**PRODUCT CATALOGUE****INDEX**

1. Ordering information.
2. Order Form
3. Wheels, axles, bearings.
4. NZR bogies, bogie hardware.
5. Fastenings, drills, taps, dies, reamers, crankpins
6. Motors, shaft bushings, flywheels.
7. Gearing, drive shafts, universal joints.
8. Materials.
9. Detail parts, chain, handrail posts.
10. Miscellaneous:  
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 and was developed as a hobby by the late Graham Selman.

In 2010 the business was sold to Rodger and Christina Cullen and is now based in Blenheim, New Zealand.

New developments are taking place within the business, including a website which we expect to have operational by early 2011.

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. There is no current price list available but you can contact us by email, fax or telephone and we can give you prices on request.

Payment Options: New Zealand customers can pay by personal cheque, internet funds transfer, VISA or MasterCard. Overseas customers preferred payment is VISA or MasterCard, otherwise a bank cheque or telegraphic transfer in NZ currency

Postage and Handling: We send all consignments via a courier track and trace system to New Zealand customers unless otherwise specified. Cost will depend on size and weight. For our overseas customers consignments and prices will vary according to weight and size of package being sent.





## PRODUCT CATALOGUE

### 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.

110	14.3	10 sp	F 0-6-0 etc
116	15.7	10 sp	no cwt Wa, Wb
106	16.8	12 sp	Bb 4-8-0
117	17.8	12 sp	no cwt C, Wf, X
154	17.8	12 sp	Ww 4-6-4T
155	19.5	12 sp	no cwt Aa, Uc
156	21.4	12 & 14 sp	A 4-6-2
100	21.4	12 sp	Ab 4-6-2
101	21.4	12 sp	K 4-8-4
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).

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

**CHASSIS / MECHANISM SPACER BLOCKS**  
 Injection moulded acetal, suit M1.4 screws

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

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

290	9.5	4 hole disc
313	9.5	disc
236	10.5	8 spoke
518	10.5	8 spoke (heavy)
287	10.5	10 spoke
316	10.5	disc
381	11.08	9 spoke
232	12.0	8 spoke
233	12.0	9 spoke
235	12.0	2 hole disc
288	12.0	split 6 spoke
272	13.0	9 spoke
2020	13.0	disc
251	14.3	10 spoke
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**

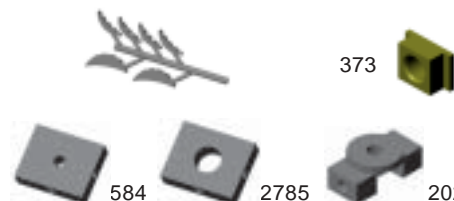
RP25/110 plated brass tyres, plastic centres  
 2mm bore, B = black nickel; N = satin nickel

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

**COUNTERWEIGHT SETS for driving wheels**

Brass castings, locating over spokes

CWS2803 Garrett loco / 2792 wheel



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

256	12.0 x 3.0
524	13.0 x 3.0
300	14.3 x 3.0
302	15.7 x 3.0

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

335	9.5 x 2.0
2063	10.5 x 2.0
2645	10.5 x 2.98
2193	12.0 x 2.03
258N	12.0 x 2.98
526N	13.0 x 2.98
480N	14.3 x 2.37 fit Athearn 3/32" axl
400N	14.3 x 2.98
400L	14.3 x 2.98 stainless
401N	15.7 x 2.98
401L	15.7 x 2.98 stainless
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.

247	22.5	split 6 spoke
248	22.5	2 hole disc
297	22.5	8 spoke
284	22.5	9 spoke
2064	25.4	disc

**O GAUGE DRIVING WHEELS, INSULATED**

NY277 profile 4.1mm wide stainless tyre.

278L	27.0 x 5.0	10 spoke F loco
2850	27.0 x 3.1	disc English Electric
2852	29.8 x 3.1	disc Da loco

**AXLES for locomotives and rolling stock**

2844	Ø1.2 x 19.6	blunt, stainless
2195	Ø2.03 x 17.9	blunt, black brass
202	Ø2.03 x 20	blunt, black brass
2196	Ø2.03 x 24	blunt, black brass
2189	Ø2.03 x 26	blunt, black brass
469	Ø2.03 x 28	blunt, black brass
2175	Ø2.03 x 32	blunt, black brass
470	Ø2.03 x 20	pinpoint, black brass
409	Ø2.03 x 23.8	pinpoint, blk brass
367	Ø2.03 x 25	pinpoint, black brass
201	Ø2.03 x 26	pinpoint, black brass
471	Ø2.03 x 28	pinpoint, black brass
315	Ø3 x 17.9	stainless, knurled ctr
200	Ø3 x 20	stainless
314	Ø3 x 20	stainless, knurled at ctr
486	Ø3 x 26	stainless, knurled at ctr
2481	Ø3 x 30	stainless
203	Ø3.2 x Ø2 x 50pp	steel (O ga)
280	Ø5 x 37.2	stainless (O gauge)
428	Ø2 x Ø3 x 20	shouldered, stainl

