

# Service Manual Trucks

Group **37**

Release **01**

Wiring diagram

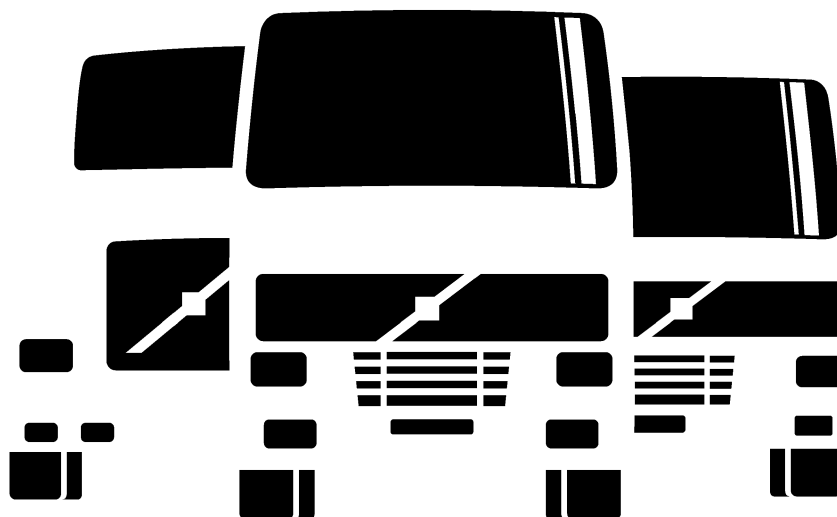
FM

CHID A698436–

CHID B564590–

CHID W100620–754005

CHID CKD891518–



# Foreword

The descriptions and service procedures contained in this manual are based on designs and methods studies carried out up to September 10.

The products are under continuous development. Vehicles and components produced after the above date may therefore have different specifications and repair methods. When this is judged to have a significant bearing on this manual, supplementary service bulletins will be issued to cover the changes.

The new edition of this manual will update the changes.

In service procedures where the title incorporates an operation number, this is a reference to V.S.T. (Volvo Standard Times).

Service procedures which do not include an operation number in the title are for general information and no reference is made to V.S.T.

The following levels of observations, cautions and warnings are used in this Service Documentation:

**Note:** Indicates a procedure, practice, or condition that must be followed in order to have the vehicle or component function in the manner intended.

**Caution:** Indicates an unsafe practice where damage to the product could occur.

**Warning:** Indicates an unsafe practice where personal injury or severe damage to the product could occur.

**Danger:** Indicates an unsafe practice where serious personal injury or death could occur.

## Volvo Truck Corporation

Göteborg, Sweden

**Note: Check always the latest information at the “Wiring diagrams-site”.**

**Order number: 88956890**

**Repl: Service bulletin 370–160 TSP 88956892 and service bulletin 370–161 TSP 88956893.**

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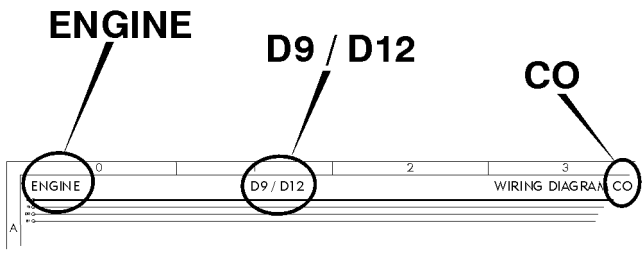
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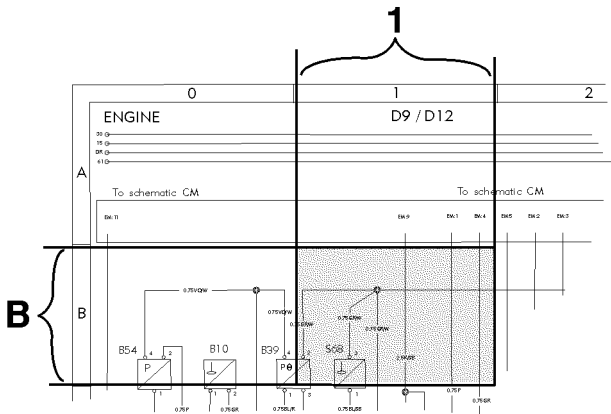
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# Example of wiring diagram

