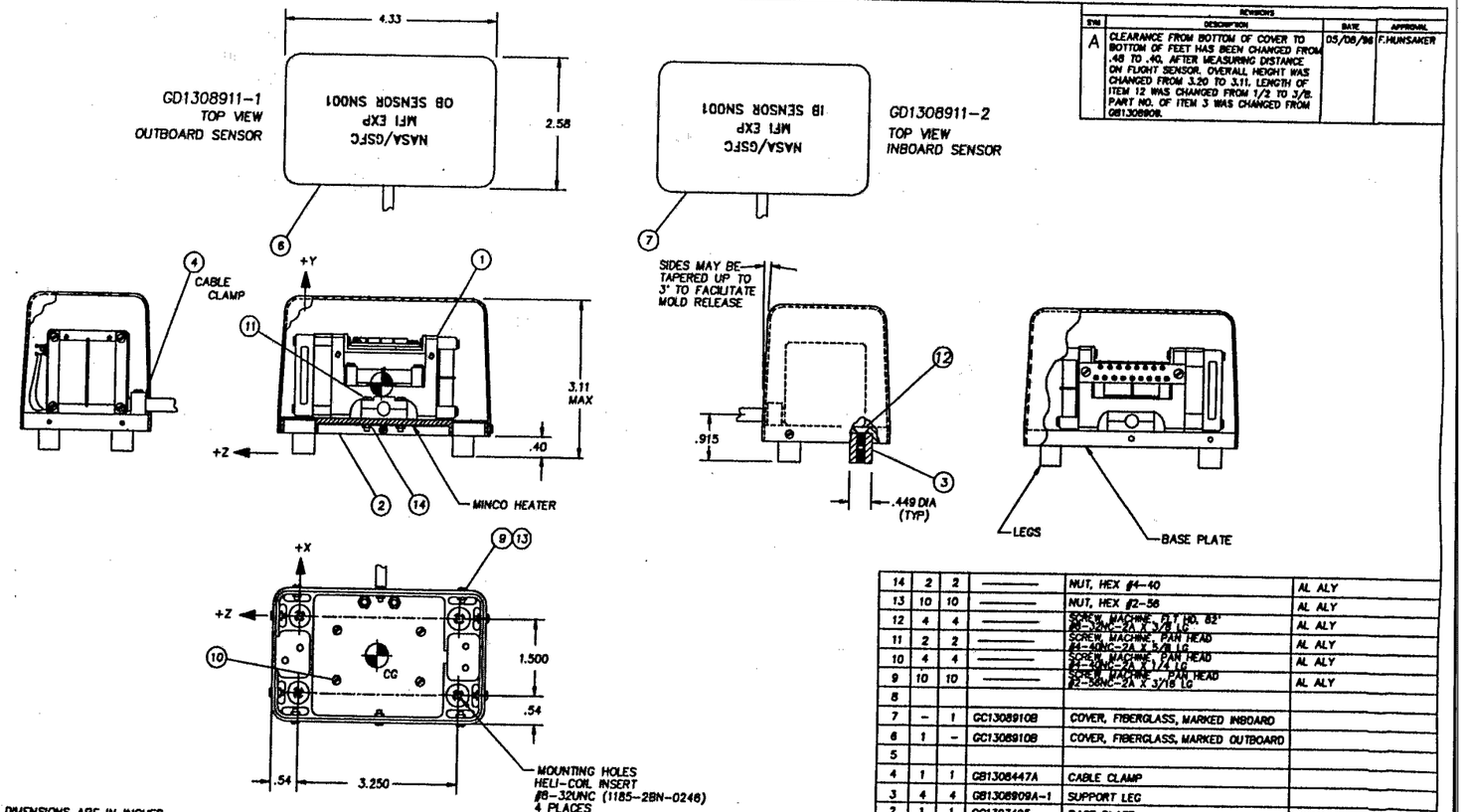
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL
A	CLEARANCE FROM BOTTOM OF COVER TO BOTTOM OF FEET HAS BEEN CHANGED FROM .48 TO .40. AFTER MEASURING DISTANCE ON FLIGHT SENSOR, OVERALL HEIGHT WAS CHANGED FROM 3.20 TO 3.11, LENGTH OF ITEM 12 WAS CHANGED FROM 1/2 TO 3/8. PART NO. OF ITEM 3 WAS CHANGED FROM GB1308908.	05/08/96	F.HUNSAKER



