

NORTH YARD

MODEL RAILWAY PARTS

P.O. BOX 27-368
MT ROSKILL
AUCKLAND 1440
NEW ZEALAND

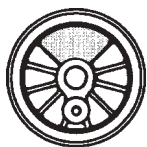
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RETAIL PRICE LIST May 2009

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5. Fastenings, drills, taps, dies, reamers, crankpins
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7. Gearing, drive shafts, universal joints.
8. Materials.
9. Detail parts, chain, handrail posts.
10. Miscellaneous:
"A" loco kit, tyres, Romford axles, pin vices, NMRA gauges, hookup wire,
driver springs, sound cams, data sheets, Serv-O-Link chain and sprockets.

NORTH YARD began in 1978 and is a manufacturing / wholesaling business dealing in a range of Model Railway Parts and other Model Engineering materials. It is operated by myself on a "spare time" basis, i.e. evenings and weekends. Your order will be despatched as quickly as time permits; however, please realize that there are many other demands on my time. If you have a lengthy query, please phone - letter writing time is at a premium and I cannot guarantee a reply. Email is best for short discussions.

The NORTH YARD price list is available on request - NZ residents please send a 50 cent stamp, overseas customers just ask. It is also available by Email as a PDF file which you can download and print yourself, providing your computer is running *Adobe Acrobat Reader* (which can be downloaded free from Adobe's web site). At this point in time, NORTH YARD does not have a Web Site.

The list is updated periodically; prices and specifications may alter without notice. Prices shown are GST exclusive, so can be used by both by New Zealand resident and overseas customers. NZ residents add 12.5% GST.

NORTH YARD products are available from a number of hobby shops and mail order suppliers. If you have difficulty in obtaining supplies locally, you can order direct from NORTH YARD at prices shown on the current price list.

NZ Resident Customers: Payment by personal cheque, internet funds transfer, VISA or MasterCard. Add \$6.00 (plus GST) for postage and handling if order requires a standard North Yard box. If the order can be fitted in a standard padded bag, then the P & H may be \$2.00 or \$3.00. Make cheques payable to "NORTH YARD".

Overseas Customers: Payment by VISA or MasterCard is preferred, otherwise a bank cheque or telegraphic transfer in NZ currency. Postage varies; not a problem with credit card payment, otherwise allow 10%. Parcels are usually shipped by International Air.



RETAIL PRICE LIST May 2009

Prices in
New Zealand dollars

WHEELS

NORTH YARD insulated wheels have acetal centres with plated brass tyres. Unless stated otherwise, tyre profiles and wheel sets conform to NMRA standards RP25/code 110 and RP24.2 HO scale, 16.5mm gauge. Most are 1:64 NZR wheel replicas, but also suit other applications.

DRIVING WHEEL SETS RP25/110 insulated, with 3mm axles. Crankpin holes not tapped.

\$10.44	110	14.3	10 sp	F 0-6-0 etc
11.16	116	15.7	10 sp	no cwt Wa, Wb
15.60	106	16.8	12 sp	Bb 4-8-0
12.06	117	17.8	12 sp	no cwt C, Wf, X
12.06	154	17.8	12 sp	Ww 4-6-4T
12.60	155	19.5	12 sp	no cwt Aa, Uc
13.50	156	21.4	12 & 14 sp	A 4-6-2
13.50	100	21.4	12 sp	Ab 4-6-2
18.00	101	21.4	12 sp	K 4-8-4
18.00	111	21.4	14 sp	J 4-8-2

DRIVING WHEELS, INSULATED, SPOKED
RP25/110 Nickel plated brass tyres, 1.2mm crankpin hole (not tapped).

\$.96	2038	10.5 x 2.0	10 sp	no cwt
.99	268	12.0 x 2.0	8 sp	Dubs A
3.00	2789	14.0 x 2.0	13 sp	NSW Z19
1.29	238	14.3 x 3.0	10 sp	F
1.65	510	14.3 x 3.0	10 sp	Baldwin
1.65	511	14.3 x 3.0	10 sp	B'w no flange
1.41	252	15.7 x 3.0	10 sp	Wa Wb
1.80	2838	15.7 x 3.0	10 sp	SCOA-P Ds
1.50	293	16.8 x 3.0	12 sp	Bb main
1.50	294	16.8 x 3.0	12 sp	Bb l/i/t
1.80	2170	16.8 x 3.0	12 sp	Bw pin on sp
1.80	2029	17.8 x 3.0	10 sp	no cwt
1.56	254	17.8 x 3.0	12 sp	C Wf X
1.56	361	17.8 x 3.0	12 sp	Ww main
1.56	363	17.8 x 3.0	12 sp	Ww lead/trail
1.80	2132	17.8 x 3.0	12 sp	SPNG#8
1.56	2120	17.8 x 3.0	10 sp	Eo electric
6.30	2663	19.0 x 3.0	11 Y	sp ASG
1.65	355	19.5 x 3.0	12 sp	no cwt Aa, Uc
1.80	263	21.4 x 3.0	14 sp	A simple main
1.80	262	21.4 x 3.0	12 sp	A simple lead
1.80	264	21.4 x 3.0	12 sp	A simple trail
1.80	205	21.4 x 3.0	12 sp	Ab main
1.80	206	21.4 x 3.0	12 sp	Ab lead & trail
1.80	207	21.4 x 3.0	12 sp	K main
1.80	208	21.4 x 3.0	12 sp	K intermed
1.80	209	21.4 x 3.0	12 sp	K lead & trail
1.80	226	21.4 x 3.0	14 sp	J main
1.80	227	21.4 x 3.0	14 sp	J intermed
1.80	228	21.4 x 3.0	14 sp	J lead & trail
7.50	2792L	22.6 x 3.0	15 sp	G stainl tyre

CHASSIS / MECHANISM SPACER BLOCKS

Injection moulded acetal, suit M1.4 screws

.60	584	Spacer block 11.2 x 9 Ø1.7 hole
.69	399	Spacer block 11.2 x 9 M2 tapped
.60	2039	Spacer block 7.15 x 9 Ø1.7 hole
.69	438	Spacer block 7.15 x 9 M2 tapped
.60	2785	Bearing block 11.2 x 9 Ø4 hole
1.35	2784	Bearing block 11.2 x 9 Ø2 brg
.60	2787	Bearing block 7.15 x 9 Ø4 hole
1.35	2786	Bearing block 7.15 x 9 Ø2 brg
.60	2024	Pivot block 11.2x5/Ø7 Ø1.7 hole
.69	405	Pivot block 11.2 x 5/Ø7 M2 tap'd
.60	2025	Pivot block 7.15x5/Ø7 Ø1.7 hole
.69	507	Pivot block 7.15 x 5/Ø7 M2 tap'd

WAGON AND BOGIE WHEEL PAIRS

16.5mm gauge RP25/110 profile, blackened brass tyres and pinpoint axles.

(wheel pair = 2 wheels and 1 axle)

Code suffix indicates axle length, as follows:

.26	26mm	NMRA and British standard
.25	25mm	shorter option
.238	23.8mm	available but non-preferred
e.g.	232.25, 316.26	

\$ 1.62	290	9.5	4 hole disc
1.62	313	9.5	disc
1.71	236	10.5	8 spoke
1.71	518	10.5	8 spoke (heavy)
1.71	287	10.5	10 spoke
1.71	316	10.5	disc
1.86	381	11.08	9 spoke
1.86	232	12.0	8 spoke
1.86	233	12.0	9 spoke
1.86	235	12.0	2 hole disc
1.86	288	12.0	split 6 spoke
2.13	272	13.0	9 spoke
2.13	2020	13.0	disc
2.34	251	14.3	10 spoke
2.34	463	14.3	disc

For flush axles, order wheels from the list below, and axles from the "Axles" section.

SINGLE WHEELS for rolling stock, tenders

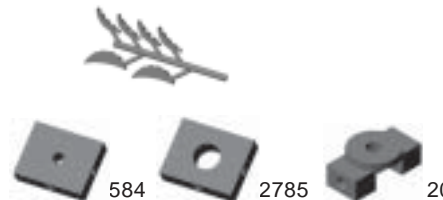
RP25/110 plated brass tyres, plastic centres
2mm bore, B = black nickel; N = satin nickel

\$ 1.20	2163B	8.0	7 curved spoke /88
.57	2273B	9.5	4 hole disc
.57	2311B	9.5	disc
.57	2311N	9.5	disc
.60	2632B	10.0	8 spoke (heavy)
.60	2333B	10.5	disc
.60	2333N	10.5	disc
.60	2214B	10.5	8 spoke (heavy)
.60	2214N	10.5	8 spoke (heavy)
.60	2331B	10.5	8 spoke
.60	2329B	10.5	10 spoke
.66	2484B	11.08	2 hole disc
.66	2482B	11.08	8 spoke
.66	2380B	11.08	9 spoke
.66	2380N	11.08	9 spoke
.66	2493B	11.5	2 hole disc
.66	2489B	11.5	8 spoke
.66	2491B	11.5	9 spoke
.66	2197B	12.0	disc
.66	2213B	12.0	2 hole disc
.66	2359B	12.0	split 6 spoke
.66	2211B	12.0	8 spoke (heavy)
.66	2357B	12.0	8 spoke
.66	2212B	12.0	9 spoke
.81	2018B	13.0	disc
.81	2018N	13.0	disc
.81	2270B	13.0	9 spoke
.90	2461B	14.3	disc
.90	2249B	14.3	10 spoke

COUNTERWEIGHT SETS for driving wheels

Brass castings, locating over spokes

9.00	CWS2803	Garrett loco / 2792 wheel
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584

2785

2024

DISC WHEELS, INSULATED (plastic centre)
RP25/110 NP brass tyres.

\$.60	256	12.0 x 3.0
.90	524	13.0 x 3.0
.90	300	14.3 x 3.0
.90	302	15.7 x 3.0

DISC WHEELS, UNINSULATED (metal)
RP25/110 Solid brass, NP etc

\$.60	335	9.5 x 2.0
.90	2063	10.5 x 2.0
.90	2645	10.5 x 2.98
1.05	2193	12.0 x 2.03
.90	258N	12.0 x 2.98
.90	526N	13.0 x 2.98
.90	480N	14.3 x 2.37 fit Athearn 3/32" axl
.90	400N	14.3 x 2.98
3.60	400L	14.3 x 2.98 stainless
1.26	401N	15.7 x 2.98
3.75	401L	15.7 x 2.98 stainless
.15	2191	Insulating bush Ø3 x Ø2 x 2.77

O GAUGE WAGON & BOGIE WHEEL PAIRS

NY215 profile 3.5mm wide blackened brass tyres on plastic centres. Blackened steel axles are 50mm long with Ø2 pinpoint ends.

\$ 4.80	247	22.5	split 6 spoke
4.80	248	22.5	2 hole disc
4.80	297	22.5	8 spoke
4.80	284	22.5	9 spoke
5.10	2064	25.4	disc

O GAUGE DRIVING WHEEL, INSULATED

NY277 profile 4.1mm wide stainless tyre.

\$ 8.40	278L	27.0 x 5.0	10 spoke
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AXLES for locomotives and rolling stock

\$.60	2195	Ø2.03 x 17.9 blunt, black brass
.45	202	Ø2.03 x 20 blunt, black brass
.60	2196	Ø2.03 x 24 blunt, black brass
.60	2189	Ø2.03 x 26 blunt, black brass
.60	469	Ø2.03 x 28 blunt, black brass
.60	2175	Ø2.03 x 32 blunt, black brass
.24	470	Ø2.03 x 20 pinpoint, black brass
.24	409	Ø2.03 x 23.8 pinpoint, blk brass
.24	367	Ø2.03 x 25 pinpoint, black brass
.45	201	Ø2.03 x 26 pinpoint, black brass
.30	471	Ø2.03 x 28 pinpoint, black brass
.60	315	Ø3 x 17.9 stainless, knurled ctr
.90	200	Ø3 x 20 stainless
.90	314	Ø3 x 20 stainless, knurled at ctr
.75	486	Ø3 x 26 stainless, knurled at ctr
.75	2481	Ø3 x 30 stainless
1.50	203	Ø3.2 x Ø2 x 50pp steel (O ga)
1.65	280	Ø5 x 37.2 stainless (O gauge)
1.50	428	Ø2 x Ø3 x 20 shouldered, stainl

AXLE BEARINGS retail packs

\$ 9.00	204/50	Ø2 pinpoint brass (50)
18.00	204/100	Ø2 pinpoint brass (100)
13.20	475/40	Ø2.2 x Ø4 flanged brass 'O' gauge (40)
1.80	379/8	Ø3xØ4x3 flanged brass (8)
7.20	373/8	Ø3x5x2.8 square flanged bronze (8)
3.60	260/8	Ø5xØ7x5.5 flngd brass (8)



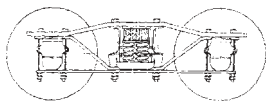
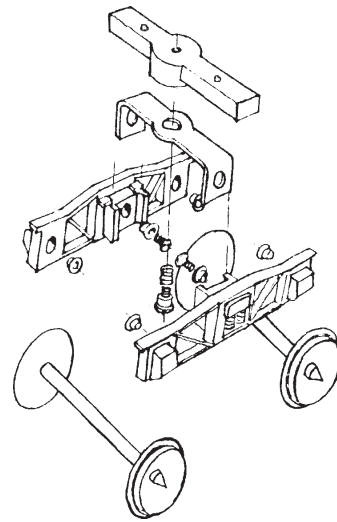
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The NORTH YARD bogie programme aims to produce a range of high quality bogies for NZR rolling stock and locomotives in Sn3½ scale. The bogies feature equalized brass side frames, screwdriver assembly and include all the parts illustrated in the diagram.
Two bogies are supplied per pack.

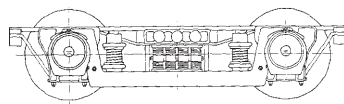
A jeweller's saw should be used to cut the side frames from the casting sprue, then clean up with small files.
Assembly is by screwdriver, with all necessary holes being pre-drilled and tapped.
Equalizing : NORTH YARD bogies are designed to equalize about their pivot screws, with a small amount of movement provided between the stretcher ends and the mounting boss on the rear face of the bogie side. File the mounting boss to provide additional clearance if required.

BOGIE HARDWARE available separately

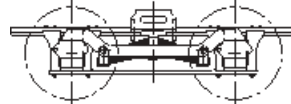
- \$.48 365 Stretcher, 18mm wide, brass
- .12 371 Shouldered bush Ø2 x Ø3, plastic
- .42 326 Shoulder screw Ø3 x 3 / M2 x 3, brass
- .15 324 Spring 3.1 I.D. x 4 long x 0.315 wire, stainless (standard)
- .15 2186 Spring 3.1 I.D. x 4 long x 0.25 wire, stainless (light)
- .18 339 Bolster Ø7 x 4.0 plastic, not tapped
- .18 340 Bolster Ø7 x 5.5 plastic, not tapped
- .18 341 Bolster Ø7 x 7.2 plastic, not tapped
- 5.70 6058 Pivot blocks, bogie side, cast brass (8)



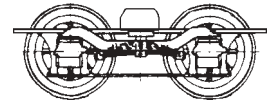
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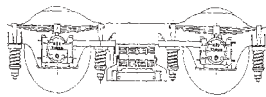
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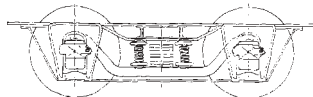
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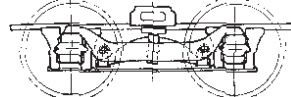
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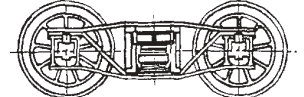
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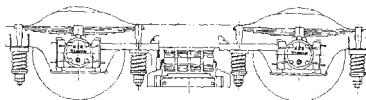
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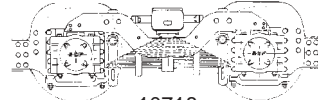
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BLW3477



25330



10718

PRICE - KIT OF 2 BOGIES \$	PART NO.	TYPE	PROTOTYPE WHEELBASE	WHEELS	PINPOINT AXLE LENGTH	RAIL TO TOP OF STRETCHER	APPLICATIONS
21.00	B3181	Freight	4' 7½"	12mm split spoke	26mm	9.5mm	Rb 1-4; Ua 5; Ub 1-3; Uc 1-5, 7, 8, 10; Vb 1-5; Z 9-12
21.00	B25830-C	Freight (Cast Steel)	4' 9"	12mm 2 hole disc	26mm	9.5mm	Rb 5; Yd, some other post - 1960
27.00	B7781-I	Car (Isothermos axleboxes)	6' 0"	12mm 2 hole disc	26mm	9.5mm	50' Suburban Cars
21.00	B1656	Car	4' 10"	12mm split spoke	25mm	9.5mm	44' Cars; some 47½' Cars; numerous brake vans
27.00	B25330	Car	6' 0"	12mm 2 hole disc	26mm	9.5mm	56' Cars and vans; some 50' cars; some Z wagons
16.20	BLW1512	Tender	3' 10"	11.2mm 8 spoke	26mm	9.2mm	Q and Ub locos
16.20	B3712	Tender	4' 6"	12mm 9 spoke	26mm		Bb locos
16.20	B3712A	Tender	4' 6"	12mm 9 spoke	26mm	9.5mm	A, X and some Q locos
16.20	BLW3477	Tender	5' 0"	12mm 9 spoke	26mm	10.5mm	Aa locos
19.50	B10718	Tender	5' 0"	12mm 9 spoke	26mm	10.8mm	K, Ka and Kb locos

Note: Tender bogies are supplied without wheels.
Choose wheels required as below:

- \$ 1.86 2162.26 11.2mm 8 spoke 26.0 pinpoint axle, both wheels insulated.
- 1.86 233.26 12.0mm 9 spoke 26.0 pinpoint axle, both wheels insulated.
- 6.90 2718.26 12.0mm 9 spoke 26.0 pinpoint live axle, nickel silver tyres.

See DETAIL PARTS page for more bogie castings. Locomotive, tender and rolling stock bogies, castings only, requiring more work and extra parts to assemble than the bogie kits listed above.

