

# Operating manual for the TURNY automatic page turner

## A. Introduction

Congratulations! You have purchased a high quality ergonomic aid product from Brangs + Heinrich. This is the operating manual. This manual aims to familiarise you, step by step, with how to use the TURNY. The TURNY has been designed to continuously turn pages without manual interference, but performance is very much dependent on size and shape of the book and quality of the pages. With a great number of publications you will be able to turn many pages without having any problems. However, it is possible that certain books will need adjustment after turning only a few pages. It is recommended that you prepare in particular new books before using them with the TURNY. Open them wide, flip through the pages manually, and get them so flexible that they lay open better prior to placing them on the TURNY.

### **Important Safety Precautions:**

**This unit is subject to technical modifications!**

**Observe all Assembly, Safety and Usage Instructions!**

**Small parts should not be removed and swallowed!**

**Broken flaps can be sharp!**

**Never change the technical functions of this machine without consulting the manufacturer!**

**Be careful while moving this machine because of the possible danger of tripping over cords and tubes!**

**Never touch the magnetic pin as this could cause irreversible damage!**

## **B. Set-up**

### **I. Connectors and basic functional elements (fig.1)**

#### **1. The Blow-Tube**

The blow-tube is optional equipment for controlling the TURNY. The blow-tube is constructed of individual, solid links. This stiff, yet flexible segmented tube is available in almost every possible length. The advantage to the segmented tube is that it holds its position. The connection for the blow-tube must be pre-installed by the factory because it replaces the mini-jack. (fig.1/1)

#### **2. The 3.5 mm Mini-Jack**

The 3.5-mm mini-jack is for attaching any other (short-circuit type) switch to control the TURNY. The mini-jack conforms to the mono-jack-standards. (fig.1/2)

#### **3. The Power Switch**

The power switch turns the TURNY on and off. Be careful only to turn the TURNY in "forward-mode" off; otherwise you run the risk of damaging the TURNY. Always turn the power switch off (0) before connecting or disconnecting any of the cables! (fig.1/3)

#### **4. The Power Supply Plug**

First make sure that the power switch (fig.1/3) on the left hand edge is in the OFF position (zero pressed inwards). The power lead has a three-pin plug which must be connected to the far left jack on the connector board on the back side of the TURNY (fig.1/4). Hold back the small ring of the plug and then fit the plug into the connector. Rotate the plug carefully until it fits easily into the connector. Tighten the mounting ring. Now you can plug the power supply into a 110V power source.

#### **5. The Turning-Arm Plug**

At the end of the page-turning-arm is a wire which ends in a five-pin-plug. This wire controls the magnetic lock of the black pin, located above the adhesive roll at the end of the arm. Connect the plug to the second, middle connector (fig.1/5).

#### **6. The Book-Support-Bar**

The wire from the book support bar ends in a four-pin-plug and controls the moveable plastic flaps that help to hold the pages in place. Fit the plug to the far right connector (fig.1/6), tightening the mounting ring to secure the plug.

#### **7. The Blow Tube Connector**

This small plastic tube connects the internal air pressure switch to the blow tube. This tube can also be replaced with the bellow. A small funnel into which the user can blow to control the TURNY can also be attached here, although it is important when using the funnel to have the sensitivity set very high (see next paragraph). (fig.1/7)

## **8. The Air Pressure Switch**

The air pressure switch is regulated by either the bellow, the blow tube, or a small funnel. Any one of these is connected to the TURNY by pressing the attached rubber tube (fig.1/7) to the black connector of the air pressure switch (fig.1/8). Make sure that the tube is not bent, squeezed or clamped such that the air flow is restricted.

Inside the case and above of the air pressure switch is a small screw for adjusting the sensitivity (fig.1/8). When using the bellow there will be no need to adjust the unit; if the blow tube or the funnel is to be used, you will need to change the sensitivity. To open the TURNY unscrew the two screws, holding the back cover plate. Now the aluminium plate is exposed on which the connectors and the air pressure switch are mounted. The plate is fixed with two long screws and washers to the main bar. Unscrew the left screw a little and the right screw completely. Now you can sufficiently move the plate to expose the red screw above the pressure switch. For greater sensitivity turn the screw clockwise. Normally a quarter turn clockwise will suffice. Do not over-tighten the screws when replacing the aluminium plate. This may cause damage to the threads.

## **9. The Bellows Tube**

Attach the rubber tube for the bellow to the black connector of the air pressure switch (fig.1/8).

## **10. The Power Supply**

The power supply provides the TURNY with 12 Volt AC. (fig.1/10)

## **11. The Bellow**

The bellow is used to control the TURNY. (fig.1/11)

## **II. Connectors and basic functional elements (fig.2)**

### **1. The Infrared Sensor**

The infrared sensor is standard equipment on all TURNY models, allowing use with the optional remote control. The sensor is also compatible to various environment controll systems, such as JAMES, JAMES II, SICARE light, SICARE pilot and SENIOR pilot. (fig.2/1)

### **2. Clips or Podium-Lengtheners**

Included with the TURNY are clips (fig.2/2) for lengthening the podium to accomodate wider magazines or books. The narrow side fits in the slot on the TURNY, allowing the cover, and thus the book as well, to be held in place with the wider side of the clip. (For older model TURNYs, a podium-lengthener that can be attached as needed is available.)

### **3. The Book Holding Bar**

The book holding bar is used to support the book or magazine. Use the guide slots on the back of the TURNY to adjust the TURNY to the height of the book. It is important that the book support bar properly sits in the guide slots in order to prevent possible damage! (fig.2/3)

### **4. The Lower Flap**

In the middle of the book support bar is the lower clear plastic flap for pressing the pages flat. The flap is electronically controlled and moved by a slipping clutch motor. (fig.2/4)

### **5. The Upper Flap**

The upper clear plastic flap has the same function as the lower. It is spring loaded and controlled by a small motor. Caution! DO NOT close the flap manually if it is in the open position! If you do this you could damage the TURNY. (fig.2/5)

### **6. The Arm Length Adjustment Screw**

The arm length adjustment screw is used to accomodate differing book widths. Loosen the screw, slide the arm to the desired length, ensuring that the end sensor is parallel to the side of the book and to the front plate of the TURNY. The sensor should be approx. 5mm from the side of the book. Then re-tighten the screw. (fig.2/6)

### **7. The Clutch Screw**

This screw adjusts the pressure of the slip-clutch for the turning arm. Normally, it will not be necessary to change the factory settings. (fig.2/7)

### **8. The Turning Arm**

The turning arm is responsible for flipping the pages of the book forwards or backwards. Using a sticky roll, each page is picked up and transported to the other side of the book. At the end of the turning arm is the end sensor and the sticky roll. Make sure that the turning radius of the arm is not restricted! (fig.2/8)

#### **9. The Flap Control Button**

The white button is used to open and close the clear plastic upper and lower page-holding flaps. This is necessary when mounting and dismounting a book. (fig.2/9)

#### **10. The Green LED**

The green light emitting diode lights up only when the TURNY is in the „flipping backwards“ mode. Thus, when the green LED is lit, the pages are transported from left to right. (fig.2/10)

#### **11. The Red LED**

The red light emitting diode has many functions. Foremost it indicates that the power is on. When turning on the TURNY it blinks four times and then remains steady, indicating normal use. Each touch of the bellow, blow in the tube, or other controll signal causes the red LED to blink validation. The red LED is also used to convey the error codes (described later in this manuel, see part F.III) (fig.2/11)

#### **12. The End Sensor and the Magnetic Pin**

At the end of the turning arm is the end sensor with the magnetic pin. The end sensor is the most delicate part of the TURNY. It is through the end sensor that the software can define the position of the page turning mechanism of the TURNY. Neither the end sensor nor the magnetic pin may be mechanically influenced. Do not touch the magnetic pin. (fig.2/12)

