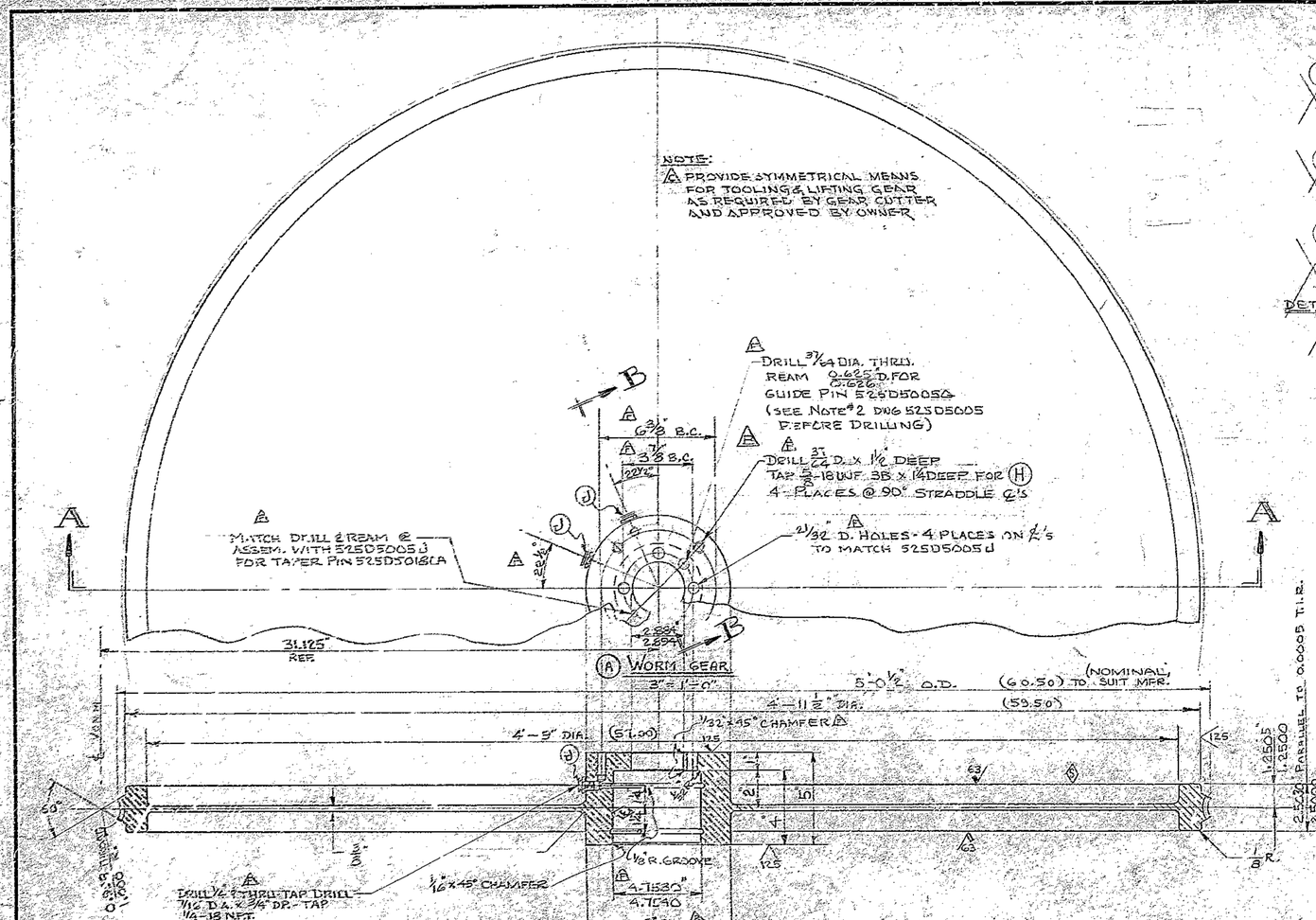

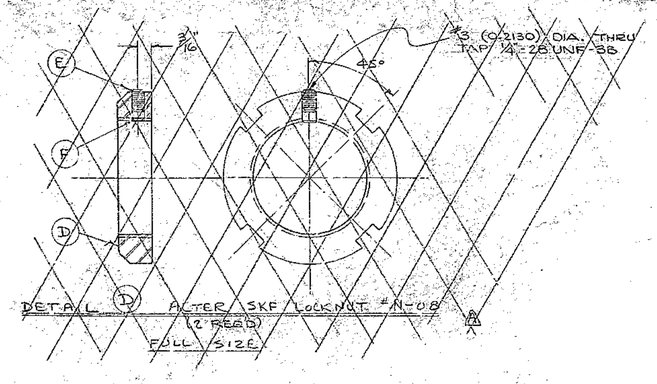

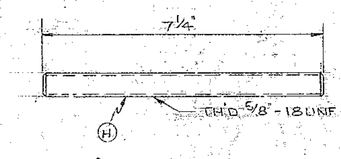

DETAIL (H)
6"=1'-0"

SILL OF MATERIAL				
ITEM	MARK	REQ'D.	DESCRIPTION	WEIGHT
A	A	1	WORM GEAR	
			PHOSPHOR BRONZE CASTING	
			S.A.E. #65 SK	
A	~~B~~	~~1~~	~~WORM - BRZ 2 PCS - 1 - 3/8"~~	
			~~SAE #65 SK~~	
A A	C	2	PIPE PLUG - HEX. CTRSK. - ¼-18 NPT	
A	~~D~~	~~2~~	~~LOCKNUT SKF #N-12 AUTOMATIC STOP W.~~	
A	~~E~~	~~1~~	~~SOC. HD. CAP SCREW 1/4-28 UNF-3A~~	
			~~x 1/4 LONG - PLAT POINT~~	
A	~~F~~	~~2~~	~~NYLON PLUG 3/16 D. x 1/2 LG.~~	
A A	~~G~~	~~1~~	~~KEY - 1/4 SQ. x 1 1/2" LG. AMER. STD.~~	
A A	H	4	STUD 5/64 - SEE DET. - WITH HEX. N. & FLAT W.	
A A	J	2	ALEMITE STD BUTTON HD FITTING #401	

NOTE:

5. CONCENTRICITY - SURFACES MARKED ◎ MUST BE CONCENTRIC TO THEORETICAL CENTER-LINE TO WITHIN 0.0002" T.I.R.

