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Operating instructions
37003

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Skiving tool AT-200

The AT-200 is a preparation device for skiving (preparing for a bonded Thermofix joint) for Habasit drive and conveyor belts up to a width of 200 mm and a thickness of 7 mm.

It is supplied without motor or with a mounted, robust drilling machine as a drive. The feed of the belt on the skiving table is performed manually by means of a handwheel.

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Appendix

- ❑ Preventive maintenance, checklist, and checksheet
- ❑ Drawings with spares numbers

1. General information

1.1 Application

Skiving tool AT-200 has been specially designed for the rapid and safe preparation (skiving) of Thermofix joins for Habasit drive and conveyor belts up to a width of 200 mm (right-angle grinding, 90°) respectively width 150 mm (75° radiused) and width 90 mm (60° radiused).
The maximum belt thickness is 7 mm. The model AT-200 replaces the models A-100 and A-201.

Skiving tool AT-200 was developed solely for the applications described here. Other unforeseen and unsuitable applications are not permitted. Habasit accepts no liability or responsibility for the consequences of such improper applications.

Skiving tool AT-200 is manufactured according to recognized engineering principles and state of the art technology and complies with the applicable regulations.

It is assumed that all assembly, maintenance, and repair work, as well as operation, is performed by qualified tradesmen or is supervised by responsible specialists.

It is not possible to detail every single case of operation, maintenance, and repair within the scope of these instructions. The instructions contained refer to usage of the machine for its intended purpose and to qualified personnel. Please consult the manufacturer in the case of any lack of clarity or in the absence of detailed information.

1.2 Relevant safety terms

In these operating instructions you will find the terms WARNING, CAUTION and INDICATION. They signal dangers or special information to be borne in mind.

WARNING	If disregarded, there is a danger of severe injury, and/or serious material damage may be caused.
CAUTION	If disregarded, there is a danger of injury, and/or material damage may be caused.
INDICATION	Technical information is emphasized if it is important and not readily apparent, even for skilled personnel.

Please observe all indications for assembly, operating, and maintaining the machines, as well as all technical data! This will prevent possible trouble and/or damage to people or materials.

Skilled personnel refers to persons authorized to perform the required tasks. These people have been sufficiently trained and introduced to their field of activity so that they are able to recognize and prevent dangers. They are aware of the pertinent provisions and safety regulations.

1.3 Execution and extent of supply

AT-200/0: Basic model of the skiving tool without drive for use in combination with an external drive, e.g., lathe. In this case, the skiving roller must be dismantled and reinstalled in the rotated position with the long shaft end on the opposite side of the journal (1) (see section 3.2).
Delivery: 1 skiving tool packed in a cardboard carton.

AT-200/6: Under this designation, the skiving tool is equipped with a drilling machine for **120V** with US connector plug (Bosch type GBM 13 HRE) as a drive.
Delivery: 1 skiving tool packed in a cardboard carton.
1 drilling machine in original packing.

AT-200/7: Under this designation, the skiving tool is equipped with a drilling machine for **230V** with a connector plug for Switzerland (Bosch type GBM 13 HRE) as a drive.
Delivery: 1 skiving tool packed in a cardboard carton.
1 drilling machine in original packing.

AT-200/8: Under this designation, the skiving tool is equipped with a drilling machine for **230V** with a European connector plug (Bosch type GBM 13 HRE) as a drive.
Delivery: 1 skiving tool packed in a cardboard carton.
1 drilling machine in original packing.

1.3.1 Available accessories / wear parts

Grinding belt, grain size 50	A - 0530000
Wear plate	A - 0518000
Adhesive film for affixing to the wear plate	A - 0519000

1.4 Ordering 0f accessories / spare parts

You can order spares direct from the manufacturer. Address:

Habasit Italiana S.p.A.
Via A. Meucci 8
Zona Industriale
I - 31029 Vittorio Veneto

Please describe the parts required accurately.
State the numbers according to section 7 (Illustrations).

WARNING	The use of foreign parts not meeting Habasit specifications is not admissible. Habasit declines all responsibility for the consequences if non-Habasit parts are used.

1.5 Warranty

All machines undergo a careful and thorough final inspection. Assuming proper use, we guarantee the machine against any material defects for a period of 1 year.

