

---

---

# FISCHBEIN CO. **TECH NOTES** **#33**

---

---

**DATE:** 20 April, 2001

**FROM:** Technical Service Department

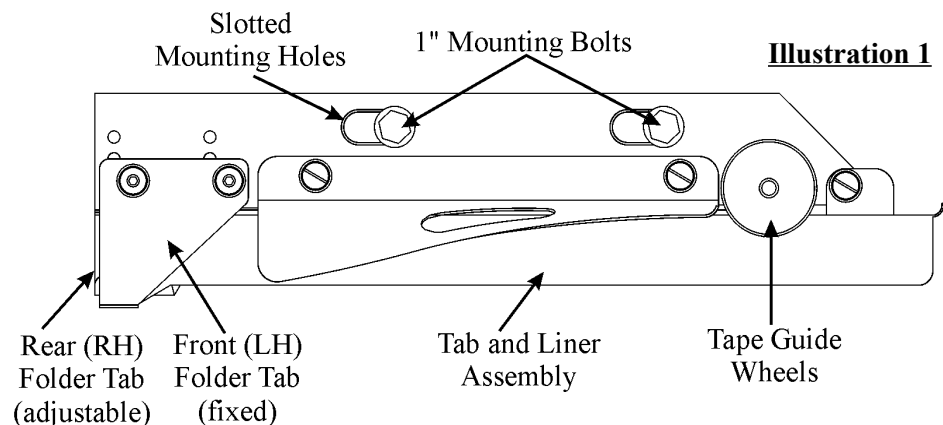
**SUBJECT:** Tape Sewing Infeed and System Setup Standards

The following procedures are used for field setup and customer training by the Fischbein Technical Service Department. These procedures are also used for assembly and setup of new tape sewing systems. Some additional information can be found in your sewing system Operator, Maintenance and Quality Control Manual.

Fischbein has two tape folders that can be used with the A2700 series infeeds. The #10520 folder is used for medium and wide width tapes ranging from 1 7/8 to 2 1/2 inches (48 to 64mm). For narrow tapes ranging from 1 1/4 to 1 1/2 inches (32 to 38mm) in width the #10521 tape folder is used. Please check your tape width for compatibility with the proper tape folder before setup.

## INSTALLATION AND SET UP OF THE FOLDER:

1. Adjust the rear (RH) folder tab (**Illustration 1**) for the width of tape being used. The tab has three positions to accommodate different tape widths. After feeding a sample of tape through the folder, check to make sure that the tape can



be easily pulled through the folder and does not bind up. Remember to use tape that has been passed through the wax applicator. When using the rear folder tab, be sure keep its bottom, bent groove on the outside of the channel of the tab and liner assembly.

2. The tape folder is mounted to the sewing system by two 1" mounting bolts. Using a 3/16 inch (4,8mm), adjust or install the folder so that a 3/16 inch (4,8mm) gap is kept between the bottom of the front (LH) folder tab and the infeed's front (LH) belt guard. (**Illustration 2**) Be sure the folder is parallel to the guard.

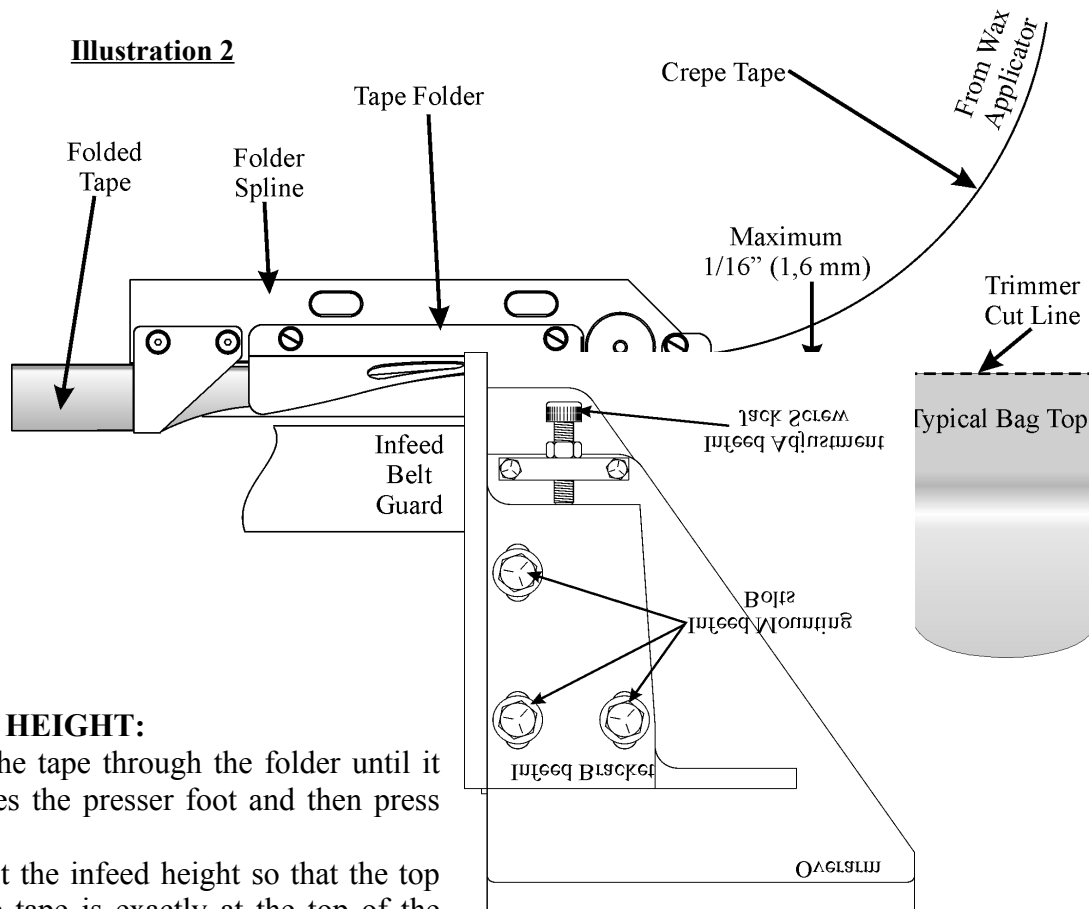
To adjust the vertical position of the tape folder, loosen the 1 inch mounting nut, where they attach to the infeed's mounting bracket. Use the jack screws under the mounting bolts to move the folder up and down. After the folder and trimmer adjustment have been made, check to make sure that the soft top (tape straddling the bag top) is not taller than 1/16 inch (1.6mm).

3. Center the tape folder over the centerline formed where the carry through belts come together. Use the 1 inch mounting bolts to achieve the correct position.
4. In the folder's spline are two slots for the 1 inch mounting bolts. Set the folder to the extreme left by using the slots. This helps reduce the drag on the tape.

5. Set the folder's tape guide wheels to the width of the tape with an additional 1/32 inch (0,8mm) on both sides of the spline.
6. Center the tape reel (on the tape stand) to the tape guide wheels. Make sure the reel of crepe tape is installed freely between the tape reel clamps to minimize tape drag.
7. After the tape has been fed from the tape reel, through the wax applicator and folder, notice that the front tape edge overlaps the rear folded edge by at least 1/8 inch (3,2mm). This overlap will change based on the width of tape used and the setting of the rear (RH) folder tab. The edges will be more even once the sewing of the bag tops has started.

**SETUP OF THE TRIMMER KNIVES:**

The knives must be set so that the top of the trimmed bag is just under the bottom side of the channel formed by the tab and liner assembly to a maximum of 1/16 inch (1,6mm). If the blades are set too high, the bag will touch the underside too much and the bag top will open as it passes through the folder.



**INFEED HEIGHT:**

1. Pull the tape through the folder until it reaches the presser foot and then press it flat.
2. Adjust the infeed height so that the top of the tape is exactly at the top of the presser foot at the sewing head. This is done by loosening the three bolts holding the infeed bracket to the overarm assembly. (**Illustration 3**) Turning the jack screw up or down will move the infeed accordingly.
3. Set the tape fence (on the sewing head) at the top of the tape but not interfering with the presser foot or feed dog.

4. Check the sewing head to ensure that the correct feed dog, throat plate and presser foot are being used for your tape size; narrow, medium, or wide.

<b>Tape Size</b>	<b>Presser Foot Assy.</b>	<b>Throat Plate</b>	<b>Feed Dog</b>
Narrow 1 ¼"-1 ½"	10490	10495	10496
Medium 1 7/8"- 2"	10562	10485	10565
Wide 2" – 2 ½"	10484	10485	10486

**INFEED SPRING TENSIONING:**

The spring tension (front carry through belt to the rear belt) should be set so that you can pull the front of the infeed open with moderate resistance. Additional tension may be needed for some bags.

**SYSTEM SYNCHRONIZATION:**

1. Check the speed of the conveyor with a tachometer. The linear speed of the conveyor must be the same speed as the sewing system’s infeed speed. (Example: 50 FPM or 15,2 MPM)
2. Measure the linear speed of the infeed. The infeed must match the speed of the conveyor. The speed of the infeed belts can be adjusted by changing the variable pulley on the infeed drive motor. The pulley can be adjusted in ¼ turns which changes the speed by about 2.5 FPM (0,762 MPM). Be sure to tighten set screws down on the flat sections of the pulley only. Make sure the final setting for the infeed speed is equal to or just slightly larger than the conveyor.
3. Obtain a sample of sewn material from the sewing system. Measure the length of 10 complete stitches. Calculate the stitch length by using the appropriate formula below. It is best to measure and calculate a second sample of stitches to verify your stitch length.

Example: **English**

Measured distance: 4.0 inches;  
 Stitch length = 10 stitches ÷ 4.0 inches  
 = **2.5 stitches / inch**

**Metric**

Measured distance = 102 mm  
 Stitch Length = 102 ÷ 10 stitches  
 = **10,2 mm / stitch**

4. Adjust the speed of the sewing head to be about 2% faster than the infeed. This increase in speed will help keep the bag taut while being sewn. After loosening the two set screws on the sewing head’s driven pulley, the pulley’s pitch can be changed to achieve the desired speed. The one-quarter turns are indicated by the notches “A” in the top of the pulley and change the speed of the sewing head by approximately **20 RPM**. By turning the top part of the pulley counterclockwise, the speed of the sewing head is increased (smaller pitch on pulley). If the pulley is turned clockwise, the speed is reduced. Once the adjustment has been made, be sure to tighten the set screws, but be careful to only tighten the screws down across from the notch locations. The tachometer can be used directly on the pulley. The rotational speed (RPM) of the sewing head is calculated from the known sewing speed (stitches/inch or mm/stitch) One rotation creates one stitch.

Example: **English (infeed speed: 50 FPM; 2% faster = 51 FPM)**

Rotational Speed (RPM) = (Infeed Speed x 12in/ft) x (stitch length)  
 Rotational Speed (RPM) = (51 FPM x 12 in/ft) x (2.5 stitches/in)  
 Rotational Speed (RPM) = (51 ft/min x 12 in/ft) x (2.5 stitches/in)  
 Rotational Speed (RPM) = (612 in/min) x (2.5 stitches/in)  
 Rotational Speed (RPM) = 1530 stitches/min (recall: one stitch = one rotation)  
 Rotational Speed (RPM) = 1530 rotations/min = **1530 RPM**

**Metric (infeed speed: 15,2 MPM; 2% faster = 15,5 MPM)**

Rotational Speed (RPM) = (Infeed Speed x 1000mm/m) ÷ (stitch length)  
 Rotational Speed (RPM) = (15,5 MPM x 1000mm/m) ÷ (10,2mm/stitch)

$$\begin{aligned}\text{Rotational Speed (RPM)} &= (15,5 \text{ m/min} \times 1000\text{mm/m}) \div (10,2 \text{ mm/stitch}) \\ \text{Rotational Speed (RPM)} &= (15\,500 \text{ mm/min}) \div (10,2 \text{ mm/stitch}) \\ \text{Rotational Speed (RPM)} &= 1520 \text{ stitches/min (recall: one stitch = one rotation)} \\ \text{Rotational Speed (RPM)} &= 1520 \text{ rotations/min} = \mathbf{1520 \text{ RPM}}\end{aligned}$$

#### **SYSTEM LEVELING:**

It will be absolutely necessary that the conveyor and sewing system to be level (parallel) to each other. A non-level system may not be sewn completely closed and skipped stitches. Also, we recommend that at least ½” (13mm) of bag be trimmed from the top of the bag.

The above procedures provide good basics for your tape sewing system setup. With the exception of the crepe tape information, the same rules will apply to plain sew systems. When trouble shooting or setting up a system, you must take into consideration the condition of the sewing head and worn parts. The bag’s style, type and material as well as potential product contamination, system speed, etc. must be considered also.

I hope you find this information helpful in your troubleshooting and setup of Fischbein sewing systems. If you have any further questions, please contact your local Fischbein representative or our Technical Service Department.

Thank you.

~~Technical Service Dept.~~