MACHINE SCREWS, STEEL CSK Pk of 20

\$ 3.00	201403	M1.4 x 3	csk pozi NP
3.00	201608	M1.6 x 8	csk slot ZP
3.00	201612	M1.6 x 12	csk slot ZP
3.60	201616	M1.6 x 16	csk slot ZP
3.15	202004	M2 x 4	csk slot ZP
1.80	202006	M2 x 6	csk slot ZP
1.95	202012	M2 x 12	csk slot ZP
2.25	202016	M2 x 16	csk slot ZP
2.70	203012	M3 x 12	csk slot ZP
3.30	203025	M3 x 25	csk slot ZP

MACHINE SCREWS, STEEL PAN / CHEESE Packs of 20

\$3.60	211003	M1 x 3	pan pozi black
3.60	211005	M1 x 5	pan pozi black
3.00	211403	M1.4 x 3	pan pozi black
3.00	211405	M1.4 x 5	pan pozi black
3.00	211606	M1.6 x 6	pan Phillips ZP
3.00	211608	M1.6 x 8	cheese slot ZP
5.70	211612	M1.6 x 12	cheese slot ZP
3.60	211616	M1.6 x 16	cheese slot ZP
4.50	211620	M1.6 x 20	cheese slot ZP
1.80	212004	M2 x 4	cheese slot ZP
1.80	212006	M2 x 6	cheese slot ZP
1.95	212012	M2 x 12	cheese slot ZP
2.85	212016	M2 x 16	cheese slot ZP
3.00	212020	M2 x 20	cheese slot ZP
6.00	212030	M2 x 30	cheese slot ZP
1.80	213012	M3 x 12	pan slot ZP
2.25	213025	M3 x 25	pan slot ZP

MACHINE SCREWS, BRASS CSK Pk of 20

\$ 4.80	272012	M2 x 12	csk slot
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MACHINE SCREWS, BRASS CHEESE Pk 20

\$4.50	282003	M2 x 3	cheese slot
4.50	282004	M2 x 4	cheese slot
4.50	282006	M2 x 6	cheese slot
4.80	282012	M2 x 12	cheese slot

SELF TAPPING SCREWS Packs of 20

Phillips drive, pointed end

\$ 1.80	ST2205	Ø2.2 x 4.8	steel pan ZP
1.50	ST2206	Ø2.2 x 6.3	steel pan ZP
1.95	ST2210	Ø2.2 x 9.5	steel pan ZP
2.25	ST2213	Ø2.2 x 12.7	steel pan ZP
4.50	ST2225	Ø2.2 x 25.4	steel pan ZP

WOODSCREWS, BRASS Packs of 20

\$ 4.50	291610	Ø1.6 x 10	csk slot
3.60	292006	Ø2 x 6	csk slot
3.60	292010	Ø2 x 10	csk slot
4.50	231610	Ø1.6 x 10	round slot
3.60	232006	Ø2 x 6	round slot
3.60	232010	Ø2 x 10	round slot

CRANKPINS, brass ZP price per each

Size is shoulder dia x length
All crankpins have M1.4 thread

\$.45	261435	Ø1.4 x 3.5	2.0 hex ZP
.30	261470	Ø1.4 x 7.0	2.5 hex ZP
.30	261610	Ø1.6 x 1.0	2.5 hex ZP
.30	261615	Ø1.6 x 1.5	2.5 hex ZP
.30	262015	Ø2.0 x 1.5	2.5 hex ZP
.30	262020	Ø2.0 x 2.0	2.5 hex ZP
.30	262035	Ø2.0 x 3.5	2.5 hex ZP
.45	262050	Ø2.0 x 5.0	headless
.45	286	Ø2.0 x Ø1.4 x 4	bush
.90	SJGH4020	Grubscrew M4 x 20	2.0 hex
.45	SJCH3020	Capscrew M3 x 20	2.5 hex

(last two items used as hex wrenches)

NOTE: 26370 and 286 can be used as the main crankpin on locos with outside valve gear. Coupling and connecting rods fit over bush; eccentric crank is clamped between crankpin head and top of bush.

HEXAGON NUTS - ISO hex Packs of 20

\$ 11.25	24010	M1	Brass
7.20	24014	M1.4	Brass
6.75	24116	M1.6	Steel ZP
2.10	24020	M2	Brass
1.50	24120	M2	Steel ZP
1.50	24130	M3	Steel ZP

HEX HEAD BOLTS, STEEL Packs of 20

ISO standard hex head

\$ 2.40	2123012	M3 x 12	5.5 hex
2.70	2123025	M3 x 25	5.5 hex

MODEL ENGINEERING BOLTS, STEEL Packs of 10

\$ 5.70	2131608	M1.6 x 8	2.5 hex
6.30	2132006	M2 x 6	3.0 hex
6.30	2132010	M2 x 10	3.0 hex
6.30	2132515	M2.5 x 15	3.5 hex
6.30	2133015	M3 x 15	4.0 hex

MODEL ENGINEERING NUTS, STEEL Packs of 10

6.30	24316	M1.6	2.5 hex
5.70	24320	M2	3.0 hex
5.70	24325	M2.5	3.5 hex
5.70	24330	M3	4.0 hex

MODEL ENGINEERING BOLTS, BRASS Packs of 20

4.20	221404	M1.4 x 4	2.5 hex
5.40	221405	M1.4 x 5	2.5 hex
6.00	221410	M1.4 x 10	2.5 hex

WASHERS FOR SCREWS Packs of 20

\$ 1.80	25111	M1 x 2.5 x 0.3	Steel ZP
1.80	25116	M1.4 x 3.0 x 0.3	Brass
1.80	25216	M1.4 x 3.0 x 0.3	Steel ZP
1.80	25017	M1.6 x 4.0 x 0.3	Steel ZP
1.80	25123	M2 x 5.0 x 0.3	Brass
1.80	25122	M2 x 5.0 x 0.3	Steel ZP

WASHERS - OTHER Packs of 20

\$ 2.70	25020	Ø2.0 x Ø3.0 x 0.25	Bronze
1.80	25021	Ø2.1 x Ø6.0 x 0.8	Acetal
2.70	25024	Ø2.4 x Ø4.4 x 0.25	Bronze
1.80	25030	Ø3.0 x Ø5.7 x 0.25	Plastic
1.80	25130	Ø3.0 x Ø5.7 x 0.5	Plastic
1.80	25051	Ø5.1 x Ø8.0 x 0.25	Plastic

DOWEL PINS - STAINLESS STEEL T303

h8 tolerance (+0 / -0.014) price per each
Useful for shafts, axles, pins and an excellent source of free machining stainless steel in small sizes. Each end has a small chamfer.

\$.60	DPL01510	Ø1.5 x 10
.84	DPL01520	Ø1.5 x 20
.30	DPL02005	Ø2.0 x 5
.30	DPL02006	Ø2.0 x 6
.36	DPL02010	Ø2.0 x 10
.84	DPL02020	Ø2.0 x 20
.99	DPL02025	Ø2.0 x 25

SPACERS price per each

\$.45	286	Ø2 x Ø1.4 x 4.0	brass
.24	2078	Ø3 x Ø2.1 x 1.0	brass
.45	2079	Ø3 x Ø2.1 x 8.0	brass
1.11	517	Ø3 x Ø2.1 x 9.0	brass Ww
.15	2069	Ø5 x Ø3.1 x 0.9	acetal
.15	2070	Ø5 x Ø3.1 x 1.2	acetal
.09	487	Ø5 x Ø3.1 x 3.0	acetal
.09	403	Ø5 x Ø3.1 x 3.8	acetal
.15	372	Ø6 x Ø2.1 x 8.5	acetal

BRASS THREADED ROD 300mm

\$ 3.00	TRB.2	M2 Thread
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DRILLS - High Speed Steel

\$ 7.65	3303	0.3mm	2.40	3317	1.7mm
6.30	3304	0.4mm	2.40	3318	1.8mm
5.40	3305	0.5mm	2.40	3319	1.9mm
5.25	3306	0.6mm	2.40	3320	2.0mm
5.25	3307	0.7mm	2.40	3321	2.1mm
4.20	3308	0.8mm	2.40	3322	2.2mm
4.20	3309	0.9mm	2.40	3323	2.3mm
2.70	3310	1.0mm	2.40	3324	2.4mm
2.70	3311	1.1mm	2.40	3325	2.5mm
2.70	3312	1.2mm	2.40	3326	2.6mm
2.70	3313	1.3mm	2.40	3327	2.7mm
2.70	3314	1.4mm	2.40	3328	2.8mm
2.70	3315	1.5mm	2.40	3329	2.9mm
2.40	3316	1.6mm	2.40	3330	3.0mm

CENTRE DRILLS - High Speed Steel

Double ended, 60° included angle. Size is point diameter x body diameter.

\$ 9.00	CD05	0.5 x 3.15mm
9.00	CD08	0.8 x 3.15mm
6.75	CD10	1.0 x 3.15mm
6.60	CD16	1.6 x 4.0mm
6.90	CD20	2.0 x 5.0mm



TAPS - Carbon Steel I.S.O. Metric Coarse Thread. Intermediate lead usually supplied.

