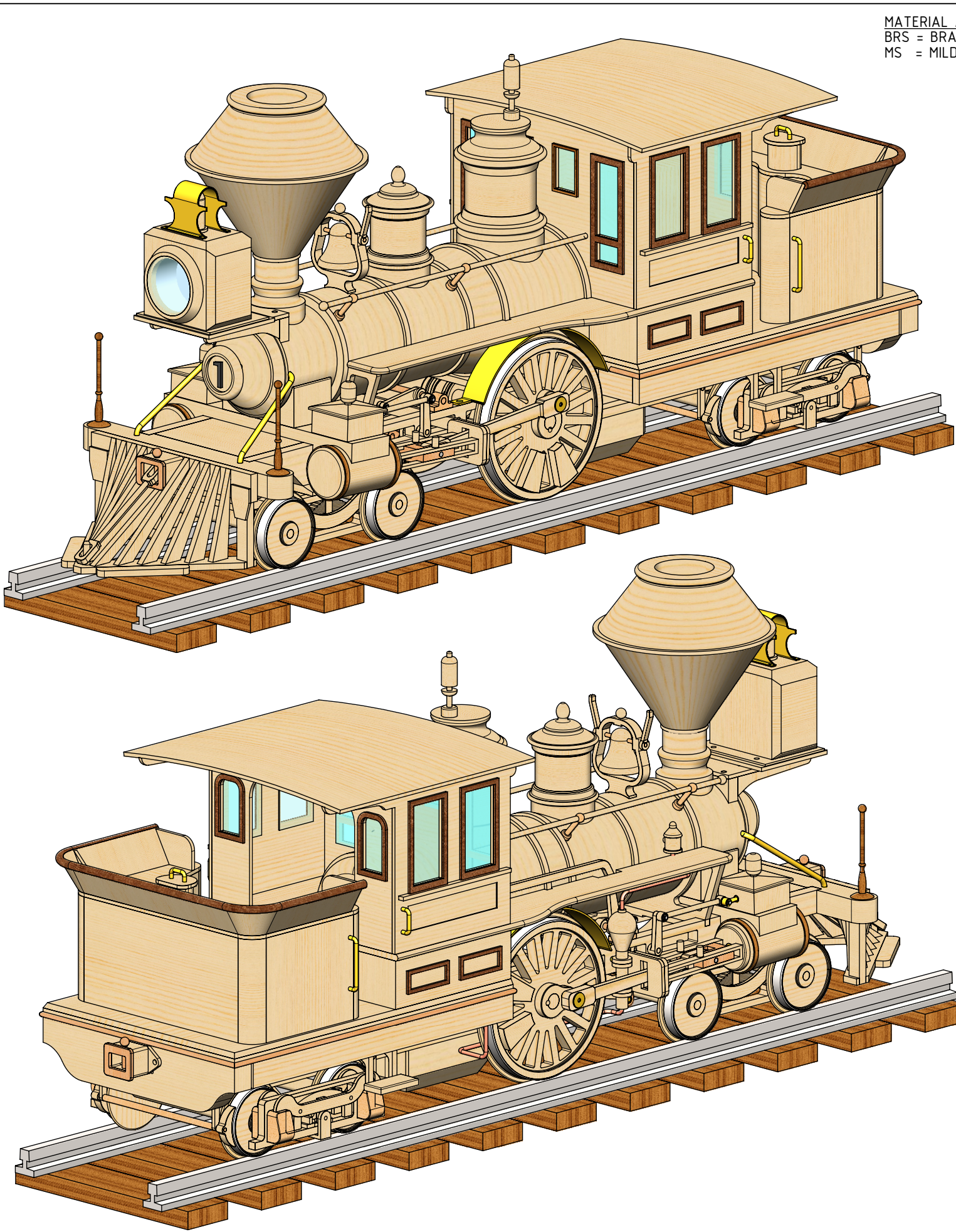




MATERIAL ABBREVIATIONS:
BRS = BRASS
MS = MILD STEEL

QTY.	PART NUMBER
4	CPHUNT-3.5-5-19-HAND RAIL POST
2	CPHUNT-3.5-5-20-HAND RAIL
1	CPHUNT-3.5-5-21-FEED WATER NON RETURN VALVE
1	CPHUNT-3.5-5-22-SMOKEBOX STAY
1	CPHUNT-3.5-5-22-SMOKEBOX STAY
1	CPHUNT-3.5-6-01-BASE FLOOR PLATE
2	CPHUNT-3.5-6-02-BASE FLOOR PLATE SKIRT-1
2	CPHUNT-3.5-6-03-BASE FLOOR PLATE SKIRT-2
1	CPHUNT-3.5-6-04-CABIN FLOOR
2	CPHUNT-3.5-6-05-CABIN SEAT
1	CPHUNT-3.5-6-06-RUNNING BOARD
1	CPHUNT-3.5-6-06-RUNNING BOARD
1	CPHUNT-3.5-6-07-CABIN FRONT PLATE
1	CPHUNT-3.5-6-08-CABIN SIDE PLATE
1	CPHUNT-3.5-6-08-CABIN SIDE PLATE
1	CPHUNT-3.5-6-09-CABIN REAR PLATE
2	CPHUNT-3.5-6-10-CABIN HAND RAIL
1	CPHUNT-3.5-6-11-CABIN ROOF
2	CPHUNT-3.5-6-12-CABIN STEP
2	CPHUNT-3.5-6-13-BASE FLOOR PLATE TRIM
2	CPHUNT-3.5-6-13-BASE FLOOR PLATE TRIM
1	CPHUNT-3.5-6-13-BASE FLOOR PLATE TRIM
1	CPHUNT-3.5-6-14-WATER TANK SURROUND
1	CPHUNT-3.5-6-15-WATER TANK TOP PLATE
1	CPHUNT-3.5-6-16-WATER FILLER LID HANDLE
2	CPHUNT-3.5-6-17-WATER TANK FLANGE BRACKET-1
4	CPHUNT-3.5-6-18-WATER TANK FLANGE BRACKET-2
1	CPHUNT-3.5-6-19-WATER TANK FLANGE
2	CPHUNT-3.5-6-20-WATER TANK HAND RAIL
1	CPHUNT-3.5-89mm-RAIL

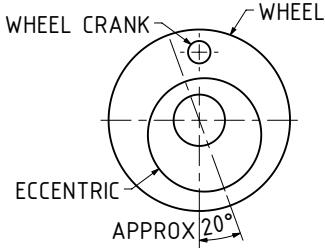
QTY.	PART NUMBER
2	CPHUNT-3.5-1-01-SIDE FRAME
1	CPHUNT-3.5-1-02-REAR BUFFER BEAM
1	CPHUNT-3.5-1-03-FRONT BREAST BEAM
1	CPHUNT-3.5-1-04-PILOT MAIN FRAME TOP PLATE
2	CPHUNT-3.5-1-05-PILOT MAIN FRAME DROPPER PLATE
1	CPHUNT-3.5-1-06-PILOT MAIN FRAME BOTTOM PLATE
2	CPHUNT-3.5-1-07-PILOT MAIN FRAME BOTTOM STEP PLATE
2	CPHUNT-3.5-1-08-PILOT MAIN FRAME RAIL-1
2	CPHUNT-3.5-1-08-PILOT MAIN FRAME RAIL-2
2	CPHUNT-3.5-1-08-PILOT MAIN FRAME RAIL-3
2	CPHUNT-3.5-1-08-PILOT MAIN FRAME RAIL-4
2	CPHUNT-3.5-1-08-PILOT MAIN FRAME RAIL-5
2	CPHUNT-3.5-1-08-PILOT MAIN FRAME RAIL-6
1	CPHUNT-3.5-1-09-COUPPLING PULL ROD HOUSING
1	CPHUNT-3.5-1-10-PULL ROD
2	CPHUNT-3.5-1-11-FLAG POLE
1	CPHUNT-3.5-1-12-CROSS BRACE-1
1	CPHUNT-3.5-1-13-CROSS BRACE-2
1	CPHUNT-3.5-1-14-CROSS BRACE-3
1	CPHUNT-3.5-1-15-CYLINDER SADDLE BEAM
1	CPHUNT-3.5-1-16-REAR TRUCK CROSS BRACE
2	CPHUNT-3.5-1-17-CYLINDER
4	CPHUNT-3.5-1-18-CROSSHEAD GUIDE
1	CPHUNT-3.5-1-19-CROSSHEAD GUIDE YOKE PLATE
2	CPHUNT-3.5-1-20-STEAM CHEST
1	CPHUNT-3.5-1-21-CROSS BRACE-4
2	CPHUNT-3.5-1-22-LEVER SHAFT BEARING PEDESTAL
4	CPHUNT-3.5-1-23-REAR BOGIE BRAKE HANGER
2	CPHUNT-3.5-1-24-BRAKE HANGER CROSS SHAFT
4	CPHUNT-3.5-1-25-REAR BOGIE BRAKE SHOE
2	CPHUNT-3.5-1-26-BRAKE SHOE CROSS SHAFT
1	CPHUNT-3.5-1-30-SMOKE BOX REST
1	CPHUNT-3.5-1-31-FRONT BOLIER REST
2	CPHUNT-3.5-1-32-DRIVER WHEEL MUDGUARD
1	CPHUNT-3.5-1-33-REAR BEAM COUPLING
1	CPHUNT-3.5-1-34-FEED WATER PUMP
1	CPHUNT-3.5-1-35-PUMP TO VALVE PIPE
1	CPHUNT-3.5-1-36-WATER TANK TO PUMP PIPE
1	CPHUNT-3.5-2-01-DRIVER WHEEL AXLE
2	CPHUNT-3.5-2-02-DRIVER WHEEL
2	CPHUNT-3.5-2-03-DRIVER WHEEL CRANK PIN
2	CPHUNT-3.5-2-04-CROSSHEAD SLIDE+PISTON ROD
2	CPHUNT-3.5-2-05-CON. ROD
4	CPHUNT-3.5-2-06-ECCENTRIC SHEAVE
4	CPHUNT-3.5-2-07-ECCENTRIC ROD
2	CPHUNT-3.5-2-08-EXSPANSION LINK PLATE
3	CPHUNT-3.5-2-09-CONTROL ROD LEVER
1	CPHUNT-3.5-2-10-CONTROL ROD LEVER SHAFT
1	CPHUNT-3.5-2-11-CONTROL LEVER LINK
1	CPHUNT-3.5-2-11-CONTROL LEVER LINK
2	CPHUNT-3.5-2-12-ROCKING LEVER SHAFT
4	CPHUNT-3.5-2-13-ROCKING LEVER
2	CPHUNT-3.5-2-14-EXSPANSION LINK SLIDER
2	CPHUNT-3.5-2-15-SLIDE VALVE SPINDLE
2	CPHUNT-3.5-2-16-VALVE SPINDLE CON. ROD
2	CPHUNT-3.5-2-17-M3x12 BRASS WASHER
1	CPHUNT-3.5-2-18-REACH ROD
1	CPHUNT-3.5-2-19-REACH ROD WRIST PIN
2	CPHUNT-3.5-2-20-R3x11 WRIST PIN
2	CPHUNT-3.5-2-21-R3x10 WRIST PIN
6	CPHUNT-3.5-2-22-R3x7 WRIST PIN
2	CPHUNT-3.5-3-01-FRONT BOGIE SIDE FRAME
2	CPHUNT-3.5-3-02-FRONT BOGIE SPRING HANGER
2	CPHUNT-3.5-3-03-FRONT BOGIE LEAF SPRING
1	CPHUNT-3.5-3-04-FRONT BOGIE CENTER CROSS BRACE
2	CPHUNT-3.5-3-05-FRONT BOGIE END CROSS BRACE
1	CPHUNT-3.5-3-06-FRONT BOGIE CENTER BOLSTER BEAM
2	CPHUNT-3.5-3-07-FRONT BOGIE WHEEL AXLE
4	CPHUNT-3.5-3-08-FRONT BOGIE WHEEL
2	CPHUNT-3.5-4-01-REAR BOGIE SIDE FRAME
1	CPHUNT-3.5-4-02-REAR BOGIE BOLSTER PLATE
1	CPHUNT-3.5-4-03-REAR BOGIE CENTER BOLSTER BEAM
4	CPHUNT-3.5-4-04-REAR BOGIE AXLE BOX
4	CPHUNT-3.5-4-05-REAR BOGIE EQUALIZER BEAM
2	CPHUNT-3.5-4-06-REAR BOGIE SPRING PACK
12	CPHUNT-3.5-4-07-REAR BOGIE SPACER
2	CPHUNT-3.5-4-08-REAR BOGIE SPACER YOKE
2	CPHUNT-3.5-4-09-REAR BOGIE WHEEL AXLE
4	CPHUNT-3.5-4-10-REAR BOGIE WHEEL
1	CPHUNT-3.5-5-01-SMOKE BOX FRONT COVER
1	CPHUNT-3.5-5-02-SMOKE BOX
1	CPHUNT-3.5-5-03-BOILER FRONT SECTION
1	CPHUNT-3.5-5-04-BOILER REAR SECTION
1	CPHUNT-3.5-5-05-BOILER FIRE BOX
1	CPHUNT-3.5-5-06-ASHPAN
1	CPHUNT-3.5-5-07-BACKHEAD
1	CPHUNT-3.5-5-08-HEADLIGHT BRACKET
1	CPHUNT-3.5-5-09-SMOKE STACK
1	CPHUNT-3.5-5-10-HEADLIGHT
1	CPHUNT-3.5-5-11-HEADLIGHT HOOD
1	CPHUNT-3.5-5-12-BELL HANGER BRACKET
2	CPHUNT-3.5-5-13-BELL RINGER HANDLE
1	CPHUNT-3.5-5-14-BELL
1	CPHUNT-3.5-5-15-SANDBOX
1	CPHUNT-3.5-5-16-STEAM DOME
1	CPHUNT-3.5-5-17-WHISTLE-SAFETY VALVE
1	CPHUNT-3.5-5-18-FIRE BOX DOOR

NOTES:

- ALL DRAWINGS ARE IN METRIC MEASUREMENTS
- ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
- WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
- PREFERABLY ALL TAPPED HOLES AND MATCHING SCREWS AND/OR BOLTS TO BE METRIC FINE (MF)
- MATERIALS SPECIFIED ON THE DRAWINGS ARE INDICATIVE ONLY. THE BUILDER CAN MAKE HIS/HER OWN MATERIAL CHOICE.
- 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.
- THE ORDER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED AND THE MODEL IS ASSEMBLED IS ENTIRELY LEFT TO THE BUILDER/MODEL MAKER.
- A COLOUR SCHEME FOR THIS PROJECT IS ENTIRELY LEFT UP TO THE MODEL MAKER.
- THE MANNER IN WHICH THE PARTS/COMPONENTS ARE MANUFACTURED IS ENTIRELY LEFT UP TO THE BUILDER.
- 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



THE OFF SET ANGLE OF THE ECCENTRIC RELATION TO THE CRANK AXIS TO BE EXPERIMENTALLY DETERMINED FOR THE SMOOTH RUNNING OF THE ENGINE AND SATISFACTION OF THE BUILDER

NOTES: THE ORIGINAL DRAWINGS AND ARTICLE(S) WERE PUBLISHED IN THE "POPULAR SCIENCE" MAGAZINES OF 1946. PHOTO COPIES OF THE ORIGINAL DRAWINGS WERE SENT TO ME BY Mr TOM SCRIVEN (SCOTLAND).

TITLE
MODEL OF A 4-2-4 AMERICAN LOCOMOTIVE
NAMED "C.P.HUNTINGTON" FOR 89mm (3.5") GAUGE

DRAWING CONTENTS
ISOMETRIC VIEWS, BILL OF MATERIALS
AND NOTES

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PROJECTION
DATE
APRIL 2018
SHEET: 02 OF 13
JDWDS
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MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
A3
No: CPHUNT-89-02