



The Smart Way To Innovation

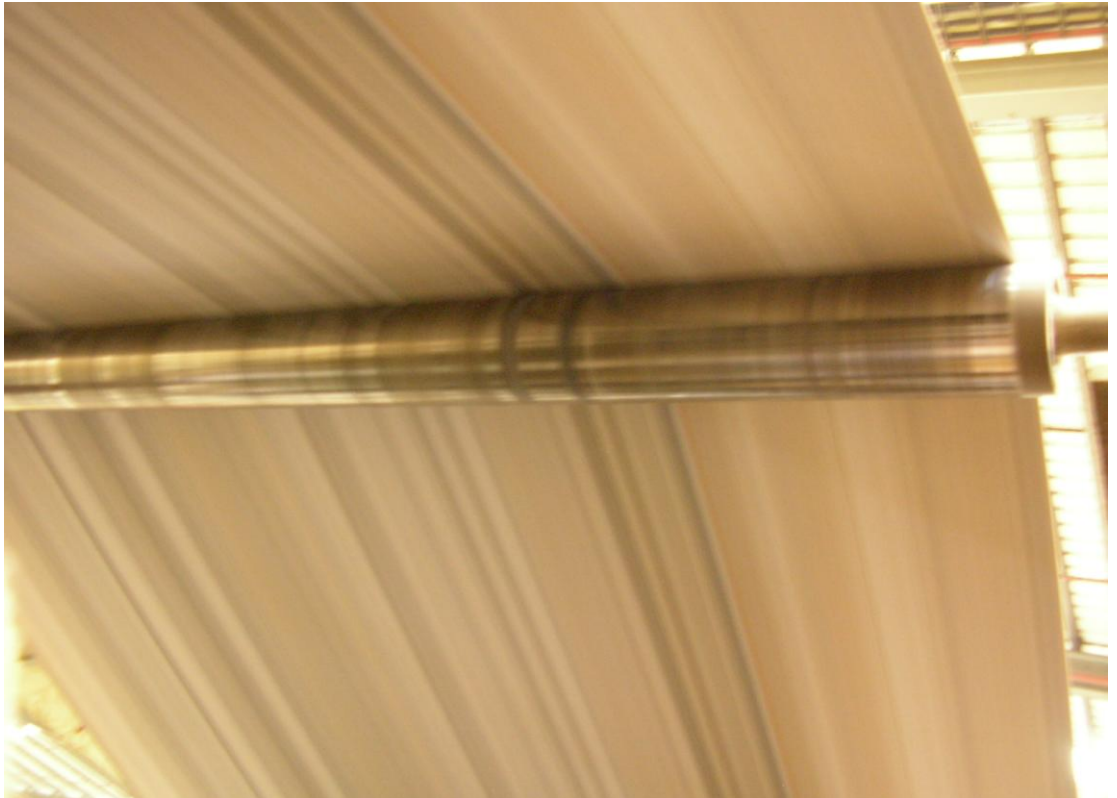
Machine check With 11 Check Points

Feltri 
Marone 

Table of contents

1.	Inspection 1 - Old Belt condition	<i>page 3</i>
2.	Inspection 2 - Level of Hot plates	4
3.	Inspection 3 - Shoe-trol and Plate-trol height	5
4.	Inspection 4 - Hot Foot type Heat transfer system	6
5.	Inspection 5 - Shoe height from the Hot Plate	7
6.	Inspection 6 - Shortpress Pressure Chains	8
7.	Inspection 7 - Distance between pressure shoes/plates	9
8.	Inspection 8 - Outside pressure shoe/plates	10
9.	Inspection 9 – Peters Thermoplan-Shoes adjustment	11/12
10.	Inspection 10 – Interfic Racer Facer	13
11.	Inspection 11 – Shoes/Platertorl pressure	14
12.	Inspection 12 – BHS configurations	15
13.	BHS Shoetrol/Platreol defects	16/17/18
14.	Interfic/Profero – Bartrol (BHS) defects	19/20
15.	Belt protection and guiding devices	21
16.	Quick Guide- Check list	22

1. Old Belt Condition

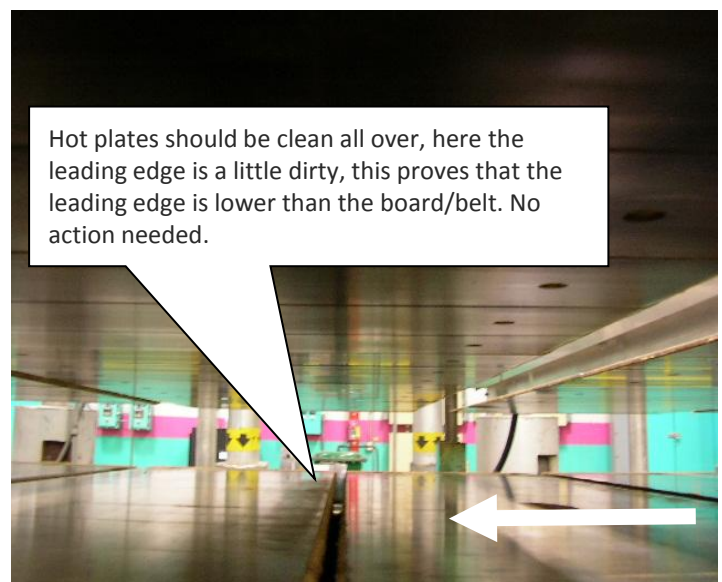
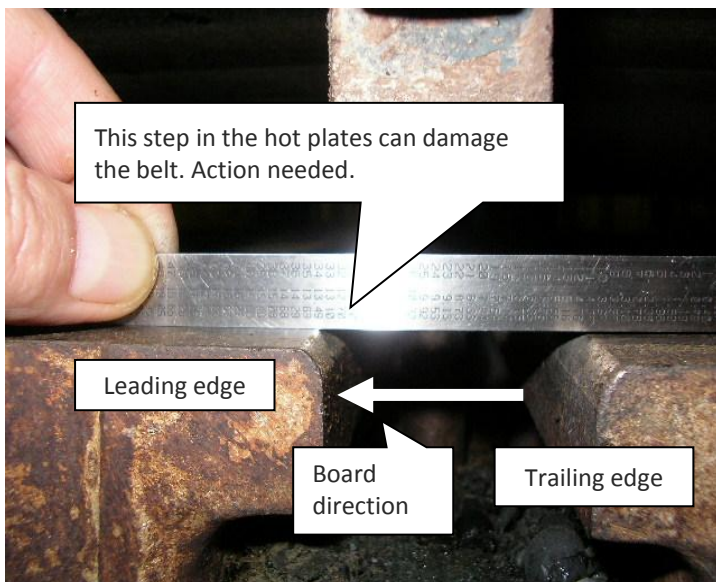


Machines: **All**

- Check the old (previous) belt for abnormal wear. This will give an indication of any possible pressure Shoe/Plate problems that might need attention.
- Damages caused to this traditional belt was from bent Interfic shoes, a common defect from various supplier.
- In this case all pressure plates should be checked for flatness and correct adjustment
- It can also be caused by hardener rubber pressure bellows fitted by Agnati and Hot Foot retrofits.

2. Hot plates

- Check that the old plates are level and that there are no negative steps between them that might damage the belt (see photo).

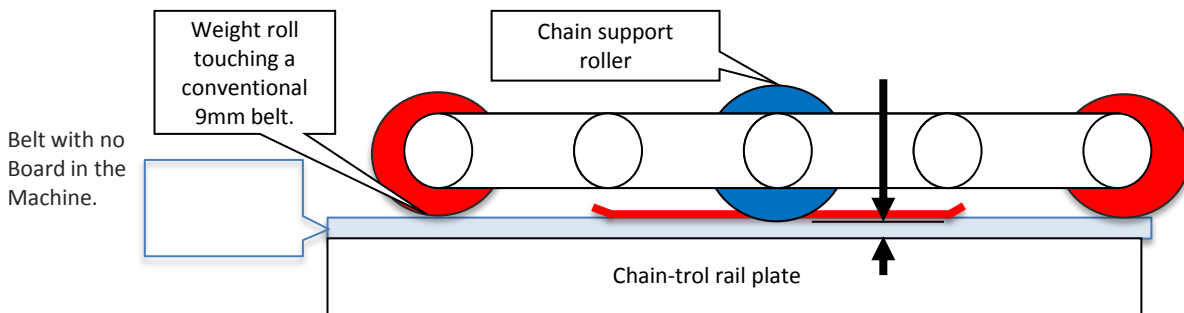


- First a visual check can be made to see if the trailing of the hot plates are dirty or not. Also a straight edge can be used, sliding it from one hot plate to the next in board direction. There should be no interruption in the sliding action.
- If an out of level plate is found like in the photograph above, please get the customer to rectify the problem.

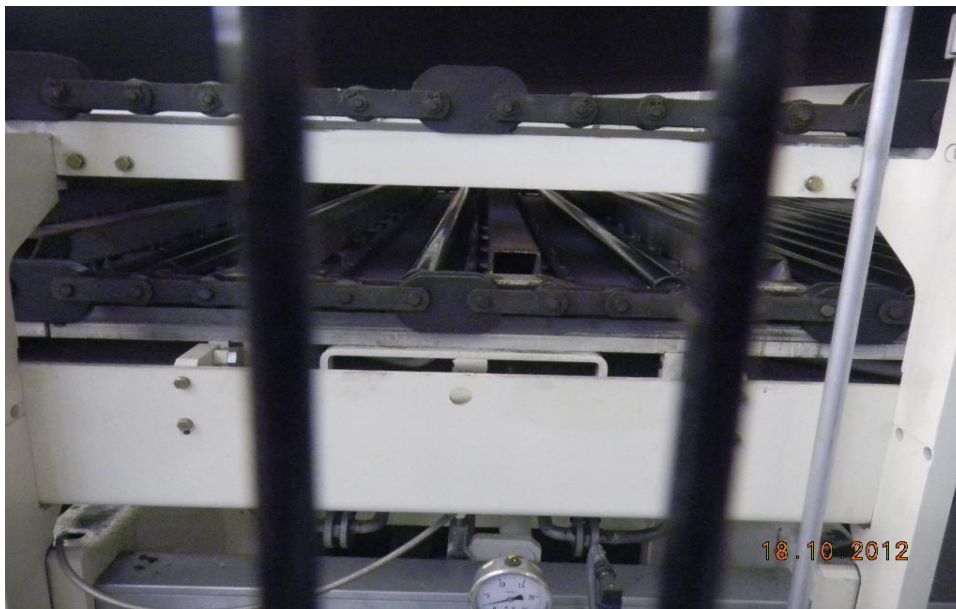
3. Plate-trol height from the Hot Plate

: BHS DF-P models

• The model DF-P has (is) been produced in several versions. One particular version does not have the possibility to adjust the loading of the rolls or Shoe pressure bars. In this case it will be necessary to make the following check and adjustment to the rail if required in order to insure good contact between the Spirabelt and roll/shoe system. With the original (conventional) belt fitted, the machine stopped and with no board under the belt, with the Plate-trol in it's down position, measure the distance between the chain support roller and the rail. There should be at least 6 mm with a 9mm belt.



NOTE It is **not recommend that Spirabelt be used** on the DF-P Shoe/Trol version. This is the model of machine that has a series of weight rollers in the first part, the same as **Plate/Troll**, but then only Shoe bars **without intermittent weight rollers** fitted in between them. The below photo shoes **the Plate/trol version which works** perfectly with the Spirabelt providing that all the Plates are flat and adjusted correctly.



4. Hot Foot Heat transfer system

Machines: **Agnati**

- If the double facer is equipped with the Hot Foot type heat transfer system i.e. rubber air bellows on each shoe, make sure the air bellows have been changed recently. When the rubber air bellows are old they become hard due to the high temperature and become inoperative.



