



**Watkiss Automatic
SpineMaster
Operating Guide**

Issue 1a, April 2004

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CONVENTIONS The following conventions are used in this manual:

Warning

Warning messages alert you to a specific procedure or practice which, if not followed correctly, could cause serious personal injury.

Caution

Caution messages alert you to a specific procedure or practice which, if not followed correctly, could result in damage to equipment.

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1 Introduction

Thank you for purchasing the Watkiss Automatic SpineMaster™.

The Automatic SpineMaster™ post-processes stitched or stapled booklets to give them the professional flat appearance of a perfect bound book, but with the security of a stitched spine. The resulting SquareBack™ booklets are flat, making them easy to stack, handle and pack.

If you use your Automatic SpineMaster to supply SquareBack booklets to your customers, remember to tell them to specify 'SquareBack booklets'.

In these instructions the Automatic SpineMaster is referred to as the ASM.

INSTALLATION Your ASM should be located on a level floor.

If your ASM is used online with other equipment, installation requires specialist knowledge and should therefore only be carried out by a Watkiss approved engineer.

Caution

This machine must only be plugged into an electrical supply line of the correct voltage and with a proven earth. Any damage caused by failure to do so will not be covered by the guarantee. The required machine voltage is shown on the label on the rear of the unit.

SAFETY INFORMATION

Your ASM has been designed with safety as a key feature. However, to ensure it is used safely please observe the following cautions and warnings:

Warnings

- As with all electrical equipment, disconnect the unit from the mains electricity supply when replacing fuses or when instructed to do so in this manual.
- The disconnect device is the appliance inlet.
- Do not attempt to put your hands or objects, other than booklets, inside the ASM during operation.
- Do not remove machine covers. Only competent and trained service engineers should service this equipment.

GETTING HELP

We are confident that your ASM will give many years of trouble-free production. If you have any queries or problems, in the first instance please refer to the problem solving section in this book. Should you require further assistance, the Watkiss Service Department (UK) or your local Watkiss supplier will be happy to help.

2 About your Automatic SpineMaster

HOW THE SPINEMASTER WORKS

The booklet is transported, spine first, into the ASM. The SquareBack spine is formed and the booklet is then delivered to the stacker on the top of the ASM.

- 1 Outfeed
- 2 SquareBack Booklets
- 3 Stacker Support
- 4 Stacker Release Lever
- 5 Book Thickness Adjustment
- 6 Stacker Full Sensor
- 7 Operating Mode Adjustment
- 8 Sidelay
- 9 Infeed (Hand Feed)

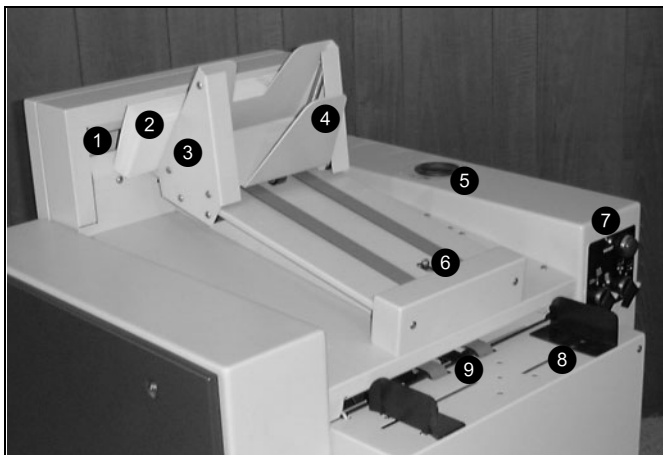


Fig 1. The Automatic SpineMaster

ADJUSTMENTS AND SETTINGS

Mains ON/OFF

The Mains ON/OFF switch is on the front of the machine. 1 = ON, 0 = OFF.

Mains Input

The Mains Input is on the back of the machine. Alongside the Mains Input is a label indicating the machine voltage requirements.

Book Thickness Adjustment

The Book Thickness Adjustment (see Fig 2.) can be used to obtain optimum results with different booklet thicknesses. Turn the knob clockwise to increase the effect, and anti-clockwise to decrease the effect. The type of material will also influence the required setting.

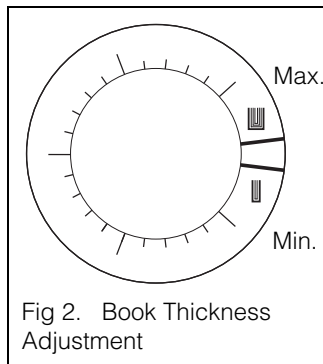


Fig 2. Book Thickness Adjustment

Operating Mode Selection (see Fig 3.)

Single Pass : The ASM will process the booklet a single time. This is the default setting, and is suitable for the vast majority of booklets.

