Final Draft

FILM SCRIPT

for

SATURN QUARTERLY FILM REPORT

NO. 18

(OCTOBER, NOVEMBER, DECEMBER)

1963

FILM	NARRATION
FADE ON:	
SCENE 1--	
NASA Seal	
FADE TO:	
SCENE 2--	
"The George C. Marshall Space Flight Center Presents"	
FADE TO:	
SCENE 3--	
Art-work depicting blueprint part of Saturn Tail Section-- with words over blueprint will be title printed in center, "Saturn I-IB Quarterly Film Report No. 18", October, November, December, 1963"	

FILM	NARRATION
CUT TO: SCENE 4-- Supporting scenes of S-III stage (stock footage from Michoud)	In late October, NASA Headquarters directed Marshall to terminate the Saturn I program following conclusion of the ten flight vehicle R&D program. This action eliminated four operational vehicles, plus two spare vehicles, deleting all Saturn I manned flights. Prime hardware contracts for operational vehicles have been cancelled. Hardware on hand will be used, when possible, on the boosters for SA-201 and 202.
CUT TO: SCENE 5-- Aerial shot of Launch Complex 37. (Stock)	NASA Headquarters also approved launching of the remaining Saturn I vehicles from Launch Complex 37B and modifying Launch Complex 34 for initial Saturn-IB launches.

FILM	NARRATION
CUT TO: SCENE 6-- Various shots of SA-5, including ground support and handling equipment. Show vehicle in gantry.	At Cape Kennedy, early in October, the S-IV-5 stage was mated with the previously erected SA-5 booster, the instrument unit and the payload. Pre-launch checkout of the vehicle continued, as scheduled, until November--when an explosion in Launch Complex 37B's Gaseous Hydrogen vent line caused a delay of one week. Other technical problems encountered during testing were quickly resolved, until cracked sleeves were discovered in the S-I stage high pressure pneumatic lines. These sleeves, which had cracked because of stress corrosion, had to be replaced. This requirement forced rescheduling the launch from late December until early 1964. To prevent reoccurance of the problem, MSFC issued new specifications on heat treating, and began installing new sleeves on S-I-5 and all subsequent S-I stages. Marshall and Douglas have taken advantage of the delay to perform additional testing on S-IV-5's cold helium sphere mountings. Following completion of these tests and the critical tubing replacements, the simulated flight test will be repeated, and the vehicle launched.

FILM	NARRATION
DISSOLVE TO: SCENE 7-- Overall shot of SA-6 in Quality (Use footage establishing booster work)	At Marshall, the flow of subsequent S-I stages continued, even though work on each stage is being interrupted to allow for tubing replacement. Booster post static checkout was completed for the sixth Saturn flight vehicle, SA-6, during November. Following completion of preparation for shipment, the stage will be barged to Cape Kennedy early in the next quarter. SA-6 will be the first vehicle to have an Apollo boilerplate spacecraft as payload.
CUT TO: SCENE 8-- Saturn booster static test firing (SA-7) (Stock footage)	Meanwhile, the booster for the seventh flight vehicle, SA-7, underwent two successful firings at Marshall's Test Laboratory during October--one for 35 seconds, the other for 145 seconds. Stage post static checkout--temporarily delayed to allow for tubing modification--is expected to be completed during February.

FILM	NARRATION
CUT TO: SCENE 9-- Show pre-static checkout of SA-9 booster at Quality Laboratory (Sequence of shots showing pressure testing, weighing, and performance testing)	Assembly of the booster for the eight flight vehicle, SA-9, was completed in October and pre-static checkout started. Static firing of the stage is presently scheduled for late next quarter.
DISSOLVE TO: SCENE 10-- O-1223 Scenes 1, 2, 3.	At Michoud, on October 27th, Chrysler began checkout of the first industry-produced Saturn I booster, S-I-8. The functional checkout began in November. Mechanical systems were the first to be checked out.
CUT TO: SCENE 11-- O-1223 Scenes 3, 4, 5.	Pneumatic pressure lines and connections were checked for leaks.

