

PART NUMBER		QTY.	PART NUMBER	QTY.	PART NUMBER	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
1	07A-09-00-127mm-RAIL	2	07A-09-00-L1-69-PIPE NUT M12x7	1	07A-09-00-T1-02-WATER+FUEL UPPER STRUCTURE	
1	07A-09-00-L1-01-UNDER FRAME	1	07A-09-00-L1-70-WATER SUPPLY PIPE FROM TENDER	1	07A-09-00-T1-03-HAND PUMP COVER PLATE	
1	07A-09-00-L1-02-SMOKE BOX REST	1	07A-09-00-L1-71-BYPASS SUPPLY PIPE FROM MECH.PUMP	2	07A-09-00-T1-04-LOWER RAILING	
1	07A-09-00-L1-03-BOILER REST FRAME PLATE	1	07A-09-00-L1-72-HAND PUMP SUPPLY PIPE FROM TENDER	2	07A-09-00-T1-04-LOWER RAILING	
1	07A-09-00-L1-04-BOILER REST FRAME PLATE-1	1	07A-09-00-L1-73-CHECK VALVE SUPPLY PIPE	2	07A-09-00-T1-04-LOWER RAILING	
1	07A-09-00-L1-05-BRAKE CYLINDER FRAME	2	07A-09-00-L1-74-STOP NUT M10	1	07A-09-00-T1-05-FUEL CONTROL VALVE	
1	07A-09-00-L1-06-STRECHER FRAME	1	07A-09-00-L1-75-SUPER HEASTER	1	07A-09-00-T1-06-BYPASS OVERFLOW	
1	07A-09-00-L1-07-CABIN FLOOR FRAME	1	07A-09-00-L1-76-CYLINDER STEAM SUPPLY PIPE	1	07A-09-00-T1-07-WATER TANK DISCHARGE NIPPLE	
1	07A-09-00-L1-08-BRAKE MAIN SHAFT	1	07A-09-00-L1-77-BLOWER PIPE	1	07A-09-00-T1-08-HAND PUMP DISCHARGE NIPPLE	
6	07A-09-00-L1-09-AXLE BOX	1	07A-09-00-L1-78-BLOWER PIPE EXTENSION	1	07A-09-00-T1-09-HAND PUMP	
1	07A-09-00-L1-10-FLAT BUFFER	1	07A-09-00-L1-79-DUMMY WHISTLE	1	07A-09-00-T1-10-FLAT BUFFER	
1	07A-09-00-L1-11-CURVED BUFFER	1	07A-09-00-L1-80-DRIVERS CABIN FLOOR	1	07A-09-00-T1-11-CURVED BUFFER	
1	07A-09-00-L1-12-COUPLING	1	07A-09-00-L1-81-DRVERS CABIN STEPS	1	07A-09-00-T1-12-COUPLING	
2	07A-09-00-L1-13-CYLINDER	1	07A-09-00-L1-81-DRVERS CABIN STEPS	1	07A-09-00-T1-13-REAR HANDRAIL+STEPS	
2	07A-09-00-L1-14-VALVE CHEST	1	07A-09-00-L1-82-REVERSER STAND	1	07A-09-00-T1-13-REAR HANDRAIL+STEPS	
2	07A-09-00-L1-15-VALVE CHEST COVER	1	07A-09-00-L1-83-DRIVERS CABIN STRUCTURE	2	07A-09-00-T1-14-FRONT HANDRAIL	
2	07A-09-00-L1-16-CYLINDER FRONT COVER	1	07A-09-00-L1-84-DRIVERS CABIN DOOR	8	07A-09-00-T1-15-LEAF SPRING	
1	07A-09-00-L1-17-CYLINDER REAR COVER	1	07A-09-00-L1-84-DRIVERS CABIN DOOR	8	07A-09-00-T1-16-AXLE BOX	
1	07A-09-00-L1-17-CYLINDER REAR COVER	1	07A-09-00-L1-85-DRIVERS CABIN HAND RAIL	1	07A-09-00-T1-17-TENDER BOGIE	
2	07A-09-00-L1-18-SLIDE VALVE SPINDLE BEARING BRACKER	1	07A-09-00-L1-85-DRIVERS CABIN HAND RAIL	4	07A-09-00-T1-18-FEXIBLE HOSE+CONNECTOR	
2	07A-09-00-L1-18-SLIDE VALVE SPINDLE BEARING BRACKER	2	07A-09-00-L1-86-NUMBER SHIELD	1	07A-09-00-T1-20-NUMBER SHIELD	
1	07A-09-00-L1-19-FRONT COVER PLATE	1	07A-09-00-L1-87-CABIN ROOF	2	07A-09-00-T1-19-SIDE LETTERING	
3	07A-09-00-L1-20-BRAKE HANGER	1	07A-09-00-L1-88-REAR WHEEL GUARD	2	07A-09-00-T1-19-SIDE LETTERING	
3	07A-09-00-L1-20-BRAKE HANGER	1	07A-09-00-L1-88-REAR WHEEL GUARD	2	07A-09-00-T1-19-SIDE LETTERING	
1	07A-09-00-L1-21-BRAKE CROSS BAR	1	07A-09-00-L1-89-SIDE FOOT PLATE	4	07A-09-00-T2-01-WHEELS+AXLE	
6	07A-09-00-L1-22-BRAKE SHOE	1	07A-09-00-L1-89-SIDE FOOT PLATE	2	07A-09-00-T2-02-TOOL KIT LID	
2	07A-09-00-L1-23-BRAKE CON-ROD	2	07A-09-00-L1-90-DUM MY OILER			
1	07A-09-00-L1-24-MECH. FEED PUMP	14	07A-09-00-L1-91-SMOKE BOX DOOR CLAMP	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 SHOWN ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED TYPE OF FASTENERS. 3) 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. 4) 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. 5) 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. 6) 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. 7) ENHANCEMENT THE APPEARANCE OF THE LOCOMOTIVE COULD BE ENHANCED BY ADDING SOME EXTRA PARTS SUCH AS: FRONT AND REAR LIGHTS, AND A FULLY OPERATIONAL BRAKE SYSTEM. 8) NO MECHANICAL OILER IS SHOWN ON THESE DRAWINGS. IF THE BUILDER WISHES TO INCORPORATE A MECHANICAL OILER, REFER TO DRAWINGS 07A-10-00-SHT-A1 AND A2 9) COAL FIRED BOILER A SPIRIT FIRED BOILER IS SHOWN ON THE DRAWINS. IF THE BUILDER WISHES TO INCORPORATE A COAL FIRED BOILER THEN REFER TO DRAWINGS 07A-10-01-SH1 AND SHT2 (PLEASE NOTE DRAWINGS 07A-10-01-SH1 AND SHT2 ARE NOT INCLUDED IN THIS SET OF DRAWINGS)		
2	07A-09-00-L1-25-CROSSHEAD GUIDE	1	07A-09-00-L1-92-WHISTLE			
1	07A-09-00-L1-26-STEAM EXHAUST MANIFOLD	1	07A-09-00-L1-93-WHISTLE PIPE			
2	07A-09-00-L1-27-EXPANSION LINK BEARING BRACKET	1	07A-09-00-L1-94-DUMMY VALVE OPERATION ROD			
2	07A-09-00-L1-28-LIFTING ARM BEARING	1	07A-09-00-L1-95-DUMMY SMOKE BOX VALVE OPERATION ROD			
1	07A-09-00-L1-29-BOGIE FRAME	1	07A-09-00-L1-96-PULL LINK PLATE			
4	07A-09-00-L1-30-BOGIE AXLE BOX	2	07A-09-00-L1-97A-DUMMY LEAFSPRING-MIDDLE			
1	07A-09-00-L1-31-BYPASS VALVE	1	07A-09-00-L1-97B-DUMMY LEAFSPRING-REAR			
1	07A-09-00-L1-32-BOILER+SMOKE BOX	1	07A-09-00-L1-97B-DUMMY LEAFSPRING-REAR			
1	07A-09-00-L1-33-CHECK VALVE NIPPLE	1	07A-09-00-L1-97C-DUMMY LEAFSPRING-FRONT			
1	07A-09-00-L1-34-WATER LEVEL GAUGE NIPPLE	1	07A-09-00-L1-97C-DUMMY LEAFSPRING-FRONT			
2	07A-09-00-L1-35-FIRE DOOR HINGE NIPPLE	1	07A-09-00-L2-01-DRIVE WHEEL SET-1			
1	07A-09-00-L1-36-FIRE DOOR LOCK NIPPLE	2	07A-09-00-L2-02-DRIVE WHEEL SET-2 AND 3			
1	07A-09-00-L1-37-WATER LEVL GAUGE TOP CONNECTOR	1	07A-09-00-L2-03-PISTON + CROSSHEAD			
1	07A-09-00-L1-38-BLOWER PIPE NIPPLE-1	1	07A-09-00-L2-03-PISTON + CROSSHEAD			
1	07A-09-00-L1-39-BLOWER PIPE+NIPPLE-2	1	07A-09-00-L2-04-CON-ROD TYPE-1			
1	07A-09-00-L1-40-BOILER LONG STAY+NIPPLES	1	07A-09-00-L2-04-CON-ROD TYPE-1			
1	07A-09-00-L1-41-BOILER WATER TUBE TYPE-1	1	07A-09-00-L2-05-CON-ROD TYPE-2			
11	07A-09-00-L1-42-BOILER WATER TUBE TYPE-2	1	07A-09-00-L2-05-CON-ROD TYPE-2			
1	07A-09-00-L1-43-CROWN STAYS	1	07A-09-00-L2-06-CON-ROD TYPE-3			
1	07A-09-00-L1-44-SPIRIT BURNER	1	07A-09-00-L2-06-CON-ROD TYPE-3			
1	07A-09-00-L1-45-STEAM MANIFOLD	2	07A-09-00-L2-07-MECH. PUMP ECCENTRIC STRAP			
1	07A-09-00-L1-46-THROTTLE HOUSING	2	07A-09-00-L2-08-MECH. PUMP PLUNGER			
1	07A-09-00-L1-47-INNER STEAM DOME	1	07A-09-00-L2-09-SLIDE VALVE			
1	07A-09-00-L1-48-BOILER THERMAL INSULATION	1	07A-09-00-L2-09-SLIDE VALVE			
1	07A-09-00-L1-49-BOILER CLADDING+STRAP	1	07A-09-00-L2-10-LIFTING ARM + ROD			
2	07A-09-00-L1-50-DOME	2	07A-09-00-L2-11-LIFTING LINK			
1	07A-09-00-L1-51-SAFETY VALVE	2	07A-09-00-L2-12-EXPANSION LINK			
1	07A-09-00-L1-52-CHECK VALVE	2	07A-09-00-L2-13-ECCENTRIC ROD			
1	07A-09-00-L1-53-BLOWER VALVE	2	07A-09-00-L2-14-RADIUS BAR			
3	07A-09-00-L1-54-PIPE NUT M10x5	2	07A-09-00-L2-15-COMBINATION LEVER			
1	07A-09-00-L1-55-DISPLACEMENT OILER	2	07A-09-00-L2-16-UNION LINK			
1	07A-09-00-L1-56-STEAM INLET MANIFOLD	2	07A-09-00-L2-17-SLIDE VALVE CONNECTOR CRANK SHAFT			
9	07A-09-00-L1-57-PIPE NUT M10x7	2	07A-09-00-L2-18-BOGIE WHEELS+ AXLE			
1	07A-09-00-L1-58-FIRE HOLE RING	1	07A-09-00-L2-19-REGULATOR OPERATING ROD			
1	07A-09-00-L1-59-WATER LAVEL GAUGE	1	07A-09-00-L2-20-REGULATOR SLIDE VALVE			
1	07A-09-00-L1-60-BOILER FIRE DOOR HINGE	1	07A-09-00-L2-21-REGULATOR SLIDE VALVE LINK			
1	07A-09-00-L1-61-BOILER FIRE DOOR LEDGE	1	07A-09-00-L2-22-SMOKE BOX DOOR			
1	07A-09-00-L1-62-WHISTLE OPERATOR HOUSING	1	07A-09-00-L2-23-FIRE DOOR			
1	07A-09-00-L1-63-SMOKE BOX SUPPORT PILLAR	1	07A-09-00-L2-24-REVERER SLIDE NUT			
1	07A-09-00-L1-63-SMOKE BOX SUPPORT PILLAR	1	07A-09-00-L2-25-REVERSER SCREW SPINDLE			
2	07A-09-00-L1-64-SMOKE BOX STEPS	1	07A-09-00-L2-26-REACH ROD			
2	07A-09-00-L1-65-SMOKE BOX STEPS HOLDING BRACKET	2	07A-09-00-L2-27-DUMMY OILER VALVE STEM			
2	07A-09-00-L1-66-SMOKE BOX HAND RAIL	2	07A-09-00-L2-28-DUMMY OILER ARM LEVER OPERATOR			
20	07A-09-00-L1-67-BOILER HANDRAIL NIPPLE	2	07A-09-00-L2-29-DUMMY OILER CON ROD			
2	07A-09-00-L1-68-BOILER HAND RAIL	1	07A-09-00-T1-01-UNDER FRAME			

NOTES: THIS MODEL WAS FIRST PUBLISHED IN THE "MODELBOUWER" 1989. THE WRITTEN ARTICLES WERE BY J.J. van ROOIJEN, KRIMPEN A/D IJSSEL. THE ORIGINAL MODEL WAS SCALE 1:25 WITH A RAIL GAUGE OF 57.4mm (NCS 76 WAS RENUMBERED TO NS 3600)

TITLE		DRAWING CONTENTS		PROJECT No 07A-10-00		<div>PROJECTION</div> <div></div> <div>DATE</div>	<div>JDWDS</div>	MODEL SCALE: 1:11.3 (127mm/5inch)		
A SPIRIT FIRED MODEL OF A STEAM LOCOMOTIVE NCS 76 OF THE DUTCH RAILWAYS		BILL OF MATERIALS AND NOTES		JDW DRAUGHTING SERVICES J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAKURA 2110, NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.				DWG SCALE: NTS @A2 OR AS SHOWN		
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						SHEET: 03 OF 17		A2	No:07A-10-00-SHT03	

PLEASE NOTE THIS IS AN "A2" SIZE SHEET

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES