

NOTES: DESIGNED BY JDW

TITLE  
**EXPERIMENTAL DUPLUX COMPOUND NON  
 REVERSING STEAM ENGINE B=  $\varnothing$  25/40 S=36**

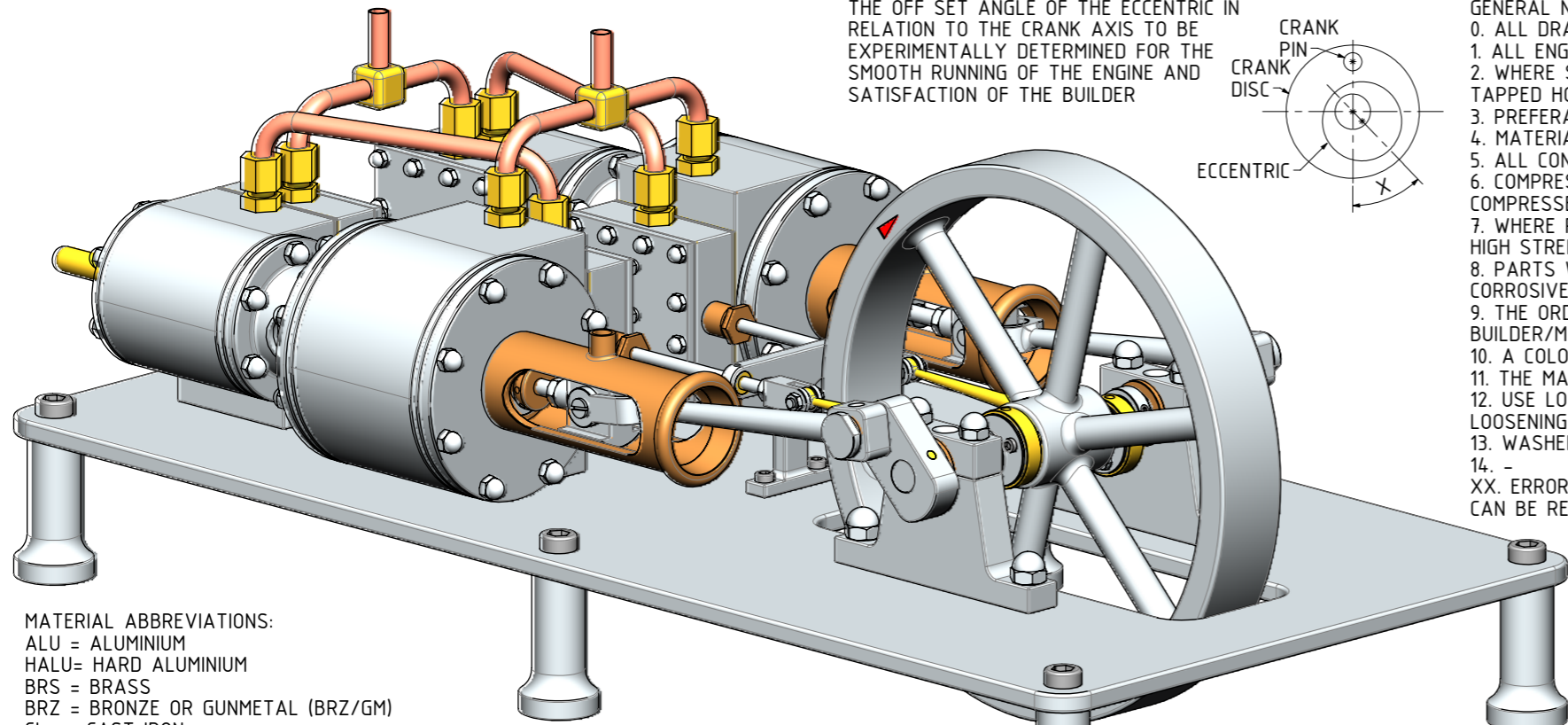
DRAWING CONTENTS  
**GENERAL ARRANGEMENT**

PROJECT No 09D-28-00  
 JDW DRAUGHTING SERVICES  
 J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAPAURA  
 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB:  
 0211791000 E-MAIL: dewaal@xtra.co.nz.

