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*****
*   USAF STABILITY AND CONTROL  DIGITAL DATCOM   *
*   PROGRAM REV. JAN 96   DIRECT INQUIRIES TO:   *
*   WRIGHT LABORATORY  (WL/FIGC)  ATTN: W. BLAKE  *
*   WRIGHT PATTERSON AFB, OHIO  45433            *
*   PHONE (513) 255-6764,   FAX (513) 258-4054   *
*****
```

Preparing to start the big loop

At 1000

```
1                CONERR - INPUT ERROR CHECKING
0 ERROR CODES - N* DENOTES THE NUMBER OF OCCURENCES OF EACH ERROR
0 A - UNKNOWN VARIABLE NAME
0 B - MISSING EQUAL SIGN FOLLOWING VARIABLE NAME
0 C - NON-ARRAY VARIABLE HAS AN ARRAY ELEMENT DESIGNATION - (N)
0 D - NON-ARRAY VARIABLE HAS MULTIPLE VALUES ASSIGNED
0 E - ASSIGNED VALUES EXCEED ARRAY DIMENSION
0 F - SYNTAX ERROR
```

0\*\*\*\*\* INPUT DATA CARDS \*\*\*\*\*

BUILD

```
$FLTCON  NMACH=2.0, MACH(1)=0.6,0.8,
  NALPHA=9.0, ALSCHD(1)=-2.0,0.0,2.0,4.0,8.0,12.0,16.0,20.0,24.0,
  RNNUB(1)=2.28E6,3.04E6$
$FLTCON  NMACH=3.0, MACH(1)=0.6,0.8,1.5,
  RNNUB(1)=4.26E6, 6.4E6,9.96E6$
$OPTINS  SREF=2.25, CBARR=0.822, BLREF=3.00$
$SYNTHS  XCG=2.60, ZCG=0.0, XW=1.70, ZW=0.0, ALIW=0.0, XH=3.93,
  ZH=0.0, ALIH=0.0, XV=3.34, VERTUP=.TRUE.$
$BODY  NX=10.0, BNOSE=2.0, BTAIL=1.0, BLN=1.46, BLA=1.97,
  X(1)=0.0, .175,.322,.530,.850,1.46,2.5,3.43,3.97,4.57,
```

```

S(1)=0.0,.00547,.022,.0491,.0872,.136,.136,.136,.0993,.0598,
P(1)=0.0,.262,.523,.785,1.04,1.305,1.305,1.305,1.12,.866,
R(1)=0.0,.0417,.0833,.125,.1665,.208,.208,.208,.178,.138$
$WGPLNF CHRDT=0.346, SSPNE=1.29, SSPN=1.5, CHRDR=1.16,
SAVSI=45.0, CHSTAT=0.25, SWAFP=0.0, TWISTA=0.0, SSPNDD=0.0,
DHDADI=0.0, DHDADO=0.0, TYPE=1.0$
$WGSCHR TOVC=.06, DELTAY=1.3, XOVC=0.4, CLI=0.0, ALPHAI=0.0,
CLALPA(1)=0.131, CLMAX(1)=.82, CMO=0.0, LERI=.0025, CLAMO=.105$
$VTPLNF CHRDT=.42, SSPNE=.63, SSPN=0.849, CHRDR=1.02, SAVSI=28.1,
CHSTAT=.25, SWAFP=0.0, TWISTA=0.0, TYPE=0.0$
$VTSCHR TOVC=0.09, XOVC=0.4, CLALPA(1)=0.141, LERI=0.0075$
$WGSCHR CLMAXL=0.78$
$HTPLNF CHRDT=0.253, SSPNE=0.52, SSPN=0.67, CHRDR=0.42,
SAVSI=45.0, CHSTAT=0.25, SWAFP=0.0, TWISTA=0.0, SSPNDD=0.0,
DHDADI=0.0, DHDADO=0.0, TYPE=1.0$
$HTSCHR TOVC=0.06, DELTAY=1.3, XOVC=0.4, CLI=0.0, ALPHAI=0.0,
CLALPA(1)=.131, CLMAX(1)=0.82, CMO=0.0, LERI=.0025, CLAMO=.105$
CASEID CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1
SAVE
NEXT CASE
$EXPR01 CLAWB(1)=0.0575, CMAWB(1)=-0.0050,
CDWB(1)=.015,.014,.015,.019,.064,.141,.216,.302,.410,
CLWB(1)=-.115,0.0,.115,.23,.47,.65,.76,.81,.90,
CMWB(1)=.010,0.0,-.010,-.020,-.038,-.002,-.013,-.013,-.020,
CLAB(1)=.002, CMAB(1)=.0039,
CDB(1)=.012,.010,.012,.013,.014,.016,.020,.030,.047,
CLB(1)=-.004,0.0,.004,.008,.012,.020,.060,.085,.1,
CMB(1)=-.0078,.0078,.020,.038,.060,.083,.110,.140,.165$
$EXPR02 CLAWB(1)=.06,CLAB(1)=.002,CMAB(1)=.0039,
ALPOW=0.0, ALPLW=8.0, ACLMW=12.01, CLMW=1.39,
ALPOH=0.0, ALPLH=6.2, ACLMH=10.10, CLMH=1.02$
CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2
SAVE
NEXT CASE
$TVTPAN BVP=0.4, BV=0.6, BDV=0.36, BH=1.10,
SV=0.360, VPHITE=20.0, VLP=1.04, ZP=0.0$
CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3
SAVE
NEXT CASE
$FLTCON NMACH=1.0, MACH(1)=0.6, RNNUB(1)=2.28E6$
$PROPWR AIETLP=2.0,NENGSP=1.0,THSTCP=0.15,
PHALOC=0.0, PHVLOC=0.0, PRPRAD=0.4,
ENGFC=70.0, NOPBPE=4.0,BAPR75=18.0, YP=0.0, CROT=.FALSE.$
CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 4

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```

SAVE
NEXT CASE
$FLTCN NMACH=1.0, MACH(1)=0.6, RNNUB(1)=2.28E6$
$JETPWR AIETLJ=2.0, NENG SJ=1.0, THSTCJ=0.35, JIALOC=0.0,
JEVLOC=0.0, JEALOC=0.5, JINLTA=3.0, JEANGL=15.0, JEVELO=4000.0,
AMBTMP=500.0, JESTMP=2000.0, JELLOC=0.0,
JETOTP=5000.0, AMBSTP=500.0, JERAD=2.0$
CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 5
NEXT CASE
1 THE FOLLOWING IS A LIST OF ALL INPUT CARDS FOR THIS CASE.
0
BUILD
$FLTCN NMACH=2.0, MACH(1)=0.6,0.8,
NALPHA=9.0, ALSCHD(1)=-2.0,0.0,2.0,4.0,8.0,12.0,16.0,20.0,24.0,
RNNUB(1)=2.28E6,3.04E6$
$FLTCN NMACH=3.0, MACH(1)=0.6,0.8,1.5,
RNNUB(1)=4.26E6, 6.4E6,9.96E6$
$OPTINS SREF=2.25, CBARR=0.822, BLREF=3.00$
$SYNTHS XCG=2.60, ZCG=0.0, XW=1.70, ZW=0.0, ALIW=0.0, XH=3.93,
ZH=0.0, ALIH=0.0, XV=3.34, VERTUP=.TRUE.$
$BODY NX=10.0, BNOSE=2.0, BTAIL=1.0, BLN=1.46, BLA=1.97,
X(1)=0.0, .175,.322,.530,.850,1.46,2.5,3.43,3.97,4.57,
S(1)=0.0,.00547,.022,.0491,.0872,.136,.136,.136,.0993,.0598,
P(1)=0.0,.262,.523,.785,1.04,1.305,1.305,1.305,1.12,.866,
R(1)=0.0,.0417,.0833,.125,.1665,.208,.208,.208,.178,.138$
$WGPLNF CHRDTTP=0.346, SSPNE=1.29, SSPN=1.5, CHRDR=1.16,
SAVSI=45.0, CHSTAT=0.25, SWAFP=0.0, TWISTA=0.0, SSPNDD=0.0,
DHDADI=0.0, DHDADO=0.0, TYPE=1.0$
$WGSCHR TOVC=.06, DELTAY=1.3, XOVC=0.4, CLI=0.0, ALPHAI=0.0,
CLALPA(1)=0.131, CLMAX(1)=.82, CMO=0.0, LERI=.0025, CLAMO=.105$
$VTPLNF CHRDTTP=.42, SSPNE=.63, SSPN=0.849, CHRDR=1.02, SAVSI=28.1,
CHSTAT=.25, SWAFP=0.0, TWISTA=0.0, TYPE=0.0$
$VTSCHR TOVC=0.09, XOVC=0.4, CLALPA(1)=0.141, LERI=0.0075$
$WGSCHR CLMAXL=0.78$
$HTPLNF CHRDTTP=0.253, SSPNE=0.52, SSPN=0.67, CHRDR=0.42,
SAVSI=45.0, CHSTAT=0.25, SWAFP=0.0, TWISTA=0.0, SSPNDD=0.0,
DHDADI=0.0, DHDADO=0.0, TYPE=1.0$
$HTSCHR TOVC=0.06, DELTAY=1.3, XOVC=0.4, CLI=0.0, ALPHAI=0.0,
CLALPA(1)=.131, CLMAX(1)=0.82, CMO=0.0, LERI=.0025, CLAMO=.105$
CASEID CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1
SAVE
NEXT CASE
0 INPUT DIMENSIONS ARE IN FT, SCALE FACTOR IS 1.0000

```

Return to main program from M01001

0\*\*\* WARNING \*\*\* V.T. NOT STRAIGHT TAPERED. UNIFORM SECTION ASSUMED.