\$17.40	3010	M1
13.80	3014	M1.4
16.50	3016	M1.6
12.00	3020	M2
7.50	3030	M3
5.40	3040	M4
6.00	3050	M5

CIRCULAR DIES I.S.O. Metric Coarse Thread. Usually 13/16" (20.64mm) body dia.

\$39.00	3110	M1	high speed steel
39.00	3114	M1.4	high speed steel
39.00	3116	M1.6	high speed steel
33.90	3120	M2	carbon steel
19.50	3130	M3	carbon steel
15.00	3140	M4	carbon steel
15.00	3150	M5	carbon steel

REAMERS - High Speed Steel

\$15.00	RHM.02	2.0 Parallel Hand Reamer
12.00	RHM.024	2.4 Parallel Hand Reamer
21.00	RHM.03	3.0 Parallel Hand Reamer
12.60	RHI.125	1/8" Parallel Hand Reamer

I.S.O. METRIC THREAD DATA

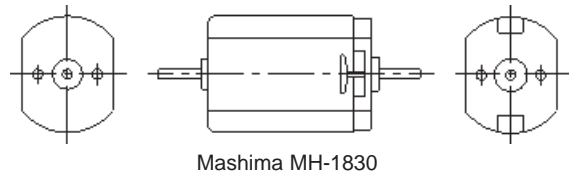
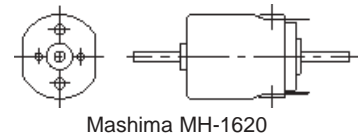
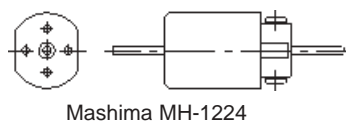
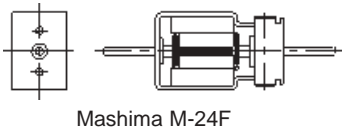
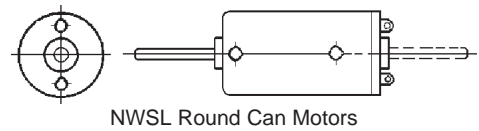
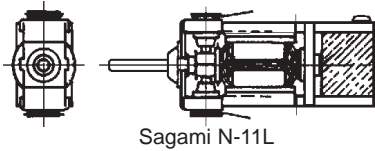
SIZE	PITCH	TAP DRILL SIZE			NUT ACR HEX	CH. HEAD DIA.	CSK HEAD DIA.
		%	THREAD				
M1	0.25	0.75	0.8	0.85	2.5	2.0	2.0
M1.4	0.30	1.1	1.2	1.2	3.0	2.6	3.0
M1.6	0.35	1.25	1.3	1.4	3.2	3.0	3.5
M2	0.40	1.6	1.7	1.8	4.0	3.8	4.4
M2.5	0.45	2.05	2.15	2.25	5.0	4.5	5.0
M3	0.50	2.5	2.6	2.7	5.5	5.0	6.0
M4	0.70	3.3	3.4	3.6	7.0	7.0	8.0
M5	0.80	4.2	4.4	4.6	8.0	8.0	10.0

Choose a drill size to give 75% thread or less for most applications. This will prolong the life of the tap while still giving a strong thread. A 90% thread can be used in thin or soft materials and special applications.

Price \$NZ	North Yard Code	Maker's Code	Make	Style	Body Dimensions			Shaft(s)		End Screws		Side Screws			No Load		Maximum Power		
					Width	Length	Height	Dia	Lengths	Size	Ctrs	Size	Inset	Ctrs	Amps	RPM	Amps	Watts	RPM
26.00	SAN-11L	N-11L	Sagami	OF	11	35	19	2.0	10.7	---	---	M2	21	---					
65.00	NW1025FD	10253-9	NWSL	FC	10	25	12	1.2	17/17	M1.4	8	---	---	---	0.044	17,000	0.25		
39.00	NW2032D	20325-9	NWSL	RC	20	32	...	2.0	17/17	M2	13	M2	4	19		9,500	0.36		
44.00	NW2231D	22313-9	NWSL	RC	22	31	...	2.4	18/18	M2	15	M2	2.2	20	0.090	9,900	0.50		
49.00	NW2236D	22363-9	NWSL	RC	22	36	...	2.4	15/15	M2	15	M2	2.5	25.5		11,000	0.47		6,600
44.00	NW2240D	22405-9	NWSL	RC	22	40	...	2.4	18/18	M2	15	M2	2	26	0.100	9,600	0.50		
48.00	NW2940D	29401-9	NWSL	RC	29	40	...	2.4	24/24	M2.6	19	M2	5	20		6,300	0.60		
20.00	MA1024OD	M-24F	Mashima	OF	10.4	24	15	1.5	10/10	M1.4	8	---	---	---	0.085	25,000		1.40	12,000
25.00	MA1015D	MHK-1015	Mashima	FC	10.2	15	12	1.5	9/9	M1.4	8.5	---	---	---	0.070	16,000		0.35	7,500
25.00	MA1020D	MHK-1020	Mashima	FC	10.2	20	12	1.5	9/9	M1.4	8.5	---	---	---	0.060	15,000		0.68	7,500
27.00	MA1224FD	MH-1224	Mashima	FC	12	24	14	1.5	10/10	M1.4	8/8	---	---	---	0.040	12,000		0.48	8,000
29.00	MA1620FD	MH-1620	Mashima	FC	13.6	20.5	15.8	2.0	10/10	M1.4/M2	8/10	---	---	---	0.070	17,500	0.35	1.16	8,000
40.00	MA1626FSL	MH-1626L	Mashima	FC	13.6	26.5	15.6	2.0	19/9	M1.4/M2	8/10	---	---	---	0.070	15,000	0.40	2.03	7,500
31.00	MA1630FD	MH-1630	Mashima	FC	13.6	30	15.8	2.0	10/10	M1.4/M2	8/10	---	---	---	0.060	11,800	0.45	1.76	6,000
32.00	MA1824FD	MH-1824	Mashima	FC	18.4	24	23.2	2.0	8.5/8.5	M2	12	---	---	---	0.080	9,200		1.80	5,000
32.00	MA1830FD	MH-1830	Mashima	FC	18.4	30	23.2	2.0	10/10	M2	12	---	---	---	0.046	11,000		3.80	6,500
32.00	MA1833FD	MH-1833	Mashima	FC	18.4	33	23.2	2.0	10/10	M2	12	---	---	---	0.044	9,760		3.10	6,000

OF = Open Frame RC = Round Can FC = Flat Can

Inset = Distance of first side mount hole from front of motor (NWSL motors only)



NOTES:

- Motor shafts are hardened steel, and if they need to be shortened, an abrasive cut-off disc must be used. Use eye protection.
- Mounting screws are supplied with each motor. See FASTENING list for other lengths of screws. Install screws with care, making sure they do not bottom on any internal parts of motor.
- Use maximum safe continuous RPM when calculating reduction ratios for model top speed.
- As a general rule, choose the biggest motor that will fit.
- North Yard stocks motors from NWSL and Mashima. NWSL motors are permanently sealed, and spare brushes or armatures are not available. Some sizes have side mounting holes. Mashima motors do not have side mounting holes.

All the above motors are 12 Volt DC rated and have 5 slot armatures.

GEARING / ACCESSORIES

GEAR TERMINOLOGY:

MODULE is the standard metric term for gear tooth size.
NORTH YARD gearing has a 20° pressure angle.

N = No. of teeth PD = Pitch diameter OD = Outside diameter
WG = Worm Gear – will mesh with RH worm or reverse worm gear
RWG = Reverse Worm Gear – will mesh with LH worm or worm gear
SG = Spur Gear – will mesh with another spur gear only

FORMULAE:

PD= Module x N (for gear)
OD= Module x (N + 2) (for gear)
PD= OD – (2 x Mod.) (for worm)

MATERIAL AND COLOUR:

NORTH YARD gears are injection moulded in acetal (an engineering plastic) and are colour coded as follows:

WG – black RWG – white

Bores are designed for a light press fit on precision ground shafting.

PRICE ITEM DESCRIPTION

\$ 1.00 43F Steel set screws M1.4 x 1.5 (3). Common to all can motor caps on old Sagami motors.

SPARE BRUSHES For old Sagami motors with removable brush cap
\$ 4.95 10100-9 Brushes for 12 and 14mm can motors.
4.50 10102-9 Brushes for 20, 22 and 28mm can motors.

BRASS SHAFT BUSHINGS 2 per pack
Use to build up motor shaft when required.

