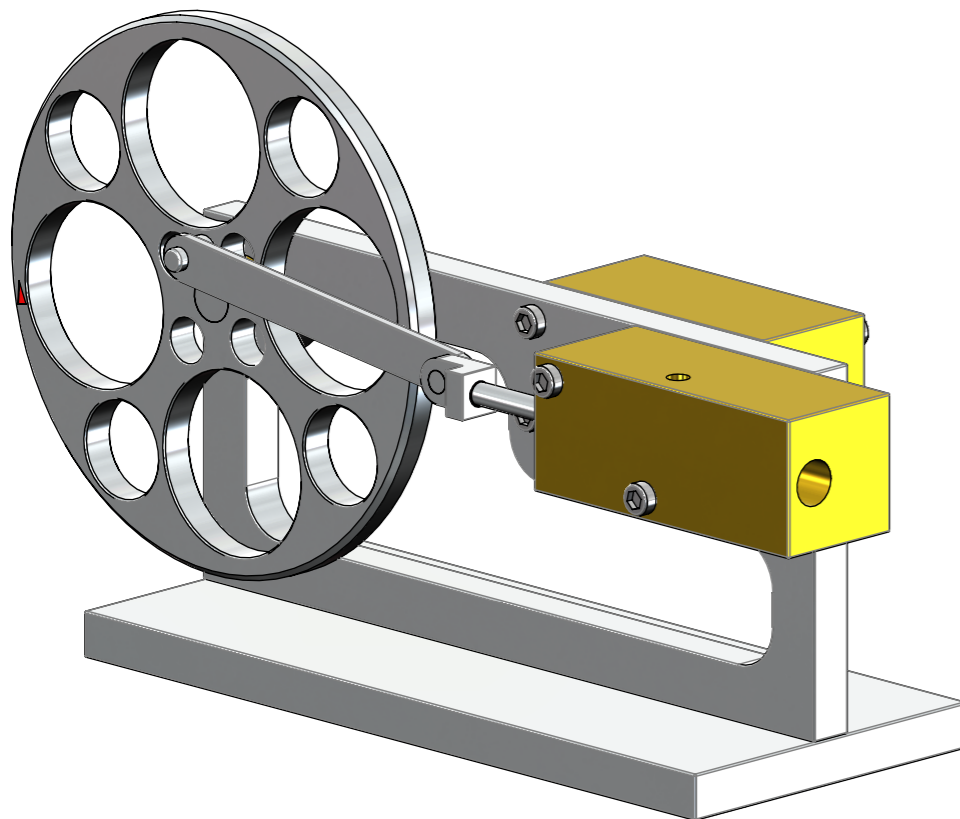
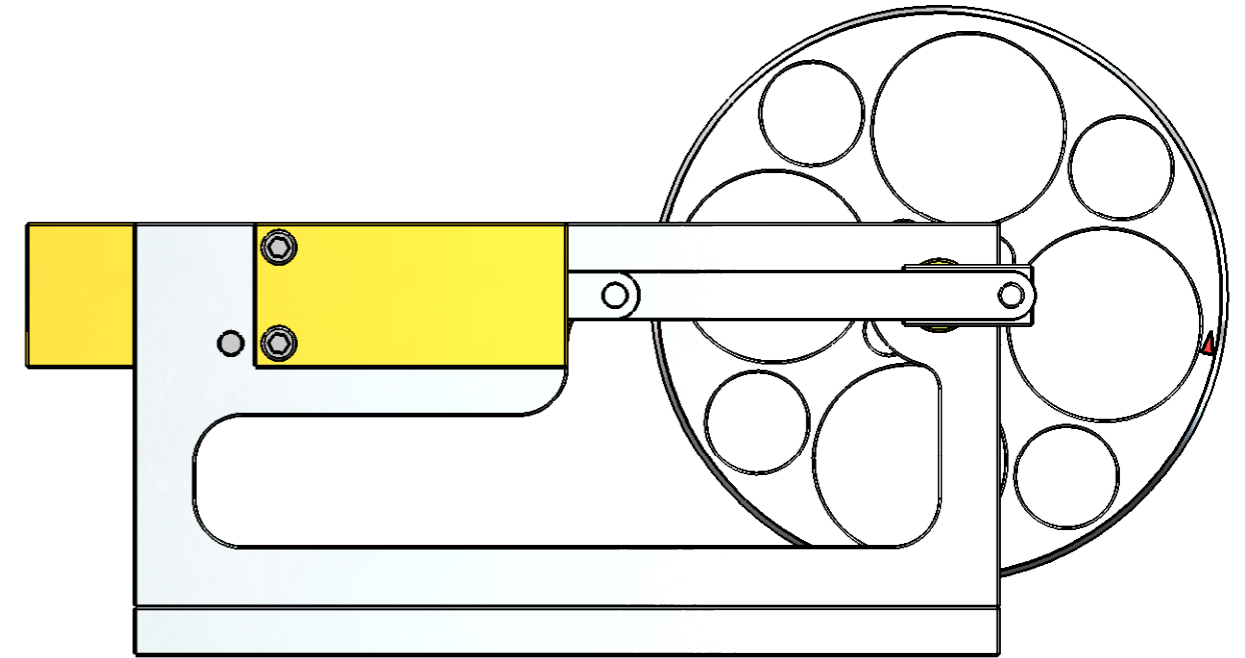
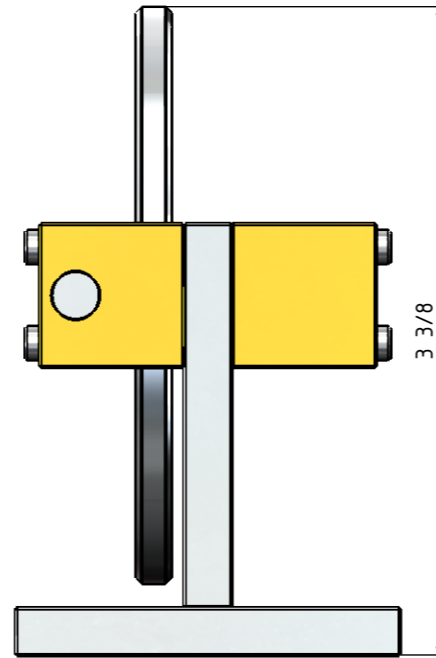
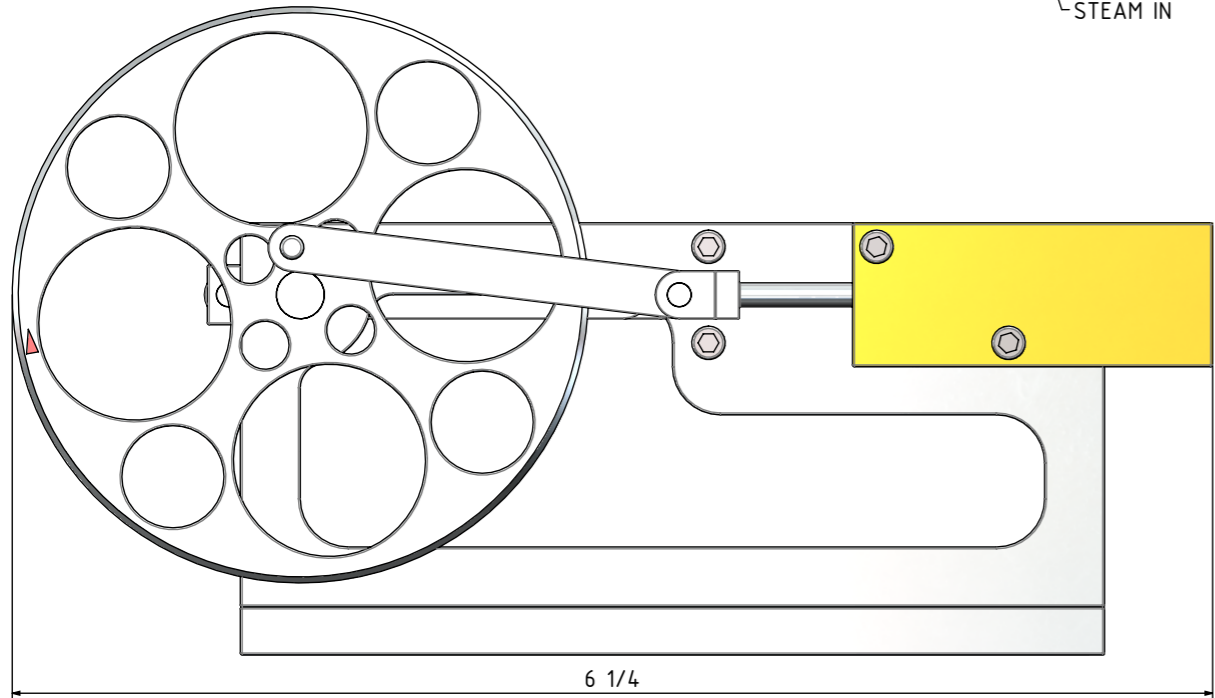
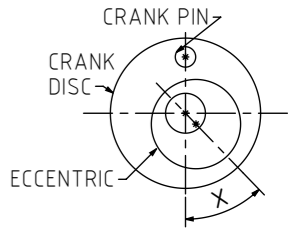


DUE TO THE LACK OF INFORMATION ON THE ORIGINAL DRAWING(S), SUCH AS VIEWS, DIMENSIONS, SECTIONS ETC AND/OR CLARITY OF COMPONENTS, OMITTED PARTS/COMPONENTS, SOME OF THE COMPONENTS MIGHT NOT BE AS CONSTRUCTED ORIGINALLY OR AS THE ORIGINAL DESIGNER INTENDED

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



GENERAL NOTES:

0. ALL DRAWINGS ARE IN IMPERIAL 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 EITHER UNC OR UNF
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. REMOVE ALL SHARP EDGES
- XX. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED.

OTHER ABBREVIATIONS

- AS = AS SHOWN
- 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
- OD = OUTSIDE DIAMETER
- ID = INSIDE DIAMETER
- MAX/MIN = CRITICAL DIMENSION
- [SA-xxx]= SUB ASSEMBLY-xxx

MATERIAL ABBREVIATIONS:

- ALU = ALUMINIUM
- HALU= HARD ALUMINIUM
- BRS = BRASS
- BRZ = BRONZE OR GUNMETAL (BRZ/GM)
- CI = CAST IRON
- CU = COPPER
- GRA = GRAPHITE
- MS = MILD STEEL/BRIGHT MILD STEEL
- SS = SILVER STEEL OR STAINLESS STEEL
- SPS = SPRING STEEL
- PEEK= POLYETHER ETHER KETONE
- SYN = SYNTHETIC MATERIAL SUCH AS VETON, NYLON, TEFLON OR RUBBER
- IN GENERAL SYNTHETIC MATERIALS SHOULD BE ABLE TO WITHSTAND THE HEAT AND PRESSURE(S) APPLIED TO THEM.

nnn/nnn MEANS THAT EITHER MATERIAL CAN BE USED

QTY.	PART NUMBER
1	09B-45-00-1-01-BASE PLATE
1	09B-45-00-2-01-CRANK SHAFT+FLYWHEEL
1	09B-45-00-2-02-PISTON+CROSSHEAD
1	09B-45-00-2-03-CON-ROD
1	09B-45-00-2-04-SPOOL VALVE
1	09B-45-00-2-05-ECCENTRIC ROD
1	09B-45-00-#4-40x0.0938 A-K GRUB SCREW
2	09B-45-00-#4-40x0.4688 A-K CYL HEAD SCREW
2	09B-45-00-#4-40x0.500 A-K C-SINK SCREW
4	09B-45-00-#4-40x1.00 A-K CYL HEAD SCREW

NOTES: FOUND ORIGINAL DRAWINGS ON THE INTERNET. NO AUTHOR, DATE, TITLE OR BORDER. THE ENGINE SHOWN THESE DRAWINGS HAVE BEEN SLIGHTLY ALTERED. PLEASE NOTE THE IMPERIAL DIMENSIONING

TITLE
A SUPER SIMPLE HORIZONTAL STEAM ENGINE FOR BEGINNER (B=0.5" S=0.75")

DRAWING CONTENTS
GENERAL ARRANGEMENT, ISOMETRIC VIEW, NOTES, BILL OF MATERIALS

PROJECT No 09B-45-00
JDW DRAUGHTING SERVICES
J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPA KURA
2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION
DATE: DECEMBER 2024
SHEET: 01 OF 02
JDWDS
MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
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A3 No:09B-45-00-SHT-01

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