1.6 Technical advice

Our specialists will be pleased to advise you. For technical questions concerning function and condition of the skiving tool, please contact the manufacturer (address see chapter 1.4).

2. Mode of operation

- The skiving of the drive/conveyor belt serves as preparation for a Thermofix joint.
- The belt clamp (12) fixes the belt on the skiving plate (9) during the skiving process.
- A grinding belt grain size 50 is bonded to the skiving roller (4).
- The skiving angle is set according to the thickness of the belt in question by the knurled screw (11) (see also 3.3 Machine settings).
- The skiving roller (4) is driven by a drilling machine (2). (Versions /6, /7 and /8)
- The feed movement is produced manually by means of a handwheel (10).
- The skiving table moves through, under the skiving roller (4), with the belt firmly clamped.
- Different drive / conveyor belts are skived in several operations.
- The model permits a maximum belt width of 200 mm and a maximum thickness of 7 mm.

3. Installation and initial placing in operation

3.1 AT-200/6, AT-200/7 and AT-200/8

- ❑ Place the handle (torque support) of the drilling machine (2) over the journal (1).
- ❑ Push drilling machine (2) with the drilling chuck through the clamping ring (3) of the handle and over the long shaft end of the skiving roller (4).
- ❑ Tighten the drilling chuck with the key supplied.
- ❑ Tighten the clamping ring (3) for the handle (torque support).
- ❑ Set the correct rotation direction at the selector switch on the drilling machine.

3.2 AT-200/0

The basic version is supplied without motor. The following explanations are applicable where a lathe is used as a drive. Proceed as appropriate for other means of powering the skiving tool.

WARNING	The work of connecting the AT-200 to a separate drive demands specialist training. This work is only to be carried out by qualified personnel responsible for the installation of machines and electrical components according to relevant national regulations.

- ❑ Dismantle skiving roller (4) by slackening the setscrews (5) and eccentric bearing (6).
- ❑ Turn skiving roller (4) and reinstall with the long shaft end on the opposite side of the journal (1).
- ❑ Align skiving roller (4) by turning the eccentric bearing on both sides so that the skiving roller (4) contacts the front edge of the wear plate (7) uniformly over its total length. See also 3.3.1.
- ❑ Retighten setscrews (5).
- ❑ Clamp the free shaft end of the skiving roller (4) in the jaw chuck of a lathe and support the other end of the shaft with the tailstock center.
- ❑ Secure the skiving tool against rotating.
- ❑ Set speed between 300 and 600 rev/min and ensure correct rotation direction (arrow direction).

3.3 Machine settings

3.3.1 Zero point setting of the skiving roller

- ❑ Turn skiving roller (4) slightly by hand. Simultaneously shift skiving table (8) forward with skiving plate (9) by turning handwheel (10) until the front edge of wear plate (7) is exactly under the center axis of skiving roller (4)
- ❑ In this position, the skiving roller must contact the front edge of the wear plate uniformly lightly over its entire width. This is identifiable from the grinding traces distributed over the full width. If this is the case, the 0-point setting is correct.
- ❑ If not, slacken setscrews (5) on both sides and place a hex-key in one of the holes in the circumference of one of the eccentric bearings. Turn the bearing until roller (4) just touches the wear plate. Where necessary, repeat the same actions with the other end of the roller.
- ❑ Retighten setscrews (5).
- ❑ The zero-point setting must be checked each time there is a change to the skiving angle (1 - 6) and reset as required.

3.3.2 Setting the skiving angle

- ❑ Insert knurled screw (11) in the position corresponding to the belt thickness. Guide values:
  - Belt thickness < 1.2mm Pos. 1
  - Belt thickness 1.3 - 3.0mm Pos. 2
  - Belt thickness 3.1 - 5.5mm Pos. 3 - 4
  - Belt thickness 5.6 - 7.0mm Pos. 4 - 6

4. Skiving a drive/conveyor belt

- ❑ Pass belt under the belt clamp (12) and align on the center of the table, flush with the front edge of the wear plate (7). Tighten belt clamp (12).
- ❑ Switch on drive (note rotation direction) and slowly and uniformly turn handwheel (10) until the skiving is completed (no further grinding sounds should be heard).
- ❑ Switch off drive and remove grinding dust present on and under the belt with a brush and/or a vacuum cleaner.
- ❑ Switch on drive and return the skiving table (8) slowly by turning the handwheel (10).
- ❑ Check that the skiving is effectively completed (the end should terminate wafer-thin). If not, push belt back slightly and repeat the skiving operation.
- ❑ Remove the belt, remove the grinding dust from the skiving plate (9), and repeat the skiving operation on the opposite side, at the other end of the belt.

