



LAUNCH OPERATIONS PROBLEMS RESOLVED

- TRAINING OF PERSONNEL
- CHECK OUT SYSTEMS
- COMPUTER PROGRAMS
- VAB CRANES
- SWING ARMS
- LOX FAILURE

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FIGURE 52

support personnel in connection with the extensive facility checkout operations with the Saturn V 500-F vehicle at KSC last summer. This operation not only verified the mechanical and electrical interfaces of the systems, but it provided personnel training and experience in handling large quantities of liquid oxygen and liquid hydrogen; the operation of the Crawler-Transporter under load conditions; the operation of cranes in the Vehicle Assembly Building; and assembly, check-out and disassembly by the large checkout team which prepares the Apollo/Saturn space vehicle for launch.

Checkout systems

The checkout system for the Saturn V launch vehicle consists of seven computers and more than 1300 panels of electrical support equipment. More than 3000 cables are required to interconnect all this equipment. We successfully manufactured, installed and tested on schedule the first Saturn V checkout system and utilized it for the Wet Test of 500-F at Launch Complex 39, Pad A, as well as checkout of AS-501. This success was achieved by utilization of advanced management techniques, the excellent support of the industrial suppliers, and the hard work of the personnel furnished by our industrial support team.

Computer programs

We overcame our major computer program difficulties in 1966, completing computer program tasks on schedule. Computer programs for the Wet Test at 500-F at Pad A and for the checkout of AS-501 were developed and delivered. The timely delivery of working programs was achieved by the cooperative efforts of the support contractor.

Swing arms

We have been able to expedite the lagging deliveries of swing arms by working closely with the contractor. Qualification of the first set of arms, originally intended for use with the AS-501 flight, was delayed until after Pad A activation so that a set of arms would be available to support the 500-F Wet Test in April.

The second set of arms was qualified in time to support the erection and check-out of AS-501 in October. The third set of arms is expected to be qualified