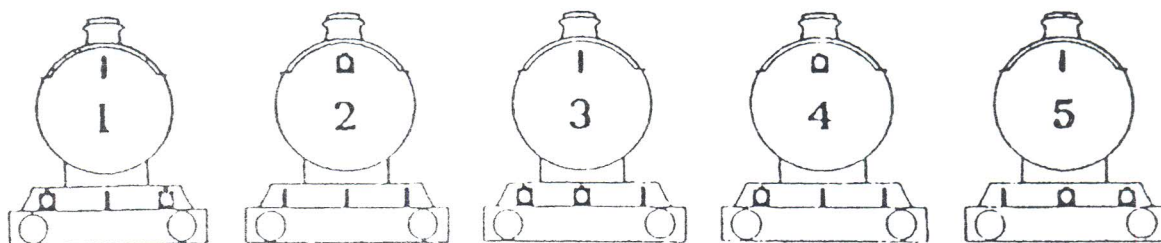


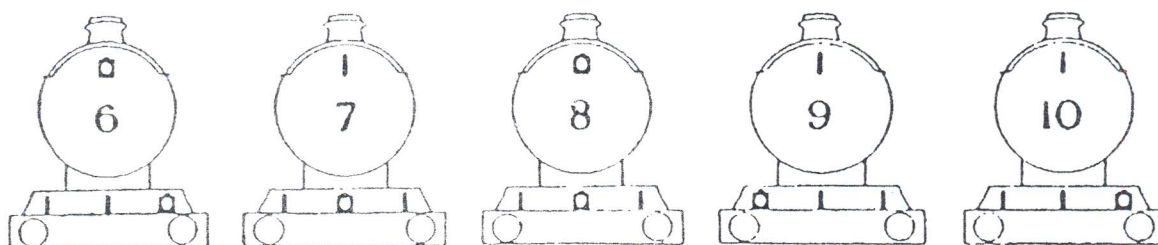
THE HORNBY RAILWAY COMPANY



THE BRITISH STANDARD HEADLAMP CODE

(Hornby Railway Company leaflet provided by Grant Robinson (2724) of the Border Counties Group)

The meaning of the lamps in the position shown is as follows: 1. Express Passenger. 2. Ordinary Passenger. 3. Coaching stock carrying livestock, parcels or perishable goods. Express freight fitted throughout with the vacuum brake operative on not less than half of the vehicles. Empty carriage train. 4. Fitted freight with not less than one-third of its vehicles connected with continuous brake. 5. Fitted freight with not less than four vehicles connected with continuous brake. 6. Express freight or ballast train not fitted with continuous brake. 7. Light engine or engine and brake van. 8. Through freight or ballast. 9. Mineral or empty wagon train. 10. Freight or mineral stopping at intermediate stations.



Replacing Springs

By Tim Oulton (1520)

Judging by some of the telephone calls that I get, there are a number of you out there who would appreciate some advice on replacing springs in clockwork mechanisms. Some do not seem to be aware that a spring can be changed without removing wheels and dismantling the mech, though the mech must, of course, be removed from the loco housing. Indeed, before dismantling any clockwork mechanism, it is a good idea to remove the spring even if it is still good. This reduces the danger of things flying apart when you take the side plate off and you can properly clean and lubricate the spring on reassembly.

To get the spring out without hurting yourself, it is a good idea to have

a) a second pair of hands to help occasionally

b) a means of securing the mechanism, such as a vice or a clamp with a large piece of timber.

You need to be careful, however, not to damage the mech by over tightening. Examine the mech to see how the outer end of the spring is secured and make a sketch if you think you might not remember. In most mechs the end is secured by bending the annealed part over one of the side plate spacers. In the No 1 Special mech, the

prepared end of the spring engages with a kind of stirrup. Prize up the end of the spring using a small but strong screwdriver until you can pass a large nail or similar through the loop in the spring to pull with. If the spring is still intact a couple of half turns of the key will make this easier by relieving the pressure on the outer turn. If not - struggle!

Now secure the mechanism to the bench in such a way that the wheels will still turn. Pull the spring out of the mech allowing, if the spring is intact, the wheels to turn as you do so. Pass the end to your mate to prevent it coiling round your wrist and get him or her to feed the end into a piece of copper water pipe to help control it.

As you pull the spring out it becomes harder to keep the mech running and prevent the spring pulling itself back into the mech. Your mate can keep a steady pull on the spring while you ease it out and use the key to keep the mech running and, at the same time, push the spring out. The inner end of large springs can be quite hard to get out. If there is a broken piece at the inner end I use a strong pair of long-nose pliers to grasp the end and flatten it as much as possible as it comes out and push it out using the key. If pieces break off it doesn't matter, of course, as long as you

have a replacement. If you haven't, remember that springs can often be repaired by shortening or riveting. This, at least, gets the wheels going round again so preserve as much of the spring as you can.

The inner end is usually secured by bending over a bar or it is secured to a spigot with an oval head. This is turned through 90 degrees using long nose pliers to release the end of the spring. Note the arrangement carefully and copy the preparation (bending or drilling and filing) onto the end of the new spring, which should be supplied, with an annealed (softened) end for this purpose.

