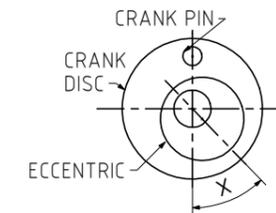


- GENERAL NOTES:
0. ALL DRAWINGS ARE IN METRIC MEASUREMENTS
 1. ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
 2. WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
 3. PREFERABLY ALL TAPPED 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. USE SEALING GASKETS WERE DEEMED NECESSARY.
 15. 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.

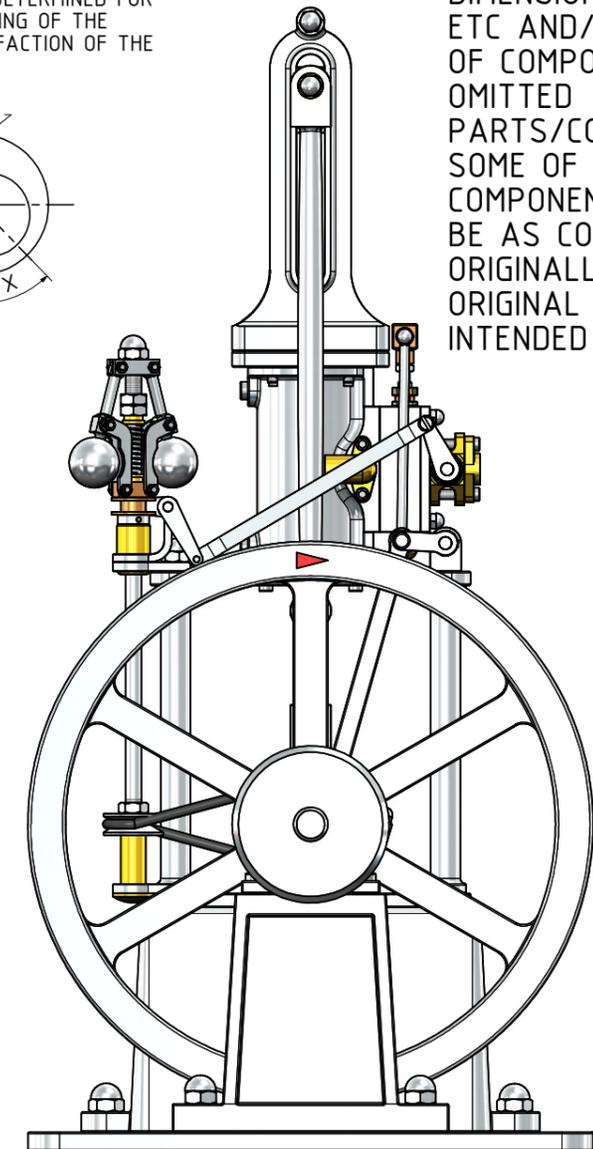
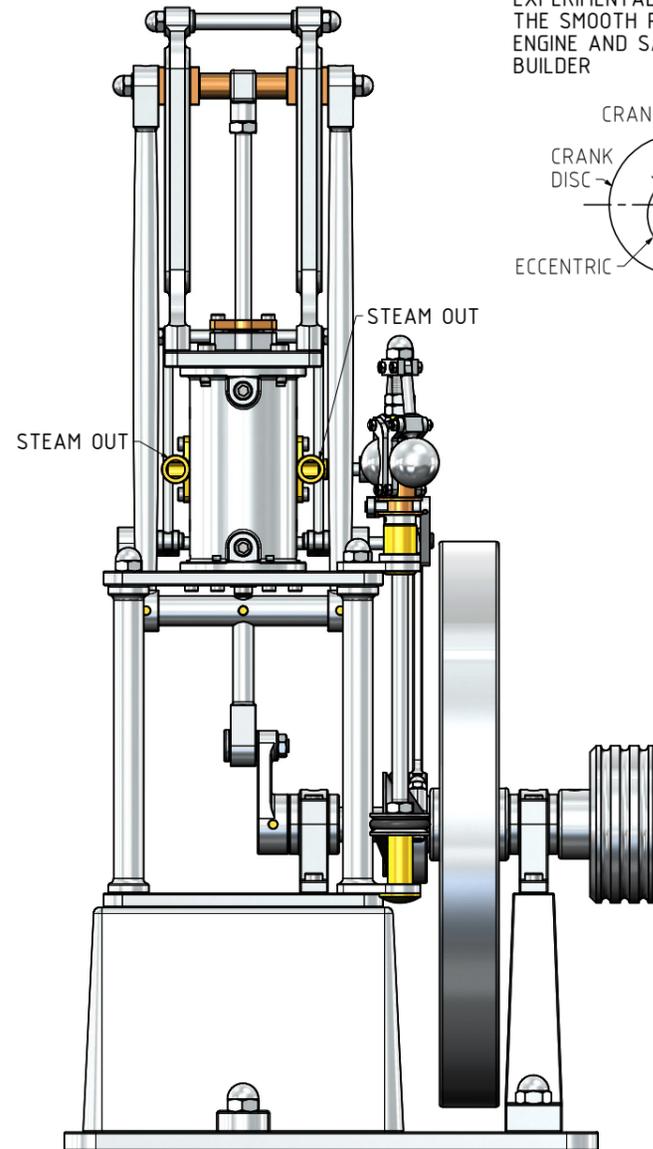
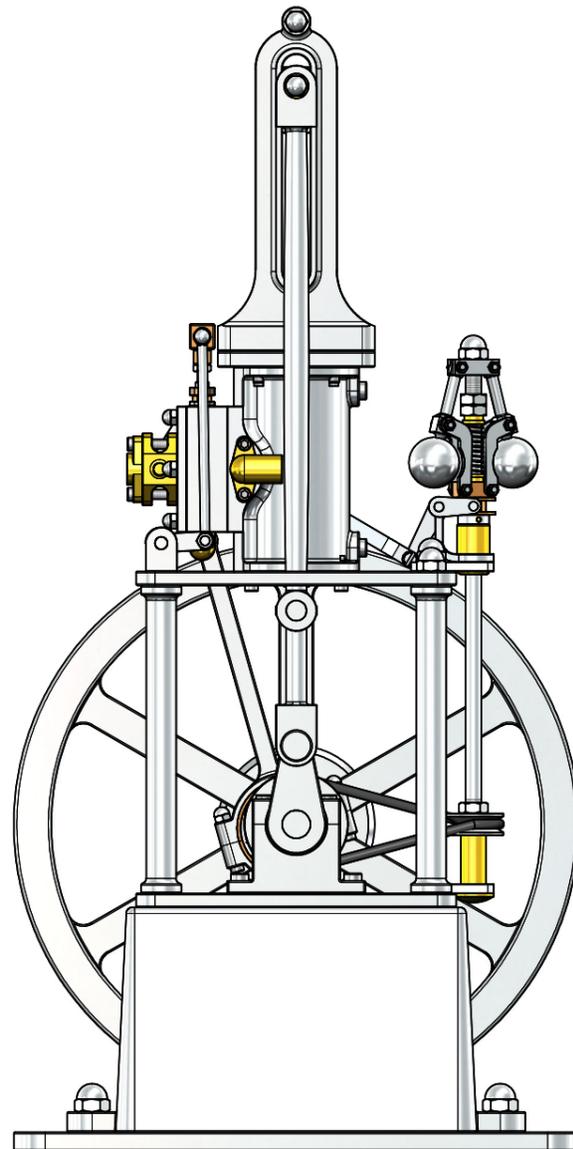
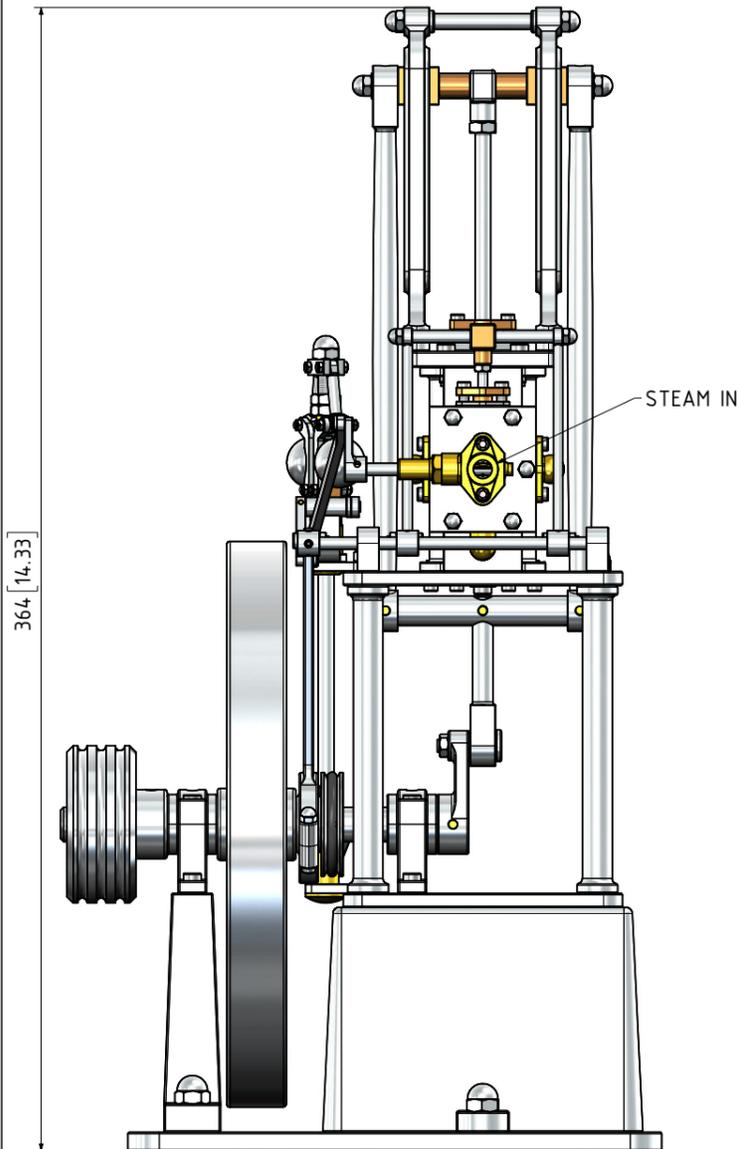
- OTHER ABBREVIATIONS
- AS = AS SHOWN
 - DP = DEEP
 - DAA= DRILL AFTER ASSEMBLY
 - D&TAA= DRILL AND TAP AFTER ASSEMBLY
 - CF = CLOSE FIT (SIZE FOR SIZE)
 - PF = PRESS FIT
 - PFAA= PRESS FIT AFTER ASSEMBLY
 - PCD = PITCH CIRCLE DIAMETER
 - RM = REAM
 - HEX = HEXAGON, 6SIDED
 - CP = COMPRESSED
 - KNL = 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
 - PBRZ= PHOSPHORE BRONZE
 - 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

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



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



NOTES: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE B STUART TURNER LTD HENLEY ON THAMES. DRG No 90086, TITLE: "THE JAMES COOMBES TABLE ENGINE" DRAWN BY R. G. PENDER? GOVERNOR DRAWING No: 90104 DRAWN BY P.R.M. DATED 15.4.81

TITLE
1 CYL. VERT. N.R. STEAM ENGINE "JAMES COOMBES TABLE ENGINE" WITH GOVERNOR

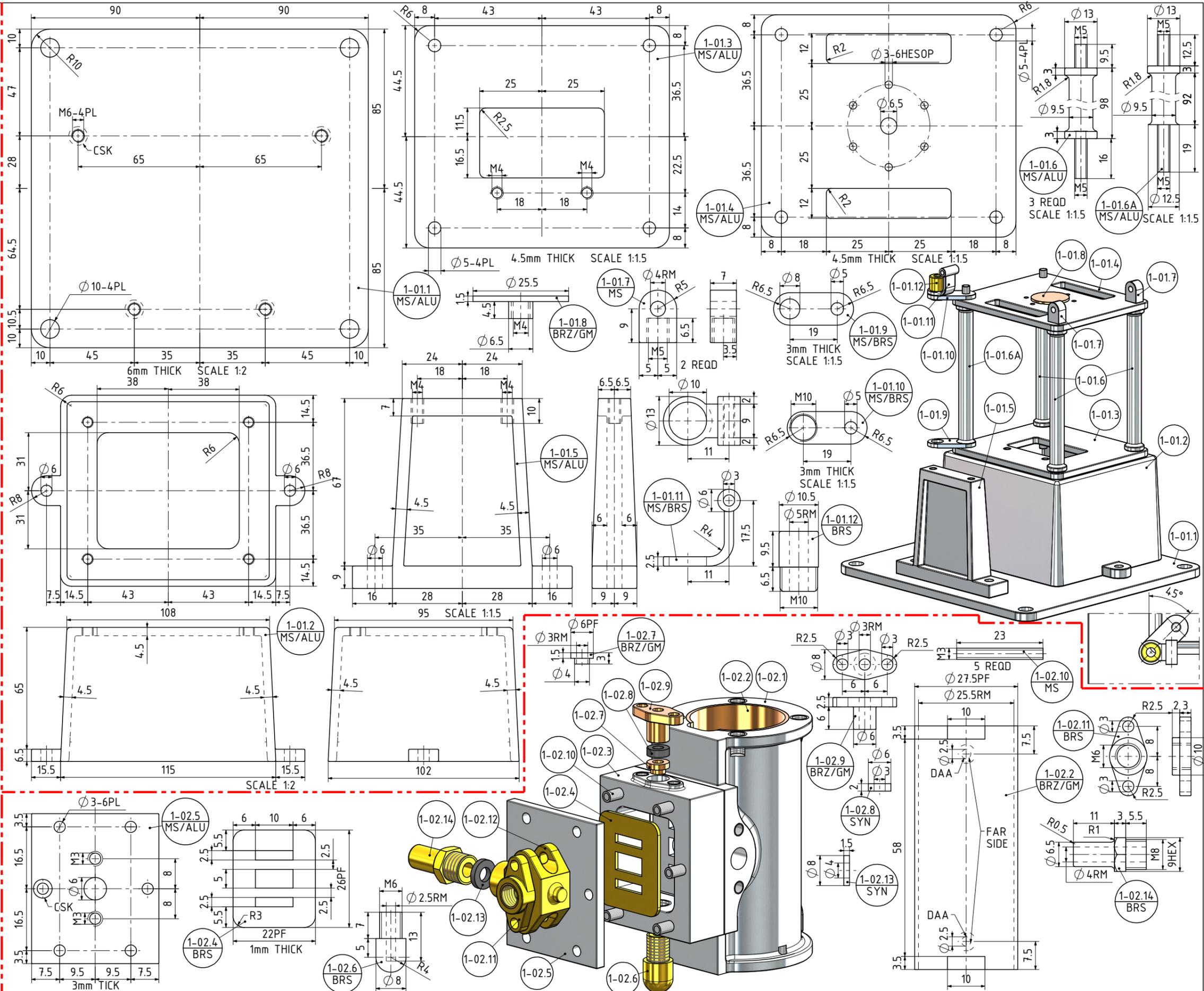
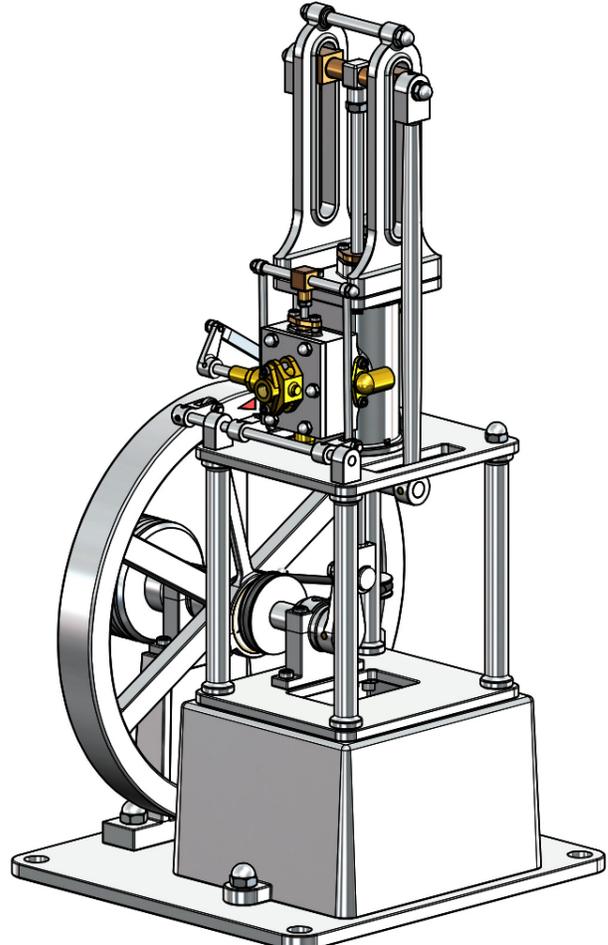
DRAWING CONTENTS
GENERAL ARRANGEMENT, NOTES

PROJECT No 09E-66-01
JDW DRAUGHTING SERVICES
J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA
2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION
DATE APRIL 2025
SHEET: 01 OF 05
JDWDS
MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
Copyright © J.A.M. DE WAAL PAPAOKURA NZ
A3 No:09E-66-01-SHT-01

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES

QTY.	PART NUMBER
1	09E-66-01-1-01-BASE STRUCTURE-FRAME
1	09E-66-01-1-02-CYLINDER
1	09E-66-01-1-03-CYLINDER TOP COVER+CROSSHEAD GUIDE
2	09E-66-01-1-04-MAIN BEARING
2	09E-66-01-1-05-EXHAUST NIPPLE
1	09E-66-01-2-01-CRANKSHAFT+FLYWHEEL
1	09E-66-01-2-02-PISTON+CROSSHEAD
1	09E-66-01-2-03-CON-ROD
1	09E-66-01-2-04-VALVE ROCKING SHAFT
1	09E-66-01-2-05-ECCENTRIC SHEAVE
1	09E-66-01-2-06-ECCENTRIC STRAP
1	09E-66-01-2-07-SLIDE VALE+CROSSHEAD
1	09E-66-01-2-08-VALVE CONNECTING RODS
1	09E-66-01-2-09-GOVERNOR MAIN SPINDLE
1	09E-66-01-2-10-GOVERNOR CONTROL SHEAVE
1	09E-66-01-2-11-GOVERNOR CONTROL ROCKING SPINDLE
1	09E-66-01-2-12-GOVERNOR CONTROL SHEAVE FINGER
4	09E-66-01-2-13-GOVERNOR FLYWEIGHT RESTRAINER
2	09E-66-01-2-14-SWING ARM+FLYWEIGHT
1	09E-66-01-2-15-STEAM CONTROL FLAP
1	09E-66-01-2-16-STEAM CONTROL CON-ROD
1	09E-66-01-2-17-DRIVING BELT
12	09E-66-01-M2 NUT
3	09E-66-01-M2.5x2 A-K GRUB SCREW
1	09E-66-01-M2.5x5 A-K GRUB SCREW
9	09E-66-01-M3 DOME NUT
4	09E-66-01-M3 NUT
8	09E-66-01-M3x10 A-K CYL HEAD SCREW
4	09E-66-01-M3x12 A-K C-SINK SCREW
4	09E-66-01-M3x18 A-K CYL HEAD SCREW
1	09E-66-01-M3x19 A-K C-SINK SCREW
6	09E-66-01-M3x8 A-K CYL HEAD SCREW
4	09E-66-01-M4 DOME NUT
3	09E-66-01-M4 NUT
3	09E-66-01-M4 WASHER
4	09E-66-01-M4x10 A-K CYL HEAD SCREW
8	09E-66-01-M4x12 A-K CYL HEAD SCREW
1	09E-66-01-M4x4.5 A-K CYL HEAD SCREW
2	09E-66-01-M4x5.5 A-K GRUB SCREW
2	09E-66-01-M4x6 A-K CYL HEAD SCREW
3	09E-66-01-M5 DOME NUT
8	09E-66-01-M5 NUT
4	09E-66-01-M6 DOME NUT
2	09E-66-01-M6x16 A-K C-SINK SCREW
2	09E-66-01-M6x20 A-K C-SINK SCREW



NOTES: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE B STUART TURNER LTD HENLEY ON THAMES. DRG No 90086, TITLE: "THE JAMES COOMBS TABLE ENGINE" DRAWN BY R. G. PENDER? GOVERNOR DRAWING No: 90104 DRAWN BY P.R.M. DATED 15.4.81

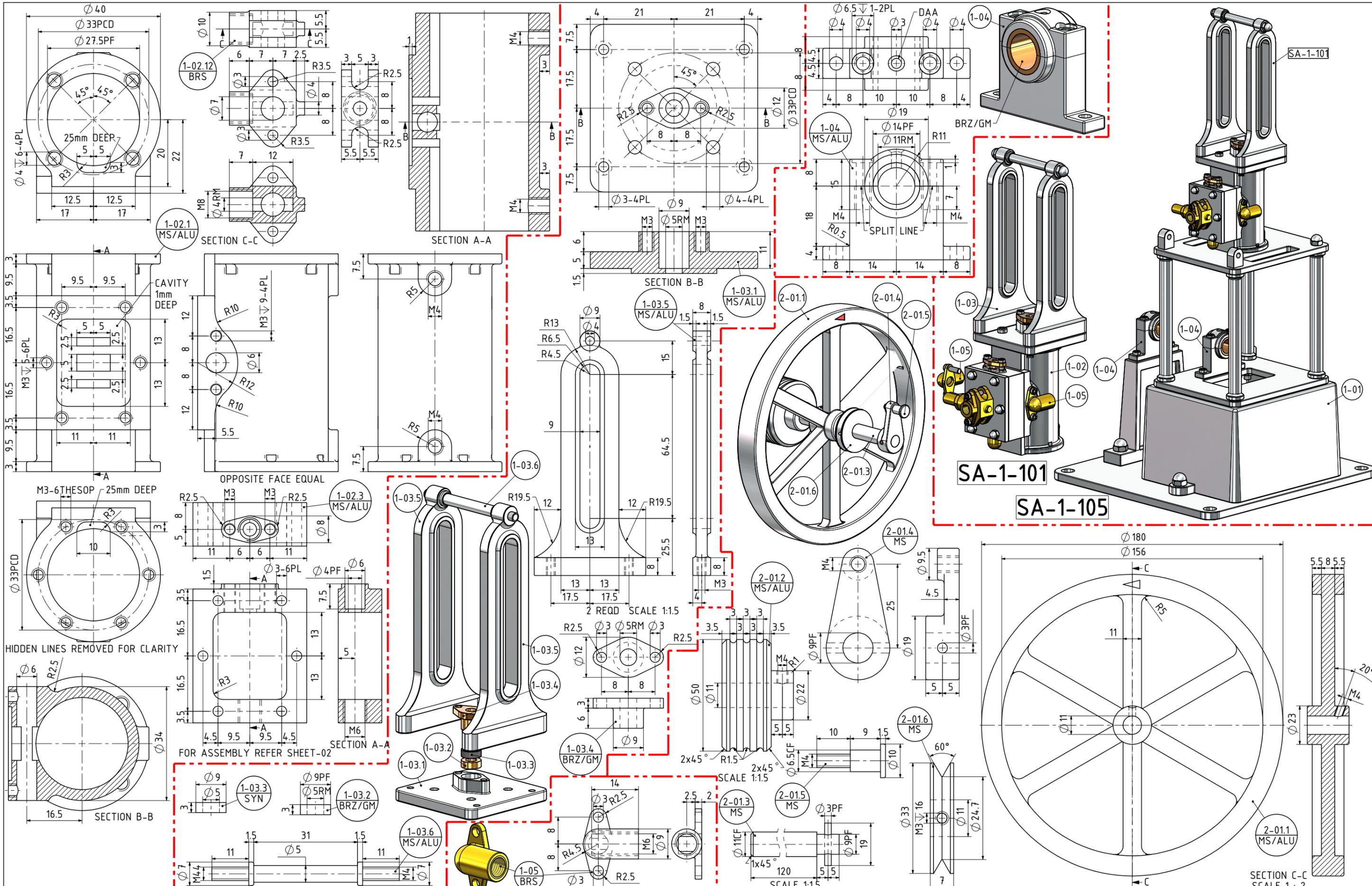
TITLE
1 CYL. VERT. N.R. STEAM ENGINE "JAMES COOMBS TABLE ENGINE" WITH GOVERNOR

DRAWING CONTENTS
ISOMETRIC VIEW, BILL OF MATERIALS PARTS AND ASSEMBLIES

PROJECT No 09E-66-01
 JDW DRAUGHTING SERVICES
 J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA
 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION
JDWDS
 DATE APRIL 2025
 SHEET: 02 OF 05
 MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 Copyright © J.A.M. DE WAAL PAPAOKURA NZ
A3 No:09E-66-01-SHT-02

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES



NOTES: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE B STUART TURNER LTD HENLEY ON THAMES. DRG No 90086, TITLE: "THE JAMES COOMBS TABLE ENGINE" DRAWN BY R. G. PENDER? GOVERNOR DRAWING No: 90104 DRAWN BY P.R.M. DATED 15.4.81

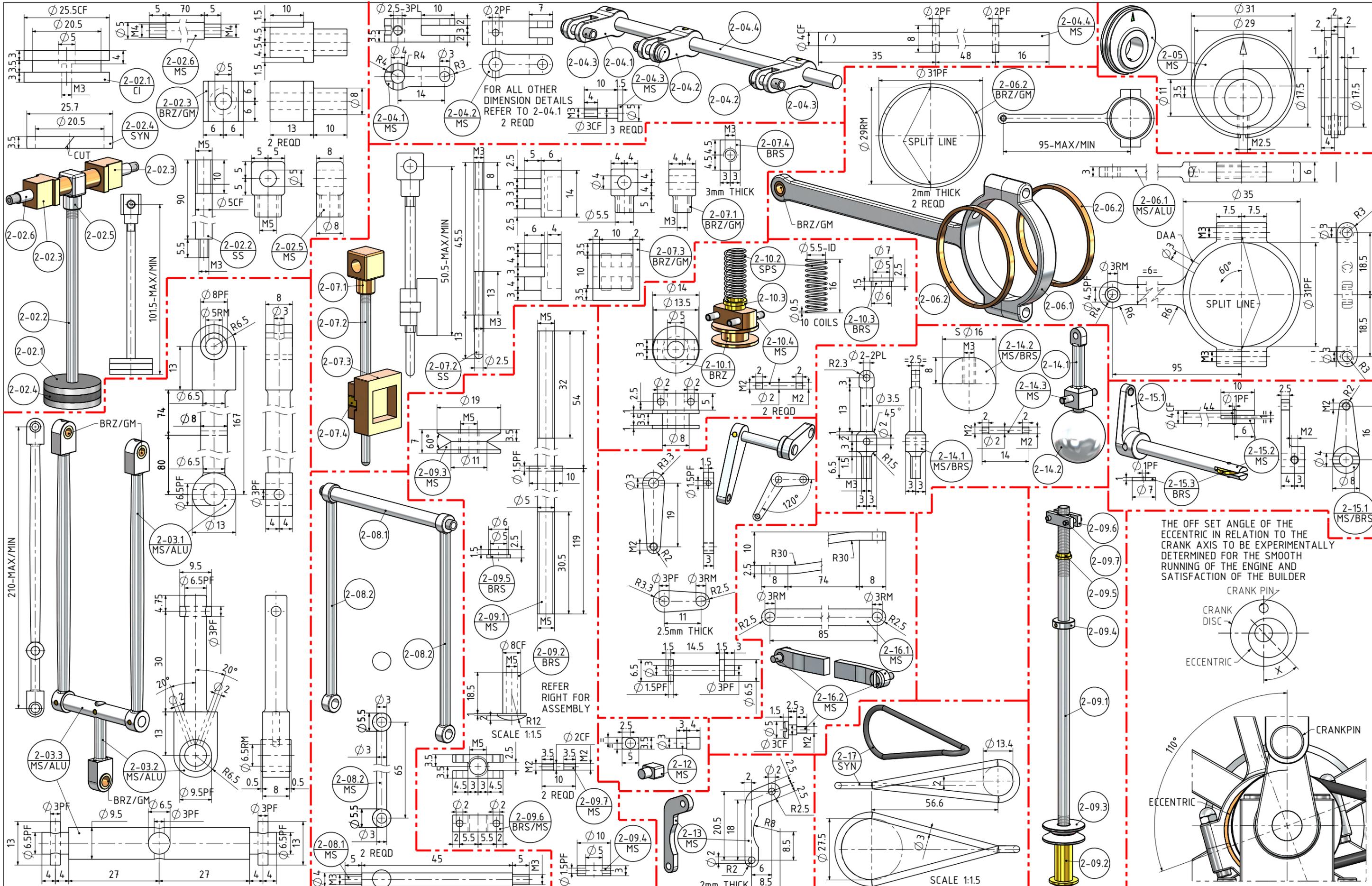
TITLE
1 CYL. VERT. N.R. STEAM ENGINE "JAMES COOMBS TABLE ENGINE" WITH GOVERNOR

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 09E-66-01
 JDW DRAUGHTING SERVICES
 J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA
 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 APRIL 2025 Copyright © J.A.M. DE WAAL PAPAOKURA NZ
 SHEET: 03 OF 05 **A3** No:09E-66-01-SHT-03

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES



NOTES: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE B STUART TURNER LTD HENLEY ON THAMES. DRG No 90086, TITLE: "THE JAMES COOMBS TABLE ENGINE" DRAWN BY R. G. PENDER? GOVERNOR DRAWING No: 90104 DRAWN BY P.R.M. DATED 15.4.81

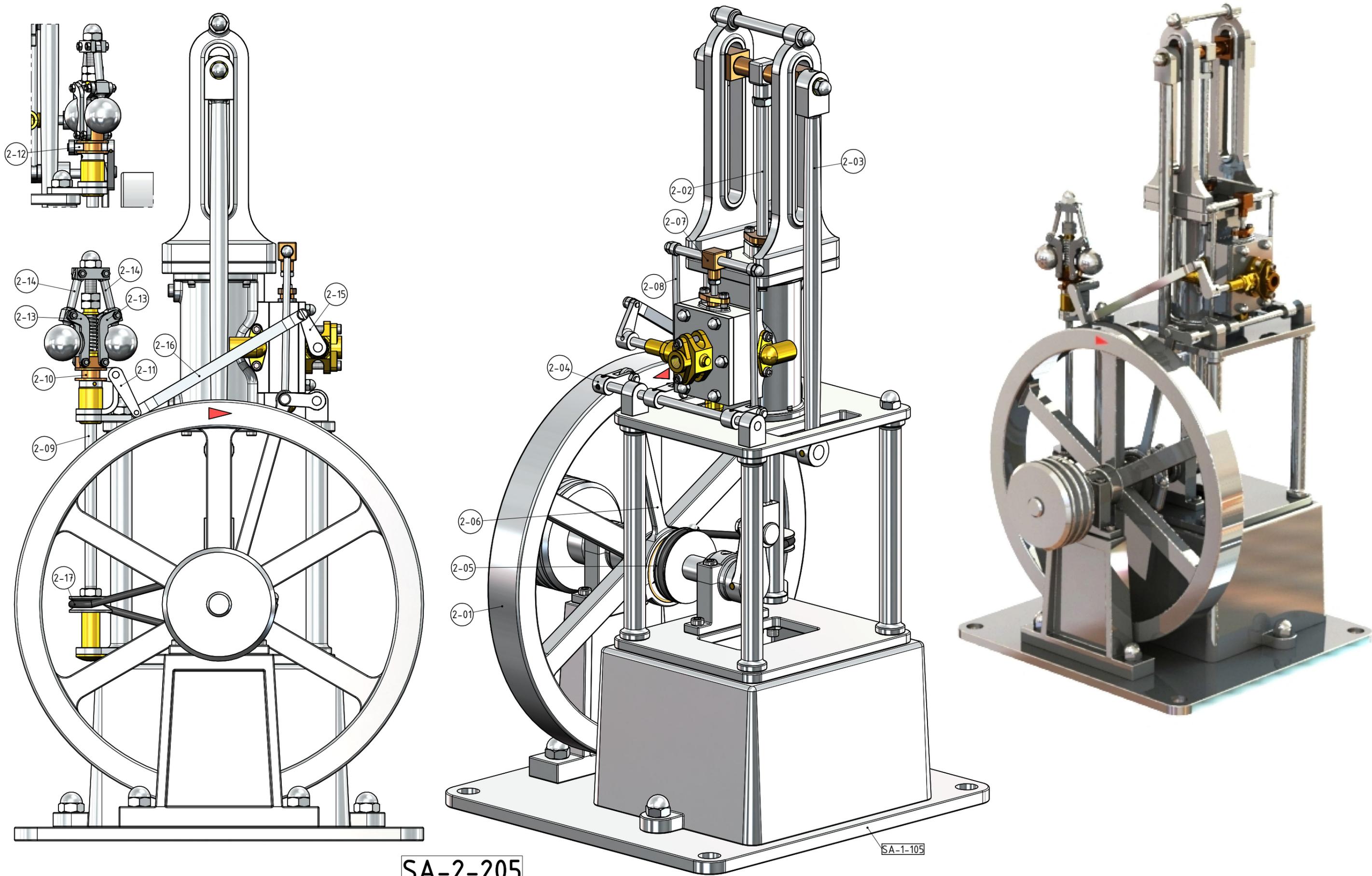
TITLE
1 CYL. VERT. N.R. STEAM ENGINE "JAMES COOMBS TABLE ENGINE" WITH GOVERNOR

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 09E-66-01
 JDW DRAUGHTING SERVICES
 J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAOKURA
 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 APRIL 2025 Copyright © J.A.M. DE WAAL PAPAOKURA NZ
 SHEET: 04 OF 05 **A3** No:09E-66-01-SHT-04

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES



SA-2-205

SA-1-105

NOTES: THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS WERE BY STUART TURNER LTD HENLEY ON THAMES. DRG No 90086, TITLE: "THE JAMES COOMBES TABLE ENGINE" DRAWN BY R. G. PENDER? GOVERNOR DRAWING No: 90104 DRAWN BY P.R.M. DATED 15.4.81

TITLE
1 CYL. VERT. N.R. STEAM ENGINE "JAMES COOMBES TABLE ENGINE" WITH GOVERNOR

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 09E-66-01
 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
JDWDS
 DATE APRIL 2025
 SHEET: 05 OF 05

MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 Copyright © J.A.M. DE WAAL PAKAPURA NZ
A3 No:09E-66-01-SHT-05

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES