

Ishida WM-Ai Automatic Wrapper

Film Feeding Issues

Product: Ishida WM-Ai

Issue: Film does not feed through the wrapper correctly

Solution: Verify alignment and placement of film and rollers



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Troubleshooting Check Points

	Check Points	Settings and Adjustments
1	Film roll stop position	Film should exit the roll between a 70 to 80° angle or 11:00-11:30
2	Film waiting position	Film should be directly under the cutter blade and resting in the left side of the cutter receiver channel Left film edge should align with the front edge of the cutter blade
3	Film leading edge	Film should be cut straight, not stretched or torn
4	Right side cutter receiver	Carefully use 100 grit sandpaper on the top and sides of the cutter receiver
5	Pincher strength	Check the front and rear pincher strength using both 16 PINCH and 27 FILM FEED (UPPER) in the Unit Action menu.
6	Pincher opening space	Correct spacing is 2 mm
7	White film feeder belts condition	If the belt surface is dull or worn, it should be replaced
8	Green film feeder belts condition	Clean the belts and the area around them
9	Upper film feeder clamps	If the clamp ends are worn, damaged or stretched, replace them If the clamps do not open fully replace the solenoid or spring
10	Front and rear film feeder alignment	Pull rear feeder to the front of the machine and verify it is parallel to the front feeder
11	Acrylic roller assemblies	Surface of the rollers should be smooth and clean Rollers should rotate smoothly in one direction only Rollers should stop after film feeding and not over spin
12	Insertion plate edge	The insertion plate edge should be smooth, shiny and clean
13	Film covers the insertion plate cutouts	Make sure a minimum of 10 mm of film extends beyond the front edge of the insertion plate cutout
14	Insertion plate coating	Use 100 grit sandpaper to roughen the bottom inner side of the insertion plate if it is smooth If the metal is showing through the gray coating replace the insertion plate(s)
15	Insertion plate	Use a level to confirm the insertion plate is horizontal
16	Insertion plate spacing	Spacing between insertion plate and white feeder pulley should be 1 mm in the front and rear
17	Insertion plate and cutter receiver spacing	Verify the spacing between insertion plate and cutter receiver is 4 mm vertically and horizontally
18	White resin collars	Make sure the collars are clean and free from shavings; if they becomes shorter due to usage, replace the resin collars
19	Curtain sheet and bracket	Replace the curtain sheet if it becomes too dirty Clean the curtain bracket Sand the curtain bracket if it has worn smooth

Table 1. Troubleshooting Table

1. Film Roll Stop Position

Refer to the WM-Ai Service Manual – Adjust Mode, Wrapping Machine, Wrapping Machine (Roll)

- The film roll stop position should be between a 70° to 80° or 11:00-11:30. See blue lines in [Figure 1](#).
- If the film shifts to the left of the cutter blade, verify:
 - brake setting of the film roll shaft is correct, adjust the roll stop position as needed
 - the film roll shaft is clean
 - check the alignment of the film roll shaft bearings
- For more accurate judgment check the stop position between a full roll and an almost empty roll

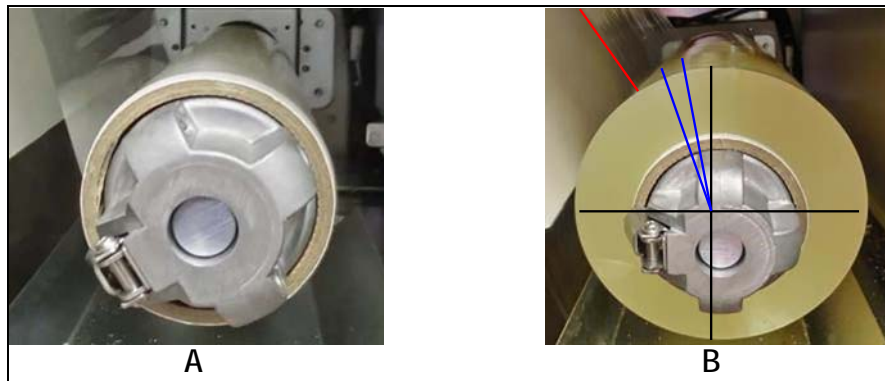


Figure 1. Incorrect Film Exit Positions (Excessive Film Roll Braking)

As the amount of film on the roll is reduced the film may be stretched tight, with no wrinkles, causing the film to pull back, away from the cutter. If this occurs the film roll brake is too strong and out of adjustment. See [Figure 1-A](#).

