

## Introduction

This IGT Information leaflet belongs to the series of other IGT Information Leaflets for the IGT AIC2-5T2000 and Global Standard Testers. This leaflet gives a description of some procedures, which are of big importance to carry out the testing methods described in the other leaflets. These procedures are described in the manuals as well.

### For AIC2-5T2000 and GST

## Packing, mounting

1. For rubber packing only: Insert the packing with the rubber side up into both packing clamps of the sector (the packing clamps are the bottom-most clamps).
2. For rubber packing with Astralon strip only: Place the Astralon strip on the rubber side of the packing and insert the set with the Astralon side up into both packing clamps of the sector (the packing clamps are the bottom-most clamps).
3. For paper packing only: Tear off the end of the 4 bottom layers along the perforation and insert the packing with the 6 layers into the front clamp and the 2 longest layers into the back clamp (the packing clamps are the bottom-most clamps).
4. Fasten the packing by tightening the big screws.
5. Stretch the packing with a stretching force of 40 Nm.
6. Roll out the packing by making 10 "dry" prints using the printing disc, the printing force and printing speed to be used in the test
7. After these 10 prints stretch the packing again with 40 Nm.
8. If it is noticed that the stretching force has been decreased during the rolling out procedure of the points 6 and 7, repeat the points 6 and 7 until the stretching force of the rolling out procedure does not change.

## Doctor blade, mounting into a doctor blade holder

1. Degrease the doctor blade with ethanol.
2. Mount the doctor blade into the doctor blade holder. The bevel of the doctor blade has to stick out of the doctor blade holder and has to point to the side of the screws of the doctor blade holder.
3. Place the doctor blade holder with the blade downward and pointing to the right on the two pins of the mounting plate.
4. Check the right position of the doctor blade: the bevel has to point to the right (see figure 1) and the place where the ink is applied to the system is NOT at the side of the bevel.

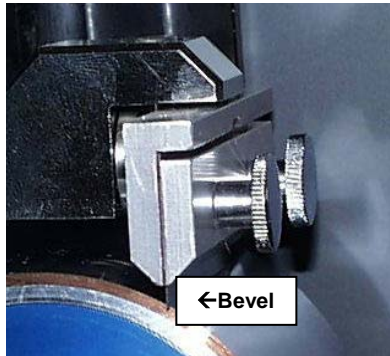


Fig. 1: Bevel at the side where no ink is applied

## Printing discs with coated rubber and rubber blanket

In the W-leaflets the following standard printing discs for conventional inks are mentioned:

- 402.333 Disc with coated rubber, 85 Shore A, 50 mm
- 402.087 Disc with coated rubber, 65 Shore A, 50 mm
- 402.089 Disc with rubber blanket, 50 mm

Sometimes, dependent to the roughness of the paper, it can be necessary to change the type of printing disc to have a better print quality. In general, the disc 402.333 is for very smooth papers, the disc 402.087 is for smooth – rough papers and the disc 402.089 for very rough papers.

In the case UV inks are used, the printing discs 402.333 and 402.087 have to be changed into 402.090. The disc 402.089 has to be changed into 402.091.

*These article numbers are per January 1<sup>st</sup>, 2006.*

## Top rollers of High Speed Inking Unit4

In the W-leaflets the top roller 466.003.003 with 4 segments for conventional inks is mentioned as standard top roller. In the case UV inks are used, the top roller 466.003.003 has to be changed by 466.003.009.

### For AIC2-5T2000

## Printing force, adjusting

1. If necessary, mount a packing on the sector.
2. Place a printing disc on the printing disc shaft.

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3. Move the sector into its starting position.
4. Move the printing disc into printing position.
5. Adjust the printing force to the desired value.
6. Check the backlash. If the backlash is too little or too much, adjust it; see the chapter "backlash" in this W-leaflet.
7. Move the printing disc out of printing position.

## Back lash, checking and adjusting

1. If necessary, mount a packing on the sector.
2. Place a printing disc on the printing disc shaft.
3. Move the sector into its starting position.
4. Move the printing disc into printing position.
5. Adjust the printing force to the 500 N.
6. Move the handle of the lifting mechanism at the left hand side of the unit slowly clock wise. Until about 45 – 90° a free movement without a strong resistance will be noticed and the pointer in the scale will not move. After this 45 – 90° a stronger resistance will be noticed and from this moment on the pointer in the scale will move a little bit. If this all is the case the back lash is good. If this all is not the case, the back lash is not good and must be adjusted. To do follow the next points.
7. Loosen the Allen bolt in the ring around the handle of the lifting mechanism at the left hand side of the instrument.
8. Place the special key into the two holes of the shaft of the lifting mechanism.
9. Turn the shaft clock wise and/or anti clock wise to a point at which a transition from no resistance to a stronger resistance is noticed.
10. At this point hold the shaft on its place and move the ring with the handle backward down until the angle is about 45°.
11. At this point fasten the Allen bolt in the handle and take away the special key.