Note:

Drive/conveyor belts with a thickness of over 3 mm must be skived in more than one pass.
Procedure:

- ❑ 2 passes: First pass: Fix belt end 10 mm behind the front edge of the wear plate) (7).
  Second pass: Fix belt end flush with the front edge of wear plate (7).
- ❑ 3 passes: First pass: Fix belt end 20 mm behind the front edge of wear plate (7).
  Second pass: Fix belt end 10 mm behind the front edge of wear plate (7).
  On the third pass: Align belt end flush with the front edge.
- ❑ Proceed in the same manner for more than three passes.

5. Service

5.1 Preventive maintenance

See checklist and checksheet in attachment

5.2 Replacing a worn grinding belt

- ❑ Unscrew protective cover (13), remove old grinding belt and clean the surface of the skiving roller with solvent.
  No solvent residues are to remain on the roller.
- ❑ Remove the protective film from the new grinding belt and fit it tautly to the skiving roller, pressing it down firmly.
  There must be absolutely no air bubbles.

5.3 Replacing a worn wear plate

- ❑ Shift back skiving table (8) by turning handwheel (10) clockwise as far as the stop.
- ❑ Place a knife or chisel between wear plate (7) and skiving plate (9) and rock carefully until wear plate (7) is released and can be removed by hand.
- ❑ Remove the adhesive film residues from skiving plate (9) and clean with solvent.
  There must be absolutely no adhesive residues on the surface of the skiving plate.
- ❑ Remove the protective film from the adhesive film on the new skiving plate (7) and affix to the wear plate.
  Affix wear plate (7) with adhesive film to skiving plate (9).

6. Technical data

Skiving tool AT-200:

Drive/conveyor belt width with joint angle 90°, max:	200 mm / *7.8 in.*
Drive/conveyor belt width with joint angle 75°, max:	150 mm / *5.9 in.*
Drive/conveyor belt width with joint angle 60°, max:	90 mm / *3.5 in.*
Drive/conveyor belt thickness, max:	7 mm / *0.12 in.*
Skiving length, max:	90 mm / *3.5 in.*
Skiving ratio:	1/9 ... 1/30 in 6 steps
Dimensions (L x W x H)	385 mm x 405 mm x 185 mm *15.2 in. x 15.9 in. x 7.3 in.*
Weight:	9.5 kg / *21 lbs.*

Drilling machine:

Designation and type: Bosch GBM 13 HRE "High Torque"

Torque:	40 Nm / *354 in.lb.*
Power rating:	550 W
Connection voltage:	120V or 230V
Speed, approx. :	400 rpm
Weight, approx. :	2.70 kg / *4.85 lbs.*

