

McDonnell Douglas Astronautics Company - Engineering Services

TRANSMITTAL MEMO

SUBJECT: STS-26 POST-FLIGHT ANALYSIS

ENCL: STS-26 POST MECO GUIDANCE ANALYSIS REPORT
(MECO through OMS-2, Deorbit)

TO — NASA/LYNDON B. JOHNSON SPACE CENTER
2101 NASA ROAD 1
HOUSTON, TEXAS 77058
ATTN: A. Bordano / FM4

TM NO FM9-BA-10

DATE 14 NOVEMBER 1988

CONTRACT NO.
NAS9-17885

TASK ORDER NO.
FM9BA03

TASK ASSIGNMENT NC

REMARKS:

A detailed post flight assesment of the STS-26 OMS-2 and Deorbit maneuvers has been completed. The analysis was conducted using actual flight data and data derived from simulations using the Space Vehicle Dynamics Simulator (SVDS). The enclosed data provides a summary of these assesments and addresses those which summarize performance or accuracy of the orbit insertion and deorbit guided maneuvers.

No guidance flight software problems were identified, and the orbit insertion and deorbit software performed as anticipated.

Prepared by: 

~~XXXXXXXXXX~~
ENGINEER, MDAC-
ES 280-1500
X3358

Transmitted by:

Signature: _____

Title:

L. T. Guderian / T517
Section Supervisor
Orbit Guidance Analysis

Signature: _____

Title:

D. J. Hull / T519
Project Manager
Guidance and Navigation

External Distribution Internal Distribution Master Files w/encl.

D.G. Ives / FM4

M.N. Montez / FM4

INTERNAL DIST. CONT'D

M.D. McCulloch/T5G

D.G. Franz / T733*

G.D. Venables / T319*

F.B. Abramson / T504*

J.W. Compton / T5K*

R.H. Seale / T5K*

L.V. Zyla / T5H*

G.N. Hirsh / T5L*

L.J. Drapela / T5H

W. H. Trahan/ T5H

*WITHOUT ENCLOSURES

APPENDIX A
MANEUVER SOLUTIONS

	OMS-2	SVDS/OMS-2	DEORBIT	SVDS/DEORBIT
OMS BOTH 1	*	*	*	*
2				
3				
RCS SEL 4				
TV ROLL	180.0	180.0	180.0	180.0
TRIM LOAD P	+ 0.4	+ 0.4	+ 0.4	+ 0.4
LY	- 5.7	- 5.8	- 5.7	- 5.7
RY	+ 5.7	+ 5.8	+ 5.7	+ 5.7
WT	248655.1	248496.0	-- --	202659.0
TIG	0/00:39:55.0	0/00:39:55.5	3/23:57:45.0	3/23:57:45.0
C1	0.0	0.0	14839.4	14839.4
C2	0.0	0.0	- 0.5963	- 0.5963
HT	167.0	167.0	65.8315	65.8315
θT	326.0	326.0	130.486	130.486
DVX	211.18	213.2	- 276.1	- 281.9
DVY	8.66	-0.0	- 0.068	- 0.0
DVZ	71.14	+9.7	- 171.14	- 163.7
BURN ATT R	102.7	102.0	61.33	61.53
P	17.4	18.0	179.91	180.19
Y	53.8	52.0	314.9	315.25
GMBL LP	+ 0.4	+ 0.4	+ 0.4	+ 0.4
RP	+ 0.4	+ 0.4	+ 0.4	+ 0.4
LY	- 5.7	- 5.7	- 5.7	- 5.7
RY	+ 5.7	+ 5.7	+ 5.7	+ 5.7
DVTOT	223.0	223.5	324.96	326.0
VGO X	220.0	215.28	306.62	315.74
Y	- 0.02	14.26	10.71	1.9
Z	36.49	58.15	107.1	81.29
TGT HA	160	160	167	167
HP	159	159	8	8
CUR HA	161.9	159.6	176.2	177.1
HP	36.39	36.7	163.1	162.7
TGO	2:23	2:23	2:49	2:49