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NSWGR Z12 CLASS 4-4-0 LOCOMOTIVE AND TENDER KIT

E207 Manufactured Exclusively for AR Kits by DJH Engineering from Patterns owned by AR Kits

PLEASE READ INSTRUCTIONS THOROUGHLY BEFORE COMMENCING ASSEMBLY

CONSTRUCTION

ASSEMBLY

It is important to ensure that all parts are clean, free of "flash" (excess metal on 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.

As with all classes of NSWGR locomotives, individual Z12s varied in minor details from time to time in their life. Modellers are therefore advised to check photographs of the particular locomotive they have chosen to model.

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 (e.g. Dick Smith T2200). These irons have temperature control, as low melt solder requires temperature between 70 degrees and 200 degrees Centigrade. 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, you should "dry fit" parts first to ensure a good fit.

Electrical pickup

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 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. 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 or DJH gearbox please do not attempt to repair it yourself - return the motor/gearbox 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, 0.6mm, 0.7mm, 0.8mm, 0.9mm, 1.0mm, l.lmm, 1.2mm, 1.4mm, 1.5mm, 1.6mm, 1.8mm, 1.9mm, 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 right-hand (R/H) and left-hand (L/H) side. This is taken as viewing the model from above and looking forward.

Where parts or assemblies are joined together, usually by wire or screws, often they cannot be shown close to each other on the drawing. In such cases an asterisk (*) is used to identify the linking parts. For example, in Drawing 2 the single (*) shown against the connecting rod (43) denotes that this passes through the motion bracket (48) which also has a single (*) against it, before attaching to the crosshead (44). Similarly, the three (***) shown against the drain cock (49) denote that it joins to the motion bracket (48) also shown with three asterisks (***).

Sometimes parts join to others which are shown on a different drawing. This is indicated by showing the linked drawing number in a circle. For example, in Drawing 3 the screws (123) attaching the rear steps (121) link with the rear of the chassis frames (1) and (8) in Drawing 2: this is indicated by the 2 in Drawing 3, and the 3 in Drawing 2.

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

Tender Drawing 4 (Parts 124 - 161)

Take the tender chassis (153) and fold over sides as shown in the drawing, ensuring that the half etch fold lines are on the inside of the fold. Fix the drawbar pin location plate (154) to the chassis (153) before folding down the end of the chassis. Cut three 25mm lengths of 0.5mm wire and fix these to the chassis as shown. Snap fit the wheel sets (156x3) into the tender chassis (153) taking care that the insulated wheels (black plastic insulating bush on the axle) are on the R/H side. Using rear brake hangers (157xpair), brake hangers (158x2pair) and brake shoe detail (159x6) make up the brakes. You may find this easier by pushing a short length of O.5mm wire into a piece of timber and placing the etches on this to align them while you solder the two parts together - take care not to solder the brakes to the wire. Locate the brake assemblies onto the three 25mm lengths of O.5mm (wire previously soldered to the chassis) ensuring that the rear set (157x2) is to the rear, and fix in position

so that the distance between them (measured across the chassis) is 21mm. Using O.5mm wire add the pull rods (160x2), checking that none of the assembly can short out on the wheel sets. Snip off any excess wire together with the wire on the inside of the chassis locating the rear brakes (157x2) - see drawing. Lastly, add drawbar pin (155).

Take the tender back and sides (125). At the front, there is a series of etched lines to facilitate a radiused corner (each side). Using a 3mm, as a guide fold each of these to form the radiused front inside corners. Next fold the 90° front outside corners, followed by the 90° corners at the back of the tender. Test fit the folded tender back and sides (125) into the tender base (124). Check that all the tabs on the tender back and sides locate properly into the tender base before fixing into place, then add front bulkhead (126).

Take the outside frames (127xpair) and fold up the front bottom step outside edges and the step itself, before fixing the frames to the tender base. Take the outside frame step treads (128xpair), fold up the outside edges and fix to the outside frames (127xpair). Fold the rear beam (129) as shown and fix to the tender base.

Fix the marker lamps (142x2) to the rear of the tender, fold and fit lamp bracket (143) and add tap (136) to the bottom L/H side of the tender -these items can be soldered from inside the tender. Fix the front handrails (132x2) to the front of the tender, noting that some Z12s had a "kinked" handrail on the L/H side, use 0.4mm wire as shown in the drawing if your prototype has this style. Fix brake hose (140) to buffer beam, followed by the buffers (139x2) and rear tank (141). Fix water filler (151) to the tender top (144), followed by electrical junction box (152) before test fitting the tender top (144) into the tender back and sides (125) - when satisfied with the fit, fix in place with superglue. To complete detailing the tender rear, add 0.4mm wire "conduit" as shown in the inset drawing. Also using 0.4mm wire, make up and fit handle to the water filler, and the small pipe to the L/H side of the rear tank (141).

Before adding the axle boxes (137x6), use a 0.7mm drill bit to clean out the dimple in the top. Again using a 0.7mm drill bit, clean out the dimple in the bottom of the springs (138x6) and glue a length (approx 6.Omm) of 0.7mm wire into the spring. Test fit the spring in position with the wire locating into the top of the axle box (137x6). Trim the bottom of the wire, if required, to allow the spring to locate properly.

