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NSWGR C34 4-6-0 LOCOMOTIVE AND TENDER KIT

E214 Manufactured Exclusively for AR Kits by DJH Engineering from Patterns owned by AR Kits

PLEASE READ INSTRUCTIONS THOROUGHLY BEFORE COMMENCING ASSEMBLY

CONSTRUCTION

This is kit of the C34 can be built to represent either the original version with round cab windows or the re-built version with square cab windows. If building the re-built version you will need to add the later period valance plates (**81x2**). If you are building the original version round cab windows you will need to remove the small triangular plate from the top of the rear splashers (**82xpair**) - see **Drawing 1**.

Construction

It is important to ensure that all parts are clean, free of "flash" (excess metal on the castings) and fit properly. The "flash line" is easily removed from most areas by scraping gently with a sharp hobby knife - a round blade is more effective than a straight pointed type. Pull the blade along the "flash line" - several light strokes are better than a single one. Some areas are better cleaned up with 6" jewellers' files. Take care not to flatten round parts by filing too heavily. All locating holes for detail fittings should be pre-drilled to the size specified in the instructions. Sometimes it is necessary to clean out these holes with a "rat tail" file; take care not to snap off the tip of the file. Gently wash the castings in warm soapy water to remove mould release residue.

Etched brass items are best removed from the fret by placing the fret on a scrap piece of hard timber (eg Pyneboard) and cutting the tabs with a large Stanley knife - cut the tab at the point furthest away from the part, then trim the tab off close to the part with a small pair of quality side cutters. Hold small parts with a pair of flat nosed (not serrated jaws) pliers while cleaning up with jewellers' files. Be careful not to distort the etchings; they are difficult to straighten if bent or twisted. Drill all required holes before assembly, noting the spigot sizes of the fittings, because some holes will be difficult to drill after parts are assembled.

Modellers are advised to check photographs of the particular locomotive they have chosen to model, also keeping in mind the era they are modelling. For assistance in general detailing, modellers are referred to photos of the C34 which appear in the books "34 & 35 Classes" by M. Moraham, and "Essays in Steam" by R. Preston.

These kits are designed to give many years of operating pleasure. A little extra time taken during construction will ensure that your kit will do this. It cannot be emphasised too strongly that the basis of a smoothly operating model is care when constructing the chassis and valve gear, ie you must double check every step. Check that the axles turn freely in their bearings, check again with the coupling rods on, then again with the connecting rods on, etc, etc.

Assembly methods

The two main construction methods are:

(a) Low melt solder - Low melt solder is an excellent medium for use with white metal kits. It is quick and easy providing a stronger joint than can be achieved with glue. It has the added advantage of easily repairing minor casting flaws, and because of the relatively low temperature, many parts can be held in the fingers while soldering. Brass to white metal joints can also be made by "tinning" the brass first with normal solder. Low melt soldering requires the correct type of soldering iron (eg Dick Smith T2000). These irons have temperature control, as low melt solder has a eutectic point between 70 to 138 degrees C. You should use special low melting point solder, such as that available from AR Kits.

IT IS ADVISABLE NOT TO ATTEMPT TO SOLDER ANY CASTINGS WITH A STANDARD SOLDERING IRON

(b) Glue - Superglue and Plastibond are two types of glues suitable for use with this kit. Some modellers prefer to superglue major joints first then "fillet" the joint with Plastibond. Small detail parts are best glued with Superglue. Glue is not recommended for those parts needing good electrical contact, such as the tender bogies.

It does not matter which method you choose but dry fitting parts will ensure a good fit.

The electrical system used on these kits is called "half live". Looking from the top facing forward the locomotive chassis collects current from the live wheels on the right-hand side, shown as LS (live side) on the drawings. The tender is insulated from the locomotive chassis by a plastic bush and current is collected from the wheels on the left-hand side of the tender.

Cleaning up/Painting

On completion, any areas which were soldered should be washed using a soft brush and methylated spirits. Alternatively an excellent pressure pack flux remover is also available from Dick Smith stores. Then wash thoroughly in warm soapy water. Rinse with clean water and allow to dry thoroughly before applying a suitable self-etch primer.

Spare Parts

Spare parts are available on a replacement basis. Should any part be missing or damaged contact AR Kits for a replacement. Should you have any problems with the Mashima motor please do not attempt to repair it yourself - return the motor to us. Mashima will not replace motors which have been tampered with.

Should you have any queries or problems with construction please drop us a note and we will do our best to advise. Likewise we would be pleased to hear any suggestions you may have for improving the kits or instructions.

General

The following drill sizes are required: 0.4mm, 0.5mm, 0.7mm, 0.8mm, 1.0mm, 1.1mm, 1.3mm, 1.5mm, 1.6mm, 1.7mm, 1.8mm, 2.Omm.

During construction refer to the drawings at all times. A number of parts are quite similar, so double check if in doubt. Note that attached to the instructions is a photocopy of the lost wax brass castings sprues with each part numbered for easy identification. In the general instructions the part numbers are shown in brackets.

The instructions sometimes refer to the righthand (R/H) and lefthand (L/H) side. This is taken as viewing the model from above and looking forward.

To minimise the risk of losing parts, do not remove them from the etched fret or the plastic packing until you are ready to use them. We recommend that you start construction with the tender.

Safety First

These models are not toys and are not suitable for young children. White metal castings contain lead and modellers are advised to wash their hands after working with unpainted white metal castings. When using superglue, solder or when spray painting, ensure your work area is well ventilated`

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Tender Drawing T1 (Parts 1 - 43)

Take the tender base/sides (1) and fold the sides up as shown - note that the fold lines are etched on the inside of the inside of the base to assist in folding. At this point solder the bogie pivots (32x2) to the underside of the tender base. Now locate the back (2) into the tender base (1) and solder to the tender sides, working from inside the tender. Locate the tender front (3) into the tender base (1) and solder to the tender sides.

Fold the two reinforcing plates on each side valance (8xpair) as shown before fitting to the tender base (1). Fold the buffer beam (7) as shown and fit to the tender base (1), noting that the two vertical spigots form the lamp irons.

Fold the front steps (9) as shown. Fold up the edges of the front step treads (11x2 marked "A" on the back) and add to the front step (9), before fitting the completed step assembly to the tender, note that the two top steps attach to the tender body. Fold the front valance (10) as shown and fix to the tender.

