

BRASS CHAIN OF LIGHT MAKE WITH RIGID LINKS APPROX 4" LONG, 'S' RING FITTED TO EACH END OF CHAIN - 26 1/2 x 20 SWG.

SCALE 1/4"

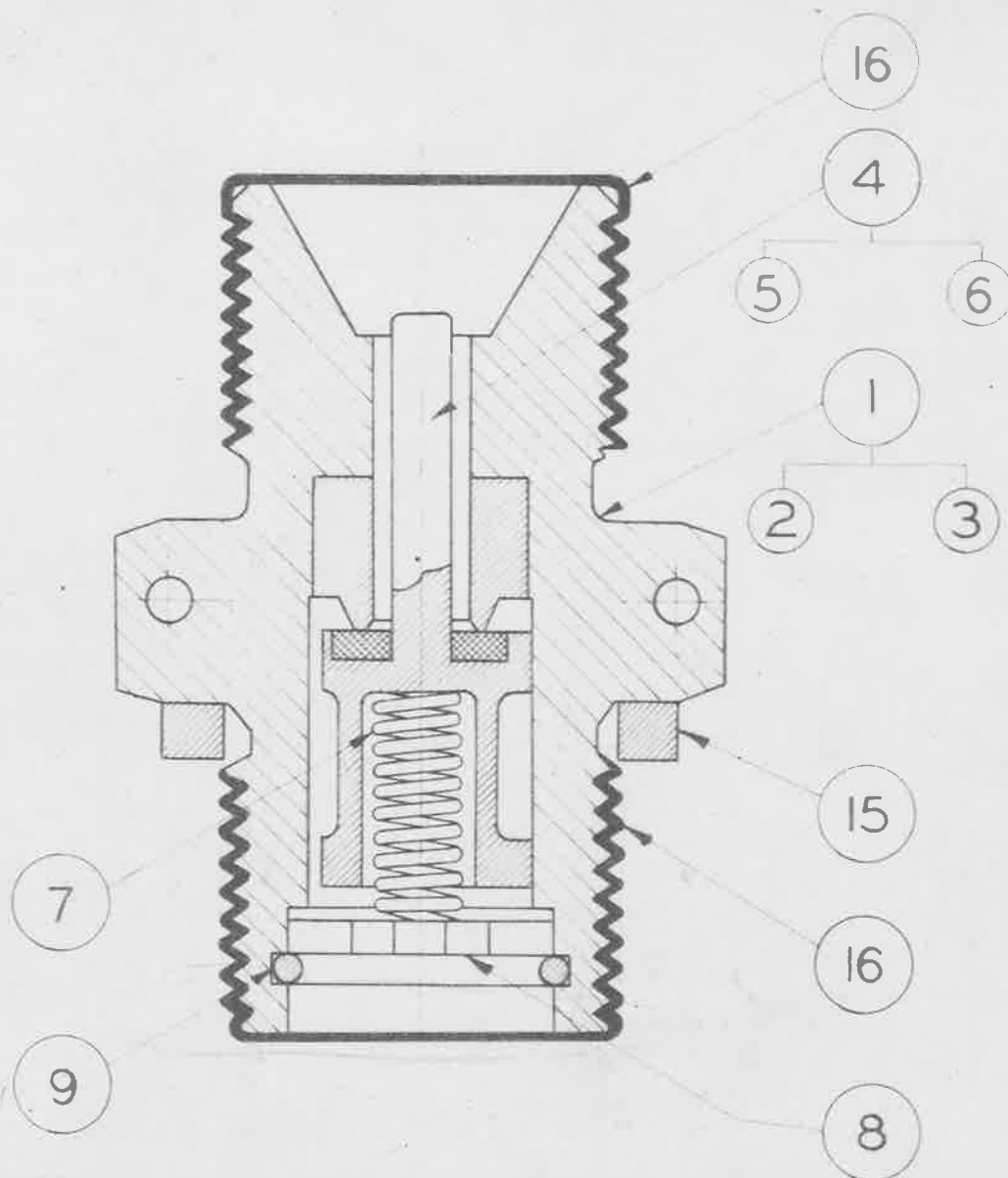
PARTS REQUIRED FOR ONE COMPLETE VALVE.