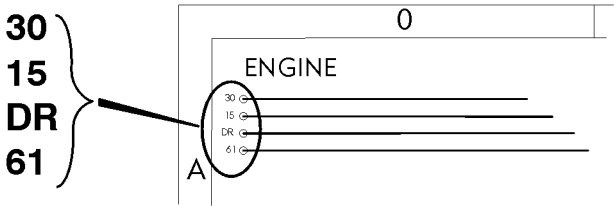
Component wiring diagram title, variant/subtitle and symbol.



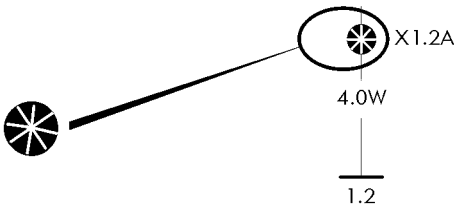
Coordinates (B 1).



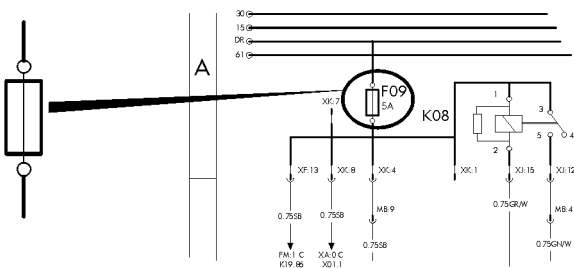
30 Voltage battery, kl.30.  
 15 Voltage with starter key in drive position, kl.15.  
 DR Voltage with starter key in drive position, preheat position and start position, kl.DR.  
 61 Voltage when alternator charges, kl.61.



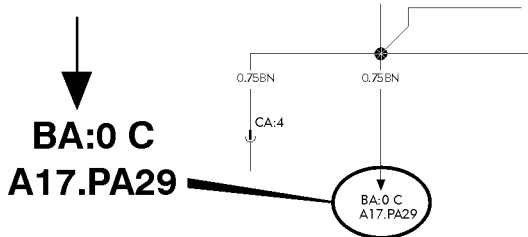
Splice.



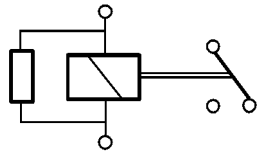
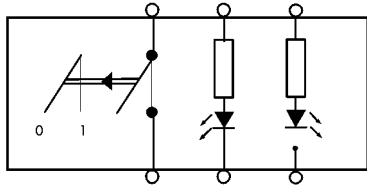
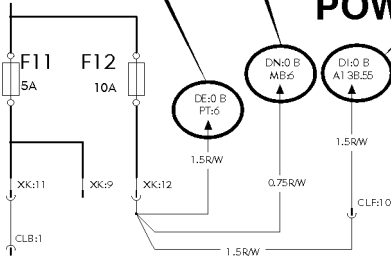
Fuse.



Reference arrow, for diagram BA, coordinates 0 C, component A17, connector PA pin 29.



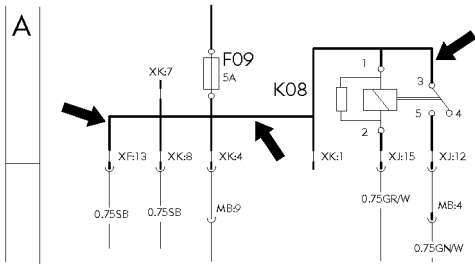
**GEARTRONIC**  
**I-SHIFT**  
**POWERTRONIC**



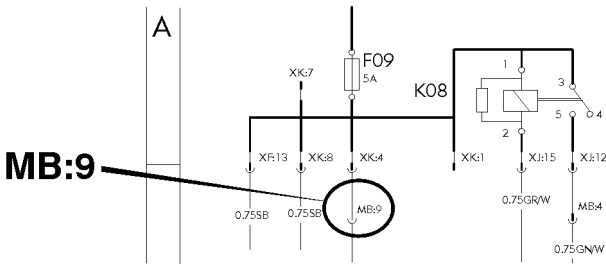
The maximum of variants are drawn, think about that all wires and components are not standard for all markets or vehicle models.

Switch.

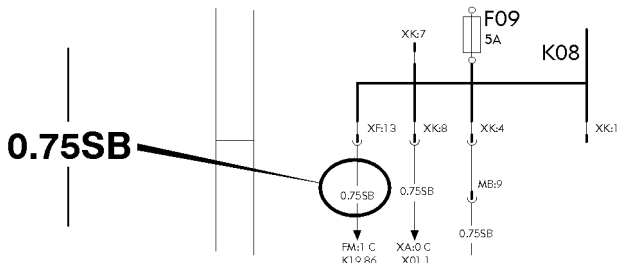
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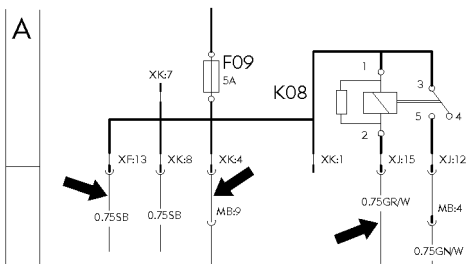
Conductor on circuit card.



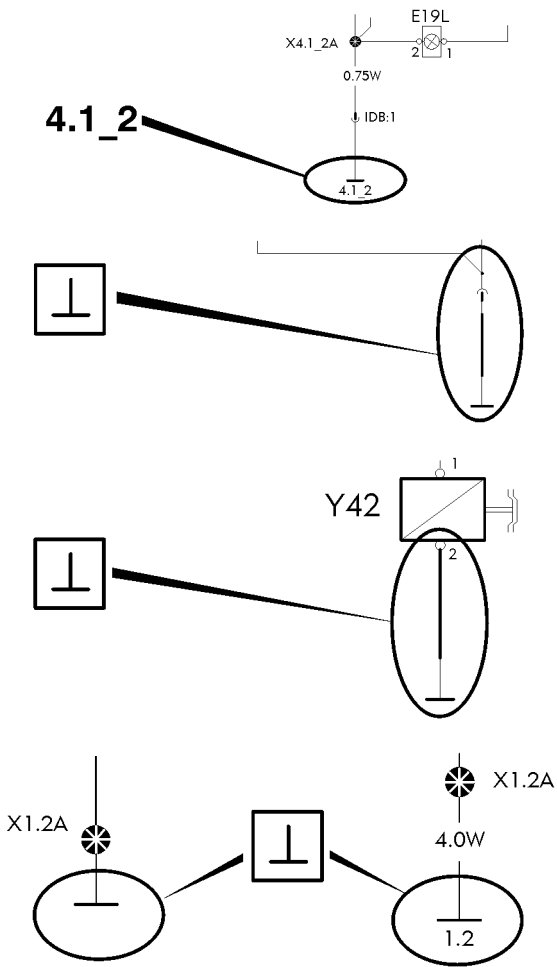
Connector MB terminal 9.



Wire area and colour.



Thin lines, wires.



Earth connection point 4, earth connection 1 and wire 2.

Earth connection to circuit card.

Earth connection without wire.

Same splice can be drawn on several diagrams. The wire from the splice to the earth connection point will only be drawn and coded on one diagram. On the other diagrams will only the earth connection point be written besides the splice.

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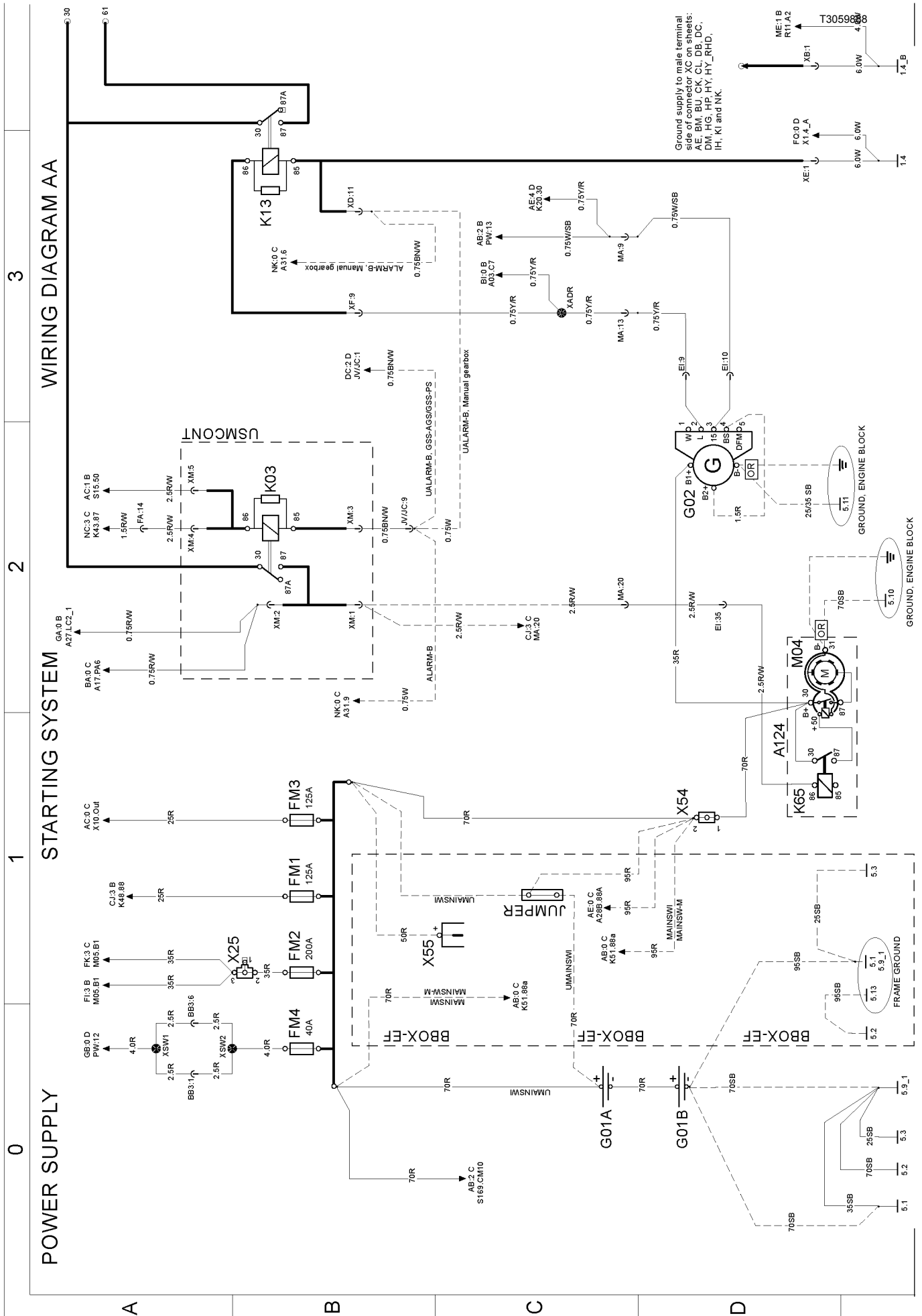
