

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

QTY.	PART NUMBER
1	MUNCASTER7.2-1-01-BRICK BASE
2	MUNCASTER7.2-1-02-CYLINDER MOUNTING CONSOLE
2	MUNCASTER7.2-1-03-CYLINDER
2	MUNCASTER7.2-1-04-VALVE CHEST+COVER
2	MUNCASTER7.2-1-05-VALVE CHEST INLET COVER PLATE
2	MUNCASTER7.2-1-06-CYLINDER OUTLET COVER PLATE
2	MUNCASTER7.2-1-07-CYLINDER TOP COVER
2	MUNCASTER7.2-1-08-CYLINDER BOTTOM COVER
2	MUNCASTER7.2-1-09A-SUPPORT COLUMN TYPE-A
2	MUNCASTER7.2-1-09B-SUPPORT COLUMN TYPE-B
2	MUNCASTER7.2-1-10-CROSS BRACE
2	MUNCASTER7.2-1-11-LOWER LINK BEARING BRACKET TYPE-A
2	MUNCASTER7.2-1-12-LOWER LINK BEARING BRACKET TYPE-B
2	MUNCASTER7.2-1-13-MAIN BEARING CROSS BEAM
2	MUNCASTER7.2-1-14-MAIN BEARING PEDESTAL
2	MUNCASTER7.2-1-15-MAIN BEARING
2	MUNCASTER7.2-1-16-COLUMN LINK BEARING BRACKET
1	MUNCASTER7.2-1-17-INPUT STEAM CONTROL HOUSING
1	MUNCASTER7.2-1-18-CONTROL VALVE END BEARING
1	MUNCASTER7.2-1-19-GOVERNOR MOUNTING BRACKET
1	MUNCASTER7.2-1-20-NAME PLATE
1	MUNCASTER7.2-1-21-STEAM INLET PIPE
1	MUNCASTER7.2-1-22-STEAM EXHAUST PIPE
1	MUNCASTER7.2-2-01-CRANK SHAFT
1	MUNCASTER7.2-2-02-FLYWHEEL
2	MUNCASTER7.2-2-03-PISTON+ROD
2	MUNCASTER7.2-2-04-CON-ROD
4	MUNCASTER7.2-2-05-PARALLEL MOTION LINK-1
4	MUNCASTER7.2-2-06-PARALLEL MOTION LINK-2
4	MUNCASTER7.2-2-07-PARALLEL MOTION LINK-3
2	MUNCASTER7.2-2-08-CON-ROD BIG END PIN
2	MUNCASTER7.2-2-09-LOWER MOTION LINK-2 SPINDLE
2	MUNCASTER7.2-2-10-UPPER MOTION LINK-2 SPINDLE
2	MUNCASTER7.2-2-11-MOTION LINK-3 CENTER SPINDLE
2	MUNCASTER7.2-2-12-MOTION LINK-3 FIXED SPINDLE
2	MUNCASTER7.2-2-13-ECCENTRIC SHEAVE
2	MUNCASTER7.2-2-14-SLIDE VALVE
2	MUNCASTER7.2-2-15-ECCENTRIC STRAP
1	MUNCASTER7.2-2-16-GOVERNOR DRIVE PULLEY
1	MUNCASTER7.2-2-17-GOVERNOR DRIVEN PULLEY+GEAR
1	MUNCASTER7.2-2-18-GOVERNOR DRIVE BELT
1	MUNCASTER7.2-2-19-GOVERNOR VERTICAL SPINDLE
1	MUNCASTER7.2-2-20-GOVERNOR SLIDING COLLAR
2	MUNCASTER7.2-2-21-GOVERNOR UPPER FLYWEIGHT ARM
2	MUNCASTER7.2-2-22-GOVERNOR LOWER FLYWEIGHT ARM
1	MUNCASTER7.2-2-23-GOVERNOR CONTROL YOKE
1	MUNCASTER7.2-2-24-STEAM SUPPLY CONTROL VALVE
1	MUNCASTER7.2-2-25-STEAM SUPPLY CONTROL ROD
2	MUNCASTER7.2-3 NUT
24	MUNCASTER7.2-M3 DOME NUT
14	MUNCASTER7.2-M3 WASHER
5	MUNCASTER7.2-M3x5 A-K GRUB SCREW
18	MUNCASTER7.2-M3x6 A-K CYL HEAD SCREW
54	MUNCASTER7.2-M3x8 A-K CYL HEAD SCREW
20	MUNCASTER7.2-M3x10 A-K CYL HEAD SCREW
4	MUNCASTER7.2-M3x14 A-K CYL HEAD SCREW
2	MUNCASTER7.2-M3x20 A-K CYL HEAD SCREW
18	MUNCASTER7.2-M3x24 A-K CYL HEAD SCREW
2	MUNCASTER7.2-M4x6 A-K GRUB SCREW
8	MUNCASTER7.2-M4x8 A-K CYL HEAD SCREW
8	MUNCASTER7.2-M5x12 A-K CYL HEAD SCREW
4	MUNCASTER7.2-M5x15 A-K CYL HEAD SCREW
12	MUNCASTER7.2-M6x12 A-K CYL HEAD SCREW
4	MUNCASTER7.2-M8 NUT
4	MUNCASTER7.2-M8 WASHER
4	MUNCASTER7.2-M8x62 A-K CYL HEAD SCREW

