

ADDRESSEES	: Owners and operators of coaches listed under “Application” ABC Customer Care and Parts Source
VEHICLE MODEL	: TD925
SYSTEM/SUBSYSTEM	: 10.66 Body and accessories – Interior lighting equipment
BULLETIN TYPE	: Service information
DATE	: September 27th, 2023
SUBJECT	: Step nose lighting
TERMS & CONDITIONS	: This service bulletin does not entitle to any reimbursement.

APPLICATION:

This service information bulletin is applicable to TD925 coaches with step nose lighting.

INTRODUCTION:

Two different types of step nose lighting units have been installed during manufacturing.

- The early units (which are limited available as spare part) are provided with a LED card for the “downward” light and an optical fiber for the “upward” light. These units have a small circuit board with a resistor to reduce the 24V power supply to an operating voltage of 3V for the optical fiber (refer also to figure 1).
- The new units have an optical fiber for both the “downward” and “upward” light, and do not have a circuit board to reduce the voltage supply. **These lighting units may not be connected directly to a 24V power supply but must be used together with special controllers. Failure to do will cause the immediate irreversible breakdown of the lighting unit due to overvoltage!** Please also note that the “downward” light on new units is less bright.

This service bulletin provides you with information on how the new step nose lighting units are connected to the vehicle wiring.

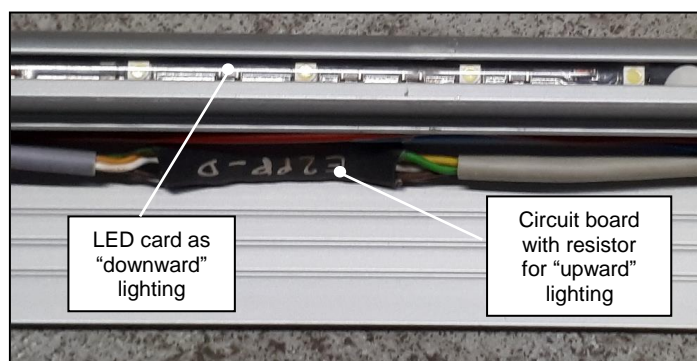


Figure 1: Identification of early step nose lighting unit

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STRUCTURE OF STEP NOSE LIGHTING:

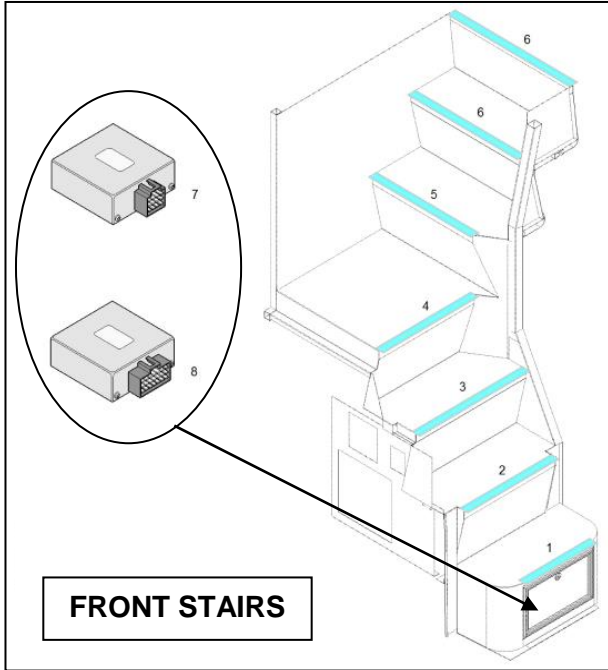


Figure 2A: Step nose lighting on front stairs

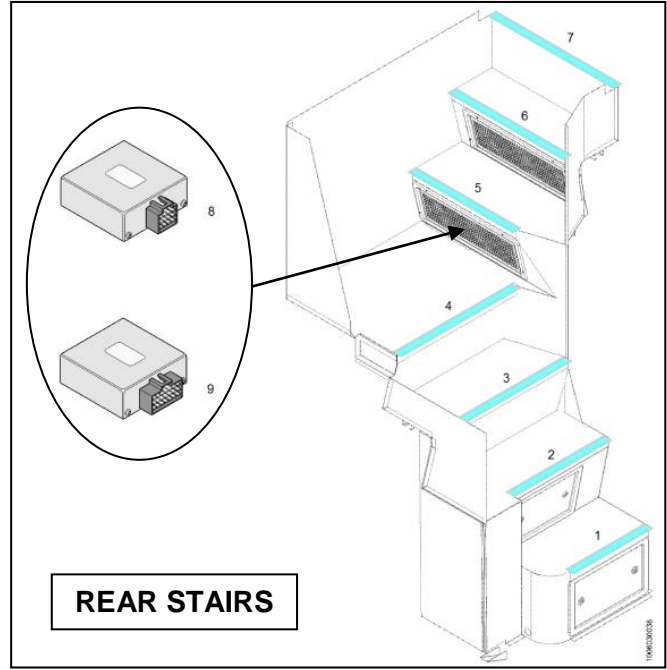


Figure 2B: Step nose lighting on rear stairs

MATERIAL FOR FRONT STAIRS:

VH reference	Description	Number in figure 2A	Qty
11241232	Step nose lighting unit	1	1
11241243	Step nose lighting unit	2	1
11193132	Step nose lighting unit	3	1
11432868	Step nose lighting unit	4	1
11432859	Step nose lighting unit	5	1
11232686	Step nose lighting unit	6	2
11382450	Controller, POWERLED (6-pin/12-pin connector plugs)	7	2
11382452	Controller, RGB (6-pin/21-pin connector plugs)	8	1
10988784	Connector socket, 6-pin, blue	-	3
10988783	Connector socket, 12-pin, green	-	2
11134561	Connector socket, 21-pin, brown	-	1
11135287	Connector terminal, female (0.5-1 mm ²)	-	20
11135288	Connector terminal, female (1.5-2.5 mm ²)	-	14
10704221	Floating diode	-	2
660768502	Connector plug, 1-pin, white	-	2
660768501	Connector socket, 1-pin, white	-	2
660766313	Connector terminal, male (0.75-1.5 mm ²)	-	2
660766300	Connector terminal, female (0.75-1.5 mm ²)	-	2
660766406	Connector terminal, male (4-6 mm ²)	-	2
660766405	Connector terminal, female (4-6 mm ²)	-	2
11357365	Cleaner	-	#
11357370-03500	Adhesive tape	-	#

- The numbers listed under “Qty” are for a “full” installation
- Material may be purchased through regular channels.
- Parts/Waste disposal: discard old material according to applicable environmental regulations.

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MATERIAL FOR REAR STAIRS:

VH reference	Description	Number in figure 2B	Qty
11241253	Step nose lighting unit	1	1
11251661	Step nose lighting unit	2	1
11234048	Step nose lighting unit	3	1
11295309	Step nose lighting unit	4	1
11285569	Step nose lighting unit	5	1
11233882	Step nose lighting unit	6	1
11232686	Step nose lighting unit	7	1
11382450	Controller, POWERLED (6-pin/12-pin connector plugs)	8	1
11382452	Controller, RGB (6-pin/21-pin connector plugs)	9	1
10988784	Connector socket, 6-pin, blue	-	2
10988783	Connector socket, 12-pin, green	-	1
11134561	Connector socket, 21-pin, brown	-	1
10988794	Connector terminal, female (0.5-1 mm ²)	-	16
11135288	Connector terminal, female (1.5-2.5 mm ²)	-	14
10704221	Floating diode	-	2
660768502	Connector plug, 1-pin, white	-	2
660768501	Connector socket, 1-pin, white	-	2
660766313	Connector terminal, male (0.75-1.5 mm ²)	-	2
660766300	Connector terminal, female (0.75-1.5 mm ²)	-	2
660766406	Connector terminal, male (4-6 mm ²)	-	2
660766405	Connector terminal, female (4-6 mm ²)	-	2
11357365	Cleaner	-	#
11357370-03500	Adhesive tape	-	#

- The numbers listed under “Qty” are for a “full” installation.
- Material may be purchased through regular channels.
- Parts/Waste disposal: discard old material according to applicable environmental regulations.