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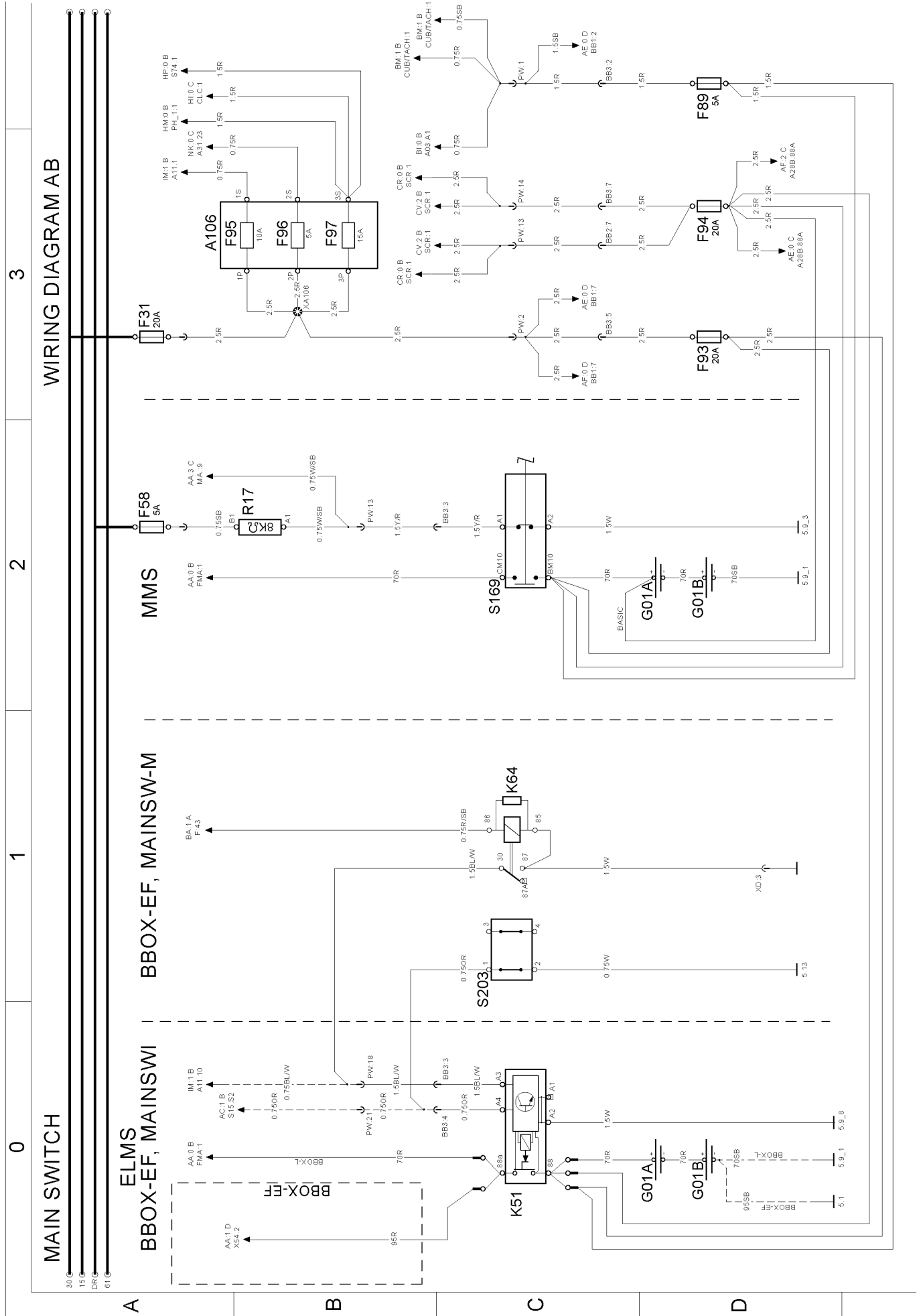


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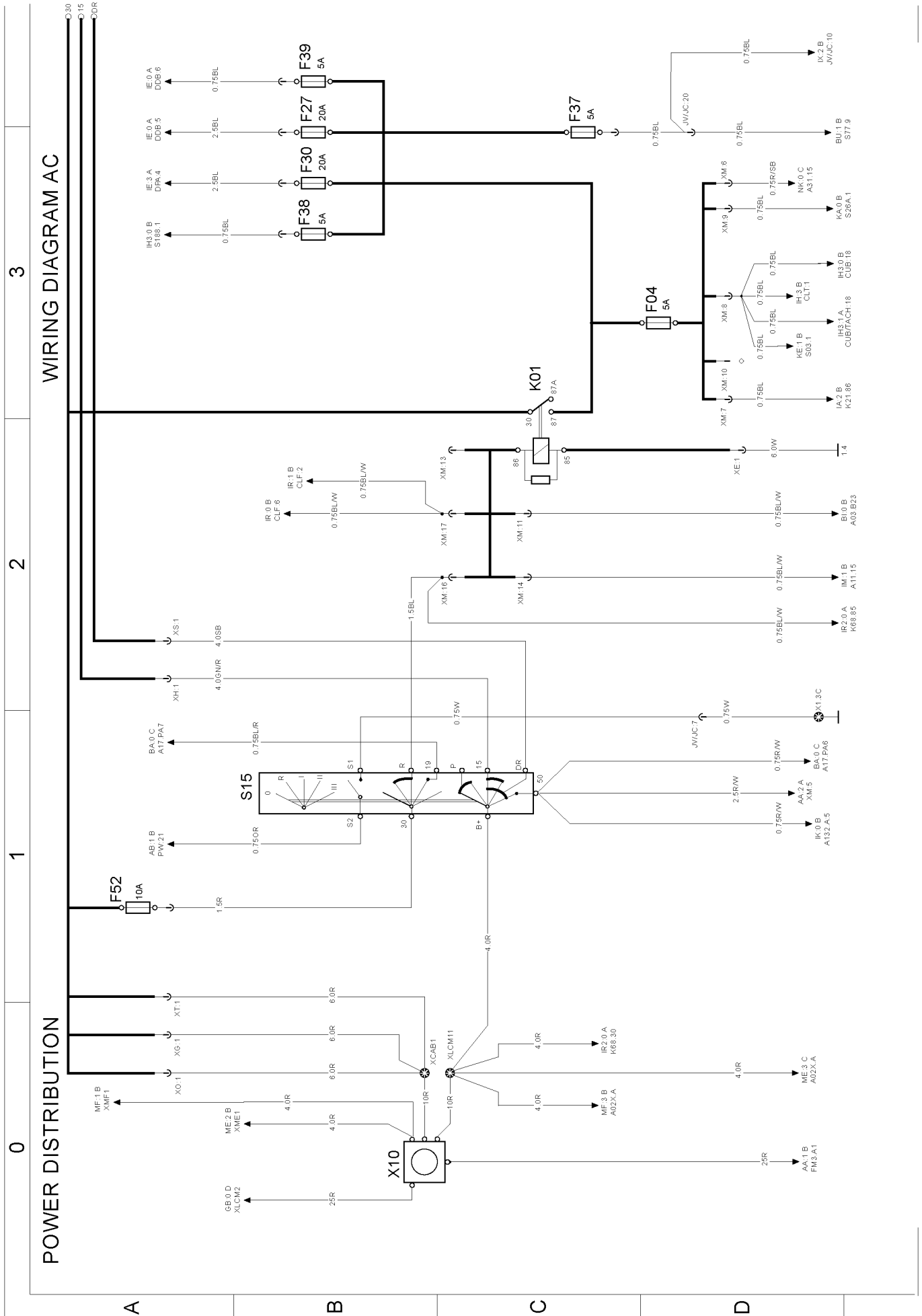
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# Component wiring diagrams

