

OPERATOR'S GUIDE



CrockMaster
Motor Driven Crockmeter
Model 680

Covering Serial Numbers
680/03/1001 and upwards

Extraordinary Testing Solutions

James H. Heal & Co. Ltd
Halifax, England

Setting the Standard



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INTRODUCTION

Scope

The smooth precision-engineered mechanism of the **CrockMaster** provides an accurate reciprocating straight line rubbing motion, with guaranteed accuracy of down force and stroke, to meet the exacting demands for testing colour fastness to rubbing of textile materials.



The combined effective gripping of the easy-to-use polycarbonate specimen clamp and synthetic abrasive paper, makes CrockMaster applicable to textiles made from all fibres, in the form of yarn or fabric, whether dyed, printed or otherwise coloured.

The operation is assisted by a built-in digital counter to record the number of rubs performed.

Two alternative sizes of interchangeable rubbing fingers are available together with an interchangeable token holder to facilitate a number of test standards to be accommodated.

Standards

CrockMaster conforms to the following standards:

- AATCC 165
- AATCC 8
- ASTM F1319
- BS 2543
- BS 4655
- EN ISO 105-D02
- EN ISO 105-X12
- Marks & Spencer C8
- Next TM06

SAFETY

- Read this manual thoroughly before operating the unit.
- Keep clear of all moving parts when the instrument is in operation.
- Handle the specimen clamp carefully, the sample holding pins are very sharp !
- When loading a test specimen always rest the clamp with the pins pointing down, the clamp should remain in position on the instrument at all other times.
- The instrument weighs approximately 17kg. Only attempt to lift the instrument if you feel it is within your ability or preferably ask a colleague for assistance.
- *CrockMaster* complies with the CE regulations in full.
- Ensure the machine is isolated from the electrical supply before removing **any** covers.
- Fuses of the correct type and with the correct amperage rating must be used.
- Never use *CrockMaster* for anything other than what it is designed for.

INSTALLATION

Unpacking

Do not dispose of any packaging material until all standard and optional accessories are accounted for. If there are any discrepancies, please contact your supplier immediately.

Accessories

Standard Accessories

680	CrockMaster with counter Standard Rubbing Finger 9N weight piece Mains lead
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Optional Accessories

794-998	Interchangeable Finger (Crockblock) for testing textile floor coverings and other pile fabrics (ISO 105 X12 and AATCC 165)
794-997	Interchangeable Token Holder, 50 Tokens and Weight for scuff testing of woven and knitted upholstery fabrics (BS 2543)
789-521	Tokens (BS 2543) - per pack (250)
521-662	Yarn Specimen Holder

Test Materials for ISO/M&S Test Methods

766-201	Grey scale for staining
766-477	Assessment Mask
766-478	M & S Assessment Mask
702-540	Crocking cloths 50mm x 50mm - per pack (500)
701-217	Silicone Carbide Waterproof Paper 280 grit for M & S Method C8 - per pack (50)

Test Materials for AATCC

702-424	AATCC Style 3 Crocking Cloths 50 x 50mm – per pack (1000)
702-434	Red Calibration Cloth – per pack (5 x 13cm)
766-513	AATCC Gray Scale for Staining
766-510	AATCC Chromatic Transference Scale

Spare Parts

701-333	'Trizact' anti-slip cloth per pack (50). Grade comparable to 280 grit.
785-765	High/low strength double sided adhesive tape for bonding Trizact/Carbide Paper to base (50m roll).
521-690	Spare Standard (U Shaped) Clamp
794-499	Spare Standard Finger (16 mm diameter) complete with Spring Clip
375-451	Spare Spring Clips for Standard Finger - per pack (10)
130-820	5 Amperes anti-surge fuse
129-727	Fuse holder
160-242	Proximity switch
383-397	Drive belt (Timing belt)
304-694	Shaft bearings (Oilite bush) (2)
350-668	Electric motor (without gear-head)
350-669	Gear-head
521-668	Connecting-rod bearing

Calibration

201-255	ISO certificate of Calibration for Crockmeter
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GETTING STARTED

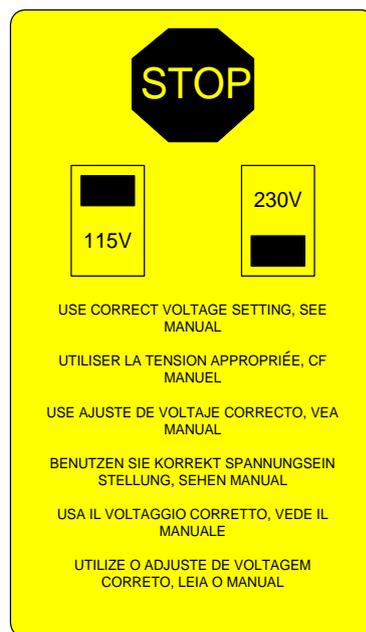
Positioning the instrument

Stand the machine on a firm, level surface such as a bench or table. The instrument is fitted with levelling feet that can be adjusted by rotating them, to suit an uneven surface.