ITEM No.	A.G.S. No.	DESCRIPTION.	No. OFF	REMARKS.
1	1200, SH: 3.	VALVE BODY ASSEMBLY.	1	COMPRISING ITEMS 2 & 3, A.G.S. 1200, SHEETS 4 & 5.
4	1200, SH: 6.	VALVE CORE ASSEMBLY.	1	COMPRISING SEATING MATERIAL, ITEM 5. & ITEM 6, A.G.S. 1200, SHEETS 6 & 7.
7	1200, SH: 8.	VALVE SPRING.	1	
8	1200, SH: 8.	VALVE SPRING PAD.	1	
9	1200, SH: 9.	RETAINING SPRING.	1	
11	N.D	CHAIN	1	
12	904/B	OUTER SLEEVE	1	
13	1140/B	PLUG	1	
14	166/2 *	SPLIT PIN	1	* SUPERSEDED BY B.S. SPEC: SP.9.C6.
15	1138/B	JOINTING WASHER, EXTERNAL	1	ALTERNATIVE TO ITEM 17.
16	597/B	PROTECTION CAP	1	
17	1200 SH: 9	JOINTING WASHER, INTERNAL	1	ALTERNATIVE TO ITEM 15.

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT.

TITLE:-- CHARGING VALVE, MARK. I, (AIR & HYDRAULIC) GENERAL ARRANGEMENT. SMT17

ISSUE 10 | X-2-2-2-# 5 | CHECKED | TRACED
 ALTER# 139 | MOD No | MOD No | MOD No | MOD No | AS/AGS | C.T.Reynolds | J. D. Gaffney 10-3-44.
 APPROVED: [Signature]

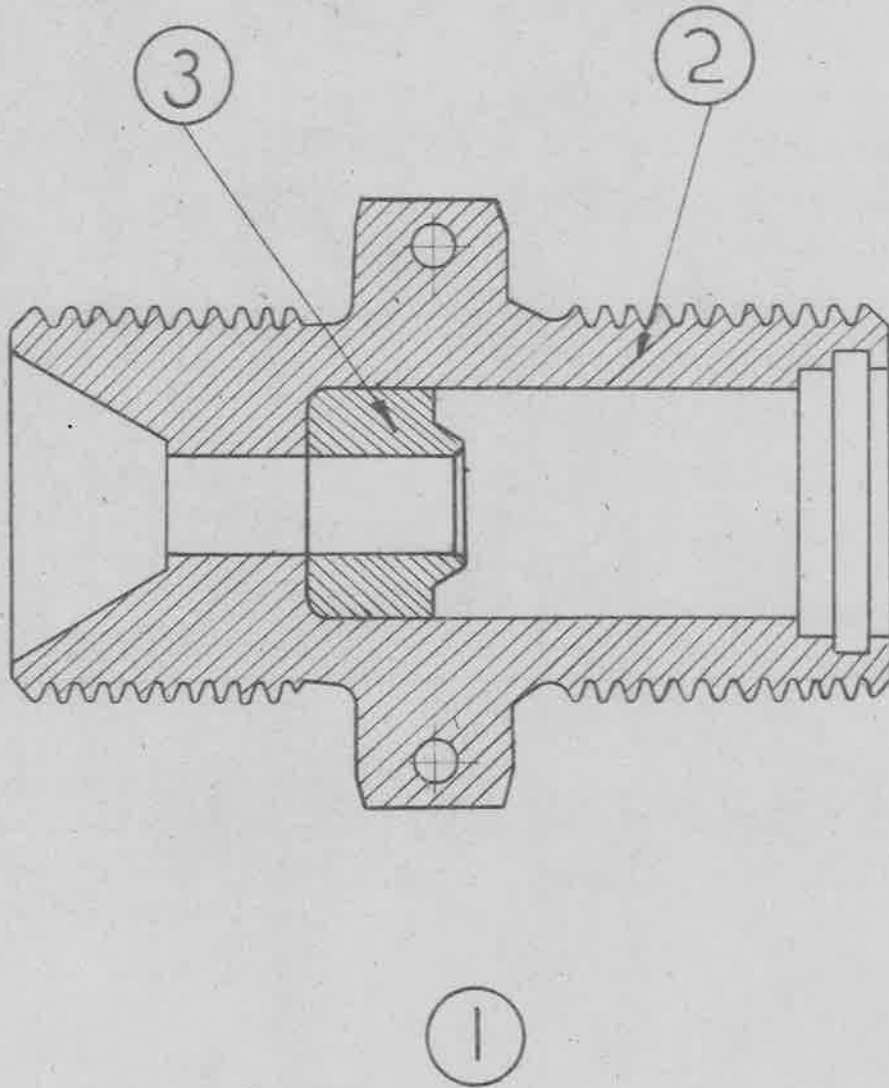


PARTS REQUIRED FOR ONE COMPLETE VALVE

ITEM N°	A.G.S. N°	DESCRIPTION	N° OFF	REMARKS
1	1200 SHT.3	VALVE BODY ASSEMBLY	1	COMPRISING ITEMS 2 & 3 AGS.1200, SHEETS 4 & 5
4	1200 SHT.6	VALVE CORE ASSEMBLY	1	COMPRISING SEATING MATERIAL ITEM 5 & ITEM 6 AGS 1200, SHEETS 6 & 7
7	1200 SHT.8	VALVE SPRING	1	
8	1200 SHT.8	VALVE SPRING PAD	1	
9	1200 SHT.9	RETAINING SPRING	1	
15	1138/B	WASHER	1	
16	597/B	PROTECTION CAPS	2	

