

M.B.M MODEL ENGINEERING SUPPLIES

IMPORTERS & SUPPLIERS OF MODEL ENGINEERING EQUIPMENT

Visit Our Web Site : www.MBMMModelEngineering.com

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MBM is please to announce we now have facility to take payments by EFT-POS, Visa, Mastercard.

TERMS : All prices are in N.Z. dollars, excluding postage and packaging. Post and packaging will be billed separately when the goods are sent, being a variable due to size and weight. We reserve the right to alter the prices shown in this catalogue in the event of fluctuations in labour and material costs, without notice.

INQUIRES : All inquires must be accompanied with a stamped, addressed envelope.

PAYMENT : Payment is to be made at time of placing order and may be made by cash, cheque, EFT-POS, Visa, MasterCard – credit card details to be supplied at time of order.

We look forward to your custom and hope we can meet your requirements.

This stock list is being added to constantly, so please enquire if your are wanting a different type of fitting.

FITTINGS AVAILABLE:

INJECTORS :	11 oz Horizontal 5/32 pipe	\$	220.00
	25 oz Horizontal 3/16 pipe		235.00
	40 oz Horizontal 1/4 pipe		260.00
	60 oz Horizontal ¼ pipe		260.00
	REFURBISHED INJECTORS – new cones, tested	\$	120.00

Note: 20 oz/min = 1 pint/min

EJECTORS : 3/16 steam in, 1/4 vacuum, 1/4 exhaust pipe, check valve \$142.00 large

PRESSURE GAUGES :

1 inch ¾ inch 0-120 P.S.I., 1 inch and ¾ inch 0-150 P.S.I.	\$	120.00
¾ & 1 inch 0-150 P.S.I. Flanged back	\$	130.00
1 5/8 inch 0-160 & 0-300 P.S.I. Flanged back		150.00
2 inch 0-160 & 0.300P.S.I. Flanged back		170.00
Available on request: ½” gauge		120.00

VACUUM GAUGES:	¾ inch dia 0-30 Hg	\$	140.00
	1 inch dia 0-30 Hg		145.00
	1 inch flanged back 0-30 Hg		150.00
	1 5/8 inch flanged back 0-30 Hg		160.00

30” Hg = 14.7 p.s.i.

Available in flanged back : ¾ and 1”, 1 5/8 standard

ANGLE FEED CHECK VALVES : 90°

Or non-return valves are fitted to boilers so that they may be filled with water whilst in service.

1/8 pipe, 1/4 x 40T	\$	46.00
3/16 pipe, 5/16 x 32T		48.00
5/32 pipe, 1/4 x 40T		55.25
1/4 pipe, 7/16 x 26		85.50
1/4 pipe 3/8 x 32		85.50

CHECK VALVE : 1/4 X 40 taper thread Just tap copper pipe with taper ME die \$ 49.65

OIL IN LINE CHECK VALVE WITH SPRING:

1/8" Pipe to pipe	\$	51.70
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IN LINE CHECK VALVE: 1/8" Pipe to pipe	\$	52.00
5/32 Pipe to pipe		52.00
3/16 Pipe to pipe		52.00
1/4 Pipe to pipe		60.60

STEAM VALVES : Suitable for back head fittings, okay for water

3/16 x 40 3/32 pipe 90°	\$	97.00
1/4 x 40 1/8 pipe 90°		97.00
1/4 x 40 5/32 pipe 90°		97.00
5/16 x 32 3/16 pipe 90°		91.00
3/8 x 32 1/4 pipe 90°		100.00
3/32 pipe to pipe 180°		42.00
1/8 pipe to pipe 180°		64.00
5/32 pipe to pipe 180°		64.00
3/16 pipe to pipe 180°		91.00
1/4 pipe to 1/4 pipe 180°		106.00

AIR COMPRESSOR REGULATORS: Adjustable from 40 psi to 100 psi \$ 300.00 each

LUBRICATORS : For connecting to a reciprocating part of an engine motion to pump oil into the steam supply pipe.

Ratchet type : Includes pump, ratchet and check valve, <u>without tank</u>	\$	102.00
Ratchet type – complete with tank 1.25 sq inch tank or 1" sq tank	\$	182.00
Clutch type - complete with tank 2 x 1 5/8	\$	250.00
Clutch type - complete with tank 2 x 1 5/8 twin rams	\$	302.60

LUBRICATOR – DISPLACEMENT TYPE : With filler cap, drain plug and control valve, are fitted between boiler and engine. 3/16 x 40 or 1/4 x 40 Stuart type \$ 120.00

Lubricators – small displacement, 1/4 x 32T for small stationary engines \$ 85.00

HYDRO-STATICS LUBRICATOR:

Single glass and check valve	\$	250.00
Twin glass and check valve		340.00
Triple glass and check valve		400.00

PLUG TYPE DRAIN COCK:		
5/32 x 40	\$	25.75 each
3/16 x 40		31.00 each
1/4 x 40		34.58 each
5/16 x 32		38.00

STEAM OPERATED DRAIN COCKS: ¼ x 40 \$ 25.00 each

BLOWDOWN VALVES: ¼ x 40 \$ 35.00
 5/16 x 32 \$ 48.00
 ½ x 26 60.00
 3/8 x 32 70.00

Also available ¼ x 40, 5/16 x 40, 3/8 x 40, 3/8 x 26,

INJECTOR WATER COCKS : Air tight 'O' ring fitted complete with handle
 3/16 pipe 90 deg on/off \$ 83.00
 ¼ pipe 90 deg on/off 120.00

WATER GAUGES: 4 mm glass 3/16 x 40T \$ 83.50
 5 mm glass ¼ x 40T 99.70
 6 mm glass 5/16 x 32T 112.00
 7 mm glass 3/8 x 32T 126.00

WATER GAUGE GLASS:

Plain Glass

Red Line

150 mm length

4mm)
 5 mm) 150 mm
 6 mm) lengths
 8 mm) \$ 3.00

5 mm)
 6 mm) \$ 19.00
 7 mm)
 8 mm)
 9 mm)
 10 mm)
 12mm x 200mm \$ 21.50
 14mm x 300mm \$ 40.00 each

OIL SIGHT GLASS: ¾ O.D. x 1 inch \$ 6.00 each
 16mm x 20mm 6.00 each

OIL CUPS: Open topped cups for lubrication of bearings, slides etc.

8 Ba x 3/16 dia \$ 9.46 each
 6 Ba x 3/8 dia 9.46 each
 3 Ba x 7/16 dia 9.46 each
 2 Ba x 3/16 dia hex body 9.46 each

DRIP FEED OILERS: 5 Ba thread 7mm diameter 29mm high \$ 39.50 each
 5 Ba thread 10mm diameter 40mm high 53.75 each
 2 Ba thread 13mm diameter 50mm high 67.50 each
 2 Ba thread 15mm diameter 45mm high 76.00 each

WICK FEED OILER : 5/16 x 32 T \$ 48.80 each
 5/16 x 32 T 7/8 body 55.30 each

HAND RAIL STANCHIONS : 6 Ba Thread 7/16 long 1/8 Rail \$ 3.70 each
 4 Ba Thread 5/8 long 3/16 Rail 4.50 each
 4 Ba Thread 7/16 long 3/16 rail 4.50 each

HANDWHEELS: Cast handwheels ½ "dia \$ 10.00 each
 Cast handwheels 5/8 "dia 10.00 each
 Cast handwheels ¾ " dia \$ 15.00 each
 Cast handwheel 1 " dia 15.00 each

WHISTLES : Traction engine type with lever valve.
 With lever valve 4" scale, 1/8 BSP Stands 4 ¼' high \$ 235.00

With lever valve 3" scale, 5/16 x 32	Stands 3 1/8" high	192.00
With lever valve 2" scale, 1/4 x 40	Stands 2 3/4" high	164.00
1/2" O.D. whistle x 1/8 pipe		50.00
Whistle valve, vertical 1/4 x 40, 1/8 pipe		120.00

SINGLE PIPE UNIONS :	1/4 x 40 1/8 pipe	\$	8.00 each
	1/4 x 40 5/32 pipe		8.00 each
BULKHEAD CONNECTOR :	1/4 pipe to pipe	\$	30.00
ELBOWS :	90° 1/8 pipe, olives and nuts included	\$	28.00
	3/16 pipe, olives and nuts included		35.00
	5/32 pipe, olives and nuts included		21.50
	1/4 pipe, olives and nuts included		36.65
Also available : 3/32 pipe, 1/8 pipe, 1/4 pipe			
TEE CONNECTORS :	1/8 pipe & cones	\$	30.00
	3/16 pipe & cones		30.00
	5/32 pipe & cones		30.00
	1/4 pipe & cones		35.00
ELBOWS - 90° BEND :	Cast bronze model pipe fitting – tapered thread		
	1/4 x 40, taper thread	\$	13.75 each
	3/16 x 40 taper thread		13.75 each
45° BEND :	1/4 x 40, taper thread		18.75 each
90° MALE/FEMALE :	1/4 x 40, taper thread		18.75 each
STUART DRAIN COCKS :	5/32 x 40T	\$	36.00 each
STUART UNION COCKS :	1/8 pipe	\$	57.50 each
	5/32 pipe		68.75 each
	3/16 pipe		68.75 each
BLOWER STEAM VALVE :	1/4 X 40T	\$	49.00 each
HAND PUMP :	Tank mounted 5/8 Ram	\$	180.00 each
WATER BY-PASS VALVE :	Floor mounted 5/32 pipe	\$	40.00 each
	3/16 pipe		42.00 each
SAFETY VALVES :			
For big (7 1/4" G) boilers. Stainless steel ball, spring and stem. Brass housing and other parts. Connection : 3/8" BSPF (Other threads optional). Length above boiler bush approx 55mm. Pressure set at 7 bar (100 psi). Pressure drop : max 0.5 bar (7 psi)			
		\$	120.00 each
For medium (5" G) boilers. Stainless steel ball, spring and stem. Brass housing and other parts. Connection : 1/2 x 26 (other threads optional). Length above boiler bush about 40mm. Pressure set at 7 bar (100 psi). Pressure drop : max 0.5 bar (7 psi).			
		\$	120.00 each
Safety valve	1/2 x 26 pop valve 100 psi		120.00 each
	3/8 x 32 pop valve 100 psi		120.00 each
SCALE BUCKETS :	4" and 3" scale	\$	20.00 each
LOST WAX PLATES :	4" scale clean out boiler every 14 days	\$	43.00 each
	3" scale clean out boiler every 14 days		43.00 each
STEEL BOILER TREATMENT :			

Terlyn LSB 8000 Designed for miniature steel boilers \$ 60.00 per bottle

BOILER (COPPER) : 3" Colonial style, suitable for single cylinder engine up to 25 x 25mm or twin cylinder engine up to 20 x 20mm bore & stroke

Complete with burner, pressure gauge, safety valve, water gauge, filler nut, extra bushes \$ 1280.00

Also available in vertical 3 inch

CAST PROPELLORS : Lost wax, 3 bladed, 4mm thread. 4mm or 5mm thread on larger sizes.

