Autumn 2025 Edition

ALAN GIBSON MODEL RAILWAY PRODUCTS

High Quality Items 4mm and 7mm Scale
Price £2.50 Face to Face
£6.00 by Post
Free on the Internet

Version 05.00.00

Price Codes

In order to attempt to make the catalogue easier to understand (take it from me plenty of people can't work out why there are two prices) we're going to swap to a price code system in order to draw people to this page so we can hammer the fact that we show No VAT / VAT prices

Who pays VAT? All UK addresses with the exception of the VAT free zones Jersey etc

Who doesn't pay VAT? Everyone else

Price Code	*Non VAT Price*	**VAT Price**		**Price Code**	*Non VAT Price*	**VAT Price**		**Price Code**	*Non VAT Price*	**VAT Price**
A	*£1.58*	**£1.90**		U	*£5.75*	**£6.90**		AO	*£13.33*	**£16.00**
B	*£1.67*	**£2.00**		V	*£5.92*	**£7.10**		AP	*£13.75*	**£16.50**
C	*£1.83*	**£2.20**		W	*£6.17*	**£7.40**		AQ	*£14.92*	**£17.90**
D	*£2.25*	**£2.70**		X	*£6.50*	**£7.80**		AR	*£15.58*	**£18.70**
E	*£2.58*	**£3.10**		Y	*£6.67*	**£8.00**		AS	*£17.42*	**£20.90**
F	*£2.75*	**£3.30**		Z	*£6.75*	**£8.10**		AT	*£19.00*	**£22.80**
G	*£2.83*	**£3.40**		AA	*£6.83*	**£8.20**		AU	*£21.08*	**£25.30**
H	*£3.33*	**£4.00**		AB	*£7.67*	**£9.20**		AV	*£22.50*	**£27.00**
I	*£3.42*	**£4.10**		AC	*£7.92*	**£9.50**		AW	*£23.17*	**£27.80**
J	*£3.50*	**£4.20**		AD	*£8.17*	**£9.80**		AX	*£24.33*	**£29.20**
K	*£3.83*	**£4.60**		AE	*£7.75*	**£10.20**		AY	*£25.75*	**£30.90**
L	*£4.17*	**£5.00**		AF	*£8.75*	**£10.50**		AZ	*£27.50*	**£33.00**
M	*£4.33*	**£5.20**		AG	*£9.17*	**£11.00**		BA	*£29.83*	**£35.80**
N	*£4.42*	**£5.30**		AH	*£9.75*	**£11.70**		BB	*£33.75*	**£40.50**
O	*£4.58*	**£5.50**		AI	*£9.83*	**£11.80**		BC	*£34.83*	**£41.80**
P	*£4.75*	**£5.70**		AJ	*£10.00*	**£12.00**		BD	*£37.40*	**£44.88**
Q	*£4.83*	**£5.80**		AK	*£10.58*	**£12.70**		BE	*£48.58*	**£58.30**
R	*£5.00*	**£6.00**		AL	*£11.08*	**£13.30**		BF	*£55.00*	**£66.00**
S	*£5.33*	**£6.40**		AM	*£11.58*	**£13.90**		BG	*£213.17*	**£255.80**
T	*£5.50*	**£6.60**		AN	*£12.08*	**£14.50**		BH	*£426.25*	**£511.50**

MODEL RAILWAY PRODUCTS CATALOGUE – Spring 2022

Terms of Trading, please review these notes as there have been some changes and it will (hopefully) reduce frustration on both sides

This catalogue cancels all previous issues. All items listed in these pages are available direct either by writing, telephone, fax or email and wherever possible orders are dispatched by return of post. However, with such an extensive range of products there will inevitably be times when some items will be temporarily out of stock. **Orders are not acknowledged so it is essential that a telephone number and / or email address is provided so that we can inform you of any delay. Every effort will be made to complete outstanding orders as soon as possible**. **Out of stock items cannot be 'Back Ordered'.**

PERSONAL CALLERS
Although we would like to welcome visitors calling in at the workshop there are a number of issues that make it unrealistic for us to do so. Therefore, we have decided not to accept callers.

ORDERING BY POST
To avoid unnecessary errors and delays when ordering please ensure you PRINT your name and address clearly and remember to include your post code. We will not dispatch items without your Postcode. Please give the code number(s) and quantities you require, please also make sure you understand how the product is sold (pack size/quantity) and state any gauge. It is a bad habit, but we tend to work to quantity and part number so descriptions may not be read so please ensure the part number is correct. This will hopefully enable your order to be processed quickly and hopefully accurately. Unfortunately / fortunately we find ourselves very busy, mail order and associated correspondence does consume more time than we'd like. If you have questions please study the catalogue first in case your answers can be found there.
All mail order should be sent to the address below, accompanied by the appropriate remittance. Please remember to include for postage and packing where necessary (see Postage and Packing).
Orders are not acknowledged so it is essential that a telephone number and / or email address is provided so that we can inform you of any delay. Every effort will be made to complete outstanding orders as soon as possible

Alan Gibson (workshop), PO Box 597, Oldham, OL1 9FQ

ORDERING BY TELEPHONE/FAX
We also accept orders by telephone or fax for charging to credit/debit card accounts. Simply call the number below with your order, giving your full name and address, your card number together with the last 3 digits of the security number on the reverse of the card and the expiry date. You can **telephone 0161 678 1607** or **fax 01616 785 8208** between from 8.30 am, to 6 pm Monday to Friday and 9am to 1pm on Saturday. You can also email your order to **sales@alangibsonworkshop.com. Under no circumstances should you send all your payment card information in one email.**
A note about phone calls. We are often busy, and it is not always possible to answer the phone, this includes running machines or even being on the phone itself. In these circumstances the call diverts to an answerphone service, please leave a message and we will call you back as soon as we can usually the same day, but this is not always possible.
We understand not being able to have your call answered can be frustrating, but it can also be frustrating for us. If the phone rings while we're setting, attending to or running a machine then by the time I've wiped my hands and got to the phone it will have in all circumstances gone over to the answerphone. It is your choice to leave a message or not, but if you don't you can't get a call back.
If you don't get an answer and immediately recall you are unlikely to get a different outcome. We have customers who call several times over a short time period. Please beware we are beginning to think of these as nuisance calls and we may well block your number.
If you've left a message then you shouldn't need to call again (particularly a couple of hours later)
If you have left a message and haven't had a call back with in 4 or 5 days then calling back is justified. It may be that we've called you and missed you and you don't have an answerphone, or there was inference on our end of the call and your details were not clear enough and as unlikely as it may seem we may have transcribed your details incorrectly.

METHODS OF PAYMENT
Remittances should be made either by cheque or postal order. They should be crossed and made payable to ALAN GIBSON. Do NOT send cash. Orders can also be accepted for charging to credit and debit card accounts by writing, telephoning or faxing, quoting your card number, your full name and address together with the expiry dates of your card and the three digit security number on the back of the card along with any issue number. Please note that if you do not give this information then we are unable to process your order.

POSTAGE AND PACKING
Orders* to the value of £50.00 and over are sent post free within the UK but for UK orders of less than £50.00 add £4.50 for postage, packing and handling.
All export orders will have postage charged to cards at cost with the order.
If paying for an **export order** by cheque please add 10% (minimum £4.50 (export orders)) for post and packing.
* with the exception of 7mm Rolling Stock wheels and Back to Back guages which will attract the appropriate small parcel rate at cost

EXPORT ORDERS
Overseas customers outside Great Britain (GB) may ignore Value Added Tax (VAT) which applies to UK sales only. Payment for export orders can only be made by cheque against a U.K. clearing Bank Account or by giving credit/debit card details. (For details of paying by credit/debit card see Methods of Payment). Cheques drawn on overseas local banks cannot be accepted as we don't like filling in forms or additional bank transfer charges.
We do not accept Paypal due in part to the fees and mostly down to the fact that it creates another pile of admin and we'd much rather be manufacturing. We don't accept bank transfers from private customers because it creates a pile of admin, we have our own card processing terminal and we much prefer to use that.

EXPRESS DISPATCH
For those times when nothing is soon enough. For an additional £40.00 fee we will guarantee to dispatch the goods (if in stock) the next working day, with the option of before 1PM special delivery at cost. Please read FAQ

GOODS DAMAGED IN TRANSIT
In order to comply with Post Office procedures goods damaged in transit must be notified to us within 21 days of posting. Please do NOT return the goods to us but retain with original packing for Royal Mail inspection.

PRICES
Whilst every effort is made to keep prices stable, we reserve the right to charge the prices ruling at time of dispatch. This catalogue includes our first price rise in 5 years and whilst different areas of the product range have had differing percent increases applied, we (as far as we're aware) kept the overall increase below the compounded inflation rate over that time period

V.A.T.
All orders received from within the United Kingdom have to be charged Value Added Tax at the current UK rate. To assist customers in ordering two prices are quoted in the price lists - the first price (in italics) is without VAT and is for export orders to countries outside the UK. The second price **(in bold)** is for the UK and is inclusive of the current UK rate of VAT of 20%. UK customers please note that postage and packing are also liable for VAT.

FAULTY GOODS / INCORRECT ORDERS
Every effort is made to ensure that goods leave us in perfect condition, but now and again a sub-standard item can slip through our quality control. If you feel you have cause for a complaint, please get in touch. **Do not return the goods as we will (if required) send return postage with the replacement items.**

FREQUENTLY ASKED QUESTIONS – Please note, all the changes and additional notes have been added to the catalogue because they have occurred at least enough times to be a problem to us.

Do you have something in stock? – This is usually something odd (to us) like 2 x 4000 (you know, our best seller). Seriously, if it is in the main part of the catalogue then you can expect to be in stock, when you order you should follow the instructions and provide a telephone number then, if items will be out of stock for an extended period of time we will contact you.
During Covid when we have been particularly busy with mail order we have received a number of emails and phone calls asking if items are in stock. It would be far better to make these enquiries when placing the order, although we have a working knowledge of any shortages, we cannot easily check stock as it located remotely from the manufacturing unit and phone. It is also ironic that stock enquiries prevent us from production and reduced production can result in low stock or out of stock items

Can I pay you by PayPal, it is easy and convenient – Sorry no, for many reasons. We have a contract for a card terminal and prefer to process cards directly. Our PayPal account would require an additional reconciliation within the business every day and introduce extra stages while processing orders. When we are processing orders we would have to check the PayPal account for payment and then reconcile them to the orders. Cheque and Card payments work well for us as we control when the payment is taken so that we can charge as the goods are going in the envelope / packet.

Can I pay you by Bank Transfer? – Sorry no due to the administration reasons given above.

Why is there now a handling fee included with Postage and Packing? - Simply put, there are a number of tasks within the business that we basically do for free. You could call them cost of sales and say that is just how it is and I'd be much happier with that if we were charging a premium price, which when we look around, I don't think we are.
By example we do have people who will order a single £5.00 set of coupling rods, this will attract £2.00 postage so £7.00 in total. Knock off the VAT leaves £5.83, consider the cost of the item, the cost of packing it, the cost of stocking it, the 15 to 20 minutes involved in answering the phone and taking the order, producing the postage label, checking the order (yes we do), processing the card payment and packing it. Then going to the post office, although hopefully we'll be taking more than one packet. Take all this into consideration and you wonder if there is any profit in it at all. Of course it doesn't always end there, sometimes you get a call the next day asking why the rods haven't been delivered yet, and that has a cost too.
There are many of you out there who will instinctively realise all this, and we really are thankful for you, but there are many others who don't and they are sometimes the ones who consume hours of time that could be spent more usefully. We are resisting the temptation to introduce a minimum order and we see this and education as a possible alternative solution.

Why have you introduced an Express Dispatch option? – We do try to get everything dispatched at the earliest possible, practical time, but there can be no absolute guarantees. Take the Covid pandemic for instance (please read below). We don't want you to pay for 'Express Dispatch' as there is probably an 80% chance of us doing that in the first place, but the option is there if you want it. If you do we will push your order through the system from start to finish bypassing the batch type systems we normally use. This also has the benefit of being able to point out to any customer who is disappointed that their order hasn't had the most rapid transit through our system that they could have had 'Express'.

Why have you introduced an Express Frame Cutting Service? – Loco and Tender frames are one of those awkward things. We like to produce them in batches as it is more economic and whilst we always mention to customers that there will be a delay while we cut the frames, sometimes it can take a while due to other activities within the business. Unfortunately, there have been a couple of instances of 2 to 3 months, and we recognise that this isn't acceptable. We could increase the price in line with the lack of economy in cutting a single set but we wouldn't feel comfortable with inflicting this on customers who are happy to wait hence the Express Service.

What is with all the Express 'this and that'? – Well, it is about choice, if the customer wants us to do something in a manner that we wouldn't normally, then we'll compromise and do it, but get paid for the disruption it causes. Let us be clear we'd rather not do it, but these two things crop up regularly and now we offer this option nobody should feel justified in complaining about an extended delivery when they could have had 'Expressed'. It isn't our idea we've stolen it from the Chief Executive of an Irish Airline who was being criticised by a journalist for 'menu' pricing. He basically said our business model involves you getting on the Aeroplane, flying to your destination, and getting off. We don't want extra luggage, food and drink, pre-book seats, special arrangements etc. but people expect them so they can have them, but we'll charge for them as extras and the people who don't want them benefit from lower fares. Are they his real reasons? Who knows, but they are ours.

From the above it seems that you are creating obstacles to accepting payment? It isn't so much that, as that we need to prioritise the available time. It is no secret we're busy and that we're making little progress on a number of high-profile projects. However you look at it, the fault lies with us, we're trying to reduce the time the retail side of the business takes up as this can take large chunks out of our day. Answering 4 or 5 emails

(especially ones that can answered by reading the catalogue) for one £10.00 order isn't going to create commercial success. We don't have all the answers at the moment but by providing as much information as we can this will hopefully help all the orders flow smoothly through the business.

Good News?
Although this price rise might seem like quite an increase it is only the Bank of England's target inflation rate compounded over 3 years. We have continued to invest in the business over the last few years. We have been driven to improve quality in both precision and finish and we hope that our customers are now beginning to see this across our range. In truth we wanted the quality improvements to become widespread before we applied the price increase, even though we have absorbed the expansion costs and they are not being paid for by this price rise.
Thinking about it this price rise only raises our profitability and hence income to where it was at the last price rise.

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4mm Components

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COMPONENTS FOR 4mm SCALE LOCOMOTIVES AND ROLLING STOCK

This is where it all began - 4mm scale carriage and wagon wheels! These were the very first model railway items that Alan produced and today, in an improved form, they continue to be the best seller. The range has grown steadily over the years and today, with many satisfied customers worldwide, they probably represent the best value for money on the market. Available in 00 Finescale, EM and S4 Gauges they all have a black plastic injection moulded centres carrying individual detail and these centres are pressed into chemically blackened steel tyres that have been precision turned to the recommended profile for the respective gauges. They are supplied mounted on a blackened steel pinpoint axle 26mm long, 2mm diameter and are sold as single axles.

ROLLING STOCK WHEELS

Code	Scale	Size	Description
4000	3'1½"	12mm	8 spoke (plain) wheels
4001	3'1½"	12mm	8 spoke (open) wheels
4002	3'1½"	12mm	3 hole disc wheels
4003	3'7½"	14mm	8 spoke (open) wheels
4004	3'7½"	14mm	Mansell wheels
4005	3'7½"	14mm	Plain disc wheels
4006	3'1½"	12mm	10 spoke (plain) wheels
4007	2'7½"	10.5mm	Plain disc 'Lowmac' wheels
4008	2'7½"	10.5mm	10 spoke 'Lowmac' wheels
4009	3'1½"	12mm	DMU plain disc wheels
4010	3'7½"	14mm	8 spoke (plain) wheels
4011	3'1½"	12mm	Mansell Wheels
4012	2'7½"	10.5mm	Disc wheels (with Disc brakes)
4013	3'1½"	12mm	12mm Disc wheels (with disc brakes)
4014	3'7½"	14mm	Disc wheels (with disc brakes)
4015	3'7½"	14mm	10 spoke (plain) wheels
4016	3'7½"	14mm	4 hole disc for Pullmans
4017	2'7½"	10.5mm	8 spoke (plain) wheels
4018	3'1½"	12mm	12mm 4 hole disc wheels

4000
8 Spoke Wagon (Plain)

4004
Mansell Disc

4005
Coach Plain Disc

Code	Item	
4*##	Carriage and Wagon Wheels	Price A

NOTES ON ROLLING STOCK WHEELS All types of scale wheels are available for 00 finescale, EM and S4 gauges. They are jig assembled to ensure squareness on the axle and to maintain the essential accuracy of the back-to-back measurement. To order wheels in EM or S4 the second digit in the code number should be changed to either an E for EM or an S for S4 (eg 4E00 or 4S00).
The 26mm. long pin-point axle is now accepted as the standard for 4mm scale and has been adopted by the majority of British RTR and kit manufacturers. The full range of wheels can, therefore, be used as direct replacements in rolling stock currently produced by Hornby, Dapol, Replica and Bachmann. They can also be used in rolling stock formerly produced by Airfix and Mainline.
For Lima and most other continental rolling stock a shorter axle (24.5mm long) is required and these can be supplied to special order. When ordering these please specify very clearly that you require these shorter axles and be prepared to allow an extra day or two for delivery. NB! Only wheels set to '00 gauge can be supplied and they are charged at a slight premium price code C per axle.
CONDUCTING WHEELS Following numerous requests we have developed a solid steel centre for our 14mm tyre which means we can produce a conducting wheel. We are selling theses wheels assembled with one live and insulated wheel mounted on a pin pint axle and they are primarily intended to provide power to rolling stock. A pack of 10 wheels without axles (2mm bore) is also available, which will allow flexibility in individual projects. All details for the wheels are as above, for the standard wheel sets.

Code	Item	
4019	4 pack of 14mm wheel set mounted with one conducting and one insulated wheel	Price AG
4020	10 pack of 14mm conducting wheels for 2mm axle.	Price Y
4021	4 pack of 12mm wheel set mounted with one conducting and one insulated wheel	Price AG
4022	10 pack of 12mm conducting wheels for 2mm axle.	Price Y
~~4023~~	~~4 pack of 10.5mm wheel set mounted with one conducting and one insulated wheel~~	~~Price AG~~
~~4024~~	~~10 pack of 10.5mm conducting wheels for 2mm axle.~~	~~Price Y~~

BRASS AXLE BEARINGS These precision machined brass bearings are manufactured within close tolerances and are primarily intended to be used in conjunction with our own range of 4mm carriage and wagon wheels which are mounted on pinpoint axles. However, they can be used with any comparable products.

Code	Item	
4M52	10 x bushes for shorting out Jackson Romford wheels	Price E
4M63	40 x Pin point axle bearings	Price I
4M63F	40 x Flangeless pin point axle bearings	Price I
4M63W	40 x Waisted pin point axle bearings	Price I

STEAM LOCOMOTIVE DRIVING WHEELS Our extensive range of locomotive driving, bogie and tender wheels has been carefully selected to meet the needs of most modellers and although each wheel has been scaled from a specific prototype many will be found to be representative of numerous other types, On average the tyre on a prototype wheel was allowed to wear to minus 2" of its nominal diameter before having to be replaced and in selecting the range of tyre diameters Alan took this wear factor into account. Modellers can, therefore, confidently choose a wheel whose diameter is within 2" of the prototype's stated size in the almost certain knowledge that it was in that condition some time during its life.
All steam locomotive driving wheel types are available for 00, EM or S4 gauges and have black injection moulded centres which are pressed into steel tyres that have been machined to each gauge's recommended profile. The tyres are left in a bright metal finish and no balance weights are fitted.
The wheels are sold in packs containing two wheels with a 00 axle plus an EM axle or just an S4 axle. Those wheels which are designated 'OC' in the 'CP' column are designed for use with outside cranks and these wheels are packed complete with two outside crank mouldings and a specially extended axle. All axles supplied with our steam locomotive wheels have a1/8" diameter axle and are manufactured from precision ground steel to the correct length and also left in a bright metal finish.
Under the column headed 'Rim' a plain rim usually indicates a pre-1930 wheel while a bevelled rim, also known as a Stanier, denotes a later style of wheel in which the spokes are flared into a heavily bevelled rim. This latter type of wheel was mostly fitted to ex-L.M.S. locomotives and also to the later British Railways standard classes.
The column headed 'Crank pin' has three different notations, explained as follows: **IL** indicates a wheel with its crank pin boss in line with the spokes; **PB** indicates a wheel with its crank pin boss between the spokes; and **OC** indicates a wheel with no crank pin boss for locomotives fitted with outside cranks.
The column headed 'Throw' indicates the crank pin throw and the succeeding column gives the scale equivalent. It's amazing what a difference the correct amount of throw makes when the locomotive is moving!
When ordering it is very important to quote the item code and, most important, the gauge required. To order wheels in S4 gauge the second digit in the Code should be changed to an 'S (e.g. 4S55), failure to do this will ensure you receive 00/EM!