- In the case of shoes that are operated by air cylinders, these will have to be checked for air leaks and if necessary be replaced.
- Adjust height if necessary in order to make good contact with the Spirabelt. See sheet 6.
- Always refer to the suppliers maintenance manual before making any adjustment.

5. Shoe height from the hot plate

Machines: **Agnati**

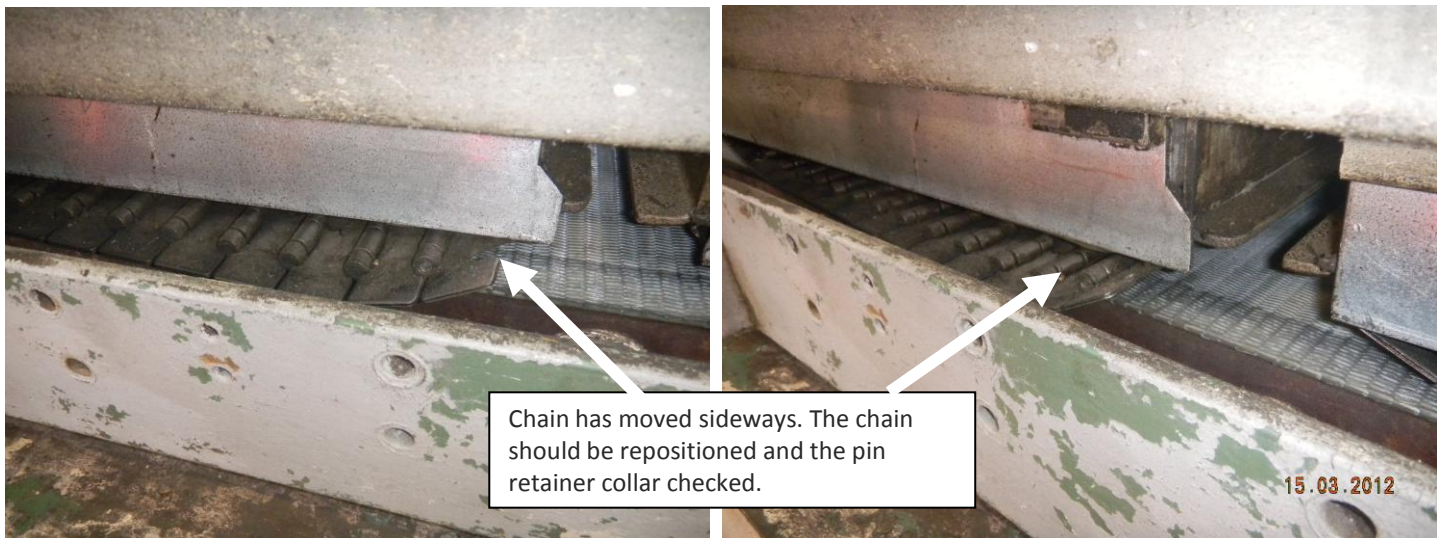
- Checks should be made to make sure that with the Spirabelt in place that the pressure shoes make good contact with the belt with no board in the machine.
- It has been necessary in some cases that the mechanical stops had to be machined, and the hydraulic cylinders adjusted, see below.
- Always refer to the manufactures maintenance manual before making any adjustment.



6. Shortpress chain condition

Machines: **All**

- Make sure that the Shortpress Pressure Chains are in their correct position. Sometimes their fixing pins move with the Chain. See below.
- Some installations have segmented pressure chamber or sac to relieve the out side pressure applied to the belt/board when producing narrow paper widths. Make sure they the valves that control this function are fully operational.
- Always refer to the suppliers maintenance manual for infromation.



7. Distance between pressure shoes

Machines: All

- Frequently Pressure Shoes or Plates can be positioned independently. Make sure that if there are wide gaps (e.g. 50mm) between each Shoe/Plate going across the machine, that the Shoes do not fall in line in machine direction. If Shoes are in line, blisters between the bottom liner and the medium may occur when producing micro flutes.



8. Outside pressure shoes

Machines: **BHS and all**

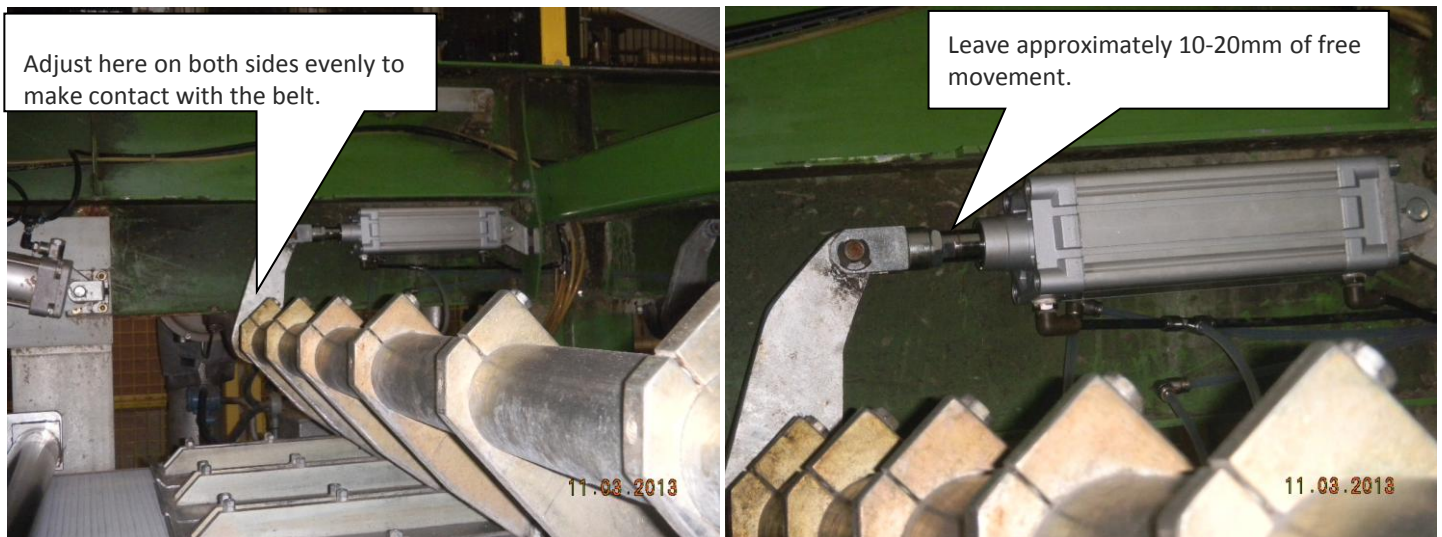
- Always make sure that outside Pressure Shoes/Plates (that are raised and lowered as a function of paper width changes) clear the belt when not used, and when used apply even pressure to the belt.
- Below an older version BHS (Bar/trol) Pulling section Shoe in its raised position tilts so that the edge of the Shoes is in fact damaging the belt. The bar or beam needs to be raised slightly.