30mm left hand	\$ 34.00	30mm right hand	\$ 34.00
35mm left hand	34.00	35mm right hand	34.00
40mm left hand	34.00	40mm right hand	34.00
45mm left hand	40.00	45mm right hand	40.00
50mm left hand	54.00	50mm right hand	54.00
55mm left hand	54.00	55mm right hand	54.00
60mm left hand	66.00	60mm right hand	66.00
65mm left hand	66.00	65mm right hand	66.00
70mm left hand	66.00	70mm right hand	66.00
75mm left hand	66.00	75mm right hand	66.00

FUSIBLE PLUGS : 3/8 x 32 TPI \$ 31.00
1/2 x 26 TPI 31.00

AUSTRALIAN MODEL ENGINEER MAGAZINE :

Bi-monthly \$ 60.00 for six issues

MEANZ BOILER RULES : Copper or Steel \$ 45.00 each

BROTHERHOOD OF LIVE STEAMERS patches \$ 5.00 each

MACHINES AND HAND TOOLS AVAILABLE:

The quality of our Taps & Dies are
HQSS. Its' steel composition makes them
Tougher & provides a better alternative to HSS.
Our HQSS quality cuts excellent threads –
Even into stainless.

TAPS & DIES – STRAIGHT FROM ENGLISH MANUFACTURER:

Ba TAPS: Ba 1, 3, 2, 4, 5 & 6 in Taper, Second or Bottom \$ 26.00 each
Ba 7, 8 & 9 in Taper, Second or Bottom 36.80 each
Ba 10 " " " 48.00 each
Ba 12 " " " 48.00 each

Ba DIES: Ba 0 \$ 55.00 each
Ba 1 55.00 each
Ba 2 55.00 each
Ba 3 55.00 each
Ba 4, 5 & 6 55.00 each
Ba 7 & 8 55.00 each
Ba 9 55.00 each
Ba 10 55.00 each
Ba 12 72.00 each

M.E. TAPS : 5/32 x 32T Taper, Second or Bottom \$ 32.00 each
5/32 x 40T " " " 32.00 each
3/16 x 32T " " " 32.00 each

3/16 x 40T	“	“	“	32.00 each
7/32 x 32T	“	“	“	15.60 each
7/32 x 40T	“	“	“	15.00 each
1/4 x 32T	“	“	“	21.00 each
1/4 x 40T	“	“	“	17.75 each
9/32 x 32T	“	“	“	26.00 each
9/32 x 40T	“	“	“	26.00 each
5/16 x 32T	“	“	“	55.00 each
5/16 x 40T	“	“	“	30.00 each
3/8 x 32T	“	“	“	37.00 each
3/8 x 40T	“	“	“	38.25 each
7/16 x 32T	“	“	“	18.66 each
7/16 x 40T	“	“	“	18.66 each
1/2 x 32T	“	“	“	38.50 each
1/2 x 40T	“	“	“	38.50 each

M.E. DIES :	5/32 x 32T	\$	36.00 each
	5/32 x 40T		36.00 each
	3/16 x 32T		36.00 each
	3/16 x 40T		36.00 each
	7/32 x 32T		48.00 each
	7/32 x 40T		36.00 each
	1/4 x 32T		36.00 each
	1/4 x 40T		55.00 each
	9/32 x 32T		48.00 each
	9/32 x 40T		48.00 each
	5/16 x 32T		55.00 each
	5/16 x 40T		48.00 each
	3/8 x 32T		36.00 each
	3/8 x 40T		48.00 each
	7/16 x 32T		48.00 each
	7/16 x 40T		48.00 each
	1/2 x 32T		48.00 each
	1/2 x 40T		48.00 each

BRASS TAPS :	1/4 x 26 Taper Sec Btm	\$	20.00 each
	5/16 x 26 “ “ “		38.00 each
	3/8 x 26 “ “ “		38.25 each
	7/16 x 26 “ “ “		51.00 each
	1/2 x 26 “ “ “		55.00 each
	9/16 x 26 “ “ “		68.00 each
	5/8 x 26 “ “ “		66.00 each
	3/4 x 26 “ “ “		94.00 each

BRASS DIES :	1/4 x 26	\$	35.00 each
	5/16 x 26		55.00 each
	3/8 x 26		36.50 each
	7/16 x 26		44.00 each
	1/2 x 26		55.00 each
	9/16 x 26		38.92 each
	5/8 x 26		81.50 each

BA BOXED SET – 23 piece : 1 Taper + 1 Bottom + 1 Die + Tapwrench + Die Stock
2 + 4 + 5 + 6 + 7 + 8 + 10 \$ 388.00

Taps and Dies not on list – please ask and we will order them for you. Other taps and dies also available are : BSB & BS cycle, BSP, metric, BSW, BSF, UNC and UNF.

TUBING CUTTER : 1/16 – 5/8” O.D. Tube, cuts copper, brass, thin wall tube \$ 22.75 each

TUBING BENDER : 1/16 – 3/16” Copper/Brass tubing. Bending tube made easy \$ 15.00 set

SPANNERS – BA : Open ended spanners – 0 to 11 BA, in wallet \$ 68.00 set
Box spanners – 2 to 10 BA and 12 BA \$ 13.00 each
Box spanner set 0 to 10 BA \$ 114.00 set

DRILL SET HSS METRIC : 1.0 – 6mm in .1mm steps \$ 175.00

NUMBER DRILL SET : 1 – 60 \$ 130.00
61 – 80 75.00

IMPERIAL DRILL SET : 1/16 – ½ inch in 1/64 steps \$ 175.00

TAPER PIN REAMER 3/32 \$ 40.00
5/64 45.00
1/8 38.00

STEAM RAISING BLOWER \$ 116.00

REILANG OIL CAN – RIGID OR FLEXIBLE SPOUT :
Swiss made Parts available 200 ml, 3 year warranty \$ 120.00

MATERIALS AVAILABLE :

SILVER SOLDER Shim 1m x 10mm c .006 thick \$ 40.52/roll

Silver solder with cadmium 42% 1.6mm dia. 750mm long \$ 19.50 per stick

Bridget Solder : 10% silver & tin. No Lead \$ 3.50/metre (Working temp 250°C to 305°C)

Bridget Flux : 113 gms 25.00

Silver Solder Flux Paste : 230gms Hi temp black flux 44.50

CAPALLOY SOLDER :

40% tin, 60% lead in paste form, ideal for soldering tanks and accessories. \$ 34.40 /100 gms

COPPER ROD :

1/8 dia \$ 6.00 per 300mm - minimum length
¼ dia 7.50 “ “ “
5/16 dia 10.00 “ “ “
3/8 dia 15.50 “ “ “

COPPER SQUARE : 10mm x 10mm \$ 22.00 per 300mm minimum length

COPPER TUBE : Hard drawn, thin wall 15 thou wall, 12 inch lengths

1/16 \$ 6.90 each
3/32 6.90
1/8 4.25
5/32 3.80

COPPER TUBE : Hard drawn thin wall 15 thou, 36” long 5/32 \$ 13.65 each
3/16 22.50
7/32 22.40
¼ 24.60

BRASS BAR FLAT: 1 x 1/8 - 12” (300mm) minimum length \$ 18.00
1 x ¼ “ “ 28.00
1 x 3/8 “ “ 30.00

11/4 x 1/8

“ “

25.00

BRASS TUBE :	Thin wall, 12 inch lengths	5/32	\$	5.00
		3/16		5.50
		1/4"		6.00

BRASS SOLID ROUND :	12" lengths	3/64	\$	1.15 each
		1/16		1.15 each
		3/32		3.40 each
		1/8		5.00 each
		5/32		6.58 each
		3/16		7.36 each
		1/4		7.20 each
		5/16		12.00 each
		3/8		10.00 each
		1/2		20.50 each
		7/8		26.00 each
		1 1/8 100mm	\$	60.00 each
		1 1/4 100mm		70.00 each
	1 1/2 100mm		96.00 each	

BRASS HEX :	12" lengths (300mm) min					
	3/16	\$	6.00	1/2	\$	15.00
	1/4		6.00	9/16		21.50
	5/16		10.00	5/8		21.70
	3/8		11.00	3/4		28.00
	7/16		12.85	11/16		26.00
			1 "		40.80	

BRASS SQUARE :	12" lengths or 300mm	1/4" square	\$	8.00 per 300mm length
		3/8" square		18.00
		1/2" square		34.35
		3/4" square		40.00
		1" square		34.00 per 100mm length

BRONZE ROUND :	1/2" diameter 12" lengths or 300mm	\$	30.00
	3/4 " "		58.66

BRASS TUBE :	Thin wall	36"	1/8	\$	11.00 each
			3/16		14.00 each

RIVETS – IRON :	Snap Head	1/16 x 1/4	\$	1.20 per 10
		1/16 x 3/8		0.90 per 10
		1/16 x 1/2		1.06 per 10
		5/64 x 3/8		1.12 per 10
		5/64 x 1/2		1.25 per 10
		3/32 x 1/4		1.05 per 10
		3/32 x 3/8		1.00 per 10
		3/32 x 1/2		1.60 per 10
		3/32 x 3/4		1.36 per 10
		7/64 x 1/2		0.95 per 10
		1/8 x 1/2		1.30 per 10
		1/8 x 3/4		1.55 per 10
		1/8 x 1"		1.85 per 10
		5/32 x 3/4		2.70 per 10
		3/16 x 1/2		2.50 per 10
		3/16 x 3/4		3.60 per 10
		3/16 x 1		5.55 per 10
	1/4 x 3/4		1.00 per 10	
	1/4 x 1"		1.72 per 10	

RIVETS – COPPER :	1/16 x 3/8	\$	1.30 per 10
	1/16 x 1/4		1.10 per 10
	3/32 x 3/8		2.00 per 10
	3/32 x 1/2		1.65 per 10
	3/32 x 3/4		1.75 per 10
	3/32 x 1		1.80 per 10
	1/8 x 1/4		3.90 per 10
	1/8 x 1/2		1.85 per 10
	1/8 x 3/4		2.60 per 10
	1/8 x 1		3.43 per 10
	5/32 x 1		8.50 per 10
	3/16 x 1		8.80 per 10

RIVETS – COPPER – COUNTERSUNK :

1/8 x 1 1/4	\$	3.70 per 10
5/32 x 3/4		5.35 per 10
3/16 x 3/4		8.80 per 10

BRASS RIVETS :

1/32 x 1/4	\$	1.00 per 10
3/64 x 1/4		1.10 per 10
3/64 x 3/8		1.20 per 10
1/16 x 1/4		1.10 per 10
1/16 x 1/2		1.10 per 10

RIVET SNAPS :

1/32	\$	20.00 each
3/64		17.50 each
1/16		25.00each
5/64		20.00 each
3/32		27.55 each
1/8		2650 each
5/32		21.00 each
3/16		26.00 each
1/4		23.50 each

BRASS NUTS :

3/32 pipe 3/16 x 40 thread	\$	16.20 per 10
1/8 or 5/32 pipe 1/4 x 40 thread		17.00 per 10
3/16 pipe 5/16 x 32 thread		18.00 per 10
3/16 pipe 5/16 x 40 thread		14.00 per 10
7/32 pipe 5/16 x 32		20.00 per 10
1/4 pipe 3/8 x 32 thread		18.00 per 10
3/8 pipe 9/16 x 26 thread		18.00 per 10

BRASS CONES :

1/8 pipe	\$	15.00 per 10
3/32 pipe		12.00 per 10
5/32 pipe		12.00 per 10
3/16 pipe		15.20 per 10
7/32 pipe		18.00 per 10
1/4 pipe		22.00 per 10
3/8 pipe		25.86 per 10

STAINLESS STEEL BALLS : Each

3/32 dia 316 grade	\$	0.55	1/8 dia 316 grade	\$	0.55
3/16 dia 316 grade		0.80	7/32 dia 316 grade		0.86
1/4 dia 316 grade		1.00	5/16 dia 316 grade		1.84
5/32 dia 316 grade		0.50	3/8 dia 316 grade		3.60
9/32 dia 316 grade		5.60	7/16 dia 420 grade		8.10
11/32 dia 316		5.60	1/2 dia 316		5.60

TORLON BALLS : Newly developed plastic ball which is designed for use in aggressive environments. Among its uses is as a check valve. These are made from a poly amide-imide material.

5/32" dia	\$	1.80 each	3/16" dia	\$	1.55 each
1/4" dia		1.60 each	3/8" dia		4.10 each
5/16" dia		1.80 each			

BRONZE BALLS :

1/32 dia	\$	0.90 each	1/8 dia	\$	1.00 each
3/32		1.25 each	5/32		0.85 each
3/16		1.30 each	7/32		1.60 each
5/16		3.35 each	1/4		2.00 each
3/8		12.75 each			

STAINLESS STEEL ROD : 12 inch lengths

3/32 dia	\$	6.50 each	5/16 dia	\$	14.80 each
1/8 dia		5.00 each	3/8 dia		20.00 each
3/16 dia		6.90 each	7/16 dia		18.00 each
1/4 dia		10.80 each	1/2 dia		21.00 each

STEEL ROD :

1/8 x 36"	\$	7.00
5/32 x 36"		7.00
3/16 x 36"		7.10

Ba SCREWS : Packets of 10 Steel hex

2Ba	x 1/2	\$	5.00	7Ba	x 3/8 reduced head	\$	4.80
2Ba	x 1		6.60	7Ba	x 1/2		5.26
2Ba	x 1 1/4		6.60	7Ba	x 3/4		4.40
3Ba	x 3/4		3.00	7Ba	x 1		5.50
4Ba	x 1/2		5.30	8Ba	x 1/4		5.00
4Ba	x 3/8		5.30	8Ba	x 1/4 small head		5.50
4Ba	x 3/4		5.00	8Ba	x 5/16		4.70
4Ba	x 1		5.55	8Ba	x 3/8		4.16
4Ba	x 1 1/8		5.60	8Ba	x 1/2		5.20
5Ba	x 1/4		3.00	8Ba	x 3/4		4.50
5Ba	x 1/2		4.58	8Ba	x 1"		6.36
5Ba	x 1		4.65	10Ba	x 1/4		5.00
6Ba	x 3/16		4.00	10Ba	x 3/8		4.75
6Ba	x 1/4		4.45	10Ba	x 1/2		5.60
6Ba	x 5/16		4.30	10Ba	x 1/2 small hex		6/80
6Ba	x 3/8		5.50	10Ba	x 3/4		6.00
6Ba	x 1/2		5.80	12Ba	x 1/4		5.00
6Ba	x 5/8		4.40	12Ba	x 3/8		3.28
6Ba	x 3/8 small head		5.70				
6Ba	x 3/4		3.05				
6Ba	x 1/2 small head		6.10				
6Ba	x 1		7.72				
6Ba	x 1 1/4		7.80				

Steel Roundhead : per 10

4Ba	x 1/2	\$	3.60
6Ba	x 3/8		3.30
6Ba	x 1/2		2.20
8Ba	x 1/2		3.50
9Ba	x 1		4.70

Brass Roundhead :

2Ba	x 1	\$	5.84
4Ba	x 1/2		4.00
4Ba	x 3/4		4.10
5Ba	x 1/4		2.00
6Ba	x 1/2		4.40
6Ba	x 1		4.00
7Ba	x 1/4		2.55
7Ba	x 2		7.30
8Ba	x 1/8		2.40
8Ba	x 1/4		3.54
8Ba	x 1/2		4.38
8Ba	x 3/4		6.80

9Ba	x 1	4.10
10Ba	x ¼	5.20
10Ba	x 3/8	4.80
10Ba	x ½	4.00
10Ba	x ¾	5.80
10Ba	x 1 ¼	7.50
12Ba	x ¼	5.30

Steel Countersunk :

1Ba	x 7/8	\$	2.65
2Ba	x ½		2.52
3Ba	x 5/8		3.50
4Ba	x ½		3.00
4Ba	x 1 ¼		3.50
5Ba	x 1		5.25
6Ba	x ½		3.50
7Ba	x 3/8		3.00
7Ba	x 5/8		3.20
8Ba	x ½		3.80
10Ba	x ¼		4.30
10Ba	x 7/16		4.00
10Ba	x ½		5.00
12Ba	x ¼		4.60

Brass Countersunk :

4Ba	x ½	\$	2.50
4Ba	x 1		2.54
5Ba	x 5/8		3.15
5Ba	x ¾		3.48
6Ba	x ½		3.50
6Ba	x 1 3/8		5.20
6Ba	x 1 ½		6.00
7Ba	x ¼		4.20
8Ba	x ¼		3.00
8Ba	x ½		4.00
8Ba	x ¾		4.80
8Ba	x 1		5.60
10Ba	x 5/16		4.10
10Ba	x 3/8		3.30
10Ba	x ½		4.50
10Ba	x 5/8		4.80
10Ba	x ¾		4.80
10Ba	x 1		10.00
12Ba	x ½		5.25

Steel Cheesehead : (per 10)

2Ba	x ¼	\$	3.00
2Ba	x 1/2`		3.60
3Ba	x ¾		3.36
4Ba	x ¼		3.00
4Ba	x 1 ¾		8.12
6Ba	x ½		4.20
6Ba	x 1		4.50
6Ba	x 1 ¾		7.00
7Ba	x 3/8		2.65
7Ba	x 5/8		3.00
8Ba	X ½		3.70
8Ba	x 1		4.00
10Ba	x 3/8		4.40
10Ba	x ½		3.85
10Ba	x 5/8		5.05
10Ba	x ¾		5.80
10Ba	x 1		9.65
10Ba	x 1 ½		9.65

Brass Cheesehead : (per 10)

2Ba	x 3/8	\$	4.40
4Ba	x ½		3.00
4Ba	x 5/8		4.20
4Ba	x ¾		4.50
6Ba	x 3/8		3.90
6Ba	x ½		3.75
8Ba	x 3/8		3.00
8Ba	x ½		2.00
8Ba	x 3/4		4.28
10Ba	x ½		4.50
10 Ba	x 1		10.30
12Ba	x 3/8		3.50
14Ba	x ½		11.09
16Ba	x ½		14.25

Steel Socket Cap Screws : (per 10)

2Ba	x 1	\$	13.80
4 Ba	x ¾		9.50

Steel Grub Screws : (per 10)

4Ba	x ¼	\$	16.40
4Ba	x 3/8		14.00
6Ba	x 3/8		13.00
6Ba	x ¼		10.00
6Ba	x ½		13.50

Stainless Steel Countersunk – EACH :

2Ba	x ½	\$	1.80
4Ba	x 3/8		1.70
4Ba	x ½		1.80

Stainless Steel Caphead – EACH :

2Ba	x 1 ¼	\$	2.15
4Ba	x 5/8		2.80

Stainless Steel Roundhead – EACH :

8Ba	x 1	\$	3.00
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Steel Socket Countersunk Screws – EACH :

4Ba	x 5/16	1/16 key	\$	1.47
4Ba	x 1/2	1/16 key		1.47

Stainless Steel Cheesehead Screws – EACH :

4Ba	x 1/2		\$	1.70
8Ba	x 5/8			1.80
10Ba	x 13/32			1.80

HEX HEAD NUTS – STEEL : Per 10

0 Ba	\$	2.85	1 Ba	\$	2.65
2 Ba		2.25	7 Ba		2.70
3 Ba		1.65	8 Ba		3.00
4 Ba		2.45	10 Ba		2.60
5 Ba		2.50	12 Ba		3.15
6 Ba		2.30			

HEX HEAD NUTS – BRASS : Per 10

4 Ba	\$	1.78	5 Ba	\$	1.80
6 Ba		2.00	7 Ba		2.00
8 Ba		1.80	10 Ba		2.50
9Ba		2.50	12 Ba		3.50
			14 Ba		5.80
			16 Ba		8.95

HEX HEAD SCREWS – BRASS : Per 10

2Ba x 1/2"	\$	4.60
2Ba x 1"		4.80
4Ba x 1/2		6.40
4Ba x 5/8		4.60
4Ba x 3/4		8.00
6Ba x 3/8		7.30
6Ba x 1/2		8.00
6Ba x 1"		6.35
8Ba x 3/8		10.50
8Ba x 1/2		7.85
8Ba x 5/8		8.00
10Ba x 3/8		6.50
10Ba x 1/2		6.80
10Ba x 3/4		10.00
12Ba x 1/2		9.50

BRASS ROUND HEADS – NO SLOT :

6Ba x 1/2	\$	4.40 per 10
8Ba x 1/2		4.40 per 10

HEX HEAD NUTS – A2 STAINLESS : Each

2 Ba	\$	0.40	6 Ba	\$	0.57
3 Ba		1.60	8 Ba		1.40
4 Ba		0.50			

HEX HEAD SCREWS – A2 STAINLESS : Each

2 Ba x 3/4 hex	\$	1.75	4 Ba x 1" hex	\$	1.70
4 Ba x 3/8		2.22	5 Ba x 1/2 hex		2.70
4 Ba x 1/2 hex		2.50	6 Ba x 3/4 hex		2.00
4 Ba x 3/4		2.65	8 Ba x 1/2 hex		1.80

STAINLESS STEEL WASHERS : Per 10

2 Ba	\$	1.86	5 Ba	\$	0.85
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3 Ba	0.80	6 Ba	2.00
4 Ba	1.65	8 Ba	0.90
		10 Ba	2.00

STEEL WASHERS : Per 10	0Ba	\$	0.66	6Ba	\$	0.90
	1Ba		0.66	7Ba		1.12
	2Ba		0.50	8Ba		0.90
	3Ba		0.50	9Ba		1.22
	4Ba		1.20	10Ba		1.00
	5Ba		0.45	12Ba		0.85

COPPER WASHERS :	1/8	\$	3.00 per 10	5/32		3.80 per 10
	7/16		5.80 per 10			

STEEL SINGLE COIL WASHERS : Per 10

4Ba	\$2.50	5Ba	\$2.55	6Ba	\$2.60
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BRASS WASHERS per 10

4Ba	\$ 1.50	8Ba	\$ 1.50
5Ba	\$ 1.50	9Ba	\$ 2.00
6Ba	\$ 1.50	10Ba	\$ 2.00
7Ba	\$ 1.50	12Ba	\$ 3.25

STUDDING : Threaded Rod

Steel	12" lengths	2 Ba	\$	14.50 / length
Brass	12" lengths	2Ba		11.00 / length
Steel	12" lengths	3 Ba		12.54 / length
Brass	12" lengths	3 Ba		29.00 / length
Steel	12" lengths	4 Ba		11.20 / length
Brass	12" Lengths	4Ba		15.20 / length
Steel	12" lengths	5 Ba		13.70 / length
Brass	12" lengths	5 Ba		11.50 / length
Steel	12" lengths	6 Ba		14.20 / length
Brass	12" lengths	6 Ba		19.00 / length
Steel	12" lengths	7 Ba		21.90 / length
Brass	12" lengths	7Ba		20.80 / length
Steel	12" lengths	8 Ba		26.40 / length
Brass	12" lengths	8 Ba		19.64 / length

ENGINEERS' STUDS: Threaded both ends

4Ba	x 1"	\$	2.00 each	5Ba	x 1"	\$	2.00 each
6Ba	x 1"		2.00 each				

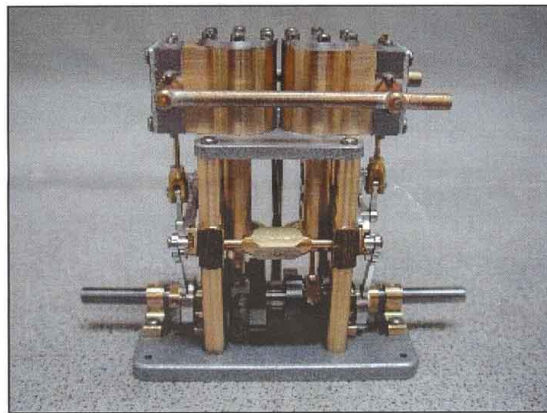
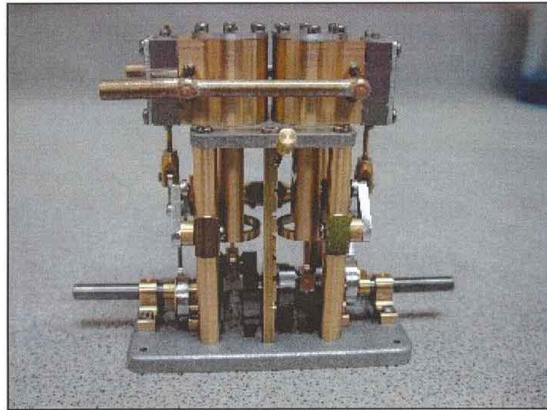
SPLIT PINS – STEEL : Per 10

1/32" x 3/8 steel	\$	1.50	1/16" x 3/4 steel	\$	1.70
1/32" x 1/2" steel		2.00	1/16" x 1 steel		2.80
1/32" x 3/4 steel		1.80	1/16" x 1 1/4" steel		2.00
3/64" x 1" stainless steel		6.12	3/64" x 1/2" stainless steel		4.40
3/32" x 3/8 stainless steel		2.88	1/32" x 1/2" stainless steel		3.70
3/64" x 1" steel		1.50	1/32" x 3/8 stainless steel		3.80
1/16" x 3/4 stainless steel		5.60	5/64" x 1/2 stainless steel		4.50
1/16" x 5/8 stainless steel		4.70			

SOLID TAPER PINS : Steel

Each	1/16 x 1/2	\$	0.56	5/64 x 1/2	\$	0.60
	5/64 x 1		1.00	1/16 x 3/4		0.80
	3/32 x 3/4		0.88	1/8 x 1/2		0.87
	3/32 x 7/8		1.00	3/32 x 1"		1.00
	1/8 x 1		1.60			
	1/8 x 1 1/2		1.80			

GAGE TVR1A



The GAGE TVR1A is a twin cylinder, reversing steam engine with a 1/2" bore and 5/8" stroke. The crankpins are set at 90 degrees apart so the engine is self-starting at any position of the crankshaft. A Hackworth reversing gear is used to provide the reversing operation and is easily adapted to radio control.

All machining is done and critical assemblies such as the silver-soldered manifolds are pre-assembled. All necessary materials and hardware are supplied. Most of the hardware is stainless steel and the machined parts are made of brass, aluminum and steel. Only a few hand tools are required to assemble this engine. Those include a set of small screwdrivers, needle nose pliers and a small file.

With steam or air operating pressure up to 35 psi, this is a powerful engine for model marine use. After breaking in, the TVR1A makes a good display model, operating reliably at low speeds with under 5 psi of pressure. Included with the kit is a detailed 17 page instruction manual which includes drawings, photographs and detailed assembly instructions.

\$600.00



STEAM VALVE



EJECTOR



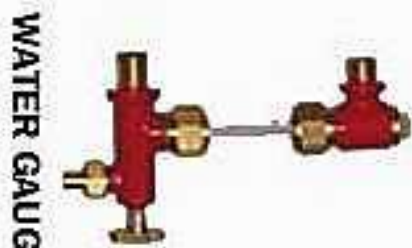
WATER BYPASS



**DISPLACEMENT
LUBRICATOR**



INJECTORS



WATER GAUGE



PRESSURE GAUGE



VACUUM GAUGE



WHISTLE



**INJECTOR
WATER VALVE**

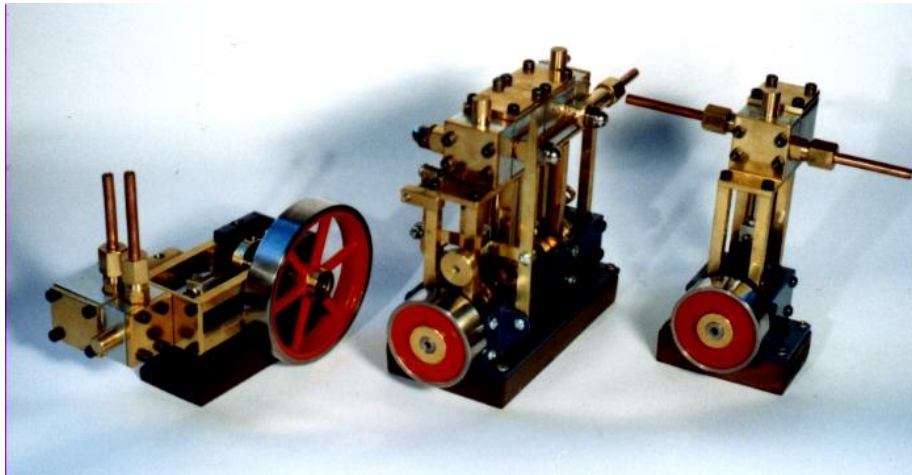
Quayle MODEL STEAM ENGINE KITS

Easy to build model steam engines

16/16 Series

These simple steam engines are especially aimed towards the modeller who wishes to tackle a project that is not too difficult. They work like the real ones, as they are double acting with slide valve to control steam admission. These are available in vertical, horizontal and reversing twin-cylinder models.

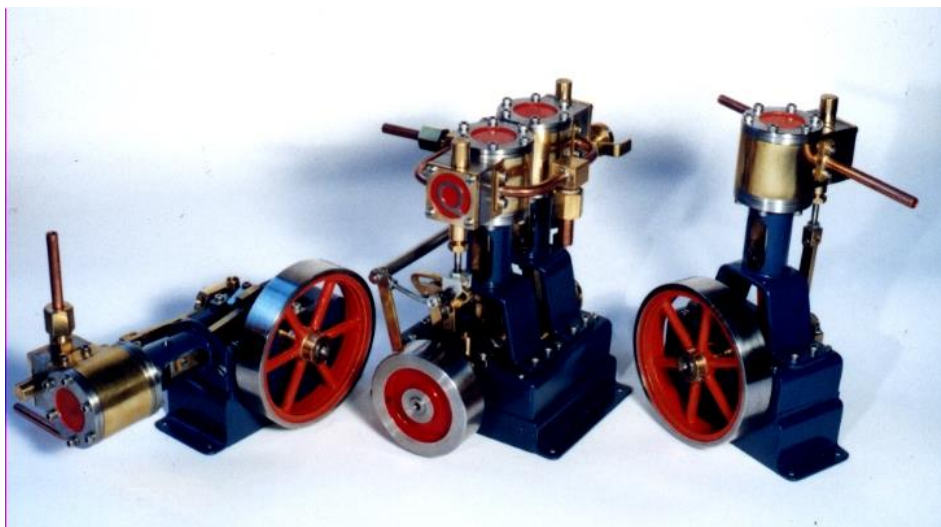
Bore 16mm Stroke 16mm Price : 16/16 V & H \$130.00 16/16 V Twin \$225.50



20/20 series

These are traditionally styled models of slide valve steam engines with cylindrical trunk guides. They can be made on a small metal lathe with a vertical slide for milling. These are available in vertical, horizontal and reversing twin cylinder models.

Bore 20 mm Stroke 20 mm



These kits contain all the materials required to complete the model. Including screws, nuts drawings and comprehensive building instructions.

The twin cylinder engines are ideal for radio controlled model boats.

Price : 20/20 V & H \$178.50 20/20 Twin \$332.25