SCALE - 4/1

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT	TITLE - VALVE UNIT ASSEMBLY (WITH PROTECTION CAPS)				RETRACED DIVISION OF AIRCRAFT PRODUCTION G. A. F.
	ISSUE N°	2	3		
	ALTER ^N N°	MoD N° AGS/CO5	MoD N° AGS 725		



NOTE:- VALVE SEAT INSERT ITEM 3 AGS 1200 SHT 5 TO BE COPPER BRAZED INTO POSITION SHOWN. AFTER BRAZING, VALVE BODY ASSEMBLY TO BE * NORMALISED AND PICKLED TO REMOVE SCALE. BRINELL HARDNESS NUMBER NOT LESS THAN 146 NOR MORE THAN 201.

FINISH:- TO BE CADMIUM PLATED TO SPEC DTD 904 (LATEST ISSUE) VALVE SEAT TO BE PROTECTED AND CLEANED AFTERWARDS.

* WHEN NORMALISING IS CARRIED OUT IN CONTROLLED ATMOSPHERE FURNACE SKELLING CAN BE DISPENSED WITH.

SCALE 4/1

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT	TITLE CHARGING VALVE (AIR & HYDRAULIC) VALVE BODY ASSEMBLY				DRAWN	RE-TRACED 6-10-44
	ISSUE N°	1	2	3	4	CHECKED APPROVED
	ALTERATION N°	MOD N° AGS/539	MOD N° 86/09	MOD N° 88/125	MOD N° R 35/753	

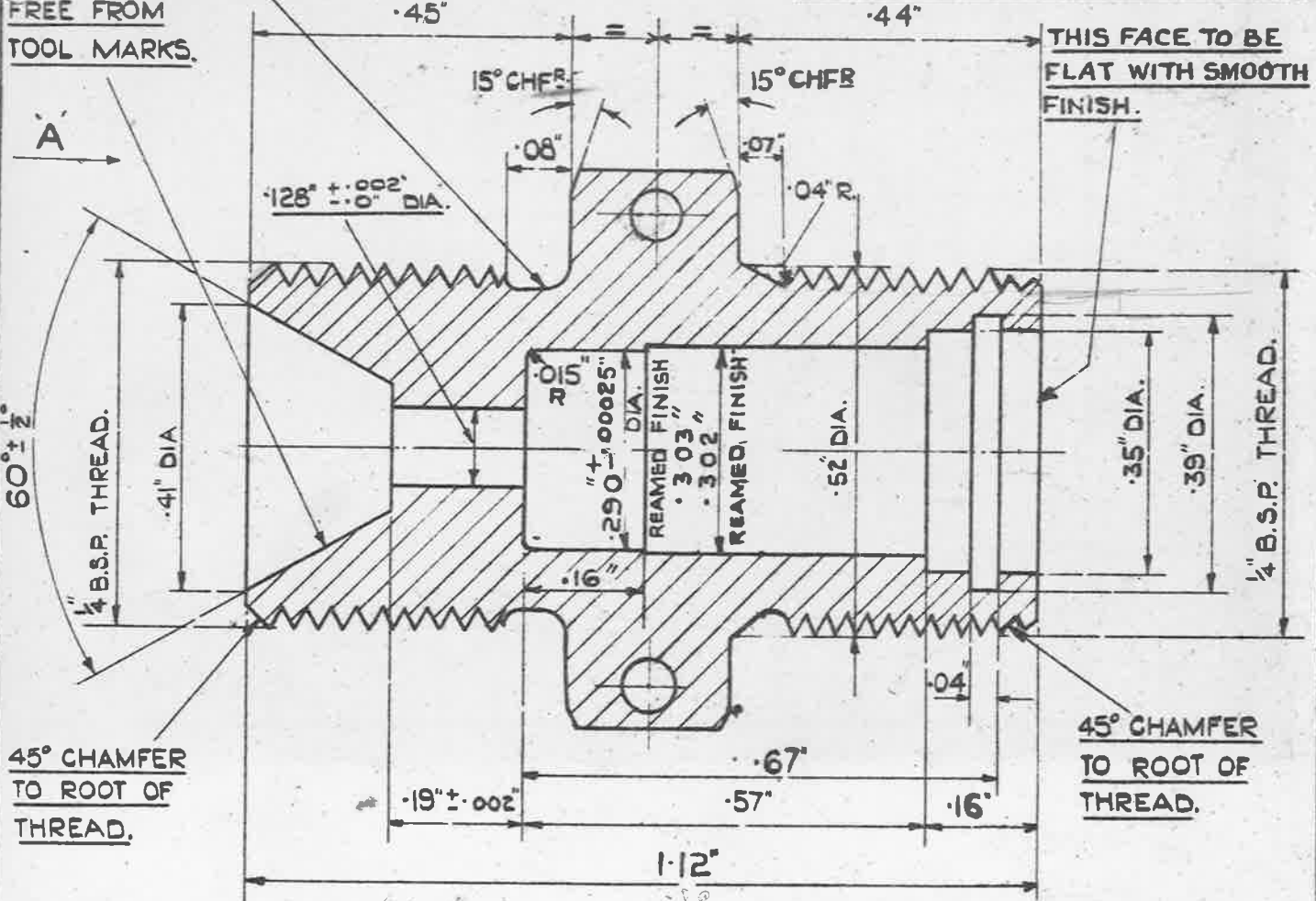
UNDERCUT TO BOTTOM OF THREAD.