7. Illustrations

7.1 Front view

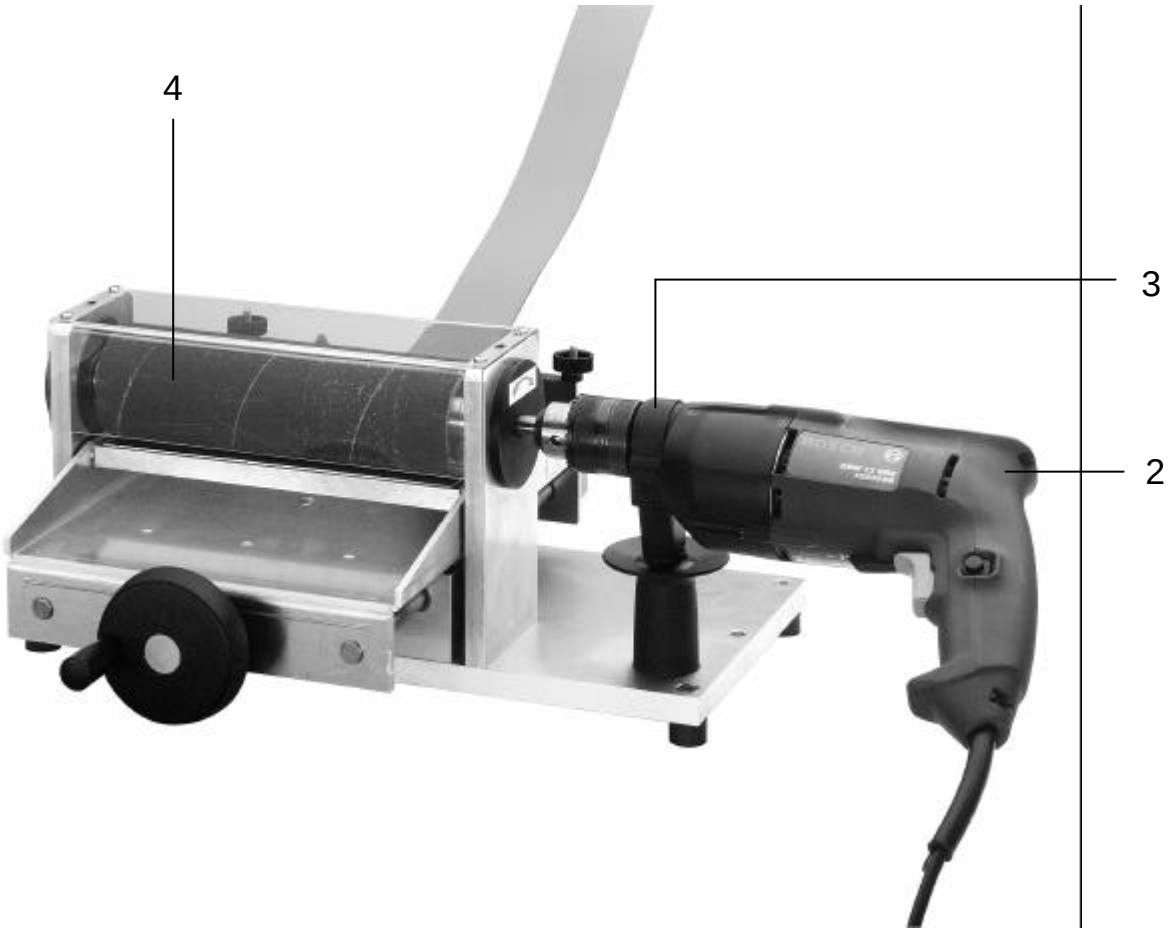

Fig. 1

2 Drilling machine
3 Clamping ring
4 Skiving roller

7.2 Side view from the right

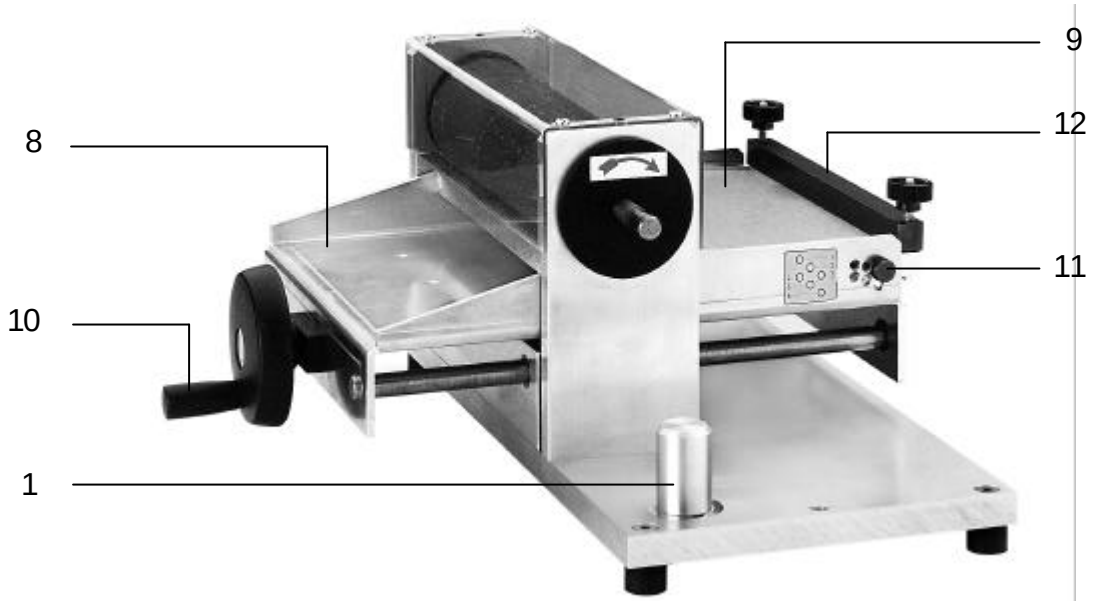

Fig. 2

1	Mounting journal for drilling machine	10	Handwheel
8	Skiving table	11	Knurled screw (table angle)
9	Skiving plate	12	Belt clamp

