CHAPTER 8

CONCLUSION

Quality of a ring spun yarn is largely governed by the spinning parameters of the process. The purpose of this project was investigage the influence of some of these parameter on yarn quality.

The results obtained with the combination of three different distance clips and top roller pressure in Ring Spinning are represented graphically from Fig. 11 to 25.

From the results it is clear that the above parameters have a significant effect on the quality of yarn.

Of the nine sets of readings taken with respect to ends down rate, U%, Thin, Thick places and neps tabulated in the summary of test results the primary conclusion that could be arrived at is that the 3.5 mm. gauge distance clips give comparatively better results than with the other two types. These results are tabulated in tables No. 7, 8, 9 and fall within the acceptable tolerance limits.

With respect to ends down, readings tabulated in table No. 8 show the lowest ends down rate. However ends down rate given in table No. 7 is also within the acceptable tolerance limits.

It is apparent that the values obtained for U%, Thick, Thin places and Neps given in table No. 7 are by far the best.

Therefore, it is logical to conclude that the conditions applied in arriving at the values in table No. 7 produce the best results. By comparing the parameters chosen in this project in arriving at the best possible combination for the optimum quality of yarn it can be stated that the combination of 3.5 mm. gauge distance clips and the normal roller pressure (10 Kgs.) is the best for spinning the yarn count 30 Ne warp.

Appendix I

'K' Factors for Different Values of 'F' and 'L'

L \ F	3.6	4.0	4.4	4.8	5.2	5.6
17.0	1.3	1.6	2.0	2.3	2.7	3.2
16.5	1.4	1.7	2.1	2.5	2.9	3.4
16.0	1.5	1.8	2.2	2.6	3.1	3.6
1.5.	1.6	2.0	2.4	2.8	3.3	3.8
15.0	1.7	2.1	2.5	3.0	3.5	4.1
14.5	1.8	2.2	2.7	3.2	3.8	4.4
14.0	1.9	2.4	2.9	3.5	4.1	4.7
13.5	2.1	2.6	3.1	3.7	4.4	5.1
13.0	2.3	2.8	3.4	4.0	4.7	5 5
12.5	2.4	3.0	3.6	4.3	5.1	5.9
12.0	2.6	3.3	4.0	4.7	5.5q	6.4
11.5	2.9	3.6	4.3	5.1	6.0	7.0
11.0	3.1	3.9	4.7	5.6	6.6	7.6
10.5	3.5	4.3	5.2	6.1	7.2	8.4
10.0	3.8	4.7	5.7	6.8	8.0	9.2

Appendix II

U % Expected Under Good Working Conditions For

Different Values of 'K'
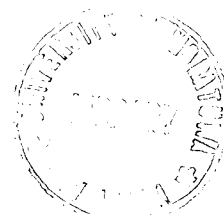
K	100s	80s	60s	K	40s	30s	20s
1.5	16.6	15.3	14.2	4.0	16.4	15.3	13.7
1.6	16.9	15.6	14.4	4.2	16.6	15.5	13.8
1.7	17.2	15.8	14.6	4.4	16.8	15.6	14.0
1.8	17.4	16.1	14.8	4.6	17.1	15.8	14.1
1.9	17.7	16.3	15.0	4.8	17.3	16.0	14.2
2.0	18.0	16.5	15.2	5.0	17.5	16.2	14.4
2.1	18.2	16.8	15.4	5.2	17.7	16.4	14.5
2.2	18.5	17.0	15.6	5.4	17.9	16.5	14.6
2.3	18.8	17.2	15.8	5.6	18.2	16.7	14.8
2.4	19.0	17.4	16.0	5.8	18.4	16.9	14.9
2.5	19.3	17.7	16.1	6.0	18.6	17.0	15.0
2.6	19.5	17.9	16.3	6.2	18.8	17.2	15.1
2.7	19.8	18.1	16.5	6.4	19.0	17.4	15.3
2.8	20.0	18.3	16.6	6.6	19.2	17.5	15.4
2.9	20.2	18.5	16.8	6.8	19.4	17.7	15.5
3.0	20.5	18.7	17.0	7.0	19.6	17.9	15.6
3.1	20.7	18.9	17.2	7.2	19.8	18.0	15.8
3.2	21.0	19.1	17.3	7.4	20.0	18.2	15.9
3.3	21.2	19.3	17.5	7.6	20.1	18.3	16.0
3.4	21.4	19.5	17.7	7.8	20.3	18.5	16.1
3.5	21.6	19.7	17.8	8.0	20.5	18.6	16.2
3.6	21.8	19.9	18.0	8.2	20.7	18.8	16.4
3.7	22.1	20.1	18.1	8.4	20.9	18.9	16.5
3.8	22.3	20.3	18.3	8.6	21.1	18.1	16.6
3.9	22.5	20.5	18.5	8.8	21.3	18.2	16.7

Note : If a Mill uses a cotton with 'K' = 4.6 for 40s count, then under good working conditions, the yarn U% would be 17.1. Conversely for producing a yarn of 16.6 U% in 60s count under good working condition the 'K' value should be 2.8. For combed count, the yarn U% would be lower by 1.5 for 10% comber waste.

Appendix III

Assumption Made For Estimating U % From K

Ne	Ring Frame Draft	Roving * U %	Ne	Ring Frame Draft	Roving U %
20s	19	7.0	60s	24	6.0
30s	21	7.0	80s	25	6.0
40s	22	6.5	100s	28	6.0

* Periodic irregularity in roving is not taken into account.

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