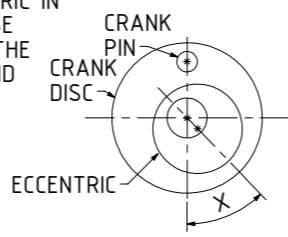
PROJECTION  
**JDWDS**  
 DATE MAY 2023  
 SHEET: 01 OF 05

MODEL SCALE: 1:1  
 DWG SCALE: NTS @A3 OR AS SHOWN  
 Copyright © J.A.M. DE WAAL PAPAURA NZ  
**A3** No:09D-28-00-SHT-01

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES



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

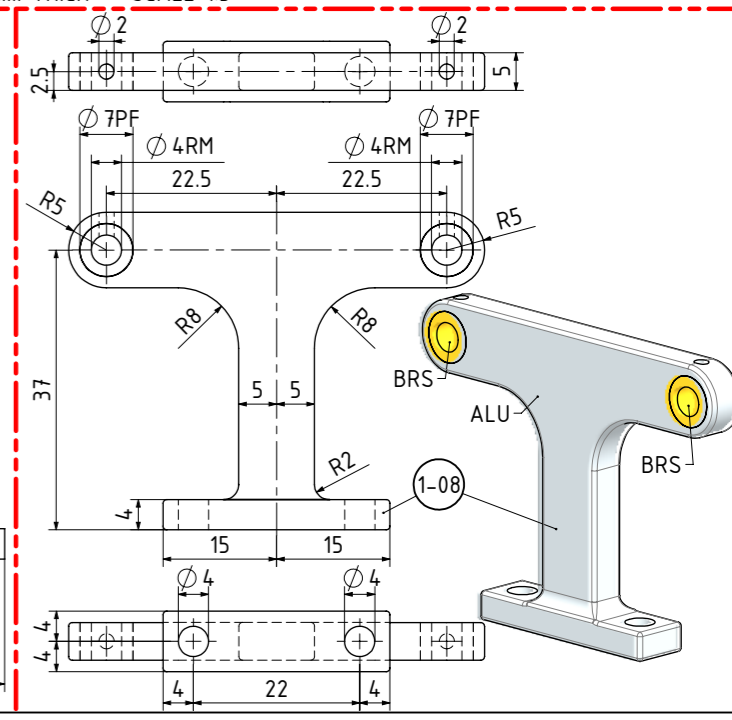
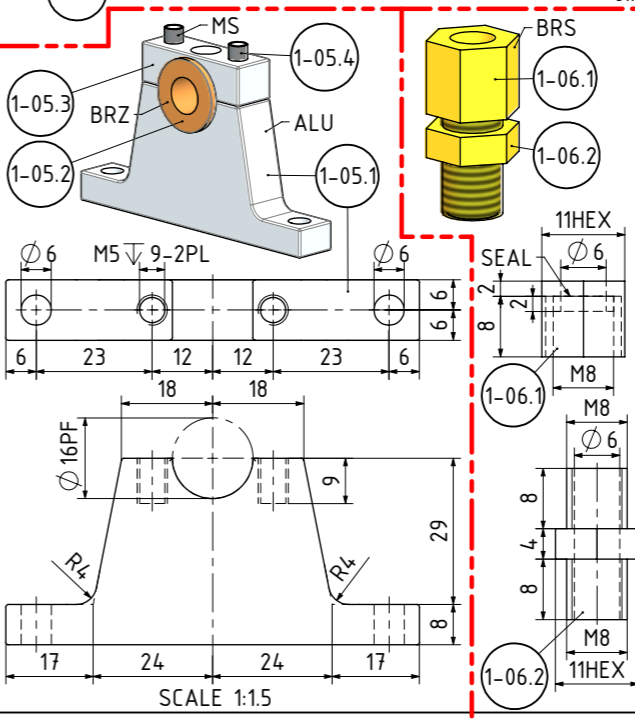
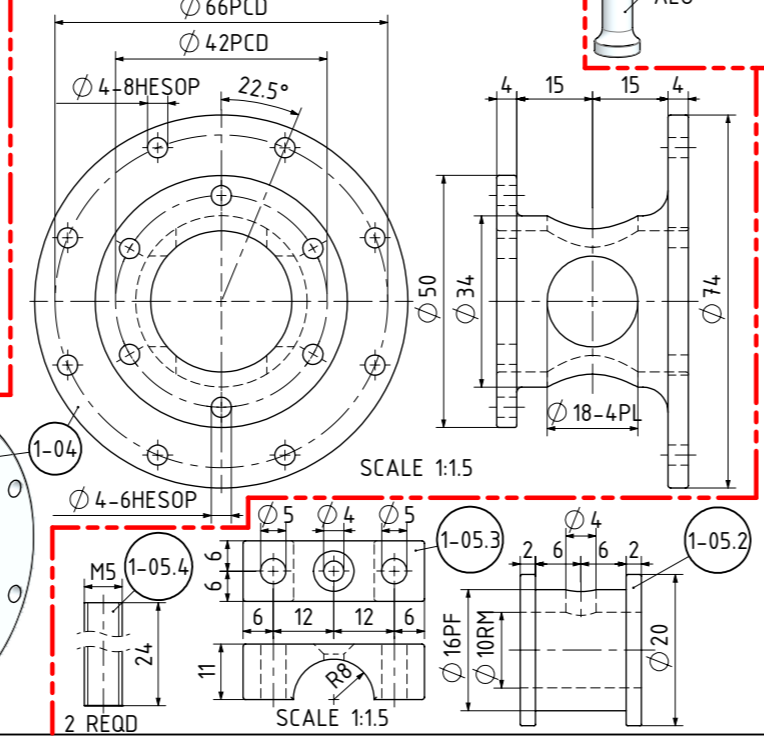
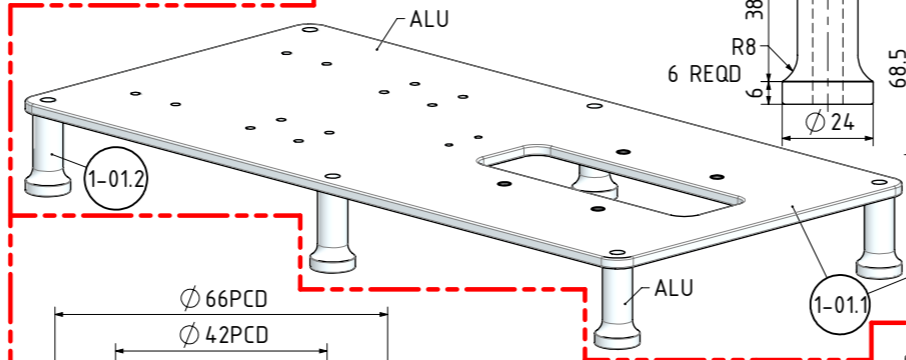
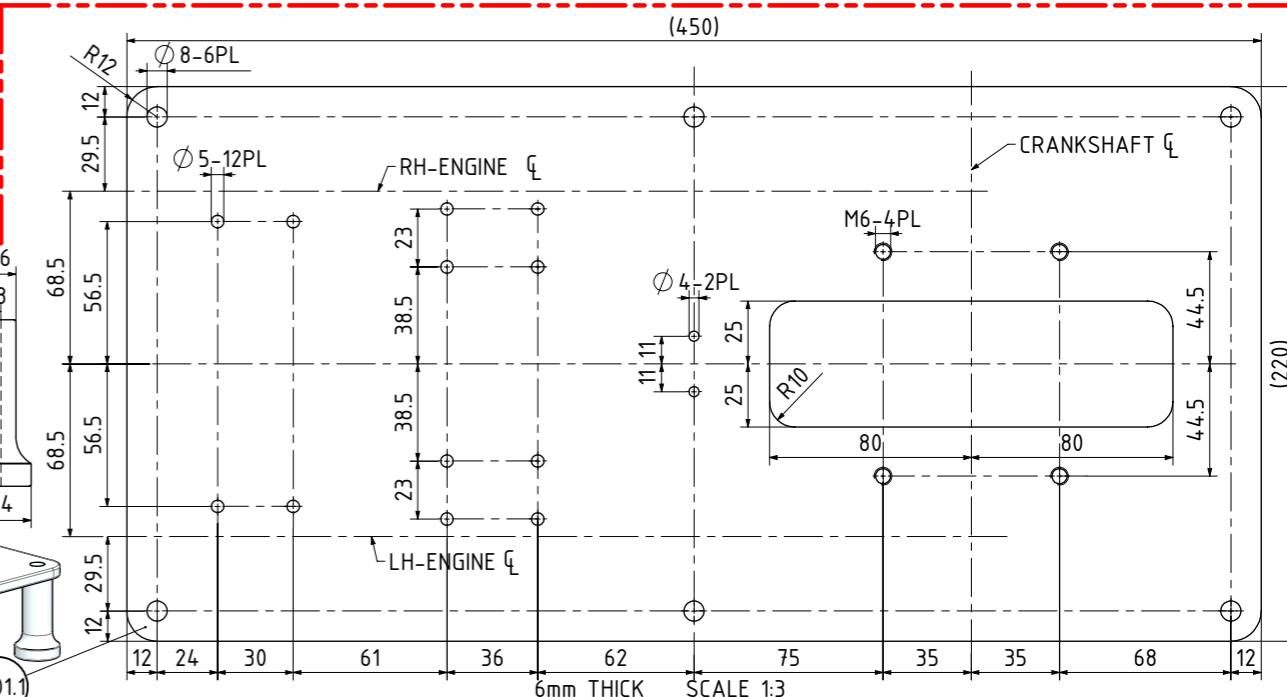