\$ 2.40 366/2 Ø1.5 x Ø2.38 x 6mm long
2.40 319/2 Ø2.0 x Ø2.38 x 6mm long
2.40 320/2 Ø2.4 x Ø3.18 x 6mm long

BRASS FLYWHEELS 1 per pack

\$10.50 NW401-6 NWSL Ø12 x 7 x 1.5mm bore
3.60 426.2 North Yard Ø16 x 9 x 2.0mm bore
4.80 426.3 North Yard Ø18 x 11 x 2.4mm bore

WORMS, STEEL

0.3 module

3.00	40320	Worm LH Ø5 x 6.7 x Ø2.0
3.00	40324	Worm LH Ø5 x 6.7 x Ø2.4
3.00	40415	Worm RH Ø5 x 6.7 x Ø1.5
3.00	40420	Worm RH Ø5 x 6.7 x Ø2.0
3.00	40424	Worm RH Ø5 x 6.7 x Ø2.4

WORMS, STEEL

0.4 module

\$ 3.00	40120	Worm RH Ø6 x 8.5 x Ø2.0
3.00	40124	Worm RH Ø6 x 8.5 x Ø2.4
3.00	40715	Worm RH Ø6 x 9.5 x Ø1.5
3.00	40720	Worm RH Ø6 x 9.5 x Ø2.0
3.00	40220	Worm LH Ø6 x 8.5 x Ø2.0
3.00	40224	Worm LH Ø6 x 8.5 x Ø2.4

GEARS, ACETAL

0.3 mod for Ø5 worm

.45	41436	WG	36T x 2.0 x 3.0 bore
.45	41536	RWG	36T x 2.0 x 3.0 bore
.45	41636	WG	36T x 2.0 x 1/8" bore

GEARS, ACETAL

0.4 mod for Ø6 worm

\$.30	41014	WG	14T x 3.0 x 3.0 bore
.30	41017	WG	17T x 3.0 x 3.0 bore
.30	41320	WG	20T x 2.5 x 2.0 bore
.30	41020	WG	20T x 2.5 x 3.0 bore
.30	41120	RWG	20T x 2.5 x 3.0 bore
.30	41327	WG	27T x 2.5 x 2.0 bore
.30	41027	WG	27T x 2.5 x 3.0 bore
.30	41127	RWG	27T x 2.5 x 3.0 bore
.30	41130	RWG	30T x 2.5 x 3.0 bore
.30	41035	WG	35T x 2.5 x 3.0 bore
.30	41135	RWG	35T x 2.5 x 3.0 bore

BRASS BEARINGS, NO FLANGE

each

\$.60	307	Ø2.0 x Ø6 x 2.5
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BRONZE BEARINGS, FLANGED

each

\$ 2.40	2647	Ø1.5 x Ø4 x 3 / Ø6 x 1 head
.75	2654	Ø2.0 x Ø4 x 2.5 / Ø5 x 1 head
2.40	2176	Ø2.0 x Ø4 x 3 / Ø6 x 1 head
2.40	566	Ø2.4 x Ø4 x 3 / Ø6 x 1 head
.75	338	Ø2.4 x Ø6 x 3 / Ø8 x 1 head

DRIVE SHAFTS

Stainless Steel

For 2mm drive shafts, see list of dowel pins on Fastenings page.

\$.45	410.13	Ø2.4 x 13mm
.45	410.16	Ø2.4 x 16mm
.45	410.20	Ø2.4 x 20mm
.45	410.25	Ø2.4 x 25mm
.48	410.30	Ø2.4 x 30mm
.75	410.40	Ø2.4 x 40mm

UNIVERSAL JOINTS, SILICONE TUBING

\$ 1.65	44024	NY 2.4mm shaft U joint (2 balls, 2 sockets, 1 shaft)
.30	350	NY UJ ball Ø4 x 2.4mm bore
.30	351	NY socket Ø6 x 8 x 2.4 bore
6.00	481-6	NWSL 2.4mm shaft U joint
7.50	482-6	NWSL 2.0mm shaft (1.5/2.4) universal joint
8.10	498-6	NWSL 2.4mm to 1/8" shaft universal joint
1.50	7008	Silicone tubing Ø1.9 x Ø4 2 pieces 50mm long
1.50	7000	Silicone tubing Ø2.3 x Ø4 2 pieces 50mm long
6.00	2150	Shaft adaptor Ø2.4 x 20/Ø2.0 x 10 bore stainless

GEARBOXES, NORTH YARD

0.3 module 36:1

Acetal case, steel worm, bronze bearings, acetal gears.

Minimum driver dia. 14.3mm, or 12.4mm if bottom cover trimmed.

\$13.80	4322030	2.0 input shaft, 3.0 axle
13.80	4322030D	2.0 motor mount, 3.0 axle
18.30	4322032	2.0 input shaft, 1/8" axle
17.55	4322032D	2.0 motor mount, 1/8" axle
13.80	4322430	2.4 input shaft, 3.0 axle

IDLER GEARBOXES, NORTH YARD

0.3 module 36:1

Acetal case, steel worm, bronze bearings, acetal gears.

Minimum driver dia. 14.3mm, or 12.4mm if bottom cover trimmed.

15.00	4332030	2.0 input shaft, 3.0 axle
15.00	4332030D	2.0 motor mount, 3.0 axle
21.00	4332032	2.0 input shaft, 1/8" axle
20.25	4332032D	2.0 motor mount, 1/8" axle
15.00	4332430	2.4 input shaft, 3.0 axle

IDLER GEARBOXES, NORTH YARD

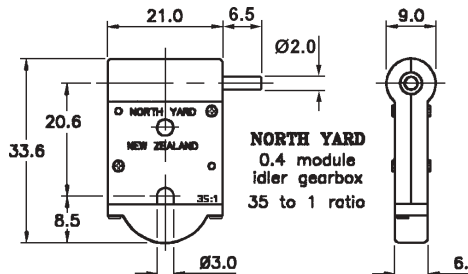
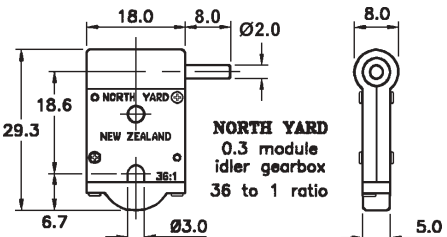
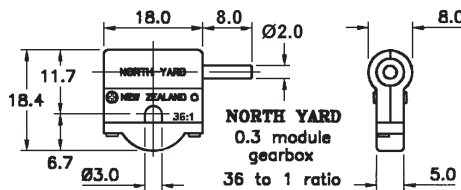
0.4 module 35:1

Acetal case, steel worm, bronze bearings, acetal gears.

Minimum driver dia. 17.8mm, or 15.7mm if bottom cover trimmed.

\$15.00	4312030	2.0 input shaft, 3.0 axle
15.00	4312030D	2.0 motor mount, 3.0 axle
15.00	4312430	2.4 input shaft, 3.0 axle

North Yard makes three styles of gearbox:
431 series 0.4 module, idler
432 series 0.3 module, non idler
433 series 0.3 module, idler
 The series number forms the first three digits of the part number.
 The next two digits in the part number are the input shaft diameter in mm; the final two digits are size of axle the gearbox fits.



GEARBOXES

NWSL

0.3 module 28:1 Acetal case

Steel worm, brass and acetal gears.

Minimum driver dia 13.4mm, 9.6mm if cover trimmed.

Gearboxes for 1/8" and 3/32" (2.4mm) axles can be imported to order.

\$57.00	140-6	2.4 input shaft 3.0 axle
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IDLER GEARBOXES

NWSL

0.3 module 28:1 Acetal case

Steel worm, brass and acetal gears.

Minimum driver dia. 13.4mm, or 9.6mm if cover trimmed.

Gearboxes for 1/8" and 3/32" (2.4mm) axles can be imported to order.

61.50	139-6	Idler Gearbox 28:1, 2.4mm input shaft, 3mm axle
67.50	136-6	Double Idler G'box 28:1, 2.4mm input, 3mm axle
21.00	144-6	Conversion kit 2mm RH worm for 136-6, 140-6, 151-6
21.00	164-6	Conversion kit 2mm LH worm for 139-6, 150-6

COMPOUND GEARBOX

NWSL

0.3 module 50:1 Acetal case

Steel worm, brass and acetal gears.

Minimum driver dia. 13.4mm, or 9.6mm if cover trimmed.

75.00	171-6	Compound Gearbox 50:1, 1.5mm input, 2mm axle
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GEARBOXES

NWSL

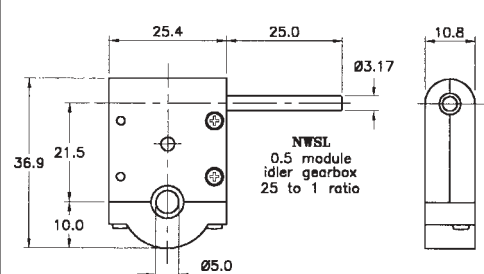
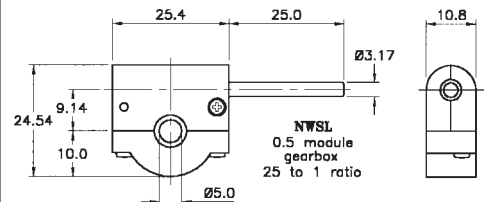
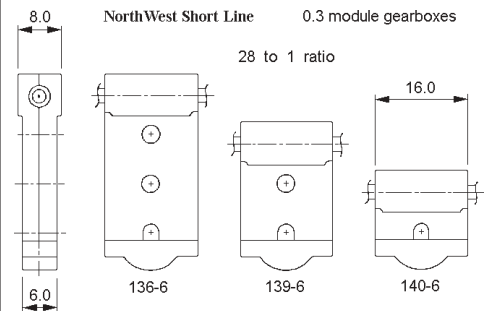
0.5 module O gauge Acetal case

Steel worm, brass and acetal gears.

