CHAPTER - VI :

AN URGENT NEED OF QUALITY CONTROL WITH MODERN MACHINERIES IN FOOTWEAR MANUFACTURE

" Good shoes make good impressions - See that its Leather."

Particularly in footwear manufacture the subject of quality control is of quite special importance, There are various reasons for this and in the first instance it is connected with the fact that in the manufacture of footwear a natural product, leather is used as the principal raw material. This material has differing properties and structures even within one skin and calls for a considerable degree of skill and experience in its making-up. In addition, in the manufacture of shoes upto 150 different operations are necessary and on account of the material involved, leather - quite a number of these still have to be carried out manually. This means that in footweat manufacture

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one is till to a great extent dependent on the training, experience and reliability of the workers. Cetainly the level of quality amied at for the footwear being produced also depends on which market the goods have to penetrate.

CRITERIA OF QUALITY :

How then does the quality of a shoe manifest itself ? Here the purely external appearance of the shoe will be mentioned first. This is governed by pattern and cut the material and the way it is made up, as well as by the finish of the shoe. A vital quality feature is the fitting property of the shoes. Now it is impossible to produce shoes which will fit every foot, but by very careful adjustment of the last measurements to the particular target group constant checking against reliable experience figures one has to find the optimum compromise one which will also take full account of the orthopaedic aspect.

The most essential factors in connection with the quality of shoes are the wear properties. Here we mean primarily that the amount of wear exhibited by the various parts of the shoe shall be as small as possible. One must not, however, forget those factors which constitute good health and comfort properties in wear. Those include for instance, the "breathing" properties, water vapor permeability and water absorption capacity of the lining and the upper material. By observing the points mentioned a film can grade itself as a manufactures of high grade goods

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and in this way win a loyal and grateful cricle of regular customers. As we have seen, quality compromises many factors. If quality fails in respect of even only one of these factors, the whole produce becomes inadequate. For instance, no matter how respledent a shoe may be, a fault in the pattern and design cannot be compensated for by the particularly good finish. A shoe with poor fitting properties cannot be upgraded by effective decorative stitching. This shows how complex the subject of quality in footwear manufacture is and what importance must be assigned to quality control.

QUALITY STARTS WITH PURCHASE OF THE MATERIALS :

One must not think that quality control is something limited to manufacture and that good quality inspectors at the end of every stage of production will be a guarantee for high quality. If one wants to ensure reliable and economical quality one has to plan for it. This begins already with the choice of the materials.

There are of course very many different materials used in shoe manufacture. Apart from leather, there are all the fabrics woven from natural and synthetic fibres, the nonwovers, the rubbers, the plastics, to mention only the broadest classes. Every one of these material must be tested for its suitability. It is absolute essential to test new materials thoroughly for

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their workability in the factory and for their wearing properties before they are passed for use in production.

As we all know, materials are not always supplied in the same quality. For this reason it is necessary to arrange for a well planned quality control at reception. The inspectors who examine for quality at the goods receipt control must be supplied with the respective quality check lists for the various groups of materials. These check lists indicate the nature and scales of the testing to be carried out on the different materials.

THE DESIGN AND CONSTRUCTION OF THE SHOE IS IMPORTANT :

A further essential point for ensuring quality lies in the attentiveness to the structural features of the shoes. Of particular importance here is the reinforcement of the upper at specially stressed points. Ensuring the quality of the upper construction should, however, not be left to the designer alone. It is advisable to entrust an experienced shoeman with this extremely responsible task. His work will consist of bringing the type of shoe, the materials and the reinforcements into harmony. Here particular care should be taken in regard to securing the top-line, the taking in of the lining, any slashing of the upper, cutouts and divisions. In additions one should check that the suitable reinforcement material is being used at the most critical points.

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In order to ensure that this securing of endangered points in the upper becomes part of the production practice, all these technical details and instructions as amended by the comments of the responsible shoe technician are entered in the production drawings of the desings. These are line drawings of the shoe with the individual reinforcement points marked according to a system of coding which applies to all stagesof production and is laid down in a set of standard instructions applicable to all stages. This is to avoid having to enter too much text on the drawings.