- GENERAL NOTES:
0. ALL DRAWINGS ARE IN METRIC MEASUREMENTS
  1. ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
  2. WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
  3. PREFERABLY ALL TAPPED 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. -
  - XX. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED.

- 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	09D-28-00-1-01-BASEPLATE
1	09D-28-00-1-02-HP-CYLINDER
1	09D-28-00-1-02-HP-CYLINDER
1	09D-28-00-1-03-LP-CYLINDER
1	09D-28-00-1-03-LP-CYLINDER
1	09D-28-00-1-03-LP-CYLINDER
2	09D-28-00-1-04-HP-LP JOINER
2	09D-28-00-1-05-CRANKSHAFT BEARING
8	09D-28-00-1-06-PIPE NIPPLE
2	09D-28-00-1-07-CROSSHEAD GUIDE
1	09D-28-00-1-08-SLIDE VALVE SPINDLE SUPPORT GUIDE
1	09D-28-00-1-09-FRESH STEAM INLET PIPE
2	09D-28-00-1-10-INTERMEDIATE STEAM PIPE
1	09D-28-00-1-11-EXHAUST STEAM PIPE
1	09D-28-00-2-01-CRANKSHAFT
2	09D-28-00-2-02-PISTONS+CROSSHEAD
1	09D-28-00-2-03-CON-ROD
1	09D-28-00-2-03-CON-ROD
2	09D-28-00-2-04-ECCENTRIC
2	09D-28-00-2-05-SLIDE VALVES
2	09D-28-00-2-06-ECCENTRIC STRAP
48	09D-28-00-M3 DOME NUT
6	09D-28-00-M3 NUT
2	09D-28-00-M3x11 A-K CYL HEAD SCREW
6	09D-28-00-M3x4 A-K GRUB SCREW
56	09D-28-00-M4 DOME NUT
12	09D-28-00-M4 NUT
2	09D-28-00-M4x14 A-K CYL HEAD SCREW
4	09D-28-00-M5 DOME NUT
2	09D-28-00-M5 NUT
8	09D-28-00-M5x14 A-K CYL HEAD SCREW
4	09D-28-00-M5x24 A-K CYL HEAD SCREW
4	09D-28-00-M6 DOME NUT
4	09D-28-00-M6x18 A-K CYL HEAD SCREW
6	09D-28-00-M8x12 A-K CYL HEAD SCREW

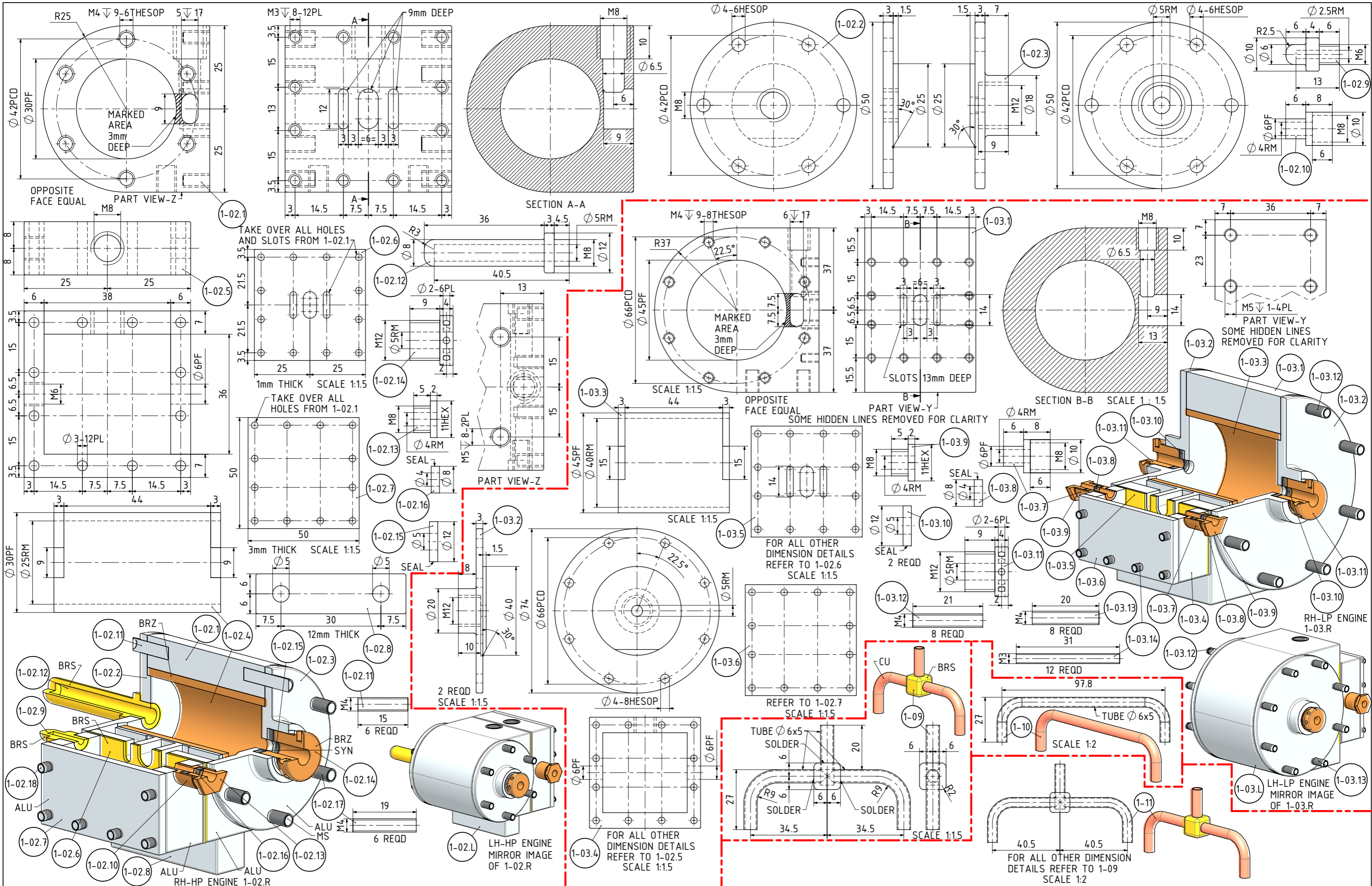


TITLE  
**EXPERIMENTAL DUPLUX COMPOUND NON REVERSING STEAM ENGINE B=25/40 S=36**

DRAWING CONTENTS  
**ISOMETRIC VIEW, BILL OF MATERIALS NOTES, PARTS AND ASSEMBLIES**

PROJECT No 09D-28-00  
 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 MAY 2023  
 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:09D-28-00-SHT-02



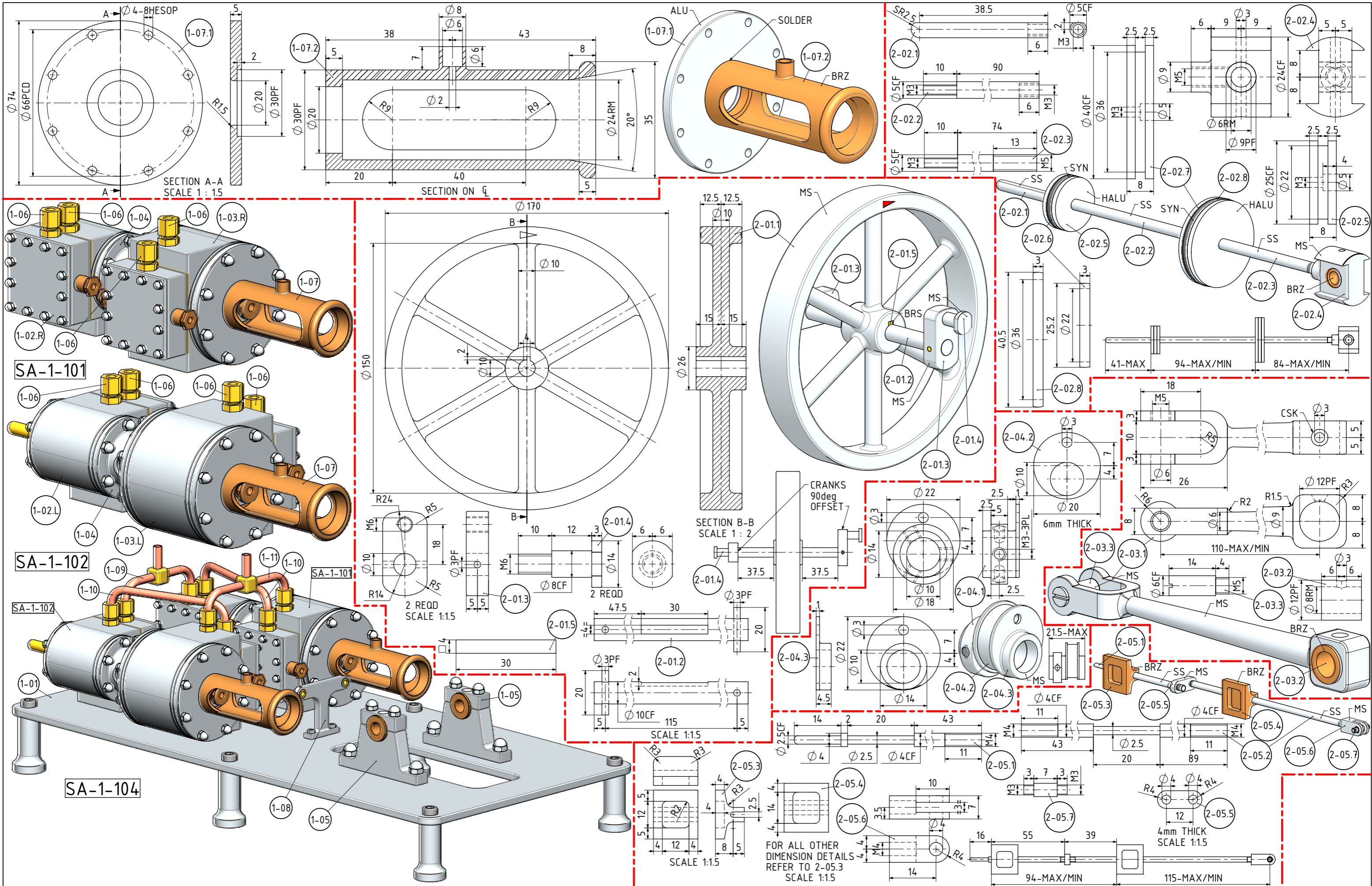
NOTES: DESIGNED BY JDW  
 TITLE  
**EXPERIMENTAL DUPLUX COMPOUND NON REVERSING STEAM ENGINE B=  $\varnothing$  25/40 S=36**

DRAWING CONTENTS  
**PARTS AND ASSEMBLIES**

PROJECT No 09D-28-00  
 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  
**JDWDS**  
 DATE MAY 2023  
 SHEET: 03 OF 05

MODEL SCALE: 1:1  
 DWG SCALE: 1:1 @A3 OR AS SHOWN  
 Copyright © J.A.M. DE WAAL PAKAPURA NZ  
**A3** No:09D-28-00-SHT-03



