NAA C-1 MASTER
REV. 6/65
BLDG. 2 #95CC

ACTION & REPLY	
F.U.	
W. Swanson	
E. Ljunggren	
R. Johnson	
J. Bruaner	
J. Driskell	
H. Harris	
R. Hoover	
W. Leidlew	
D. Peitzke	
R. Scholl	
G. Thomson	
H. DALE #54	
F. Boeke	
P. Jones	
E. Hodder	
K. Keelaghan	
L. Spalding	
R. Schleicher	
B. Varney	
R. JANSSEN	
N. Klimmek	
W. McLeod	
A. LO PRESTI	
D. Bennett	
A. Kolom	
E. Payne	
H. HOGE	
W. Holladay	
H. RAIKLEN	
J. Griffin	
P. Mason	
W. McLean	
H. CROTSLEY	
J. Hope	
W. Santchi	
E. Wendt	
R. KOCHEVAR	
R. Dawson	
E. Freschl	
D. Harding	
J. Hegenwald	
N. Kuska	
P. Meyer	
R. Peterson	
W. Routh	
R. Shank	
G. STROH B-70	/
G. Barton	
J. Emsley	/
R. Ferren	/
B. Peterson	/
D. Rogerson	/
W. Spivak	/
C. ADAMS #98	
H. Bone	
C. DeBriere	
C. Ferrell	
R. Hicks	
B. Hoffman	
D. Lambert	
D. Leifer	
D. Livingood	
E. Prouty	
L. Pitts	
C. Rowbotham	
T. McNEILL	
C. STARBECK	
DATA	
GFP	
DAYTON	/
GO #898	/
#18 C.C.C.	/
ENG C.C.	/

Notes
BILL ROSS
A STE...

65LA-13073-190

16 September 1965

Subject: Contract AF33(657)-12395
Notification of Flight No. 16 of
XB-70A Air Vehicle No. 1, Serial
No. AF62-001

To: XB-70A Test Director
Col. J. F. Cotton (FTTB)
Edwards Air Force Base, California

In turn to: Air Force Plant Representative, Los Angeles

This is to advise that the Contractor has planned the next flight on No. 1 XB-70A, Flight 1-16, as a Mach 3 flight. This flight is scheduled for September 20, 1965. The Contractor prepared a Structural Status Briefing Report No. TST65-5219 on the status of Ship No. 1 and gave the briefing to members of the XB-70 Joint Test Force and SPO with conclusions that the No. 1-16 flight be a Mach 3 flight.

The Contractor's Flight Plan 1-16 is enclosed which describes in detail the flight.

NORTH AMERICAN AVIATION, INC.
LOS ANGELES DIVISION

W. A. Spivak

W. A. Spivak
Assistant General Manager & Chief Engineer
B-70 Division

WAS:pa

enclosure: as

W. Spinak D/90 Bldg 2

CONTRACT CHANGE NOTIFICATION

1. MASTER SERIAL NR: 6N-101

2. CCN NR: 10

3. PAGE OF PAGES

4. TO:
North American Aviation, Inc.
Los Angeles Division
International Airport
Los Angeles, California 90009

5. FROM:
Aeronautical Systems Division
Air Force Systems Command
B-70 System Program Office, ASVKK

6. PURCHASE REQUEST NR	7. CONTRACT NR AND/OR PURCHASE ORDER NR	8. PROPERTY CLASS
N/A	AF33(600)-42058	A012 (B-70)

9. Pursuant to the clauses of the contract relating to changes, the above named Contractor is hereby authorized and directed to accomplish the changes listed below in respect to the articles called for under said contract as the same has heretofore and may hereafter be amended; subject, however, to the terms and provisions set forth on the reverse side hereof. Whenever both a purchase order number and a contract number are shown above, both numbers will be used in any shipping paper, packing sheet, invoice, correspondence, or related document, the purchase order number preceding the contract number.

a. Acceptance of XB-70 Air Vehicle 62-207 and related Flight Test Instrumentation and Pre-flight operations furnished under Items 1, 4, and 5 of the contract respectively is authorized pursuant to provisions of Part I, paragraph 3 of the contract as set forth in Supplemental Agreement Number 45. Acceptance of Item 1 is in accordance with NA61-600, dated 23 August 1961 as revised 16 July 1965. Item 4 is accepted in accordance with NA61-620-1 dated 27 September 1961 as amended 2 July 1965. Item 5 is accepted in accordance with NA61-620-3 dated 27 September 1961. Further, acceptance of the Air Vehicle is authorized in accordance with shortages, deviations, and other provisions contained in the Deficiency Report NA62-904 dated 16 July 1965, as amended 17 July 1965.

b. Estimated change in contract price --------none.

10. AUTHORITY FOR ISSUANCE

11. DATE: 17 July 1965

12. TYPED NAME, GRADE, AND SIGNATURE OF ADMINISTRATIVE CONTRACTING OFFICER OR HIS AUTHORIZED REPRESENTATIVE
EDWARD J. MCRAY, Colonel, USAF
Contracting Officer

13. DISTRIBUTION: NASA, FRC, Edwards AFB, Calif
APPR, N American Avn Inc, Intl Arpt, Los Angeles Calif 90009

AFSC FORM 98

FINAL INSPECTION AND ACCEPTANCE (Shipping Papers) MUST BE ATTACHED TO EACH INVOICE REF. 1-1

NORTH AMERICAN AVIATION, INC.
DIVISION OF ROCKWELL STANDARD CORPORATION
EXECUTIVE OFFICES: 1700 EAST EL SEGUNDO BOULEVARD, EL SEGUNDO, CALIFORNIA

DATE TYPED: 7-17-65 | CUSTOMER: USAF | PAGE NO. 1 | NO. OF PAGES 2 | PACKING & SHIPG. NO. 65-5860

DATE | CONT. NO. 1, 4, & 5 | PRIME CONTRACT OR P.O. NUMBER: AF 33(600)42058

SHIPPED TO: United States Air Force, Edwards, California

CONTRACT OR ORDER NUMBER: 7 278 | PLACE ADMINISTERING CONTRACT: AFPRO, NAA, LA, AFCMD | SUPPLEMENT & CHANGE ORDERS: Term S/A 124 & CCN #10

INSPECTION OFFICE: AFPRO, NAA, LA, AFCMD | INVOICE ROUTING: AFCMD/LACMS DET. 50/CMFF | CUSTOMER ORDER NUMBER

APPROPRIATION | REQUISITION OR REQ'N. NUMBER

MARKINGS— | CONSIGNEE'S ORDER NUMBER | DATED

ACCOUNTABLE OFFICE WHEN DIFFERENT

MAIL TO: Aeronautical Systems Division (ASVKK) Wright-Patterson Air Force Base, Ohio

PRIME	DEDUCT FROM	PART SHIPMENT	SHIPMENT NO. ON CONT.	TOTAL PKGS.	CAR NUMBER	SEAL NO.
			5439			
TOTAL WEIGHT	TOTAL CUBE	TOTAL NET	CHECKER	LOCATION	B/L NUMBER	

CREDIT VOUCHER OR FILE NO. | INVOICE NUMBER | ROUTING | DATE SHIPPED: 27 July

ITEM NO.	R.I.T.	STOCK NUMBER	PART NUMBER	DESCRIPTION OF ARTICLE	QTY. SHIPPED	QTY. REC'D.	UNIT COST	TOTAL COST
1				One XB-70A Prototype Aircraft, Air Force Serial No. 62-207, in accordance with Contractor's Specification NA61-600, dated 23 Aug 1961, including amendments and contractually authorized changes in effect at the time of the Government's execution of this document and with deficiencies and shortages as listed on Contractor's XB-70A Deficiency Report, NA62-904, dated 16 July 1965, as amended 17 July 1965, reference CCN #10, MSN-6N-101 dated 17 July 1965.				
4				Flight Test Instrumentation for XB-70A Prototype Aircraft, Air Force Serial No. 62-207, in accordance with applicable sections of Contractor's Specification, NA61-620-1 dated 27 Sept 1961, including amendments and contractually authorized changes in effect at the time of Government's execution of this document and with deficiencies and shortages as listed in Contractor's XB-70A Deficiency Report,				

*CONTENTS PRESERVED FOR LONG TIME STORAGE (APPLIES TO AF AND NAVY CONTR. ONLY)

J. T. Lundy
COMPANY INSPECTOR

BOX NO. | PACKING— DOMESTIC COMMERCIAL EXPORT | UNIT | METHOD

GR. WT. | N. | T. | L. | W. | H. | CUBE FT. | CLASS CODE

I CERTIFY THAT THE ITEMS LISTED HEREIN HAVE BEEN INSPECTED BY ME OR UNDER MY SUPERVISION. THEY CONFORM TO CONTRACT AND HAVE BEEN ACCEPTED, EXCEPT AS NOTED.

DATE 7-17-65 | H. K. Pingleton
SIGNR. OF AUTH. GOVT. REPR.

DATE MATERIAL RECEIVED 7-17-65 | ACCT. NO. | SIGNR. ACCT.

I CERTIFY THAT THIS BILL IS CORRECT AND JUST, AND THAT PAYMENT THEREFOR HAS NOT BEEN RECEIVED.
NORTH AMERICAN AVIATION, INC.
AUTHORIZED REPRESENTATIVE
DEBIT VOUCHER OR I.R. NUMBER

I CERTIFY THAT I HAVE RECEIVED AND/OR ACCEPTED THE ARTICLES SHOWN HEREIN.
(FOR USE ON CONTRACT NO.)
EXCEPT AS NOTED.
DATE | SIGNATURE

(Cont'd) NA62-904, dated 16 July 1965, as amended through 17 July 1965, reference CCN #10 MSN-6N-101 dated 17 July 1965.

Preflight operations for XB-70A Prototype Aircraft, Air Force Serial No. 62-207, in accordance with Contractor's Specification NA61-620-3, dated 27 September 1961, including amendments in effect at the time of the Government's execution of this document and with deficiencies as listed in Contractor's XB-70A Deficiency Report, NA62-904, dated 16 July 1965, as amended through 17 July 1965, reference CCN #10, MSN-6N-101 dated 17 July 1965.