Double Pass : The ASM will process the booklet twice. This can be useful for thick, inflexible covers which are more resistant to re-forming.

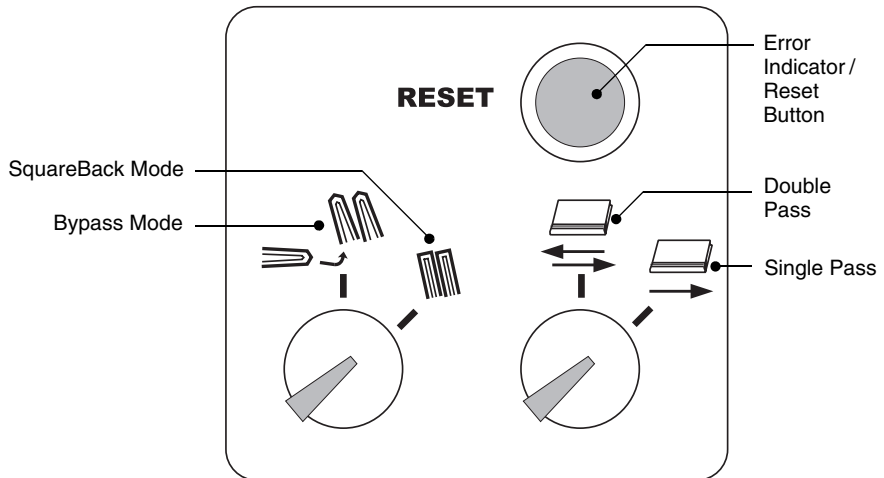


Fig 3. Operating Mode Selection

SquareBack Mode : The booklets will be processed and receive a squared spine (SquareBack).

Bypass Mode : The booklets will bypass the Square-backing process and will be delivered straight to the stacker. In Bypass Mode, the stacker may require adjustment (See "Stacker" on page 5.).

Error Indicator / Reset Button

This indicator/button performs several functions -

- A green light indicates an error. Correct the error and then press the button to reset the ASM.
- The button can be used to start the machine if it is not automatically started by hand-feeding or by connected equipment.
- When hand-feeding, the green light flashes as each book is processed. Another booklet can be inserted when the light goes out.

STACKER Booklets are stacked, spine uppermost, in the stacker. The stacker support automatically recedes to accommodate the increasing stack. When the stacker is full, a sensor will automatically stop the ASM and the green Error/Reset light illuminates.

Unload the booklets, slide the stacker support back up towards the outfeed and then restart the connected equipment.

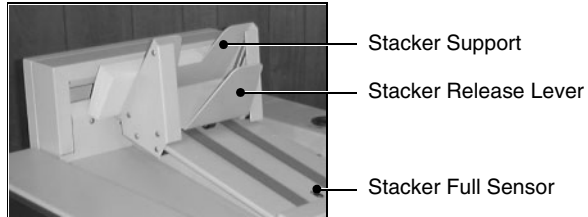


Fig 4. The ASM Stacker

Note:

1. To move the stacker support, squeeze the stacker release lever towards the stacker support.
2. If booklets are not processed (ie. in Bypass Mode), they may stack better lying flat. Slide the stacker support away from the outfeed, taking care not to trigger the stacker full sensor.
3. If small booklets do not stack well, adjustment may be required , see “Small booklets do not stack well” on page 10.

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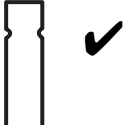
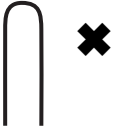
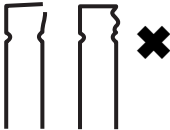
3 Using your Automatic SpineMaster

ONLINE OPERATION

The ASM can be used online to a variety of bookletmaking machines. It will automatically start and stop as required, controlled by the connected equipment.

1. First select the required Operating Mode and Book Thickness Adjustment (see Chapter 2, 'About your Automatic SpineMaster').
2. Start the connected equipment and run a single booklet through the ASM.
3. Inspect the formed booklet, and adjust the Book Thickness Adjustment or the Operating Mode as required.

Spine Formations

	Correct: This is how a well formed spine should look.
	Incorrect: The spine has not been formed sufficiently. Increase the Book Thickness Adjustment and/or use Double Pass Mode
	Incorrect: The spine has been over-formed resulting in damage or creasing on the cover. Decrease the Book Thickness Adjustment and/or use Single Pass Mode.

4. Adjust the operating speed of the connected equipment to approximately 1,000 booklets per hour. (Note: some connected equipment will automatically adjust to an appropriate speed for the ASM.)
5. Gradually increase the speed to about 1,400 booklets per hour (single pass mode). If the speed is set too high, some booklets will not be processed. They will be clearly identifiable in the stacker.

HAND FEEDING

Booklets can be hand-fed into the ASM either when the unit is stand-alone, or when it is connected to a booklet maker. It is not necessary to disconnect it from other connected machinery.

1. Adjust the sidelays to suit the booklet size.
2. Insert a booklet, spine first, into the infeed.
3. The completed booklet is delivered into the stacker.

The green Error/Reset indicator flashes as each book is processed. Another booklet can be inserted when the light goes out.

If the booklets are inserted too quickly, some will not be processed. They will be clearly identifiable in the stacker.

Caution

- Do not exceed the specified book thickness.
Minimum : 1mm (0.04")
Maximum : 6.5mm (0.25") This is approximately 30 sheets of 80gsm (20# bond) folded into a 120 page booklet.
- Only process one booklet at a time, DO NOT try to process several booklets at once.

WET INK

Avoid using the ASM on booklets where the ink has not dried. This may result in ink transfer and will increase the amount of cleaning required (see Chapter 5, 'Maintenance').

4 Error Conditions

BOOKLET JAMMED INSIDE ASM

If a booklet jams in the ASM for any reason, switch the ASM off at the mains input and then switch it back on again. The machine will reset and the booklet should be ejected onto the stacker. If the booklet is not ejected, press the green Error / Reset button.

If the booklet still remains inside the ASM, it must be removed.

- Switch the ASM OFF and unplug the mains input lead.
- Push in the two securing latches and gently lower the front cover downwards.

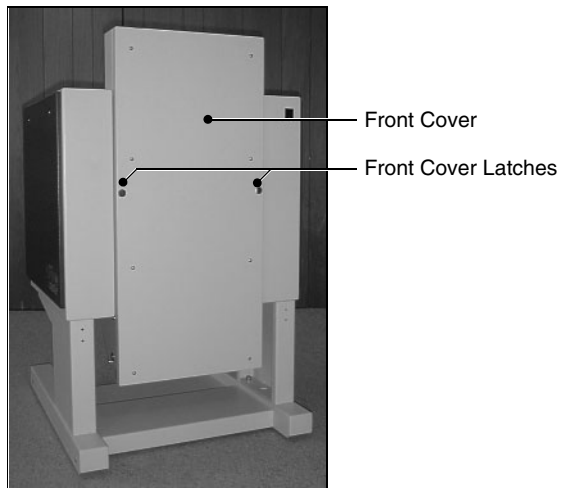


Fig 5. ASM, front cover and latches

- Open the top lid by lifting it upwards.

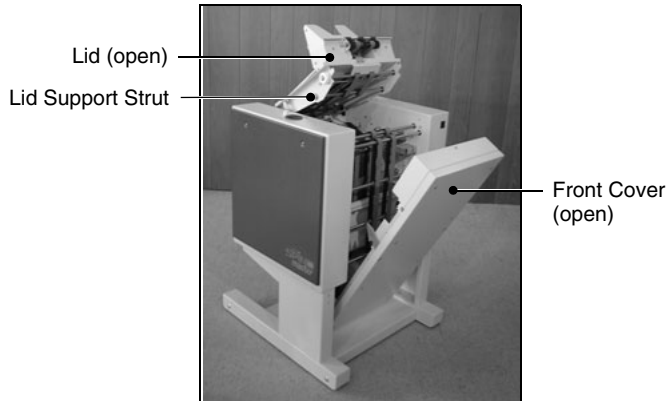


Fig 6. The ASM with front cover and lid opened

- Retrieve the booklet from inside the machine. Take care not to dislodge any of the conveyor belts.

Caution

If the booklet cannot be removed because it is jammed in the clamp mechanism, do not attempt to force the mechanism open. Contact your Watkiss service department.

- Close the ASM lid by lifting it slightly, push the support strut and then lower the lid.
- Lift up the front cover and push it closed, ensuring that the latches re-engage.

Warning

When releasing the ASM lid support strut, hold the lid securely and take care not to drop it on your hand.

**SMALL BOOKLETS
DO NOT STACK WELL**

If small booklets do not stack tidily, the booklet control springs should be used.

Open the front cover of the ASM, as explained above, and release the two springs by pulling them out from

underneath the shaft. When the springs are not required, they should be tucked back under the shaft.

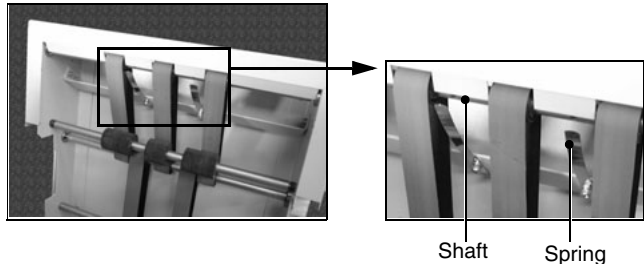


Fig 7. Booklet Control Springs

UNEVENLY FORMED SPINE

If the spine is well formed at only one end of the booklet, Double Pass Mode should be used. Some stocks may require Double Pass Mode to achieve an even result see “Spine Formations” on page 7).

REPLACING FUSES

Your ASM is fitted with two fuses at the mains input. If either of these fail, the ASM will not operate.

Warning

The ASM uses double-pole/neutral fusing (i.e., two fuses), so when changing fuses always first disconnect the machine from the mains electricity supply by switching OFF and unplugging the machine.

- Switch the ASM OFF and unplug the mains input lead. Open the flap on the fuse holder.
- Pull out each fuse casing in turn and check the fuse.
- Replace if necessary with a fuse of the correct specification, as detailed below.

Reference

230V machines:

730-016 Fuse, 1.25" (32mm) 5.0A HRC-Quick Acting F

115V machines:

730-020 Fuse, 1.25" (32mm) 10.0A HRC (Quick Acting, F)

SEEKING ASSISTANCE

If you require assistance with your ASM, please contact your local Watkiss supplier or the Watkiss Service Department.

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5 Maintenance

SERVICE INTERVAL

It is recommended that your ASM is serviced by an approved Watkiss engineer at six to twelve month intervals (depending on usage). Please contact your Watkiss supplier or the manufacturer for further details.

OPERATOR MAINTENANCE

As with all machinery, your ASM will benefit from regular cleaning to prevent build up of dust and general dirt.

- Check that the air vents are not obstructed or blocked. Obstructed air vents will cause the motor to overheat.
- Once a week, or as required, clean the carriage roller as explained below.
- Do not use the ASM on booklets where the ink is still wet. This may result in ink transfer, and increase the need for cleaning.

Cleaning the Carriage Roller

1. Set the operating mode to Double Pass, and the Book Thickness Adjustment to maximum.
2. Take a maximum thickness (6.5mm) A4 size booklet, and wrap a sheet of paper around the outside. Alternatively, take about 30 sheets of A3 80gsm paper and fold into an A4 size booklet.
3. Apply a thin coating of a suitable cleaning product (see below) to the spine of the booklet.
4. Hand feed the booklet into the ASM in the normal way. Re-insert the booklet and reprocess about 5 times.
5. Remove the outer sheet, to give a fresh clean surface, and repeat step 4.

USA Users:

6.5mm is ¼"

For A4, use 8½ x 11"

For A3, use 11 x 17"

80gsm is 20# bond

Suitable cleaning products include alcohol (isopropanol), offset litho blanket wash or RS Solvent Cleaner Aerosol (Watkiss Part No. 951-097). Always observe any health and safety information supplied with cleaning products.

Warning

Cleaning solvents are flammable. DO NOT spray them directly into the ASM.

Caution

Do not attempt to use a cloth to clean the carriage roller.
This may leave loose fibres or debris inside the machine.

6 Specifications

Intended Use This product is intended for the re-forming of booklet spines, to flatten the booklet and give a square appearance to the spine, within the specifications below.

Production up to 1400 per hour single pass

Booklet Size from 80 x 120mm to 250 x 350mm
(dependant on specification of connected equipment)

Booklet Thickness minimum of 1mm, 0.04"
maximum of 6.5mm, 0.25". This is approximately 30 sheets of 80gsm (20# bond) folded into a 120 page booklet.

Dimensions

Width 707mm, 28"
Depth 745mm, 29.5"
Height 1242mm, 49"
Weight 132kg, 291lb

Electrical 230V, 50Hz, 3A or 115V, 60Hz, 5A
Single Phase, Earthed supply required

Noise 72 dB(A)

Operating Conditions 10-35°C at 35-85% relative humidity

Production and specifications are subject to operating conditions. The specified paper thickness figures are given for guidance only. The actual performance of the machine will depend on the nature of the paper and covers used. In line with a policy of continual improvement, the manufacturer reserves the right to alter the materials or specifications of this product at any time without notice.

Radio Frequency Emissions This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful

interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

7 Declaration of Conformity

Manufacturer's Name: Watkiss Automation Limited

Manufacturer's Address: Watkiss House
Blaydon Road
Sandy, Bedfordshire, UK.
SG19 1RZ
United Kingdom

Declares that the product

Product Name: Watkiss Automatic SpineMaster

Product Number: WA/ASM/0010 onwards

Conforms to the following Product Specifications:

Safety: 73/23/EEC & 98/37/EC Council Directive 'on the approximation of laws of Member States relating to machinery'.
BS EN 60950 : 1992

EMC: 89/336/EEC Council Directive 'on the approximation of laws of Member States relating to electromagnetic compatibility'.
EN55022:1998 Class A
EN55024:1998
EN61000-3-2:2000
EN61000-3-3:1995 + A1:2001

M C Watkiss
Technical Director
Watkiss Automation Ltd

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