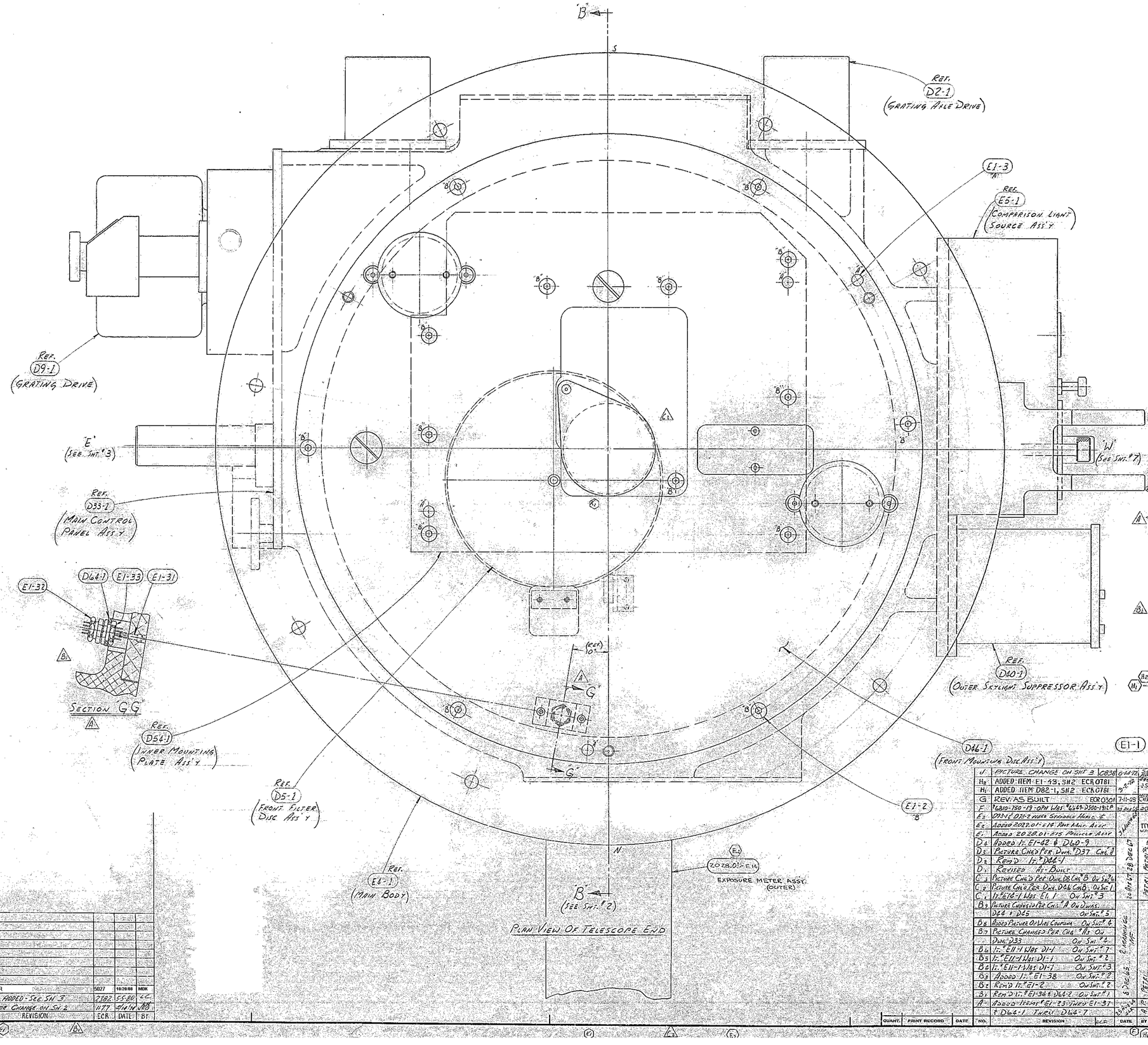


BILL OF MATERIAL

SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THIS SIZE SPECIFIES THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.