9. Pressure Shoes adjustment

Machines: **PETERS Thermoplan**

- With the Spirabelt installed, lower the Shoe press system to their running position.
- Check that all cylinders do not have any leaking seals.
- Check that all Shoes are making the same contact to the belt, both in the heating and traction section.
Note: outside Shoes should also be in the down position when checking the adjustment.
- Always refer to the suppliers maintenance manual.

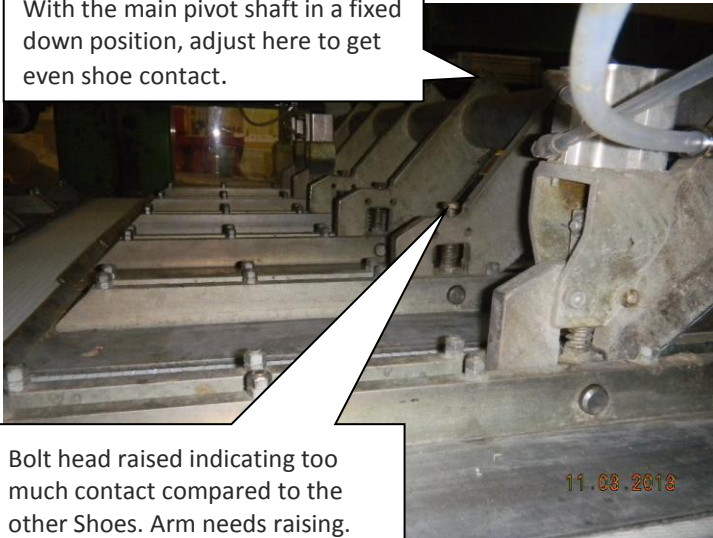


- If contact is not made adjust pivot shaft lever on both sides of the machine.
- After making contact with the belt, make sure that the air cylinders still have free movement of about 10-20mm.
- If all the Shoes don't make contact or make too much contact, it will be necessary to adjust the Shoes independently as shown on the next page.

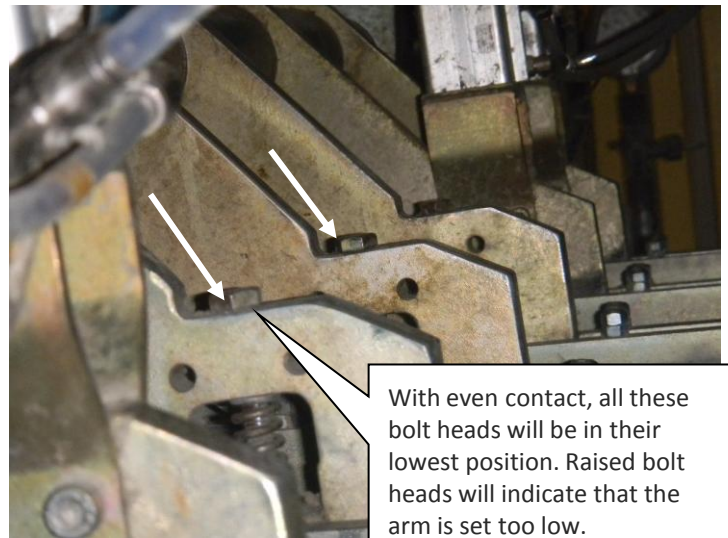
10. Pressure Shoes adjustment

Machines: PETERS Thermoplan

With the main pivot shaft in a fixed down position, adjust here to get even shoe contact.



Bolt head raised indicating too much contact compared to the other Shoes. Arm needs raising.

