

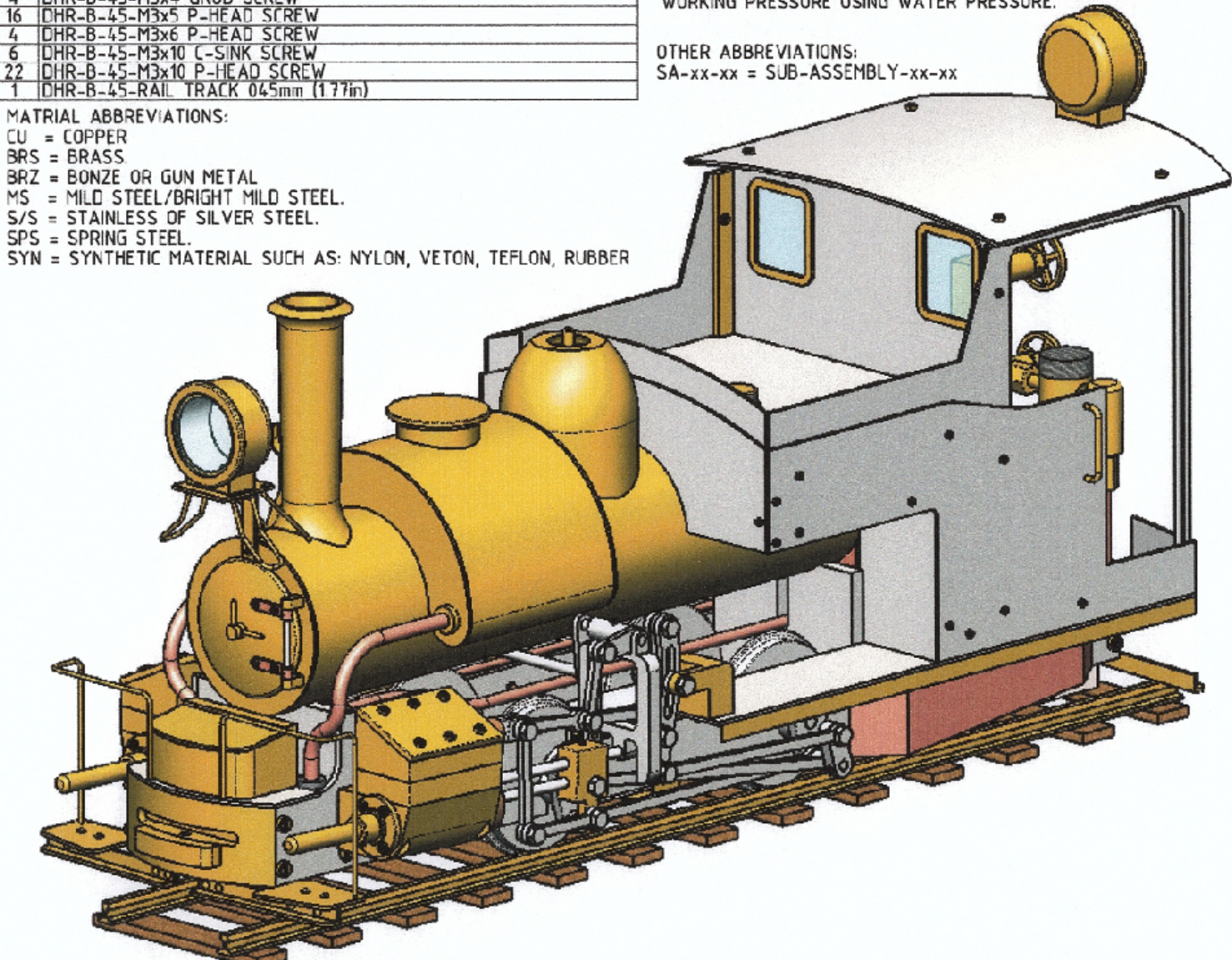
QTY.	PART NUMBER	QTY.	PART NUMBER	QTY.	PART NUMBER
1	DHR-B-45-1-01-RH-SIDE FRAME	1	DHR-B-45-2-31-VALVE REVERSING SHAFT BUSH-1	1	DHR-B-45-4-01-CABIN OUTER SIDE PLATE
1	DHR-B-45-1-02-LH-SIDE FRAME	1	DHR-B-45-2-32-VALVE REVERSING SHAFT BUSH-2	1	DHR-B-45-4-01-CABIN OUTER SIDE PLATE
2	DHR-B-45-1-03-BUFFER BEAM	3	DHR-B-45-2-33-VALVE REVERSING SHAFT CRANK PLATE	1	DHR-B-45-4-02-CABIN OUTER FRONT PLATE
1	DHR-B-45-1-04-REAR BOILER SUPPORT	2	DHR-B-45-2-34-VALVE REVERSING LINK	2	DHR-B-45-4-03-CABIN CORNER STIFFENER
1	DHR-B-45-1-05-FRONT BOILER SUPPORT	2	DHR-B-45-2-35-VALVE CON ROD	2	DHR-B-45-4-04-CABIN COAL BUNKER SIDE PLATE
1	DHR-B-45-1-06-FRONT FOOT PLATE	2	DHR-B-45-2-36-VALVE AHEAD LINK	1	DHR-B-45-4-05-CABIN COAL BUNKER FRONT PLATE
4	DHR-B-45-1-07-BRONZE AXLE BEARING	2	DHR-B-45-2-37-VALVE LINK-1	1	DHR-B-45-4-06-CABIN COAL BUNKER BOTTOM PLATE
1	DHR-B-45-1-08-LH-CYLINDER	2	DHR-B-45-2-38-VALVE ROD YOKE	1	DHR-B-45-4-07-CABIN FRONT PLATE
1	DHR-B-45-1-09-RH-CYLINDER	1	DHR-B-45-2-40-DIRECTION CONTROL HANDLE	1	DHR-B-45-4-08-CABIN REAR PLATE
2	DHR-B-45-1-10-STEAM VALVE PORT BLOCK	2	DHR-B-45-2-41-M3x8-CROSS HEAD CON ROD SHAFT	1	DHR-B-45-4-09A-CABIN FRONT PLATE CORNER STIFFENER
1	DHR-B-45-1-11-LH-VALVE BOX	4	DHR-B-45-2-42-M3x5-CROSS HEAD LOWER LINK SHAFT	2	DHR-B-45-4-09B-CABIN FRONT PLATE CORNER STIFFENER
1	DHR-B-45-1-12-RH-VALVE BOX	7	DHR-B-45-2-43-M3x4-LOWER LINK-DROP LINK SHAFT	1	DHR-B-45-4-09C-CABIN FRONT PLATE CORNER STIFFENER
2	DHR-B-45-1-13-VALVE BOX COVER	2	DHR-B-45-2-44-M3x8-VALVE CROSSHEAD-DROP LINK SHAFT	3	DHR-B-45-4-10-CABIN ROOF STIFFENER
2	DHR-B-45-1-14-CYLINDER FRONT COVER	4	DHR-B-45-2-45-M3x5.5-ROCKER ARM SHAFT	1	DHR-B-45-4-11-CABIN ROOF
2	DHR-B-45-1-15-CYLINDER REAR COVER	2	DHR-B-45-2-45-M3x6-ROCKER ARM TOP BOLT	1	DHR-B-45-4-12-CABIN RH-COAL BUNKER BOTTOM PLATE
2	DHR-B-45-1-16-VALVE BOX REAR COVER	2	DHR-B-45-2-47-M3x8-ROCKER ARM BOTTOM BOLT	1	DHR-B-45-4-13-CABIN LH-COAL BUNKER BOTTOM PLATE
