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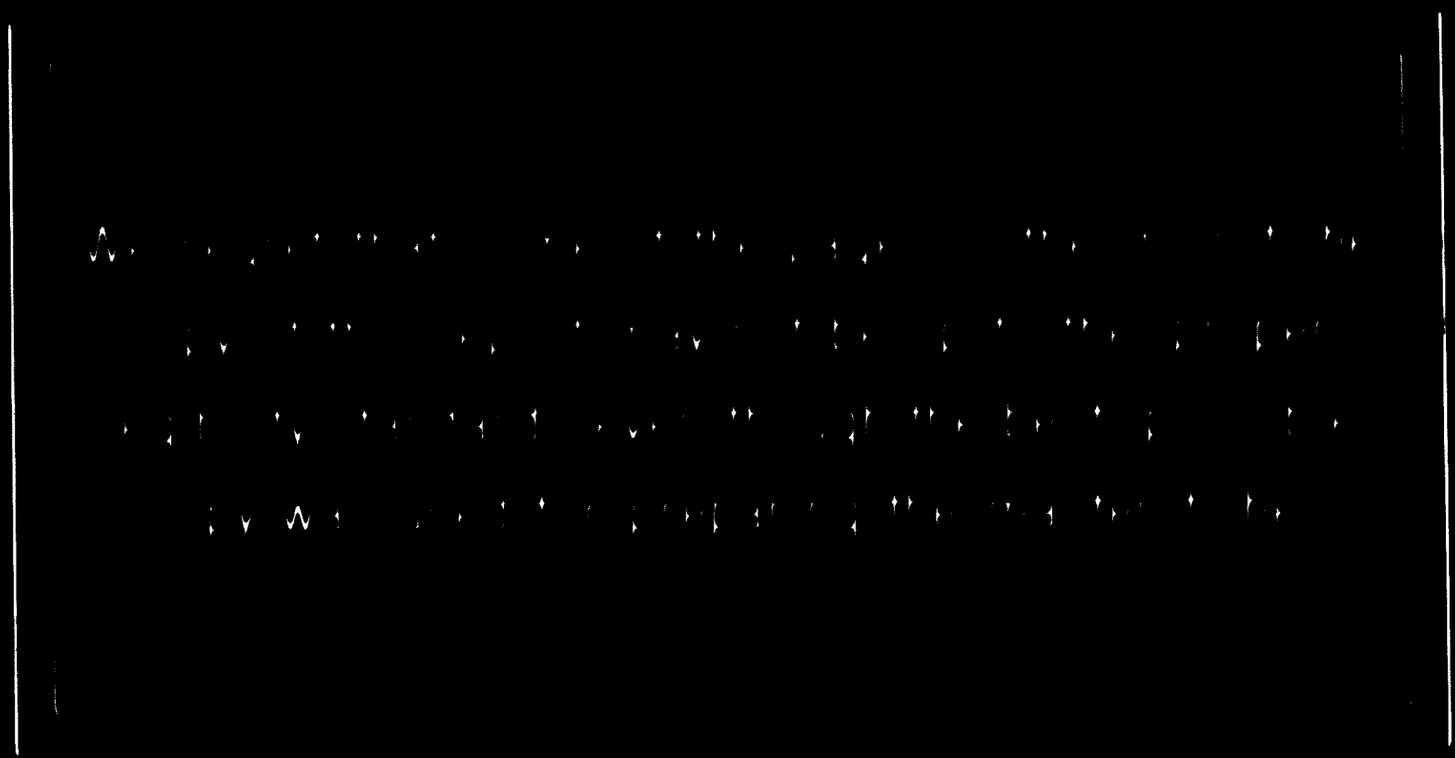

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UNITED NATIONS INDUSTRIAL
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(R) TRAINING OF CLOSING ROOM MANAGEMENT AND SUPERVISORS.

TF/HUN/78/001.