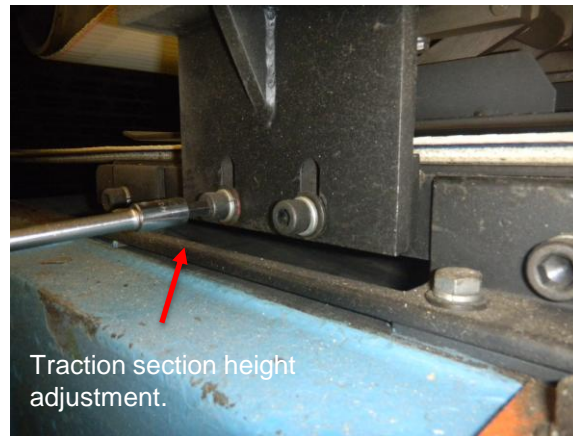
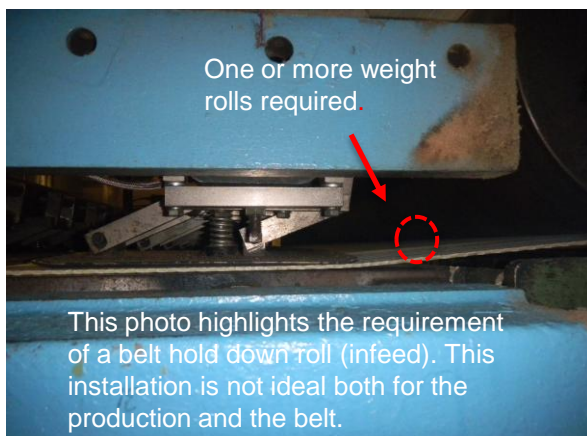
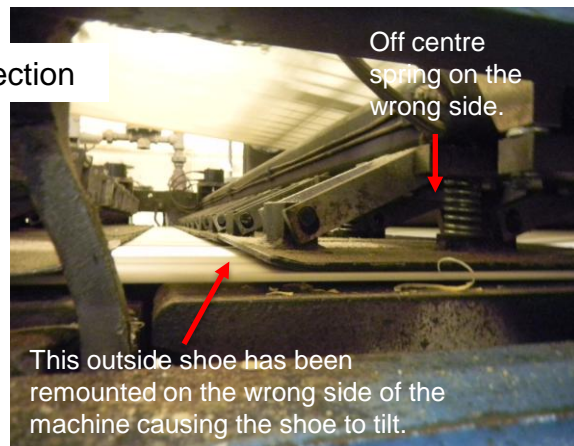
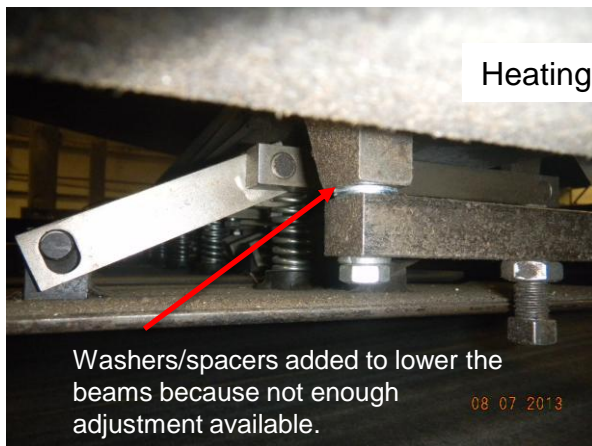


With even contact, all these bolt heads will be in their lowest position. Raised bolt heads will indicate that the arm is set too low.

11. Interfic Racer Facer shoe adjustment

All machines.

- The Interfic heat transfer system will always require checks and adjustment before using the Spirabelt.
- Shoe assemblies should be lowered by 5mm. See photo below.
- Make sure that the outside shoe assemblies have not been inverted i.e. L/H with R/H assemblies. See photo below.
- Traction section Shoe assemblies can be lowered on the slots by 5mm. See photo below.



12. Shoes adjustment

Machines: **All**

- When possible a simple check can be made to check if the Pressure Shoes are applying even pressure i.e. the pressure Bars or Beams are adjusted parallel to the Hot plates or the lower part of the Traction/Pulling section.
- Using a strip of good light paper e.g. Kraft liner, place the paper under the shoe to make sure good contact is being made. Using the same method check the amount of pressure being applied on the opposite side of the machine. NOTE: Only a light pressure will be required, especially in the Pulling section.
- If the corrugator uses several different paper widths, in the Pulling section the outside Pressure plates should be adjusted independently off the belt or even eliminated.
- Always refer to the suppliers maintenance manual before making any adjustment.

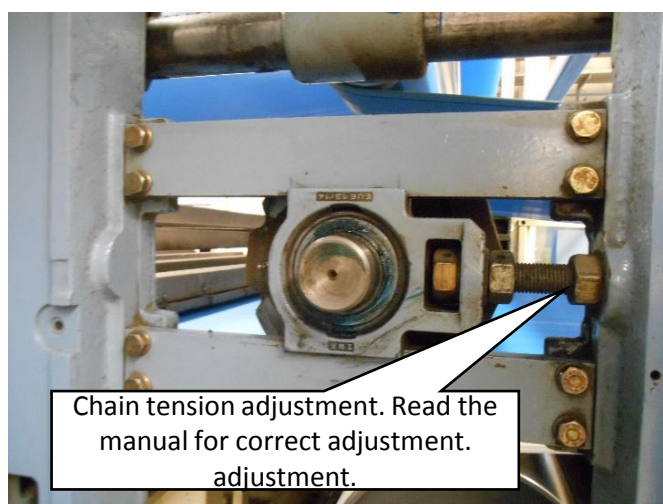
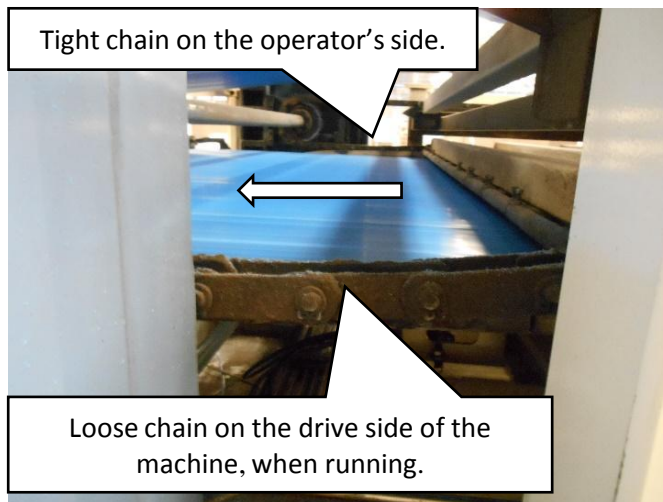


BHS configurations

- **CHAINTROL:** Rollers mounted on a chain
- **BARTROL:** Fixed shoes, no chain
- **SHOETROL:** Shoes with few rollers at the entrance and on a chain
- **PLATETROL:** Has alternately shoes and rollers mounted on a chain

