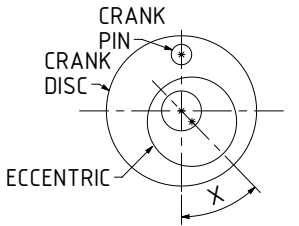


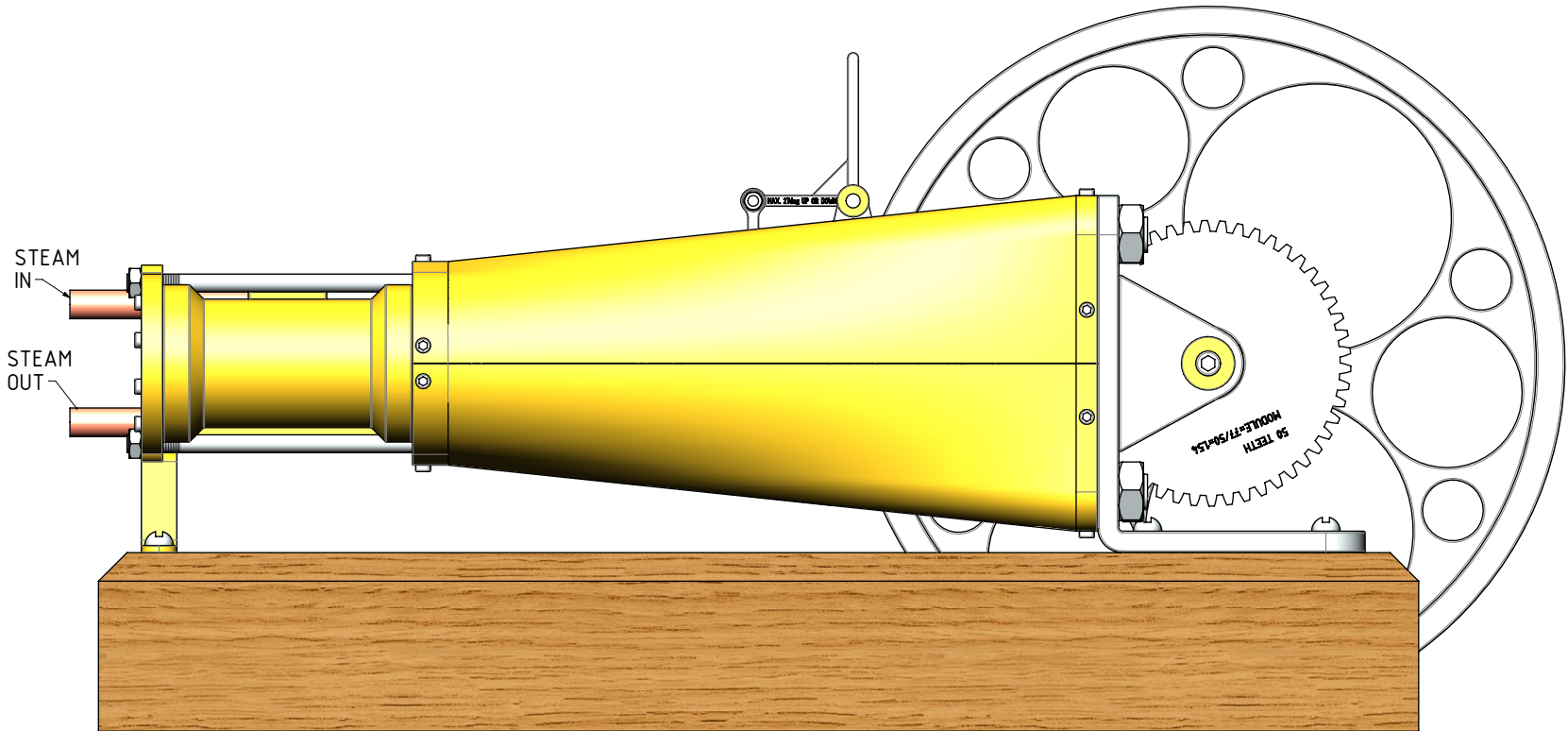
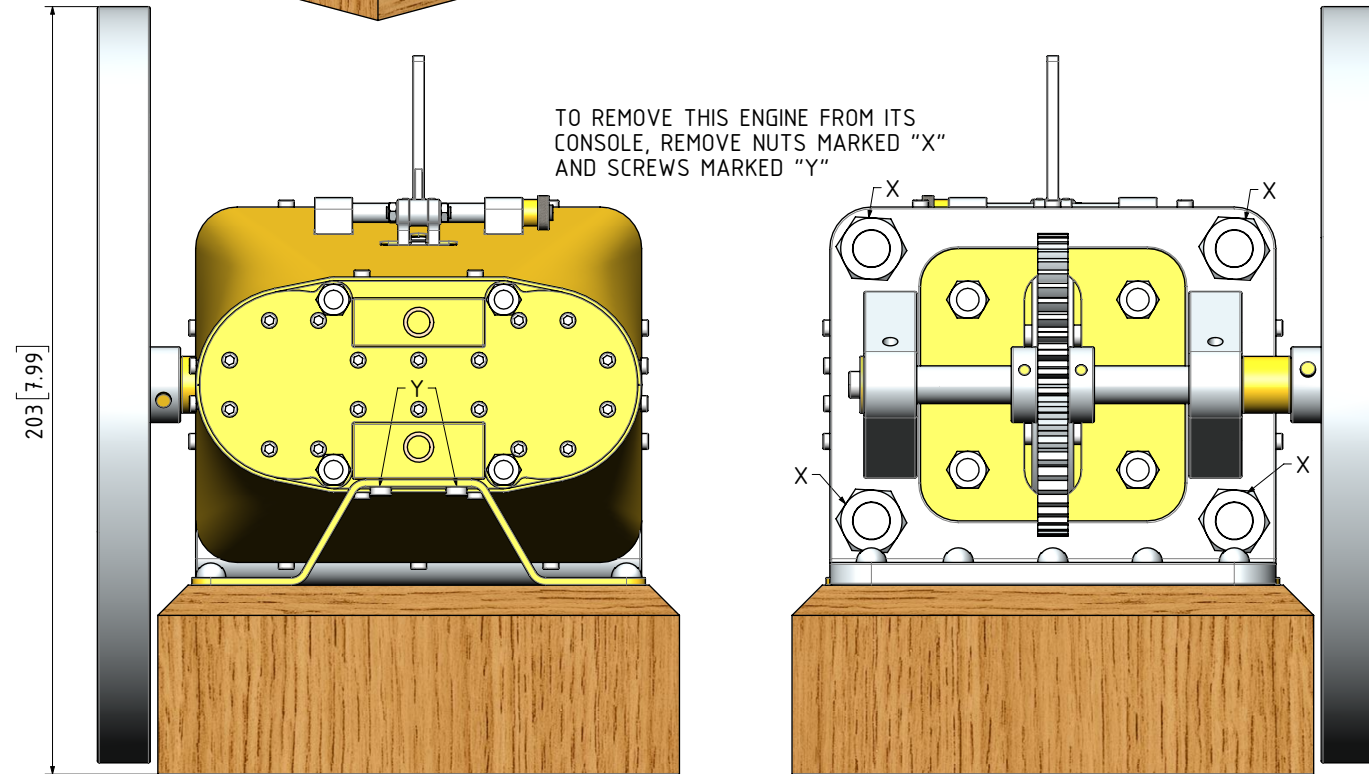
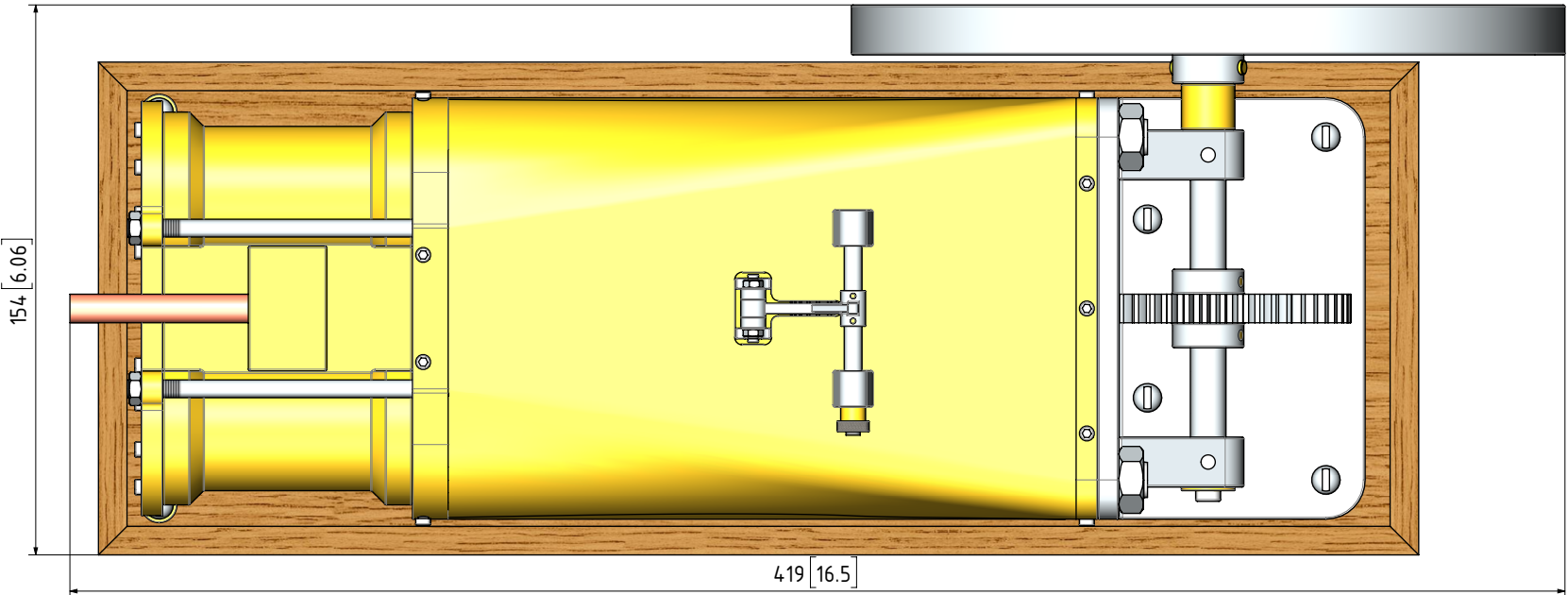
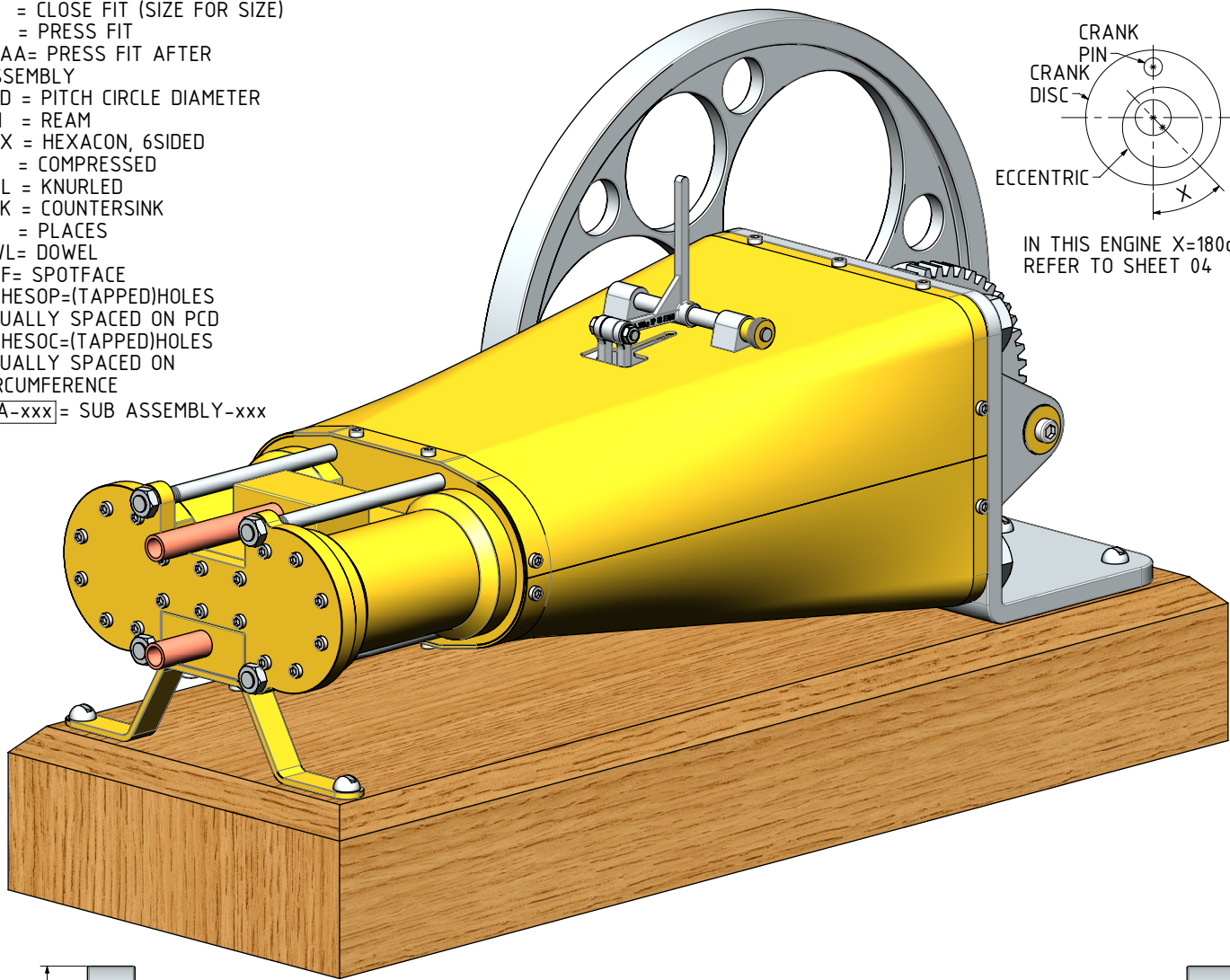
OTHER ABBREVIATIONS
DP = DEEP
DAA= DRILL AFTER ASSEMBLY
D&TAA= DRILL AND TAP AFTER ASSEMBLY
CF = CLOSE FIT (SIZE FOR SIZE)
PF = PRESS FIT
PFAA= PRESS FIT AFTER ASSEMBLY
PCD = PITCH CIRCLE DIAMETER
RM = REAM
HEX = HEXACON, 6SIDED
CP = COMPRESSED
KNL = KNURLED
CSK = COUNTERSINK
PL = PLACES
DWL= DOWEL