Using 0.5mm wire and handbrake handle (135), make up handbrake stand and fix in place. Before fixing the sand boxes (132xpair) to the tender front, add sandbox levers (134x2) add the floor (130), followed by the floor detail plate (131). Using low melt solder on the inside faces, fix in place coal partitions (145x2). Fold and fit hopper coal rail (146) noting that it is retained in place by spot soldering to the coal partitions (145x2). Finally, add control levers (149x2), coal loads (147) and (148) and fire irons (150x3), then attach the tender body to the chassis using M2 spacer screws (161x2).

Locomotive Drawings 1 and 2 (Parts 1 - 76)

Take the L/H frame (1) and R/H frame (8) and fold the rear tabs as shown in Drawing 1. Take the frame spacers (2x2) and, using a large drill (around 5mm dia), slightly chamfer the holes in the spacers - see Drawing 1. Secure the two frames together using the spacers (2x2) and four spacer screws (3x2) and (9x2), tightening these screws only enough to allow fitting of the spacer plates A (4), B (5), C (6) - etched arrow on top facing forward, and insulator mounting plate (7)- fold down the tab on this plate. Align the spacers (2x2) so that the cross-hole is vertical and tighten the spacer screws (3x2) and (9x2). Solder the spacer plates (4), (5), (6) and (7) in place.

Now fit the drawbar/tender pickup, placing the insulated bush (33) on the M2 screw (32) - cut to 8.Omm, and pass this through the insulator mounting plate (7). Add the insulated washer (34), power tag (35), M2 nut (36), drawbar (37), spring plate (38), spring (39) - cut to 4.Omm, and M2 nut (40). Fix in place motor support (10).

Fit the front horn blocks (20x2) and rear horn blocks (14x2) to the chassis - note that the thin flange of the horn block goes to the inside of the chassis and the rear horn blocks (14x2) have thicker outside flanges. The horn blocks are a "snap" fit into the chassis and should not be soldered.

Before fitting the driving wheels note that the insulated wheels are on the L/H side as viewed from the top facing forward. Note that the insulated driving wheels can be identified by the thin insulation strip between the tyre and the wheel. Fit the driving wheels, axles (15) and (21) and axle washers (13x2) and (19x2) to the chassis with the axle nuts (11x2) and (17x2), at the same time adding the motor/gearbox and axle gear (22) to the front axle. Quarter the wheels so that the crankpin on the right hand wheel leads that of the left hand wheel by 90° when the axle rotates forward.

Use a Romford axle nut driver to tighten the axle nuts and to fit the crankpins (42x4) to the driving wheels. Make sure that all axles rotate freely in the horn blocks. Fit the grub screw (23). **Warning:** over-tightening the grub screw may result in shearing the head off . Remove the etched counter weights (27x2) rear axle, and (28x2) front axle, from the fret and glue to the wheels as shown. Axle covers (26x4) should be fitted after the final assembly and painting.

Use 1.0mm drill, clean out the rear cylinder covers (31x2). Make up the cylinders using cylinder body (29x2), front cylinder covers (30x2) and rear cylinder covers (31x2). Put aside for later fitting. Fix the motion bracket (48) to the frames, ensuring that it is level with the top of the frames. Trim the crosshead rods (44x2) to a length of 10mm as shown and clean out the hole in the crosshead with a 1.0mm drill bit. Fold the slide bars (47x2) as shown and test fit the crossheads into the slide bars, checking that they slide freely. With crossheads fitted to the slide bars, fit the connecting rods (43x2) using 14BA screws

(45x2) and 14BA nuts (46x2). Take care when tightening these screws - do not squeeze the crossheads against the connecting rod. Trim excess thread from screw and use a drop of Superglue to retain the nut. Pass the connecting rods through the motion bracket (48) and fit the crossheads into the cylinders. Fix the completed cylinders to the chassis ensuring that they are aligned with the top of the chassis, at the same time locating the rear crosshead guide tabs into the motion bracket. Fit the connecting rods (43x2) to the crankpins (42x4) of the leading driving wheels. Fit the spacing washers (SOx2) to the crankpins of the rear driving wheels then fit the coupling rods (51x2). Fit crankpin fixers (52x4). Note, For easy removal of the coupling rods during testing, painting etc, strip a short length of insulation from some fine electrical wire and push this "tubing" onto the crankpins as a temporary retainer.

Take the drain cocks (49x2) and fit into the hole in the bottom of the motion bracket, then glue the two vertical tabs into the two holes in the bottom of the cylinders.

Take the keeper plate (53) and attach spring detail (54x2) using a length of 0.5mm wire. Make up the brake hangers using brake (55x4) and brake shoe detail (56x4) as previously described for the tender, and using 0.7mm wire, attach the brake hangers to the keeper plate, followed by the pull rods (56x2). Bend two short lengths of 0.7mm wire to attach the ends of the pull rods to the rear of the keeper plate as shown on the drawing. Attach the finished assembly to the chassis using M2 spacer screws (58x2).

Make up the front bogie using bogie body (66)[R], bogie wheel sets (67x2), keeper plates (68x2) and 12BA counter sunk screws (69x2), ensuring that the "insulated" wheels are on the L/H side of the bogie. Before assembly, it is recommended that the keeper plates (68x2) be drilled in the centre (1.0mm) to enable lubrication.

