
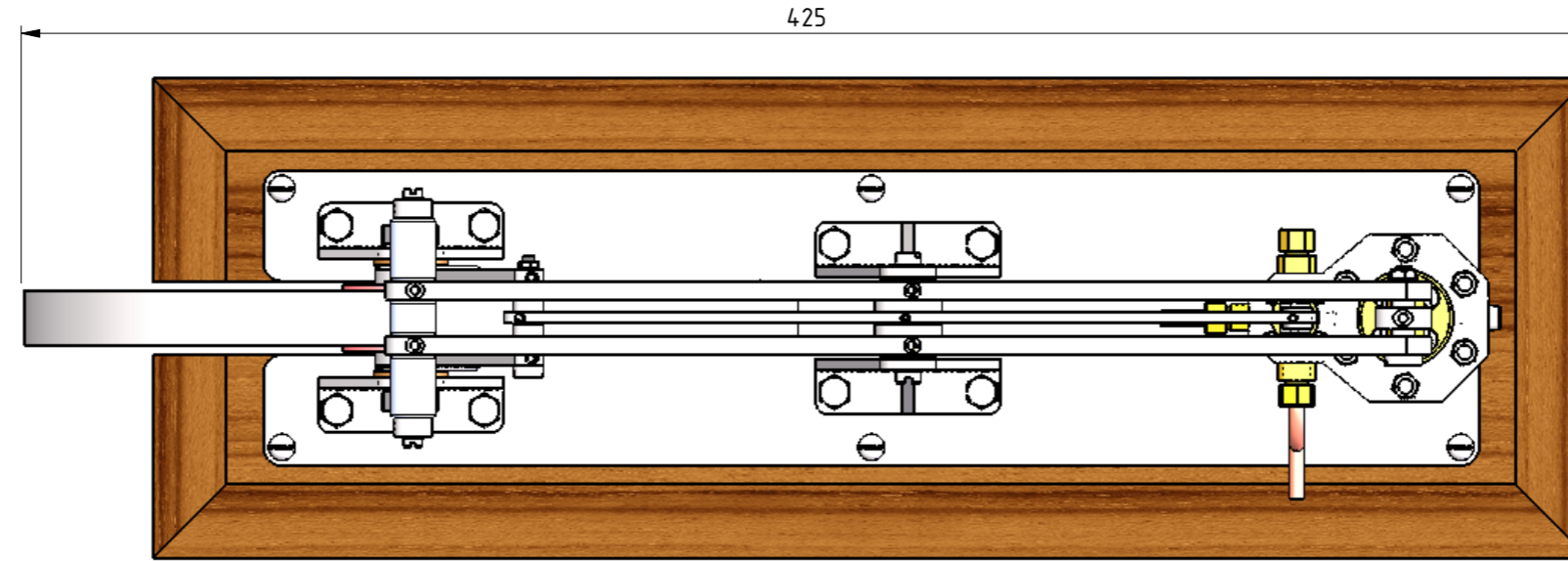


SINGLE CYLINDER BALANCE BEAM STEAM ENGINE WITH CYLINDRICAL VALVE DESIGNED BY Mr. J.A.M. DE WAAL PAPAPKURA, NEW ZEALAND

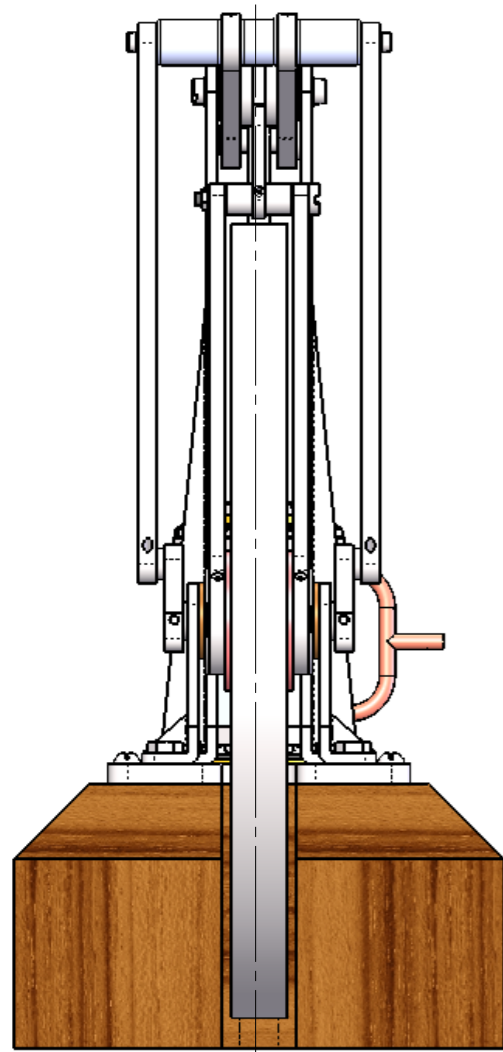
NOTE: THESE DRAWINGS HAVE BEEN CONERTED TO SOLIDWORKS 2011 DATED 09-06-2013

DATE	OCTOBER 2007	COMMENTS
NVM DWG No		THIS STEAM ENGINE WAS DESIGNED Mr. J.A.M. DE WAAL DEZE STOOM MACHINE WAS ONTWORPEN DOOR Mhr J.A.M. DE WAAL
DRAWN BY	J.A.M. DE WAAL	
MODEL SCALE	NTS	
DRAWING SCALE	AS SHOWN	
TITLE	SINGLE CYLINDER BALANCE BEAM STEAM ENGINE WITH CYLINDRICAL VALVE	
A3	COVER SHEET	

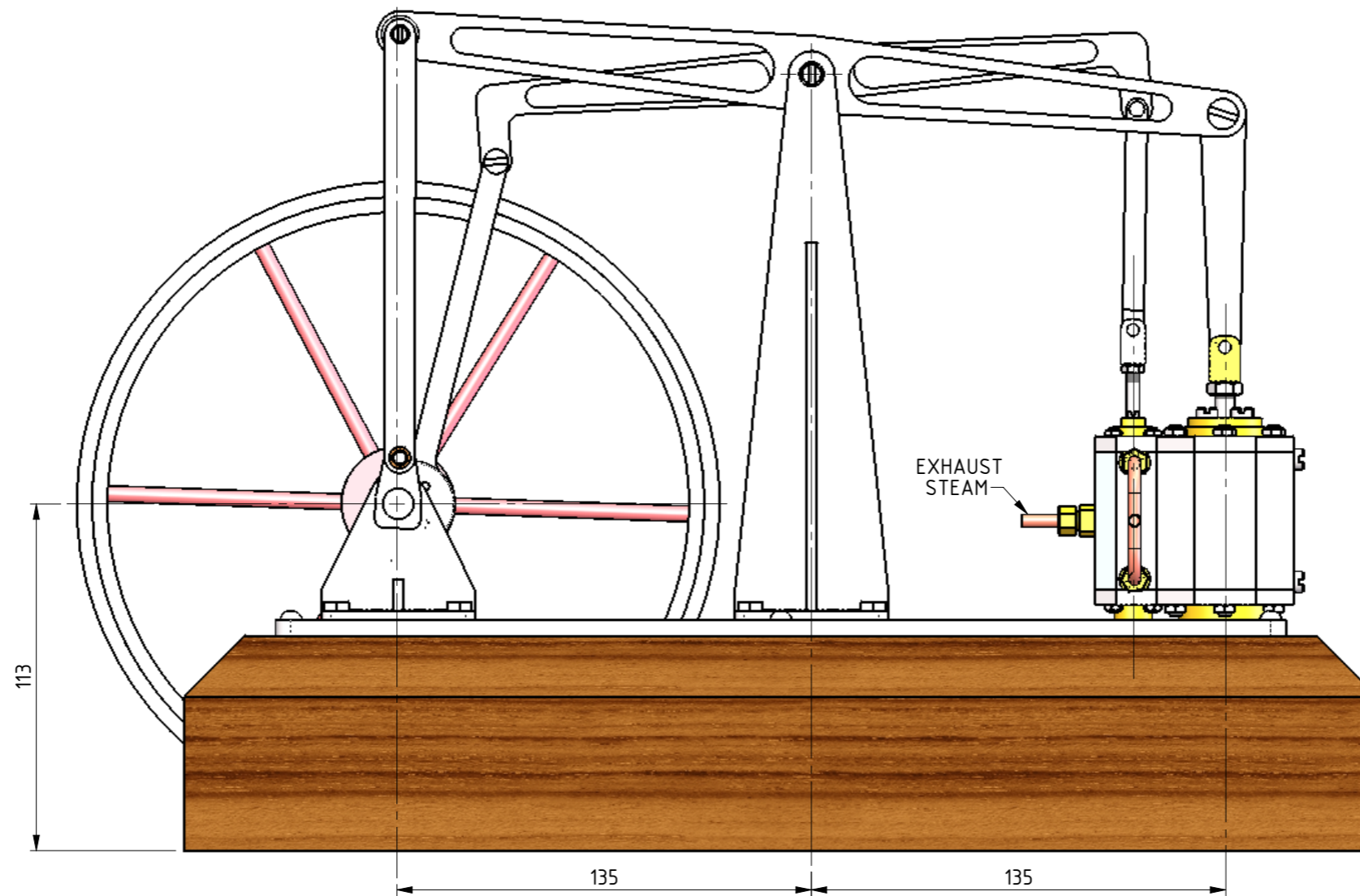
JDW DRAUGHTING SERVICES 12 BRIGHTWELL STREET PAPAKURA NEW ZEALAND TEL/FAX 0064-09-2988815 E-MAIL:dewaal@xtra.co.nz	DRAWN BY J.A.M. DE WAAL	PROJECTION 	DRAWING NUMBER 1CBBSE-01
	DATE OCT-2007	SCALE 1:1 or AS SHOWN	SHT of SHT 01 of 06
REV	DESCRIPTION	DATE	REV



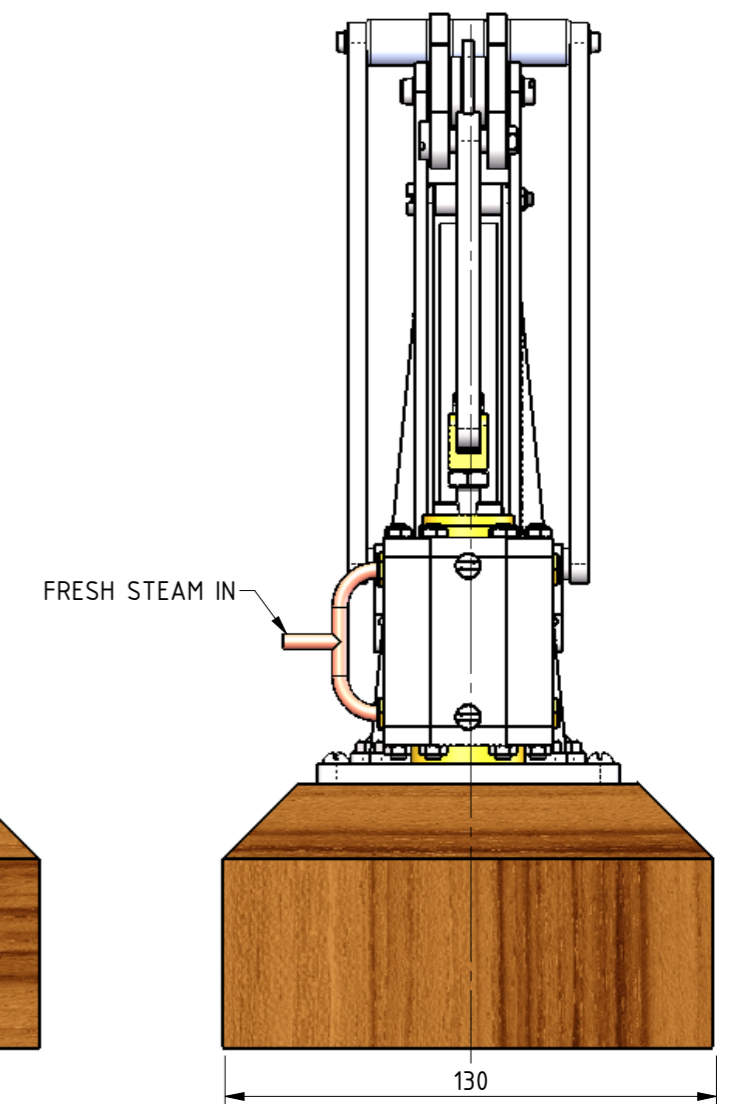
TOP VIEW



REAR VIEW



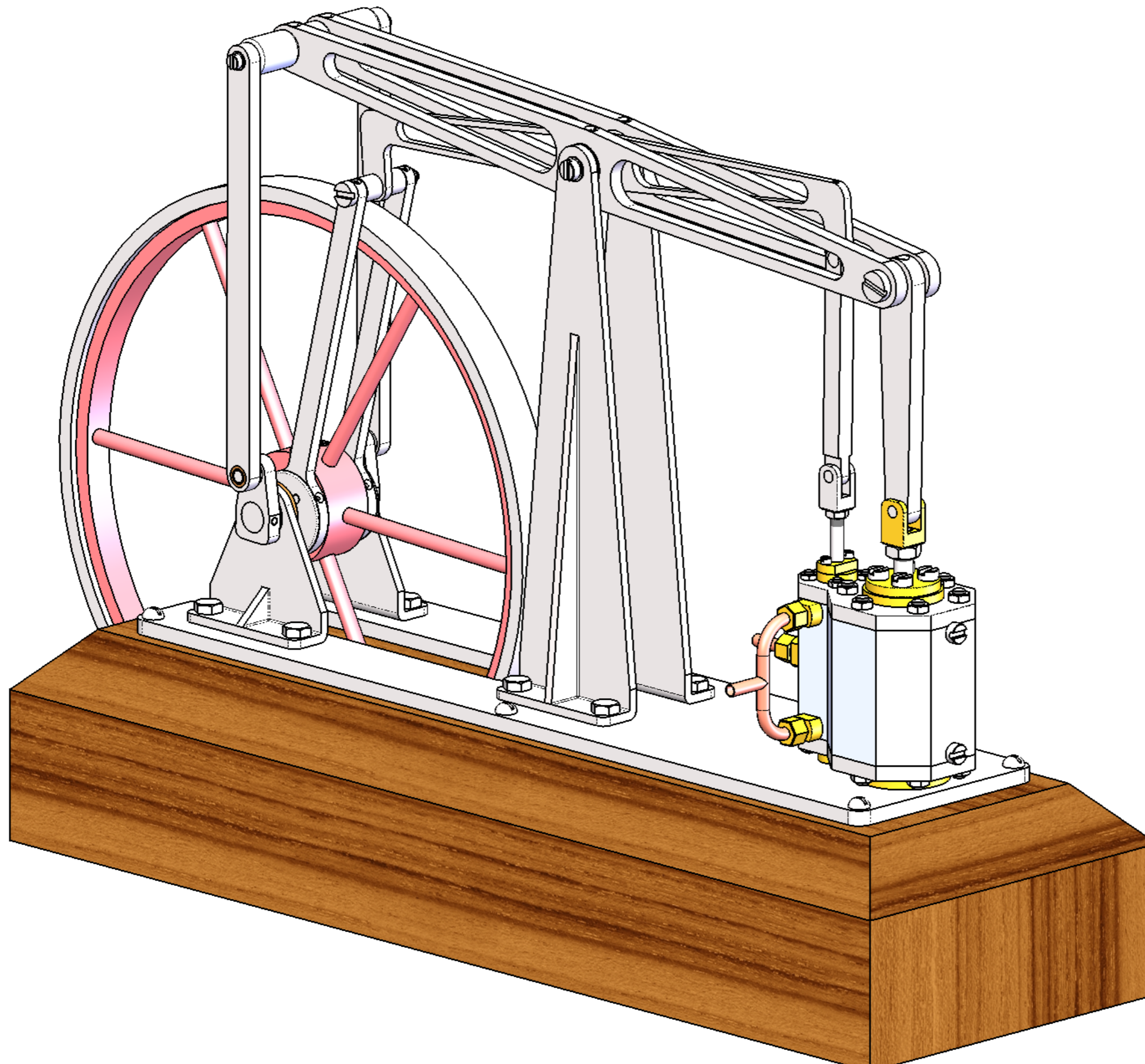
SIDE VIEW



FRONT VIEW

A3	TITLE	JDW DRAUGHTING SERVICES 12 BRIGHTWELL STREET PAKAKURA NEW ZEALAND TEL/FAX 0064-09-2988815 E-MAIL:dewaal@xtra.co.nz	DRAWN BY	PROJECTION	DRAWING NUMBER
	SINGLE CYLINDER BALANCE BEAM STEAM ENGINE WITH CYLINDRICAL VALVE GENERAL ARRANGEMENT		J.A.M. DE WAAL		1CBBSE-02
			DATE	SCALE	SHT of SHT
			OCT-2006	1:1@A3 or AS SHOWN	02 of 05
			REV	DESCRIPTION	DATE

IF NOT STATED ALL CHAMFERS ARE 0.2mmx45°



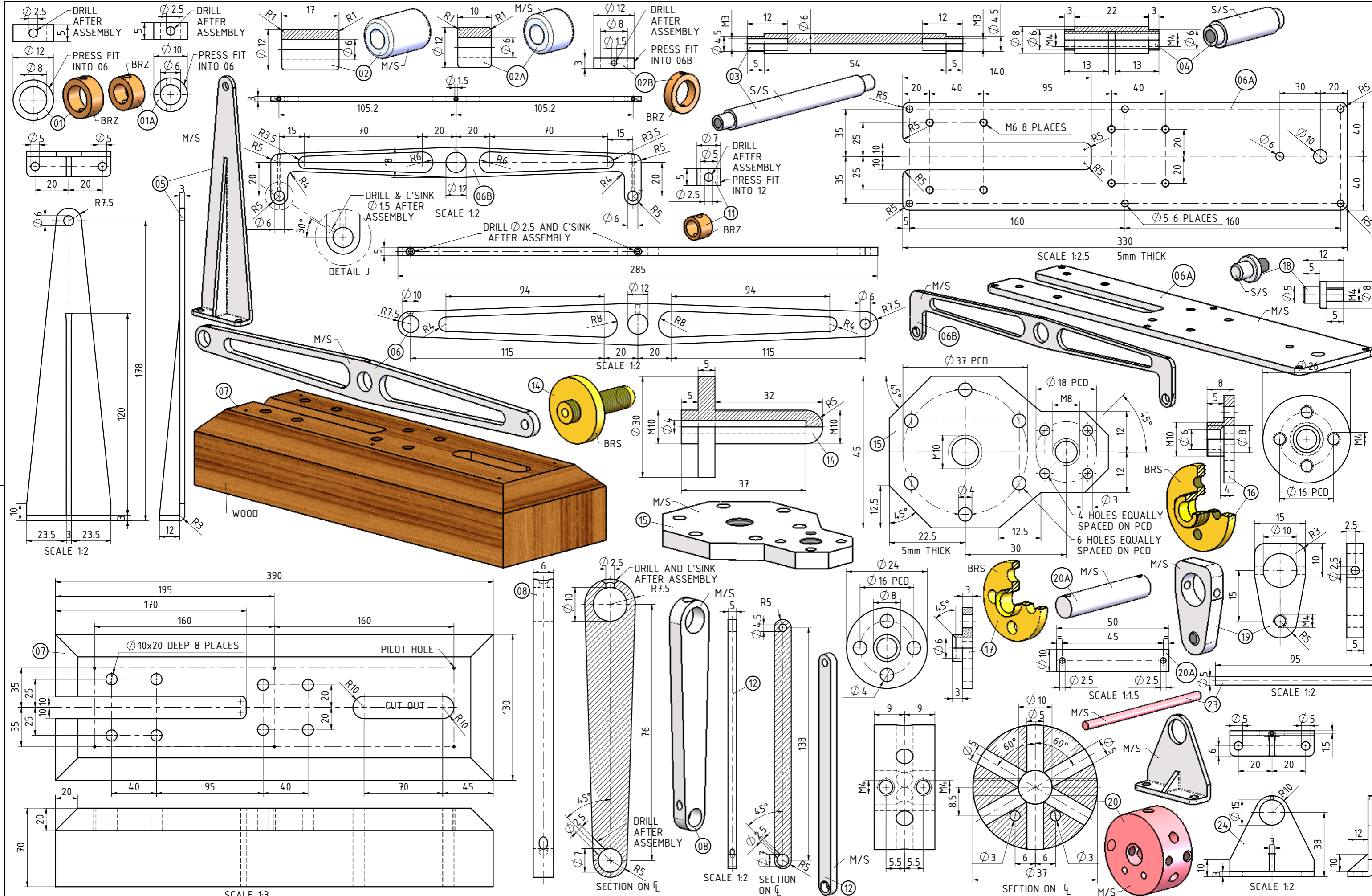
QTY	DESCRIPTION
300	TOTAL ASSEMBLY
2	01-BALANCE BEAM CENTER BUSH
2	01A-BALANCE BEAM END BUSH
2	02-BALANCE BEAM END SPACER TYPE-1
1	02A-BALANCE BEAM END SPACER TYPE-2
1	02B-VALVE BEAM CENTER BUSH
1	03-BALANCE BEAM FLYWHEEL AXLE
1	04-BALANCE BEAM PIVOT AXLE
2	05-BALANCE BEAM SUPPORT
2	06-MAIN BALANCE BEAM
1	06A-BASE PLATE
1	06B-VALVE BALANCE BEAM
1	07-BASE
1	08-MAIN BEAM CON ROD
2	11-CRANK BUSH
2	12-CRANK CONNECTING ROD
1	13-CYLINDER AND VALVE HOUSING
1	14-CYLINDER BOTTOM COVER FIXTURE
2	15-CYLINDER TOP - BOTTOM PLATE
1	16-CYLINDER TOP GUIDE-1
1	17-CYLINDER TOP PRESSURE PLATE
2	18-FLYWHEEL CRANK PIN
2	19-FLYWHEEL CRANK
1	20-FLYWHEEL HUB
1	20A-FLYWHEEL HUB AXLE
1	21-FLYWHEEL INNER RIM
1	22-FLYWHEEL OUTER RIM
6	23-FLYWHEEL SPOKE
2	24-FLYWHEEL SUPPORT
2	25-FLYWHEEL BEARING
1	26-LOCKING SCREW
5	28-NIPPLE
1	30-PISTON CENTER
2	31-PISTON FLANGE
1	32-PISTON ROD
1	33-PISTON YOKE
1	35-VALVE BOTTOM COVER FIXTURE
1	36-VALVE TOP GUIDE-1
1	37-VALVE TOP PRESSURE PLATE
1	38-VALVE YOKE LINKAGE
1	39-VALVE YOKE
1	40-VALVE
6	42-WOOD SCREW
1	44-4x8 LOCKING PIN
1	46-4x10 LOCKING PIN
1	47-CON ROD BUSH-UPPER
1	47A-CON ROD BUSH-LOWER
2	48-2.5x15 LOCKING PIN
3	49-NIPPLE NUT
2	50-NIPPLE STOP NUT
1	51-EXHAUST PIPE
1	52-INLET PIPE
2	53-8x3.5 SPACER
2	54-8x1 SPACER
2	55-EXCENTRIC
2	56-EXCENTRIC COVER PLATE
2	57-EXCENTRIC HOUSING
1	58-LOCKING SCREW TYPE-2
2	59-80Dx5ID SPACER
2	60-EXCENTRIC HOUSING BUSH
2	61-VALVE BEAM END BUSH
1	62-5x6 LOCKING PIN
2	63-3x26 LOCKING PIN
1	M10 NUT
2	M2x6 CYLINDERHEAD SCREW
9	M3 NUT
3	M3 WASHER
2	M3x10 CYLINDERHEAD SCREW
4	M3x65 THREADED ROD
14	M4 NUT
3	M4 WASHER
2	M4x10 CYLINDERHEAD SCREW
4	M4x10 GRUB SCREW
4	M4x6 CYLINDERHEAD SCREW
6	M4x65 THREADED ROD
2	M4x7 CYLINDERHEAD SCREW
1	M5 HALVE NUT
8	M5x15
2	M5x7 GRUB SCREW
2	M6 NUT

TITLE	SINGLE CYLINDER BALANCE BEAM STEAM ENGINE WITH CYLINDRICAL VALVE
A3	GENERAL ARRANGEMENT

DRAWN BY	J.A.M. DE WAAL	PROJECTION		DRAWING NUMBER	1CBBSE-03
DATE	OCT-2006	SCALE	1:1@A3 or AS SHOWN	SHT OF SHT	03 of 06
REV	DESCRIPTION	DATE			

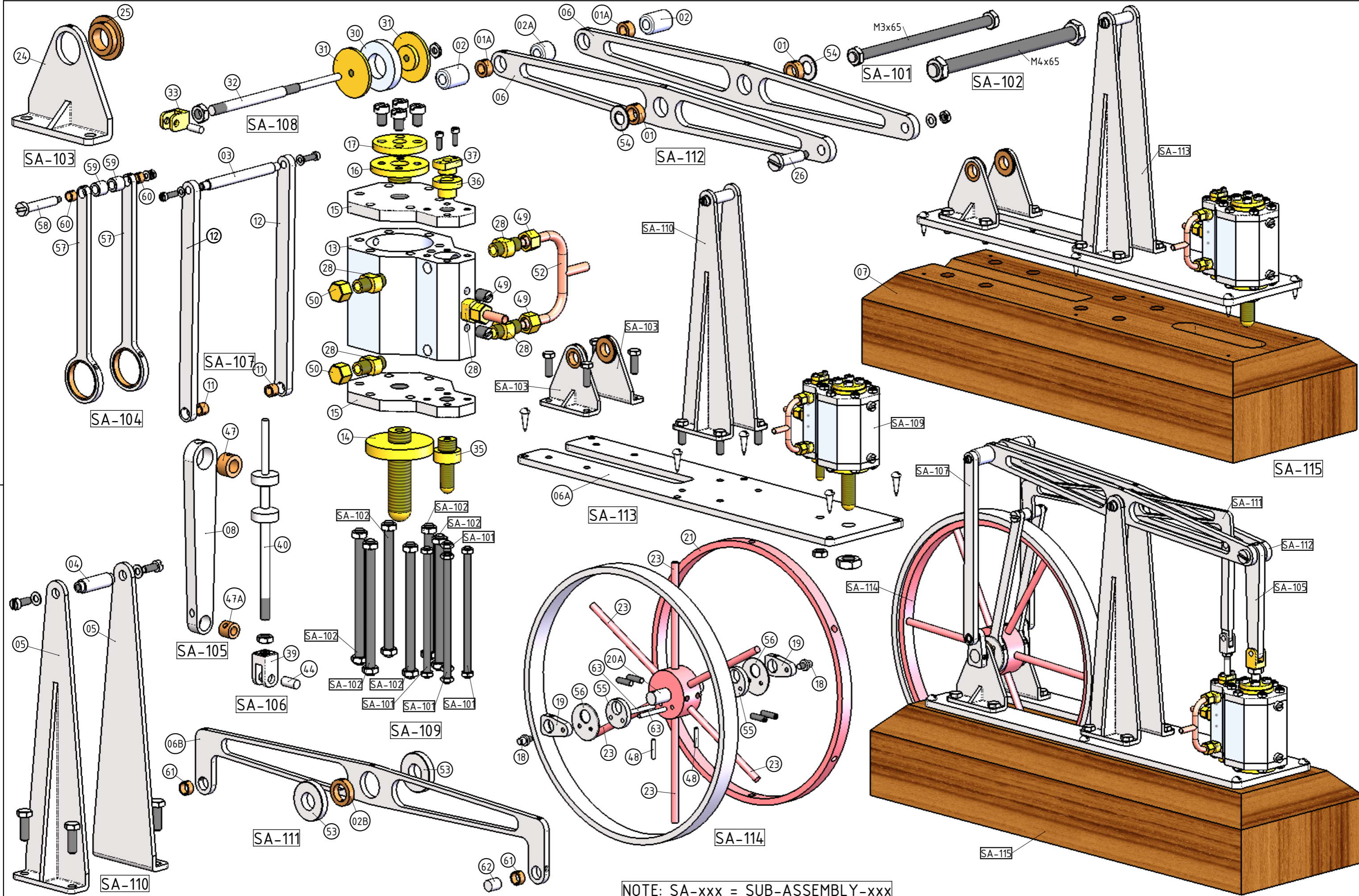
IF NOT STATED ALL CHAMFERS ARE 0.2mmx45°

JDW DRAUGHTING SERVICES
 12 BRIGHTWELL STREET
 PAKAPURA NEW ZEALAND
 TEL/FAX 0064-09-2988815
 E-MAIL:dewaal@xtra.co.nz



TITLE		DRAWN BY		PROJECTION		DRAWING NUMBER	
SINGLE CYLINDER BALANCE BEAM STEAM ENGINE WITH CYLINDRICAL VALVE ASSEMBLIES AND PARTS		J.A.M. DE WAAL				1CBBSE-04	
A3		DATE		SCALE		SHT of SHT	
		OCT-2006		1:1@A3 or AS SHOWN		04 of 06	
REV		DESCRIPTION		DATE		REV	

IF NOT STATED ALL CHAMFERS ARE 0.2mmx45°



NOTE: SA-xxx = SUB-ASSEMBLY-xxx

A3	TITLE	SINGLE CYLINDER BALANCE BEAM STEAM ENGINE WITH CYLINDRICAL VALVE ASSEMBLIES AND PARTS			JDW DRAUGHTING SERVICES 12 BRIGHTWELL STREET PAPA KURA NEW ZEALAND TEL/FAX 0064-09-2988815 E-MAIL:dewaal@xtra.co.nz	DRAWN BY J.A.M. DE WAAL	PROJECTION 	DRAWING NUMBER 1CBBSE-06
	DATE OCT-2006	SCALE 1:1@A3 or AS SHOWN	SHT of SHT 06 of 06	REV DESCRIPTION DATE				

IF NOT STATED ALL CHAMFERS ARE 0.2mmx45°