MANUFACTURING INSTRUCTIONS :

All the instructions concerning the bottom, the lasting and bottoming operations and the finish are entered by the bottoming specialist on the parts list. Where the corresponding working instructions appear on the same line as the material. Since the factory receives the parts list as the main work-ticket together with the other workings papers which acomapny the shoes through the whole manufacturing process, direct and complete information at the work station is thus ensured. The production drawing of the design of the upper mentioned above is printed on the back of the main work-ticket and thus complements the working papers to give complete manufacturing information.

CHECKING THE FITTING PROPERITIES :

In paralled with designing the shoe, good fitting properties

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must be ensured, this begins with a fitting trial of the last. First shoes of the intened types are made on the new last. These are then fitted on a number of appropriate test subjects and the necessary alterations are determined. This operation is respected with corrected last until the results are satisfactory.

After this the patterns have to be checked with respect to the last. For this shoes in three different sizes are produced and are constantly checked by the pattern cutter during manufacture to see whether the patterns of the model sizes and the bottom parts match. As an additional ensuring of the fitting properties, these samples are likewise tested on various subjects. Only when here too no further corrections appear necessary can one start on making (or ordering) lasts, press knives, matrices and templates for mass production.

As an aid to ensuring quality it is advisable to put through the so-called " Zero Run " before starting on actual production. This involves a pre-run of 50 pairs of shoes in the two sizes. The object of this zero run is to identify possible weaknesses and remedy them in time.

In the case of completely new types of shoes, constructions or material wear tests are essential before starting mass production. These wear trials should be carried out using test wearers suitable for the type of shoe in questions. It is advisable to check the testworn shees regularly and to evalute the results carefully.

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PRODUCTION QUALITY CONTROLS :

And now we come to quality control in manufacture itself. The quality idea must rather be embeddedin the whole managment conception of the factory. The aim of quality control is to keep the difference between the . WHAT IS and the WHAT OUGHT TO BE as small as possible. Control during production is generally organized in such a way that the individual manufacturing departemtns clicking, closing lasting and bottoming and shoe - rooming - are each respectively responsible for the required quality. This means that the work as it passes from one stage of manufacture of the next must be faultfree-unexceptionable in regard to quality. For this reason there is a quality inspection at the end of each of stage of manufacture the number of persons maning it will depend on t he daily output that has to be coped with.

CONTROL OF LEATHER AND OF CUT PARTS :

In the cutting (clicking) room there are two control points. One of these has the task of inspecting the upper leather before distribution to the clickers to see whether the quality, strength, structure and colour correspond with the set samples. If divergencies are not found until the parts are cut out or, worse still until the shoes is made, this can lead to serious trouble.

At the end of the clicking room the cutout parts themselves are subjected to a through check. Here attention is paid to

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pairing cutout parts, to the lines of tightness in the parts and to faults in the leather. Badly cut out parts are returned to the clicker in question for correction.

CONTROL IN THE CLOSING ROOM :

Owing to the large number of operations involved, the danger of quality deficiencies in the closing room is particularly high. Quality control at this stage of manufacture is accordingly particularly important. The check point at the end of the closing room must pay special attention to the precise execution of the seams, to complaince with the seam allowances specified and to the neat catching of the lining.

CONTROL IS LASTING AND BOTTOMING :

In the making room there are as a rule two stations for quality control. Of these the first is located immediately after the operation "seat (backpart) lasting" Defects attributable to lasting operations can still be corrected at this point, i.e. before the lasted margin has been roughed. Minor faults, for instance lasting pleats in the upper leather, can be dealt with directly by the inspector here. More time-consuming defects, such as a crooked backseam, are handed over to the foreman who returns these shoes to the culprit for improvement if only for educational reasons.

The second inspection takes place after the operation of

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"last slipping". Here besides carefully checking that the sole attachment is absolutely right, the interior of the shoe is quite specially inspected, both for pleats in the lining and for tacks and staples.

THE FINAL INSPECTION :

At the end of the shoe rooming department there is the main checkpoint of the entire production process, covering all the manufacturing departments. Only people with a special sense of responsibility should be entrusted with this inspection. One must always be aware of the fact that the next person who will handle the shoes, will be the customer. It is important that not too high a daily out-put is demanded of the inspectors at this point it should not as a rule exceed 1200 to 1400 pairs.

