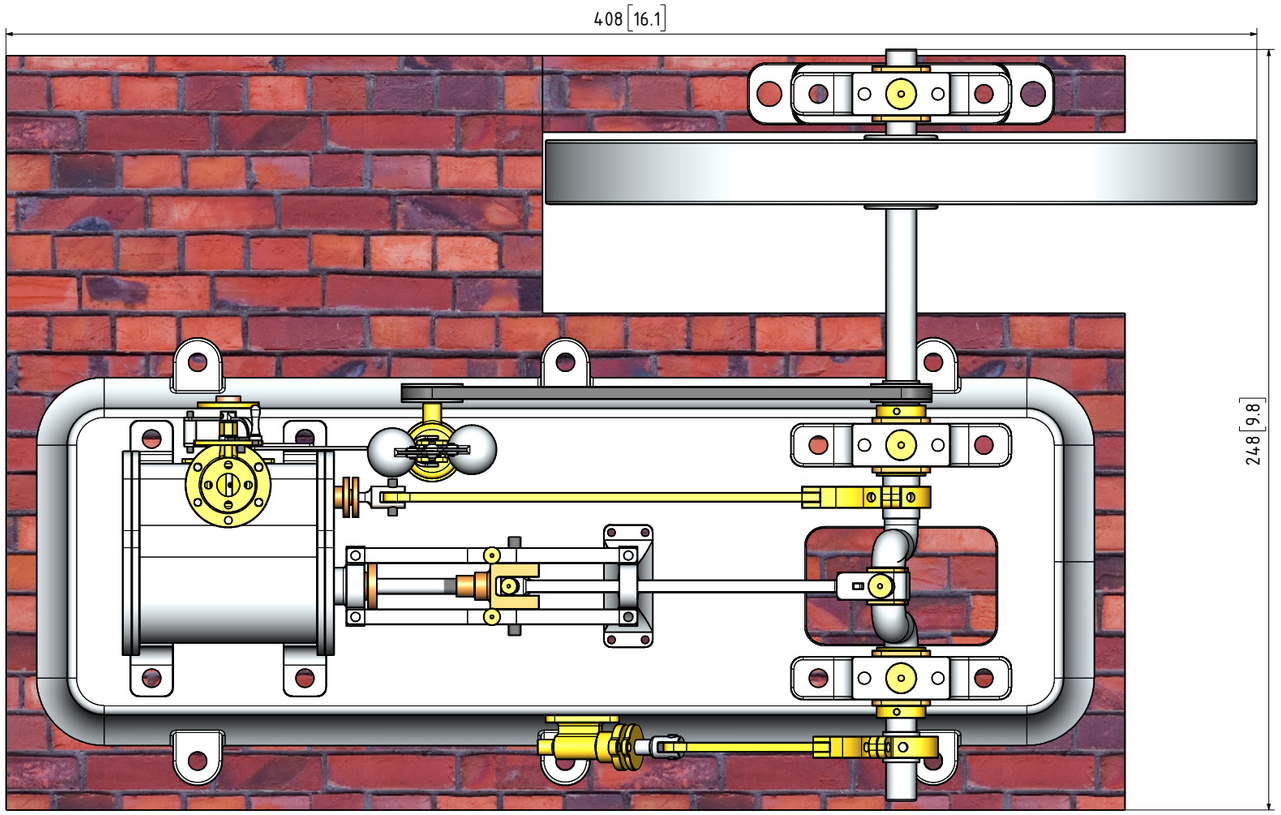
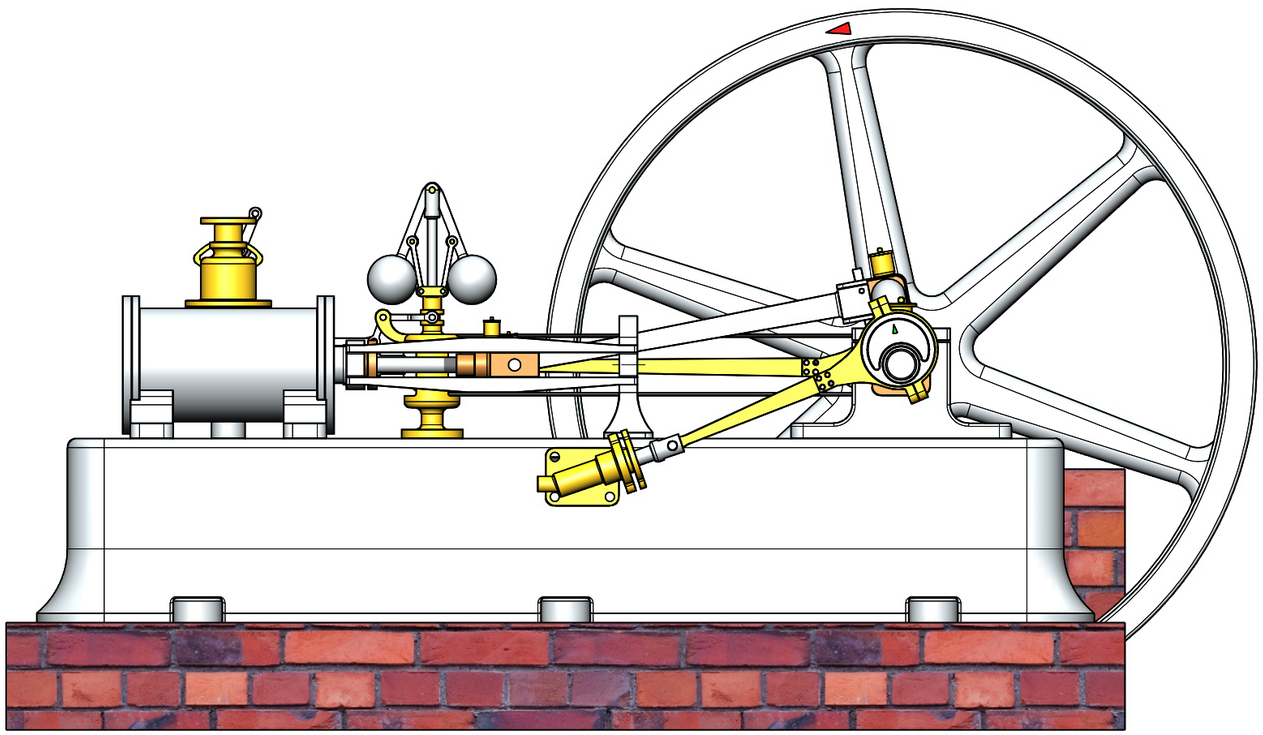
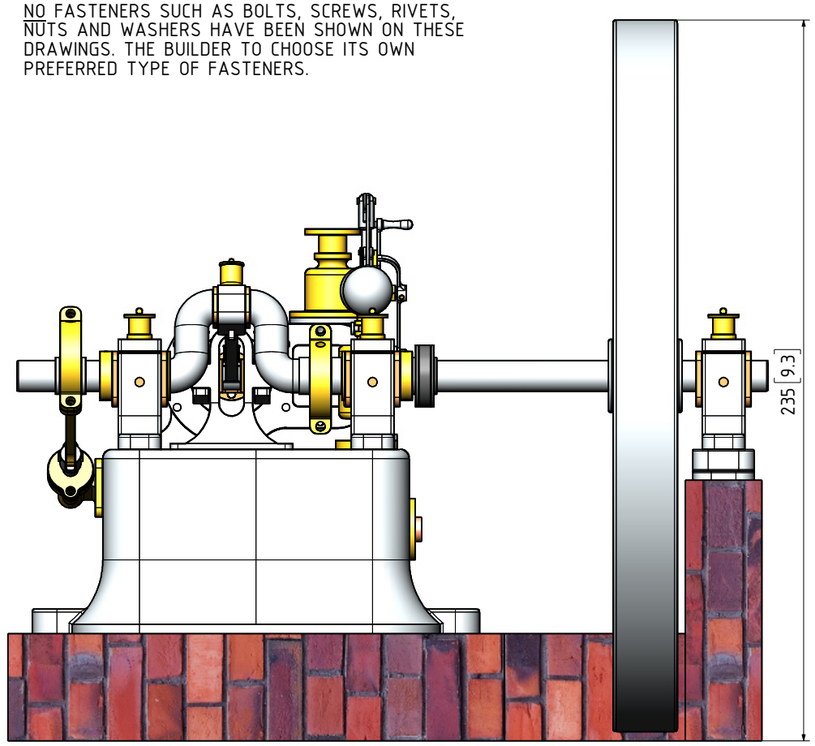




QTY.	PART NUMBER
1	09B-31-00-1-01-BASE
3	09B-31-00-1-02-MAIN BEARINGS
1	09B-31-00-1-03-CYLINDER
1	09B-31-00-1-04-CYLINDER FRONT COVER
1	09B-31-00-1-05-CYLINDER REAR COVER
1	09B-31-00-1-06-CROSSHEAD GUIDE REAR STAND
2	09B-31-00-1-07-CROSSHEAD GUIDE BAR
2	09B-31-00-1-07-CROSSHEAD GUIDE BAR
1	09B-31-00-1-08-REGULATOR
1	09B-31-00-1-09-DUMMY WATER PUMP
1	09B-31-00-1-10-GOVERNOR BASE
1	09B-31-00-1-11-EXHAUST PIPE
1	09B-31-00-2-01-CRANKSHAFT+FLYWHEEL
1	09B-31-00-2-02-PISTON+CROSSHEAD
1	09B-31-00-2-03-CON-ROD
1	09B-31-00-2-04-SLIDE VALVE
1	09B-31-00-2-05-SLIDE VALVE ECCENTRIC
1	09B-31-00-2-06-SLIE VALVLE ECCENTRIC STRAP
1	09B-31-00-2-08-WATER PUMP ECCENTRIC STRAP
1	09B-31-00-2-09-WATER PUMP PLUNGER
1	09B-31-00-2-10-GOVERNOR DRIVEN PULLEY
1	09B-31-00-2-11-GOVERNOR VERTICAL MAIN SPINDLE
1	09B-31-00-2-12-GOVERNOR DRIVE BELT
1	09B-31-00-2-13-GOVERNOR CONTROL SPOOL
2	09B-31-00-2-14-GOVERNOR FLYWEIGHT
4	09B-31-00-2-15-GOVEROR FLYWEIGHT LINK
1	09B-31-00-2-16-GOVERNOR CONTROL LEVER
1	09B-31-00-2-17-SPEED CONROL FLAP
2	09B-31-00-2-18-SPEED CONTROL LINK
1	09B-31-00-2-19-SPEED CONTROL LEVER
1	09B-31-00-2-07-WATER PUMP ECCENTRIC

ADDITIONAL NOTES ABOUT THESE DRAWINGS:
1) NO MATERIALS HAVE BEEN SPECIFIED ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED MATERIAL FOR THE PARTS/COMPONENTS. THE FOLLOWING COLOURS ON THE DRAWINGS INDICATES POSSIBLE MATERIALS WHICH CAN BE USED FOR PARTS: YELLOW=BRASS, LIGHT GREY=ALUMINIUM OR MILD STEEL, REDDISH BROWN=COPPER, DARK BROWN=BRONZE OR GUN METAL, WHITISH=SILVER STEEL OR STAINLESS STEEL
2) FASTENERS.
NO FASTENERS SUCH AS BOLTS, SCREWS, RIVETS, NUTS AND WASHERS HAVE BEEN SHOWN ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED TYPE OF FASTENERS.

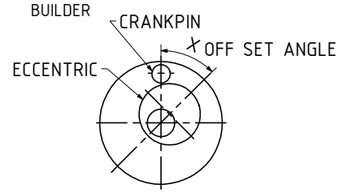


DUE TO THE LACK INFORMATION, SUCH AS VIEWS, DIMENSIONS, SECTIONS ETC, ON THE ORIGINAL DRAWING, SOME OF THE COMPONENTS MIGHT NOT BE AS CONSTRUCTED ORIGINALLY

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 SPRINGWASHERS SHALL BE USED WHERE DEEMED NECESSARY.
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

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



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TITLE
1 CYLINDER HORIZONTAL NON REVERSING 8HP STEAM ENGINE (B=27mm S=46mm)

DRAWING CONTENTS
GENERAL ARRANGEMENT, VIEWS, NOTES AND BILL OF MATERIALS

PROJECT No 09B-31-00
JDW DRAUGHTING SERVICES
J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA 2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION JDWDS
DATE JUNE 2021
SHEET: 01 OF 06

MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
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A3 No: 09B-31-00-SHT01

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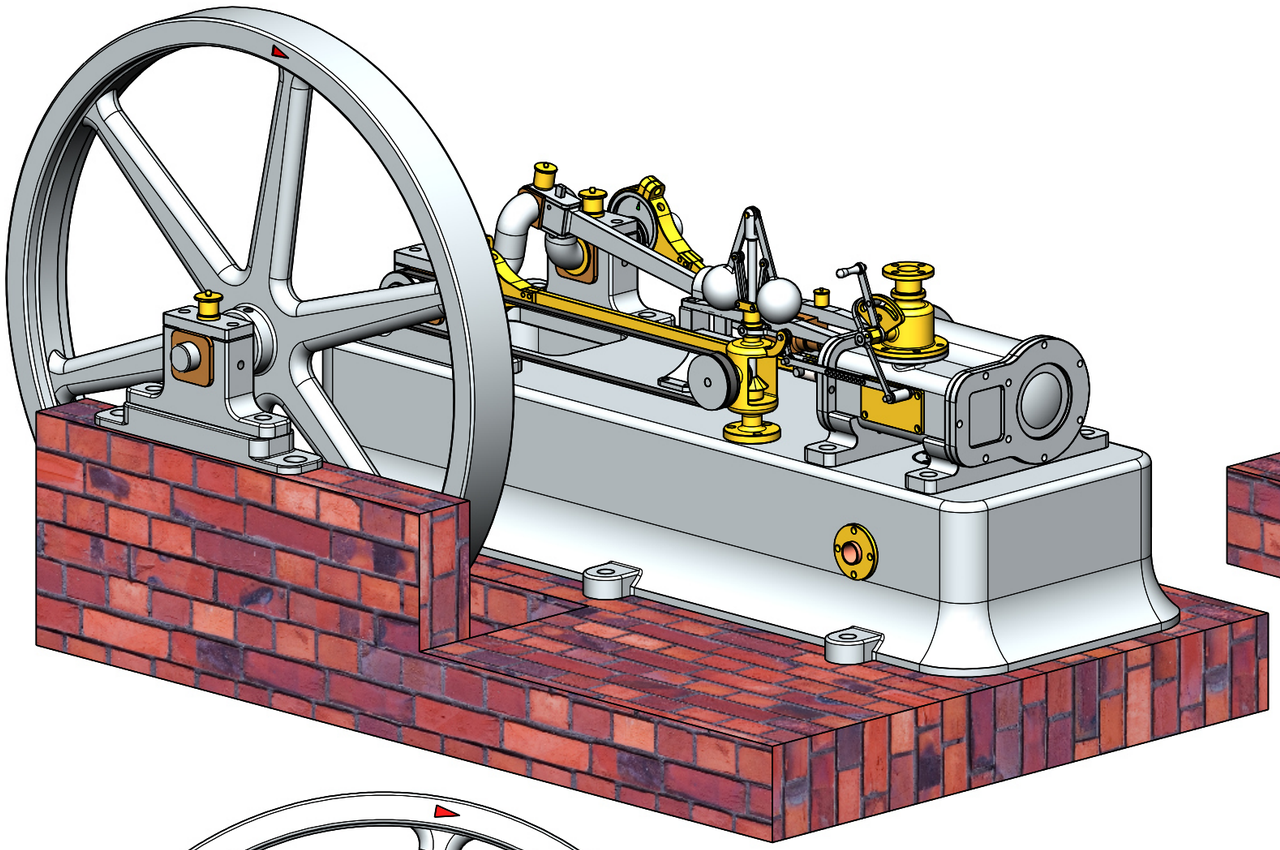

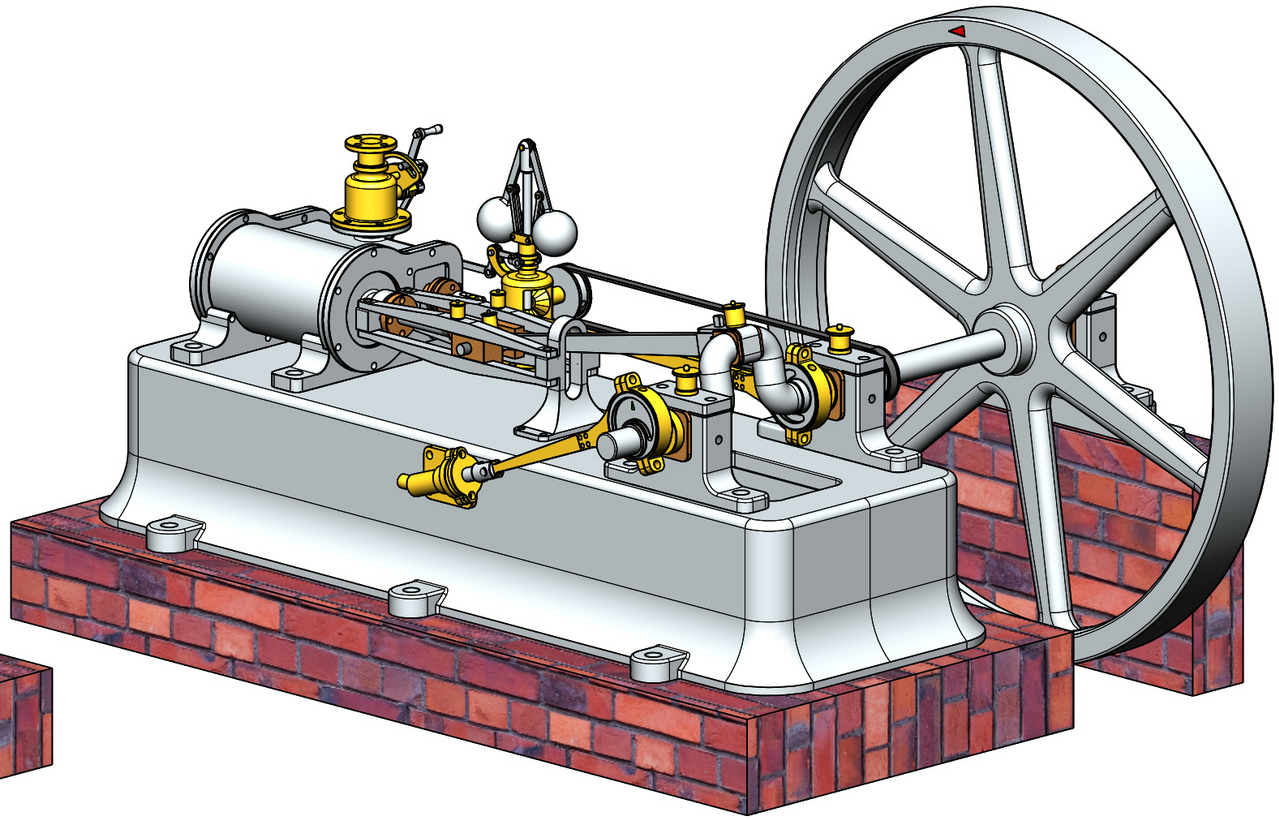

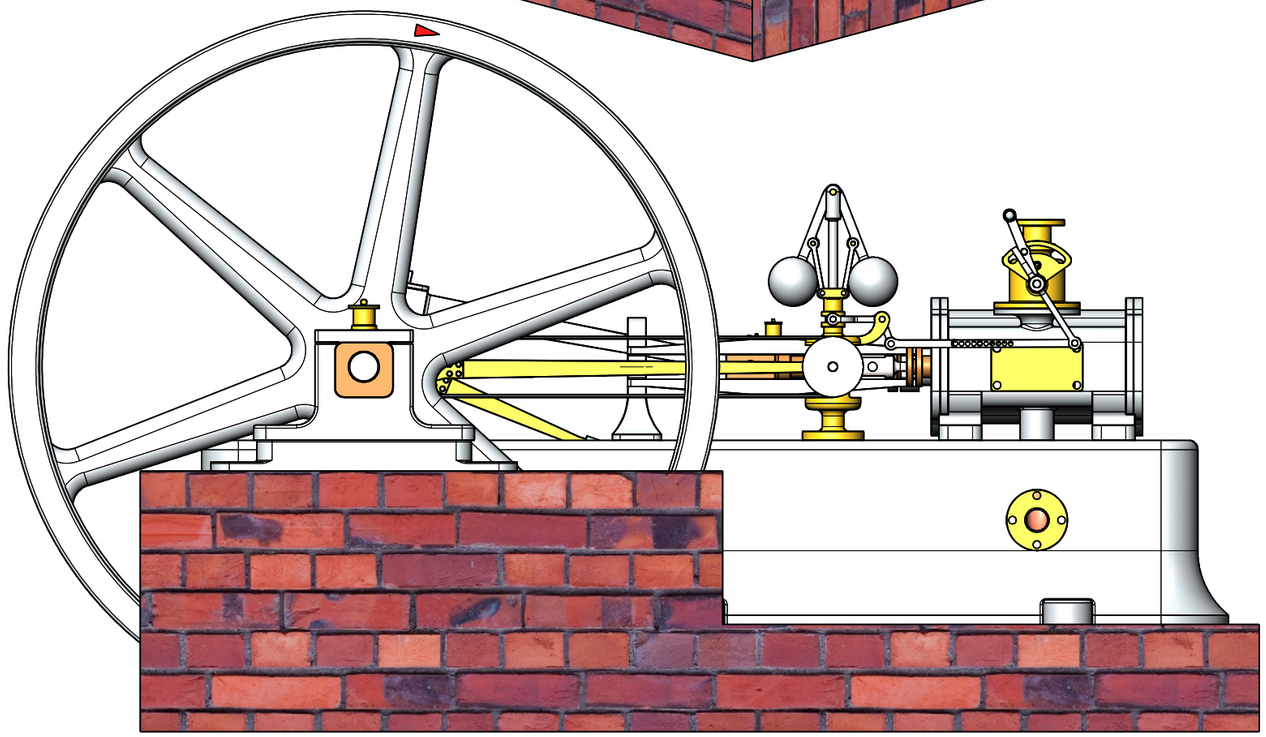

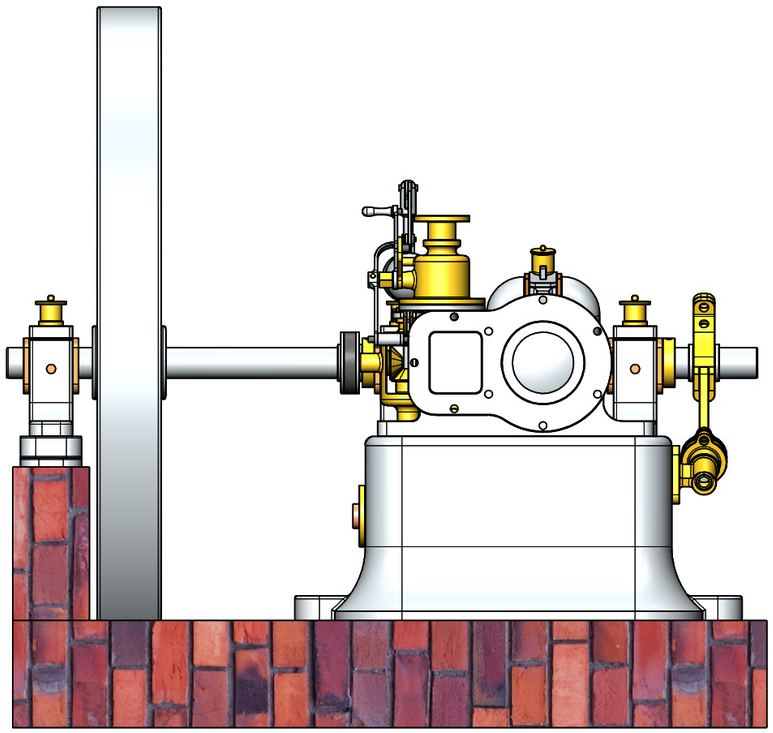

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TITLE

1 CYLINDER HORIZONTAL NON REVERSING 8HP STEAM ENGINE (B=27mm S=46mm)

DRAWING CONTENTS

GENERAL ARRANGEMENT, VIEWS, ISOMETRIC VIEWS

PROJECT No 09B-31-00

JDW DRAUGHTING SERVICES

J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA 2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION JDWDS

DATE JUNE 2021

SHEET: 02 OF 06

MODEL SCALE: 1:1

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A3 No: 09B-31-00-SHT02

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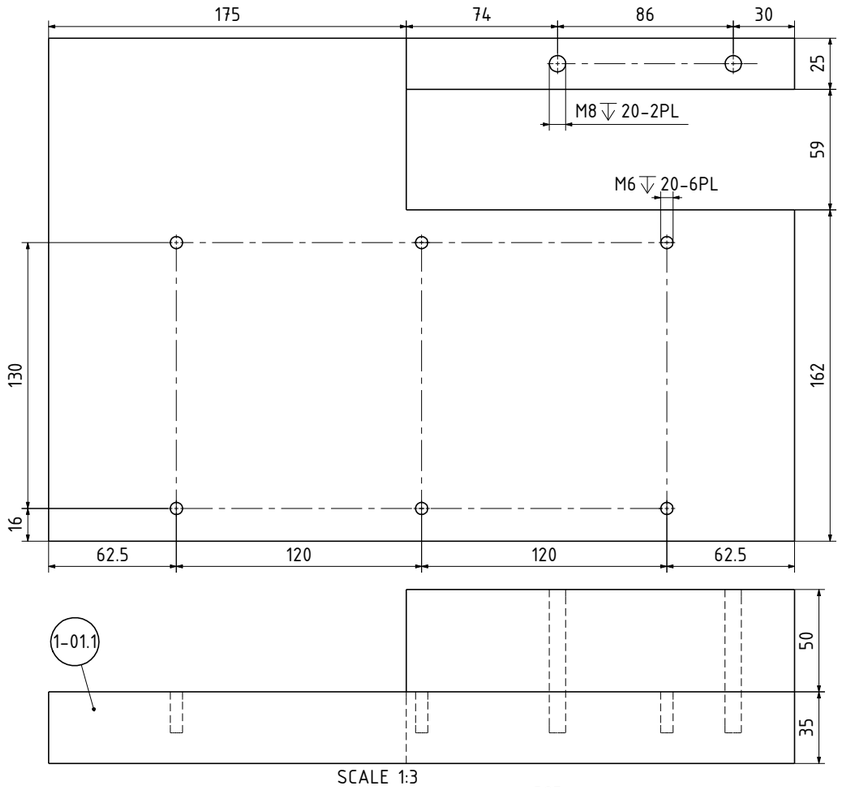

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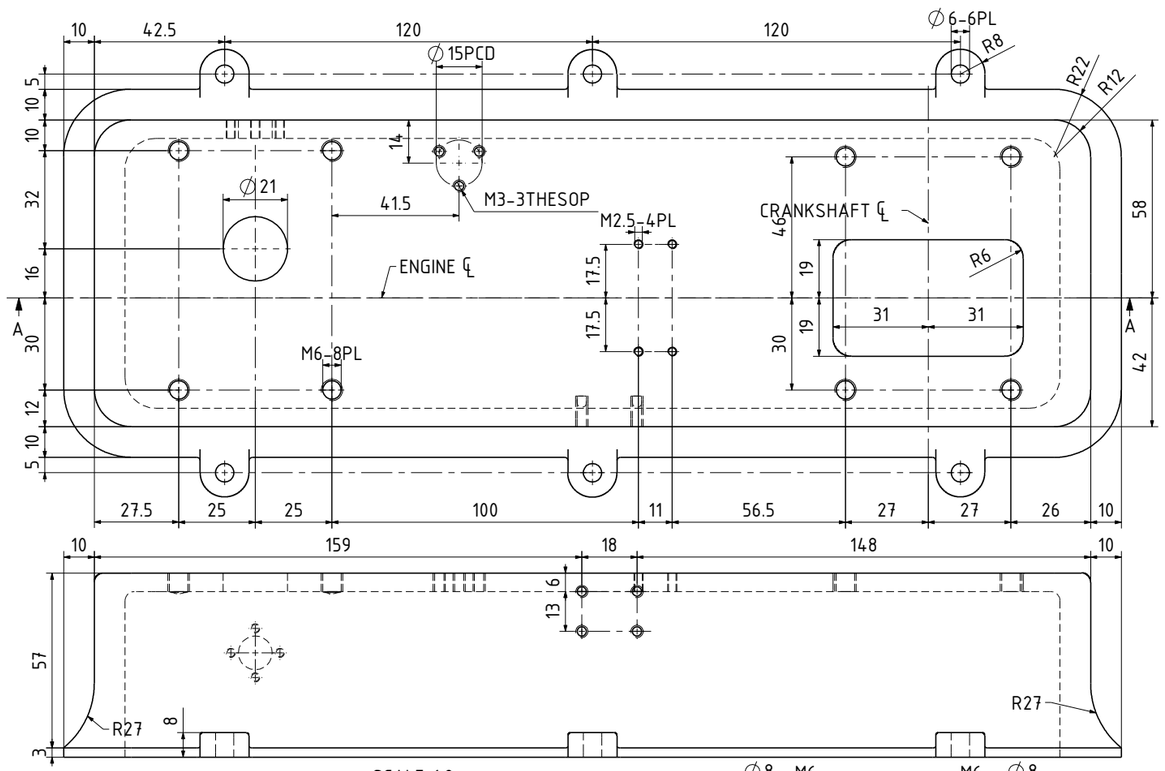

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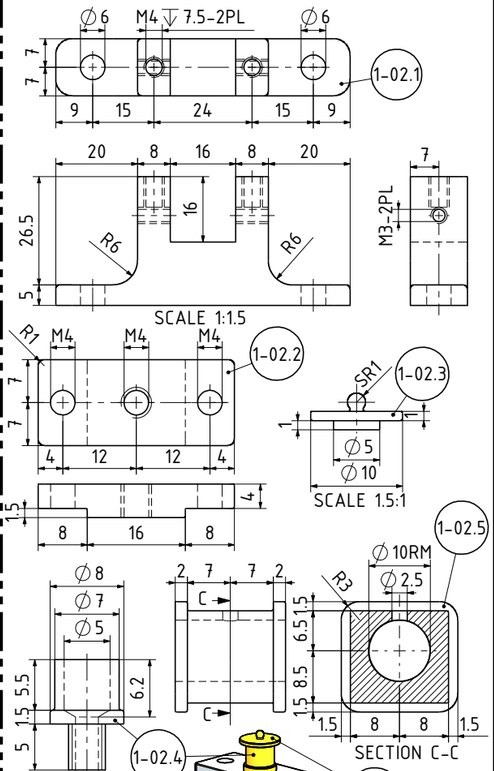

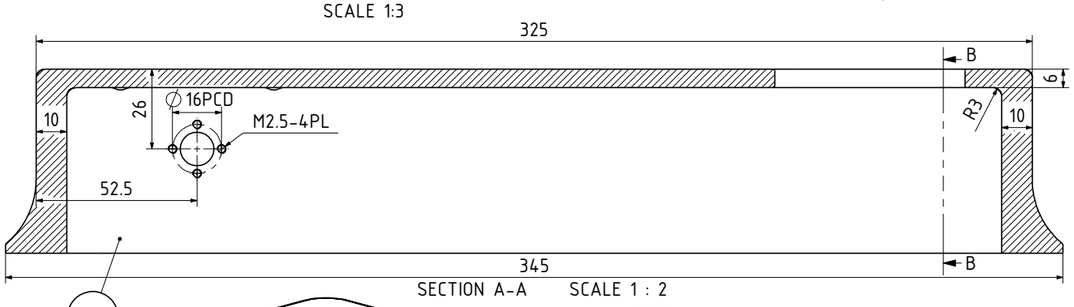

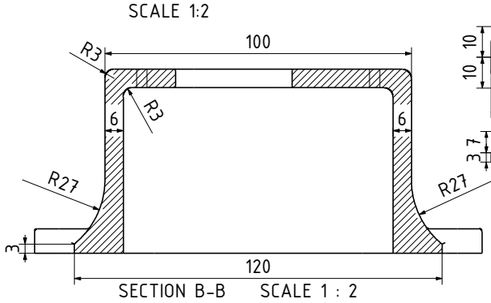

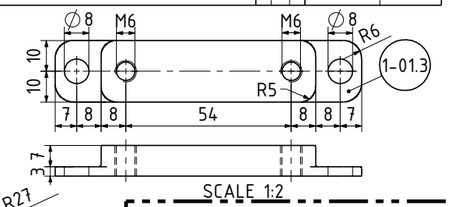

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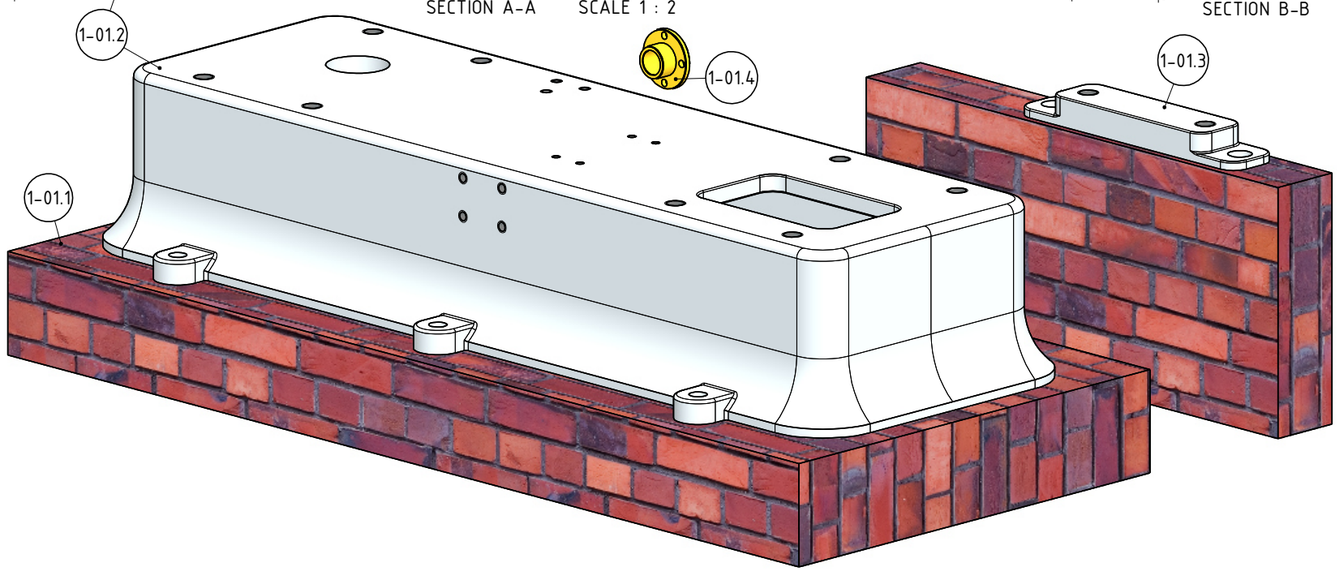

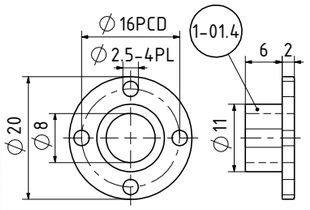

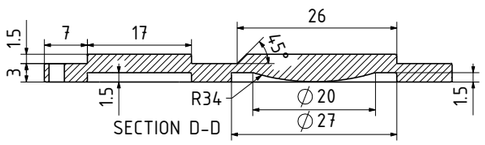

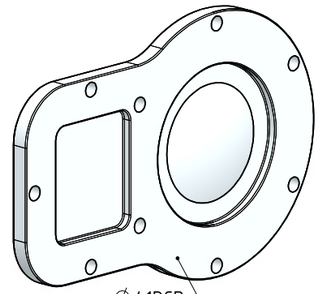

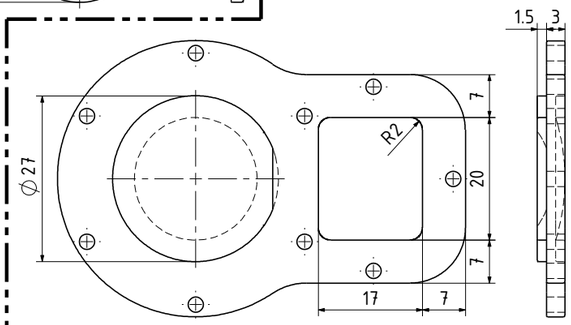

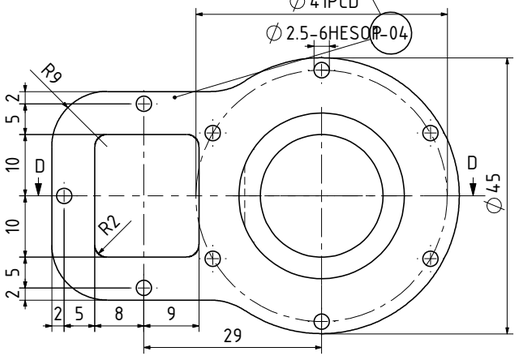

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TITLE

1 CYLINDER HORIZONTAL NON REVERSING 8HP STEAM ENGINE (B=27mm S=46mm)

DRAWING CONTENTS

PARTS AND ASSEMBLIES

PROJECT No 09B-31-00

JDW DRAUGHTING SERVICES

J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA 2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION JDWDS

DATE JUNE 2021

MODEL SCALE: 1:1

DWG SCALE: 1:1 @A3 OR AS SHOWN

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SHEET: 03 OF 06 A3 No: 09B-31-00-SHT03

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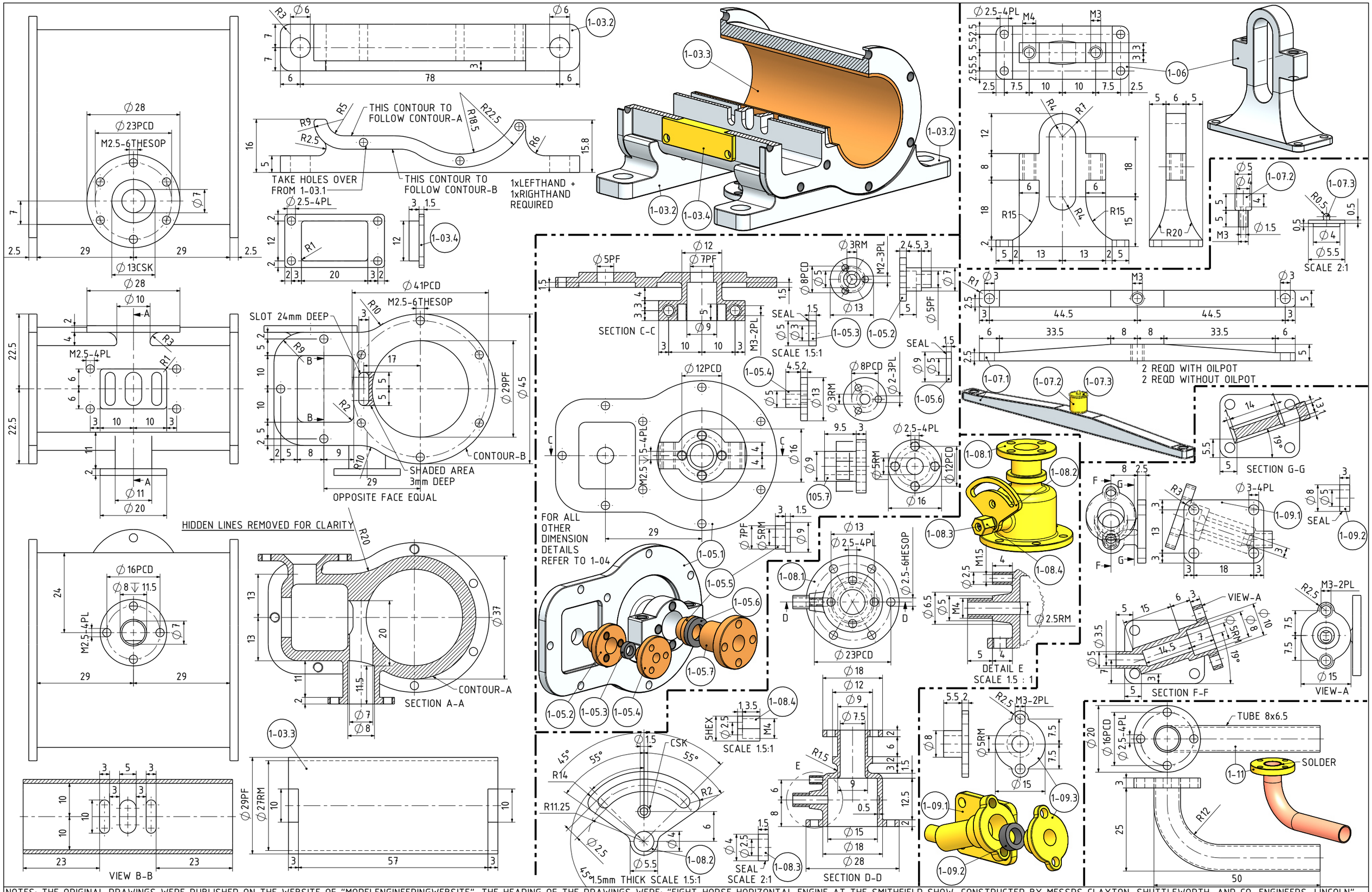

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PARTS AND ASSEMBLIES

PROJECT No 09B-31-00

JDW DRAUGHTING SERVICES

J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA 2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION | JDWDS | MODEL SCALE: 1:1

DATE JUNE 2021 | DWG SCALE: 1:1 @A3 OR AS SHOWN

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SHEET: 04 OF 06 | A3 | No: 09B-31-00-SHT04

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SECTION A-A

SECTION C-C
SCALE 1 : 2

SECTION B-B
SCALE 1 : 2

SCALE 1:2

SCALE 2:1

SCALE 1.5:1

SECTION D-D

SECTION E-E

SA-1-101

SA-1-105

2.3-BOTTOM

2.7-TOP

2.8-TOP M4

TAKE OVER FROM 2-06.1

SPLIT LINE

FOR ALL OTHER DIMENSION DETAILS REFER TO 2-05

FOR ALL OTHER DIMENSION DETAILS REFER TO 2-06.1 AND 2-06.2

1.5mm DEEP BOTH SIDES

5mm THICK

3mm THICK

2mm THICK

SEAL

NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED ON THE WEBSITE OF "MODELENGINEERINGWEBSITE". THE HEADING OF THE DRAWINGS WERE: "EIGHT-HORSE HORIZONTAL ENGINE AT THE SMITHFIELD SHOW, CONSTRUCTED BY MESSRS CLAYTON, SHUTTLEWORTH, AND CO, ENGINEERS, LINCOLN"

TITLE
1 CYLINDER HORIZONTAL NON REVERSING 8HP STEAM ENGINE (B=27mm S=46mm)

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 09B-31-00

JDW DRAUGHTING SERVICES
J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA
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 JUNE 2021

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SHEET: 05 OF 06 | A3 | No: 09B-31-00-SHT05

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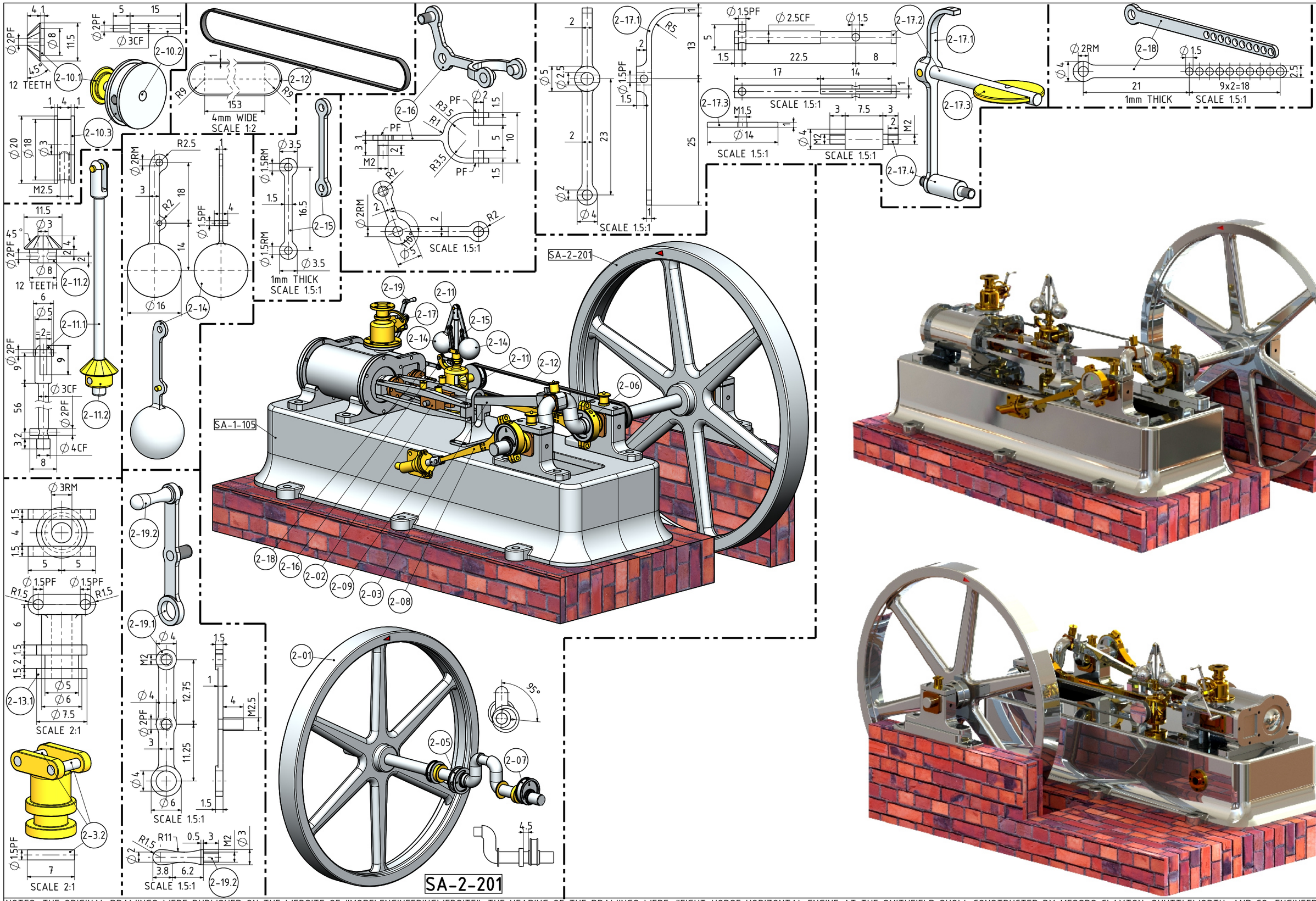

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TITLE

1 CYLINDER HORIZONTAL NON REVERSING 8HP STEAM ENGINE (B=27mm S=46mm)

DRAWING CONTENTS

PARTS AND ASSEMBLIES, RENDERED PICTURES

PROJECT No 09B-31-00

JDW DRAUGHTING SERVICES

J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA 2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION JDWDS

DATE JUNE 2021

SHEET: 06 OF 06

MODEL SCALE: 1:1

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A3 No: 09B-31-00-SHT06

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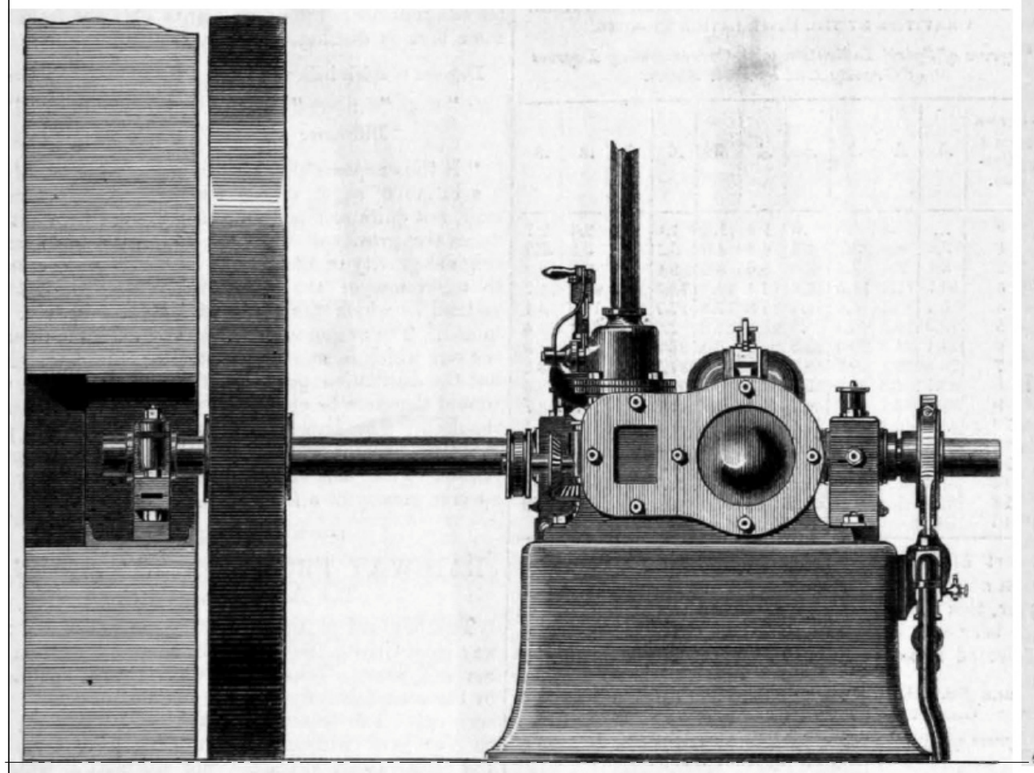
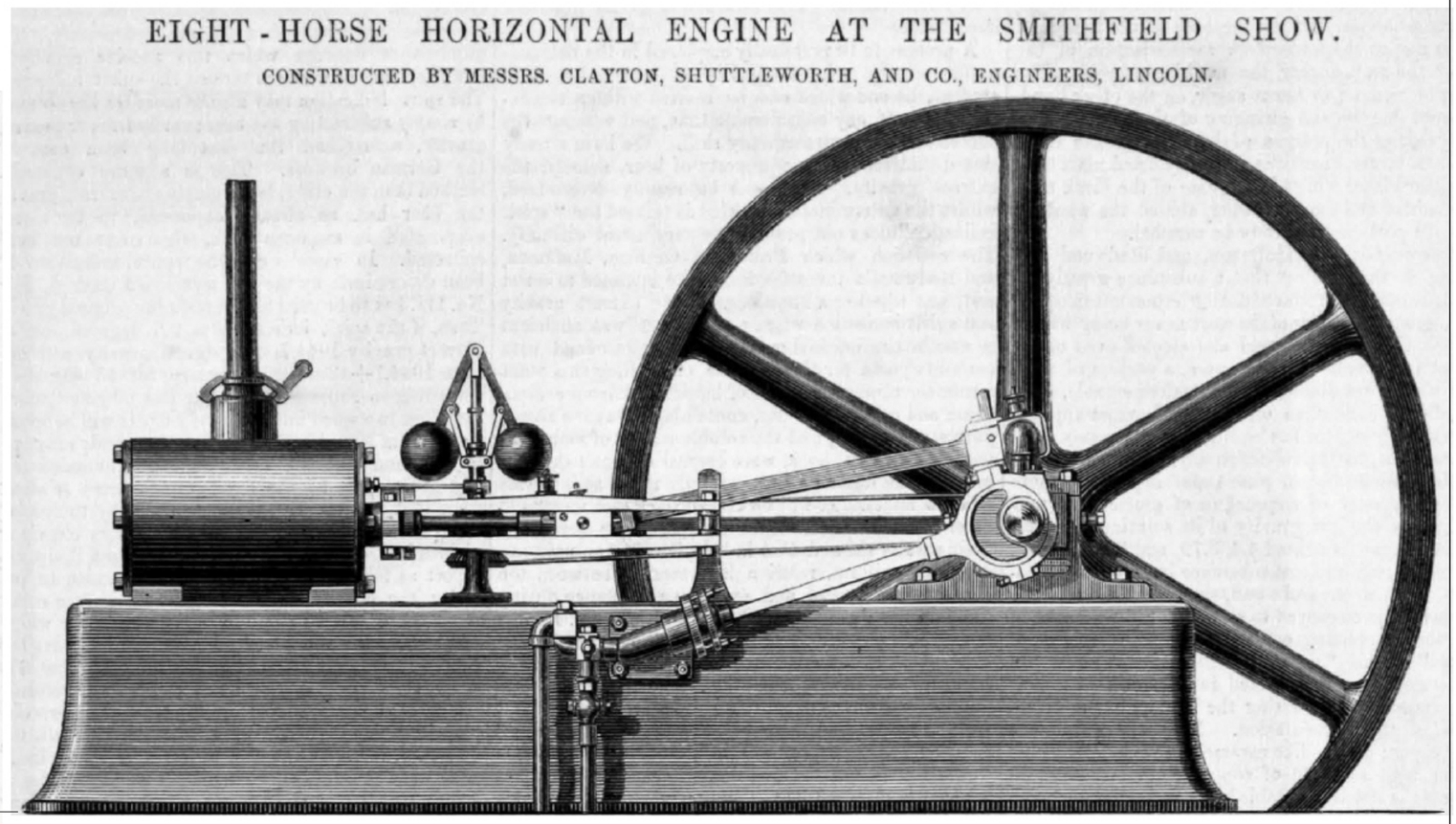


EIGHT - HORSE HORIZONTAL ENGINE AT THE SMITHFIELD SHOW.

CONSTRUCTED BY MESSRS. CLAYTON, SHUTTLEWORTH, AND CO., ENGINEERS, LINCOLN.



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TITLE

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DRAWING CONTENTS

ORIGINAL DRAWINGS

PROJECT No 09B-31-00

JDW DRAUGHTING SERVICES

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PROJECTION JDWDS

DATE JUNE 2021

SHEET: A OF A

MODEL SCALE: 1:1

DWG SCALE: 1:1 @A3 OR AS SHOWN

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