The flight test programs conducted on the XB-70 aircraft covered two contractual periods. The initial program was that contracted in total by the Air Force under several contracts and the second program was a joint effort of the Air Force and NASA.

Three Air Force Contracts (AF33(600)-36599, -38669, and -42058) covered design and fabrication and two contracts covered flight testing (AF33(657)-12395 and -15871). Go-ahead was received for WS-110 on Contract 36599 in January 1958 and go-ahead for development, fabrication and flight test of the complete weapon system on Contract 38669 was received in December 1958. In December 1959 Contract 38669 was redirected to one XB-70 prototype. Go-ahead for fabrication of 11 air vehicles on Contract 42058 was received in September 1960 and was redirected to three air vehicles in March 1961. In May 1963 -42058 was converted from CPFF to CPIF. In March 1964 ship 3 was terminated. The flight test contract, -12395, was definitized in July 1964. The final Air Force Contract, -15871, (a joint contract with Air Force and NASA) was initiated in August 1966. A summary of the contracts is included on the attached table.

The initial Air Force flight test program (under Contract AF33(657)-12395), utilizing the two XB-70A aircraft spanned twenty two calendar months starting with the first flight of A/V number one on 21 September, 1964, and ending with the final flight of A/V number two on 8 June, 1966. During that time period each aircraft was flown to Mach 3, initially on flight 17 of A/V No. 1 and finally for 33 minutes sustained on flight 39 of A/V No. 2. A total of 95 flights was flown for 186 hours and 23 minutes, of which Mach 3 was achieved on 9 flights, 53 flights exceeded Mach 2 and the supersonic speed range was entered on 78 flights.

Most of the XB-70 flight test program objectives were met as scheduled except for the achievement of "Mach 1 on the first flight" which was delayed until flight 3 due to landing gear and hydraulic problems. The first flight of A/V number 2 on 17 July 1965 did achieve supersonic flight. Demonstration of the feasibility of flight in the Mach 3 environment was highly successful. Various systems and structural problems were encountered and were satisfactorily resolved as the program progressed to sus-

tained Mach 3 operation. Total program objective of conducting 180 flight hours during $22\frac{1}{2}$ aircraft operational months was also successfully accomplished. On 11 Janualy 1966, A/V No. 1 made flights 31 and 32 for a demonstration of the maintainability of such a large complex aircraft. In addition, both aircraft had made flights on 3 January 1966.

The combined Air Force/NASA flight test program was conducted on A/V number 1, flights 50 through 60. The primary test effort was to obtain sonic boom signature data for the XB-70. With the 46 flights on A/V number 2 the new program totals were 106 flights for 205 hours 34 minutes with 9 flights above Mach 3, 62 flights above Mach 2 and 89 flights above Mach 1.

The airborne data acquisition system consisted of an analog and digital system for all data except vibration parameters which were recorded on a special AR-200 tape recorder. The analog system was a 14 track magnetic tape recorder utilizing conventional frequency multiplexing technique providing a 144 parameter capability. Two RF links of telemetry were connected to this system for ground monitoring of 24 selected parameters.

Low frequency data represented the bulk of the required instrumentation and was recorded on a digital system designed and assembled specifically for the B-70 flight test application. Operational maintenance of the system was relatively trouble free, although individual parameters did malfunction each flight.

CONTRACT NO	TASK	TYPE	INCENTIVES	TARGET COST	TARGET FEE %	ACTUAL FEE %
AF33(600)-36599	DES & FAB	CPFF	NONE	$63,954,666.00	6.5%	6.64%
AF33(600)-38669	DES & FAB	CPFF	NONE	$316,756,751.89	6.5%	5.13%
AF33(600)-42058 INCLUDES A/V 3 TERMINATION	DES & FAB	CPFF TO CPIF	NONE COST - MAX FEE 7.6% MIN FEE 3.528% MIN FEE INCREASED BY S/A'S TO 3.62%	$421,925,000.00 $576,686,368.00 TARGET COST DECREASED BY SA'S TO $539,900,664.30 *	6.5% REDUCED TO 4.7%	— 4.2% (EAC)
AF33(657)-12395	FLT TEST	CPIF	COST & PERFORMANCE FEE MAX 10.5 MIN 4.5 BASED ON COST. PERFORMANCE INCENTIVES MACH 1 1ST FLT +250K, 2ND FLT +125K, 3RD FLT -250K MACH 3 30 MIN 275K FLT HRS OVER 185 HRS 10K/HR TO MAX 250K SAME UNDER 175 HRS	~~$46,222,046.20~~ $46,303,856.26	4.77%	11.3% BASED ON TARGET COST + INCENTIVE
AF33(657)-15871	FLT TEST + CHANGES ON ESCAPE SYSTEM	~~CPIF~~ FPIF	COST	$11,169,884	7.5% BASIC CONTRACT	7.52% (EAC) NOTE CHANGES ON ESCAPE SYS NEGOTIATED HIGHER THAN 7.5% FEE