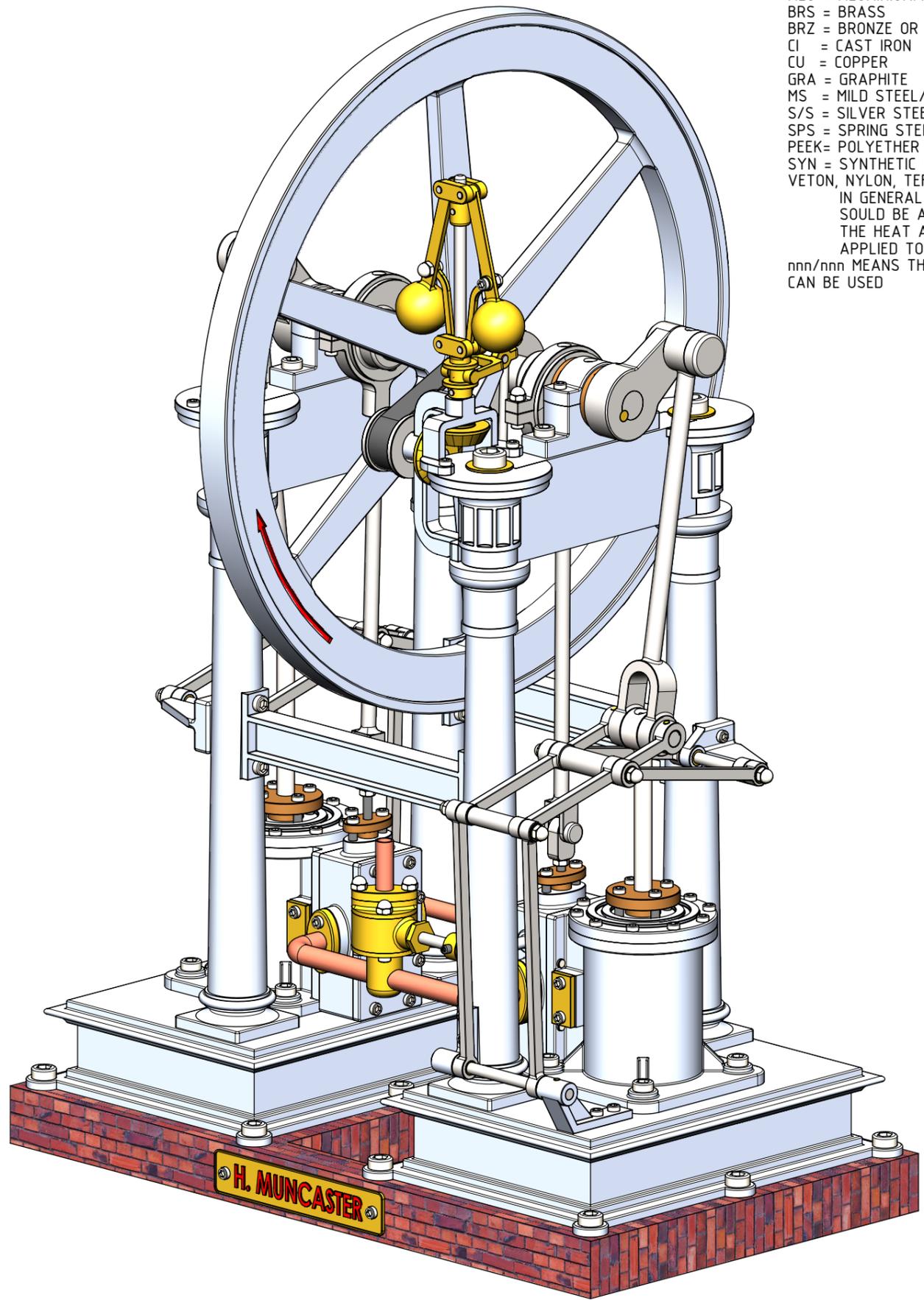
NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "MODEL ENGINEER" MAGAZINE OF FEBTUARY 1957 UNDER THE HEADING OF "THE MUNCASTER STEAM-ENGINE MODELS".

TITLE
2 CYL. ANTABLATURE STEAM ENGINE WITH PARALLEL MOTION CROSSHEAD BY H.MUNCASTER.

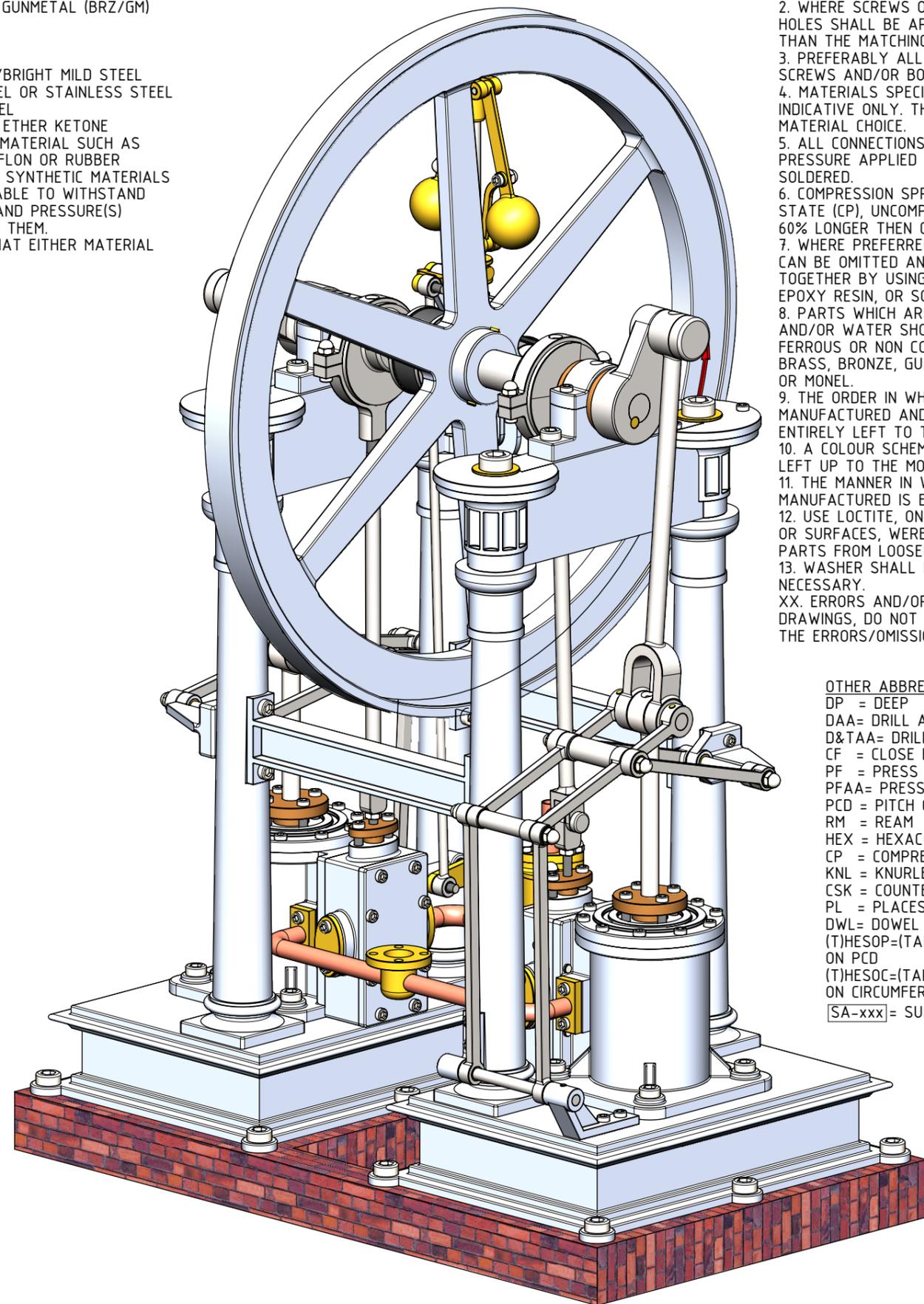
DRAWING CONTENTS
GENERAL ARRANGEMENT AND BILL OF MATERIALS

PROJECT No 11-07-02
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 MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 DATE **JULY-2017** Copyright © J.A.M. DE WAAL PAPAURA NZ
 SHEET: 01 OF 06 **A3** No:MUNCASTER7.2-01



MATERIAL ABBREVIATIONS:
 ALU = ALUMINIUM/HARD ALUMINIUM
 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
 SHOULD BE ABLE TO WITHSTAND
 THE HEAT AND PRESSURE(S)
 APPLIED TO THEM.
 nnn/nnn MEANS THAT EITHER MATERIAL
 CAN BE USED



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. WASHER 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
 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
 (T)HESOP=(TAPPED)HOLES EQUALLY SPACED
 ON PCD
 (T)HESOC=(TAPPED)HOLES EQUALLY SPACED
 ON CIRCUMFERENCE
 [SA-xxx]= SUB ASSEMBLY-xxx

NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "MODEL ENGINEER" MAGAZINE OF FEBTUARY 1957 UNDER THE HEADING OF "THE MUNCASTER STEAM-ENGINE MODELS".