FILM	NARRATION
CUT TO: SCENE 12-- O-1223 Scenes 1-10	The completely automated checkout is being controlled and monitored by a digital computor system. Checkout completion is presently scheduled for March. In April, the stage will be shipped to Marshall for static testing.
CUT TO: SCENE 13-- Show shot of completed booster in shop area.	Assembly of S-I-10, by Chrysler, continued at Michoud during this quarter. Assembly completion and start of checkout is scheduled for April, 1964.
CUT TO: SCENE 14-- O-1223 Scenes 1-3	Preparation of H-I engines for the stage continued on schedule. Two engines, originally intended for S-I-III will be used to replace S-I-10 engines that developed thrust chamber leaks.

FILM	NARRATION
DISSOLVE TO:	
SCENE 15--- Show static firing of S-IV stage.	Early in October, the Douglas Aircraft Company installed S-IV-6 in SACTO Test Stand 2B and began preparations for acceptance testing. On November 22nd a successful static firing was conducted for 460 seconds, as planned. Post-static checkout was completed in December. Presently, necessary modifications are being performed, including MOOG engine actuator retrofit. The stage is scheduled for shipment to AMR during February.
CUT TO:	
SCENE 16-- Show systems checkout of S-IV-7 in vertical checkout facility; and preparation of the stage for shipment.	Also, at Santa Monica, final assembly of S-IV-7, by Douglas, was completed in November. Checkout of the stage in the new vertical checkout facility, is nearing completion, S-IV-7 is scheduled to arrive at SACTO for acceptance testing early in February, and will be installed in the stand a few days later.

FILM	NARRATION
CUT TO: SCENE 17-- Show preparation for acceptance testing of S-IV-9.	The S-IV-9 stage, located in Douglas' assembly facility, is approximately twenty percent complete. Stage completion remains dependent upon the S-IV-7 progress.
CUT TO: SCENE 18-- Show S-IV assembly area and shots of engine installation.	Meanwhile, S-IV-8 was moved from the insulation installation room to the assembly area where miscellaneous pick-up work was completed. Parts shortages, which delayed moving the stage to the hydrostatic tower, have been negated, and the stage erected in the tower.
CUT TO: SCENE 19-- Show machining and welding operations on the stage--followed by stage being installed in the hydrostatic tower.	During the latter portion of the quarter installation of S-IV-10 stage insulation, at Santa Monica, started immediately after completion of leak tests and tank calibration. The stage is scheduled to be removed from the insulation installation room and be installed in the hydro-static tower for additional leak checks in late January.

FILM	NARRATION
CUT TO:	
SCENE 20-- Show pre-firing checkout of S-IV All Systems Vehicle.	At Sacramento, Douglas buildup of the All Systems S-IV Vehicle continued during this quarter. Static firings are scheduled to start in late January.
DISSOLVE TO:	
SCENE 21-- Show functional checkout of S-IU-6, preparation for shipment and shipment to the Cape.	At Marshall, completion of functional checkout for S-IU-6 was rescheduled for January, 1964, to allow checkout of engineering changes incorporated during December. S-IU-6 and S-I-6 will be shipped to Cape Kennedy in February.
[illegible]	
SCENE 22-- Sequence of shots showing assembly of S-IU-7.	Marshall assembly of the instrument unit for SA-7 is complete and final checkout is presently scheduled to begin at MSFC on February 10th, 1964.
CUT TO:	
SCENE 23-- Show fabrication of S-IU-9 in ME Laboratory.	Structural fabrication of S-IU-9 will be completed in January, 1964 at Marshall's Manufacturing Engineering Laboratory. The structure will then be stored until start of assembly, March 2nd, 1964.

FILM	NARRATION
CUT TO:	
SCENE 24-- :	At Marshall's Test Laboratory, dynamic
Sequence of shots	testing for the SA-6 and 7 configuration,
showing SA-D-6 vehicle	using the Saturn dynamic vehicle and the
in Dynamics Test Stand.	Apollo boilerplate, was successfully
(Show tests in operation)	completed during this quarter. Later
	in February, MSFC has scheduled dynamic
	testing for the SA-9 and 8 configuration.
	SA-9 and 8 will carry micro-meteoroid
	detection payloads.
	Preparations are underway at the Dynamic
	Test Stand and are proceeding satisfactorily.
Show actuator system and	During this same period the S-IV stage
engine gimballing.	MOOG actuator systems were tested by
	gimballing the RL-10 engines.