Code	Size	Scale	Spokes	Prototype	Rim	CP	Throw	Scale	Brass Kit
4835	2'9"	11.0mm	10 Spoke	Hudswell Clarke	Plain	PB	7½"	2.50mm	
4836BH	3' 0"	12.0mm.	10 spoke	Black Hawthorn	Plain	PB	9"	3.00mm	
4836E	3' 0"	12.0mm.	9 spoke	LNER Y9	Plain	PB	7½"	2.50mm	
4836IW	3' 0"	12.0mm.	8 spoke	Manning Wardle	Plain	IL	9"	3.00mm	
4836P	3' 0"	12.0mm.	Disc	L&Y Pug	n/a	n/a	9"	3.00mm.	
4839G	3' 3.5"	13.0mm.	10 spoke	Industrial Garratt	Plain	PB	11"	3.66mm	
4842E	3' 6"	14.0mm.	10 spoke	LNER Y7	Plain	IL	10"	3.33mm	
4842IW	3' 6"	14.0mm	10 spoke	Manning Wardle	-	IL	9"	3.00mm	
4844A	3' 8"	14.6mm	8 spoke	Barclay Tanks	Plain	PB	10"	3.33mm	
4844E	3' 8"	14.6mm	8 spoke 'T'	Caly Pug	Plain	PB	12"	4.00mm	
4844IW	3' 8"	14.6mm.	10 spoke	Manning Wardle	-	IL	9"	3.00mm	
4844I	3' 8"	14.6mm	10 spoke	SECR P Class	Plain	PB	8"	2 60mm	
4844M	3' 8"	14.6mm	11 spoke	I.O.M. 2-4-0T	Plain	PB	9"	3.00mm	
4844P	3' 8"	14.6mm	12 spoke	Caly Pug	Plain	IL	10"	3.33mm	
4847I	3' 11"	15.6mm	12 spoke	LBSCR Terrier	Plain	IL	8"	2 60mm	
4848	4' 0"	16.0mm	10 spoke	GER/LNER J69 Class	Plain	PB	10"	3.33mm	
4848G	4' 0"	16.0mm	15 spoke	GER/LNER J69 Class	Plain	IL	11"	3.66mm	
4849N	4' 1½"	16.5mm.	12 spoke	LNER J72. etc.	Plain	IL	11"	3.66mm	
4849B	4' 1½"	16.5mm.	12 spoke	GWR Tanks	Plain	PB	9½"	3.17mm	
4849G	4' 1½"	16.5mm.	12 H-spoke	GWR Tanks	-	PB	12"	4.00mm	
4851N	4' 3"	17.0mm.	14 spoke	LNER J94 Class	Bevel	PB	13"	4.30mm	
4851S	4' 3"	17.0mm	13 spoke	LSWR 0330 Class	Plain	PB	11"	3.66mm	
4853	4' 5½"	17.8mm	12 H-spoke	LNWR	-	PB	12"	4.00mm	
4854S	4' 6"	18.0mm	11 spoke	SR USA Tanks	Plain	IL	12"	4.00mm	
4854W	4' 6"	18.0mm	14 spoke	LSWR	Plain	PB	9½"	3.17mm	Yes
4855E	4' 7"	18.5mm	14 spoke	LNER J25/J26/J27 Class	Plain	IL	11"	3.66mm	Yes
4855J	4' 7"	18.5mm.	14 spoke	LNER J52 Class	Plain	PB	12"	4 00mm	Yes
4855L	4' 7"	18.5mm.	14 spoke	LNER Q6 Class	Plain	PB	13"	4 30mm	Yes
4855N	4' 7"	18.5mm.	14 spoke	LNER Q5/Q7 Class	Plain	IL	13"	4.30mm	Yes
4855S	4' 7"	18.5mm.	15 spoke	LMS Stanier 8F	Bevel	PB	14"	4.60mm	Yes
4855	4' 7½"	18.5mm.	15 spoke	Midland/LMS	Plain	IL	12"	4.00mm	Yes
4855W	4' 7½"	18.5mm.	14 spoke	GWR Standard	Plain	PB	9½"	3.17mm	Yes
4855G	4' 7½"	18.5mm.	14 spoke	GWR 28XX (L/throw)	Plain	IL	15"	5.00mm	Yes
4855D	4' 7½"	18.5mm.	Webbed	War Department	-	-	14"	4 60mm	Yes
4856	4' 7½"	18.5mm.	14 spoke	GWR	Plain	OC	-		

The price is for two wheels and axle(s) as indicated, **the extreme RH column denotes if the brass version has been produced NOT if the wheel is in stock!**

Code Item
48** Steam Locomotive Driving Wheels sizes up to 18.5mm Price AA

PTO

IMPORTANT- Due to increased material costs and the longer machining time associated with larger material sizes we have reluctantly increased the price of our larger wheels over 18.5mm up to 32mm. These are now price code AG

Code	Size	Scale	Spokes	Prototype	Rim	CP	Throw	Scale	
4858	4' 10"	19.3mm.	16 spoke	LSWR 02 Class	Plain	IL	11"	3.66mm	
4860	5' 0"	20.0mm.	15 spoke	BR 9F, etc	Bevel	PB	12"	4 00mm	
4860B	5' 0"	20.0mm.	Bulleid	SR Q1 Class	-	-	13"	4 30mm	
4860E	5' 0"	20.0mm.	16 spoke	NER	Plain	IL	11"	3.66mm	
4862	5' 2½"	20.8mm.	16 spoke	MR Classes 2, 3, 4	Plain	IL	11"	3.66mm	
4862E	5' 2½"	20.8mm.	16 spoke	GWR/LNER	Plain	PB	11"	3.66mm.	Yes
4862ST	5' 2½"	20.8mm.	16 spoke	Stanier Class 4	Bevel	PB	11"	3 66mm.	Yes
4863	5' 2½"	20.8mm.	16 spoke	Midland Kirtley	Plain	OC	-		
4866	5' 6"	22.0mm	18 spoke	Met. Rly. E Class	Plain	PB	11½"	3 80mm	
4866C	5' 6"	22.0mm.	17 spoke	LMS Crab	Plain	IL	13"	4.30mm	
4866M	5' 6"	22.0mm.	17 spoke	MR Flatiron	Plain	PB	11"	3.66mm	
4866S	5'6"	22.0mm	18 spoke	LSWR S15, H16	Bevel	PB	14"	4.60mm	
4866ST	5' 6"	22.0mm.	17 spoke	Stanier 2-6-0	Bevel	PB	13"	4.30mm	
4867	5' 6"	22.0mm.	18 spoke	LSWR M7 Class	Plain	IL	9"	3.00mm	
4868	5' 8"	22.6mm.	18 spoke	GWR Standard	Plain	PB	15"	5.00mm	Yes
4868C	5' 8"	22.6mm.	20 spoke	Caledonian Class 179	Plain	IL	10"	3.33mm	
4868G	5' 8"	22.6mm.	16 spoke	GER/LNER E4 Class	Plain	IL	12"	4.00mm	
4868L	5' 8"	22.6mm.	18 spoke	LNER K3 Class	Plain	PB	13"	4.30mm	Yes
4868ST	5' 8"	22.6mm.	18 spoke	BR 2-6-4 Tank	Bevel	PB	13"	4.30mm	
4869	5' 8"	22.6mm.	18 spoke	GWR	Plain	OC	-		
4872	6' 0"	24.0mm.	19 spoke	LMS Class 5	Bevel	PB	14"	4.60mm	Yes
4872L	6' 0"	24.0mm.	18 spoke	LTSR 4-4-2T	Plain	PB	13"	4.30mm	
4872S	6'0"	24.0mm	20 spoke	LSWR H15	Bevel	IL	14"	4.60mm	Yes
4872V	6' 0"	24.0mm.	20 spoke	LNER B13 Class	Plain	PB	13"	4.30mm	
4872W	6' 0"	24.0mm.	20 spoke	GWR Hall Class	Plain	PB	15"	5.00mm	Yes
4873	6' 1"	24.0mm.	19 spoke	SR K Class	Plain	PB	14"	4.60mm	Yes
4874	6' 2"	24.6mm.	20 spoke	BR Britannia, Clan	Bevel	PB	14"	4 60mm	Yes
4874B	6' 2"	24.6mm.	Bullied	SR MN/WC/BB Class	-	-	13½"	4.50mm	Yes
4874G	6' 2"	24.6mm.	20 spoke	GWR	Plain	OC	-		
4874H	6' 2"	24.6mm.	19 spoke	Highland Loch Class	Plain	PB	12"	4.00mm	Yes
4874L	6' 2"	24.6mm.	20 spoke	LNER B1, V2 Class	Plain	PB	13"	4.30mm	Yes
4874V	6' 2"	24.6mm.	18 spoke	LNER V2 Class	Plain	PB	13"	4.30mm	Yes
4874W	6' 2"	24.6mm.	21 spoke	GWR County 4-6-0	Plain	PB	15"	5.00mm	Yes
4878	6' 6"	26.0mm.	22 spoke	LSWR T9 Class	Plain	IL	9"	3.00mm	
4878E	6' 6"	26.0mm.	20 spoke	LNER B12 Class	Plain	PB	12"	4.00mm	
4878M	6' 6"	26.0mm.	20 spoke	Midland 2P Class	Plain	IL	11"	3.66mm	
4878S	6'6"	26.0mm	22 Spoke	LSWR N15 (King Arthur)	Bevel	IL	14"	4.60mm	
4878W	6'6"	26.0mm	22 Spoke	GWR King	Plain	PB	14"	4.60mm	
4880	6' 8"	26.6mm.	22 spoke	GWR Castle Class	Plain	PB	13"	5 00mm	
4880B	6' 8"	26.6mm.	20 spoke	LNER A4/3/1, B17, etc.	Plain	PB	13"	4.30mm	Yes
4880G	6' 8"	26.6mm.	22 spoke	GWR	Plain	OC	-	-	
4880M	6' 8"	26.6mm.	21 spoke	LMS Royal Scot. etc.	Plain	IL	13"	4.30mm	Yes
4880S	6' 8"	26.6mm.	22 spoke	LBSCR	Plain	IL	11"	3.66mm	
4881	6' 8"	26.6mm.	21 spoke	LMS Jubilee Class	Bevel	PB	13"	4.30mm	Yes
4884	7' 0"	28.0mm	22 spoke	Midland Compound	Plain	IL	13"	4.30mm	
4884E	7' 0"	28.0mm	21 spoke	GE Claud	Plain	PB	12"	4.00mm	
4890	7' 6"	30.0mm	20 spoke	Midland Spinner	Plain	-	-	-	
4896	8' 0"	32.0mm	24 spoke	GNR Single	Plain	IL	14"	4.60mm	

The price is for two wheels and axle(s) as indicated, **the extreme RH column denotes if the brass version has been produced NOT if the wheel is in stock!**

Code	Item	
48**	Steam Locomotive Driving Wheels sizes 18.5mm to 32mm	Price AG

BRASS CENTRED DRIVING WHEELS We are currently reintroducing a range of Brass Centred wheels in kit form. These wheels are of the same pattern as the standard wheels and we have added an additional column to the driving wheel table to indicate availability. Since Alan produced such wheels we have listened to customer comments and have decided to change how these wheels are offered. We will provide two wheel castings, two tyres separately and a length of axle material as a kit. The Brass Centres have an under size pilot hole and an oversize outer diameter with the intention being that the modeller can finish the internal hole to suit, mount the centre on a mandrel and turn the outer true to the bore. The tyre can then be fitted by whatever method required, given sufficient temperature difference it should be possible to 'shrink' the tyre on to the centre. This system also allows the modeller to decide how to insulate the wheel, at the rim, at the axle or not at all. We feel pricing reflects 2 castings, 2 tyres and the fact that work is required to complete. We have no plans to produce completed wheels at the moment due to the manufacturing overhead, but we wouldn't rule it out in the future. After some head scratching we decided to prefix the normal wheel code with BK for Brass Kit, if you require S4 tyres you have the option of stating so or swapping the 8 for an 'S'.

Code	Item	
BK48**	Brass Steam Loco Driving Wheel kit up to 18.5mm	Price AI
BK48**	Brass Steam Loco Driving Wheel kit over 18.5mm to 32mm	Price AN

DRIVING WHEEL - **CRANKPINS** Whilst the locomotive driving wheels were under development Alan was also addressing the problem of a suitable crankpin. The eventual design utilises just three component parts and is manufactured in steel for prototypical appearance and strength. Although primarily designed for use with our own driving wheels they can, with a little effort, be used with other makes of wheel. Our own wheels have a hole of the correct size moulded but if this does need to be opened out a No.70 (070mm.) drill should be used. Older Studiolith tools have a dimple and the crankpin instruction contain details of how to deal with these. A slight countersink should be made on the back of the wheel and the M1 screws supplied will then form their own thread when screwed in from the back of the wheel. This method also works with other makes of plastic centred wheels, but for wheels with cast metal centres the crankpin holes will need to be drilled out with a No.66 *(0.85mm)* drill and then tapped M1/14BA. The crankpins are available in packs containing sufficient components for 4, 6 or 10 wheels - including two long bushes (4 for 4M42) for crankpins which require coupling and connecting rods to be fitted. Additional packs of the individual components - screws, bushes and nuts - are also available.

Code	Item	
4M42	Crankpin set (sufficient for 10 wheels)	Price AJ
4M42A	Crankpin set (sufficient for 4 wheels)	Price L
4M42B	Crankpin set (sufficient for 6 wheels)	Price W
4M43	10 x M1 screws x 6.5mm	Price J
4M44	10 x short bushes	Price J
4M45	10 x long bushes	Price J
4M46	10 x flanged M1 nuts	Price J

BOGIE and TENDER WHEELS
To complement our steam locomotive driving wheels we also produce our own bogie and tender wheels. They have all been scaled from prototype examples and they have high detailed injection moulded centres fitted into steel tyres which are left in bright metal. All bogie and tender wheels are available in 00, EM and S4 gauges and are sold in packs containing two wheels together with a 00 inside bearing axle plus an EM inside bearing and a standard pin point axle for outside bearings or an S4 inside bearing axle together with pin point axle. Please remember to specify the gauge when ordering - if wishing for S4 gauge then alter the second digit to an 'S' (e.g. 4S36 or 4S51) other than this they will be supplied as 00/EM as *standard)*

Code	***Size***	***Scale***	***Spokes***	***Rim***	***Brass Kit***
4831	2' 8"	10.5mm.	8 Spoke	Plain	
4832	2' 8"	10.5mm.	10 spoke	Plain	
4836	3' 0"	12.0mm.	10 spoke	Plain	
4836B	3' 0"	12.0mm.	Bullied		
4836C	3' 0"	12.0mm.	12 spoke	Plain	
4836GP	3' 0"	12.0mm.	9 spoke	Plain	
4836H	3' 0"	12.0mm.	8 spoke	Plain	
4836ST	3' 0"	12.0mm.	9 spoke	Bevel	
4838	3' 2"	12.6mm.	10 spoke	Plain	
4838ST	3' 2"	12.6mm.	10 spoke	Bevel	
4838ST/T	3' 2"	12.6mm.	9 spoke	Bevel	
4838W	3' 2"	12.6mm.	Disc		
4839	3' 3½"	13.0mm.	10 spoke	Plain	Yes
4839H	3' 3"	13.0mm.	8 spoke	Plain	
4839ST	3' 3½"	13.0mm.	10 spoke	Bevel	Yes
4842	3' 6"	14.0mm.	10 spoke	Plain	
4842B	3' 6"	14.0mm.	Bullied		

Code	**Size**	**Scale**	**Spokes**	**Rim**	***Brass Kit***
4842C	3' 6"	14.0mm.	12 spoke	Plain	
4842ST	3' 6"	14.0mm.	10 spoke	Bevel	
4843	3' 7"	14.0mm.	10 spoke	Bevel	
4844	3' 8"	14.6mm.	10 spoke	Plain	
4844B	3' 8"	14.6mm.	Disc		
4844C	3' 8"	14.6mm.	12 spoke	Plain	
4844H	3' 8"	14.6mm.	H-spoke		
4847	3' 11"	15.6mm.	10 spoke	Plain	Yes
4847NW	3' 11"	15.6mm.	12 spoke	Plain	Yes
4847S	3' 11"	15.6mm.	Disc		
4849	4' 1½"	16.5mm.	12 spoke	Plain	Yes
4850	4' 2"	16.5mm.	Disc		
4851	4' 3"	17.0mm.	12 spoke	Plain	Yes
4851C	4' 3"	17.0mm.	10 spoke	Plain	Yes
4851ST	4' 3"	17.0mm.	12 spoke	Bevel	Yes
4854	4' 6"	18.0mm.	14 spoke	Plain	

Code	Item	
48**	Steam Locomotive bogie and tender wheels	Price I

BRASS CENTRED BOGIE and TENDER WHEELS We are currently reintroducing a range of Brass Centred wheels in kit form. These wheels are of the same pattern as the standard wheels and we have added an additional column to the bogie and tender wheel table to indicate availability. Since Alan produced such wheels we have listened to customer comments and have decided to change how these wheels are offered. We will provide two wheel castings, two tyres separately and a length of axle material as a kit. The Brass Centres have an under size pilot hole and an oversize outer diameter with the intention being that the modeller can finish the internal hole to suit, mount the centre on a mandrel and turn the outer true to the bore. The tyre can then be fitted by whatever method required, given sufficient temperature difference it should be possible to 'shrink' the tyre on to the centre. This system also allows the modeller to decide how to insulate the wheel, at the rim, at the axle or not at all. We feel pricing reflects 2 castings, 2 tyres and the fact that work is required to complete. We have no plans to produce completed wheels at the moment due to the manufacturing overhead, but we wouldn't rule it out in the future. After some head scratching we decided to prefix the normal wheel code with BK for Brass Kit, if you require S4 tyres you have the option of stating so or swapping the 8 for an 'S'.

Code	Item	
BK48**	Brass Steam Bogie / Tender Wheel kit	Price AD

Conducting Tender Disc Wheels These are a new item and consist of a solid steel disc with profile and 2mm hole. They are sold in a relevant pack size and can be used in conjunction with the matching insulated wheel to give electrical pick up from one end or with a split axle to give pick on each end.

Code	Item	
CON4844B3	Solid Conducting Disc Wheel 3'8" Diameter pack Size 3 off	Price AA
CON4844B4	Solid Conducting Disc Wheel 3'8" Diameter pack size 4 off	Price AG
CON4850	Solid Conducting Disc Wheel 4'2" Diameter pack size 4 off	Price AG

Outside Cranks for Locomotives
These invaluable components (supplied as standard with those of our driving wheels that require them) are available as a separate item. They are supplied in a pack containing two injection moulded cranks and an extended 1/8" diameter steel axle

Code	Item	
5000	Outside cranks for steam locomotives	Price D
5001	Outside cranks for Class 08 diesel locomotive	Price D
5002	Outside cranks for Class 14 diesel locomotive	Price D

DIESEL and ELECTRIC LOCOMOTIVE WHEELS
For the modern image modeller we produce a small range of diesel and electric locomotive wheels which cover a fair number of British Rail classes. Specification is the same as for the steam locomotive driving wheels. i.e. highly detailed plastic injection centres fitted into bright steel tyres. All wheels, including the diesel and electric bogie wheels are supplied with *1/8"* diameter axles. The wheels for Classes 08/09 are supplied complete with outside cranks.

DRIVING WHEELS FOR DIESEL LOCOMOTIVES FITTED WITH OUTSIDE COUPLING RODS

4842DD	3'6'	14.0mm	12 spoke	Class 03	Bevel	IL	9'	3.00mm
4847D	3'11"	15.6mm	12 spoke	Class 14	Plain	IL	9'	3.00mm
4854D	4'6"	18.0mm	14 spoke	Classes 08.09	Bevel	OC	-	-

BOGIE WHEELS FOR DIESEL AND ELECTRIC LOCOMTIVES WITH DRIVING WHEELS

4838D	3'2"	12.6mm	Disc	Class 42 Warship
4842D	3'6"	14.0mm	Disc	Class 55 Deltic
4844D	3'8"	14.6mm	Disc	Class 33,44,47 etc
4848D	4'0"	16.0mm	Disc	Class 81,82 etc

48** Diesel locomotive driving wheels - Classes 03, 08/09 &14	Price AA
48** Diesel and electric locomotive bogie wheels	Price S

Brass Shim Washers
An aft-requested component - a range of useful precision turned brass shim spacing washers. They are available in packs of 30, each pack containing 30 washers of three different thicknesses - 1mm, 0.5mm and 0.25mm.

4M67/1	30 x brass shim washers with 1/16" bore	Price O
4M67/2	30 x brass shim washers with 2mm bore	Price O
4M67/3	30 x brass shim washers with 1/8" bore	Price O
4M68	1/8" to 2mm bore reducing bearing/sleeve	Price E

Backheads
For some time now we have offered a range of whitemetal backheads which are taken from our range of kits. Being on an 'ad hoc' basis this can lead to the backheads going out of stock, therefore we have decided to formalise these products by adding them to the range and giving them part numbers.

Code	Item	
4M901	Type 1 GWR Backhead	Price F
4M902	Type 2 GWR Backhead	Price F
4M903	GWR Tank Backhead (Belpaire)	Price F
4M904	Midland / LMS Backhead	Price F
4M905	GWR Tank Backhead (Round Top)	Price F
4M906	GWR 850 Backhead	Price F
4M907	LMS Stanier Backhead	Price F
4M908	LMS 7F Backhead	Price F
4M909	BR Class 5 Backhead	Price F

Back to Back Gauges
Precision surface ground 'L' shape steel gauges - the essential prerequisites for the reliable operation of rolling stock over scale track work. They are available for the three popular 4mm gauges and for finescale 7mm

Code	Item		
4M66	Back to back gauge. 00 finescale	(14.8mm)	Price Z
4M66U	Back to Back gauge. 00 Universal	(14.5.Smm)	Price Z
4M66E	Back to back gauge. EM gauge	(16.5mm)	Price Z
4M66S	Back to Back gauge, Scalefour	(1 7.7mm)	Price Z
7M66	Back to back gauge, 0 gauge finescale	(29.2mm)	Price Z

Locomotive Fittings
An extensive and diverse range of quality pre-grouping, post grouping and post nationalisation locomotive fittings, mostly lost wax brass castings except for those items marked with two asterisks (**) after the code number which are cast in white metal.