JOB REQUIREMENTS:

1. Technician’s expertise and job supporting information:

This job has to be carried out by an experienced automotive electrician.

2. Special tools, equipment or services:

This job requires the use of an appropriate terminal crimping tool and soldering equipment.

PREPARATIONS:

- Park the coach safely, apply the parking brake, stop the engine, switch off all systems and turn off the battery master switch.
- Install a “DO NOT OPERATE” warning message on the instrument panel.
- **Read the entire procedure before beginning to work.**



WARNING!


Observe safe shop practices at all times.

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PROCEDURE:

Step	Action
1	Remove the defective nose lighting unit as explained in "STEP 1 IN DETAIL".
2	Install the new nose lighting unit as explained in "STEP 2 IN DETAIL".
3	Verify the operation of the step nose lighting system.
4	Replace the access panel.

STEP 1 IN DETAIL: To remove a defective step nose lighting unit

Step	Action
1.1	<ul style="list-style-type: none"> • On the front stairs: remove the access panel of the compartment located in the first step (refer to figure 2A) to gain access to the controllers. • On the rear stairs: remove the access panel of the compartment located in the fifth step (refer to figure 2B) to gain access to the controllers.  <p>Figure 3: Location of step nose lighting controllers in first step compartment of front stairs (example)</p>
1.2	Cut the cable ties securing the extension cable.
1.3	Remove the step nose lighting unit fixing screws and carefully pull loose the with adhesive tape mounted defective unit.
1.4	Cut-off the wires of the extension cable near the soldering joints under the step nose lighting unit.

STEP 2 IN DETAIL: To install a new step nose lighting unit

Step	Action																
2.1	Thoroughly clean the step nose using cleaner 11357365 or similar product.																
2.2	Solder the wires of the new lighting unit to the extension cable as indicated in table 1. Provide a durable and watertight connection. <table border="1" data-bbox="456 1619 1369 1883" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Table 1: To connect extension cable to step nose lighting unit</th> </tr> <tr> <th>Extension cable</th> <th>Wire at lighting unit</th> </tr> </thead> <tbody> <tr> <td>White (W)</td> <td>White (- POWERLED)</td> </tr> <tr> <td>Black (Z)</td> <td>Brown (+ POWERLED)</td> </tr> <tr> <td>Brown (BR)</td> <td>White (RGB GROUND)</td> </tr> <tr> <td>Blue (B)</td> <td>Yellow (RGB BLUE)</td> </tr> <tr> <td>Yellow-green (GE-GN)</td> <td>Green (RGB GREEN)</td> </tr> <tr> <td>Gray (GS)</td> <td>Brown (RGB RED)</td> </tr> </tbody> </table>	Table 1: To connect extension cable to step nose lighting unit		Extension cable	Wire at lighting unit	White (W)	White (- POWERLED)	Black (Z)	Brown (+ POWERLED)	Brown (BR)	White (RGB GROUND)	Blue (B)	Yellow (RGB BLUE)	Yellow-green (GE-GN)	Green (RGB GREEN)	Gray (GS)	Brown (RGB RED)
Table 1: To connect extension cable to step nose lighting unit																	
Extension cable	Wire at lighting unit																
White (W)	White (- POWERLED)																
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Blue (B)	Yellow (RGB BLUE)																
Yellow-green (GE-GN)	Green (RGB GREEN)																
Gray (GS)	Brown (RGB RED)																

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2.3	Install the new step nose lighting unit with adhesive tape and secure with fixing screws.
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HOW TO CONNECT CONTROLLERS TO VEHICLE HARNESS?

- Figure 8 shows the wiring harness of the step nose lighting at the front stairs. The wiring harness is connected in such a way that the “upward” light of all step noses illuminates “red” and the “downward” light illuminates “white” when the front door is open. If the front door is closed, only the upper step nose will illuminate: “upward” light illuminates “blue”, downward light illuminates “white”.
- Figure 9 shows the wiring harness of the step nose lighting at the rear stairs. The wiring harness is connected in such a way that the “upward” light of all step noses illuminates “red” and the “downward” light illuminates “white” when the rear door is open. If the rear door is closed, the “upward” light of the three upper steps illuminates “blue” and the downward” light of all steps illuminates “white”.

NOTE: You can choose another color for the “upward” light by connecting another (that the gray wire) of the extension cable to the “RGB” controller. For green light, connect the yellow-green (GE-GN) wire to the “RGB” controller. For blue light, the “blue” wire. For yellow light, the yellow-green (GE-GN) and the gray (GS) wires.

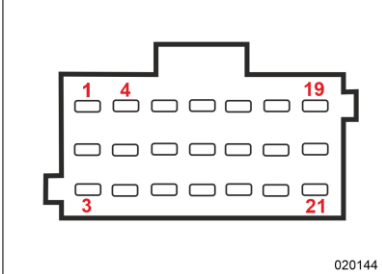
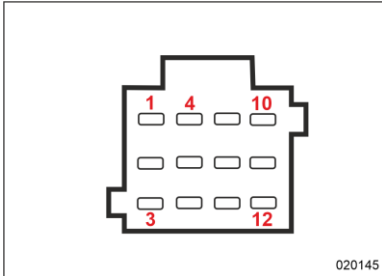
Table 2: Output 21-pin connector plug on RGB controller	
 <p style="text-align: right; margin-right: 20px;">020144 Figure 4</p>	
Pin	Function
1, 2, 3, 5, 6	Common ground
4, 10, 16	Output group 1
7, 13, 17	Output group 2
8, 14, 19	Output group 3
9, 15, 20	Output group 4
12, 18, 21	Output group 5 (18 = flashing light!)

Table 3: Output 12-pin connector plug on POWERLED controller	
 <p style="text-align: right; margin-right: 20px;">020145 Figure 5</p>	
Pin	Function
1, 3, 5, 7, 9	Power supply (+)
2, 4, 6, 8, 10	Ground

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Table 4: Input 6-pin connector plug on RGB controller

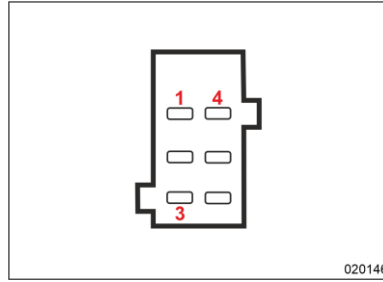


Figure 6

Pin	Function
1	24V power supply for outputs 16, 17, 19, 20, 21
2	24V power supply for outputs 10, 13, 14, 15, 18
4	24V power supply for outputs 4, 7, 8, 9, 12
3, 5, 6	Ground

Table 5: Input 6-pin connector plug on POWERLED controller

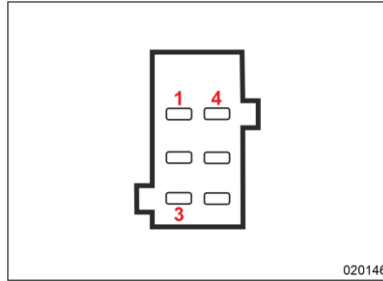


Figure 7

Pin	Function
1, 2, 3	+24V power supply
4, 5, 6	Ground

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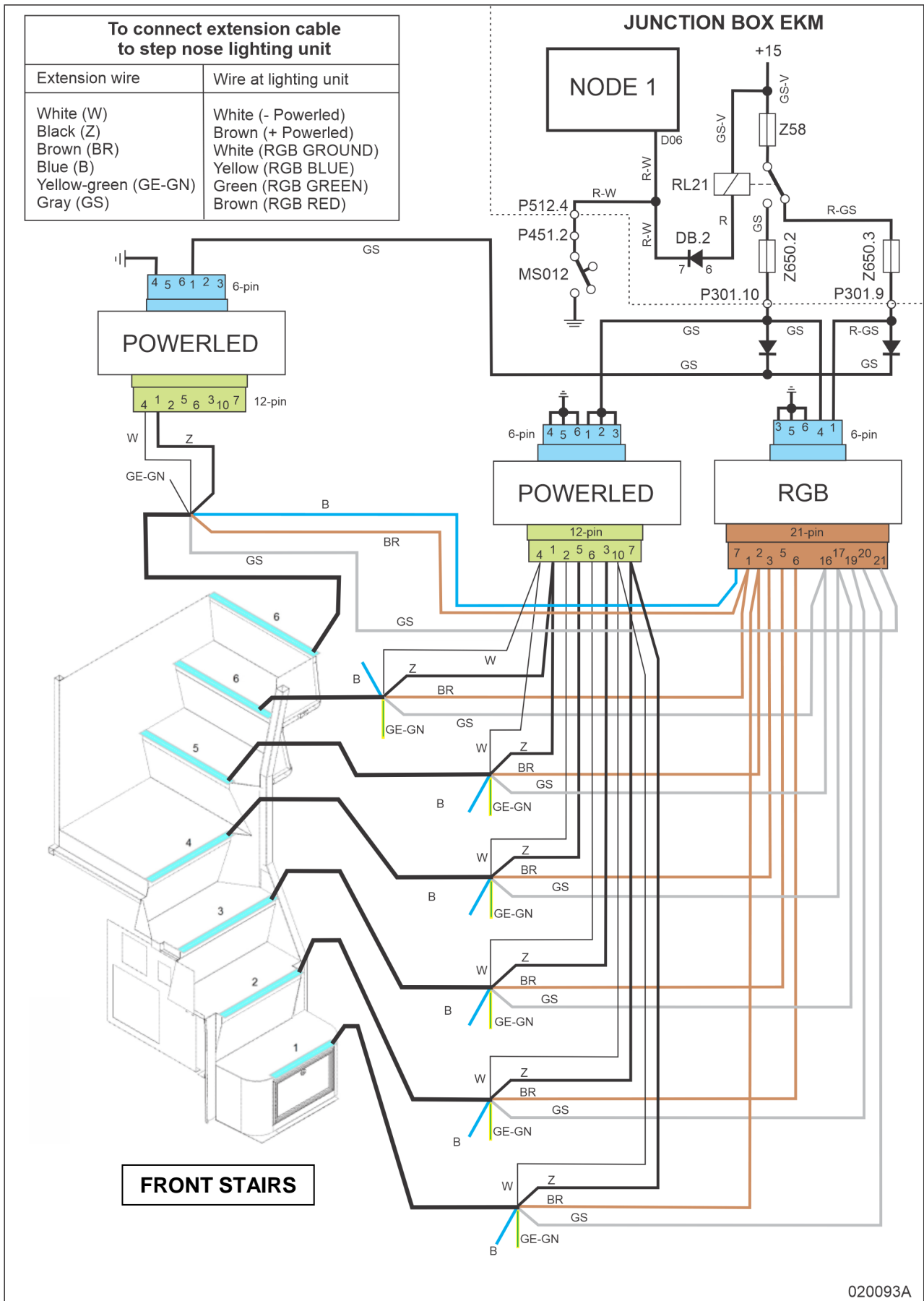


Figure 8: Wiring diagram of step nose lighting at front stairs

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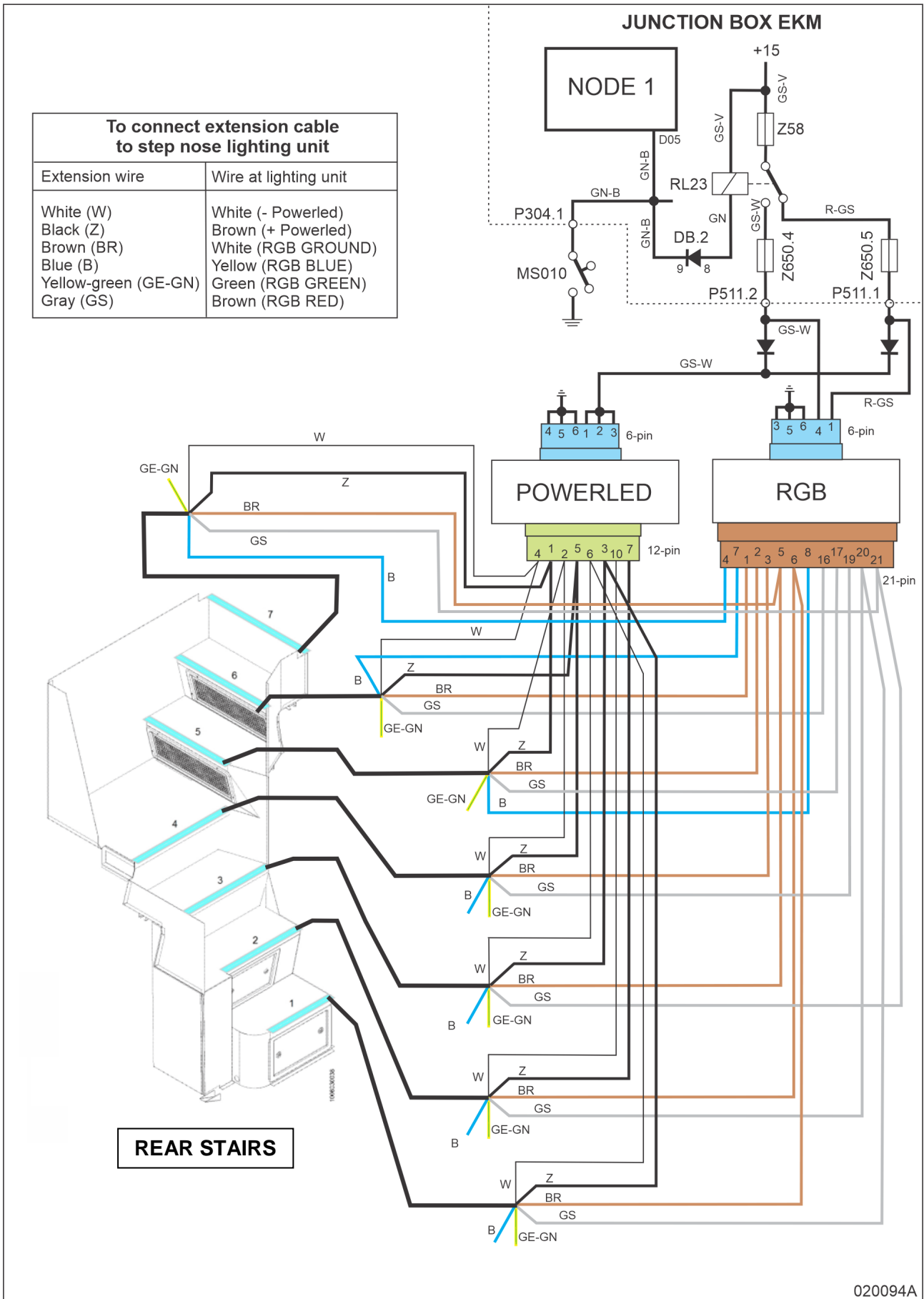


Figure 9: Wiring diagram of step nose lighting at rear stairs

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DISCLAIMER:

The procedures contained herein are not exclusive. Van Hool cannot possibly know, evaluate, or advise the transportation industry of all conceivable ways in which a procedure may be undertaken or of the possible consequences of each such procedure. Other procedures may be as good, or better, depending upon the particular circumstances involved.

Each carrier who uses the procedures herein must first satisfy itself thoroughly that neither the safety of its employees or agents, nor the safety or usefulness of any products, will be jeopardized by any procedure selected.

INFORMATION HANDLING:

Important supplements to and modifications of the technical information not yet included in the Van Hool manuals are communicated by means of Service Bulletins.

File the Service Bulletins at the back of your manual, in numerical order.

To make sure that you will be reminded of the Bulletins that have appeared in the meantime while paging the manual, mark the pages concerned by hand with the Service Bulletin number.

VAN HOOL CUSTOMER PORTAL:

Consult the Van Hool customer portal for the latest service documentation. Beside the maintenance manual, you will also find the operating manual and the spare parts catalogue of your vehicle on the customer portal. The customer portal is accessible through www.vanhool.be, under menu point "Service" and only with a code (password) from Van Hool. If you do not have a password yet, request it by using the link on the Van Hool website.