ITEM	REQ'D	REQ'D	PART NO.	DESCRIPTION	MATERIAL	MATERIAL SPEC.
NOS	-1	-2				
14	2	2	———	NUT, HEX #4-40	AL ALY	
13	10	10	———	NUT, HEX #2-56	AL ALY	
12	4	4	———	SCREW, MACHINE, FLT HD, 82° #6-32UNC-2A X 3/8 LG	AL ALY	
11	2	2	———	SCREW, MACHINE, PAN HEAD #4-40UNC-2A X 5/8 LG	AL ALY	
10	4	4	———	SCREW, MACHINE, PAN HEAD #4-40UNC-2A X 1/4 LG	AL ALY	
9	10	10	———	SCREW, MACHINE, PAN HEAD #2-56UNC-2A X 3/16 LG	AL ALY	
8						
7	-	1	GC1308910B	COVER, FIBERGLASS, MARKED INBOARD		
6	1	-	GC1308910B	COVER, FIBERGLASS, MARKED OUTBOARD		
5						
4	1	1	GB1308447A	CABLE CLAMP		
3	4	4	GB1308909A-1	SUPPORT LEG		
2	1	1	GC1307495	BASE PLATE	LEXAN	
1	1	1	GC1308898	SENSOR ASSEMBLY		

LIST OF MATERIALS

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. MASS = 190 GRAMS EXCLUDING CABLE

CENTER OF GRAVITY
X = -0.739 Y = 1.509 Z = -1.538

MOMENT OF INERTIA AT CENTER OF GRAVITY IN GRAM * INCH^2 UNITS
I_{XX} = 370 I_{YY} = 383 I_{ZZ} = 174

PART NO.	DESCRIPTION
GD1308911-1	OUTBOARD SENSOR
GD1308911-2	INBOARD SENSOR

THIS DRAWING WAS PRODUCED USING:
SOFTWARE: AUTOCAD VERSION: R11
FILE NAME: MA-ACE.DWG

GODDARD SPACE FLIGHT CENTER

TOLERANCES:
.XX ±.01 .XXX ±.005 ANGLES ±.2° FRACTIONS ±1/64
63

PLOTTED 11/04/93
ACE

NAME	DATE
F. HUNSAKER	03/07/96
M.A. ACUNA	

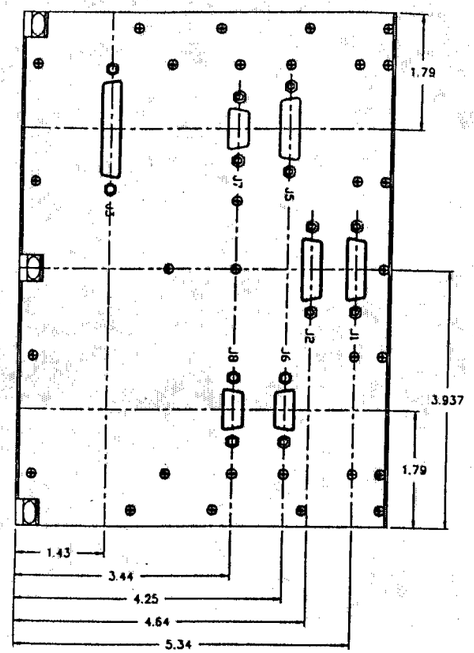
TOP ASSY DWG, ACE VECTOR MAGNETOMETER SENSOR ASSY