[Figure 1-B](#) illustrates the stop position is below 70° and 11:00.



Note

In both [Figure 1-A](#) and [Figure 1-B](#) the film roll brake is too strong and out of adjustment.

2. Film Waiting Position/Film Leading Edge

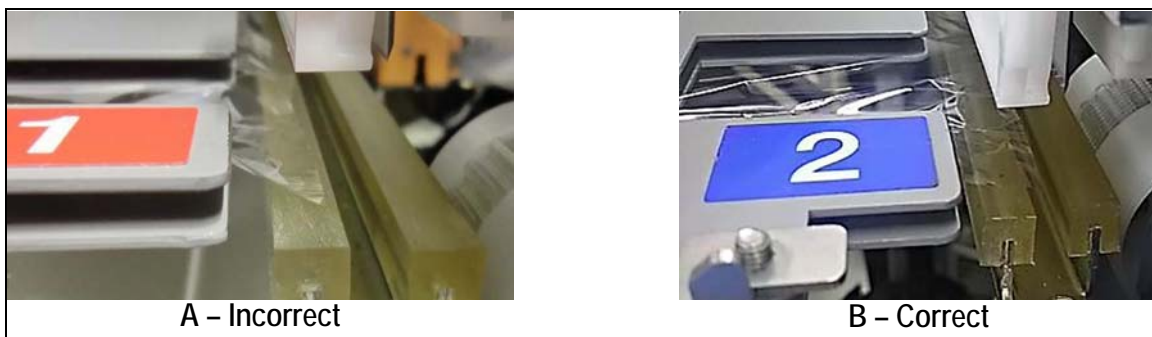


Figure 2. Film Positioning

Film Waiting Position

After film feed:

- film must rest loosely on top of the left side of cutter receiver
- left film edge must be directly below the cutting blade, [Figure 2-B](#).

Film Leading Edge

Film should cut straight and not be stretched or torn.

Possible causes of stretched/torn film:

- film cut position shifted to the left of the cutter blade
- film not touching the left side of the cutter receiver
- film shrinks after being cut
- film is stretched during film feed, making it hard for the film edge to catch and stick to the polished edge of the insertion plate

Check Points:

Feed film several times, checking for the previously mentioned conditions.

Check for the following when the left film edge shifts to the left of the cutter blade after cut:

- excess brake setting of the film roll shaft
- heavy movement of the film roll shaft (not smooth)
- bad brake adjustment of the film roll shaft
- accumulation of debris on the drive gear of the film roll shaft
- mis-alignment of the film roll shaft bearings (consult Rice Lake Weighing Systems as needed)
- quality of the film (some films are easily stretched) leading to the film edge shifting to the left of the cutter blade

Check for the following when the film is getting pulled out from the right end notch of the insertion plate:

- the insertion plate has shifted towards the front of the machine
- the film roll is shifting to the rear of the machine
- the film roll shifts excessively towards the front of the machine, leaving the film outside the front edge of the cutter blade, causing the film to not cut completely, which causes:
 - film to tear apart from the return force of the insertion plate, stretching film laterally and causing the film to shrink backwards to the left
 - a reaction force at the moment the film gets torn apart, pulling the film towards the rear of the machine



Figure 3. Film Out of Position

Figure 3 illustrates film pulled out from the right end notch of insertion plate



Note Some films are easily stretched, causing the film edge to shift to the left of the cutter blade.

3. Film Position and Alignment

Refer to Service manual – Mechanical Adjustment, Adjusting the Mechanical Unit, Cutter Unit

When the film roll is in the correct position and alignment, the film is cut completely by the cutter (not torn apart).

After cutting, check and confirm the cut is clean and straight by examining the left side cut edge.

4. Right Side Cutter Receiver

Film should not stick to the right side of the cutter receiver. Stuck film can cause resistance as it peels off.