Connecting to electrical supply

IMPORTANT !

The label below is fixed over the mains input socket when the instrument is despatched from James Heal. Before connecting the instrument to an electric supply, check these instructions and set the voltage selector in accordance with your local supply. The selector switch can be found at the rear of the instrument. If in doubt seek advice from a qualified electrician. Failure to adhere to these instructions may permanently damage the unit and immediately invalidate the warranty. Connect the power supply to the mains input as shown in section 5.



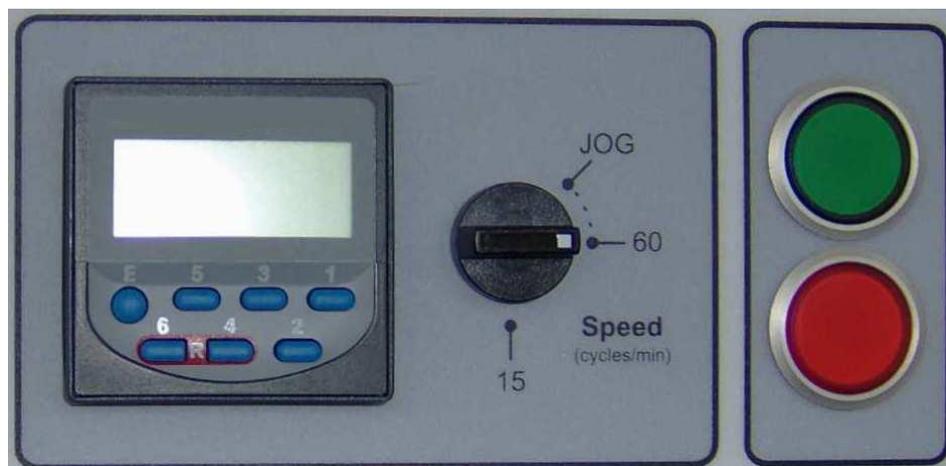
INSTRUMENT LAYOUT



CONTROLS

Fascia

The operation of the instrument is controlled by two buttons, a speed selector and a pre-settable counter located on the fascia at the front of the instrument.



Stop button

The stop button can be used to stop the instrument before a test is complete. Press the **RED** button to stop the instrument.

Start button

The START button is used to start the instrument in motion. Press the **GREEN** button to begin the test. The instrument stops automatically at the end of the test.

Speed selector

This instrument has the ability to carry out tests at two speeds, 15 and 60 cycles/minute. The speed is selected by rotating the knob so that the white square is beside the speed required. The 60 cycles/minute position is equal to 10 rubs in 10 seconds.

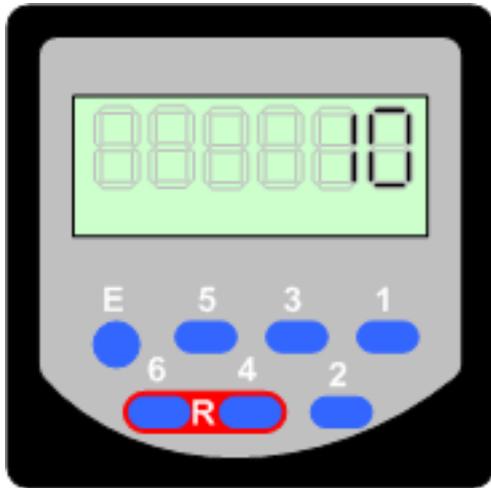
Jog feature

This feature can be used to move the rubbing finger to the start and end points of the stroke so that the length of the stroke can be checked and adjusted. This calibration procedure should be carried out at regular intervals.

Note: the rubbing finger only moves when the white square on the speed selector knob is held against the 'Jog' legend. Movement stops when the knob is released.

Counter

The counter shows the preset number of rubs. During operation the counter shows remaining rubs. At the end of the operation, the preset number is displayed again.



The number of rubs is factory set at 10 but can be changed at any time.

The Preset Counter can be reset to zero by pressing the 6 and 4 keys together **6 R 4**

To set a new number of rubs, press the E and 1 keys simultaneously. **E 1**

To increase the units, press the 1 key until the desired digit is achieved.

To increase the tens, press the 2 key, to increase the hundreds, press the 3 key, etc.

To return to counting mode press the E key **E**.

Depress the green **START** button to commence a test.

Depress the red **STOP** button to arrest the instrument at any time.