ITEM	SHT. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT
E1-1	ALL			MAIN SPECTROGRAPH ASS'Y	
2	1	15	STL.	SOC. HD. CAP SCR. 1/4-18 x 3/8 LG.	
3	1	4	STL.	DOWEL 3/16 DIA. x 1 LG.	
4	7	2	BRASS	KNURLED SCR. #10-32 x 3/4 LG.	
5	3	1	STL.	DOWEL 1/4 DIA. x 3/4 LG.	
6	3	6	STL.	SOC. HD. CAP SCR. 5/16-18 x 7/8 LG.	
7	7	10	STL.	SOC. HD. CAP SCR. #10-24 x 3/8 LG.	
8	7	2	STL.	DOWEL 3/16 DIA. x 1/2 LG.	
9	5	3	STL.	SOC. HD CAP SCR. 1/4-20 x 3/4 LG.	
10	5	4	STL.	SOC. HD. CAP SCR. #10-24 x 3/4 LG.	
11	5	2	STL.	DOWEL 1/4 DIA. x 1 LG.	
12	2	2	STL.	SOC. BUTTON HD. SCR. #10-32 x 1/4 LG.	
13	3	2	STL.	SOC. HD. CAP SCR. 5/16-24 x 3/16 LG.	
14	3	1	DIALCO SUBMINIATURE	INDICATOR LIGHT #101-3830-131	
15	3	1		#328 6 VOLT BULB	
16	2	21	STL.	BUTTON HD. SOC. CAP SCR. #4-40 x 1/4 LG.	
17	2	6	BRASS	#4 WASHER	
18	2	4	BRASS	#4-40 HEX NUT	
19	2	2	HUNTER SPRING CO.	NEGATOR SPRING #SUGF24	
20	2	4		FAFNIR #S1KDD BALL BEARING	
E2-G1	7	1		COLLIMATOR ASS'Y	
E4-1	7	1		MAIN BODY	
E5-1	7	1		COMPARISON LIGHT SOURCE ASS'Y	
E9-1	2	1		INNER BODY	
E14-1	3	1		EXPOSURE METER ASS'Y	
D2-1	6	1		GRATING AXLE DRIVE ASS'Y	
D3-1	2	1		FRONT SLIT VIEWER ASS'Y	
D3-2	2	1		REAR SLIT VIEWER ASS'Y	
D5-1	6	1		REAR FILTER DISC ASS'Y	
D5-1	3	1		FRONT FILTER DISC ASS'Y	
D6-1	2	1		SLIT MECHANISM ASS'Y	
D7-1	4	1		INNER SKYLIGHT SUPPRESSOR ASS'Y	
D8-1	6	1		GRATING CELL & CELL HOLDER ASS'Y	
D9-1	3	1		OUTER GRATING DRIVE ASS'Y	
D23-1	2	1		DECKER ACTUATOR ASS'Y	
D33-1	3	1		MAIN CONTROL PANEL ASS'Y	
D37-1	5	1		COMPARISON LIGHT OPTICAL SYSTEM ASS'Y	
D39-1	7	1		COLLIMATOR SHUTTER ASS'Y	
D39-2	7	1		COVER	
D40-1	7	1		OUTER SKYLIGHT SUPPRESSOR ASS'Y	
D44-1	5	1		COMPARISON LIGHT OPTICAL SYSTEM RETRACTOR ASS'Y	
D46-1	1	1		FRONT MOUNTING DISC ASS'Y	
D47-1	2	1		INNER GRATING DRIVE ASS'Y	
D54-1	5	1		INNER MOUNTING PLATE ASS'Y	
D57-1	7	1		GRATING ACCESS DOOR ASS'Y	
D55-1	7	1		COMPARISON LIGHT SOURCE & OUTER SKY LIGHT SUPPRESSOR MOUNTING PLATE ASS'Y	
D60-1	2	1		LIGHT BAFFLE	
D60-2	3	1		INNER SHUTTER ROD	
D60-3	3	1		SHUTTER	
D60-4	2	1		PROTECTIVE SLIDE	
D60-5	2	2		WIRE	
D60-6	2	1		RIB	
D60-7	2	2		DRUM	
D60-8	2	2		PILLOW BLOCK	
D18-1	7	1		COLLIMATOR MOUNT	
E1-21	2	2		PIC #93-13 SHAFT (1/4 DIA. x 1.37 LG.)	
E1-28	6	4	STAINLESS STL.	PICAS-10 MACHINE SCREW	
E1-23	6	2	BRASS	FIL. HD. MACH. SCR. #10-24 x 1/4	
E1-24	6	2	BRASS	#10 FLAT WASHER	
E1-25	6	1	CINCH JONES	#312-140 TERMINAL STRIP WITH NO. STRIP	
E1-26	6	8	BRASS	ROUND HD. MACH. SCR. #6-32 x 1/2	
E1-27	6	1	ATLANTIC INDIA RUBBER WORKS	#807 GROMMET	
E1-28	6	1	CINCH JONES	#20-140 TERMINAL STRIP WITH NO. STRIP	
E1-29	6	6	BRASS	ROUND HD. MACH. SCR. #5-40 x 3/8	
E1-30	6	1	"DEUTSCH"	#6810-750-19-OP11 MALE RECEPTACLE	
E1-31	1	2	STL.	SOC. HD. CAP SCR. #3-40 x 1/8	
E1-32	1	1	AMPHENOL	#126-191 HEX NUT TYPE CONNECTOR (7 PIN)	
E1-33	1	1	AMPHENOL	#126-192 HEX NUT TYPE CONNECTOR (7 SOCKET)	
E1-34	2	1	STAINLESS STL.	PICAB-15 SHAFT (1/8 DIA. x 1.50 LG.)	
D64-1	1	1		CONNECTOR BRACKET	
D64-2					
D64-5	2	1		SPRING	
D64-6	2	1		SWITCH BRACKET	
D64-7	2	1		SWITCH ACTUATOR ROD	
E1-35	2	2		SLOTTED PAN HEAD MACH. SCR. #2-56 x 3/16	
E1-36	2	1		MICRO-SWITCH #1SM1-T SWITCH	
E1-37	2	1		" " #JS-2 ACTUATOR	
E1-38	2	4	STAINLESS STL.	SOC. HD. CAP SCR. #2-56 x 1/2	
E1-39	2	4	STL.	FS-40 x 3/16 SOCKET CAP SCR.	
E1-40	2	2	E.F. JOHNSON	#108-303 BLACK BANANA PLUG	
E1-41	2	2	E.F. JOHNSON	#111-103 BINDING POST	
D64-10	2	1		BLOCK - ELEC. CONNECTION	
D64-11	2	1		" - ELEC. CONNECTION	
E1-42	2	5	BRASS	ROUND PAN HD. MACH. SCR. #5-40 x 1/2	
D60-9	2	1		COVER	
E1-43	2	8	STAINLESS STEEL	SOCHD CAP SCR 8-32 X 1/2 LG	
D82-1	2	1		TUBE & MOUNTING BOX ASSY	
D99-1	3	1		SHUTTER DRIVE ASSY	