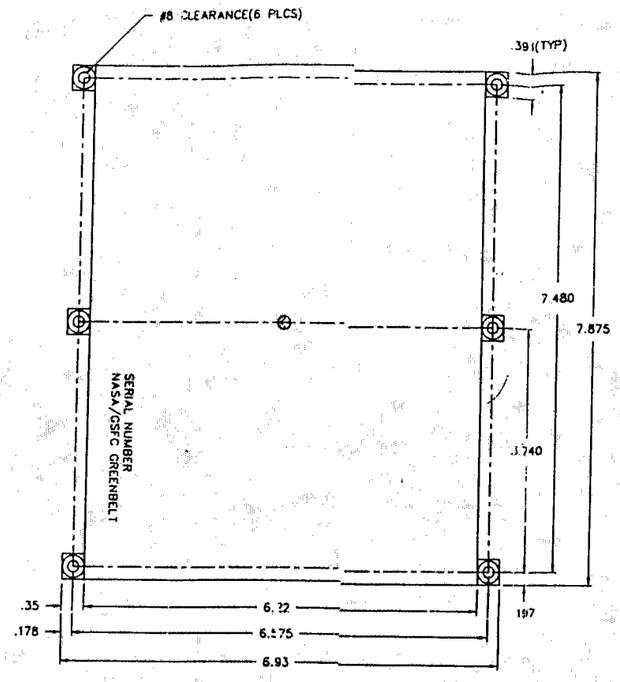
GD 1308911A

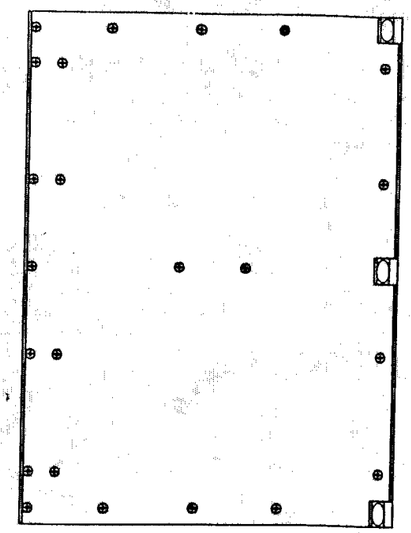
SIZE 890 SCALE 1/1 WT. SEE NOTE REV A

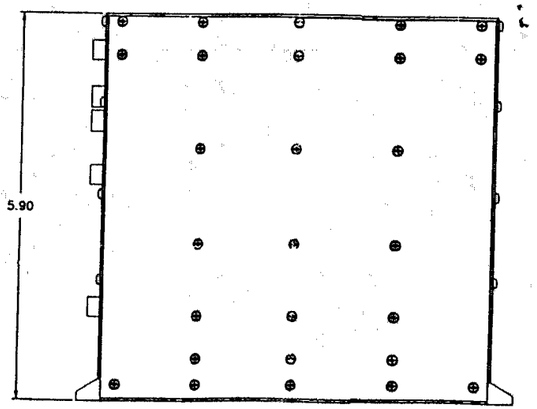
73347-9014 A3

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL









GD ACE-SK-1001
B

ITEM NOS	REQ'D	PART NO.	DESCRIPTION	MATERIAL	MATERIAL SPEC

LIST OF MATERIALS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION — GODDARD SPACE FLIGHT CENTER — GREENBELT, MARYLAND

DRAWING INTERPRETED PER GSFC-7073-84-1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES

TOLERANCES:
.XX ±.01 .XXX ±.005 ∠ ± .2° FRACTIONS ± 1/64

63 √

REMOVE ALL BURRS AND SHARP EDGES .010R OR CHAMFER MAX.

NEXT ASSY | USED ON

	NAME	DATE
DESIGNED	WIL KLUG	5-10-94
DRAWN		
CHECKED		
ENGINEER		
APPROVED		
APPROVED		

ICD / ACE CONFIGURATION DRAWING

GD ACE-SK-1001

SIZE B | SCALE FULL | WT | SHEET 1 OF 1

OPERATING LIMITS -20 C TO 50 C
POWER ON/OFF -40 C TO 60 C
SURVIVAL LIMITS -40 C TO 70 C

SENSORS
OPERATING LIMITS -20 C TO 50 C
SURVIVAL LIMITS -40 C TO 70 C

*OWER: RED LINE POWER 5.5 WATTS, OPERATIONAL
*OWER 2.4 WATTS MAX ; MAG INSTRUMENT HEATER POWER 2.0 WATTS MAX. HEATER POWER FOR EACH SENSOR ASSEMBLIES IS 0.5 WATT AVERAGE, 1.0 WATT MAX

4. S/C I/F HEATER IS X WATTS, THERMOSTAT SET AT X C.
5. USES SECTOR PULSE TO INITIATE HOUSEKEEPING AND RATES DATA COLLECTION . . . TBR
6. OPERATION VOLTAGE: PERFERRED +28V +/- 2%. DEGRADED PERFORMANCE BETWEEN +27V TO 27.4V BELOW +27V THE INSTRUMENT WILL WORK BUT WILL BE OUT OF CALIBRATION.
CAUTION: IF OPERATED ABOVE +30V FOR A PROLONGED PERIOD OF TIME WILL DAMAGE THE INSTRUMENT.

