

MATERIAL ABBREVIATIONS:

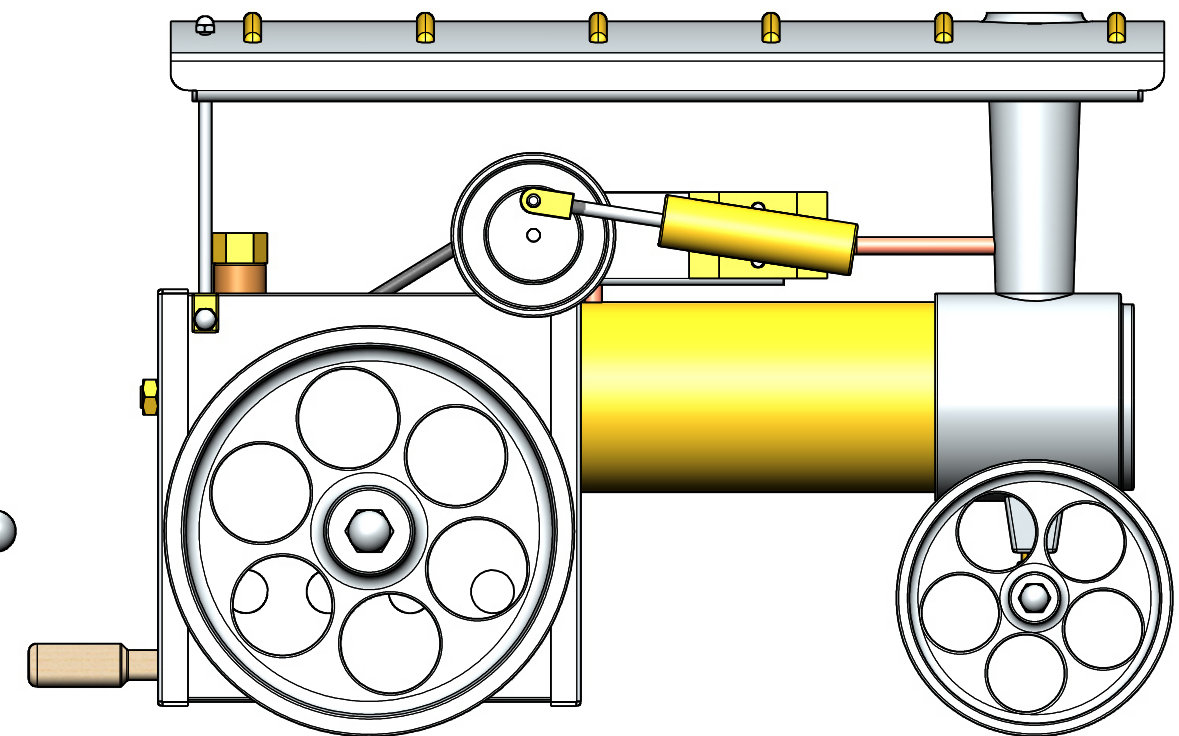
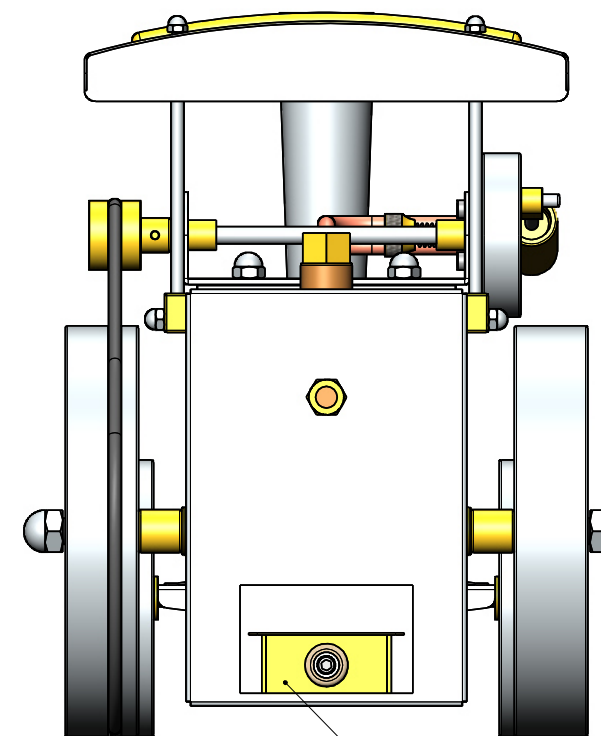
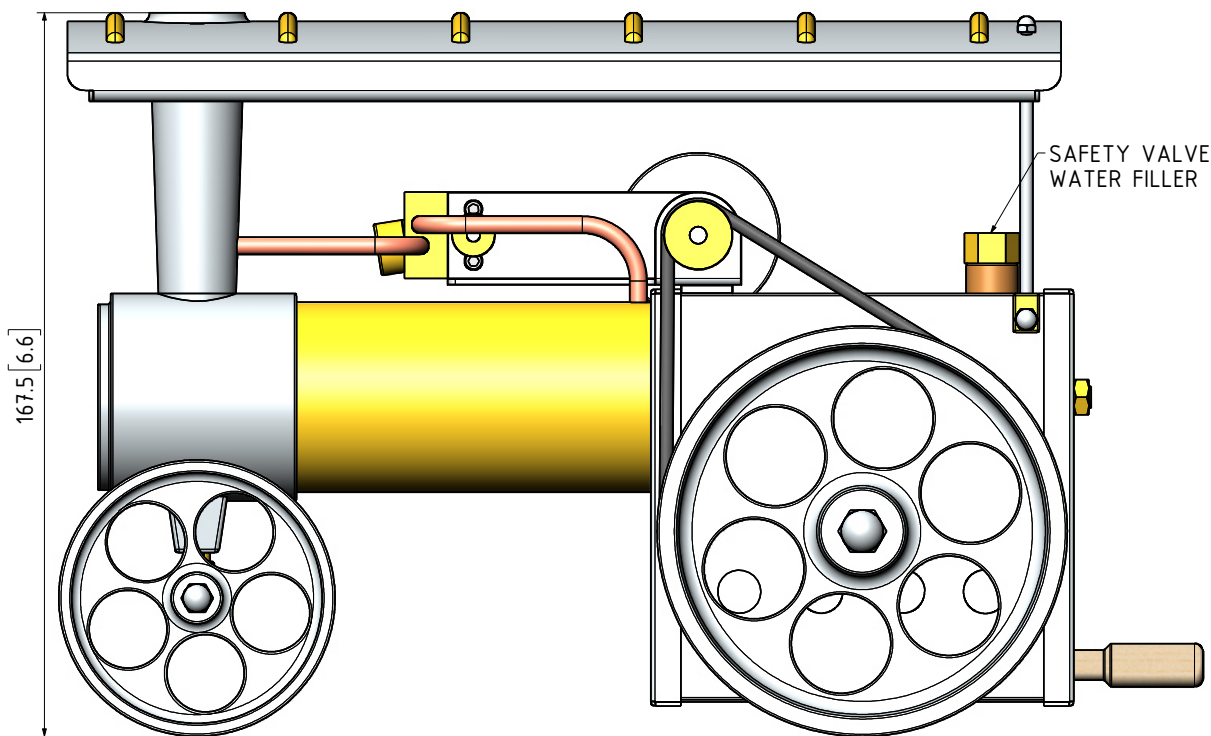
ALU = ALUMINIUM
 HALU= HARD ALUMINIUM
 BRS = BRASS
 BRZ = BRONZE OR GUNMETAL (BRZ/GM)
 CI = CAST IRON
 CU = COPPER
 GRA = GRAPHITE
 MS = MILD STEEL/BRIGHT MILD STEEL
 SS = SILVER STEEL OR STAINLESS STEEL
 SPS = SPRING STEEL
 PEEK= POLYETHER ETHER KETONE
 SYN = SYNTHETIC MATERIAL SUCH AS VETON, NYLON, 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

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

QTY.	PART NUMBER
1	08-17-00-1-01-BOILER SHELL+CASING
1	08-17-00-1-02-SAFETY VALVE
1	08-17-00-1-03-SMOKE BOX
1	08-17-00-1-04-FIREBOX
1	08-17-00-1-05-FUEL TANK
1	08-17-00-1-06-ENGINE FRAME
1	08-17-00-1-07-CANOPY
1	08-17-00-1-08-EXHAUST PIPE
1	08-17-00-1-09-INLET PIPE
1	08-17-00-2-01-FRONT AXLE FABRICATION
1	08-17-00-2-02-FRONT WHEELS
1	08-17-00-2-03-REAR WHEELS
1	08-17-00-2-04-FLYWHEEL+CRANK
1	08-17-00-2-05-CYLINDER
1	08-17-00-2-06-PISTON
1	08-17-00-2-07-DRIVE BELT
3	08-17-00-M2.5 DOME NUT
2	08-17-00-M3 DOME NUT
2	08-17-00-M3 NUT-BRASS
2	08-17-00-M3x7 A-K CYL HEAD SCREW
2	08-17-00-M3x9 A-K CYL HEAD SCREW
4	08-17-00-M4 DOME NUT
2	08-17-00-M4x8 A-K CYL HEAD SCREW
1	08-17-00-M5 NUT-BRASS
1	08-17-00-M5x48 A-K C-SINK SCREW
2	08-17-00-M6 DOME NUT
1	08-17-00-M3 WASHER
1	08-17-00-M3x34 A-K CYL HEAD SCREW



STANDARD NOTES:

- ALL DRAWINGS ARE IN METRIC MEASUREMENTS
- ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
- WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
- PREFERABLY ALL TAPPED HOLES AND MATCHING SCREWS AND/OR BOLTS TO BE METRIC FINE (MF)
- MATERIALS SPECIFIED ON THE DRAWINGS ARE INDICATIVE ONLY. THE BUILDER CAN MAKE HIS/HER OWN MATERIAL CHOICE.
- ALL CONNECTIONS/JOINTS WHICH HAVE STEAM PRESSURE APPLIED TO IT SHALL BE SILVER/HARD SOLDERED.
- COMPRESSION SPRINGS ARE DRAWN IN COMPRESSED STATE (CP), UNCOMPRESSED STATE IS APPROX 40% TO 60% LONGER THEN COMPRESSED STATE.
- 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.
- 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.
- THE ORDER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED AND THE MODEL IS ASSEMBLED IS ENTIRELY LEFT TO THE BUILDER/MODEL MAKER.
- A COLOUR SCHEME FOR THIS PROJECT IS ENTIRELY LEFT UP TO THE MODEL MAKER.
- THE MANNER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED IS ENTIRELY LEFT UP TO THE BUILDER.
- USE LOCTITE, ON SCREW OR PRESS FIT CONNECTIONS OR SURFACES, WERE DEEMED NECESSARY TO PREVENT PARTS FROM LOOSENING.
- WASHERS AND/OR SPRING WASHERS SHALL BE USED WHERE DEEMED NECESSARY.
- 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.

IMPORTANT NOTE:

BEFORE STARTING: IT IS STRONGLY ADVISED THAT THE BOILER AS SHOWN ON THESE DRAWINGS SHOULD BE INSPECTED BY AN AUTHORISED PROFESSIONAL ENGINEER AND THE WORKING AND MAXIMUM BOILER PRESSURE TO BE CALCULATED. MAKE SURE THE BOILER FULLY COMPLIES WITH THE LOCAL RULES AND REGULATIONS OF MODEL BOILERS.
 A COMPLIANCE AND SAFETY/TEST CERTIFICATE SHOULD BE OBTAINED.

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

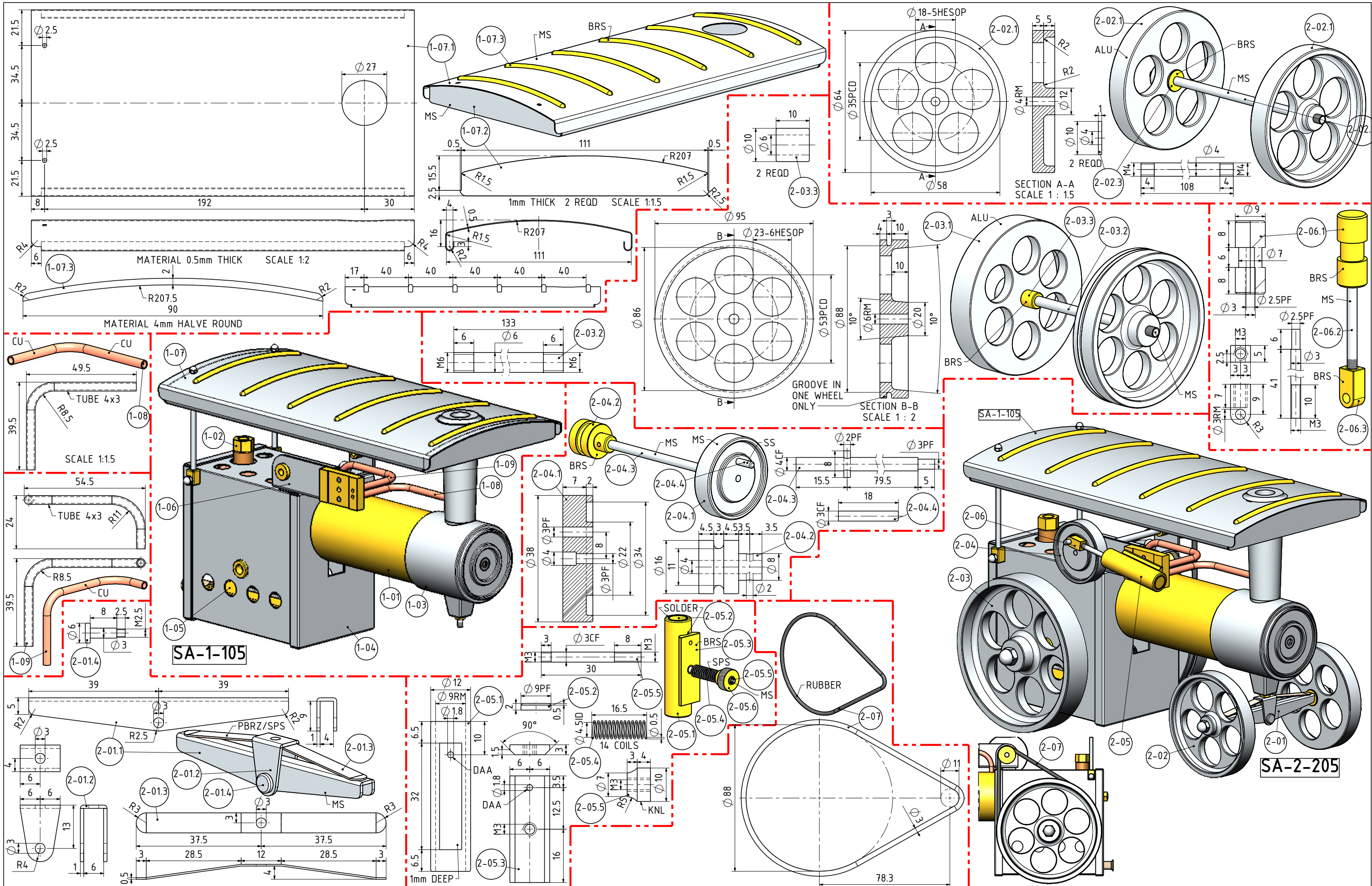
RESOURCE: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE PUBLISHED IN A BOOK/MAGAZINE WITH THE TITLE "STEP BY STEP METALWORK 3" BY KENNETH WELLS.

TITLE
A SUPER SIMPLE TRACTION ENGINE WITH OSCILLATING STEAM ENGINE FOR BEGINNER.

DRAWING CONTENTS
GENERAL ARRANGEMENT, NOTES, BILL OF MATERIALS

PROJECT No 08-17-00
 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
JDWDS MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 DATE MAY 2022 Copyright © J.A.M. DE WAAL PAPA KURA NZ
 SHEET: 01 OF 04 A3 No: 08-17-00-SHT-01



RESOURCE: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE PUBLISHED IN A BOOK/MAGAZINE WITH THE TITLE "STEP BY STEP METALWORK 3" BY KENNETH WELLS.

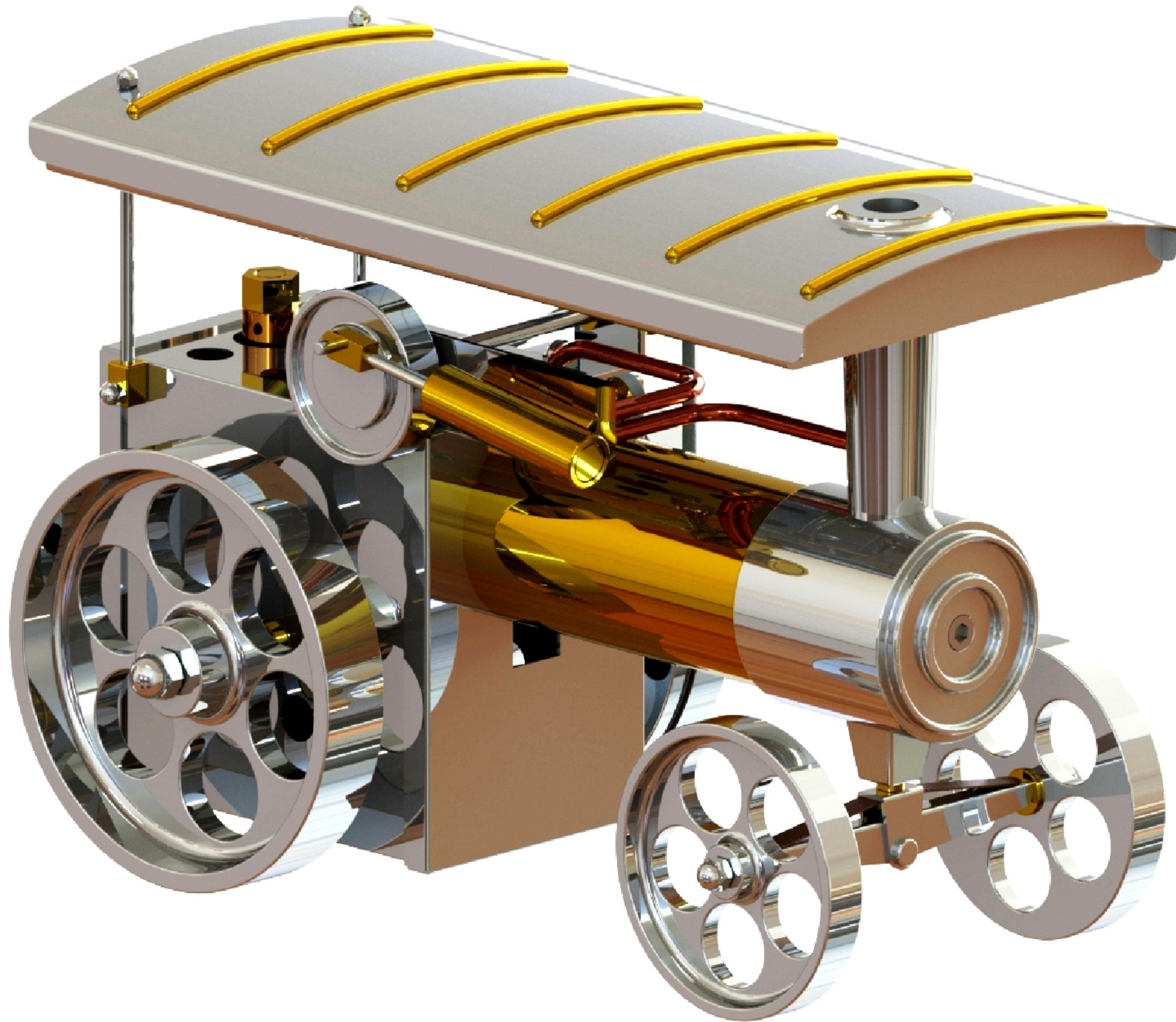
TITLE
A SUPER SIMPLE TRACTION ENGINE WITH OSCILLATING STEAM ENGINE FOR BEGINNER.

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 08-17-00
 JDW DRAUGHTING SERVICES
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PROJECTION	JDWDS	MODEL SCALE: 1:1
DATE	MAY 2022	DWG SCALE: 1:1 @A3 OR AS SHOWN
SHEET: 03 OF 04	A3	No: 08-17-00-SHT-03

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TITLE
**A SUPER SIMPLE TRACTION ENGINE WITH
 OSCILLATING STEAM ENGINE FOR BEGINNER.**

DRAWING CONTENTS
RENDERED PICTURE

PROJECT No 08-17-00

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PROJECTION

DATE

MAY 2022

SHEET: 04 OF 04

JDWDS

MODEL SCALE: 1:1

DWG SCALE: 1:1 @A3 OR AS SHOWN

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No: 08-17-00-SHT-04

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