SPF= SPOTFACE
(T)HESOP=(TAPPED)HOLES EQUALLY SPACED ON PCD
(T)HESOC=(TAPPED)HOLES EQUALLY SPACED ON CIRCUMFERENCE
[SA-xxx]= SUB ASSEMBLY-xxx

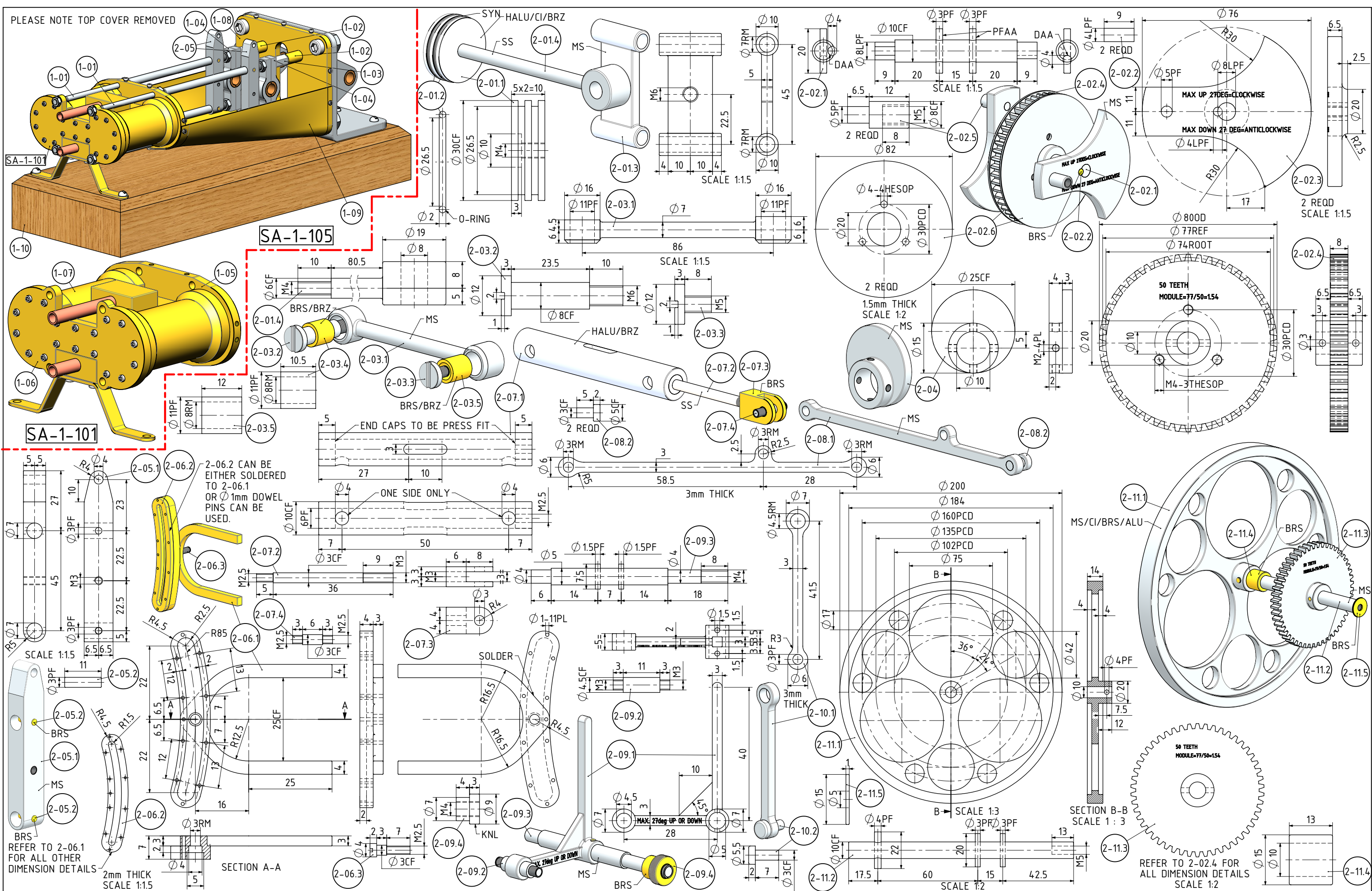
THE OFF SET ANGLE OF THE ECCENTRIC IN RELATION TO THE CRANK AXIS TO BE EXPERIMENTALLY DETERMINED FOR THE SMOOTH RUNNING OF THE ENGINE AND SATISFACTION OF THE BUILDER



IN THIS ENGINE X=180deg
REFER TO SHEET 04

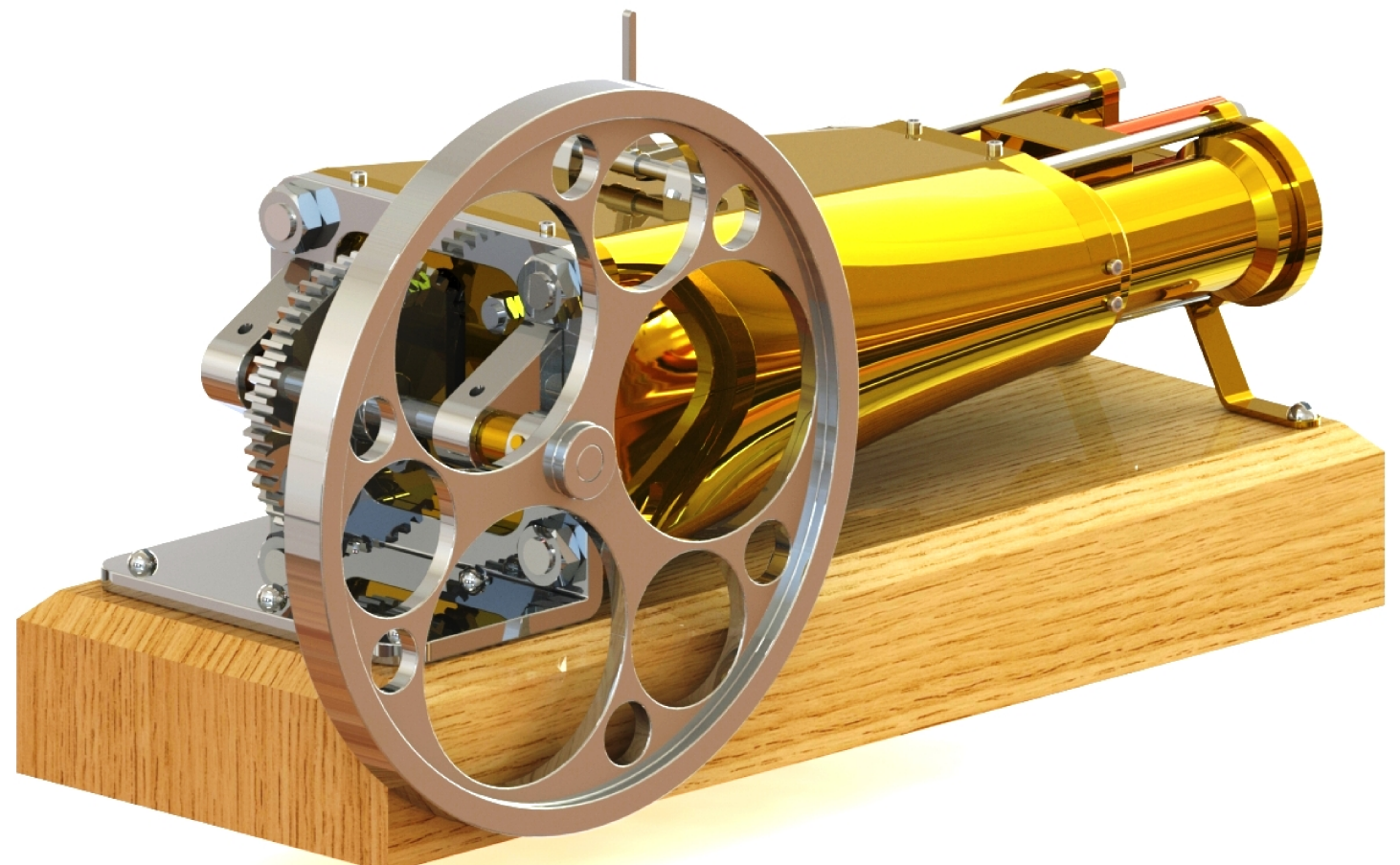
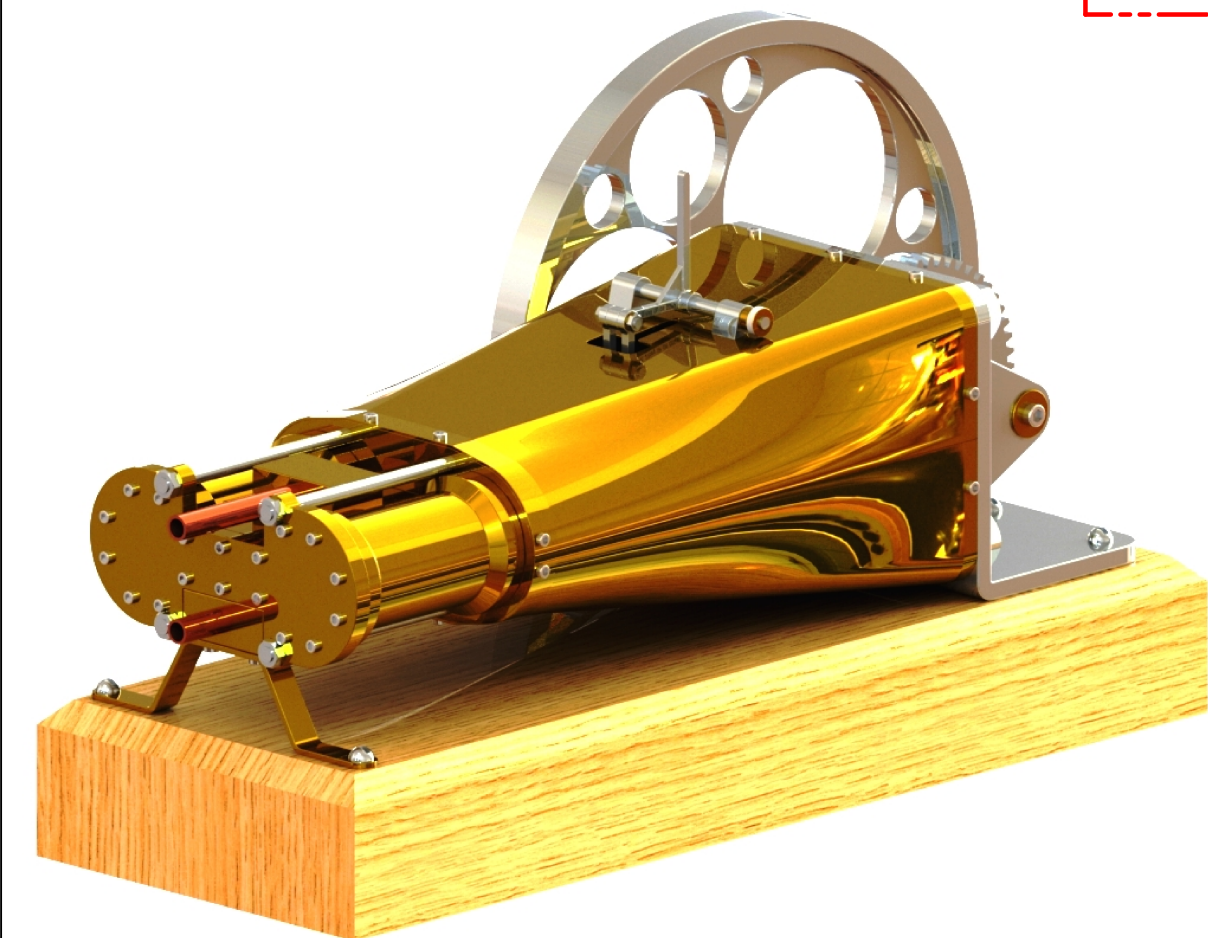
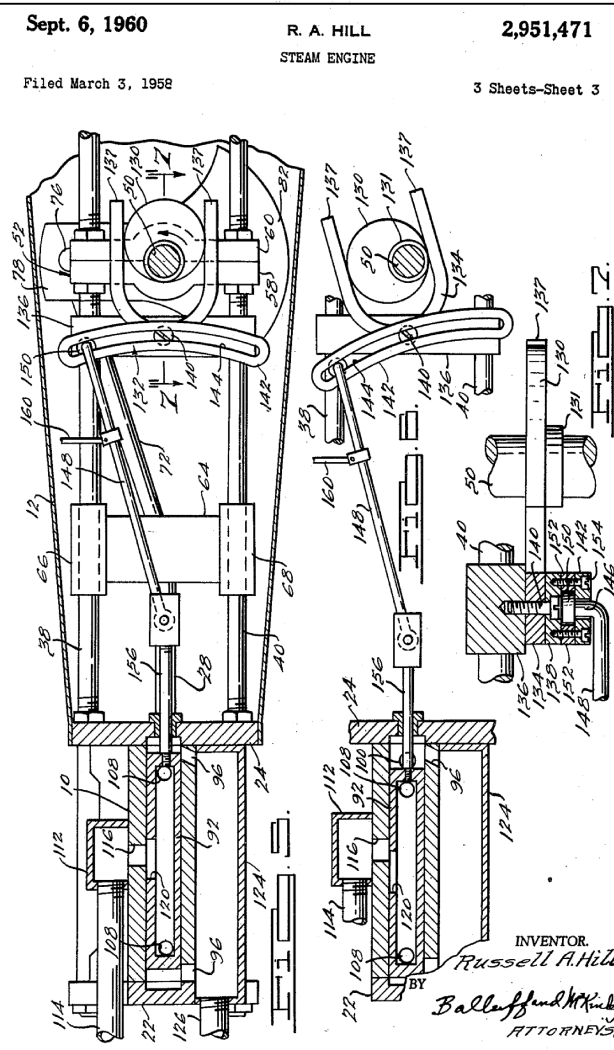
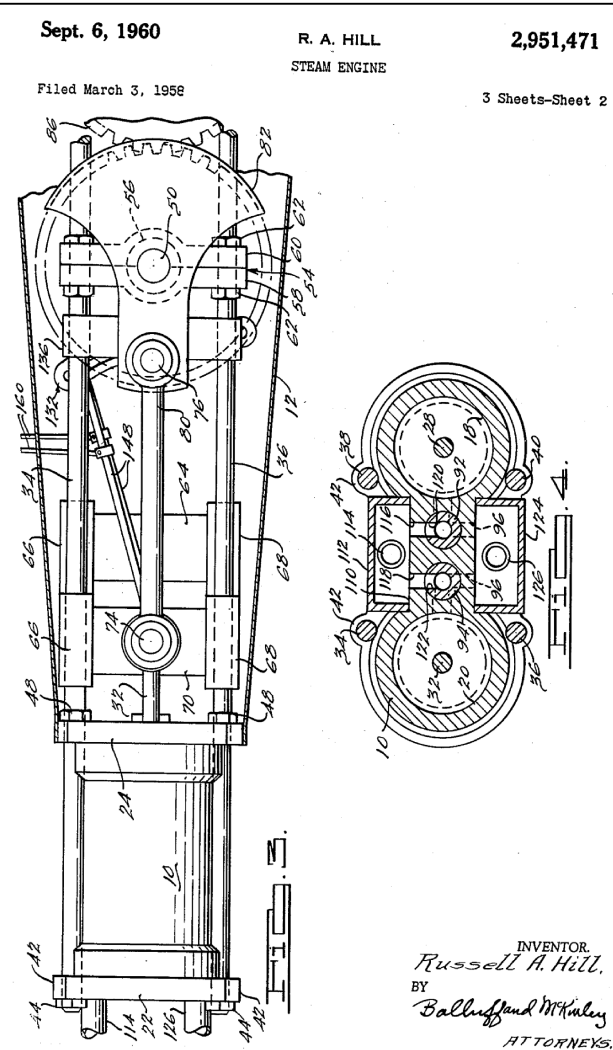
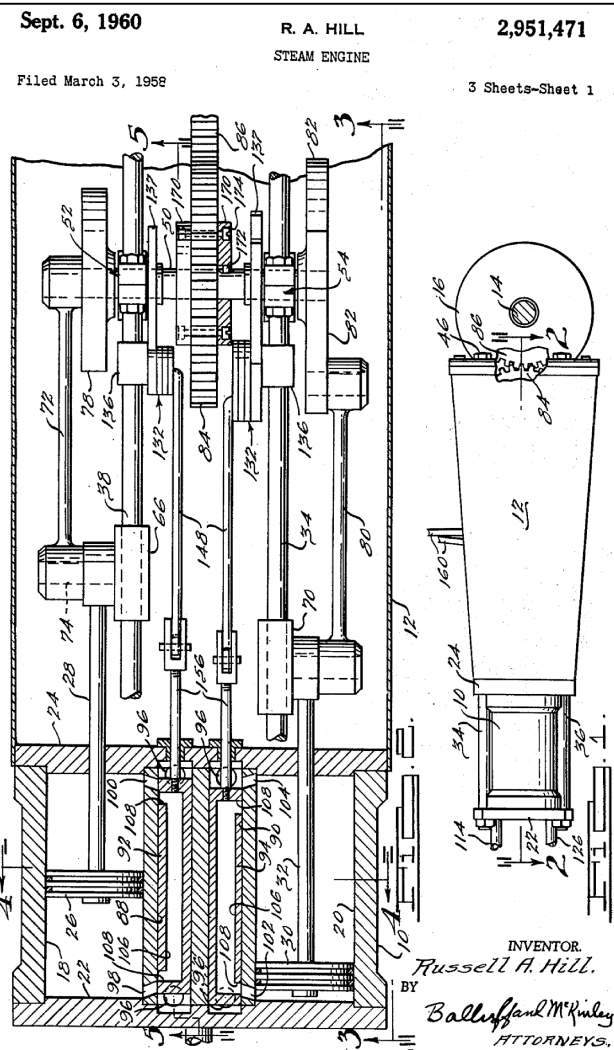
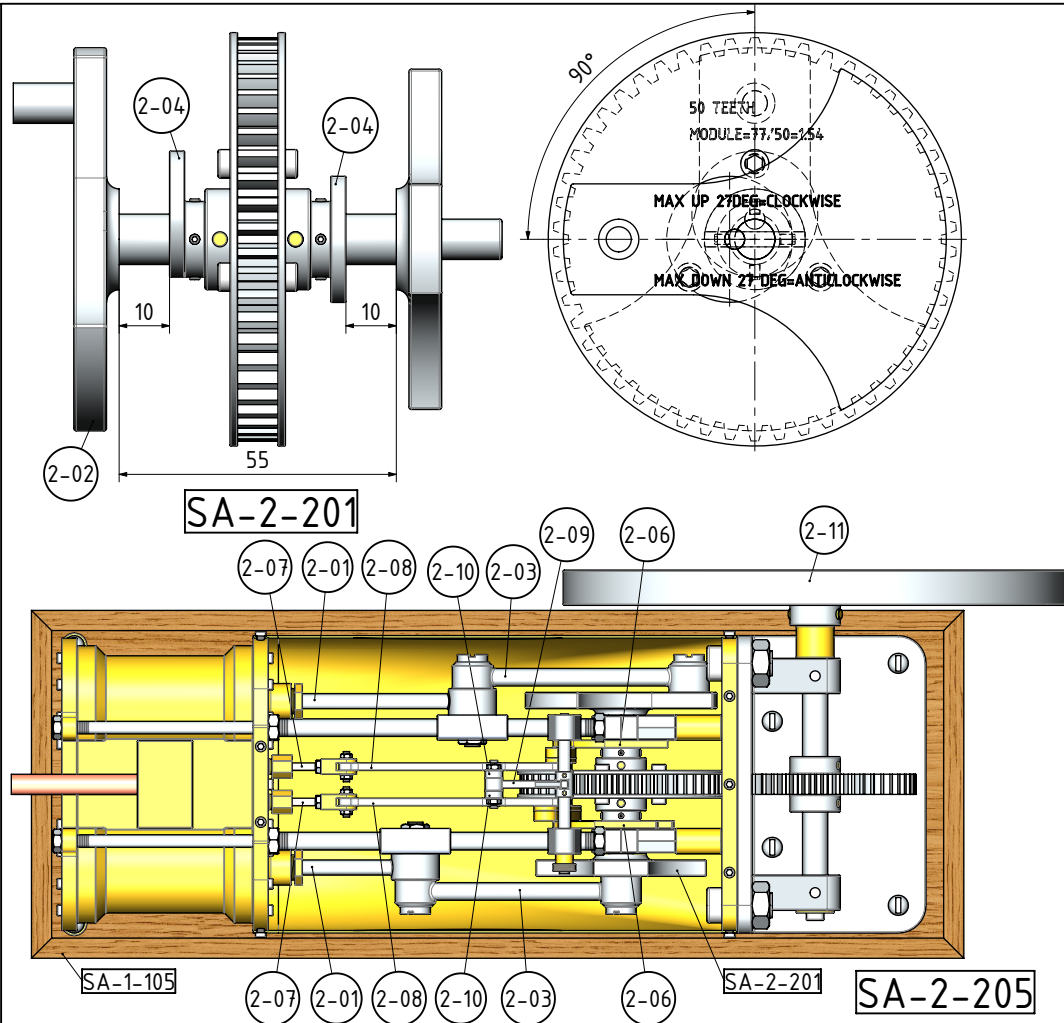
- NOTES:
0. ALL DRAWINGS ARE IN METRIC MEASUREMENTS
 1. ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
 2. WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
 3. PREFERABLY ALL TAPPED HOLES AND MATCHING SCREWS AND/OR BOLTS TO BE METRIC FINE (MF)
 4. MATERIALS SPECIFIED ON THE DRAWINGS ARE INDICATIVE ONLY. THE BUILDER CAN MAKE HIS/HER OWN MATERIAL CHOICE.
 5. ALL CONNECTIONS/JOINTS WHICH HAVE STEAM PRESSURE APPLIED TO IT SHALL BE SILVER/HARD SOLDERED.
 6. COMPRESSION SPRINGS ARE DRAWN IN COMPRESSED STATE (CP), UNCOMPRESSED STATE IS APPROX 40% TO 60% LONGER THEN COMPRESSED STATE.
 7. WHERE PREFERRED SCREW OR RIVETED CONNECTIONS CAN BE OMITTED AND PARTS CAN BE BONDED TOGETHER BY USING EITHER HIGH STRENGTH GLUE, EPOXY RESIN, OR SOLDER.
 8. PARTS WHICH ARE DIRECTLY EXPOSED TO STEAM AND/OR WATER SHOULD BE CONSTRUCTED USING NON-FERROUS OR NON CORROSIVE MATERIAL SUCH AS BRASS, BRONZE, GUNMETAL, STAINLESS STEEL, COPPER OR MONEL.
 9. THE ORDER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED AND THE MODEL IS ASSEMBLED IS ENTIRELY LEFT TO THE BUILDER/MODEL MAKER.
 10. A COLOUR SCHEME FOR THIS PROJECT IS ENTIRELY LEFT UP TO THE MODEL MAKER.
 11. THE MANNER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED IS ENTIRELY LEFT UP TO THE BUILDER.
 12. USE LOCTITE, ON SCREW OR PRESS FIT CONNECTIONS OR SURFACES, WERE DEEMED NECESSARY TO PREVENT PARTS FROM LOOSENING.
