or checkout (fig. 29, MA66-9694A). Four of these will be delivered to KSC during 1967 and the last three during 1968. Qualification of all 1st stage flight critical components was completed during 1966.

## 2nd stage

During 1966 the uprated Saturn I 2nd stage (S-IVB) also performed well (fig. 30, MA66-10,268). Five stages have been delivered to KSC and three have been flown successfully. The remaining seven flight stages are in the pipeline with four to be delivered in 1967 and the last three in 1968. The 2nd stage of the uprated Saturn I also serves as the 3rd stage of the Saturn V launch vehicle. S-IVB stages for the Saturn V are also in the pipeline. It was a stage of this configuration that was destroyed prior to a test firing January 20, 1967 at the Sacramento Test Facility. One Saturn V stage was delivered to KSC in 1966 and six others are in varying degrees of fabrication or checkout. The remaining eight stages for the Saturn V will be in the pipeline in 1967 and completed in 1968 and 1969.

## Instrument Unit

The Instrument Unit, common to both uprated Saturn I and Saturn V, houses electrical and mechanical equipment which guides, controls, and monitors vehicle performance from liftoff to payload injection (fig. 31, MA66-10,286).

During 1966 we completed ground qualification testing of nearly all components of the Instrument Unit for both the uprated Saturn I and Saturn V launch vehicles. The Instrument Unit successfully operated during the flights of AS-201, AS-203 and AS-202 and, as a result, we have high confidence in its flight performance. Two additional Saturn I Units were delivered to KSC and the Instrument Unit for the first Apollo/Saturn manned flight started through checkout at the launch site in 1966 in preparation for a 1967 launch.

Follow-on procurement of uprated Saturn I vehicles which offer a versatile means for conducting a variety of earth orbital missions, will be discussed under

Apollo Applications.

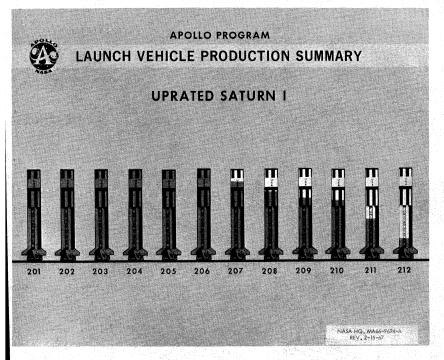


FIGURE 29