



LIMA

RAILWAYS

The complete Lima range.
1982/83 British Edition,
00 scale, N gauge.



Whilst every attempt is made to ensure the complete accuracy of all items in the Lima range, the manufacturers have altered/amended designs, specifications, materials, etc., as necessary, to enable them to produce such models by current production methods.

Items marked **NEW** are not necessary readily available at this time.

- 00 Scale
- N Gauge
- 00 Scale, N Gauge

INDEX

Why Lima are no. 1 in the world of model railways. A great range of locomotives, passenger coaches, freight wagons and accessories

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WHY



Model railways on a grand scale – at the right price.

The attractive town of Vicenza in Italy is probably best known throughout the world, as the home of Lima. Our factory here has continually expanded over the past few years, and today Lima clearly ranks as world



leader in the production of model railways.

High technology, and our vast experience has resulted in modern manufacturing processes that keep production costs to a minimum. For you that means a great range of models, at very affordable prices.

Today's latest materials and our painstaking research into every prototype assures you of a consistent high quality and fine detail in every Lima model.

Buy Lima and you'll get great value for money.

And with the vast Lima range you'll find endless possibilities to build up a fabulous layout, and an absorbing hobby.

From prototype to finished model!

Buying Lima means you are buying the best in technology and experience. Every new model we introduce demands months of patient research, into original drawings, photographs

and, wherever possible, studying the life-size original.

The prototype model, perfect in every detail, only goes into production after stringent checks and running tests.

Every single component is examined closely before becoming part of the final assembly.

And close attention to liveries, applied with our own special process, completes a model that you'll be proud to run on your railway.

Finally, long term tests on durability and reliability are your guarantee that you have a model worthy of the standards we set ourselves as World leaders.

The right scale for you.

Choosing the right scale is important, and depends both on the space you have available and on personal preference. Lima gives you that choice.



00 Scale (16.5 mm gauge) is probably the most well known and popular scale.

N Gauge (9 mm) is the perfect miniature railway, precise in every detail that, can accommodate almost twice the track "mile age" of 00 scale in a given area.



LIMA ARE NO. 1 IN THE WORLD OF MODEL RAILWAYS

LIMA Locomotives: Built for power.

Every Lima 00 locomotive uses the tried and tested Lima 'G' motor for long life and reliability. This high performance motor is both efficient and strong – capable of pulling long trains of



coaches and wagons – even on a gradient – without fear of overheating. It's a result of many years' development – based on the characteristics we know that modellers demand – and a design that features very efficient noise reduction, and elimination of T.V. and radio interference.

LIMA Train Sets – starting you on the right track.

Your first Lima Train Set will open up infinite possibilities for

building that layout you always dreamed of. Model railways, even from the most modest beginnings, soon becomes a passion and Lima Train Sets are the easy way to begin the fascinating hobby of model railways. It won't be long before you can call yourself a true enthusiast, well on the way to building a railway network for your own

that runs exactly along the lines of the real thing. Lima Train Sets are the ideal way to start. Many contain accessories based on real railway operations that immediately bring your layout to life. From there the limits for development are endless.



A GREAT RANGE OF LOCOMOTIVES, PASSENGER COACHES, WAGONS AND ACCESSORIES.

Lima quite simply offer you the widest selection in the world. Scope to build a complete railway system from the past or present. The only limitation is your imagination. You can recreate the bygone eras of steam, or come right up to date with modern diesel and electric operation. Lima satisfies all tastes.



And you can be sure that by choosing Lima, any period you model will be exact in every detail, bringing the history of railways to life in your own home.

With so much to add to your layout – locomotives, coaches, wagons, tracks, transformers and accessories – where do you begin? The answer has got to be with Li-



ma's precision, variety and value-for-money.

Start with a simple layout from one of the many in the Lima Train Set range and build gradually as you go along. You'll find



every Lima product is completely compatible with the next.



One or more accessories will give a touch of realism. You won't find a wider range of accessories anywhere else. Buildings, stations, depots, maintenance areas and many others that actually operate like the real thing – such as the automatic coach wash and container terminal. By adding scenery, right down to the smallest detail, you can transform your layout into a perfectly complete miniature world.



LOCOMOTIVES

00

Lima's fine models of classic locomotives like the Great Western 'Kings' and LMS 'Crabs', truly bring to life the glorious days of thundering steam power.

The early days of the diesels, even now just a memory, are also captured in the superb. Warship and Western models, and modern day traction is well represented in the Lima range. In all, we offer the biggest selection of British outline locomotives and liveries in 00 which has long been the most popular scale in the U.K.

In 00 scale, the distance between the rails is 16.5 mm and models are built to the exact scale of 4 mm to one foot. Every British loco is, of course, fitted with a standard coupling compatible with all other British makes.



Supertraction.

Lima have always striven toward realism in model railways. Now for life-like speeds we offer you a choice of two power plants, based on our famous G motor.

"Supertraction" is a low-ratio gearing, faithfully reproducing acceleration from a slow crawl to scale maximum speed.

"Supertraction" also gives you greater pulling power, transmitting energy more efficiently through the axles so that even steep gradients can be tackled at a steady climb.

High-speed.

"High-speed" higher-ratio gearing is also available and is most suitable for locomotives renowned for their crack express speeds. Trust Lima to get as near as possible to the real thing!

Both motors feature self-lubricating gears that require no maintenance, and of course they both meet our standards of low noise and anti-interference on T.V.'s and radios.





'KING' CLASS

Possibly the most famous of all G.W.R. locomotives, these magnificent express passenger engines were built by C.B. Collet at Swindon and introduced in 1927. The original No. 6000 King George V represented Gt. Britain at the Baltimore and Ohio Railroad centenary celebrations in 1927, where its unusual warning bell was fitted. Withdrawn for preservation in 1962 this loco can still be seen on periodical excursions.



205103MG



205104MG

205103MG 4-6-0 'King' Class Express Locomotive. No. 6000 "King George V" in Lined GWR Green Livery.

205104MG 4-6-0 'King' Class Express Locomotive. No. 6001 "King Charles II". Experimental.



'CRAB' CLASS

These impressive mixed traffic locomotives were the first new design of main line engine on the L.M.S.R. after grouping. Introduced in 1926 and designed by George Hughes C.M.E., they were hard working, and highly successful. Over 240 were built at Horwich and their unusual valve gear led to the nickname "Horwich Crab".



205119MG 2-6-0 'Crab' Class Express Locomotive, LMS Lined Maroon Livery.

205120MG 2-6-0 'Crab' Class Express Locomotive, BR Lined Black Livery.



45xx PRAIRIE

LOCOMOTIVES

One of G.W.R.'s Standard Tank locomotives for cross country and branch line passenger work. The 45xx Class was designed by G.J. Churchward and 175 were built at Swindon Works between 1906-1929. These small Prairie tanks weighed 57 tons, produced a pressure of 200 lbs and had tractive effort of 21250 lbs superheated. They were a lighter and smaller development of the earlier 31xx.



205110MG



205111MG

205110MG 2-6-2 T Class 45xx Prairie Tank Loco. BR Lined Black Livery.

205111MG 2-6-2 T Class 45xx GWR Prairie Tank Locomotive in Original Livery.



CLASS 94xx

94xx Class, intended for heavy shunting work and passenger traffic, was last in the line of Pannier Tanks produced for the G.W.R. at Swindon. Designed by F.W. Hawksworth and built in 1947 engine No. 9400 had allwelded tanks, an incredible coal capacity of 3½ tons, was super-heated and was fitted with Automatic Train Control. It was withdrawn from service in 1959 and is now preserved at the Great Western Railway, Museum at Swindon.



205117MG



205118MG

205117MG 0-6-0 T 94xx Class Tank Locomotive. Original GWR Livery.

205118MG 0-6-0 T 94xx Class Tank Locomotive. BR Lined Black Livery.





CLASS J.50

Designed by Sir Nigel Gresley in 1914, the J.50 Class were adapted for use on the steep inclines of West Riding. An increase in cylinder size and the tank engine design provided the extra adhesion. Lima's model is of engine No. 8920 built at Doncaster works in 1924, re-numbered by B.R. in 1948, and finally withdrawn from service in July 1961.



205101MG 0-6-0 T Class J.50 Tank Locomotive. LNER Lined Apple Green Livery.



205102MG 0-6-0 T Class J.50 Tank Locomotive. BR Unlined Black Livery.

Inter-City 125

British Rail's 125 mph (200 km/h) passenger train service began on 4th October 1976 when the first "Inter-City 125" trains entered daily service between London and Bristol or South Wales. The second service to be come "High Speed" was that between London and the North-east of England and Scotland via the East coast route in 1978. Further units are now in service between London and the West Country, and between Bristol and Newcastle via Birmingham.

The trains - built by British Rail Engineering Ltd. to high standards of confort and design - comprise of two power cars, each containing a 2,250 hp diesel engine and seven or eight intermediate coaches, including catering vehicles.

The prototype train holds the world speed record for diesel trains at 143 mph (229 km/h). Lima's "Inter-City 125" incorporates the latest design Power Cars, a First Class open coach, a new Trailer Guard Second Coach and a modified Buffet-Restaurant Catering Vehicle.

Lima in pursuit of perfection, has faithfully reproduced a model of outstanding quality with detailed driving Cab and Coach interiors, finished in British Rail's latest Inter-City livery. Complete with working headlights in the Power Car, it really is "Reality in Miniature" and is one train you really cannot afford to miss!

205160MG HST 125 Class 253 Power Car incorporating working headlights. **NEW**

205164 HST 125 Class 253 Non Powered Trailer. **NEW**

205161 BR MK 111 First Class Open Coach. **NEW**

205162 BR MK 111 Trailer Guard Second includes Guard Compartment. **NEW**

205163 BR MK 111 Buffet-Restaurant Coach. **NEW**



205160MG

205161

205162





205163

205164



DIESEL MULTIPLE UNIT

The last few years have seen a continuous growth in cross country and suburban diesel multiple services. These have proved to be a popular and cost effective method of passenger movement, especially over local commuter and shopper routes. Most types look basically similar and are built on two standard length underframes. Many combinations can be seen, including 2, 3 and 4 car sets. Our models are of the Pressed Steel Company's Motor Brake 2nd and the Lavatory Composite Car, which have seen service in most parts of the country. The Power Car was introduced in 1959, and powered by 2 BUT (Leyland) 6 cylinder 150 BHP engines. These mechanical transmission units weigh 36 tons and have an overall length of 64ft.

205137MG Class 117/2 DMU Motor Brake 2nd 1959 Livery.

205146 Composite Coach type 117TC 1959 livery **NEW**

205139 Class 117/2 DMU Motor Brake 2nd Non Powered Trailer.

205147MG Class 117/2 D.M.U. Motor Brake 2nd 1981 livery.

205148 Composite Coach type 117TC 1981 livery **NEW**

205149 Class 117/2 D.M.U. Motor Brake 2nd Non Powered Trailer 1981 livery.

205136MG Class 117/2 DMU Motor Brake 2nd 1974 Livery.

205145 Composite Coach type 117TC 1974 livery. **NEW**

205138 Class 117/2 DMU Motor Brake 2nd Non Powered Trailer.

205152MG Class 117/2 DMU Motor Brake 2nd Commuter Train "Refurbished" livery. **NEW**

205153 Composite Coach Type 117/TC Commuter train "Refurbished" livery. **NEW**

205154 Class 117/2 DMU Motor Brake 2nd Non Powered Trailer Commuter Train "Refurbished" livery. **NEW**



205137MG



205147MG



205136MG



205152MG



205146



205139



205148



205149



205145



205138



205153



205154



CLASS 87

British Rail's latest design of overhead electric locomotive, the Class 87 Bo-Bo's, were introduced in 1973 and were based on the previous Class 86/1. Their motive power is from four frame-mounted GEC 1250 h.p. traction motors producing a maximum speed of 100 mph. These pollution-free locomotives are the most sophisticated in full operation today.



205155MG



205125MG

205125MG BR Class 87 Electric Locomotive No. 87005, "City of London".
205155MG BR Class 87 Electric Locomotive No. 87022, "Cock of the North" in latest "Railfreight" livery. **NEW**

CLASS 50

The Class 50 diesel electric Co-Co's were built by the English Electric Company Limited from designs developed in conjunction with BR. Introduced in 1967 they incorporated several new features which allowed remotely controlled working on push-pull trains. Power is from the E.E. 16 CYL engine which produces a top speed of over 100 mph. Locomotives of this Class have been allocated to the Western and Southern Regions, where they carry the names of famous Royal Navy battleships.



205141MG



205142MG

205141MG Class 50 Co-Co Diesel no. 50020 "Revenge". **NEW**
205142MG Class 50 Co-Co Diesel 1981 Railfreight livery no. 50043 "Eagle". **NEW**



CLASS 55

The Class 55 "Deltics", considered by the 'King' of the diesels, were built by English Electric and entered service in 1961. They are the most powerful on B.R., with two 1650 hp 18-cylinder engines' and were the first Diesels built for regular working at 100 mph. They proudly carry the names and insignias of famous British Regiments.



205106MG



205105MG



205105MG Class 55 "Deltic" Co-Co Diesel n. D9008 "The Green Howards".

205106MG Class 55 "Deltic" Co-Co Diesel n. 55022 "Royal Scots Greys".

CLASS 33

LOCOMOTIVES

Based on the earlier Class 26 these diesel-electric Class 33 Bo-Bo's were manufactured by the Birmingham Carriage Company. They are largely based on the Southern region because their unique control system enables them to interwork in multiple with Southern electric-diesel locomotives and electric multiple-unit trains. They weigh 73 tons, have a fuel capacity of 800 galls and a top speed of 80 mph.



205114MG



205115MG

205114MG BR Class 33 Bo-Bo Diesel 1981 Livery No. 33056 "Earl Mountbatten of Burma". **NEW**

205115MG BR Class 33 Bo-Bo Diesel No. 33023 "Sultan" Railfreight livery. **NEW**



'WESTERN'

Developed from the "Warships" the diesel-hydraulic "Westerns" were built at Swindon and Crewe and introduced in 1961. In early years their Voith hydraulic transmissions and bogies gave trouble and to improve availability they were restricted to West of England service. Their two engines produced 1350 b.h.p. and their coach-profile body, recessed windscreen and clean styling make them the most handsome diesels built.



205134MG



205121MG

205134MG BR Class 52 'Western' Diesel-Hydraulic Locomotive No. D 1003 "Western Pioneer".

205121MG BR Class 52 'Western' Diesel-Hydraulic Locomotive. Western Maroon Livery. No. "Western Gladiator".



205126MG



205122MG

205126MG Class 52 'Western' Diesel-Hydraulic Co-Co No. D1000 "Western Enterprise".

205122MG BR Class 52 'Western' Diesel-Hydraulic Locomotive.

'SHUNTERS'

Manufactured by the English Electric Company at Derby works in 1945 these diesel electric units producing a tractive effort of 35,000 lbs, formed the basis for many more shunters built by various regions of B.R.



205107MG



205108MG



205109MG

205107MG 0-6-0 Class 09 350 BHP Diesel Shunter. BR Livery.
205108MG 0-6-0 Class 09 350 BHP Diesel Shunter. Early BR Livery.
205109MG 0-6-0 Class 09 350 BHP Diesel Shunter. LMS Livery.

'WARSHIP'

The "Warships" were built between 1959 and 1962; Class 42 at Swindon and Class 43 at North British. Their engines produced 2,200 b.h.p. with a tractive effort of 52,000 lbs. They were BR's first real success in diesels, with a top speed of 90 mph. Unusually, the bogies are without axle-boxes, bolsters or central pivots and they incorporate laminated coil springs to transmit body weight to bogie frames.



205135MG



205127MG



205128MG

205135MG BR Class 42/43 'Warship' Diesel-Hydraulic Bo-Bo No. D843. "Sharpshooter".
205127MG Class 42/43 'Warship' Diesel-Hydraulic Bo-Bo, Rail Blue Livery, No. D814 "Dragon".
205128MG Class 42/43 'Warship' Diesel-Hydraulic Bo-Bo, Original Western Region Maroon No. D838 "Rapid".

GWR RAIL CAR

G.W.R. was the only Company to produce a really successful diesel powered rail car, first in service in 1933. No. 22 was built at Swindon in 1941. It had second class seating for 48 with limited luggage space, saw continuous service throughout the War and withdrawn for preservation in 1962. No. 34, was also built at Swindon in 1941 and carried up to 10 tons. It first ran in original GWR Chocolate and Cream livery until nationalisation when it was relined to BR's standard Maroon livery.

205132MG G.W.R. Rail Car No. 22 original Livery.

205133MG G.W.R. Rail Car No. 22 1948 Crimson/Cream Livery.

205143MG G.W.R. Diesel Parcels Car no. 34 in original livery. **NEW**

205144MG Diesel Parcels Car no. 34 in 1948 livery. **NEW**

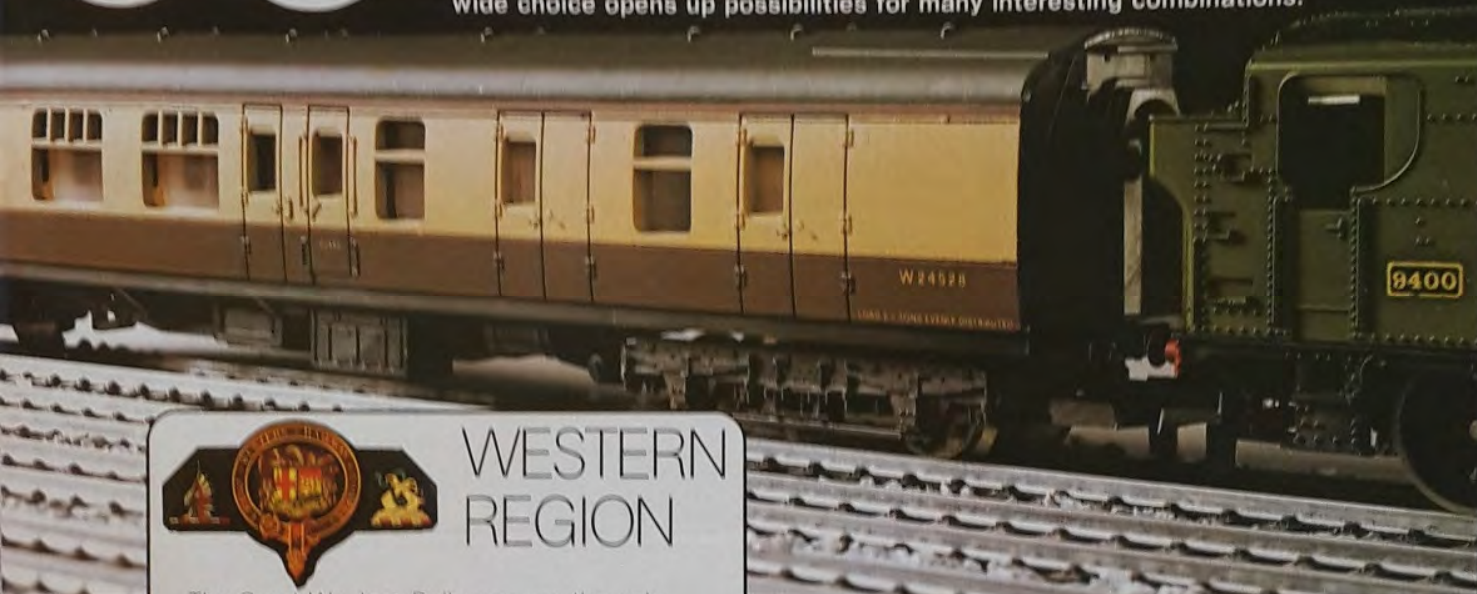


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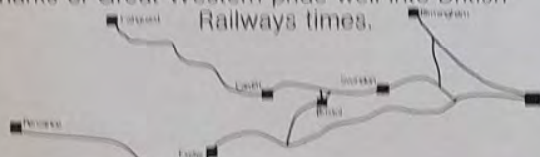
PASSENGER COACHES.

In period, style and livery you can pair Lima locomotives exactly with the passenger coaches they once hauled, or can be seen heading today. We pay just as much attention to detail here as we do in locomotive production, making sure every colour match and all markings are perfectly reproduced. Even in pre-nationalisation days, before the advent of British Railways, there were opportunities to see a varied mixture of coach liveries in one train. Lima's wide choice opens up possibilities for many interesting combinations.

PASSENGER COACHES 00

WESTERN
REGION

The Great Western Railways was the only pre-grouping name to survive unchanged, and it absorbed some of the smaller railways of Wales into its territory, which already served the west of England and Birmingham routes. The elegant chocolate and cream livery was replaced by chocolate brown in 1909, but the loss of publicity value was soon realised and colours reverted to the original by 1921. This livery remained one of the hallmarks of Great Western pride well into British Railways times.



305333



305322



305313



205121MG	305333	305322	305322	305345	305333
205103MG	305333	305313	305322	305313	305333
205111MG	305333	305313	305333		

305333

Mark I Corridor Brake Coach, Western Region Livery.

305313

Mark I Corridor Composite Coach, Western Region Livery.

305345

Standard Gangwayed Brake Van, Western Region Livery.

305322

Mark I Restaurant Car, Western Region Livery.

305362 **NRP**

MK I Corridor 3rd Western Region Livery.

305362





INTER-CITY



The name Inter-City was first used in 1951 when a train was named "The Inter-City" for the Festival of Britain.

In 1965 the first campaign was launched to present Inter-City on a national basis and the service now generates more than 8,400 million passenger miles per year.

New Mark II Inter-City designs were introduced in 1966, the Mark IIB following in 1968.

They were the first coaches to incorporate fully integral chassis/body construction, and featured several innovations such as air-braking, pressure heating and ventilation and wider doors.

These coaches are seen today on many Inter-City routes, along with the latest Mark III stock.

305308



305301



305302



305303



305343



305308

BR I3493 Mini Buffet Coach

305301

BR Mark 2B Inter-City First Class Corridor Coach.

305302

BR Mark 2B Inter-City Open Coach.

305303

BR Mark 2B Inter-City Corridor Brake Coach.

305343

BR Standard

305321



305335



305315



305361



305321

BR Mark I Restaurant/Buffer Car.

305335

BR Mark I Corridor Brake Coach.

305315

BR Mark I Corridor Composite Coach.

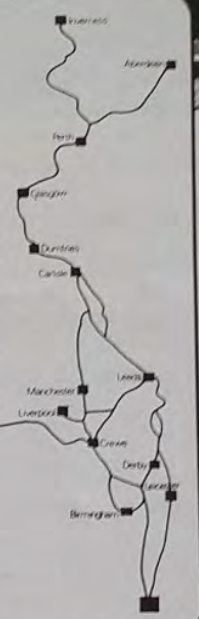
305361



L.M.S.

The London Midland and Scottish Railway was the largest of the new companies of 1923, and served the Midlands, North West, and much of Scotland - over 7,800 miles of track.

The LMS led the way in mass production of rolling stock, and earned an enviable reputation for carriage design and through the work of designers David Clayton, David Bain and C.A. Park.



305332



305342



305312



305323



305364



305332

Mark I Corridor Brake Coach. LMS Maroon Livery.

305342

Standard Gangwayed Brake Van. LMS Maroon Livery.

305312

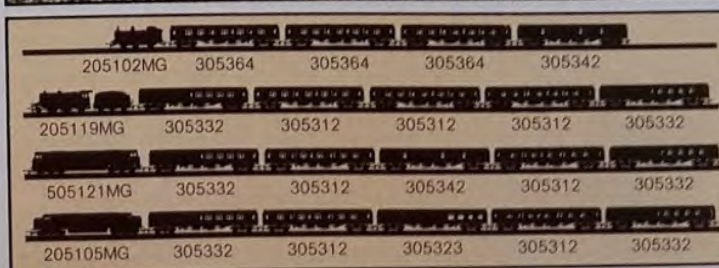
Mark I Corridor Composite Coach. LMS Maroon Livery.

305323

Mark I Dining Car. LMS Maroon Livery.

305364

Mark I Corridor 3rd. LMS maroon Livery.



**305331**

Mark I Corridor Brake Coach. Crimson and Cream Livery.

305344

Standard Gangwayed Brake Van. Crimson and Cream Livery.

305311

Mark I Corridor Composite Coach. Crimson and Cream Livery.

305325

Mark I Restaurant Car. Crimson and Cream Livery.

305363 **NEW**

BR Mark I Corridor 3rd. Crimson and Cream Livery.

EARLY B.R.

On 1st January 1948, British Railways was born; and was divided into six regions, each retaining the livery of its previous owner company.

The Southern and Western regions were the old Southern and Greater Western Railways; the London Midland region corresponded to the LMS in England; the Eastern and North Eastern Regions ran on the former LNER lines in England, and the Scottish region took over the LMS and LNER lines in Scotland.

British Railways produced their own crimson and cream livery when BR Mark 1 coaches were introduced in 1951. Later the prototype XP64 version became the basis for the new Mark II designs and the current livery.



305344



305311



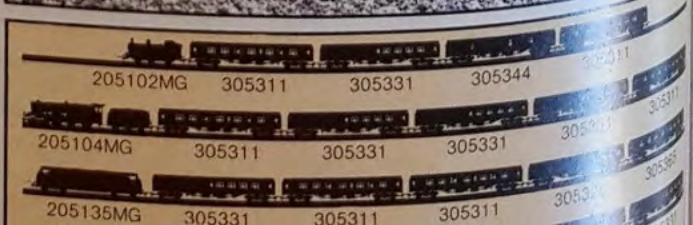
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305363



305365





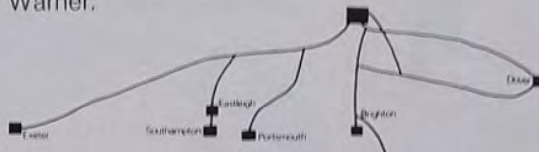
- 305334**
SR Mark 1 Corridor Brake Coach.
305348
SR Standard Gangwayed Brake Van.
305314
SR Mark 1 Corridor Composite Coach.
305324
SR Mark 1 Restaurant Car.
305365 **NEW**
SR Mark I Corridor 3rd Coach.



S.R.

The Southern Railways was formed by the amalgamation of the London Brighton and South Coast, London and South Western, and South Eastern and Chatham Railways.

Southern's green livery was a common sight in the south and by the time nationalisation came the company boasted a fine fleet of modern carriages designed by Surrey Warner.



305334



305348



305314



305324



305365

SOUTHERN RAILWAY 1912					
SOUTHERN RAILWAY 1912		SOUTHERN RAILWAY 1912		SOUTHERN RAILWAY 1912	
SOUTHERN RAILWAY 1912		SOUTHERN RAILWAY 1912		SOUTHERN RAILWAY 1912	
205137MG	205146	205139			
205115MG	305334	305314	305324	305314	305334
205103MG	305314	305321	305314	305314	305334

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FREIGHT WAGONS.

Despite modern developments in freight stock, there are still many older wagons to be seen on today's railways. Lima covers the whole range. Open wagons with fixed and opening sides, closed vans for general goods, car and container transporters, tankers and even the most up-to-date bulk carriers. Every year the choice grows and grows. With Lima wagons you can compose freight trains of infinite variety - just as you see in real life.



305612

'Black Park Colliery' 7 plank wagon.

305614

'Barrow Barnsley' 7 plank wagon.

305631

'J.K. Harrison' 7 plank wagon.

305632

'P.W. Spencer' plank wagon.

305633

'Pinxton Collieries' 7 plank wagon.

305634

'Buxton Gas Dept' 7 plank wagon.

305601

'Typhoo Tea' 20 ton box van.

305603

20 ton box 'Lucas Batteries'.

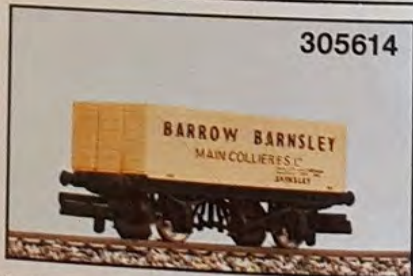
305607

20 ton box van. 'Birds Custard Powder'.

305612



305614



305631



305632



305633



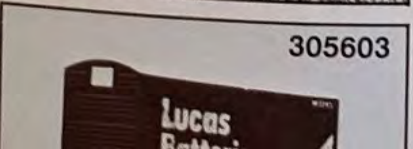
305634



305601



305603



305607





305608



305625



305626



305628



305635



305636



305637



305638



305639



305620



305621



302805



305641



305642



305643



305644

305608
'Castrol GTX' 20 ton box van.
305625
GWR 2 Axle horse box.
305626
2 Axle Horse Box LMS Livery.
305628
2 Axle Horse Box SR Livery.
305635
50 Ton stone hopper wagon 'Yeoman'.
305636
50 Ton stone hopper wagon 'A.R.C. Roadstone'.
305637
50 Ton stone hopper wagon B.R.

305638
50 ton 'Tilcon' stone hopper wagon.
305639
50 ton Stone hopper wagon "Tarmac".
305620
BR 20 ton brake van.
305621
LNER 20 ton brake van.
302805
'Blue Circle' twin tank cement wagon.
305641
GWR 3 axle Milk tank wagon 'St. Ivel'.

305642
GWR 3 axle Milk tank wagon 'I.M.S.'.
305643
GWR 3 axle Milk tank wagon 'Express Dairy'.
305644
GWR 3 axle Milk tank wagon "C.W.S. LTD".
305350
Bogie parcel van 'Siphon G' early BR livery.
305351
GWR Bogie parcel van 'Siphon G'.

305352
GWR Bogie parcel van 'Siphon G' Palethorpes Sausages.
305353
Bogie parcel van 'Siphon G'. BR Livery.
305354
GWR Bogie parcel van 'Siphon G' 'Enparts'.
309059
35 ton breakdown crane and flat car. LNER Livery.



305350



305351



305352



305353



305354



309059

305355



305357



305651



302822



303545



305359



305650



305652



303173



305358



305360



302715



302717



305355

CCT parcels wagon 'Tartan Arrow'.

305356

CCT parcels wagon 'Rail Blue Livery'.

305640 **NEW**

3 axle oil tank wagon "Corn Products".

305357

CCT parcels wagon 'Early BR Livery'.

305650 **NEW**

Procor 45 ton Whisky Grain Hopper Wagon "VAT 69".

302715

'BP' tank wagon.

305651 **NEW**

Procor 45 ton Whisky Grain Hopper Wagon "Haig".

305652 **NEW**

Procor 45 ton Whisky Grain Hopper Wagon "Black & White".

302717

'Mobil P. Gas' tank wagon.

305660



305662



305646



305661



305645



305647





302822
'Watneys' triple cask beer wagon.

303173
'National Coal Board' mineral wagon.

303545
'Heinz' closed wagon.

305358
LMS GUV bogie parcels van, maroon.

305359
LMS GUV bogie parcels van, BR Crimson/Cream.

305360
LMS GUV bogie parcels van, BR Blue.

305660 **NEW**
Procor 82 tonne bogie pallet van "Fisons" fertilisers livery.

305661 **NEW**
Procor 82 tonne bogie pallet van "UKF" fertilisers livery.

305662 **NEW**
Procor 82 tonne bogie pallet van standard BR livery.

305645 **NEW**
Procor 102 tonne GLW class A bogie tank wagon "Esso" livery.

305646 **NEW**
Procor 102 tonne GLW class A bogie tank wagon "Fina livery".

305647 **NEW**
Procor 102 tonne GLW class A bogie tank wagon "Phillips Petroleum" livery.

303175
BR Long Wheelbase mineral wagon.



302870



305629



303175



302871



305630



305656



305657



305658



302892



309053



309057



309067



309068

302870
40 container wagon 'A.C.L.'.

302871
'Freightliners Ltd.' container wagon.

305629
GWR Bogie Bolster Wagon with steel load.

305630
Bogie bolster wagon Bobel "B" steel load.

305656 **NEW**
BR Standard 57ft Bogie GUV "Express Parcels".

305657 **NEW**
BR Standard 57ft Bogie GUV 1958 lined maroon livery.

305658 **NEW**
BR Standard 57ft Bogie GUV "Theakstons Beer" livery.

302892
'NCB' coal-hopper wagon with operating doors.

309053
'Motorail' car carrier.

309057
'British Leyland' car carrier.

309067
'British Steel Corporation' foundry wagon.

309068
Multiple wagon with 'GEC' transformer load.

ACCESSORIES

With a few Lima accessories you can transform your layout into an action-packed railway. Each is an exact miniature, operating perfectly in the same way as the original.

Everyone likes to think of themselves as an engineer landscaper, or architect when building a model railway.

Lima's great range of accessories help you become all of these, easily and with a modest outlay.



602892 **NEW**

Fully operational coal depot. double action transfer of coal from NCB hopper wagon to storage silo and back to road Wagon and

AUTOMATIC CAR UNLOADING TERMINAL.

600941

Automatic car unloading base. Complete with motorail car transporter and four car. Ramp adjusts to both levels of transporter as your passengers drive on and off.



600822

Ford Capri (two car pack).

600823

Fiat 131 (two car pack).

600803

Builders merchant lorry.

600807

Dunlop container lorry.



600804

Shell petrol tanker.



600801

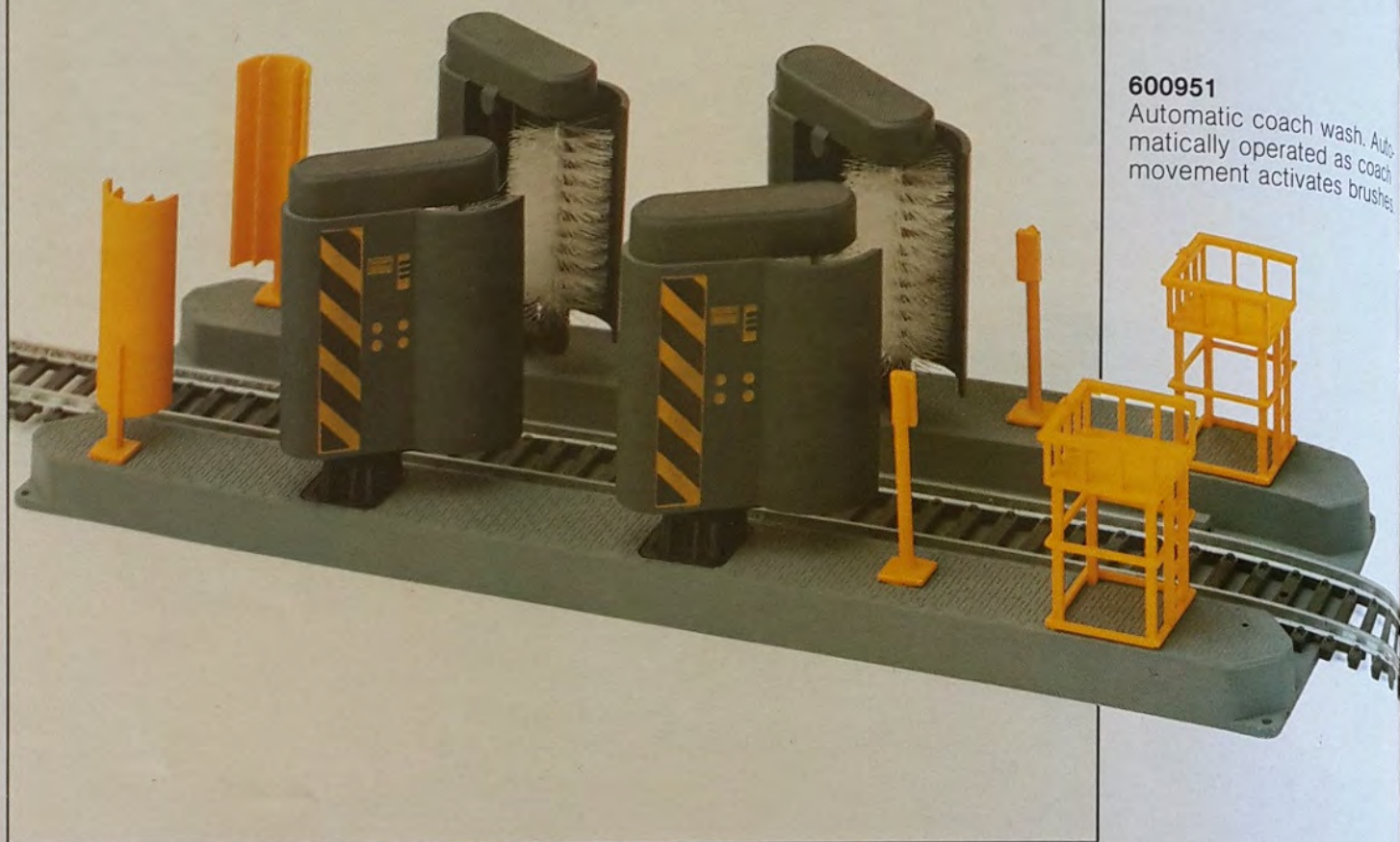
Atlantic container lorry.

600805

Seatrain container lorry.



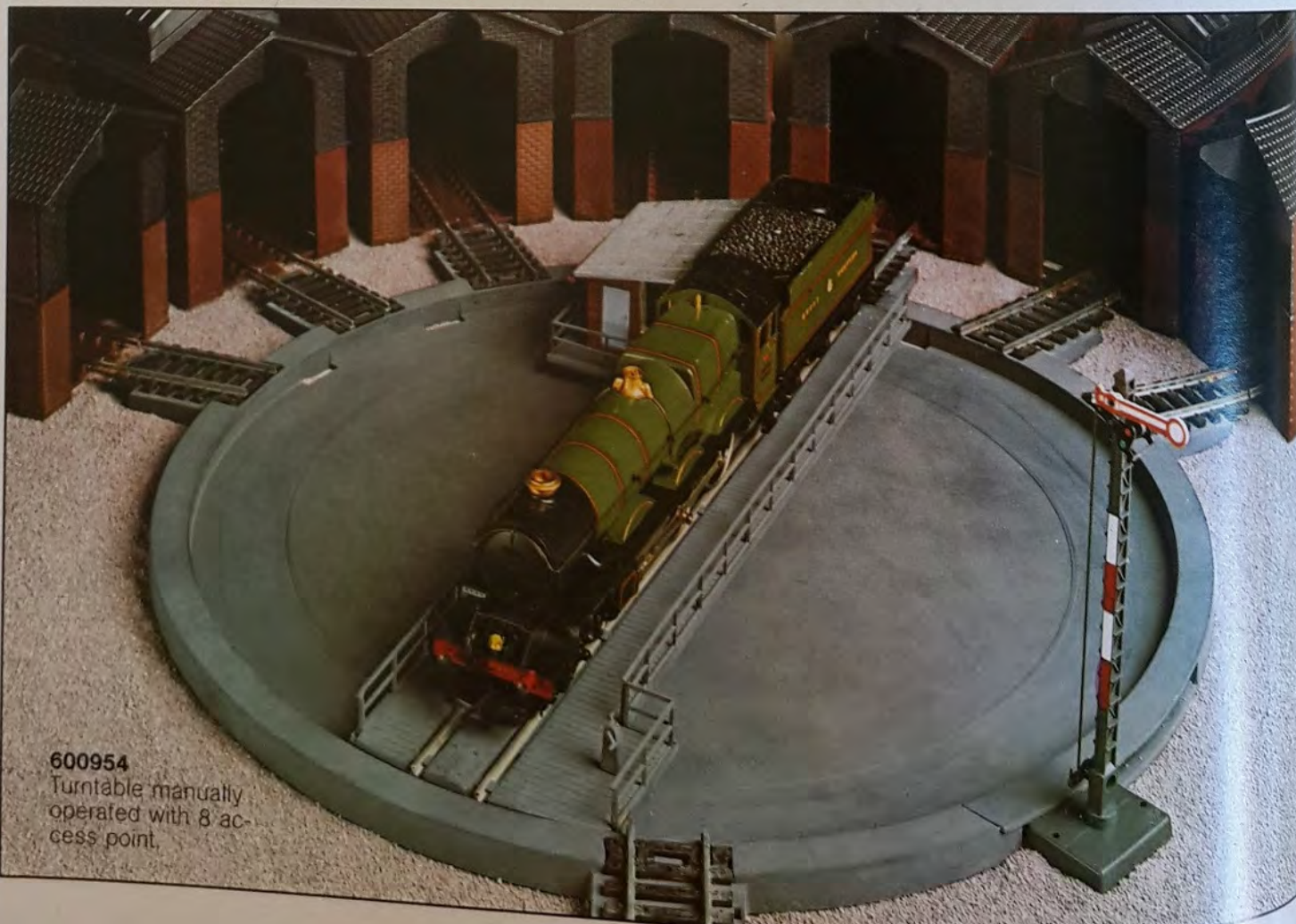
AUTOMATIC COACH WASH



600951
Automatic coach wash. Automatically operated as coach movement activates brushes.

TURNTABLE

NEW



600954
Turntable manually operated with 8 access point.

600963

Container terminal and unloading siding. Fast transfer of freight from rail to road with this special bogie transporter, terminus and container lorry.

600830-600832

Scale containers. For trackside stacking or for transportation. Four assorted in each pack.

**600990**

Container unloading crane. Easy transfer from to rail on any part of your layout. Also for stacking containers at the depot.

**602880**

Wagon carrying pipes, with automatic unloading action, complete with unloading base.

**600960**

Freightliner terminal. Your fully-equipped terminal makes light work of the flow of container traffic from road to rail. With rail transporter and two container lorries.



Example of use of the Main Line Station with 1 section 600033 and 1 section 600031.



Example of use of the Terminal Station with 1 section 600033 and 3 sections 600031.

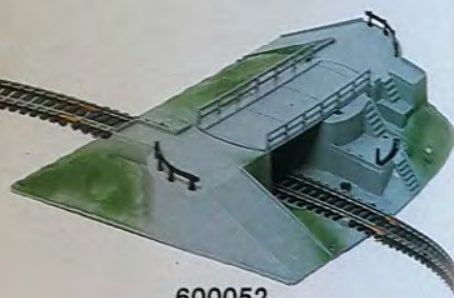
602080 Tunnel



600031 Main station roof



600052 Mechanical Swing Bridge with autom. Train Stop



600955 Engine Shed



600055 Banked Bridge in a curved stretch



600033 Main station

600021 Automatic level crossing



BRIDGES

One of the biggest problems facing railway modellers is the lack of space. One answer is build up another layout some 8-10 cm above the first - but it is important to remember that a locomotive can only climb certain gradients. If the incline is too steep the driving wheels will spin and the locomotive may stop, unable to reach the top.

As a general rule, if the gradient is of 3% the ramp must not exceed 3 cm of track per meter. Thus in this case, for the ramp to give a height of 9 cm the gradient must be spread along 3 meters of track.

Where short trains are used a steeper incline is possible - up to 4.5% - giving a gradient spread along 2 meters of track where a height of 9 cm is desired.

600057 Banked Bridge in a straight stretch



600911 Bridge for a Fig. 8 Banked Circuit

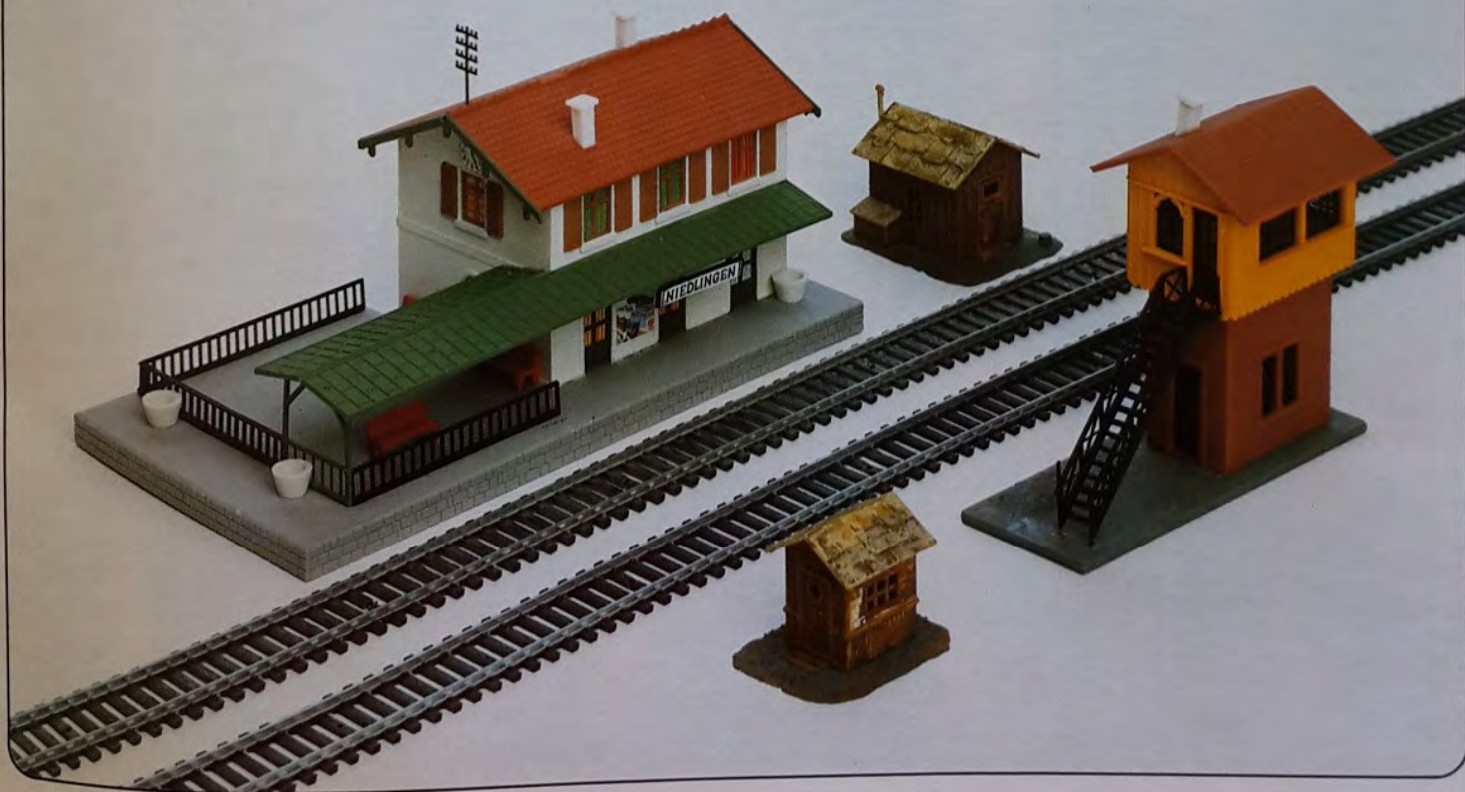


VILLAGE



600931 The contents of this set may vary from the items shown in the photograph. **NEW**

STATION



600930 **NEW**

STEEL TRACK

STEEL TRACK



403073
6 pieces double length straight track (333 mm) 403027.

NEW



403083
6 pieces double curve 45° 2nd radius 403017.

NEW



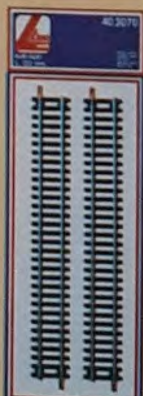
403088
6 pieces curved track Ø 720 mm - 45° 403029.

NEW



403089
1 piece curved track 403029
1 piece curved track 403029C.

NEW



403070
6 pieces straight track (222 mm) 403020.



403080
6 pieces curved track (diameter 720 mm) 403030, 36°.



403086
6 pieces curved track (diameter 862 mm) 403011 30°.



403075
1 curved track with power clip 403030C,
1 straight track with power clip 403024 - 1, 55.5 mm, 403029.



403076
1 straight track 403020,
1 straight track with buffer stop 403025,
1 403024R.



403078
1 straight track (222 mm) 403020,
1 hand-operated uncoupler 403028.



403033
Rerailer.



403050
Right hand point, hand operated.



403051
Left hand point, hand operated.



403048
1x403050,
1x403051,
1x403036,
1x403035.



403077
4 pieces straight track 1, 55.5 mm, 403022,
2 pieces curved track Ø 720 mm, 403032 insulated fishplates 600015.



403026
Variable length track.



403081
6 pieces curved track 403031 Ø 720 mm 18°.



403071
6 pieces straight track (111 mm) 403021.



3x600875
Motor springs and brushes.



3x600877
Insulating fish-plates.



3x600874
Clips.



3x600876
24 metal rail joiners.



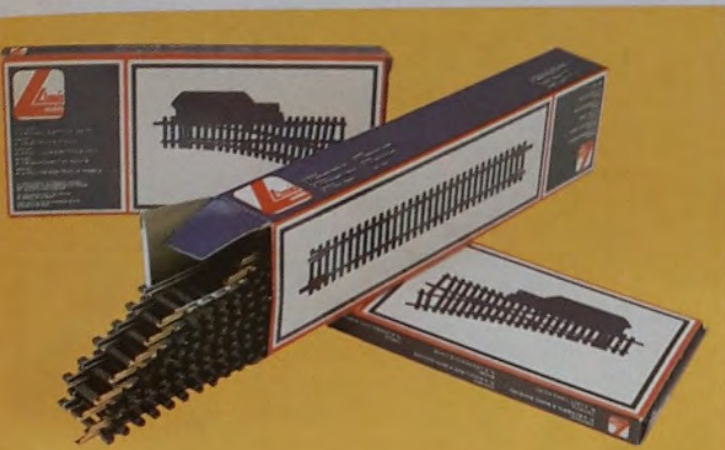
4030870
1 piece.

403056 100 pieces double length curved 45° 2nd radius 403017.
403057 100 pieces double length straight 333 mm 403027.
403060 100 pieces straight track 222 mm 403020.
403061 100 pieces straight track 111 mm 403021.
403062 100 pieces curved track (Ø mm 36 - 7°) 403030.
403063 100 pieces curved track (Ø 720 mm - 18°) 403031.
403064 100 pieces curved track (Ø 862 mm - 30°) 403011.
403067 100 pieces 2nd radius, curved track (Ø 862 mm - 22.5°) 403012.
403068 100 pieces standard straight track 166.5 mm 403023.
403011 12 pieces curved track (Ø 862 mm - 30°).
403012 12 pieces 2nd radius, curved track (Ø mm - 22.5°).
403017 12 pieces double length curved 45° 2nd radius.
403020 12 pieces straight track 222 mm.
403021 12 pieces straight track 111 mm.
403022 12 pieces straight track 55.5 mm.
403023 12 pieces standard straight track 166.5 mm.
403023C 12 pieces standard straight track with power clip 166.5 mm.

403023CG 12 pieces standard straight track with power clip 166.5 mm.
403024 12 pieces straight with power clip 55.5 mm.
403024R 12 pieces straight with power clip 55.5 mm.
403027 12 pieces double length straight 333 mm.
403030 12 pieces curved track (Ø 720 mm) clip 36°.
403030C 12 pieces curved track with power clip 36°.
403030CG 12 pieces curved track with power clip 36°.
403031 12 pieces curved track (Ø 720 mm) 18°.
403032 12 pieces curved track (Ø 720 mm) 9°.
403035 12 pieces compensating left track.
403036 12 pieces compensating right track.
403042 12 pieces flexible track 90 cm.
403055 12 buffer stop.
403025 6 pieces straight with buffer stop.
403043 3x4 pieces flexible track 90 cm.
403045 2 pieces diamond crossing (36°) 403041.
403046 2 pieces right diamond crossing 403038.
403047 2 pieces left diamond crossing 403039.
403052 2 pieces right-hand point (manual) 403050.

STEEL TRACK

STEEL TRACK



403052E 2 pieces right-hand point (electric) 403050E.
403053 2 pieces left-hand point (manual) 403051.
403053E 2 pieces left-hand point (electric) 403051E.

403054 1 right-hand point+1 left-hand point (manual) 403050+403051.
403054E 1 right-hand point+1 left-hand point (electric) 403050E+403051E.



403038 Crossing 18° right hand.
403039 Crossing 18° left hand.



403041 Crossing 36°.



403072 6x403023 straight standard I. 166,5 mm.



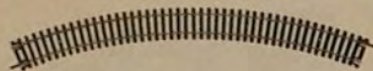
403074 1x403023C 3x403023



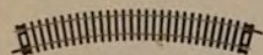
403087 6x403012 curved ϕ 862 mm 22° 1/2.



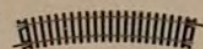
403079 2x403035 2x403036



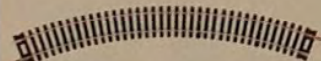
403017 double length curve 45° 2nd radius.



403011 curved track (ϕ 862 mm). 30°.



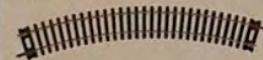
403012 2nd radius, curved track (ϕ 862 mm). 22,5° 1/2.



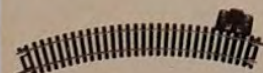
403029 curved track ϕ 720 mm 45°.



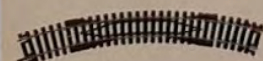
403029C curved track with power clip. ϕ 720 mm 45°.



403030 curved track (ϕ 720 mm). 36°.



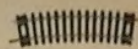
403030C curved track with power clip. 36°.



403033 rerailer.



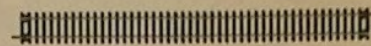
403042 flexible track 90 cm.



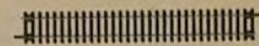
403031 curved track (ϕ 720 mm). 18°.



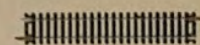
403032 curved track (ϕ 720 mm). 9°.



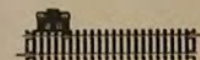
403027 double length straight 333 mm.



403020 straight track 222 mm.



403023 standard straight track 166,5 mm.



403023C standard straight track with power clip 166,5 mm.



403021 straight track 111 mm.



403022 straight track 55,5 mm.



600002 Railer.



403024 straight with power clip 55,5 mm.



403024R straight isolating track 55,5 mm.



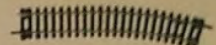
403025 straight with buffer stop 111 mm.



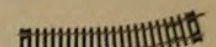
403026 extendable track 111 to 166,5 mm.



403028 Wagon uncoupler 222 mm.



403035 compensating left track.



403036 compensating right track.



403038 right diamond crossing (18°).



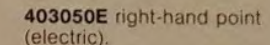
403039 left diamond crossing (18°).



403041 diamond crossing (36°).



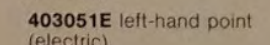
403050 right-hand point (manual).



403050E right-hand point (electric).



403051 left-hand point (manual).



403051E left-hand point (electric).

a LIMA train set, you may realize with the addition of the track layout boxes, more complex circuits. In each set of the additional track layout boxes, the components allow the realization of a railway circuit very similar to the real things, and to transform it into a complete layout we suggest the addition of some accessories (such as trees, buildings etc.).



**POINTS
HAND
OPERATED**

A

cm 196×75

404010

NEW

B

cm 160×75

404011

NEW

C

cm 116×90

404012

NEW

**ADDITIONAL TRACK
LAYOUT BOX A**

404010 composed of:
4×403020
8×403030
1×403041

**ADDITIONAL TRACK
LAYOUT BOX B**

404011 composed of:
8×403020
1×403021
1×403022
1×403050
1×403025

**ADDITIONAL TRACK
LAYOUT BOX C**

404012 composed of:
2×403023
1×403050
1×403051
1×403035
1×403036
6×403011

The contents of the track accessory packs may be added to the suggested track plan supplied with each train set enabling you to build a complete realistic world of miniature railways.

A+B

A+C

B+B+C+C

B+C

A+B+C

A+B+C+C

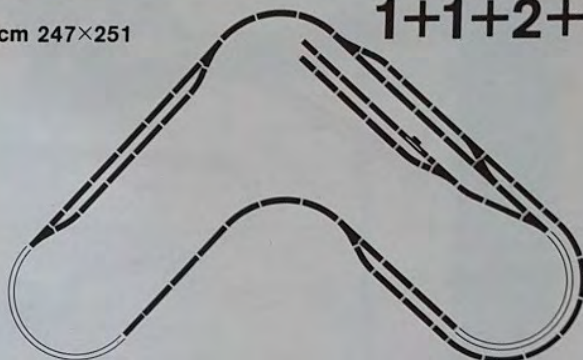
ADDITIONAL TRACK LAYOUTS

Basic track layout of a Lima train set.

**POINTS
ELECTRICALLY
OPERATED**

cm 247×251

1+1+2+3



With all the items included in a Lima track accessory pack you can make alternative layouts to the one suggested.

1 404021E

cm 198×75

NEW



Track accessory pack No. 1 contains two electric points.

ADDITIONAL TRACK LAYOUT BOX 1

404021E composed of:
11×403020
2×403021
1×403050E
1×403051E
1×403035
1×403036

ADDITIONAL TRACK LAYOUT BOX 2

404022E composed of:
3×403020
2×403023
1×403050E
1×403051E
1×403035
1×403036
2×403024R
2×403025
1×403028

ADDITIONAL TRACK LAYOUT BOX 3

404023E composed of:
5×403020
1×403021
2×403023
12×403021
1×403050E
1×403051E

2 404022E

cm 198×83

NEW



Track accessory pack No. 2 contains two electric points.

3 404023E

cm 198×90

NEW



Track accessory pack No. 3 contains two electric points.

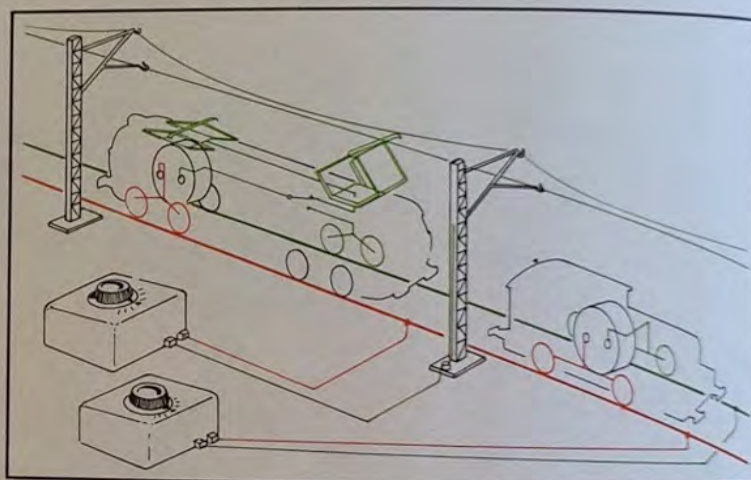
Catenary electrification.

The Lima catenary system is fully operational, and locomotives fitted with pantographs can pick up current from the overhead wires in the same way as today's modern electrics do.

At the same time both rails are still fed in the usual way, so you can safely run two locomotives on the same section – one from the catenary wire and one from the rail current.

Lima produce four different types of catenary masts:

- 602950** short support brackets
- 602954** main support brackets
- 602951** long support brackets
- 602952** with electrical terminals
- 602853** variable length support brackets



The photographs show some examples of how the catenary systems can be used in straight and curved sections, on double tracks and with points.

Every pack contains a switch, suitable cable, pantographs and full instructions for conversion. The modification can be made in very easy stages.



602976



602975

Locomotives electrification.

To convert your Lima locomotive to operate with overhead current from the catenary, you can buy one of the special Lima Pantograph adaptor kits. There are three types of Pantograph available.



602975

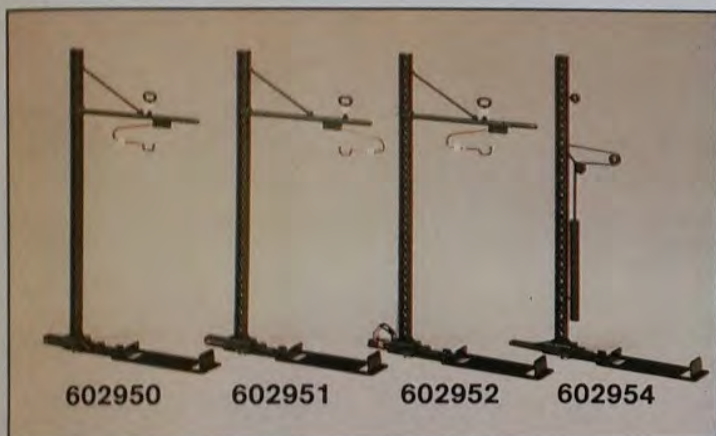
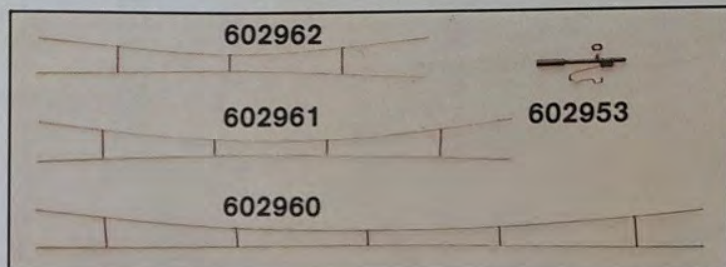
602976

CATENARY SYSTEM

The catenary as a scenic accessory.

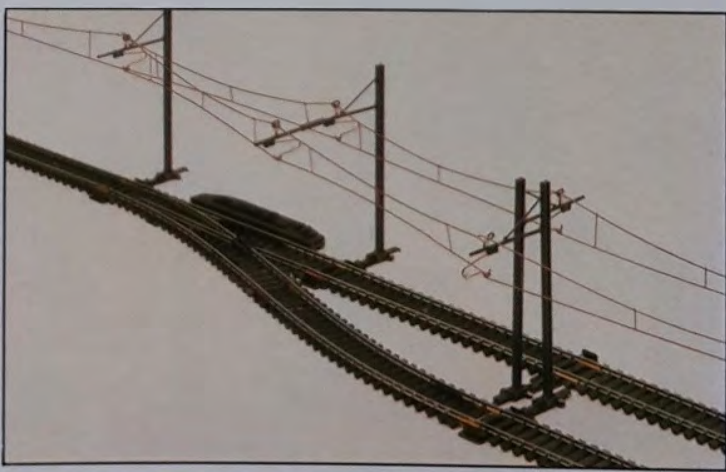
The catenary system can quickly turn an ordinary layout into an exciting life-like railway. The catenary itself

enhances the scenery and overall appearance, and many modellers choose to use it purely as a scenic accessory,



without the use of current. We have taken great care in producing catenary accessories of high quality and style to make this possible. You can, of course electrify the system and adapt your locomotives to pick up current from overhead. This enables you to run two trains on one track – even in opposite directions for shunting purposes.

The catenary masts should always be placed on the same side of the track, alternating with long and short brackets. This gives a slight zig-zag run to the overhead wire which will avoid wear on one section of the pantograph.



Catenary for the additional track layout box 404023E



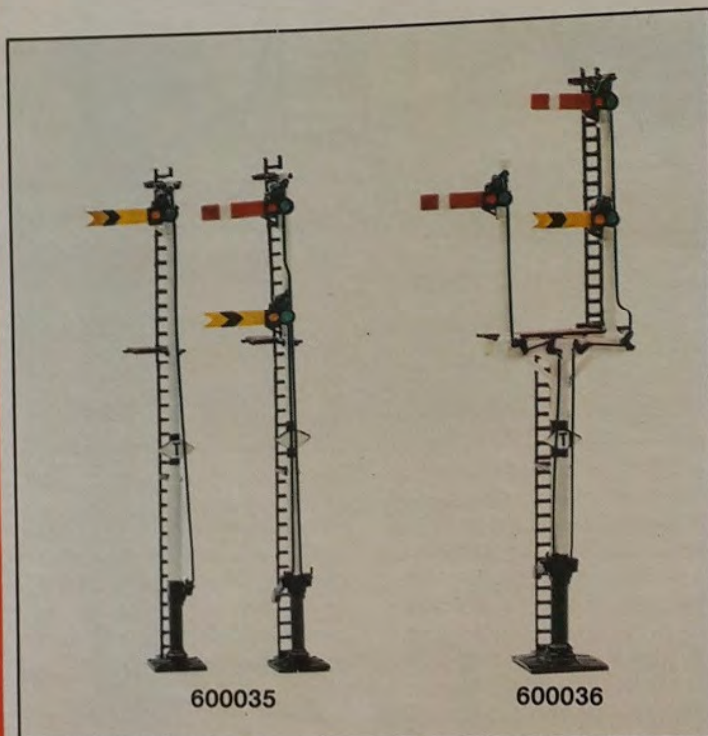
404024 **NEW**

composed of:

- 1×602952 Post with electrical terminal
- 1×602954 Main post
- 3×602953 Support bracket
- 27×602950 Pole with short support bracket
- 23×602951 Pole with long support bracket
- 32×602962 Overhead wires L. 188 mm.
- 17×602961 Overhead wires L. 233 mm.
- 8×602960 Overhead wires L. 333 mm.

SIGNALS.

Signalling is a basic necessity for every layout, in terms of realism and scale operation, allowing you to run your trains correctly and safely.



600026

Lamp with single arm.

600027

Lamp with two arms.

600035 **NEW**

LMS/BR Upper Quadrant Signal, Home + Home/Distant.

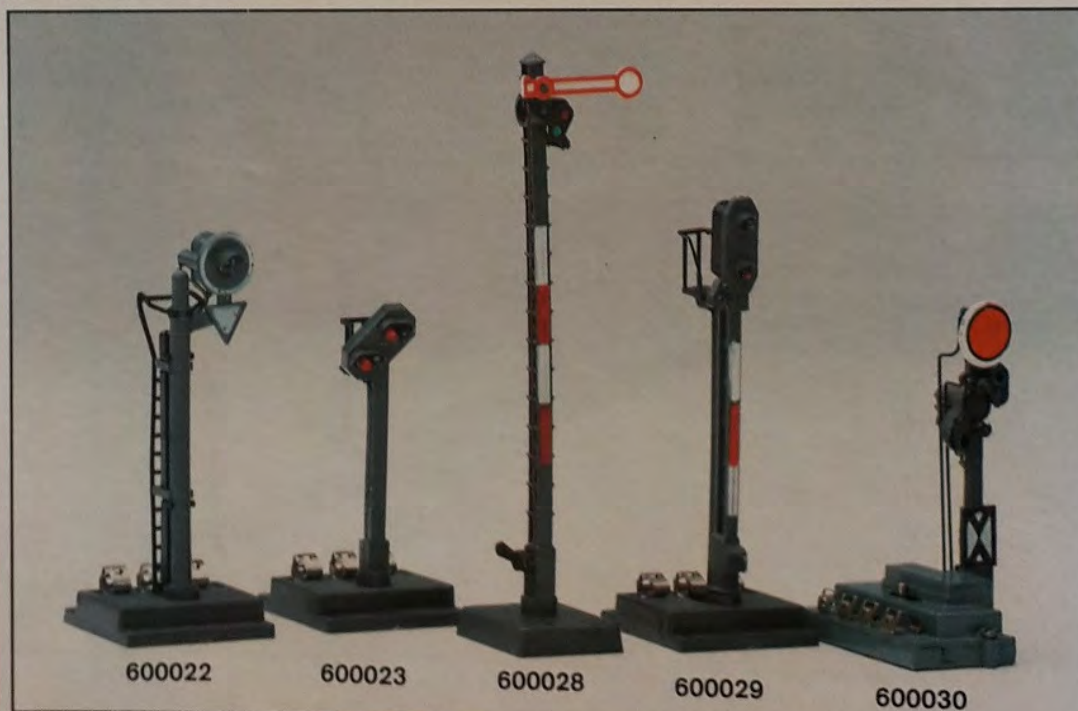
600036 **NEW**

LMS/BR Upper Quadrant Junction + Signal.



600026

600027



600022

600023

600028

600029

600030

600022

Red and green light signal with control switch 3067.

600023

4-light signal with control.

600028

Single arm 2-position signal.

600029

2-light signal with control switch 3067.

600030

Warning signal with control switch 3067.

600025

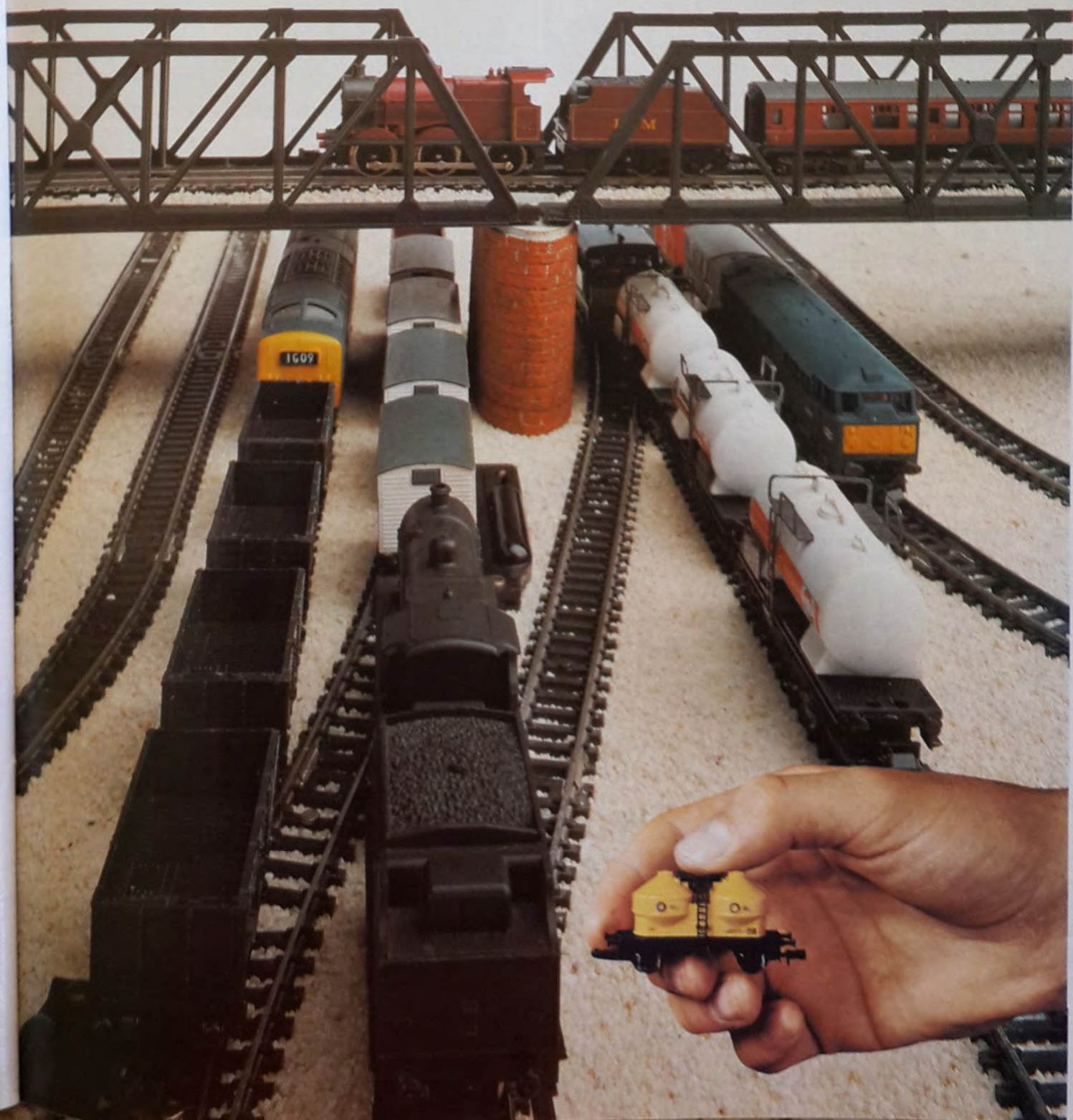
Double signal on gantry with automatic level crossing. The train stops when the red signal is showing. The barriers are lowered when the train is passing.



600025

N LOCOMOTIVES

Buying Lima means you are buying high technology and every Lima N gauge locomotive features our new high performance micro-motor. The articulated gearing with its twin contact between the worm and drive gears guarantees strength, durability and reliability. And another great improvement is a more realistic acceleration through to a true scale maximum speed. Suppressors are also fitted to eliminate all radio and television interference. The complete range of Lima N gauge models offers every possibility for building an exciting miniature railway system of your own. Lima N Gauge is appreciated by modellers the world over for its detailed accuracy and completely safe and trouble-free performance.





220256G



220257G



220258G



220259G



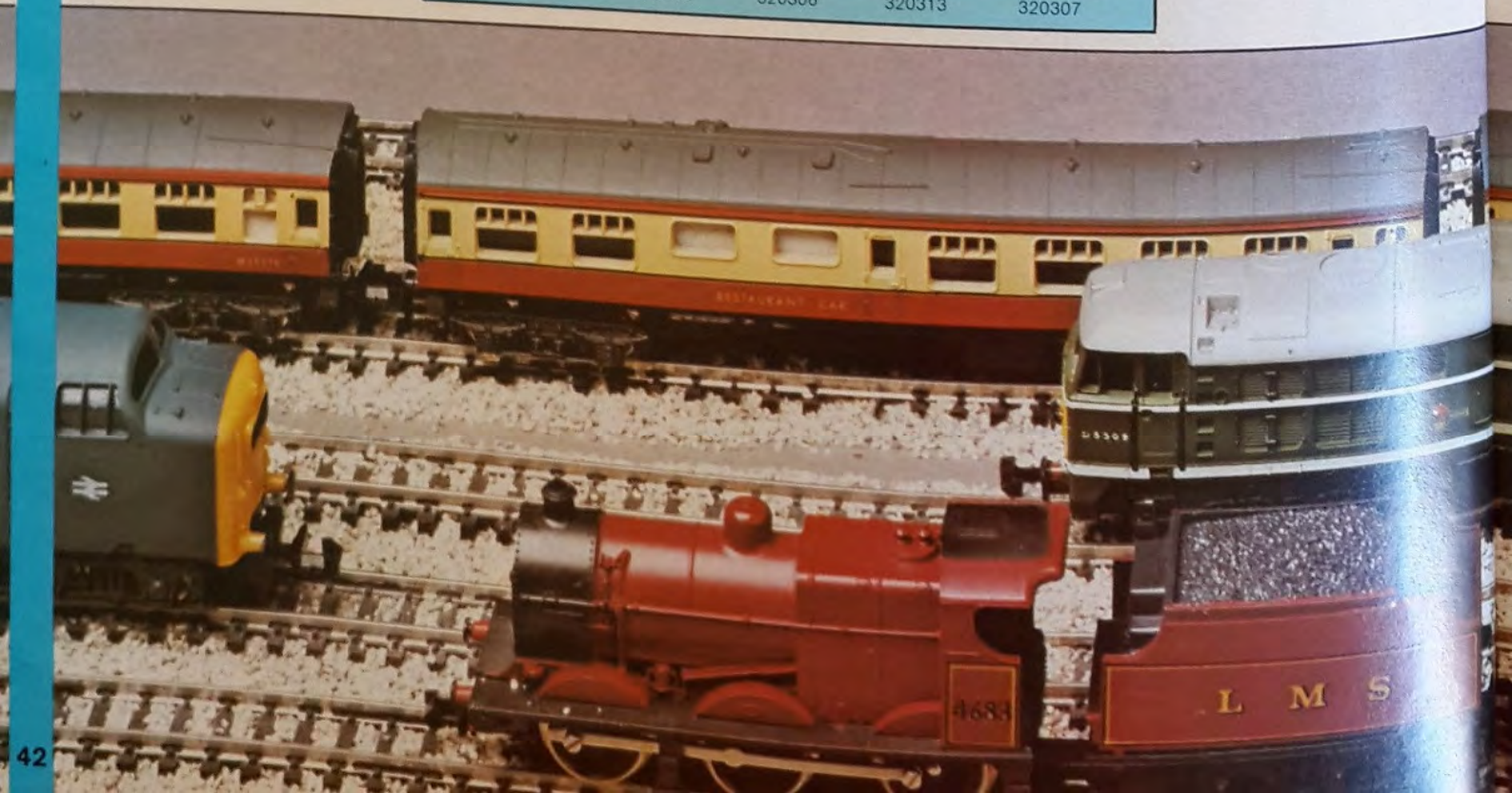
220256G

4-6-0 'King' Class Express Locomotive. No. 6000 "King George V" in Lined GWR Green Livery.

220257G

4-6-0 'King' Class Express Locomotive Experimental BR Lined Blue Livery No. 6009 'King Charles II'.

220256G	320362	320361	320363	320366
220259G	320367	320314	320316	320315
220217G	320306	320306	320313	320307





220210G



220211G



220209G



220214G



220217G



220253G



220258G
0-6-0 Class 4F Tender Locomotive. Unlined Black Livery.

220259G
0-6-0 Class 4F Tender Locomotive. LMS Maroon Livery.

220211G
0-4-0 Diesel Shunter. BR Livery.

220209G
Class 31 A1A-A1A Diesel Locomotive. BR Blue Livery.

220214G
Class 31 A1A-A1A Diesel Locomotive. Early BR Livery.



220205G

220217G
BR Class 55 'Deltic' Co-Co Diesel Locomotive. No. 9006 "The Fife and Forfar Yeomanry".

220253G
BR Class 55 'Deltic' Co-Co Diesel Locomotive No. 9003 "Meld". Early Livery.

220205G
BR Class 81 Electric Locomotive (Standard rail pick-up).



N

COACHES.

**320306**

BR Composite Coach.

320307

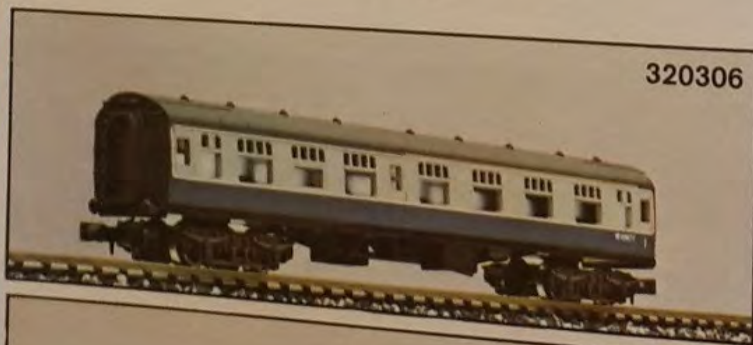
BR 2nd Class Brake Coach.

320313

BR Buffet Car.

320368BR Standard Gangwayed
Brake Van.**320361**BR Composite Coach. GWR
Livery.**320362**BR 2nd Class Brake Coach.
WGWR Livery.**320363**BR Restaurant Car. GWR
Livery.**320366**BR Standard Gangwayed
Brake Van. GWR Livery.**320314**BR Composite Coach. LMS
Maroon Livery.**320315**BR Second Class Brake
Coach. LMS Maroon Livery.**320316**BR Buffet Car. LMS Maroon
Livery.**320367**BR Standard Gangwayed
Brake Van. LMS Maroon
Livery.**320357**BR Composite Coach. Early
Crimson & Cream Livery.

320306



320313



320361



320307



320368



320362



320363



320366



320314



320315



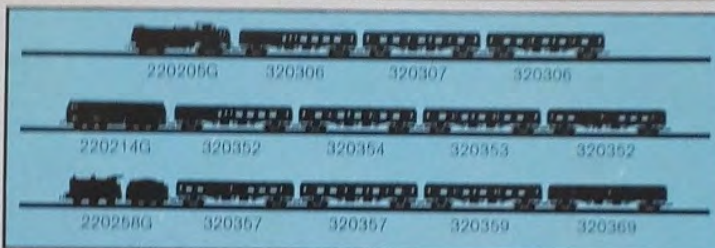
320316



320367



320358
BR 2nd Class Brake Coach.
Early Crimson & Cream Livery.
320359
BR Buffet Car. Early Crimson
& Cream Livery.
320369
BR Standard Gangwayed
Brake Van. Early Crimson &



Cream Livery.
320352
BR Composite Coach. SR
Livery.
320354
BR Buffet Car. SR Livery.
320353
BR 2nd Class Brake Coach.
SR Livery.

320357



320358



320359



320369



320352



320353



320354



N FREIGHT WAGONS.

**320602**

'Black Park' 7 plank wagon.

320604

'Barrow Barnsley' 7 plank wagon.

320607

'J.K. Harrison' 7 plank wagon.

320608

'P.W. Spencer' 7 plank wagon.

320609

'Pinxton Collieries' 7 plank wagon.

320610

'Buxton Gas Dept.' 7 plank wagon.

320862

GWR bogie parcel van 'Siphon G'.

320863

GWR bogie parcel van 'Siphon G'. Palethorpes Sausage.

320864

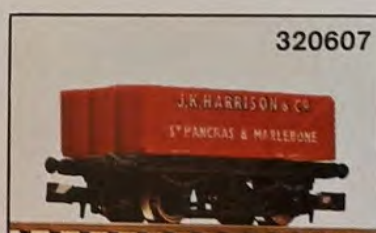
bogie parcel van 'Siphon G'. BR Livery.

320865

Bogie parcel van Siphon G Early BR Livery.

320867

Bogie parcel van Siphon G 'Enparts'.

320602**320604****320607****320608****320609****320610****320862****320863****320864****320865****320867****320484****320795**

320739



320611



320614



320615



320484
Bogie Freightliner transporter.

320795
Bogie container transporter.

320739
Castrol GTX' 20 ton box van.

320611
Typhoon Tea' box van.

320614
Silvel Dairy Products' box van.

320615
GWR box van.

320616
GWR 2 Axle Horse Box.

320617
2 Axle Horse Box LMS Livery.

320618
20 ton box van 'Lucas Batteries'.

320619
20 ton box van. 'Birds Custard Powder'.

320405
BR 20 ton brake van.

320729
'Blue Circle' twin tank cement wagon.

320868
C.C.T. parcel's wagon "Tartan Arrow".

320869
C.C.T. parcels wagon. 'Rail Blue Livery'.

320870
C.C.T. parcels wagon. 'Early BR Livery'.

320410
GWR Brake Van. Long wheel-base version.

320454
'BP' tank wagon.

320780
'Gulf' tank wagon.

320782
'ICI Chemicals' tank wagon.

320784
Mobil LP Gas' tank wagon.

320622
'Amoco' bogie tank wagon.

320625
'Milk' bogie tank wagon.

320792
British Leyland' car carrier.

320720
'London Brick' bogie wagon.

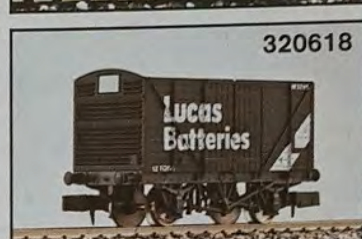
320616



320617



320618



320619



320405



320729



320868



320869



320870



320410



320454



320780



320782



320784



320622



320625

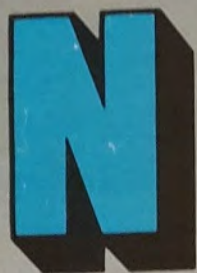


320792



320720





ACCESSORIES

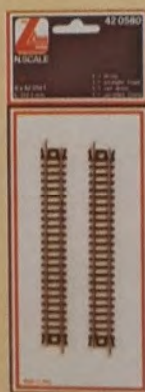


620707

Freightliner terminal. Your fully-equipped terminal makes light work of the flow of container traffic from road to rail. With rail transporter and two containers lorries. **NEW**

TRACK STAINLESS STEEL PROFILE

2nd RADIUS mm. 236.3		420551 curved track (ø 472 mm)
		420552 1/2 curved track (ø 472 mm)
POINTS		420525 right-hand point
		420553 compensating curved track
		420526 left-hand point
STRAIGHT		420563 1/4 straight track
		420562 1/2 straight track (62 mm)
		420561 straight track (124 mm)
CROSSINGS		420521 right diamond crossing (15°)
		420524 left diamond crossing (15°)
		420522 diamond crossing (30°)
1st RADIUS mm. 203.3		420571 curved track (45°)
		420572 1/3 curved track (15°)



420580
6 pieces straight track
(124 mm) 420561.



420581
6 pieces 1/2 straight
track (62 mm) 420562.



420590
6 pieces curved
(45°) 420571.



420592
6 pieces curved
track (15°) (ø 406
mm) 420572.



420522
Diamonds crossing
(30°).



420521
RIGHT diamond
crossing (15°).

420524
LEFT diamond
(15°).

620714
Station.

620715
House.

620705
Tunnel.

620702
Station roof.

620722
Level crossing.



420591
5 pieces curved track
(ø 472 mm) 420551.



420593
6 pieces curved track
(ø 472 mm) 420552.



420585
1 piece curved track,
(45°) 420571, 1 piece
curved track with power
connecting terminal
420571C.



420586
1 piece 1/2 straight
track with power connect-
ing terminal
420564R,
2 pieces 1/4 straight
track 420563,
Insulated fish plates
420017.



420587
1 piece straight track
(124 mm) 420581,
1 piece isolating track
with power connecting
terminal 420564R, 1
piece 1/2 straight track
with buffer stop
420565.



420525
Right-hand point (ma-
nual) + compensating
track 420553.



420526
Left-hand point (ma-
nual) + compensating
track 420553.



3x620718
24 metal rail join-
ers.



3x620717
Insulating fish
plates.



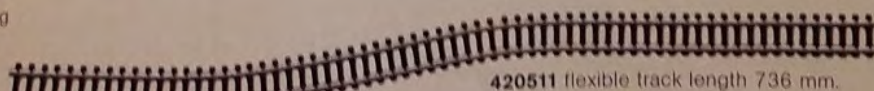
3x620704
Motor springs and
brushes.



3x620703
4 axles.

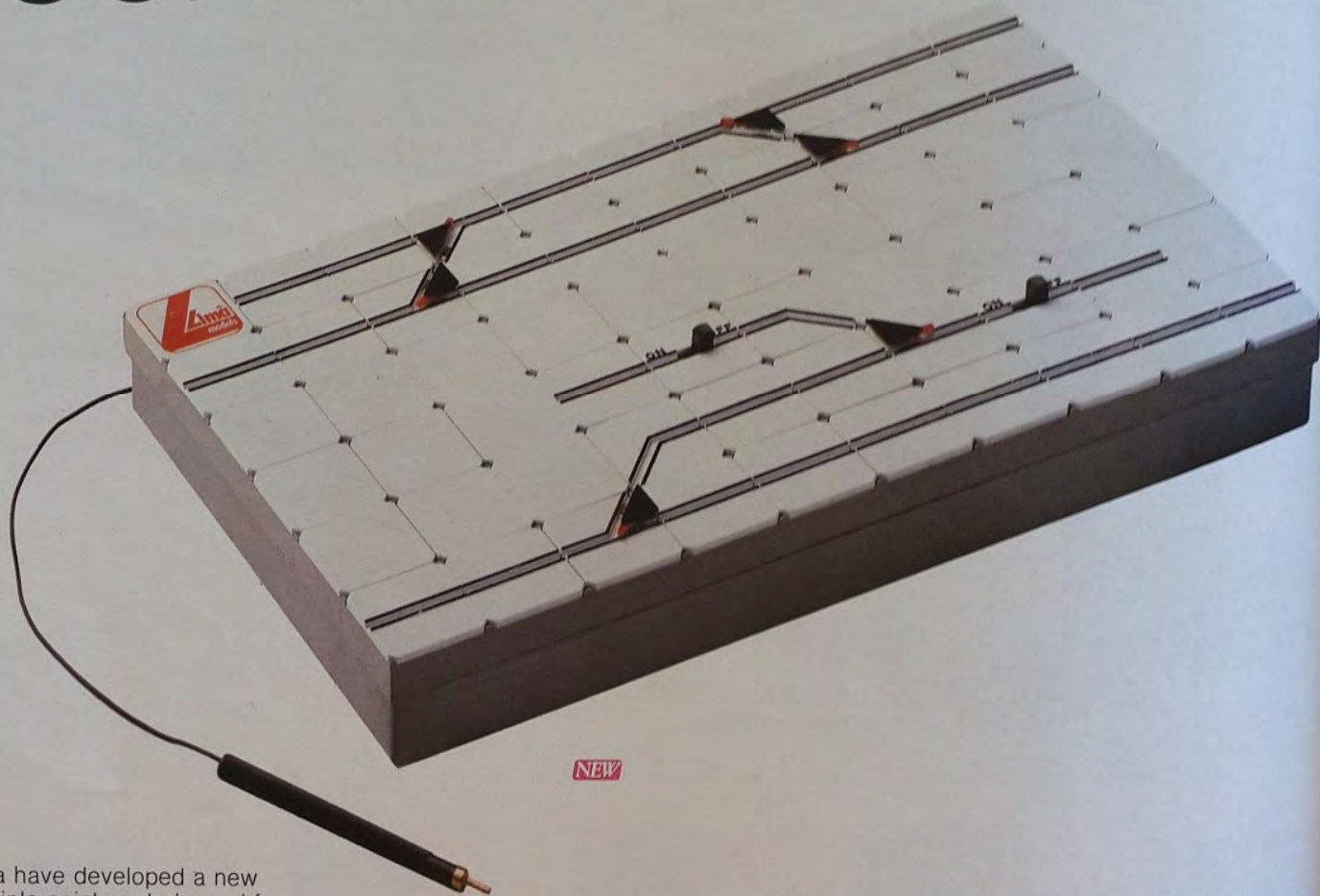


620721 Railer.



420511 flexible track length 736 mm.

CONTROL PANEL.

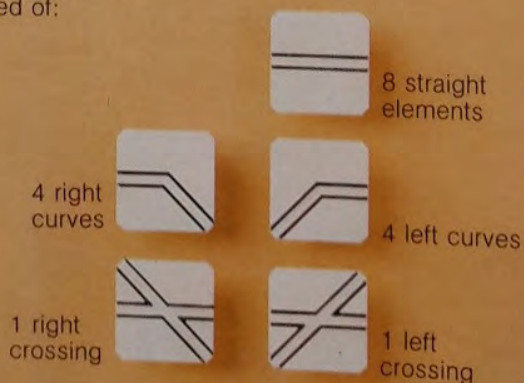


Lima have developed a new multiple-point control panel for fast automatic train routing, designed on the lines of the system used on real railways.

The control panel has interchangeable sections for you to map the layout of your tracks, and by using a special electronic pointer, trains can be directed automatically along chosen sections.

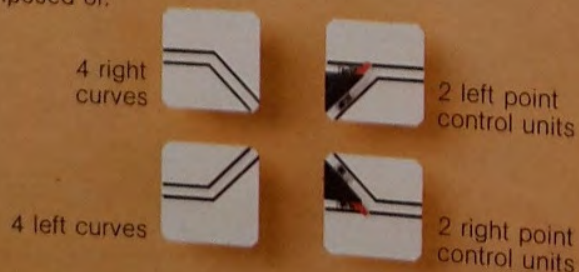
600908

composed of:



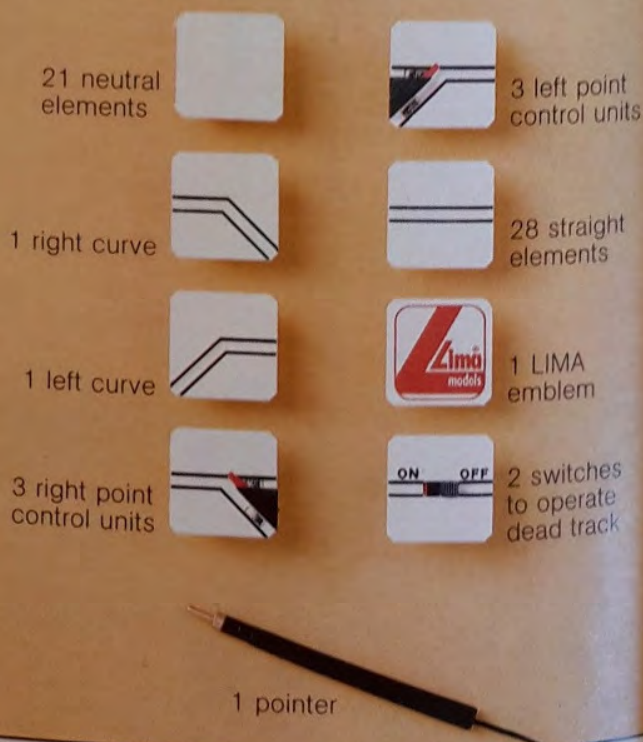
609006

composed of:



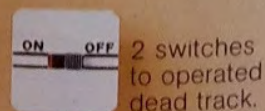
600910

Kit control panel for railway circuits with LED light, composed of:



600907

composed of:



POWER CONTROLLERS. 00

The transformer is the heart of your layout. Current from the mains is converted into the appropriate voltage (AC or DC) necessary to power the various locomotives and accessories that make up your railway system. Luma produce a range of power controllers, with a wide range of uses. Each one is protected from any short-circuits or overloads, making them completely safe to use.

500012



503065



503066



502052



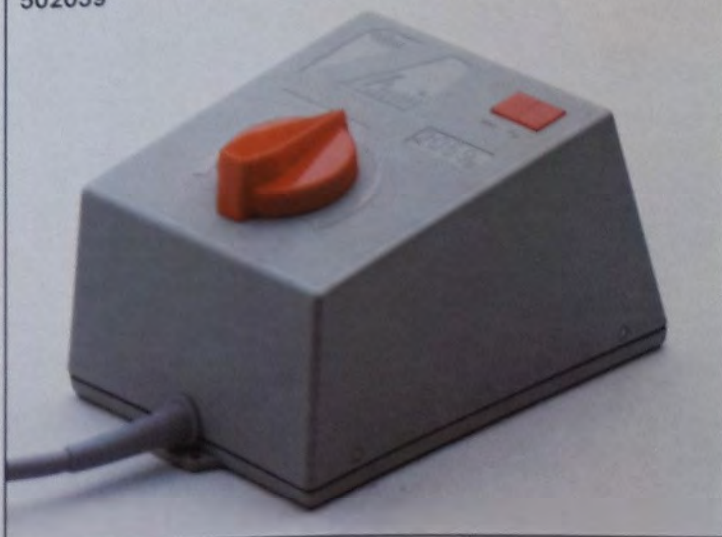
502053



502055



502059



500012

Battery box for 1.5V batteries in series. Output -9V.

503065

Push-button control box.

503066

Function box.

502052 **NEW**

Transformer. Power 3.6VA. Input 220V AC. Output 0-12V DC. Designed to operate one train or DC accessories.

502055

Transformer for electromagnetic devices. Input 220V 50-60 Hz AC. Output 10V AC. Power 7VA.

502053 **NEW**

Transformer for two trains, points and electrical accessories. Input 220V. Output 0-12V at 0.7VA DC. AC output 14V at 0.5A.

502059

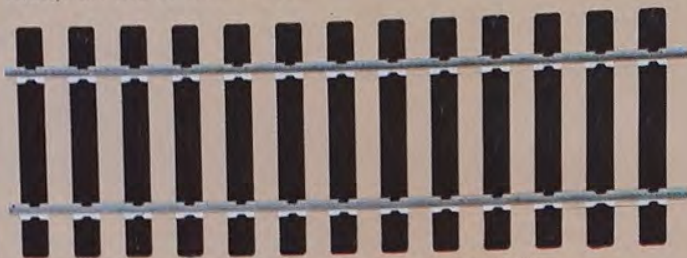
Transformer for two trains, points and electrical accessories. Input 220V. DC output 0-15V at 1.2A. AC output 14V at 1.2A. Protected against short circuits by thermal cut-out.

HOW TO BUILD A

The relative sizes of scales.

Now that you have seen everything that Lima has to offer, it's probably a good time to recap on the relative advan-

range of 00 locomotives, rolling stock, accessories and extensions is now unparalleled.



'00' scale Actual size (16,5 mm between track).



'N' gauge Actual size (9 mm between track).

tages of the three different scales. Your choice of either 00 N gauge will certainly be the most important one you take in planning your layout. Remember that 00 scale (scale 4mm:1ft) is probably the most universal choice and will suit any reasonable space. Having been popular for a long time, the Lima

However, if you are short of space, or would prefer a smaller scale to make room for more scenery and greater scale running distances, N gauge can still provide an alternative solution. Even

though "N" (at 2mm:1ft) is only half the size of "00" you lose nothing in detail or overall effect.

Making your choice

It pays to take the trouble to work out exactly how much running area you have before you start buying.

Measure the space you have allocated for your layout and then, using graph paper, rough out the relative size of the railways you could accommodate the two scales.

The track information given on the previous two pages will be useful here.

You will then be in the ideal situation to choose the scale which comes nearest to your original ideas for your railway.

Detailed planning of your layout.

Having chosen your scale, the next step is to carefully plan your track routes, working in sidings, branch lines, inclines etc. to get the maximum effect from the space you are using.

The material you will need.

Finally, before you start building your layout it's a good idea to assemble all the various materials you will need—then construction need never be halted by a vital missing item!



LAYOUT

Most important of all is the baseboard material for which insulation board is the most suitable. A wooden panel 1.5-2cm thick, size 181x141 cm is ideal, either on legs, fixed to the wall, or hung from the ceiling on a pulley. Decide whether or not the baseboard will need strengthening, in which case you may need to buy some lengths of timber (2"x1" or metric equivalent is usually ideal for making a baseboard frame.)

Other items you will need are: hand tools (hammer, pliers, files, screwdriver, drill, small saw), glue (perhaps a wood glue and one suitable for scenery), chicken wire and

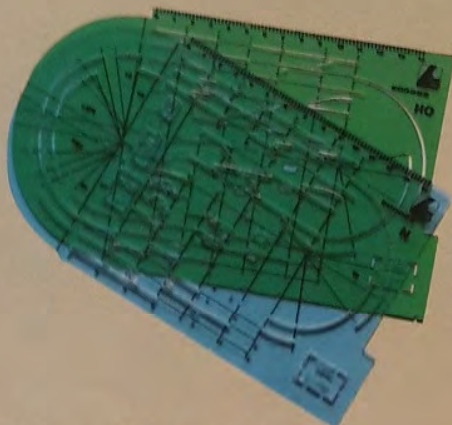


newspaper (for hills, tunnels, etc.), electrical wiring and switches (for signals, lights, etc.), coloured flock powder, ballast material, paints and brushes (for scenery), track

pins (cat. no. 400003) for permanent track fixture, patterned glass (for water) and wire and lichen for trees. With these items you should be able to construct a realistic railway setting, although other materials may be required depending on your individual plans.



TRACK INSTALLATION



00 SCALE = 600062

N GAUGE = 600063

The Lima Track System, 00 Scale.

The track is the foundation of your model railway. It is therefore essential to ensure that the track system you install is the finest you can buy. Lima track is just that.

It has been carefully developed over the years by experts, whose painstaking research means that Lima track system is unique and unsurpassed by any other. You'll find the time and trouble taken at this stage of your hobby amply repaid by smooth running and increased enjoyment later.

Even the smallest layout can provide hours of enjoyment, but the development of larger and more complex layouts will give you all the excitement of running a real railway network.

There are various gauges in

use for model railways, the measurements of the two most popular types being "00" 16.5mm, "N" 9mm between the rails.

In the Lima "00" system there are types of curve with respective radii of 360 mm (14 1/5" ins) and 431 mm (17 ins). To build a circle of 720 mm (28 2/5" ins) diameter 10 sections of 1st radius curves are required, each with an arc of 36°. For a larger circle of 862 mm (34 ins) diameter, we use 16 sections of 2nd radius curve which have an arc of 22 1/2°. Alternatively we can use 8 sections of curves with a 45° arc.

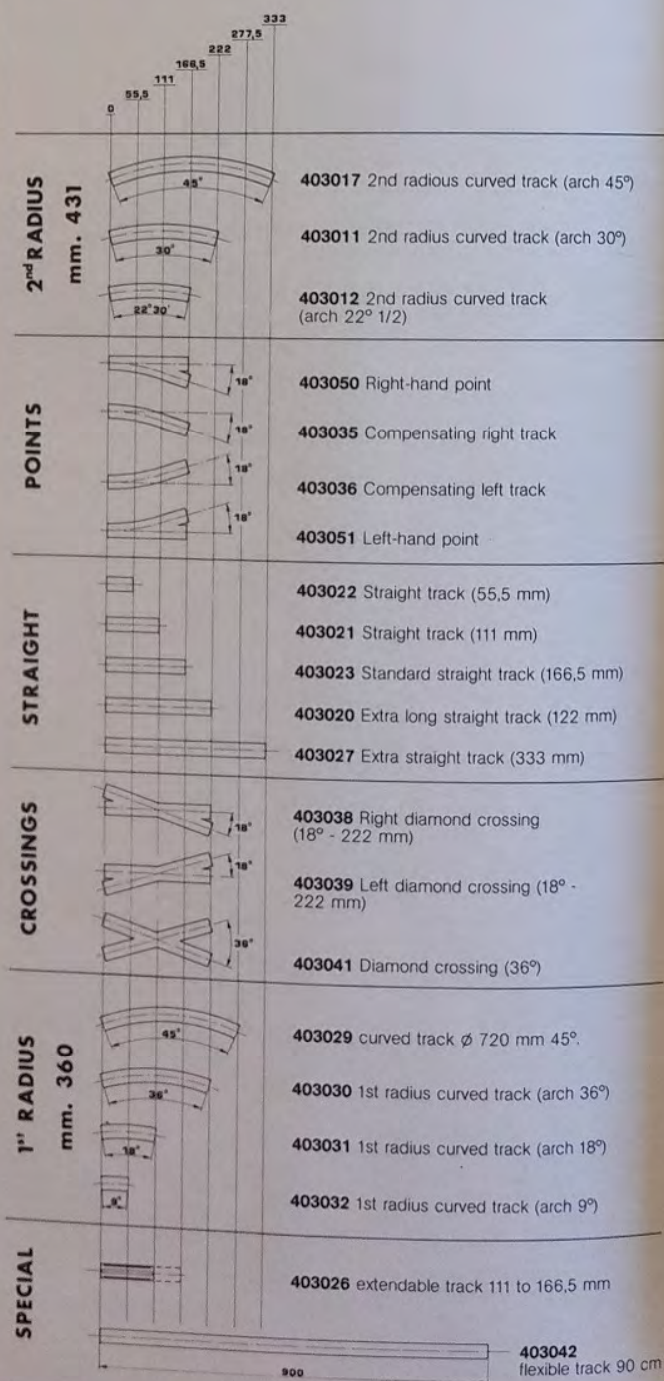
All the elements of the Lima track system are shown in figure 1.

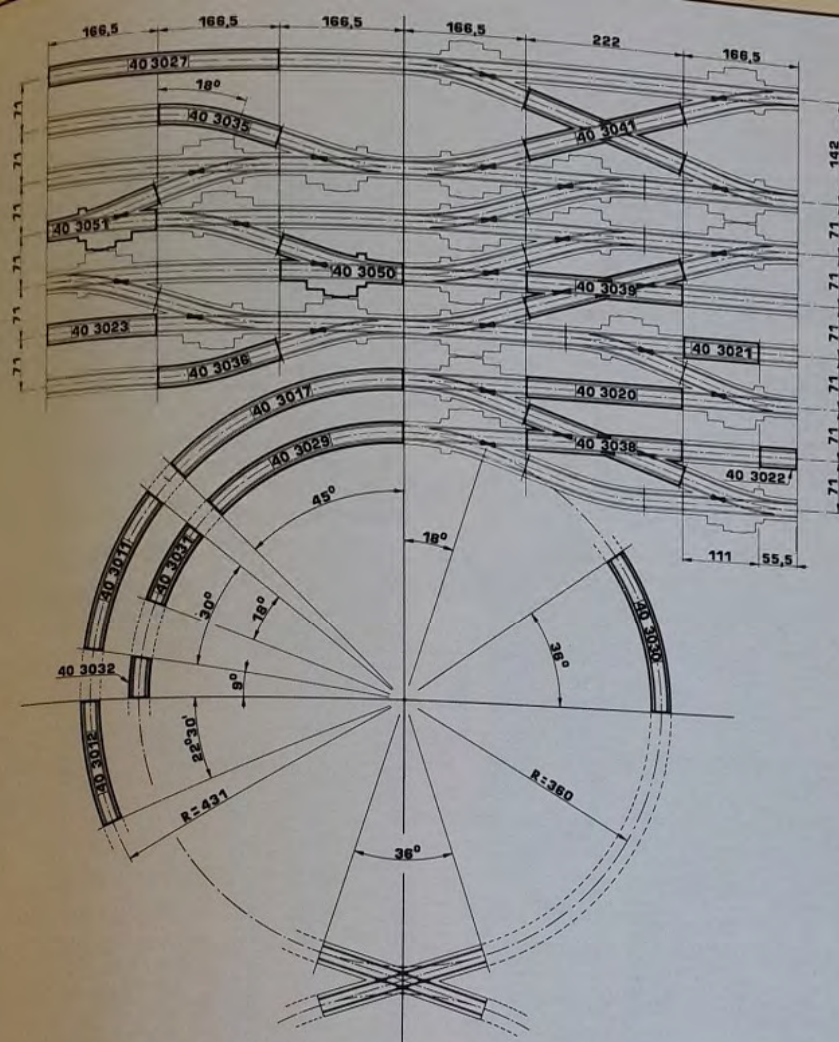
Lima Track Geometry.

One of the main essentials to remember when installing your track is to ensure that the trains can circulate freely without touching. For example, in a Lima "00/HO" scale

system the correct distance between centres is 71 mm (2.8 ins), maintained both in straight runs and through curves, (fig. 2).

Fig 1.



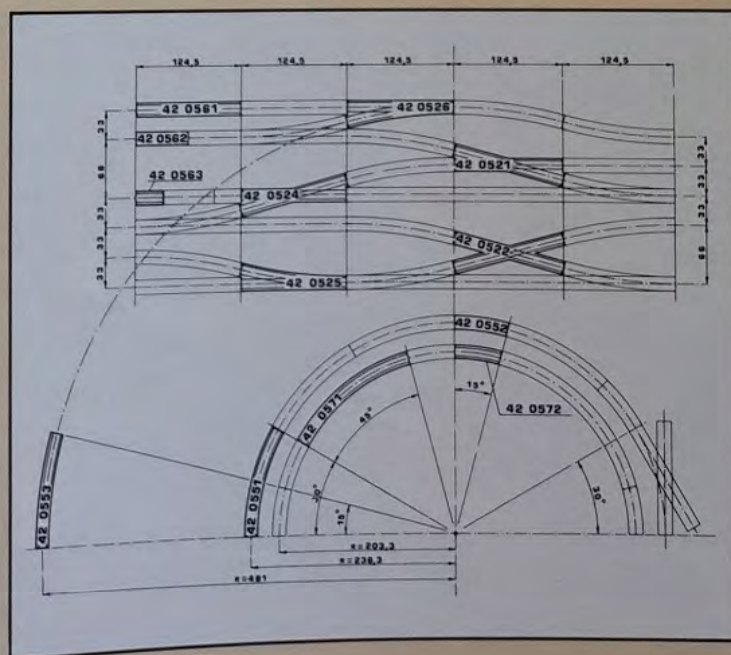
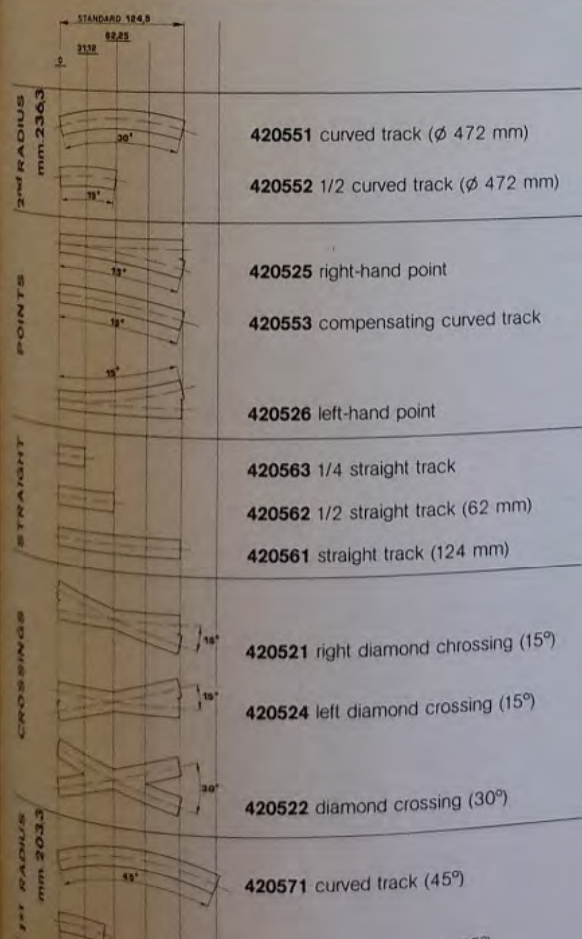


Advanced Track Layouts.

For advanced track layouts, including gradients, "extendable track" (item 403026) may be useful. This can be increased from half straight to three quarter straight length by means of a sliding section. Groups of point and crossing can be used to convert a double track main line into six tracks at the entrance to a station.

In other cases, flexible track can be used to produce special curves and can be cut to size with an ordinary (fine-tooth) hack-saw.

N GAUGE



The Lima Track System, N Gauge.

In Lima "N" Gauge the critical measurement to be born in mind is the distance between tracks of 33 mm, maintained both in straight lines and through the curves. For instance the compensating curve 420533 when used with points 420525 and 420526 maintains this basic

LANDSCAPING.

1. In real life railways have to follow the contours of the countryside, but for the modeller the position is completely reversed. First you lay your tracks and then the landscape develops around the circuit.

However it's as well to think of the landscape at the same time as you draw up your track plans, as there are many characteristics you may wish to include.

Think carefully about the natural transition from the countryside to city, for example. Remember it's a gradual change.

It's best to follow these guidelines and work out your landscape beforehand:-

- Sketch the principal outlines of the landscape.
- Mark urban zones and open spaces.
- Mark in the course of a river and establish low and high contours.
- Remember that any gradients must not exceed 3.5%, i.e. 3.5cm rise over one meter.

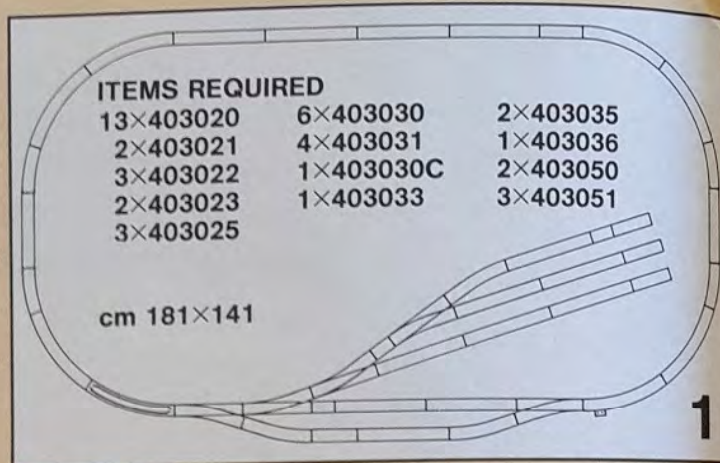
2



3



4



2-3-4. Once you've drawn up your plan you can start work on the baseboard, laying tracks on wooden strips about 1.5 to 2mm thick.

For embankments, build a wooden frame from pieces about 5 to 8mm thick, and finish the trackbed with strips left over from the baseboard level circuit.

Where sections of track are hidden, make some access holds so that you can always get to every part of the circuit. Before fixing the track in position, paint the trackbed in a neutral dark colour.

Station forecourts and roads running level with the track can be built on a low platform supported by small wooden blocks.

Once the tracks are pinned in place and checked for free running, you can start building the landscape.

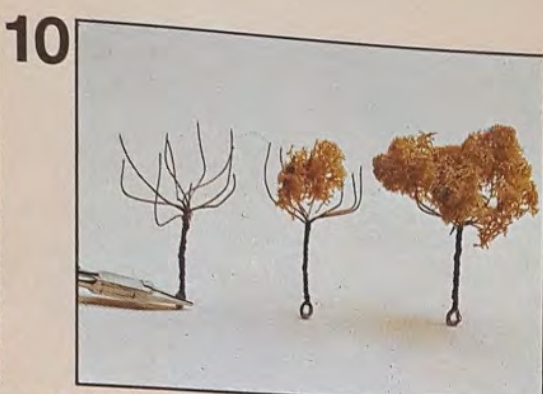
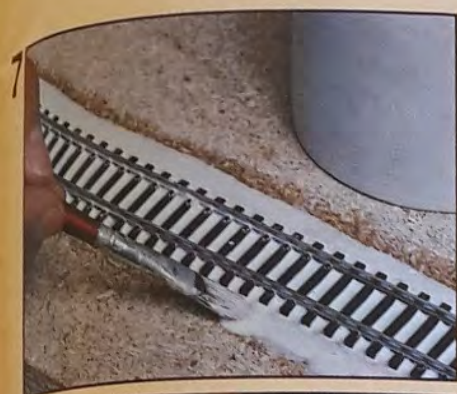
5. For realistic hills and mountains, use close mesh chicken wire, moulding it into the desired relief and then covering it with alternate layers of paper and liquid glue. When dry and hard you can paint the surfaces to represent rocks, grass etc.

5



6





6. For water, try a piece of patterned glass, painted light blue underneath.

7-8-9. Ballast can be realistically reproduced by spreading glue between the sleepers and sprinkling sand over the tracks - between the rails and along the edges.

Press the sand down firmly with your fingers, and remove any surplus. Then clean the rails carefully making sure there are no grains of sand left that might cause a derailment or faulty electrical pick up.

10. Trees can easily be made on a framework of twisted wire, with pieces of lichen stuck to the strands.

11. For fields you have a choice of using either commercially produced simulated grass mats, or sprinkling green-dyed sawdust over a glue base.

12. Roads can be made of special papers available through model shops, or by gluing down strips of very fine sandpaper.



ELECTRIFICATION



With the Lima control panel and its interchangeable section, you can recreate in diagrammatic form the main tracks of your railway, automatically routing trains through electronically selected sections. For truly realistic operating it will be necessary to add other electronic systems to control trains from a distance, regulating their progress through points, lights and signals.

Lima Point work.

No layout is complete without points and Lima produce two types:

- hand operated
- and electrically remote controlled.

Both types are available with either left-hand or right-hand turnouts.

Electrically operated (or to be precise, electromagnetic) points have three terminals, the centre terminal governing mainline running and the other two controlling the sidings.

Electromagnetic points are operated through a control box (503065). To avoid overheating and subsequent damage to the coils, it is advisable not to press the button for too long. Just a light touch will be sufficient to change direction of the point.

Here it is very important to avoid collisions, and to ensure that one train stops clear of a point to allow another to pass on an adjacent line.

The simplest answer is a stretch of isolated track, say in a siding, where a train can be left without any power supply until it's needed. This can easily be achieved by inserting a length of straight isolating track (item 403024 R).

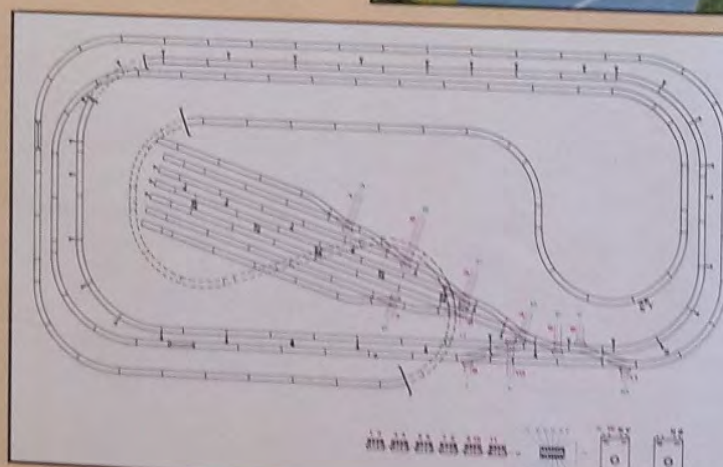
Operation is very simple:

- when the button is not pressed there is no power to the isolated track. Once in that section the train automatically stops;
- by pressing the button you restore power to the section and the train can be operated normally in both directions from the controller.



Isolating Track Section.

Many modellers like to run more than one locomotive on a particular section, in shunting operations, for example.



ITEMS REQUIRED

105×403020	17×403030
10×403021	1×403030C
8×403022	4×403031
4×403023	1×403033
7×403025	2×403035
2×403026	4×403036
30×403011	4×403050E
7×403051E	3×602953
6×503065	3×602954
1×503066	24×602960
2×502060	20×602961
24×602950	12×602962
24×602951	
1×602952	

cm 355×175

Installation of signals.

Correct signalling is vital to the safe running and regulating of any railway network. Sections controlled by signals need to be at least 40 to 50 cms long, and each should include an isolating track 403022A or 403024R.

The electric connections are as follows:

- the installation of a signal to control a single section;
- the installation of two signals operating simultaneously two sections of track in either direction.

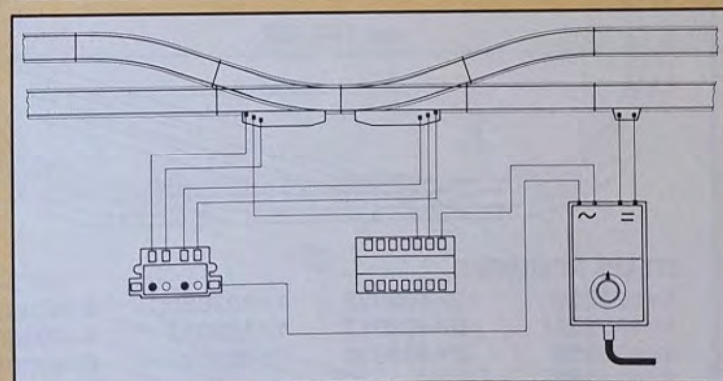
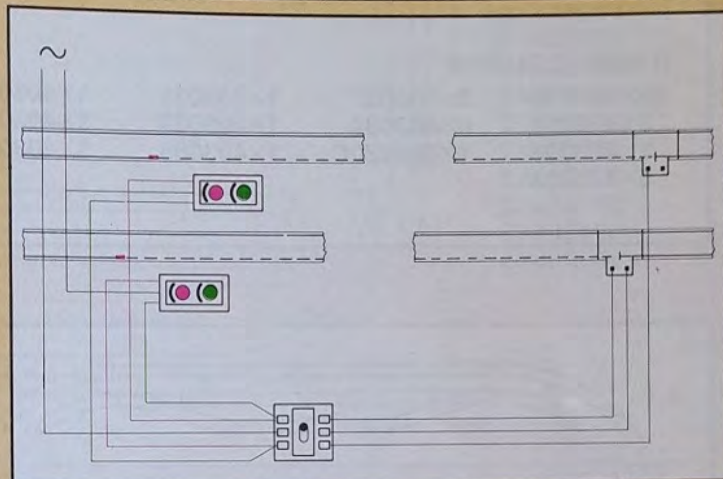
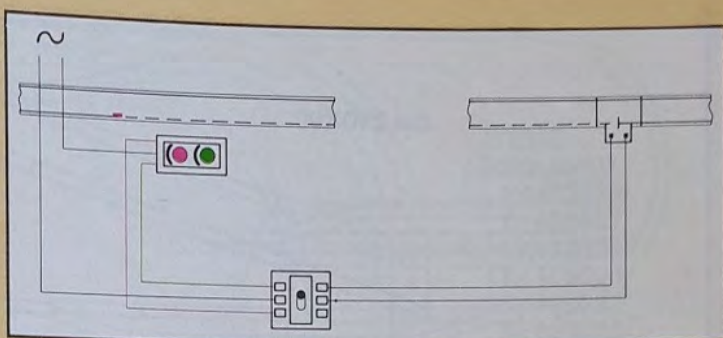


Figure 1.
Correct wiring of an electromagnetic point.

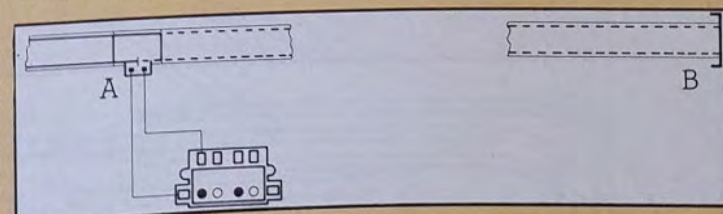


Figure 2.
A stretch of isolating track for sectioning the circuit. A train will only run between A and B if the control box button is pressed (item 503065).

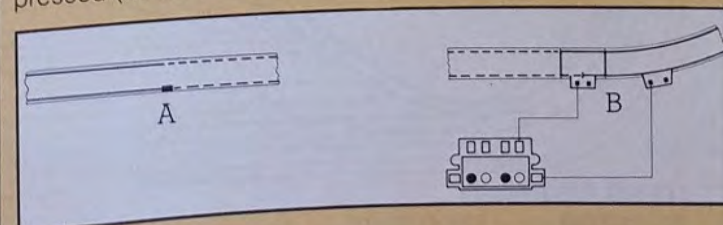
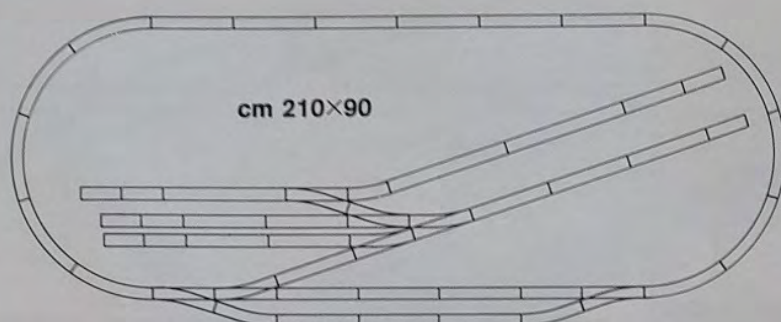


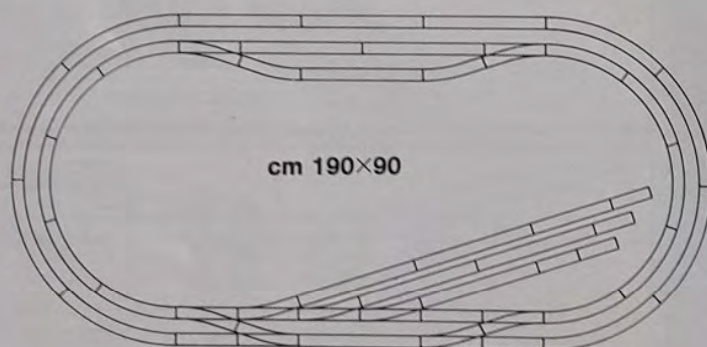
Figure 3.
Section of isolated track. Once the train has arrived in the section between A and B it will automatically stop. Power will only be restored once the control box button is pressed (item 503065).





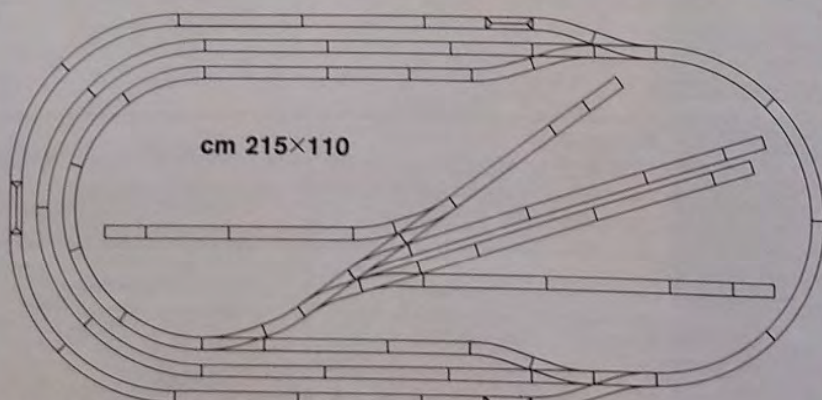
ITEMS REQUIRED

20×403020	3×403027	1×403031	1×403036
3×403021	8×403030	1×403033	5×403050
2×403023	1×403030C	1×403035	2×403051
5×403025			



ITEMS REQUIRED

1×403020	12×403027	1×403030C	1×403036
1×403021	8×403017	1×403033	3×403050
3×403023	8×403030	1×403035	6×403051
3×403025			

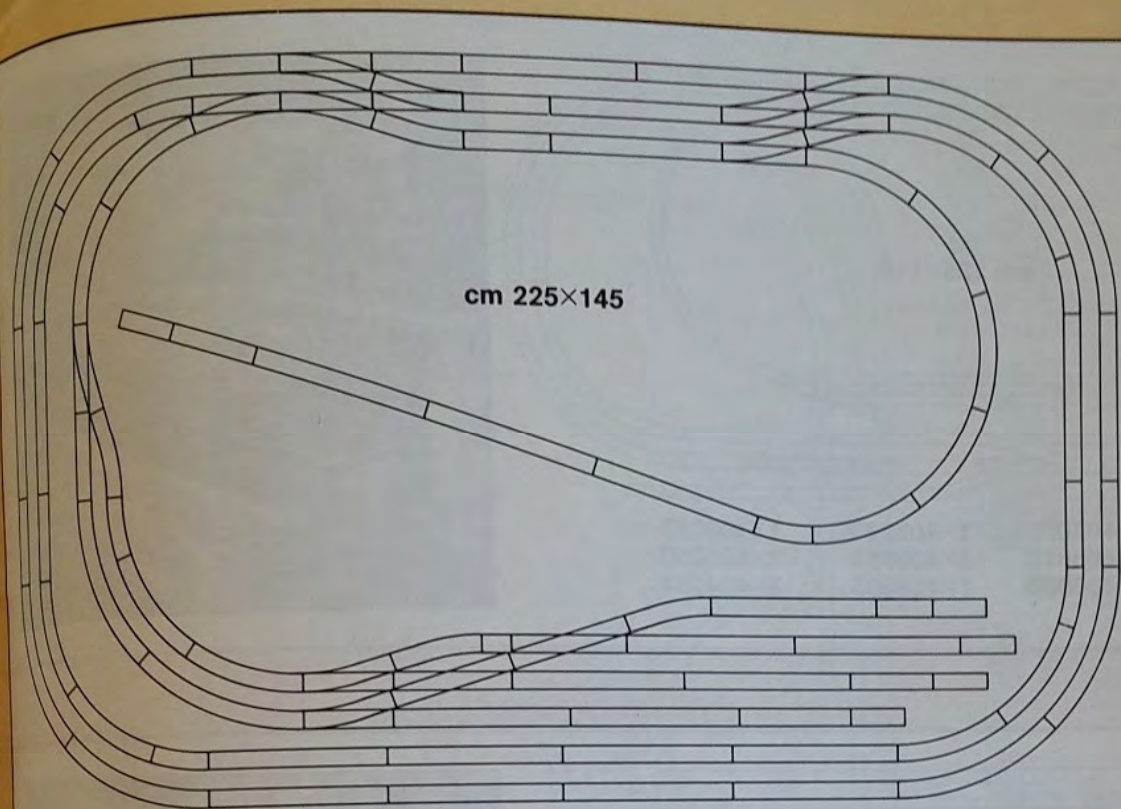


ITEMS REQUIRED

6×403020	18×403027	1×403030C	2×403036
1×403021	3×403026	2×403031	5×403050
5×403023	12×403017	1×403033	3×403051
5×403025	3×403030	2×403035	

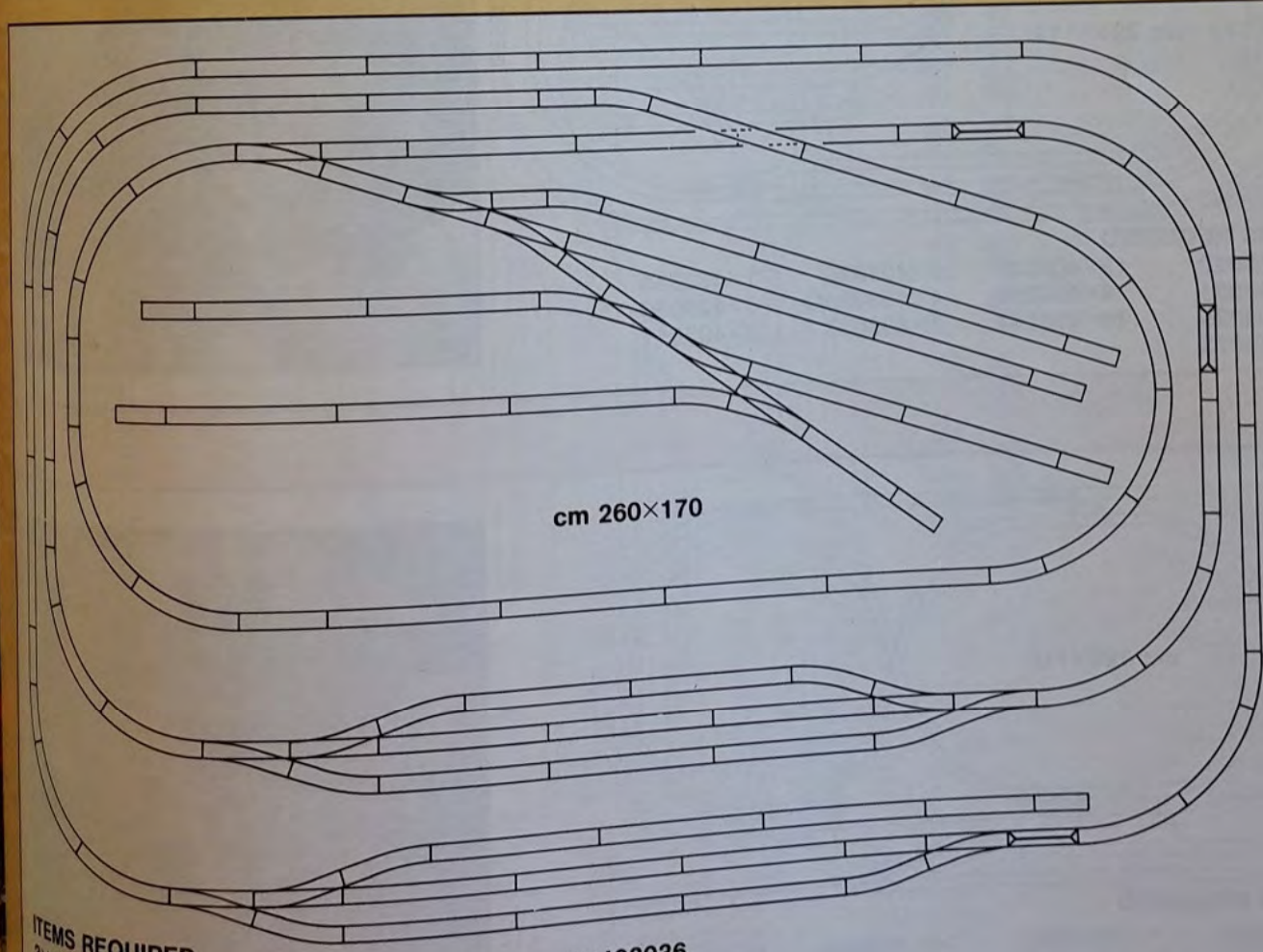


TRACK PLANS



cm 225×145

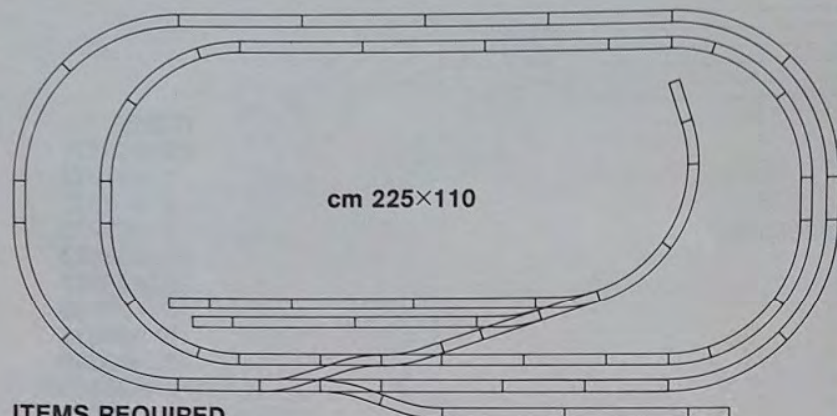
- ITEMS REQUIRED**
- 1×403020
 - 1×403021
 - 1×403022
 - 11×403023
 - 26×403027
 - 5×403025
 - 10×403017
 - 15×403030
 - 1×403030C
 - 6×403031
 - 1×403033
 - 2×403035
 - 2×403036
 - 2×403038
 - 3×403050
 - 8×403051



cm 260×170

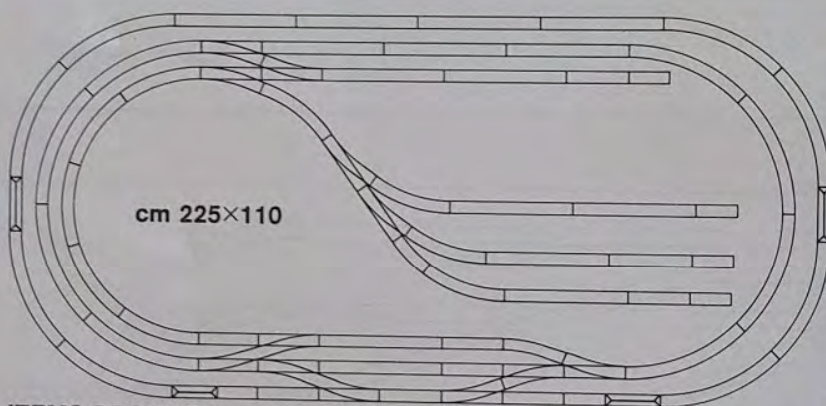
- ITEMS REQUIRED**
- | | | | |
|----------|-----------|-----------|----------|
| 3×403020 | 3×403026 | 1×403030C | 4×403036 |
| 6×403021 | 51×403027 | 13×403031 | 5×403050 |
| 7×403023 | 4×403017 | 1×403033 | 8×403051 |
| 7×403025 | 18×403022 | 3×403035 | |

00 SCALE



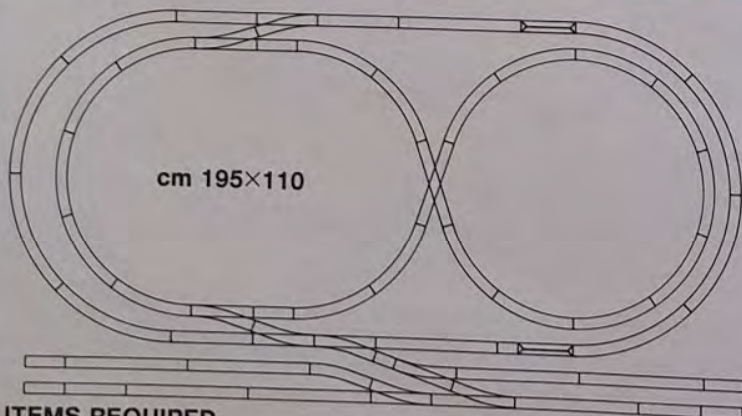
ITEMS REQUIRED

7×403020	14×403027	1×403030C	1×403033
4×403021	8×403017	5×403031	3×403050
2×403023	8×403030	1×403035	3×404051
4×403025			



ITEMS REQUIRED

1×403020	15×403027	7×403030	1×403035
2×403021	4×403026	1×403030C	6×403050
4×403025	16×403017	1×403033	6×403051
8×403023			

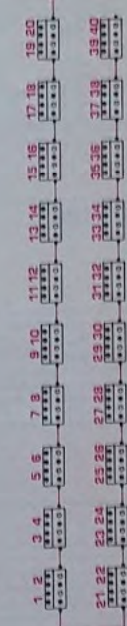
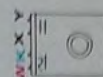
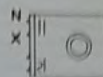
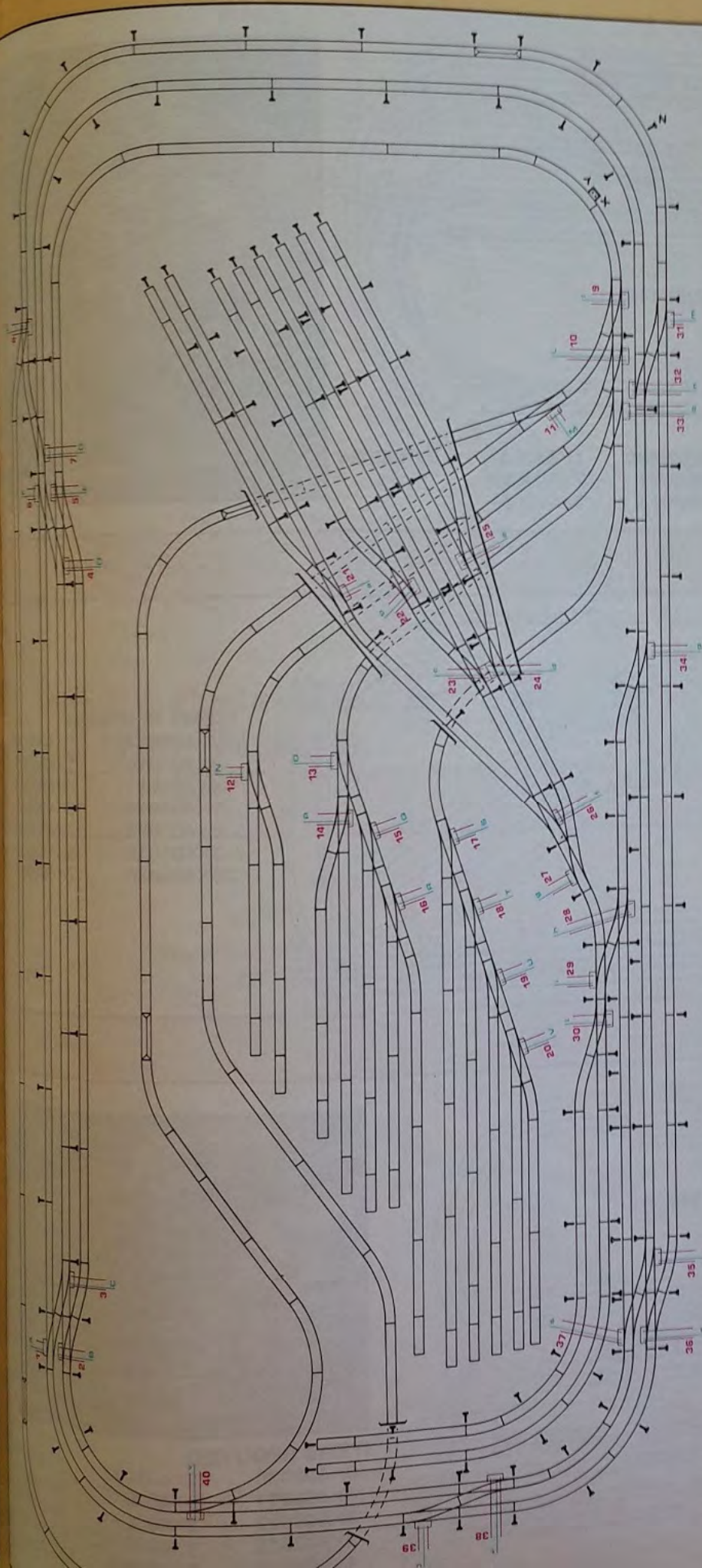


ITEMS REQUIRED

3×403020	2×403026	16×403030	4×403050
2×403021	2×403023	1×403030C	3×403051
2×403022	9×403027	1×403033	1×403041
4×403025	8×403017	1×403035	



TRACK PLANS

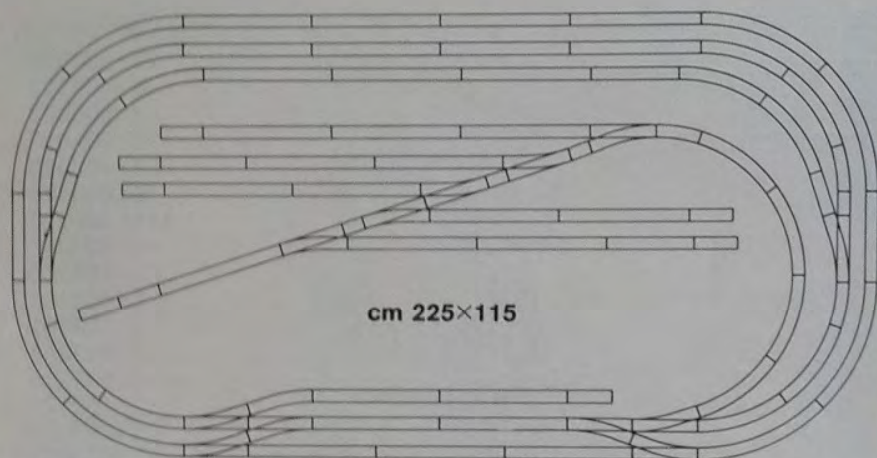


ITEMS REQUIRED

- 22×403020
- 6×403021
- 7×403022
- 15×403023
- 22×403025
- 6×403026
- 121×403027
- 18×403017
- 25×403030
- 1×403030C
- 9×403031
- 1×403033
- 9×403035
- 9×403036
- 28×403050
- 12×403051E
- 20×503065
- 4×503066
- 2×502060
- 78×602950
- 18×602951
- 10×602953
- 10×602954
- 1×602952
- 88×602962
- 40×602961
- 58×602960

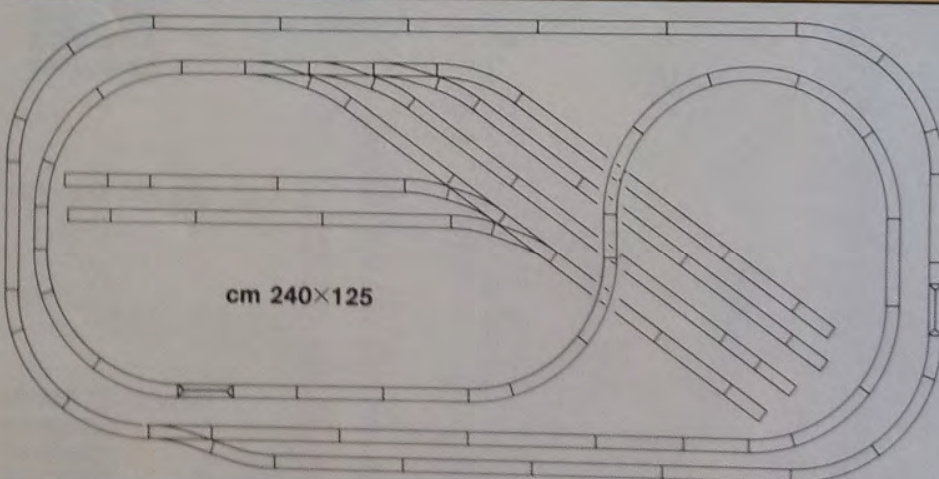
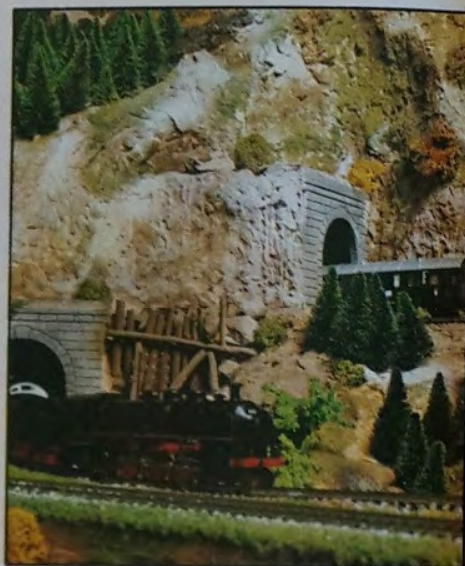
cm 440×190

00 SCALE



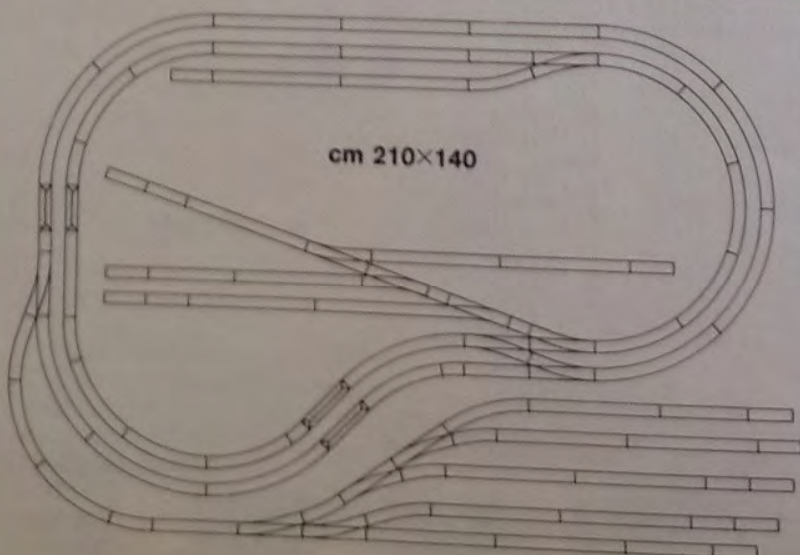
ITEMS REQUIRED

4×403020	31×403027	1×403030C	1×403036	7×403025
4×403021	8×403017	4×403031	7×403050	
5×403022	14×403030	1×403033	6×403051	



ITEMS REQUIRED

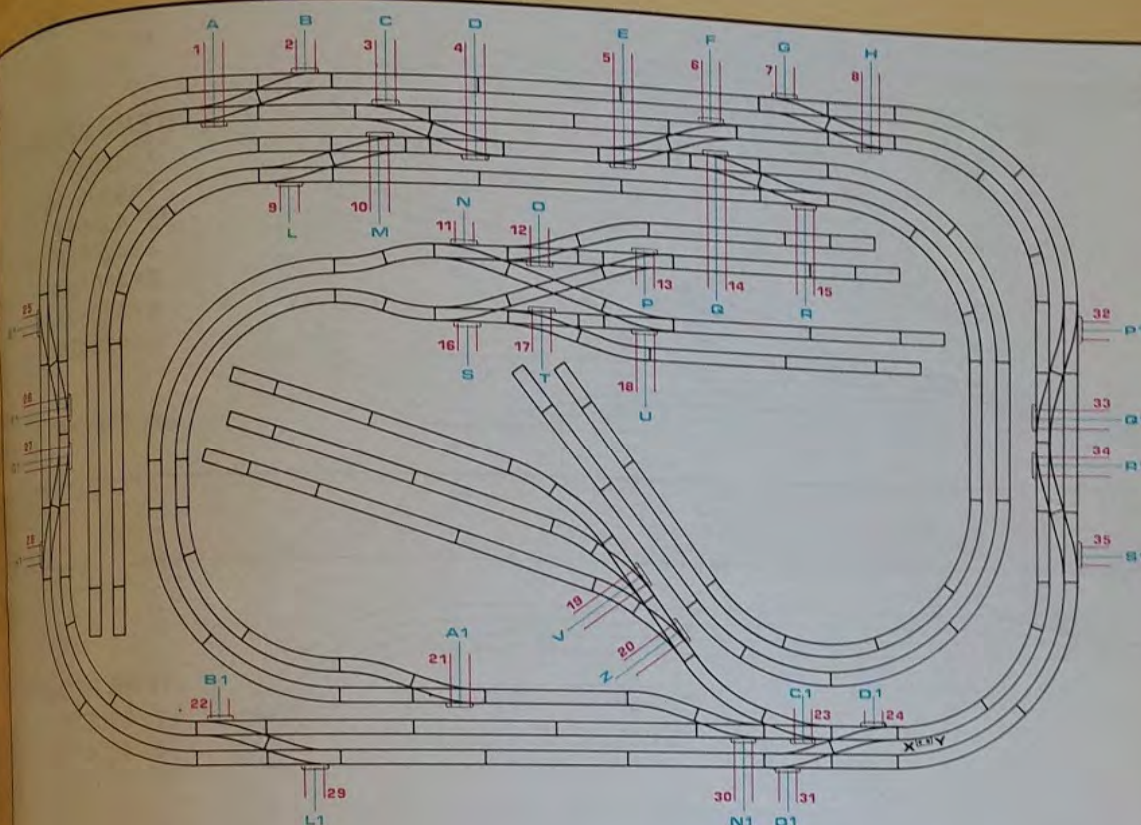
27×403027	1×403030C
8×403020	1×403033
4×403021	6×403025
1×403022	13×403031
3×403023	1×403035
2×403026	4×403050
20×403030	2×403051



ITEMS REQUIRED

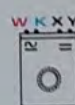
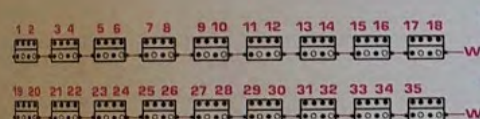
5×403020	22×403027	1×403033
4×403021	10×403017	1×403035
3×403022	12×493030	2×403036
2×403023	1×403030C	6×403050
4×403026	6×403031	5×403051
10×403025	1×403032	

TRACK PLANS



ITEMS REQUIRED

- 10×403020
- 4×403021
- 4×403022
- 12×403023
- 11×403025
- 31×403027
- 18×403017
- 1×403011
- 1×403012
- 19×403030
- 1×403030C
- 15×403031
- 1×403041
- 3×403035
- 1×403033
- 2×403036
- 18×403050E
- 17×403051E
- 18×503065
- 3×503066
- 1×502060

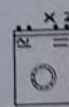
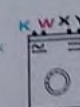
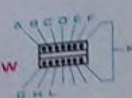
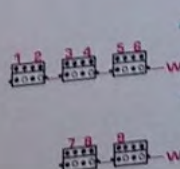


cm 260×160



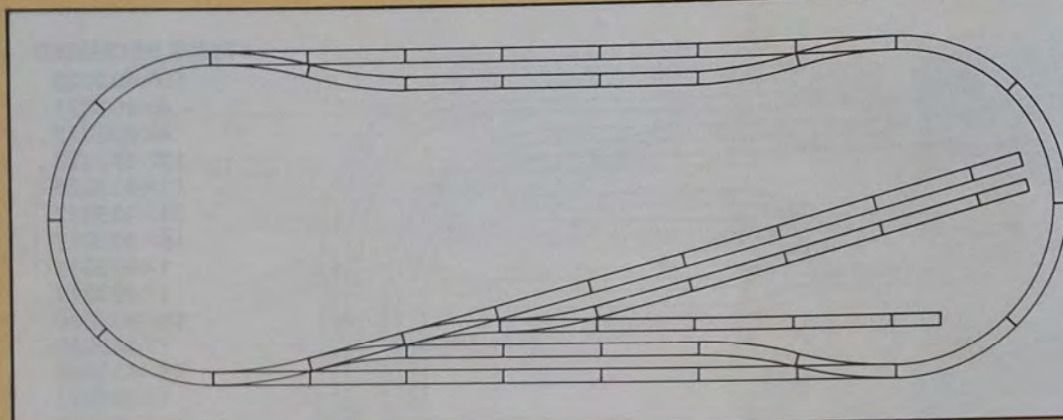
ITEMS REQUIRED

- 13×403020
- 5×403021
- 4×403022
- 5×403023
- 5×403025
- 4×403026
- 25×403027
- 6×403017
- 42×403030
- 1×403030C
- 12×403031
- 1×403033
- 1×403035
- 4×403050
- 4×403051
- 1×602952
- 16×602950
- 17×602951
- 24×602961
- 7×602960
- 3×602962
- 5×503065
- 1×503066
- 2×502060



cm 200×275

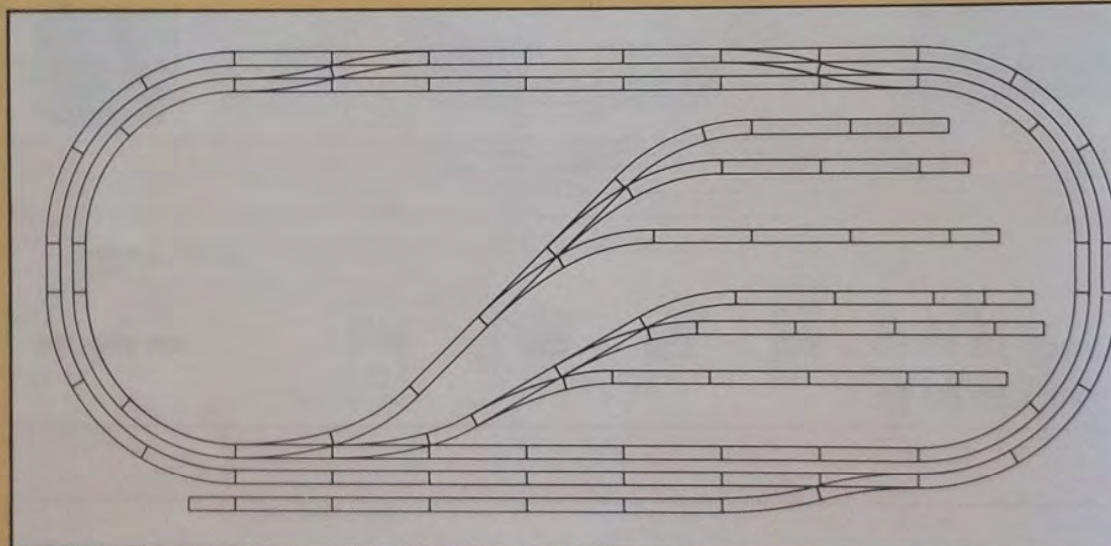
N GAUGE



ITEMS REQUIRED

7×420571
1×420571C
28×420561
3×420565
3×420553
4×420525
3×420526

cm 135×45



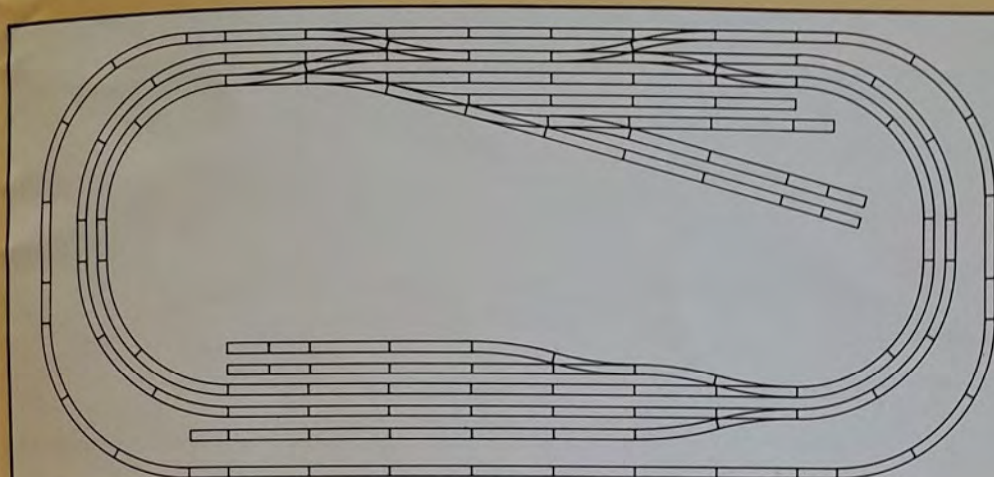
ITEMS REQUIRED

17×420551
4×420552
7×420571
1×420571C
41×420561
3×420562
7×420565
6×420525
5×420526
2×420553

cm 140×60



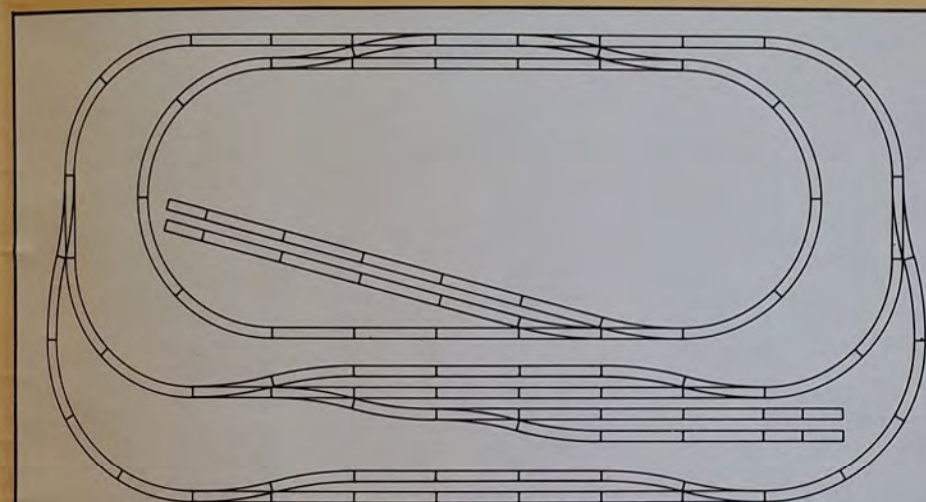
TRACK PLANS



ITEMS REQUIRED

24×420551
7×420571
1×420571C
54×420561
14×420562
7×420565
3×420553
8×420525
5×420526

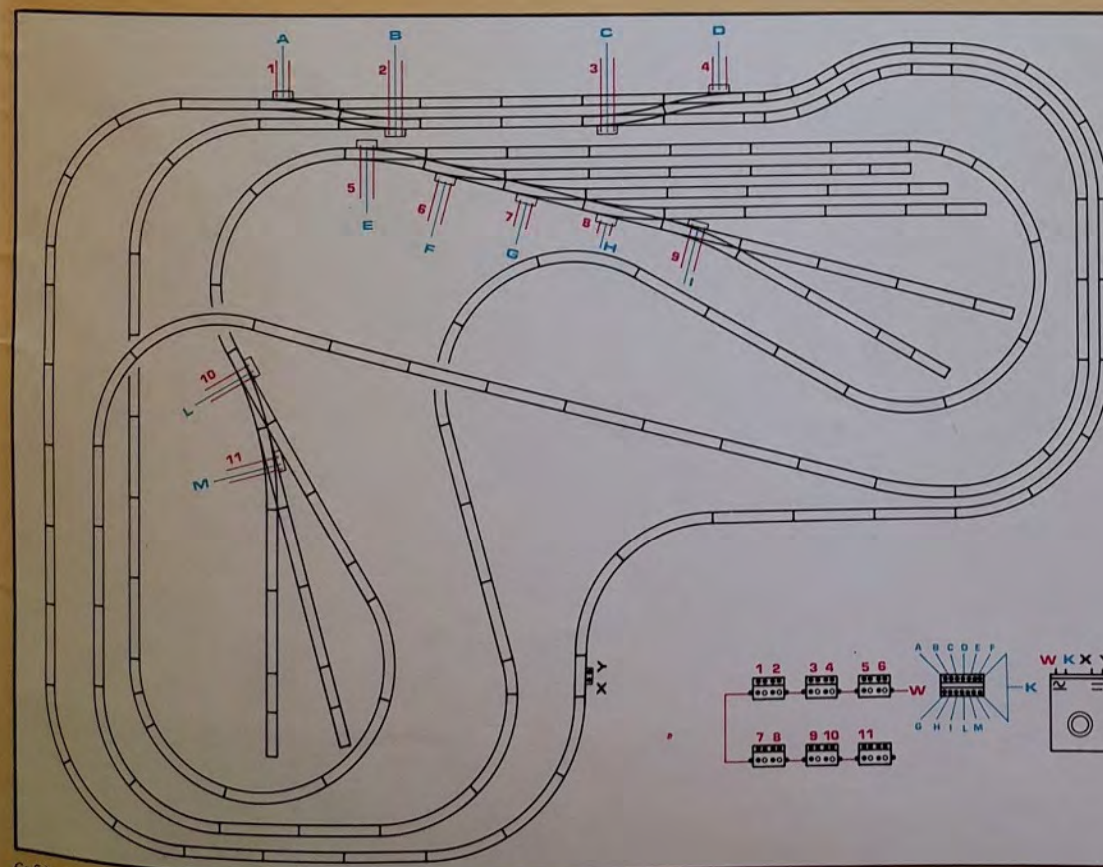
cm 150×70



ITEMS REQUIRED

6×420551
15×420571
1×420571C
8×420553
40×420561
2×420562
4×420565
9×420525
5×420526

cm 140×80



ITEMS REQUIRED

18×420551
28×420571
11×420572
76×420561
9×420562
4×420563
1×420564
7×420565
6×420525E
5×420526E
5×503065
1×503066
1×502053

cm 175×140



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