NOTES: DESIGNED BY JDW

TITLE  
**EXPERIMENTAL DUPLUX COMPOUND NON  
 REVERSING STEAM ENGINE B=  $\varnothing$  25/40 S=36**

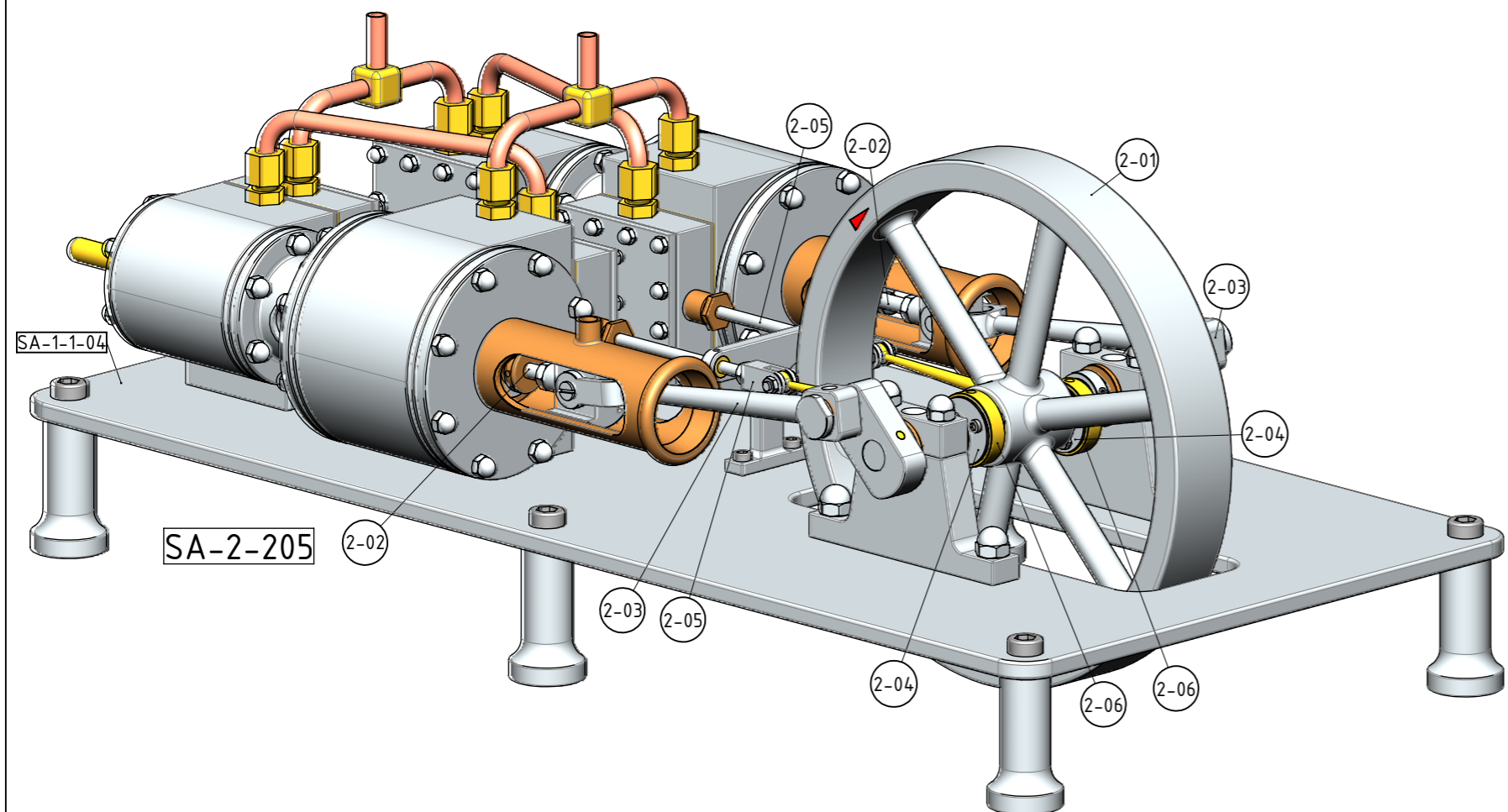
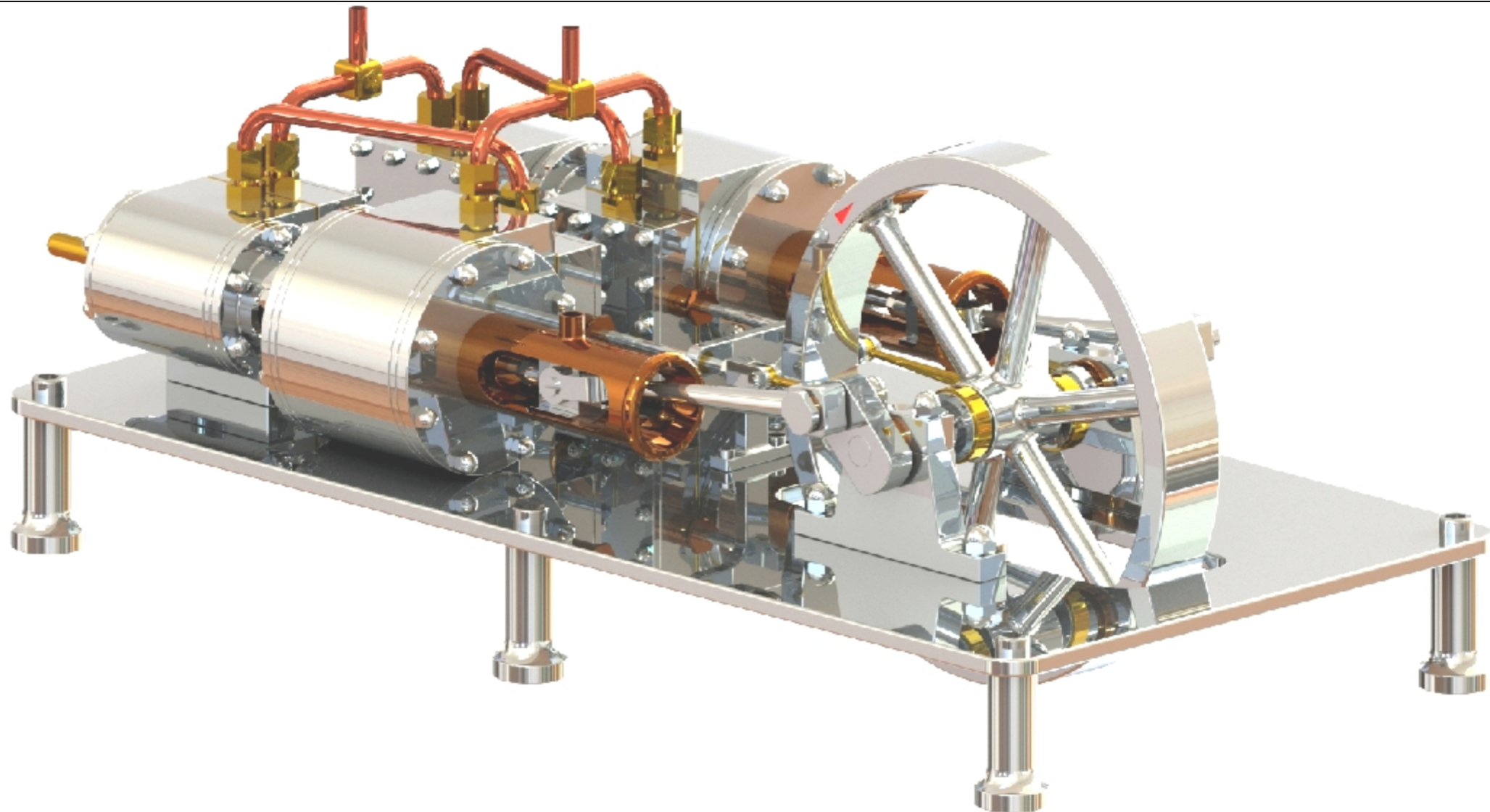
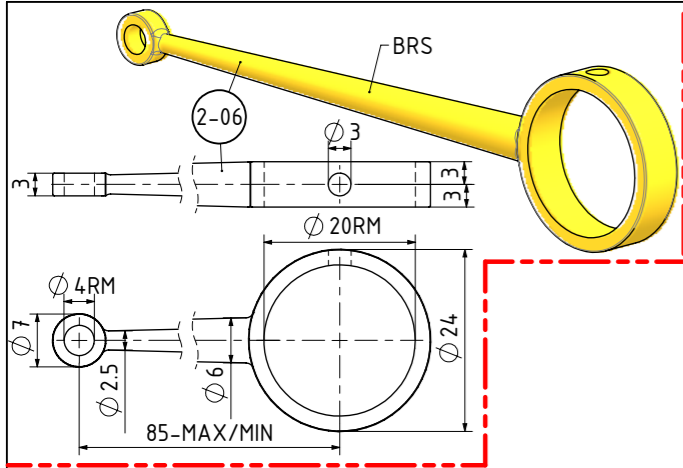
DRAWING CONTENTS  
**PARTS AND ASSEMBLIES**

PROJECT No 09D-28-00  
 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 MAY 2023  
 SHEET: 04 OF 05

MODEL SCALE: 1:1  
 DWG SCALE: 1:1 @A3 OR AS SHOWN  
 Copyright © J.A.M. DE WAAL PAPAOKURA NZ  
**A3** No:09D-28-00-SHT-04

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES



NOTES: DESIGNED BY JDW

TITLE  
**EXPERIMENTAL DUPLUX COMPOUND NON  
 REVERSING STEAM ENGINE B=  $\phi$  25/40 S=36**

DRAWING CONTENTS  
**PARTS AND ASSEMBLIES, RENDERED  
 PICTURE**

PROJECT No 09D-28-00  
 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  
**JDWDS**  
 DATE MAY 2023  
 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:09D-28-00-SHT-05

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES