

Subject:

Drafting Components



picture 1

The quality of spun yarns is governed to a very large extent by the design, the precision of manufacture and the up keep of the drafting components.

It is common knowledge that over the years of service, yarn parameters gradually deteriorate. This is due to the fact that the drafting components wear out even if maintenance has been done timely and correctly.

As a rule of thumb, one can expect that drafting elements need to be replaced once every ten years.

ROTORCRAFT has developed a complete set of drafting elements incorporating the latest spinning technology. Therefore ROTORCRAFT drafting elements do not merely replace worn-out parts, but substantially improve the quality of drafting and the safety of operation.

Improving yarn quality does not necessarily mean to make the good yarn even better. Rather, the objective is to eliminate as far as possible the “stray-shots” - as we call the yarns which are, for what ever reason, below standard.

Everyone versed in the art of spinning knows from experience that in most cases, it is not of great importance to improve the yarn values of the best yarns but to eliminate the off-standard yarns. It is off-standard yarns which tend to create problems in yarn processing and may have a negative effect on the final product.

Uniformity from spindle to spindle is certainly the most important prerequisite for top-notch yarns.

1. Top Arm ST1

The ROTORCRAFT top arm is of proven design (picture 1). Up until now the top arm has been set by use of a height setting gauge. With this method, all top arms are exactly in the same position versus the drafting plane. However, the unavoidable tolerances of the loading springs and internal components of the top arm lead to a substantial variation of the pressure acting on the top rollers.

In order to avoid this shortcoming, ROTORCRAFT has developed a pressure gauge which can be used for setting

the top arms (picture 2). As a result the pressure acting on the most important front top roller is exactly the same from top arm to top arm.

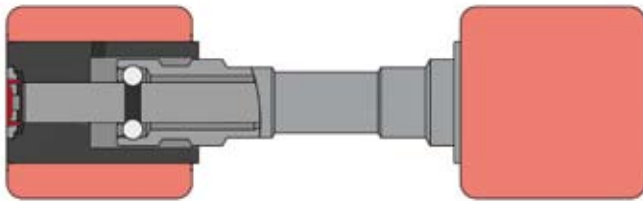
2. Back Top Roller TwinGrip

It is the task of the back top roller to make sure that the roving is fed absolutely uniformly to the drafting system. Even small deviations will lead to variations in the final yarn count.

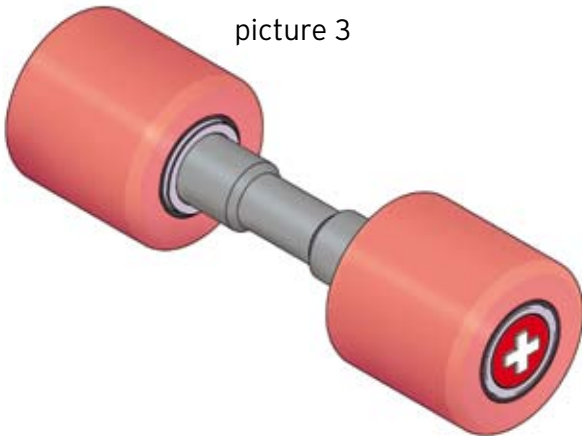
The necessary force to break the twist in the roving may vary quite a bit, since the twist is never spread evenly over a given length of roving. As a consequence, the two bosses of a common loose-boss top roller seldomly rotate exactly synchronized.



picture 2



picture 3



picture 4

In order to overcome this short-coming, ROTORCRAFT has developed the TwinGrip-back top roller (picture 3). Both bosses are pressed on to a common arbor, and therefore can rotate only simultaneously. Mathematically, this results in an equalization of the clamping force of the two bosses of $\sqrt{2} = 1,4$. This will ultimately lead to a more even feed of the roving and less variation in the final yarn count.

3. CDC Cradle

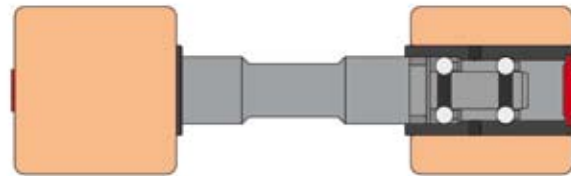
The **Complete Drafting Control** cradle not only keeps the strand of fibres firmly under control between top- and bottom apron. It also keeps control of the break draft by means of a roving pressure bar, and guides the fibres after they leave the apron nip by means of a fibre guiding bar (picture 4). This unique assembly guarantees the most uniform drafting currently available.

4. FatCot Front Top Roller

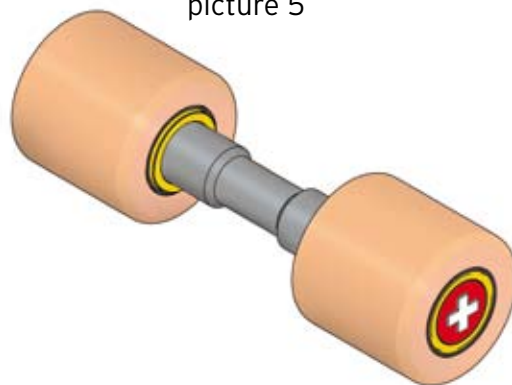
It is common knowledge that yarn values deteriorate simultaneously with the reduction of the wall thickness of the rubber cot. Today's standard front top rollers usually start with a cot diameter of 30 mm, which corresponds to a wall thickness of 4.5 mm. When the cot diameter reaches 26 mm after a number of buffing cycles and the wall thickness consequently is down to 2.5 mm, it is high time to replace the cot by a new one.

This unwanted gradual deterioration of yarn values has prompted ROTORCRAFT to develop a new front top roller with the aim to keep a wall thickness of the cot of 4.0 mm even at a diameter of 26 mm only (picture 5).

FatCot is the only front top roller which keeps the elasticity of the cot necessary for first class yarn values over the full life cycle of the cot.



picture 5



 **ROTORCRAFT**

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