Make up the front bogie mounting assembly using M2 screw (70) cut to a length of 13mm, pass this through front spacer plate A (4) and retain using M2 nut (71). Add the sleeve (72), spring (73), washer (74), and the assembled bogie, followed by washer (75) and M2 nut (76).

Before fitting the front pilot deck (59) decide whether you wish to add the optional cow catcher as used by Z12 locomotives on branch line duties. If fitting the cow catcher, drill out the 12 holes in the buffer beam using a O.5mm drill bit. Locate the pilot deck on the chassis and fix in place using low melt solder. Remove the cow catcher frame (62) from the etch and, using a 0.5mm drill bit, drill out the dimpled holes before folding the frame as shown. Locate the cow catcher frame (62) up behind the buffer beam and fix in place using low melt solder. Fold and fit lengths of 0.4mm wire from the buffer beam to the cow catcher frame. Trim off excess wire before adding cow catcher detail strip (63). If you are not fitting the cow catcher, fix the pilot deck to the chassis before adding guard irons (64x2). Finish detailing the pilot deck, adding buffers (60x2), dummy coupler (61) and brake hose (65).

Body Drawing 3 (Parts 77 - 123)

Take the footplate (77), note that underneath the L/H side there are a number of feed sprues used in the casting process. Use a large flat file to remove these but be careful not to file into the plate itself - do not remove the two step locating lugs at the rear of the footplate. Drill all holes as shown on the drawing and check that the footplate is not distorted, and that the angle at the front matches that of the chassis.

Fold the cab front (80) as shown in the drawing and make up the cab using cab sides (79xpair) and cab front (80) - note that the cab sides have a half etched line on the inside face to show the location of the cab front. Test fit the cab ensuring that it fits properly over the curve of the footplate before fixing in place, then fix steam pipe (78x2) in place.

Take the boiler/firebox (81), drill all holes as shown on the drawing and test fit to the footplate before fixing in place. Working inside the firebox, low melt solder the firebox to the cab front and footplate.

Add sandbox filler (97x2) to the sandbox (96x2) followed by sandbox detail plate (98x2), then fix the completed assembly to the footplate. Add lubricators (99x2) and cylinder/footplate detail strip (100x2) noting that this should be shaped as shown on the drawing. Fix headlight (110) to the smoke box door (109) followed by the smokebox door handle (111) and smokebox door fittings (112x2). Add the completed smokebox door to the boiler. Continue detailing, adding chimney (83), steam dome (84), steam generator (85), safety valve (86) and other detail parts through to (95). On the L/H side, add detail parts (101) to (108).

Take the rear step assembly (121) and fold the ends as shown. Fold up the outside edges of the step tread before folding up the step. Fold up the outside edges of the rear step tread (121x2) before adding to rear step assembly (121). Using low melt solder, fix the completed step assembly underneath the footplate.

At the rear of the locomotive, fix the cab floor (113) in place. Take the fall plate (115) and fold down the tabs as shown before fixing plasticard (116) underneath. Fix the brake stand (120) to the cab floor detail plate (114) then fit cab floor detail plate in place, at the same time adding the fall place assembly. Detail the cab backhead (117) using regulator handle (118) and reversing gear (119), before fitting the completed assembly to the cab. It is recommended that the cab roof (82) be fitted after painting.

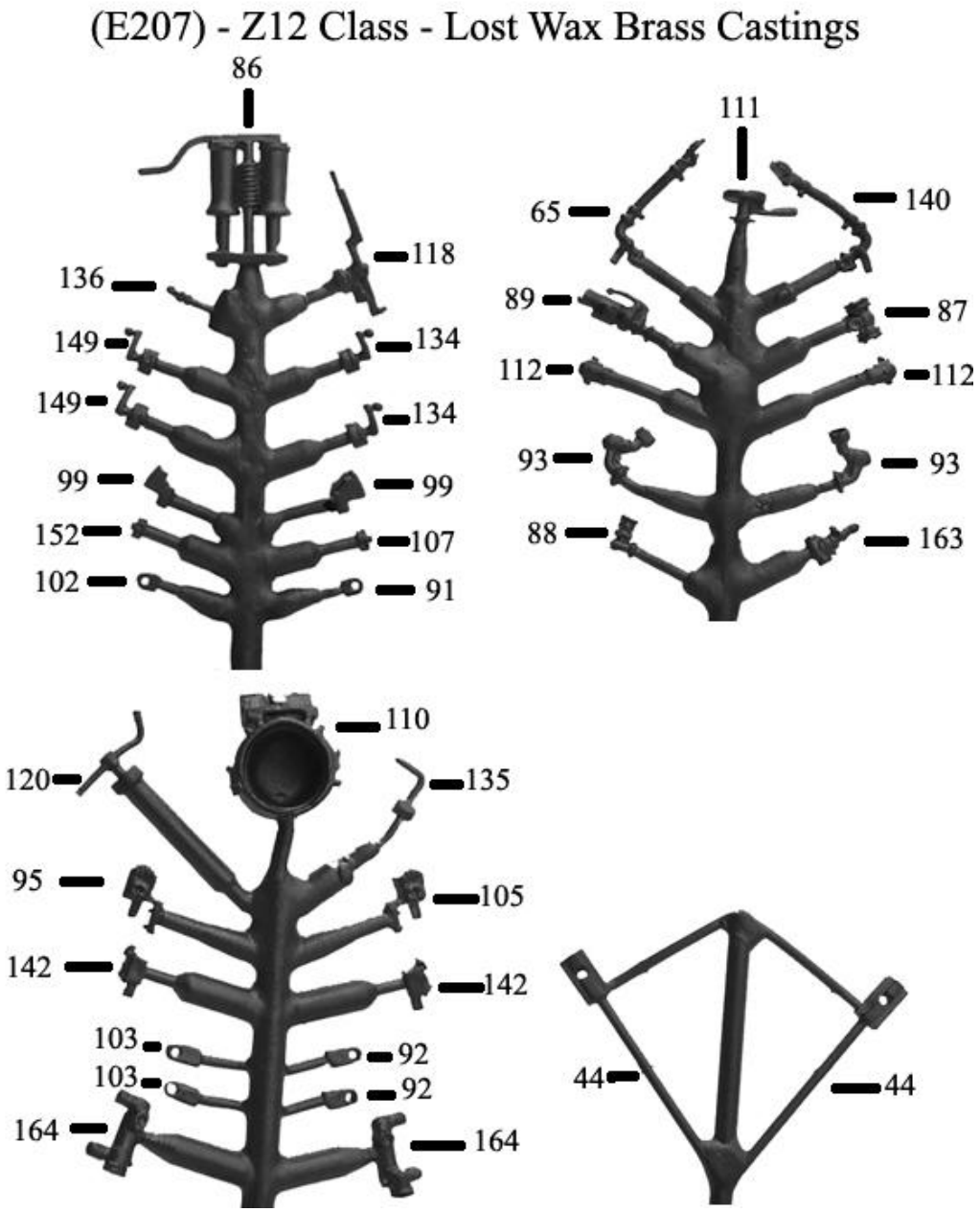
Drawing 5 - Detailing Parts (162-165)

Drawing 5 shows pipe and handrail detail. Complete all pipe work as shown on the drawing, at the same time adding pump filter (162), pump governor (163), injectors (164xpair) and builders plates of your choice (165xpair)- it is recommended that the builders plate be fitted after the locomotive has been painted. The builders plate can be highlighted by giving it a light coat of red paint, then using very fine wet and dry paper to expose the raised detail and lettering - this is best done before removing the plates from the fret.

Take two suitable lengths of pickup wire, solder a length to each motor terminal, mark the positive (+) lead, then solder this to the insulator mounting plate (7). Solder the other lead to the power tag (35).

Fit the locomotive body to the chassis using spacer screws (123x2) at the rear and M2 screw (41) at the front.

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 binding in the running gear and chassis.



(E207) - Z12 - PARTS LIST

Chassis Drawing 1

1.	L/H Frame	E
2.	Spacers x 2	T
3.	Spacer Screws x 2	T
4.	Spacer Plate A	E
5.	Spacer Plate B	E
6.	Spacer Plate C	E
7.	Insulator Mounting Plate	E
8.	R/H Frame	E
9.	M2 Spacer Screw x 2	T
10.	Motor Support	W/M
11.	Axle Nut x 2	T
12.	Non-Insulated Driving Wheel	T
13.	Washer x 2	E
14.	Hornblock (Thick Flange) x 2	T
15.	Axle	T
16.	Insulated Driving Wheel	T
17.	Axle Nut x 2	T
18.	Non-Insulated Driving Wheel	T
19.	Washers x 2	E
20.	Hornblocks (Thin Flange) x 2	T
21.	Axle	T
22.	Axle Gear	T
23.	Grub Screw	T
24.	Motor/Gearbox Assembly	E/T
25	Insulated Driving Wheel	T
26.	Axle Nut Cover x 4	E
27.	Small Counter Weight x 2	E
28.	Large Counter Weight x 2	E
29.	Cylinders x 2	W/M
30.	Front Cylinder Cover x 2	W/M
31.	Rear Cylinder Cover x 2	W/M
32.	M2 x 12mm C/S Screw	T
33.	Insulated Bush	P
34.	Insulated Washer	P
35.	Power Tag	E
36.	M2 Nut	T
37.	Drawbar	E
38.	Spring Plate	E
39.	Spring	T
40.	M2 Nut	T
41.	M2 x 8mm C/H Screw	T
	Insulated Wire	