MINISTRY OF SUPPLY.

AGS. No 1200

SHEET No 4 No of SHEETS

SMOOTH FINISH
FREE FROM
TOOL MARKS.



THIS FACE TO BE
FLAT WITH SMOOTH
FINISH.

45° CHAMFER
TO ROOT OF
THREAD.

45° CHAMFER
TO ROOT OF
THREAD.

DRILL 1/16 DIA.

A.G.S. 1200,
TO BE STAMPED
ON HEXAGON
FACE AT ⊕
CARE BEING TAKEN
NOT TO DAMAGE
JOINT FACE.

SCALE :- 4/1.

2

STD. HEX .705
.710 A/F.

VIEW IN DIRECTION OF ARROW 'A'.

NOTE:- SCREW THREADS TO B.S. SPEC. No 84 (LATEST ISSUE)
MEDIUM FIT, TRUNCATED.

MATERIAL:- STEEL TO B.S. SPEC. S. 93. (LATEST ISSUE.) ALT MATL. S6 LATEST ISSUE

FINISH:- NATURAL (PLATED AFTER ASSEMBLY SEE A.G.S. 1200 SHEET 3.)

UNLIMITED DIMENSIONS WITHIN ±.005

ISSUED BY
THE ROYAL
AIRCRAFT
ESTABLISHMENT.

TITLE:- CHARGING VALVE
(AIR & HYDRAULIC)
VALVE BODY, 1/4" B.S.P.

ISSUE No 6
ALTERN No

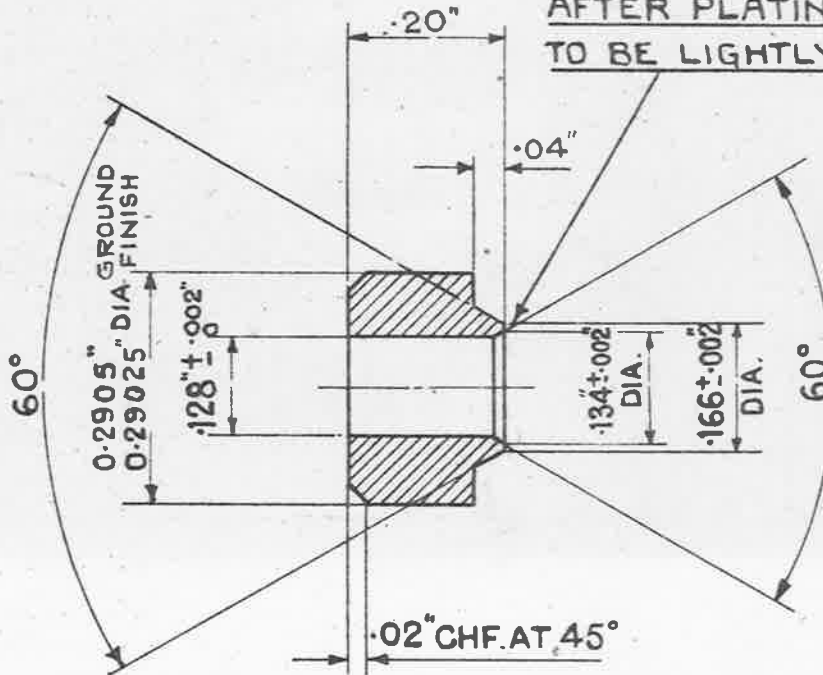
DRAWN.
C.T. Reynolds.