Fig. 1: special key for back lash

## Printing

1. No interval time:
  - 1.1. Move the sector into starting position.
  - 1.2. Press the "MOTOR" button to start the motor and keep the button pressed.
  - 1.3. Move the printing disc into printing position.
  - 1.4. Press the PRINT button as well and keep both buttons pressed to make the print.
  - 1.5. As soon as the sector has stopped in its end position release both buttons.
  - 1.6. Move the printing disc out of printing position.
2. With interval time :
  - 2.1. Move the sector into starting position.
  - 2.2. Press the "MOTOR" button to start the motor and keep the button pressed.
  - 2.3. Move both printing discs into printing position.
  - 2.4. Press the PRINT button as well and keep both buttons pressed to make the print in the first part of the test strip (interval time dependent to the printing speed).
  - 2.5. For interval time < 5 s: After the sector has stopped in the interval position, keep pressed both buttons during the counting down and to make the print in the second part of the test strip (adjusted interval time).
  - 2.6. For interval time > 5 s:
    - 2.6.1 After the sector has stopped in the interval position release the side buttons.
    - 2.6.2 After the interval timer has count down to about 2 s, press the side buttons to continue counting down and to make the print in the second part of the test strip (adjusted interval time).
  - 2.7. After the sector has stopped in the end position, release the side buttons.
  - 2.8. Move the printing discs out of printing position

## Interval times

By using two printing discs on both shafts of the AIC2-5T2000 the interval times on the printed strip are:

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1. By printing without extra interval time (1 field): the interval time is dependent to the speed:  
0.35 s at 0.2 m/s      0.07 s at 1 m/s      0.023 s at 3 m/s  
0.1 s at 0.7 m/s      0.035 s at 2 m/s
2. Printing with extra interval time (2 fields):  
NOTE: the 1<sup>st</sup> interval time is dependent to the speed (see remark above), the 2<sup>nd</sup> interval time is the 1<sup>st</sup> interval time plus the set interval time.  
To set an interval time with the interval timer it is noted that the interval time dependent to the speed plays a role as well, e.g.: a speed of 0.2 m/s gives an interval time between the top and bottom printing disc of 0.35 s automatically. If an interval time of 3 s is wished, the interval timer has to be set at  $3 - 0.35 = 2.65$  s. As the accuracy of the instrument is 0.1 s, this value has to be rounded to 2.7 s.

## For GST

### Cartridge, filling with a fluid

1. Be sure the small orange cap is present at the small opening (the needle side) of the cartridge.
2. Pull off the orange cap from the big opening of the cartridge.
3. If present, take off the white plunger from the cartridge.
4. Fill the cartridge with the fluid for about 75%.
5. Press the white plunger into the cartridge until it just has contact with the ink.
6. Place the big orange cap on the cartridge or follow the instructions to mount the cartridge on the tester.

### Cartridge, mounting on the tester

1. Pull off the orange cap from the big opening of the cartridge.
2. Press the yellow or black tube connection at the big opening of the cartridge and turn it 90 degrees to fix it.
3. Remove the little orange cap from the needle side.
4. Mount the needle on the cartridge by rotating.
5. Place the complete cartridge with the needle downward in the mounting clamp of the mounting plate (or if a ring is mounted for a certain accessory, into this ring until stop and fasten it with the screw).
6. Position the needle in the middle of the disc (and in the case there is a doctor blade into the direction of this blade).
7. Connect the white or black hose connection of the other side of the tube at the white or black dose air connection of the instrument by rotating.

### Sector, mounting

1. Turn the sector into the starting position.
2. Switch off the power supply.
3. Unscrew the safety-plate in front of the sector with the special key and take off this plate.
4. Unscrew the three big hexagonal socket screws.
5. Slide off the sector from the shaft.
6. Place the sector to be mounted in the starting position on the shaft.
7. Place the three hexagonal socket screws and fasten them.
8. Place the safety-plate in front of the sector and fasten it with the special key.
9. Switch on the power supply.
10. Check the position of the sector.
11. Pay attention of the right settings of the instrument.

