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Attn. Mr. D. Gardellin, Officer-in-Charge
Purchase and Contract Service

Re: DE/TH/76/007 - Contract No. 82/85 -
Upgrading marketing and production technologies
at the Turkish Monopolies' cigarette factories in
1) Istanbul-Maltepe
2) Adana
3) Malatya

FINAL REPORT

1) Machine inspection and repairs with simultaneous personnel training by our mechanic H. Nass and electrician E. Rabe in
Istanbul-Maltepe factory from 25.1.85 to 12.2.85:

A) General situation in Maltepe factory:

As far as could be verified by a short general machine inspection in the factory, the cigarette making machines are in a very bad state due to lack of methodical maintenance and repairs. Also a too high moisture content of the cut tobacco leads to disturbances in the cigarette making units. According to the factory management, the machine efficiency is about 50% (as compared to 80% - 85% which should be expected as a minimum standard). Inferior quality of spare parts manufactured in Turkey adds to the low machine efficiency.

B) Service performed by our mechanic H. Nass

at the following machine units: 1160
cigarette maker GARANT 1 No. 658
filter assembling machine MAX-15 No. 8721
cigarette tray filler UCK No. 1052
(year of construction of afore-mentioned machines: 1976)
The following mechanical re-adjustments and repairs were made at above mentioned machines with simultaneous demonstration of performance of these works to the factory's engineers, mechanics, and maintenance foremen:


Works performed and demonstrated at GARAVI-1 cigarette maker:

a) Damages to the cigarette hopper resulted from the fact that the factory personnel had removed the dust drawers from underneath the hopper so that dust was accumulating and building up from the floor into the hopper. Broken gear wheels were replaced. The personnel has been instructed to use the dust drawers underneath the hopper for collection of dust, and to remove the latter regularly.

b) The cut tobacco conveying roller in the hopper had to be newly covered with carding material as the existing carding on the roller showed differences in height of over 1 mm (this leading to uneven tobacco carpet formation).

c) Flanges of the winnowing roller shaft were outworn and have been replaced.

d) Pins on the picker roller and tobacco "combs" completely renewed, as outworn.

e) Paddle roller magnet exchanged and roller plates re-adjusted.

f) The damaged tobacco accelerator roller at the tobacco channel could not be substituted due to lack of a spare set.

g) A number of minor parts found outworn were exchanged.

h) The knifehead was completely removed, disassembled, repaired, re-assembled and re-adjusted. Knife grinder motors were exchanged as shafts were bent. Distance of cigarette cutting tubes was corrected to 0.25 mm (found to be 1.0 mm before).

i) Connection of cooling air to nuclear measuring head was out of order resulting in frequent tobacco rod breaks. This was repaired. Special keys for removal of the measuring head were not found in the factory.

j) Rod equalizer was found in wrong position leading to too heavy cigarette weights. Repairs and re-adjustments were made.
Works performed and demonstrated at MAX-15 filter cigarette assembling machine:

k) The main problem to the factory personnel is the cigarette inspection drum as this is a sensitive unit requiring regular maintenance and fine adjustments. Practically none of the cigarette inspection drums were working in all the MAX filter cigarette assembling machines in the factory, i.e. faulty cigarettes detected by control of air resistance of each individual piece were not automatically ejected. Not all required parts were available so that the cigarette inspection drum could not be fully overhauled. This was done to such extent as possible under the circumstances (always under simultaneous demonstration to the factory personnel as was done in all the repair work and re-adjustments, etc.).

Works performed and demonstrated at the tray filler HCK:

1) Oil in the gear box was exchanged what apparently had never been done before, re-adjustments were made at the suction rail, at the pusher plate, pusher, and at the valves, for improvement of cigarette filling into the trays.

Works performed and demonstrated at MAX-V No. 8200 (1971):

m) The cigarette reception unit (group 917 MAX for connection to cigarette maker CS 10) was completely explained to the personnel and worn-out parts have been substituted and re-adjusted.

Works performed and demonstrated at MAX-V No. 7089 (1972):

n) Filter hopper and tipping device were completely disassembled and repaired by exchange of worn-out parts, re-assembled and re-adjusted.