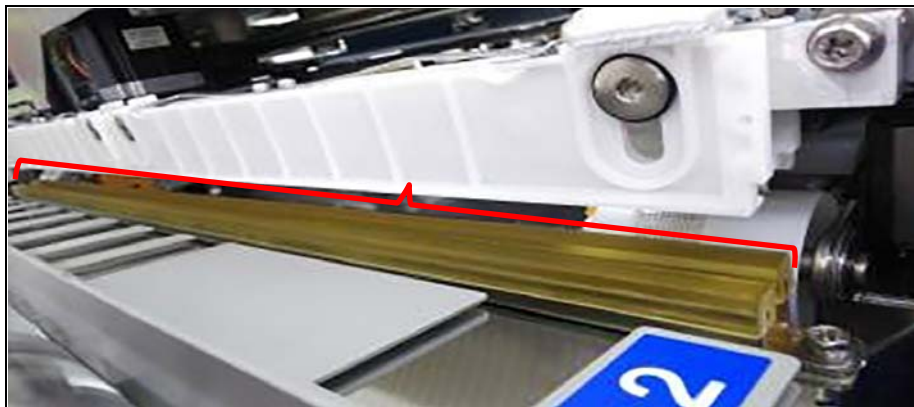


Figure 4. Right Side Cutter Receiver

To decrease any resistance due to film sticking, carefully use 100 grit sandpaper on both sides and the top of the silicone cutter receivers.

5. Pincher Strength

Refer to service manual – Mechanical Adjustment, Adjusting the Mechanical Unit, Delivery Unit, Adjusting the Pinch Section

Check pinch strength and duration using both 16 PINCH and 27 FILM FEED (UPPER) in the Unit Action menu.

6. Pinch Opening Spacing (2 mm)

Refer to service manual – Mechanical Adjustment, Adjusting the Mechanical Unit, Delivery Unit, Adjusting the Pinch Section

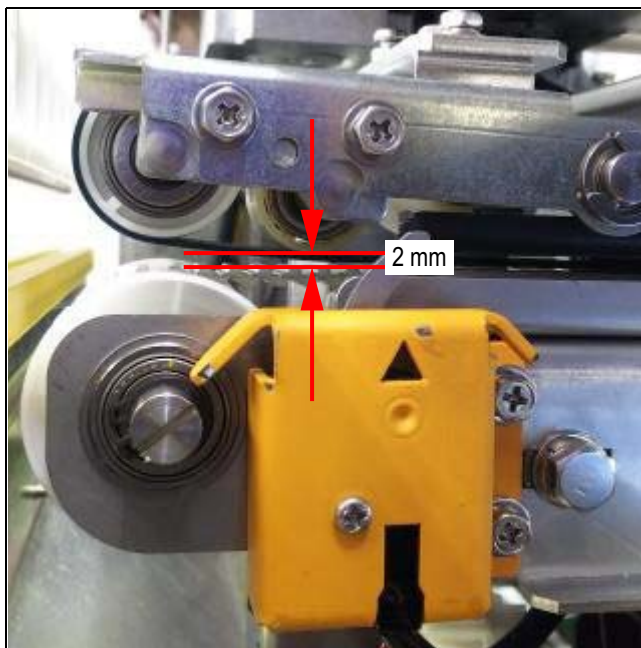


Figure 5. Correct Pinch Spacing

If the pinch spacing is too narrow when the insertion plate moves towards the feeder, the film may contact the flat belt causing the film to bunch up, resulting in a film feed error or misfeed.

