

# A Layout For Shunting Operations

MONTHLY TWO-RAIL  
FEATURE

THE track formation shown this month fits on a baseboard measuring 7 ft. 6 in.  $\times$  5 ft., and provides the facilities for carrying out a variety of interesting train operations. It will be seen that the oval track, for continuous travelling, has a set of Points which lead to a group of two sidings, and that these have their own Terminal Rail. They also are provided with a long extension to the left, which serves as a shunting spur as well as a useful extra siding.

A train traversing the track in a clock-wise direction can be stopped clear of the points and backed through the crossover into the sidings, in either of which vehicles can then be detached by means of the Uncoupling Rails. An engine can move

In addition to the sidings there is a loop on the upper main track in which a train can stand while another traverses the main line. A Junction Signal and Electrically-Operated Point, wired together, serve this loop at the left hand end.

When the Points are set for the main line the right hand signal arm is raised to the "clear" position. The action of moving the Switch to set the Points for the loop will also cause the left hand arm of the Signal to rise to the clear position.

The power control unit employed for this layout must have, in addition to an output for running a train, another of sufficient capacity to work Electrically-Operated accessories.

Two isolating sections have been provided on the main line so that a train may be held in one or other of them while a shunting movement is made in the sidings by another locomotive.

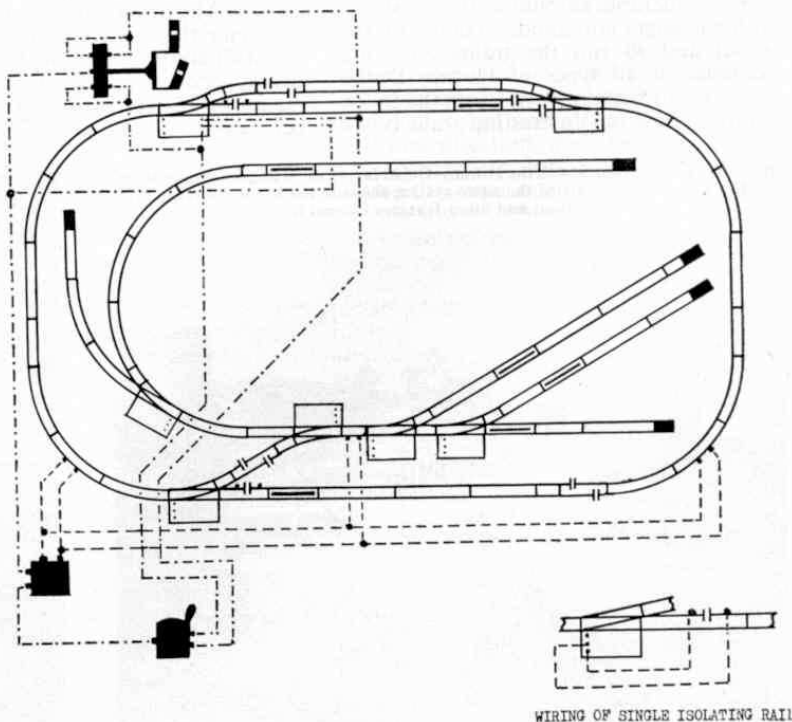
## BY "LINESMAN"

backwards and forwards, shunting the sidings without coming on to the main line, while the shunting spur itself has a short siding leading from it which can be used for holding a locomotive not in service. A Double Isolating Rail must be provided between the main line Points and those of the siding.

### ITEMS REQUIRED

17 Curved Rails .. .. .	2710
2 Curved Terminal Rails with Suppressor .. .. .	2714
2 Curved Half Rails .. .. .	2711
7 Curved Quarter Rails .. .. .	2712
18 Straight Rails .. .. .	2701
9 Straight Two-Third Rails .. .. .	2702
3 Straight One-Third Rails .. .. .	2703
1 Straight One-Third Terminal Rail with Suppressor	2708
2 Straight Two-Third Single Isolating Rails .. .. .	2738
4 Straight Two-Third Double Isolating Rails .. .. .	2739
6 Uncoupling Rails .. .. .	2745
1 Left Hand Point Electrically-Operated .. .. .	2732
1 Switch .. .. .	1614
2 Right Hand Switch Points .. .. .	2728
4 Left Hand Switch Points .. .. .	2729
5 Buffer Stops .. .. .	2450
1 Power Control Unit	