2	DHR-B-45-1-17-CROSS HEAD GUIDE	2	DHR-B-45-2-48-M3x4-LOWER LINK-ECCENTRIC ROD SHAFT	2	DHR-B-45-4-14-CABIN HAND RAIL
4	DHR-B-45-1-18-STEAM IP-OP CONNECTOR	2	DHR-B-45-2-49-M3x6-ECCENTRIC CRANK-ECC.ROD SHAFT	4	DHR-B-45-4-15-CABIN MOUNTING ANGLE BRACKET
1	DHR-B-45-1-19-FOOT PLATE	QTY.	PART NUMBER	2	DHR-B-45-4-16-FRONT WINDOWS SURROUND
1	DHR-B-45-1-20-FOOT PLATE RIGHT RIM	1	DHR-B-45-3-01-EXTERNAL BOILER SHELL	1	DHR-B-45-4-17-REAR LAMP HOLDER
1	DHR-B-45-1-21-FOOT PLATE LEFT RIM	1	DHR-B-45-3-02-INTERNAL BOILER SHELL	1	DHR-B-45-4-18-LAMPHOLDER REAR SEAT
1	DHR-B-45-1-22-FOOT PLATE REAR RIM	1	DHR-B-45-3-03-SMOKE BOX FRONT	QTY.	PART NUMBER
4	DHR-B-45-1-23-FOOT PLATEMOUNTING BRACKET	1	DHR-B-45-3-04-INTERNAL BOILER FRONT	18	DHR-B-45-M15-NUT
2	DHR-B-45-1-24-VALVE REVERSING SHAFT BRACKET	2	DHR-B-45-3-05-FLAME PIPE	16	DHR-B-45-M15x2 RIVET
2	DHR-B-45-1-25-VALVE REVERSING SHAFT HOLDING BRACKET	1	DHR-B-45-3-06-DOME RING	34	DHR-B-45-M15x5 P-HEAD SCREW
2	DHR-B-45-1-26-ROCKER PLATE BRACKET	1	DHR-B-45-3-07-SUPPORT RING	2	DHR-B-45-M15x7 GRUB SCREW
2	DHR-B-45-1-27-BUFFER	1	DHR-B-45-3-08-STEAM DELIVERY PIPE	5	DHR-B-45-M2-NUT
1	DHR-B-45-1-28-SAND BOX	1	DHR-B-45-3-09A-STEAM DIVIDER BUSH	4	DHR-B-45-M2x2.5 GRUB SCREW
1	DHR-B-45-1-29-SAND BOXHINGE PLATE	1	DHR-B-45-3-09B-STEAM DIVIDER	2	DHR-B-45-M2x4 C-SINK SCREW
1	DHR-B-45-1-30-SAND BOX LID	1	DHR-B-45-3-10-WATER LEVEL METER BUSH	9	DHR-B-45-M2x4 P-HEAD SCREW
1	DHR-B-45-1-31A-CYLINDER EXHAUST CROSS PIPE CENTER CON	1	DHR-B-45-3-11-BOILER BACK HEAD TOP	14	DHR-B-45-M2x6 P-HEAD SCREW
4	DHR-B-45-1-31B-CYLINDER EXHAUST CROSS PIPE	1	DHR-B-45-3-12-BOILER BACK HEAD BOTTOM	8	DHR-B-45-M2x8 P-HEAD SCREW
4	DHR-B-45-1-31C-CYLINDER EXHAUST CROSS PIPE NUT	1	DHR-B-45-3-13-FIRE BOX TOP PLATE	8	DHR-B-45-M2x10 P-HEAD SCREW
1	DHR-B-45-1-32A-CYLINDER INLET CROSS PIPE CENTER CONNECTOR	1	DHR-B-45-3-18-SCREW END	8	DHR-B-45-M2x21 P-HEAD SCREW
1	DHR-B-45-1-32B-CYLINDER INLET DELIVERY PIPE	1	DHR-B-45-3-19-SMOKE BOX WATER TUBE-A	6	DHR-B-45-M3-NUT
1	DHR-B-45-1-33-CYLINDER INLET DELIVERY PIPE - GREASER CON	1	DHR-B-45-3-20-SMOKE BOX WATER TUBE-B	4	DHR-B-45-M3x2.5 GRUB SCREW
1	DHR-B-45-1-34-CYLINDER INLET PIPE NUT	1	DHR-B-45-3-21-SMOKE BOX WATER TUBE-C	4	DHR-B-45-M3x4 GRUB SCREW
1	DHR-B-45-1-35-RH-WIND SHIELD	1	DHR-B-45-3-22-FIRE BOX WALL	16	DHR-B-45-M3x5 P-HEAD SCREW
1	DHR-B-45-1-35-LH-WIND SHIELD	1	DHR-B-45-3-23-FIRE BOX FRONT WALL	4	DHR-B-45-M3x6 P-HEAD SCREW
1	DHR-B-45-1-37-PIPE FLANGE	1	DHR-B-45-3-24-FIRE BOX REAR WAL	6	DHR-B-45-M3x10 C-SINK SCREW
1	DHR-B-45-1-37-PIPE FLANGE	1	DHR-B-45-3-25-FIRE BOX COAL FEED LID	22	DHR-B-45-M3x10 P-HEAD SCREW
2	DHR-B-45-1-38-REAR AND FRONT STEP MOUNTING PLATE	1	DHR-B-45-3-26-SADDLE TANK	1	DHR-B-45-RAIL TRACK 045mm (1.77in)
1	DHR-B-45-1-39-LEFT REAR STEP ANGLE	1	DHR-B-45-3-27-WATER FILLER		
1	DHR-B-45-1-40-RIGHT REAR STEP ANGLE	1	DHR-B-45-3-28-WATER FILLER LID		
1	DHR-B-45-1-41-LEFT FRONT STEP ANGLE	2	DHR-B-45-3-29-PIPE FLANGE		
1	DHR-B-45-1-42-RIGHT FRONT STEP ANGLE	1	DHR-B-45-3-30-EXHAUST RING		
2	DHR-B-45-1-43-STEP PLATE ANGLE BRACKET	1	DHR-B-45-3-31-EXHAUST NIPPLE		
2	DHR-B-45-1-44-STEP PLATE	1	DHR-B-45-3-32-EXHAUST TUBE		
1	DHR-B-45-1-45-LH FRONT HAND RAIL	1	DHR-B-45-3-33-EXHAUST TUBE NOZZLE		
1	DHR-B-45-1-46-RH FRONT HAND RAIL	1	DHR-B-45-3-34-BLOWER NIPPLE		
1	DHR-B-45-1-47-LUBRICATOR	1	DHR-B-45-3-35-BLOWER RING		
1	DHR-B-45-1-48-SCREW CONNECTOR	1	DHR-B-45-3-36-BLOWER TUBE		
1	DHR-B-45-1-49-BURNER WICK HOLDER	1	DHR-B-45-3-37-BLOWER TUBE NOZZLE		
1	DHR-B-45-1-50-BURNER FUEL TANK REAR	1	DHR-B-45-3-38-SUPPORT BRACKET		
6	DHR-B-45-1-51-BURNER WICK TUBE	1	DHR-B-45-3-39-DOME		
1	DHR-B-45-1-52-BURNER FILL PIPE	1	DHR-B-45-3-40-CHIMNEY		
1	DHR-B-45-1-53-MOUNTING RING	1	DHR-B-45-3-41-RH-WATER PIPE		
1	DHR-B-45-1-54-CONNECTING TUBE	1	DHR-B-45-3-42-LH-WATER PIPE		
1	DHR-B-45-1-55-BURNER FUEL TANK FRONT	1	DHR-B-45-3-43A-SMOKE BOX DOOR		
1	DHR-B-45-1-56-BURNER FUEL TANK BRACKET	4	DHR-B-45-3-43B-SMOKE BOX DOORSTAND OFF		
1	DHR-B-45-1-57-OVERFLOW TUBE	1	DHR-B-45-3-43C-SMOKE BOX HINGE		
QTY.	PART NUMBER	1	DHR-B-45-3-43D-SMOKE DOOR SCREW LOCK		
2	DHR-B-45-2-01-PISTON ROD	1	DHR-B-45-3-44-BLOWER PIPE NUT		
2	DHR-B-45-2-02-PISTON	1	DHR-B-45-3-45-BLOWER PIPE		
2	DHR-B-45-2-03-VALVE ROD	1	DHR-B-45-3-46-BLOWER PIPE EXTENTION		
2	DHR-B-45-2-04-VALVE NUT	1	DHR-B-45-3-47-REGULATOR PIPE NUT		
2	DHR-B-45-2-05-VALVE	1	DHR-B-45-3-48-SAFETY VALVE BODY		
1	DHR-B-45-2-06-RH-ROCKER PLATE	1	DHR-B-45-3-49-PRESSURE GAUGE CONNECTOR		
1	DHR-B-45-2-06-RH-ROCKER PLATE	1	DHR-B-45-3-50-PRESSUE GAUGE CONNECTOR SCREW		
1	DHR-B-45-2-07-LH-ROCKER PLATE	1	DHR-B-45-3-51-SAFETY VALVE STEM		
1	DHR-B-45-2-07-LH-ROCKER PLATE	1	DHR-B-45-3-52-SAFETY VALVE SPRING		
4	DHR-B-45-2-08-ROCKER PLATE SPACER	1	DHR-B-45-3-53-LAMP HOLDER		
4	DHR-B-45-2-09-ROCKER PLATE THREADED SPACER	1	DHR-B-45-3-55-LAMPHOLDER FRONT SEAT		
1	DHR-B-45-2-14-LH-CROSSHEAD	1	DHR-B-45-3-56-LAMP HOLDER FRONT BRACKET		
1	DHR-B-45-2-15-RH-CROSSHEAD	2	DHR-B-45-3-57-LAMP HOLDER FRONT BRACKET STAY		
2	DHR-B-45-2-17-CONNECTION ROD	2	DHR-B-45-3-58-LAMPHOLDER HAND GRIP		
2	DHR-B-45-2-18-PISTON CONNECTION ROD	2	DHR-B-45-3-59-REGULATOR VALVE BODY		
2	DHR-B-45-2-19-EXCENTRIC CONNECTION ROD	2	DHR-B-45-3-60-REGULATOR VALVE STEM		
2	DHR-B-45-2-20-EXCENTRIC CONNECTION CRANK	2	DHR-B-45-3-61-REGULATOR VALVE STEM GUIDE		
2	DHR-B-45-2-21-CONTRA CRANK	2	DHR-B-45-3-62-REGULATOR VALVE STEM SEAL		
2	DHR-B-45-2-22-CRANK PIN	2	DHR-B-45-3-63-REGULATOR VALVE HAND WHEEL		
2	DHR-B-45-2-23-SPACER	1	DHR-B-45-3-64-PRESSURE GAUGE		
4	DHR-B-45-2-24-CRANK	1	DHR-B-45-3-65-PRESSURE GAUGE SCREW CONNECTOR		
4	DHR-B-45-2-25-WHEEL	1	DHR-B-45-3-66-WATER FILLER RING		
2	DHR-B-45-2-26-WHEEL AXLE	1	DHR-B-45-3-67-WATER FILLER SCREW TOP		
1	DHR-B-45-2-28-LONG VALVE REVERSING SHAFT				
2	DHR-B-45-2-29-VALVE REVERSING SHAFT LINK PLATE				
2	DHR-B-45-2-30-SHORT VALVE REVERSING SHAFT				

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, SCREWS, BOLTS AND NUTS TO BE METRIC FINE (MF).
4. THE MATERIALS SPECIFIED ON THE DRAWINGS ARE INDICATIVE ONLY, THE BUILDER CAN CHOOSE MATERIALS WHICH COULD BE BETTER SUITED FOR THE PART(S)/COMPONENT.
5. BRASS BUSHES CAN BE REPLACED WITH BRONZE BUSHES IF SO PREFERRED OR WITH BALL BEARINGS IF SO DESIRED.
6. PISTON RING(S), IF APPLICABLE, TO BE MADE OUT OF EITHER TEFLON OR VETON OR NYLON (PISTON RING NOT SHOWN ON DRAWINGS).
7. WHERE PARTS ARE SOLDERED TOGETHER AND ALSO RIVETS OR SCREWS ARE SHOWN THEN THE RIVETS/SCREWS CAN BE OMITTED.
8. ALL BOILER PARTS WHICH ARE UNDER STEAM PRESSURE SHALL BE HARD/SILVER SOLDERED.
9. ALL PARTS WHICH FORMS PART OF A WATER CONTAINER CAN BE SOLDERED USING SOFT SOLDER.
10. ALL PARTS WHICH DO NOT HAVE SIGNIFICANT FORCES APPLIED CAN BE SOLDERED TOGETHER USING SOFT SOLDER.
11. THE BUILDER SHOULD INQUIRE, AT THE APPROPRIATE AUTHORITIES, WHETHER OR NOT THE BOILER SHOULD BE TESTED AND ISSUED WITH A CERTIFICATE OF COMPLIANCE BEFORE THE BOILER IS BEING USED.
12. THE BOILER SHOULD BE TESTED TO TWICE THE MAXIMUM WORKING PRESSURE USING WATER PRESSURE.

OTHER ABBREVIATIONS:

SA-xx-xx = SUB-ASSEMBLY-xx-xx



NOTES: THE ORIGINAL DESIGN OF THIS MODEL ENGINE WAS MADE BY Mr.H.E.SCHEELE, AND PUBLISHED IN THE DUTCH MAGAZINE "ONDER STOOM". THE MAGAZINE NUMBERS WERE 244 TO 255

TITLE	DRAWING CONTENTS	PROJECT No 07E-04-00	PROJECTION	DATE	MODEL SCALE: 1:13.3/45mm GAUGE
DARJEELING HIMALAYAN RAILWAY	ISOMETRIC VIEW , NOTES AND BILL	JDW DRAUGHTING SERVICES	JDWDS	DECEMBER 2014	DWG SCALE: 1:1 @A3 OR AS SHOWN
"B-CLASS" STEAM LOCOMOTIVE	OF MATERIALS	J.A.M. DE WAAL, 12 BRIGHTWELL STREET PAKAPURA 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.			Copyright © J.A.M. DE WAAL PAKAPURA NZ
				SHEET: 02 OF 09	A3 No: 07E-04-00-SHT02

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