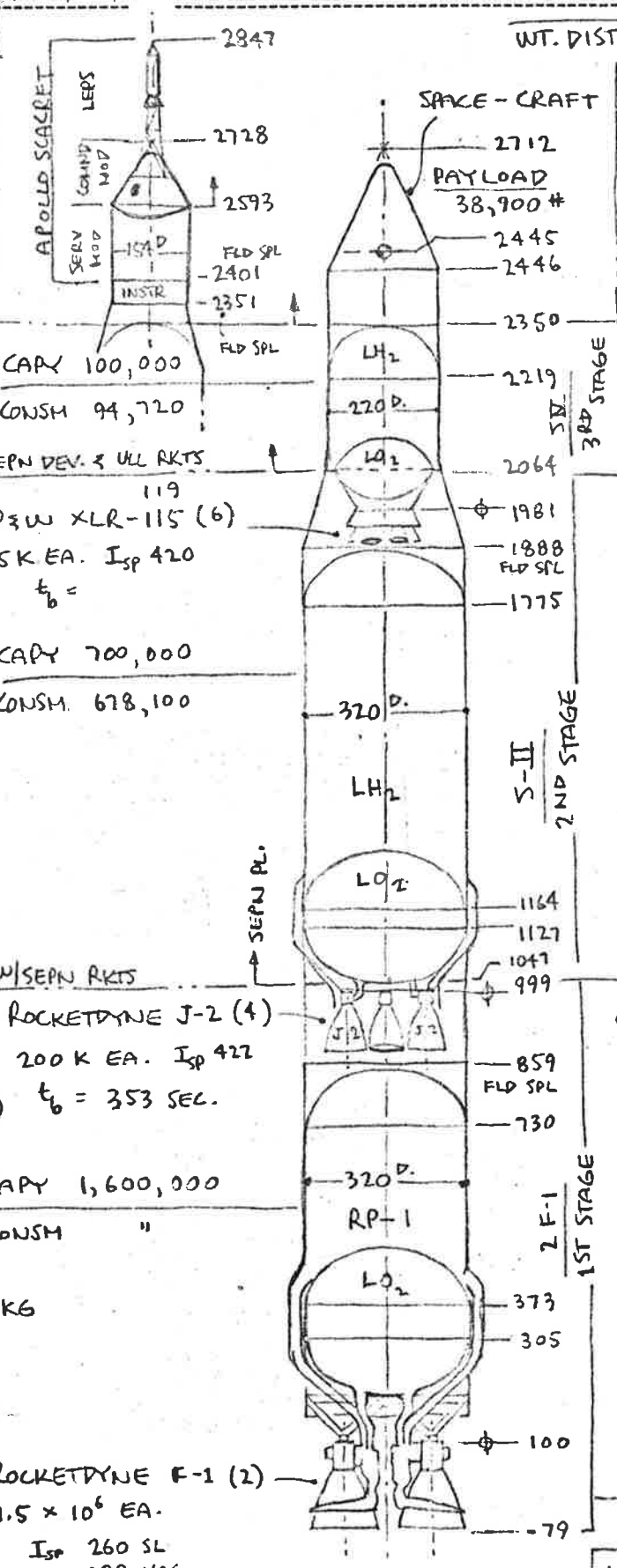
BY _____ DATE _____ SUBJECT SATURN C-3 BOOSTER — SHEET NO. 1 OF 3

CHKD. BY _____ DATE 6/30/61 CONFIGURATION DATA — JOB NO. APO - REF.

MSFC 6/2/61 M-S&H-FD — NTT

TRAJ. DATA
ESCAPE MISN
3 STG VERSN.
OPTIMUM PROPLT LOADG
C-3 2(F-1)

96 MIN ORBT PAYLD = 96,800 #



t = 870.12
h = 316
R = 4822
V = 10,920
a = 14.20
M = —
F = 40,823
D = —
α = 82.9°

CAPY 100,000
CONSM 94,720
SEPN DEV. & ULL RKTS 119
P&W XLR-115 (6)
15K EA. I_{sp} 420
t_b =

t = 425.87
h = 184
R = 1091
V = 7030
a = 40.03
M = 12.13
q = —
F = 362,874
D = —
α = 89.6°

CAPY 700,000
CONSM 678,100
W/SEPN RKTS

t = 132.26
h = 49.6 KM
R = 39.3 "
V = 1616 (M/SEC)
a = 32.59 "
M = 4.79
q = 146 KM/H²
F = 1,565,826 KG
D = 3124 KG
α = 51.6 (°V)

ROCKETDYNE J-2 (4)
200 K EA. I_{sp} 422
t_b = 353 SEC.

CAPY 1,600,000
CONSM "

t = 0

ROCKETDYNE F-1 (2)
1.5 × 10⁶ EA.
I_{sp} 260 SL
299 VAC
t_b = 139 SEC.

q_{max} AT t = 72
D_{MAX} AT t = 72

3.0 × 10⁶ LB. THRUST

WT. DISTRIBUTN STG/STG

	WT.	CG STA.
GUID & CONTRL	2500	2445
FUSELAGE	7360	2130
PROPLSN	3900	2003
TRAPD PROPLT	570	2060
USBL RESDLS	TPR 5280 / MAS 1400 (6680)	2005
PROPLT CONSUMPTN	94,720	2063
STRUCT WT.	13,760	
" NET	21,010	
STAGE WT.	115,730	
LIFT-OFF WT.	154,630	
CUT-OFF "	59,910	

GUID & CONTRL	1000	1838
FUSE.	26,000	1447
PROPLSN	14,000	1007
TRAPD PROPLT	6,500	1347
USBL RESDLS	3,500	1045
PROPLT CONSUMPTN	678,100	1202
STRUCT WT.	41,000	
" NET	51,000	
STAGE WT.	729,100	
LIFT-OFF "	883,730	
CUT-OFF "	205,630	

GUID & CONTRL	1000	793
FUSE.	63,000	560
PROPLSN	33,000	77
TRAPD PROPLT	20,000	512
USBL RESDLS	8,000	348
PROPLT CONSUMPTN	1,600,000	531
STRUCT WT.	97,000	
" NET	125,000	
STAGE WT.	1,725,000	
LIFT-OFF "	2,608,730	
CUT-OFF "	1,008,730	

STAGE	I	II	III
MASS RATIO, r	2.586	4.293	2.581
CHAR. VEL, Δv (m/sec)	2662	6025	3900
FLOW RATE (#/SEC)	11,538	1395.7	214.3
F_o / W_o	1.15	0.91	0.58
F_{VAC} / W_o	3.42	3.89	1.50