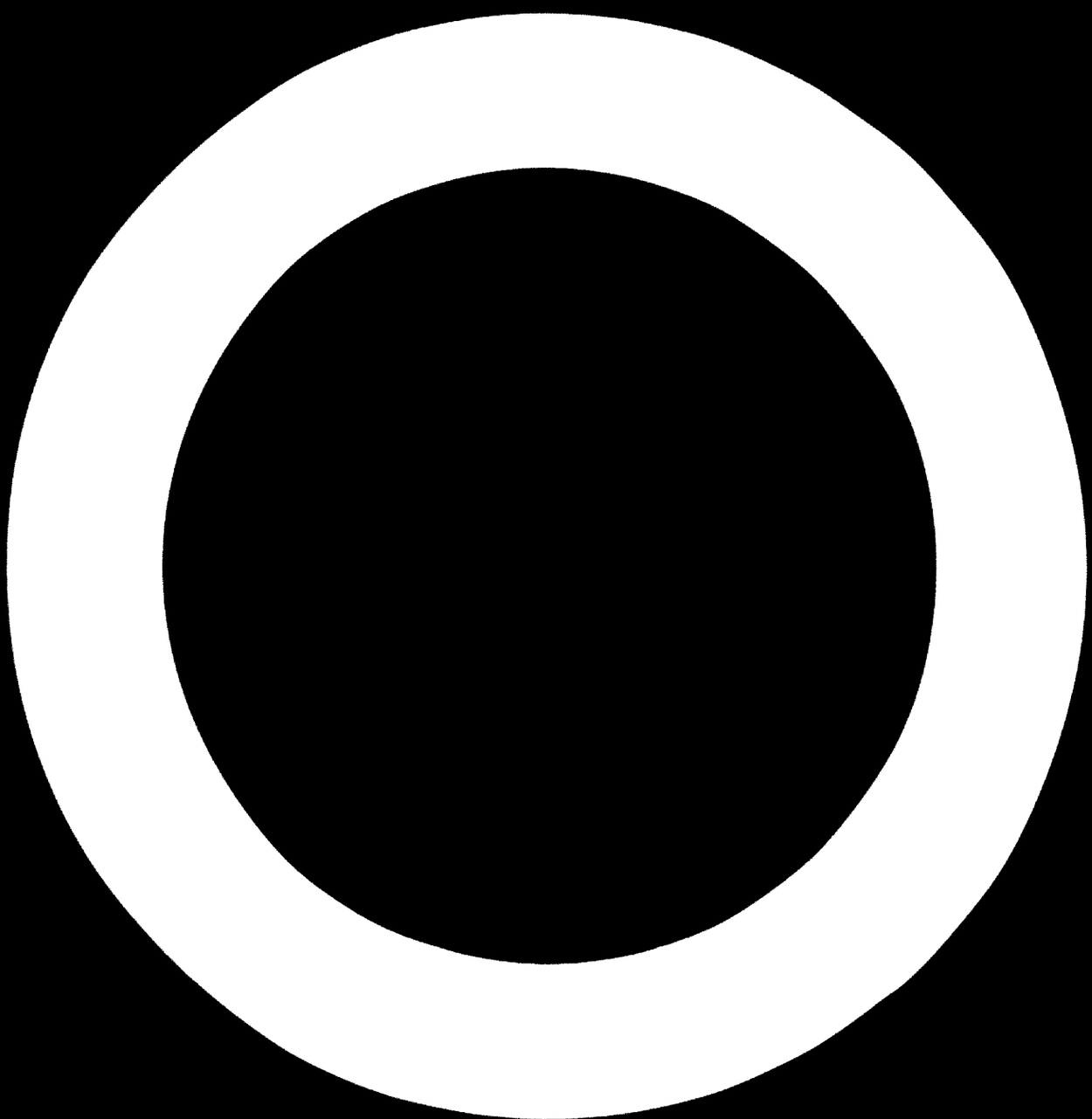
HUNGARY.

Terminal report

Prepared for the Government of Hungary
by the United Nations Industrial Development Organization,
executing agency for the United Nations Development Programme

Based on the work of W.B. Cogger, technical expert

id. 78-7332



ABSTRACT

The project entitled "Training of Closing Room Management and Supervisors" (TF/HUN/78/001/11-01) resulted from the recommendations of the "Footwear Development" project (DP/HUN/75/001), and was a direct follow-up of the project "Training of Sewing Machinists for Footwear Industry" (TF/HUN/77/001).

The agreement for the project's execution was signed on 24 January 1978 and the mission was carried out as follows:

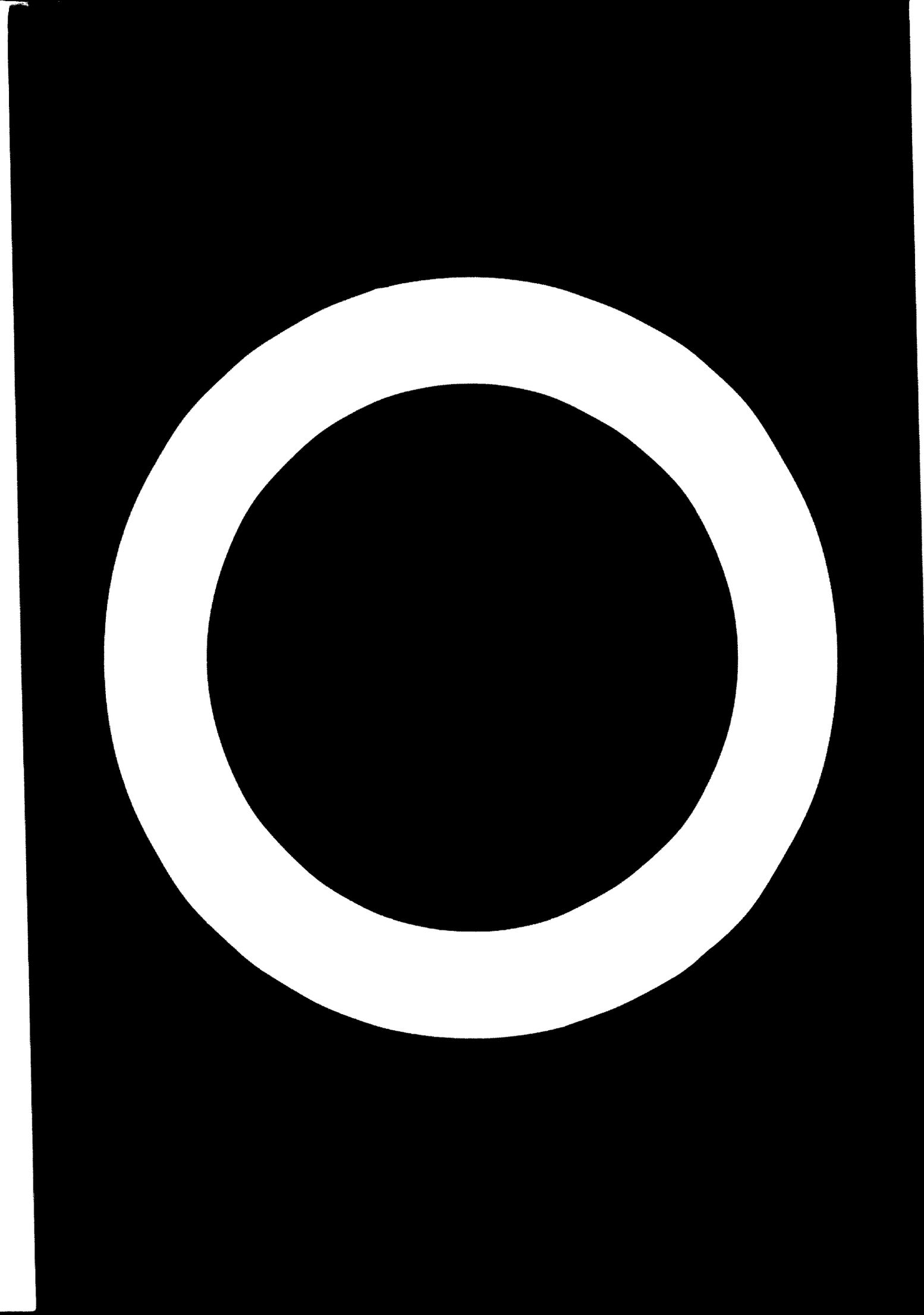
Phase I - Training of Closing Room Supervisors in Budapest
17 to 31 July 1978

Phase II - Training of Closing Room Management in Szigetvár
21 August to 30 September 1978

The objective of the project was to continue the training in the skills analysis method and introduce modern supervisor and management training methods.

This report summarizes the work carried out by the expert at duty stations Budapest and Szigetvár. During his assignment in Budapest a preliminary report was presented to the Ministry of Light Industry and to the Management of Minőségi Shoe Company. This is the second part of the report.

The expert recommended that crash training courses be held for all levels of staff, as they were largely self-taught. He also recommended that the machine layout be reorganized and stricter control be kept of stock and spare parts. Daily or weekly conferences should be held for the staff, with management present, in an effort to upgrade the work.



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INTRODUCTION

The project entitled "Training of Closing Room Management and Supervisors" (TF/HUN/78/001/11-01) (annex) resulted from the recommendations of the "Footwear Development" project (DP/HUN/75/001), and was a direct follow-up of the project "Training of Sewing Machinists for Footwear Industry" (TF/HUN/77/001).

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21 August to 30 September 1978

During the second phase of the assignment held at Szigetvár the group participated in the day to day management of the closing rooms on site and in the conference room. Studies were made in the following:

Modern management techniques and systems
Application of new technology
Utilization of workers trained by skills analysis method
New programming techniques and methods
Low-cost work aids and machinery
Quality control and supervision in closing rooms

Members of the time study department and duty supervisors attended daily training sessions in the classroom and on site exercises. Good participation was achieved.

This report analyses the findings of the expert and the group working as a team, and clarifies some of the factors that contribute to the difficulties of the KATY footwear project at Szigetvár.

The objective of the project was to achieve the maximum advantage of men, materials and machines in the closing room and subsidiary departments by the introduction of skills analysis training and to improve the standard of supervisors, technologists and time study engineers and to find ways and means of meeting future expansion and development requirements.