GENERAL FITTINGS						
4M718	Boiler band cleats (x2)	P		4M923	Salter Type Valves and Stems (NEW)	P
4M633	Boiler washout plugs - turned brass (x25)	Y		4M707	Tender Water Scoop	G
4M826	Gravity lubricators (x6)	Y		4M798**	Underframe driving wheel springs (x6	AC
4M814	Mud Hole Covers (Actually Doors & Bridges) (x4)	P		4M600	Vacuum pipes upright (x4)	P
4M827	Oval buffer heads only (x4)	P		4M922	Vacuum pipes upright VARIOUS STYLES (NEW)	W
4M757**	Push/pull gear	E		4M787	Vacuum pipes (x4) hang down type	P
4M740	Quadrant reverser	P		4M604	Wakefield lubricators (x2)	P
4M924	Rail Fishplates (New)	P		4M602	Westinghouse pump	P
4M605	Ross Pop safety valves on round base -Belpaire	P		4M702	Westinghouse Pipes (x4) (NEW)	P
4M637	Smokebox door darts - turned brass (x2)	P		4M820	Vertical injectors (x2)	AC
4M601	Steam heating pipes (x4)			4M815	1 x 12" length each of three dia of copper wire for	K
BRITISH RAILWAYS						
4M806	Cab floor ashpan damper controls	K		4M811A	Injector steam valves, tank locomotives (x2)	K
4M802	Carriage warming valve	K		4M801	Injector water valve	K
4M800	Clack Valves (x2)	K		4M810	Live steam injector (BR/GWR pattern)	K
4M694	Class 03 diesel horn	P		4M814	Mudhole covers (x4)	P
4M693	Class 03 diesel exhaust - early pattern	P		4M805	Piston Valve guides (x2)	AC
4M842	Class 20 diesel drain cocks (x2)	Y		4M670	Rebuilt Bulleid MN/WC/BB chimney	P
4M825	Class 3 chimney	P		4M809	Regulator packing	K
4M812	Class 5 chimney	P		4M816	Single slidebar and crossheads (x2)	AN
4M808	Class 5 whistle	K		4M813	Speedometer connector	K
4M821	Class 9F Giesel chimney	P		4M807	Steam manifold	K
4M671	Class 4 2-6-4T chimney	P		4M817**	Tender axleboxes (x6)	AC
4M804	Exhaust steam injector	K		4M818**	Tender water sieve boxes (x2)	P
4M811	Injector steam valves, tender locomotives(x2)	K		4M799	Vacuum ejector	P
4M810	Live steam injector (BR/GWR pattern)	K		4M803	Vacuum ejector steam valve	K
G.W.R. AND CONSTITUENT COMPANIES						
4M732	GWR '517' Belpaire firebox safety valve	P		4M724	GWR 14XX trailing axleboxes (x2)	K
4M731	GWR '517' dome	P		4M683	GWR '2251' chimney	P
4M762	GWR '633' clack valves	P		4M686	GWR 28xx chimney	P
4M729	GWR '633' dome	P		4M686	GWR 43xx chimney	P
4M730	GWR '633/517' chimney	P		4M687	GWR 45xx chimney	P
4M737	GWR '850' saddle tank dome	P		4M688	GWR 47xx chimney	P
4M738	GWR '850' saddle tank safety valve	P		4M683	GWR 51xx chimney	P
4M733	GWR '850/633/517' brake handle only	K		4M683	GWR 56xx chimney	P
4M734	GWR 'Buffalo' brake standard	P		4M684	GWR chimney for No.36, Dean Single etc	P
4M736	GWR 'Buffalo' pannier chimney	P		4M713	GWR safety valve/top feed - short type	P
4M719	GWR 'Buffalo' pannier tank safety valve	P		4M712	GWR safety valve/top feed - tall type	P
4M721	GWR 'Buffalo' saddle tank dome	P		4M714	GWR coned boiler safety valve only	P
4M720	GWR 'Buffalo' saddle tank safety valve	P		4M716	GWR early clack valves - large (x2)	P
4M735	GWR 'Buffalo/850' chimney - tall	P		4M767	GWR vacuum ejector (complete)	AC
4M739	GWR 'Buffalo/850' saddle tank filler	P		4M761	GWR large dome No.36 and Dean Single	P
4M682	GWR 'Castle' chimney - short	P		4M689	GWR lubricators (x2)	P
4M681	GWR 'Castle' chimney - tall	P		4M759	GWR round top firebox safety valve for No.36	P
4M711	GWR 'County' double chimney - early type	P		4M764	GWR steam lance valve (x2)	W
4M768	GWR 'County' double chimney. final type	P		4M717	GWR tank locomotive injectors (x2)	P
4M750	GWR 'County' single chimney	P		4M626	GWR Pannier tank water fillers	P
4M685	GWR 'Hall' chimney	P		~~4M709**~~	~~GWR tender axleboxes (x6)~~	~~AC~~
4M685	GWR 'Saint' chimney	P		4M715	GWR whistles - one short & one long	P
4M685	GWR 'Star' chimney	P				
L.M.S. AND CONSTITUENT COMPANIES						
4M819	Exhaust steam injector	P				
4M838	HR Jones chimney - short	P		4M741	LNWR 'Dock Tank' safety valve	P
4M839	HR Jones chimney - tall	P		4M769	LNWR 'DX/Cornwall', etc chimney - tall	P
4M840	HR Jones dome - tall	P		4M763	LNWR 'Precursor' dome	P
4M841	HR Jones safety valves and whistle	P		4M758	LNWR 'Precursor/George V' chimney	P
4M746	HR 'Yankee Tank' clack valves (x2)	P		4M726	LNWR 'Coal Tank'. etc chimney- short	P
4M743	HR 'Yankee Tank' Drummond chimney	P		4M725	LNWR dome	P
4M744	HR 'Yankee Tank' Dubs chimney	P		4M832	LNWR Ross pop valves on round cop base	P
4M745	HR 'Yankee Tank' Smokebox valves (x2)	P		4M727	LNWR Safety valve	P

L.M.S. AND CONSTITUENT COMPANIES						
4M728	MR Ramsbottom safety valve open type	P		4M834	LNWR Smokebox lubricators (2)	P
4M833	LMS 2-6-4T safety valves	P		4M836	LNWR Smokebox valves (2)	P
4M748	LMS 'Austin Seven' chimney	P		4M723	LNWR tender axleboxes (6)	AC
4M749	LMS 'Austin Seven' dome	P		4M837	LNWR Whistles (2)	P
4M770	LMS Class 3P 2-6-2T chimney	P		4M921	LNWR Lamp Brackets	P
4M765	LMS Class 5 chimney	P		4M747	MR 'H . type' boiler safety valve	P
4M829	LMS 'Crab' chimney	P		4M612	MR 2'1¼" dome	P
4M828	LMS 'Crab' dome	P		4M609	MR Deeley 2'2½" chimney	P
4M830	LMS 'Crab' safety valve	P		4M611	MR Deeley 2'3¾" dome	P
4M791	LMS crosshead - twin bar for Mogul/Patriot	AC		4M691	LTSR/MR rebuilt Tilbury tank chimney	P
4M797	LMS double chimney for rebuilt Scot/Patriot/Jubilee	P		4M692	LTSR/MR rebuilt Tilbury tank safety valve	P
4M792	LMS electromagnetic signal solenoid	K		4M610	MR Deeley 2'5½" chimney	P
4M613	LMS Fowler 1'9½" dome	P		4M615	MR Deeley 3' chimney	P
4M634	LMS Fowler tender brake standards (x2)	W		4M643	MR Deeley dome for 4'7½" boilers	P
4M672	LMS 'Jinty' chimney	P		4M608	MR Fowler 1'11 7/16" chimney	P
4M667	LMS 'Jinty' Smokebox front	W		4M607	MR Fowler 1'6 13/16" chimney	P
4M772	LMS 'Jubilee' chimney. Tall	P		4M614	MR Johnson 3'4" chimney	P
4M831	LMS original 'Patriot and Royal Scott' cylinder drain	AC		4M617	MR Johnson 1'9" safety valve cover	P
4M823	LMS original 'Royal Scot' chimney	P		4M616	MR Johnson Salter safety valves & dome	AC
4M824	LMS original 'Royal Scot' vacuum ejector	P		4M620	MR Johnson/LMS Deeley tender axleboxes (6)	AC
4M766	LMS parallel boiler 'Patriot' chimney	P		4M680	MR Kirtley chimney	P
4M760	LMS parallel boiler 'Patriot' dome	P		4M638	MR Ramsbottom safety valve	P
4M793	LMS single slidebar and crosshead (x2)	AN		4M603	MR steam vacuum ejector	P
4M788	LMS Stanier cylinder drain cocks	P		4M606	MR whistle	K
4M789	LMS Stanier piston Valve guide (x2)	AC		4M669	MR/LMS cab ventilator	K
4M790	LMS Stanier vacuum ejector	P		4M640	Deeley/Fowler 5'3" boiler Smokebox door	P
4M641	LMS Stanier 2' chimney	P		4M639	MR/LMS 2P Smokebox front	P
4M771	LMS Stanier 2-6-2T chimney - large	P		4M642	MR/LMS tender tank vents (2)	P
4M673	LMS vacuum ejector	P		4M636	MR 4'7" boiler Deeley Smokebox front	P
4M835	LNWR cylinder lubricators (2)	P		4M635	MR 4'7" boiler Johnson Smokebox front	P
4M742	LNWR 'Dock Tank' chimney	P		4M843	MR Deeley 4'7" boiler Smokebox door	P
				4M844	MR mushroom Smokebox lubricator (2)	P
LN.E.R. AND CONSTITUENT COMPANIES						
4M778	GCR 'Pom-Pom' 4 column safety valve	P		4M848	GER E22 Stovepipe Chimney	P
4M779	GCR 'Pom-Pom' open Salter safety valve	P		4M849	GER S69 Chimney	P
4M782	GCR 'Pom-Pom' Robinson dome	P		4M850	GER S69 Dome	P
4M781	GCR 'Pom-Pom' Robinson chimney	P		4M666	GER/LNER 'F' Tanks Smokebox front	P
4M776	GCR 'Pom-Pom' Ross pop safety valves(2)	P		4M668	GER/LNER Class F7 chimney	P
4M775	GCR 'Pom-Pom' snifting valve	K		4M752	GNR Class D2/D3 built up chimney	P
4M777	GCR tender water pick-up wheel	P		4M751	GNR Class D2/D3 cast iron chimney	P
4M780	GCR tender hand brake column	P		4M756	GNR Class D2/D3 dome - short	P
4M794	GCR tender axleboxes (6)	AC		4M755	GNR Class D2/D3 dome - Tall	P
4M920**	GCR tender water filler etc	P		4M754	GNR Ramsbottom safety valve	P
4M655	GER 4'7" boiler backhead	P		4M753	GNR Stirling safety valve	P
4M628	GER tender brake standard	P		4M774	LNER Class E4 chimney - short lipped	P
4M625	GER clack valves (2)	P		4M784	LNER Class J11 dome	P
4M773	GER Class T26 chimney - short stovepipe	P		4M786	LNER Class J11 dome, squat pattern	P
4M630	GER Class Y14 chimney - early pattern	P		4M783	LNER Class J11 'Flowerpot' chimney	P
4M654	GER Y14 etc dome	P		4M785	LNER Class J11 'Flowerpot' chimney - short	P
4M652	GER footplate top spring & hanger (2)	P		4M631	LNER Class J15 chimney	P
4M653	GER piano front	K		4M632	LNER Class J15 Smokebox front	P
4M629	GER Ramsbottom safety valve	P		~~4M708**~~	~~LNER tender axleboxes (6)~~	AC
4M644	GER Ramsbottom 4 column safety valve	P		4M845	LNER Class J39 dome	P
4M646	GER Ross pop safety valves - one piece casting	P		4M846	LNER Class J39 chimney	P
4M624	GER Ross pop safety valves - two casting	P		4M847	LNER Class J39 Ross pop safety valves	P
4M645	GER tank locomotive tank vents (2)	P		4M848	LNER J69 Stovepipe Chimney	P
4M626	GER tank locomotive water tank fillers(2)	P		4M849	LNER B12 Chimney	P
4M627	GER tender axleboxes (6)	AC		4M850	LNER B12 Dome	P
4M623	GER tender water tank filler	K		4M851	LNER B1 Chimney	P
4M622	GER tender toolbox	P		4M852	LNER B1 Dome	P
SR. AND CONSTITUENT COMPANIES						
4M698	LSWR Adams dome	P		4M696	LSWR Drummond Smokebox front	P
4M676	LSWR Adams short stovepipe chimney	P		4M700	LSWR tank loco water fillers	W
4M699	LSWR Adams 02/G6 Smokebox front	P		4M674	LSWR/SR Class T9 chimney - early type	P
4M677	LSWR Adams tall stovepipe chimney. one piece	P		4M728	LSWR open Ramsbottom safety valve	P
4M678	LSWR Adams tall stovepipe chimney - two piece	P		4M675	SR 'Lord Nelson' chimney (original type)	P
4M695	LSWR Drummond Chimney	P		4M670	SR/BR rebuilt Bullied MN/BB/WC chimney	P
4M697	LSWR Drummond dome	P		4M822	Replacement cranks for Bachmann 'N' class	P

This chart is to assist modellers in selecting the fittings needed for a specific locomotive class.
The number indicates the number of packs of that fitting required for that particular class.

	Class 9	Class 8	Class 7	Class 6	Class 5	Class 4	Class 4	Class 3	Class 2	Class 4	Class 3	Class 2
	2-10-0	'Duke'	'Britannia'	'Clan'	4-6-0	4-6-0	2-6-0	2-6-0	2-6-0	2-6-4T	2-6-2T	2-6-2T
	92xxx	71000	70xxx	72xxx	73xxx	75xxx	76xxx	77xxx	78xxx	80xxx	82xxx	84xxx
4M799 Vacuum ejector	1	1	1	1	1	1	1	1	1	1	1	1
4M800 Clack valves	1	1	1	1	1	1	1	1	1	1	1	1
4M801 Injector water valve	2	2	2	2	2	2	2	2	2	2	2	2
4M802 Carriage warming valve	0	1	1	1	1	1	1	1	1	1	1	1
4M803 Vacuum ejector steam valve	1	1	1	1	1	1	1	1	1	0	0	0
4M804 Exhaust steam injector	0	1	1	1	1	0	0	0	0	0	0	0
4M807 Steam manifold	1	1	1	1	1	1	1	1	1	1	1	1
4M810 Live steam injector	2	1	1	1	1	2	2	2	2	2	2	2
4M811 Injector steam valves (x2)	1	1	1	1	1	1	1	1	1	0	0	0
4M811A Injector steam valves (x2)	0	0	0	0	0	0	0	0	0	1	1	1
4M813 Speedometer connection	0	1	1	1	1	1	1	1	1	1	1	1

SPRUNG LOCOMOTIVE BUFFERS

Our own range of scale sprung locomotive buffers. All types are self-contained and have a very light compression rate - the weight of a plastic wagon being sufficient to make the heads close up. It is possible, with these items, to re-create the sight of a locomotive buffering up to your stock. The heads are turned from steel for realism and the bodies are machined in brass for strength. The examples listed below are not intended to be the full range, more are planned - let us know if you have any specific requirements. They are supplied in packs containing parts for four buffers.

Code	Item		
4900	Spare Loco Buffer Springs (Copper Colour),10	Price D	For 'Silver Spring' See 4972
4901	Midland and Great Central type	Price U	
4902	Lancashire & Yorkshire type	Price U	
4903	LMS and BR type with 16" head	Price U	
4904	GN/LBSCR/NE/GE round base, parallel	Price U	
4905	London & North Western, Webb	Price U	
4906	GWR. Collett square base parallel	Price U	
4907	GWR. Collett square base tapered	Price U	
4908	Early Great Western, Dean	Price U	
4909	LNER/SR stepped parallel, 16" head	Price U	
4910	LSWR/HR/CR/GSWR Drummond standard	Price U	
4911	North Eastern, tapered. 13" head	Price U	
4912	LNWR, Whale, 13" head	Price U	
4913	LNWR. Cooke, 13" head	Price U	
4914	Industrial - 24" head	Price U	
4915	Industrial - 16" head	Price U	
4M827	Oval head overlays - cast brass (4)	Price U	

SCALE HANDRAIL KNOBS

Before the introduction of these items handrail knobs were one of those scale components which proved elusive to obtain. Our answer to the problem was to introduce what is probably the most accurate and readily-obtainable 4mm. scale handrail knobs on the market today. They are turned in brass to close tolerances and are drilled to take the 0.45mm brass wire. Comparison with other so-called 'scale' products reveals just how over scale the others are! To fit them to your locomotives you will need to make holes with a 0.9mm. (No.65) drill. These handrail knobs are available in three lengths - short, medium and long - for different applications. The short type is for use in locations such as Smokebox fronts and cab and tender sides; the medium type is for use on the sides of parallel boilers; and the long type is for use on the sides of tapered boilers - mainly GWR.

Code	Item	
4M53	25 x Handrail Knobs (short)	Price AB
4M54	25 x Handrail Knobs (medium)	Price AB
4M55	25 x Handrail knobs (long)	Price AB
4M56	25 x Handrail Knobs (shoulderless)	Price AB

BRASS LOCOMOTIVE BOILER BANDS

Here's another of those essential *'How* ever *did manage without them?'* items, useful to have in hand in the stores. A sheet of etched brass locomotive boiler bands containing IS bands .006" thick, 75mm long and 1mm wide.

Code	Item	
4M170	Locomotive Boiler Bands (15)	Price S

STRAIGHT BRASS WIRE
Own up those modellers who have opened their latest loco kit and gazed with some trepidation at the coil of wire lurking at the bottom of the box. This is supplied to make straight (?) handrails, but here is a far better solution - wire that is already straight. A large number of people who have already used
this wire say they are finding so many uses for it that they wonder how they have managed without it in the past. It is available in four diameters and the following notes are a guide as to their application.
* 0.3mm. For use as handrails on Brake vans, coaches. etc.
* 0.45mm. The correct size for handrails on 4mm. scale locomotives and our 4mm. scale handrail knobs are drilled to take this wire.
* 0.7mm. The correct size for handrails on 7mm scale locomotives and our 7mm scale handrail knobs are drilled to take this wire.
* 0.9mm. Suitable size for most pipe work on 4mm scale locomotives.

Code	Item	
4M136	10 x 10" lengths of 0.45mm. brass wire	Price K
4M137	10 x 10" lengths of 0.90mm. brass wire	Price K
4M138	10 x 10" lengths of 0.33mm. brass wire	Price K
4M139	10 x 10" lengths of 0.70mm. brass wire	Price K

ETCHED BRASS FRAME SPACERS
A much requested item - etched brass frame spacers for each of the popular 4mm gauges. Each pack
contains 20 etched frame spacers, some for using flat and others with a half etch fold line for fold up shapes 'L' and 'U'

Code	Item	
LM1-00	Pack of 20 etched brass frame spacers for 00 gauge	Price Z
LM1-EM	Pack of 20 etched brass frame spacers for EM gauge	Price Z
LM1-S4	Pack of 20 etched brass frame spacers for S4 gauge	Price Z

SCREW COUPLINGS
A small range of exquisite lost-wax cast brass screw couplings. Although non-working in the 'screw' function they are, nevertheless, working couplings and will enhance the appearance of any model.

Code	Item	
4M706	Standard two shackle screw coupling	Price P
4M706A	Three shackle screw coupling as used by the Southern Railway and also on BR Standard '9F'	Price P
4M706B	Heavy duty coupling as used on diesels *£3.66*	Price P
4M706C	Coupling hooks only (10)	Price P

GEAR SETS AND GEARBOXES
We have now used up our supply of gear parts, Based on the variety of gearboxes elsewhere in the market we have decided not to re manufacture these parts and so we have withdrawn this part of the range.

BRASS AXLE BEARINGS
These precision machined brass bearings are manufactured to close tolerances and are primarily intended to be used in conjunction with the axles used in our own range of 4mm. scale wheels.
They can, however, be used in complete confidence with any contemporary products.

Code	Item	
4M63	40 x pin point axle bearings	Price I
4M63F	40 x flangeless pin point bearings	Price I
4M63W	40 x waisted pin point axle bearings	Price I
4M64	10 x mainframe bearing bushes for 1/8" axle	Price E
4M65	10 x mainframe bearing bushes for 2mm axles	Price E
4M65S	10 x mainframe bearing bushes for 2mm axles (small dia)...	Price E
4M57	10 x mainframes bearing bushes for 1.5mm. axles	Price E
4M68	10 x *1/8"* to 2mm. bore reducing bearing/sleeve	Price E

PROFILE MILLED MAINFRAMES

In any locomotive, be it full size or a scale model, the mainframes play a decisive part in just how well that engine will perform. Accuracy is paramount in their manufacture and in model form, by utilising a process known as profile milling, we have been able to build up a wide selection of frames and also produce them to the precision required. The frames are profiled for use with our own range of sprung hornblocks (although most contemporary hornblock systems can be used) and the grade of brass used for these frames is very rigid and is far more suitable for the purpose than an etching grade of brass or nickel silver. They are supplied in 0.6mm brass which is just as strong as 1mm etching grade brass and we endeavour to keep a large selection of frames in stock. However, as most will be produced to order please allow an extra couple of days for delivery. A varied selection of tender frames to a similar design and specification is also available (see next page).

A letter in brackets at the end of some mainframes indicates that it has been designed to fit a specific commercially produced r-t-r locomotive or kit. The key below indicates the manufacturer.