Fold the tender floor (4) and fix to the tender front (3). Secure the drawbar pin (42) to the front valance (10). Fit the pipe couplings (31x2) either side of the side valances (8) before bending and fitting the pipes (0.7mm wire). Fit the brake cylinder (30) to the tender base Fix the turned brass sideframe mounts (35x4) to the bogie sideframes (33x4). For good electrical pickup low melt solder is recommended here. The bogie stretchers (38x2) are on the etched nickel silver valve gear fret - remove them and check that the holes either side fit over the brass sideframe mounts (35), you may need to enlarge the hole slightly. Check also that the holes for the screws (36x4) are large enough. Fold the stretchers as per drawing 1, using a pair of flat nosed (non-serrated) pliers.

Push the brass wheel bearings (34x8) in the bogie sideframes using low melt solder if necessary, and attach the sideframes to the stretcher with the brass spacer screws (36x4)and washers (37x4) (also from the nickel silver fret).

Tighten the screws then gently ease the sideframes apart to fit the wheelsets (39x4) in place, making sure the insulated wheels are on the same side for each bogie - see drawing 1(LS =1ive side), these wheels can be identified by the small brass collar between the wheel and axle.

Attach the assembled bogies to the tender using the spacer screws (41x2) and bogie bearing washers (40x2) making sure that the insulated wheels are on the R/H side.

Working (soldering) from inside the tender, fit the junction box (23), marker lamps (24x2), grab handle (0.4mm wire), and lamp irons (21x2). Fold the ladder (22) as shown and fit to the tender back. Fix the brake hose (27) to the buffer beam (7), followed by the buffers (25x2). Using 1.0mm wire fit the overflow pipe to the side valances (8x2). Fit pipe connector (26) to the rear hole (R/H side only). Trim both overflow pipes to a length of 3.Smm to clear the bogies.

Drill the tender top (12) 0.5mm on the front L/H side as shown for later fixing of the fireiron stand (19). Fit the toolbox (15), air vent (16) and water filler (17) to the tender top (12). Note that you may have to cut out a small section at the rear of the tender top (12) to clear the lamp irons (21). Now fit the tender top (12) to the tender body placing the rear section under the ladder uprights before final positioning of the tender top.

Fit the hungry boards (13x2) to the tender top (12), noting that the L/H hungry board has additional rivets to match the fire iron brackets (18x3). Fit the rear coal partition (14) to the tender top (12). Fold the coal shute (5) and fit to the tender front (3), then fold the coal doors (6) and fit to the tender front. Fit the brake handle (29) into the brake stand (28) and fix the assembly into the tender floor (4). Using 0.4mm wire fit the vertical handrails either side of the tender front.

Fit the fireiron standard (19) to the tender top (12) followed by the fireiron brackets (18x3) and fireirons (20x2). Fit the tender top front plates (43) and the builders plates (43A).

Locomotive Drawing 1 (Parts 44 - 83)

As mentioned previously all holes shown on the drawings should be drilled prior to assembly. Clean up the footplate (44) and remove any feed sprues from the centre cutout under the boiler. Fix the smokebox/boiler/firebox (50) to the footplate (44).

Fold the tabs on the cab spectacle plate (45) as shown before fixing the spectacle plate to the footplate. Note that you will need to remove 0.5mm from the bottom of the side tabs to allow the bottom tabs to fold properly. If using the original cab sides (porthole window) (46x2), fit the 0.4mm wire handrails to each side before fixing them to the footplate.

If using the rebuilt cab sides (square windows) (47x2), fit the detail strips (48x2) and the 0.4mm handrails in place before fixing the cab sides to the footplate. If using the rebuilt cab sides, fit the two valance plates (81x2) to the footplate. You may find it easier to fit the cab roof (49) after the interior cab detail has been fitted.

Using 0.4mm wire make up and add the short horizontal handrail (69) to the smokebox front (68), followed by the smokebox door handle (70) before fitting smokebox front (68) to the smokebox/boiler (50). Commence detailing, fitting the headlight (56), chimney (55), dome (54), safety valve (51), steam generator (52 - add 0.5mm wire) and whistle (53).

Fix the lamp bracket (66), R/H marker lamp (67), pump (63), clack valve (61), pipe connection (60) and globe valve (57). Fix handrail knob (65), long handrail bracket (59), short handrail bracket (58).

This drawing also shows detailing of the front buffer beam using the brake hose (72), buffers (71x2), dummy coupling (76), front step (73) and handrail post (75).

Fit the pump air filter (64) and 0.4mm piping. Fit the rear splasher (82x2) - remove the top plate for the original version before adding the splasher pipe bracket (83x2). Fold the step (77x2) as shown, then add the step detail (78x2), followed by step treads (79x2). Attach the completed step assembly in place, before the injectors (80xpair). Lastly, add the lamp brackets (74x4).

Locomotive Drawing 2 (Parts 84 - 105)

Continue detailing the L/H side of the locomotive fitting the L/H lamp bracket (103), marker lamp (104), junction box (93), clack valve (86), handrail bracket (84) and handrail knob (85), double handrail bracket (87), short handrail bracket (88) and globe valve (89). Lastly, fit pipe brackets (92x2), the reversing rod (91).

Take the lower cab floor (94) and fold the tabs and rear flap down 90 degrees as shown. Take the fallplate (95) and fold the tabs down 90 degrees, then glue the plasticard (96) to the underside, trimming it so that it overlaps the three outside faces by 0.8mm to prevent it shorting out against the tender. Position the fall plate (95) on the lower cab floor (94), then place the upper cab floor (97) on top to retain it. Fix the upper cab floor in place be soldering along the edge of each side. Locate the finished floor assembly inside the cab and fix in place. Fix the boiler backhead in place. Lastly, fold the guardirons (90) and fix to the underside of the buffer beam.Fix the brake handle (100) into the brake stand (99) and fix the completed assembly in place. Add the cab seats (101&102) to complete the cab detail. Note that the spacer screws (105x2) are used later to secure the body to the chassis.

Locomotive Drawing 3 Parts 106 - 107)

This drawing shows the wire and pipe layout to complete detailing the locomotive body. Note that the pump governor (62) is fitted to the R/H side, and that short handrail knob (69) should be added to the 0.4mm wire before the wire is shaped to the contour of the smokebox.

The 0.7mm wire from the clack valves (61and 86) is secured to the boiler using split pins (106 and 107).

Locomotive Drawing 4 (Parts 108 - 146)

Take the L/H frame (109) and R/H frame (108) and fold the rear tabs as shown on the drawing. Secure the two frames together using the spacers (110x2) and spacer screws (l l 1x4, 4mm long) tightening these screws only enough to allow fitting of the front spacer plate (112), middle spacer plate (113) and rear spacer plate (114). Align the spacers (110x2) so that the cross hole is vertical and tighten the spacer screws (111x4). Solder the plates (112, 113 and 114) to the frames. Fold and fix in place the motor mounting bracket (123), and fit the motion brackets (161x2).

Fit the horn blocks (128x6) to the chassis. Note that the thin flange of the horn block goes to the inside of the chassis. The horn blocks are a"snap" fit into the chassis, and should not be soldered.

Before fitting the driving wheels (124x3 and 125x3) note that the insulated wheels are on the L/H side as viewed from the top facing forward. Note, the insulated driving wheels can be identified by the thin insulation strip between the tyre and the wheel. Fit the driving wheels (124x3 and 125x3), axles (126x3) and axle washers (129x6) to the chassis with the axle nuts (130x6), quartering the wheels so that the crank pin on the right hand wheel leads that of the left hand wheel by 90 degrees when the axle rotates forward. Before fitting the centre axle fix the axle gear (127) to the axle using loctite or superglue. Use a Romford axle nut driver to tighten the axle nuts. Make sure that all axles rotate freely in the horn blocks. Remove the etched counter weights (132x2) centre axle and 133x4) from the fret and glue to the wheels as shown. Axle covers (131x6) should be fitted after the final assembly and painting.

Now fit drawbar/tender pickup placing the insulated bush (116) on the M2 screw (115 cut to 8mm) and pass this through the rear spacer plate (114). Add the insulated washer (117), power tag (118), tender/locomotive connector (119), spring plate (120), spring (121 cut to S.Omm) and M2 nut (122).

Make up the front bogie, fitting the wheel insert discs (142x4) to the bogie wheels (140x2) before fitting the wheels to the bogie (139) -note that the insulated wheels are on the L/H side of the bogie. Retain the wheels using the keeper plates (141x2). The front bogie is later fixed to the chassis using spring (143 cut to 7.Omm), spacing washer (144), spacing washer (145) and M2 nut (146).

Assemble the gearbox (137) for later fitting, as per the instructions on the packet, cutting the shaft to the length shown in the drawing.

Locomotive Drawing 5 (Parts 147 - 170)

Fit the springs (148x4) to the keeper plate (147) before fitting the completed assembly to the locomotive chassis using the spacer screws (149x2, 4mm long) and M2 screw (167, Smm long)). Pass three 22mm lengths of 0.7mm wire through the keeper plate before fitting the brake pull rods (153xpair). Fit a 22mm length of 0.7mm wire through the rear holes of the brake puller rods (153xpair). Fit the front brakes (150x4) and rear brakes (151x2) followed by the brake shoes (152x6), then trim off the excess 0.7mm wire. Trim M2 screw (168, to 13mm) and fix to the front spacer plate (112) using M2 nut (146).

Make up the cylinders using cylinder blocks (156x2), front cylinder covers (157x2) and rear cylinder covers (159x2). Drill the rear cylinder covers 1.4mm to accept the crosshead. Fold the slidebars (160xpair) as shown before fitting to the cylinders. Fix the completed cylinder blocks to the chassis. Fix the coupling rods (154xpair) to the driving wheels using short crank pin screws (155x4) and long crank pin screws (166x2). Check that the rods revolve freely; should binding occur, locate where this happening and gently ease out the offending hole in the coupling rod with a rat-tail file, removing the minimum amount to achieve free movement.

Trim the crossheads (163xpair) to 15mm as shown and attach the connecting rods (162xpair) using the 14BA screws (164x2) and 14BA nuts (165x2). Fit the crossheads (163xpair) to the slide bars (160xpair) ensuring that they slide freely. Fix the other end of the connecting rods (162xpair) to the centre driver using long crankpin screws (166x2). Check that the wheels and valve gear operate freely before fitting the gearbox.

Take two suitable lengths of pickup wire, solder to each motor terminal and mark the positive (+) lead, then pass this through the small hole in the motor mounting plate (123) and solder in place. Solder the other lead to the power tag (118). Attach the motor (134) to the motor mounting plate (123) using motor screws (135x2), at the same time fitting the silicon tubing (136 cut to 15mm)between the shafts of the motor and gearbox.

Fit the locomotive body to the chassis using spacer screws (105x2) at the rear and M2 screw (170, 8mm long) at the front. Attach the front bogie as previously described in the text for Drawing 5.Lightly oil the mechanism and test run, checking for electrical "shorts" on sharp curves etc. Also check that the motor does not overheat due to chassis binding/stiffness.

(E214) - C34 - PARTS LIST

Drawing T1

1.	Tender Base/Side	E
2.	Tender Back	E
3.	Tender Front	E
4.	Tender Floor	E
5.	Coal Chute	E
6.	Coal Doors	E
7.	Buffer Beam	E
8.	Side Valance x pair	E
9.	Front Steps	E
10.	Front Valance	E
11.	Step Treads x 2	E
12.	Tender Top	W/M
13.	Hungry Boards x 2	E
14.	Rear Coal Partition	E
15.	Toolbox	W/M
16.	Air Vent	L/W
17.	Water Filler	W/M
18.	Fireiron Brackets x 3	E
19.	Fireiron Stand	E
20.	Fireirons x 2	E
21.	Lamp Iron x 2	E
22.	Ladder	E
23.	Junction Box	L/W
24.	Marker Lamps x 2	L/W
25.	Buffers x 2	W/M
26.	Pipe Connector	L/W
27.	Brake Hose	L/W
28.	Brake Stand	W/M
29.	Brake Handle	L/W
30.	Brake Cylinder	W/W
31.	Pipe Couplings x 2	L/W
32.	Bogie Pivots x 2	T
33.	Bogie Side Frames x 4	W/M
34.	Pin Point Bearings x 8	T
35.	Bogie Side Frame Mounts x 4	T
36.	Spacer Screws x 4	T
37.	Sideframe Bearing Washers x 4	E
38.	Bogie Stretchers x 2	E
39.	Bogie Wheels 10.5mm x 4	T
40.	Bogie Bearing Washers x 2	E
41.	Bogie Mounting Screw x 2	T
42.	Drawbar Pin	T
43.	Tender Top Front Plates x pair	E
43A.	Builders Plate	E

