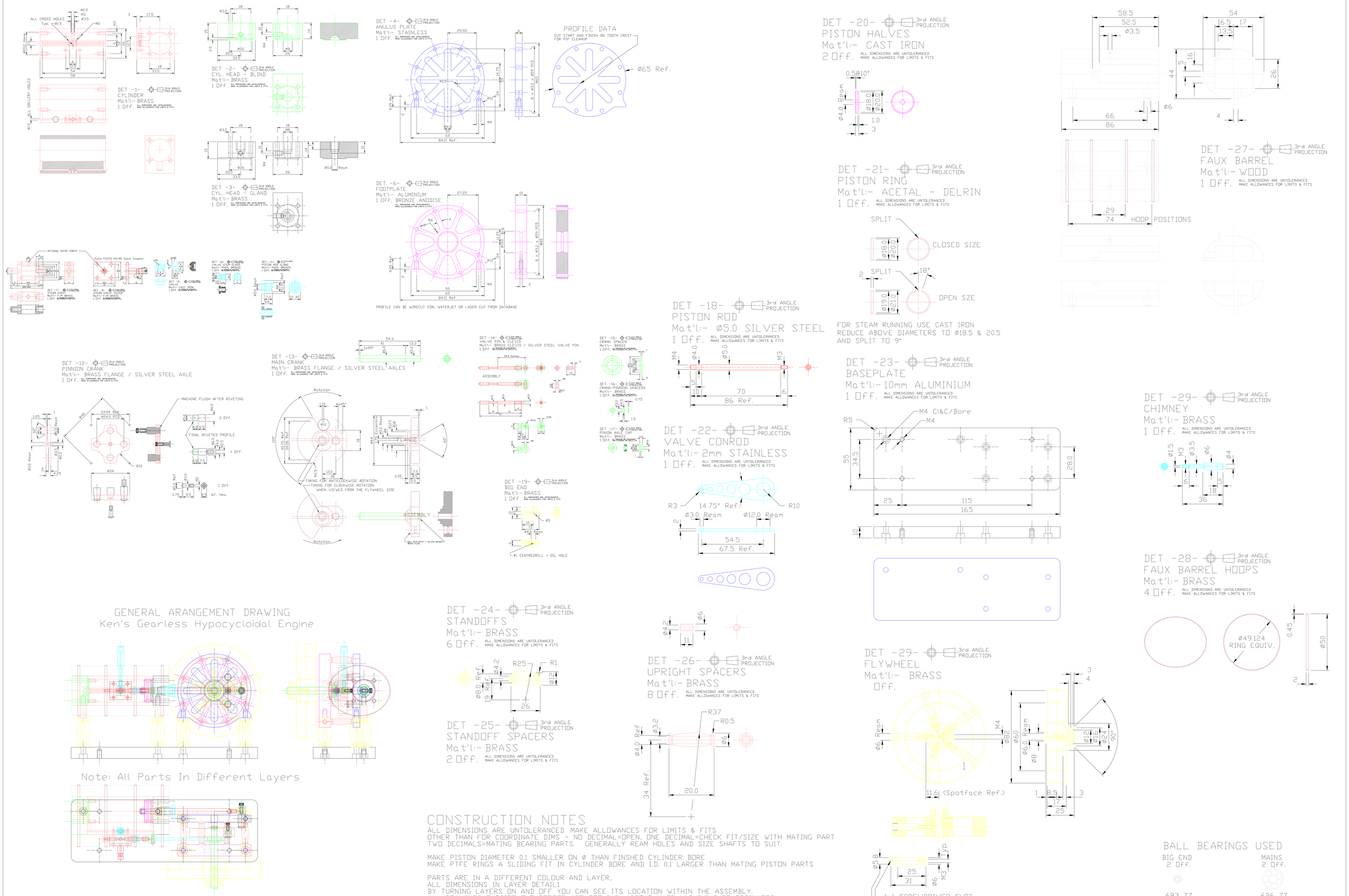
DET -1- 3rd ANGLE PROJECTION
CYLINDER
Mat'l:- BRASS
1 Off.
DET -2- 3rd ANGLE PROJECTION
CYL. HEAD - BLIND
Mat'l:- BRASS
1 Off.
DET -3- 3rd ANGLE PROJECTION
CYL. HEAD - GLAND
Mat'l:- BRASS
1 Off.
DET -4- 3rd ANGLE PROJECTION
ANULUS PLATE
Mat'l:- STAINLESS
1 Off.
PROFILE DATA
CUT START AND FINISH ON TOOTH CREST FOR POP CLEANUP
Ø65 Ref.
DET -6- 3rd ANGLE PROJECTION
FOOTPLATE
Mat'l:- ALUMINIUM
1 Off. BRONZE ANODISE
PROFILE CAN BE WIRECUT EDM, WATERJET OR LASER CUT FROM DATABASE
DET -20- 3rd ANGLE PROJECTION
PISTON HALVES
Mat'l:- CAST IRON
2 Off.
DET -21- 3rd ANGLE PROJECTION
PISTON RING
Mat'l:- ACETAL - DELRIN
1 Off.
SPLIT
CLOSED SIZE
OPEN SIZE
FOR STEAM RUNNING USE CAST IRON
REDUCE ABOVE DIAMETERS TO Ø18.5 & 20.5
AND SPLIT TO 9°
DET -27- 3rd ANGLE PROJECTION
FAUX BARREL
Mat'l:- WOOD
1 Off.
HOOP POSITIONS
DET -18- 3rd ANGLE PROJECTION
PISTON ROD
Mat'l:- Ø5.0 SILVER STEEL
1 Off.
DET -23- 3rd ANGLE PROJECTION
BASEPLATE
Mat'l:- 10mm ALUMINIUM
1 Off.
M4 Cl&C/Bore
DET -29- 3rd ANGLE PROJECTION
CHIMNEY
Mat'l:- BRASS
1 Off.
DET -12- 3rd ANGLE PROJECTION
PINNION CRANK
Mat'l:- BRASS FLANGE / SILVER STEEL AXLE
1 Off.
MACHINE FLUSH AFTER RIVETING
FINAL RIVETED PROFILE
DET -13- 3rd ANGLE PROJECTION
MAIN CRANK
Mat'l:- BRASS FLANGE / SILVER STEEL AXLES
1 Off.
TIMING FOR ANTICLOCKWISE ROTATION
TIMING FOR CLOCKWISE ROTATION
WHEN VIEWED FROM THE FLYWHEEL SIDE
ASSEMBLY
DET -14- 3rd ANGLE PROJECTION
VALVE PIN & CLEVIS
Mat'l:- BRASS CLEVIS / SILVER STEEL VALVE PIN
1 Off.
DET -15- 3rd ANGLE PROJECTION
CRANK SPACER
Mat'l:- BRASS
1 Off.
DET -16- 3rd ANGLE PROJECTION
CRANK-PINNION SPACERS
Mat'l:- BRASS
1 Off.
DET -17- 3rd ANGLE PROJECTION
PINNION AXLE CAP
Mat'l:- BRASS
1 Off.
DET -19- 3rd ANGLE PROJECTION
BIG END
Mat'l:- BRASS
1 Off.
#1 CENTREDRILL + OIL HOLE
DET -22- 3rd ANGLE PROJECTION
VALVE CONROD
Mat'l:- 2mm STAINLESS
1 Off.
DET -28- 3rd ANGLE PROJECTION
FAUX BARREL HOOPS
Mat'l:- BRASS
4 Off.
Ø49.124 RING EQUIV.
DET -24- 3rd ANGLE PROJECTION
STANDOFFS
Mat'l:- BRASS
6 Off.
DET -25- 3rd ANGLE PROJECTION
STANDOFF SPACERS
Mat'l:- BRASS
2 Off.
DET -26- 3rd ANGLE PROJECTION
UPRIGHT SPACERS
Mat'l:- BRASS
8 Off.
DET -29- 3rd ANGLE PROJECTION
FLYWHEEL
Mat'l:- BRASS
Off.
(Spotface Ref.)
1x1 SCREWDRIVER SLOT
ASSEMBLE TO M3 x 10 LONG STUDS WITH LOCKTITE
CHECK FOR TRUE RUNNING OF OUTER RIM
Ø5.8 LEAVES 0.1 ANNULUS FOR SOLDERING
SOFT SOLDER ANNULUS AND MACHINE FLUSH
GENERAL ARANGEMENT DRAWING
Ken's Gearless Hypocycloidal Engine
Note: All Parts In Different Layers
CONSTRUCTION NOTES
ALL DIMENSIONS ARE UNTOLERANCED MAKE ALLOWANCES FOR LIMITS & FITS
OTHER THAN FOR COORDINATE DIMS - NO DECIMAL=OPEN, ONE DECIMAL=CHECK FIT/SIZE WITH MATING PART
TWO DECIMALS=MATING BEARING PARTS. GENERALLY REAM HOLES AND SIZE SHAFTS TO SUIT.
MAKE PISTON DIAMETER 0.1 SMALLER ON Ø THAN FINSHED CYLINDER BORE
MAKE PTFE RINGS A SLIDING FIT IN CYLINDER BORE AND I.D. 0.1 LARGER THAN MATING PISTON PARTS
PARTS ARE IN A DIFFERENT COLOUR AND LAYER,
ALL DIMENSIONS IN LAYER DETAIL1
BY TURNING LAYERS ON AND OFF YOU CAN SEE ITS LOCATION WITHIN THE ASSEMBLY.
ALL DRAWINGS OUTSIDE THE BORDER ARE TOOLING, ASSEMBLY OR MACHINING CO-ORDINATES etc.
Details 4 & 5 CAN BE EDM WIRECUT, LASER OR WATERJET CUT (IN THAT ORDER OF PREFERENCE).
THE LAYER "LASER" CONTAINS DATABASE OUTLINES FOR CAM OPERATIONS.
MANUFACTURE IN DETAIL NUMBER SEQUENCE - FOR EASE OF MATCHING PARTS.
BALL BEARINGS USED
BIG END
2 Off.
683 ZZ
Ø3xØ7x3
MAINS
2 Off.
626 ZZ
Ø6xØ19x6