6. SQUARENESS - SURFACES MARKED ◎ MUST BE SQUARE TO THEORETICAL CENTERLINE TO WITHIN 0.0001" T.I.R.

GEAR DATA	WORM GEAR	WORM
CIRCULAR OR LINEAR PITCH	.3927	.3927
DIAMETRAL PITCH	8	8
NORMAL PRESS. ANGLE	14½°	14½°
PITCH DIAMETER	60.0000 C	2.7500 C
NO. OF TEETH	480	
NO. OF THREADS		1
LEAD ANGLE	3° 11'	3° 11'
HAND OF HELIX	RH.	RH.
LEAD		.3927
BACKLASH (W/ MATE)	0.0000"	0.0000"
ADDENDUM	.125	.125
DEPTH OF TOOTH (REF)	.2696	.2696
* TOTAL COMPOSITE ERROR	0.0002"	
* TOOTH TO TOOTH COMPOSITE ERROR	0.0002"	

NOTE: UNLESS OTHERWISE SPECIFIED

1. MAKE EDGES & FILLETS .005 MAX.
2. REMOVE ALL BURRS
3. MACHINED SURFACES 125
4. ALL FRACTIONAL DIMENSIONS ± 1/64

A PROCEDURE FOR WORM GEAR & WORM SHAFT ACCURACY CONTROL

* 1. CONCENTRICITY OF GEAR, ~~WORM~~, BORE, AND BEARING SEATS TO BE 0.0002" T.I.R. TO THE THEORETICAL CENTERLINES OF THE WORM SHAFT AND POLAR AXIS SHAFT.

