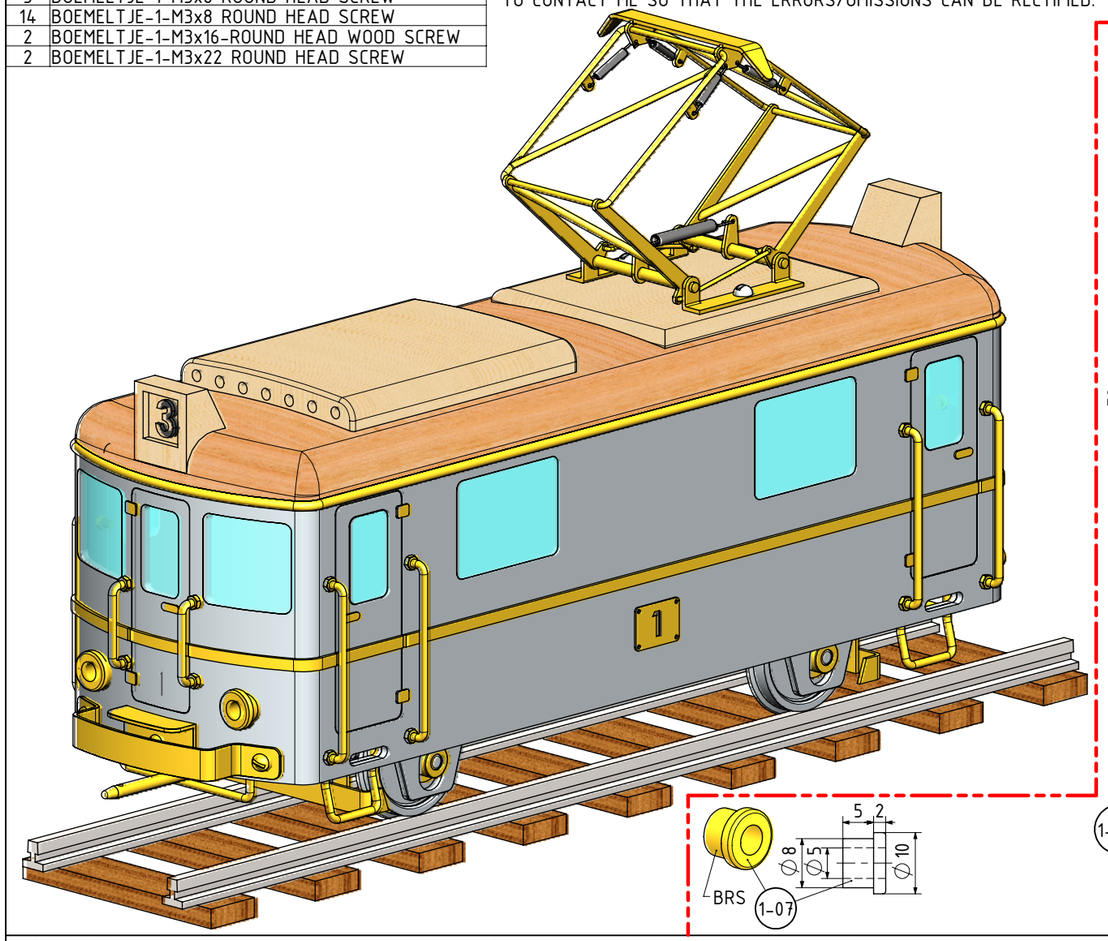
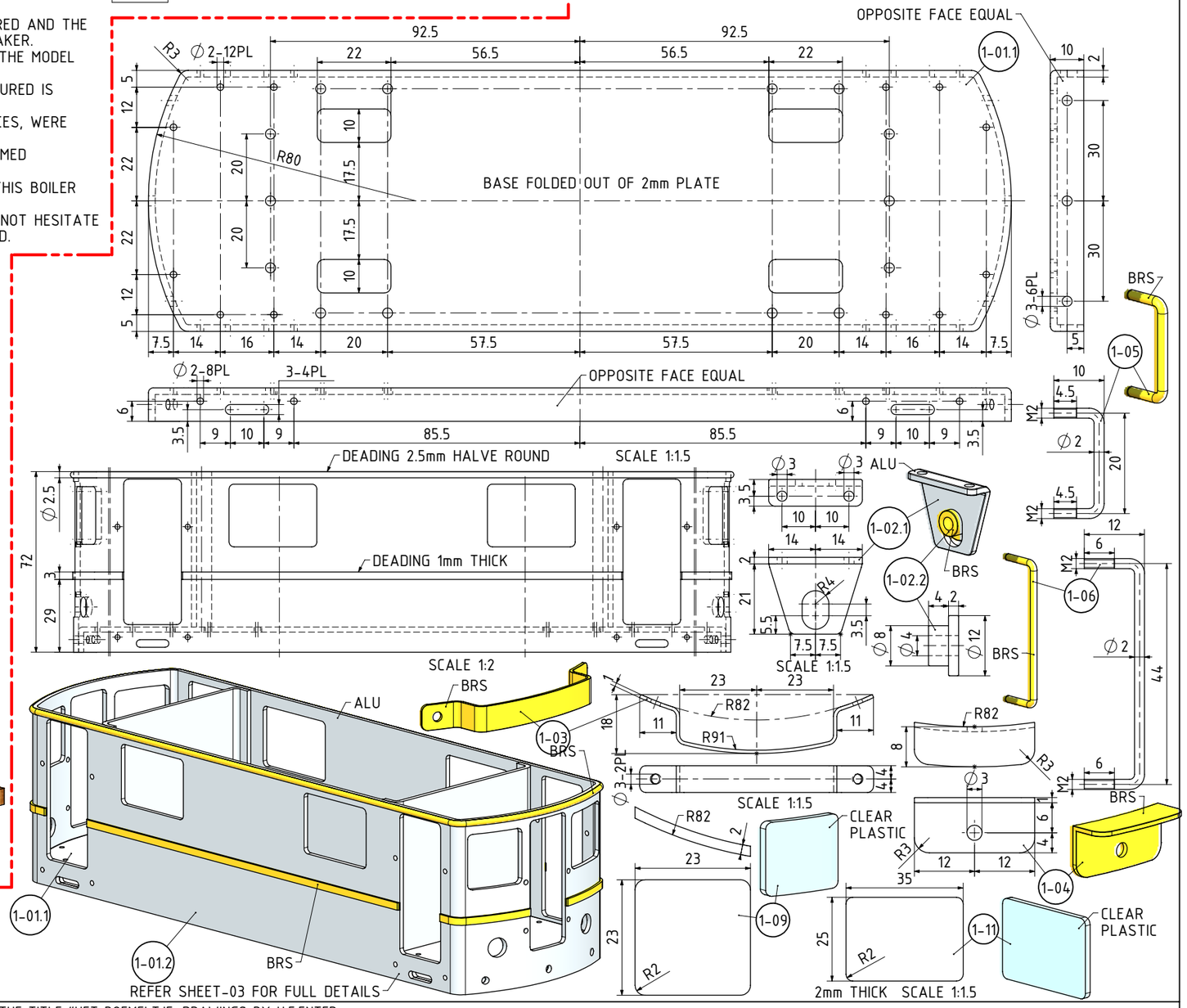
QTY.	PART NUMBER
1	BOEMELTJE-1-1-01-ENGINE BODY
4	BOEMELTJE-1-1-02-WHEEL BEARING
2	BOEMELTJE-1-1-03-BUMPER
2	BOEMELTJE-1-1-04-FRONT STEP
4	BOEMELTJE-1-1-05-FRONT HAND RAIL
8	BOEMELTJE-1-1-06-SIDE HAND RAIL
4	BOEMELTJE-1-1-07-HEAD LAMP
2	BOEMELTJE-1-1-08-FRONT DOOR
4	BOEMELTJE-1-1-09-FRONT WINDOW
2	BOEMELTJE-1-1-10-SIDE DOOR
2	BOEMELTJE-1-1-10-SIDE DOOR
4	BOEMELTJE-1-1-11-SIDE WINDOW
2	BOEMELTJE-1-1-12-WHEEL GUARD
2	BOEMELTJE-1-1-13-PULL ROD SUPPORT BRACKET
4	BOEMELTJE-1-1-14-SIDE STEP
1	BOEMELTJE-1-1-15-ROOF
2	BOEMELTJE-1-1-16-ROOF SINGAGE
1	BOEMELTJE-1-1-17-PANTOGRAPH ROOF BASE
2	BOEMELTJE-1-1-18-PANTOGRAPH ARM-1
2	BOEMELTJE-1-1-19-PANTOGRAPH STABILIZER ROD
2	BOEMELTJE-1-1-20-PANTOGRAPH ARM-2
1	BOEMELTJE-1-1-21-PANTOGRAPH COLLECTOR
1	BOEMELTJE-1-1-22-PANTOGRAPH CENTER SPRING
4	BOEMELTJE-1-1-23-PANTOGRAPH TOP SPRING
1	BOEMELTJE-1-1-24-PULL ROD COUPLING
1	BOEMELTJE-1-1-24-PULL ROD COUPLING
2	BOEMELTJE-1-1-25-WHEEL+AXLE
2	BOEMELTJE-1-1-26-NUMBER PLATE
1	BOEMELTJE-1-45mm-RAIL
71	BOEMELTJE-1-M2 NUT-BRASS
24	BOEMELTJE-1-M3 NUT-BRASS
2	BOEMELTJE-1-M3 WASHER
3	BOEMELTJE-1-M3x6 ROUND HEAD SCREW
14	BOEMELTJE-1-M3x8 ROUND HEAD SCREW
2	BOEMELTJE-1-M3x16-ROUND HEAD WOOD SCREW
2	BOEMELTJE-1-M3x22 ROUND HEAD SCREW

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.
14. INQUIRE AT THE APPROPRIATE AUTHORITIES WHETHER OR NOT THIS BOILER REQUIRES 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
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
SA-xxx = SUB ASSEMBLY-xxx

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 SOULD BE ABLE TO WITHSTAND THE HEAT AND PRESSURE(S) APPLIED TO THEM.
nnn/nnn MEANS THAT EITHER MATERIAL CAN BE USED





NOTES: THE ORIGINAL DRAWINGS AND ARTICLE WERE FIRST PUBLISHED IN THE "MODELBOUWER" MAGAZINE OF No3 20 MARCH 1952 UNDER THE TITLE "HET BOEMELTJE. DRAWINGS BY H.F.ENTER

TITLE
A SIMPLE FREELANCE ELECTRIC LOCOMOTIVE CALLED "BOEMELTJE-1" FOR 45mm GAUGE

DRAWING CONTENTS
ISOMETRIC VIEW, B.O.M., NOTES, PARTS AND ASSEMBLIES

PROJECT No 04-08-00
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PROJECTION JDWDS
DATE JULY 2018
MODEL SCALE: 1:32
DWG SCALE: 1:1 @A3 OR AS SHOWN
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SHEET: 02 OF 04 A3 No: 04-08-00-SHT02