





6HEX

M5

0

DIMENSIONS, SECTIONS ETC AND/OR CLARITY

OF COMPONENTS, SOME OF THE COMPONENTS

MIGHT NOT BE AS CONSTRUCTED ORIGINALLY

5

(1_01)

THRU

FRM

0

9

M3 7-4PL M4-2PL

19

Ø5-4PL

(A)

16

∣Ø

Ø

Ø

18

9E-56-00-1-01-BASE

1 09E-56-00-2-01-CRANK SHAFT+FLYWHEEL 1 09E-56-00-2-02-BALANCED BEAM 1 09E-56-00-2-03-CRANK CON-BLOCK

56-00-2-04-BEAM CON-BLOC

WASHER

BRS

-01.6

M4x10 A-K CYL HEAD SCRE

A-K GRUB SCREW

56-00-2-05-CON-ROE

9E-56-00-M2.5 DOME NU

09E-56-00-M3x8 A-K CYL

T.

Ø4CF

12

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.

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 SOLDERED.

6. COMPRESSION SPRINGS ARE DRAWN IN COMPRESSED STATE (CP), UNCOMPRESSED STATE IS APPROX 409 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-23P(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

BRS XX. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED. 1-01.1 MATERIAL ABBREVIATIONS: ALU = ALUMINIUM OTHER ABBREVIATIONS I-01.5) AS = AS SHOWN DP = DEEP Ø<u>3-4</u>₽I HALU= HARD ALUMINIUM BRS = BRASS DAA= DRILL AFTER ASSEMBLY -01.4 D&TAA= DRILL AND TAP AFTER BRZ = BRONZE OR GUNMETAL (BRZ/GM) ASSEMBLY CF = CLOSE FIT (SIZE FOR SIZE) CI = CAST IRON -01.3 Ð $otin 2\overline{\psi}$ 10-4PL CU = COPPER PF = PRESS FIT GRA = GRAPHITE PFAA= PRESS FIT AFTER ASSEMBLY MS = MILD STEEL/BRIGHT MILD STEEL PCD = PITCH CIRCLE DIAMETER Ø28 SS = SILVER STEEL OR STAINLESS RM = RFAM \emptyset 18 STEEL PILOT HOLES HEX = HEXACON, 6SIDED SPS = SPRING STEEL Ø 13RM CP = COMPRESSED PEEK= POLYETHER ETHER KETONE KNL = KNURLED SYN = SYNTHETIC MATERIAL SUCH AS CSK = COUNTERSINK VETON, NYLON, TEFLON OR RUBBER PL = PLACES IN GENERAL SYNTHETIC MATERIALS SOULD BE ABLE DWL= DOWEL SPF= SPOTFACE 17 60 17 TO WITHSTAND THE HEAT (T)HESOP=(TAPPED)HOLES EQUALLY AND PRESSURE(S) APPLIED TO SPACED ON PCD (1-01.1) 30. WOOD THFM (T)HESOC=(TAPPED)HOLES EQUALLY SPACED ON CIRCUMFERENCE nnn/nnn MEANS THAT EITHER 17. MATERIAL CAN BE USED OD = OUTSIDE DIAMETER ID = INSIDE DIAMETER MAX/MIN = CRITICAL DIMENSION <u>6</u> 8 12 8 SA-xxx = SUB ASSEMBLY-xxx
 SCALE 1:1.5
 SCALE 1:1.5
 SCALE 1:1.5

 NOTES: THE ORIGINAL SINGLE PAGE DRAWING WAS GIVEN TO ME. THE ORIGINAL DRAWING WAS BY "WORKBENCH MINIATURES" AND WAS DRAWN BY WILLIAM H. LINDSEY, DATED 25-08-2006
A VERY SIMPLE 1 CYLINDER BALANCED BEAM G.A., NOTES, ISOMETRIC VIEW, B.O.M., STEAM ENGINE (BORE=13mm x STROKE=26mm) PARTS AND ASSEMBLIES PROJECT No 09E-56-00 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.