Return to main program from M50062

Return to main program from M02002

Return to main program from M51063

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 DATCOM BODY ALONE CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT REF.	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.008	-0.003	-0.0099	-0.004	0.008	2.746	1.610E-03	5.050E-03	-1.610E-03	-1.384E-03	0.000E+00
0.0	0.008	0.000	0.0000	0.000	0.008	*****	1.663E-03	4.947E-03	-1.663E-03	-1.355E-03	0.000E+00
2.0	0.008	0.003	0.0099	0.004	0.008	2.746	1.717E-03	4.844E-03	-1.717E-03	-1.327E-03	0.000E+00
4.0	0.008	0.007	0.0194	0.007	0.008	2.607	1.823E-03	4.640E-03	-1.823E-03	-1.271E-03	0.000E+00
8.0	0.010	0.015	0.0371	0.016	0.008	2.347	2.032E-03	4.238E-03	-2.032E-03	-1.161E-03	0.000E+00
12.0	0.013	0.023	0.0533	0.025	0.008	2.110	2.234E-03	3.852E-03	-2.234E-03	-1.055E-03	0.000E+00
16.0	0.017	0.032	0.0679	0.036	0.007	1.896	2.423E-03	3.488E-03	-2.423E-03	-9.556E-04	0.000E+00
20.0	0.022	0.043	0.0812	0.048	0.007	1.705	2.602E-03	3.143E-03	-2.602E-03	-8.613E-04	0.000E+00
24.0	0.030	0.053	0.0931	0.061	0.005	1.534	2.778E-03	2.806E-03	-2.778E-03	-7.689E-04	0.000E+00

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING ALONE CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS		REF.	REFERENCE LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER		AREA	LONG.	LAT.	HORIZ	VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT		FT**2	FT	FT	FT	FT
0 0.600					4.2600E+06		2.250	0.822	3.000	2.600	0.000
0							-----DERIVATIVE (PER DEGREE)-----				
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.008	-0.093	0.0150	-0.094	0.005	-0.161	4.643E-02	-7.732E-03	7.482E-06	1.178E-05	4.450E-04
0.0	0.006	0.000	0.0000	0.000	0.006	*****	4.664E-02	-7.744E-03	0.000E+00	0.000E+00	0.000E+00
2.0	0.008	0.093	-0.0159	0.094	0.005	-0.171	4.672E-02	-8.358E-03	7.483E-06	1.180E-05	-4.450E-04
4.0	0.015	0.187	-0.0334	0.187	0.002	-0.178	4.660E-02	-9.097E-03	3.013E-05	4.744E-05	-8.915E-04
8.0	0.039	0.372	-0.0727	0.374	-0.013	-0.194	4.519E-02	-9.536E-03	1.200E-04	1.884E-04	-1.774E-03
12.0	0.078	0.548	-0.1097	0.553	-0.038	-0.199	3.824E-02	-7.841E-03	2.624E-04	4.103E-04	-2.616E-03
16.0	0.115	0.678	-0.1354	0.683	-0.076	-0.198	2.442E-02	-5.730E-03	4.073E-04	6.265E-04	-3.233E-03
20.0	0.138	0.744	-0.1556	0.746	-0.125	-0.209	7.068E-03	-3.694E-03	5.029E-04	7.562E-04	-3.548E-03
24.0	0.134	0.734	-0.1649	0.725	-0.176	-0.227	-1.181E-02	-9.999E-04	5.102E-04	7.400E-04	-3.503E-03

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS		REF.	REFERENCE LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER		AREA	LONG.	LAT.	HORIZ	VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT		FT**2	FT	FT	FT	FT
0 0.600					4.2600E+06		2.250	0.822	3.000	2.600	0.000
0							-----DERIVATIVE (PER DEGREE)-----				
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.002	-0.016	0.0358	-0.016	0.001	-2.232	8.000E-03	-1.797E-02	2.227E-07	1.217E-06	4.193E-05
0.0	0.001	0.000	0.0000	0.000	0.001	*****	8.000E-03	-1.786E-02	0.000E+00	0.000E+00	0.000E+00
2.0	0.002	0.016	-0.0356	0.016	0.001	-2.219	8.075E-03	-1.802E-02	2.227E-07	1.215E-06	-4.193E-05
4.0	0.003	0.032	-0.0721	0.032	0.001	-2.222	8.176E-03	-1.841E-02	9.122E-07	4.952E-06	-8.463E-05
8.0	0.009	0.065	-0.1471	0.066	0.000	-2.233	7.953E-03	-1.820E-02	3.758E-06	2.023E-05	-1.709E-04
12.0	0.018	0.096	-0.2177	0.098	-0.002	-2.230	6.713E-03	-1.580E-02	8.279E-06	4.373E-05	-2.514E-04
16.0	0.027	0.119	-0.2735	0.122	-0.006	-2.244	4.508E-03	-1.162E-02	1.307E-05	6.736E-05	-3.116E-04
20.0	0.033	0.132	-0.3107	0.135	-0.014	-2.294	2.598E-03	-8.319E-03	1.672E-05	8.359E-05	-3.458E-04
24.0	0.037	0.140	-0.3400	0.143	-0.023	-2.382	1.263E-03	-6.345E-03	1.881E-05	9.487E-05	-3.661E-04

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.002	0.000	0.0000	0.000	NDM	*****	0.000E+00	0.000E+00	-1.440E-02	5.713E-03	-1.953E-03
0.0											-1.755E-03
2.0											-1.554E-03
4.0											-1.352E-03
8.0											-9.424E-04
12.0											-5.285E-04
16.0											-1.119E-04
20.0											3.051E-04
24.0											7.207E-04

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT REF.	CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	LAT. FT	HORIZ FT	VERT FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.016	-0.125	0.0032	-0.126	0.012	-0.025	6.258E-02	-1.344E-03	-1.610E-03	-1.845E-03	5.509E-04
0.0	0.014	0.000	0.0000	0.000	0.014	*****	6.258E-02	-1.856E-03			-5.244E-12
2.0	0.016	0.125	-0.0042	0.126	0.012	-0.034	6.273E-02	-2.638E-03			-5.509E-04
4.0	0.024	0.251	-0.0106	0.252	0.006	-0.042	6.269E-02	-3.666E-03			-1.104E-03
8.0	0.067	0.500	-0.0292	0.505	-0.003	-0.058	6.082E-02	-4.557E-03			-2.201E-03
12.0	0.149	0.738	-0.0470	0.752	-0.007	-0.062	5.089E-02	-3.117E-03			-3.246E-03
16.0	0.236	0.907	-0.0542	0.937	-0.023	-0.058	3.176E-02	-1.415E-03			-3.993E-03
20.0		0.992	-0.0583				9.200E-03	-1.248E-04			-4.364E-03
24.0		0.981	-0.0552				-1.458E-02	1.706E-03			-4.317E-03

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 BODY-HORIZONTAL TAIL CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.010	-0.028	0.0435	-0.028	0.009	-1.560	1.376E-02	-2.179E-02	-1.610E-03	-1.845E-03	2.573E-05
0.0	0.009	0.000	0.0000	0.000	0.009	*****	1.376E-02	-2.166E-02			-2.037E-12
2.0	0.010	0.028	-0.0432	0.028	0.009	-1.551	1.393E-02	-2.201E-02			-2.573E-05
4.0	0.012	0.056	-0.0880	0.056	0.008	-1.561	1.413E-02	-2.263E-02			-5.208E-05
8.0	0.019	0.112	-0.1802	0.114	0.003	-1.580	1.355E-02	-2.171E-02			-1.052E-04
12.0	0.031	0.164	-0.2618	0.167	-0.004	-1.568	1.144E-02	-1.748E-02			-1.534E-04
16.0	0.044	0.204	-0.3201	0.208	-0.014	-1.537	8.048E-03	-1.072E-02			-1.907E-04
20.0	0.056	0.228	-0.3475	0.234	-0.026	-1.486	5.167E-03	-5.093E-03			-2.136E-04
24.0	0.067	0.245	-0.3608	0.251	-0.039	-1.436	3.261E-03	-1.568E-03			-2.293E-04

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 BODY-VERTICAL TAIL CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT REF.	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.010	-0.003	-0.0099	-0.004	0.009	2.704	1.610E-03	5.050E-03	-1.601E-02	4.329E-03	-1.953E-03
0.0	0.009	0.000	0.0000	0.000	0.009	*****	1.663E-03	4.947E-03			-1.755E-03
2.0	0.010	0.003	0.0099	0.004	0.009	2.704	1.717E-03	4.844E-03			-1.554E-03
4.0	0.010	0.007	0.0194	0.008	0.009	2.568	1.823E-03	4.640E-03			-1.352E-03
8.0	0.012	0.015	0.0371	0.016	0.009	2.313	2.032E-03	4.238E-03			-9.424E-04
12.0	0.014	0.023	0.0533	0.026	0.009	2.082	2.234E-03	3.852E-03			-5.285E-04
16.0	0.018	0.032	0.0679	0.036	0.009	1.873	2.423E-03	3.488E-03			-1.119E-04
20.0	0.024	0.043	0.0812	0.048	0.008	1.686	2.602E-03	3.143E-03			3.051E-04
24.0	0.031	0.053	0.0931	0.061	0.007	1.518	2.778E-03	2.806E-03			7.207E-04

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER			
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	HORIZ FT	VERT FT		
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000		
0	-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0												
	-2.0	0.018	-0.134	0.0228	-0.134	0.013	-0.170	6.695E-02	-1.114E-02	-1.609E-03	-1.844E-03	5.928E-04
	0.0	0.016	0.000	0.0000	0.000	0.016	*****	6.695E-02	-1.168E-02			-5.244E-12
