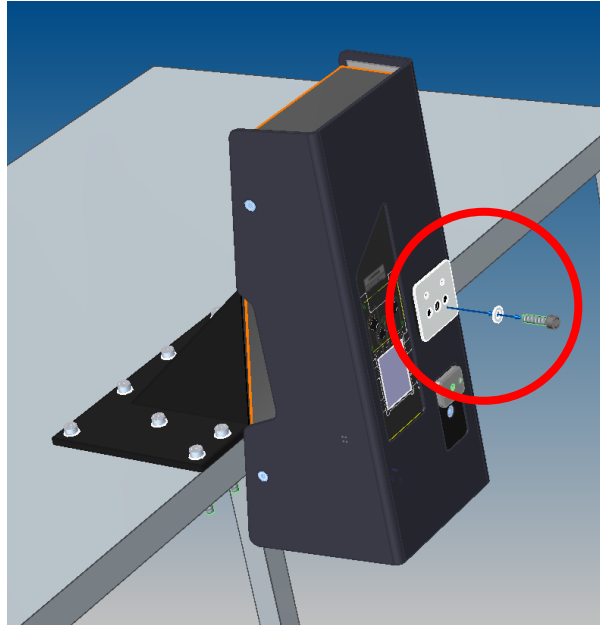
Slide the CrimpTest-1 kN into the calibration bracket as shown and attach 2 off **M6 x 20 mm** flange buttons in the locations pictured below. Leave the bolts slightly loose for adjustment.

Place a spirit level on the top face of the unit and tighten the four bolts so that the whole unit is level. If this is not done, the readings may not be accurate.

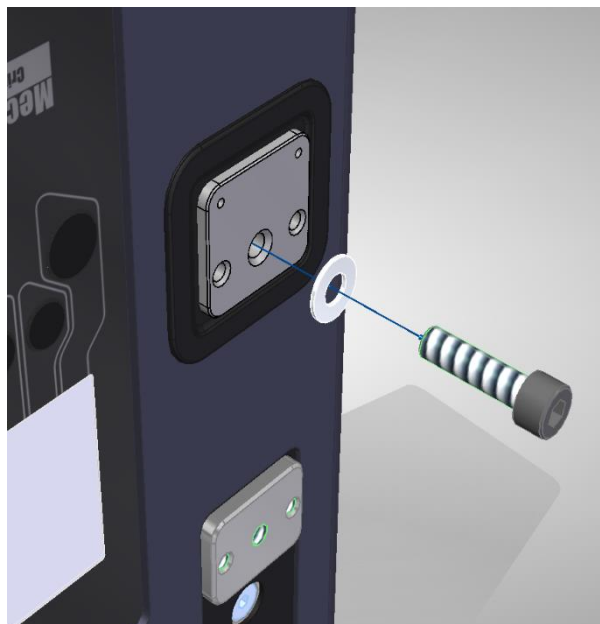


▲ Fitting the second pair of M6 x 20 mm flanged socket buttons

Screw the single **M8 x 30 mm** cap head bolt into the central loadcell (lower fixture) mount, with a washer to help retain the hook link. Hang the hook link from the bolt, behind the washer.



▲ Fitting the M8 x 30 mm cap head bolt and washer



▲ Magnified view showing the bolt fitting location

Step 4 - Performing the calibration check

Now the device is successfully mounted you are ready to perform the calibration check on the device.

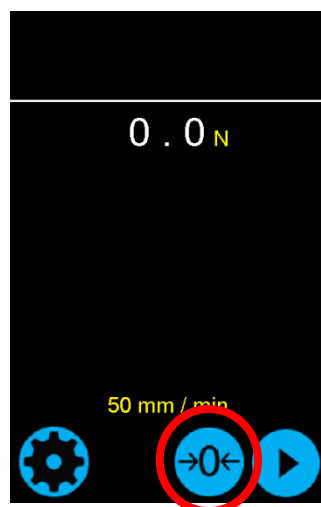


Hazard! Adopt a comfortable position for adding and removing masses, and for taking readings. Ensure appropriate safe lifting and PPE measures are taken.

1. Connect the unit's power supply and switch on. Press the ✓ button to continue.



2. Use →0← to tare the reading at zero. It is important the load is zeroed with the test hook attached.





▲ Mass hanger attached to the CrimpTest-1kN

3. Use the appropriate mass and hanger combination to apply 20% of the maximum load and allow this to stabilise. Record the reading on a calibration record sheet (example shown below).
4. Using additional masses, increase the applied load to 40%, 60%, 80% and 100%. Each time allow the reading to stabilise and recording it.
5. Remove the masses and hanger, leaving the hook link. This was where the unit was originally tared. Record this final reading, this should be within the zero limits displayed in the table on the following page.
6. Switch the unit off, disconnect it, and dismount it from the bracket. All necessary readings have been taken and the data can be reviewed.

Interpreting the Results

The CrimpTest-1 kN has a permissible accuracy of $\pm 0.2\%$ FSD (± 2 N).

Applied load	Lower limit	Upper limit	Reading	Pass/Fail
0 N	-2 N	2 N		
100 N	98 N	102 N		
200 N	198 N	202 N		
300 N	298 N	302 N		
400 N	398 N	402 N		
500 N	498 N	502 N		
600 N	598 N	602 N		
800 N	798 N	802 N		
1000 N	998 N	1002 N		

Ensure masses used are calibrated for your location and that calibration is done in an environment of temperature between 15°C and 30°C.

If your readings are outside the limits please contact your distributor for further support.

Mecmesin

testing to perfection

Mecmesin: a world leader in affordable force and torque testing solutions

Since 1977, Mecmesin has assisted thousands of companies achieve enhanced quality control in design and production. The Mecmesin brand represents excellence in accuracy, build, service, and value. In production centres and research labs worldwide, designers, engineers, operators, and quality managers endorse Mecmesin force and torque testing systems for their high performance across countless applications.

www.mecmesin.com

Algeria
Argentina
Australia
Austria
Bangladesh
Belgium
Brazil
Bulgaria
Cambodia
Canada
Chile
China
Colombia
Costa Rica
Croatia
Czech Republic
Denmark
Ecuador
Egypt

Estonia
Finland
France
Germany
Greece
Hungary
India
Indonesia
Iran
Ireland
Israel
Italy
Japan
Korea South
Kosovo
Kuwait
Laos
Latvia
Lebanon

Lithuania
Macedonia
Malaysia
Mexico
Morocco
Myanmar (Burma)
Netherlands
New Zealand
Norway
Paraguay
Peru
Philippines
Poland
Portugal
Romania
Russia
Saudi Arabia
Serbia
Singapore

Slovakia
Slovenia
South Africa
Spain
Sri Lanka
Sweden
Switzerland
Syria
Taiwan
Thailand
Tunisia
Turkey
UK
United Arab Emirates
Uruguay
USA
Vietnam

The Mecmesin global distribution network guarantees your testing solution is rapidly delivered and efficiently serviced, wherever you are.



FS 58553

Head Office - UK

Mecmesin Limited

w: www.mecmesin.com

e: sales@mecmesin.com

North America

Mecmesin Corporation

w: www.mecmesincorp.com

e: info@mecmesincorp.com

France

Mecmesin France

w : www.mecmesin.fr

e: contact@mecmesin.fr

Asia

Mecmesin Asia Co. Ltd

w: www.mecmesinasia.com

e: sales@mecmesinasia.com

Germany

Mecmesin GmbH

w: www.mecmesin.de

e: info@mecmesin.de

China

Mecmesin (Shanghai) Pte Ltd

w: www.mecmesin.cn

e: sales@mecmesin.cn