E1-1 MAIN SPECTROGRAPH ASSY.
1 REQ'D.

NO.	REVISION	ECR	DATE	BY
N	SEE ECR	5027	10/28/88	MDK
L	D99-1 ADDED - SEE SH 3	2382	6-5-80	LC
K	PICTURE CHANGE ON SH 2	1177	4-14-76	JAB

NO.	REVISION	ECR	DATE	BY
J	PICTURE CHANGE ON SHT 3	C838	6-14-72	REG
H2	ADDED ITEM E1-43, SH2	ECR 0781	9-12-05	JS
H1	ADDED ITEM D82-1, SH2	ECR 0781	9-12-05	JS
G	REV. AS BUILT	ECR 0501	7-11-05	JOW
F	"6810-750-19-OPN WAS "6649-3500-19LP		10-24-03	JOW
E3	D33-1 & D33-2 MOVED SYMBOLS HERE		3-MAR-92	ITP
E2	ADDED 2027.01-E16 PART ASSY. ASSY.			
E1	ADDED 2028.01-E15 PULLEY ASSY			
D4	ADDED "E1-42 & D60-9		28 DEC 87	PETER
D3	PICTURE CHG'D PER DWG. #D37 CHG. J			
D2	REV'D "D44-1			
D1	REVISED AS-BUILT			
C3	PICTURE CHG'D PER DWG. D8 CHG "B" ON SHT 6			
C2	PICTURE CHG'D PER DWG. D46 CHG B ON SHT 1			
C1	1:"E14-1 WAS E1-1 ON SHT "3			
B3	PICTURE CHANGED PER CHG "A" ON DWGS. D64 & D65 ON SHT "5		2 MARCH 83	PETER
B6	ADDED PICTURE OF WIRE COUPLING ON SHT "6			
B7	PICTURE CHANGED PER CHG "H5" ON DWG. D33 ON SHT "4			
B6	1:"E11-1 WAS D1-1 ON SHT "7			
B5	1:"E11-1 WAS D1-1 ON SHT "2			
B4	1:"E11-1 WAS D1-1 ON SHT "3			
B3	ADDED 1:"E1-38 ON SHT "2		5 DEC 85	PETER
B2	REV'D 1:"E1-2 ON SHT "2			
B1	REV'D 1:"E1-34 & D64-2 ON SHT "1			
A	ADDED ITEM "E1-23 THRU E1-37 & D64-1 THRU D64-7		5 APRIL 82	PETER

QUANT. | PRINT RECORD | DATE

SEE FILE 2090

FOR OPTICAL DIAGRAM SEE: 2028.01-E10
FOR IMAGE TUBE SUPPORT SEE: 2028.05-E3

TOLERANCES UNLESS OTHERWISE NOTED
FRACTIONAL ± 1/64
FABRICATION UP TO 10" ± .010, 10" TO 50" ± 1/32, 50" & OVER ± 1/16
MACHINING UP TO 18" ± .005, 18" TO 50" ± .030, 50" & OVER ± .060
DECIMAL .00 ± .01, .000 ± .003
ANGLES ± 0°-15'
UNLESS OTHERWISE NOTED SURFACES MARKED √ TO HAVE √ FINISH

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

84" TELESCOPE CASSEGRAIN SPECTROGRAPH
NAME: MAIN SPECTROGRAPH ASSEMBLY
SCALE: FULL
PRINT ISSUED

DESIGNED BY	DATE	APPROVED BY	DATE
DRAWN BY	DATE	APPROVED BY	DATE
CHECKED BY	DATE	APPROVED BY	DATE

DRAWING NUMBER: 2028.01-E1 REV. N
SHT. 1 OF 7 SHTS.