7. White Film Feeder Belt Condition

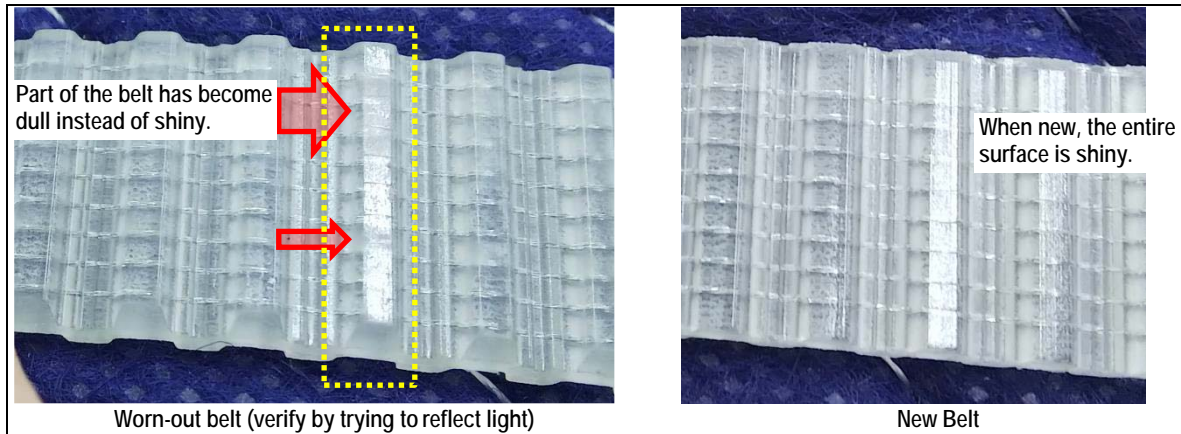


Figure 6. White Film Feeder Belt Condition

Film feeding occurs when the film sticks to the white film feeder belt. The feeder belt loses its stickiness when the belt surface is constantly in contact with feeder frame and harness. Any side to side shifting of the belt can also wear it out. A dull surface indicates the belt has lost its stickiness.

If a belt loses its stickiness, pinch is difficult, causing the film to sag and be pulled to the center of the lift due to the inertia created by air resistance during film feeding and the frictional resistance from the cutter receiver and insertion plate. The belt's stickiness acts as resistance to these forces and secures the film in place. Replace belt as needed (PN 171838).

8. Green Film Feeder Belt Condition

The purpose of the flat green belt is to hold the film down and help move it forward during feeding. The belt is not particularly sticky but if it becomes contaminated with dirt or grease it will not be able to hold or move the film, causing a film feeding error.

If the flat belt is too sticky, when the clamp opens, the film would have difficulty separating from the belt and this leads to problems during wrapping. Replace the belt as needed (front belt – PN 171839, rear belt – PN 185877).

9. Upper Film Feeder Clamps

Upper clamp should not sag down.



Figure 7. Upper Film Feeder Clamp

The black synthetic resin surface has low resistance due to the rough texture applied during manufacturing. The belt is also braided adding to its low surface resistance. Over time, contact with film during wrapping will wear both surfaces (belt and resin), causing them lose their uneven surface and become shiny, increasing the tendency of the film sticking to them.

Using sandpaper on the black resin might help, but do not use sandpaper on the belt because it leads to the clamp losing power. If the belt becomes shiny, replace the upper clamp rails. (front left – PN 171847, center – PN 171846, right – PN 171848, rear left – PN 171850, center – PN 171849, right – PN 171851).

The clamp returns to its open position using a spring. The clamp's power and how wide it opens deteriorates as the spring weakens. If a clamp's spring is loose, the clamp vibrates during film feeding, resulting in a narrowing spacing between the clamp and the belt, increasing the tendency of the film coming in contact with the clamp and bunching up. In this case, replace the clamp, solenoid or spring (lever clamp solenoid assembly – PN 171844, spring – PN 192218) as needed.

10. Front and Rear Film Feeder Alignment

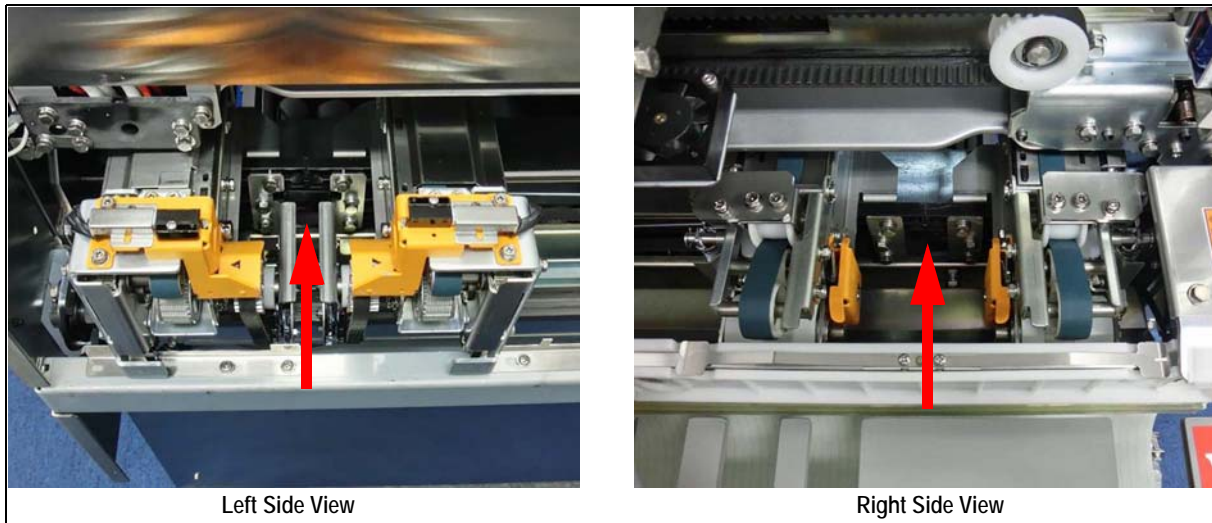


Figure 8. Film Feeders – Front/Back

If during operation, the front and rear feeders lose their alignment due to the drive belts skipping a tooth, film feeding will be inconsistent as the film may fall out of or bunch up in the feeders. Pull the rear feeder to the front of the machine and check if the black resin brackets of the feeders are aligned as indicated in [Figure 8](#).

11. Acrylic Roller Assemblies

The Roller Assy Clutch (transparent roller) should rotate smoothly and stop rotating the moment film feeding is complete.



Figure 9. Acrylic Roller Assemblies

These rollers use a one-way clutch, preventing them from rotating in the reverse direction. The surface of the rollers is sticky, so the film sticks to them. The transparent rollers prevent the film from moving back towards the film roll after film feeding is completed.

- The transparent rollers should rotate smoothly and in the counter-clockwise direction only, if they rotate clockwise, the one-way bearing should be inspected/replaced
- Ensure film pieces or other debris is not stuck to the rollers
- Ensure the rollers do not come into contact with the insertion plate
- The transparent rollers' surface should be smooth and clean
- Film does not stick to the rollers if they are rough and dirty, causing idle rotation of the rollers after the film feed is complete; this can cause the film to loosen and make contact with other parts

12. Insertion Plate Edge

Refer to Service manual or Installation manual for information to adjust the position of the film roll end hub to move the film position front and rear.

For insertion plate position adjustment, refer to Service manual, Mechanical Adjustment – Adjusting the Mechanical Units and Delivery Unit – Adjusting the position of the insert plate notches and the front feeder pinch.

The insertion plate end is polished so the film will easily stick to it. If the end is dirty or scratched the film will not stick. During film feeding and roll switching, the film end bends back and sticks to the polished part of the insertion plate, keeping the film in place.

For enough film to stick to the polished edge, these points should be followed:

- Left cut side of the film should rest on the cutter receiver and not be loose
- The edge of the film should extend past the end of the insertion plate so that there is enough film to catch and stick to the polished end of the insertion plate
- If possible, the amount of film that is caught and stuck to the insertion plate should be equal at both ends (front and rear)

If the film is not properly stuck to the polished end of the insertion plate, the film end may distort during feeding and as a result the pinch might fail to hold the film securely.



Figure 10. Insertion Plate Front Edge

13. Film Covers the Insertion Plate Cutouts

The amount of film extending past the edge of the insertion plate cutout should be at least 10 mm.

If the film is outside the cutter's front edge, the film will not be cut completely and will be torn apart instead. This might cause the film to slip off the cutter receiver. The film should not rest more than 2 mm outside the front end edge of the cutter.

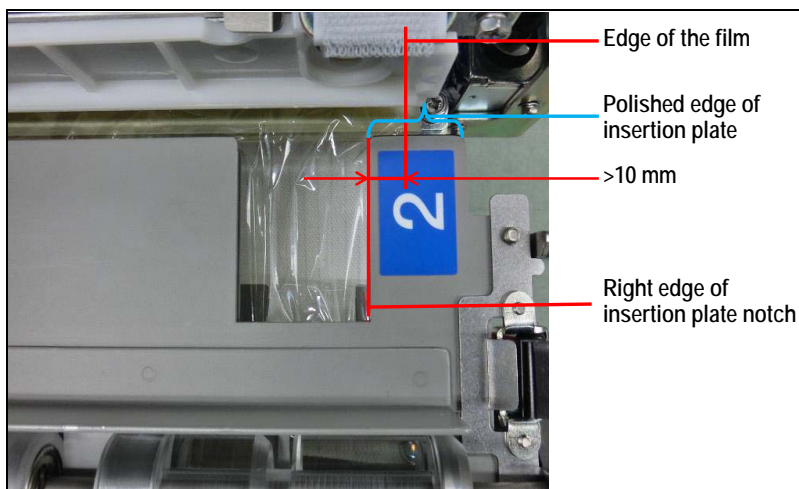


Figure 11. Insertion Plate Cutouts

14. Insertion Plate Coating

Except at the polished end, the insertion plates are coated with a special gray material (Tuff-Kote). When the insertion plate gets dirty its surface resistance increases due to friction. Surface resistance is worse for the bottom inner side of the insertion plate. When this happens the plate should be replaced.