0.4mm dia. Wire
0.7mm dia. Wire

Drawing 1

44.	Footplate	W/M
45.	Cab Spectacle Plate	E
46.	*Original Cab Sides (round) x pair	E
47.	*Rebuilt Cab Sides (square) x pair	E
48.	Valance Plates x 2	W/M
49.	Cab Roof	W/M
50.	Smokebox/Boiler	W/M
51.	Safety Valve	W/M
52.	Steam Generator	W/M
53.	Whistle	L/W
54.	Steam Dome	W/M
55.	Chimney	W/M
56.	Headlight	W/M
57.	Globe Valve	L/W
58.	Short Handrail Bracket (two holes)	E
59.	Long Handrail Bracket (two holes)	E
60.	Pipe Connection	L/W
61.	Clack Valve	L/W
62.	Pump Governor	L/W
63.	Pump	W/M
64.	*Pump Filter	W/M
65.	Handrail Knobs Short x 2	T
66.	Lamp Bracket	E
67.	Marker Light	L/W
68.	Smokebox Front	W/M
69.	Handrail Knob Short	T
70.	Smokebox Door Handle	L/W
71.	Buffers x 2	W/M
72.	Brake Hose	L/W
73.	Buffer Beam Step	E
74.	Lamp Brackets x 4	E
75.	*Handrail Post	L/W
76.	Dummy Coupling	W/M
77.	Step x pair	E
78.	Step Detail x pair	E
79.	Step Tread x 2	E
80.	Injectors x pair	W/M
81.	Valance Plates - Rebuilt Square Ca	E
82.	Rear Splashers x pair	W/M
83.	Splasher Pipe Bracket x 2	E

0.4mm dia. Wire
0.5mm dia. Wire

Drawing 2

84.	Handrail Bracket x 2	L/W
85.	Short Handrail Knobs x 2	T
86.	Clack Valve	L/W
87.	Double Handrail Bracket x 2	E
88.	Short Handrail Bracket (one hole)	E
89.	Globe Valve	L/W
90.	Guard Irons x pair	E
91.	Reversing Rod	E
92.	Splasher Pipe Brackets x 2	E
93.	Junction Box	L/W
94.	Lower Cab Floor	E
95.	Fall Plate	E
96.	Plasticard	P
97.	Upper Floor Cab	E
98.	Boiler Backhead	W/M
99.	Brake Stand	W/M
100.	Brake Handle	L/W
101.	L/H Cab Seat	W/M
102.	R/H Cab Seat	W/M
103.	Lamp Bracket	E
104.	Marker Light	L/W
105.	Spacer Screw x 2	T

Drawing 4

106.	Split Pin	-
107.	Split Pin	-

0.2mm dia. Fuse Wire
0.4mm dia. Wire
0.5mm dia. Wire
0.7mm dia. Wire

Drawing 5

108.	R/H Frame	E
109.	L/H Frame	E
110.	Chassis Spacer x 2	T

111.	Spacer Screws x 4	T
112.	Front Spacer Plate	E
113.	Middle Spacer Plate	E
114.	Rear Spacer Plate	E
115.	M2 Screw	T
116.	Insulated Bush	P
117.	Insulated Washer	P
118.	Power Tag	E
119.	Tender/locomotive Connector\	E
120.	Spring Plate	E
121.	Spring	T
122.	M2 Nut	T
123.	Motor Mounting Bracket	E
124.	Insulated Driving Wheels x 3	T
125.	Live Driving Wheels x 3	T
126.	Axles x 3	T
127.	Axle Gear	T
128.	Axle Bushes x 6	T
129.	Axle Washers x 6	E
130.	Axle Nuts x 6	T
131.	Axle Nut Covers x 6	E
132.	Large Balance Weights x 2	E
133.	Small Balance Weights x 4	E
134.	Motor MH 1628	-
135.	Motor Screws x 2	T
136.	Silicone Tubing	-
137.	NWSL 36:1 Idler Gearbox	T/P
138.	Insulated Wire	-
139.	Front Bogie	W/M
140.	10.5mm Bogie Wheels x 2	T
141.	Bogie Keeper Plate x 2	W/M
142.	Wheel Insert Disc x 4	E
143.	Spring	T
144.	Washer	E
145.	Washer	E
146.	M2 Nut	T

0.5mm dia. Wire

Drawing 6

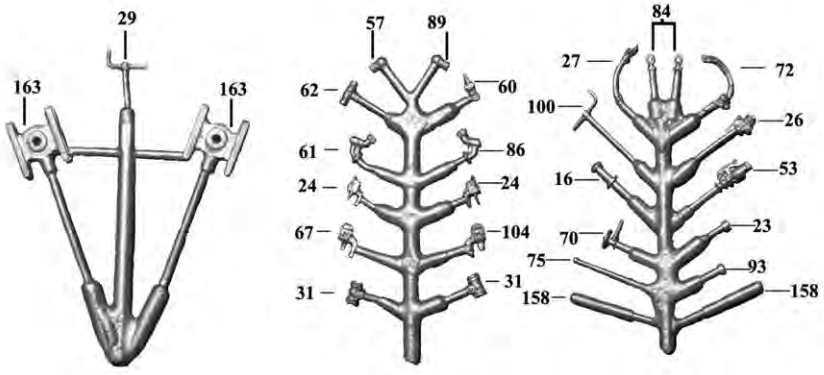
147.	Keeper Plate	W/M
148.	Springs x 4	W/M
149.	M2 Spacer Screw x 2	T
150.	Front Brakes x 4	E
151.	Rear Brakes x 2	E
152.	Brake Shoe Detail x 6	E
153.	Brake Pull Rods x pair	E
154.	Coupling Rods x pair	E
155.	Short Crankpin Screws x 4	T
156.	Cylinder Block x pair	W/M
157.	Front Cylinder Covers x 2	W/M
158.	Piston Balance Rods x 2	L/W
159.	Rear Cylinder Covers x 2	W/M
160.	Slidebars x pair	E
161.	Motion Bracket x 2	E
162.	Connecting Rods x pair	E
163.	Crossheads x pair	L/W
164.	14BA CH Screws x 2	T
165.	14 BA Nuts x 2	T
166.	Long Crankpin Screws x 2	T
167.	M2 CH Screw	T
168.	M2 CH Screw	T
169.	M2 Nut	T
170.	M2 CH Screw	T

0.7mm dia. Wire

Legend:

W/M - White metal
E - Etched brass
L/W - Lost wax brass casting
T - Turning
P - Plastic

(E214) - C34 - Lost Wax Brass Castings



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E214 T1

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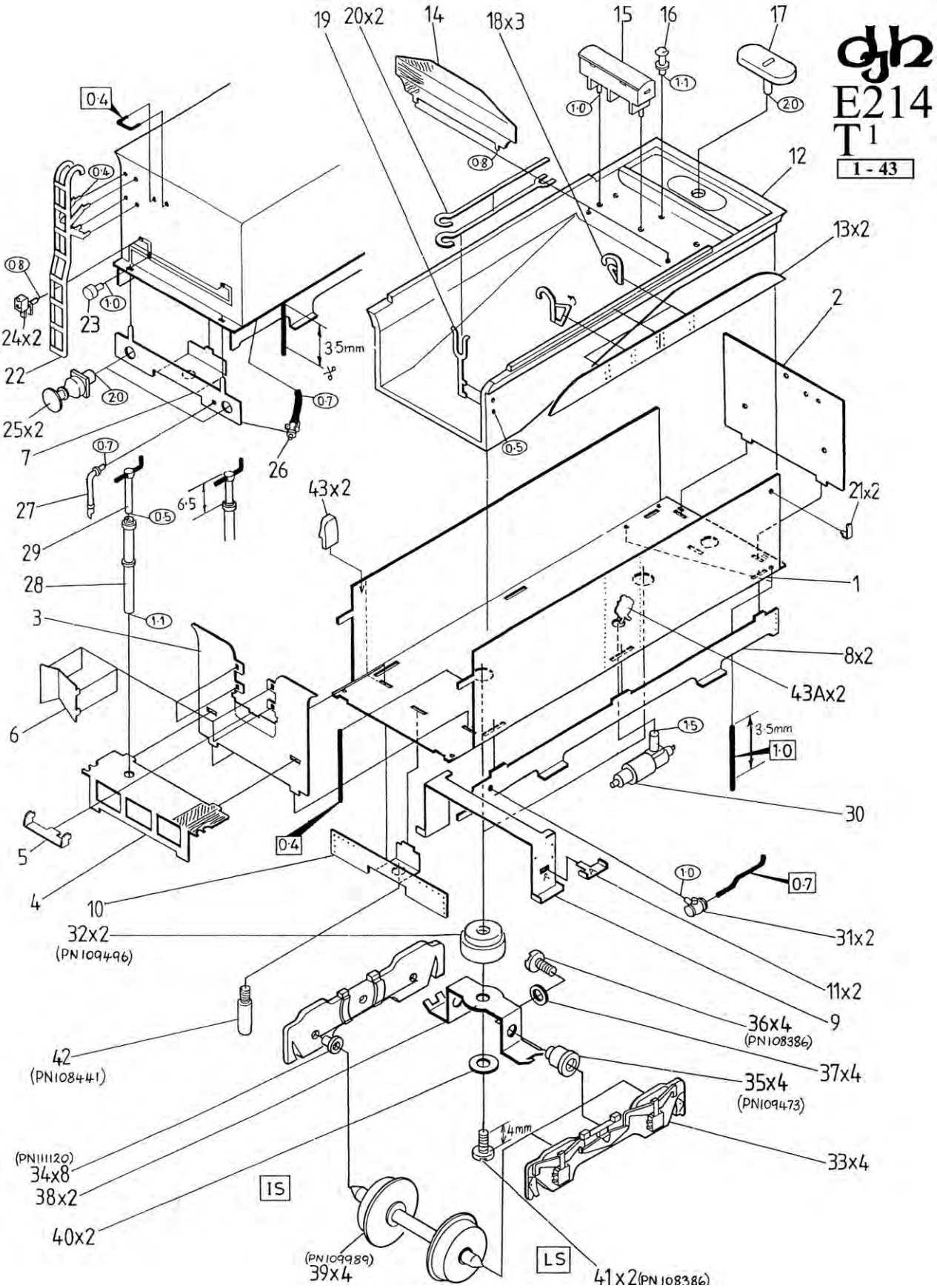

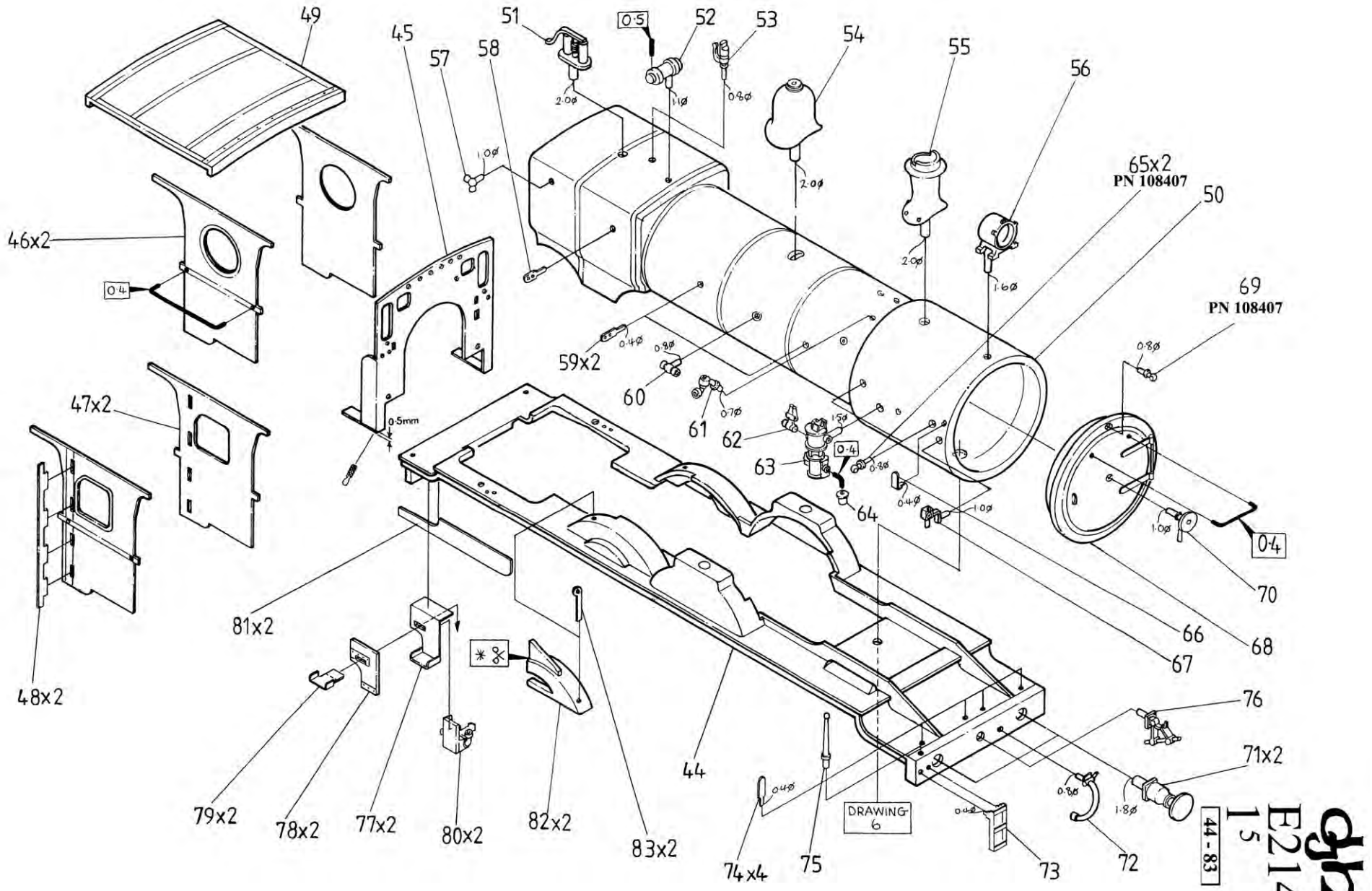
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DRAWING
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44 - 83
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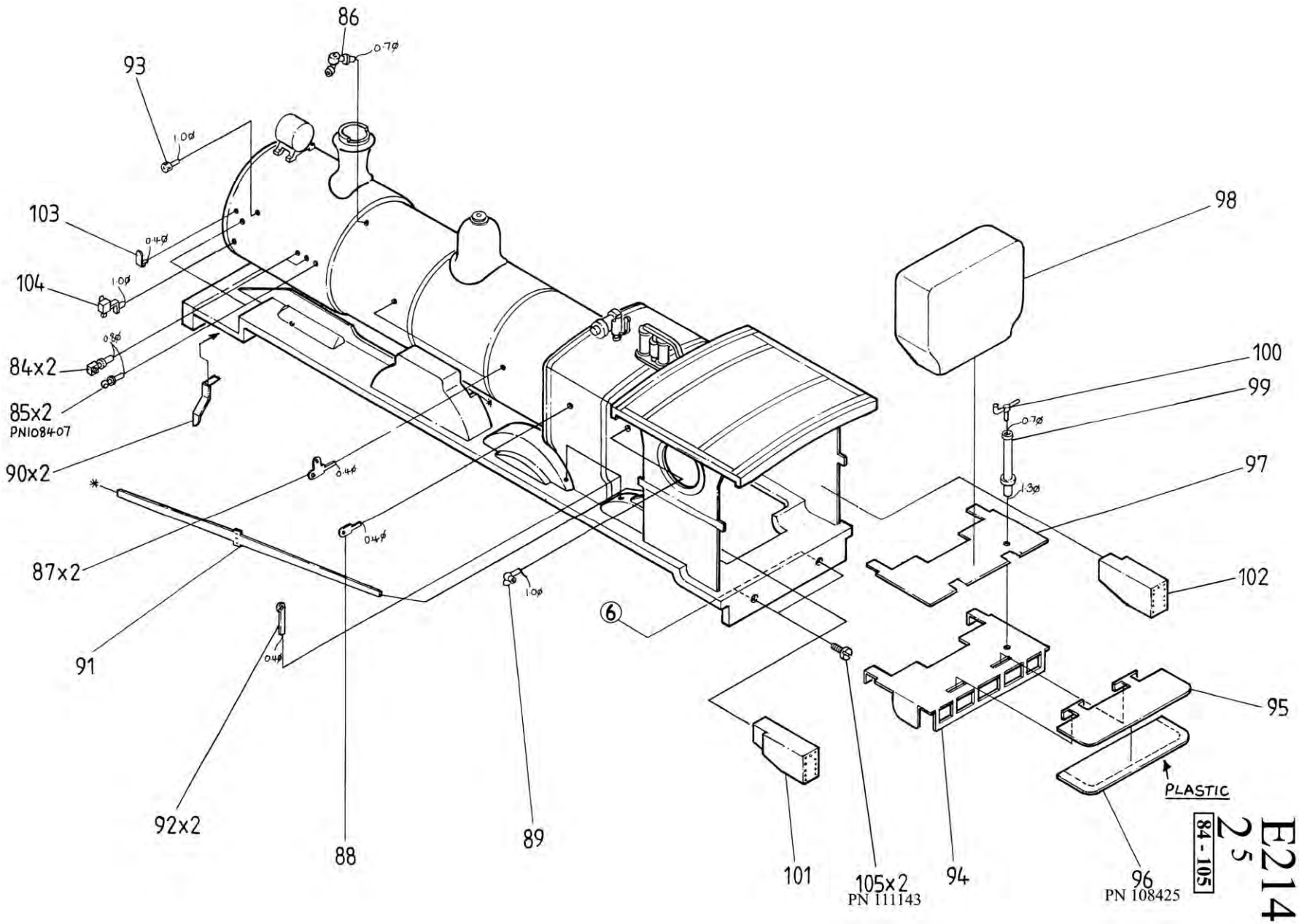
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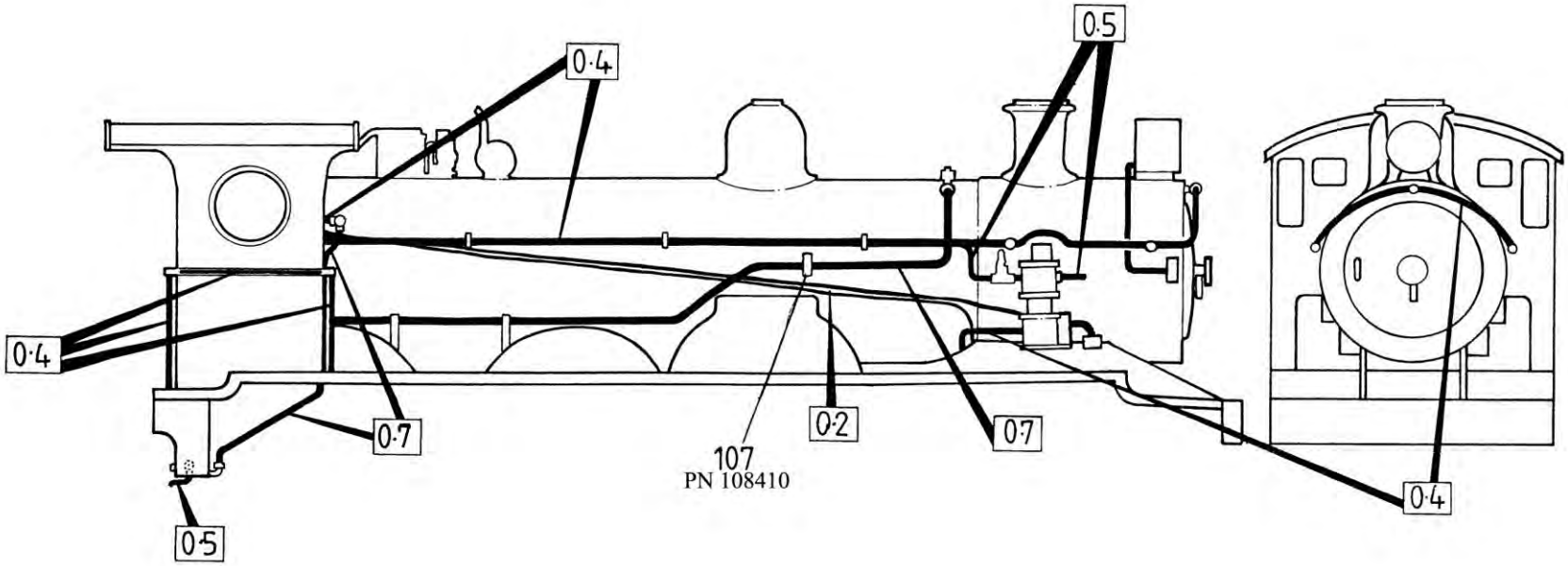
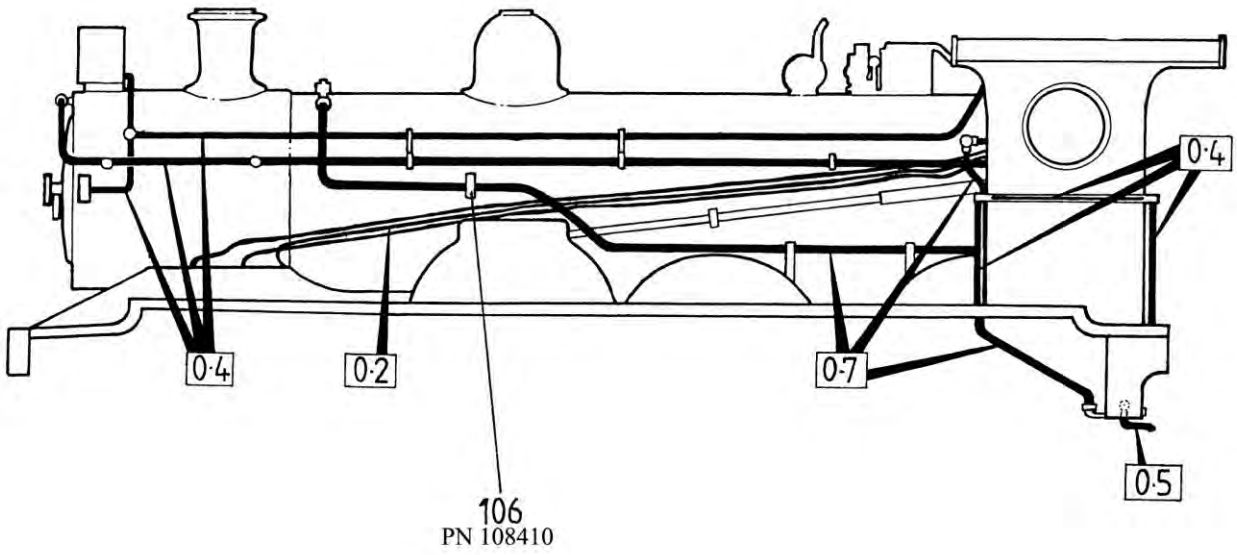
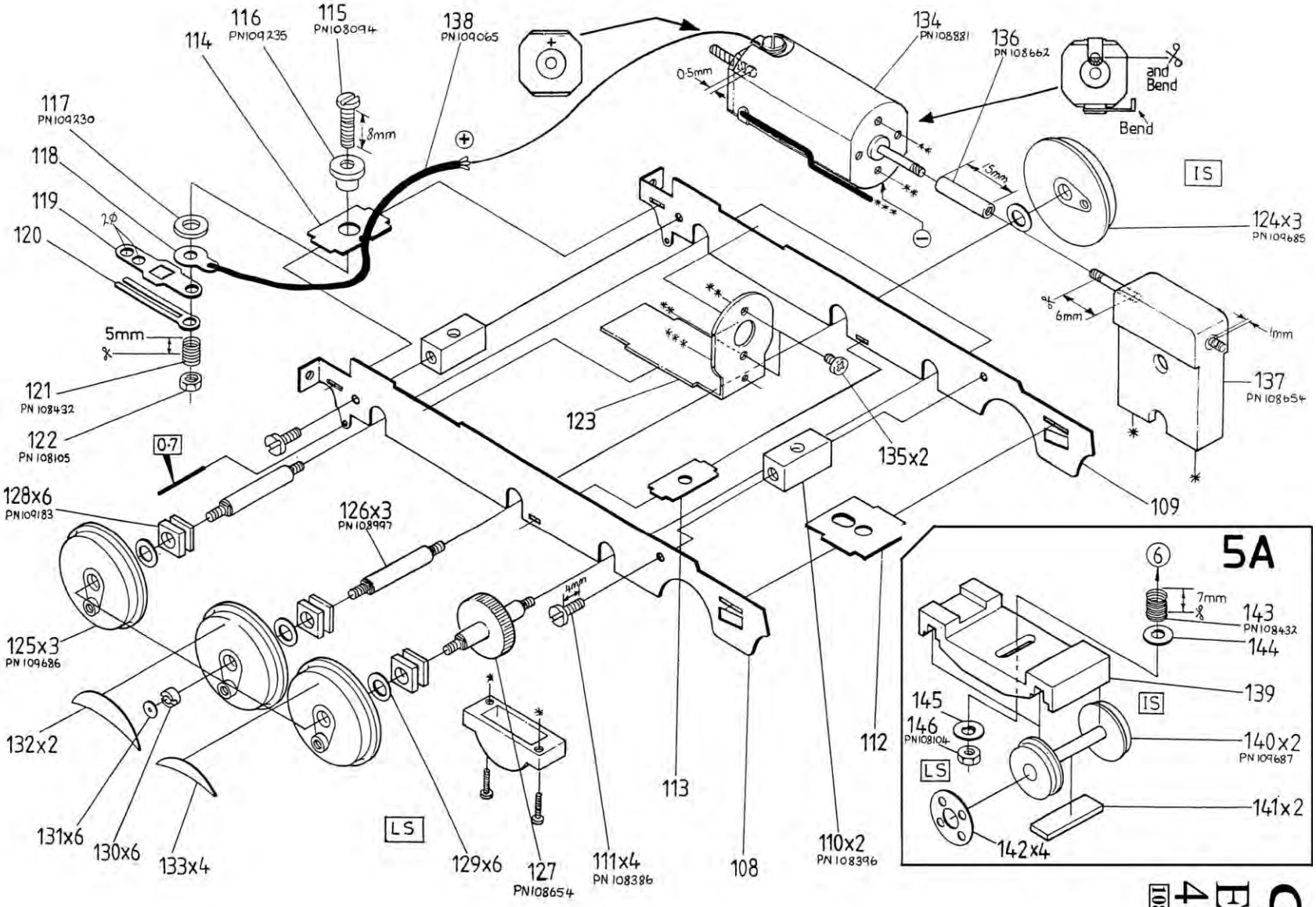
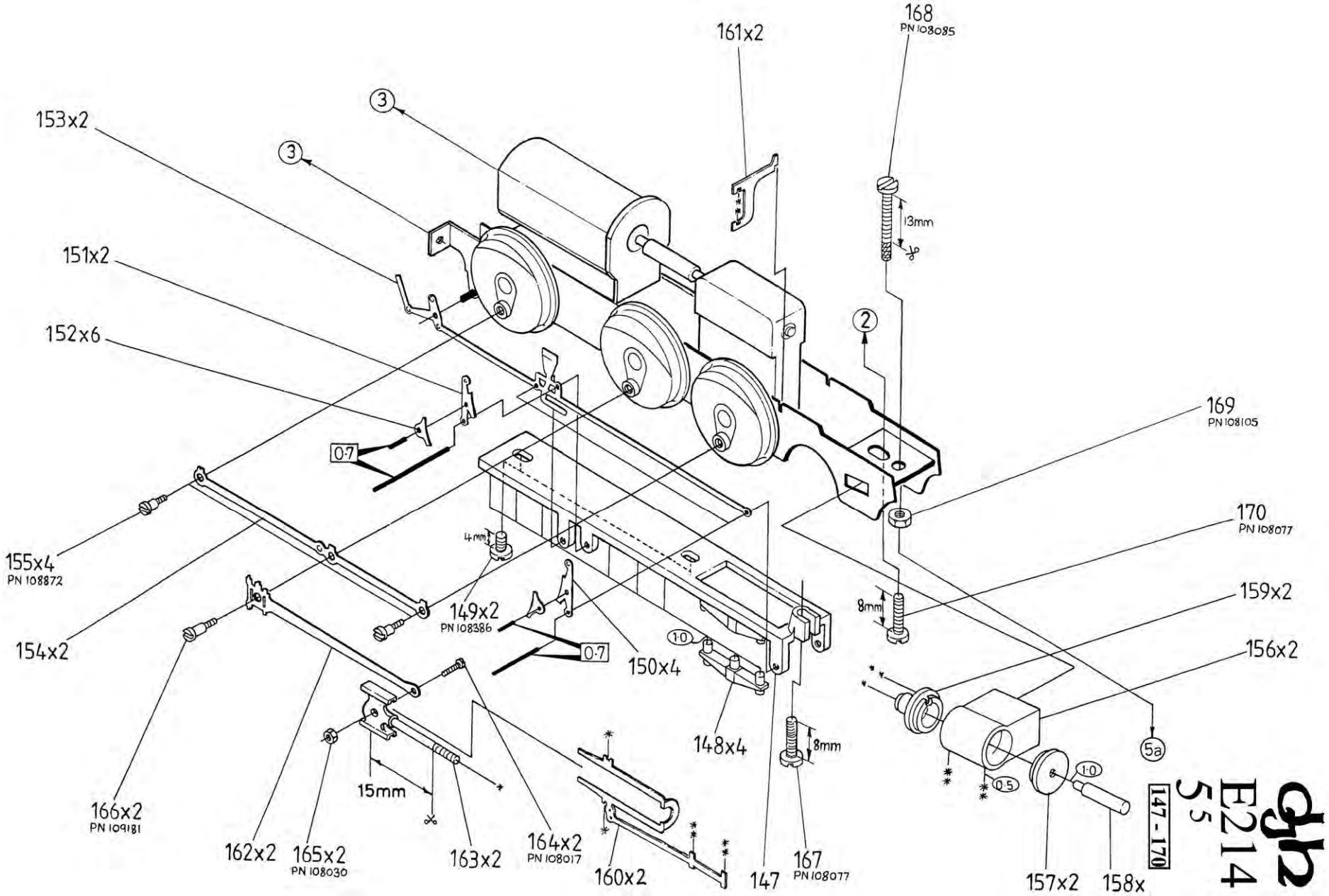
91
0.4ø
92x2
88
0.4ø
89
1.0ø
6
98
100
99
0.7ø
1.3ø
97
102
95
PLASTIC
101
105x2
PN 111143
94
96
PN 108425
dp2
E214
25
84 - 105





dp2
E214
35
106 - 107


116
PN109235
115
PN108094
138
PN109065
114
134
PN108881
136
PN108662
and
Bend
Bend
117
PN109230
118
119
120
8mm
0·5mm
15mm
IS
124x3
PN109685
5mm
121
PN 108432
122
PN 108105
0·7
6mm
1mm
137
PN108654
123
135x2
109
128x6
PN109183
126x3
PN108997
125x3
PN 109686
132x2
131x6
130x6
133x4
LS
129x6
127
PN108654
4mm
111x4
PN 108386
113
108
110x2
PN 108396
112
5A
6
7mm
143
PN108432
144
139
IS
145
146
PN108104
LS
140x2
PN 109687
141x2
142x4


168
PN 108085
161x2
153x2
3
3
151x2
152x6
13mm
2
169
PN 108105
0·7
170
PN 108077
155x4
PN 108872
4mm
159x2
8mm
154x2
149x2
PN 108386
0·7
150x4
1·0
156x2
148x4
8mm
5a
166x2
PN 109181
15mm
1·0
0·5
162x2
165x2
PN 108030
163x2
164x2
PN 108017
160x2
147
167
PN 108077
157x2
158x
147 - 170
E214
55