If your new spring was supplied 'flat', as mine are, it will be easy to work on. If it has been supplied coiled up you may find it best to feed it into your pipe to flatten it sufficiently to work on the inner end.

When your preparation is complete, and any other work on the mech, such as cleaning, is done, secure the inner end of the new spring to the winding spindle in the same way and direction as the old one and use the key to wind the new spring into the mechanism. As you wind it in, lubricate it with a good graphite grease — available from clock repairers or their suppliers and some motor factors. As a last resort I use the lubricant available for motorcycle rear chains sprayed onto a tin lid then wiped onto the spring; this has worked OK for me. It looks like graphite but I cannot be sure that it is.

When all but 6 inches or so is wound in, check that the preparation of the outer end

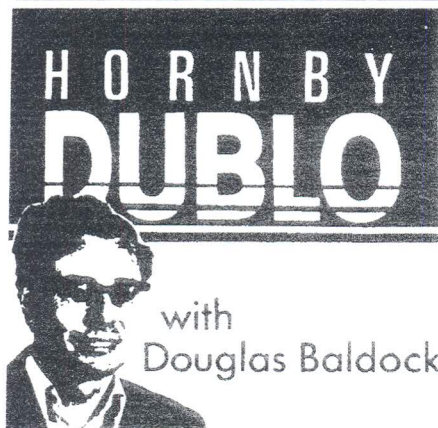
is as on the old spring. Particularly with No 501/50/51 mechs, make sure that there is a kink in the spring to keep it clear of the rear driving wheel axle when nearly unwound. Finally secure the outer end and check that everything runs OK before refitting the mech into the housing. You will need a strong pair of hands and strong tools to deal with a No 2/3C spring but the others

are really very easy, even for a novice.

You can use the mech up to half of full wind immediately but it is a good idea to work up gradually from half to full wind. Check with another loco or a friend how many half turns of the key are required for half and full wind and then work up from half to full by one half-turn every two or

three runs of the loco. I am not convinced myself that this is necessary but it seems to be the perceived wisdom so it is probably better safe than sorry. In the interests of research I have gone to full wind first time on several springs and have never yet managed to break one. Bet I do next time!

Good luck—keep those 'clockers' running!



Now about a very rural railway which is largely forgotten: the Devon and Somerset Railway which connected Taunton with Barnstaple. This of course became part of the Great Western Railway and as you might expect was originally laid to the Broad Gauge of 7 ft.

The line was opened in stages in the 1870's. It left the main line of the Bristol and Exeter Railway at Norton Fitzwarren, just West of Taunton. It was a very typical country branch line, the main stations being Milverton, Wiveliscombe, Dulverton, and South Molton to reach Barnstaple. At Barnstaple there was a reverse spur connecting to the LSWR station at Barnstaple. Although laid to the broad gauge of 7 ft, the line was actually converted to standard gauge after just a few years well before the Great Western took over the railway in 1901. Most of the line was single track but there were as you might expect passing loops at the principal stations. However despite being single track for most of the distance from Norton Fitzwarren to Barnstaple the Great Western always showed it on the maps in thick red as a main line (Great Western branch lines were normally only a thin red line). So I assume that the line was regarded as being of some substantial importance to the railway. The access to the several important towns and villages, and particularly Barnstaple and the consequent access to Ilfracombe were clearly highly valued. Indeed although most of the traffic was local in the Summer months there was normally one through train a day to and from Paddington, and through services to the Midlands also operated sometimes. Through trains actually operated to and from Ilfracombe presumably using running powers over the Southern branch from Barnstaple to Ilfracombe. Also at times between the two wars through coaches travelled to

Ilfracombe having been slipped from the Cornish Riviera at Taunton. I understand they were sometimes attached to the rival Southern Atlantic Coast Express at Barnstaple!

Interestingly the line was used very extensively in 1943 and 1944 to transport American servicemen and supplies during the months before the Allied invasion of Europe in June 1944. There were large numbers of American servicemen in Devon and Somerset during the months before D-day. Dulverton station was actually over a mile south of the town at Brushford. Great Western stations were frequently some distance from the towns and villages which they served. South Molton station was also some distance from the town centre.

The most important engineering feature was probably the viaduct over the Toon valley which was perched very high on tall upright pillars. Much of the traffic on the line was of an agricultural nature including of course cattle. And during the war rabbits were an important item of merchandise. Rabbits were not rationed during the war (whereas most other meat was) so there was big demand for rabbits in those days.

Regrettably the line was included in the

Beeching proposals for closure of 1963 and it actually closed in 1966. Locomotives were never heavy expresses such as Castles and Kings. But Moguls of the 43xx class frequently operated along it and of course pannier tanks as you might expect. Bulldogs often hauled the trains, there were a few of these shedded at Taunton. Also 45xx/55xx tank engines were often to be seen along the line. I remember seeing one of these in Ilfracombe yard in 1947 so it had clearly strayed over the Southern branch at the time. But there does not seem to be much scope for Hornby-Dublo along the Barnstaple branch. You could however use the GWR 0-6-2 Tank 6699 with a bit of imagination.

The 56xx/66xx tanks did not normally operate along the line, but then they did not normally operate through Truro but Meccano identified their pre war Great Western Hornby-Dublo station as Truro so the 0-6-2 Tank would not be all that much more out of place on the Barnstaple branch.

And of course the four pre-nationalisation GW items of rolling stock, open wagon, goods van, cattle truck, and brake van would all be very typical of the freight traffic that could be seen on the line.

The Thompson rebuilt Gresley 'P2' 2-8-2s

By Pursey Short (696)

In his Hornby-Dublo notes in the December 2001 issue of the 'Collector', Douglas Baldock remarks on the mystery which surrounded Edward Thompson's rebuilding of Sir Nigel Gresley's magnificent 'P2' class 2-8-2s, as Pacifics

Having studied locomotive design and history in some depth for well over sixty years, perhaps I can offer my assessment of the reasons behind those sad and ineffectual rebuildings.

Basically, it was down to there being a fundamental difference of opinion between Thompson and Gresley on the design of three-cylinder locomotives and on Gresley's considering it appropriate to use three cylinders so extensively on the LNER, when the engineers on the other lines were content to use only two for locomotives for use on equivalent less arduous duties. Gresley's untimely death in 1941, when almost 65 and while still in service and expected to remain so for another five years,

provided Thompson, who was himself already in his sixtieth year, with an unexpected opportunity, even in the unfavourable conditions of WW2, to put his ideas into effect. In fact, had Gresley not died and remained in service until he was seventy, as it is believed he intended to do, it is unlikely that Thompson would ever have succeeded him, as by then, at sixty-five, he would almost certainly have been considered too old for the job.

Gresley was a great advocate of three-cylinder drive, in conjunction with his conjugated valve gear, which derived the valve motion for the inside cylinder from that of the two outside sets of valve gear, via a two-to-one linkage. This is usually attributed solely to Gresley, but in fact was a collaborative effort with Harry Holcroft, at the time one of G.H. Churchward's bright young men at Swindon. Holcroft had had a large input into Churchward's standard locomotive designs for the Great Western and encouraged by his Chief, had been working on similar ideas to Gresley's in his spare time.

The Beginner's Guide to Hornby Repairs

by Harry Page (707)

1 - Stripping down....

Perusing the letters sent by members to Mailbox, many are appeals for help with repairs to locomotives and rolling stock.

Our older members, myself included, have been well catered for in the past and have picked up many useful tips. However, quite a few members are not mechanically minded - their talents lying in other fields - and would love to know why their locomotive does not run so well, and to be able to carry out minor repairs.

So, in the age of 'repair by replacement', 'buy a new one', or 'don't stock that any more', let us be thankful for the Spares Directory. With the aid of the bits and pieces available even the most battered loco can be restored. The following information, which is purposely intended to be very basic, is a step-by-step strip down, repair and reassemble of a Hornby loco.

Tools required

Meccano spanners, small and medium size screwdrivers, pliers and pincers, flat and round Swiss files, handwheel brace and small drills, small hammer, soldering iron etc., plus the use of a 3" jaw vice and a box to store nuts and small parts so they don't get lost on the carpet.

Cradle

It is necessary to hold the loco firmly while dismantling. A wooden cradle can be made with one piece of 1/2" plank, 3 1/2" wide by 11" long as the base, and two pieces 2 1/2" wide by 11" long for the sides. Nail or screw the pieces together to form an open ended cradle, and line with a piece of old carpet or underfelt. The loco can lie in any position and will not scratch the paintwork - or the dining room table.

Dismantling the loco

Most Hornby locos, though of different sizes and shapes, follow the same method of construction.

1- Unscrew the two brass control knobs. Should they be missing, note that they can be of differing diameter, ranging from 6BA to 10BA threads, and can be obtained through the Directory.

2- Place the loco on its side in the cradle and remove the piston and connecting rods, noting which way the rod sides face outwards. They can be secured to the wheels by either pins or 6BA nuts. Pins can be pulled out with pincers - that is, if they don't fall out - and can be of different lengths, according to the type of loco. Clean the rods and check that they are not bent.

3- Remove the front bogie truck, if fitted, by unscrewing the pivot pin complete with spring and flat plate washer. Remove the rear bogie, if fitted, by unscrewing the square nut at the rear of the mechanism.

Unscrew the front and back square nuts which secure the mech. into the loco body, together with flat and spring washers, and ease the mech. and control rods from the body. With electric locos, disconnect the wire from the pick-up to the lamp holder.

4- Clean the loco body (I use Mr Sheen) and spray mech. and wheels with WD40 to remove accumulated fluff and grease.

Assuming the body is in reasonable condition put it to one side (body repairs will be dealt with in a later article).

5- Check that all wheels, including bogie wheels, run true; if cracked or swollen through metal fatigue, the diameter and the back to back dimensions may be affected. On No 1 and No 2 Sp. the latter is approx. 1 1/16" for main drivers and 1 1/8" for bogies - but also check on a piece of good track.

Check wheels also for quartering, i.e. for 90 degree setting. If a wheel is loose on the axle it will affect the connecting rods and jam the mech. Holding the mech. with wheels uppermost and the front end away from you, the left hand side coupling boss should be at the bottom - 12 o'clock - and the right hand side boss at the front - 3 o'clock.

Assuming the wheels are satisfactory, oil the mech. with 3-in-1, wind the mech. and test for smooth running and operation of reversing gear. Grease the spring. Reassembly of the mech. into the body is the reverse of strip. Loose wheels and coupling rod pins can be held firm with Araldite.

(Next month - Repairs to mechanisms)

The Newark Lines Committee *Fascination of a lifetime!*

by David Bardsley (4415)

PART 3 - LOCOMOTIVES

Excellent though the initial 101 loco was, I was keen for more motive power. From a friend I purchased a pre-war M3 mechanism. I copied the 101, making the superstructure in tinplate and the automatic coupling from a piece of strip steel. The smokebox door was the tin lid from a herb carton! The problem with the brake and Hornby's obtuseness have been recounted in this Journal before (May 1997, p17). The spring was rather 'tired', but this at least reduced the wear on the gears and the loco would trundle round quite happily with the M1 Pullmans and Bing coaches.

I experimented with a Meccano loco. This was driven by a 'Magic' motor and the four wheels were coupled by sprockets and chain. To achieve adequate power required a low pulley-ratio. This resulted in an extremely slow speed and a run of only about three feet. This was not really practicable!

As Hornby seemed determined to play 'hard to get' I had to turn to an alternative supplier for larger locos. Accordingly Christmas 1950 saw the arrival of a Bassett-Lowke Prince Charles. What a loco! Built like a tank and as strong as an ox, it survived the initial derailments

with barely a scratch and could haul loads hitherto undreamed of - once the PWD had come to terms with the bogie and 6-wheel tender! One of the early causes of derailment was quite bizarre. When running forwards round the curve of a Hornby two foot radius point in the trailing direction the front guard-iron on the outside of the curve would strike the point lever, with devastating consequences - though usually more for the track than the loco. This was due to the guard iron being attached to the frame (which overhangs quite a long way on a two foot radius curve), rather than to the bogie, as on Hornby locos. In the post-war years Bassett-Lowke supplied Hornby tinplate track for use with their smaller clockwork and steam locos, such as Prince Charles. I wonder if they mentioned this problem to customers! To avoid it one had to remember to return the point lever to a central position. However, this was not a problem with those many points whose levers I had transposed to the inside of the curve. Why did Hornby site the levers on the outside of the curve when the inside would generally have been more convenient?

I subsequently bought a second Prince Charles which had been repainted in

The Beginner's Guide to Hornby Repairs

by Harry Page (707)

2 - Repairs to mechanisms

1 - Assuming the mech. will not run, the first and most likely cause is a broken spring. With the key, apply a few turns to the winding spindle. If you hear the clink of the ratchet pawls engaging, but the spring is not moving, then either:

- (i) the spring is broken;
- (ii) or the spring retaining pin to the winding spindle has sheared off.

If the key tends to meet resistance and springs back, then the ratchet pawls are either seized with congealed grease or have broken springs and are not operating, i.e. disengaging from the ratchet.

2 - If the mech. runs, but with difficulty:

- (i) a tooth on one of the gearwheels or pinions is broken or hooked;
- (ii) a wheel spindle is bent or there is a loose idle wheel on the reversing gear train;

(iii) The governor weight is loose in its drum or there is half a yard of carpet thread wrapped round the spindle. This had actually occurred to a No1 Special mech. I had for repair, and after removal it ran perfectly with no further work required.

3 - After taking into account the defects listed above you find it necessary to strip down the mech. the first step is to remove the control rods and then the wheels.

(i) Wheels, if not already loose or falling off can be drawn off with a wheel extractor, but don't use undue force or they can bend or shatter into pieces.

(ii) A couple of small screwdrivers can be inserted between the wheel boss and side plate and turned to ease off the wheel.

(iii) As a last resort hold the mech. in a vice and punch out the spindle from the wheel boss with hammer and small diameter pin punch. Note - but not on all mechs. because some front wheel axles and pinions are larger diameter than the side plate bearing holes.

(iv) Some No1 and No2 Special locos have the wheels secured by round nuts (4 or 5BA) and located by quartering pins. These need a special tool to remove the nuts. The pins can be pulled out of the axle with pliers.

Note which wheels are front or rear and which axle they came from. You may be able to use the same splines for quartering on reassembly.

4 - Springs - health warning!

Never, ever, remove a mech. side plate with a coiled spring in place. Springs are vicious animals and take a delight in uncoiling at the least opportunity, causing damage to fingers or face, etc. The safe

way is to draw the spring out of the mech.

Note which side plate spacer retains the end of the folded back spring. Release the mech. brake, insert a small screwdriver between the loop of the spring and the retaining spacer and ease it back half an inch. It will be rather stiff but once out can be gripped sideways in the jaws of a vice. Then by levering between the mech. side plates and the side of the vice the spring can be further extracted.

Once out about six inches it will be easier to move. Continue drawing out the spring and then feed its end into a piece of tubing - an old vacuum cleaner tube is ideal. This keeps the spring straight and allows it to coil up at its outer end. If the spring is not broken you can use the key to help loosen the spring during this operation.

With the bulk of the spring out the tension is relieved and it is safe to remove the sideplate. This is secured either by 6BA nuts at the end of the spacers or, in later mechs, by lugs through slots, bent to secure.

Note and mark the position of the front and rear brackets which secure the mech. into the loco body - it is annoying to reassemble the mech. and find you have put these in back to front or upside down.

Note the positions of the main spring wheel, the secondary pinion and gear wheel, the third pinion and wheel, the governor and weight, the brake control lever with associated washers, and finally the track brake lever. A simple sketch is a great help.

5 - The next job is to remove the piece of broken spring from the winding spindle. It is probably a couple of turns and needs to be straightened with a pair of pliers.

The retaining pin will be in the form either of a piece of wire bent into a hook, a tee shaped pin or, on later models, a stirrup piece. The end of the spring is secured either by a round hole for the wire, an elongated slot for the tee pin, which is turned at right angles to secure, or slid through the stirrup and turned back for a couple of inches. Note the direction of the spring in relationship to the main gear wheel.

6 - Clean and examine all the parts of the mech. for defects.

(i) Main wheel. Check pawls that they are free to operate. On later dated mechs the ratchet wheel and pawls are replaced by a circle of holes in the main wheel and a flat plate double armed piece which engages in the holes. This piece is hard and

if broken it may be possible to grind back and reset it, though this is not recommended.

(ii) Examine the spring retaining pin. If broken or worn it can be drilled or punched out and renewed.

(iii) Examine teeth on the main wheel for any breakages or hooking. A hooked (bent) tooth can be tapped back and dressed with a fine-toothed file but a broken tooth means a new wheel.

(iv) Check all other gearwheels and pinions for condition of teeth, bent spindles and particularly the pinions on the reversing gear which are carried on stub axles. These can become loose but can be re-riveted by punching through the hole in the side frame. Check the action of the reversing lever; if too loose it can jump out of gear but this can be cured by tightening up the pivot rivet.

(v) Governors. These consist of either a lead or brass weight mounted on a spindle which fits through a hole in the governor shaft. It is retained by a small spring and washer, secured by clenching the end of the spindle. It is quite common for the weight to become loose on the spindle. This can be re-secured with solder or Araldite and, if the spring needs tightening, with a blob of solder on the retaining washer. Clean out any congealed grease from the inside of the drum.

Early No2 engines can have a very different type of governor. A plate mounted on the spindle carries two weights retained by a circular spring, running inside a steel ring secured to the side plate. These seldom go wrong, but if the spring is missing or broken you are in real trouble!

7 - Springs.

(i) A broken spring, providing the break is not in the middle, or more than six inches from the winding end can be used again. Dress up the ragged end on a grindstone. With a blowlamp warm up the first six inches to a red heat; plunge and cover the red hot end into a container filled with lime (if no lime is available, cement will do) and allow to cool. This will allow the spring steel to anneal and become soft enough to drill and file a new hope for the retaining pin or tee piece. The hole or slot should be approximately half an inch from the end.

If the mech. is of the stirrup type, then the spring should be folded back approximately one and a half inches. With a pair of pliers mould the spring into a couple of turns to fit closely round the drum of the winding spindle. The disadvantage of using an old spring is, of course, a shorter run around the track.

(ii) New springs. Years ago a new spring was purchased in a coiled mode, retained by a piece of wire around its circumference already slotted and easy to fit. When assembled into the mech. you gave a few turns with the key to loosen the wire which could then be cut. These are now very hard to find.

Fortunately, spares for some springs are available through the Directory, (see page

1). These have been sent in a flat mode and require drilling, slotting or bending as required.

8 - Assembly of the mech.

Place the side plate with the spacers facing upwards in a vice. Insert the winding spindle and wheel with spring attached into position, with the first turns of the spring inside the retaining pins and spacers. Pack up with wood blocks the remainder of the spring coil across the bench or table.

Place into position the secondary wheels and pinions, the front axle, the governor spindle and weights inside its drum, the brake lever, spring and washers, the track brake lever, front and rear brackets (the

right way round) and, in the case of the No2 Special mech., the spring retaining strap. A little piece of Blu-tack helps hold parts in position.

Thread the top side plate over the winding spindle and rear spacers. Working forwards, with a small screwdriver locate the gear spindles into their bearing holes. Place the nuts on the spacers but do not tighten.

With a 'G' clamp across the front of the sideplates compress the brake spindle spring (if fitted). With all the spindles located tighten the side plate nuts.

Check that all gears revolve freely, then insert the control rods. Now, using the

key, commence to wind the spring back into the mech. Check the spring coiled li inside the sideplate spacers etc. Lubricate the spring as you wind with graphite grease

Finally, fold back the end of the spring and allow it to slip over the retaining sideplate spacer. Oil the mech. bearing and gear train with a light oil. Give a few turns with the key and see how it runs. Increase the number of turns until you feel resistance on the key - never try to over wind.

Replace the wheels and reassemble the loco as described in part 1.

Part 3 will describe repairs to loco bodie and how to snap off tabs.

The Newark Lines Committee Fascination of a lifetime!

by David Bardsley (4415)

ROLLING STOCK

With the arrival of 'Prince Charles' I was in the embarrassing position of not having a decent collection of coaches to put behind it! Although contrary to the usual advice about the formation of trains, it somehow looked better if the small 4-wheel coaches were at the front and the solitary bogie coach at the back. As a matter of principle I refused to buy No1 coaches!

As time went by, I managed to acquire several pre-war Hornby bogie coaches, eventually bringing the total to twelve. By chance these were, conveniently, four each LNER and LMS and two each GWR and SR. Inevitably, none of the corridor coaches came with their end-plates or corridor-connections - indeed I cannot recall ever having seen either of these items, even at exhibitions.

Making end-plates out of tinplate was no problem. I tried making corridor connections, using thick brown paper folded in concertina fashion, but they were too rigid and detached on reverse curves and so were abandoned. I also bought six second-hand B-L 'blood and custard' BR coaches. These were fine vehicles, although because of their size and weight their haulage had to be restricted to the B-L locos.

Although passenger trains tend to receive more prominence in railway running, I derived even greater pleasure from running goods trains and in particular from the shunting involved in their formation and disposal. Accordingly I amassed a considerable number of Hornby wagons, of both post- and pre-war manufacture. I particularly sought open wagons, as real-life goods trains consisted largely of these rather than of the exotic wagons that Hornby had modelled, especially pre-war. As I was keen to have some open wagons that were not numbered '12530' I acquired a few from other manufacturers, such as B-L

and the Leeds Model Company. In the early post-war days when new items were still scarce I ventured into wagon-making myself and made an open wagon, with plywood body and 'tin' axle-guards. By mixing paints a satisfactory bauxite was obtained.

The mixture included a dash of 'Liquid Lino' - which perhaps explains why the paint has lasted well for nearly half a century! This wagon ran perfectly satisfactorily. However as the buffers cost 1/- each (they were sprung!) and as Hornby open wagons retailed for 2/6, it was not a great economic success!

I made a special feature of running mineral trains. This was inspired by the trips that the Newark shunters made up and down the local Bottesford branch to serve the adjacent limestone quarries. Accordingly I had a number of hopper, side-tipping and cement wagons. The hoppers and side-tippers transported local clay that I had baked in the oven. For the side-tippers I made the clay into small round lumps. It proved difficult to make the lumps small enough to pass freely through the open doors of the hoppers (and in any case, depositing clay on the track was both messy and inconvenient!) so for these wagons the clay was made in the form of slabs, the doors not being used.

The very first hopper wagon was an open-axle-guard 'rescue' from a friend's waste bin. In addition to being rather dishevelled, the cam that operated the doors had become loose on its rod. My attempts to re-solder it failed completely - it just would not 'take' on the rod. Has anyone else had this problem? Was it the wrong kind of solder?

Eventually I had to make a new control rod out of wire - and took the opportunity of providing the novel feature of a handle on both sides of the wagon.

One of the wagons that I particularly

marked out for purchase after the war was the trolley wagon - it looked so massively impressive in the pre-war catalogue. Inevitably I never came across one made after the war (although I did buy a second hand bogie lumber wagon which, from its very good condition and other features could well have been a post-war product - so perhaps Hornby really did make bogie wagons, other than vans, after the war).

My first trolley wagon came from the same source as the discarded hopper wagon. This friend was way out of my league at the time - he had a Compound lots of bogie coaches and, ultimately, a PE and so was less interested in battered old wagons. I eventually collected four trolley wagons, including a curious B-L one whose bogies had inside frames. Juneerod was ideal for replacing missing stanchions. I was always puzzled about the purpose of the four slots in the base of the 'well'. Rumour had it that they were to fit the wheels of a 4-wheeled wagon - but they were the wrong distance apart for a standard Hornby wagon. Does anyone know their purpose? The Graebe book does not give the answer, but only mentions that the slots were utilised for the anchoring of cable drums.

Amongst the pre-war 'exotica' were a gunpowder, Paethorpes Sausage and Fyffes Bananas vans, and, of course, the original United Dairies milk tank wagon.

There was a problem with flat trucks and their loads. The containers came with four chains, but instead of these being attached to the anchoring rings on the wagon, they were gathered up by a ring on the top. This was ideal for lifting with a crane but left the containers to be anchored to the wagon by a rubber band! The cable-drums were anchored to the rings, but very crudely so with string (green I think!), which passed through the central hole in the drum. Clearly neither situation was satisfactory. Accordingly with the containers the chains were detached from the lifting-ring and hooks attached to their ends so that they could be anchored to the wagons properly'. The lifting-ring was looped over the 'dog-ear' of one of the automatic couplings, so that it would be available when the container was to be a Bernard Ridgley neverwazzer'?

Goods yards and the loading and unloading of goods wagons fascinated me even more than passenger traffic and accordingly received the greater attention. A very wide range of 'sundries' traffic was carried, from pill boxes, 'Drummer' Dye containers, tiny sand-bags, sacks filled with cotton wool to leather discs (courtesy of the local glue factory) and acorns! Some Dinky Toys made suitable loads e.g. the Aveling-Barford Road-Roller and Massey-Harris Tractor. The Coventry Climax forklift Truck was useful around the goods yards while several BEV Electric Trucks towing trailers were very popular.

TOOLS AND MATERIALS

When my father started working he lived in digs and just had a very small bag of tools - mostly bought from Woolworth's ("nothing over a shilling", I was told, although they 'cheated' by selling the drill and its chuck as two separate items)! On my eighth birthday I was given my own basic set of tools, to which I added from time to time. For many years we both got by with a remarkably limited range of tools. In 1950 we inherited the contents of my (maternal) grandfather's quite large workshop. The tools were mainly for carpentry, but did include a workbench and treadle-driven grinder (adapted from a sewing machine).

Much soft-soldering was done and the acquisition of an electric soldering-iron made life much easier - no more mad (and no doubt dangerous!) dashes from the kitchen with a red-hot iron to some remote part of the house for in-situ soldering. It also meant that my long-suffering mother no longer had the top of the gas stove used as a soldering rig!

I have not seen the Juneero construction system mentioned much in these columns. This was around in the late '40s and early '50s and was conceived as being a more true-to-life construction system than Meccano. Metal strip, rod, sheet etc. was cut, bent, punched etc. on an ingenious 'multi-purpose tool'. I did not use this much for making complete models, but it was invaluable for making components such as brackets. The 7/64" hole that the machine punched was just right for making washers for Hornby axles. Juneero rod

tool bag, with which my father had started out many years previously.

The most commonly-used material was tinsplate, obtained from domestic cans. This was so freely available - though this was before the current irritating practice of putting ribs in the centre of the cans. It could be cut using a strong pair of scissors and took solder extremely well. It was an ideal material for so many purposes when great strength was not required. A friend had a contact in a factory where offcuts of sheet aluminium were apparently one of the 'perks' of the job. The student-friend from whom I bought the Royal Scot had two second-hand Austin 7s, which he was knocking together into one. He gave me

easing weights for signals, point-levers etc.

FINALE

When my parents moved house in 1965 the NLC had to be dismantled. Since then it has been in storage, parts of it being brought out for exhibitions and anything else that has given the slightest excuse. It has been added to when temptation has been irresistible! In addition to Hornby items, several Lima wagons and coaches were bought in the mid-1970's and now there are Bernard Ridgley's superb and irresistible products!

The NLC was indeed the "fascination of a lifetime". What of the future? When I retire, perhaps?!

The Beginner's Guide to Hornby Repairs

by Harry Page (707)

3 - Repairs to loco tinplate bodywork

Repairs to locos can appear in all sizes, states and conditions, ranging from a simple bent buffer beam to rusty and trodden-on. I think the best way to deal with this subject is to describe a complete strip down which, of course, is not always necessary.

TABS: to strip down the various parts you will need to open up the securing tabs. (On the early '20s locos, nuts and bolts were used instead, which makes the task easy except where they are rusty) To open the tabs a small screwdriver with the end ground to a flat sharp edge can be inserted under the tab which can then be levered up.

It is important to remember that the tinplate is old, and can be rusty or fatigued. Do not bend open more than is necessary to disengage from the slot; if you bend it straight you increase the chance of the tab breaking off when you press it back on reassembly.

To replace a broken tab you can either solder or Araldite a new one into place. The trouble with solder is that you must

use enough heat for the solder to flow, which can burn or discolour the paintwork. Araldite avoids this problem, but unless the tinplate is absolutely clean and made rough with sandpaper it is not so strong and tends to peel off when bent to re-secure.

I find the best way to replace tabs is to cut from thin tinplate (.012in) a strip 1/8 inch wide by 2 inches long. Mark the position of the broken tab with two scribe lines, file off the protrusion and carefully clean off any old paint or rust from the surrounding area. Apply solder to both tinplate and strip. Hold in position and apply enough heat to run the solder. When cold, cut off strip to length, trim up end and bend slightly to test the adhesion and aid final assembly.

Using the thinner template helps to maintain the alignment of the structure, especially tank or cab sides. It helps also to ease the width of the slot on the inside edge.

This business of the tabs is probably the most difficult part of the whole operation,

so even if they look alright it is just as well to carefully examine and test them all before re-assembly.

STRIP DOWN: Remove the boiler smokebox door by opening up the two lower tabs and the top tab behind the lamp bracket pressing. Remove the hand rails; it might be necessary to clean off any rust or paint before they slide through the hand rail knobs. In the worst case, release the knobs from the boiler side by pressing together the two lugs at the back of the knobs, removing the washers and disconnecting the whole assembly from the boiler.

Remove the cab and boiler from the main frame by easing back the two or four tabs which secure the boiler to the saddle piece, the four tabs holding the cab to the main frame, and the boiler end tabs inside the cab, thus dividing the cab from the boiler. This now leaves the main frame, side splashers and cylinders in one piece.

(Note: you will find differences in the construction on all Hornby locos; for example, the No2 tanks have the tabs securing the side tanks, and the No2 4-4-2s the firebox tabs, but basically dismantling follows the same process).

CYLINDERS AND BUFFERS: On the later No1s and the post-war series of 501s etc., the cylinders are secured to the frame by tabs inside the saddle and by the riveting of the two buffers. The space in which to remove the buffers and so release the cylinders is very restricted. If the buffers are damaged, the best way is to cut them

off and replace them. Fair up the cylinders and fit the new buffers which can be secured by a hot solder iron or by Araldite. On other types of loco, by riveting over there is more room to use a punch and hammer. Buffer and cab beams are easy to straighten with a pair of pliers.

BOILERS: A dented boiler can be faired up by gently tapping out the dents with a small hammer. First remove the handrail knobs as previously described. Find a piece of steel bar or tube which will just slide inside the boiler. This will vary for each type of loco but you are looking for something about 1 3/8 inch to 1 1/2 inch in diameter by about 1 ft long.

Grip one end of the bar in a vice, slide the boiler along the bar and tap away - dents disappear like magic.

FRAME: A bent frame is a most common fault, usually near the cylinder block or the cab area. If knocked downwards it can be held on a parallel steel block and tapped back straight and the bent side tapped back to a right angle.

A frame that is bent upwards is more difficult to repair. The side piece metal has been subjected to stretch and as you tap the top flat the side will kink out. The answer is to make a small vee-shaped cut where the kink appears, clean off the paint and solder a small strip of tinplate behind the side piece. Solder the outside to fill up the vee and smooth off with a file. Fair up the rest of the frame on the block if necessary.

CABS: Cabs usually can be straightened with pliers, but dents in cab roofs, which can be very unsightly, need a special tool.

A small piece of steel bar 4 inches long, 3/4 inch wide by 3/16 inch thick has the first 1 1/2 inch length bent down at 45 degrees. The top face of this piece is then filed into a radius to fit the radius of the underside of the cab roof. The long end of the bar is then secured in the jaws of a vice and then used as an anvil to tap out dents in the roof.

This covers most of the dents and knocks to tinplate locos; the same procedures can be applied to tenders, trucks, coaches and trackside accessories - most parts can be straightened out.

As regards missing parts - buffers, domes, whistles, funnels, couplings, knobs, front and rear steps etc. - I don't know of any that are not available through the Spares Directory. Most tinplate parts can also be made or purchased: cab roofs, steps, bunker end plates etc. to bring a loco back to its former condition.

You now have to make a decision on the state of the paintwork - whether just a touch in on the scratches on the buffer beams, or if a full repaint is required.

I did intend to prepare an article on repaints, but my attention was drawn to the most excellent article by Brian Pennells on page 7 of the October 1997 (No 315) Collector. Perhaps the Editor might care to reprint this article some time... (Yes - Editor)

Changing a Type 101 Tank Engine into a 'Neverwazza'

Anne Welborn (5548)

I've always liked type 101 tank engines. When I was small I always hoped I would get one for Christmas, but (sob) I didn't. I had a very nice No 50 passenger set, which I liked a lot, but I never did get the type 101 tank engine I always wanted. Now of course I can go out and buy myself as many type 101's as I like. So far I have six - two green LNER locos, one in nice order and the other somewhat less so, two red LMS ones in good condition, a green GWR one that's a bit of a mess and a black British Railways loco in a tidy playworn condition. If this sounds a very modest beginning it's because I've only recently been stung by the Hornby collecting bug. I did have one other type 101, an LMS one that was always relegated to the cupboard because it was so badly damaged and incomplete. The reason I bought it was because I felt sorry for it. It was this tired old loco that started off my little collection and reawakened my childhood Hornby memories.

Someone had had their fun with the poor old thing, - the bunker back was missing, it had neither connecting or coupling rods, the cab roof was crushed down flat, its footplate was bent like a banana and to top it off the clockwork was a stripped mess. I won't tell you what I paid for it because you'll all laugh.

One day I did take the poor old thing out of the cupboard and look it over thinking I might repair it. As far as I could see anything I did would be an improvement! As I studied the battered remains I found the thought running through my head that if I was to lengthen the boiler by about an

improved. Holding that thought I took the loco out to my garage workshop and very carefully took the whole thing to pieces. I was lucky, not a single tab broke off! My next move was to flatten out the boiler after removing the chimney and dome. Using this as a template I marked out a one inch longer boiler onto a piece of galvanised steel sheet. If you think I'm cheating using galvanised steel instead of tinplate, there is a good reason for my choice of material. Firstly the stuff is cheap; - a 4ftx4ft piece costs \$7.00 from the sheetmetal shop up the road. Secondly it is a much stronger material due to its heavier sec-

tion, and thirdly I like using it, and I always build my 0 gauge coarse scale locos in this material.

One area I didn't cheat in was carefully reproducing all the tabs and slots exactly as for the original boiler. While I was being clever with making new parts, I also made a new bunker back using one of my more perfect type 101's as a guide. I decided I wouldn't reproduce the lamp irons on the bunker back. Rather than make a mess of it, I thought leaving well alone was the better option. All the cutting out was done with a jeweller's piercing saw and the new parts were cleaned up with needle files afterwards.

The boiler was formed around a length of broom handle and it wasn't difficult to do. The most important thing I found was not to rush the process. It was a very real moment of triumph when I offered up the new boiler to the tanks, cab front and smokebox door and everything fitted perfectly.

The next stage was fairly exacting - though anyone who wants to copy my conversion wouldn't have to worry about it unless they were starting with a wreck as well. I tackled the crushed cab roof next, and by carefully rubbing the buckled tinplate with a shaped length of hardwood against a firm surface I was able to eventually get everything very close to how it had originally been again. My worst moment came