7.3 Side view from the left

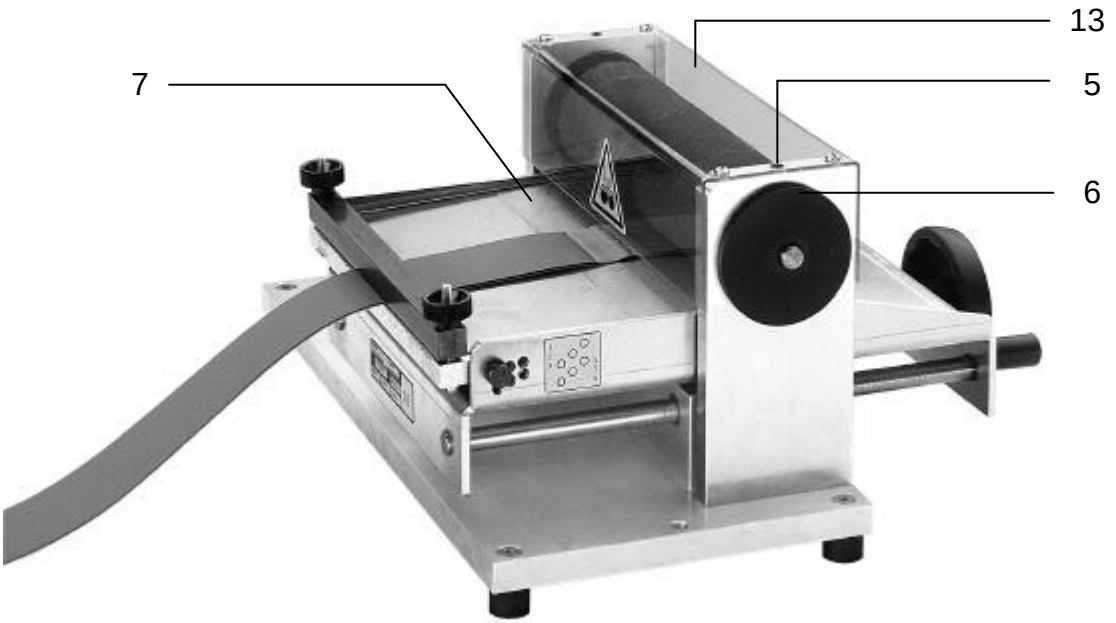

Fig. 3

5	Setscrew for roller bearing fixing	7	Wear plate
6	Eccentric bearing	13	Protective cover

Responsible persons: **A: Machine operator**
B: Maintenance mechanic/technician

Work to be completed (see operating instructions No. 37003 for further information and reference numbers)		Performance	Periodically (monthly)			Spares number / Evaluation criterion
		Daily	1	6	Note	
1.	Cleaning					
1.1	Clean skiving tool after use; remove residue deposits with brush and/or vacuum cleaner	A				
2.	Checking the skiving roller (grinding belt)					
2.1	Check condition of the grinding roller (4). Replace bonded grinding belt in the event of excessive wear to the grinding belt and/or defective skiving		A			
3.	Checking the wear plate					
3.1	Check condition of the front edge of wear plate (9). Replace in the event of excessive wear or damage.		A			

Notes, information:

Machine No.: **Date of first placing in operation:**

Work to be performed according to checklist (daily work not recorded)	Next Check	Performed Date	Performed Initials	Next Check	Performed Date	Performed Initials	Next Check	Performed Date	Performed Initials	Next Check	Performed Date	Performed Initials
2.1 Check state of skiving roller (4). Replace bonded grinding belt in the event of excessive wear to the grinding belt and/or defective skiving												
3.1 Check condition of the front edge of wear plate (9). Replace in the event of excessive wear or damage.												

Observations, repairs: