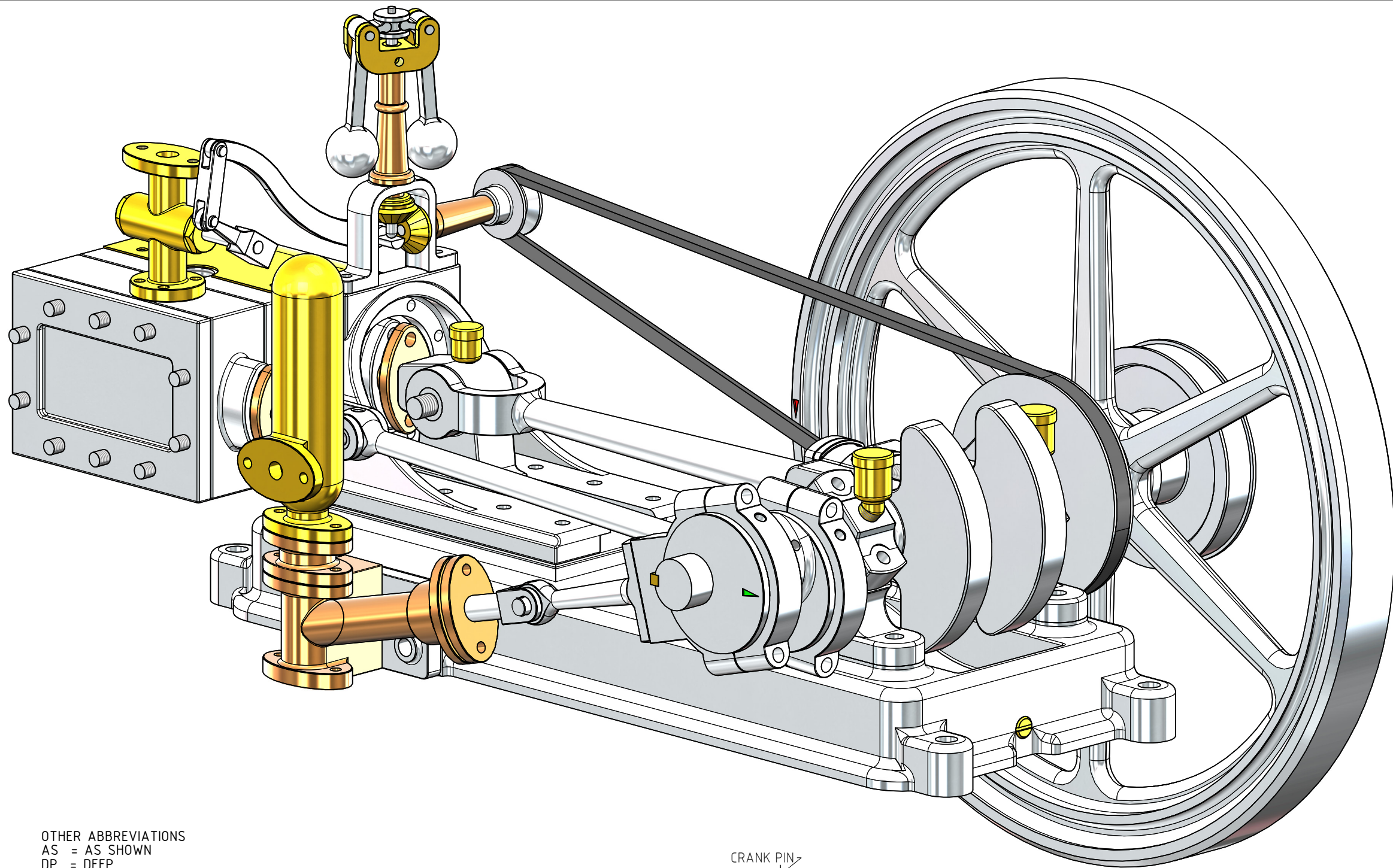


0. ALL DRAWINGS ARE IN IMPERIAL MEASUREMENTS
1. ALL ENGINEERING PRACTICES SHALL BE APPLIED WITH REGARDS TO HOLE AND SHAFT TOLERANCES.
2. WHERE SCREWS OR BOLTS ARE USED THE CLEARANCE HOLES SHALL BE APPROXIMATELY 5% TO 8% LARGER THAN THE MATCHING TAPPED HOLE.
3. PREFERABLY ALL TAPPED HOLES AND MATCHING SCREWS AND/OR BOLTS TO BE IMPERIAL UNF
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.
14. USE SEALING GASKETS WERE DEEMED NECESSARY.
15. REMOVE ALL SHARP EDGES
- XX. ERRORS AND/OR OMISSIONS MAY OCCUR IN THE DRAWINGS, DO NOT HESITATE TO CONTACT ME SO THAT THE ERRORS/OMISSIONS CAN BE RECTIFIED.

QTY.	PART NUMBER
1	09B-52-01-1-01-BED PLATE
1	09B-52-01-1-02-CYLINDER SUPPORT BRACKET
2	09B-52-01-1-03-MAIN BEARING HOUSING
1	09B-52-01-1-04-CYLINDER+VALVE CHEST
1	09B-52-01-1-05-CYLINDER FRONT COVER
1	09B-52-01-1-06-CYLINDER REAR COVER
1	09B-52-01-1-07-STEAM INLET CONTROL BODY
1	09B-52-01-1-08-WATER PUMP HOUSING
1	09B-52-01-1-09-GOVERNOR BODY
1	09B-52-01-2-01-CRANKSHAFT+FLYWHEEL
1	09B-52-01-2-02-PISTON+CROSSHEAD
1	09B-52-01-2-03-CON ROD
1	09B-52-01-2-04-VALVE ECCENTRIC
1	09B-52-01-2-04-VALVE ECCENTRIC
1	09B-52-01-2-05-SLIDE VALVE
1	09B-52-01-2-06-VALVE ECCENTRIC STRAP
1	09B-52-01-2-07-WATER PUMP ECCENTRIC STRAP
1	09B-52-01-2-08-WATER PUMP PISTON
1	09B-52-01-2-09-GOVERNOR HORIZONTAL DRIVEN SHAFT
1	09B-52-01-2-10-GOVERNOR VERTICAL DRIVEN SHAFT
1	09B-52-01-2-11-GOVERNOR V-BELT
1	09B-52-01-2-12-GOVERNOR PUSH ROD
2	09B-52-01-2-13-GOVERNOR FLYWEIGHT
1	09B-52-01-2-14-GOVERNOR OPERATING LEVER
1	09B-52-01-2-15-THROTTLE LEVER
1	09B-52-01-2-16-THROTTLE CONTROL LINK

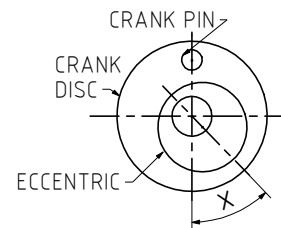
1) FASTENERS.
NO FASTENERS SUCH AS BOLTS, SCREWS, RIVETS, NUTS AND WASHERS HAVE BEEN SHOWN ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED TYPE OF FASTENERS.

NOTE: THE BUILDER TO MAKE OR PURCHASE SUITABLE CONICAL GEAR WHEELS WITH THE APPROXIMATE DIMENSIONS SHOWN ON THESE DRAWINGS



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
(THESOP=(TAPPED)HOLES EQUALLY SPACED
(THESOC=(TAPPED)HOLES EQUALLY SPACED
CIRCUMFERENCE
OD = OUTSIDE DIAMETER
ID = INSIDE DIAMETER
MAX/MIN = CRITICAL DIMENSION
[SA-xxx] = SUB ASSEMBLY-xxx

ALU = ALUMINIUM
 HALU= HARD ALUMINIUM
 BRS = BRASS
 PBRZ= PHOSPHORE BRONZE
 BRZ = BRONZE OR GUNMETAL (BRZ/GM)
 OLT = OILITE
 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



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

DUE TO THE LACK OF INFORMATION ON THE ORIGINAL DRAWING(S),
SUCH AS VIEWS, DIMENSIONS, SECTIONS ETC AND/OR CLARITY OF
COMPONENTS, OMITTED PARTS/COMPONENTS, SOME OF THE
COMPONENTS MIGHT NOT BE AS CONSTRUCTED ORIGINALLY OR AS
THE ORIGINAL DESIGNER INTENDED

TITLE
1 CYLINDER HORIZONTAL STEAM ENGINE CALLED "UNICORN" (B=1.141" S=1.889")

DRAWING CONTENTS

ISOMETRIC VIEW, NOTES AND BILL OF MATERIALS

PROJECT No 09B-52-01

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.

PROJECTION 	JDWDS	MODEL SCALE: 1:1
DATE MAY 2026		DWG SCALE: 1:1 @A3 OR AS SHOWN
SHEET: 02 OF 07	A3	Copyright © J.A.M. DE WAAL PAPAKURA NZ No:09B-52-01-SHT-02

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