C) Service performed by our electrician E. Rabe

at various machines which temporarily were not in productional operation,

with simultaneous demonstration of performance of these works to the factory's electricians:


In addition to the undermentioned practical work performed, five days were spent for theoretical training, i.e. questions of the factory's electricians were answered by our Mr. Rabe, additional general instructions were given by him and were written down in a manual describing the most essential electrical points to be observed in maintenance and re-adjustments of the GARANT-I cigarette maker, MAX-V filter cigarette assembler, and HCK tray filler.
The following electrical disturbances were found at various machines and were remedied under demonstration to the factory's electricians:

a) at GARANT-I cigarette maker:
- malfunctions of automatic bobbin changing, rod control, ejection valve, high-speed start "Automatics", seam sealer valve with rod cutter, paddle roller control and volume adjustment,
- special keys for nuclear measuring head not available,
- switch cabinet fans out of order - no spare sets available,

b) at MAX-V filter cigarette assembling machine:
- adjustment of time relay for high-speed start, filter and tipping material start and stop operations, cutter stop control, and adjustments of cigarette inspection drum, cigarette ends detector, and of glue level feeler.

Note: Cigarette inspection drums, cigarette ends detectors, and glue level feelers are not working at practically all machines in the factory.

c) at HCK tray filler:
- various questions asked by the factory's electricians were discussed and clarified.

2) Machine inspection and repairs with simultaneous personnel training by our mechanic H. Nass and electrician E. Rabe
in Adana factory from 14.2. - 5.5.83:

A) General situation in Adana factory:

The cigarette making units in the factory were found in a better condition, generally, as those in Maltepe factory. However, also in this factory (Adana) the major part of machines shows deficiencies due to lack of methodical maintenance and repairs. Details are stated hereunder under B). Generally, supply of vacuum air to the cigarette makers (12 m bar) by a central system is insufficient (20 m bar required) what leads to continuous disturbances in the cigarette makers and to bad tobacco filling of the cigarettes. Furthermore, practically all cigarette inspection drums in the filter assemblers are not working (same as in Maltepe) - this due to lack of spare membranes (which are available sufficiently in Maltepe spare parts stock).

According to the Production Manager, efficiency of the cigarette making department is about 76 % (which seems doubtful).

Stock of spare parts is insufficient.
B) Service performed by our mechanic H. Nass at the following machine units:

cigarette maker GARANT 18 No. 1171
filter assembling machine MAX-V No. 8119
cigarette tray filler HCK No. 1351
(year of construction of afore-mentioned machines: 1975)

The following mechanical re-adjustments and repairs were made at above mentioned machines with simultaneous demonstration of performance of these works to the engineers, mechanics, and maintenance foremen:

Messrs. Mahmut Türker, Mehmet Özelkeil, Neydet Arpacı, İrfan Özsay, Cani Soyer, Ergin Karayel, Mete Gözeli, Soleyman Belgin.

Works performed and demonstrated at CARANT 1 cigarette maker:

a) The tobacco hopper was disassembled and overhauled which included new carding covering of the cut tobacco conveyor roller, exchange of pins of the picker roller, exchange of combing plates and of drive belts.

b) Re-adjustment of tobacco channel, overhaul of tobacco rod equalizer, re-adjustment of rod suction conveyor, replacement of inlet fingers.
   Note: The inlet fingers manufactured locally are usable for maximum 80 hours, as compared to original inlet fingers of up to 1,200 hours life time (according to statements of the factory personnel).

Works performed and demonstrated at MAX-V filter cigarette assembler:

c) The machine was nearly completely disassembled, a number of damaged tooth wheels in the safety clutch exchanged (damages caused by broken ball bearings), all disassembled parts were cleaned, the gear duly greased, damages to drums and guides repaired, control rings were exchanged or re-repaired and re-adjusted.

d) Cigarette inspection drum and cigarette ends detector drum were overhauled.

Works performed and demonstrated at HCK tray filler:

e) Various machine groups were overhauled and re-adjusted, spoiled ball bearings at the suction rail replaced, cylinders of the compressed air system overhauled, a basic re-adjustment of the entire machine unit performed.
C) Service performed by our electrician E. Rahe at various machines which temporarily were not in production operation, with simultaneous demonstration of performance of these works to the factory's electricians:

Messrs. Tacetin Koç, Mustafo Çikvidos, Adnan Aray Hüseyin Redir.

General instructions given to the electricians, based on their questions and problems encountered with GARANT IB cigarette maker, MAX-V filter assembler, and HCK tray filler. Furthermore, time adjustment of cigarette ejection was performed at the cigarette maker in connection with bobbin changer, adjustment of cigarette inspection drum at the filter assembler, as well as of time relay. Adjustment of suction rail (electrical time control) performed. On request of the factory's electronics, questions were answered concerning tobacco moisture metering device HMK and pneumatic feeding system BS.

5) Machine inspection and repairs with simultaneous personnel training by our mechanic H. Nass and electrician D. Rahe in Malatya Factory from 7.3. - 22.3.83:

A) General situation in Malatya Factory:

Similar to the situation in Adana Factory, the machines in Malatya were found in a better condition, generally, as compared to those in Istanbul-Maltepe. The production efficiency was stated by the Production Manager to be about 65 %. A sufficient stock of spare parts is not available. Supply of vacuum air to the MAX filter cigarette assembling machine was found insufficient, i.e. 0.2 bar (instead of 0.4 - 0.5 bar required). The cigarette inspection drums in the MAX machines were found not properly functioning, mostly due to maladjustments.

B) Service performed by our mechanic H. Nass with simultaneous demonstration of performance of these works to the engineers, mechanics, and maintenance foremen:

Works performed and demonstrated at MAX-V No. 8722:

a) The cause of vibrations in the cigarette reception unit was found in the fact that locally manufactured tooth wheels are used in the MAX driving gear - the tooth wheels manufactured locally are lacking truth of rotation.

b) Also disturbances in the cigarette infeed gear were found caused by locally manufactured cone rines.

c) Brake of tipping device was jammed tight due to having not been greased since years.

d) Damages to needle bearings in the main gear were found, caused by insufficient greasing. Similar damages were found at nearly all machines - repairs would require 6 - 8 working days by four mechanics, per machine!

e) Theoretical instructions and practical demonstrations of adjustments of cigarette inspection drum were given.

Works performed and demonstrated at MAX-V No. 8785:

f) Transfer of cigarettes from the LOF maker into the MAX machine was not functioning properly, necessary adjustments were made, suction holes in the cigarette infeed drum were cleaned, control rings and cover exchanged.

Works performed and demonstrated at HCK No. 1740 tray filler:

g) All main adjustments of the machine were demonstrated and practiced, function of gear, magnet clutches and central greasing system were explained and re-adjustments made.

Works performed and demonstrated at tray fillers HCK Nos. 1570/1723:

h) At these machines, the factory's mechanics practiced under supervision and instructions by our mechanic H. Nass, various adjustments like 0-position of the cigarette filling system, number of cigarette rows, of valves and cylinders of the compressed air system.

C) Service performed by our electrician E. Rabe at various machines with simultaneous demonstration of performance of these works to the factory's electricians:

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Re-adjustments of electrical controlling devices were made and demonstrated at the cigarette inspection drum and time relay of MAX-V filter cigarette assembling machine, and at the suction rail of the HCK tray filler. Furthermore, all problems and questions asked by the factory's electricians were discussed and demonstrated at machines. Methodical maintenance service was practiced at MAX-V and HCK machines.

It was recommended to the factory's technicians to have the machine maintenance service performed simultaneously by mechanics and electricians so that technical problems which partly fall under mechanics' as well as electricians' responsibility simultaneously are completely solved by common action instead of part repairs or adjustments, or none, being made by only one service group (either mechanical or electrical).

4) Report to Istanbul head office on March 23rd and 24th, 1983

The problems found, works performed, etc. as explained herein before were reported to the head office in Istanbul, Mr. Tayfun Zaimoglu and Mr. Musaftar Alioglu, before departure of our mechanic H. Nass and electrician E. Rabe on 24.3.83.

P. Menge
Körber & Co. KG