Australian Railway Kits
ABN: 27 416 246 418

Incorporating Main West Models
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NSWGR/PTC/SRA etc. 442 Class Diesel Electric Locomotive

E132 Manufactured Exclusively for AR Kits by DJH Engineering from Patterns owned by AR Kits

PLEASE READ INSTRUCTIONS THOROUGHLY BEFORE COMMENCING ASSEMBLY

CONSTRUCTION

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 Masonite) 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 sidecutters. 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 442s 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.

For assistance in general detailing, modellers are referred to the article in the AMRM November/December 1980, Issue 105, Data Sheet's plan and the many photos which appear in Australian railway books and journals.

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.

Warning

These kits use K&M Mechanisms and should only be lightly lubricated with a light machine oil. Use of grease in the gears of these mechanisms will unfortunately void warranty of the mechanism and motor

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 T2200). These irons have temperature control, as low melt solder only requires around 200 degrees centigrade. You must 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.

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

Electrical pickup

The electrical system used on these kits is called "half live". The front bogie collects current from the live wheels on one side for one polarity, and the rear bogie from the opposite side for the remaining polarity.

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 the thoroughly in warm soapy water. Rinse with clean water and allow to dry thoroughly before applying a suitable selfetch 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 and 0.7mm.

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.

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.

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

Chassis Drawing 1 (Parts 1- 28)

Take chassis (1x2), checking they fit together squarely and are straight when fitted together. Secure with screws (2x2) and nuts (3x2). Now assemble underframe detail by first fixing fuel tanks (4 & 7) onto the frames (6x2) as shown, before fixing Then fix to the underneath of the footplate. It is best to fit fuel fillers (5x2) to the fuel tanks when the body is in position on the chassis. Drill out the holes for the pipes in the air cylinders (8x2) 0.7mm, then fix them across the frames (6). Make up the pipes from 0.7mm wire after the fuel fillers have been added. Fix coupling housing boxes (9x2) into locating holes at the ends of the footplate. The main chassis is now completed and ready for the bogies.

Take the motor (10) and secure onto the motor fixing plates (11 & 12) with screws (13x4) checking that the bottom faces which locate on the chassis are level. Push the female couplings (22Bx2) onto the motor until they are pushed fully home as shown. See Drawing 1A.

Glue bottom insulators (14x2) into the locating holes on the underneath of the chassis. Remove the rear towers (16x2) from the bogies (15) (two screws on each bogie) and fix the bogies to the chassis with screws (21x2), at the same time adding parts (17x2, 18x2, 19x2, 20x2). Now reinstall the rear towers at the same time fitting the coupling shafts (22Ax2). Oil all moving parts with an appropriate gear oil and test run. The mechanism will be noisy at first until the gears and drive are bedded in. Solder the insulated wire (23) to (20x2) and then solder the other ends onto the correct motor connectors for polarity.

Fix steps (24x4) and brake cylinders (25x12) onto the bogie side frames (26x2) and (27x2). Fix speedo boxes (28x2) to A end if required. Now fix bogie side frames onto the bogies (15x2).

Body Drawing 2 (Parts 29 - 49)

Assemble the two cabs using cab fronts (29x2), cab roof (30x2), R/H cab side (31x2) and L/H cab side (32x2). Drill out all the handrail holes 0.4mm. See Drawing 3 before assembling cabs onto the main body. Take the main body (33) and check that the shape matches correctly with the assembled end cab units. Now fix vents (34x2), access plates (H) (35x2) and (A) (36x2) to the inside of the body.

Fix assembled cabs to the main body (33). Before adding the small detail parts to the body, fix the footplate to the body with the self tapping screws (49x2). Drill 1.8mm holes in the locating lug on (29x2). (The kit has been designed for Kadee coupling No.16). Check the chassis together are square. now remove the chassis and continue to fit parts 37 through to 46 as shown on Drawing 2. Fit glazing (47x2) and (48) after the model has been painted.

Locomotive Drawing 3 (Parts 50 - 54)

Shape and attach 0.4mm wire to the staff exchanger (50x2) before fixing it in place. Now fix buffer housing (51x4), buffer heads (52x4) and brake pipes (53x6) to the cab ends. Shape handrails as shown before fixing in place. Also fix window wipers in place (54x4).

4 Mar 2009

(E132) - 442 - PARTS LIST

Drawing 1.

1.	Chassis x 2	W/M
2.	Spacer Screws x 2	T
3.	M2 Nuts x 2	T
4.	Fuel Tank L/H	W/M
5.	Fuel Tank Fillers x 2	W/M
6.	Underframe x 2	W/M
7.	Fuel Tank R/H	W/M
8.	Air Cylinders x 2	W/M
9.	Kadee Coupling Housing x 2	W/M
10.	Motor	-
11.	Motor Fixing Plate	W/M
12.	Motor Fixing Plate	W/M
13.	Spacer Screws x 4	T
14.	Bottom insulator x 2	P
15.	Bogies x 2	-
16.	Gear Tower x 2	T
17.	Insulating Washer x 2	P
18.	Brass Sleeve x 2	T
19.	Spring x 2	-
20.	Pickup Washer x 2	-
21.	M2 Screw x 2	T
22A.	Coupling Shafts x 2	T
22B.	Female couplings x 2	T
23.	Insulating Wire	-
24.	Bogie Steps x 2	E
25.	Brake Cylinders x 12	T
26.	Bogie Side Frame L/H x 2	W/M
27.	Bogie Side Frames R/H x 2	W/M
28.	Speedo x 2	W/M

Insulated Wire
0.7mm dia. Wire

Drawing 2.

29.	Cab Front x 2	W/M
30.	Cab Roof x 2	W/M
31.	Cab Side R/H x 2	W/M
32.	Cab Side L/H x 2	W/M
33.	Main Body	E
34.	Body Side Grills x 2	E
35.	Access Plates H x 2	E
36.	Access Plates A x 2	E
37.	Grill Walkway	E
38.	Fan Grill Cover	E
39.	Vent	W/M
40.	Fan Support	W/M
41.	Fan Blades	E
42.	Exhaust	W/M
43.	Panel Medium	W/M
44.	Panel Long	W/M
45.	Panel Short x 3	W/M
46.	Horns x 2	L/W
47.	Side Glazing x 2	P
48.	Cab Glazing x 1 Set	P
49.	No. 2 x 1/2" Self Tapping Screws x 2	T

0.4mm dia. Wire

Drawing 3.

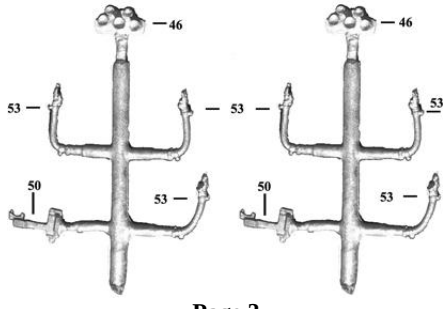
50.	Staff Exchanger x 2	L/W
51.	Buffer Housing x 4	W/M
52.	Buffer Heads x 4	W/M
53.	Brake Pipes x 6	L/W
54.	Window Wipers x 4	E

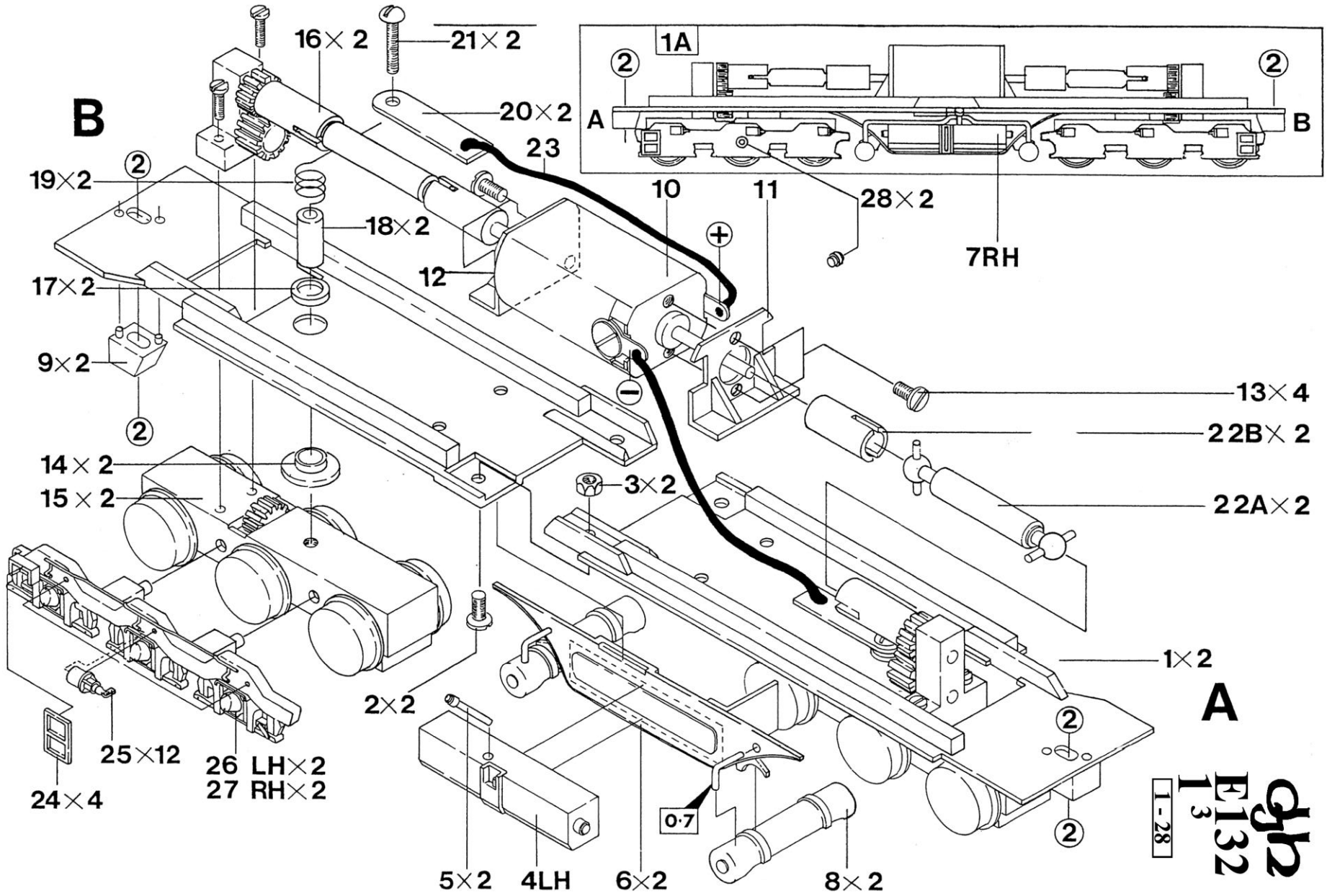
0.4mm dia. Wire

Legend:

W/M - White metal
L/W - Lost wax brass castings
E - Etched brass
T - Turned
P - Plastic

(E132) - NSWGR 442 DEL - Lost Wax Brass Castings

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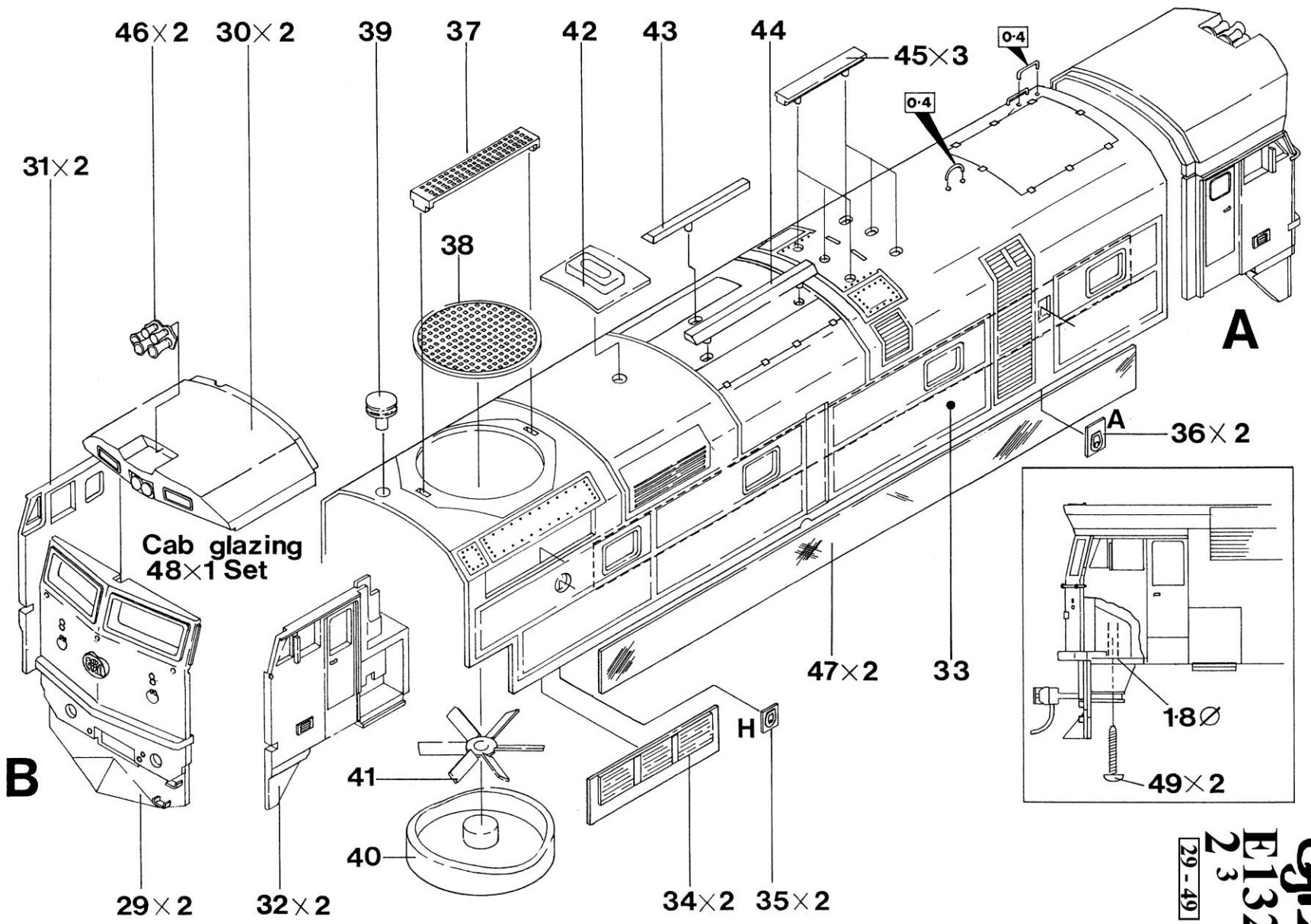
1 - 28
djb
E132
T3



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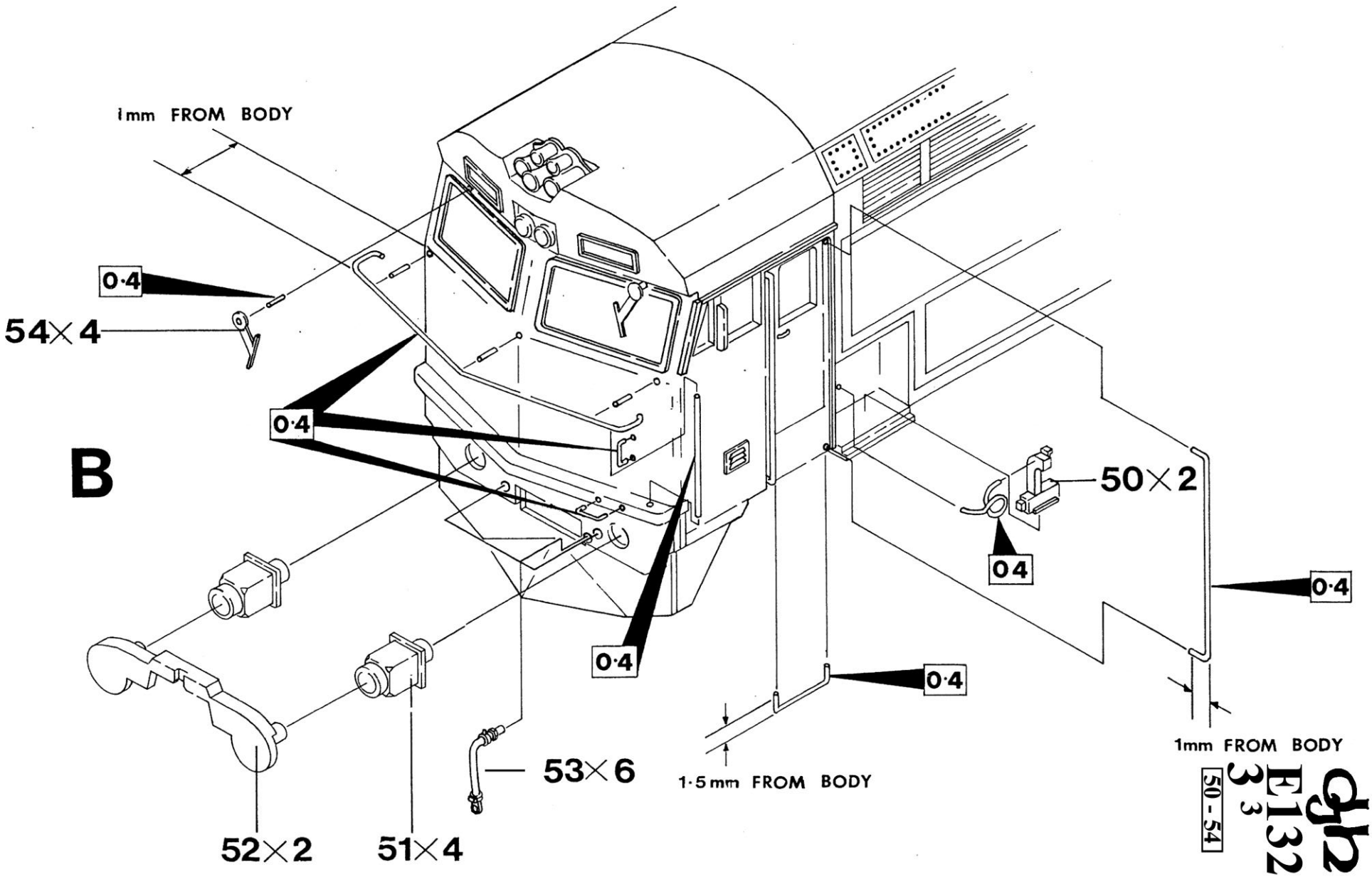
29 - 49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