BILL OF MATERIAL					SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIED THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
ITEM	DWG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT

D37-1 (GRATING ACCESS DOOR ASS'Y)

KEP D37-1

D60-6 (PROTECTIVE SLIDE)

E1-38 REF

SECTION 'HH'

REF. D8-1 (SHOWN IN 'IN' OR 'SHORTWARD EXTENDED') (GRATING, CELL & CELL HOLDER ASS'Y)

D60-5 WIRE

E1-19 (NEGATOR SPRING)

D47-1 (INNER GRATING DRIVE ASS'Y)

E1-16
E1-17
E1-18

E1-12

D60-1 (LIGHT BAFFLE)

D29-1 (DECKER ACTUATOR ASS'Y)

REF. D54-1 (INNER MOUNTING PLATE ASS'Y)

D6-1 (SLIT MECHANISM ASS'Y)

REF. D5-1 (FRONT FILTER DISC ASS'Y)

REF. D46-1 (FRONT MOUNTING DISC ASS'Y)

REF. D4-1 (REAR FILTER DISC ASS'Y)

Ovl. Of Position

D60-9
E1-42

D60-6
E1-39
D64-10
E1-41
D64-11
E1-40

"G"
"F"
"G"
"F"

H
H

D64-8
E1-36
E1-37

D64-6
D64-7

E1-38

D64-9
D64-5

E1-16

REF. D60-3 (SHUTTER)

REF. D37-1 (COMPARISON LIGHT OPTICAL SYSTEM ASSEMBLY)

2028.01-E2 EXPOSURE METER (INNER)

E1-43

D71-2 REF

E9-1 INNER BODY

E14-19 REF

2028.01-D82-1 MTG BOX ASST

NOTE:
PRESS FIT ITEM D84-1 TO ITEM D71-2 AT ASSY.

D3-2 (REAR SLIT VIEWER ASS'Y)

2028.01-E14 EXPOSURE METER (OUTER)

2236-E1

"D" (SEE SHT #6)

D3-1 (FRONT SLIT VIEWER ASS'Y)

SECTION 'BB' (SEE SHT. #1)

SECTION 'CC' (SEE SHT. #4)

REF. D29-1

REF. (NEGATOR SPRING) E1-19

D60-7

E1-20

E1-21

D60-8

REF. E9-1 (INNER BODY)

REF. D60-1 (LIGHT BAFFLE)

REF. D60-6

D79-6
D79-2
D79-7
E1-34

SECTION F-F

SECTION G-G

NOTE:
EACH SECTION TYPICAL BOTH SIDES OF NORTH-SOUTH CENTERLINE

FOR ASSEMBLY SEE

	SEE SHEET #1 FOR REV UPDATES			
M2	ADDED 2238-E1	PSH	6-9-81	CJD
M1	REDESIGN FRONT SLIT VIEWER	PSH	6-9-81	CJD
K	PICTURE CHANGE AS 2028.01-28	RCW	5/6/74	CJD
	FOR ADDITIONAL CHANGES SEE SHT 1	T DEC 65		
A	ADDED PICTURE AND CALLOUTS OF E1-36, E1-37, F-35, D64-5, D64-6, D64-7 AND SECT. H-H			

QUANT. | PRINT RECORD | DATE | NO. | REVISION | DATE | BY

TOLERANCES UNLESS OTHERWISE NOTED.
FRACTIONAL
FABRICATION
UP TO 10" ± 1/16"
10" TO 50" ± 1/8"
50" & OVER ± 1/25
MACHINING
UP TO 18" ± .015
18" TO 50" ± .020
50" & OVER ± .002
DECIMAL ± .010
.00.000 ± .005
ANGLES ± 0°-15'
UNLESS OTHERWISE NOTED
SURFACES MARKED √ TO HAVE "V" FINISH

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

84 Telescope CASSEGRAIN SPECTROGRAPH

NAME: MAIN SPECTROGRAPH ASSEMBLY | SCALE: FULL | PRINT ISSUED

DESIGNED BY	DATE	APPROVED BY:	DATE	DRAWING NUMBER	REV.
C. J. DeVeny	10-29-81	K. C. Liu	11-16-81	2028.01 E	N
DRAWN BY	DATE	APPROVED BY	DATE		
P.S.H.	6-28-68	P.S.	7-2-68		
CHECKED BY	DATE	APPROVED BY	DATE	SHT. 2 OF 7 SHTS.	
R. E. Kibrick	7-11-68	R. Wells	6-30-68		

REF. FILE 2090

(M2) (D4) (D5) (K) (M1) (A) (H2) (E3) (E1) (E2) (B) (C) (H1)