	2.0	0.018	0.134	-0.0239	0.134	0.013	-0.177	6.751E-02	-1.337E-02			-5.928E-04
	4.0	0.026	0.270	-0.0535	0.271	0.007	-0.197	6.801E-02	-1.565E-02			-1.189E-03
	8.0	0.073	0.542	-0.1228	0.546	-0.004	-0.225	6.676E-02	-1.813E-02			-2.372E-03
	12.0	0.160	0.804	-0.1985	0.820	-0.011	-0.242	5.806E-02	-1.973E-02			-3.497E-03
	16.0	0.255	1.006	-0.2806	1.037	-0.032	-0.270	4.049E-02	-2.182E-02			-4.305E-03
	20.0		1.128	-0.3731				1.762E-02	-1.977E-02			-4.710E-03
	24.0		1.147	-0.4388				-8.122E-03	-1.307E-02			-4.683E-03
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)						
0												
			-2.0	0.944	-1.234	0.617						
			0.0	0.909	0.000	0.617						
			2.0	0.944	1.234	0.603						
			4.0	0.995	2.413	0.572						
			8.0	1.000	4.565	0.493						
			12.0	1.000	6.358	0.361						
			16.0	1.000	7.452	0.162						
			20.0	1.000	7.650	-0.065						
			24.0	1.000	6.929	-0.180						

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT REF.	CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.018	-0.125	0.0032	-0.126	0.013	-0.025	6.258E-02	-1.344E-03	-1.601E-02	3.868E-03	-1.402E-03
0.0	0.016	0.000	0.0000	0.000	0.016	*****	6.258E-02	-1.856E-03			-1.755E-03
2.0	0.018	0.125	-0.0042	0.126	0.013	-0.034	6.273E-02	-2.638E-03			-2.105E-03
4.0	0.026	0.251	-0.0106	0.252	0.008	-0.042	6.269E-02	-3.666E-03			-2.456E-03
8.0	0.069	0.500	-0.0292	0.505	-0.001	-0.058	6.082E-02	-4.557E-03			-3.144E-03
12.0	0.151	0.738	-0.0470	0.753	-0.006	-0.062	5.089E-02	-3.117E-03			-3.775E-03
16.0	0.238	0.907	-0.0542	0.938	-0.022	-0.058	3.176E-02	-1.415E-03			-4.105E-03
20.0		0.992	-0.0583				9.200E-03	-1.248E-04			-4.059E-03
24.0		0.981	-0.0552				-1.458E-02	1.706E-03			-3.596E-03

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	AREA	LONG.	LAT.	HORIZ	VERT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.019	-0.134	0.0228	-0.135	0.015	-0.170	6.695E-02	-1.114E-02	-1.601E-02	3.869E-03
	0.0	0.017	0.000	0.0000	0.000	0.017	*****	6.695E-02	-1.168E-02		-1.755E-03
	2.0	0.019	0.134	-0.0239	0.134	0.015	-0.177	6.751E-02	-1.337E-02		-2.147E-03
	4.0	0.028	0.270	-0.0535	0.271	0.009	-0.197	6.801E-02	-1.565E-02		-2.541E-03
	8.0	0.074	0.542	-0.1228	0.547	-0.002	-0.225	6.676E-02	-1.813E-02		-3.315E-03
	12.0	0.162	0.804	-0.1985	0.820	-0.009	-0.242	5.806E-02	-1.973E-02		-4.026E-03
	16.0	0.257	1.006	-0.2806	1.038	-0.030	-0.270	4.049E-02	-2.182E-02		-4.417E-03
	20.0		1.128	-0.3731				1.762E-02	-1.977E-02		-4.405E-03
	24.0		1.147	-0.4388				-8.122E-03	-1.307E-02		-3.962E-03
0											
0											
			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
			-2.0	0.944	-1.234	0.617					
			0.0	0.909	0.000	0.617					
			2.0	0.944	1.234	0.603					
			4.0	0.995	2.413	0.572					
			8.0	1.000	4.565	0.493					
			12.0	1.000	6.358	0.361					
			16.0	1.000	7.452	0.162					
			20.0	1.000	7.650	-0.065					
			24.0	1.000	6.929	-0.180					

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 DATCOM BODY ALONE CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE FT	VELOCITY FT/SEC	PRESSURE LB/FT**2	TEMPERATURE DEG R	REYNOLDS NUMBER 1/FT	REF. AREA FT**2	REFERENCE LONG. FT	LENGTH LAT. FT	MOMENT HORIZ FT	REF. CENTER VERT FT	
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000	
-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	
0										CLB	
-2.0	0.008	NDM	NDM	NDM	NDM	2.892	1.599E-03	4.625E-03	-1.599E-03	-1.267E-03	
0.0	0.008									0.000E+00	
2.0	0.008									0.000E+00	
4.0	0.008									0.000E+00	
8.0	0.008									0.000E+00	
12.0	0.009									0.000E+00	
16.0	0.010									0.000E+00	
20.0	0.011									0.000E+00	
24.0	0.012									0.000E+00	

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING ALONE CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ	VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000	
0						-----DERIVATIVE (PER DEGREE)-----					
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.006	NDM	NDM	NDM	NDM	-0.239	5.044E-02	-1.206E-02	NDM	NDM
	0.0										NDM
	2.0										NDM
	4.0										NDM
	8.0										NDM
	12.0										NDM
	16.0										NDM
	20.0										NDM
	24.0										NDM

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST



CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ	VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000	
0						-----DERIVATIVE (PER DEGREE)-----					
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.001	NDM	NDM	NDM	NDM	-2.232	8.485E-03	-1.894E-02	NDM	NDM
	0.0										NDM
	2.0										NDM
	4.0										NDM
	8.0										NDM
	12.0										NDM
	16.0										NDM
	20.0										NDM
	24.0										NDM

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ	VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000	
0						-----DERIVATIVE (PER DEGREE)-----					
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.003	0.000	0.0000	0.000	NDM	*****	0.000E+00	0.000E+00	NDM	NDM
	0.0										NDM
	2.0										NDM
	4.0										NDM
	8.0										NDM
	12.0										NDM
	16.0										NDM
	20.0										NDM
	24.0										NDM

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.017	-0.130	0.0077	-0.131	0.012	-0.059	6.513E-02	-7.869E-03	-1.599E-03	-1.941E-03	9.441E-04
0.0	0.013	0.000		0.000	0.013		6.513E-02				0.000E+00
2.0	0.017	0.130		0.131	0.012		6.513E-02				-9.441E-04
4.0	0.026	0.261		0.262	0.008		6.513E-02				-1.888E-03
8.0	0.082	0.521		0.527	0.009		6.513E-02				-3.776E-03
12.0	0.158	0.782		0.797	-0.008		6.513E-02				-5.664E-03
16.0	0.246	1.042		1.070	-0.050		6.513E-02				-7.553E-03
20.0		1.303					6.513E-02				-9.441E-03
24.0		1.563					6.513E-02				-1.133E-02

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 BODY-HORIZONTAL TAIL CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS					
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS		REF.	REFERENCE	LENGTH	MOMENT	REF. CENTER	
NUMBER					NUMBER		AREA	LONG.	LAT.	HORIZ	VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT		FT**2	FT	FT	FT	FT	
0 0.800					6.4000E+06		2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0												
	-2.0	0.009	-0.027	NDM	-0.027	0.008	-1.623	1.342E-02	-2.178E-02	-1.599E-03	-1.941E-03	6.755E-05
	0.0		0.000					1.342E-02				0.000E+00
	2.0		0.027					1.342E-02				-6.755E-05
	4.0		0.054					1.342E-02				-1.351E-04
	8.0		0.107					1.342E-02				-2.702E-04
	12.0		0.161					1.342E-02				-4.053E-04
	16.0		0.215					1.342E-02				-5.404E-04
	20.0		0.268					1.342E-02				-6.755E-04
	24.0		0.322					1.342E-02				-8.106E-04

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 BODY-VERTICAL TAIL CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS			
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000
0	-----DERIVATIVE (PER DEGREE)-----									
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB
0										CLB
-2.0	0.010	NDM	NDM	NDM	NDM	2.892	1.599E-03	4.625E-03	NDM	NDM
0.0	0.010									NDM
2.0	0.010									NDM
4.0	0.011									NDM
8.0	0.011									NDM
12.0	0.012									NDM
16.0	0.012									NDM
20.0	0.014									NDM
24.0	0.015									NDM

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.020	-0.130	NDM	-0.131	0.015	-0.121	6.513E-02	-7.869E-03	-1.599E-03	-1.941E-03	NDM
0.0	0.016	0.000	NDM	0.000	0.016		6.513E-02				NDM
2.0	0.020	0.130	NDM	0.131	0.015		6.513E-02				NDM
4.0	0.029	0.261	NDM	0.262	0.011		6.513E-02				NDM
8.0	0.085	0.521	NDM	0.528	0.012		6.513E-02				NDM
12.0	0.161	0.782	NDM	0.798	-0.005		6.513E-02				NDM
16.0	0.249	1.042	NDM	1.070	-0.048		6.513E-02				NDM
20.0		1.303	NDM				6.513E-02				NDM
24.0		1.563	NDM				6.513E-02				NDM

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS								REFERENCE DIMENSIONS			
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT		
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600		
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB		
0									CNB		
									CLB		
-2.0	0.017	NDM	NDM	NDM	NDM	0.028	6.903E-02	1.943E-03	NDM		
0.0									NDM		
2.0									NDM		
4.0									NDM		
8.0									NDM		
12.0									NDM		
16.0									NDM		
20.0									NDM		
24.0									NDM		
0			ALPHA	Q/QINF	EPSLON	D ( EPSLON ) / D ( ALPHA )					
0			-2.0	0.914	0.000	0.639					
			0.0								
			2.0								
			4.0								
			8.0								
			12.0								
			16.0								
			20.0								
			24.0								

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0*** NDM PRINTED WHEN NO DATCOM METHODS EXIST
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CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS					REFERENCE DIMENSIONS						
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ		VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT		FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600		0.000

## BASIC BODY PROPERTIES

WETTED AREA	XCG	ZCG	BASE AREA	ZERO LIFT DRAG	BASE DRAG	FRICTION DRAG	PRESSURE DRAG
0.5035E+01	2.60	0.00	0.0598	0.7576E-02	0.1690E-02	0.5487E-02	0.3992E-03

XCG RELATIVE TO THEORETICAL LEADING EDGE MAC= 0.20

## BASIC PLANFORM PROPERTIES

		AREA	TAPER RATIO	ASPECT RATIO	QUARTER CHORD SWEEP	MAC	QUARTER CHORD X(MAC)	Y(MAC)	ZERO LIFT DRAG	FRICTION COEFFICIENT
0	WING									
	TOTAL THEORITICAL									
+		0.2259E+01	0.298	0.3984E+01	45.000	0.826E+00	0.260E+01	0.615E+00		
	TOTAL EXPOSED									
+		0.1796E+01	0.331	0.3707E+01	45.000	0.755E+00	0.274E+01	0.747E+00	0.573E-02	0.335E-02
0	HORIZONTAL TAIL									
	TOTAL THEORITICAL									
+		0.4509E+00	0.602	0.3982E+01	45.000	0.343E+00	0.434E+01	0.307E+00		
	TOTAL EXPOSED									
+		0.3305E+00	0.661	0.3272E+01	45.000	0.322E+00	0.443E+01	0.392E+00	0.123E-02	0.391E-02
0	VERTICAL TAIL									
	THEORITICAL INBOARD									
+		0.1223E+01	0.412	0.2358E+01	28.100	0.762E+00	0.379E+01	0.366E+00		
	EXPOSED INBOARD									
+		0.4048E+00	0.485	0.9804E+00	28.100	0.668E+00	0.386E+01	0.498E+00		NA
	OUTBOARD									
+		0.4200E-30	1.000	0.5000E+00	0.000	0.420E+00	0.344E+01	0.630E+00		NA
	TOTAL THEORITICAL									
+		0.6113E+00	0.412	0.1179E+01	66.960	0.762E+00	0.379E+01	0.366E+00		

	TOTAL EXPOSED								
+		0.4048E+00	0.485	0.9804E+00	28.100	0.668E+00	0.386E+01	0.498E+00	NA
0***	NA PRINTED WHEN METHOD NOT APPLICABLE								
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CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

[illegible]

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS					REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000

\*\*\* WING DATA FAIRING \*\*\*

$CDL/CL^{**2} = 0.1977E+00$        $CLB/CL = -0.5165E-02$   
 FORCE BREAK MACH NUMBER (ZERO SWEEP) = 0.9321E+00      FORCE BREAK MACH NUMBER (WITH SWEEP) = 0.9552E+00  
 $MACH(A) = 1.025$        $CLA(A) = 0.5384E-01$        $MACH(B) = 1.095$        $CLA(B) = 0.4967E-01$   
 $(CLB/CL)M=0.6 = -0.4771E-02$        $(CLB/CL)M=1.4 = -0.2642E-02$

LIFT-CURVE-SLOPE INTERPOLATION TABLE

MACH	CL-ALPHA
0.750	0.4868E-01
0.955	0.5710E-01
1.025	0.5384E-01
1.095	0.4967E-01
1.400	0.4200E-01

\*\*\* WING-BODY DATA FAIRING \*\*\*

$CLB/CL = -0.7247E-02$        $(CLB/CL)MFB = -0.4718E-02$        $(CLB/CL)M=1.4 = -0.2043E-02$        $(CNA)M=1.4 = 0.5406E-01$

\*\*\* HORIZONTAL TAIL DATA FAIRING \*\*\*

$CDL/CL^{**2} = 0.2357E+00$        $CLB/CL = -0.2349E-02$   
 FORCE BREAK MACH NUMBER (ZERO SWEEP) = 0.9738E+00      FORCE BREAK MACH NUMBER (WITH SWEEP) = 0.9838E+00  
 $MACH(A) = 1.054$        $CLA(A) = 0.9185E-02$        $MACH(B) = 1.124$        $CLA(B) = 0.8436E-02$   
 $(CLB/CL)M=0.6 = -0.2620E-02$        $(CLB/CL)M=1.4 = -0.2496E-03$

LIFT-CURVE-SLOPE INTERPOLATION TABLE

MACH	CL-ALPHA
0.750	0.8234E-02
0.984	0.9696E-02
1.054	0.9185E-02

1.124	0.8436E-02
1.400	0.7109E-02

\*\*\* HORIZONTAL TAIL-BODY DATA FAIRING \*\*\*

CLB/CL = -0.2516E-02	(CLB/CL)MFB = -0.9533E-03	(CLB/CL)M=1.4 = -0.1640E-03	(CNA)M=1.4 = 0.1058E-01
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\*\*\* BODY-WING-HORIZONTAL TAIL DATA FAIRING \*\*\*

DRAG DIVERGENCE MACH NUMBER = 0.931

MACH	CDO
0.600	0.1702E-01
0.700	0.1701E-01
1.100	0.2324E-01
1.400	0.2262E-01

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 DATCOM BODY ALONE CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.014	-0.004	-0.0085	-0.004	0.014	1.960	1.916E-03	4.242E-03	-1.916E-03	-1.162E-03	0.000E+00
0.0	0.014	0.000	0.0000	0.000	0.014	*****	1.916E-03	4.242E-03	-1.916E-03	-1.162E-03	0.000E+00
2.0	0.014	0.004	0.0085	0.004	0.014	1.960	2.429E-03	4.326E-03	-2.429E-03	-1.185E-03	0.000E+00
4.0	0.015	0.010	0.0173	0.011	0.014	1.614	3.430E-03	4.479E-03	-3.430E-03	-1.227E-03	0.000E+00
8.0	0.018	0.027	0.0358	0.030	0.014	1.210	5.371E-03	4.720E-03	-5.371E-03	-1.293E-03	0.000E+00
12.0	0.025	0.053	0.0551	0.057	0.014	0.971	7.439E-03	4.934E-03	-7.439E-03	-1.352E-03	0.000E+00
16.0	0.038	0.087	0.0752	0.094	0.013	0.800	9.918E-03	5.192E-03	-9.918E-03	-1.423E-03	0.000E+00
20.0	0.061	0.132	0.0966	0.145	0.012	0.666	1.294E-02	5.552E-03	-1.294E-02	-1.521E-03	0.000E+00
24.0	0.098	0.190	0.1197	0.214	0.012	0.560	1.623E-02	5.973E-03	-1.623E-02	-1.637E-03	0.000E+00

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING ALONE CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	
0											
-2.0	0.008	-0.077	0.0298	-0.077	0.005	-0.386	3.832E-02	-1.492E-02	NDM	NDM	
0.0	0.006	0.000	0.0000	0.000	0.006	*****	3.856E-02			1.758E-04	
2.0	0.008	0.077	-0.0298	0.077	0.005	-0.386	3.867E-02			0.000E+00	
4.0	0.015	0.155	-0.0597	0.155	0.004	-0.384	3.859E-02			-1.758E-04	
8.0	0.041	0.308	-0.1193	0.310	-0.002	-0.385	3.719E-02			-3.530E-04	
12.0	0.082	0.452	NDM	0.459	-0.014		3.437E-02			-7.054E-04	
16.0	0.133	0.583	NDM	0.597	-0.033		3.018E-02			-1.044E-03	
20.0	0.186	0.694	NDM	0.715	-0.063		2.484E-02			-1.356E-03	
24.0	0.234	0.781	NDM	0.809	-0.104		1.898E-02			-1.626E-03	
										-1.839E-03	

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.002	-0.014	0.0308	-0.014	0.001	-2.269	6.699E-03	-1.539E-02	NDM	NDM	3.023E-06
0.0	0.001	0.000	0.0000	0.000	0.001	*****	6.757E-03				0.000E+00
2.0	0.002	0.014	-0.0308	0.014	0.001	-2.269	6.787E-03				-3.023E-06
4.0	0.003	0.027	-0.0615	0.027	0.001	-2.257	6.789E-03				-6.080E-06
8.0	0.007	0.054	-0.1231	0.055	0.000	-2.255	6.568E-03				-1.217E-05
12.0	0.014	0.080	NDM	0.081	-0.002		6.094E-03				-1.805E-05
16.0	0.023	0.103	NDM	0.105	-0.006		5.396E-03				-2.347E-05
20.0	0.033	0.123	NDM	0.127	-0.011		4.516E-03				-2.824E-05
24.0	0.042	0.139	NDM	0.144	-0.019		3.536E-03				-3.207E-05

0\*\*\* NDM PRINTED WHEN NO DATCOM METHODS EXIST

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS					
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER	
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ	VERT		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000		
0	-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0												
	-2.0	0.001	0.000	0.0000	0.000	0.001	*****	0.000E+00	0.000E+00	-6.103E-02	2.905E-02	-1.113E-02
	0.0											-1.012E-02
	2.0											-9.103E-03
	4.0											-8.073E-03
	8.0											-5.982E-03
	12.0											-3.863E-03
	16.0											-1.725E-03
	20.0											4.214E-04
	24.0											2.566E-03

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.022	-0.100	-0.0180	-0.101	0.019	0.178	4.961E-02	-1.384E-02	-1.643E-03	-2.045E-03	1.758E-04
0.0	0.020	0.000	0.0000	0.000	0.020	*****	5.019E-02				0.000E+00
2.0	0.022	0.100	-0.0265	0.101	0.019	-0.262	5.083E-02				-1.758E-04
4.0	0.029	0.203	-0.0530	0.205	0.015	-0.259	5.173E-02				-3.530E-04
8.0	0.059	0.412	-0.1047	0.416	0.001	-0.251	5.174E-02				-7.054E-04
12.0	0.107	0.617	-0.1528	0.626	-0.024	-0.244	4.940E-02				-1.044E-03
16.0	0.171	0.808	-0.1947	0.823	-0.058	-0.236	4.558E-02				-1.356E-03
20.0	0.247	0.982	-0.2270	1.007	-0.104	-0.225	4.185E-02				-1.626E-03
24.0	0.332	1.142	-0.2463	1.178	-0.162	-0.209	3.839E-02				-1.839E-03

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
 BODY-HORIZONTAL TAIL CONFIGURATION  
 CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.016	-0.021	0.0421	-0.021	0.015	-1.972	1.005E-02	-1.587E-02	-1.643E-03	-2.045E-03	3.023E-06
0.0	0.015	0.000	0.0000	0.000	0.015	*****	1.040E-02				0.000E+00
2.0	0.016	0.021	-0.0421	0.021	0.015	-1.972	1.094E-02				-3.023E-06
4.0	0.017	0.044	-0.0843	0.045	0.014	-1.879	1.190E-02				-6.080E-06
8.0	0.025	0.095	-0.1677	0.097	0.012	-1.725	1.318E-02				-1.217E-05
12.0	0.039	0.149	-0.2451	0.154	0.008	-1.590	1.429E-02				-1.805E-05
16.0	0.062	0.209	-0.3080	0.218	0.002	-1.414	1.569E-02				-2.347E-05
20.0	0.094	0.275	-0.3557	0.290	-0.006	-1.225	1.746E-02				-2.824E-05
24.0	0.139	0.349	-0.3887	0.375	-0.015	-1.036	1.947E-02				-3.207E-05

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
BODY-VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ	VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	FT
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0						-----DERIVATIVE (PER DEGREE)-----					
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.015	-0.004	-0.0085	-0.004	0.014	1.960	1.916E-03	4.242E-03	-6.295E-02	2.788E-02	-1.113E-02
0.0	0.015	0.000	0.0000	0.000	0.014	*****	1.916E-03	4.242E-03			-1.012E-02
2.0	0.015	0.004	0.0085	0.004	0.014	1.960	2.429E-03	4.326E-03			-9.103E-03
4.0	0.016	0.010	0.0173	0.011	0.014	1.614	3.430E-03	4.479E-03			-8.073E-03
8.0	0.019	0.027	0.0358	0.030	0.014	1.210	5.371E-03	4.720E-03			-5.982E-03
12.0	0.026	0.053	0.0551	0.057	0.014	0.971	7.439E-03	4.934E-03			-3.863E-03
16.0	0.039	0.087	0.0752	0.094	0.013	0.800	9.918E-03	5.192E-03			-1.725E-03
20.0	0.062	0.132	0.0966	0.145	0.012	0.666	1.294E-02	5.552E-03			4.214E-04
24.0	0.099	0.190	0.1197	0.214	0.012	0.560	1.623E-02	5.973E-03			2.566E-03

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS					REFERENCE DIMENSIONS							
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. VERT	CENTER	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000		
0	-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0												
	-2.0	0.024	-0.111	0.0491	-0.112	0.020	-0.440	5.481E-02	-2.457E-02	-1.643E-03	-2.045E-03	1.758E-04
	0.0	0.021	0.000	0.0000	0.000	0.021	*****	5.454E-02	-2.402E-02			0.000E+00
	2.0	0.024	0.111	-0.0491	0.112	0.020	-0.440	5.480E-02	-2.455E-02			-1.758E-04
	4.0	0.032	0.225	-0.1000	0.227	0.016	-0.441	5.500E-02	-2.500E-02			-3.530E-04
	8.0	0.065	0.456	-0.2021	0.460	0.001	-0.439	5.505E-02	-2.526E-02			-7.054E-04
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)						
0												
			-2.0	0.964	-0.717		0.358					
			0.0	0.915	0.000		0.358					
			2.0	0.964	0.717		0.359					
			4.0	1.000	1.437		0.359					
			8.0	0.999	2.858		0.352					

0ANALYSIS TERMINATED AT ALPHA= 8.0 BECAUSE LEADING EDGE SHOCK IS DETACHED.

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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
-2.0	0.022	-0.100	-0.0180	-0.101	0.019	0.178	4.961E-02	-1.384E-02	-6.262E-02	2.698E-02	-1.095E-02
0.0	0.020	0.000	0.0000	0.000	0.020	*****	5.019E-02				-1.011E-02
2.0	0.022	0.100	-0.0265	0.101	0.019	-0.262	5.083E-02				-9.272E-03
4.0	0.029	0.203	-0.0530	0.205	0.015	-0.259	5.173E-02				-8.419E-03
8.0	0.059	0.412	-0.1047	0.416	0.001	-0.251	5.174E-02				-6.683E-03
12.0	0.107	0.617	-0.1528	0.626	-0.024	-0.244	4.940E-02				-4.904E-03
16.0	0.171	0.808	-0.1947	0.823	-0.058	-0.236	4.558E-02				-3.080E-03
20.0	0.247	0.982	-0.2270	1.007	-0.104	-0.225	4.185E-02				-1.205E-03
24.0	0.332	1.142	-0.2463	1.178	-0.162	-0.209	3.839E-02				7.249E-04

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
CONFIGURATION BUILDUP, EXAMPLE PROBLEM 3, CASE 1

FLIGHT CONDITIONS								REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE FT	VELOCITY FT/SEC	PRESSURE LB/FT**2	TEMPERATURE DEG R	REYNOLDS NUMBER 1/FT	REF. AREA FT**2	REFERENCE LENGTH LONG. FT	REFERENCE LENGTH LAT. FT	MOMENT HORIZ FT	REF. CENTER VERT FT		
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000		
-----DERIVATIVE (PER DEGREE)-----												
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0	-2.0	0.025	-0.111	0.0491	-0.112	0.021	-0.440	5.481E-02	-2.457E-02	-6.267E-02	2.700E-02	-1.095E-02
	0.0	0.022	0.000	0.0000	0.000	0.022	*****	5.454E-02	-2.402E-02			-1.012E-02
	2.0	0.025	0.111	-0.0491	0.112	0.021	-0.440	5.480E-02	-2.455E-02			-9.279E-03
	4.0	0.033	0.225	-0.1000	0.227	0.017	-0.441	5.500E-02	-2.500E-02			-8.426E-03
	8.0	0.066	0.456	-0.2021	0.460	0.002	-0.439	5.505E-02	-2.526E-02			-6.688E-03
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)						
0			-2.0	0.964	-0.717	0.358						
			0.0	0.915	0.000	0.358						
			2.0	0.964	0.717	0.359						
			4.0	1.000	1.437	0.359						
			8.0	0.999	2.858	0.352						

0ANALYSIS TERMINATED AT ALPHA= 8.0 BECAUSE LEADING EDGE SHOCK IS DETACHED.  
Return to main program from M57071

1 THE FOLLOWING IS A LIST OF ALL INPUT CARDS FOR THIS CASE.

0

\$EXPR01 CLAWB(1)=0.0575, CMAWB(1)=-0.0050,  
CDWB(1)=.015,.014,.015,.019,.064,.141,.216,.302,.410,  
CLWB(1)=-.115,0.0,.115,.23,.47,.65,.76,.81,.90,  
CMWB(1)=.010,0.0,-.010,-.020,-.038,-.002,-.013,-.013,-.020,  
CLAB(1)=.002, CMAB(1)=.0039,  
CDB(1)=.012,.010,.012,.013,.014,.016,.020,.030,.047,  
CLB(1)=-.004,0.0,.004,.008,.012,.020,.060,.085,.1,  
CMB(1)=-.0078,.0078,.020,.038,.060,.083,.110,.140,.165\$

\$EXPR02 CLAWB(1)=.06,CLAB(1)=.002,CMAB(1)=.0039,  
ALPOW=0.0, ALPLW=8.0, ACLMW=12.01, CLMW=1.39,  
ALPOH=0.0, ALPLH=6.2, ACLMH=10.10, CLMH=1.02\$

CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2

SAVE

NEXT CASE

0 INPUT DIMENSIONS ARE IN FT, SCALE FACTOR IS 1.0000

Return to main program from M01001

0\*\*\* WARNING \*\*\* V.T. NOT STRAIGHT TAPERED. UNIFORM SECTION ASSUMED.

Return to main program from M50062

Return to main program from M01001

Return to main program from M02002

Return to main program from M51063

1



CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	LONG. FT	LAT. FT	HORIZ FT	VERT FT	
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.018	-0.124	0.0296	-0.124	0.014	-0.238	6.188E-02	-1.480E-02	-1.640E-02	3.869E-03
	0.0	0.017	0.000	0.0000	0.000	0.017	*****	6.187E-02	-1.482E-02		-1.755E-03
	2.0	0.018	0.124	-0.0296	0.124	0.014	-0.238	6.228E-02	-1.573E-02		-2.102E-03
	4.0	0.023	0.249	-0.0629	0.250	0.005	-0.252	6.365E-02	-1.682E-02		-2.449E-03
	8.0	0.071	0.511	-0.1315	0.516	-0.001	-0.255	5.844E-02	-1.132E-02		-3.182E-03
	12.0	0.153	0.717	-0.1535	0.733	0.001	-0.209	4.342E-02	-1.349E-02		-3.641E-03
	16.0	0.237	0.859	-0.2394	0.891	-0.009	-0.269	2.873E-02	-2.178E-02		-3.769E-03
	20.0	0.336	0.946	-0.3278	1.004	-0.008	-0.326	2.592E-02	-2.052E-02		-3.606E-03
	24.0	0.455	1.066	-0.4036	1.159	-0.018	-0.348	3.396E-02	-1.740E-02		-3.607E-03
0				ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)				
0											
				-2.0	0.944	-1.234	0.617				
				0.0	0.909	0.000	0.617				
				2.0	0.944	1.234	0.603				
				4.0	0.995	2.413	0.572				
				8.0	1.000	4.565	0.493				
				12.0	1.000	6.358	0.361				
				16.0	1.000	7.452	0.162				
				20.0	1.000	7.650	-0.065				
				24.0	1.000	6.929	-0.180				

0\*NOTE\* OUTPUT REFLECTS EXPERIMENTAL DATA INPUTS

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0*** NDM PRINTED WHEN NO DATCOM METHODS EXIST
0*NOTE* OUTPUT REFLECTS EXPERIMENTAL DATA INPUTS
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FLIGHT CONDITIONS								REFERENCE DIMENSIONS			
MACH	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER
NUMBER					NUMBER	AREA	LONG.	LAT.	HORIZ		VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT		FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600		0.000
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.021	-0.153	NDM	-0.153	0.016	0.038	6.390E-02	2.441E-03	NDM	NDM
	0.0										NDM
	2.0										NDM
	4.0										NDM
	8.0										NDM
	12.0										NDM
	16.0										NDM
	20.0										NDM
	24.0										NDM
0											
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
			-2.0	0.914	0.000	0.639					
			0.0								
			2.0								
			4.0								
			8.0								
			12.0								
			16.0								
			20.0								
			24.0								

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2

FLIGHT CONDITIONS					REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000

BASIC BODY PROPERTIES

WETTED AREA	XCG	ZCG	BASE AREA	ZERO LIFT DRAG	BASE DRAG	FRICTION DRAG	PRESSURE DRAG
0.5035E+01	2.60	0.00	0.0598	0.7576E-02	0.1690E-02	0.5487E-02	0.3992E-03

XCG RELATIVE TO THEORETICAL LEADING EDGE MAC= 0.20

BASIC PLANFORM PROPERTIES

	AREA	TAPER RATIO	ASPECT RATIO	QUARTER CHORD SWEEP	MAC	QUARTER CHORD X(MAC)	Y(MAC)	ZERO LIFT DRAG	FRICTION COEFFICIENT
0 WING									
TOTAL THEORITICAL									
+ TOTAL EXPOSED	0.2259E+01	0.298	0.3984E+01	45.000	0.826E+00	0.260E+01	0.615E+00		
+ HORIZONTAL TAIL	0.1796E+01	0.331	0.3707E+01	45.000	0.755E+00	0.274E+01	0.747E+00	0.774E-02	0.335E-02
0 TOTAL THEORITICAL									
+ TOTAL EXPOSED	0.4509E+00	0.602	0.3982E+01	45.000	0.343E+00	0.434E+01	0.307E+00		
+ VERTICAL TAIL	0.3305E+00	0.661	0.3272E+01	45.000	0.322E+00	0.443E+01	0.392E+00	0.130E-02	0.391E-02
0 THEORITICAL INBOARD									
+ EXPOSED INBOARD	0.1223E+01	0.412	0.2358E+01	28.100	0.762E+00	0.379E+01	0.366E+00		
+ OUTBOARD	0.4048E+00	0.485	0.9804E+00	28.100	0.668E+00	0.386E+01	0.498E+00		NA
+ TOTAL THEORITICAL	0.4200E-30	1.000	0.5000E+00	0.000	0.420E+00	0.344E+01	0.630E+00		NA
+ TOTAL THEORITICAL	0.6113E+00	0.412	0.1179E+01	66.960	0.762E+00	0.379E+01	0.366E+00		

	TOTAL EXPOSED								
+		0.4048E+00	0.485	0.9804E+00	28.100	0.668E+00	0.386E+01	0.498E+00	NA
0***	NA PRINTED WHEN METHOD NOT APPLICABLE								
1									

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2

[illegible]

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2

FLIGHT CONDITIONS					REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE FT	VELOCITY FT/SEC	PRESSURE LB/FT**2	TEMPERATURE DEG R	REYNOLDS NUMBER 1/FT	REF. AREA FT**2	REFERENCE LONG. FT	LENGTH LAT. FT	MOMENT HORIZ FT	REF. CENTER VERT FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000

\*\*\* WING DATA FAIRING \*\*\*

$CDL/CL^{**2} = 0.1977E+00$        $CLB/CL = -0.5165E-02$   
FORCE BREAK MACH NUMBER (ZERO SWEEP) = 0.9321E+00      FORCE BREAK MACH NUMBER (WITH SWEEP) = 0.9552E+00  
MACH(A) = 1.025       $CLA(A) = 0.5384E-01$       MACH(B) = 1.095       $CLA(B) = 0.4967E-01$   
 $(CLB/CL)M=0.6 = -0.4771E-02$        $(CLB/CL)M=1.4 = -0.2642E-02$

LIFT-CURVE-SLOPE INTERPOLATION TABLE

MACH	CL-ALPHA
0.750	0.4868E-01
0.955	0.5710E-01
1.025	0.5384E-01
1.095	0.4967E-01
1.400	0.4200E-01

\*\*\* WING-BODY DATA FAIRING \*\*\*

$CLB/CL = -0.6150E-02$        $(CLB/CL)MFB = -0.4718E-02$        $(CLB/CL)M=1.4 = -0.2043E-02$        $(CNA)M=1.4 = 0.5406E-01$

\*\*\* HORIZONTAL TAIL DATA FAIRING \*\*\*

$CDL/CL^{**2} = 0.2357E+00$        $CLB/CL = -0.2349E-02$   
FORCE BREAK MACH NUMBER (ZERO SWEEP) = 0.9738E+00      FORCE BREAK MACH NUMBER (WITH SWEEP) = 0.9838E+00  
MACH(A) = 1.054       $CLA(A) = 0.9185E-02$       MACH(B) = 1.124       $CLA(B) = 0.8436E-02$   
 $(CLB/CL)M=0.6 = -0.2620E-02$        $(CLB/CL)M=1.4 = -0.2496E-03$

LIFT-CURVE-SLOPE INTERPOLATION TABLE

MACH	CL-ALPHA
0.750	0.8234E-02
0.984	0.9696E-02
1.054	0.9185E-02

1.124	0.8436E-02
1.400	0.7109E-02

\*\*\* HORIZONTAL TAIL-BODY DATA FAIRING \*\*\*

CLB/CL = -0.2669E-02	(CLB/CL)MFB = -0.9533E-03	(CLB/CL)M=1.4 = -0.1640E-03	(CNA)M=1.4 = 0.1058E-01
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\*\*\* BODY-WING-HORIZONTAL TAIL DATA FAIRING \*\*\*

DRAG DIVERGENCE MACH NUMBER = 0.931

MACH	CDO
0.600	0.1702E-01
0.700	0.1701E-01
1.100	0.2324E-01
1.400	0.2262E-01

1  
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CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 2

FLIGHT CONDITIONS								REFERENCE DIMENSIONS			
MACH NUMBER	ALTITUDE FT	VELOCITY FT/SEC	PRESSURE LB/FT**2	TEMPERATURE DEG R	REYNOLDS NUMBER 1/FT	REF. AREA FT**2	REFERENCE LENGTH FT	MOMENT LAT. FT	REF. CENTER HORIZ FT	VERT FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	
0											
	-2.0	0.025	-0.111	0.0491	-0.112	0.021	-0.440	5.481E-02	-2.457E-02	-6.267E-02	
	0.0	0.022	0.000	0.0000	0.000	0.022	*****	5.454E-02	-2.402E-02	-1.095E-02	
	2.0	0.025	0.111	-0.0491	0.112	0.021	-0.440	5.480E-02	-2.455E-02	-1.012E-02	
	4.0	0.033	0.225	-0.1000	0.227	0.017	-0.441	5.500E-02	-2.500E-02	-9.279E-03	
	8.0	0.066	0.456	-0.2021	0.460	0.002	-0.439	5.505E-02	-2.526E-02	-8.426E-03	
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
0											
			-2.0	0.964	-0.717	0.358					
			0.0	0.915	0.000	0.358					
			2.0	0.964	0.717	0.359					
			4.0	1.000	1.437	0.359					
			8.0	0.999	2.858	0.352					
0ANALYSIS TERMINATED AT ALPHA= 8.0 BECAUSE LEADING EDGE SHOCK IS DETACHED.											
Return to main program from M57071											
1	THE FOLLOWING IS A LIST OF ALL INPUT CARDS FOR THIS CASE.										
0											
	\$TVTPAN BVP=0.4, BV=0.6, BDV=0.36, BH=1.10,										
	SV=0.360, VPHITE=20.0, VLP=1.04, ZP=0.0\$										
CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3											
SAVE											
NEXT CASE											
0 INPUT DIMENSIONS ARE IN FT, SCALE FACTOR IS 1.0000											
Return to main program from M01001											
0*** WARNING *** V.T. NOT STRAIGHT TAPERED. UNIFORM SECTION ASSUMED.											
Return to main program from M50062											
Return to main program from M01001											
Return to main program from M02002											
Return to main program from M51063											
1											



CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-HORIZONTAL TAIL-VERTICAL TAIL-TWIN VERTICAL PANEL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3

FLIGHT CONDITIONS							REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS	REF.	REFERENCE	LENGTH	MOMENT	REF.	CENTER	
	FT	FT/SEC	LB/FT**2	DEG R	NUMBER	AREA	LONG.	LAT.	HORIZ	VERT		
					1/FT	FT**2	FT	FT	FT	FT		
0 0.600					4.2600E+06	2.250	0.822	3.000	2.600	0.000		
0	-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0												
	-2.0	0.018	-0.124	0.0296	-0.124	0.014	-0.238	6.188E-02	-1.480E-02	-2.237E-02	5.940E-03	-1.477E-03
	0.0	0.017	0.000	0.0000	0.000	0.017	*****	6.187E-02	-1.482E-02			-1.755E-03
	2.0	0.018	0.124	-0.0296	0.124	0.014	-0.238	6.228E-02	-1.573E-02			-2.030E-03
	4.0	0.023	0.249	-0.0629	0.250	0.005	-0.252	6.365E-02	-1.682E-02			-2.304E-03
	8.0	0.071	0.511	-0.1315	0.516	-0.001	-0.255	5.844E-02	-1.132E-02			-2.894E-03
	12.0	0.153	0.717	-0.1535	0.733	0.001	-0.209	4.342E-02	-1.349E-02			-3.210E-03
	16.0	0.237	0.859	-0.2394	0.891	-0.009	-0.269	2.873E-02	-2.178E-02			-3.198E-03
	20.0	0.336	0.946	-0.3278	1.004	-0.008	-0.326	2.592E-02	-2.052E-02			-2.897E-03
	24.0	0.455	1.066	-0.4036	1.159	-0.018	-0.348	3.396E-02	-1.740E-02			-2.764E-03
0				ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
0												
				-2.0	0.944	-1.234	0.617					
				0.0	0.909	0.000	0.617					
				2.0	0.944	1.234	0.603					
				4.0	0.995	2.413	0.572					
				8.0	1.000	4.565	0.493					
				12.0	1.000	6.358	0.361					
				16.0	1.000	7.452	0.162					
				20.0	1.000	7.650	-0.065					
				24.0	1.000	6.929	-0.180					

0\*NOTE\* OUTPUT REFLECTS EXPERIMENTAL DATA INPUTS

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0*** NDM PRINTED WHEN NO DATCOM METHODS EXIST
0*NOTE* OUTPUT REFLECTS EXPERIMENTAL DATA INPUTS
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FLIGHT CONDITIONS								REFERENCE DIMENSIONS			
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT	REF. CENTER		
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT		
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600		
0											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB		
0											
	-2.0	0.021	-0.153	NDM	-0.153	0.016	0.038	6.390E-02	2.441E-03		
	0.0								NDM		
	2.0								NDM		
	4.0								NDM		
	8.0								NDM		
	12.0								NDM		
	16.0								NDM		
	20.0								NDM		
	24.0								NDM		
0											
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
			-2.0	0.914	0.000	0.639					
			0.0								
			2.0								
			4.0								
			8.0								
			12.0								
			16.0								
			20.0								
			24.0								

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3

FLIGHT CONDITIONS					REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT
	FT	FT/SEC	LB/FT**2	DEG R		FT**2	FT	FT	FT	FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000

BASIC BODY PROPERTIES

WETTED AREA	XCG	ZCG	BASE AREA	ZERO LIFT DRAG	BASE DRAG	FRICTION DRAG	PRESSURE DRAG
0.5035E+01	2.60	0.00	0.0598	0.7576E-02	0.1690E-02	0.5487E-02	0.3992E-03

XCG RELATIVE TO THEORETICAL LEADING EDGE MAC= 0.20

BASIC PLANFORM PROPERTIES

	AREA	TAPER RATIO	ASPECT RATIO	QUARTER CHORD SWEEP	MAC	QUARTER CHORD X(MAC)	Y(MAC)	ZERO LIFT DRAG	FRICTION COEFFICIENT
0 WING									
TOTAL THEORITICAL									
+ TOTAL EXPOSED	0.2259E+01	0.298	0.3984E+01	45.000	0.826E+00	0.260E+01	0.615E+00		
+ HORIZONTAL TAIL	0.1796E+01	0.331	0.3707E+01	45.000	0.755E+00	0.274E+01	0.747E+00	0.774E-02	0.335E-02
0 TOTAL THEORITICAL									
+ TOTAL EXPOSED	0.4509E+00	0.602	0.3982E+01	45.000	0.343E+00	0.434E+01	0.307E+00		
+ VERTICAL TAIL	0.3305E+00	0.661	0.3272E+01	45.000	0.322E+00	0.443E+01	0.392E+00	0.130E-02	0.391E-02
0 THEORITICAL INBOARD									
+ EXPOSED INBOARD	0.1223E+01	0.412	0.2358E+01	28.100	0.762E+00	0.379E+01	0.366E+00		
+ OUTBOARD	0.4048E+00	0.485	0.9804E+00	28.100	0.668E+00	0.386E+01	0.498E+00		NA
+ TOTAL THEORITICAL	0.4200E-30	1.000	0.5000E+00	0.000	0.420E+00	0.344E+01	0.630E+00		NA
+ TOTAL THEORITICAL	0.6113E+00	0.412	0.1179E+01	66.960	0.762E+00	0.379E+01	0.366E+00		

	TOTAL EXPOSED								
+		0.4048E+00	0.485	0.9804E+00	28.100	0.668E+00	0.386E+01	0.498E+00	NA
0***	NA PRINTED WHEN METHOD NOT APPLICABLE								
1									

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3

[illegible]

CONFIGURATION AUXILIARY AND PARTIAL OUTPUT  
WING-BODY-VERTICAL TAIL-HORIZONTAL TAIL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3

FLIGHT CONDITIONS					REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE FT	VELOCITY FT/SEC	PRESSURE LB/FT**2	TEMPERATURE DEG R	REYNOLDS NUMBER 1/FT	REF. AREA FT**2	REFERENCE LONG. FT	LENGTH LAT. FT	MOMENT HORIZ FT	REF. CENTER VERT FT
0 0.800					6.4000E+06	2.250	0.822	3.000	2.600	0.000

\*\*\* WING DATA FAIRING \*\*\*

CDL/CL\*\*2 = 0.1977E+00      CLB/CL = -0.5165E-02  
 FORCE BREAK MACH NUMBER (ZERO SWEEP) = 0.9321E+00      FORCE BREAK MACH NUMBER (WITH SWEEP) = 0.9552E+00  
 MACH(A) = 1.025      CLA(A) = 0.5384E-01      MACH(B) = 1.095      CLA(B) = 0.4967E-01  
 (CLB/CL)M=0.6 = -0.4771E-02      (CLB/CL)M=1.4 = -0.2642E-02

LIFT-CURVE-SLOPE INTERPOLATION TABLE

MACH	CL-ALPHA
0.750	0.4868E-01
0.955	0.5710E-01
1.025	0.5384E-01
1.095	0.4967E-01
1.400	0.4200E-01

\*\*\* WING-BODY DATA FAIRING \*\*\*

CLB/CL = -0.6150E-02      (CLB/CL)MFB = -0.4718E-02      (CLB/CL)M=1.4 = -0.2043E-02      (CNA)M=1.4 = 0.5406E-01

\*\*\* HORIZONTAL TAIL DATA FAIRING \*\*\*

CDL/CL\*\*2 = 0.2357E+00      CLB/CL = -0.2349E-02  
 FORCE BREAK MACH NUMBER (ZERO SWEEP) = 0.9738E+00      FORCE BREAK MACH NUMBER (WITH SWEEP) = 0.9838E+00  
 MACH(A) = 1.054      CLA(A) = 0.9185E-02      MACH(B) = 1.124      CLA(B) = 0.8436E-02  
 (CLB/CL)M=0.6 = -0.2620E-02      (CLB/CL)M=1.4 = -0.2496E-03

LIFT-CURVE-SLOPE INTERPOLATION TABLE

MACH	CL-ALPHA
0.750	0.8234E-02
0.984	0.9696E-02
1.054	0.9185E-02

1.124	0.8436E-02
1.400	0.7109E-02

\*\*\* HORIZONTAL TAIL-BODY DATA FAIRING \*\*\*  
CLB/CL =-0.2669E-02 (CLB/CL)MFB =-0.9533E-03 (CLB/CL)M=1.4 =-0.1640E-03 (CNA)M=1.4 = 0.1058E-01

\*\*\* BODY-WING-HORIZONTAL TAIL DATA FAIRING \*\*\*  
DRAG DIVERGENCE MACH NUMBER = 0.931  
MACH CDO  
0.600 0.1702E-01  
0.700 0.1701E-01  
1.100 0.2324E-01  
1.400 0.2262E-01

1  
1

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-HORIZONTAL TAIL-VERTICAL TAIL-TWIN VERTICAL PANEL CONFIGURATION  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 3

FLIGHT CONDITIONS								REFERENCE DIMENSIONS			
MACH NUMBER	ALTITUDE FT	VELOCITY FT/SEC	PRESSURE LB/FT**2	TEMPERATURE DEG R	REYNOLDS NUMBER 1/FT	REF. AREA FT**2	REFERENCE LENGTH LONG. FT	REFERENCE LENGTH LAT. FT	MOMENT HORIZ FT	REF. CENTER VERT FT	
0 1.500					9.9600E+06	2.250	0.822	3.000	2.600	0.000	
-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	
0											
	-2.0	0.025	-0.111	0.0491	-0.112	0.021	-0.440	5.481E-02	-2.457E-02	-6.267E-02	
	0.0	0.022	0.000	0.0000	0.000	0.022	*****	5.454E-02	-2.402E-02	-1.095E-02	
	2.0	0.025	0.111	-0.0491	0.112	0.021	-0.440	5.480E-02	-2.455E-02	-1.012E-02	
	4.0	0.033	0.225	-0.1000	0.227	0.017	-0.441	5.500E-02	-2.500E-02	-9.279E-03	
	8.0	0.066	0.456	-0.2021	0.460	0.002	-0.439	5.505E-02	-2.526E-02	-8.426E-03	
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
0											
			-2.0	0.964	-0.717	0.358					
			0.0	0.915	0.000	0.358					
			2.0	0.964	0.717	0.359					
			4.0	1.000	1.437	0.359					
			8.0	0.999	2.858	0.352					

0ANALYSIS TERMINATED AT ALPHA= 8.0 BECAUSE LEADING EDGE SHOCK IS DETACHED.

0\*\*NOTE\*LATERAL STABILITY DERIVATIVES DO NOT INCLUDE THE EFFECTS OF TWIN VERTICAL PANELS. (NO DATCOM METHODS)

Return to main program from M57071

1 THE FOLLOWING IS A LIST OF ALL INPUT CARDS FOR THIS CASE.

0

\$FLTCON NMACH=1.0, MACH(1)=0.6, RNNUB(1)=2.28E6\$

\$PROPWR AIETLP=2.0,NENGSP=1.0,THSTCP=0.15,

PHALOC=0.0, PHVLOC=0.0, PRPRAD=0.4,

ENGFBT=70.0, NOPBPE=4.0,BAPR75=18.0, YP=0.0, CROT=.FALSE.\$

CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 4

SAVE

NEXT CASE

0 INPUT DIMENSIONS ARE IN FT, SCALE FACTOR IS 1.0000

Return to main program from M01001

0\*\*\* WARNING \*\*\* V.T. NOT STRAIGHT TAPERED. UNIFORM SECTION ASSUMED.

Return to main program from M50062

Return to main program from M01001



Return to main program from M02002

Return to main program from M51063

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-HORIZONTAL TAIL-VERTICAL TAIL-TWIN VERTICAL PANEL CONFIGURATION  
PROPELLER POWER EFFECTS INCLUDED IN THE LONGITUDINAL STABILITY RESULTS  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 4

FLIGHT CONDITIONS							REFERENCE DIMENSIONS					
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LENGTH	MOMENT REF.	REF. CENTER			
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	LAT. FT	HORIZ FT	VERT FT		
0 0.600					2.2800E+06	2.250	0.822	3.000	2.600	0.000		
0	-----DERIVATIVE (PER DEGREE)-----											
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB	
0												
	-2.0	0.024	-0.137	0.0355	-0.138	0.020	-0.258	6.185E-02	-1.474E-02	-2.237E-02	6.088E-03	-1.477E-03
	0.0	0.023	0.001	0.0072	0.001	0.023	7.658	6.184E-02	-1.476E-02			-1.755E-03
	2.0	0.027	0.138	-0.0203	0.139	0.023	-0.146	6.226E-02	-1.570E-02			-2.030E-03
	4.0	0.038	0.275	-0.0503	0.277	0.018	-0.182	6.365E-02	-1.683E-02			-2.304E-03
	8.0	0.099	0.548	-0.1066	0.556	0.022	-0.192	5.845E-02	-1.138E-02			-2.894E-03
	12.0	0.200	0.749	-0.0974	0.774	0.040	-0.126	4.345E-02	-1.365E-02			-3.210E-03
	16.0	0.309	0.891	-0.1494	0.941	0.051	-0.159	2.880E-02	-2.217E-02			-3.198E-03
	20.0	0.436	0.975	-0.1980	1.065	0.077	-0.186	2.597E-02	-2.099E-02			-2.897E-03
	24.0	0.587	1.091	-0.2354	1.236	0.092	-0.191	3.393E-02	-1.777E-02			-2.764E-03
0				ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
0												
				-2.0	0.937	-1.234		0.617				
				0.0	0.904	0.000		0.617				
				2.0	0.937	1.234		0.603				
				4.0	0.991	2.413		0.572				
				8.0	1.000	4.565		0.493				
				12.0	1.000	6.358		0.359				
				16.0	1.000	7.435		0.152				
				20.0	1.000	7.576		-0.084				
				24.0	1.000	6.766		-0.202				

0\*NOTE\* OUTPUT REFLECTS EXPERIMENTAL DATA INPUTS

Return to main program from M57071

1 THE FOLLOWING IS A LIST OF ALL INPUT CARDS FOR THIS CASE.

0

\$FLTCON NMACH=1.0, MACH(1)=0.6, RNNUB(1)=2.28E6\$  
\$JETPWR AIETLJ=2.0, NENG SJ=1.0, THSTCJ=0.35, JIALOC=0.0,  
JEVLOC=0.0, JEALOC=0.5, JINLTA=3.0, JEANGL=15.0, JEVELO=4000.0,  
AMBTMP=500.0, JESTMP=2000.0, JELLOC=0.0,  
JETOTP=5000.0, AMBSTP=500.0, JERAD=2.0\$

CASEID INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 5  
NEXT CASE  
0 INPUT DIMENSIONS ARE IN FT, SCALE FACTOR IS 1.0000

Return to main program from M01001  
0\*\*\* WARNING \*\*\* V.T. NOT STRAIGHT TAPERED. UNIFORM SECTION ASSUMED.  
Return to main program from M50062  
Return to main program from M01001  
Return to main program from M02002  
Return to main program from M51063  
1

CHARACTERISTICS AT ANGLE OF ATTACK AND IN SIDESLIP  
WING-BODY-HORIZONTAL TAIL-VERTICAL TAIL-TWIN VERTICAL PANEL CONFIGURATION  
JET POWER EFFECTS INCLUDED IN THE LONGITUDINAL STABILITY RESULTS  
INCLUDES BODY AND WING-BODY EXPERIMENTAL DATA, EX.PROB. 3, CASE 5

FLIGHT CONDITIONS							REFERENCE DIMENSIONS				
MACH NUMBER	ALTITUDE	VELOCITY	PRESSURE	TEMPERATURE	REYNOLDS NUMBER	REF. AREA	REFERENCE LONG.	LENGTH LAT.	MOMENT HORIZ	REF. CENTER VERT	
	FT	FT/SEC	LB/FT**2	DEG R	1/FT	FT**2	FT	FT	FT	FT	
0 0.600					2.2800E+06	2.250	0.822	3.000	2.600	0.000	
0	-----DERIVATIVE (PER DEGREE)-----										
0 ALPHA	CD	CL	CM	CN	CA	XCP	CLA	CMA	CYB	CNB	CLB
0											
	-2.0	0.019	-0.119	0.0252	-0.120	0.014	-0.210	6.185E-02	-1.474E-02	-2.237E-02	6.088E-03
	0.0	0.017	0.114	0.3066	0.114	0.017	2.684	6.184E-02	-1.476E-02		-1.755E-03
	2.0	0.019	0.348	0.5862	0.349	0.006	1.680	6.226E-02	-1.570E-02		-2.030E-03
	4.0	0.023	0.584	0.8608	0.584	-0.018	1.473	6.365E-02	-1.683E-02		-2.304E-03
	8.0	0.071	1.065	1.4056	1.064	-0.078	1.320	5.845E-02	-1.138E-02		-2.894E-03
	12.0	0.154	1.485	1.9890	1.485	-0.158	1.339	4.345E-02	-1.365E-02		-3.210E-03
	16.0	0.239	1.839	2.4962	1.834	-0.277	1.361	2.880E-02	-2.217E-02		-3.198E-03
	20.0	0.339	2.133	2.9851	2.120	-0.411	1.408	2.597E-02	-2.099E-02		-2.897E-03
	24.0	0.460	2.453	3.4690	2.428	-0.578	1.429	3.393E-02	-1.777E-02		-2.764E-03
0			ALPHA	Q/QINF	EPSLON	D(EPSLON)/D(ALPHA)					
0											
			-2.0	0.937	-1.234	0.617					
			0.0	0.904	0.000	0.617					
			2.0	0.937	1.234	0.603					
			4.0	0.991	2.413	0.572					
			8.0	1.000	4.565	0.493					
			12.0	1.000	6.358	0.359					
			16.0	1.000	7.435	0.152					
			20.0	1.000	7.576	-0.084					
			24.0	1.000	6.766	-0.202					

0\*NOTE\* OUTPUT REFLECTS EXPERIMENTAL DATA INPUTS

Return to main program from M57071

1 THE FOLLOWING IS A LIST OF ALL INPUT CARDS FOR THIS CASE.

0

1 END OF JOB.