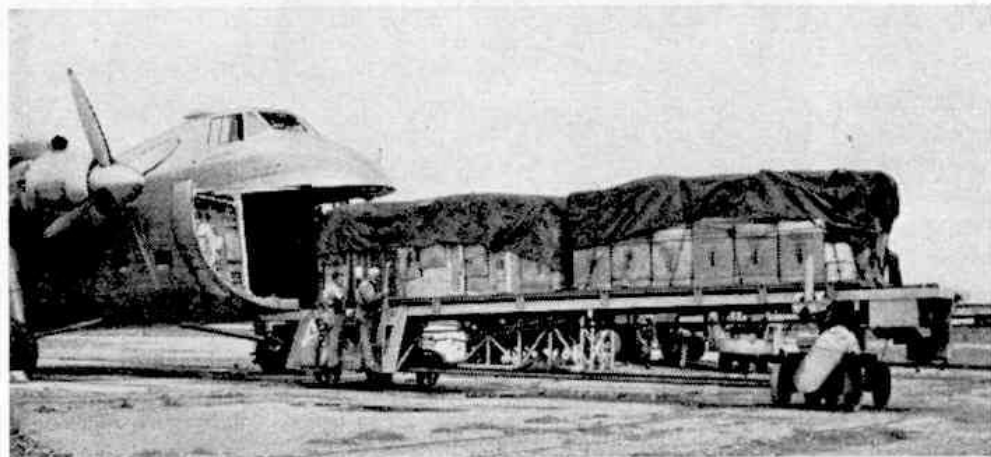
This month's layout is shown pictorially (above) and in diagram form, on the right.



WIRING OF SINGLE ISOLATING RAIL

packed on to a Cargon and taken by lorry and trailer to Paraparaumu or Woodbourne, at each of which the N.Z.R. have two special loading decks called traversers to speed transfer of the loaded Cargons from lorry to aircraft and *vice versa*.

These traversers are simple enough.



A load of general freight on the long platform, or traverser by which it is passed into the aircraft.

Each consists of a 40 ft. long platform mounted on a pair of four-wheel bogies so that it can be driven electrically along standard railway tracks. It can be raised or lowered at each end to line up with the tailboard of a lorry or the cargo hold of a Freighter, and has a motorised endless chain running down its centre.

For loading, the traverser is first lined up with the lorry so that the Cargons can be hooked on to the endless chain and, at the push of a button, dragged from the lorry on to the deck. The traverser then runs along the rails until it is in front of the aircraft, its end is levelled and the Cargons are fed into the Freighter's cabin in the same way.

Loading can be done by one man with a lorry and two trailers in 12-14 min., compared with six men, two lorry-trailer units and up to 90 min. for hand loading. On average, the Freighters can be ready to take off with another load within 20 min. of landing.

Money is saved as well as time, because the fact that loads are pushed in as a complete unit on a

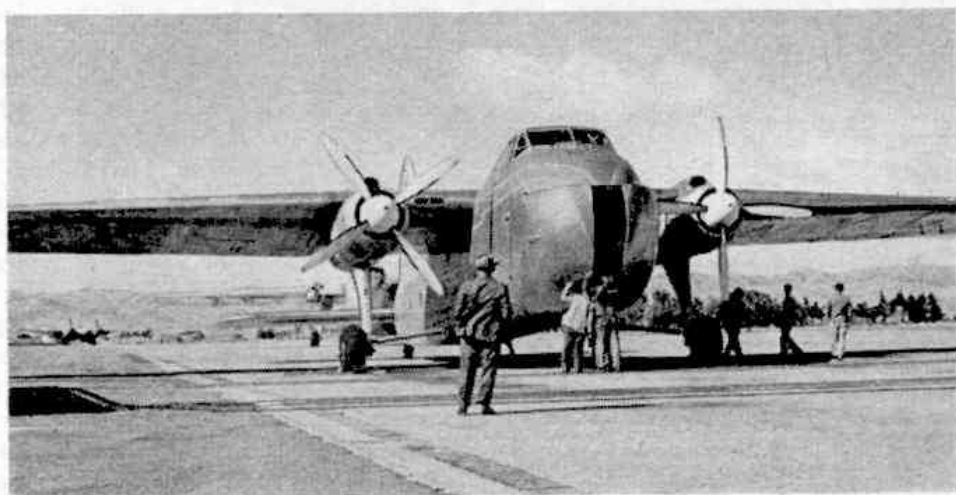
Cargon reduces handling of individual items, which can be sent with a minimum of expensive protective packing. Cars, refrigerators, eggs, sheep, frozen foods, fruit and furniture are flown regularly. So are racehorses, which are carried eight at a time in specially-designed lightweight boxes, complete with their trainers and sufficient fodder to last until they return again to their home stables. They certainly appear to enjoy the ride, because the 70 horses carried in 1954 won over 30 races and came second or third in many others.

When the operations were extended to include occasional

services to Nelson and Oamaru both on South Island, it would have cost too much to equip these terminals with traversers. Instead, the tail of the aircraft is simply jacked up after landing and the Cargons are hauled out on to wheeled trolleys. This takes longer than the traverser method, but is very much quicker than hand loading.

Needless to say, the aircrews of S.A.F.E. and the men who handle the Rail-Air cargoes on the ground are always keen to find something new to carry. Their proudest load was a 5-ton road grader measuring 20 ft. long, 6 ft. 6 in. wide and 6 ft. 9 in. high, until they heard about

(Continued on page 596)



One last look at the load inside before closing the huge doors in the nose of the S.A.F.E. Bristol Freighter.

# New Zealand's Rail-Air Service

By John W. R. Taylor

**A**LTHOUGH we hear almost every month of some strange new job being done by aeroplanes somewhere in the world, I must admit that I was shaken when an *M.M.* reader in New Zealand told me recently that even railway wagons go by air in his country.

As you probably know, New Zealand is made up of two main islands, separated by 16 miles of water known as the Cook

away on the South Island is Woodbourne airfield, within four miles of Blenheim Station on the main line to Christchurch.

A six-day experimental airlift between Paraparaumu and Woodbourne by Dakotas of the R.N.Z.A.F. in December 1946 was so successful that a regular Dakota Rail-Air service was opened in conjunction with the New Zealand National Airways Corporation in the following year. But the

"Dak" was designed as an air liner and when Bristol's demonstrated one of their Freighters on the service it was obvious that this aircraft, with its big nose-loading doors and capacity of six tons, was the real answer to the problem of airlifting heavy, bulky freight loads.

So it was that in February 1951 Straits Air Freight Express (S.A.F.E.), a subsidiary of the British Airwork independent airline, were given a contract to take over the Rail-Air service using two, and later



Mixed general freight being loaded "en bloc" into an aircraft of Straits Air Freight Express, New Zealand.

Strait. Because of this, the New Zealand Railways (N.Z.R.) system is split into two sections, with 1,688 miles of track on the North Island and 1,800 miles on the South Island.

Until 1946, goods consigned by rail between places on the two islands were carried across the Cook Strait by ship. But so many vessels had been sunk during the war that delays became more and more frequent and lengthy. Finally, it was decided to see if air transport could be used to speed up the service.

There was no difficulty in finding airfields, because the important North Island aerodrome at Paraparaumu is only six miles from the railway station at Paekakariki, which is 30 miles from Wellington and has a large warehouse where goods can be sorted. A mere 72 miles

three Bristol Freighters.

One of the factors that earned S.A.F.E. the job was their suggestion for a new loading and unloading technique to speed turnround time. Realising that the size and shape of load carried by a Freighter is much the same as that carried by railway wagons and lorries, they suggested packing each aircraft load—whether it consisted of large units such as motor cars or of hundreds of small packages—on to a pair of removable wheeled trays called "Cargons" which could run on rails mounted inside the aircraft's freight hold.

Right from the start, this Cargon system proved a tremendous success and today it is being used by Australian National Airways for their service across the Bass Strait as well as by S.A.F.E. Goods for S.A.F.E.'s Rail-Air service are simply

**A New Era**—(Continued from page 549)

Nagasaki in 1945. A vastly greater source of power is suggested by the success of the hydrogen bomb, which is of the fusion type, its energy being released when the nuclei of deuterium, the heavy form of hydrogen, react to form helium. If this action can yield a bomb of enormous power, it may be possible to tame it so that it can yield power for peaceful purposes. If this can be done power supplies for industrial purposes will be assured to us for a very long time indeed, and there seems no reason to consider it impossible.

All this of course makes 17th October 1956 an even more outstanding date in the history of mankind than I have already suggested, for it can be taken as the beginning of a new era. Without power civilisation cannot make progress, and that day was the first on which the practical application of nuclear energy on a large scale definitely began.

**New Zealand's Rail-Air Service**—(Contd. from page 551)

those 50 railway wagons mentioned earlier.

Three shipping companies had already been asked to quote a price for ferrying the wagons across the Cook Strait and each had suggested a total of £2,540 for the job. As the Freighters were sometimes flying empty or with very small loads on northbound trips at that time, N.Z.R. decided it would be cheaper to fly the wagons from Woodbourne to Paraparaumu. This was done; history was made; and everyone was happy except, apparently, the shipping companies!

**A Liverpool Landmark**—(Continued from page 556)

vehicles and perhaps one of the few surviving steam wagons—and an aeroplane overhead is by no means unusual.

Our cover this month, based on a colour transparency by W. S. Garth, Tyldesley, shows a train arriving at James Street Station, and on the left in it can be seen the backs of two of the group of buildings on Liverpool's Pier Head that are familiar the world over. The most prominent structure, light in colour, is one of the ventilation buildings of the Mersey Tunnel, to the left of which is the Mersey Docks and Harbour Board Building, not seen on the cover. Beyond the Tunnel ventilation buildings are the back of the Cunard Building, headquarters of the Cunard Line, and the towering structure of the Liver Building, with a Liver Bird crowning the rear of its two towers.

Soon the line may cease to run, and may even be demolished, for there is a crisis in its affairs. It will be a sorry day if the thrilling run along the Overhead, with its unique views of shipping in the docks or out in the Mersey, can no longer be enjoyed.

**A Joyous Occasion**—(Continued from page 561)

The first train of the day was timed to reach our county town far too late to help workers and school children; the last train home would leave hours too early. The villagers were angry. There were rumours that tomatoes and eggs might be thrown at our train. But the people of this neighbourhood are a law abiding folk. As the train gathered speed and charged through the first station, we were met by cheers, waves, and the cocking of an odd snook or two.

At our first port of call more than a hundred people had assembled beneath the oil lamps on the ancient platform. Lusty cheers rang out and confetti was showered upon the passengers. So it went on all along the line. At one station there was bunting across the platform. At another a great band of cheering well-wishers. And as the train rumbled past the dairy and the timber mills, all work ceased as men and maidens ran out to wave a greeting.

Suddenly the green meadows and woods gave way to red roofs and tall chimneys. We had arrived at journey's end. Ten minutes later, having crossed the bridge to the opposite platform, we were back in the neat compartments with their photographs of Winchester, Southampton and Rye. The shrill whistles of the Mogul locomotive were echoed by the schoolboys standing in the corridor. The guard gravely strode down the train offering tickets to newcomers. Soon the prize Herefords and the Jersey heifers again were stampeding across the fields. Small crowds were cheering again at each of the little stations we had seen less than an hour before.

"What we must all realise," said a determined voice, as I left the train at my home station, "is that this is only the beginning of a new beginning. We must have a public enquiry."

A minute later as the train rattled out of sight, I glanced back at the almost deserted station. A boy was hanging up a gaily coloured poster. "Be Early!" it warned. "Be Early?" The advice is worth noting. For those who miss a train at our local station have some two hours to wait before another one appears, and seventeen hours to wait if they miss the 4.55 p.m.

**Highlights of Farnborough**—(Continued from page 557)

the Twin Pioneer in Swissair colours, symbolising the value of this 16-passenger short take-off aircraft for services in mountainous regions.

Other highlights of the flying programme included a steep climb by a Lincoln test bed on the power of its single nose-mounted Rolls-Royce Tyne turboprop, with the propellers of its four piston engines stopped; a rocket-assisted take-off by a Valiant bomber with two Super Sprite rocket-engines in jettisonable pods under its wings; a 1,350 ft./min. vertical climb and plummeting 3,500 ft./min. descent by the Fairey Ultra-Light helicopter which took off from and landed on a lorry; and the demonstration on a Hunter of a new Rolls-Royce device for diverting the thrust of a jet engine forward after landing, as a method of braking similar to the reversible-pitch propellers of a propeller-driven aircraft.

Add on the engines and equipment displayed on over 330 stands in the "big top" and the result well maintained Farnborough's reputation as the greatest show on earth.

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