

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.

QTY.	PART NUMBER
1	07E-24-00-1-01-UNDER FRAME
4	07E-24-00-1-02-WHEEL BEARING
1	07E-24-00-1-03-IDLER SHAFT-1
1	07E-24-00-1-04-IDLER SHAFT-3
1	07E-24-00-1-05-REAR BUFFER BEAM
1	07E-24-00-1-06-WATER PUMP
1	07E-24-00-1-07-REGULATOR+OILER
1	07E-24-00-1-08-FOOTPLATE+CABIN
1	07E-24-00-1-09-BOILER
3	07E-24-00-1-10-BOILER NIPPLE
1	07E-24-00-1-11-SMOKE BOX
1	07E-24-00-1-12-SMOKEBOX DOOR+HINGE
1	07E-24-00-1-13-SAFETY VALVE
1	07E-24-00-1-14-BOILER NON RETURN VALVE
1	07E-24-00-1-15-WATER LEVEL GAUGE
1	07E-24-00-1-16-STEAM EXHAUST PIPE
1	07E-24-00-1-16-STEAM EXHAUST PIPE
2	07E-24-00-2-01-CYLINDER
1	07E-24-00-2-02-CRANKSHAFT+FLYWHEEL
2	07E-24-00-2-03-PISTON
2	07E-24-00-2-04-WHEEL SET
3	07E-24-00-2-05-GEAR WHEEL 12T
1	07E-24-00-2-05-GEAR WHEEL 12T
1	07E-24-00-2-06-GEAR WHEEL 30T
1	07E-24-00-2-07-GEAR WHEEL 36T
1	07E-24-00-2-07-GEAR WHEEL 36T
1	07E-24-00-2-07-GEAR WHEEL 36T
1	07E-24-00-2-08-IDLER SHAFT-2
1	07E-24-00-2-09-REVERSING LEVER
2	07E-24-00-2-10-CON-ROD
16	07E-24-00-M2.5x6 A-K ROUND HEAD SCREW
1	07E-24-00-M2x2.5 A-K GRUB SCREW SPECIAL
6	07E-24-00-M2x2.5 A-K GRUB SCREW
2	07E-24-00-M2x7 A-K GRUB SCREW
33	07E-24-00-M3 NUT
4	07E-24-00-M3 WASHER
2	07E-24-00-M3x10-ROUND HEAD WOOD SCREW
4	07E-24-00-M3x3.5 A-K GRUB SCREW
3	07E-24-00-M3x6 A-K C-SINK SCREW
21	07E-24-00-M3x6 A-K ROUND HEAD SCREW
9	07E-24-00-M3x8 A-K ROUND HEAD SCREW
2	07E-24-00-M4 NUT BRONZE
33	07E-24-00-M4 NUT
13	07E-24-00-M4x10 A-K ROUND HEAD SCREW
2	07E-24-00-M4x12 A-K ROUND HEAD SCREW
2	07E-24-00-M4x20-ROUND HEAD WOOD SCREW
16	07E-24-00-M4x8 A-K ROUND HEAD SCREW
3	07E-24-00-M5 NUT
5	07E-24-00-M5x30 A-K ROUND HEAD SCREW
1	07E-24-00-M64mm-RAIL

NOTES: THE ORIGINAL PLANN/DRAWING WAS GIVEN TO ME. THE ORIGINAL DESIGN WAS BY M. P. SYMES. NO DATE OR DRAFTER ON THE PLAN. CODE ON PLAN L0983. ORIGINALLY DESIGNED FOR GAUGE 1. THE ENGINE SHOWN ON THESE DRAWINGS IS FOR 64mm (2.5") GAUGE

TITLE
A NARROW GAUGE 0-4-0 SPIRITUS FIRED
STEAM LOCOMOTIVE CALLED "OSCAR"

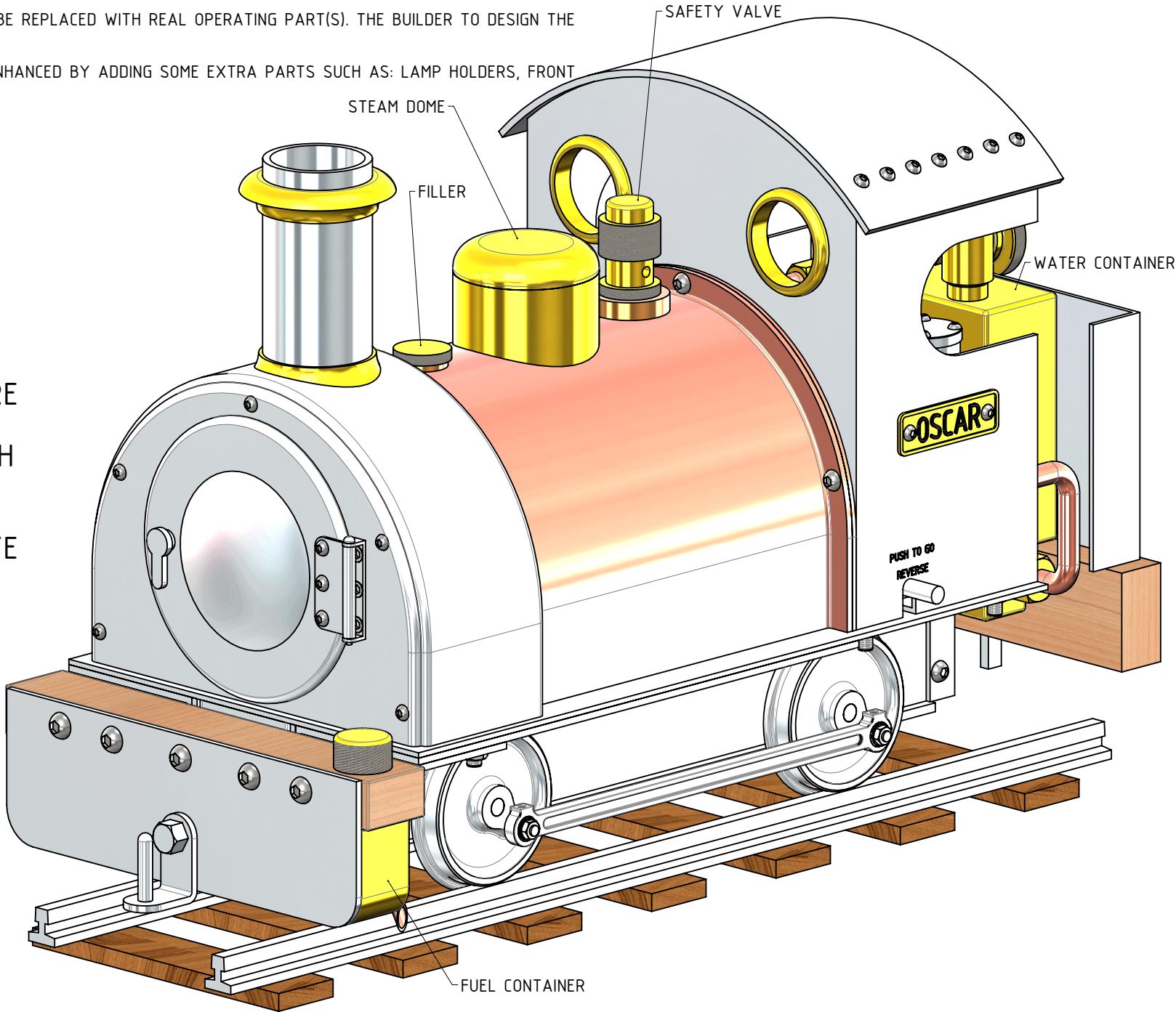
DRAWING CONTENTS
ISOMETRIC VIEW, NOTES,
BILL OF MATERIALS

PROJECT No 07E-24-00
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PROJECTION 	JDWDS	MODEL SCALE: 1:1
DATE MAY 2026	Copyright © J.A.M. DE WAAL PAPA KURA NZ	DWG SCALE: 1:1 @A3 OR AS SHOWN
SHEET: 02 OF 08	A3	No:07E-24-00-SHT-02

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES

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.
FASTENERS SUCH AS BOLTS, SCREWS, NUTS AND WASHERS HAVE BEEN SHOWN ON THESE DRAWINGS. NO RIVETS HAVE BEEN SHOWN ON THESE DRAWING.
2) PRESSURE GAUGE.
NO PRESSURE GAUGE HAS BEEN SHOWN OR INSTALLED. IF PRESSURE GAUGE IS REQUIRED OR DESIRED THAN 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.
IF BOILER INSULATION IS PREFERRED THEN THE BUILDER TO SOURCE THE APPROPRIATE MATERIAL AND THICKNESS. THE BOILER CLADDING DIAMETER SHOULD BE ADJUSTED ACCORDINGLY.
5) DUMMY PARTS.
IF PREFERRED SOME OF THE DUMMY PARTS COULD BE REPLACED WITH REAL OPERATING PART(S). THE BUILDER TO DESIGN THE PART OR ALTERNATIVELY PURCHASE.
6) ENHANCEMENT
THE APPEARANCE OF THE LOCOMOTIVE COULD BE ENHANCED BY ADDING SOME EXTRA PARTS SUCH AS: LAMP HOLDERS, FRONT AND REAR LIGHTS, FLAG HOLDERS.



IMPORTANT NOTE:
BEFORE STARTING: IT IS STRONGLY ADVISED THAT THE BOILER AS SHOWN ON THESE DRAWINGS SHOULD BE INSPECTED BY AN AUTHORISED PROFESSIONAL ENGINEER AND THE WORKING AND MAXIMUM BOILER PRESSURE TO BE CALCULATED. MAKE SURE THE BOILER FULLY COMPLIES WITH THE LOCAL RULES AND REGULATIONS OF MODEL BOILERS. A COMPLIANCE AND SAFETY/TEST CERTIFICATE SHOULD BE OBTAINED.

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

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