### Photopolymer plate, mounting on the round sector

1. If the sector is not on the tester:
  - 1.1 Mount the sector on the tester as described in the chapter "Mounting a sector"
  - 1.2 Mark the point of the sector, which is pointed to the upper shaft. This point is mentioned the starting point. Take off the sector as described in the chapter "Mounting a sector".
2. Place the sector flat on the table.
3. Fix a layer of double-sided foam tape around the sector. Pay attention that the seam in the tape is at the starting point of the sector. The seam must be under an angle of about 30° to the one side of the sector.
4. Fix the photopolymer printing form with the glossy side on the foam tape. Pay attention that the seam in the printing form is at the starting point of the sector and that the seam has an angle of about 30° to the other side of the sector.
5. Place a strip of cello tape on the seam of the photopolymer.
6. Mount the sector with the printing form on it on the Tester as described in the chapter "Mounting a sector".

### Printing

1. No interval time:
  - 1.1 Select "Make print" in the display.
  - 1.2 Press the side buttons to move the sector into starting position, to move the printing disc into printing position and to make the print.
  - 1.3 After the sector has stopped in the end position, release the side buttons.
2. 2 interval times:
  - 2.1 Select "Make print" in the display.
  - 2.2 Press the side buttons to move the sector into starting position, to move both printing discs into printing position and to make a print in the first part of the test strip (interval time dependent to the printing speed).
  - 2.3 Interval time < 5 s: After the sector has stopped in the interval position, keep pressed both buttons during the counting down and to make the print in the second part of the test strip (adjusted interval time).
  - 2.4 Interval time > 5 s:
    - 2.4.1 After the sector has stopped in the interval position release the side buttons.
    - 2.4.2 After the interval timer has count down to about 2 s, press the side buttons to continue counting down and to make the print in the second part of the test strip (adjusted interval time).
  - 2.5 After the sector has stopped in the end position, release the side buttons.
3. 4 and 10 interval times:
  - 3.1 Select "Make print" in the display.
  - 3.2 Press the side buttons to move the sector into starting position, to move the upper printing disc into printing position, to make a print with the upper printing disc and to move the sector into starting position again.
  - 3.3 Interval time < 5 s: Keep pressed both side buttons to make the print with the bottom printing disc for the next interval times. NOTE: if the following interval times will be > 5 s release the side buttons and continue with point 3.4.2.
  - 3.4 Interval time > 5 s:
    - 3.4.1 After the sector has stopped in the starting position, release the side buttons.
    - 3.4.2 After the interval timer has count down to about 2 s, press the side buttons to continue counting down and to make the print with the bottom printing disc shaft for the first interval time.
    - 3.4.3 After the sector has stopped for the next interval time, release the side buttons.
    - 3.4.4 Repeat points 3.4.2 and 3.4.3 for the next interval times.
  - 3.5 After the sector has stopped after the last interval time, release the side buttons.

### Interval times for GST2

By using two printing discs on both shafts of the GST2 the interval times in the different menus are:

1. 2 interval times  
NOTE: the 1<sup>st</sup> interval time is dependent to the speed (see "no interval times" underneath); the 2<sup>nd</sup> interval time is the 1<sup>st</sup> interval time plus the set interval time.  
To set an interval time with the interval timer it is noted that the interval time dependent to the speed plays a role as well, e.g.: a speed of 0.2 m/s gives an interval time between the top and bottom printing disc of 0.35 s automatically. If an interval time of 3 s is wished, the interval timer has to be set at  $3 - 0.35 = 2.65$  s. As the accuracy of the instrument is 0.1 s, this value has to be rounded to 2.7 s.
2. 4 interval times: (i = set interval time)  
1<sup>st</sup> interval time is about 2 s      3<sup>rd</sup> interval time is (2 + 3i)  
2<sup>nd</sup> interval time is (2 + i) s      4<sup>th</sup> interval time is (2 + 6i) s
3. 10 interval times: (i = set interval time)  
1<sup>st</sup> interval time is about 2 s      6<sup>th</sup> interval time is (2 + 15i) s  
2<sup>nd</sup> interval time is (2 + i) s      7<sup>th</sup> interval time is (2 + 21i) s  
3<sup>rd</sup> interval time is (2 + 3i) s      8<sup>th</sup> interval time is (2 + 28i) s  
4<sup>th</sup> interval time is (2 + 6i) s      9<sup>th</sup> interval time is (2 + 36i) s  
5<sup>th</sup> interval time is (2 + 10i) s      10<sup>th</sup> interval time is (2 + 45i) s
4. No interval times  
By printing without an extra time interval, the interval times between both discs are:  
0.35 s at 0.2 m/s      0.07 s at 1 m/s      0.023 s at 3 m/s  
0.1 s at 0.7 m/s      0.035 s at 2 m/s

► In comparison to older IGT leaflets, this leaflet is valid for the AIC2-5T2000 and Global Standard Testers as mentioned

This information leaflet has been compiled with the utmost care. However, may you find any inadequacies or if there are any comments, we kindly request you to send these to IGT Testing Systems, Sales Department.