FILM SCRIPT

for

SATURN I/IB QUARTERLY FILM REPORT

NR. 23

(Covering January, February, March, 1965)

I.U. dynamic + spacecraft adapter film
sequence needs trim
S-IVB firing
IB-1 testing ?

FILM	NARRATION
SCENE 1-- NASA SEAL	
SCENE 2-- "The George C. Marshall Space Flight Center Presents"	
SCENE 3-- Artwork, then pop-on words over artwork, "SATURN I/IB"	Saturn I/IB Quarterly Film Report Nr. 23 covers progress during the period January, February, March, 1965.

FILM	NARRATION
SCENE 4--	Highlighting this report period was the
Arrival of SA-9 stages and	successful launch and flight of the eighth
components at Cape Kennedy.	Saturn, SA-9. Delete this and cover ~~Between October 23rd and~~
(Show movement of Pegasus "A").	Pegasus testing, movement to pad, ~~November 13th, stages and components,~~
All here information contained in last two sentences in Scene 6 and all of Scene 7 except last sentence. Rewrite to pitch, i.e. These are the missions...	and erection. Tie into last quarter ~~including Pegasus "A" mounted within the~~ with parallel phase. ~~Apollo boilerplate, arrived at Cape Kennedy where preparations leading to the launch got underway.~~
SCENE 5--	Culminating preparatory testing was the
SA-9 on pad. Show blockhouse	countdown demonstration test, successfully
scene, then back to SA-9 on pad.	completed on February 12th.
SCENE 6--	Vehicle countdown activities began three
SA-9 on pad just before	days later. ~~Final countdown started in the early morning of February 15th.~~ Liftoff
ignition, brief countdown	occurred on February 16th at 9:37 a.m. Eastern Standard
activity in blockhouse; then	Time. ~~SA-9 differed from its Block II~~
back to vehicle on pad.	

FILM	NARRATION
SCENE 7-- Initial engine ignition burst-follow up with engines burning; then release and liftoff.	Rewrite in conversational style and explain Pegasus and tell that this is first Pegasus flight. ~~pred-cessors in payload. The Apollo spacecraft contained Pegasus "A" located in the service module in an undeployed status.~~ The major flight objectives of SA-9 was ~~included~~-- detection inserting the Pegasus meteoroid satellite into earth orbit. ~~inserting the spent S-IV stage, Instrument Unit and Payload into orbit, then 230 seconds after insertion, deploy the wings of Pegasus "A".~~ Other objectives included testing the closed loop guidance system for the second time and an iterative guidance mode for the first time ~~In addition, during booster burning, a closed loop guidance system was tested for the second time, and an iterative guidance scheme was used for the first time. The guidance test was completely successful, being more accurate than previous tests.~~
SCENE 8-- SA-9 liftoff and flight action.	The SA-9 launch marked the eighth successful flight of the Marshall-built boosters and the fourth straight successful flight of

FILM This sequence at the last paragraph on Page 3 should be rewritten to group subjects together rather than skip back + forth. Include:

1. ~~[illegible]~~
2. Booster flight was eighth straight success; All built by MSFC, CCSD to build remaining boosters.
3. S-IV flight was fourth straight success, built DAC
4. B.P. placed into orbit with Pegasus payload

NARRATION

SCENE 9--

Close-up of a tracking sequence.

SCENE 10--

Booster burnout, then follow up with S-IV stage ignition and flight.

SCENE 11--

Sequence of scenes showing wing deployment of Pegasus "A".

Douglas' S-IV stages. The SA-9 booster was the last one to be built at Marshall.

An operational type instrument unit was used on SA-9 for the first time and underwent successful flight testing.

first unpressurized

The S-IV stage burned about 474 seconds at ~~which time~~ the programmed cutoff velocity was obtained. S-IV stage flight was ~~as expected~~ satisfactory (but not as expected for your info). The Apollo spacecraft was placed into orbit.

The spacecraft contained Pegasus "A" ~~located~~ in the service module. Immediately following residual hydrogen blowdown, (more effective through the use of a newly installed non-thrust venting system) the Apollo Boilerplate jettisoned from the

See comment on next page

FILM	NARRATION
This 2nd last ¶ on preceding page should be rewritten to tell what is happening during wing deployment and end up with statement that Pegasus is working.	
	orbiting body, so that the Pegasus wings were deployed. Pegasus "A" is presently obtaining information concerning the ~~magnitude, and direction~~ size & velocity of ~~intermediate size~~ meteoroids in the near earth space. ~~atmosphere~~.
Use as bridge here fact that remaining two Saturn I's will launch Pegasus	
SCENE 12-- Movement of S-1-8 by barge to Cape Kennedy.	Following completion of post-static checkout the booster for the ninth flight vehicle, S-1-8, was shipped from Chrysler, Michoud February 22nd, and arrived at Cape Kennedy February 28th.
Transpose scenes 13 and 14	
SCENE 13-- Arrival of S-IV-8 at Cape Kennedy via Guppy.	S-IV-8 was shipped from the West Coast Feb. 23rd and arrived at the Cape February 25th.
Scene 14 should tell about engine gas generators being replaced. Tell the pressure switch problem more. See Weekly notes March 22 + Apr 2 (Flight Operations Notes)	
SCENE 14-- Stage checkout of booster and erection ~~in stand~~ at Pad.	During preflight checkout of S-1-8 the fuel step pressure switch was discovered to be defective and had to be replaced. The stage

Add on-board TV camera

Hell No

FILM	NARRATION
Erection should be mentioned prior to problem 2+03.	was erected ~~in the stand~~ on the Pad March 2nd.
SCENE 15--	S-IV-8 checkout and painting of the
Checkout of S-IV,	stage with S-~~11~~ 13, a special heat resistance paint, paint was completed
then erection atop S-I-8.	March 11th and ~~erection was completed~~ the stage was erected on March 17th.
SCENE 16--	S-IU-8 was delivered to the Cape on
Arrival of S-IU-8 by Subordinate Guppy Shipment	March 8th. It was the first use of the
Guppy at Cape Kennedy.	Guppy for IU shipment. The unit was transported to Hangar AF. Checkout and alignment were completed--then the unit was painted. On March 18th, erection of the unit was completed.
SCENE 17--	At Marshall's Michoud Operations, Chrysler
Establishing shot of S-1-10 at	completed post-static checkout of S-1-10
Michoud-follow up with footage	Marxh 5th. Preparations for shipment ~~is~~
showing stage checkout.	continued ~~complete~~. ~~The booster is presently in storage~~. Shipment of the stage to KSC is

FILM	NARRATION
	scheduled for ~~early June~~ late May.
SCENE 18-- Input from Douglas on S-IV-10. (Bring out this is last S-IV-10 static firing etc.)	Static firing ~~of~~ S-IV-10 was successfully completed January ~~20th~~ 21th. The stage is in storage at SACTO awaiting shipment to KSC.
SCENE 19-- Show men checking out S-IU-10. (S-IU-10 started C/O in January; Completion scheduled for early April. Completion of prop shop scheduled for mid-Apr)	~~Checkout of S-IU-10, located at Marshall's Quality and Reliability Assurance Laboratory was completed March 24th. Preparation for shipment of the unit is underway, with completion scheduled for mid-April.~~
(Use as bridge that Pegasus B+C, for SA 8+10 flights progressing satisfactorily)	
SCENE 20-- Input from Fairchild-Hiller on Prototype unit. (footage to be shipped). (Place after Scene 22. Change read that Prototype will be used as test bed for B+C modifications. Environmental testing G.E. undetermined at end of quarter)	At Fairchild-Hiller's Hagerstown, Maryland facility, the prototype Pegasus spacecraft is undergoing structure and cannister modifications. These changes are being made in order to duplicate the Pegasus "B" configuration to allow for testing. The vehicle is scheduled for shipment April 3rd

prototype
with deletion environmental tests at G.E.
to undertaking

FILM	NARRATION
	to General Electric for qualification testing. Developmental testing is scheduled for completion late next quarter.
SCENE 21-- Input from Fairchild-Hiller on Pegasus "B". (footage to be shippped).	Final assembly and checkout on Pegasus "B" is underway at Hagerstown. Vibration testing of the unit is scheduled for April at General Electric, Valley Forge, Pennsylvania. Shipment of Pegasus "B" to the Cape is scheduled for ~~early next quarter~~ April.
SCENE 22-- Input from Fairchild-Hiller on Pegasus "C". (footage to be shipped).	Structural fabrication is complete on Pegasus "C". Fabrication of black boxes for the satellite is underway with completion scheduled next quarter.

FILM	NARRATION
FADE OUT:	
then	
FADE IN:	
sub-title	
SATURN IB	
SCENE 23--	
Unloading of S-IBD and S-IVBD	
at Marshall. Arrival of IU.	
Follow up with erection of	
vehicle in Dynamics Stand.	
SCENE 24--	
Establishing shot of vehicle	
in Dynamic Test Stand. Follow	
up with dynamic testing.	

1. 1st + 2nd stage arrived
2. Adapter arrived on 19th and was erected, founded + repaired
3. 203 test was performed with ~~awaiting spacecraft arrival~~ first. 203 4½ test and has no spacecraft
4. Spacecraft which arrived Feb 13 + 14.
5. 201 + 202 testing then performed

The ~~S-IB~~ Saturn IB Dynamic test stages were received at Marshall, January 4th, arriving on the same barge tow. Following ~~arrival of~~ receiving inspection the spacecraft and delivery of the Marshall-built instrument unit, the vehicle was erected in the test stand. The spacecraft adapter was delivered by helicopter. During transit, the unit was damaged and required some rework.

of the Chrysler-built first stage and Douglas built second

No wrong sequence. 203 completed before spacecraft added

203 testing began Feb 18

Dynamic test of Vehicle 203 was completed March 2nd. Testing of vehicles 201 and 202 began early March not completed by end March ~~was successfully completed in late March~~.

Vehicle 203 consisted of the first and second stages including the instrument unit and spacecraft. Vehic

FILM	NARRATION
	201 and 202 were complete with Apollo spacecraft.
SCENE 25-- S-IB-1 in Static Test Stand at Marshall	~~Erection of S-IB1~~ in Marshall's Static Test Stand ~~was completed this quarter.~~ Preparations for a short duration firing of the first S-IB series booster was scheduled for April 1st. The booster underwent a short duration firing of seconds. A long duration firing is scheduled for April 13th.
SCENE 26-- S-IB-2 input from Chrysler showing pre-static checkout operations.	At Chrysler's Michoud Operations, assembly on the S-IB-2 stage ~~is complete~~. Pre-static checkout of the booster continued throughout this quarter.

FILM	NARRATION
SCENE 27-- S-IB-3 input from Chrysler showing assembly operations.	Tank clustering for S-IB-3 ~~is complete~~ was completed. Other assembly operations continued during this report period with scheduled completion projected for next quarter.
SCENE 28-- S-IB-4 input from Chrysler showing fabrication and tank clustering of the stage.	Fabrication operations continued throughout the quarter for S-IB-4. Tank clustering of the stage ~~began March 29th~~ is scheduled early next quarter. Fabrication operations are underway for S-IB-5.
SCENE 29-- Douglas input O-1675 transpose scenes 29 & 30	~~At Douglas' Sacramento Test Area, the S-IVB Battleship Firing Test Program continued this quarter.~~ On March 19th a full duration firing was cut off after 29 seconds due to a gas generator body exceeding safe value. A second full duration firing set for March 25th was rescheduled for early next quarter.

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SCENE 30-- Douglas input. O-1706	Early this report period J-2 Engine Nr. 2003 (present engine) was removed from the Battleship Test Stand. (removed and replaced with first flight configuration engine) Engine Nr. 2013 served as a replacement, (also first flight configuration engine) which has a gimbal capacity for the continuation of testing. Hot firings, engine chilldown and propellant utilization tests were also conducted.
SCENE 31-- O-1706 Static Test Thrust Structure.	During this report period Douglas' Structural Test Program involving various S-IVB components--such as this Static Test Thrust Structure was well underway.
SCENE 32-- Liquid Oxygen Tank Assembly and S-IVB Forward Skirt O-1706	Other items undergoing qualification testing were the Liquid Oxygen Tank Assembly, and an S-IVB Forward Skirt which was tested to failure to determine maximum load conditions.

FILM	NARRATION
SCENE 33--	Also at SACTO, Douglas completed installation
Douglas Input	of Ground Support Equipment and instrumentation
O-1675	required for Facilities Checkout Stage tests ~~on~~ at Beta Test Stand Nr. 3. Facility checkout ~~Propellant loading~~
	tests ~~using the Facilities Checkout Stage~~
	were started in mid-March, with propellant loading tests to be performed early next quarter
SCENE 34--	Checkout of S-IVB/IB-1 in Tower Nr. 6
Douglas input on	was ~~completed~~ terminated March ~~28th~~ 30th. During April ~~Continuity~~
S-IVB/IB1 and IB2.	stage will undergo tank modification and part changes installation prior to shipment to SACTO, scheduled ~~checkout of the stage is complete with the~~
O-1706	for the end of April. Checkout will be completed at SACTO ~~exception of several wire harnesses~~. Work
	the second flight stage included welding
	segments of the forward and aft common
	dome, and joining the propellant tanks and skirts. The stage will undergo systems checkout during the next quarter.
SCENE 35--	Tank insulation of S-IVB/IB3 and IB4 was
Douglas input on S-IVB/IB-3	completed this quarter. Installation of
and IB2 (stock footage-last	electrical and mechanical systems on the
Rpt. Nr. 22)	stages is underway.