FILM	NARRATION
FADE OUT:	
SCENE 26--	
FADE IN:	
To new title	
Saturn I-B	
DISSOLVE TO:	
SCENE 27-- Stock footage related to designs of spider beam and tail sections.	Marshall approved Chrysler designs for the S-IB spider beam and completed the 50 percent design review of the 60-degree fairing and the conceptual design review of the GOX line and diffuser. The design associated with elements of the tail section is now approximately 60 percent complete.

FILM	NARRATION
CUT TO: SCENE 28-- Use stock footage of H-I engine.	On November 8th, MSFC authorized Rocketdyne to continue with design, development and testing required to uprate the H-I engine from 188,000 pounds of thrust to 200,000 pounds of thrust. The first production engines are scheduled to be acceptance tested in the next quarter.
FADE TO: SCENE 29-- O-1205 Scenes 14-19	At Santa Monica, Douglas finished welding studs to the hydrogen forward dome of the S-IV-B Hydrostatic test stage. Work on the Dynamics Test Stage included bonding the honeycomb core to aft common dome, welding of flanges and elbows to the aft LOX dome subfittings and seal welding between the T-rings.

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CUT TO: SCENE 30-- 0-1205 Scenes 20-24	Also the liquid hydrogen cylinder skins for this stage were milled for forming and welding; but one skin was rejected due to several cracks. A replacement has been scheduled for the skin mill.
CUT TO: SCENE 31-- 0-1205	Meanwhile, work progressed on the All Systems Test Stage. The attach rings for the common domes were completed and welding operations are underway. (Note-narrator pause an instant) The common bulkhead is being welded for the first flight stage--S-IV-B-1.
DISSOLVE TO: SCENE 32-- Douglas Beta One static firing complex and 0-1165 Scenes 25-38	At Douglas' Beta Complex at Sacramento, static firing site for S-IV-B, the super-structure for the Battleship Test Stand, Beta One, was completed. Following final assembly and installation of insulation, the Battleship Tank was placed in the Beta One Stand December 18th.

FILM	NARRATION
CUT TO: SCENE 33-- O-1165 Scenes 29-40	The Beta Complex blockhouse is nearing completion.
CUT TO: SCENE 34-- O-1165 Scene 34 and scenes of welding on meridian welder	At Beta Three, the All-Systems Test Stand superstructure and propellant tanks were also nearly completed.
CUT TO: SCENE 35-- Receipt and inspection of a J-2 engine.	Rocketdyne has completed fabrication of the first J-2 production engine, originally designed for cold flow testing. Delivery was made to Santa Monica in November. After inspection and checkout, the engine will be used in the Engineering Development Systems Integration Laboratory.
CUT TO: SCENE 36-- O-1165 Scene 1,2.	Activity at Douglas' S-IV-B mockup area at Santa Monica, included electrical component installation in the aft thrust structure, aft skirt, electrical panelling installation.

FILM	NARRATION
CUT TO:	
SCENE 37-- OM-1165 Scenes 4-5	...customer connect panels installation (DAC's mating area to the J-2 engine)....
CUT TO:	
SCENE 38-- OM-1165 Scene 6-7	...work on the instrumentation probe.....,
CUT TO:	
SCENE 39-- OM-1165 Scene 8	...and forward dome instrumentation wiring.
DISSOLVE TO:	
SCENE 40-- OM-1160 Scenes 14-15	The Delta Two Test Stand at Santa Susana, which affords a 500-second run capability for the J-2 engine, was activated November 9th, and engine testing at both positions began late this quarter.
FADE TO:	
SCENE 41-- OM-1214 Scene 1	A major milestone in the J-2 engine program was achieved late in the quarter with two successful full-duration hot firings of the engine--one for a period of 508 seconds, the other for 510 seconds.

THE END