BILL OF MATERIAL					SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIES THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
ITEM	DWG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT

Ref. D2-1 (Grating Angle Drive Ass'y)

Capacitor Supplied With Item # D10-3

Ref. D57-1 (Grating Access Door Ass'y)

Capacitor Supplied With Item # D10-6

D9-1 (Outer Grating Drive Ass'y)

Ref. E11-1 (Presently Void 26 Sept. 67) (Exposure Meter Ass'y

E1-6

E1-5

(Shutter Drive Ass'y)

D99-1

E1-25 Ref. A

E1-27 Ref. A

D33-1 (Main Control Panel Ass'y)

REF D33-1

D60-2

D60-3 (Shutter)

E1-13

E1 Ref. E15-1 Exposure Meter (Inner) E2

Ref. E9-1 (Inner Body)

E1-14

E1-15

H1 REF. D82-1 MTG Box Assy

E2 REF. E14-1. Exposure Meter (Outer)

E4-1 Ref. (Main Body)

Ref. D3-2 (Rear Slit Viewer Ass'y)

Ref. D3-1 (Front Slit Viewer Ass'y)

W (See Sht. #7)

E

N

Plan View Of Collimator End See Sht #7

East Elevation

Plan View Of Telescope End (See Shts. 1, 4 & 5)

2090

FOR ASSEMBLY SEE

QUANT.	PRINT RECORD	DATE	NO.	REVISION	ECR	DATE	BY
			A	Added Meter and Ref. Callouts Line Items E1-25, E1-27, E1-28 & E1-30	0615	9-1-67	RL

TOLERANCES UNLESS OTHERWISE NOTED.
FRACTIONAL FABRICATION UP TO 10" ± 1/16" 10" TO 50" ± 1/8" 50" & OVER ± 1/25
MACHINING UP TO 10" ± .015 10" TO 50" ± .020 50" & OVER ± .050
DECIMAL .00 ± .010 .000 ± .003 ANGLES ± 0°-15'
UNLESS OTHERWISE NOTED SURFACES MARKED ✓ TO HAVE ▽ FINISH

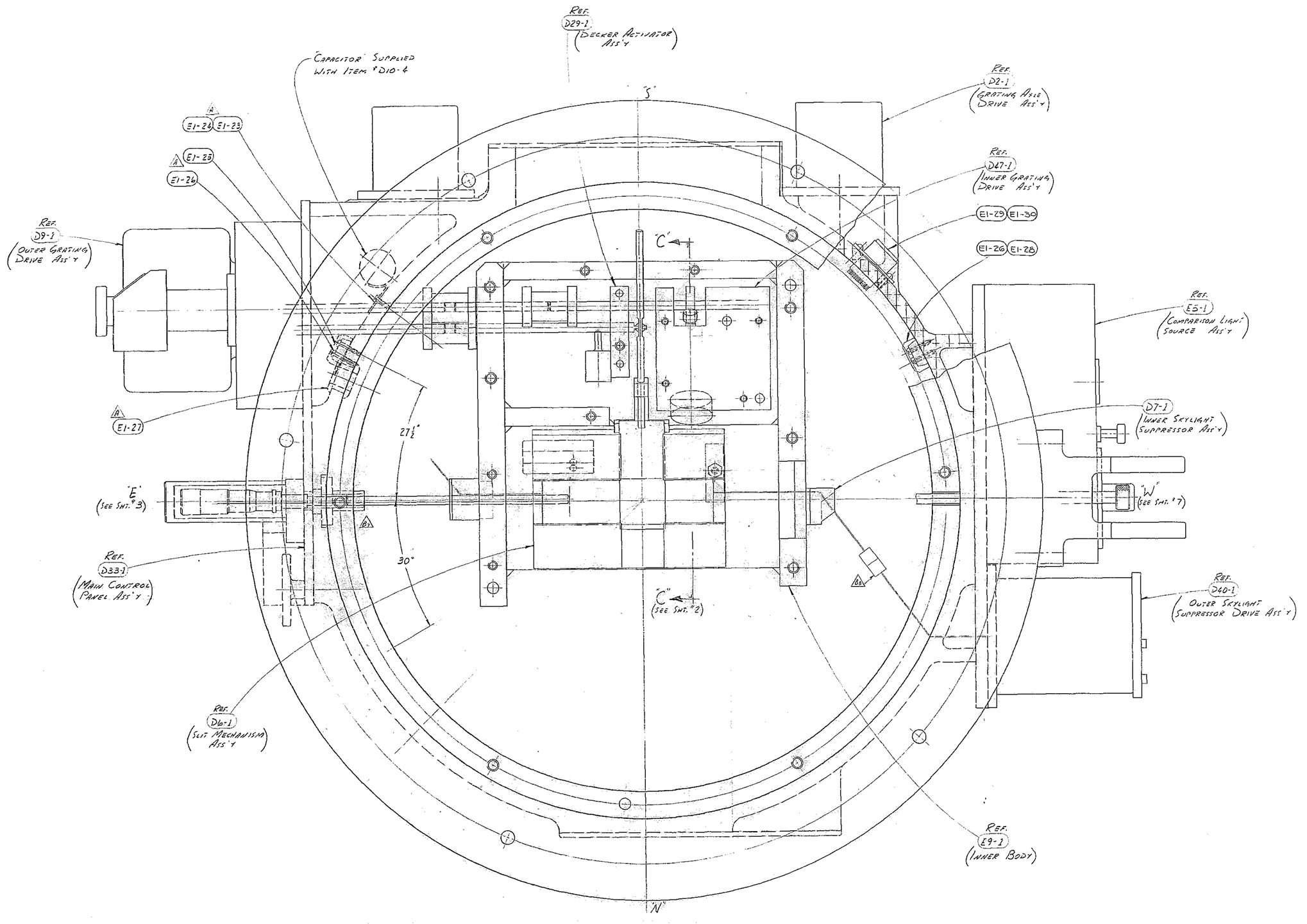
KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

84 Telescope Cassegrain Spectrograph

NAME Main Spectrograph Ass'y — SCALE Full — PRINT ISSUED

DESIGNED BY	DATE	APPROVED BY	DATE	DRAWING NUMBER	REV.
T.C. Anderson	10-22-66	C. Sivo	11-30-66	2028.01 -E1	N
DRAWN BY	DATE	APPROVED BY	DATE		
R. Tessi	2-28-64	H.L.	2-1-67		
CHECKED BY	DATE	APPROVED BY	DATE	SHT. # 3 OF 7 SHTS.	
G.T. Hines	9-27-66	[illegible]	12-30-66		

BILL OF MATERIAL					SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIED THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
ITEM	DWG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT



Plan View Of Telescope End
(If "D54-1 (Inner Body Mounting, R Ass'y)
& If "D46-1 (Front Mounting Disc Ass'y) Rem'd)

Ref. 2090

FOR ASSEMBLY SEE

QUANT.	PRINT RECORD	DATE	NO.	REVISION	DATE	BY
				For Additional Cut's See Sht. #1	12-6-65	R
			A	Added callouts E1-25 thru E1-30	12-6-65	R

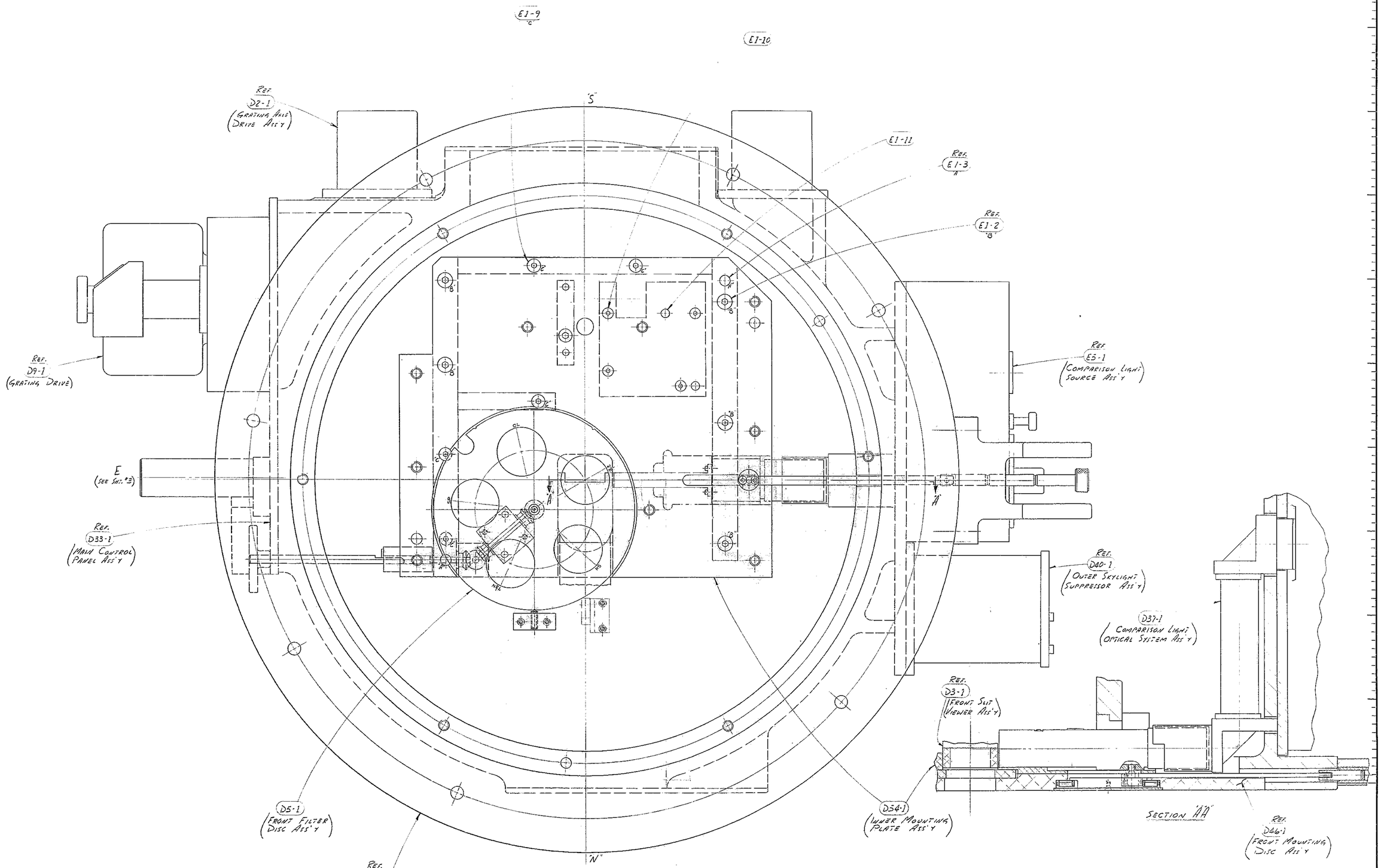
TOLERANCES UNLESS OTHERWISE NOTED.
FRACTIONAL: FABRICATION UP TO 10" ± 1/16" / 10" TO 50" ± 1/8" / 50" & OVER ± 1/25
MACHINING UP TO 10" ± .015 / 10" TO 50" ± .025 / 50" & OVER ± .050
DECIMAL: .00 ± .010 / .000 ± .003
ANGLES ± 0°-15'
UNLESS OTHERWISE NOTED SURFACES MARKED √ TO HAVE √ FINISH

