

# NONNEMINSTRE MODELS

## INSTRUCTIONS FOR F.C. HIBBERD 11-TON PLANET 4W DIESEL MECHANICAL LOCOMOTIVE

Requires Hanazono (formerly Tenshodo) WB24.5 SPUD unit to motorise, or build non-working

**PRELIMINARY:** This kit is based on the 11-ton Planet loco built by F.C.Hibberd, of Park Royal, West London, and follows an earlier design by Kent Construction whom Hibberd later absorbed. The genesis of the design – transverse engine and gearbox with chain drive to both axles – is the 20hp 60cm gauge Motor Rail ‘Simplex’ design first used by the War Department Light Railways in World War 1. This later became the style for the Simplex range. Kent Construction bought many of the surplus Simplexes after WW1, replaced the petrol engines with diesel, and sold them, initially, under the name ‘Simplex’!

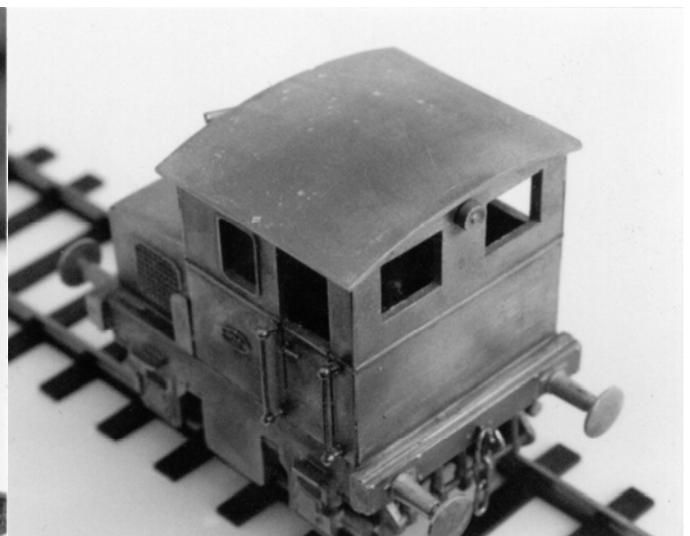
In addition to many of these 11-ton locos used in the UK on standard gauge shunting work, there were some 4’3” gauge ones, and a 5’3” gauge one used by Shell in Dublin and now preserved by the Railway Preservation Society of Ireland at Whitehead, just north of Belfast. Some standard gauge examples are also preserved in the UK (Swanage, Quainton Road), plus a couple of the earlier Kent Construction-built examples. The kit was originally produced to coincide with the arrival of one of the standard gauge machines for preservation at Amberley Chalk Pits Museum (now Amberley Working Museum) in Sussex, after spending many years in a children’s playground at Harlow in Essex. Sadly the loco was cut-up for scrap before transport could be arranged. One of this type was in use at Amberley when it was Pepper’s Limeworks but, although it survived until closure of the works it did not make it into preservation.

**PREBUILD OPTIONS / DECISIONS:** A number of options are open in the power department. Using the Hanazono (formerly Tenshodo) WB25.4 SPUD unit, which comes with 10.5mm  $\varnothing$  wheels (the prototype had 3’  $\varnothing$  = 12mm $\varnothing$  in 4mm scale), these are:

- As is, using the extra packing piece (1A) supplied, for 16.5mm (00) gauge
- For EM (18.2mm) as above but pulling out the wheels to gauge
- Replace with 12mm  $\varnothing$  3-hole wheels for either option, omit packing plate.
- For S4 (18.83mm gauge) replace the wheels anyway so use 12mm $\varnothing$ .

Full details are given at the relevant point in the instructions. It is possible to build the loco unpowered using some 12mm  $\varnothing$  wheels on standard 26mm long pinpoint axles using brass pinpoint bearings – again full details in the instructions.

