

QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER
2	KATHY-1-01-SIDE FRAME PLATE	1	KATHY-2-11-WTR PMP CON ROD END-2	1	KATHY-4-39-WTR GAUGE DISCHARGE PIPE	1	KATHY-127mm-RAIL
4	KATHY-1-02-BUFFER BEAM ANGLE	1	KATHY-2-12-WTR PMP CON-ROD	1	KATHY-4-40-STEAM MANIFOLD BUSH	1	KATHY-M2.5 NUT
1	KATHY-1-03-BUFFER BEAM	2	KATHY-2-13-SLIDE VALVE ECCENTRIC SHEAVE	1	KATHY-4-41-STEAM MANIFOLD BODY	6	KATHY-M2.5x6 ROUND HEAD SCREW
1	KATHY-1-03-BUFFER BEAM	2	KATHY-2-14-ECCENTRIC STOP COLLAR	1	KATHY-4-42-STEAM MANIFOLD BOTTOM NIPPLE	7	KATHY-M2.5x8 ROUND HEAD SCREW
2	KATHY-1-04-PULL HOOK	1	KATHY-2-15-COUPILING ROD	1	KATHY-4-43-STEAM MANIFOLD TOP SCREW	6	KATHY-M2.5x10 ROUND HEAD SCREW
2	KATHY-1-05-COUPILING LINK	1	KATHY-2-15-COUPILING ROD	1	KATHY-4-44-STEAM MANIFOLD PUSH ROD	3	KATHY-M2 NUT
4	KATHY-1-06-BUFFER BASE	1	KATHY-2-16-CON-ROD	1	KATHY-4-45-STEAM MANIFOLD BALL VALVE	6	KATHY-M2x4 ROUND HEAD SCREW
4	KATHY-1-07-BUFFER	1	KATHY-2-16-CON-ROD	1	KATHY-4-46-STEAM MANIFOLD VALVE SPRING	1	KATHY-M2x8 ROUND HEAD SCREW
4	KATHY-1-08-BUFFER SPRING	2	KATHY-2-17-PISTON	1	KATHY-4-47-STEAM MANIFOLD WHISTLE HANDLE	63	KATHY-M3 NUT
4	KATHY-1-09-HORNBLOCK	2	KATHY-2-18-PISTON ROD	2	KATHY-4-48-STEAM MANIFOLD PIPE NUT-1	1	KATHY-M3 WASHER
4	KATHY-1-10-AXLEBOX KEEPER	1	KATHY-2-19-CROSSHEAD	1	KATHY-4-49-STEAM MANIFOLD PIPE NUT-2	4	KATHY-M3x3 GRUB SREW
4	KATHY-1-11-AXLEBOX	1	KATHY-2-19-CROSSHEAD	1	KATHY-4-50-BLOWER PIPE	2	KATHY-M3x4 ROUND HEAD SCREW
8	KATHY-1-12-AXLEBOX SPRING	2	KATHY-2-20-CROSSHEAD PIN	1	KATHY-4-51-PRESSURE GAUGE-0-60PSI	24	KATHY-M3x6 C-SINK SCREW
1	KATHY-1-13-PUMP STAY	2	KATHY-2-21-SLIDE VALVE	1	KATHY-4-52-PRESSURE GAUGE PIPE NUT	25	KATHY-M3x8 ROUND HEAD SCREW
1	KATHY-1-14-WTR PMP BODY	2	KATHY-2-22-SLIDE VALVE NUT	1	KATHY-4-53-PRESSURE GAUGE SUPPLY PIPE	4	KATHY-M3x10 C-SINK SCREW
1	KATHY-1-15-WTR PMP INTAKE BODY	2	KATHY-2-23-SLIDE VALVE SPINDLE	1	KATHY-4-54-REGULATOR LEVER BOILER BUSH	8	KATHY-M3x10 ROUND HEAD SCREW
2	KATHY-1-16-WTR PMP BALL VALVE	2	KATHY-2-24-SLIDE VALVE ROCKING SHAFT	1	KATHY-4-55-REGULATOR LEVER SPINDLE NUT	16	KATHY-M3x12 ROUND HEAD SCREW
1	KATHY-1-17-WTR PMP DISCHARGE BODY	2	KATHY-2-25-ROCKING SHAFT INNER CRANK	1	KATHY-4-56-REGULATOR STAND	20	KATHY-M3x14 C-SINK SCREW
2	KATHY-1-18-WTR PMP PIPE NUT	2	KATHY-2-26-ROCKING SHAFT OUTER CRANK	1	KATHY-4-57-REGULATOR STEAM SUPPLY PIPE	55	KATHY-M4 NUT
1	KATHY-1-18-WTR PMP PIPE NUT	4	KATHY-2-27-SLIDE VALVE SPINDLE FORK PIN	1	KATHY-4-58-REGULATOR VALVE DISC	4	KATHY-M4 WASHER
2	KATHY-1-19-CYLINDER	2	KATHY-2-28-OUTER CRANK PIN	1	KATHY-4-59-REGULATOR SPINDLE PLATE	4	KATHY-M4x4 ROUND HEAD SCREW
2	KATHY-1-20-CYLINDER FRONT COVER	2	KATHY-2-29-SLIDE VALVE ECC.STRAP+ ROD	2	KATHY-4-60-REGULATOR LINK PLATE	2	KATHY-M4x10 GRUB SREW
2	KATHY-1-21-CYLINDER REAR COVER	2	KATHY-2-30-SLIDE VALVE CON-ROD	4	KATHY-4-61-REGULATOR VALVE DISC SCREW-1	6	KATHY-M4x10 HEX BOLT-BRONZE
2	KATHY-1-22-CYLINDER STEAM CHEST	1	KATHY-3-01-SMOKEBOX SHELL	1	KATHY-4-63-REGULATOR SPINDLE	14	KATHY-M4x10 ROUND HEAD SCREW
2	KATHY-1-23-CYLINDER STEAM CHEST COVER	1	KATHY-3-02-SMOKEBOX DOOR SURROUND	1	KATHY-4-64-REGULATOR CONTROL HANDLE	40	KATHY-M4x12 ROUND HEAD SCREW
2	KATHY-1-24-CROSSHEAD GUIDE BAR	1	KATHY-3-03-SMOKEBOX REAR PLATE	1	KATHY-4-65-DOME REGULATOR HOUSING	24	KATHY-M4x14 ROUND HEAD SCREW
2	KATHY-1-25-PISTON ROD GLAND	1	KATHY-3-04-SMOKEBOX WRAPPER	1	KATHY-4-66-DOME	20	KATHY-M4x30 ROUND HEAD SCREW
2	KATHY-1-26-SLIDE VALVE SPINDLE GLAND	1	KATHY-3-05-SMOKEBOX DOOR	1	KATHY-4-67-DOME BASE RING	6	KATHY-M5 NUT
1	KATHY-1-27-GUIDE BAR MOUNTING BRACKET	2	KATHY-3-06-SMOKEBOX DOOR HINGE STRAP	1	KATHY-4-68-REGULATOR VALVE FULCRUM POST	8	KATHY-M5x12 HEX BOLT
1	KATHY-1-27-GUIDE BAR MOUNTING BRACKET	2	KATHY-3-07-SMOKEBOX DOOR HINGE BLOCK	1	KATHY-4-69-REGULATOR VALVE ANCHOR FORK	4	KATHY-M10 NUT
2	KATHY-1-28-SLIDE VALVE ROCKER SHAFT BEARING	1	KATHY-3-08-SMOKEBOX DOOR HINGE PIN	1	KATHY-4-70-REGULATOR VALVE	6	KATHY-R3x4-ROUND HEAD RIVET
1	KATHY-1-29-M16 WTR PMP NUT	2	KATHY-3-09-SMOKEBOX CROSS BAR BRACKET	1	KATHY-4-71-REGULATOR VALVE LEVER	14	KATHY-R3x6-ROUND HEAD RIVET
2	KATHY-1-30-STEAM EXHAUST NIPPLE	1	KATHY-3-10-SMOKEBOX CROSSBAR	1	KATHY-4-72-REGULATOR VALVE DEPRESSOR	6	KATHY-R3x7-ROUND HEAD RIVET
2	KATHY-1-31-STEAM CHEST INLET NIPPLE	1	KATHY-3-11-SMOKEBOX DOOR DART	1	KATHY-4-73-REGULATOR VALVE TONGUE	2	KATHY-R3x9-ROUND HEAD RIVET
2	KATHY-1-32-STEAM EXHAUST PIPE NUT	1	KATHY-3-12-SMOKEBOX DOOR HANDLE-1	1	KATHY-4-74-REGULATOR VALVE SPRING CYLINDER		
2	KATHY-1-33-STEAM CHEST INLET PIPE NUT	1	KATHY-3-13-SMOKEBOX DOOR HANDLE-2	1	KATHY-4-75-REGULATOR VALVE SPRING PISTON		
1	KATHY-1-34-STEAM EXHAUST TEE	1	KATHY-3-14-CHIMNEY BASE	1	KATHY-4-76-REGULATOR VALVE SPRING		
1	KATHY-1-35-STEAM INLET TEE	1	KATHY-3-15-CHIMNEY FLUE	1	KATHY-4-77-REGULATOR VALVE WEDGE		
1	KATHY-1-36-STEAM INLET TEE PIPE NUT	1	KATHY-3-16-CHIMNEY CROWN	1	KATHY-4-78-REGULATOR VALVE PRESSURE NUT		
1	KATHY-1-37- INLET TEE OIL CHECK VALVE BODY	1	KATHY-3-17-SNIFFER BODY	1	KATHY-4-79-CHECK VALVE BUSH		
1	KATHY-1-38-OIL CHECK VALVE BALL VALVE	1	KATHY-3-18-SNIFFER BALL VALVE	1	KATHY-4-80-CHECK VALVE MAIN BODY		
1	KATHY-1-39-OIL CHECK VALVE SPRING	1	KATHY-3-19-SNIFFER PIPE NUT	1	KATHY-4-81-CHECK VALVE INLET NIPPLE		
1	KATHY-1-40-OIL CHECK VALVE PIPE NUT	1	KATHY-3-20-SNIFFER PIPE	1	KATHY-4-82-CHECK VALVE BALL VALVE		
1	KATHY-1-41-OIL PUMP CONTAINER	4	KATHY-3-21-HAND RAIL SUPPORT	1	KATHY-4-83-CHECK VALVE TOP SCREW		
1	KATHY-1-42-OIL PUMP CONTAINER COVER	2	KATHY-3-22-HAND RAIL	1	KATHY-4-84-CHECK VALVE PIPE NUT		
1	KATHY-1-43-OIL PUMP ROCKER SHAFT BEARING	1	KATHY-4-01-BOILER SHELL	1	KATHY-4-85-STEAM SUPPLY PIPE HEADER BOX		
1	KATHY-1-44-OIL PUMP STAND	1	KATHY-4-02-BOILER DOME BUSH	1	KATHY-4-86-SUPER HEATER PIPE		
1	KATHY-1-45-OIL PUMP CHECK VALVE BODY	1	KATHY-4-03-TRHOAT PLATE	7	KATHY-4-87-GRATE BAR		
1	KATHY-1-46-OIL PUMP VALVE COVER	1	KATHY-4-04-BACKHEAD PLATE	12	KATHY-4-88-GRATE SPACER		
1	KATHY-1-47-OIL PUMP BALL VALVE	1	KATHY-4-05-BACKHEAD WTR GAUGE BUSH	2	KATHY-4-89-GRATE TIE BAR		
1	KATHY-1-48-OIL PUMP BALL VALVE SPRING	1	KATHY-4-06-BOILER SHELL WTR GAUGE LUG	1	KATHY-4-90-GRATE HINGE BAR		
1	KATHY-1-49-OIL PUMP CYLINDER	1	KATHY-4-07-BOILER FOUNDATION RING	1	KATHY-4-91-ASHPAN		
1	KATHY-1-50-OIL PUMP CYLINDER SPRING	1	KATHY-4-08-FIREBOX MANTEL	1	KATHY-4-92-ASHPAN DUMPING PIN		
1	KATHY-1-51-OIL PUMP CRANK SHAFT	1	KATHY-4-09-FIREBOX REAR PLATE	1	KATHY-4-93-BLOWER PIPE NUT		
1	KATHY-1-52-OIL PUMP PISTON	1	KATHY-4-10-FIREBOX TUBE PLATE	1	KATHY-4-94-BLOWER PIPE+NOZZLE		
1	KATHY-1-53-OIL PUMP RACHET GEAR WHEEL	1	KATHY-4-11-BOILER WATER TUBE-22x1.5	1	KATHY-4-95-BOILER WATER SUPPLY PIPE		
1	KATHY-1-54-OIL PUMP STATIONARY PAWL	5	KATHY-4-12-BOILER WATER TUBE-14x1	1	KATHY-4-96-WHISTLE SUPPLY PIPE		
1	KATHY-1-55-OIL PUMP STATIONARY PAWL SPRING	1	KATHY-4-13-BOILER TUBE PLATE	1	KATHY-5-01-FOOTPLATE		
1	KATHY-1-56-OIL PUMP STATIONARY PAWL SHAFT	2	KATHY-4-14-FIREBOX CROWN	2	KATHY-5-02-VALLANCE		
1	KATHY-1-57-OIL PUMP SWING ARM	1	KATHY-4-15-FIREBOX FIRE HOLE RING	1	KATHY-5-03-WATER TANK		
1	KATHY-1-58-OIL PUMP MOVING PAWL	18	KATHY-4-16-FIREBOX 2-8.5-2 STAY	1	KATHY-5-03-WATER TANK		
1	KATHY-1-59-OIL PUMP MOVING PAWL SPRING	3	KATHY-4-17-FIREBOX 2-8.5-2.5 STAY	2	KATHY-5-04-WATER TANK FILLER CAP		
1	KATHY-1-60-OIL PUMP MOUNTING BRACKET	3	KATHY-4-18-FIREBOX 2-8.5-3 STAY	2	KATHY-5-05-WATER TANK DRAIN		
1	KATHY-1-61-OIL PUMP PIPE NUT	1	KATHY-4-19-BOILER SOLID STAY SCREW NUT	2	KATHY-5-06-WATER TANK PIPE NUT		
1	KATHY-1-62-OIL PUMP SUPPLY PIPE	1	KATHY-4-19-BOILER SOLID STAY SCREW NUT	1	KATHY-5-07-EQUALIZING PIPE TEE		
1	KATHY-1-63-WTR PMP PISTON NUT	1	KATHY-4-20-BOILER SOLID STAY	1	KATHY-5-08-EQUALIZING PIPE		
2	KATHY-1-64-BOILER SPACER BLOCK	1	KATHY-4-21-BLOWER VALVE BODY	1	KATHY-5-09-FEED PUMP SUPPLY PIPE		
2	KATHY-1-65-BOILER MOUNTING ANGLE	1	KATHY-4-22-BLOWER VALVE SPINDLE	1	KATHY-5-10-REAR CABIN STAND		
1	KATHY-1-66-WHISTLE	1	KATHY-4-23-BLOWER VALVE SPINDLE NUT	1	KATHY-5-11-HAND RAIL SUPPORT		
1	KATHY-1-67-WHISTLE DEFLECTOR	1	KATHY-4-24-BLOWER INTERNAL BOILER TUBE	8	KATHY-5-12-HAND RAIL		
1	KATHY-1-68-WHISTLE PIPE NUT	1	KATHY-4-25-BLOWER TUBE CONNECTOR	4	KATHY-5-13-CABIN FRONT PLATE		
1	KATHY-1-69-WHISTLE MOUNTING BRACKET	1	KATHY-4-26-BLOWER BODY PIPE NUT	1	KATHY-5-14-WINDOW+SEAL		
2	KATHY-2-01-WHEEL AXLE	1	KATHY-4-27-FIRE DOOR HINGE PLATE	2	KATHY-5-15-FRONT PLATE TRIM		
4	KATHY-2-02-WHEEL	1	KATHY-4-28-FIRE DOOR CATCH PLATE	1	KATHY-5-16-REAR STEP		
2	KATHY-2-03-FRONT WHEEL CRANK PIN	1	KATHY-4-29-FIRE DOOR	2	KATHY-5-17-NAME PLATE		
2	KATHY-2-04-REAR WHEEL CRANK PIN	1	KATHY-4-30-WTR GAUGE TOP BODY				
2	KATHY-2-05-COUPILING ROD RETAINING WASHER	1	KATHY-4-31-WTR GAUGE TOP BODY PLUG				
1	KATHY-2-06-WTR PMP ECCENTRIC SHEAVE	2	KATHY-4-32-WTR GAUGE GLASS NUT				
1	KATHY-2-07-WTR PMP ECC. ROD	1	KATHY-4-33-WTR GAUGE BOTTOM BODY				
1	KATHY-2-08-WTR PMP ECC ROD WRIST PIN	1	KATHY-4-35-WTR GAUGE VALVE SPINDLE				
1	KATHY-2-09-WTR PMP PISTON	1	KATHY-4-36-WTR GAUGE GLASS TUBE				
1	KATHY-2-10-WTR PMP CON ROD END-1	1	KATHY-4-38-WTR GAUGE PIPE NUT M6x3				

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-n-xxx]= SUB ASSEMBLY-n-xxx

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. WASHER SHALL BE USED WHERE DEEMED NECESSARY.  
14. IN QUIRE 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.

MATERIAL ABBREVIATIONS:  
ALU = ALUMINIUM  
BRS = BRASS  
BRZ = BRONZE OR GUNMETAL (BRZ/GM)  
CI = CAST IRON  
CU = COPPER  
GRA = GRAPHITE  
MS = MILD STEEL/BRIGHT MILD STEEL  
S/S = 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

THE FOLLOWING COULD BE ADDED IF SO DESIRED:  
A) BRAKING SYSTEM  
B) HEAD AND TAIL LIGHTS  
C) THERMAL INSULATION BLANKET/MATERIAL TO PREVENT HEAT LOSS  
D) BOILER CLADDING  
E) RAIL SCOOPS

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