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

84" Telescope Cassegrain Spectrograph
NAME — Main Spectrograph Assembly
SCALE Full
PRINT ISSUED

DESIGNED BY	DATE	APPROVED BY	DATE	DRAWING NUMBER	REV.
L.E. Meredith	10-30-62	C. Elvis	11-Dec-64	7028.01 -E1	N
DRAWN BY	DATE	APPROVED BY	DATE		
Peery	2-26-65	N.U.S.	12-3-64		
CHECKED BY	DATE	APPROVED BY	DATE		
R.J. Rowe	2-19-64	D.L.D.	6-26-64	Sht. #6 of 7 Sht's.	

BILL OF MATERIAL					SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIES THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
ITEM	DWG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT



FOR ASSEMBLY SEE

QUANT.	PRINT RECORD	DATE	NO.	REVISION	DATE	BY
				Full Assembly See Sht. # 1	6 DEC 67	P

TOLERANCES UNLESS OTHERWISE NOTED.
FRACTIONAL
FABRICATION
UP TO 10" ± 1/16"
10" TO 50" ± 1/8"
50" & OVER ± 1/2%
MACHINING
UP TO 18" ± .015
18" TO 50" ± .020
50" & OVER ± .050
DECIMAL .00.00 ± .010 .00.000 ± .003
ANGLES ± 0°—15'
UNLESS OTHERWISE NOTED SURFACES MARKED √ TO HAVE 125 FINISH

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

84' Telescope Cassegrain Spectrograph
NAME: Main Spectrograph Ass'y
SCALE: Full
PRINT ISSUED

DESIGNED BY J.C. Hall	DATE 10-20-64	APPROVED BY C.L.M.	DATE 7-10-64	DRAWING NUMBER 2028.01 -E1		REV. N
DRAWN BY J.F.D.	DATE 2-12-64	APPROVED BY J.P.	DATE 7-1-64			
CHECKED BY C.C. Hall	DATE 8-21-64	APPROVED BY [illegible]	DATE 6-30-64	SHT. 2 OF 7 SHTS.		

SEE 2090
FOR 2090

E1

5A

BILL OF MATERIAL					SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIES THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
ITEM	DWG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT

D8-1 (GRATING CELL & CELL HOLDER ASS'Y)

REF. D57-1 (GRATING ACCESS DOOR ASS'Y)

D2-1 (GRATING ANGLE DRIVE ASS'Y)

REF. D9-1 (OUTER GRATING DRIVE)

REF. D55-1 (COMPARISON LIGHT SOURCE & OUTER SKYLIGHT SUPPRESSOR MOUNTING PL.)