* 2. AXIAL RUN OUT OF WORM SHAFT TO BE 0.0002"

3. CHECK TO BE MADE WITH INNER RACES OF BEARINGS MOUNTED ON WORM SHAFT. CHECK CONCENTRICITY AND AXIAL RUN OUT IF TOLERANCES ARE NOT MET, REBORING GROOVE OF INNER RACE OF BEARINGS TO MEET TOLERANCES

4. WORM GEAR AND WORM SHAFT MUST MEET STATED TOLERANCES BEFORE AND AFTER SHIPMENT.

5. GROOVES TO BE WITHIN A PLANE THAT IS SQUARE TO THE SHAFT CENTERLINE AND AXIAL RUN OUT TO BE WITHIN 0.0002" T.I.R. (BRG. INNER RACE)

* SPECIFICATIONS: SEE PAGE 21 OF GENERAL SPECIFICATIONS. PERMISSIBLE OPERATING ERROR RANGE IS 1.0" (SEC. OF ARC) TO 2.0" (MIN. OF ARC). DRIVE MUST BE SMOOTH. BURNISH OR LAP AS REQUIRED. SEE ALSO PAGE 46, "TOLERANCES" 5-09

REF. FILE 2926

NATIONAL ASTRONOMICAL OBSERVATORY
NATIONAL SCIENCE FOUNDATION

525D5000

DATA			REFERENCE DWGS.		MARK	REVISION	BY	DATE	MARK	REVISION	DATE	BY
DATE	DESIGN	DWG.	R.A. DRIVE ASSY.	2222-5110	E	CHG. REVISIONS - ADD DIMS.	DM	4-17-56	A	DIMENSIONS TO SUIT NEW GEAR CUTTER	11-17-51	HEW.
			R.A. DRIVE INSTL	2222-E1	F	WORM GEAR HUB CHGD				ADDED REVISION	11-17-51	T.E.
						DETAIL H ADDED - PER 3 LOCKS	LC	9-26-56		REMOVED NOTE 3 - CHANGED HUB	7-7-53	T.E.
					G	REMOVED ITEMS B, D, E				TO B & D ADDED TAPPED HOLES		
						F & G PER ECR 1139	LH	3-12-74		ADDED NOTE	12-5-51	JWH
										REDESIGNED & SHUTTLECOCK CHANGED	11-15-51	T.E.

CERTIFICATION	
DATE ISSUED:	28 DEC 1951
CERTIFIED FOR:	CONSTRUCTION
BY:	
JOB:	440
ORD. NO.	51-C3

APPROVAL	DATE
APPR.	
O.K.	
CUST.	

QUAN.	PRINT RECORD	DATE	QUAN.	PRINT RECORD	DATE
2	NAD-TIV	2-11-57	2	SH	6-10-57
2	LC-F	10-3-56	2	SH	6-10-57
2	LC-F	10-3-56	2	U	6-27-57
1	LIBRARY	10-3-56	2	U	10-10-57
1	LIBRARY	10-3-56	2	H	10-10-57
1	LIBRARY	10-3-56	2	H	10-10-57
1	AM	5-13-58	2	H	10-10-57
1	LIBRARY	10-3-56	2	H	10-10-57
1	LIBRARY	10-3-56	2	H	10-10-57
1	BUILDER'S SHEET	11-6-56	1	H	10-10-57
1	BUILDER'S SHEET	11-6-56	1	H	10-10-57

36" CASS TELESCOPE — CROSS AXIS
POLAR AXIS — WORM GEAR & WORM.

DR. BY CHANDLER
CHK. BY [illegible] 2/10/57
DATE JULY 25, 1955
SCALE 3" 6" 1'-0"

CHARLES W. JONES
ENGINEERING
LOS ANGELES CALIFORNIA

DWG NO. G525D5120

AURA 2018 VD54G