Chassis Drawing 2

42.	Crankpin x 4	T
43.	Connecting Rod x 2	E
44.	Crosshead x 2	L/W
45.	14BA x 1/4" C/H Screw x 2	T
46.	14 BA Nut x 2	T
47.	Slide Bar x 2	E
48.	Motion Bracket	E
49.	Drain Cock x 2	E
50.	Washer x 2	E
51.	Coupling Rod x 2	E
52.	Crankpin Washer x 4	E
53.	Keeper Plate	W/M
54.	Spring Detail x 2	E
55.	Brake x 2 Pair	E
56.	Brake Shoe Detail x 2 Pair	E
57.	Pull Rod x 2	E
58.	M2 Spacer Screw x 2	T
59.	Front Pilot Deck	W/M
60.	Buffers x 2	W/M
61.	Dummy Coupler	W/M
62.*	Cow Catcher	E
63.*	Cow Catcher Detail Strip	E
64.*	Guard Iron x 2	E
65.	Brake Hose	L/W
66.	Bogie Body	W/M
67.	Wheel Set x 2	T
68.	Bogie Keeper Plate x 2	W/M
69.	12BA x 3/32" C/S Screw x 2	T
70.	M2 x 16mm C/H Screw	T
71.	M2 Nut	T
72.	Sleeve	T
73.	Spring	T
74.	Washer (2.5mm Dia. Hole)	E
75.	Washer (1.6mm Dia. Hole)	E
76.	M2 Nut	T
	0.5mm Dia. Wire	
	0.7mm Dia. Wire	
	* Alternative Parts	

Body Drawing 3

77.	Footplate	W/M
78.	Steam Pipe x 2	W/M
79.	Cab Side x 1 Pair	E
80.	Cab Front	E
81.	Boiler/Firebox	W/M
82.	Cab Roof	W/M
83.	Chimney	W/M
84.	Steam Dome	W/M
85.	Steam Generator	W/M
86.	Safety Valve	L/W
87.	Firebox Pipe Fitting	L/W
88.	Firebox Valve	L/W
89.	Whistle	L/W
90.	Electrical Junction Box (Square)	W/M
91.	Short Handrail Bracket	L/W
92.	Long Handle Bracket x 2	L/W
93.	Clack Valve x 2	L/W
94.	Medium Handrail Knob	T
95.	Smokebox Marker Lamp	L/W
96.	Sandbox x 1 Pair	W/M
97.	Sand Box Filler x 2	W/M
98.	Sandbox Detail Plate x 2	E
99.	Lubricator x 2	L/W
100.	Cylinder/Footplate Detail Strip x 2	E
101.	Reversing Rod	E
102.	Short Handrail Bracket	L/W
103.	Long Handrail Bracket x 2	L/W
104.	Pump	W/M
105.	Smokebox Marker Lamp	L/W
106.	Medium Handrail Knob	T
107.	Electrical Junction Box (Round)	L/W
108.	Short Handrail Knob	T
109.	Smokebox Door	W/M
110.	Headlamp	L/W
111.	Door Handle	L/W
112.	Smokebox Door Fitting x 2	L/W
113.	Cab Floor	W/M
114.	Cab Floor Detail Plate	E

(E207) - Z12 - PARTS LIST

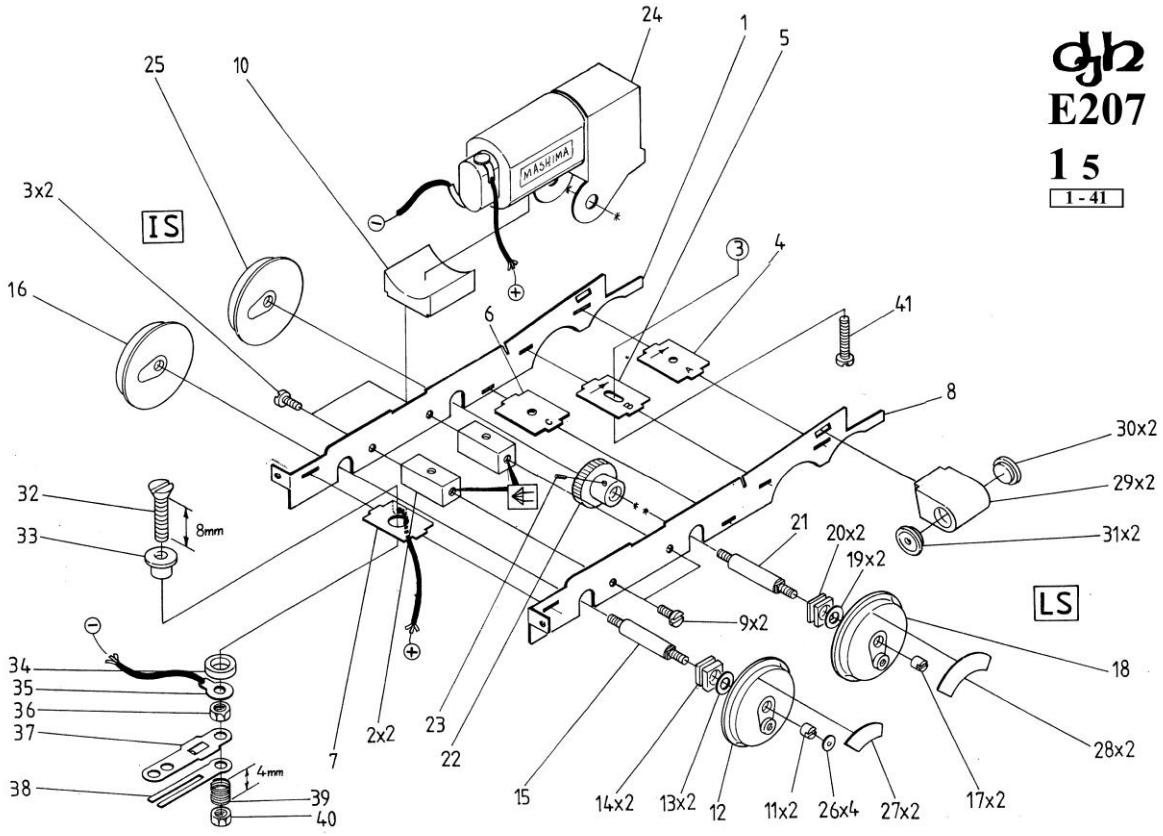
115.	Fall Plate	E
116.	Plasticard	P
117.	Cab Backhead	W/M
118.	Regulator Handle	L/W
119.	Reversing Gear	W/M
120.	Brake Stand	L/W
121.	Brake Step Assembly	E
122.	Rear Step Tread x 2	E
123.	12BA x 3/32" C/H screw x 2	T
	0.4mm Dia. Wire	

Tender Drawing 4

124.	Tender Base	E
125.	Tender Sides and Back	E
126.	Front Bulkhead	E
127.	Outside Frame x 1 Pair	E
128.	Outside Frame Step Tread x 1 Pair	E
129.	Rear Beam	E
130.	Floor	W/M
131.	Floor Detail Plate	E
132.	Front Handrail x 2	E
133.	Sandbox x 1 Pair	W/M
134.	Sandbox Lever x 2	L/W
135.	Handbrake Handle	L/W
136.	Tap	L/W
137	Axle Box x 6	W/M
138.	Spring x 6	W/M
139.	Buffer x 2	W/M
140	Brake Hose	L/W
141.	Rear Tank	W/M
142	Marker Light x 2	L/W
143.	Lamp Bracket	E
144.	Tender Top	W/M
145.	Coal Partition x 2	E
146.	Hopper Coal Rail	E
147.	Small Coal Load	W/M
148.	Large Coal Load	W/M
149.	Control Lever x 2	L/W
150.	Fire Irons x 3	E
151.	Water Filler	W/M
152	Electrical Junction Box - (Round)	L/W
153.	Chassis	E
154.	Half Live Pin Location Plate	E
155.	Drawbar Pin	T
156.	Wheel Set x 3 Pair	T
157.	Rear Brake Hanger x 1 Pair	E
158.	Brake Hanger x 2 Pair	E
159.	Brake Shoe Detail x 3 Pair	E
160.	Pull Rod x 2	E
161.	M2 Spacer Screw x 2	T
	0.4mm Dia. Wire	
	0.5mm Dia. Wire	
	0.7mm Dia. Wire	

Body Drawing 5

162.	Pump Filter	W/M
163.	Pump Governor	L/W
164.	Injector x Pair	L/W
165.	Builders Fret	E
	0.4mm Dia. Wire	
	0.5mm Dia. Wire	
	0.7mm Dia. Wire	



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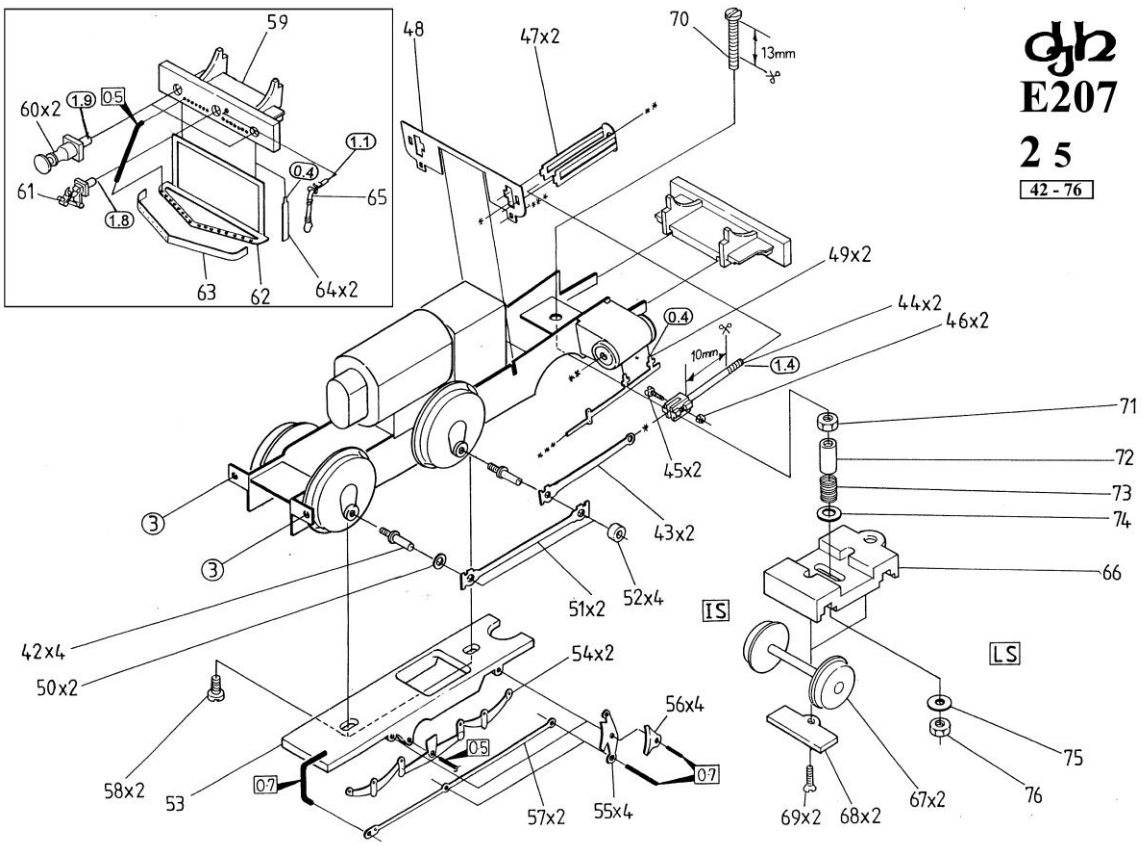

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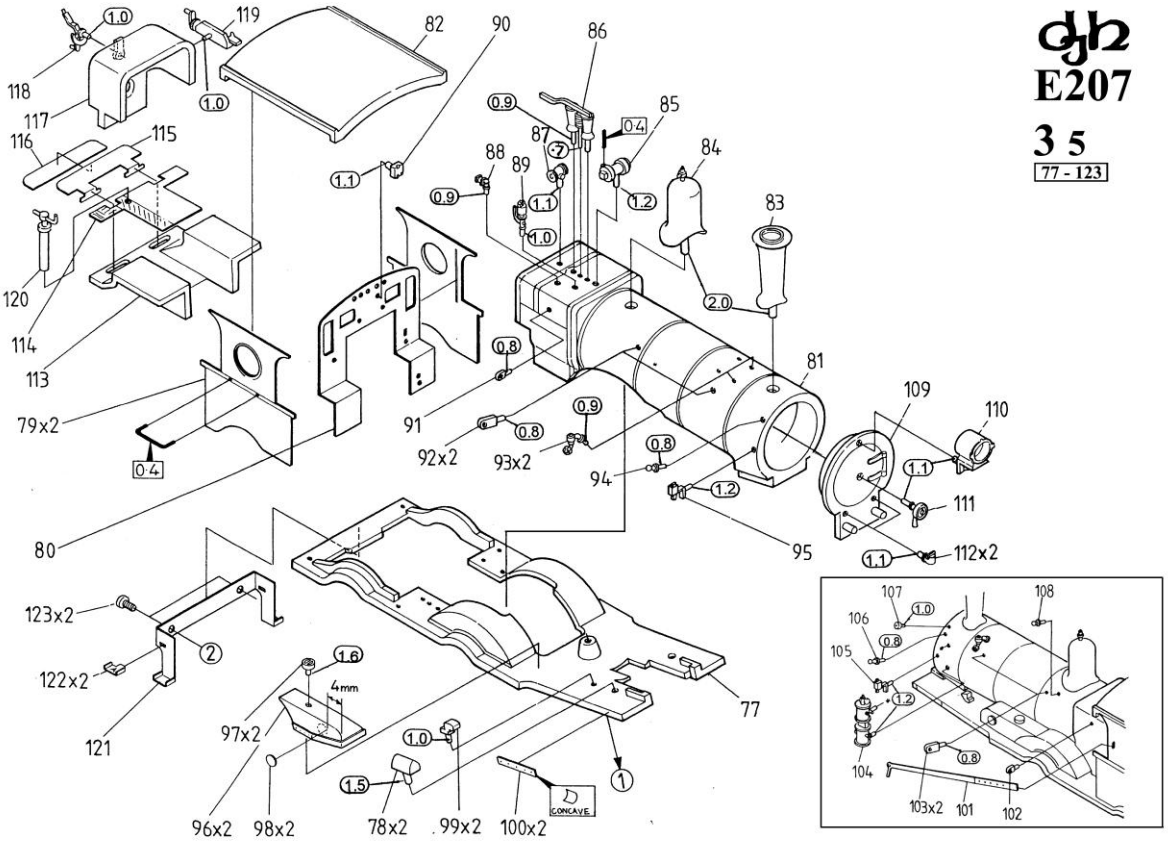

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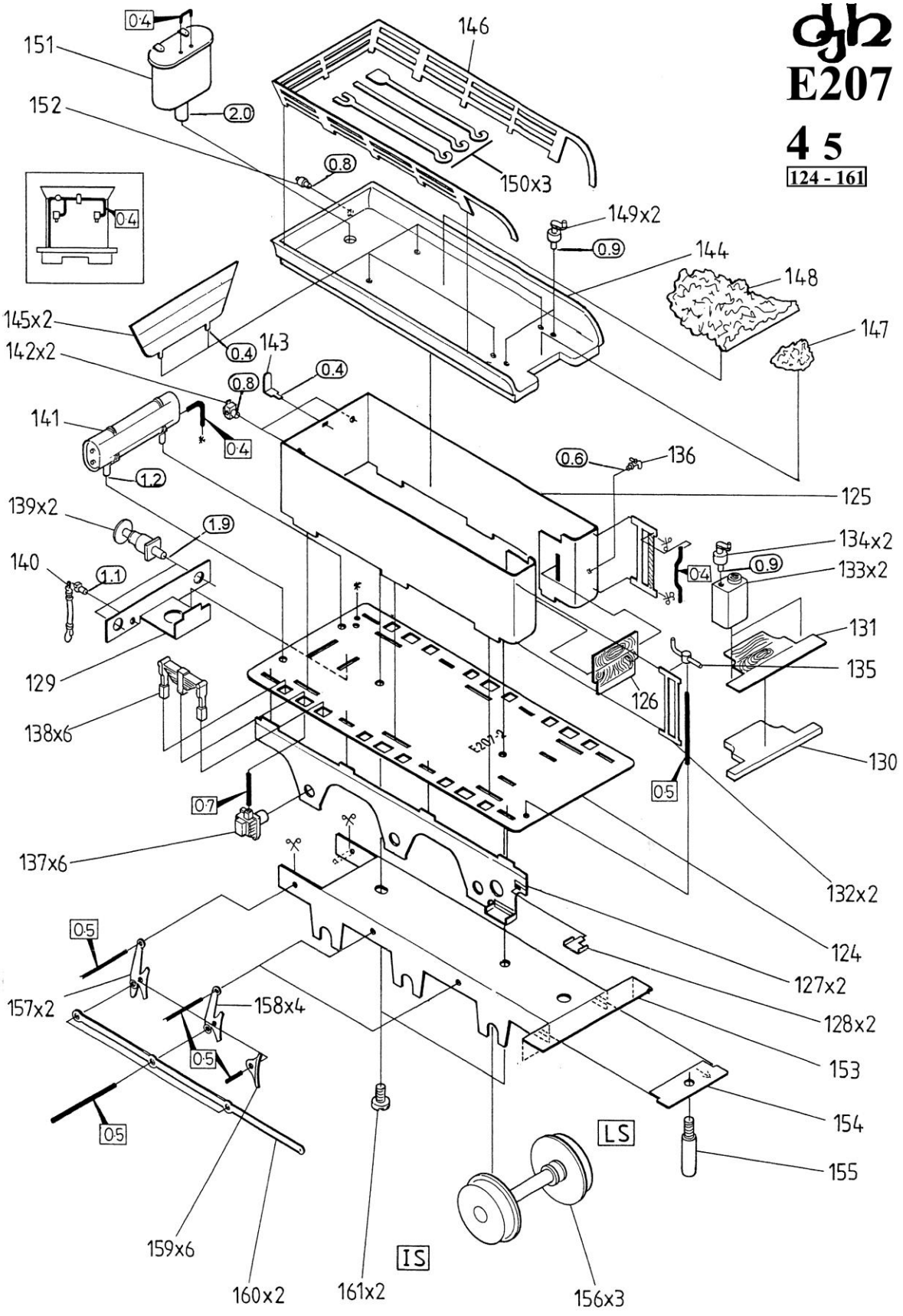
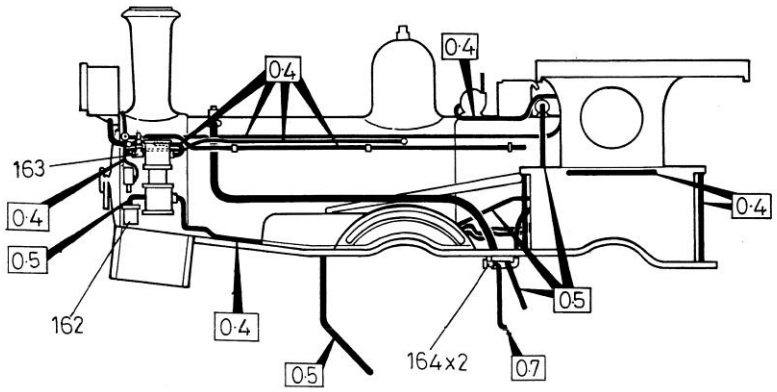
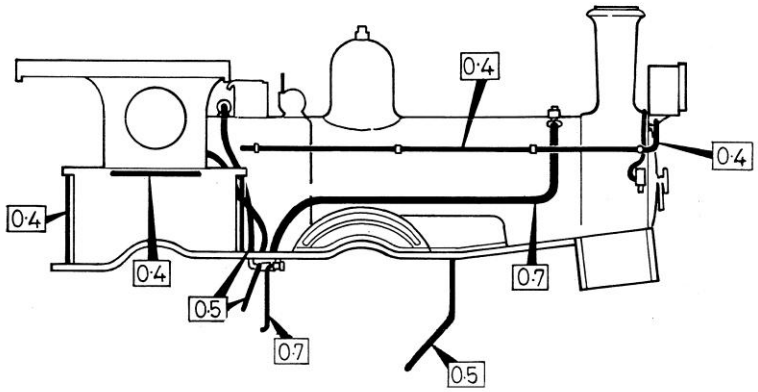
124 - 161

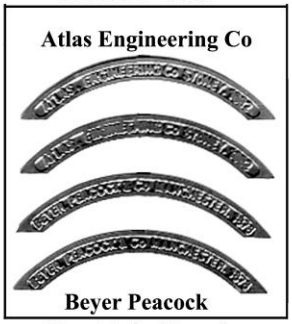


djh
E207
5 5
162 - 165





Part # 165



On etch fret in pairs