A - Airfix	B-Anchoridge	C - BEC	D - Blacksmiths	E-Craftsman	F-DJH/Model Loco
G - Falcon Brass	H - Hornby	I - Hornby Dublo	J-K's	K - Lima	L - Magna
M - Mainline	N - Millholme	O-M&L	P - NB Models	Q. Nu-Cast	R-Ratio
S- Ray Rippon	T - Weald	U - Westward	V - Wills	W-Dapol	X - Jidenco
Y - PeterKay .	Z - Langley				

Code	Class
LM1-171	BR Class 4 2-6-4T
LM1-89	BR Class 7 'Britannia' 4-6-2
LM1-170	Cambrian Aston 0-4-4T
LM1-189	Cambrian '73' 0-6-0
LM1-177	CR 0-4-0ST
LM1-165	CR Class 439 0-4-4T
LM1-173	CR 'Dunalistair' 4-4-0
LM1-175	CR McIntosh '30' 0-6-0
LM1-237	FR E1 2-4-0
LM1-240	FR K3 4-4-0
LM1-243	FR M1 4-4-2T
LM1- 5l	GCR 8 4-6-0
LM1-168	GCR 9K 2-4-4T (Q)
LM1-158	GCR 11F 4-4-0 (L)
LM1-70	GER G69 2-4-2T
LM1-137	GER S56 0-6-0T (V)
LM1-44	GER Y65 2-4-2T
LM1-167	GNR H3 2-6-0
LM1-17	GNR J22 0-6-0
LM1- 28	GNR O2 2-8-0
LM1-234	GWR early '517' 0-4-2T
LM1-73	GWR '850' 0-6-0T
LM1-244	GWR '1500' 0-6-0T
LM1-179	GWR '3600' 2-4-2T
LM1-153	GWR 29XX 4-6-0 (U)
LM1-204	GWR 54XX 0-6-0T
LM1-151	GWR Armstrong 0-6-0 (Q)
LM1- 46	GWR Castle 4-6-0 (A)
LM1-142	GWR Dean Goods 0-6-0
LM1-181	GWR King 4-6-0
LM1- 1	GWR Pannier 0-6-0T (M)
LM1-255	HR Jones Goods 4-6-0 (F)
LM1-103	L&YR 2-4-2T (Long bunker)
LM1-197	L&YR Aspinall 0-6-0T (X)
LM1-209	LBSCR 'Gladstone' 0-4-2
LM1-92	LBSCR D1 0-4-2T
LM1-57	LBSCR E4 0-6-2T (T)
LM1-211	LBSCR H2 Atlantic 4-4-2
LM1-145	LBSCR K 2-6-0 Incorrect Wheelbase
LM1-233	LCDR 'T' 0-6-0T
LM1--72	LMS 2F 0-6-0 (5' 3")
LM1-246	LMS Garratt 2-6-0+0-6-2 (two/loco)
LM1-13	LMS 2P 4-4-0
LM1-35	LMS Crab 2-6-0 (K)
LM1-163	LMS Fowler 2-6-2T (J)
LM1 - 251	LMS Loch 4-4-0
LM1 - 159	LMS Stanier 0-4-4T
LM1 - 161	LMS Stanier 2-8-0
LM1 - 131	LNER/BR A2 4-6-2
LM1 - 107	LNER A5 4-6-2T (E)
LM1 - 51	LNER B5 4-6-0
LM1 - 168	LNER C13 4-4-2T (Q)
LM1 - 50	LNER D7 4-4-0
LM1 - 87	LNER D23 4-4-0
LM1 - 248	LNER D30/D34 4-4-0
LM1 - 70	LNER F4/5/6 2-4-2T
LM1 - 192	LNER G5 0-4-4T
LM1 - 48	LNER J10 0-6-0
LM1 - 74	LNER J21 0-6-0
LM1 - 178	LNER J37 0-6-0
LM1 - 130	LNER J52 0-6-0T

Code	Class
LM1-101	BR Class 4 4-6-0
LM1-100	BR Class 9F 2-10-0
LM1-191	Cambrian Small Sharp 4-4-0
LM1-95	Cambrian '1196/7' 2-4-0T
LM1-227	CR Class 60 4-6-0
LM1-105	CR Class 782 0-6-0T
LM1-157	CR Drummond '262' 0-4-2ST
LM1-155	CR McIntosh '104' 0-4-4T
LM1-238	FR G5 0-6-0T
LM1-241	FR K4 4-4-0
LM1-194	G&SWR Class 6 4-4-0
LM1- 54	GCR 9C 0-6-2T
LM1-107	GCR 9N A5 4-6-2T (E)
LM1-34	GER E22 0-6-0T
LM1-212	GER L77 0-6-2T (V)
LM1-71	GER T26 2-4-0
LM1-43	GNR C12 4-4-2
LM1-49	GNR J4 0-6-0
LM1- 77	GNR J23 0-6-0
LM1- 45	GWR 2-6-0 (M)
LM1-214	GWR '517' 0-4-2T
LM1-95	GWR '1196/97' 2-4-0T
LM1-205	GWR '2021' 0-6-0ST
LM1-36	GWR I4XX 0-4-2T
LM1-147	GWR 45XX 2-6-2T (J)
LM1-180	GWR 56XX 0-6-2T
LM1-120	GWR Buffalo 0-6-0T (O)
LM1- 5	GWR Collett 0-6-0 (M)
LM1-245	GWR Duke 4-4-0
LM1-112	GWR King 4-6-0 (K)
LM1-67	GWR Steam Railmotor
LM1-251	HR Loch 4-4-0
LM1-136	L&YR 4-6-4T (N)
LM1-196	L&YR Dreadnought 4-6-0 (N)
LM1-60	LBSCR C2 and C2X (Q)
LM1-93	LBSCR E1 0-6-0T
LM1-59	LBSCR E5 and E5X 0-6-2T
LM1-123	LBSCR I1X 4-4-2T
LM1-230	LBSCR L 4-6-4T (Langley)
LM1-199	LCDR 2-4-0 'Europa'
LM1-3	LMS 3F 0-6-0
LM1-8	LMS '483 Class' 4-4-0
LM1-134	LMS Class 5 4-6-0 (F)
LM1-114	LMS Dock Tank 0-6-0T (J)
LM1 - 217	LMS Fowler 2-6-4T (H)
LM1 - 29	LMS Patriot 4-6-0
LM1 - 195	LMS Stanier 2-6-2T (Q)
LM1 - 162	LMS Stanier 2-8-0 (I)
LM1 - 138	LNER A2/1 4-6-2 (N)
LM1 - 106	LNER B1 4-6-0
LM1 - 53	LNER B17 4-6-0 (H)
LM1 - 222	LNER C16 4-4-2T (Q)
LM1 - 158	LNER D11 4-4-0 (L)
LM1 - 88	LNER D17/1, 17/2 4-4-0
LM1 - 221	LNER D49 4-4-0 (H)
LM1 - 44	LNER F7 2-4-2T
LM1 - 49	LNER J4 0-6-0
LM1 - 7	LNER J15 0-6-0
LM1 - 86	LNER J27 0-6-0
LM1 - 169	LNER J39 0-6-0 (B)
LM1 - 40	LNER J64 0-6-0T

Code	Class
LM1-102	BR Class 5 4-6-0
LM1-119	BR Class 09 Diesel (K)
LM1-190	Cambrian '61' 4-4-0
LM1-37	Cambrian 0-6-0 Sharp Stewart
LM1-174	CR Class 171 0-4-4T
LM1- 228	CR Class 944 4-6-2T
LM1-166	CR 'Jumbo' 0-6-0
LM1-203	CWJR/CR Hudswell Clarke 0-6-0ST
LM1-239	FR J1 2-4-2T
LM1-242	FR L3 0-6-2T
LM1- 50	GCR 2 4-4-0
LM1- 48	GCR 9H 0-6-0
LM1-215	GCR 9P 4-6-0 'Lord Farringdon'
LM1-32	GER F48/G58 0-6-0
LM1-70	GER M15 2-4-2T
LM1-7	GER Y14 0-6-0
LM1- 206	GNR D2 4-4-0
LM1- 130	GNR J13 0-6-0T
LM1- 16	GNR N2 0-6-2T (M)
LM1- 99	GWR 2-8-2T
LM1-150	GWR '633' 0-6-0T (O)
LM1-69	GWR '1361' 0-6-0T
LM1-187	GWR '2021' 0-6-0ST/PT
LM1- 19	GWR 28XX 2-8-0
LM1-254	GWR 47XX 2-8-0
LM1- 47	GWR 94XX 0-6-0 (K)
LM1-154	GWR Barnum 2-4-0 (D)
LM1- 250	GWR County 4-6-0
LM1-27	GWR Hall 4-6-0
LM1- 6	GWR Manor 4-6-0 (M)
LM1-111	HR Class 39 (Banker)
LM1- 66	L&YR 0-4-0T Railmotor
LM1- 84	L&YR Class 27/28 0-6-0
LM1-97	L&YR Pug 0-4-0ST
LM1-58	LBSCR C3 0-6-0
LM1-62	LBSCR E2 0-6-0T
LM1-210	LBSCR H1 Atlantic 4-4-2
LM1-61	LBSCR I3 4-4-2 (V)
LM1-118	LBSCR Terrier 0-6-0T
LM1-22	LMS 2F 0-6-0 (4' 10")
LM1-4	LMS 4F 0-6-0
LM1-2	LMS 3F 'Jinty' 0-6-0T
LM1-25	LMS Compound 4-4-0
LM1-135	LMS Duchess 4-6-2 (F)
LM1 - 33	LMS Jubilee 4-6-0 (M)
LM1 - 198	LMS Stanier 0-4-0ST (X)
LM1 - 218	LMS Stanier 2-6-4T (Q)
LM1 - 124	LMS/NCC 'U2' 4-4-0
LM1 - 132	LNER A3 4-6-2 (V)
LM1 - 215	LNER B3 4-6-0 'Lord Farringdon'
LM1 - 43	LNER C12 4-4-2T
LM1 - 206	LNER D2 4-4-0
LM1 - 125	LNER D20 4-4-0
LM1 - 91	LNER D23 4-4-0
LM1 - 71	LNER E4 2-4-0
LM1 - 39	LNER F8 2-4-2T
LM1 - 17	LNER J6 0-6-0
LM1 - 32	LNER J16/J17 0-6-0
LM1 - 249	LNER J36 0-6-0
LM1 - 77	LNER J50 0-6-0
LM1 - 34	LNER J65 0-6-0T

LM1 - 137	LNER J69 0-6-0 (V)	LM1 - 90	LNER J71 0-6-0T	LM1 - 42	LNER J72 0-6-0T
LM1 - 167	LNER K2 2-6-0 (Q)	LM1 - 16	LNER N2 0-6-2T (M)	LM1 - 63	LNER N2/4 0-6-2T (I)
LM1 - 54	LNER N5 0-6-2T	LM1 - 212	LNER N7 0-6-2T (V)	LM1 - 38	LNER N8 0-6-2T
LM1 - 236	LNER N15 0-6-2T	LM1 - 172	LNER O1 2-8-0	LM1 - 28	LNER O2 2-8-0
LM1 - 235	LNER O2/1 2-8-0	LM1 - 231	LNER P2 2-8-2	LM1 - 252	LNER P2 2-8-2 (No trailing truck)
LM1 - 85	LNER Q5 0-8-0	LM1 - 75	LNER Q6 0-8-0	LM1 - 156	LNER VI/V3 2-6-2T (Q)
LM1 - 229	LNER V2 2-6-2	LM1 - 64	LNWR 0-8-2T	LM1-94	LNWR 2-4-2T (5' 6")
LM1-11	LNWR 5' Watford Tank	LM1-225	LNWR Cauliflower 0-6-0	LM1-96	LNWR Chopper
LM1-104	LNWR Claughton 4-6-0	LM1-12	LNWR Coal Tank	LM1-247	LNWR G2 0-8-0
LM1-200	LSWR '0395' 0-6-0	LM1-127	LSWR '415' 4-4-2T (Rad)	LM1 - 83	LSWR '700' 0-6-0 (C)
LM1-80	LSWR Beattie 2-4-0WT	LM1-78	LSWR Ilfracombe 0-6-0	LM1 - 256	LSWR A12 0-4-2
LM1 - 201	LSWR B4 0-4-0T	LM1 - 79	LSWR G6 0-6-0	LM1 - 113	LSWR M7 0-4-4T
LM1-117	LSWR O2 0-4-4T (V)	LM1-193	LSWR T3 4-4-0	LM1 - 82	LSWR T9 4-4-0
LM1-116	LTSR 0-6-2T (S)	LM1-52	M/Wardle 0-6-0ST 2047/26	LM1-202	Maryport & Carlisle Rly No.18 0-4-2T
LM1-223	Metropolitan Railway A Class 4-4-0T	LM1-149	MR '156' 2-4-0 (G)	LM1-152	MR '157' 6'6" 2-4-0 (R)
LM1-122	MR '378' Class 2 4-4-0	LM1-21	MR '700' 4-4-0 (Belpaire)	LM1-20	MR '990' 4-4-0
LM1-213	MR '1400' 2-4-0	LM1-224	MR '1500-17' 0-4-0ST (J)	LM1-148	MR 'Flatiron' 0-6-4T (V)
LM1-56	MR 0-4-4T (5'3")	LM1-65	MR 1F 0-6-0T	LM1-23	MR Class U 0-6-0T
LM1-24	MR Compound 4-4-0	LM1-26	MR Johnson 0-4-4T	LM1-115	MR Kirtley 0-4-4WT
LM1-186	MR Kirtley 0-6-0 (straight frames)	LM1-22	MR/LMS 2F 0-6-0 (4'10")	LM1-72	MR/LMS 2F 0-6-0 (5'3")
LM1-3	MR/LMS 3F 0-6-0	LM1-4	MR/LMS 4F 0-6-0	LM1-8	MR/LMS Class 483 4-4-0
LM 1-40	MSLR/LNER J64 0-6-0T	LM1-236	NBR Class A 0-6-2T	LM1-248	NBR Class J/K 4-4-0
LM1-249	NBR Class L 0-6-0	LM1-222	NBR Class M 4-4-2T (Q)	LM1-178	NBR Class S 0-6-0
LM1-176	NER Class '1001'	LM1-38	NER Class B 0-6-2T	LM1-74	NER Class C 0-6-0
LM1-90	NER Class E 0-6-0T	LM1-42	NER Class E1 0-6-0T	LM1-87	NER Class F 4-4-0
LM1-88	NER Class M1, Q 4-4-0	LM1-91	NER Class G 4-4-0	LM1-192	NER Class O 0-4-4T
LM1-86	NER Class P3 0-6-0	LM1-125	NER Class R 4-4-0	LM1-39	NER Class A 2-4-2T
LM1-85	NER Class T1 0-8-0	LM1-75	NER Class T2 0-8-0	LM1-68	NLR 0-6-0T
LM1-208	NLR 4-4-0T 'Farringdon'	LM1-216	NLR rebuilt S1 4-4-0T (Y)	LM1-160	NSR Class B 2-4-0T
LM1-219	NSR Class G 4-4-0	LM1-108	NSR Class DX 0-6-2T	LM1-109	NSR Class KT 4-4-0
LM1-269	NSR Class L 0-6-2T	LM1-264	NSR Class M 0-4-4T		
LM1-5	OVR Sharp Stewart 0-6-0T	LM1-128	RR 'R' 0-6-2T (Q)	LM1-15	SDJR 2-8-0
LM1-98	SDJR 4-4-0 (5' 9")	LM1-184	SDJR 'Woodlands' 2-4-0	LM1-139	SECR Class C 0-6-0
LM1-141	SECR Class H 0-4-4T	LM1-110	SECR Class P 0-6-0T	LM1-182	SECR Class D/D1 0-6-0 (F)
LM1-232	SECR Class R/R1 0-6-0T	LM1-81	SNCF 141R 2-8-2	LM1-133	SR King Arthur 4-6-0
LM1-253	SR Lord Nelson 4-6-0 (E)	LM1-126	SR Q Class 0-6-0	LM1-207	SR Q Class 0-6-0 (C)
LM1-144	SR Remembrance 4-6-0	LM1-146	SR Schools 4-4-0 (H)	LM1-185	SR W Class 2-6-4T
LM1-183	SR BB/WC 4-6-2 (W)	LM1-143	SR Q1 Class 0-6-0	LM1-140	SR N/N1 Class 2-6-0
LM1-41	SR U and U1 Class 2-6-0	LM1- 226	TVR 0-4-0T (J)	LM1-129	TVR Class A 0-6-2T (Q)
LM1-76	TVR Class U 0-6-0T	LM1-188	TVR Class O1 0-6-2T	LM1-220	TVR Class U 0-6-2T
LM1-121	WD/BR Austerity 2-8-0 (F)	LM1-164	WD/BR Austerity 2-10-0 (F)		

For a selection of tender frames and full details of our 'One-off service for milled mainframes see below

Code	Item	
LM1-***	One pair profile milled locomotive mainframes	Price AO
LM1-***	One pair profile milled locomotive mainframes Express 3 day Dispatch	Price AZ

Tender Frames

TM2-18	BR I - Britannia (F)	TM2-19	LNER 8 Wheel 5000 gallon
TM2-29	G & SWR	TM2-28	LSWR
TM2-33	GER Claud (6'6" x 6'6")(D)	TM2-8	MR Deeley (7'0" x 6'9")
TM2-22	GE Standard	TM2-26	MR Kirtley 2,000 gallon
TM2-6	GE 2,640 gallon (6'6" x 5'6")	TM2-1	MR Standard (6'6" x 6'6")
TM2-10	GN 3000 gal (6'10" x 6'1")	TM2-24	NB
TM2-2	GWR (M)	TM2-16	NE Inside frame 6'4" x 6'4"
TM2-3	GWR (for scratchbuild)	TM2-14	NE Outside frame
TM2-20	L&YR (5'3" x 5'3")	TM2-23	NE (5' x 5')
TM2-21	L&YR (6'3" x 6'3")	TM2-25	SR.BB/WC (Bulleid) (W)
TM2-31	LBSCR (7'2" x 7'1")	TM2-27	SR (6'6" x 6'6")
TM2-32	LBSCR (6'6" x 6'6")	TM2-30	SR 3,500 gallon (V)
TM2-34	LBSCR (7' x 7') Stroudley	TM2-13	SR 4,000 gallon
TM2-4	LMS (7'6" x 7'6")	TM2-15	SR '700' (C)
TM2-5	LMS Stanier (M)	TM2. 17	WD/BR 8 Wheel (F)
TM2-12	LNER Std (7'3" x 73")		

Code	Item	
TM2-**	One pair profile milled Tender mainframes	Price AO
TM2-**	One pair profile milled Tender mainframes Express 3 day Dispatch	Price AZ

LOCOMOTIVE AND TENDER BRAKE GEAR

Sets of injection moulded plastic brake gear that comprises of hangers and blocks. They are supplied complete with pieces of straight 0.9mm diameter brass wire with which to form the pivots in the frames together with 0.45mm diameter brass wire for the pull rods. The advantages of plastic brake gear are that it is the correct thickness and that the brake blocks can be fitted right up against the tread of the wheel without any fears of electrical 'shorts'

Code	Item	
4M100	GER loco brake gear (4'6" - 5'6" wheels)	Price U
4M101	GER tender brake gear (wheels up to 4'3")	Price U
4M102	GWR loco brake gear (wheels up to 5'2")	Price U
4M103	GWR tender brake gear (wheels up to 4'3")	Price U
4M104	MRILMS 2F/3F/4F loco brake gear	Price U
4M105	MRILMS Tender brake gear	Price U
4M106	Class 03 diesel loco brake gear	Price U

LOCOMOTIVE AND TENDER HORNBLOCKS

An innovative design of sprung all-metal hornblocks utilising a mix of etched brass and turned components. They will enable modellers to fit a full suspension system to any locomotive or tender fitted with suitable frames. Although primarily designed for use in our locomotive kits and also in conjunction with my extensive range of profile milled mainframes these hornblocks can be used with any mainframes that have cut-outs 6mm. wide and which extend 4mm. above the axle centre line. The springs supplied with this item have a very light compression rate and the weight of an etched brass loco body is sufficient to compress a set of six hornblocks. A feature worth noting about these hornblocks is that they are fully adjustable. This means that, in an extreme case, a modeller can build a twisted and buckled chassis and still be able to adjust each hornblock individually so that ALL the wheels touch the track - a feature that other forms of compensation cannot give. They are available in packs containing enough components for six hornblocks (three axles)

Code	Item	
4M60	6 x Hornblocks for 1/8" axles	Price AN
4M61	6 x Hornblocks for 2mm. axles	Price AN

'De Luxe' LOCOMOTIVE and TENDER HORNBLOCKS

Although our locomotive and tender hornblocks (described above) have satisfied most modellers some people have asked for a more realistic looking 4mm scale hornblock and we therefore have produced a master for a 'de-lux' version. Utilising cast and machined components this hornblock features an exquisitely detailed lost wax casting for the hornblock guides together with an accurately machined adjustable sprung hornblock which is available for either 1/8" or 2mm axles. The keeper plate is profile milled from brass and secured to the main casting by two machine screws (springs and screws supplied).They are available in packs containing enough components for two hornblocks (one axle).

Code	Item	
4M60A	De Luxe hornblocks for 1/8" axle	Price AL
4M61A	De Luxe hornblocks for 2mm axle	Price AL

SPRUNG PLUNGER PICK UPS

This product provides a very efficient method of current collection and only requires a 2.5mm hole in the mainframes.
The design is so compact that pickups can be mounted opposite each other - even in standard 00 mainframes. The spring supplied with this item is of a very light compression, resulting in virtually no drag. These pick-ups can be used in both 4mm and 7mm scales - for 7mm the body of the pickup needs to be spaced out from the face of the frame slightly.

Code	Item	
4M62	Pack of 10 Sprung Plunger Pickups	Price AM

BASE BOARD ROCKERS

These items enable a mechanical movement to be transferred from the top of the baseboard to underneath it (or vice versa). They come in a quick and easy-to-assemble kit with sufficient parts for two rockers. Comprising part plastic moulding and part brass the finished product requires a 7/16" (11mm.) hole in the baseboard.

4M110	2 x baseboard rockers	Price L

SCALE FIGURES
When introduced these exquisite 4mm scale figures set the standards for others to follow. The original masters for these white metal castings were sculptured by Martin Feldwick who, after careful study of old photographs, has been able to convincingly capture some very life -like poses in typical 'period' attire. One of the striking aspects of the models is that they have the 'chunky' look of real people.

Code	Item	
4M200	Locomotive driver and fireman	Price K
4M201	Flower Seller and 'toff'	Price K
4M202	Pub crawlers (2 figures)	Price K
4M203	Serving wench and table	Price K
4M204	Two men (one portly gent and one propping up wall)	Price K
4M205	Hiker(1 figure)	Price E
4M206	Man and woman (could be Nora Batty and Compo)	Price K
4M207	Policeman and 'furtive' character	Price K
4M208	Porter and general worker	Price K
4M209	Set of 7 cows - all standing	Price AN
4M210	Bull	Price E
4M211	Set of 2 cows - both lying down	Price K

SCALEFOUR TRACK GAUGES
We are very proud to have been granted the license to produce these Protofour/Scalefour track gauges as designed by Mr. Joe Brook-Smith, one of the prime originators of the gauge. As you can imagine the concept of these gauges makes them by far the best for track and pointwork building in this gauge and many modellers would say testament to this fact. The set consists of four gauges - one for actual holding of the running rails in position - one for rolling along to check for any tight spots - another for positioning any check rails - and the final one for crossing flangeways on points.

Code	Item	
TGS4	Set of four Scalefour track gauges	Price AY
TGS4/1	Scalefour track gauge - actually holds running rails	Price AG
TGS4/2	Scalefour Rolling gauge for checking for tight spots	Price K
TGS4/3	Scalefour Crossing flangway spacer	Price Q
TGS4/4	Scalefour Check rail gauge	Price AG
TGS4/5	Scalefour three point track gauge (not above set)	Price AK

COUPLING and CONNECTING RODS
Improve the appearance of your locomotives by fitting the correct pattern of coupling and connecting rods. Finely etched in nickel silver and designed as a two layer assembly to give a scale thickness, these components give the modeller either a plain or fluted style of rod. The coupling rods, which pivot on the crankpin of the middle driving wheels of 0-6-0 or larger locomotives, enable sprung axleboxes or compensating beams to be used. Although a majority of the coupling rods listed are for specific prototypes many can be used for other locomotives having the same wheelbase. However, for locomotives with a wheelbase not included in the lists a 'Universal' set of rods is available - one set being required for a four or six coupled chassis and two sets are required for either an eight or ten coupled chassis. Accuracy is essential when assembling the rods and one of the easiest ways to ensure that coupling rods are made to fit exactly the wheelbase required is to insert 'Romford' driving wheel axles into the chassis and then to assemble the rods onto the threaded portion of these axles - this being the same diameter as the crankpins. It should be noted that, unless otherwise stated only the coupling rods of locomotives with outside valve gear are provided in these packs - there are no connecting rods or any part of the valve gear.

Coupling Rods for 4-coupled Locomotives

Code	Size	Scale	Prototype	Code	Size	Scale	Prototype
4M95	6' 10"	27.3mm.	SR Class O2 Tank	4M76	8' 6"	34.0mm	MR, LMS, GWR
4M82	7' 0"	28.0mm.	LNER Class F7 Tank	4M83	8' 9"	35.0mm	LBSCR
4M75	7' 4"	29.3mm.	GWR Class 14XX etc.	4M81	9' 0"	36.0mm.	MR, LMS, GWR
4M84	7' 6"	30.0mm.	SR Class M7 etc.	4M77	9' 6"	38.0mm	MR, LMS, GWR
4M97	7' 9"	31.0mm.	LNWR	4M99	10' 0"	40.0mm.	SR Schools (straight rod)
4M85	8' 0"	32.0mm.	LNER Classes F4, F5, F6	4M120	10' 0"	40.0mm	SR Class L (fishbelly rod)
4M98	8' 3"	33.0mm.	LNWR	4M92	Universal	Adjustable	For 4 or 6 coupled wheelbase

Coupling Rods for 6-coupled Locomotives

Code	Size	Scale	Prototype	Code	Size	Scale	Prototype
4M131	6'0"+6'0"	24+24mm	LBSCR/SR Terrier Tank	4M88	7' 3"+9' 0"	29+36mm	LNER Classes N2, J6, B17
4M133	6'3"+7'6"	25+30mm	SR Class H15	4M127	7' 4"+7' 4"	29.3+29.3mm	GWR
4M93	6'4"+7' 6"	25.3+30mm	LNER Class J69	4M90	7' 4"+8' 0"	29.3+32mm	LMS Jubilee, Patriot
4M142	6'9"+7'0"	27+28mm	BR Class 2	4M130	7' 4"+8' 2"	29.3+32.7mm	SR
4M96	6'10"+7'5"	27.3+29.7mm	SR Class G6 etc.	4M128	7' 4"+8' 4"	29.3+33.3mm	GWR
4M91	7'0"+7'0"	28+28mm	BR Britannia, Clan, Duke.	4M141	7' 7"+7' 9"	30.3+31mm	BR Classes 3 and 4
4M132	7'0"+7'6"	28+30mm	SR Class N15	4M80	7' 7"+8' 6"	30.3+34mm	LNER Class J15
4M72	7'0"+7'9"	28+31mm	GWR Hall, Manor, Mogul	4M86	7' 9"+7' 6"	31+30mm	LBSCR
4M89	7'0"+8'0"	28+32mm	BR Class 4, LMS Class 5	4M87	8' 0"+8' 0"	32+32mm	LBSCR
4M135	7'0"+8'6"	28+34mm	BR Class 5	4M78	8' 0"+8' 3"	32+33mm	GWR King
4M134	7'3"+7'9"	29+31mm	SR Class U	4M70	8' 0"+8' 6"	32+34mm	MR/LMS Classes 2F, 3F, 4F
4M71	7'3"+8'3"	29+33mm	GWR Pannier, Collet goods	4M92	Universal	Adjustable	For 4 or 6 coupled wheelbase
4M79	7'3"+8'3"	29+33mm	LNWR Coal tank, Watford tank				

Coupling Rods for 8-coupled Locomotives

Code	Size	Scale	Prototype	Code	Size	Scale	Prototype
4M121	5' 3"+5' 3"+5' 9"	21+21+23mm	WD/BR 2-8-0	4M126	6' 6"+6' 6"+7' 0"	26+26+28mm	GWR Class 47XX
4M123	5' 6"+5' 6"+6' 3"	22+22+25mm	LMS Class 8F	4M144	6' 9"+5' 9"+5' 9"	27+23+23mm	LMS Class 7 (Austin 7)
4M124	7' 0"+6' 0"+7' 0"	28+24+28mm	GWR Class 42XX	4M140	6' 0"+5' 6"+6' 0"	24+22+24mm	SDJR 2-8-0
4M125	5' 5"+5' 5"+6' 0"	21.7+21.7+24mm	GWR Classes 28XX/38XX				

Coupling Rods for 10-coupled Locomotives

Code	Size	Scale	Prototype
4M122	5' 3"+5' 3"+5' 3"+5' 3"	21+21+21+21	WD/BR 2-10-0
4M143	5' 5"+5' 5"+5' 5"+5' 5"	21.7+21.7+21.7+21.7	BR Class 9F

Connecting Rods

Code	Prototype
4M73	GWR 61XX, 28XX, Manor, Hall etc
4M74	GWR Castle, Star, King

Sets of Coupling and Connecting Rods

Code	Size	Scale	Prototype
4M94	7' 6"+7' 3"	30+29mm	SR West Country/Battle of Britain
4M129	7' 6"+7' 6"	30+30mm	SR Merchant Navy

Item	
Coupling rods for 4 and 6 coupled locomotives	Price S
Coupling rods for 8 and 10 coupled locomotives	Price AD
Sets of Coupling and Connecting rods	Price AD

LOCOMOTIVE VALVE GEAR

To compliment our comprehensive range of coupling rods we have produced a series of valve gear sets for those locomotives requiring outside valve gear. These sets, which cover a range of locomotives from the S.R., L.M.S., L.N.E.R. and BRITISH RAILWAYS, are etched in 0.018" nickel silver and come complete with connecting rods.

Sets of Valve Gear and Connecting Rods
(Note; coupling rods not included)

Code	Prototype	Code	Prototype	Code	Prototype
4M52/1	LMS Jubilee	4M52/9	SR Class U/U1	4M52/17	SR Lord Nelson
4M52/2	LMS Black 5	4M52/10	LNER Class A1	4M52/18	BR Class 2 2-6-0
4M52/3	LMS Stanier 2-6-0	4M52/11	SR Class N15	4M52/19	LNER Class A2
4M52/4	LMS Stanier 8F	4M52/12	SR Schools	4M52/20	LNER Class A1/1
4M52/5	LMS Duchess	4M52/13	LNER Class B1	4M52/21	SR Class H15
4M52/6	BR Britannia	4M52/14	BR Class 4 2-6-0	4M52/22	SR Class S15
4M52/7	WD 2-8-0/2-10-0	4M52/15	LNER Class A3		
4M52/8	BR Rebuilt Bullied	4M52/16	LNER Class L1		

Code	Item	
4M52/**	Set of Locomotive Valve Gear	Price AD

VALVE GEAR RIVETS
Precision turned steel tubular rivets suitable for fixing together valve gear and other small items. Being tubular the one way to retain
components on them is by locating a spring loaded centre punch in the hole and to drive it home a couple of times. By adjusting the punch the amount of spread of the rivet can be controlled. However as always we prefer to do things differently! Stand the rivet tail up on the bench and locate the front section of valve gear over this, face down, followed by a piece of newspaper and this in turn followed by the back section of valve gear that has had a small countersunk turned into the back of its face. Then solder this back rod to the rivet, file the back flush, pull the newspaper out and thats it. Its not the best way but it works fine for us.

Code	Item	
For 4mm scale (shank diameter 0.8mm)		
4M50	25 x Valve gear rivets, short (shank length 1.2mm)	Price M
4M51	25 x Valve gear rivets, long (shank length 1.7mm.)	Price M
For7mm scale (shank diameter1.5mm)		
7M50	25 x valve gear rivets (shank length 2mm.)	Price M

SPRUNG WAGON BUFFERS
Alan's own development of scale sprung wagon buffers. They are a self contained design and can be compressed with very little effort. You will be able to shunt in a prototypical manner and watch as everything buffers up and rolls away under pressure from the buffer head recoil. The present range of buffers is listed below but this is not intended to constitute a complete range. Therefore let us know of other types you would like to see added to the range. To give a realistic appearance the buffer heads are turned in steel whilst the bodies are quality lost wax brass castings carrying full detail. The bodies may require the mould shell drilling out with a 1mm. Drill, but the hole itself is precast.

Code	Item	
4950	20 x 12" Wagon buffer heads and springs	Price AJ
4951	20 x wagon buffer bushes (short)	Price D
4952	20 x wagon buffer bushes (long)	Price D
~~4953~~	~~20 x 13" Wagon buffer heads and springs~~	~~Price AJ~~
4960	4 x RCH wagon buffers	Price AA
4961	4 RCH mineral wagon buffers (2 RCH standard & 2 Mineral)	Price AA
4962	4 x RCH fitted van buffers	Price AA
4963	4 x GWR wagon buffers	Price AA
4964	4 x GWR van buffers	Price AA
4965	4 x SR van buffers	Price AA
4966	4 x LNWR wagon buffers (two ribbed type)	Price AA
4967	4 x MR/PO wagon buffers (turned brass body)	Price U
4972	10 x Spare Wagon Buffer Springs (Silver)	Price D

SPRUNG COACH BUFFERS
Our small range of sprung coach buffers have the same specification as the wagon buffers above. The buffer bodies are turned from brass for strength whilst the heads are turned in steel for realism. They are available in packs containing sufficient parts for four buffers. The pack of 20 heads and springs should be used in conjunction with the bushes listed above (codes 4951 and 4952).

Code	Item	
4968	4 x 13" coach buffers. early short type	Price U
4969	4 x 13" coach buffers, early long type	Price U
4970	4 x 16" coach buffers, early long type	Price U
4971	20 x 16" coach buffer heads and springs	Price AJ

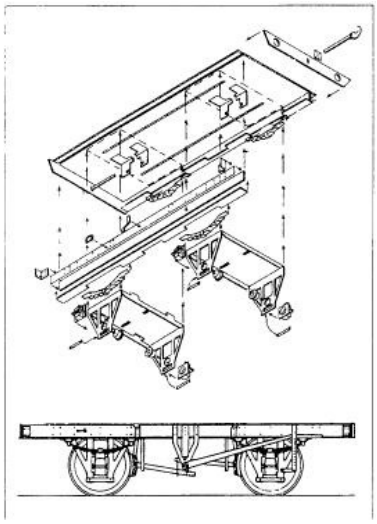
COACH FITTINGS
A small selection of finely detailed fittings for the 4mm. scale coach builder. The ventilators are quality castings in the best grade of white metal while the queen posts and table lamps are examples of our range of superb lost wax brass castings.

Code	Item	
4M795	Table lamps, dropped head pattern (x6)	Price P
4M796	Table lamps, upright pattern (x6)	Price P
4M690	Underframe queen posts (pack of 4)	Price P
4M710	Coach roof ventilators - shell type (x20)	Price D
4M722	Coach roof ventilators - torpedo type (x20)	Price D

WAGON STRAPPING
A sheet of etched wagon strapping containing all the necessary styles of strapping found on wooden bodied goods wagons. Etched in .012" brass the sheet has been designed to provide sufficient strapping for three different types of vehicles, a 5-plank open wagon, a 7-plank open wagon and any one of the numerous types of goods vans. All you have to do is provide the body, either in metal, plasticard, marine ply or whatever, and way you go.

Code	Item	
4MM33	Wagon strapping	Price AK

WAGON UNDERFRAME



Take the drudgery out of wagon building by using one of our scale underframe kits. They are designed for wagons having a steel channel solebar but can be adapted for wooden solebar variants and they are available in both 9' and 10' wheelbase versions. They come with the well proven rocking 'W'-iron compensation system but provision is made for a rigid chassis to be built if preferred. Both kits are designed to be used with scale 17'6" long bodies although the 9' wheelbase kit is marked to enable it to be shortened to fit either a 16'6" or a 16' body as required. The kits are finely etched on 0.012" brass and consist of the following

* Wagon base with channel solebars - adaptable to wooden type:
* Buffer beams - two shapes:
* 'W'-irons;
* Lost wax cast brass R.C.H. axleboxes and springs:
* All brake linkages and components for the various types of braking systems;
* Lost wax cast brass vacuum cylinder:
* Lost wax cast brass brake pipes:
* Pin point axle bearings:
* Full assembly instructions with a number of diagrams showing the workings of the various braking systems.

Because of the large number of possible wheel and buffer combinations these components are NOT included in the kits. We can offer a range of both these items which are covered in preceding pages of this catalogue.

Code	Item	
4MM40	Wagon underframe kit *(9'* wheelbase)	Price AO
4MM41	Wagon underframe kit (IC' wheelbase)	Price AO

MIDLAND RAILWAY FOOTBRIDGE

An etched brass kit that makes up into a common platform mounted footbridge design of the Midland Railway although it does also contain within the frets, alternative sides that will 'convert' it to examples used by the Glasgow & South Western Railway. The steps are formed in a unique way - two folds and they're done - origami in brass!

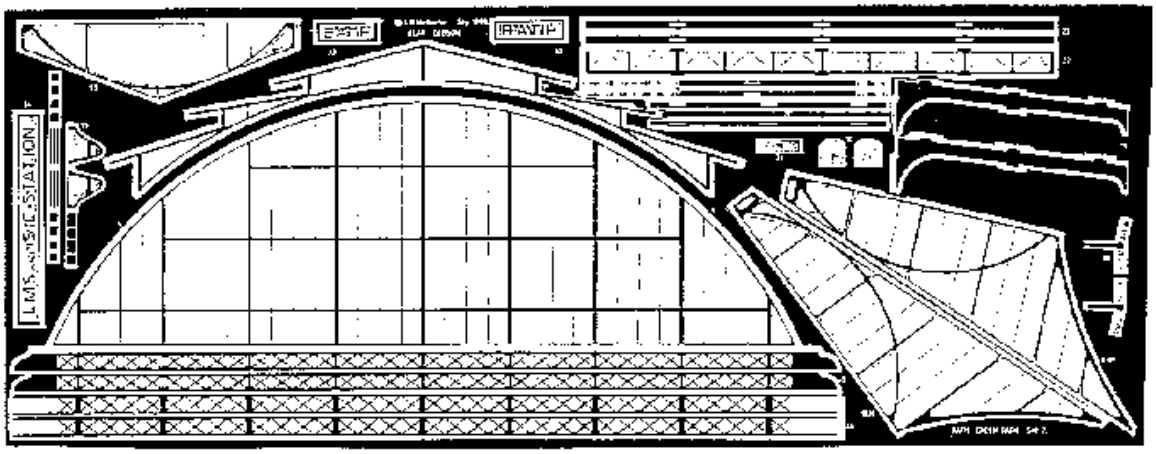
Code	Item	
4MM91	Midland Railway footbridge	Price BF

BATH GREEN PARK STATION ROOF and BRIDGE

A few years ago Alan assisted the Taunton Model Railway Group with the production of components for their 4mm. scale model of

Bath Green Park station - the northern terminus of the Somerset & Dorset Joint Railway. The following kits are a result of that co-operation and, although models are of specific structures, they will be suitable for a wide range of applications.

THE STATION ROOF



The first kit is for the overall roof of Bath Green Park station. The finished size of this impressive model is quite something - 46" long and 18" wide. While the kit depicts exactly the roof as at Green Park there is no reason why it cannot be used for any freelance model of a station requiring an overall roof - in fact many aspects of the design were used elsewhere. As a bonus, Graham Warburton who drew this item has filled any spare space on the frets with numerous items including;
Somerset & Dorset gradient boards. M.R. mile posts, Bath Station name boards, station front name board, falling man tablet catcher, 80 various railway timetable boards, 24 notice boards, eight MR platform barrows, station indicator finger boards, train time finger boards and M.R, gradient arms. Also included are a set of parts to make up further bridges (Nos 42 and 43), eight M.R. signal spandrel brackets and a complete set of windows for Bath Green Park station. These etches are produced to special order but if you are interested and would like to see a copy of the instructions, including reproductions of the etches, please get in touch as we'd be happy to post or email them to you.

BRIDGE 44

The second kit is for a model of Bridge No.44 which spans the river Avon at the entrance to Bath Green Park station. It will assemble into a 304mm. long structure and is of a similar design adopted by the Midland Railway and which is also typical of many similar bridges elsewhere.

Code	Item	
4MM42	Set of eight etched brass frets (part of which is illustrated above) which will make up into a full length roof for Bath Green Park station (46"x 18") (This kit also includes a decorative etch for the porte cochere at the front of the station).	Price BH
4MM43	Set of four etched brass sheets to make up a half length roof (23" x 18")	Price BG
4MM44	Set of two etched brass frets which will make up into a typical Midland Railway bridge.	Price BC

WATER TANK PANELS

Pack of 16 etched brass Water Tank Panels, extra packs can be added to achieve the required size of tank and you will need brass angle to complete. The Midland Railway panels measure a scale 4' x 3' and the Braithwaite panels a scale 4' x 4'.

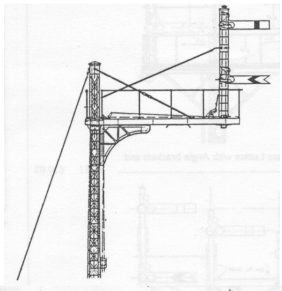
Code	Item	
4MM92	Midland Railway Water Tank Panels (16)	Price W
4MM93	Braithwaite Water Tank Panel (16)	Price W

Signals and Lineside Components for 4mm Scale

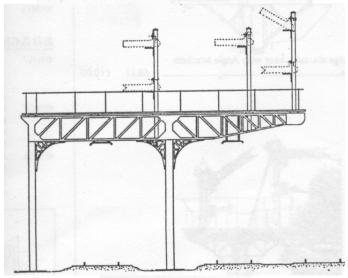
Signal Kits

These kits are more of a collection of the materials required to make up in to the signals shown rather than a definitive kit – no comprehensive instructions are supplied although basic guidance is given.

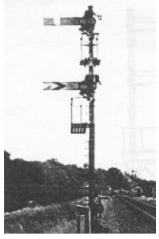
4MM55 LMS/BR cantilever signal kit. A typical cantilevered signal. The kit comes complete with base, lattice post, tubular doll, arms, spandrel, ladders etc



4MM56 LMS cantilever gantry signal kit. This kit makes up in to a typical LMS cantilevered gantry – one example being located on the approach to Bath Green Park Station. Complete with all components, including dolls, arms, ladders, etc. An unusual and distinctive formation ladders etc.



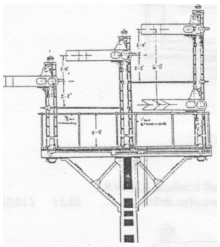
4MM81 LMS/LNER/BR Single post tube signal kit. A collection of materials that will make up in to a very common single or double arm single post with a maximum scale height of 29'.



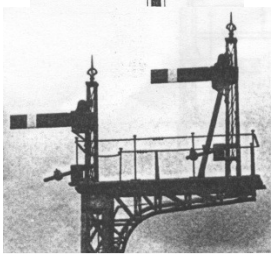
4MM82 LMS/LSWR Single post lattice Signal – Max height 27' Single or Double arm.

No Picture

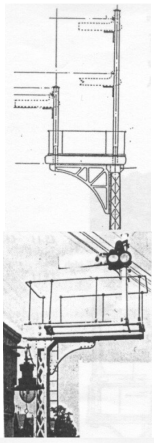
4MM83 LNER/BR Welded Base Bracket Signal. Angle brackets and tube type dolls



4MM84 Southern Large Base Lattice with Southern type Bracket and Lattice dolls

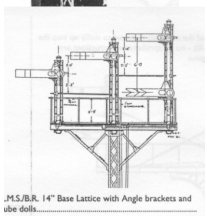


4MM85 LMS/BR 14” Base Lattice with Large Bracket, LNWR Trimmers with Tube and wooden dolls

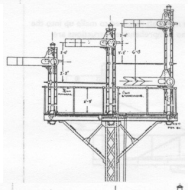


4MM86 LMS/BR 12” Base Lattice with Large Bracket, LNWR Trimmers with Tube and wooden dolls

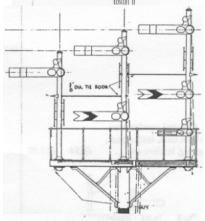
4MM87 LMS/BR 12” Base Lattice with Angle Brackets and Tube dolls



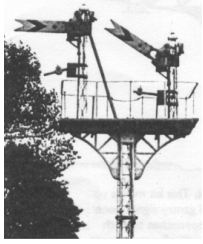
4MM88 LMS/BR 14” Base Lattice with Angle Brackets and Tube dolls



4MM89 LMS/BR Large diameter tube base with Angle Brackets and Tube dolls



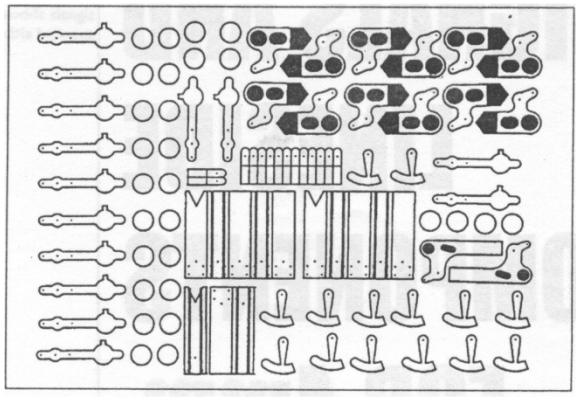
4MM90 SR 12” Base Lattice with balanced bracket and lattice dolls



Code	Description	
4MM55	LMS/BR cantilever signal kit	Price AU
4MM56	LMS cantilever gantry signal kit	Price AY
4MM81	LMS/LNER/BR Single post tube signal kit	Price AO
4MM82	LMS/LSWR Single post lattice	Price AO
4MM83	LNER/BR Welded Base Bracket Signal.	Price AU
4MM84	Southern Large Base Lattice	Price AU
4MM85	LMS/BR 14” Base Lattice with Large Bracket	Price AU
4MM86	LMS/BR 12” Base Lattice with Large Bracket.	Price AU
4MM87	LMS/BR 12” Base	Price AU
4MM88	LMS/BR 14” Base Lattice	Price AU
4MM89	LMS/BR Large diameter tube base	Price AU
4MM90	SR 12” Base Lattice	Price AU

ARMS
Etched brass fret with enough parts to make up 14 upper quadrant signal arms. It comes complete with back binders, pivots, balance weights, turned post top and cast Adlake lamps. As produced by Westinghouse for Grouping and BR

Code	Description	
4MM45	Arm Etch	Price AA



BASE PLATES

4MM70	Set of three 0.5mm. milled brass base plates for single signal posts	Price J
4MM70A	Two 0.5mm. milled brass base plates for bracket signals	Price J
4MM72	Pack of six 0.5mm. milled brass signal doll location plates	Price J

BRACKETS and SPANDRELS

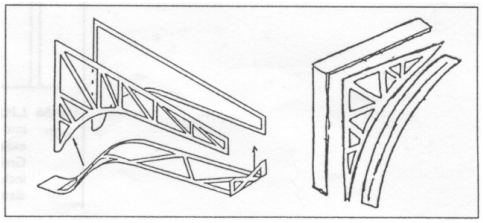
4MM57 An etched brass fret to make up into a pair of small (type I) bracket signal spandrels. Comes complete with small cranks and washers. Suitable for all regions of Britain's railway — Price F

4MM58 An etched brass fret to make up into a pair of medium (type 2) bracket signal spandrels. Comes complete with small cranks and washers. Suitable for all regions of Britain's railways — Price J

4MM59 An etched brass fret to make up into a pair of large (type 3) bracket signal spandrels. Comes complete with small cranks and washers. Suitable for all regions of Britain's railways — Price J

4MM60 An etched brass fret of four small brackets as used by the MR/LMS. As usual it comes with small cranks and washers — Price J

4MM66 An etched brass fret to make up into a very common type of bracket used on the Southern region. As with the other brackets (spandrels) in our range it comes with a batch of two sizes of small cranks and washers. — Price J



FINIALS

4MM68	Pack of 12 cast white metal bevel topped signal post finials as used by the LNWR and in early LMS days	Price F
4MM69	Pack of 12 cast white metal signal post finials for SR rail built posts	Price F
4MM79	Pair of lost wax cast brass LSWR cruciform type finials	Price P

GANTRY

4MM47 Set of etched brass frets that make up into a Pratt truss gantry with a maximum length of 306 mm — Price AX

LADDERS

4MM46	Etched fret of two 30' ladders in fold up jig	Price J
4MM80	Pack of 3 milled brass signal ladder bows	Price J

LAMPS

4MM67 Pack of 12 cast white metal square Adlake lamps — used extensively by the LMS/LNER/SR and British Railways — Price F

LAMP BRACKETS

4MM71 Set of five lost wax cast brass signal lamp brackets — suitable for all regions — Price P

LANDINGS

4MM61 An etched brass fret of tread and landing beams. The etch is 120mm long - can be trimmed to fit any location — Price J

4MM78 10" length of 1mm. x 0.5mm. fiat brass strip used to space landings beams up from trimmers — Price B

PAINTING JIG

4MM50 Profile milled jig which can be placed over scale upper quadrant signal arms to mark where the differing colours are painted — Price F

POSTS and DOLLS

4MM51 Etched brass fret to make up into an LMS 18' tall, 12" square, non-tapered lattice base post. Complete with gusset plates and numerous small angle cranks and washers. — Price L

4MM52 Etched brass fret to make up into an LMS 23' tall. 14" square, non-tapered lattice base post. Complete with gusset plates and numerous small angle cranks and washers — Price Q

4MM53 Etched brass fret to make up into a BR/LNER plate angle base for bracket signals - 18'6" tall. Complete with gusset plates and numerous small cranks and washers — Price Q

4MM54 Etched brass fret to make up into a 25' Southern Railway lattice base – 1'9" square at ground level. — Price Q

4MM62 An etched brass fret to make up into a 36' edge type lattice post, it can be shortened to any height required — Price Q

4MM63 As above but with 27' post — Price L

4MM64 As above but with 23' post — Price L

4MM65 Set of three 15' lattice dolls — Price Q

4MM73 10" length of 2.5mm diameter brass tube for use as signal base post — Price B

4MM74 10" length of 2mm. diameter brass tube for use as signal post - fits inside the 2.5mm base post section — Price B

4MM75 10" length of 2mm. x 2mm. brass for L.N.W.R. dolls... — Price B

SIGHTING BOARDS

4MM48 Pack of three profile milled brass signal sighting boards — Price F

MISCELLANEOUS

4MM49 Pack of 6 (three different lengths) profile milled brass MR/LNWR bracket signal trimmers — Price F

4MM73 10" length of 2.5mm diameter brass tube for use as signal base post — Price B

4MM74 10" length of 2mm diameter brass tube for use as signal post - fits inside the 2.5mm base post section — Price B

4MM75 10" length of 3/64" diameter brass tube for use as bearings for pivots — Price Q

4MM76 10" length of 3mm x 1mm brass 'U' channel section. — Price J

4MM77 10" length of 2mm x 2mm brass for use as LNWR dolls — Price B

4MM78 10" length of 1mm x 0.5mm flat brass strip used to space landings beams up from trimmers — Price F

Many customers over the past few years have been encouraging us to make available replacement wheelsets for the latest generation of Ready to Run locomotives from the likes of Bachmann, Heljan and Hornby.

We have therefore taken this up and the following locos can now be converted - the wheels come in complete packs to convert a locos **DRIVING WHEELS** together with correct size axles (3mm/2.5mm or 2mm).i.e. Hornby Black Five = 3 axles 6' 19 spoke with 3mm axles in one pack. We can also supply crankpins and bogie/tender wheels from our standard range to complete the locomotive conversions.

Where given the correct bogie, pony and tender wheels are indicated. These wheels are additional to the drivers & must be bought separately

Part No	Description	Contents	VAT Price	Required Separately Complete
4800/1	Bachmann Warship	4 Axles 3' 2" Disc - 2mm axles	Price AQ	
4800/1	Heljan Class 17 'Clayton'	4 Axles 3' 2" Disc - 2mm axles	Price AQ	
4800/1	Heljan Class 15	4 Axles 3' 2" Disc - 2mm axles	Price AQ	
4800/2	Bachmann Class 37	6 Axles 3' 6" Disc - 4 on 2mm & 2 on 3mm axles	Price AV	
4800/2A	Bachmann Class 37	6 Axles 3' 6" Disc - 6 on 2mm	Price AV	
4800/2	Bachmann Deltic	6 Axles 3' 6" Disc - 4 on 2mm & 2 on 3mm axles	Price AV	
4800/7	Hornby Class 31	4 Axles 3' 7" Disc & 2 axles 3'3" Disc on 1.5mm stub axles	Price BA	
4800/8	Hornby Class 50	6 Axles 3' 3" Disc - 1.5mm axles (note Hornby have fitted this loco with undersize wheels	Price BA	
4800/3	Bachmann Class 20, 25 etc	4 Axles 3' 8" Disc - 2mm axles	Price AQ	
4800/4	Bachmann Class 21 etc	4 Axles 3' 8" 10 spoke - 2mm axles	Price AQ	
4800/3	Heljan Hymek	4 Axles 3' 8" Disc - 2mm axles	Price AQ	
4800/9	Heljan Western	6 Axles 3' 7" Disc - 2mm axles	Price AV	
4800/3	Heljan Class 33	4 Axles 3' 8" Disc - 2mm axles	Price AQ	
4800/5	Bachmann Class 40/44/45	6 Axles 3' 8" Disc - 4 on 2mm & 2 on 3mm axles + 2 x 3 pony	Price AV	
4800/6	Hornby Class 60	6 Axles 3' 8" Disc - 2mm axles	Price AV	
4800/6	Bachmann Class 66	6 Axles 3' 8" Disc - 2mm Axles	Price AV	
4800/6	Heljan Class 47	6 Axles 3' 8" Disc - 2mm axles	Price AV	
4800/6	Bachmann 47 & 57	6 Axles 3' 8" Disc - 2mm axles	Price AV	
4800/10	Hornby 08	3 Axles 4' 6" 14 spoke + outside cranks 3mm axles	Price AV	4M42B
4800/10	Bachmann 08	3 Axles 4' 6" 14 spoke + outside cranks 3mm axles	Price AV	4M42B, 4800
4800/11	Hornby PUG	2 Axles 3' Drivers - 2.5mm axles	Price AQ	4M42A
4800/12	Hornby Terrier	3 Axles 3' 11" 12 spoke 2.5mm axles	Price AV	4M42B
4800/13	Hornby J94	3 Axles 4' 3" 14 spoke - 2.5mm axles	Price AV	4M42B
4800/14	Bachmann GWR Pannier	3 Axles 4' 7" 14 spoke - 3mm axles	Price AV	4M42B, 4800
4800/14	Bachmann GWR 56XX	3 Axles 4' 7" 14 spoke - 3mm axles	Price AV	1 x 3' 8" 10 spoke
4800/14	Bachmann GWR 45XX 2-6-2T	3 Axles 4' 7" 14 spoke -3mm axles	Price AV	2 off 3' 2" 10 spoke, 4M42B
4800/15	Bachmann W.D. 2-8-0	4 Axles 4' 7" Webbed - 2.5mm axles	Price BA	5 off 3' 2" Disc, 4M42B
4800/16	Hornby LMS Stanier 2-8-0	4 Axles 4' 7" 15 spoke - 3mm axles	Price BA	+1 x 3' 3" Stanier & 3 x 4' 3" Stanier, 4M42B
4800/17	Bachmann LMS Jinty	3 Axles 4' 7" 15 spoke - 3mm axles	Price AV	4M42B, 4800
4800/17	Bachmann 1F Half Cab	3 Axles 4' 7" 15 spoke - 3mm axles	Price AV	4M42B, 4800
4800/18	Hornby S. R. Q1	3 Axles 5' BFB - 3mm axles	Price BA	3 x 3' 8" Disc, 4M42B
4800/19	Bachmann GWR 2251	3 Axles 5' 2" 16 spoke - 3mm Axles	Price BA	3 x 4' 1" 12 spoke, 4M42B
4800/19	Hornby Thompson L1	3 Axles 5' 2" 16 spoke - 3mm Axles	Price BA	3 x 3' 2" 10 spoke, 4M42B
4800/19	Bachmann LNER J11	3 Axles 5' 2" 16 spoke - 3mm Axles	Price BA	3 x 4' 3" 12 spoke, 4M42B,4800
4800/19	Hornby LNER K1	3 Axles 5' 2" 16 spoke - 3mm Axles	Price BA	1 x 4838, 3 x 4844B, 4M42B & 4800
4800/20	Bachmann S.R. N	3 Axles 5' 6" 17 spoke - 3mm axles	Price BA	1 x 3' 10 spoke & 3 x 3' 11" 12 spoke, 4M42B, 4800
4800/21	Bachmann LMS Crab	3 Axles 5' 6" 17 spoke - 3mm axles	Price BA	1 x 3' 6" 10 spoke & 3 x 4" 3' 12 spoke, 4M42B, 4800

4800/22	Bachmann BR 4MT 2-6-4T	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	3 x 3' 9 spoke Stanier, 4M42B, 4800
4800/22	Bachmann LMS Fairburn 2-6-4T	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	3 x 3' 3" 10 spoke Stanier, 4M42B, 4800
4800/22	Hornby LMS Stanier 2-6-4T	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	3 x 3' 3" 10 spoke Stanier, 4M42B, 4800
4800/22	Bachman BR 4MT 4-6-0	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	2 x 3' 9 Spoke & 3' 3½" 10 Spoke Stanier, 4M42B, 4800
4800/23	Bachmann LNER K3 2-6-0	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	1 x 3' 2" 10 spoke & 3 x 3' 8" 12 spoke, 4M42B, 4800
4800/23	Hornby LMS Fowler 2-6-4T	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	3 x 3' 3" 10 spoke, 4M42B
4800/24	Hornby GWR 61XX 2-6-2T	3 Axles 5' 8" 18 spoke - 3mm axles	Price BA	1 x 3' 2" 10 spoke & 1 x 3' 6" 10 spoke, 4M42B
4800/24	Hornby GWR Grange 4-6-0	3 Axles 5' 8" 18 spoke - 3mmaxles	Price BA	2 x 3' 10 spoke & 3 x 4' 1½" 12 spoke, 4M42B
4800/25	Hornby LMS Black 5	3 Axles 6' 19 spoke - 3mm axles	Price BA	2 x 3' 3" & 3 x 4' 3" Stanier, 4M42B
4800/26	Hornby B.R. Britannia	3 Axles 6' 2" 20 spoke - 3mm axles	Price BA	2 x 3' 9 spoke + 4 x 3' 3" 10 spoke Stanier, 4M42B
4800/26	Bachmann B.R.Class 5	3 Axles 6' 2" 20 spoke - 3mm axles	Price BA	2 x 3' 9 spoke & 3 x 3' 3" Stanier, 4M42B, 4800
4800/26	Hornby B.R Duke of Gloucester	3 Axles 6' 2" 20 spoke - 3mm axles	Price BA	2 x 3' 9 spoke + 4 x 3' 3" 10 spoke Stanier, 4M42B,4800
4800/27	Hornby Bullied	3 Axles 6' 2" BFB - 3mm axles	Price BA	2 x 3' & 4 x 3' 6" Bullied, 4M42B
4800/28	Hornby GWR King	3 Axles 6' 6" 22 spoke - 3mm axles	Price BA	2 x 3' 10 spoke & 3 x 4' 1" 12 spoke, 4M42B
4800/29	Hornby LMS Duchess	3 Axles 6' 8" 21 spoke - 3mm axles	Price BA	2 x 3' 9 spoke & 1 x 3' 6" & 3 x 4' 3" All Stanier, 4M42B
4800/29	Hornby LMS Rebuilt Scot / Patriot	3 Axles 6' 8" 21 spoke - 3mm axles	Price BA	2 x 3' 3½" 10 spoke & 3 x 4' 3" All Stanier, 4M42B
4800/29	Bachmann LMS Jubilee	3 Axles 6' 8" 21 spoke - 3mm axles	Price BA	2 x 3' 3" 10 spoke & 3 x 4' 3" All Stanier, 4M42B, 4800
4800/30	Bachmann LNER A1also Hornby A3 & A4	3 Axles 6' 8" 20 spoke - 3mm axles	Price BA	2 x 3' 2" & 1 x 3' 8" & 3 x 4' 1", 4M42B, 4800
4800/30	Hornby B17	3 Axles 6' 8" 20 spoke - 3mm axles	Price BA	GE Tender 2 x 3' 12 Spokes, 3 x 4'1" 12 Spokes LNER Tender 2 x 3' 12 Spokes, 3 x 3'8" 10 Spokes
4800/31	Bachmann GWR Hall 4-6-0	3 Axles 6' 20 spoke - 3mm axles	Price BA	2 x 3' 10 spoke & 3 x 4' 1" 12 spoke, 4M42B, 4800
4800/31	Hornby GWR (Railroad) Hall	3 Axles 6' 20 spoke - 3mm axles	Price BA	2 x 3' 10 spoke & 3 x 4' 1" 12 spoke, 4M42B, 4800
4800/32	Bachmann Ivatt Class 4 2-6-0	3 Axles 5' 3" 16 spoke Stanier - 3mm axles	Price BA	1 x 3' 9 sp Stanier & 3 x 3' 6" Stanier, 4M42B, 4800
4800/32	Bachmann BR 3MT 2-6-2T	3 Axles 5' 3" 16 spoke Stanier - 3mm axles	Price BA	2 x 3' 9 sp Stanier, 4M42B, 4800
4800/32	Bachman BR Class 4 Mogul	3 Axles 5' 3" 16 spoke Stanier - 3mm axles	Price BA	
4800/33	Bachmann Ivatt Class 2 2-6-0	3 Axles 5' 15 spoke - 3mm axles	Price BA	1 x 3' 9 sp Stanier & 3 x 3' 6" Stanier, 4M42B, 4800
4800/34	Bachmann BR 9F 2-10-0	5 Axles 5' 15 spoke - 3mm axles	Price BE	1 x 3' 2" 9 sp Stanier & 3 x 3' 3" Stanier, 4M42B, 4800
4800/35	Hornby S.R. M7 0-4-4T	2 Axles 5' 6" 18 spoke - 3mm axles	Price AT	2 x 3' 7" 10 spoke, 4M42A
4800/36	Hornby S.R. King Arthur 4-6-0	3 Axles 6' 6" 22 spoke - 3mm axles	Price BA	6 x 3' 7" 10 spoke, 4M42B
4800/37	Hornby Class 73	4 axles of 3'2" Disc on 2.5mm Axles	Price AQ	
4800/38	Bachmann Class G2A	4 Axles of 4' 5½" 'H' Spoke Drivers, with one Flangeless Axle on 3mm Axles NB!! The tooling for this wheel does not allow for a through hole for the crank pin. An indentation is provided but it must be drilled through.	Price BA	3 x 3' 8" 10 Spoke, 4M42, 4800
4800/39	Hornby S.R. T9	2 Axles of 6' 6" 22 Spoke Drivers,	Price AT	6 x 3' 7" 10 Spoke for 4000 Gallon Tender or 2 x 3' 7" 10 Spoke and 3 x 3'11" 10 Spoke for 3500 Gallon Tender, 4M42A
4800/40	Hornby S.R. Schools	2 Axles of 6' 6" 22 Spoke Drivers Please note these drivers are Pin INLINE not PB	Price AT	2x 3' ten Spoke and 3x 3'11" (The first 10 are 10 Spoke, the rest are disc) for the tender, 4M42A
4800/41	Hornby Castle	3 Axles of 6' 8" 22 Spoke Drivers,	Price BA	2 x 3'2" 10 Spoke and 3 x 4'1½" 10 Spoke for the tender, 4M42B
4800/41	Hornby Star	3 Axles of 6' 8" 22 Spoke Drivers,	Price BA	2 x 3'2" 10 Spoke and 3 x 4'1½" 10 Spoke for the tender, 4M42B
4800/42	Hornby Robinson O1	4 Axles of 4'7" 14 Spoke Drivers,	Price BA	3'6" 10 Spoke and 3 x 4'3" 12 Spoke for the Tender, 4M42, 4800
4800/42	Bachmann Robinson O4	4 Axles of 4'7" 14 Spoke Drivers,	Price BA	3'6" 10 Spoke and 3 x 4'3" 12 Spoke for the Tender, 4M42, 4800
4800/43	Bachmann O3	3 Axles of 3'7" 10 Spoke Drivers	Price AV	4M42B, 4800
4800/44	Hornby 28XX	4 Axles of 4'7" 14 Spoke LT Drivers,	Price BA	3'2" 10 Spoke and 3 x 4'1½" 12 Spoke for the Tender, 4M42
4800/44	Hornby 42XX/52XX	4 Axles of 4'7" 14 Spoke LT Drivers,	Price BA	3'2" 10 Spoke 4M42

4800/44	Hornby 72XX	4 Axles of 4'7" 14 Spoke LT Drivers,	Price BA	3'2" 10 Spoke and 3'8" 10 Spoke 4M42
4800/45	Bachmann LNER A2	3 Axles of 6'2" 20 Spoke Drivers,	Price BA	2 x 3'2" 10 Spoke & 3'8" 10 Spoke and 3 x 4'2" 12 Spoke for the Tender, 4M42B, 4800
4800/45	Hornby LNER B1	3 Axles of 6'2" 20 Spoke Drivers,	Price BA	2 x 3'2" 10 Spoke and 3'8" 10 Spoke for the Tender, 4M42B
4800/46	Bachmann S&D 7F	4 Axles of 4'7" 15 Spoke Drivers,	Price BA	1 x 3'3½" 10 Spoke and 3 x 4'3" 12 Spoke for the Tender, 4M42, 4800
4800/47	Bachmann LMS 3F (*)	3 Axles of 5'2" 16 Spoke Drivers 2.5mm axles	Price BA	3 x 4'3" 12 Spoke for the Tender¸, 4M42B, 4800
4800/47	Bachmann LMS 4F (*)	3 Axles of 5'2" 16 Spoke Drivers 2.5mm axles	Price BA	3 x 4'3" 12 Spoke for the Tender¸, 4M42B, 4800
4800/47	Bachmann Wainwright C Class (*)	3 Axles of 5'2" 16 Spoke Drivers 2.5mm axles	Price BA	3 x 4' 10 Spoke for the Tender, 4M42B, 4800
4800/47	Heljan/Hattons Garrat	2 Packs of 3 Axles of 5'2" 16 Spoke Drivers 2.5mm axles	2 x Price BA	2 x 3'3"10 Spoke, 2 x 4M42B
4800/48	Bachmann LNER B1 (*)	3 Axles of 6'2" 20 Spoke Drivers 2.5mm axles	Price BA	2 x 3'2" 10 Spoke and 3'8" 10 Spoke for the Tender, 4M42B, 4800
4800/49	NRM/Bachmann LMS Compound (*)	2 Axles 6'8" 22 Spoke Driver 2.5mm axles	Price AT	2 x 3'6" 10 Spoke and 3 x 4'3" 12 Spoke, 4M42A, 4800
4800/50	Bachmann GWR City	2 Axles 6'8" 22 Spoke Driver 3mm axles	Price AT	2 x 3'8" 10 Spoke and 3 x 4'1" 12 Spoke, 4M42A, 4800
4800/51	Bachmann LNER V2	2 Axles 6'2" 18 Spoke Driver 2.5mm axles	Price BA	1 x 3'2" 10 Spoke and 4 x 3'8" 10 Spoke, 4M42B, 4800, 4M822 (see data sheet)
4800/52	Bachmann LNER D11/1	2 Axles 6'8" 20 Spoke Driver 2.5mm axles	Price AT	2 x 3'6" 10 Spoke and 3 x 4'3" 10 Spoke, 4M42A, 4800
4800/53	Bachmann GWR Earl - Dukedog	2 Axles 5'8" 18 Spoke Driver 3mm axles	Price AT	2 x 3'8" 10 Spoke and 3 x 4'1" 12 Spoke, 4M42A, 4800
4800/54	Hornby LNER P2	4 Axles 6'2" 18 Spoke Driver 3mm Axles	Price BE	1 x 3'2" 10 Spoke, 1 x 3'8" 12 Spoke and 4 x 4'1" 12 Spoke, 4M42, 4800
4800/55	Bachmann SR E4	3 Axles 5' 16 Spoke Drivers 3mm Axles	Price BA	1 x 3'11" 12 Spoke, 4M42B, 4800
4800/56	Hornby LNER J15	3 Axles 4'10" Drivers, 2mm Axles	Price BA	3 x 3'11" 10 Spoke, 4M42B, 4800
4800/57	Bachmann/NRM Ivatt C1 Atlantic	2 Axles 6'2" 20 Spoke Drivers, 3mm axles. Due to the Model's design the wheels are undersize	Price AT	3 x 3'3½" 10 Spoke (undersize), 3 x 4'1½" 12 Spoke, 4M42A, 4800
4800/58	Hornby LNER D16/3	2 Axles 7' 21 Spoke Drivers 3mm Axles	Price AT	2 x 3'8" 10 spoke, 3 x 3'11" 10 Spoke, 4M42A, 4800
4800/59	Hornby LSWR/SR 700	3 Axles 5' 16 Spoke Drivers 3mm Axles	Price BA	3 x 3'11" 12 Spoke, 4M42B, 4800
4800/60	Hornby J50	3 Axles 4'7" 14 Spoke Drivers 2mm Axles	Price AV	4M42B, 4800
4800/61	Hornby Q6	4 Axles 4'7" 14 Spoke Drivers 3mm Axles	Price BA	3 x 3'8" 10 Spoke, 4M42, 4800
4800/62	Heljan O2	4 Axles 4'7" 14 Spoke Drivers 2.5mm Axles	Price BA	1 x 3'6" 10 Spoke, 3 x 4'3" 12 Spoke, 4M42, 4800
4800/63	Hornby S15	3 Axles 5'6" 18 Spoke Drivers 3mm Axles	Price BA	6 x 3'7" 10 Spoke, 4M42B, 4800
4800/64	Bachmann Stanier 2-6-0	3 Axles 5'6", 17 spoke Drivers 3mm Axles	Price BA	1 x 3'3½" 10 Spoke and 3 x 4'3" 12 Spoke for the Tender, 4M42B, 4800
4800/65	Bachmann LNWR/LMS/BR Coal Tank	3 Axles 4' 5½" 'H' Spoke Drivers 3mm Axles	Price AV	1 x 3'8" 10 'H' Spoke, 4M42B & 4800
	Heljan Class 16`	Use 4 x Bogie Tender Wheel 4844		

(*) These driving wheel packs contain brass bushes that are designed to replace the Bachmann ones.

Whilst in no way a 'carved in stone' rule the Bachmann crankpins tend to be of a much larger diameter, causing the holes in the Bachmann rods to be too big for our finescale crankpins . If you wish to use our finescale crankpins we would recommend the use of our washers which are intended to be soldered in to the hole to bring the diameter down to suit our bushes .

Code	Item	
4800	Crankpin Washers for Conversion	Price F

COMPONENTS FOR 7mm SCALE LOCOMOTIVES AND ROLLING STOCK

CARRIAGE AND WAGON WHEELS
For the 7mm scale modeller we are delighted to offer our own range of rolling stock wheels. They consist of black injection moulded centres which carry individual detail and these are pressed into chemically blackened steel tyres that have been machined to recommended profiles. They are supplied mounted on 1/8" diameter steel axles that have their ends turned down to 1.5mm diameter for free running brass bearings. The wheels are a secure fit on the axles, true running, and feature fine detail - the Mansell type even showing the wood grain, including knots! Available in Finescale 0 gauge and S7 and the following types are available, the price being for two wheels assembled onto an axle.

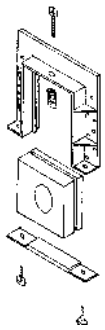
WAGON WHEELS

Code	Item	Scale	
7000	3'1½"	21mm 8 plain spoke wheel	Price N
7001	3'1½"	21mm 8 open spoke wheels	Price N
7002	3'1½"	21mm 3 hole disc wheels	Price N
7003	3'7½"	25mm 8 open spoke wheel	Price N
7004	3'7½"	25mm Mansell wheels	Price N
7005	3'7½"	25mm Plain disc wheels	Price N
7006	3'1½"	21mm 10 plain spoke wheel	Price N
7007	2'7½"	18mm Plain disc 'Lowmac' wheels	Price N
7008	2'7½"	18mm 10 Plain 'Lowmac' wheels	Price N
7009	3'1½"	21mm DMU plain disc wheels	Price N
7010	3'1½"	25mm 8 plain spoke wheels	Price N

BRASS AXLE BEARINGS
These turned brass bearings are machined to close tolerances. The carriage and wagon bearings are designed for use with our own range of 7mm rolling stock wheels whilst the mainframe bearings are to standard 7mmscale dimensions and can be used with other makes of wheels.

Code	Item	
7M63	20 x Brass bearings for 7mm scale carriage and wagon axles	Price Q
7M64	Mainframe bushes for 3/16" Axles	Price Q

BRASS LOCOMOTIVE HORNBLOCKS
A close associate of Alan Gibson, who needed a set of more realistic looking hornblocks for a pair of super detailed 7mm scale locomotives he was building produced the masters for these two patterns of hornblocks. In return for Alan helping him to get them cast it was agreed that they should become part of the range. Taking full advantage of the best in cast and machined brass components they feature an exquisitely detailed lost wax casting for the hornblock with an accurately machined adjustable sprung axle bearing which will accommodate 7mm scale's standard 3/16" axle. The keeper plate is profile milled from 0.6mm thick brass and is secured to the main casting by two machine screws (all springs and screws supplied). Set of two hornblocks for one axle in each pack.



Code	Item	
~~7M60~~	~~GER pattern hornblocks (sprung)~~	~~Price AL~~
~~7M61~~	~~MR pattern hornblocks (sprung)~~	~~Price AL~~

7mm NARROW GAUGE ROLLING STOCK WHEELS
One of the classic styles of narrow gauge rolling stock wheels epitomising the appeal of these railways. Three different sizes have of 'curly spoked' wheels have been produced to cater for most applications and they are intended for use on 16.5mm gauge track. These wheels follow our usual construction with black injection moulded centres pressed into chemically blackened steel tyres. They are supplied mounted in blackened steel pin-point axles which are 2mm diameter and 26mm long (24.5mm length to order). The price is for two wheels mounted on an axle.

Code	Item			
7011	1'3¼"	9mm	Curly spoke wheel	Price A
7012	1'6"	10.5mm	Curly spoke wheel	Price A
7013	1'8½"	12mm	Curly spoke wheel	Price A

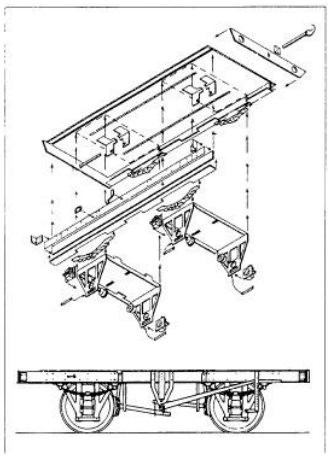
WAGON STRAPPING
A sheet of etched wagon strapping containing all the necessary styles of strapping found on wooden bodied goods wagons. Etched in .018" brass the sheet has been designed to provide sufficient strapping for three different types of vehicles, a 5-plank open wagon, a 7-plank open wagon and any one of the numerous types of goods vans. All you have to do is provide the body, either in metal, plasticard, marine ply or whatever else you can think of.

Code	Item	
7MM33	Wagon strapping	Price AS

WAGON UNDERFRAME

Take the drudgery out of wagon building by using one of our scale underframe kits. They are designed for wagons having a steel channel solebar but can be adapted for wooden solebar variants and are available in both 9' and 10' wheelbase versions. They come with the well proven rocking 'W'-iron compensation system but provision is made for a rigid chassis to be built if preferred. Both kits are designed to be used with scale 17'6" long bodies although the 9' wheelbase kit is marked to enable it to be shortened to fit either a 16'6" or a 16' body as required. The kits are finely etched in 0.018" brass and comprise the following:

* Wagon base with channel solebars adaptable to wooden type:
* Buffer beams - two shapes;
* 'W'-irons;
* Cast whitemetal R.C.H. axleboxes and springs;
* All brake linkages and components for the various types of braking systems
* Cast white metal vacuum cylinder;
* Cast brake pipes;
* Axle bearings;
* Full assembly instructions with a number of diagrams showing the workings of the various braking systems.



Because of the large number of possible wheel and buffer combinations these components are NOT included in the kits. We can offer a range of wagon wheels which are covered on the previous page of the catalogue.

Code	Item	
7MM40	Wagon underframe kit (9' wheelbase)	Price AV
7MM41	Wagon underframe kit (ID' wheelbase)	Price AV

LOCOMOTIVE F ITTI NGS

A large selection of the finely detailed fittings that are included in our 7mm scale locomotive kits are now available as separate items. Apart from the Midland Railway tender axleboxes, which are beautifully cast in white metal, the fittings are all superb lost wax brass castings - a process of which has been taken full advantage of to produce first-class components incorporating an incredible amount of fine detail.

General Fittings

Code	*Item*	*Price*
7M633	*Boiler washout plugs - turned brass (x25)*	*W*
7M750	*Backhead blower valve*	*P*
7M748	*Backhead handwheels, (pack of 10)*	*AC*
7M751	*Backhead injector valves (pack of 2)*	*AC*
7M661	*Cab brake valve*	*AC*
7M658	*Cab gauges (pack of 2)*	*P*
7M656	*Cab reverser block*	*AC*
7M662	*Hydrostatic displacement lubricator (fits in the cab)*	*P*
7M663	*Injector steam valves (pack of 2)*	*AC*
7M749	*Vertical Injectors (pack of 2)*	*AH*
7M650	*Locomotive lamp brackets (pack of 8)*	*AH*
7M664	*Mason Valves (pack of 2)*	*AC*
7M705	*Quadrant reverser*	*AC*
7M665	*Roscoe lubricator (fits on Smokebox)*	*P*
7M605	*Ross Pop safety valves*	*AC*
7M706	*Screw Couplings (pack of 2)*	*AH*
7M637	*Smokebox door darts - turned brass (pack of 2)*	*P*
7M601	*Steam heating pipes (pack of 2)*	*AC*
7M604	*Wakefield lubricators (pack of 2)*	*AH*
7M659	*Water gauges (pack of 2)*	*AH*
7M702	*Westinghouse brake pipes (pack of 2)*	*AC*
7M602	*Westinghouse pump and bracket*	*AL*
7M600	*Vacuum pipes (pack of 2)*	*AC*

7mm Locomotive Fittings - LNER and constituents

Code	*Item*	*Price*
7M655	*GER boiler backhead*	*AN*
7M628	*GER brake standard*	*AC*
7M625	*GER clack valves (set of two)*	*AH*
7M630	*GER Class Y14 chimney - early pattern.*	*AH*
7M654	*GER dome*	*AH*
7M653	*GER piano front*	*AH*
7M629	*GER Ramsbottom safety valve*	*AH*
7M660	*GER regulator handle*	*P*
7M624	*GER Ross pop safety valves*	*AH*

7mm Locomotive Fittings - LNER and constituents

Code	Item	Price
7M766	GNR Stirling tender axlebox with horn	AC
7M764	GNR Stirling tender water supply pipe shut off valve	AC
7M763	GNR Stirling water gauge and shut off valve	AC
7M631	LNER Class J15 chimney	AH
7M632	LNER Class J15 Smokebox front	AH

7mm Locomotive Fittings - LMS and constituents

Code	Item	Price
7M613	LMS Fowler 1' 9 1/2" dome	AH
7M634	LMS Fowler tender brake standards (x2)	AH
7M607	LMS Fowler 1' 6 13/16" chimney	AH
7M608	LMS Fowler 1' 11 7/16" chimney	AH
7M673	LMS steam ejector	AH
7M647	LNWR locomotive brakes/hangers (x2)	AC
7M753	LNWR tender water vents (two tall, two short) and two water shut off valves	AH
7M618	M&GN 3'1" chimney for 0-6-0 'D' class	AH
7M619	M&GN 3'0" chimney for 0-6-0 tank	AH
7M747	MR 'H-type' boiler safety valve	AH
7M612	MR 2' 1 1/4" dome	AH
7M609	MR Deeley 2' 2 1/2" chimney	AH
7M611	MR Deeley 2' 3 3/4" dome	AH
7M610	MR Deeley 2' 5 1/2" chimney	AH
7M615	MR Deeley 3' chimney	AH

7mm Locomotive Fittings - LMS and constituents

Code	Item	Price
7M614	MR Johnson 3' 4" chimney	AH
7M617	MR Johnson 1' 9" safety valve cover	AH
7M616	MR Johnson Salter safety valves/dome	AN
7M620**	MR Johnson/LMS Deeley tender axle-boxes. These are cast blind in white metal with the front of axlebox supplied as a separate item allowing their use for other regions (x6)	AN
7M638	MR Ramsbottom safety valve	AH
7M657	MR Sand trap valve (pack of two)	AC
7M603	MR steam ejector	AH

7M627	*GER tender axleboxes (x6)*	*AZ*
7M623	*GER tender water tank filler*	*W*
7M622	*GER tender toolbox*	*AC*
7M621	*GER Whistle*	*P*
7M758	*GCR driving wheel spring hangers (x4)*	*AC*
7M754	*GNR Stirling single bogie springs (x2)*	*AC*
7M752	*GNR Stirling single cylinder drain cocks (x2)*	*AC*
7M756	*GNR Stirling single driving wheel springs*	*AC*
7M755	*GNR Stirling single rear wheel springs (x2)*	*AC*
7M757	*GNR Stirling single tender springs (x2)*	*AC*
7M759	*GNR Stirling brake cylinder*	*AC*
7M765	*GNR Stirling brake valve*	*AC*
7M760	*GNR Stirling buffer bodies (x2)*	*AC*
7M761	*GNR Stirling buffer body for between loco and tender*	*AC*
7M762	*GNR Stirling handrail fixing, left and right hand*	*P*
7M606	MR whistle	P
7M642	MR/LMS tender tank vents (set of two).	AC

7mm Locomotive Fittings - SR and constituents

Code	Item	PriW AH
7M698	LSWR Adams dome	AN
7M699	LSWR Adams Smokebox front	AH
7M677	LSWR Adams tall stovepipe chimney - one piece	AH
7M703	LSWR O2 tank loco Westinghouse air tank	AH
7M695	LSWR Drummond chimney	AH
7M697	LSWR Drummond dome	AN
7M696	LSWR Drummond Smokebox door	AH
7M700	LSWR tank fillers	AH
7M704	LSWR/SR Classes O2/G6 sandboxes (x2)	AH
7M701	SR Clack valves (pack of 2)	AH

SCALE HANDRAIL KNOBS

Before the introduction of these items handrail knobs were one of those scale components which proved elusive to obtain. The answer to the problem was to introduce what is probably the most accurate and readily-obtainable 7mm scale handrail knobs on the market today. They are turned in brass to close tolerances and are drilled to take 0.7mm wire.

Code	Item	Price	Price
7M53	25 x Handrail Knobs (short)	AB	
7M54	25 x Handrail Knobs (medium)	AB	
7M55	25 x Handrail knobs (long)	AB	

STRAIGHT BRASS WIRE

Own up those modellers who have opened their latest loco kit and gazed with some trepidation at the coil of wire lurking at the bottom of the box. This is supplied to make straight (?) handrails, but here is a far better solution - wire that is already straight. A large number of people who have already used this wire say they are finding so many uses for it that they wonder how they have managed without it in the past. It is available in four diameters and the following notes are a guide as to their application.

* 0.3mm. For use as handrails on Brake vans, coaches. etc.
* 0.45mm. The correct size for handrails on 4mm. scale locomotives and our 4mm. scale handrail knobs are drilled to take this wire.
* 0.7mm. The correct size for handrails on 7mm scale locomotives and our 7mm scale handrail knobs are drilled to take this wire.
* 0.9mm. Suitable size for most pipe work on 4mm scale locomotives.

Code	Item	
4M136	10 x 10” lengths of 0.45mm. brass wire	Price K
4M137	10 x 10” lengths of 0.90mm. brass wire	Price K
4M138	10 x 10” lengths of 0.33mm. brass wire	Price K
4M139	10 x 10” lengths of 0.70mm. brass wire	Price K

SPRUNG PLUNGER PICK UPS

This product provides a very efficient method of current collection and only requires a 2.5mm. hole in the mainframes. The design is so compact that pickups can be mounted opposite each other - even in standard 00 mainframes. The spring supplied with this item is of a very light compression, resulting in virtually no drag. These pick-ups can be used in both 4mm and 7mm scales - for 7mm the body of the pickup needs to be spaced out from the face of the frame slightly.

Code	Item	
4M62	Pack of 10 Sprung Plunger Pickups	Price AM

VALVE GEAR RIVETS
Precision turned steel tubular rivets suitable for fixing together valve gear and other small items. Being tubular the one way to retain
components on them is by locating a spring loaded centre punch in the hole and to drive it home a couple of times. By adjusting the punch the amount of spread of the rivet can be controlled. However as always we prefer to do things differently! Stand the rivet tail up on the bench and locate the front section of valve gear over this, face down, followed by a piece of newspaper and this in turn followed by the back section of valve gear that has had a small countersunk turned into the back of its face. Then solder this back rod to the rivet, file the back flush, pull the newspaper out and thats it. Its not the best way but it works fine for us.

Code	Item	Price	Price
For 4mm scale (shank diameter 0.8mm)			
4M50	25 x Valve gear rivets, short (shank length 1.2mm)	Price M	
4M51	25 x Valve gear rivets, long (shank length 1.7mm.)	Price M	
For7mm scale (shank diameter1.5mm)			
7M50	25 x valve gear rivets (shank length 2mm.)	Price M	

LOCOMOTIVE BUFFERS
With the range of 7mm kits increasing Alan introduced his own range of 7mm scale sprung locomotive buffers. The barrel of the body is now a brass turning and the backplate, with bolt head detail, is finely cast in white metal. The buffer heads are turned in steel for strength and appearance. They are self contained (i.e. the spring is actually housed within the buffer body) and they retain their light compression.

Code	Item	
7901	MR and GCR type	Price AK
7903	LMS AND BR Type 16”	Price AK
7904	GN / LBSCR / NE / GE, round base parallel	Price AK
7906	GW Collett square base, parallel	Price AK
7909	LNER / SR stepped parallel 16” head	Price AK
7910	Drummond std, LSWR / HR / CR / GSWR	Price AK

Sans Pareil 7mm Castings
We have entered into an agreement to distribute the extensive and detailed range of 7mm Sans Pareil castings which will considerably increase the range of 7mm castings we have available. Unfortunately, most of the range will only be available to order, but we will endeavour to build up stocks of popular castings. The ones shown below will be initially available on our stand.

Part Number	Description	Material	Contains	
Misc. 001	Tools & Accessories	Nickel-Silver	18 Parts	Price AB
Misc. 059	Lamps MR./LMS Type	Brass	4 Castings	Price AL
Misc. 060	Lamps GWR Type	Brass	4 Castings	Price AL
Misc. 063	Lamps LNER Type	Brass	4 Castings	Price AL
Misc. 080	Fire Iron Set 6 Different Types	Nickel-Silver	10 Castings	Price AL

NEWS

I wish it were better! Although it isn't bad either. We're extremely busy and that has reduced the amount of time we have available for producing kits, development / new products and even maintenance. We are currently producing kits as we can but it is unfortunate that this tends to be a stop/start process.

Here is a round up of the situation with the common 'embarrassments'

Class 31/50 Conversions – We spent a little time on a program for the CNC and have started to produce a 'one piece' wheel and axle. They are now available at the release of this catalogue, both sizes in EM and P4.

Conducting wheels – We have produced both 12mm & 14mm solid conducting disc wheels in OO/EM & P4, which are again available with this catalogue.

While we were at it and because we can, we also produced a 3'8" solid conducting disc wheel in both EM & P4 which is compatible with 4844B and the same for 4850. These could be used for power collection and might be particularly useful in LNER Group Standard Tenders.

Self Quartering wheels – It has been a long time, but these are still a thing. One of the benefits of the machinery we've invested in is that we can accurately mass produce some of the parts required for the Self Quartering tooling.

Kits – apart from those in stock we have it in mind to produce the following in the next 6 months 4mm GWR 1076 Pannier, 4mm GWR 850 Pannier, 4mm LSWR O2, 4mm LSWR G6, 4mm MR U/S (we have most of the parts), 4mm LNER F4/F5. 7mm S&D 7F and LNER E4. We also have some 7mm MR loco etches that we want to turn in to kits but that's likely to be longer term.

7mm Cast Horn blocks – This is in a similar situation to the Class31 conversion mentioned about. We had a customer complain because he had castings that were mis shaped (legs splayed out a little because of the action of taking the waxes from the mould), anyway he determined it was too excessive for him to straighten. This combined with the fact we need to take 0.002" from the side of the bearing as a second operation has kind of dulled our enthusiasm for this product. However, we'll cut a strap between the legs to make the wax more stable and come up with a better way of carrying out the second machining operation at that point they should become straight forward to keep in stock. In the meantime, if anybody want to take them as a more basic kit of bits and do their own straightening and filing we will provide the parts at a reduced price.

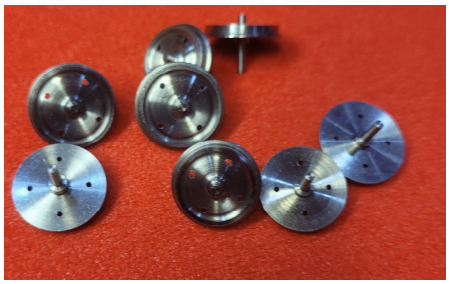
Newsletter – Due to the changes in legislation around 'Data' I believe we now need to gain specific consent both to store your email address and to send you an 'unsolicited' email. We need to read up on it and make sure we comply, just another thing to do.

Recently New Items

(and some not so new, but previously unavailable in this form)

Conducting Rolling Stock Wheels, both 14mm and 12mm in OO, EM & P4 (see page 8)

The 14m ones are re-introduced after resolving some manufacturing issues and the 12mm are completely new



Hornby Class 31 and 50 Conversion Sets (see Page 29)

The old 2-piece design were difficult to manufacture and resulted in an unacceptable scrap rate. Due to our machinery upgrades it has given us new capabilities which have allowed us to reintroduce these packs as a one-piece part with somewhat prototypical profiles and holes.

Conducting Tender wheels (see page 12)

As stated above our upgraded machinery has allowed us to produce finished items that just were not economical before.

We have produced in both OO/EM and P4 conducting, disc Tender wheels sized matched to both our 4844B and 4850

Brass Wheel Kits
The following wheels have had casting produced and have been added to the range, full details are on page s 7 & 8

4880B LNER A4/3/1, B17, etc.

4880M LMS Royal Scot. etc.

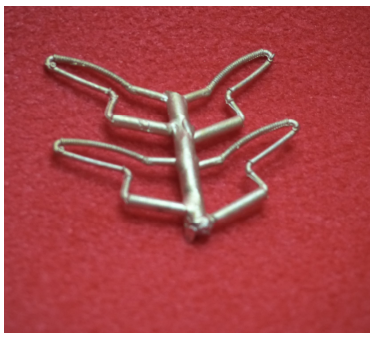
4881 LMS Jubilee Class

Conversions

4800/64 Bachmann Stanier 2-6-0

Castings

4M702 Westinghouse Pipes



4M922 Vacuum Pipe Variety Sprue

4M923 'Salter' Type Valves and Stems

Hints, Tips and Instructions on Using some of our Products

For some time now we've been mindful of the fact that most of our products don't contain any instructions. It worries us that there may be people who have bought our products and not got on with them, pushing them aside and giving them in with them for the want of some basic understanding. Now I know there are people out there who will think 'what's the problem', are perfectly happy with their methods and don't want to be told how to do things. On the other hand we've seen some of the nonsense that's been written in all forms of media and think that the record should be put straight. We don't intend to put instructions in every packet of wheels as there will obviously be a cost implication, also, if you buy a Pacific and tenders worth of wheels and crankpins you would end up with 10 sets of instructions. With that in mind we intend to publish these notes in this full catalogue which is available online.

Preparing the wheels for use.

Individual components are manufactured in large batches then stored until assembly and packing, they are treated in light oil before storage. This coating is usually thin enough to be barely perceptible, occasionally when wheels sit in the container; actually in the oil a sticky residue can be formed. We should clean this residue off before assembly, but sometimes it is missed, or sometimes it forms after packing. If you have brown staining on the tyres it is unlikely to be rust, merely this residue build up and it can be easily cleaned off with a rag with some WD40 on it or a drop of methylated spirits, no strong solvents please, they melt the plastic centres. If it is rust, they weren't made by Noah and you haven't kept them in the bottom of your fish tank, please get in touch.
The other thing to look out for is the plastic centre. Our centres should be free from moulding defects i.e. be properly formed and on the whole free from flash. However, because of the age and type of tooling it may be profitable to invest a little time on the crankpin boss. Without going in to talking about all the tooling there can be seams or witness marks where two mould components come together, if you've looked closely at our wheels you may have seen this on some (but not all) of our wheels on the crank boss. There are numerous ways these can be dealt with including cutting/scraping with a sharp blade, filing or polishing with fine paper.

Wheels, general assembly

The axles for our driving wheels are precision ground to 0.125" and like the 2mm axle are parted to length and then packed, at no point do we de-burr the axle end, this is a historical process which was assumed would be carried out by the modeller (if the modeller knew they had to do it). It is essential that the end of the axle is checked and if necessary de-burred, it is also a great advantage to put a fine lead/taper on each end of the axle with a couple of light strokes of a file or the touch of a tool in a lathe, this only needs of the order of 0.1mm/0.2mm long. The implications of not doing this is that any burr will remove a sliver of material from the bore of the wheel, causing a possible reduction in the grip of the wheel on the axle and causing an oval hole, which will result in wheel wobble.

The other vital part of assembly is putting the axle in square, modellers have many ways of doing it, I can do it with a very high rate of success on the bench with a penny on the axle end using my thumb, but we're not suggesting you do that as if I mess it up I can help myself to a new centre. You could use anything that can provide a perpendicular push to a steady surface. A lathe is a classic case of this, the chuck can be used as a surface and the tailstock as perpendicular thrust. By far the best way though is to buy a wheel press. GW models produces a combined wheel press and quartering jig which is a quality tool and will provide many years of use.

Tyres – There have been numerous stories about tyres being/becoming loose. We can't speak for previous assembly regimes, but we can say that during the assembly process any tyre that seems to be at the ends of the tolerance band will be discarded. A word of warning though, the centre is a push/interference fit in the tyre and since steel and ABS plastic expand at differing rates keeping the wheels in hot conditions can cause problems.

Concentricity – The wheel components are manufactured in such a way that concentricity problems would be very unlikely, notice I'm not saying impossible, as the impossible often seems happen. Many of the concentricity/wobble issues can be traced back to the initial assembly on to the axle. At one time the plastic centres were twisted from the sprue leaving a bump on the edge, it is possible that on larger, finer (S4) wheels that when the centre was pushed in that lump deformed the trye causing some eccentricity. Quite early on we introduced a stage in production where the sprues were clipped of at the centre.

Driving Wheels - Quartering.

It would be easy to just recommend the purchase of a quartering jig and leave it at that. However, it is worth discussing some of the other methods available and some of the theory behind quartering.
First of all the point has to be made that we are not actually dealing with the timing of valve gear and hence the critical opening and closing times of ports within cylinders. Therefore it could be argued that the lead needn't be 90° as long as it is the same on all axles. So, if you mount your first diving wheel set on axles and they are set at 82.5° apart his need not necessarily be a problem. You can't see both sides of the engine at once so it is unlikely anyone will ever know and if you do want it to be spot on then of course you can take the time to get it exactly right at 90°. Now before we're flooded with letters and emails baying for blood and claiming heresy can we just say that we're trying to make loco building more accessible for new or lower ability

modellers (and widen the appeal for our wheels).
Another method for setting the wheels at 90°, and admittedly this only really works when assembling wheels outside the chassis ie in horn bearings, is two use spoke alignment. By looking through the spokes (with the wheels on the axle) you can align the spokes on opposite sides. You can get the wheels roughly quartered and then by looking through set the angle more precisely, an even number of spoke would align perfectly, an odd number would be to half a spoke. At this point it is worth pointing out that since the wheel centres are plastic and designed to have an interference fit adjustments should be made as soon as possible after fitting as the plastic will relax and form a very strong grip on the ground axle. If you need o move the wheels the hold on the axle should be broken by twisting, never pulling.
So you have chamfered you axle, put your wheels on squarely and adjusted the quartering on your first axle. Quartering the rest of the wheels can be done by the method long described in our catalogue. Fit your second axle in the same way and couple it to the first axle then only adjust the second axle only until the chassis runs smoothly continue adding driving axles until complete but only ever adjust the last axle added. Never go back to the previous axles as they are (should be) smooth running and shouldn't be the problem.

We are developing a range of self quartering wheels and its no secret that this is taking a lot longer than we thought. This is mainly due to having to modify/produce new tooling parts, the financial commitment to produce the new axles (in three gauges) and general pressure on development time. Anyway, it is worth pointing out that any self quartering system can only be as accurate as the tolerances of the components. However, with a round axle the wheel position can be adjusted to the exact correct position with adjustments being able to be made to fractions of seconds of arc.

Driving Wheels – Crankholes/Crankpins.

The use of crankpins is detailed in the instructions contained in the packets. It is worth just mentioning the two different ways of dealing with the crankpin hole in the wheels. We have wheels with the crankpin hole already moulded in, straight forward no problem. However we have some older tooling which instead of having a pin in the tool to produce the hole merely has a dimple. Therefore the modeller is required to drill out the crankpin hole and full instructions for doing this are provided in our crankpin set. The only reason for doing this that we can think of is that this allows the modeller to change the crank throw if required. It is certainly more involved to produce the tooling like this than produce a pin to make

FAVOUR (BACK) CATALOGUE

This section of the catalogue is actually a catalogue within a catalogue, it contains items that we can manufacture but have either (i) never appeared in the catalogue or (ii) have appeared in the catalogue but have since been removed, the reason for this is purely the logistics of keeping all these items in stock.

What tends to happen is that we will make a significant quantity to fill a trade order and then over produce and put the rest in to 'stock'.

Trade orders in the hundreds or thousands are welcomed, retail orders for two or four etc, not so much, if we have them great, if not it us unreasonable to expect to treat them as stock and / or make them. Even if we do have them to hand they are still awkward for us to deal with.

THESE ITEMS WILL NOT BE AVAILABLE AT SHOWS.

Page 36	Narrow Gauge and 3mm Scale
Page 37	S Gauge, Carriage & Wagon, Driving Wheels
Page 38	Bogie and Tender Wheels, Castings and Wagon Strapping and Wagon Under Frames
Page 39	Etches from S Gauge Kits

Narrow Gauge

We produce a small range of wheels for narrow gauge, which are constructed in the same manner as our other 4mm carriage and wagon wheels. Since there are a number of permutations it may be easier to give the details of the 'building blocks' rather than specific items (at least until we devise a parts coding for them).

Axles - 1.5mm diameter pinpoint axles which are either 15mm or 20mm long are provided

Gauges – We currently assemble wheelsets to OO9 and OOn3

Wheels – 8mm

8mm Disc 8mm 6 Hole Disc 8mm 8 Spoke 8mm 6 Spoke

Wheels –9mm

9mm Disc 9mm 3 Hole Disc 9mm 8 Spoke

Wheels – 10.5mm

10.5mm Disc 10.5mm 8 Spoke 10.5mm 10 Spoke

3mm Scale

The range of 3mm scale wheels is not as extensive as the 4mm, but still contains the most popular wheels. They all have a black plastic injection moulded centre carrying individual detail and these centres are pressed into chemically blackened steel tyres that have been precision turned to the recommended profile for the gauge. They are supplied mounted on a blackened steel pinpoint axle 20mm long, 1.5mm diameter and are sold as single axles.

ROLLING STOCK WHEELS

Code	Scale	Size	Description
3000	3'1½"	9mm	8 spoke (plain) wheels
3002	3'1½"	9mm	3 hole disc wheels
3005	3'7½"	10.5mm	Plain disc wheels
3007	2'7½"	8mm	Plain disc 'Lowmac' wheels
3009	3'1½"	9mm	DMU plain disc wheels
3010	3'7½"	10.5mm	8 spoke (plain) wheels
3015	3'7½"	10.5mm	10 spoke (plain) wheels
3017	2'7½"	8mm	8 spoke (plain) wheels

Code	Item	
300*	Carriage and Wagon Wheels	Price C

NOTES ON CARRIAGE AND WAGON WHEELS All types of 3mm scale wheels are jig assembled to ensure squareness on the axle and to maintain the essential accuracy of the back-to-back measurement..

S Scale

The range of S scale wheels is not as extensive as the 4mm, but still contains the most popular wheels. They all have a black plastic injection moulded centre carrying individual detail and these centres are pressed into chemically blackened steel tyres that have been precision turned to the recommended profile for the gauge. They are supplied mounted on a blackened steel pinpoint axle 30.5mm long, 2mm diameter and are sold as single axles.

CARRIAGE & WAGON WHEELS

Code	Scale	Size	Description
S000	3'1½"	12mm	8 spoke (plain) wheels
S001	3'1½"	12mm	8 spoke (open) wheels
S002	3'1½"	12mm	3 hole disc wheels
S004	3'7½"	14mm	Mansell wheels
S005	3'7½"	14mm	Plain disc wheels
S008	2'7½"	10.5mm	10 spoke 'Lowmac' wheels
S009	3'1½"	12mm	DMU plain disc wheels

Code Item
S00* Carriage and Wagon Wheels Price C

NOTES ON CARRIAGE AND WAGON WHEELS All types of S scale wheels are jig assembled to ensure squareness on the axle and to maintain the essential accuracy of the back-to-back measurement..

STEAM LOCOMOTIVE DRIVING WHEELS Less extensive (than our 4mm range) is our range of locomotive S gauge driving, bogie and tender wheels. These have been carefully selected to meet the needs of most modellers and although each wheel has been scaled from a specific prototype many will be found to be representative of numerous other types. On average the tyre on a prototype wheel was allowed to wear to minus 2" of its nominal diameter before having to be replaced and in selecting the range of tyre diameters Alan took this wear factor into account. Modellers can, therefore, confidently choose a wheel whose diameter is within 2" of the prototype's stated size in the almost certain knowledge that it was in that condition some time during its life.
All S gauge steam locomotive driving wheels have black injection moulded centres which are pressed into steel tyres that have been machined to each gauge's recommended profile (in certain cases the Finescale OO/EM tyre is used for economic reasons). The tyres are left in a bright metal finish and no balance weights are fitted.
The wheels are sold in packs containing two wheels and an axle. Those wheels which are designated 'OC' in the 'CP' column are designed for use with outside cranks and these wheels are packed complete with two outside crank mouldings and a specially extended axle. All axles supplied with our steam locomotive wheels have a1/8" diameter axle and are manufactured from precision ground steel to the correct length and also left in a bright metal finish.
Under the column headed 'Rim' a plain rim usually indicates a pre-1930 wheel while a bevelled rim, also known as a Stanier, denotes a later style of wheel in which the spokes are flared into a heavily bevelled rim. This latter type of wheel was mostly fitted to ex-L.M.S. locomotives and also to the later British Railways standard classes.
The column headed 'Crank pin' has three different notations, explained as follows: **IL** indicates a wheel with its crank pin boss in line with the spokes; **PB** indicates a wheel with its crank pin boss between the spokes; and **OC** indicates a wheel with no crank pin boss for locomotives fitted with outside cranks.
The column headed 'Throw' indicates the crank pin throw and the succeeding column gives the scale equivalent. It's amazing what a difference the correct amount of throw makes when the locomotive is moving!
When ordering it is very important to quote the item code together with the full prototype description of the wheels and, most important, the gauge required.

Code	Size	Scale	Spokes	Prototype	Rim	CP	Throw	Brass
GS855S	4' 7"	22mm.	15 spoke	LMS Stanier 8F	Bevel	PB	14"	
GS855	4' 7½"	22mm.	15 spoke	Midland/LMS	Plain	IL	12"	
GS858	4' 10"	23mm.	16 spoke	LSWR 02 Class	Plain	IL	11"	
GS862	5' 2½"	24.7mm.	16 spoke	MR Classes 2, 3, 4	Plain	IL	11"	
GS866ST	5' 6"	26.1mm.	17 spoke	Stanier 2-6-4 Tank	Bevel	PB	13"	
GS868ST	5' 8"	26.9mm.	18 spoke	BR 2-6-4 Tank	Bevel	PB	13"	
GS4872	6' 0"	28.5mm.	19 spoke	LMS Class 5	Bevel	PB	14"	
GS878M	6' 6"	30.9mm.	20 spoke	Midland 2P Class	Plain	IL	11"	
GS880M	6' 8"	32.1mm.	21 spoke	LMS Royal Scot. etc.	Plain	IL	13"	
GS881	6' 8"	32.1mm.	21 spoke	LMS Jubilee Class	Bevel	PB	13"	
GS884	7' 0"	33.3mm	22 spoke	Midland Compound	Plain	IL	13"	

The price for two driving wheels and axle(s) as indicated,

Code Item
S8** Steam Locomotive Driving Wheels Price AC

BOGIE and TENDER WHEELS
To complement our steam locomotive driving wheels we also produce our own bogie and tender wheels. They have all been scaled from prototype examples and they have high detailed injection moulded centres fitted into steel tyres which are left in bright metal. All bogie and tender wheels are sold in packs containing two wheels together with an S inside bearing axle plus an S pin point axle for outside bearings or an S4 inside bearing axle together with pin point axle.

Code	*Size*	*Scale*	*Spokes*	*Rim*	*Brass*
GS836GP	*3' 0"*	*14.2mm.*	*9 spoke*	*Plain*	
GS838	*3' 2"*	*15mm.*	*10 spoke*	*Plain*	
GS839	*3' 3½"*	*15.6mm.*	*10 spoke*	*Plain*	
GS839ST	*3' 3½"*	*15.6mm.*	*10 spoke*	*Bevel*	
GS842	*3' 6"*	*16.6mm.*	*10 spoke*	*Plain*	
GS844	3' 8"	17.4mm.	10 spoke	Plain	
GS851	4' 3"	20.2mm.	12 spoke	Plain	
GS851ST	4' 3"	20.2mm.	12 spoke	Bevel	

Code Item
S8** Steam Locomotive bogie and tender wheels Price K

Locomotive Fittings
A less extensive and diverse range of quality pre-grouping and post grouping locomotive fittings, mostly lost wax brass castings except for those items marked with two asterisks (**) after the code number which are cast in white metal.

GENERAL FITTINGS						
SM604**	Wakefield Lubricators (pack of two)	K		SM602	Westinghouse Pump	
SM740	Quadrant Reverser					
L.M.S. AND CONSTITUENT COMPANIES						
SM607**	Midland Railway Fowler 1'6 13/16" chimney	K		SM620**	Late Midland / early LMS Johnson and Deeley type	W
SM608**	Midland Railway Fowler 1'11 7/16" chimney	K		SM620A**	Early Midland Railway tender axleboxes (pack of six)	W
SM610**	Midland Railway Deeley 2'5½" Chimney	K		SM68**	Midland Railway open Ramsbottom safety valves from	K
SM611**	Midland Railway Deeley 2'3¾" Dome	K		SM640**	Midland / LMS Smokebox door for 5'3" boilers	K
SM612**	Midland Railway Fowler 1'9½" Dome	K		SM695**	Johnson Tender Toolboxes (pack of two)	K
SM613**	LMS Fowler 2'1¼" Dome	K		SM696**	Midland Railway enclosed Ramsbottom safety valves	K
SM642	Stanier / LMS Tender Vents	W			Stanier/Fowler Tender Dome	P
SM634	Tender Handbrake Column	W			Tender Water Filler	P
WAGON AXLEBOXES						
SM697**	4 x RCH axlebox castings with springs for steel channel	P		SM698**	4 x Midland Railway Ellis pattern axleboxes with springs	P
SR AND CONSTITUENT COMPANIES						
SM782	LSWR open Ramsbottom Type Safety Valve	W		SM700	LSWR Tank Loco Water Fillers	AC

WAGON STRAPPING
A sheet of etched wagon strapping containing all the necessary styles of strapping found on wooden bodied goods wagons. Etched in .012" brass the sheet has been designed to provide sufficient strapping for three different types of vehicles, a 5-plank open wagon, a 7-plank open wagon and any one of the numerous types of goods vans. All you have to do is provide the body, either in metal, plasticard, marine ply or whatever, and way you go.

Code Item
SMM33 Wagon strapping Price AK

WAGON UNDERFRAME
Take the drudgery out of wagon building by using one of our scale underframe kits. They are designed for wagons using a steel channel solebar but can be adapted for wooden solebar variants and they are available in both 9' and 10' wheelbase versions. They come with the well proven rocking 'W'-iron compensation system but provision is made for a rigid chassis to be built if preferred. Both kits are designed to be used with scale 17'" long bodies although the 9' wheelbase kit is marked to enable it to be shortened to fit either a 16'6" or a 16' body as required. The kits are finely etched on 0.012" brass and consist of the following

* Wagon base with channel solebars - adaptable to wooden type:
* Buffer beams - two shapes:
* 'W'-irons;
* All brake linkages and components for the various types of braking systems;
* Pin point axle bearings:
* Full assembly instructions with a number of diagrams showing the workings of the various braking systems.

Because of the large number of possible wheel and buffer combinations these components are NOT included in the kits. We can offer a range of both these items which are covered in preceding pages of this catalogue.

Code Item
SMM40 Wagon underframe kit *(9'* wheelbase) Price AO
SMM41 Wagon underframe kit (10' wheelbase) Price AO

Etches

In order to get items on or back to the market as quickly as possible we have decided to make our S gauge etches available separately, without any fittings, castings, wheels etc etc. These packs will jus contain either the brass or nickel etches for the respective kit, you'll notice there isn't any pricing. I'm afraid this will have to be POA.

SMM34 LBSC 4 Comp Brake Coach Kit
SMM35 LBSC 5 Comp Brake Coach Kit
SMM36 LBSC 6 Comp Brake Coach Kit
SMM37 LBSC 7 Comp Brake Coach Kit
SMM38 LBSC Third Class Coach Kit
SMM39 LBSC Composite Coach Kit
SMM32 Pack of 5 Midland Railway 57' Body Only Corridor Coach Kits
SMM LMS Suburban Coach

SMM Midland Railway 3F Brass Body Etch
SMM Midland Railway 3F Nickel Underframe Etch
SMM Midland Railway 483 Brass Body Etch
SMM Midland Railway 483/2P Nickel Underframe Etch
SMM Midland Railway 4F Brass Body Etch
SMM Midland Railway 4F Nickel Underframe Etch
SMM Midland Railway Johnson Tender Brass Body Etch
SMM Midland Railway Fowler Tender Brass Body Etch
SMM Great Eastern Railway J15 Brass Body Etch
SMM Great Eastern Railway E4 Brass Body Etch
SMM Great Eastern Railway Tender Brass Body Etch
SMM S&D Railway 7F 2-8-0 Brass Body Etch
SMM S&D Railway 7F 2-8-0 Nickel Underframe Etch
SMM Midland Railway 990 Brass Body Etch
SMM Midland Railway 990 Nickel Underframe Etch
SMM Midland Railway 1738 Loco Brass Body Etch
SMM Midland Railway 700 Loco Brass Body Etch
SMM Midland Railway 2F Brass Body Etch
SMM Midland Railway 2F Nickel Underframe Etch
SMM Midland Railway Jinty 3F Brass Body Etch
SMM Midland Railway Jinty 3F Nickel Underframe Etch
SMM Midland Railway S/U Class Brass Body Etch
SMM Midland Railway S/U Class Nickel Underframe Etch
SMM Midland Railway Belpaire Tender Brass Body Etch
SMM Midland Railway Deeley Tender Brass Body Etch
SMM LSWR O2 Brass Body Etch
SMM LMS Patriot Brass Body Etch
SMM LMS Patriot Nickel Chassis Etch
SMM LMS Stanier Mogul 2-6-0 Brass Body Etch
SMM LMS Stanier Mogul 2-6-0 Nickel Chassis Etch
SMM LMS Stanier 8F 2-8-0 Brass Body Etch
SMM LMS Stanier 8F 2-8-0 Nickel Chassis Etch
SMM LMS Stanier Black 5 Brass Body Etch
SMM LMS Stanier Black 5 Nickel Chassis Etch
SMM LMS Stanier Jubilee Brass Body Etch
SMM LMS Stanier Jubilee Nickel Chassis Etch
SMM LMS Stanier 2-6-4T 3 Cylinder Brass Body Etch
SMM LMS Stanier 2-6-4T 2 Cylinder Brass Body Etch
SMM LMS Stanier 2-6-4T 2 Cylinder Nickel Chassis Etch
SMM LMS Hughes Crab Brass Body Etch
SMM LMS Hughes Crab Nickel Chassis Etch
SMM LMS Fairburn 2-6-4T Brass Body Etch
SMM LMS Fairburn 2-6-4T Nickel Chassis Etch
SMM LMS Stanier Tender Brass Body Etch
SMM LMS Fowler Riveted Tender Brass Body Etch
SMM Van Bodies
SMM91 Midland Railway Footbridge

7mm Castings from Sans Pareil

We have decided to withdraw the Sans Pareil castings from our catalogue for logistical reasons, primarily to use the time to focus on our own ranges.

ALAN GIBSON MODEL RAILWAY PRODUCTS

Alan Gibson, PO Box 597, Oldham, OL1 9FQ

Tel 0161 678 1607 – Fax 0161 785 8208

email: sales@alangibsonworkshop.com

Calls strictly between 8.30am & 6pm Monday to Friday
9am to 1pm Saturday

Strictly NO VISITORS