

52038

IRG/OD/TFB-135/70
5 November 1970

MEMORANDUM FOR: Chief, Operations Division, IEG
THROUGH : Chief, Technical Planning Branch, OD
SUBJECT : Trip to [redacted] Facility, Regarding Model 1540 Tables

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1. Upon notification by [redacted] that the 1540 light table was ready for acceptance testing, [redacted] and myself departed for Los Angeles on 28 October. We were joined by [redacted] Equipment Performance Branch and [redacted] of IAS. [redacted] were there to learn maintenance procedures. DIAAP-9 sent [redacted] to monitor acceptance testing and check on progress of the DOD versions of the table.

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2. We arrived at the [redacted] plant on the morning of 29 October and immediately went into discussions with [redacted] management and engineering personnel. Representing [redacted] were Messrs. [redacted]
[redacted]

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3. We learned the table was not ready for testing since it was not fully assembled. It was suggested by [redacted] that we plan on commencing the test work in the late afternoon. We toured the production, warehousing, and inspection areas involved in the 1540 program and found them to be satisfactory. We then examined the first production table while it was in final assembly and found nothing, at that point, disturbing.

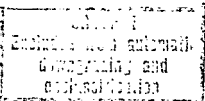
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4. Several additional delays occurred and it was not until 1500 Saturday, 31 October that formal testing began.

5. The light source ran brighter than required by specs, without flicker at low illumination levels as required, and was quite cool. After 7 hours of continuous running, the shading was checked out and found satisfactory. The light source is totally acceptable from both an engineering and operational point of view.

6. The table failed acceptance testing in several areas and since even one failure is grounds for rejection, the table was rejected by

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the Government. The most serious failure is in the microscope carriage bridge. This is the assembly which the P.I. will move in both X and Y directions to follow linear targets, cover wide areas, and position over areas of interest at any point on the 15" x 40" viewing surface. It is essential that this carriage move smoothly at all speeds when it is being motor driven, and when being moved manually, it must also move smoothly with an applied force of 2 to 4 lbs of effort. The carriage would not do this. Translation of the carriage in both X and Y directions was very rough, and jerky in both powered and manual modes of operation, with the table level or tilted.

X1 X1 7. Another problem, which is cause for rejection, is the inability of the table to track 70mm film, emulsion side down. Since this capability was required of the [] table, we must insist upon it for [] as well. Operationally, it is not a serious problem since we have no current or planned system which requires emulsion side down readout. It tracks well with emulsion up.

8. The table also failed to rewind 1000' rolls of 9½" film within the 3 minutes time limit. The actual time was 3.5 minutes and required hand assistance whenever the unwind spool was nearly empty.

9. When the bridge is locked in place, absolute rigidity is required to reduce vibration effects, and eliminate extraneous movements which could cause a P.I. to lose the image under study. We found that even when locked the carriage could be moved approximately 1" without much effort. This was totally unacceptable.

10. The microscope mount is fixed at right angles to the bridge and travels in the "Z" direction. This component must be tightly affixed to the bridge with no random movement. We found that the back plate portion of this assembly can be rocked off center with little effort. This feature is also unacceptable, since it could prevent proper focus in stereo.

11. In addition to the serious problems mentioned, other less serious but unsatisfactory conditions exist. These include noisy elevation and tilt motors; probability of dirt getting into the light source area because of poor crack covers, and lack of protection over the actuating mechanism of the Z mount.

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X1 12. Late on Saturday night, we discontinued acceptance testing since it was obvious [] needed more time to correct the major defects we found. Before adjourning for the night, all concerned held a conference to review defects. [] requested proposed action on these defects be delayed until Monday afternoon. This was requested, he said, because the [] people had not had a day off for 5 weeks. It would also permit [] to plan courses of action on Monday morning, before our afternoon meeting.

X1 13. Monday afternoon we convened once again to learn that [] had formed individual task forces to handle each of the problem areas. Some of the problems will yield to easy solutions such as using isolation mounts and disengaging un-needed gears, to reduce noise. Others may require re-design and will certainly require new parts even if no re-design is needed. The new parts are chains, clutches, and motors which may require different sources of supply than those already established. 25

X1 14. [] had not completed their investigation of the problems by late Monday. When pressed for a time when the table would be ready for acceptance testing, [] said "possibly as early as Wednesday (4 November) but we ([] will run it at least 2 days before we will be ready to turn it over to you?" Hearing that, we decided to return to Washington and await word from [] We cautioned them not to call us out again until they were ready without any doubt.

X1 15. [] maintains that even with this new delay, the overall delivery schedule will not be affected. They will now be forced to produce between 24 and 30 tables per week instead of 15 as originally planned. They are prepared to do this with a two-shift operation.

X1 16. More importantly, [] is confident that the unacceptable features can be corrected. While it is natural they would express this view to us I feel it is correct but also feel that some re-design of the X-Y travel may be required. This will probably take the form of a smaller drive chain and an improved clutch. This re-design may produce another delay in delivery of the first unit. [] will inform TSG of the progress and potential delay on Thursday, 5 November by telephone. 25

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X1 17. I reviewed the rough draft of the operators manual for the table, and suggested several areas could be clarified. One feature was omitted, inadvertently, and is now included. A copy of this manual will be given to [] for use in his training program.

X1 18. My personal appraisal of the situation is this: [] attempted to cut costs of manufacture and purchased some marginal components for the production units; [] possesses the technical judgement required to correct the situation and will do so; if their suppliers of the new parts deliver on time, then the overall delivery schedule will not be affected; and finally, I would not expect acceptance testing to begin again until late next week at the earliest. 25

X1 19. The situation is serious and was a surprise to all concerned, especially [] While serious, it is not yet critical and I do not think there is reason for excited reaction at this time.

20. At the risk of appearing to be a "Boondoggle" promoter, I feel more than ever that it is important to be present at the acceptance testing whenever it finally takes place.

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