CHECKED
[Signature]

TRACED
G. P. Gaffney
18-1-43

APPROVED.
[Signature]

THIS SEAT MUST BE CHROMIUM
PLATED TO A MINIMUM THICKNESS
OF .0005". IT MUST BE FREE FROM
TOOL MARKS & SHARP EDGES AND
POLISHED BEFORE PLATING.
AFTER PLATING, SEAT FACE
TO BE LIGHTLY BUFFED.



3

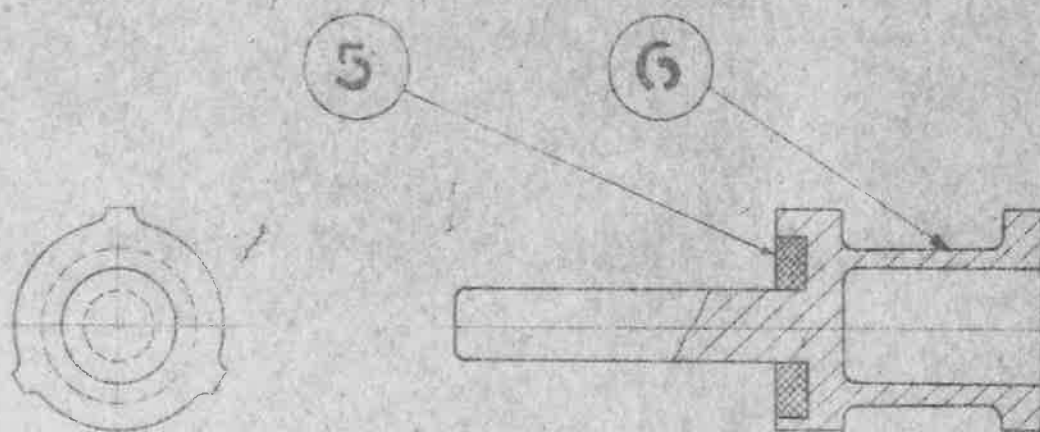
SCALE 4/1.

MATERIAL:- STEEL TO B.S. SPEC. S.93.(LATEST ISSUE.) ALT MATL S6 (LATEST ISSUE)

FINISH:- SEE NOTE ABOVE REFERRING TO SEAT, ALSO "FINISH"
NOTE ON A.G.S.1200, SHEET 3.

UNLIMITED DIMENSIONS WITHIN ± .005".

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT.	TITLE:- CHARGING VALVE, (AIR & HYDRAULIC.) VALVE SEAT INSERT SM717				DRAWN. C.T.Reynolds	TRACED J.B. Newman 22.1.44.	
	ISSUE No	1	2	3	4	CHECKED J.M. Hoar	APPROVED. J.M. Hoar 28.1.44
	ALTER No	MOD. No AGS/539	AGS/725	AS. No AGS/755	AS/AGS 963		



TEST REQUIREMENTS:

1% OF ALL VALVE CORES TO BE HARDNESS TESTED AFTER VULCANISING BY MOUNTING THE CORE IN A 'MASTER' VALVE BODY, APPLYING PRESSURE BEHIND THE CORE AND MEASURING THE OUTWARD MOVEMENT OF THE CORE PIN (AS BY A DIAL GAUGE.)

PIN MOVEMENT IS NOT TO EXCEED 0.020 UNDER 10,000 LB SQ IN HYDRAULIC PRESSURE (OR EQUIVALENT MECHANICAL PRESSURE.)

PERMANENT SET AFTER REMOVAL OF PRESSURE IS NOT TO EXCEED 0.002

APPLICATION.

APPROVED FOR AIR, ALSO FOR HYDRAULIC FLUIDS
SPECS. D.T.D. 44D, D.T.D. 388 & D.T.D. 585.

NOTES.

SEATING MATERIAL TO BE VULCANISED INTO RECESS AS SHEWN & TO BE FLAT.

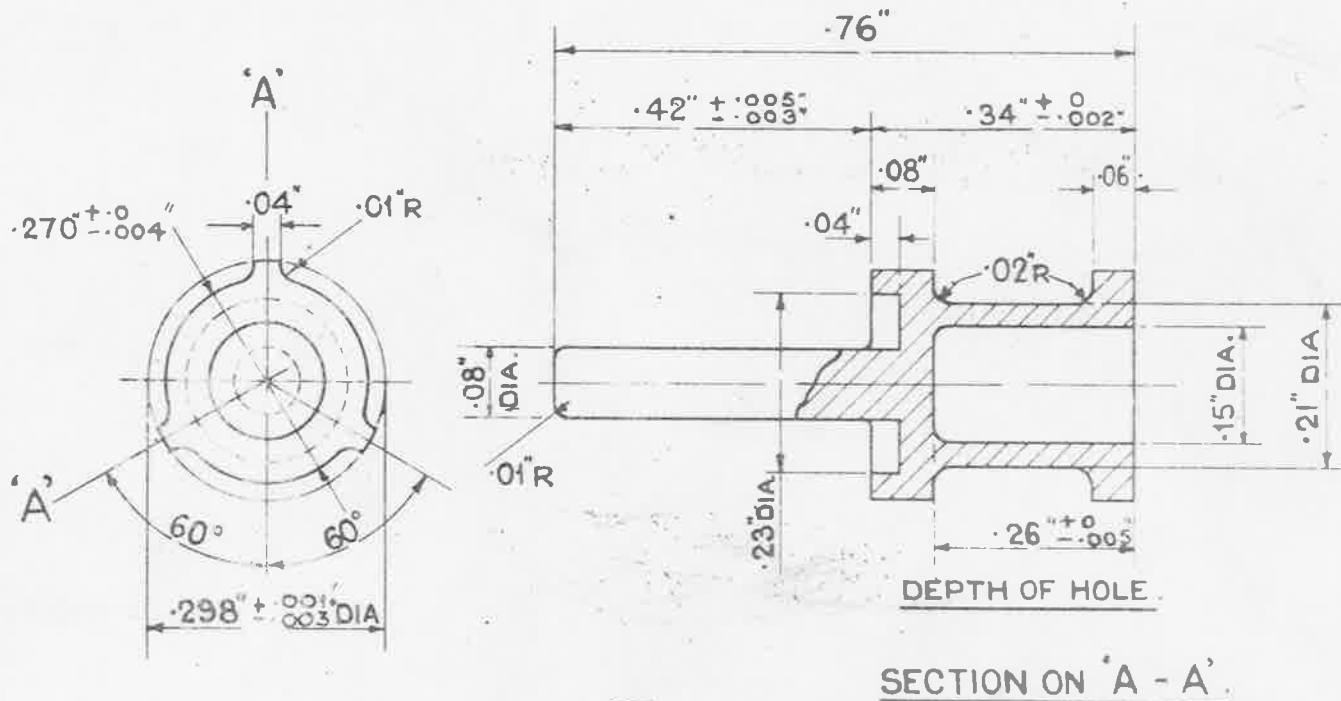
SEATING MATERIAL.

MIXTURE TO R.A.E. SPEC. N^o A.D. 142.
SHORE HARDNESS 72±2

FINISH.

VALVE CORE ASSEMBLY, AFTER VULCANISING OF ITEM 5, TO BE CADMIUM PLATED TO SPEC. DTD 904 (LATEST ISSUE);
ALTERNATIVELY ELECTRO-TINNED TO SPEC DTD 924 (LATEST ISSUE). NO PRECAUTIONS ARE NECESSARY TO PROTECT THE SEATING MATERIAL.

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT.	TITLE:—CHARGING VALVE, MARK I (AIR & HYDRAULIC.) VALVE CORE ASSEMBLY.			DRAWN CT Reynolds.	TRAC J.E. Meier 25-1 +4.
	ISSUE N ^o ALTERS N ^o	1 2	2	CHECKED J.H. HARR	APPROVED J.H. HARR 28-1-24



6

SCALE 4/1.

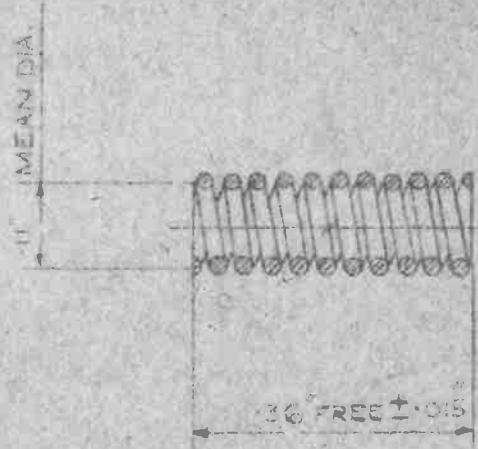
MATERIAL:- BRASS TO B.S. SPEC. 249 OR 251 (LATEST ISSUE.)

FINISH:- SEE NOTE ON SHEET 6

NOTE:- FOR COMPLETED CORE SEE A.G. S. 1200 SHEET 6.

UNLIMITED DIMENSIONS WITHIN ±.005".

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT.	TITLE:- CHARGING VALVE . (AIR & HYDRAULIC) VALVE CORE .				DRAWN. C.T. Reynolds	TRACED J.C. Newman 25.1.44	
	ISSUE No	1	2	3	4	CHECKED	APPROVED.
	ALTER No	MOD. No	AS/MS	AS/AGS/AS/MS	AS/MS	J. H. H. H.	



VALVE SPRING.

7

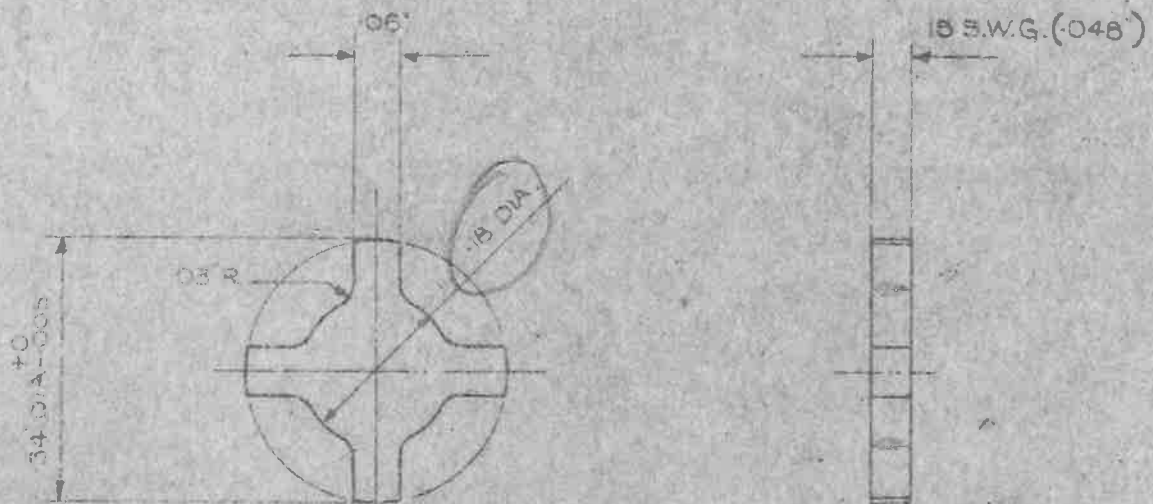
SPRING DATA:

SPRING TO BE 24 B.W.G. (.022) OF 10 WORKING COILS AND TO DEFLECT 0.06 UNDER LOAD OF 1 LB.

MATERIAL - PHOSPHOR BRONZE - COMMERCIAL QUALITY.

FINISH TO BE CADMIUM PLATED TO SPEC: D.T.D. 904, (LATEST ISSUE), ALTERNATIVELY, ELECTRO-TINNED TO SPEC: D.T.D. 924 (LATEST ISSUE).

UNLIMITED DIMENSIONS WITHIN ±.005".



VALVE SPRING PAD.

8

SCALE 4/1.

MATERIAL - BRASS OR STEEL, B.S. SPEC: S.3. (LATEST ISSUE) OR COMMERCIAL QUALITY.

FINISH - (BRASS) - TO BE CADMIUM PLATED TO SPEC: D.T.D. 904, (LATEST ISSUE), ALTERNATIVELY, ELECTRO-TINNED TO SPEC: D.T.D. 924 (LATEST ISSUE). (STEEL) - TO BE CADMIUM PLATED TO SPEC: D.T.D. 904, (LATEST ISSUE).

ISSUED BY THE
ROYAL
AIRCRAFT
ESTABLISHMENT.

TITLE - CHARGING VALVE
(AIR & HYDRAULIC)
VALVE SPRING & VALVE SPRING PAD.

DRAWN

at Reynolds

TRACED

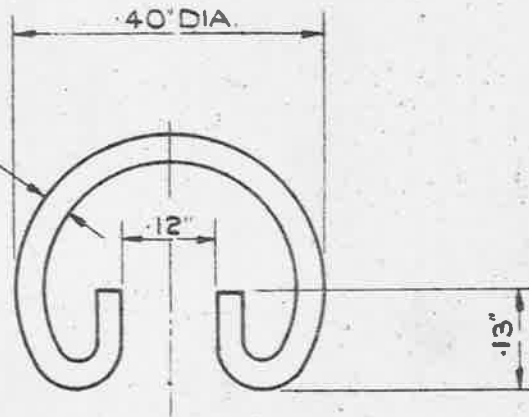
O.M. 10-3-49

ISSUE NO	1	2	3
ALTER. NO			
NO. OF	45	45	45
AGE/ISS	663	766	

CHECKED
M. H. W. R.