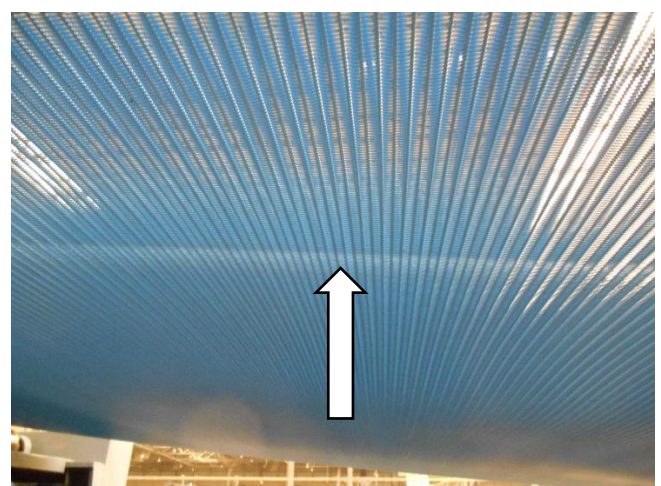
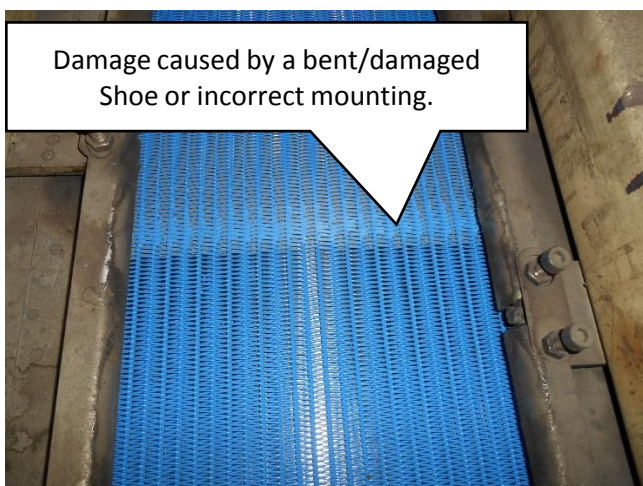
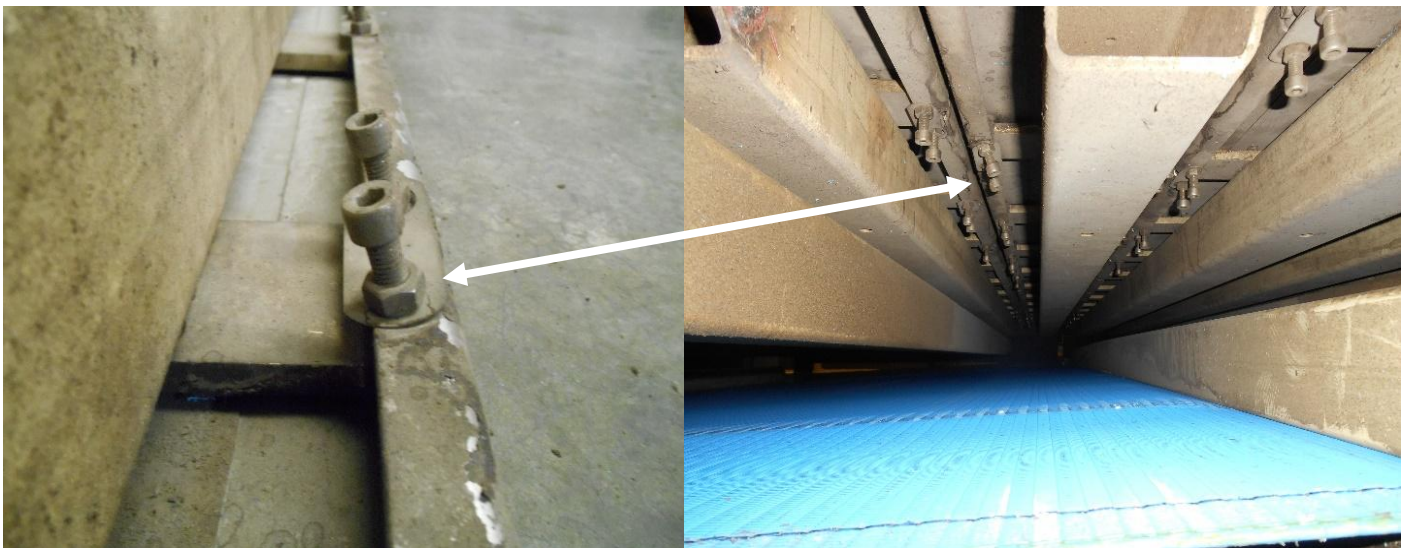
BHS Shoetrol and Platetrol defects: What to watch out for!

It's very important that the Shoe/plate/roll assemblies are perfectly perpendicular to the machine. Chain tension should be equal, see below.



BHS Shoetrol and Platetrol defects: What to watch out for!

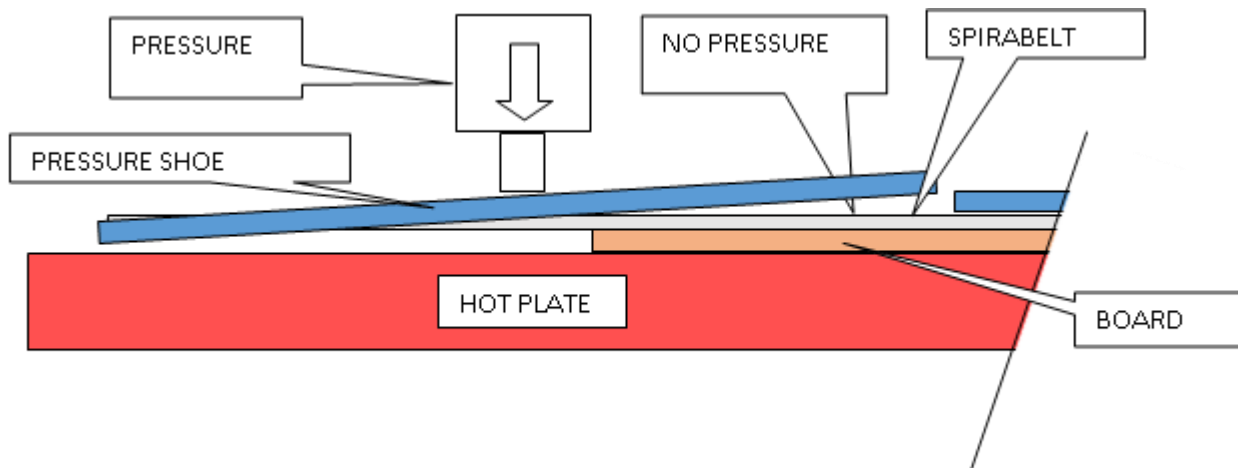
Damaged or bent Shoe assemblies will damage the belt. Visual inspection before start-up is recommended. Remove assemblies if damaged and fix.



