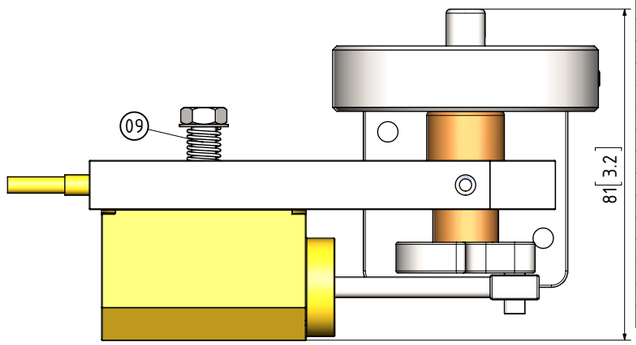
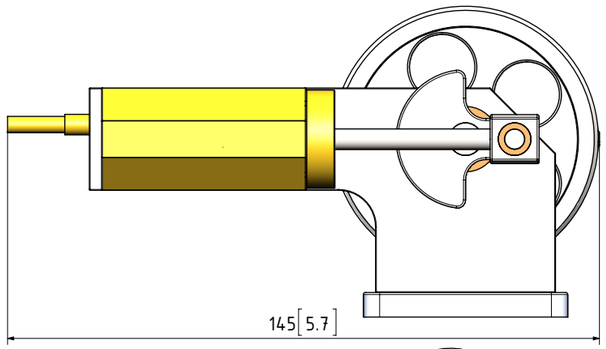
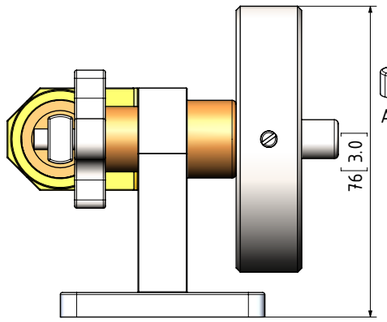
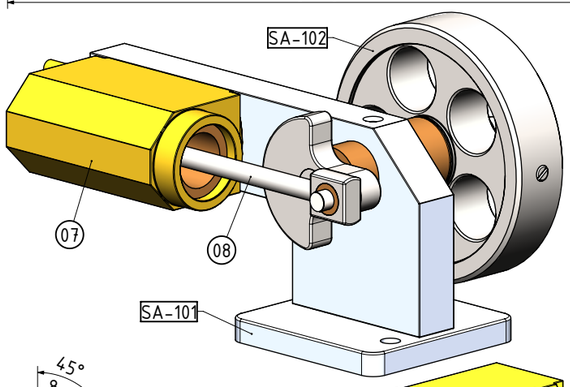
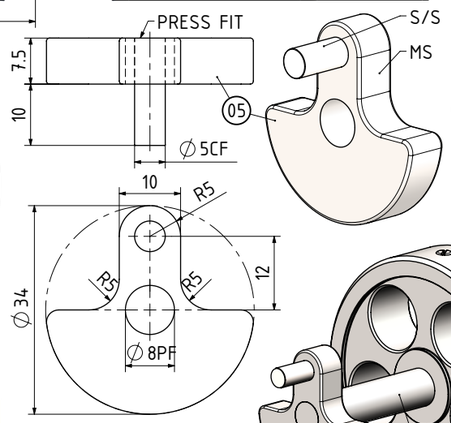
QTY.	PART NUMBER
1	EVG-P25-01-BASE PLATE
1	EVG-P25-02-MAIN FRAME
1	EVG-P25-03-MAIN BEARING
1	EVG-P25-04-CRANK SHAFT
1	EVG-P25-05-CRAK PLATE
1	EVG-P25-06-FLYWHEEL
1	EVG-P25-07-CYLINDER
1	EVG-P25-08-0PISTON
1	EVG-P25-09-PIVOT SPRING
1	EVG-P25-10-STEAM SUPPLY PIPE
2	EVG-P25-M4x16 C-SINK SCREW
1	EVG-P25-M4x28 GRUB SREW
1	EVG-P25-M6 NUT
1	EVG-P25-M6 WASHER

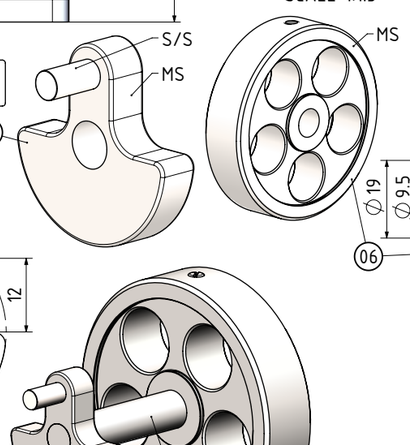


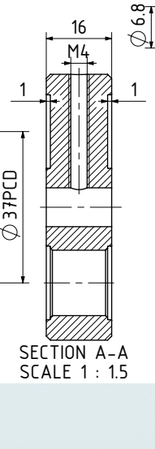


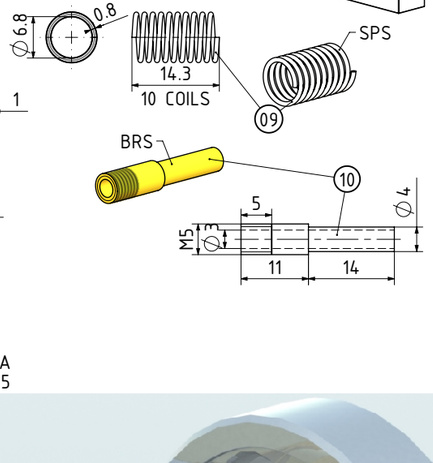


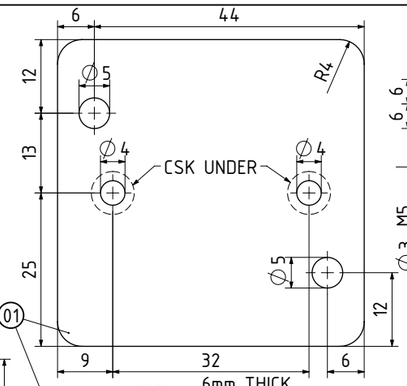


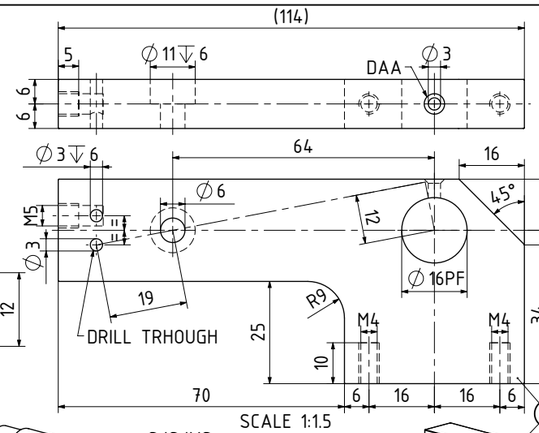


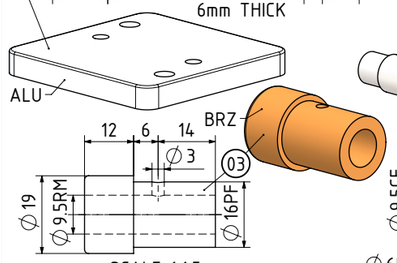


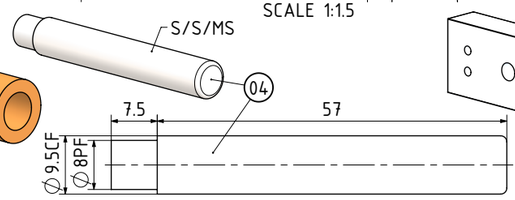


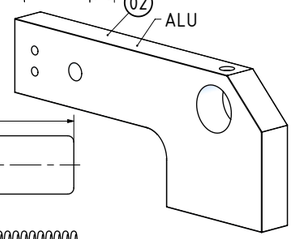


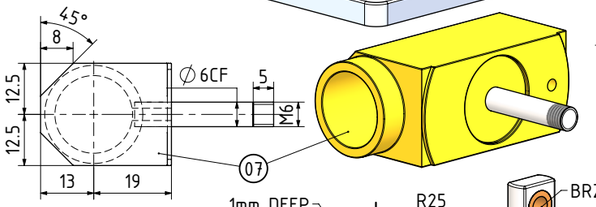


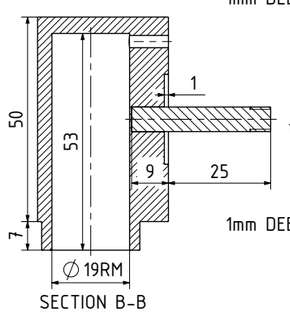


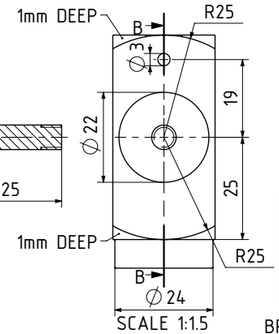


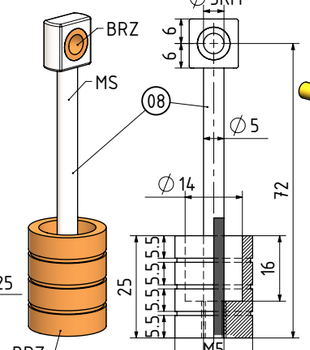


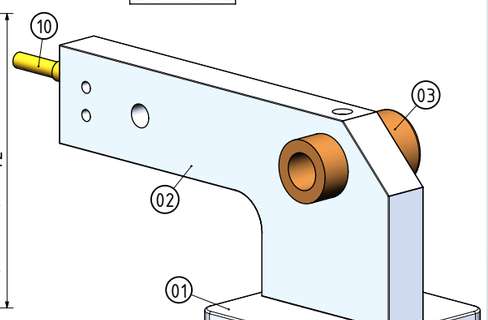


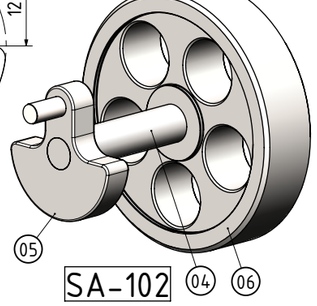


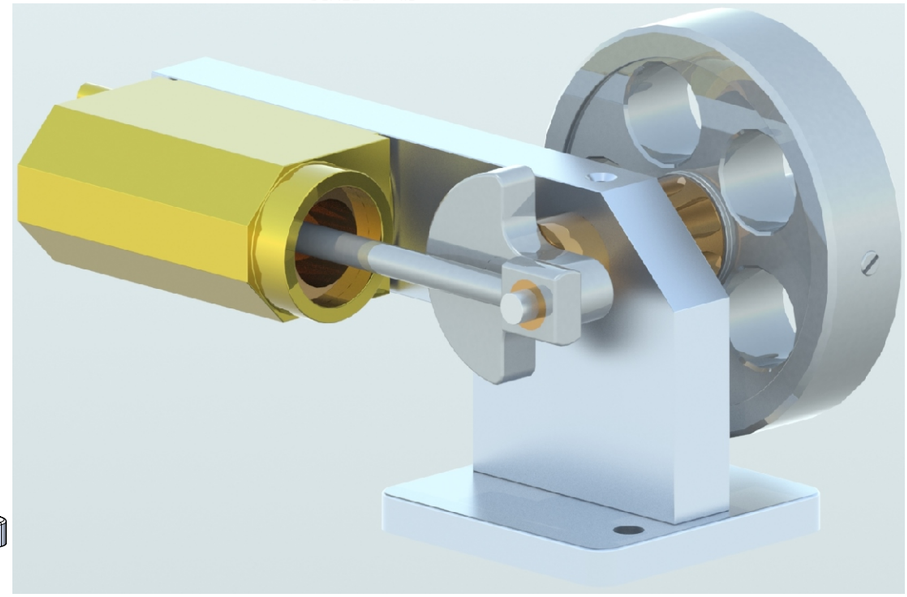












NOTES:
0. ALL DRAWINGS ARE IN METRIC MEASUREMENTS
1. ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
2. WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
3. PREFERABLY ALL TAPPED HOLES AND MATCHING 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. N/A
6. ALL CONNECTIONS/JOINTS WHICH HAVE STEAM PRESSURE APPLIED TO IT SHALL BE SILVER/HARD SOLDERED.
7. COMPRESSION SPRINGS ARE DRAWN IN COMPRESSED STATE (CP), UNCOMPRESSED STATE IS APPROX 40% TO 60% LONGER THEN COMPRESSED STATE.
8. 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.
9. 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.
10. THE ORDER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED AND THE MODEL IS ASSEMBLED IS ENTIRELY LEFT TO THE BUILDER/MODEL MAKER.
11. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED.
12. A COLOUR SCHEME FOR THIS PROJECT IS ENTIRELY LEFT UP TO THE MODEL MAKER.
13. THE MANNER IN WHICH THE PARST/COMPONENTS ARE MANUFACTURED IS ENTIRELY LEFT UP TO THE BUILDER.

MATERIAL ABBREVIATIONS:
ALU = ALUMINIUM OR DURAL(MIN)
BRS = BRASS
BRZ = BRONZE OR GUNMETAL (BRZ/GM)
CI = CAST IRON
CU = COPPER
GRA = GRAPHITE
MS = MILD STEEL/BRIGHT MILD STEEL
S/S = 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 SOULD BE ABLE TO WITHSTAND THE HEAT AND PRESSURE(S) APPLIED TO THEM.
nnn/nnn MEANS THAT EITHER MATERIAL CAN BE USED

OTHER ABBREVIATIONS
DP = DEEP
PF = PRESS FIT
PCD = PITCH CIRCLE DIAMETER
RM = REAM
HEX = HEXACON, 6SIDED
CP = COMPRESSED
KNL = KNURLED
CSK = COUNTERSINK
PL = PLACES
CF = CLOSE FIT (SIZE FOR SIZE)
TAA = TAP AFTER ASSEMBLY
DAA = DRILL AFTER ASSEMBLY
PFAA= PRESSFIT AFTER ASSEMBLY
LCT = USE LOCTITE
LPF = LIGHT PRESS FIT
SA-xxx = SUB ASSEMBLY-xxx

NOTES: THE ORIGINAL DRAWINGS AND ARTICLE OF THIS ENGINE WERE BY ELMER VERBURG AND PUBLISHED IN A BOOK AS CHAPTER 25. THE ORIGINAL DRAWINGS WERE POSTED ON: WWW.JOHN-TOM.COM (THIS ENGINE IS 2 TIMES LARGER THAN THE ORIGINAL)

TITLE
1 CYLINDER HORIZONTAL OSCILLATING STEAM ENGINE (WOBBLER)

DRAWING CONTENTS
G.A., ISOMETRIC VIEW, BOM, NOTES, PARTS AND ASSEMBLIES

PROJECT No 10-25-00
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E-MAIL: dewaal@xtra.co.nz.

PROJECTION JDWDS
DATE FEBRUARY-2016
SHEET: 00 OF 01
MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
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A3 No: EVG-P25-01