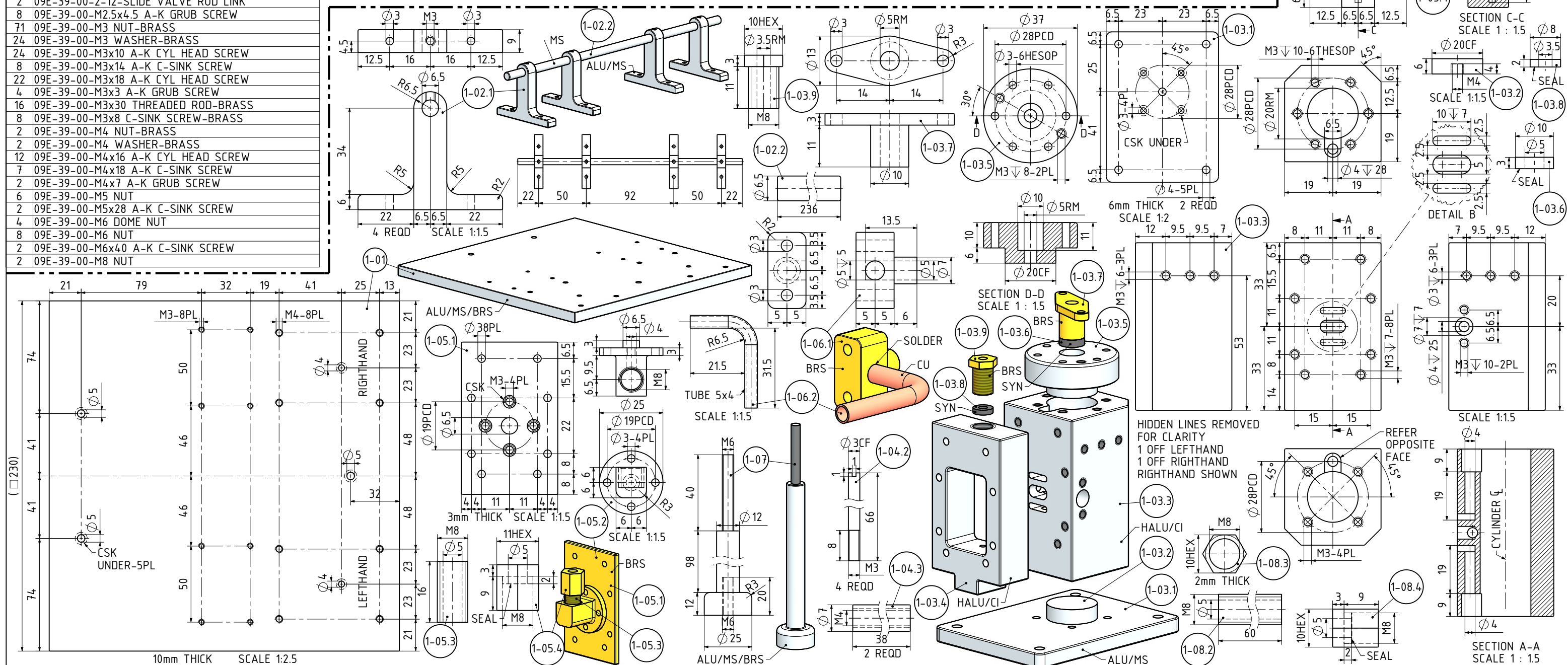
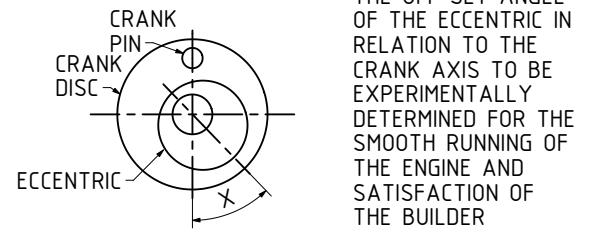


QTY.	PART NUMBER
1	09E-39-00-1-01-BASE PLATE
1	09E-39-00-1-02-ROCKING BEAM SUPPORT+SHAFT
1	09E-39-00-1-03-CYLINDER
1	09E-39-00-1-03-CYLINDER
2	09E-39-00-1-04-CROSSHEAD GUIDE COLUMN
2	09E-39-00-1-05-VALVE CHEST COVER PLATE
3	09E-39-00-1-06-EXHAUST GLAND BLOCK
2	09E-39-00-1-07-PLATFORM REAR SUPPORT COLUMN
1	09E-39-00-1-08-PLATFORM FRONT SUPPORT COLUMN
1	09E-39-00-1-09-CRANK SHAFT BEARING PLATFORM
2	09E-39-00-1-10-MAIN BEARING BLOCK
1	09E-39-00-1-11-STEAM INLET PIPE-1
1	09E-39-00-1-12-STEAM INLET VALVE
1	09E-39-00-2-01-FLYWHEEL+CRANKSHAFT
2	09E-39-00-2-02-ECCENTRIC
2	09E-39-00-2-03-ROCKING SIDE BEAM
2	09E-39-00-2-04-CROSSHEAD
2	09E-39-00-2-05-PISTON + ROD
4	09E-39-00-2-06-PRIMARY CON-ROD
2	09E-39-00-2-07-SECONDARY CON-ROD
2	09E-39-00-2-08-SLIDE VALVE+ROD
2	09E-39-00-2-09-SLIDE VALVE GUIDE YOKE
1	09E-39-00-2-10-SLIDE VALVE ROCKING SHAFT
1	09E-39-00-2-10-SLIDE VALVE ROCKING SHAFT
2	09E-39-00-2-11-ECCENTRIC STRAP
2	09E-39-00-2-12-SLIDE VALVE ROD LINK
8	09E-39-00-M2.5x4.5 A-K GRUB SCREW
71	09E-39-00-M3 NUT-BRASS
24	09E-39-00-M3 WASHER-BRASS
24	09E-39-00-M3x10 A-K CYL HEAD SCREW
8	09E-39-00-M3x14 A-K C-SINK SCREW
22	09E-39-00-M3x18 A-K CYL HEAD SCREW
4	09E-39-00-M3x3 A-K GRUB SCREW
16	09E-39-00-M3x30 THREADED ROD-BRASS
8	09E-39-00-M3x8 C-SINK SCREW-BRASS
2	09E-39-00-M4 NUT-BRASS
2	09E-39-00-M4 WASHER-BRASS
12	09E-39-00-M4x16 A-K CYL HEAD SCREW
7	09E-39-00-M4x18 A-K C-SINK SCREW
2	09E-39-00-M4x7 A-K GRUB SCREW
6	09E-39-00-M5 NUT
2	09E-39-00-M5x28 A-K C-SINK SCREW
4	09E-39-00-M6 DOME NUT
8	09E-39-00-M6 NUT
2	09E-39-00-M6x40 A-K C-SINK SCREW
2	09E-39-00-M8 NUT

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 SPRING WASHERS 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.

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
 [SA-xxx]= SUB ASSEMBLY-xxx

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 SHOULD BE
 ABLE TO WITHSTAND
 THE HEAT AND
 PRESSURE(S) APPLIED TO
 THEM.
 nnn/nnn MEANS THAT EITHER
 MATERIAL CAN BE USED



TITLE	A MODEL OF A 2 CYLINDER DOUBLE SIDED BEAM STEAM ENGINE BY BOB MIDDLETON
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NOTES, BILL OF MATERIALS, PARTS AND ASSEMBLIES

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PROJECTION		JDWDS
DATE		
SHEET: 02 OF 05		

MODEL SCALE: 1:1
DWG SCALE: 1:1 @A3 OR AS SHOWN
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A3 No: 09F-39-00-SHT02

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