#### **13. Die Adhesive Roll and the Tension-Screw**

The sticky roll is to be attached below the end sensor. In order to remove or replace a roll, loosen the associated tension screw, paying attention that the cog teeth point upwards along the small metal pin. The numbers make it easier to find an unused portion of the adhesive roll. After affixing a new roll, re-tighten the tension screw. Differing types of paper require different strengths of adhesion. For example, high-gloss papers require much less adhesion than recycling-quality. A reduction of adhesion can be ascertained by rolling the roll between the fingers; when it rolls easily, the stickyness is no longer adequate. (fig.2/13)

#### **14. The Slits for Clips**

These slits are for mounting the clips used to accomodate wider books and magazines. The narrow side of the clips fit into the slot, allowing the wider side to move freely and hold the book or magazine. (fig.2/14)

#### **15. The Guide Slots for the Book Support Bar**

The pins of the book support bar fit into the guide slots in order to hold the bar level. (fig.2/15)

## C. Startup

Lay the TURNY flat on a table with the front side up. The book support bar (fig.2/3) can now be slid from below onto the TURNY, such that the pins fit into the slots on the back side of the TURNY. The book support bar is properly installed when on the front side of the TURNY the same row numbers are visible on both sides. The wire for the book support bar should be on the right hand side.

Before the TURNY is ready to use, you need to check several features and connect several plugs. Do not use force to insert a plug into the wrong connector - each plug is designed differently, so that it will only fit into its proper connector. In the following list of connections, the numbers quoted correspond to the numbers in fig.1, numbers 4-6 (the back side of the TURNY).

Place the TURNY on a flat surface, opening the support clip on the back as far as possible to ensure the stability.

The turning arm of the TURNY is mounted on the motor through a friction clutch. Normally the arm will move whenever the motor runs. If you stop the arm, holding it by hand, the motor will continue to run and the clutch will slip. Thus, it is possible to move the arm without damaging the TURNY. The construction of the bottom plastic flap is identical. However, the construction of the top flap is different and must not be moved by hand. This would cause damage which can only be repaired by the manufacturer! If the TURNY is used in accordance to this manual there will be no need to move either the arm or the flaps by hand.

Now plug the power supply (fig.1/10) in and turn the TURNY using the power switch (fig.1/3) on. The red LED at the upper left corner will blink 4 times and then shine constantly. If this does not happen, check that the power supply functions properly and that the machine is on. You may have to contact your supplier.

When the light shines steadily, the TURNY will bring itself into the starting position, closing the flaps and positioning the turning arm at the left hand side of the book. The middle of the turning arm attachment should be just to the left of the middle of the front board. The magnetic pin (fig.2/12) above the adhesive roll (fig.2/13) ensures that the adhesive roll does not touch the board. If this is not the case, please read the related section in the chapter "Problems and Solutions".

First press the white button (fig.2/9) on the left hand side of the TURNY. The top and bottom flaps will open. Remember to open wide and flex the book before you place it in the TURNY. Place the books front and back covers under the two large clamps to hold the book tight. The top of the book must be placed parallel to one of the blue horizontal lines displayed at the top of the front board. The middle of the book must be on the blue vertical line in the centre of the front board. Now push the lower bar (fig.2/3) with the bottom flap upwards until the book rests on it. The easiest mounting method is to place the book a little higher than required, move the lower bar to the correct position and lower the book onto the bar. Open the book to the required page. Flatten the book and press the white button (fig.2/9) again. The top and bottom flaps will close. The adhesive roll should now be just to the left of the edge of the book. If not, adjust the turning arm with the adhesive roll. Open the screw on top of the unit (fig.2/6) and adjust the length of the arm, moving the arm back and forth slightly in order to center it. Be sure the adhesive roll (fig.2/13) is parallel to the board and the book. Then tighten the screw. Do not use pliers or undue force. After tightening, move the arm back to the starting position, with the adhesive roll alongside the left cover of the book. If the pin of the arm is incorrectly positioned, the adhesive roll will stick to the front board. See chapter "Problems and Solutions".



The outer pages of thicker books can sometimes greatly slope off diagonally, causing the adhesive roll to grasp the pages wrongly. In order to counteract this, it is possible to place a smaller, thinner book, or something similar, under the thin side of the book you want to read.

