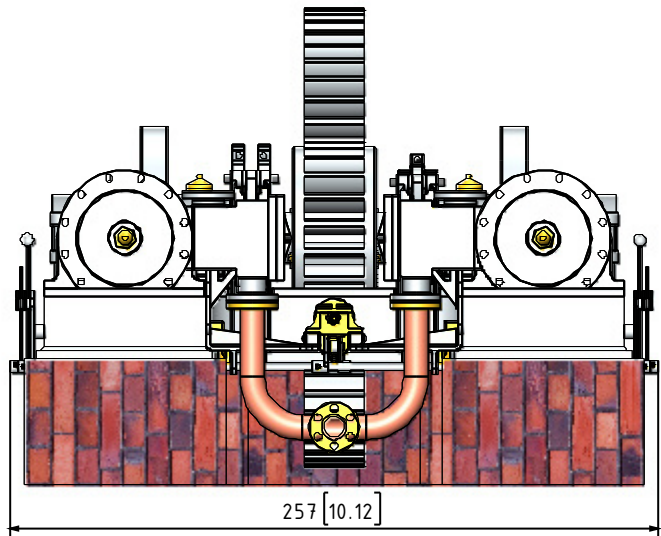
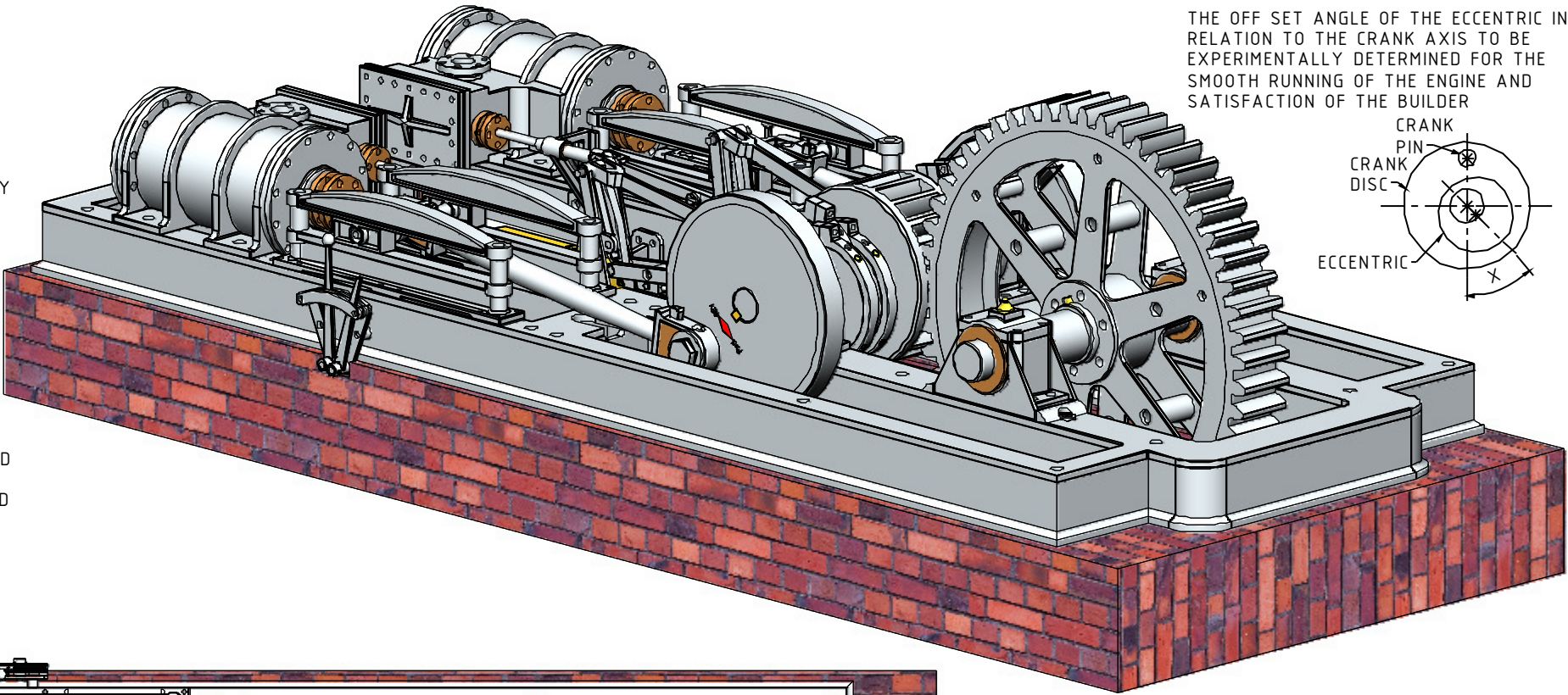
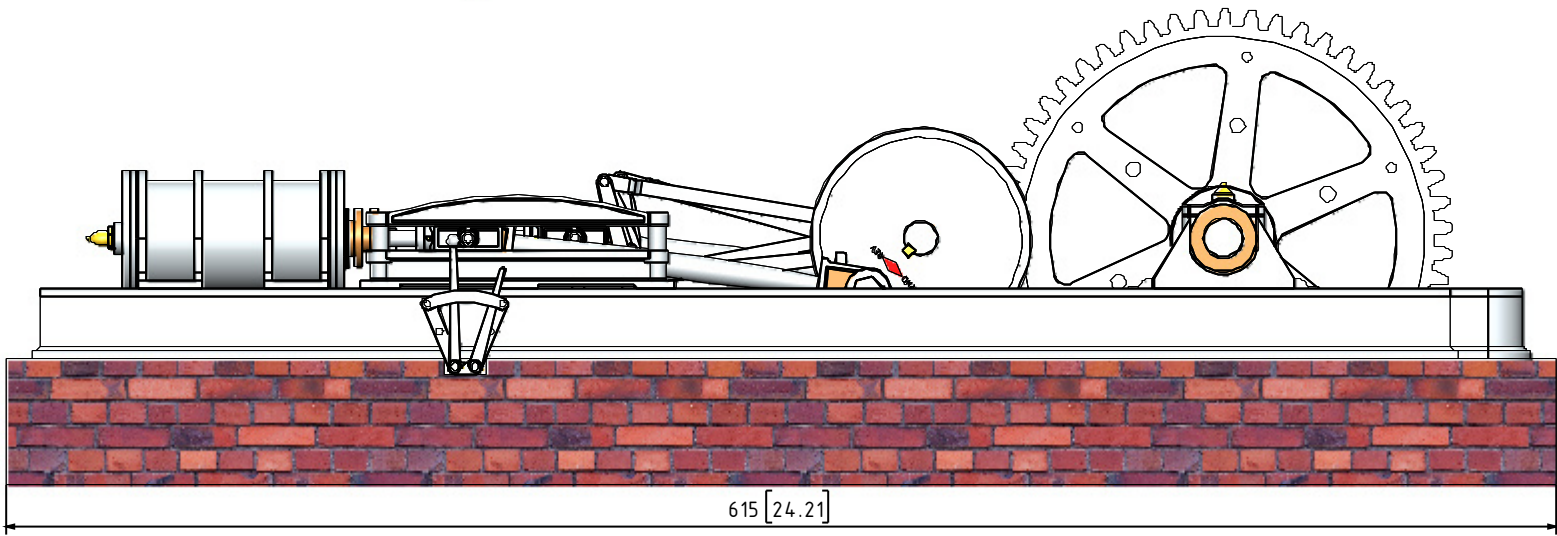
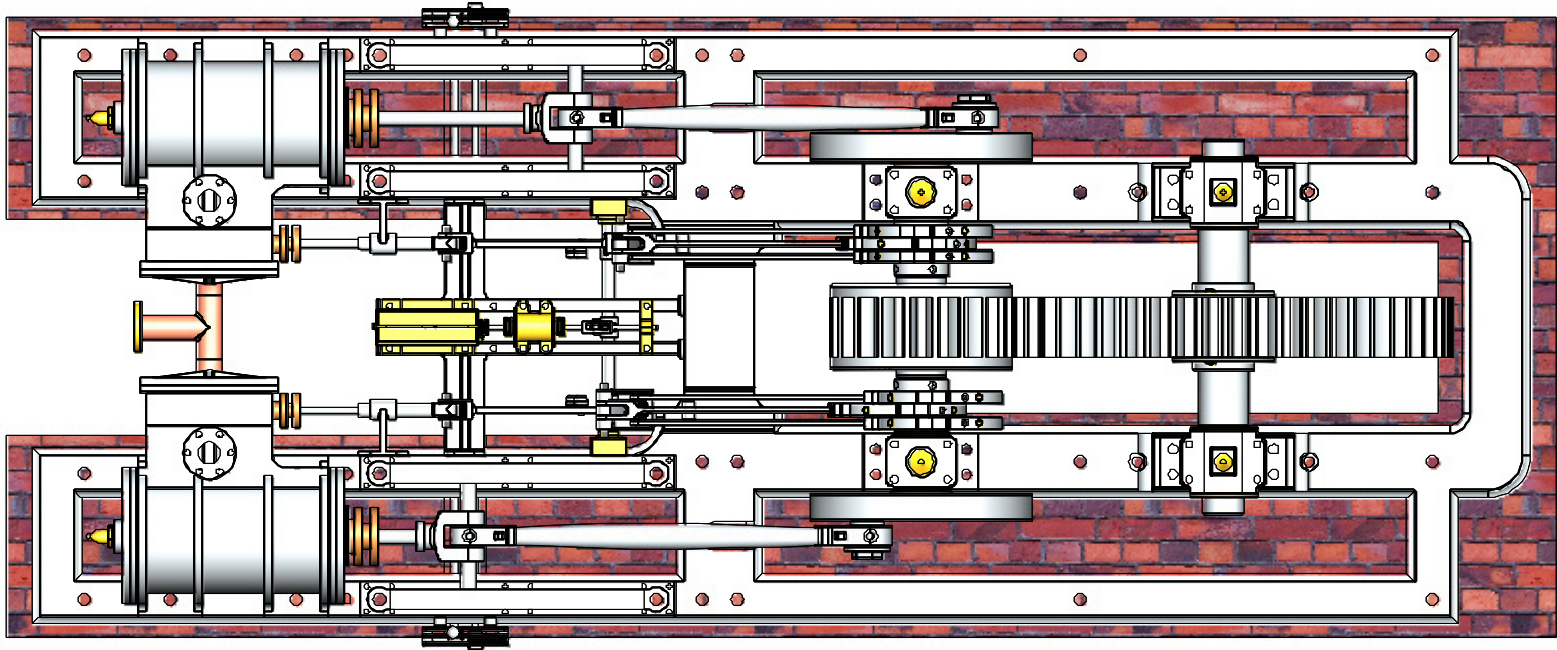


QTY.	PART NUMBER
1	09E-36-00-1-01-BED PLATE
2	09E-36-00-1-02-BEARING CRADLE
2	09E-36-00-1-04-LARGE GEAR WHEEL BEARING
2	09E-36-00-1-03-LARGE GEAR WHEEL BEARING HOUSING
2	09E-36-00-1-05-CRANK SHAFT BEARING HOUSING
4	09E-36-00-1-06-CROSSHEAD SLIDE GUIDE
1	09E-36-00-1-07-CYLINDER+VALVE CHEST
2	09E-36-00-1-08-CYLINDER FRONT COVER
2	09E-36-00-1-09-CYLINDER REAR COVER
1	09E-36-00-1-07-CYLINDER+VALVE CHEST
1	09E-36-00-1-10-STEAM SUPPLY PIPES
1	09E-36-00-1-11-REVERSER CYLINDER BRACKET
1	09E-36-00-1-12-DUMMY REVERSING STEAM CYLINDER
1	09E-36-00-1-13-REVERSER CONTROL BOX
2	09E-36-00-1-14-REVERSING QUADRAND
2	09E-36-00-1-15-SLIDE VALVE GUIDE BRACKET
2	09E-36-00-1-16-LEVER SHAFT BEARING BRACKET
2	09E-36-00-2-01-PISTON+ROD
1	09E-36-00-2-02-CRANKSHAFT
1	09E-36-00-2-03-CRANK DISC
1	09E-36-00-2-03-CRANK DISC
2	09E-36-00-2-06-ECCENTRIC SHEAVES
2	09E-36-00-2-04-CON-ROD
1	09E-36-00-2-05-LARGE GEAR WHEEL
2	09E-36-00-2-07-SLIDE VALVE +ROD
1	09E-36-00-2-08-REVERSING HANDLE
1	09E-36-00-2-09-DUMMY STOP VALVE HANDLE
1	09E-36-00-2-10-DUMMY STOP VALVE LINK
1	09E-36-00-2-11-DUMMY REVERSING CYLINDER PISTON ROD LINK
2	09E-36-00-2-13-ECCENTRIC STRAP TYPE-2
2	09E-36-00-2-14-EXSPANSION LINK
2	09E-36-00-2-15-EXSPANSION LINK DIE BLOCK
2	09E-36-00-2-16-RADIUS BAR
2	09E-36-00-2-12-ECCENTRIC STRAP TYPE-1
1	09E-36-00-2-17-LIFTING LINK LEVER SHAFT
2	09E-36-00-2-18-COMBINATION LEVER
4	09E-36-00-2-19-LIFTING LINK

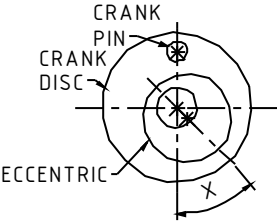
PLEASE NOTE:
THIS ENGINE SHOWN ON THESE DRAWINGS IS A COMBINATION OF AN ENGINE WHICH WAS INSTALLED AT THE NEW CLEVELAND STEEL WORKS, ESTON, AND A LITHOGRAPH DRAWING WHICH WAS PUBLISHED ON THE INTERNET.
THE ORIGINAL DRAWINGS CAN BE FOUND ON SHEET 09E-36-00SHT07



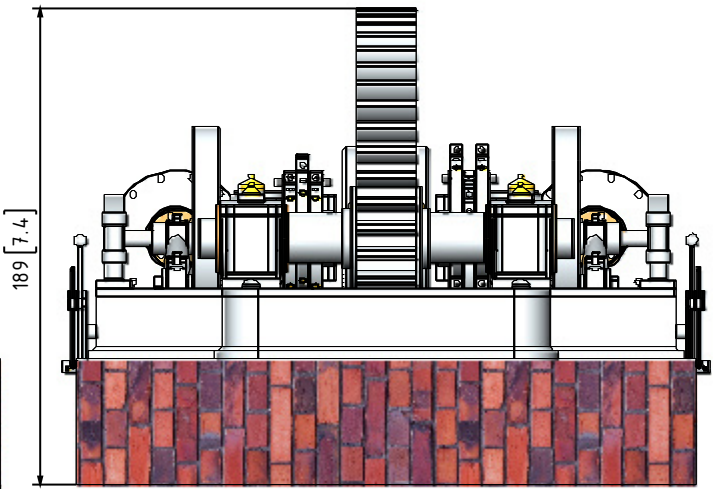
OTHER ABBREVIATIONS
DP = DEEP
DAA= DRILL AFTER ASSEMBLY
D&TAA= DRILL AND TAP AFTER ASSEMBLY
CF = CLOSE FIT (SIZE FOR SIZE)
PF = PRESS FIT
PFAA= PRESS FIT AFTER ASSEMBLY
PCD = PITCH CIRCLE DIAMETER
RM = REAM
HEX = HEXACON, 6SIDED
CP = COMPRESSED
KNL = KNURLED
CSK = COUNTERSINK
PL = PLACES
DWL= DOWEL
SPF= 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



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



ADDITIONAL NOTES ABOUT THESE DRAWINGS:
0) NO MATERIALS HAVE BEEN SPECIFIED ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED MATERIAL FOR THE PARTS/COMPONENTS. THE FOLLOWING COLOURS ON THE DRAWINGS INDICATES POSSIBLE MATERIALS WHICH CAN BE USED FOR PARTS: YELLOW=BRASS, LIGHT GREY=ALUMINIUM OR MILD STEEL, REDDISH BROWN=COPPER, DARK BROWN=BRONZE OR GUN METAL, WHITISH=SILVER STEEL OR STAINLESS STEEL
1) FASTENERS.
NO FASTENERS SUCH AS BOLTS, SCREWS, NUTS AND WASHERS HAVE BEEN SHOW ON THESE DRAWINGS. THE BUILDER TO CHOOSE ITS OWN PREFERRED TYPE OF FASTENERS.
2) PIPING
PREFERABLY ALL PIPING TO BE COPPER. THE PIPING ON THE DRAWINGS ARE INDICATIVE ONLY. THE BUILDER TO ESTABLISH THE PIPE LENGTH AND ROUTE FROM WORK PIECE. THE PIPE SIZES ARE INDICATIVE ONLY. THE BUILDER TO ESTABLISH THE AVAILABILITY OF THE PIPE SIZE(S) FROM THE LOCAL SUPPLIER(S).
3) DUMMY PARTS.
IF PREFERRED SOME OF THE DUMMY PARTS COULD BE REPLACED WITH REAL OPERATING PART(S). THE BUILDER TO DESIGN THE PART OR ALTERNATIVELY PURCHASE.



NOTES: THIS DESIGN IS BASED ON DRAWINGS WHICH WERE FOUND ON THE INTERNET. THE ORIGINAL DRAWING WAS PUBLISHED ON THE "MODELENGINEERINGWEBSITE WEBSITE. A SIMULAR SET OF DRAWINGS WERE FOUND ON THE INTERNET.											
TITLE A THWATTES AND CARBUTT TYPE REVERSING ROLLING MILL STEAM ENGINE			DRAWING CONTENTS GENERAL ARRANGEMENT, NOTES, BILL OF MATERIALS, ISOMETRIC VIEW			PROJECT No 09E-36-00 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.		PROJECTION  DATE NOVEMBER 2019		JDWDS Copyright © J.A.M. DE WAAL PAPAKURA N	
						SHEET: 01 OF 07		A3		MODEL SCALE: 1:1 DWG SCALE: 1:1 @A3 OR AS SHOWN No: 09E-36-00-SHT01	

DRAWINGS ARE FOR PERSONAL USE ONLY NOT FOR COMMERCIAL PURPOSES