TRIP REPORT

March 13-14, 1967

C. A. Perkins

Distribution:
RH Berg
VG Betar
VC Campbell
JW Dopp
I Fettman
JC Hickle
A Lett
LJ McCloskey
DS Monroe
WH Nicklas
WJ Noroski
WD Palmer
SS Sadowsky
ED Sargeaunt
EF Schilling
JH Shepp
WC Wood

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by C.A. Perkins

Company Visited: Northern Metal Products Co.
Elk Grove, Illinois

Persons Contacted:
A. Bendoff - Sales Manager
J. Denman - Service Manager
M. Kirschner - Chief Engineer
J. Kolden - V.P. Manufacturing
I. Uslander - Sales Assistant
R. Uzmecki - Quality Control Manager

(Visit made with I. Fettman and E. Sargeaunt)

Purpose of Visit: To determine inspection and rework procedures.

Comments and Discussion

1. Cleanliness: The only precautions taken to insure cleanliness of the mask is a trichlorethelene degreasing operation before blackening and the use of gloves during the handling operations. Two pairs of gloves are worn (nylon over cotton) to prevent finger prints. The mask-frame assemblies are transported on open conveyors. During this time the mask can become contaminated by grease from overhead rails, dust, etc. At final inspection, visible grease is wiped off with a rag dipped in trichlorethelene and the dust blown off with an air gun.

2. Mask-frame Blackening: After degreasing in trichlorethelene, the masks and frames are blackened before assembly. The blackening is done in an inline oven in an atmosphere of exelene. The exelene is obtained by passing city gas through a General Electric catalyst unit. They indicated that the oven temperature was about 1100°C but would not give details of the process. They could supply no specifications on the corrosion resistance of the mask after blackening. The masks are rejected if the blackening can be wiped off at final inspection.

3. Mask Welding: After blackening, the brackets are welded to the frame. Next, the mask is placed over the frame and welded. The welding equipment consists of 48 welding heads that consecutively weld the mask to the frame starting on the horizontal and vertical axes of the mask. This equipment has replaced single head units that moved around the mask to make the welds.

4. Final Inspection: After welding, the masks ride on a conveyor to final inspection and pack. The masks are visually inspected for dents, plugged holes, and contamination. One out of every five masks assemblies are inspected for contour using a series of air gauges. If a problem exists, the masks are 100% checked on the air gauges. Minor dents are removed by rubbing with a Delrin rod which is cut in the shape of a knife on one end. They do not place the mask on a form as is done in Building 15 but support the mask from the underside with their hands, when necessary. A sample tool was obtained for our evaluation. If the inspector finds

dirt on the mask, the mask is wiped with a rag dipped in trichlorethlene. Plugged holes are repaired using a safety pin. After inspection, the masks are blown off with an air gun and packed.

5. Marking of the Mask-frame Assemblies: All of the mask assemblies for rectangular tubes except for the GE assemblies are marked with a letter and a 4-digit number (A0001 to A9999, B0001 to B9999, etc.) for identification by their customers. Our assemblies could be marked with a similar number which could be used for mask identification after Q-Mating.

6. Mask-frame Salvage: Northern Metals will not repair or reblacken assemblies which are damaged during our processing. They will buy back the damaged assemblies and re-use the frames.

7. Cleaning Procedures: Northern Metals could not recommend a cleaning procedure that we might use on the mask assemblies. They do not believe their other customers clean the mask before use. However, they did indicate that National Video is cleaning the mask after screening before final insertion into the tube.

C. A. Perkins
Building 9
Electronics Park

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