## D. Using the TURNY

When adjusted as described the TURNY is ready for use. The two small LED's at the left hand top of the TURNY indicate the current mode. The upper (red) LED indicates that the TURNY is switched on. The LED turns off as soon as you depress the bellow. This is to check the function of the air pressure switch on which the hose is connected. If the LED does not diminish whilst depressing the bellow, you must check the connection between the bellow, the tube and the switch. Also ensure that the hose is not twisted or bent for restricting air flow. The lower (green) LED indicates that the TURNY will turn the pages backwards. As long as this LED is off, each control signal from the bellows will cause the TURNY to flip a page from right to left (forwards). If you would like to flip a page backwards, press and hold the bellows for about 5 seconds. The green LED will then light steadily and the arm will move. Thereafter each signal will turn a page backwards. To switch back to forwards-mode, again press and hold the bellows (for ca. 5 seconds) until the green light turns off. With each movement of the turning arm, you will be able to observe how the magnetic pin re-adjusts itself to the correct position.



## E. The Adhesive Roll

After a number of page turns (depending on paper quality and intensity of use), the adhesive roll will no longer stick to the pages. Loosen the screw which holds the adhesive roll (fig.2/13) and turn it to the next position, indicated by the numbers on the scale. When the complete roll has been used once around, open the screw and remove the top sheet of the adhesive tape. Replace the roll and bring the arm back to the start position at the left hand side of the book cover with the pin touching the front board of the TURNY. The TURNY is now again ready for use. If the complete adhesive tape on the roll is used, replace it with a new one by opening the screw and sliding the roll carefully downward. When you carefully slide the roll back onto the arm, make sure that the small metal pin fits into one of the slits in the roll. Then retighten the screw and return the arm to the start position at the left hand side of the book. The TURNY can then be used as normal again.



## F. Problems and Solutions

### I. The adhesive roll sticks to the TURNY and not to the book page.

The small pin above the adhesive roll fitting is probably not in the correct position. This is usually caused by switching off the TURNY whilst turning pages backwards. To move the pin into the correct position, depress the bellow as if you want to switch from forward to reverse movement. If the adhesive roll sticks to the front board you may have to pull it off slightly. The arm will now move to the right or left until the adhesive roll sticks onto the page. The pin will automatically fall into the correct position. The page will be turned and as the arm returns to its starting position you can continue to use the TURNY as usual. Sometimes it also helps to switch the TURNY from forwards to backwards mode and then from

backwards to forwards mode. Remember that it is necessary to press and hold the bellows for about 5 seconds to induce a directional change.

**II. The red LED flashes.**

Normally the red LED indicates that the TURNY is switched on. When the TURNY stands unused for a few seconds and the flaps are in the closed position, another unique feature comes into operation. The TURNY self-checks certain operations and signals failures by means of a series of flashes of the red LED. The type of flashing enables you to recognise a particular problem. However, since these problems are usually not user-servicable, please consult your supplier to avoid damaging the unit. The flashing code is made up of upto four flashes, preceded by two seconds of the red LED turned off. Possible codes are:



**III. The Flash Codes:**

1	short	flash	(no problem)
1	long	flash	One of the plastic flaps is unable to move up, is blocked, or indicates a damaged end sensor.
2	short	flashes	(no problem)
2	long	flashes	One of the plastic flaps is unable to move down, is blocked, or indicates a damaged end sensor.
3	short	flashes	(no problem)
3	long	flashes	The arm is unable to move to the right, is blocked, or indicates a damaged end sensor.
4	short	flashes	(no problem)
4	long	flashes	The arm is unable to move to the left, is blocked, or indicates a damaged end sensor.

If one of the end sensors is damaged, the unit must be repaired by a technician. If however the flaps or the arm is not able to move properly, you can probably fix it yourself. Turn the unit off and then remove the obstruction or solve the problem. When you turn the unit back on the flashes should have stopped.

Obstruction of the arm or the flaps must be avoided at all times as this will cause unnecessary wear and tear, and could cause irreparable damage. For that reason, please avoid obstructing the movement of the TURNY.

We hope that you will have many years of success and enjoyment with your TURNY Page Turner!