The work of the inspectors can only be crowned with success if they are well and truly backed up by the technical management. A precondition here is that the factory manager spends a considerable part of t his working day in ensuring the quality of his production.

For the foreman it must be a matter of course that they concern themselves for greater part of the day about the maintenance of quality standards, In this connection the foreman has the duty of training his workers in such a way that every operative is the checker of the man before him. He just must not accept any defective work from him.

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In addition to achieving quality work by constant supervision, there is important possibility of motived the work-force to produce quality goods by a system of bonuses. In the cutting room the bonus system for optimum material utilization affords a good possibility of getting better quality cutout parts, combined with cost savings. Such system involve dedications from the bonus for incorrectly or poorly cut parts and thus the production of quality work is fostered. A further bonus system concerns the inspectors. In addition to their pay, they get a bonus if the number of defective goods or "cripples" or of second quality shoes remains below a specific x percentage.

In the larger factories the setting up of a top-level quality control has proved effective. Top-level here means that the control unit is directly responsible to the firm's management and therefore cannot be influenced by any dependence on the factory manager or a foreman.

TOP - LEVEL QUALITY CONTROL :

The functions of a top-level quality control unit are very varied. First of all its task involves carrying out quality testing on a random basis by roving inspectors ; the inspection is carried out at different work-places at various stages in production, it would include the testing of the sole adhesion. It has been found advantageous sometimes to re-check goods which have already been checked before, in order to demonstrate

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to the various individual examiners where their weaknesses lie.

The task of the top-level quality control unit should, however, not be limited to the pure examining functions. The unit should pure examining functions. The unit should advise the technical management staff on the basis of the defects which have been found, so that these faults can be avoided in the future. For this reason it is essential that the top-level quality control unit should staffed by qualified all-round technical men who have a good knowledge of shoe making and are very experienced.

Further more it is part of the task of the top-level quality control unit to undertake the evaluation of the figures for returns (cripples) and the reports from quality examiners. To cope with the date which accures an electronic data processing installation many well be used. The electronic print-out for the returns and control reports will show the frequency of the individual defects. This gives the staff of the top-level quality control unit the possibility of discussing the evaluation of the examination results with factory management and foreman.

COST CONSCIOUSNESS - EVEN IN THE QUALITY CONTROL :

In one's effects to improve quality one must not leave cut of account the cost effectivness. The costs for attaining a certain quality level must be commensurate with the amount of money saved by a avoiding the losses due to poor

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quality. Complaints or having to regrade shoes as " seconds ".

Maintaining the required quality is certainly a tedious business which demands a great deal of energy and preservance. But one must not allow oneself to be discouraged, whatever the set backs. What is important is the constant watching of the quality requirements of the market, since these too are subject toa measure of change during the course of time. Successful selling depends on well - timed matching of the product against the market.17

In Kolhapur city, no modern machines are installed in these industries. All footwear manufacturing work is being carried down by hands only.

LIST OF IMPORTED LEATHER FOOTWEAR MACHINERY:

Sr.No.	Description	Make
1)	Insole covering machine	German
2)	Hydraulic shoe last removing machine	German

17. Klaus Dobel Mann, article Laxport Bulletin, Vol. 5 No. 2, (October, 1982) PP. 75-81.

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Sr.No.	Description	Make
3)	Backle Attaching machine	German
4)	Insole stapling machine	German
5)	UE Automatic shoe Upper Pulling machine	German
6)	Shoe Tack Lasting Machine with slitting Device	German
7)	Camborian Lasting Machine	German
8)	Pounding-up Machine	German
9)	Heel Lasting Machine	German
10)	Shoe Upper Lining and Stamping Machine	German
11)	Trimming Machine	Italy
12)	Buckle Stapling Machine	German
13)	Double Automatic Hole Punch and Eye letting Machine	German
14)	Pattern Grading Designer's Box with punches etc.	German
15)	Lasting copying lathe	German
16)	Sewing Machine (10Nos.)	German/U.K.

Quality control in footwear manufacture can only be possible if the modern machineries are installed in Kolhapur footwear manufacturing units. Excellent quality and large scale production of footwear can be secured with the help of modern machineries.

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