**AXLE BEARINGS retail packs**

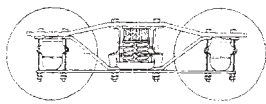
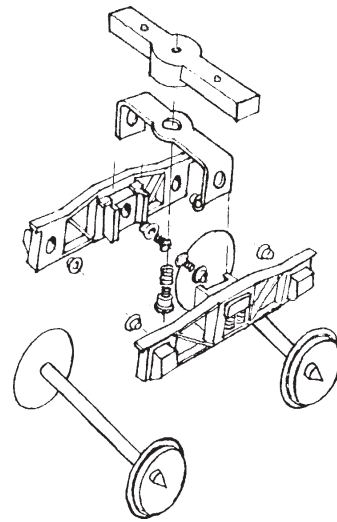
204/50	Ø2 pinpoint brass	(50)
204/100	Ø2 pinpoint brass	(100)
475/40	Ø2.2 x Ø4 flanged brass	'O' gauge (40)
379/8	Ø3xØ4x3 flanged brass	(8)
373/8	Ø3x5sqx2.8 bronze	(8)
2816	Ø4.76x8sqx5 brass	(1)
260/8	Ø5xØ7x5.5 flngd brass	(8)

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.

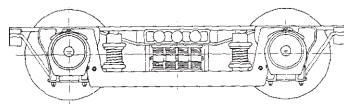
A jeweller's saw should be used to cut the side frames from the casting sprue, then clean up with small files.  
Assembly is by screwdriver, with all necessary holes being pre-drilled and tapped.  
Equalizing : NORTH YARD bogies are designed to equalize about their pivot screws, with a small amount of 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**

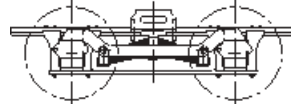
- 365 Stretcher, 18mm wide, brass
- 371 Shouldered bush Ø2 x Ø3, plastic
- 326 Shoulder screw Ø3 x 3 / M2 x 3, brass
- 324 Spring 3.1 I.D. x 4 long x 0.315 wire, stainless (standard)
- 2186 Spring 3.1 I.D. x 4 long x 0.25 wire, stainless (light)
- 339 Bolster Ø7 x 4.0 plastic, not tapped
- 340 Bolster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



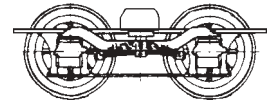
3181



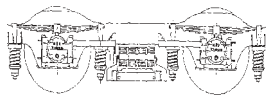
7781-I



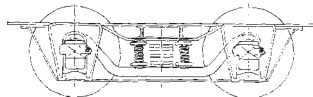
3712



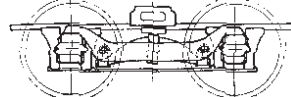
BLW1512



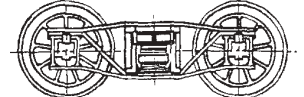
25830-C



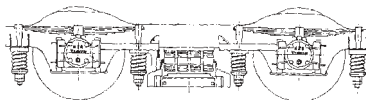
1656



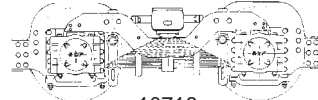
3712A



BLW3477



25330



10718

	PART NO.	TYPE	PROTOTYPE WHEELBASE	WHEELS	PINPOINT AXLE LENGTH	RAIL TO TOP OF STRETCHER	APPLICATIONS
	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
	B25830-C	Freight (Cast Steel)	4' 9"	12mm 2 hole disc	26mm	9.5mm	Rb 5; Yd, some other post - 1960
	B7781-I	Car (Isothermos axleboxes)	6' 0"	12mm 2 hole disc	26mm	9.5mm	50' Suburban Cars
	B1656	Car	4' 10"	12mm split spoke	25mm	9.5mm	44' Cars; some 47½' Cars; numerous brake vans
	B25330	Car	6' 0"	12mm 2 hole disc	26mm	9.5mm	56' Cars and vans; some 50' cars; some Z wagons
	BLW1512	Tender	3' 10"	11.2mm 8 spoke	26mm	9.2mm	Q and Ub locos
	B3712	Tender	4' 6"	12mm 9 spoke	26mm		Bb locos
	B3712A	Tender	4' 6"	12mm 9 spoke	26mm	9.5mm	A, X and some Q locos
	BLW3477	Tender	5' 0"	12mm 9 spoke	26mm	10.5mm	Aa locos
	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:

- 2162.26 11.2mm 8 spoke 26.0 pinpoint axle, both wheels insulated.
- 233.26 12.0mm 9 spoke 26.0 pinpoint axle, both wheels insulated.
- 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**

201403	M1.4 x 3	csk pozi NP
201608	M1.6 x 8	csk slot ZP
201612	M1.6 x 12	csk slot ZP
201616	M1.6 x 16	csk slot ZP
202004	M2 x 4	csk slot ZP
202006	M2 x 6	csk slot ZP
202012	M2 x 12	csk slot ZP
202016	M2 x 16	csk slot ZP
203012	M3 x 12	csk slot ZP
203025	M3 x 25	csk slot ZP

**MACHINE SCREWS, STEEL PAN / CHEESE Packs of 20**

211003	M1 x 3	pan pozi black
211004	M1 x 4	pan pozi black
211403	M1.4 x 3	pan pozi black
211405	M1.4 x 5	pan pozi black
211606	M1.6 x 6	pan Phillips ZP
211608	M1.6 x 8	cheese slot ZP
211612	M1.6 x 12	cheese slot ZP
211616	M1.6 x 16	cheese slot ZP
211620	M1.6 x 20	cheese slot ZP
212004	M2 x 4	cheese slot ZP
212006	M2 x 6	cheese slot ZP
212012	M2 x 12	cheese slot ZP
212016	M2 x 16	cheese slot ZP
212020	M2 x 20	cheese slot ZP
212030	M2 x 30	cheese slot ZP
213012	M3 x 12	pan slot ZP
213025	M3 x 25	pan slot ZP

**MACHINE SCREWS, BRASS CSK Pk of 20**

272012	M2 x 12	csk slot
--------	---------	----------

**MACHINE SCREWS, BRASS CHEESE Pk 20**







282003	M2 x 3	cheese slot
282004	M2 x 4	cheese slot
282006	M2 x 6	cheese slot
282012	M2 x 12	cheese slot

**SELF TAPPING SCREWS Packs of 20**

Phillips drive, pointed end

ST2205	Ø2.2 x 4.8	steel pan ZP
ST2206	Ø2.2 x 6.3	steel pan ZP
ST2210	Ø2.2 x 9.5	steel pan ZP
ST2213	Ø2.2 x 12.7	steel pan ZP
ST2225	Ø2.2 x 25.4	steel pan ZP

**WOODSCREWS, BRASS Packs of 20**

291610	Ø1.6 x 10	csk slot 
292006	Ø2 x 6	csk slot 
292010	Ø2 x 10	csk slot 
231610	Ø1.6 x 10	round slot 
232006	Ø2 x 6	round slot 
232010	Ø2 x 10	round slot 

**CRANKPINS, brass ZP price per each**  
Size is shoulder dia x length  
All crankpins have M1.4 thread

261435	Ø1.4 x 3.5	2.0 hex ZP
261470	Ø1.4 x 7.0	2.5 hex ZP
261610	Ø1.6 x 1.0	2.5 hex ZP
261615	Ø1.6 x 1.5	2.5 hex ZP
262015	Ø2.0 x 1.5	2.5 hex ZP
262020	Ø2.0 x 2.0	2.5 hex ZP
262035	Ø2.0 x 3.5	2.5 hex ZP
262050	Ø2.0 x 5.0	headless
286	Ø2.0 x Ø1.4 x 4	bush

SJGH4020 Grubscrew M4 x 20 2.0 hex  
SJCH3020 Capscrew M3 x 20 2.5 hex  
(last two items used as hex wrenches)

NOTE: 261470 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**

24010	M1	Brass
24014	M1.4	Brass
24116	M1.6	Steel ZP
24020	M2	Brass
24120	M2	Steel ZP
24130	M3	Steel ZP

**HEX HEAD BOLTS, STEEL Packs of 20**  
ISO standard hex head

2123012	M3 x 12	5.5 hex
2123025	M3 x 25	5.5 hex

**MODEL ENGINEERING BOLTS, STEEL Packs of 10**

2131612	M1.6 x 12	2.5 hex
2132006	M2 x 6	3.0 hex
2132010	M2 x 10	3.0 hex
2132515	M2.5 x 15	3.5 hex
2133015	M3 x 15	4.0 hex

**MODEL ENGINEERING NUTS, STEEL Packs of 10**

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

**MODEL ENGINEERING BOLTS, BRASS Packs of 20**

221404	M1.4 x 4	2.5 hex
221405	M1.4 x 5	2.5 hex
221410	M1.4 x 10	2.5 hex

**WASHERS FOR SCREWS Packs of 20**

25011	M1 x 2.5 x 0.3	Brass
25111	M1 x 2.5 x 0.3	Steel ZP
25116	M1.4 x 3.0 x 0.3	Brass
25216	M1.4 x 3.0 x 0.3	Steel ZP
25017	M1.6 x 4.0 x 0.3	Steel ZP
25123	M2 x 5.0 x 0.3	Brass
25122	M2 x 5.0 x 0.3	Steel ZP

**WASHERS - OTHER Packs of 20**

25020	Ø2.0 x Ø3.0 x 0.25	Bronze
25021	Ø2.1 x Ø6.0 x 0.8	Acetal
25024	Ø2.4 x Ø4.4 x 0.25	Bronze
25030	Ø3.0 x Ø5.7 x 0.25	Plastic
25130	Ø3.0 x Ø5.7 x 0.5	Plastic
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 a good source of free machining stainless steel in small sizes. Each end has a small chamfer.

DPA1h8.01510	Ø1.5 x 10
DPA1h8.01520	Ø1.5 x 20
DPA1h8.02006	Ø2.0 x 6
DPA1h8.02010	Ø2.0 x 10
DPA1h8.02020	Ø2.0 x 20
DPA1h8.02025	Ø2.0 x 25
DPA1h8.03006	Ø3.0 x 6
DPA1h8.03020	Ø3.0 x 20

**SPACERS price per each**

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

**BRASS THREADED ROD 300mm**

TRB.2	M2 Thread
-------	-----------

**DRILLS - High Speed Steel**

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

**CENTRE DRILLS - High Speed Steel**

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

CD05	0.5 x 3.15mm
CD08	0.8 x 3.15mm
CD10	1.0 x 3.15mm
CD16	1.6 x 4.0mm
CD20	2.0 x 5.0mm



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

3010	M1
3014	M1.4
3016	M1.6
3020	M2
3030	M3
3040	M4
3050	M5

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

3110	M1	high speed steel
3114	M1.4	high speed steel
3116	M1.6	high speed steel
3120	M2	carbon steel
3130	M3	carbon steel
3140	M4	carbon steel
3150	M5	carbon steel

**REAMERS - High Speed Steel**

RHM.02	2.0 Parallel Hand Reamer
RHM.024	2.4 Parallel Hand Reamer
RHM.03	3.0 Parallel Hand Reamer
RHI.125	1/8" Parallel Hand Reamer

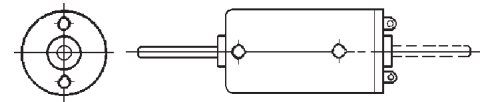
**I.S.O. METRIC THREAD DATA**

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

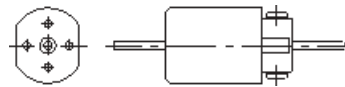
Choose a drill size to give 75% thread or less for most applications. This will prolong the life of the tap while still giving a strong thread. A 90% thread can be used in thin or soft materials and special applications.

	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
	NW1025FD	10253-9	NWSL	FC	10	25	12	1.2	17/17	M1.4	8	---	---	---	0.044	17,000	0.25		
	NW1628FD	1630D-9	NWSL	FC	11.9	28	15.4	1.5	14/16	M1.6	10	---	---	---	0.06	12,500		1.57	
	NW2032FD	2032D-9	NWSL	FC	14.4	32	20.3	2.0	15/15	M2	12.4	---	---	---	0.06	9,500	0.40	3.29	
	NW2231D	22313-9	NWSL	RC	22	31	...	2.4	18/18	M2	15	M2	2.2	20	0.090	9,900	0.50		
	NW2236D	22363-9	NWSL	RC	22	36	...	2.4	15/15	M2	15	M2	2.5	25.5		11,000	0.47		6,600
	NW2240D	22405-9	NWSL	RC	22	40	...	2.4	18/18	M2	15	M2	2	26	0.100	9,600	0.50		
	NW2940D	29401-9	NWSL	RC	29	40	...	2.4	24/24	M2.6	19	M2	5	20		6,300	0.60		
	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
	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
	MA1224FD	MH-1224	Mashima	FC	12	24	14	1.5	10/10	M1.4	8/8	---	---	---	0.040	12,000		0.48	8,000
	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
	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
	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
	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
	MA1830FD	MH-1830	Mashima	FC	18.4	30	23.2	2.0	10/10	M2	12	---	---	---	0.046	11,000		3.80	6,500
	MA1833FD	MH-1833	Mashima	FC	18.4	33	23.2	2.0	10/10	M2	12	---	---	---	0.044	9,760		3.10	6,000

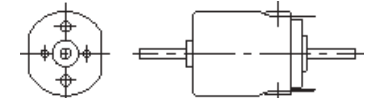
OF = Open Frame RC = Round Can FC = Flat Can Inset = Distance of first side mount hole from front of motor (some NWSL motors only)



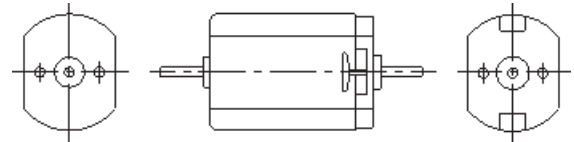
NWSL Round Can Motors



Mashima MH-1224



Mashima MH-1620



Mashima MH-1830

**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**

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

10100-9 Brushes for 12 and 14mm can motors.  
 10102-9 Brushes for 20, 22 and 28mm can motors.

**BRASS SHAFT BUSHINGS 2 per pack**

Use to build up motor shaft when required.

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

**BRASS FLYWHEELS 1 per pack**

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

**WORMS, STEEL 0.3 module**

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

**WORMS, STEEL 0.4 module**

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

**GEARS, ACETAL 0.3 mod for Ø5 worm**

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

**GEARS, ACETAL 0.4 mod for Ø6 worm**

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

**BRASS BEARINGS, NO FLANGE each**

307	Ø2.0 x Ø6 x 2.5
-----	-----------------

**BRONZE BEARINGS, FLANGED each**

2861	Ø1.5xØ4x1.5 / Ø5x0.5 head
2854	Ø2.0xØ4x2.5 / Ø6x0.5 head
566	Ø2.4xØ4x3 / Ø6x1 head
338	Ø2.4xØ6x3 / Ø8x1 head

**DRIVE SHAFTS Stainless Steel**

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

410.13	Ø2.4 x 13mm
410.16	Ø2.4 x 16mm
410.20	Ø2.4 x 20mm
410.25	Ø2.4 x 25mm
410.30	Ø2.4 x 30mm
410.40	Ø2.4 x 40mm

**UNIVERSAL JOINTS, SILICONE TUBING**

44024	NY 2.4mm shaft U joint (2 balls, 2 sockets, 1 shaft)
350	NY UJ ball Ø4 x 2.4mm bore
351	NY socket Ø6 x 8 x 2.4 bore
481-6	NWSL 2.4mm shaft U joint
482-6	NWSL 2.0mm shaft (1.5/2.4) universal joint
498-6	NWSL 2.4mm to 1/8" shaft universal joint
7008	Silicone tubing Ø1.9 x Ø4 2 pieces 50mm long
7000	Silicone tubing Ø2.3 x Ø4 2 pieces 50mm long
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.

4322030	2.0 input shaft, 3.0 axle
4322030D	2.0 motor mount, 3.0 axle
4322032	2.0 input shaft, 1/8" axle
4322032D	2.0 motor mount, 1/8" axle
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.

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

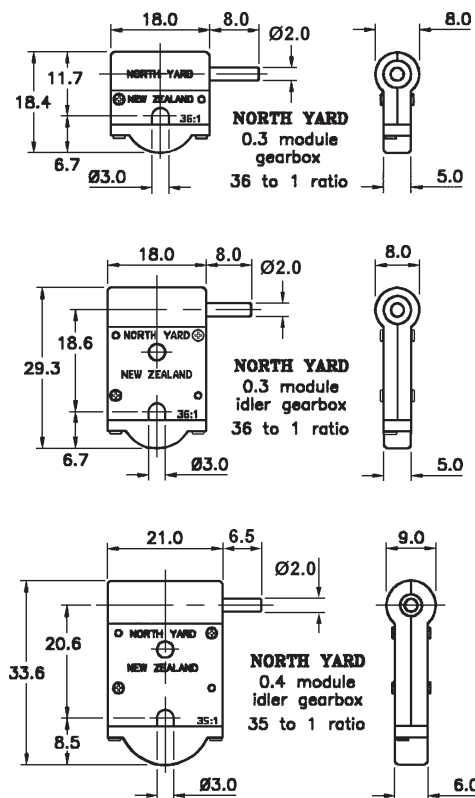
**IDLER GEARBOXES, NORTH YARD**

**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.

4312030	2.0 input shaft, 3.0 axle
4312030D	2.0 motor mount, 3.0 axle
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.

140-6	2.4 input shaft 3.0 axle
-------	--------------------------

**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.

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

**COMPOUND GEARBOX NWSL**

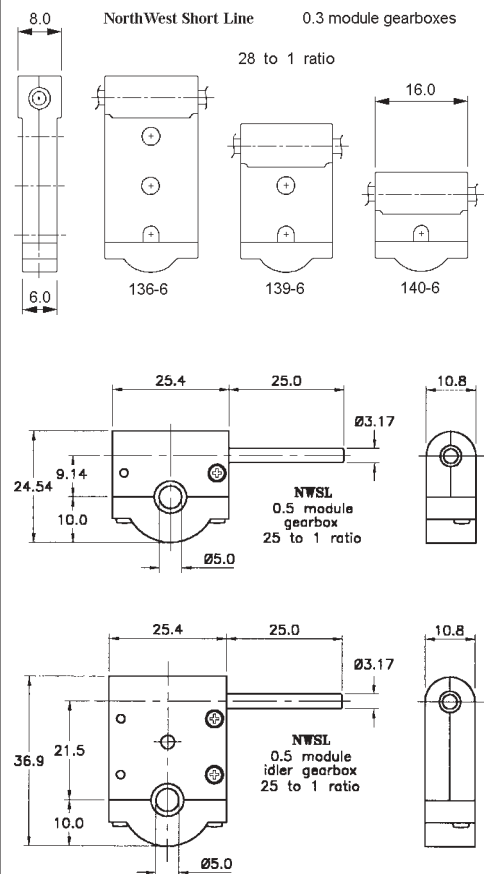
**0.3 module 50:1 Acetal case Steel worm, brass and acetal gears.**  
 Minimum driver dia. 13.4mm, or 9.6mm if cover trimmed.

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

**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.

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



**BRASS TUBE** O.D. WALL 300mm

500.010	1.0mm x 0.20mm
500.015	1.5mm x 0.20mm
500.020	2.0mm x 0.30mm
500.025	2.5mm x 0.45mm
500.030	3.0mm x 0.45mm
500.040	4.0mm x 0.45mm
500.050	5.0mm x 0.45mm
500.060	6.0mm x 0.45mm
500.070	7.0mm x 0.45mm
500.080	8.0mm x 0.45mm
500.090	9.0mm x 0.45mm
500.100	10.0mm x 0.50mm
500.110	11.0mm x 0.50mm
500.120	12.0mm x 0.50mm
500.159	15.9mm x 0.90mm
500.190	19.0mm x 0.90mm
500.222	22.2mm x 0.90mm
500.238	23.8mm x 0.71mm
500.254	25.4mm x 0.90mm

**PHOSPHOR BRONZE SPRING WIRE**

Straight 300mm

511.04	0.4mm
511.05	0.5mm

**BRASS WIRE – HARD DRAWN**

Straight 300mm

501.025	0.25mm
501.03	0.3mm
501.04	0.4mm
501.05	0.5mm
501.06	0.6mm
501.07	0.7mm
501.08	0.8mm
501.10	1.0mm
501.12	1.2mm
501.16	1.6mm

**BRASS ROD – ROUND** free machining 300mm

501.20	2.03mm
501.25	2.5mm
501.317	3.17mm
501.40	4.0mm
501.50	5.0mm
501.60	6.0mm
501.80	8.0mm
501.100	10.0mm
501.120	12.0mm

**BRASS ROD – SQUARE**

502.08	0.8mm	300mm
502.10	1.0mm	250mm
502.15	1.5mm	250mm
502.20	2.0mm	250mm
502.25	2.5mm	250mm
502.32	3.2mm	300mm
502.48	4.8mm	300mm
502.63	6.3mm	300mm
502.79	7.9mm	300mm
502.95	9.5mm	300mm
502.127	12.7mm	300mm

**BRASS ROD – HEXAGON**

503.10	1.0mm	250mm
503.16	1.6mm	305mm
503.20	2.0mm	250mm
503.25	2.5mm	300mm
503.30	3.0mm	300mm
503.40	4.0mm	300mm
503.56	5.6mm	300mm
503.63	6.3mm	300mm
503.79	7.9mm	300mm

**COPPER ROD - ROUND**

300mm

561.0635	6.35mm
561.0952	9.52mm

**BRASS ANGLE**

508.10	1.0 x 1.0 x 0.25	250mm
508.12	1.2 x 1.2 x 0.30	250mm
508.16	1.6 x 1.6 x 0.35	305mm
508.20	2.0 x 2.0 x 0.40	250mm

**BRASS TEE**

250mm

50T.10	1.0 x 1.0 x 0.25
50T.15	1.5 x 1.5 x 0.30
50T.20	2.0 x 2.0 x 0.40

**BRASS CHANNEL**

505.20	2.0 x 1.0 x 0.40	250mm
505.30	3.0 x 1.5 x 0.40	250mm
505.40	4.0 x 2.0 x 0.50	250mm
505.50	5.0 x 3.0 x 0.60	250mm
505.127	12.7x 12.7x 2.4	300mm

**BRASS MINISTRIP**

10 pcs/pack 150mm

506.081	0.10mm x 0.8mm
506.101	0.10mm x 1.0mm
506.08	0.25mm x 0.8mm
506.10	0.25mm x 1.0mm
506.15	0.25mm x 1.5mm
506.20	0.25mm x 2.0mm
506.25	0.25mm x 2.5mm
506.30	0.25mm x 3.0mm

**BRASS STRIP – HALF HARD**

300mm

(Sheared from sheet)

506.04063	0.4mm x 6.35mm
506.04127	0.4mm x 12.7mm
506.04254	0.4mm x 25.4mm
506.0412	0.45mm x 12mm
506.0425	0.45mm x 25mm
506.0550	0.5mm x 50mm
506.0806	0.8mm x 6mm
506.08063	0.8mm x 6.35mm
506.08127	0.8mm x 12.7mm
506.0825	0.8mm x 25mm
506.0850	0.8mm x 50mm
506.1006	1.0mm x 6mm
506.1012	1.0mm x 12mm
506.1025	1.0mm x 25mm
506.1050	1.0mm x 50mm
506.1206	1.2mm x 6mm
506.1212	1.2mm x 12mm
506.1225	1.2mm x 25mm
506.1250	1.2mm x 50mm

**BRASS FLAT BAR**

506.04008	0.4mm x 0.8mm	300mm
506.1002	1.0mm x 2.0mm	250mm
506.1503	1.5mm x 3.0mm	250mm
506.2004	2.0mm x 4.0mm	250mm
506.2006	2.0mm x 6.0mm	250mm
506.3005	3.0mm x 5.0mm	250mm
506.1619	1.6mm x 19mm	300mm
506.3212	3.2mm x 12.7mm	300mm
506.3219	3.2mm x 19.0mm	300mm
506.3225	3.2mm x 25.4mm	300mm

**BRASS SHEET – HALF HARD TEMPER**

100mm x 250mm

507.0127	0.13mm
507.0254	0.25mm
507.05	0.5mm
507.08	0.8mm
507.10	1.0mm
507.12	1.2mm

**BRASS MESH, WOVEN**

100mm x 150mm strands per inch x wire diameter

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

**SILVER STEEL – ROUND**

300mm

AISI O1 grade oil hardening tool steel

521.20	2mm
521.30	3mm
521.40	4mm
521.50	5mm
521.60	6mm
521.80	8mm
521.100	10mm
521.120	12mm

**BRIGHT MILD STEEL – ROUND**

300mm

free machining 300mm

531.30	3mm
531.50	5mm
531.60	6mm
531.80	8mm
531.100	10mm
531.120	12mm

**STAINLESS STEEL – ROUND**

300mm

541.20	2mm	T308
541.24	2.4mm	T303
541.30	3mm	T303
541.318	3.18mm (1/8")	T303
541.476	4.76mm (3/16")	T303
541.50	5mm	T304
541.60	6mm	T303
541.635	6.35mm (1/4")	T303
541.100	10mm	T303

**BRIGHT MILD STEEL – FLAT**

300mm

536.1606	1.6mm x 6.3mm
536.3012	3.0mm x 12.0mm
536.3020	3.0mm x 20.0mm
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. Now discontinued by Special Shapes. Will not be available as stocks run out.

EBMD05	0.5mm diamond
EBMD10	1.0mm diamond
EBMD20	2.0mm diamond
EBMS12	1.2mm square
EBMS16	1.6mm square

Treadplate no longer available.

**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.

557.025	0.25mm (0.010")
557.030	0.30mm (0.012")
557.050	0.50mm (0.020")
557.063	0.63mm (0.025")
557.080	0.80mm (0.032")

**NICKEL SILVER WIRE - ROUND**

300mm

551.045	0.45mm
551.06	0.6mm
551.08	0.8mm

**NICKEL SILVER ROD - ROUND**

300mm

551.0873	8.73mm (pale yellow)
551.127	12.7mm (pale yellow)

Parts are brass investment castings unless stated otherwise.

**Steam locomotive parts:**

- 6078 Bell, loco, old style - operating
- 6059 Bracket for W/H pump on A loco
- 6105 Bracket, equalizing beam J loco
- 6046 Brackets, tablet exchanger (loco)
- 6031 Brackets, valve guide, K loco (2)
- 6019 Brake column, tender
- 6030 Brake cylinder, tender, K loco
- 6042 Brake hangers, A (plastic) (4 pr)
- 6110 Brake hangers, F loco (2 pr)
- 6041 Chains, side & hose, A (2 sets)
- 6044 Chassis casting (zinc), A loco
- 6017 Coupling & box, loco, BP3395 (2)
- 6016 Cowcatcher, A loco BP3697
- 6091 Cowcatcher, Ab loco
- 6094 Cowcatcher - K, Ka, Kb, J, Ja, Jb
- 6040 Crossheads & Guides, C 2-6-2
- 6099 Crossheads & piston rods J & K
- 6098 Cylinder end & slide bar J & K (2)
- 6090 Cylinders, Ab loco
- 6021 Dome, sand, A loco (white metal)
- 6022 Dome, steam, A (white metal)
- 6103 Dome, sand J 4-8-2 loco
- 6102 Dome, steam J 4-8-2 loco
- 6028 Door, inspection (2)
- 6055 Door, smokebox, 39" BP10773
- 6095 Expansion link & bkt K (2 ea)
- 6023 Funnel, BPY6957
- 6015 Generator, Pyle National K 240
- 6049 Governor, cross compound pump
- 6036 Governor & Pipe for W/H pump
- 6057 Governor, valve, silencer- W/H
- 6020 Handrail posts - 19, assorted
- 6101 Hanger, Baker valve gear J loco
- 6093 Hangers, valve gear Ab L & R
- 6118 Headlight, acetylene - F loco
- 6026 Headlight, 12" Pyle
- 6027 Headlight, 12" Pyle with hood
- 6013 Headlight, Standard 20" Mainline
- 6083 Hornblocks with spring recess(6)
- 6113 Hooks, side chain (16)
- 6012 Hoses, air A loco (2)
- 6000 Injector, exhaust steam, K loco
- 6024 Injector, live steam, K loco
- 6060 Jack, loco, old (2)
- 6025 Jack & Traverser, modern (2)
- 6086 Jacking brackets, loco (4)
- 6037 Ladder, A tender, 5.3 x 12.4mm
- 6043 Lifeguards, A loco
- 6048 Lubricator, Nathan, K loco
- 6010 Plugs, washout (20)
- 6001 Power Reverse Ragonnet, K loco
- 6011 Pump, air W/H 10" x 10<sup>5</sup>/<sub>8</sub>"
- 6077 Pump, air W/H cross compound
- 6085 Shovel, loco (2)
- 6112 Shovel, loco, long narrow (2)
- 6056 Silencer, exhaust, for W/H pump
- 6045 Smokebox front A loco (w/ metal)
- 6034 Snifter, A loco (2)
- 6084 Springs, loco, leaf type (8)
- 6092 Steam chest heads Ab loco (2)
- 6002 Steam Pipes, K loco
- 6038 Steps, A loco & tender (set of 4)
- 6003 Throttle, front end, K loco
- 6004 Turret, K loco
- 6029 Valve, blower inlet, K loco
- 6005 Valve, boiler top feed, J, K locos
- 6018 Valve, check BPY5054 (2)
- 6035 Valve, control, for W/H pump
- 6032 Valve, main safety, A loco
- 6033 Valve, safety, lever type, A (2)
- 6006 Valves, sanding, K loco (2 pair)
- 6047 Valves, steam, K (2 of each)
- 6014 Valve, Triple
- 6054 Valve gear sprue, A loco (2)
- 6007 Water fillers, tender, A loco (2)
- 6008 Whistle, Nathan, side mount, K
- 6009 Whistle, Nathan, back mnt, A, Ab

**Diesel, Electric and Railcar parts:**

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

**Wagon and Car parts:**

- 6052 Buffer beamex MTM 30' van
- 6063 Hand brake wagon old style(2)
- 6107 Handbrake unit MT car (2)
- 6113 Hooks, side chain (16)
- 6050 Lookouts, guard's MTM van(2)
- 6058 Pivot blocks, bogie side (8)
- 6119 Queen posts; 4 on beam (2)
- 6067 Railing, end, straight 44' car (2)
- 6068 Railing, end, curvd 47½' car (2)
- 6051 Railing, end ex MTM 30' van
- 6106 Steps, Main Trunk car (4)
- 6108 Vents, roof, Main Trunk car(20)

**Bush tram and Industrial parts:**

- 2163B Wheel 8mm curved 7 spk (1)  
(plastic centre, brass tyre)
- 2844 Axle Ø1.2 x 19.6 stainless
- 6114 Bearing blocks for shafting (6)

**Miscellaneous:**

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

**Cast brass wheels (unmachined):**

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

**Bogie side frames - locomotive:**

- 6070 Sideframes Dg loco (4)
- B12006 Leading, J & K locos
- 6039 Cab bogie, C 2-6-2 loco
- 6104 Cab bogie, J 4-8-2 loco
- B12015 Cab bogie, Ka 4-8-4 loco
- B10270 Tender, C 2-6-2 loco
- B11183 Tender, G 4-6-2 loco (4)
- B12604 Tender, J 4-8-2 loco
- B1637 Tender, Ub & B locos (Fox)

**Bogie side frames - rolling stock**

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

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

## 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.

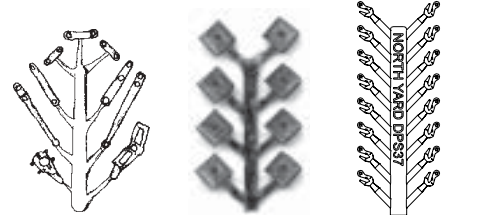
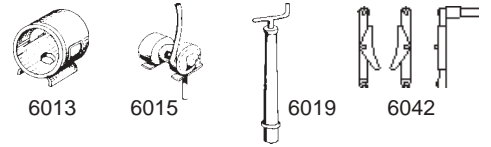
- |      |              |  |
|------|--------------|--|
| CH16 | Chain 16 LPI |  |
| CH27 | Chain 27 LPI |  |
| CH32 | Chain 32 LPI |  |
| CH40 | Chain 40 LPI |  |

## HANDRAIL POSTS



Machined brass, Ø0.8 shank, price per each

- |      |                                  |
|------|----------------------------------|
| 2868 | 1.0 ball 0.5 hole 0.7 ctr height |
| 2705 | 1.0 ball 0.5 hole 1.0 ctr height |
| 2707 | 1.0 ball 0.5 hole 1.5 ctr height |
| 2709 | 1.0 ball 0.5 hole 2.5 ctr height |



6054                      6058                      6113

## Get your North Yard list by E-mail!

Contact us by E-mail at: [northyard@xtra.co.nz](mailto:northyard@xtra.co.nz) and we 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

210.12B	9.5 x 7.85
210.12N	9.5 x 7.85
210.01B	10.5 x 8.5
210.01N	10.5 x 8.5
210.02B	10.5 x 9.0
210.02N	10.5 x 9.0
210.17B	11.08 x 10.0
210.17N	11.08 x 10.0
210.03B	12.0 x 10.0
210.03N	12.0 x 10.0
210.18B	12.0 x 10.5
210.18N	12.0 x 10.5
210.04B	13.0 x 11.0
210.04N	13.0 x 11.0
210.05B	14.3 x 12.0
210.05N	14.3 x 12.0
210.06N	15.7 x 13.3
210.07N	16.8 x 14.8
210.08N	17.8 x 15.5
210.09N	19.5 x 17.5
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

210.05L	14.3 x 12.0
210.05UL	14.3 x 12.0 flangeless
210.07L	16.8 x 14.8
210.07UL	16.8 x 14.8 flangeless
210.08L	17.8 x 15.5
210.08UL	17.8 x 15.5 flangeless
210.09L	19.5 x 17.5
210.09UL	19.5 x 17.5 flangeless
210.10L	21.4 x 19.05
210.11L	22.6 x 20.2

### TYRES NY277 profile stainless steel

4.1mm wide, exact scale 9mm scale NZR

277.01L	27.0 x 23.0
277.02L	29.8 x 25.0
277.04L	33.75 x 29.0
277.06L	40.5 x 36.0

### N (9mm) GAUGE WHEELS - ROMFORD

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

### MISCELLANEOUS

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

2635N	Romford axle 3mm stainless 16.5 gauge, knurled at centre.
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!

547	Axle half female Ø3 x 7.5
548	Axle half female Ø3 x 10
2857	Axle half female Ø3 x 13
2057	Axle half fem Ø3x8.5/Ø2x2.77
553	Axle half male Ø3x12 knurled
554	Axle half male Ø3x15.5 knurled
2858	Axle half male Ø3x17.5 knurled
2058	Axle half male Ø3x11/Ø2x2.77
529	Bush 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.