0.5 module gearboxes for 3/16", 1/4", 5.8mm and 6mm axles can be imported to order.

12.5:1 ratio and ball bearing worm shaft versions are also available.

\$78.00	255-6	Gearbox 25:1, 1/8" input shaft, 5mm axle
87.90	254-6	Idler Gearbox 25:1, 1/8" input shaft, 5mm axle



BRASS TUBE O.D. WALL 300mm

\$ 1.50	500.010	1.0mm x 0.20mm
1.50	500.015	1.5mm x 0.20mm
1.50	500.020	2.0mm x 0.30mm
2.10	500.025	2.5mm x 0.45mm
2.25	500.030	3.0mm x 0.45mm
3.15	500.040	4.0mm x 0.45mm
2.70	500.050	5.0mm x 0.45mm
3.60	500.060	6.0mm x 0.45mm
4.50	500.070	7.0mm x 0.45mm
4.80	500.080	8.0mm x 0.45mm
5.70	500.090	9.0mm x 0.45mm
7.20	500.100	10.0mm x 0.50mm
8.40	500.110	11.0mm x 0.50mm
8.40	500.120	12.0mm x 0.50mm
3.90	500.159	15.9mm x 0.90mm
5.70	500.190	19.0mm x 0.90mm
6.30	500.222	22.2mm x 0.90mm
15.90	500.238	23.8mm x 0.71mm
7.20	500.254	25.4mm x 0.90mm

PHOSPHOR BRONZE SPRING WIRE

Straight 300mm

\$.30	511.04	0.4mm
.36	511.05	0.5mm

BRASS WIRE – HARD DRAWN

Straight 300mm

\$.24	501.025	0.25mm
.24	501.03	0.3mm
.30	501.04	0.4mm
.36	501.05	0.5mm
.45	501.06	0.6mm
.63	501.07	0.7mm
.69	501.08	0.8mm
1.35	501.10	1.0mm
.90	501.12	1.2mm
.60	501.16	1.6mm

BRASS ROD – ROUND free machining 300mm

\$.60	501.20	2.03mm
1.80	501.25	2.5mm
1.11	501.317	3.17mm
1.20	501.40	4.0mm
3.00	501.50	5.0mm
4.50	501.60	6.0mm
4.95	501.80	8.0mm
7.50	501.100	10.0mm
8.40	501.120	12.0mm

BRASS ROD – SQUARE

\$ 2.70	502.08	0.8mm	300mm
1.80	502.10	1.0mm	250mm
2.10	502.15	1.5mm	250mm
2.10	502.20	2.0mm	250mm
2.40	502.25	2.5mm	250mm
2.40	502.32	3.2mm	300mm
2.10	502.48	4.8mm	300mm
3.60	502.63	6.3mm	300mm
6.60	502.79	7.9mm	300mm
8.40	502.95	9.5mm	300mm
12.60	502.127	12.7mm	300mm

BRASS ROD – HEXAGON

\$ 1.50	503.10	1.0mm	250mm
2.10	503.16	1.6mm	305mm
2.10	503.20	2.0mm	250mm
.60	503.25	2.5mm	300mm
.90	503.30	3.0mm	300mm
1.50	503.40	4.0mm	300mm
1.80	503.56	5.6mm	300mm
3.75	503.63	6.3mm	300mm
3.00	503.79	7.9mm	300mm

BRASS ANGLE

\$ 2.70	508.10	1.0 x 1.0 x 0.25	250mm
2.70	508.12	1.2 x 1.2 x 0.30	250mm
3.00	508.16	1.6 x 1.6 x 0.35	305mm
3.30	508.20	2.0 x 2.0 x 0.40	250mm

BRASS TEE

\$ 3.00	50T.10	1.0 x 1.0 x 0.25	250mm
3.60	50T.15	1.5 x 1.5 x 0.30	250mm
3.90	50T.20	2.0 x 2.0 x 0.40	250mm

BRASS CHANNEL

\$ 3.00	505.20	2.0 x 1.0 x 0.40	250mm
3.30	505.30	3.0 x 1.5 x 0.40	250mm
3.75	505.40	4.0 x 2.0 x 0.50	250mm
5.25	505.50	5.0 x 3.0 x 0.60	250mm
6.00	505.127	12.7x 12.7x 2.4	300mm

BRASS MINISTRIP 10 pcs/pack 150mm

\$ 1.80	506.081	0.10mm x 0.8mm
1.80	506.101	0.10mm x 1.0mm
1.80	506.08	0.25mm x 0.8mm
1.80	506.10	0.25mm x 1.0mm
1.95	506.15	0.25mm x 1.5mm
2.25	506.20	0.25mm x 2.0mm
2.40	506.25	0.25mm x 2.5mm
2.70	506.30	0.25mm x 3.0mm

BRASS STRIP – HALF HARD 300mm (Sheared from sheet)

\$ 1.80	506.04063	0.4mm x 6.35mm
2.40	506.04127	0.4mm x 12.7mm
4.20	506.04254	0.4mm x 25.4mm
.90	506.0412	0.45mm x 12mm
1.20	506.0425	0.45mm x 25mm
2.40	506.0550	0.5mm x 50mm
.90	506.0806	0.8mm x 6mm
2.55	506.08063	0.8mm x 6.35mm
4.20	506.08127	0.8mm x 12.7mm
2.10	506.0825	0.8mm x 25mm
4.20	506.0850	0.8mm x 50mm
1.20	506.1006	1.0mm x 6mm
1.80	506.1012	1.0mm x 12mm
2.70	506.1025	1.0mm x 25mm
5.10	506.1050	1.0mm x 50mm
1.50	506.1206	1.2mm x 6mm
2.10	506.1212	1.2mm x 12mm
3.00	506.1225	1.2mm x 25mm
6.00	506.1250	1.2mm x 50mm

BRASS FLAT BAR

\$ 2.10	506.04008	0.4mm x 0.8mm	300mm
2.10	506.1002	1.0mm x 2.0mm	250mm
3.00	506.1503	1.5mm x 3.0mm	250mm
3.00	506.2004	2.0mm x 4.0mm	250mm
4.50	506.2006	2.0mm x 6.0mm	250mm
4.80	506.3005	3.0mm x 5.0mm	250mm
7.50	506.1619	1.6mm x 19mm	300mm
3.30	506.3212	3.2mm x 12.7mm	300mm
3.90	506.3219	3.2mm x 19.0mm	300mm
6.75	506.3225	3.2mm x 25.4mm	300mm

BRASS SHEET – HALF HARD TEMPER

100mm x 250mm

\$ 6.00	507.0127	0.13mm
8.40	507.0254	0.25mm
4.80	507.05	0.5mm
7.20	507.08	0.8mm
9.00	507.10	1.0mm
10.80	507.12	1.2mm

BRASS MESH, WOVEN 100mm x 150mm strands per inch x wire diameter

\$ 4.50	504.60	60/60 x .0072"
4.50	504.40	40/40 x .0100"
4.50	504.16	16/16 x .0180"

COPPER ROD - ROUND 300mm

\$ 4.50	561.0635	6.35mm
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SILVER STEEL – ROUND

300mm

AISI O1 grade oil hardening tool steel

\$ 1.80	521.20	2mm
2.40	521.30	3mm
3.00	521.40	4mm
3.90	521.50	5mm
4.50	521.60	6mm
6.75	521.80	8mm
15.00	521.100	10mm
19.50	521.120	12mm

BRIGHT MILD STEEL – ROUND 300mm

free machining 300mm

\$.60	531.30	3mm
.60	531.50	5mm
.60	531.60	6mm
.90	531.80	8mm
1.20	531.100	10mm
1.80	531.120	12mm

STAINLESS STEEL – ROUND 300mm

\$.90	541.20	2mm	T308
2.40	541.24	2.4mm	T303
2.70	541.30	3mm	T303
2.70	541.318	3.18mm (1/8")	T303
2.70	541.476	4.76mm (3/16")	T303
2.40	541.50	5mm	T304
3.60	541.60	6mm	T303
4.50	541.635	6.35mm (1/4")	T303
6.00	541.100	10mm	T303

BRIGHT MILD STEEL – FLAT 300mm

\$.45	536.1606	1.6mm x 6.3mm
1.05	536.3012	3.0mm x 12.0mm
1.50	536.3020	3.0mm x 20.0mm
2.10	536.3025	3.0mm x 25.0mm
4.50	536.3050	3.0mm x 50.0mm

ETCHED BRASS MESH and TREADPLATE from Special Shapes (USA)

Through-etched brass sheet for that special detail requirement: trellis, grilles, anti-skid plates, window panes, etc. Each piece is 0.2mm thick and gives 172mm x 31mm of usable mesh.