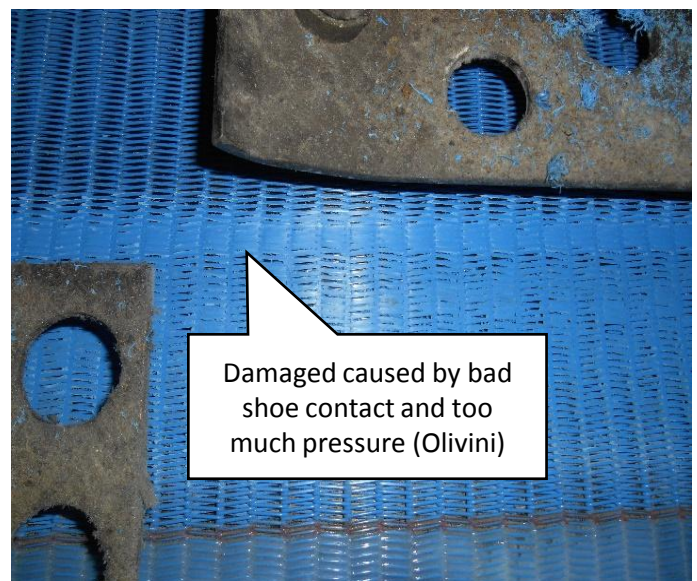
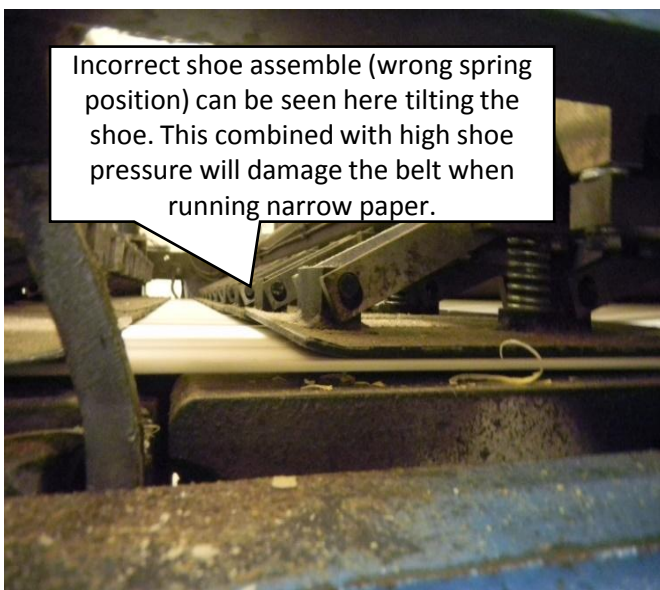
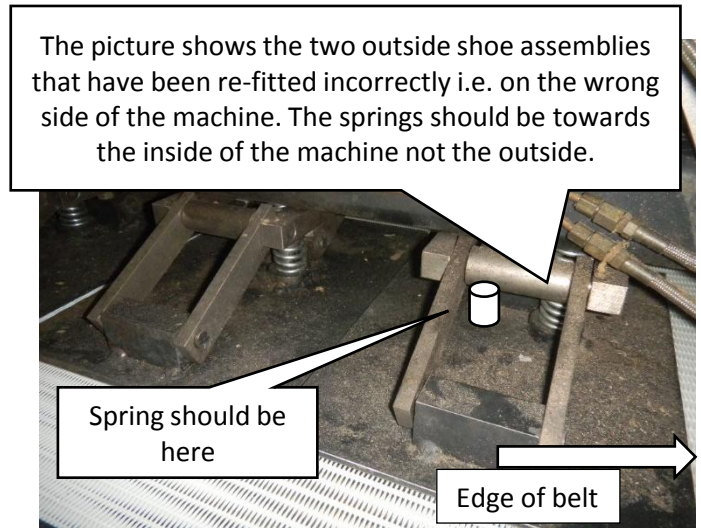
BHS Shoetrol and Platetrol defects: What to watch out for!

**CROSS VIEW OF A *TYPICAL SHOE SYSTEM SHOW THE UNEVEN
PRESSURE APPLIED TO THE EDGE OF THE BOARD/BELT.**

***Interfic – Agnati – Vonderhieden – Corrugated gear and sprocket –
Profero – MWU – BHS Bartrol.**

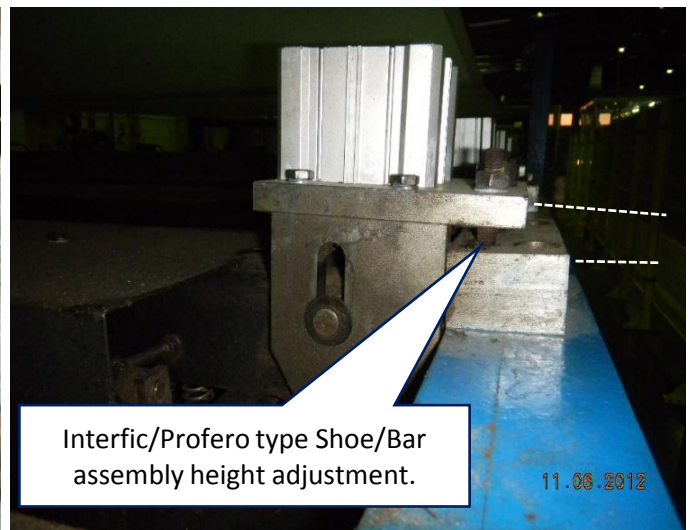
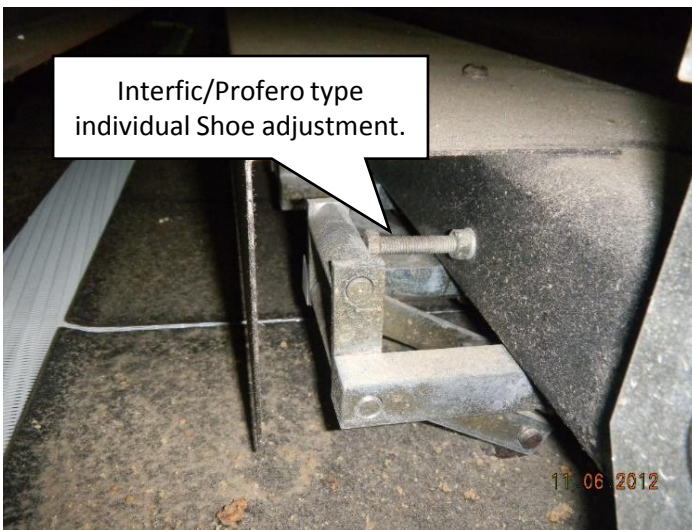


Interfic/Profero - Bartrol (BHS) - Olivini



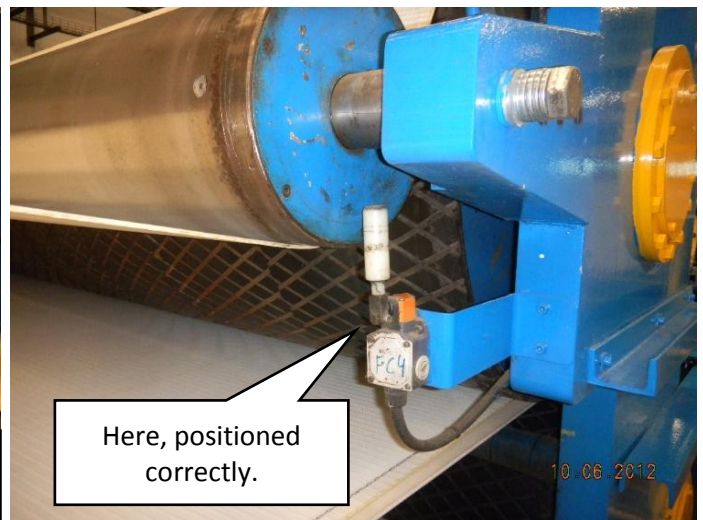
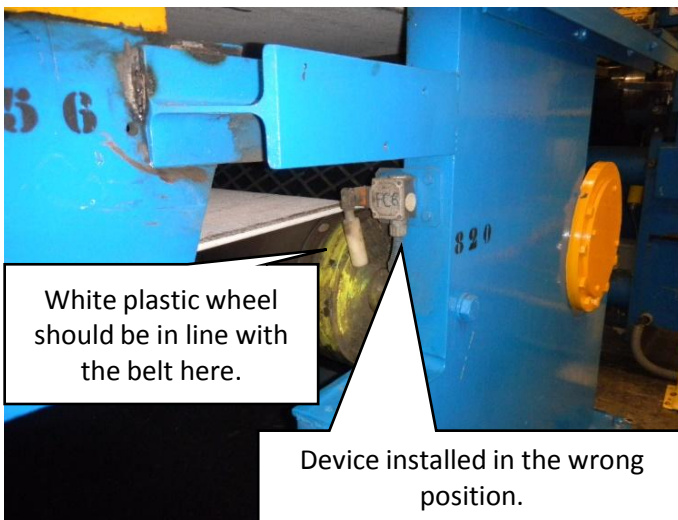
Interfic/Profero - Bartrol (BHS) – Olivini Pressure bar/beam assembly and shoe adjustment

In the right hand picture the not level lift cylinder angle, due to bad design and poor adjustment i.e. pressure bar or beam forcing the lift mechanism to tilt

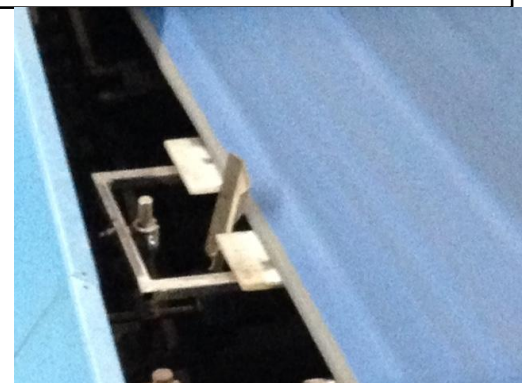


Belt protection and guiding devices

Good belt protection devices should always be checked as well as belt guiding systems.



Belt should touch the paddle approximately here so that the belt edge movement does not make the belt guide mechanism over react. Air pressure to the belt guide should also be kept to a minimum e.g. 0,7 to 1,5 bar, depending on how well the mechanical parts move. Make sure that the guide mechanism is well lubricated and without air leaks.



Make	Heat transfer type or model	Pressure Shoe or Plate height adjustment required	Pressure application system check required	Pressure Shoe or Plate condition check required	Outside pressure relief cylinder check required	Recommended system for use with SPIRABELT
BHS	Bar-Trol	YES	YES	YES	YES	YES
	Plate-Trol	YES	NO	YES	NO	YES
	Shoe-Trol	YES	NO	YES	NO	NO if above 280 mt/'
Fosber	Espress	YES	YES	YES	NO	YES Only with 90Kw or more bottom belt drive
	S-press	NO	NO	NO	NO	
MHI	Shortpress	NO	YES	NO	YES	YES
	S-press	NO	NO	NO	NO	YES
Agnati	Hot Foot	YES	YES	YES	YES	YES
	Varypress	YES	YES	YES	YES	YES
Peters	Thermoplan	YES	YES	YES	YES	YES
JS	Shoe system	YES	YES	YES	YES	YES
SCM SHS	Shortpress	NO	YES	NO	YES	YES
	S-press	NO	NO	NO	NO	YES
MWU	Shoe system	YES	YES	YES	YES	YES
Interfic	Racer Facer	YES	YES	YES	YES	YES
All others		YES	YES	YES	YES	YES/NO