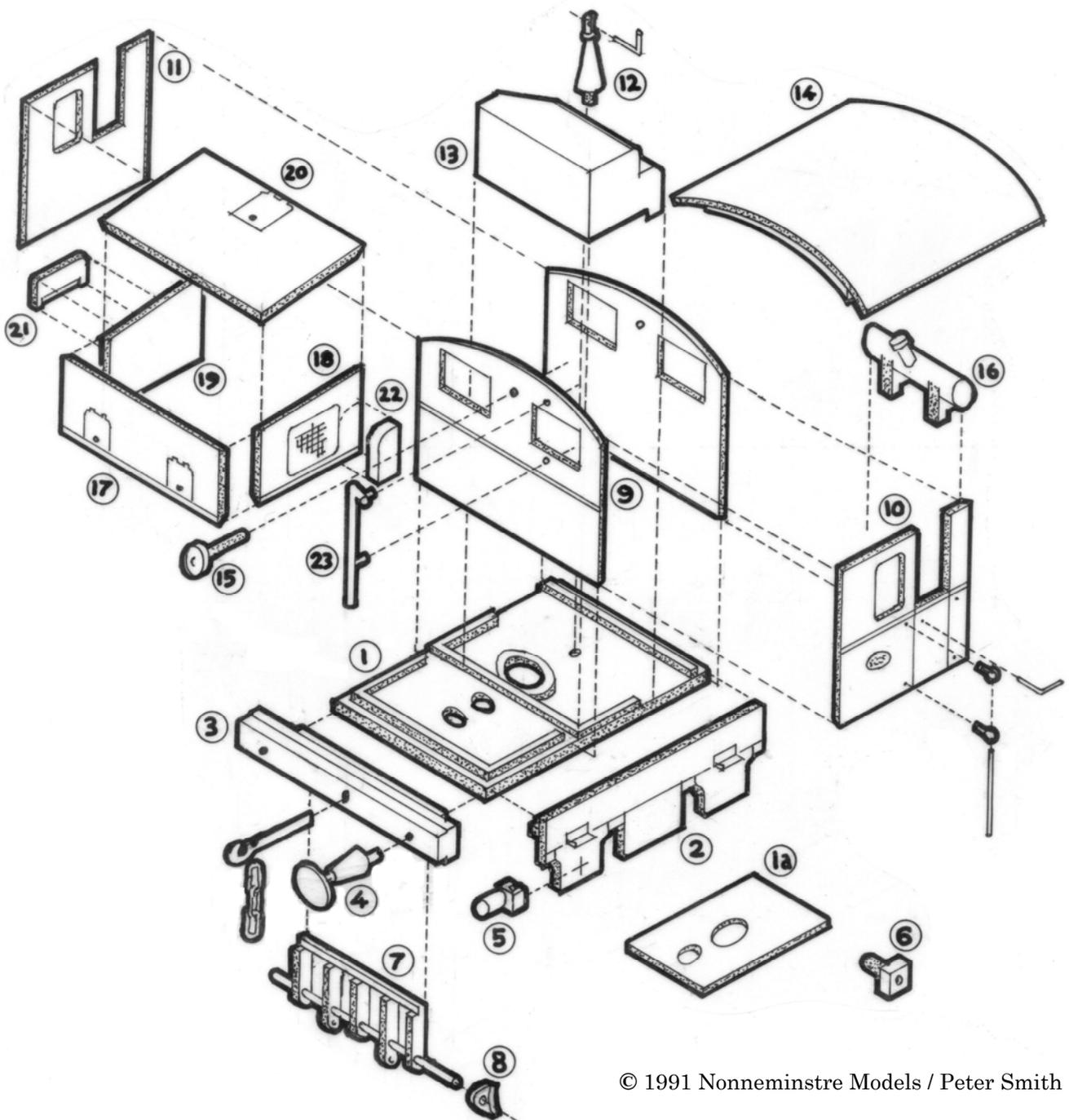
There seem to be a number of detail differences between various examples, particularly the box behind the nearside grille, and the use of the cover plate over the offside grille. The parts supplied in the kit seem to be the common styles. Also watch out for cab roofs if modelling specific prototypes!