FILM	NARRATION
SCENE 36--	At Rocketdyne's Santa Susanna Facility
Input from Rocketdyne on	200K engine qualification testing, started
H-1 engine. (Stock footage	March 1st, is progressing satisfactorily.
on H-1 engine firing at	The first engine has completed eleven
Santa Susanna.	calibrations for 1,560 seconds and is
	currently undergoing safety limits and
	malfunction testing. Seven calibration tests
	have been completed on the second engine
	for 1,085 seconds. All tests are scheduled
	for completion in early May.

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SCENE 37-- Rocketdyne J-2 input M-1720 (c)	Following successful completion of Rocketdyne's J-2 Engine Preliminary Flight Rating Tests last quarter, the test engine was removed from the stand. It was completely disassembled, then inspected at the Canoga Park Facility to determine the extent of engine wear after repeated firings.
SCENE 38-- J-2 engine static firing.	At Santa Susanna, acceptance testing of the first J-2 Flight Configuration Engine was conducted January 22nd. The following day the engine was delivered to Douglas for use in its S-IVB Battleship Test program.
SCENE 39-- OM-1654	At Santa Susana, major modifications on Vertical Test Stand Nr. 3 are now complete. The stand, reactivated in January, will provide improved propellant conditioning and increased overall utility.

what about shot of J-2 FRT? with Sensor

FILM	NARRATION
SCENE 40-- MSFC J-2 Engine Test Facility	At MSFC, beneficial occupancy of the J-2 Engine Test Facility came about in January. The propellant tests for the test facility have been installed in the stand with testi ng scheduled for next quarter.
SCENE 41-- Vibration testing of S-IU-200V. Wyle Laboratories	Meanwhile, at Wyle Laboratories, Huntsville, vibration testing of the Instrument Unit designated S-IU-200V got underway in February. Testing will determine qualification and response of the structure and component bracketry.
SCENE 42- Installation of dummy equipment in S-IU-200D/500D.	Assembly of the Dynamic Test Instrument Unit, S-IU-@00D/500D, was completed February 1st at Marshall.

more back to Saturn IB-D sequence

FILM	NARRATION
SCENE 43--	Following installation of dummy equipment,
Installation of S-IU-200D/500D	the unit was installed atop the S-IVB
atop S-IVB-D in Saturn I/IB	Dynamic Test Stage at Marshall, where it
	[illegible] testing as part of the Saturn

	[illegible] have been installed in the stand with
	testing scheduled for next quarter.
SCENE 41--	
	Meanwhile, at Wyle Laboratories, Huntsville,
Vibration testing of	vibration testing of the Instrument Unit
S-IU-200V.	designated S-IU-200V got underway in late
Wyle Laboratories	February. Testing will determine qualification
	and response of the structure and component
	brackettry.
SCENE 42--	
Installation of dummy	Assembly of the Dynamic Test Instrument
equipment in S-IU-200D/500D.	Unit, S-IU-200D/500D, was completed
	February 1st at Marshall.

FILM	NARRATION
SCENE 46-- IBM input for January.	At IBM's Huntsville Facility, a structural assembly--the first major piece of hard tooling for use in IU assembly, was received and installed during this report period.
SCENE 47-- IBM input 0-1694	Installation, calibration, and checkout of one of IBM's two Telemetry Ground Stations was also completed this quarter. Structural ~~fabrication~~ assembly of the instrument unit for S-IB-201 was completed March 23rd. Component assembly started March 24th and will continue next quarter.
SCENE 48-- IBM input 0-1694	At IBM's Space Guidance Center, Owego, New York, radiographic inspection was accomplished on the first piece of production hardware. The unit, a magnesium casting, forms the base assembly for S-IU-201's

Segments were manufactured by General Dynamics Ft Worth, Tex.

FILM	NARRATION
	Emergency Detector System Distributor. Other machining operations included a component of the Guidance and Control System, for use in the Launch Vehicle Data Adapter.
SCENE 49-- Saturn IB System Development Breadboard Facility. OM-1746	At MSFC, installation of computer equipment for the Saturn IB Development Breadboard continued this quarter. Since Saturn IB testing has ~~already~~ been accomplished--with with this unit additional tests scheduled.

FILM	NARRATION
SCENE 50-- Summarize by using a montage of scenes as used in the report.	In summary, accomplishments during January, February and March strenghtened the overall enviable record of the Saturn I/[redacted] program: the near-perfect flight of SA-9; preparations for the operational flight of SA-8; Saturn IB Dynamic testing; major buildup of Ground Support Equipment; and the short-duration firing of the first Marshall-engineered Saturn IB booster.
SCENE 51--	THE END