OPERATION

Before operating the CrockMaster please read and follow the [safety](#) instructions.

Test Principle

A coloured test specimen is clamped and rubbed, under controlled conditions, against an undyed crocking cloth. Colour transferred to the crocking cloth is assessed in comparison with a standard Grey Scale for Staining.

Preparation of the CrockMaster for testing

The CrockMaster is normally supplied with the standard rubbing finger fitted. To replace it with an optional finger, see below.

Fitting the rubbing finger



The rubbing finger can be removed by turning the “clamp screw” anti-clockwise until the clamping pressure is released. Replace the rubbing finger. Apply clamping pressure to secure the finger by turning the clamp screw clockwise.

When a crocking finger is replaced with a new one the finger tip must be abraded until it is parallel with the specimen support plate.

Fit a piece of fine abrasive paper on the specimen support plate ensuring it is flat and smooth.

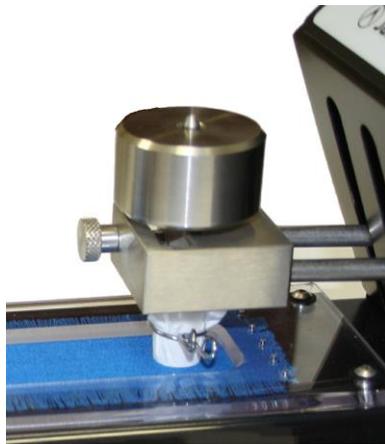
Lower the crocking arm, complete with finger, onto the abrasive paper and run the finger against it until the finger tip is perfectly parallel with the specimen support plate.

This procedure ensures the full diameter of the crocking finger is carrying the load for the test and compensates for the angle of the crocking arm.

Mounting the test specimen

Lay the material to be tested over the abrasive cloth covering the rubbing area. The specimen clamp comprises two larger locating pegs, to facilitate positioning, and two rows of pins. Position the locating pegs first, then pass the first row of pins through the specimen. Hold the fabric tight and locate the second row of pins through the fabric and into the base.

Performing the test



Cover the finger with the undyed crocking cloth and secure in position with the spring clip provided, making sure that the spring clip is clear of the specimen clamp. Lower the head arrangement onto the rubbing area, reset the counter using the “RST” push button located on the face and commence the straight line motion pressing the green start button. The digital counter will increment one digit for each completed cycle.

Note: an overload will be caused by a test that is started with the arm in the raised position. Refer to next section for guidance on resetting the instrument.

Garment Testing

Concept

CrockMaster can be used to test parts of complete garments. To facilitate the testing of garments components for example sleeves, it is recommended that the instrument anti-slip feet are repositioned, moving the two front feet to the midway position along the length of the instrument. Moving the feet to midway position will allow unrestricted access to specimen area.

Procedure for repositioning the feet

Carefully lay the instrument on its side to expose the feet. The feet are held in place by means of a threaded bolt attached to the foot, secured with a lock-nut. To remove the feet, first slacken the lock-nut securing the adjusting foot. Turn the foot anti-clockwise, removing it from the instrument. Re-assemble the foot midway along the instrument, inserting the threaded bolt into the threaded hole, turning it clockwise. Set the instrument level by adjusting the height of the foot and lock the lock-nut. Adjust the remaining feet if necessary.



SAFETY FEATURES

Safety overload

The instrument is fitted with a safety overload device to prevent injury to the operator or damage to the instrument should the motion of the arm be stalled by an obstruction.

Resetting the instrument

If the instrument has stalled, it will be necessary to reset the instrument by turning off the power for at least 15 seconds. The power can be turned off using the RED On/Off switch located on the side of the instrument base.

Note: *an overload will be caused by a test that is started with the arm in the raised position.*

SERVICE & CALIBRATION

James Heal offers Service & Calibration which is a totally comprehensive, worldwide support programme. When you buy instrumentation for us, it is the beginning rather than the end of an association. Our aim is simple, to provide precisely the services you need to maintain and protect the value of your investment.

For any enquiries you may have regarding your instrument please contact the Service & Calibration Manager by email, phone or fax.

In all communications please quote the serial number of your instrument, e.g., 680/04/1051.

Between service and calibration visits no regular maintenance is required. Simply keep the instrument free from dust and debris.

Additional support is available via on our web site <http://www.james-heal.co.uk>

TECHNICAL DATA

Dimensions	:	660mm (width) x 320mm (depth) x 230mm (height)
Weight	:	17.3 kg (including 22N weight piece)
Power	:	150 watts, 0.7 amps at 230V or 1.4 amps at 115V
Speed	:	60 r.p.m. and 15 r.p.m.
Fuse	:	5A anti-surge fuse