**PARTS LIST:**

- |    |                                 |    |   |
|----|---------------------------------|----|---|
| 1  | Footplate                       | 14 | Cab roof  |
| 1A | Packing piece                   | 15 | Cab headlamps (2)   |
| 2  | Side Frame (2)                  | 16 | Fuel tank   |
| 3  | Buffer beam (2)                 | 17 | Bonnet front  |
| 4  | Buffer (4)                      | 18 | Bonnet side – nearside  |
| 5  | Shock absorber (4)              | 19 | Bonnet side – offside   |
| 6  | Axlebox (non-powered model) (4) | 20 | Bonnet top  |
| 7  | Brake hanger (2)                | 21 | Offside Grille cover  |
| 8  | Brake shoe(4)                   | 22 | Nearside grille cover   |
| 9  | Cab front / back (2)            | 23 | Exhaust pipe  |
| 10 | Cab side – nearside             | -  | Brass handrail knobs (8)  |
| 11 | Cab side – offside              | -  | 3-link couplings (2)  |
| 12 | Handbrake column                | -  | 0.5mm diameter wire for handrails, door handles, and handbrake. |
| 13 | Engine cover                    |    |   |

**GENERAL ASSEMBLY**



Before commencing construction, please read through the instructions and check through the parts. A dry run is perfectly feasible, but please follow the sequence of construction. Either low-melt solder, twin-pack epoxy resin or superglue can be used – if soldering, certain parts might still be better fitted with adhesive! If any parts are missing or damaged, contact us and we can arrange replacement. We can also help if you damage any parts during assembly.

If you enjoy building kits then fork out for a copy of 'Whitemetal Locos – A Kitbuilders Guide' by Iain Rice, published by Wild Swan (ISBN 0906867770). It's well worth the pennies!

**TOOLS REQUIRED:** Normal modellers hand tools, such as pliers, some medium and small files, small drills and a pin chuck in which to hold them. Sizes of drill required are 1.50, 1.00, 0.75, 0.50mmØ. A sheet of finely-squared graph paper is helpful to check squareness as construction proceeds. Also handy are a flat reference surface and a small engineers square,

**POST-BUILD CRISIS:** If after any stage you suddenly decide something is amiss, don't despair! If you have used epoxy resin adhesive or superglue then dunk the whole thing in some paint stripper for a few hours and it will then fall apart! Wash well in clean water, clean up and start again. With care you can put paint stripper over a single glue seam, wait until it softens, then gently pull apart, wash and clean up, all without having to dismantle the whole thing. If you've used low-melt solder, place something non-metallic in the bottom of a small saucepan; add one kit plus water to cover well, slowly bring to the boil. It should then fall apart in the water after a gentle prod. Remove from heat, allow to cool, then clean up.

## **CONSTRUCTION**

If building a non-powered model then jump to the section at the end of these instructions **BEFORE** reading on from here!

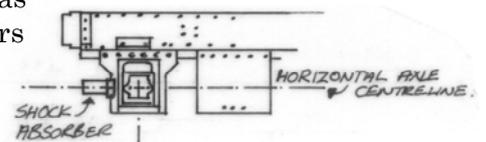
Clean up the Footplate (1) and check that the Sideframes (2) are both exactly the same length as the Footplate. Temporarily fit the motor bogie (the hole in the top lines up with the hole in the footplate – this is the motor vent and thus the bogie only goes this way round) and check that the wheel centres are vertically in line with the axleboxes. The bogie sits inside the frame on the underside of the footplate. Remove bogie and attach sideframes. Drill out buffer holes in Buffer Beams 1.50mmØ, Fit beams to footplate – note that you want to see the join on the top! Make sure all is square at all times (this is where the fine graph paper comes in handy!)

Take a cab end (9) to be used as the front and drill out the two dimples on the inside above and below the window 1.00mmØ. Check against the width of the footplate/frames and file if necessary until it is exactly right. Fix to the footplate, checking for squareness in all directions as this forms the datum from which the rest of the body will be built. Use the other cab end (9) for the rear and again check the width but do not fix yet. Check the length of the cab sides (10)(11) and file down until they are a superb fit between the ends – remove metal from each end if necessary (better to have these oversize before building as it's easier to take off metal than put it back!) Drill the 4 handrail knob holes in each side 0.75mmØ and the door handle holes 0.50mmØ. The sides sit on top of the frames with their edges dead in line and you do want to see the join line. Now fix the cab sides and ends making sure the waist beading matches up all round. Try and get nice sharp reveal corners otherwise a bit of filling and filing later will be called for. Trial fit the roof (14) at this stage. Take the nearside bonnet side (18) and check it snugly fits to the waist beading on the cab front, and exactly to the buffer beam/footplate join line. Fix. Repeat for the offside (19). Fix. Trial fit the bonnet front (17) and adjust as necessary. Fix. Trial fit the bonnet top (20), adjust as necessary. Check that the dimple to the right of the hatch cover is in line with the two holes above and below the cab window (for the exhaust pipe) and drill out 1.50mmØ to clear the exhaust pipe (23). The top edge of the bonnet lines up with the top of the waist beading on the cab front. Fix. It's odds-on that you will have to a bit of filling and filing later to get the reveal corners nice and sharp. Do a double check now that so far the assembly is square, and looks it! With such an angular loco and out-of-

square angle or plane shows up like anything. Always remember that if it looks p.s.s.d then it is!  
**Decision time:** Up to now it has been possible to fit and remove the motor bogie unit using the screw into its top boss though the spigot on the footplate. There are two final choices on retaining the bogie: Using the screw and fixing the engine cover (13) over with blu-tak or similar and also fixing the roof in the same way. Or: Deciding to finally fit the motor unit by wedging underneath with blu-tak and thus use a permanent fix to the engine cover and can roof. Put sellotape over the two tags on the motor bogie to prevent shorting out against the footplate. Also now is time to decide on wheel size.

**TENSHODO REWHEELING:** Changing wheels on the Hanazono (Tenshodo) WB24.5 unit to 12mmØ 3-hole: This is quite simple and well worth the effort but will invalidate your warranty, so make sure the unit works ok as is first. A 2mmØ axle is industry-standard so you might find a slight problem is you have some old or ancient wheels in the bottom of the jar you knew you would need some day. If so put them back in the jar! Pull off the keeper plate from the underside and drop out the wheels. Pull off one wheel on each axle followed by the gear wheel. Put the redundant wheelsets into your stores. Remove both wheels from each axle of the replacements and fit the gear wheel dead centre – secure with drop of loctite if necessary. Refit the wheels and set back-to-back for your chosen gauge, then refit to the bogie. First problem – depending on whose wheels you've used there is a chance that the pickups will rub on the back of the wheel centre and not the rim. If so, remove the wheels AND MOTOR and solder a short length of phosphor bronze pickup strip onto the front face of the existing strip. Pop the wheels back in temporarily and mark the pickup strip against the wheel rim. Remove wheels, trim strip, refit motor and wheels, then keeper plate. Test. Et voila! It's done, and quicker than this has taken to write. Don't bother about the projecting pin points as they are invisible behind the sideframes.

Take the brake hanger (7) and trial fit onto the rear underside of the buffer beam so that the step sits on the underside face of the beam. If using 12mmØ wheels then set it so it hangs slightly forward but if using 10.5mmØ wheels then hang it vertically downward. Get it dead central by lining up the middle finger with the coupling hook slot on the buffer beam and fix. Now fit the brake shoes (8) nicely lined up with each wheel tread and far enough off the wheel rim they don't cause a short and allow the motor unit to drop out easily. Once both ends have been done, drill out the coupling hook slot 0.75mmØ, waggling the drill up and down a bit to create a slot you can get a coupling hook through, but leave final fitting to later. Clean up the buffers (4) and check they fit nicely into the buffer beam holes – open out or deepen holes as necessary. Again, fit later. Clean up and fit the four shock absorbers (5), one to the outside of each axlebox as per the sketch alongside. Make sure they are nice and square with the tubular portion to the **inside** of the frames.



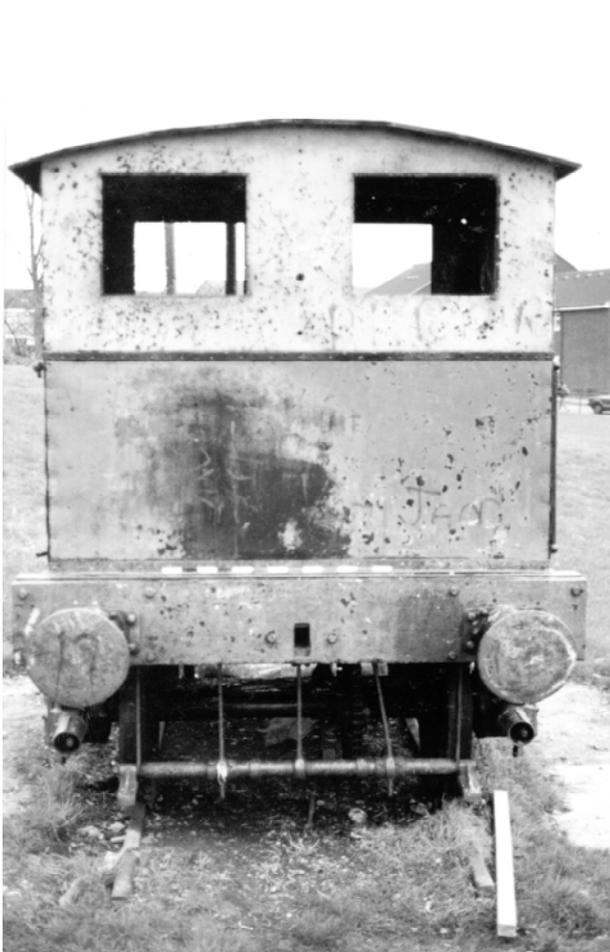
**FINAL DETAIL FITTING:** (if for a specific prototype then check for variations). Fit the headlamps (15) one in each end of the cab ends, Trim the lower peg of the exhaust pipe to about 2mm, then the top one gradually until it will twiddle into position with it's body down into the bonnet top. When it fits, first secure the top peg, double check for square (it's one of the most prominent visual sighting lines on the whole job!) then fix the bottom peg.

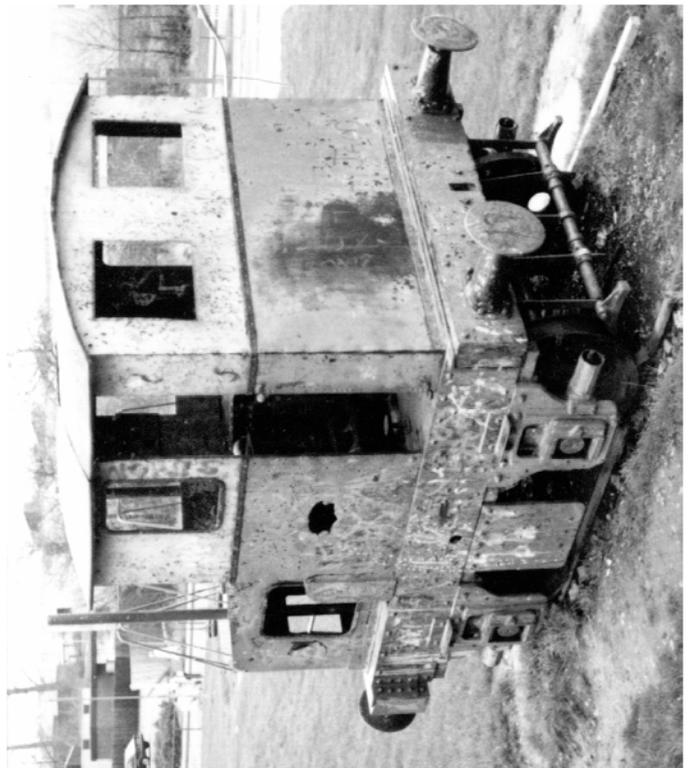
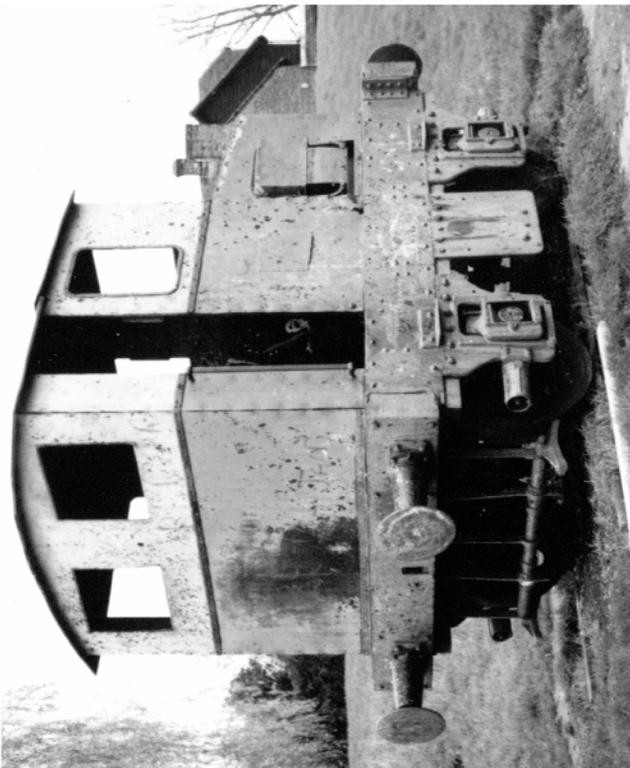
Drill the dimple on the handbrake column (12) 0.50mmØ and make a handle from the wire supplied, Trim the bottom spigot and fit to the cab floor – don't let the spigot project below the floor as it will foul the motor unit. Fit the fuel tank into the rear nearside corner of the cab. The engine cover (13) can now go in to the front nearside (permanent or loose fitted? If the motor bogie screw is used it will rock a bit – dig out as necessary) Fit and adjust as necessary the cab roof (14). Fit the handrail knobs and make handrails from the 0.5mmØ wire provided. Also door handles can be made from same. Fit the nearside cover box (22) which just projects out over the sideframe, then the offside grille cover (21) over the upper part of the grille. Twist one link of the 3-link couplings and fit into the slot to the rear of the coupling hook, then close back in line. Secure into the buffer beam, but trim as necessary. Fix the buffers.

It's at this stage that your newly constructed pride and joy usually heads south from the workbench (aka dining room table) and always seems to miss the softest landing site, so deep breaths and mucho care. Only one part (1A) left over now. If using the 10.5mmØ wheels then insert this plate between the motor unit and the underside of the footplate. Fini. A good clean up in some nice household cleaner (I love Shiny Sinks!) followed by serious rinsing (do NOT use an ultrasonic cleaning tank on any whitemetal items as it causes the surface to erupt with any trapped air pockets) then when dry a nice light coat of some car primer. Final colour and glazing to choice – black was common but try using matt graphite grey to give a faded and bloomed look.

**NON-POWERED MODELS:** Take the sideframes (2) and drill the dimples on the inside face 1.50mmØ x 0.75mm deep, careful not to come through the box! Trim the spigot on the axleboxes (6) to 0.5mm then fix. Drill the centre of the axlebox 2.00mmØ as deep as required to suit the brass waisted bearings that came with your wheelsets. Adjust as required, then fit one sideframe to the footplate followed by the bearings and wheels and the other sideframe. Now proceed within the main instructions from fitting the buffer beams.

Below and overleaf are some prototype illustrations of the loco at Harlow before it was scrapped. Ignore the pole through the bonnet, it's for sliding down!





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