The immediate objectives were as follows:

(a) To provide assistance in modern supervisory and management training methods;

(b) To continue the labour training skills analysis method;

(c) To advise on production layout;

(d) To devise a constant work flow between the shift workers;

(e) To eliminate all hand and pre-cemented operations;

(f) To introduce direct and freehold stitching;

(g) To devise a full training programme for the labour force taken from pre-cement operations;

(h) To create new motivating factors and modifying attitudes;

(i) To develop job knowledge and skills of the work force and supervisors;

(j) To organize mini conveyors for the assembling and fitting of reinforcements on the Ganzi machine;

(k) To increase production per man hours by improved methods and technology;

(l) To prepare a training programme to provide effective support for future production changes.

I. FINDINGS AT SZIGETVÁR

The general planning and workshop layout in the closing room of the factory at Szigetvár is very good. A special feature is the direct delivery transporters, which are an asset to modern closing room production. The existing machines and equipment are adequate for present needs, but the company is not obtaining the productivity, performance, and quality that they should because of bad technology and machine layout.

Staff

Supervisory staff have not been trained in modern management production techniques, or attended a crash course of training in the sewing machinists programme. By and large, they are self-taught and are not capable of directing, leading, organizing, controlling or managing a closing room geared to modern techniques. The same applies to the shop-floor. There is an urgent need for retraining staff in modern techniques. However, they are reluctant to accept changing a system that, in their opinion, is correct.

The methods they were taught during their three years training period are obsolete, fashionable 40 years ago when upper closing was prefitted at every stage for accuracy. Currently, the time study technologists are still using these methods which increase the labour force by approximately 30%-40%. Immediate steps should be taken to rectify this situation because if know-how and skills are not present, it will be impossible to develop a highly skilled work-force.

Upper manipulation

The cutting department at Szigetvár is fairly well organized in the upper-cutting section, with good use being made of the beam press for cutting linings, re-inforcements etc. although the single arm clicking presses are not working to capacity. The poor quality and colour variations of the leather reduces the output of the cutters and could be considerably improved if the material were better. Time is wasted by tying six pairs of uppers in bundles with string and these have to be tied and untied many times before finally being closed. More than 30 seconds are lost for this operation. Elastic bands of extra strength should be used. A more satisfactory method, which would save a lot of time, would be for the cutter to cut an assortment and put them in stacks of six; these could then be collected in bulk and taken to the quality control table to be checked, paired and packed in bundles of six pairs fastened with elastic bands.

It would be advantageous if the skiving operation was performed before the final quality checking, as the skiving section is adjacent to the cutting section and is the correct place for combined operations. Since the arrival of the expert, the skiving section has been removed to the next floor, entailing more handling and not achieving any better productivity, any faulty parts or damaged components having to be taken down to the cutting department for replacement. It was originally in the correct position and if space was limited consideration should have been given to reorganizing the leather stock-room, for example.

The closing department receives the uppers with all components skived, stamped and re-inforcements fitted, and with the uppers marked with a stitch line. If pattern prickers were inserted in the upper knives, savings would be made on machines, operators and time, and stitching could be performed directly by freeholding, as successfully introduced by the expert.

Upper closing

The machinery and equipment in the closing room works well with moderate mechanical failure rate, however, considerably more post-type machines could be made available if the staff adapted and changed guides, pistons, feed-dogs and plates bringing into service machines that now remain idle. Planning is required for spare parts e.g. correct under-cutting knives. The Pfaff 2332 machine in the stock-room is out of service; if the correct cam were ordered, this machine, which has an automatic cut off, could be used for tacking sandal and buckle straps, thus increasing production, saving labour, and doing a better neater job.

Considerable time and space is lost when processing interlinings: the waiting time for the machine varies from 23-47 seconds. Productivity could be increased by one third if the work were reorganized.

The daily production work programme is produced without any thought being given to work content, availability of machines, equipment, manpower with the required skills or the availability of materials e.g. leather, lining and sundries.

The system now operating is of two shifts, each working vastly different designs. Machines and machinists are not being fully utilized; time is wasted, particularly at the completion of shift work when the whole department has to be reorganized to accommodate the change of designs - a loss of 15-30 minutes while mechanics change machines, reset gauges etc.

The lack of training is apparent in departmental organization. Machine layout does not follow the sequence of sewing operations and work is moved from main line to side transporters, returned and recycled - a considerable loss in time, productivity and performance. Considerable valuable space is taken up by machines, not used in current production, remaining on the main line transporter.

Production line mix contributes to the reduction of performance and under-utilization of skills, machine and efficiency, e.g. the first shift produces boots and the second shift, boots, sandals and pumps.

Correct selection and combination of design with continuity of work will eliminate considerable time loss and productivity, at the same time full use of sewing skills can be made.

Machines are wrongly selected for various tasks; machines equipped with under-cutters are not being used because there are no spare parts or knives.