APPROVED
R. H. W. R.

20 S.W.G.
(.036" DIA.)



RETAINING SPRING.

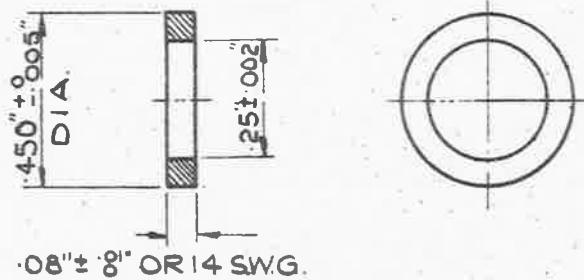
SCALE :- 4/1.

9

MATERIAL :- SPRING STEEL TO SPEC. D.T.D. 239 (LATEST ISSUE)
OR COMMERCIAL QUALITY.

FINISH :- TO BE CADMIUM PLATED TO SPEC. D.T.D. 904 (LATEST ISSUE).

UNLIMITED DIMENSIONS WITHIN $\pm .005$ "



17

JOINTING WASHER (INTERNAL)

MATERIAL :- LIGHT ALLOY TO B.S. SPEC. L.70. (LATEST ISSUE) ALT MATL.

L3 (LATEST ISSUE)

FINISH :- ANODISE TO SPEC. D.T.D. 910 (LATEST ISSUE).

SCALE :- 2/1.

ISSUED BY ROYAL AIRCRAFT ESTABLISHMENT	TITLE:- CHARGING VALVE (AIR & HYDRAULIC) RETAINING SPRING & JOINTING WASHER (INTERNAL)				DRAWN. C.T. Reynolds.	TRACED D.E.M.P. 18.6.45
	ISSUE No	2	3	4	CHECKED J.M. H. 18.6.45	APPROVED. J.M. H. 18.6.45
ALTERN. No	MOD. No	AS/AGS/	A.S./AGE			

CHARGING VALVE - MARK I.
(AIR & HYDRAULIC.)

VALVES ASSEMBLED TO THIS DRAWING ARE APPROVED FOR USE WITH AIR, ALSO HYDRAULIC FLUIDS TO SPEC. D.T.D. 44.D. - 388 - 585.

PRODUCTION TEST SCHEDULE.

A. ALL VALVES SHALL BE TESTED AS FOLLOWS WHILST IMMERSSED IN HYDRAULIC FLUID, D.T.D. 585.

- 1. NEGATIVE PRESSURE.** ALL VALVES TO HOLD FOR 30 SECONDS WITHOUT LEAK AN AIR PRESSURE OF 20 LB/SQ IN. APPLIED TO THE INLET.
- 2 OPENING PRESSURE.** ALL VALVES TO OPEN FULLY AT AN AIR PRESSURE OF 40 TO 80 LB/SQ.IN. APPLIED TO THE INLET.

B. 1% RANDOM SELECTION. TO BE SUBJECTED TO A HYDRAULIC PRESSURE OF NOT LESS THAN 10,000 LB/SQ. IN. APPLIED TO THE OUTLET FOR NOT LESS THAN 10 MINUTES AND THEN TO UNDERGO SATISFACTORY TESTS A.1. A2. AND C.

THE BODIES AND CORES OF THESE VALVES ARE THEN TO BE SECTIONED TO INSPECT FOR SATISFACTORY FINISH OF THE BODY-SEAT AND THE BONDING OF THE RUBBER SEAT.

C. VALVE SEAT TEST. ALL COMPLETED ASSEMBLIES ARE TO BE SUBJECTED TO A PNEUMATIC PRESSURE OF 500 LB/SQ IN APPLIED TO THE OUTLET FOR NOT LESS THAN 20 SECONDS, & SHALL SHOW NO SIGNS OF LEAKAGE WHEN IMMERSSED IN HYDRAULIC FLUID D.T.D. 585.

TYPE TESTS. TO BE MADE TO R.A.E. SPEC: A.D. 142.

ISSUED BY THE ROYAL AIRCRAFT ESTABLISHMENT.	TITLE:-- CHARGING VALVE, MARK I (AIR & HYDRAULIC) TEST SCHEDULE.			DRAWN C.T.Reynolds	TRACED J.B. Gaffney 10-3-44	
	ISSUE NO	X	2	3	CHECKED J.Moor	APPROVED. J.W. 16.3.44
ALTER: NO	MOD. NO	AS NO	AS AGS	AGS/62	AGS/759	963