 13. WASHERS AND/OR SPRING WASHERS SHALL BE USED WHERE DEEMED NECESSARY.
 14. INQUIRE AT THE APPROPRIATE AUTHORITIES WHETHER OR NOT THIS BOILER REQUIRE A PRESSURE TEST CERTIFICATE.
 - XX. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED.





NOTES: THIS DESIGN IS BASED ON DRAWINGS WHICH I FOUND ON THE INTERNET. THE ORIGINAL DRAWING WERE BY R.A.HILL. THE DRAWINGS WERE FILED FOR PATENT RIGHTS ON THE 3RD OF MARCH 1958. FILE NO:2,951,471. ISSUE DATE 6TH SEPTEMBER 1960			PROJECT No 09E-35-00		PROJECTION		MODEL SCALE: 1:1	
TITLE			JDW DRAUGHTING SERVICES		DATE		DWG SCALE: 1:1 @A3 OR AS SHOWN	
A MODEL OF A 2 CYLINDER SELFCONTAINED PORTABLE STEAM ENGINE WITH REVERSER			J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.		JUNE 2019		Copyright © J.A.M. DE WAAL PAPAOKURA NZ	
DRAWING CONTENTS			PARTS AND ASSEMBLIES		SHEET: 03 OF 04		A3 No: 09E-35-00-SHT03	

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TITLE
A MODEL OF A 2 CYLINDER SELFCONTAINED
PORTABLE STEAM ENGINE WITH REVERSER

DRAWING CONTENTS
ASSEMBLIES, ORIGINAL DRAWINGS
AND RENDERED PICTURE

PROJECT No 09E-35-00
JDW DRAUGHTING SERVICES
J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAKAPURA
2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB:
0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION
DATE JUNE 2019
SHEET: 04 OF 04
JDWDS
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MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
No: 09E-35-00-SHT04

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