REF. E5-1 (COMPARISON LIGHT SOURCE ASS'Y)

REF. D66-1 (FRONT MOUNTING DISC ASS'Y)

GRATING DRIVE SHAFT

DEFLECTOR CONTROL

REF. D56-1 (INNER BODY MOUNTING PL. ASS'Y)

REF. D7-1 (INNER SKYLIGHT SUPPRESSOR ASS'Y)

REF. E9-1 (INNER BODY)

SLIT CONTROL

SHUTTER CONTROL

E (SEE SHT. #3)

REAR FILTER CONTROL

FRONT FILTER CONTROL

REF. D33-1 (MAIN CONTROL PANEL ASS'Y)

SECTION "EE"

"E"

W (SEE SHT. #4)

REF. D60-1 (OUTER SKYLIGHT SUPPRESSOR ASS'Y)

REF. D37-1 (COMPARISON LIGHT OPTICS ASS'Y)

D18-2

E1-2

REF. E4-1 (MAIN BODY)

N

D4-1 (REAR FILTER DISC ASS'Y)

SECTION "DD" (SEE SHT. #2)

REF. D3-2 (REAR SLIT VIEWER ASS'Y)

2090

FOR ASSEMBLY SEE

QUANT.	PRINT RECORD	DATE	NO.	REVISION	DATE	BY
				FOR ALL CHANGES SHT. #1	3 DEC 65	P

TOLERANCES UNLESS OTHERWISE NOTED.
FRACTIONAL
FABRICATION
UP TO 10" ± 1/16"
10" TO 50" ± 1/8"
50" & OVER ± 1/4"
MACHINING
UP TO 10" ±.015
10" TO 50" ±.020
50" & OVER ±.050
DECIMAL
00.00 ±.010
00.000 ±.002
ANGLES
± 0°-15'
UNLESS OTHERWISE NOTED
SURFACES MARKED √
TO HAVE √ FINISH

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE
ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
UNDER CONTRACT WITH
NATIONAL SCIENCE FOUNDATION

84 TELESCOPE CASSEGRAIN SPECTROGRAPH

NAME: MAIN SPECTROGRAPH ASS'Y

SCALE: FULL

PRINT ISSUED

DESIGNED BY	DATE	APPROVED BY	DATE
I.C. FAIRCHILD	6-30-65	R.C.M.	11 AUG 65
DRAWN BY	DATE	APPROVED BY	DATE
J.E.N.	6-28-65	N.U.	7-13-65
CHECKED BY	DATE	APPROVED BY	DATE
D.L. HOWARD	7-19-65	W.D.H.	7-31-65

DRAWING NUMBER 2028.01 -E 1 REV. N

Ini. #6 OF 7 SHT.

BILL OF MATERIAL					SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIES THE MATERIAL REQUIRED FOR ONE PIECE ONLY. QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
ITEM	DWG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT

Ref. D2-1 (Grating Assy Drive Ass'y)

Ref. D57-1 (Grating Access Door Ass'y)

E5-1 (Comparison Light Source Ass'y)

D55-1 (Comparison Light Source & Skylight Suppressor Mounting Pl)

E1-7

E1-8

Grating

55°

Grating Pivot Point

Iron Arc

Cathode Tube

Neon Lamp

Push for comparison
Pull for star
Caution!
Do not push when
front slit viewer
is inward

7½°

2

2 Ref.

Cassegrain Focal Point

E1

E2

H1

E4-1 (Main Body)

D40-1 (Outer Sky Light Suppressor Ass'y)

Ref. D3-1 (Front Slit Viewer Ass'y)

Ref. D3-2 (Rear Slit Viewer Ass'y)

West Elevation

℄ of Spectrograph

4 Dia. Parallel Light

E1-4

D39-1 (Collimator Shutter)

D39-2 (Cover)

D18-1

E2-G1 (Collimator Ass'y)

Plan View Of Telescope End (See Sht. 1 & 5)

Plan View Of Collimator End (See Sht. 3)

For Assembly See

BSI REF. 2090

TOLERANCES UNLESS OTHERWISE NOTED:	
FRACTIONAL	
FABRICATION	UP TO 10" ± 1/16"
	10" TO 20" ± 1/8"
	20" & OVER ± 1/25
MACHINING	UP TO 10" ± .015
	10" TO 20" ± .020
	20" & OVER ± .050
DECIMAL	ANGLES
00.00 ± .010	± 0°-15'
00.000 ± .003	
UNLESS OTHERWISE NOTED SURFACES MARKED √ TO HAVE √ FINISH	

QUANT.	PRINT RECORD	DATE	NO.	REVISION	DATE	BY
				For All Changes See Sht. 1	3 DEC 63	R

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

84 Telescope Cassegrain Spectrograph

NAME Main Spectrograph Assembly

SCALE Full

PRINT ISSUED

	NAME	DATE
DESIGNED BY	C.C. Moseley	11-30-62
DRAWN BY	J.P.A.V.	1-28-64
CHECKED BY	C.C. Moseley	2-29-64
APPROVED BY	R.R.A.	2-29-64
APPROVED BY	R.R.A.	2-29-64
APPROVED BY	Wilford Cox	3-5-64
APPROVED BY	Wilford Cox	3-31-64

DRAWING NUMBER 2028.01-E1 REV. N

SHT. #7 OF 7 SHTS.