

*F-1 engine*

The F-1 engine, now rated as 1,522,000 pound thrust, completed qualification in September 1966 and will be flown for the first time in the AS-501 vehicle early this year. As a result of this uprating from the F-1 original 1,500,000 pound thrust, the total thrust of the Saturn V 1st stage is now 7,610,000 pounds.

Sustaining engineering and flight support for the F-1 engine will continue in 1967. Fifty-one engines have been delivered from F-1 engine production in support of ground testing and flight 1st stages. During 1967, 30 additional engines will be delivered. Apollo production will be completed in 1968.

*Apollo spacecraft*

As with the launch vehicles, flight spacecraft and spacecraft test articles have been shipped to the launch site in Florida from the manufacturers' plants (fig. 40, MA66-9695-B). Most of the subsystems ground testing for the Command and Service Module Block I spacecraft was completed by mid 1966. The Command and Service Module Launch Escape System testing on Little Joe II vehicles at White Sands was concluded and personnel and equipment were withdrawn. Lunar Module subsystems testing was started in the first half of 1966 on about half the key subsystems, subsystems testing to be completed in 1967. By the end of 1966, the majority of the first Lunar Module flight constraining ground tests were completed. Lunar Module propulsion testing at White Sands will continue into 1967.

During 1966, Critical Design Reviews were conducted on the Block II Command-Service Module and on the Lunar Module. As I mentioned earlier, we are carefully reviewing our procedures and will be instituting design modifications as data becomes available from the AS-204 Review Board.

Ground testing of the Block II Command and Service Module, configured for lunar flights, has begun on flight test type spacecraft, restrained from any

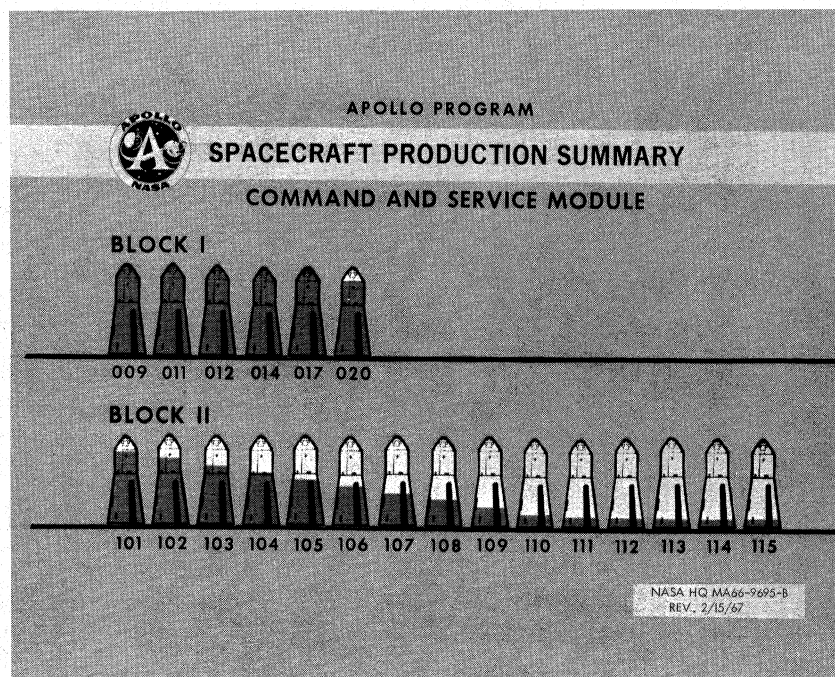


FIGURE 40