



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

QTY.	PART NUMBER
1	05A-13-00-1-01-BASE PLATE
1	05A-13-00-1-02-BURNER
1	05A-13-00-1-03-CYLINDERS
1	05A-13-00-1-04-BURNER FLAME SHIELD
1	05A-13-00-1-05-FLAME SHIELD LEVER
1	05A-13-00-1-06-SHIELD ADJUSTER SCREW
1	05A-13-00-2-01-CRANK SHAFT+FLYWHEEL
1	05A-13-00-2-02-POWER PISTON
1	05A-13-00-2-03-CON-ROD
1	05A-13-00-2-04-DISPLACER
1	05A-13-00-2-05-DISPLACER LINKAGE-1
1	05A-13-00-2-06-DISPLACER LINKAGE-2
1	05A-13-00-2-06-DISPLACER LINKAGE-2
1	05A-13-00-2-07-DISPLACER LINKAGE-3
6	05A-13-00-M3x4-A-K GRUB SCREW
1	05A-13-00-M4 NUT
1	05A-13-00-M4 WASHER-RASS
1	05A-13-00-M4x ROUND HEAD SCREW-BRASS
1	05A-13-00-M4x12-A-K GRUB SCREW
3	05A-13-00-M4x14-A-K CYL HEAD SCREW
1	05A-13-00-M4x8-A-K CYL HEAD SCREW
4	05A-13-00-M5 DOME NUT
2	05A-13-00-M5 NUT
4	05A-13-00-M5x20 A-K C-SINK SCREW
2	05A-13-00-M5x28-A-K CYL HEAD SCREW
4	05A-13-00-M5x64-A-K CYL HEAD SCREW
1	05A-13-00-M8 DOME NUT
4	05A-13-00-M8x30-ROUND HEAD WOOD SCREW

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= DWEL
 SPF= SPOTFACE
 (T)HESOP=(TAPPED)HOLES EQUALLY
 SPACED ON PCD
 (T)HESOC=(TAPPED)HOLES EQUALLY
 SPACED ON CIRCUMFERENCE
 OD = OUTSIDE DIAMETER
 ID = INSIDE DIAMETER
 SA-xxx = SUB ASSEMBLY-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. WASHERS AND/OR SPRINGWASHERS 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.

NOTES:THE ORIGINAL DRAWINGS WERE GIVEN TO ME. THE ORIGINAL DRAWINGS/DESIGN WERE BY Mr. J. COOLEGEM AND DATED 1981. THE DRAWINGS WERE IN THE DUTCH LANGUAGE. MY DSGIN IS 1.5 TIMES LARGER THEN THE ORIGINALS

TITLE	DRAWING CONTENTS	PROJECT No	PROJECTION	MODEL SCALE:
A STIRLING ENGINE BY J. COOLEGEM	ISOMETRIC VIEW, NOTES, BILL OF MATERIALS	05A-13-00	JDWDS	1:1
		J.DW DRAUGHTING SERVICES	DATE	DWG SCALE: 1:1 @A4 OR AS SHOWN
		J.A.M. DE WAAL. 12 BRIGHTWELL STREET PAPAURA 2110. NEW ZEALAND. PHONE: 0064 09 2988815. MOB: 0211791000 E-MAIL: dewaal@xtra.co.nz.	AUGUST 2020	Copyright © J.A.M. DE WAAL PAPAURA NZ
			SHEET: 02 OF 06	A4 No: 05A-13-00-SHT02