- Bottom side (both rolls) PN 172566
- Top side upper roll PN 189262
- Top side lower roll PN 192219

It is possible to use sandpaper on the coated surface of the insertion plate as a temporary solution, but it is not advised.



Note

If the insertion plate is sanded too much, the surface coating can be removed leaving the bare metal showing. Since the metal has much higher resistance than the special coating (Tuff-Kote), this leads to errors in film feeding.

When using sandpaper on the insertion plate, remove the bottom part of the insertion plate from the machine and use 100 grit sandpaper in the direction of film feeding. Wash and dry the insertion plate before mounting it back to the machine.

15. Insertion Plate Mounting

Refer to Service manual – Wrapping Machine (Roll) Section (Upper roll insertion plate position, lower roll insertion plate position)

For fine adjustment of related parts, refer to service manual – Delivery Unit Section. Fine adjustment is difficult and takes time.

Place a level instrument on top of the insertion plate and check the level in right/left direction.

Adjust the insertion plate, to be as level as possible, a slightly lower adjustment is better than a higher adjustment.

The insertion plate is adjusted at the factory so it does not come into contact with parts of the feeder.

If the edge of the insertion plate is adjusted

- higher – it contacts the pincher
- lower – it contacts the feeder's pulley

If the insertion plate contacts the feeder parts, the insertion plate opening spacing becomes narrow and leads to higher frictional resistance of the film. When the plate is high, it raises the tension of the film increasing its frictional resistance with the insertion plate.

16. Insertion Plate Spacing

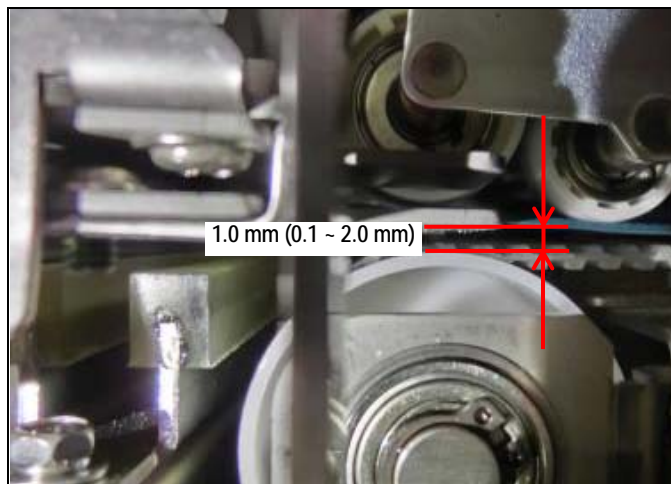


Figure 12. Insertion Plate and Feeder Spacing

When the insertion plate goes to the right side, the spacing between the white feeder pulley and the insertion plate should be approximately 1 mm. A spacing of 0.1 to 2 mm is acceptable provided the insertion plate does not touch the white pulley guiding the white film feed belt.

Check both front and rear feeder for both the upper film roll and lower film roll.

The height of the insertion plate is adjusted in the Adjust Mode, Wrapping Machine, Roll tab, Upper Roll Position and Lower Roll Position.

17. Insertion Plate and Cutter Receiver Spacing

Refer to service manual section *Mechanical Adjustment, Adjusting the Mechanical Units, Delivery Unit*.

Note that making this adjustment is difficult and takes time.

Insertion plate and cutter receiver spacing:

- Vertical wise 4 mm
- Left and right lateral wise 4 mm

18. White Resin Collars Rotate Smoothly

On a new wrapper the collars rotate smoothly. When the collars' inner sides and the shaft become dirty, the resin collars start getting shaved off. The filings accumulate inside the collars, causing the rotation to drag, affecting film feeding.

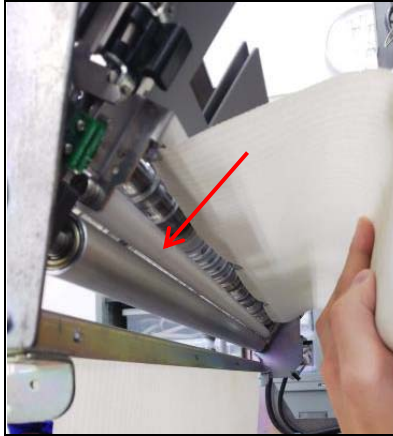


Figure 13. White Resin Collar

If the upper roll resin collars become smaller with use, they will lose their finger joint assembly and start jamming with each other resulting in the roller not rotating smoothly. If this happens, replace the eight collar pieces (PN189256). A washer can be used as a temporary countermeasure.

19. Curtain Sheet and Bracket

The curtain's bracket is coated with a special plating. If the bracket becomes dirty or the special plating gets peeled off, the film starts sticking to it. To avoid film sticking, clean the bracket or use sandpaper if necessary.

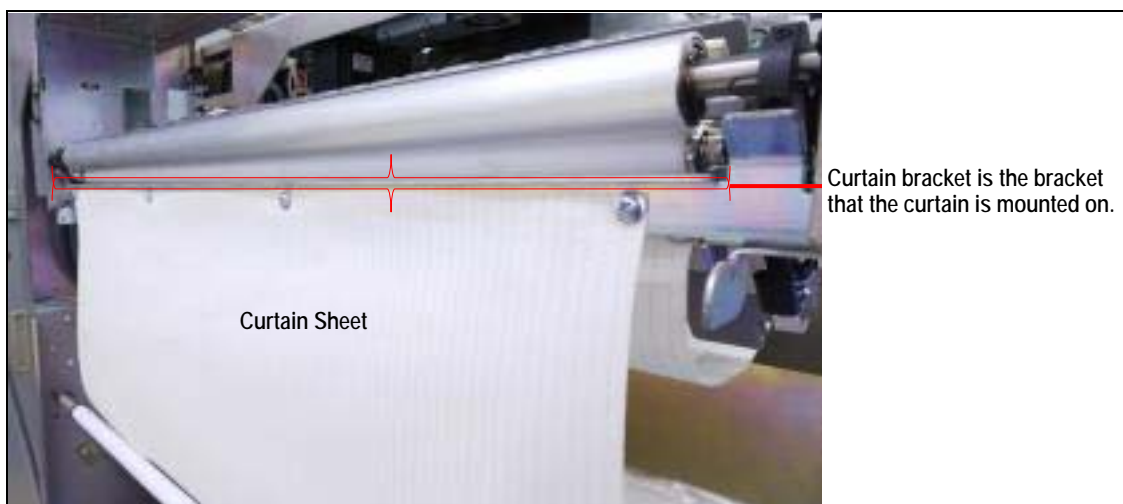


Figure 14. Curtain Sheet

If the curtain sheet becomes dirty the film starts sticking to it, replace as needed.

- Vertical curtain sheet PN 192220
- Horizontal curtain sheet PN 192221

Other Factors

Film Feeding Speed

The air and inertial resistance force from the film and transparent roller (Roller Assy Clutch).

From Wrapper Sub App version C2006P the first and second film feeds after a new roll has been loaded are slower. The speed of film feeding is faster starting from the third feed. When checking for errors related to film feeding, check after the third film feed.

Bottom Clamp

- The yellow resin part of the clamp is processed so that the surface is shiny
- The top of the metal part is roughened through a sandblasting process
- The metal part is assembled so that it is 0.5 mm higher than the resin part, preventing the film from making contact with the resin part
- Use sandpaper on the shiny surface of the resin part to decrease the frictional resistance when the film is feeding through. But at the same time this would affect the wrapping because low friction between the clamp and the film means low film holding power of the clamp when it closes.



Figure 15. Yellow Resin

White Resin Rail

- The surface that contacts the film is sandblasted to add texture, if it becomes dirty the surfaces frictional resistance increases.
- This resin rail is assembled so that its height is approximately 0.3 mm higher than the bottom clamp.
- Its height is lower than the feeder belt, using sandpaper has the effect of lowering its surface frictional resistance.



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