\$18.00	EBMD05	0.5mm diamond
18.00	EBMD10	1.0mm diamond
18.00	EBMD20	2.0mm diamond
18.00	EBMS08	0.8mm square
18.00	EBMS12	1.2mm square
18.00	EBMS16	1.6mm square
18.00	EBTPL	Treadplate coarse
18.00	EBTPS	Treadplate fine

NICKEL SILVER SHEET 305mm x 152mm

"The Prince of Metals", Nickel Silver is easy to solder, does not tarnish and has a natural appearance close to that of bare steel.

Excellent for use in photo-etching, and for parts such as loco valve gear and chassis. This alloy contains 65% copper, 18% nickel and 17% zinc. It contains no silver.

\$15.00	557.025	0.25mm (0.010")
19.50	557.030	0.30mm (0.012")
31.50	557.050	0.50mm (0.020")
39.00	557.063	0.63mm (0.025")
49.50	557.080	0.80mm (0.032")

NICKEL SILVER WIRE - ROUND 300mm

\$.60	551.045	0.45mm
.90	551.06	0.6mm
1.50	551.08	0.8mm

NICKEL SILVER ROD - ROUND 300mm

\$ 6.75	551.0873	8.73mm (pale yellow)
14.55	551.127	12.7mm (pale yellow)

DETAIL PARTS

Steam locomotive parts:

- 5.85 6078 Bell, loco, old style - operating
- 1.50 6059 Bracket for W/H pump on A loco
- 5.40 6105 Bracket, equalizing beam J loco
- 4.80 6046 Brackets, tablet exchanger (loco)
- 4.20 6031 Brackets, valve guide, K loco (2)
- 3.00 6019 Brake column, tender
- 1.50 6030 Brake cylinder, tender, K loco
- 3.00 6042 Brake hangers, A (plastic) (4 pr)
- TBA 6110 Brake hangers, F loco 2 R, 2 L
- 7.80 6041 Chains, side & hose, A (2 sets)
- 12.00 6044 Chassis casting (zinc), A loco
- 11.40 6017 Coupling & box, loco, BP3395 (2)
- 5.70 6016 Cowcatcher, A loco BP3697
- 5.85 6091 Cowcatcher, Ab loco
- 5.85 6094 Cowcatcher - K, Ka, Kb, J, Ja, Jb
- 11.70 6040 Crossheads & Guides, C 2-6-2
- 5.85 6099 Crossheads & piston rods J & K
- 11.70 6098 Cylinder end & slide bar J & K (2)
- 11.70 6090 Cylinders, Ab loco
- 1.50 6021 Dome, sand, A loco (white metal)
- 1.50 6022 Dome, steam, A (white metal)
- 6.00 6103 Dome, sand J 4-8-2 loco
- 5.70 6102 Dome, steam J 4-8-2 loco
- 2.40 6028 Door, inspection (2)
- 3.60 6055 Door, smokebox, 39" BP10773
- 10.80 6095 Expansion link & bkt K (2 ea)
- 1.80 6023 Funnel, BPY6957
- 2.40 6015 Generator, Pyle National K 240
- 1.50 6049 Governor, cross compound pump
- 1.80 6036 Governor & Pipe for W/H pump
- 5.85 6057 Governor, valve, silencer- W/H
- 6.15 6020 Handrail posts - 19, assorted
- 5.85 6101 Hanger, Baker valve gear J loco
- 10.80 6093 Hangers, valve gear Ab L & R
- 3.00 6118 Headlight, acetylene - F loco
- 1.50 6026 Headlight, 12" Pyle
- 1.50 6027 Headlight, 12" Pyle with hood
- 2.40 6013 Headlight, Standard 20" Mainline
- 10.80 6083 Hornblocks with spring recess (6)
- 4.20 6012 Hoses, air (2)
- 5.40 6000 Injector, exhaust steam, K loco
- 4.20 6024 Injector, live steam, K loco
- TBA 6060 Jack, loco, old (2)
- 5.85 6025 Jack & Traverser, modern (2)
- 5.40 6086 Jacking brackets, loco (4)
- 1.80 6037 Ladder, A tender, 5.3 x 12.4mm
- 5.40 6043 Lifeguards, A loco
- 3.00 6048 Lubricator, Nathan, K loco
- 5.70 6010 Plugs, washout (20)
- 5.40 6001 Power Reverse Ragonnet, K loco
- 3.00 6011 Pump, air W/H 10" x 10⁵/₈"
- 5.40 6077 Pump, air W/H cross compound
- 3.60 6085 Shovel, loco (2)
- 3.60 6112 Shovel, loco, long narrow (2)
- 2.25 6056 Silencer, exhaust, for W/H pump
- 1.80 6045 Smokebox front A loco (w/ metal)
- 3.00 6034 Snifter, A loco (2)
- 11.70 6084 Springs, loco, leaf type (8)
- 10.80 6092 Steam chest heads Ab loco (2)
- 5.40 6002 Steam Pipes, K loco
- 5.10 6038 Steps, A loco & tender (set of 4)
- 2.40 6003 Throttle, front end, K loco
- 3.00 6004 Turret, K loco
- .75 6029 Valve, blower inlet, K loco
- 3.00 6005 Valve, boiler top feed, J, K locos
- 2.70 6018 Valve, check BPY5054 (2)
- .75 6035 Valve, control, for W/H pump
- 1.50 6032 Valve, main safety, A loco
- 3.00 6033 Valve, safety, lever type, A (2)
- 4.20 6006 Valves, sanding, K loco (2 pair)
- 4.20 6047 Valves, steam, K (2 of each)
- .90 6014 Valve, Triple
- 11.70 6054 Valve gear sprue, A loco (2)
- 1.50 6007 Water fillers, tender, A loco (2)
- 1.80 6008 Whistle, Nathan, side mount, K
- 1.80 6009 Whistle, Nathan, back mnt, A, Ab

NZR Detail parts, 1:64 scale

Parts are brass investment castings unless stated otherwise.

Diesel, Electric and Railcar parts:

- 5.40 6082 Air tank ends, railcar type (2)
- 5.85 6079 Cowcatcher, Dg loco
- 5.40 6087 Diesel MU connectors EE (4)
- 5.40 6071 Horns, diesel (2)

Wagon and Car parts:

- 3.90 6052 Buffer beamex MTM 30' van
- 11.40 6063 Hand brake wagon old style (2)
- 4.20 6107 Handbrake unit MT car (2)
- 6.60 6050 Lookouts, guard's MTM van (2)
- 5.70 6058 Pivot blocks, bogie side (8)
- 12.00 6119 Queen posts; 4 on beam (2)
- 15.00 6067 Railing, end, straight 44' car (2)
- 15.00 6068 Railing, end, curvd 47¹/₂' car (2)
- 4.50 6051 Railing, end ex MTM 30' van
- 5.85 6106 Steps, Main Trunk car (4)
- 10.80 6108 Vents, roof, Main Trunk car (20)

Bush tram and Industrial parts:

- 1.20 2163B Wheel 8mm curved 7 spk (1)
(plastic centre, brass tyre)
- 6.00 6114 Bearing blocks for shafting (6)

Miscellaneous:

- TBA 6115 Bucket
- 9.90 6080 Nut, bolt & washer casting (30)

Cast brass wheels (unmachined):

- 4.80 6124 Log bogie 24" curved 7 spoke
- 5.40 6125 Bogie wheel 26"/28" 8 spoke
- 5.40 6126 Bogie wheel 30" 9 spoke
- 5.40 6065 Driver 22" 8 spoke
- TBA 6064 Driver 30" 8 spoke Dubs A
- 5.40 6062 Driver 42" 11 spoke J 2-6-0
- TBA 6116 Driver 45" 10 spoke electric loco
- 5.40 6066 Driver 54" 12 spoke A, Ab 4-6-2
- 5.40 6117 Driver 57" 15 spoke G 4-6-2
- 5.40 6061 Driver 58" 13 spoke Ud loco

Bogie side frames - locomotive:

- TBA 6070 Sideframe Dg loco (4)
- 6.45 B12006 Leading, J & K locos
- 4.80 6039 Cab bogie, C 2-6-2 loco
- 6.00 6104 Cab bogie, J 4-8-2 loco
- 13.50 B12015 Cab bogie, Ka 4-8-4 loco
- 13.20 B10270 Tender, C 2-6-2 loco
- 25.80 B11183 Tender, G 4-6-2 loco (4)
- TBA B12604 Tender, J 4-8-2 loco
- 13.20 B1637 Tender, Ub & B locos (Fox)

Bogie side frames - rolling stock

- set of 2 bogies per pack (no wheels included)
- 12.90 BS97 Freight, old arch bar Rb, Z
 - 16.50 BS26463 Freight 5' 0" roller brg Type 1

From September 2004 this list of castings includes parts from the former Sunlander range.

NEW ZEALAND CUSTOMERS:
ADD 12½% GST TO PRICES

BRASS CHAIN



Plain, oval link brass chain in 4 sizes, measured in Links per Inch (LPI). Great for detailing wagons, cranes, wharves, etc. Bind loads on wagons, trucks, containers. Pack contains 300mm.

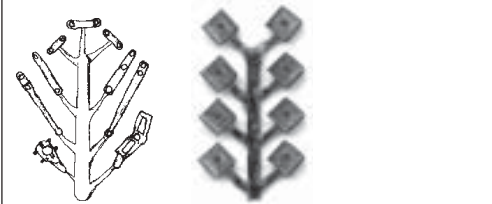
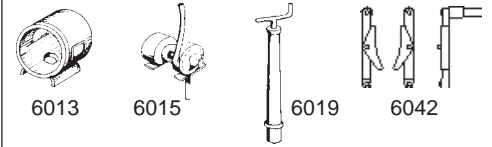
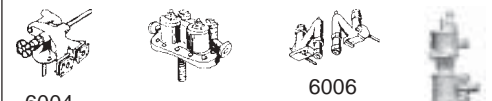
- | | | | |
|---------|------|--------------|--|
| \$ 2.40 | CH16 | Chain 16 LPI | |
| 2.40 | CH27 | Chain 27 LPI | |
| 2.40 | CH32 | Chain 32 LPI | |
| 2.85 | CH40 | Chain 40 LPI | |

HANDRAIL POSTS



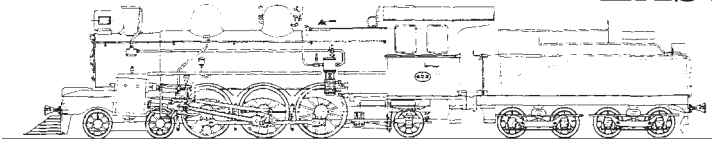
Machined brass, Ø0.8 shank, price per each

- | | | |
|---------|------|----------------------------------|
| \$ 0.48 | 2705 | 1.0 ball 0.5 hole 1.0 ctr height |
| 0.48 | 2707 | 1.0 ball 0.5 hole 1.5 ctr height |
| 0.48 | 2709 | 1.0 ball 0.5 hole 2.5 ctr height |



6054

6058



'A' CLASS 4-6-2 LOCOMOTIVE KIT Sn3½ scale

Available with number plates for the following:

800L161	A 161
800L410	A 410
800L423	A 423
800L428	A 428
800L585	A 585
800L601	A 601

NOW FOR THE BAD NEWS!

Due to demands of other work, the 'A' kit is not always available. Its current status is: **not available** (The kit was released in 1984)

The kit is based on A 423 as running in the 1960's and includes the following features:

- diecast zinc chassis; drilled, tapped & blackened.
- one piece smokebox/ boiler/firebox casting.
- NWSi 2028 motor and North Yard 35:1 idler gearbox.
- loco / tender wiperless current pickup.
- dozens of brass investment castings.
- step-by-step assembly instructions and diagrams.
- 16 large prototype photographs of A 423.
- prototype plan drawn specially for the kit.
- minimum recommended radius 900mm; with appropriate modifications, 750mm curves can be negotiated.

RECOMMENDED FOR THE EXPERIENCED MODELLER.

Get your North Yard list by E-mail!

Contact me by E-mail at: northyard@xtra.co.nz and I can send you an up-to-date copy of this list as a PDF file. The present 8 page list takes up about 180 kilobytes. You will need *Adobe Acrobat Reader* (which can be downloaded free from Adobe's web site) to open it. All text and illustrations should print out clearly.

TYRES RP25 code 110 profile
B = brass, black nickel plated
N = brass, satin nickel plated
Dimensions are tread dia x bore dia

\$.42	210.12B	9.5 x 7.85
.42	210.12N	9.5 x 7.85
.45	210.01B	10.5 x 8.5
.45	210.01N	10.5 x 8.5
.45	210.02B	10.5 x 9.0
.45	210.02N	10.5 x 9.0
.54	210.17B	11.08 x 10.0
.54	210.17N	11.08 x 10.0
.54	210.03B	12.0 x 10.0
.54	210.03N	12.0 x 10.0
.54	210.18B	12.0 x 10.5
.54	210.18N	12.0 x 10.5
.66	210.04B	13.0 x 11.0
.66	210.04N	13.0 x 11.0
.78	210.05B	14.3 x 12.0
.78	210.05N	14.3 x 12.0
.81	210.06N	15.7 x 13.3
1.35	210.07N	16.8 x 14.8
.96	210.08N	17.8 x 15.5
.99	210.09N	19.5 x 17.5
1.11	210.10N	21.4 x 19.05

TYRES RP25 code 110 profile
stainless steel (not always in stock)
Dimensions are tread dia x bore dia

\$ 5.40	210.05L	14.3 x 12.0
3.90	210.05UL	14.3 x 12.0 flangeless
4.65	210.07L	16.8 x 14.8
2.70	210.07UL	16.8 x 14.8 flangeless
2.85	210.08L	17.8 x 15.5
2.85	210.08UL	17.8 x 15.5 flangeless
4.80	210.09L	19.5 x 17.5
3.60	210.09UL	19.5 x 17.5 flangeless
4.20	210.10L	21.4 x 19.05
6.00	210.11L	22.6 x 20.2

TYRES NY277 profile stainless steel
4.1mm wide, exact scale 9mm scale NZR

7.95	277.01L	27.0 x 23.0
9.30	277.02L	29.8 x 25.0
9.90	277.04L	33.75 x 29.0
10.20	277.06L	40.5 x 36.0

N (9mm) GAUGE WHEELS - ROMFORD

1.75	2660.15	6.2 disc, 15.0 pinpoint axle
1.75	2662.15	6.2 8 spk, 15.0 pinpoint axle

MISCELLANEOUS

\$23.10	PV121	Pin vice 0 to 1.0 capacity
22.50	PV122	Pin vice 0.5 to 1.5 capacity
24.00	PV123	Pin vice 1.5 to 2.6 capacity
1.50	7008	Silicone tube Ø1.9x Ø4x 50 (2)
1.50	7000	Silicone tube Ø2.3x Ø4x 50 (2)
1.50	7002	Solder, resin core Ø1.2 x 2mtr
24.00	7003	Standards Gauge NMRA HO
24.00	7009	Standards Gauge NMRA Sn3
3.60	7006	Cut-off disc Ø22x0.6xØ1.6 (5)
6.00	7007	Mandrel for discs, Ø2.4 shank
15.00	7011	Excel model rule N HO O G
1.50	7101	Wire, hookup 10/ 0.1 blk (2m)
1.50	7102	Wire, hookup 10/ 0.1 red (2m)
3.00	7104	Microbulbs 1.5V 10mA Ø1.4
2.40	7105	Spade Terminal 1.4mm (20).
2.40	2041/8	Drvr springs Ø2x4x0.152 (8)
2.40	2042/8	Drvr springs Ø2x4x0.193 (8)
2.40	2043/8	Drvr springs Ø2x4x0.234 (8)
1.80	2026	Sound cam 6.35 sq x 4.5 x Ø3
1.50	2179	Sound cam 4.76 sq x 3.5 x Ø3



2179



2026



Spade Terminal

ROMFORD® AXLES for 16.5mm gauge 3mm stainless steel.

Use with Romford wheels to suit gears, gearboxes, bearings, sound cams, etc with 3mm bore. Each axle is supplied with two brass axle nuts.

\$ 4.20	2635N	Romford axle 3mm stainless 16.5 gauge, knurled at centre.
4.20	2636N	Romford axle 3mm stainless 16.5 gauge, plain.

DATA SHEETS - At this stage, available free of charge. A4 format.

900	Wheel pair arrangement RP25/110 16.5 gauge.
915	Driving wheel diagrams - North Yard RP25/110 drivers drawn full size.
919	Gearing design data for NY 0.4 module gears.

SPLIT AXLE PARTS stainless steel

North Yard split axles consist of male and female axle halves press - fitted together with an acetal insulating bush. The bush has a head 0.5mm thick; the length of axles that can be produced is:
(male half length + female half length + 0.5mm).

While complete split axles can be supplied, it is not advisable to press - fit metal wheels on to these, as the force required will usually crush the head of the plastic bush. Slide - fit wheels with a 3.00mm reamed bore can be used and secured in place with LOCTITE 601 or similar. To press - fit wheels, the following procedure should be used:

1. The correct bore size is 2.98mm.
2. Fit wheels and/or bearings and gear to each axle half.
3. Push plastic bush into female axle half.
4. Press axle halves together. Check the tightness of the joint, but do not disturb unnecessarily. If the joint is not tight enough, carefully twist apart, then apply a small amount of Loctite inside the female end. Press the axle together again and leave to set overnight. Be careful to keep Loctite away from axle bearings or you will end up with a non-rotating axle!

\$ 1.80	544	Split axle Ø3 x 20
.75	547	Axle half, female Ø3 x 7.5
.75	548	Axle half, female Ø3 x 10.0
1.50	2057	Axle half, fem Ø3x8.5/Ø2x2.77
1.20	553	Axle half, male Ø3 x 12.0 (knurled for gear)
.75	554	Axle half, male Ø3 x 15.5 (knurled for gear)
3.00	2058	Axle half, male Ø3x11.0/Ø2x2.77
.30	529	Bush, split axle Ø2.5 x Ø1.6 x 5 (acetal)

SERV-O-LINK® PRODUCTS

North Yard sells the range of injection moulded chain (0.1227" pitch) and sprockets, and also 32 and 48 pitch gears from this manufacturer. There is a separate list for these products. No trade discounts are available on Serv-O-Link products.