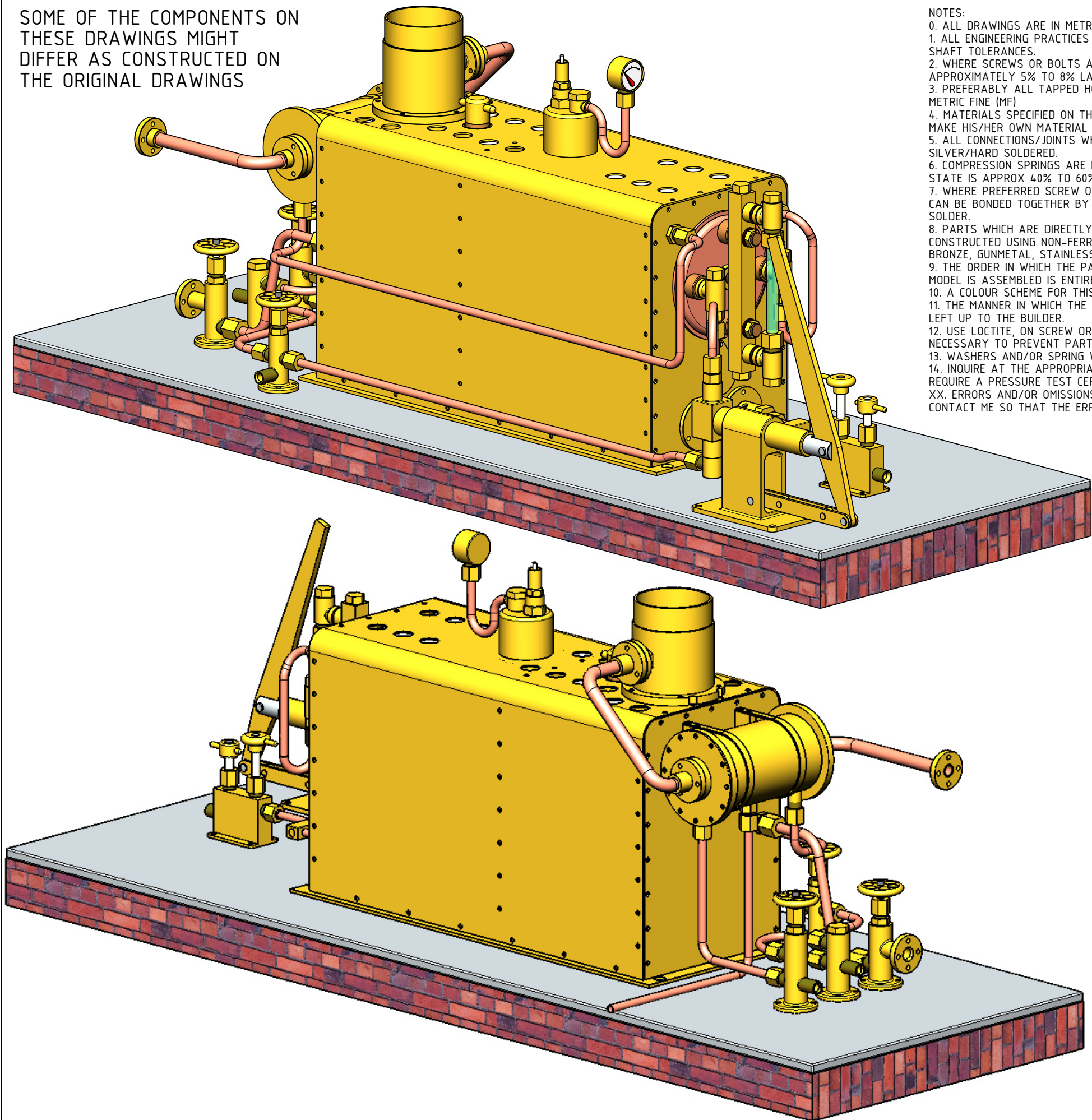


SOME OF THE COMPONENTS ON THESE DRAWINGS MIGHT DIFFER AS CONSTRUCTED ON THE ORIGINAL DRAWINGS



- 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. 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.

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

- 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 SHOW ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED TYPE OF FASTENERS.
 - 2) PRESSURE GAUGE.
THE RANGE OF THE PRESSURE GAUGE TO BE DETERMENT AFTER MAXIMUM BOILER PRESSURE IS ESTABLISHED AND THE AVAILABILITY ON THE MARKET. THE PRESSURE GAUGE IS A PROPRIETY ITEM.
 - 3) PIPING
PREFERABLY ALL PIPING TO BE COPPER. THE PIPING ON THE DRAWINGS ARE INDICATIVE ONLY. THE BUILDER TO ESTABLISH THE PIPE LENGTH AND ROUTE FROM WORK PIECE. THE PIPE SIZES ARE INDICATIVE ONLY. THE BUILDER TO ESTABLISH THE AVAILABILITY OF THE PIPE SIZE(S) FROM THE LOCAL SUPPLIER(S). THE PIPE NUT(S) TO BE ADJUSTED TO THE USED PIPE SIZE.
 - 4) BOILER.
BEFORE STARTING: THE BOILER AS SHOWN ON THESE DRAWING SHOULD BE INSPECTED BY AN AUTHORISED PROFESSIONAL ENGINEER. THE RUNNING AND MAXIMUM BOILER PRESSURE TO BE CALCULATED. MAKE SURE THE THE BOILER FULLY COMPLIES WITH THE LOCAL RULES AND REGULATIONS OF MODEL BOILERS. A COMPLIANCE AND TEST CERTIFICATE SHOULD BE OBTAINED.
BOILER INSULATION IS NOT SHOWN ON THESE DRAWINGS.
 - 15) CHIMNEY.
THE EXTENDED CHIMNEY HAS A LIGHT PRESS FIT. THE BUILDER TO DESIGN HIS OWN EXTENDED CHIMNEY IF REQUIRED. IT IS MADE REMOVABLE FOR TRANSPORT PURPOSES.
 - 6) MECHANICAL FEED PUMP.
THE MECHANICAL FEEDPUMP IS NOT SHOWN ON THESE DRAWING. THE PUMP IS OPERATED BY, AND A PART OF THE BUILDERS CHOSEN ENGINE.

QTY.	PART NUMBER
1	01-46-00-1-01-BASE+INNER+OUTER CASING
1	01-46-00-1-02-CASING FRONT PLATE
1	01-46-00-1-03-CASING REAR PLATE
1	01-46-00-1-04-FEED WATER HEATER PIPE
2	01-46-00-1-05-BURNER
1	01-46-00-1-06-CHIMNEY BASE
1	01-46-00-1-07-BOILER SHELL
1	01-46-00-1-08-INTERNAL STEAM SUPPLY PIPE
1	01-46-00-1-09-INNER WATER TUBE
1	01-46-00-1-09-INNER WATER TUBE
1	01-46-00-1-10-OUTER WATER TUBE
1	01-46-00-1-10-OUTER WATER TUBE
1	01-46-00-1-11-SUPER HEATER PIPE
2	01-46-00-1-12-BOILER NON-RETURN VALVE
1	01-46-00-1-13-SAFETY VALVE
1	01-46-00-1-14-PRESSURE GAUGE CONNECTOR
1	01-46-00-1-15-PRESSURE GAUGE
1	01-46-00-1-16-WATER LEVEL GAUGE
1	01-46-00-1-17-MOUTING BASE
1	01-46-00-1-18-GAS SUPPLY MANIFOLD
3	01-46-00-1-19-PIPE NUT M8x5.5
1	01-46-00-1-20-BURNER GAS SUPPLY VALVE
1	01-46-00-1-21-HAND OPERATED FEED PUMP
16	01-46-00-1-22-PIPE NUT M8x5
1	01-46-00-1-23-HAND PUMP DISCHARGE PIPE
1	01-46-00-1-24-WATER SUPPLY VALVE
1	01-46-00-1-25-WATER SUPPLY PIPE-1
2	01-46-00-1-26-F-W HEATER TO N-R VALVE PIPE
1	01-46-00-1-27-HEAT EXCHANGER
1	01-46-00-1-28-HEAT EXCHANGER COIL
1	01-46-00-1-29-HEAT EXCHANGER EXIT PIPE
1	01-46-00-1-30-WARM WTER PIPE
1	01-46-00-1-31-TO CONDENSOR PIPE
1	01-46-00-1-32-ENGINE STEAM SUPPLY THROTTLE
1	01-46-00-1-33-FRESH STEAM SUPPLY PIPE
2	01-46-00-1-34-PIPE NUT M10x6
1	01-46-00-1-35-ENGINE EXHAUST CONNECTION PIPE
1	01-46-00-1-36-BY-PASS VALVE
1	01-46-00-1-37-BY-PASS TO HT EXCHANGER
1	01-46-00-1-38-WATER SUPPLY DIVIDER POST
1	01-46-00-1-39-WATER SUPPLY TO POST PIPE
1	01-46-00-1-40-BY-PASS WTR SUPPLY PIPE

NOTES: THIS SET OF DRAWINGS IS BASED ON DRAWINGS WHICH I FOUND ON THE INTERNET. THE ORIGINAL DRAWINGS WERE BY JAN GUNNARSSON. DATE UNKNOWN. PAGES 106 TO 143 MAGAZINE UKNOWN. THIS DESIGN IS 1.5 TIMES LARGER THAN THE ORIGINAL DESIGN

TITLE
A STATIONARY GAS FIRED BOILER FOR MARINE OR GENERAL USE.

DRAWING CONTENTS
ISOMETRIC VIEW, NOTES AND BILL OF MATERIALS

PROJECT No 01-46-00
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2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.

PROJECTION		JDWDS	MODEL SCALE: 1:1
DATE	NOVEMBER 2021	Copyright © J.A.M. DE WAAL PAPA KURA NZ	DWG SCALE: 1:1 @A3 OR AS SHOWN
SHEET: 02 OF 09	A3	No: 01-46-00-SHT02	

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