TITLE
**2 CYL. ANTABLATURE STEAM ENGINE WITH
 PARALLEL MOTION CROSSHEAD BY H.MUNCASTER.**

DRAWING CONTENTS
NOTES AND ISOMETRIC VIEWS

PROJECT No 11-07-02

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

JULY-2017

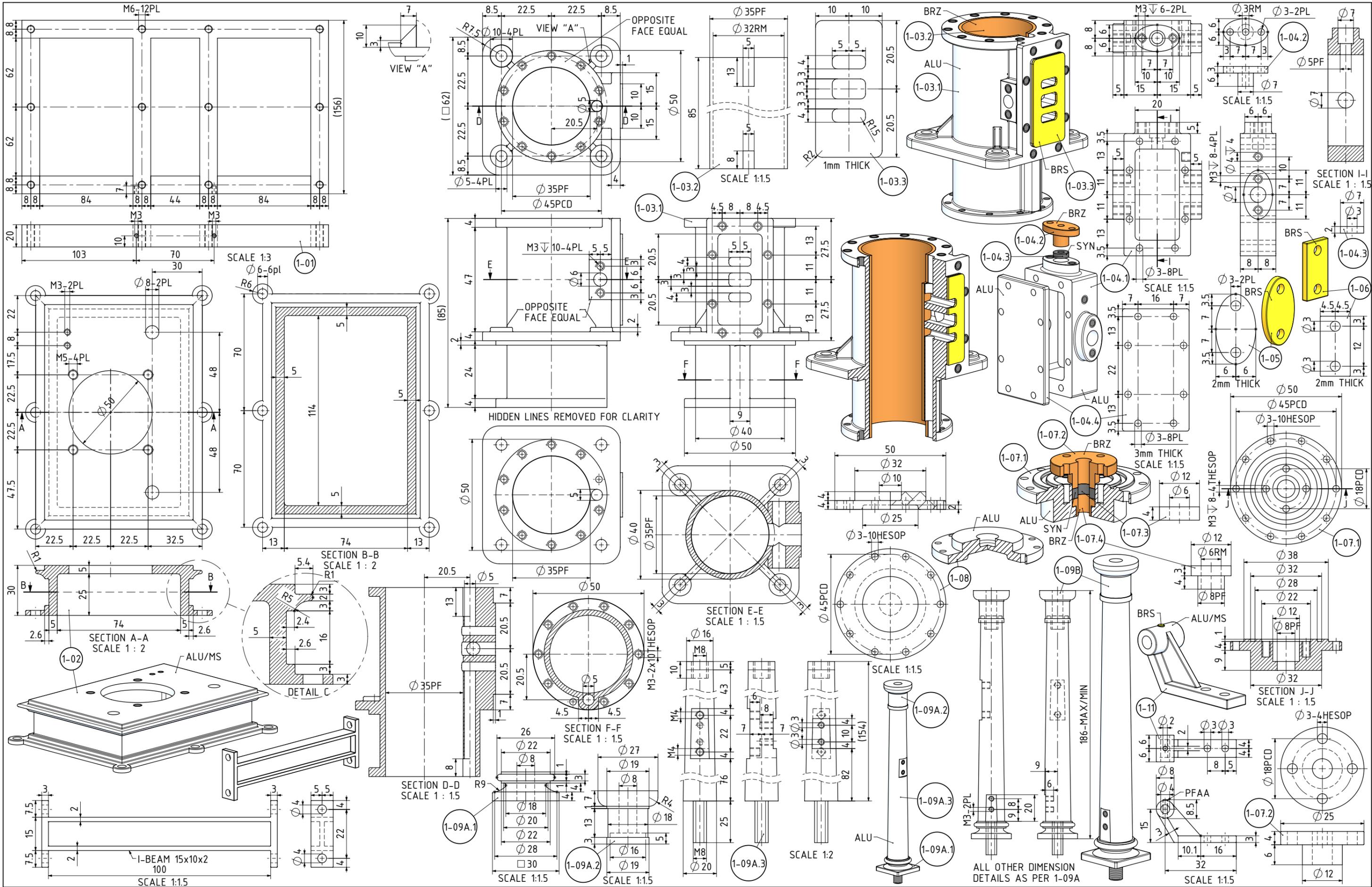
SHEET: 02 OF 06

MODEL SCALE: 1:1

DWG SCALE: 1:1 @A3 OR AS SHOWN

Copyright © J.A.M. DE WAAL PAPAURA NZ

A3 No:MUNCASTER7.2-02



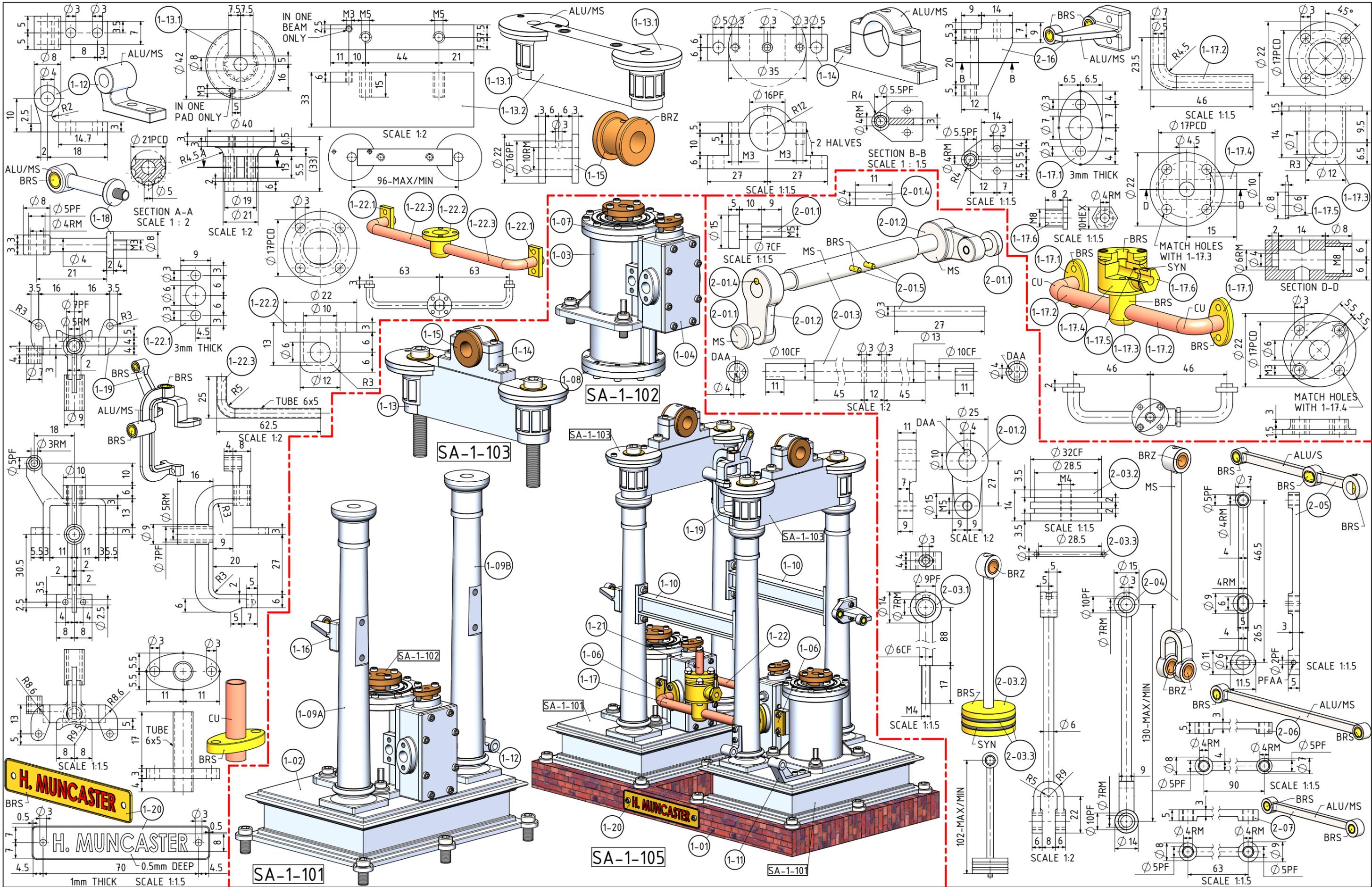
NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "MODEL ENGINEER" MAGAZINE OF FEBRUARY 1957 UNDER THE HEADING OF "THE MUNCASTER STEAM-ENGINE MODELS".

TITLE
**2 CYL. ANTABLATURE STEAM ENGINE WITH
 PARALLEL MOTION CROSSHEAD BY H.MUNCASTER.**

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 11-07-02
 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 JULY-2017
 SHEET: 03 OF 06
 MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 Copyright © J.A.M. DE WAAL PAPAURA NZ
A3 No: MUNCASTER 7.2-03



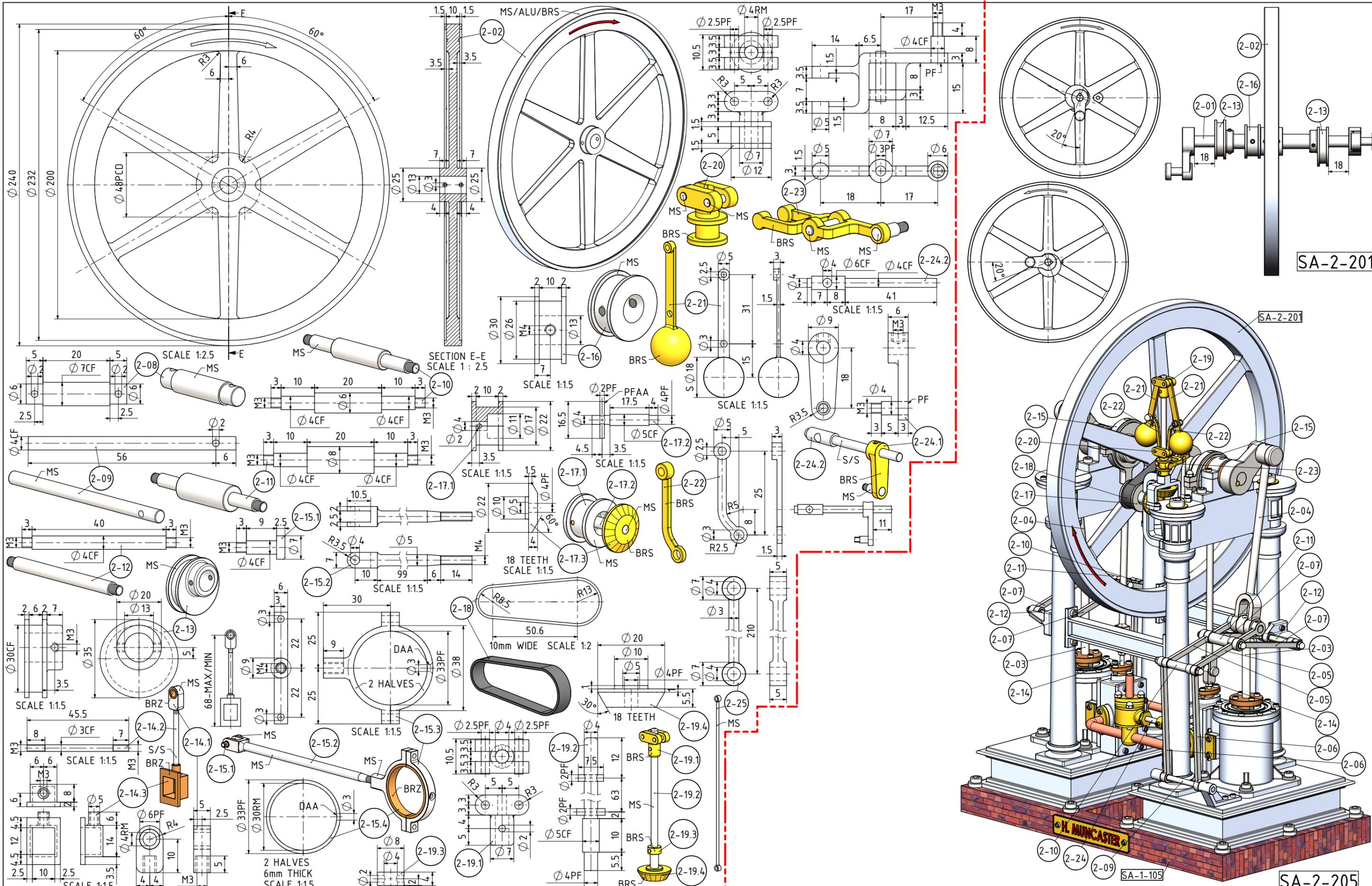
NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "MODEL ENGINEER" MAGAZINE OF FEBRUARY 1957 UNDER THE HEADING OF "THE MUNCASTER STEAM-ENGINE MODELS".

TITLE
**2 CYL. ANTABLATURE STEAM ENGINE WITH
 PARALLEL MOTION CROSSHEAD BY H.MUNCASTER.**

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 11-07-02
 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
 DATE
 SHEET: 04 OF 06
 MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 Copyright © J.A.M. DE WAAL PAKAPURA NZ
A3 No: MUNCASTER 7.2-04



NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "MODEL ENGINEER" MAGAZINE OF FEBRUARY 1957 UNDER THE HEADING OF "THE MUNCASTER STEAM-ENGINE MODELS".

TITLE
**2 CYL. ANTABLATURE STEAM ENGINE WITH
 PARALLEL MOTION CROSSHEAD BY H.MUNCASTER.**

DRAWING CONTENTS
PARTS AND ASSEMBLIES

PROJECT No 11-07-02
 JOW 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
 DATE JULY-2017
 SHEET: 05 OF 06
 MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 Copyright © J.A.M. DE WAAL PAKAPURA NZ
A3 No:MUNCASTER 7.2-05



NOTES: THE ORIGINAL DRAWINGS WERE PUBLISHED IN THE "MODEL ENGINEER" MAGAZINE OF FEBTUARY 1957 UNDER THE HEADING OF "THE MUNCASTER STEAM-ENGINE MODELS".

TITLE
**2 CYL. ANTABLATURE STEAM ENGINE WITH
 PARALLEL MOTION CROSSHEAD BY H.MUNCASTER.**

DRAWING CONTENTS
RENDERED PICTURES

PROJECT No 11-07-02
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
 JULY-2017

MODEL SCALE: 1:1
 DWG SCALE: 1:1 @A3 OR AS SHOWN
 Copyright © J.A.M. DE WAAL PAPAURA NZ
A3 No:MUNCASTER7.2-06

SHEET: 06 OF 06