C & DH ALLOCATIONS:
1. INSTRUMENT DATA - 304 BITS/MINOR FRAME
2. TLM DATA:
DCM2 SO3 = SCIENCE DATA (304 BITS)
DCM2-SEA3/MAIN_BUS_V = +28V MAIN BUS VOLTAGE
DCM2-PT14/YP_BOOM_T = +Y MAG BOOM TEMP/NEAR SENSOR
DCM2-PT15/YP_MAG_IF_T = MAG INTERFACE TEMP
DCM2-SEA15/MAG_INB_T = MAG INBOARD TEMP (SENSOR A)
DCM2-SEA16/MAG_OUTB_T = MAG OUTBOARD TEMP (SENSOR B)

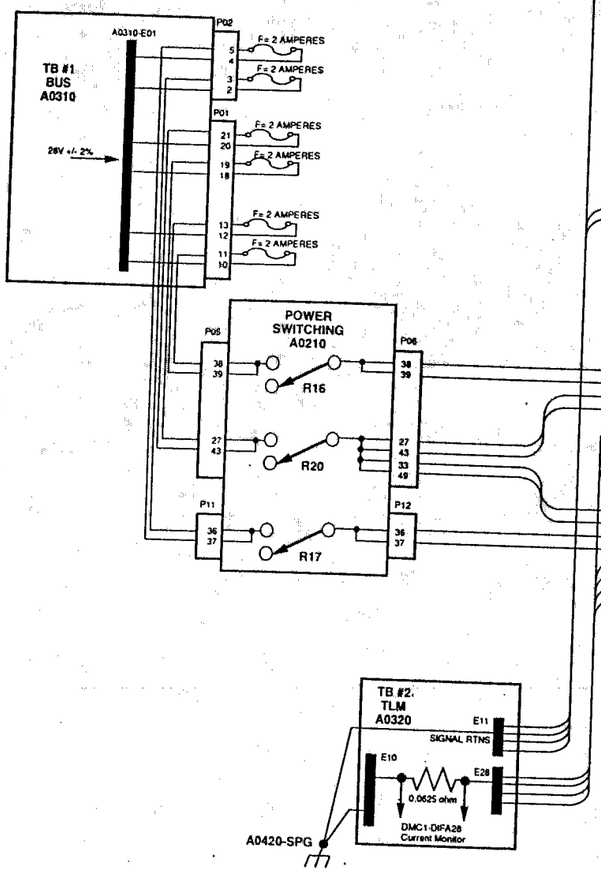
DCM2-SEA17/MAG_INB_HTR_T = MAG INBOARD HTR PWR LEVEL
DCM2-SEA18/MAG_OUTB_HTR_T = MAG OUTBOARD HTR PWR LEVEL
DCM1-DIGTTSW4/YP_BOOM_DEPLOY = +Y MAG BOOM DEPLOY TT
DCM1-DIGTTSW5/YM_BOOM_DEPLOY = -Y MAG BOOM DEPLOY TT
DCM1-DIGTTSW6/YP_BOOM_STOW = +Y MAG BOOM STOWED TT
DCM1-DIGTTSW7/YM_BOOM_STOW = -Y MAG BOOM STOWED TT
DCM1-DIFA28/MAG_OP_HTR_I = MAG I/F INPUT CURRENT & I/F HEATER CURR
DCM1-PT20/YM_BOOM_T = -Y MAG BOOM TEMP/NEAR SENSOR
DCM2-PT15/YP_MAG_IF_T = +Y MAG SENSOR I/F HINGE TEMP
DCM2-PT16/YM_MAG_IF_T = -Y MAG SENSOR I/F HINGE TEMP
DCM1-SDS*15/MAG_PWR_A = CMD R16A/B TELLTALE
DCM1-SDS*16/MAG_PWR_B = CMD R17A/B TELLTALE
DCM1-SDS*18/MAG_OP_HTR = CMD R20A/B TELLTALE
DCM1-SDS*67/BOOM_MAIN_Y_PYRO = CMD R76A/B TELLTALE
DCM1-SDS*72/BOOM_BACK_Y_PYRO = CMD R82A/B TELLTALE
DCM1-SDS*83/MAIN_PYRO = CMD R103A/B TELLTALE
DCM1-SDS*88/BK_PYRO = CMD R110A/B TELLTALE