Machine idling-time on the large interlining and reinforcement ironing press amounts to more than one third of the total cycle time. No thought has been given to using pinmarks incorporated in the knives thus eliminating the marking process.

Machines could be employed for trimming sandals; prefolding sandal straps; punching holes; and applying reinforcement tape.

A considerable amount of pre-cementing operations exist, e.g. vamps and collars. The use of a Hestika machine could be considered for cementing and fitting toe puffs.

Zips could be marked before stitching and rivets used to secure buckles. All these operations would save time and skills.

The lack of post and flat-bed type machines for decoration and fancy stitching causes loss of output and poor quality work. In the machine stock-room the expert found the following: post and flat-bed machines that, if serviced and modified, or a new feed-dog and plate ordered and fitted, could be used immediately. Three of these machines are heavy duty, ideal for decorative stitching; the remaining three are suitable for collars, vamps or zip stitching. A Pfaff 2339 automatic intacking machine is also available which, if the correct cam is ordered and fitted, could considerably increase the buckle attachment intack production and replace the hand-trimming operations.

The fitting of reinforcement doublets is a problem, part being made on the main transporter system, and part on a Guzzi press which is operated by three machinists at the end of the department. This is an excellent machine and, if fully utilized, should be sufficient for making the entire production with the proper work flow system, for example, the loss between opening and closing of the press is 23-45 seconds.

An on site exercise clearly showed that, if a mini transporter system was used, with an increase in component holding trays and three operators taken from the main line transporter, the machine could be fed with maximum efficiency and operator productivity increased by an estimated 20%-30%.

When Pfaff binding post type machines are not required for binding operations, modifications to the binding piston plate could be made by the removal of guide and piston then these machines could be used for the heavy decorative work on designs 5115, 125 and 336 giving better quality work and output.

II. MINŐSÉGI SHOE FACTORY

A detailed study of this factory was not made, only a short tour of the closing room, but the following points were noteworthy:

(a) The transporter system while not modern, would nevertheless be effective if properly used;

(b) Instead of using the box system of 10-20 pairs per box, complete material should be contained in each box, which should be numbered. Operators should work according to the box number and assortment;

(c) The machine layout needs altering to suit the sequence of operations. Training courses should be introduced for the staff;

(d) Department discipline needs to be stricter. Machinists eat and drink at the machines and smoke outside the regulation breaktime;

(e) A daily conference on the quality of closing room uppers and finished shoes should be conducted by a senior member of the staff with the sales manager or his representative present. Faults should be recorded and departmental heads should have copies so that improvements to quality and corrections to techniques can be made;

(f) The hourly recording of individual production performance is a must for feedback;

(g) Order and cleanliness and general good housekeeping needs attention;

(h) Management should demand higher productivity and performance from the labour force, maybe a review of the output bonus system would help.

The work should be done only by day. If the correct methods are used, the machines will be loaded and worked to capacity. That would mean a big savings in machines wear and tear, more time for routine maintenance and better supervision.

Action that could be taken by the Government

One of the biggest problems, creating many difficulties in production planning, is an acute shortage of raw materials, e.g. interlinings, leather and components. If the target figures are to be achieved it is of paramount importance that supplies are claimed from the suppliers and received on time, at least 10 days in advance. The factory at Szigetvár producing the KATY footwear for the North American export market depends on its future orders, which means delivery must be on time. Since the expert visited the factory, the work has been completely reorganized, it is, however, doubtful whether the factory will be able to complete the urgent orders from the United States of America on time.

Any help the Ministry can provide of a speedy clearance of documents and customs would be greatly appreciated by the company. Lost orders mean lost revenue and possibly the loss of future orders from the United States.

It is recommended that the Government consider and take action as soon as possible on labour problems. Discipline is at a low and absenteeism extremely high, causing a chaotic situation in the closing departments.

Supervisory staff, stock controllers and time study engineers

Machines and equipment are of a high standard, however, to meet the demands of modern management techniques and technology:

(a) Staff must be trained;

(b) Attitudes modified or changed;

(c) Wages should be in relation to responsibilities;

(d) An added incentive scheme for 100% performance and quality should be considered;

(e) Short training courses of 5-10 days should be held to cover all industries;

(f) External training should be arranged if possible.

Machines and equipment

Machines and equipment are of equally high standard but an attempt should be made to standardize them and sufficient spare parts should be stocked for emergencies.

Technical training school

Immediate action should be considered to replan the 3-year training programme which is out of date. The skills analysis training for sewing machinists methods must be introduced, the old system is in conflict with the new, and machinists in the 3-year training programme are outclassed by the new trainees trained in the UNIDO system.

Immediate correction is required of pre-cementing and fitting operations that are many years out of date.

Quality control

The standard of quality is good, however, it could be considerably improved by:

(a) The line supervisors doing the job they are supposed to do, that is, supervise;

(b) Assistant supervisors being given a list of job specifications and responsibilities with a master copy held by management, which should be amended at least every six months;

(c) Each operator being visited every hour for the supervisor to check work materials, and obtain feedback on the productivity of the operator against the norm;

(d) The chief quality controller checking regularly for wrong assembling, wrong colour threads and poor standard of work at source before the production is despatched to the making department.

III. RECOMMENDATIONS

1. Planning should be done well in advance of production and the designs used only when there is sufficient material to complete an order.

2. Stock cards should be checked regularly for material availability e.g. leather and lining materials.

3. Reproduction conferences should be held with heads of department, chief closing-room supervisors, engineering and production personnel on:

Selection of the combination of designs
Availability of machines
Work content
Degree of skill required for new machines and equipment
Special programme for the machines, layout and organization

4. Boxes should be increased to contain 10-12 pairs which will entail less handling.

5. Introduce heavy duty elastic bands for boots which will save time.

6. The continuation of designs through shifts should be introduced with a minimum of delay.

7. The machines in the closing room should be organized as soon as possible according to the plan submitted by the expert.

8. Daily one-hour training sessions should be held for training room supervisors, time-study engineers, technologists and production personnel.

9. A retraining programme for experienced machinists should be introduced of 5-10 days duration to correct methods and record work measurements.

10. Increases in piece-work pay should be made as further incentive bonuses to increase productivity.

11. Consideration should be given to increasing the basic pay, or to an incentive bonus for the supervisors of the department. The situation is that operators on piece rates are earning more than the person in charge. This should not be allowed and rewards should be given for responsibility and enterprise.

12. At least every six months the daily production norm should be reviewed and the targets increased accordingly, e.g. 3%-5% according to designs.

13. More effort should be demanded, at Government level, from supervisors and workers. This should be supported by the management who should dictate the company policy and follow up by daily or weekly meetings to discuss proposals or progress. There should be a management advisory committee to allow for a two-way communication between shopfloor supervisors and middle and top management.

14. Consideration should be given to increasing the staff on each shift by one qualified person to prepare and collect materials, exchange damaged parts and give the supervisors more time to supervise the staff. The title of manipulator is suggested for the extra staff member who would be responsible for all the materials required for the current daily production. He would be subordinate to the supervisor on each shift.

15. The locally-made reinforcement machine is good but considerable delay occurs because of the sticking of parts. Consideration should be given to using a silicon spray to prevent this, or alternatively to fit a stainless steel roller.

16. All machines not required for current production should be taken out of the main line immediately.

17. Consideration should be given to making a full interlining knife that will increase production.

18. Management should insist that an hourly recording of individual production performance be made, the departmental head must assure this, and signed by the supervisor at the completion of the shift, not 12 hours later as at present.

19. Sample boards, materials, needles, thread, patterns, should be placed at each machine together with the full information required to demonstrate to the machinist what her job is.

20. A correct inventory of machines available for production should be kept together with stock cards for spare parts, and these must be updated regularly.

21. Hand-punching of straps replaced by machine work.

22. Perforating should be made on the knife in the cutting room, not in the closing room.

23. Straps should be folded and cut in the cutting room, not in the closing room.

24. Buckles should be attached by rivets or by the use of Pfaff Auto Intacking 2332 with the desired cam.

25. Cement machines should be used for neoprene operations.

26. An urgent survey should be made of technology in upper-cutting as the machinists are self-taught and need to be shown the correct method.

27. Time norms should be revised as the actual stitching time does not relate to the norm.

28. Productive use should be made of the training department when trainees are ready for production work.

29. All new machines coming to the factory should go first in to the training department for the operator to be taught their correct use.

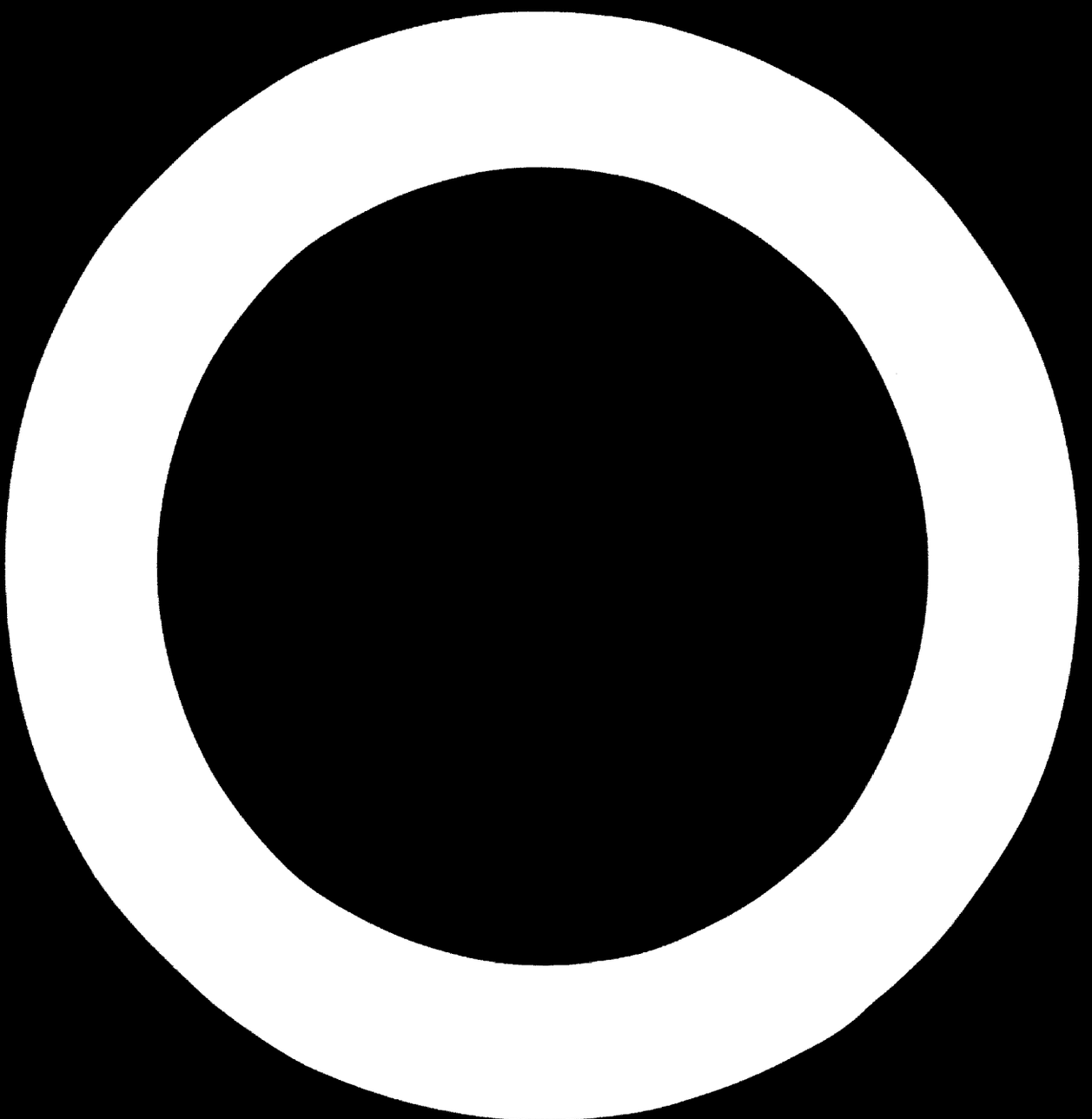
30. A daily pilot run of 20-50 pairs should be introduced in any new design to overcome any difficulties with the technology, improve the time rating, and correct the design on the knives before production starts.

31. The time rating for moccasin uppers seems to be incorrect and should be restudied.

The 3-year training programme should be completely overhauled and all prefitting operations should be abolished.

32. Direct stitching should be introduced at once. The foundation laid as the introduction to upper closing will then be set for a new method. The same applies to upper manipulation and subsidiary departments, all of which are working with outdated methods. To change and modify attitudes is almost impossible, only a comprehensive crash course retraining programme will improve matters and it should be given top priority by the management.

33. The management should consider engaging young people to train as time and method study engineers abroad, for instance, in the United Kingdom of Great Britain and the United States of America.



Annex

JOB DESCRIPTION

Post title	Expert in the Training of Closing Room Management and Supervisors (Footwear Industry)
Duration	Eight weeks (split mission)
Date required	Two weeks - June 1978 Six weeks - August-September 1978
Duty station	Budapest, Szigetvár
Purpose of project	To continue the labour training in the skills analysis method and introduce modern supervisor and management training methods.
Duties	The expert will be attached to the Ministry of Light Industry and will work in the Minőségi Cipőgyár in Budapest and Szigetvár. Specifically the expert will be expected to:

A. During the first phase:

1. Hold a two-week training course for closing room supervisors and technologists on the following subjects:

   -implementation of skill analysis training on supervisory level
   -practical application of MTM in labour training
   -modern management of closing rooms
   -closing room programming
   -specialized closing room work teams

   Twelve persons are to attend the course.

B. During the second phase:

1. Take part in the daily management of a specially selected closing room and implement the following:

   -modern management techniques and systems
   -new technology application
   -utilization of workers trained by skill analysis method
   -implementing new programming methods
   -advise on machinery and low cost work aids
   -quality control in closing room.

The expert will also be expected to prepare a final report setting out the findings of his mission and his recommendations to the Government on further actions which might be taken.

Qualifications	Extensive experience in closing room management, labour training by skill analysis methods, organizing of closing room production, preparation of work programming and quality control in the closing room.
Language	English; German an asset.
Background information	The shoe industry forms an important part of the country's economy. The total annual shoe production in 1976 was 48.4 million pairs and the total work force employed was 42,637 persons. In 1976 the Minőségi Shoe Factory produced a total amount of 7.3 millions pairs of shoes, mainly ladies' fashion footwear. As part of the UNIDO project (DP/HUN/75/001). Footwear Development, a three-week sewing machinist instructor course, based on the skill analysis principles, was conducted. During this course twelve instructors for the Minőségi factory were trained and all Minőségi factories have started their own training departments. It is now important that this work will be followed up and implemented in practical terms in the closing rooms. The Hungarian Ministry of Light Industry intends to create a model closing room in one of the Minőségi factories. The experience gained in this closing room could then be utilized in the whole national shoe manufacturing industry.

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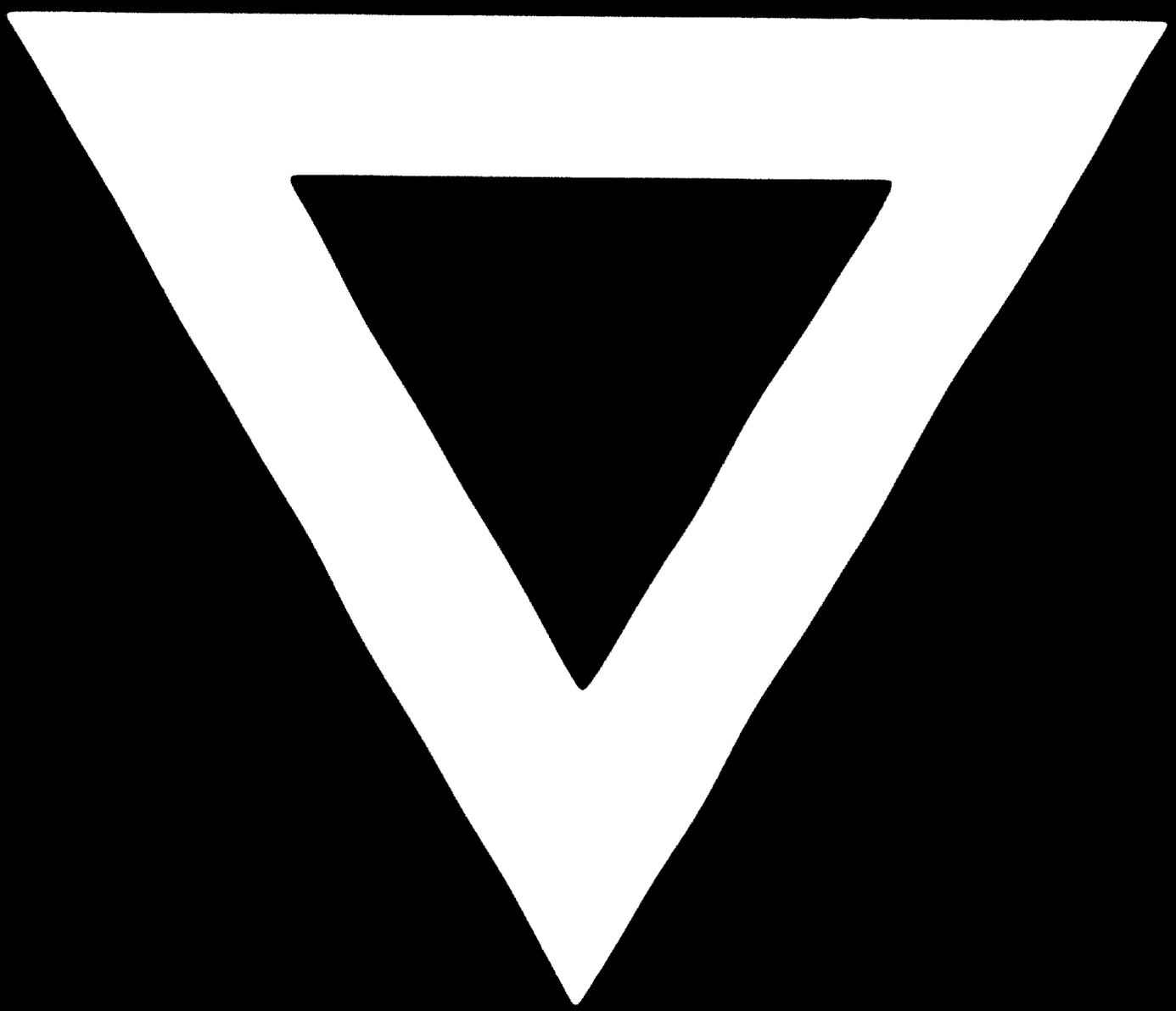

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