3. COMMANDS
CMD R76A/B(BOOM_PYRO_ENA/DIS)= MAG BOOM DEPLOY PYRO ARM/PRI
CMD R82A/B(BOOM_PYRO_BK_ENA/DIS)= MAG BOOM DEPLOY PYRO ARM/BUP
CMD R16A/B(MAG_PWR_A ON/OFF) = MAG A TURN ON/OFF
CMD R17A/B(MAG_PWR_B ON/OFF) = MAG B TURN ON/OFF
CMD R20A/B(MAG_OP_HTR_ENA/DIS) = MAG INTERNAL HEATER ENA/DISABLE
CMD R103A/B(MAIN_PYRO_FIRE/SAFE) =PYRO FIRE PRI
CMD R110A/B(BK_PYRO_FIRE/SAFE) =PYRO FIRE RED

4. MISSION CONSTRAINTS
1) Both magnalometer sensors but only one magnetometer electronics side shall be powered (One electronics controls both sensors) MAG operational/survival heater relay must be closed at all times and may only be opened during emergency operations (such as an LVS)

KEYS:
A0610 = C&DH A
A0220 = C&DH B

CHASSIS CONNECTIONS
SIGNAL RTNS
ISOLATED RTNS
FLOATING RTNS



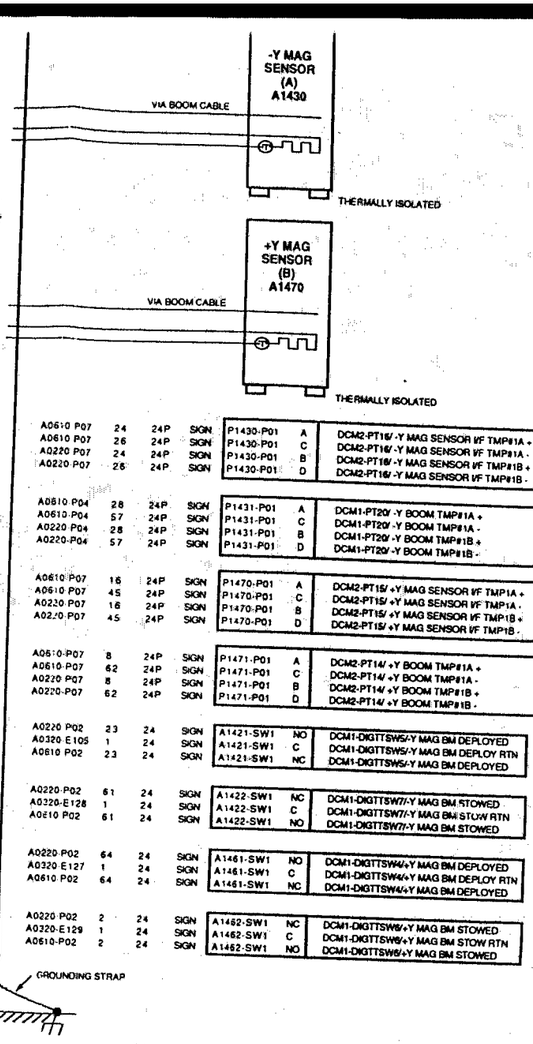
A0220-P07	42	24S	SIGN	A1050-P03	14	MAG/DCM2-ROG3/SCIENCE DATA ENABLE B
A0220-P07	60	24S	SIGN	A1050-P03	18	MAG/DCM2-SD3/SCIENCE DATA B
A0220-P10	14	24S	SIGN	A1050-P03	17	MAG/MJFP11/MAJOR FRAME PULSE B
A0220-P10	29	24S	SIGN	A1050-P03	16	MAG/MNFP11/MINOR FRAME PULSE B
A0220-P10	62	24S	SIGN	A1050-P03	15	MAG/TMCK11/SCIENCE DATA CLOCK B
A0220-P15	8	24S	SIGN	A1050-P03	22	MAG/C-CK8/COMMAND DATA CLOCK B
A0220-P15	7	24S	SIGN	A1050-P03	21	MAG/C-DA8/COMMAND DATA B
A0220-P15	9	24S	SIGN	A1050-P03	23	MAG/C-ROG8/COMMAND DATA ENABLE B
A0220-P20	68	24S	SIGN	A1050-P03	19	MAG/SPIN-CLK3/SPIN CLOCK B
A0220-P20	29	24S	SIGN	A1050-P03	20	MAG/SUN-PULSE3/SUN PULSE B
A0320-E11	19	24	GND	A1050-P03	11	MAG/GROUND/SIGNAL RETURN A
A0320-E11	20	24	GND	A1050-P03	24	MAG/GROUND/SIGNAL RETURN B
A0610-P07	42	24S	SIGN	A1050-P03	1	MAG/DCM2-ROG3/SCIENCE DATA ENABLE A
A0610-P07	60	24S	SIGN	A1050-P03	5	MAG/DCM2-SD3/SCIENCE DATA A
A0610-P10	14	24S	SIGN	A1050-P03	4	MAG/MJFP11/MAJOR FRAME PULSE A
A0610-P10	29	24S	SIGN	A1050-P03	3	MAG/MNFP11/MINOR FRAME PULSE A
A0610-P10	62	24S	SIGN	A1050-P03	2	MAG/TMCK11/SCIENCE DATA CLOCK A
A0610-P15	8	24S	SIGN	A1050-P03	9	MAG/C-CK8/COMMAND DATA CLOCK A
A0610-P15	7	24S	SIGN	A1050-P03	8	MAG/C-DA8/COMMAND DATA A
A0610-P15	9	24S	SIGN	A1050-P03	10	MAG/C-ROG8/COMMAND DATA ENABLE A
A0610-P20	68	24S	SIGN	A1050-P03	6	MAG/SPIN-CLK3/SPIN CLOCK A
A0610-P20	29	24S	SIGN	A1050-P03	7	MAG/SUN-PULSE3/SUN PULSE A
			N/C	A1050-P03	25	MAG/SPARE
			SHIELD SIGN	A1050-P03	12	MAG/CHASSIS/SCIENCE DATA A SHIELD
			SHIELD SIGN	A1050-P03	13	MAG/CHASSIS/SCIENCE DATA B SHIELD

A0220-P05	52	24	SIGN	A1050-P06	4	MAG/DCM2-SEA15/SENSOR INBD TMP A
A0220-P05	49	24	SIGN	A1050-P06	2	MAG/DCM2-SEA16/SENSOR OUTBD TMP B
A0220-P05	26	24	SIGN	A1050-P06	8	MAG/DCM2-SEA17/SENSOR INBD HTR A
A0220-P05	50	24	SIGN	A1050-P06	6	MAG/DCM2-SEA18/SENSOR OUTBD HTR B
A0320-E11	50	24	GND	A1050-P06	12	MAG/SENSOR RETURN A
A0320-E11	51	24	GND	A1050-P06	13	MAG/SENSOR RETURN B
A0610-P05	52	24	SIGN	A1050-P06	3	MAG/DCM2-SEA15/SENSOR INBD TMP A
A0610-P05	49	24	SIGN	A1050-P06	1	MAG/DCM2-SEA16/SENSOR OUTBD TMP B
A0610-P05	26	24	SIGN	A1050-P06	7	MAG/DCM2-SEA17/SENSOR INBD HTR A
A0610-P05	50	24	SIGN	A1050-P06	5	MAG/DCM2-SEA18/SENSOR OUTBD HTR B
			N/C	A1050-P06	14	MAG/CHASSIS
			N/C	A1050-P06	9	MAG/CHASSIS
			N/C	A1050-P06	10	MAG/SHIELD
			N/C	A1050-P06	11	MAG/SHIELD
			N/C	A1050-P06	15	MAG/SPARE

A0210-P06	38	22P	PWR	A1050-P07	1	MAGA/R16/+28V POWER 1
A0210-P06	39	22P	PWR	A1050-P07	2	MAGA/R16/+28V POWER 2
A0210-P06	27	22P	PWR	A1050-P07	3	MAGA/R20/+28V HEATER POWER 1
A0210-P06	43	22P	PWR	A1050-P07	4	MAGA/R20/+28V HEATER POWER 2
A0320-E28	1	22P	PWR	A1050-P07	6	MAGA/R16/ +28V POWER RTN 1
A0320-E28	2	22P	PWR	A1050-P07	7	MAGA/R16/ +28V POWER RTN 2
A0320-E28	5	22P	PWR	A1050-P07	8	MAGA/R20/ +28V HEATER POWER RTN 1
A0320-E28	6	22P	PWR	A1050-P07	9	MAGA/R20/+28V HEATER POWER RTN 2
			N/C		5	MAGA/SHIELD

A0210-P06	33	22P	PWR	A1050-P08	3	MAGB/R20/+28V HEATER POWER 1
A0210-P06	49	22P	PWR	A1050-P08	4	MAGB/R20/+28V HEATER POWER 2
A0210-P12	38	22P	PWR	A1050-P08	1	MAGB/R17/+28V POWER 1
A0210-P12	37	22P	PWR	A1050-P08	2	MAGB/R17/+28V POWER 2
A0320-E28	7	22P	PWR	A1050-P08	8	MAGB/R20/ +28V HEATER POWER RTN 1
A0320-E28	8	22P	PWR	A1050-P08	9	MAGB/R20/+28V HEATER POWER RTN 2
A0320-E28	3	22P	PWR	A1050-P08	6	MAGB/R17/ +28V POWER RTN 1
A0320-E28	4	22P	PWR	A1050-P08	7	MAGB/R17/ +28V POWER RTN 2
			N/C	A1050-P08	5	MAGB/SHIELD

A1050



A0610 P07	24	24P	SIGN	P1430-P01	A	DCM2-PT15/ -Y MAG SENSOR I/F TMP#1A +
A0610 P07	26	24P	SIGN	P1430-P01	C	DCM2-PT16/ -Y MAG SENSOR I/F TMP#1A -
A0220 P07	24	24P	SIGN	P1430-P01	B	DCM2-PT16/ -Y MAG SENSOR I/F TMP#1B +
A0220 P07	26	24P	SIGN	P1430-P01	D	DCM2-PT16/ -Y MAG SENSOR I/F TMP#1B -

A0610 P04	28	24P	SIGN	P1431-P01	A	DCM1-PT20/ -Y BOOM TMP#1A +
A0610 P04	57	24P	SIGN	P1431-P01	C	DCM1-PT20/ -Y BOOM TMP#1A -
A0220 P04	28	24P	SIGN	P1431-P01	B	DCM1-PT20/ -Y BOOM TMP#1B +
A0220 P04	57	24P	SIGN	P1431-P01	D	DCM1-PT20/ -Y BOOM TMP#1B -

A0610 P07	16	24P	SIGN	P1470-P01	A	DCM2-PT15/ +Y MAG SENSOR I/F TMP1A +
A0610 P07	45	24P	SIGN	P1470-P01	C	DCM2-PT15/ +Y MAG SENSOR I/F TMP1A -
A0220 P07	16	24P	SIGN	P1470-P01	B	DCM2-PT15/ +Y MAG SENSOR I/F TMP1B +
A0220 P07	45	24P	SIGN	P1470-P01	D	DCM2-PT15/ +Y MAG SENSOR I/F TMP1B -

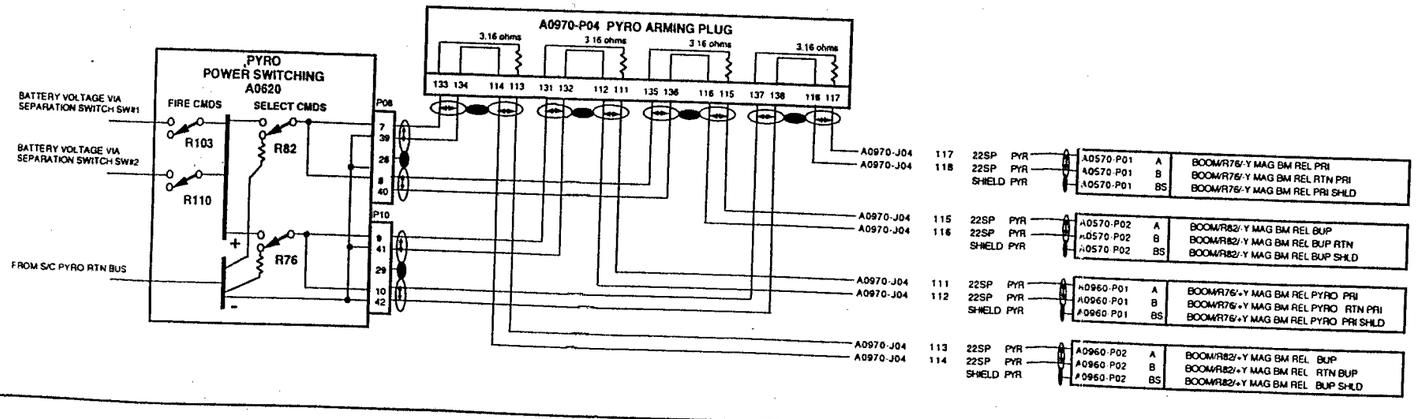
A0610 P07	8	24P	SIGN	P1471-P01	A	DCM2-PT14/ +Y BOOM TMP#1A +
A0610 P07	62	24P	SIGN	P1471-P01	C	DCM2-PT14/ +Y BOOM TMP#1A -
A0220 P07	8	24P	SIGN	P1471-P01	B	DCM2-PT14/ +Y BOOM TMP#1B +
A0220 P07	62	24P	SIGN	P1471-P01	D	DCM2-PT14/ +Y BOOM TMP#1B -

A0220 P02	23	24	SIGN	A1421-SW1	NO	DCM1-DIGTTSW5/-Y MAG BM DEPLOYED
A0320 E105	1	24	SIGN	A1421-SW1	C	DCM1-DIGTTSW5/-Y MAG BM DEPLOY RTN
A0610 P02	23	24	SIGN	A1421-SW1	NC	DCM1-DIGTTSW5/-Y MAG BM DEPLOYED

A0220 P02	61	24	SIGN	A1422-SW1	NC	DCM1-DIGTTSW7/-Y MAG BM STOWED
A0320 E128	1	24	SIGN	A1422-SW1	C	DCM1-DIGTTSW7/-Y MAG BM STOW RTN
A0610 P02	61	24	SIGN	A1422-SW1	NO	DCM1-DIGTTSW7/-Y MAG BM STOWED

A0220 P02	64	24	SIGN	A1461-SW1	NO	DCM1-DIGTTSW4/+Y MAG BM DEPLOYED
A0320 E127	1	24	SIGN	A1461-SW1	C	DCM1-DIGTTSW4/+Y MAG BM DEPLOY RTN
A0610 P02	64	24	SIGN	A1461-SW1	NC	DCM1-DIGTTSW4/+Y MAG BM DEPLOYED

A0220 P02	2	24	SIGN	A1462-SW1	NC	DCM1-DIGTTSW6/+Y MAG BM STOWED
A0320 E129	1	24	SIGN	A1462-SW1	C	DCM1-DIGTTSW6/+Y MAG BM STOW RTN
A0610 P02	2	24	SIGN	A1462-SW1	NO	DCM1-DIGTTSW6/+Y MAG BM STOWED



A0970-J04	117	22SP	PYR	A0570-P01	A	BOOM/R76/-Y MAG BM REL PRI
A0970-J04	118	22SP	PYR	A0570-P01	B	BOOM/R76/-Y MAG BM REL RTN PRI
		SHIELD	PYR	A0570-P01	BS	BOOM/R76/-Y MAG BM REL PRI SHLD
A0970-J04	115	22SP	PYR	A0570-P02	A	BOOM/R82/-Y MAG BM REL BUP
A0970-J04	116	22SP	PYR	A0570-P02	B	BOOM/R82/-Y MAG BM REL BUP RTN
		SHIELD	PYR	A0570-P02	BS	BOOM/R82/-Y MAG BM REL BUP SHLD
A0970-J04	111	22SP	PYR	A0960-P01	A	BOOM/R76/+Y MAG BM REL PYRO PRI
A0970-J04	112	22SP	PYR	A0960-P01	B	BOOM/R76/+Y MAG BM REL PYRO RTN PRI
		SHIELD	PYR	A0960-P01	BS	BOOM/R76/+Y MAG BM REL PYRO PRI SHLD
A0970-J04	113	22SP	PYR	A0960-P02	A	BOOM/R82/+Y MAG BM REL BUP
A0970-J04	114	22SP	PYR	A0960-P02	B	BOOM/R82/+Y MAG BM REL RTN BUP
		SHIELD	PYR	A0960-P02	BS	BOOM/R82/+Y MAG BM REL BUP SHLD

7347-9014 Page A4

PRELIMINARY

ENGINEER: J.M.ROBERTS	THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY	
	TITLE: ACE BLOCK DIAGRAM (MAG)	
	SIZE: B	CODE IDENT NO 88898 / DOCUMENT NUMBER: 7345 - 2222
FILE: ACE DIAGRAMS	DATE: MARCH 14, 1996	SHEET 1 OF 1