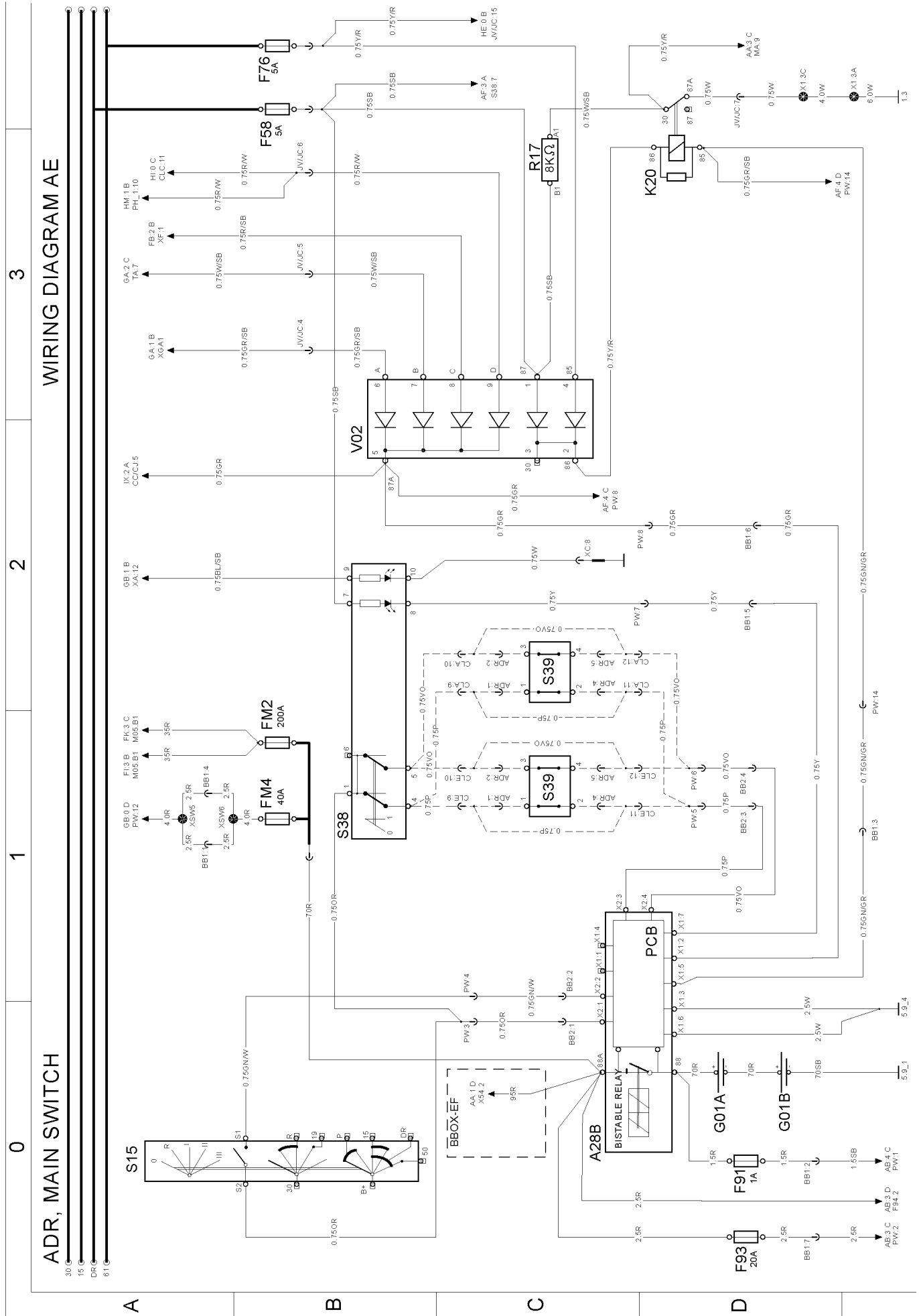




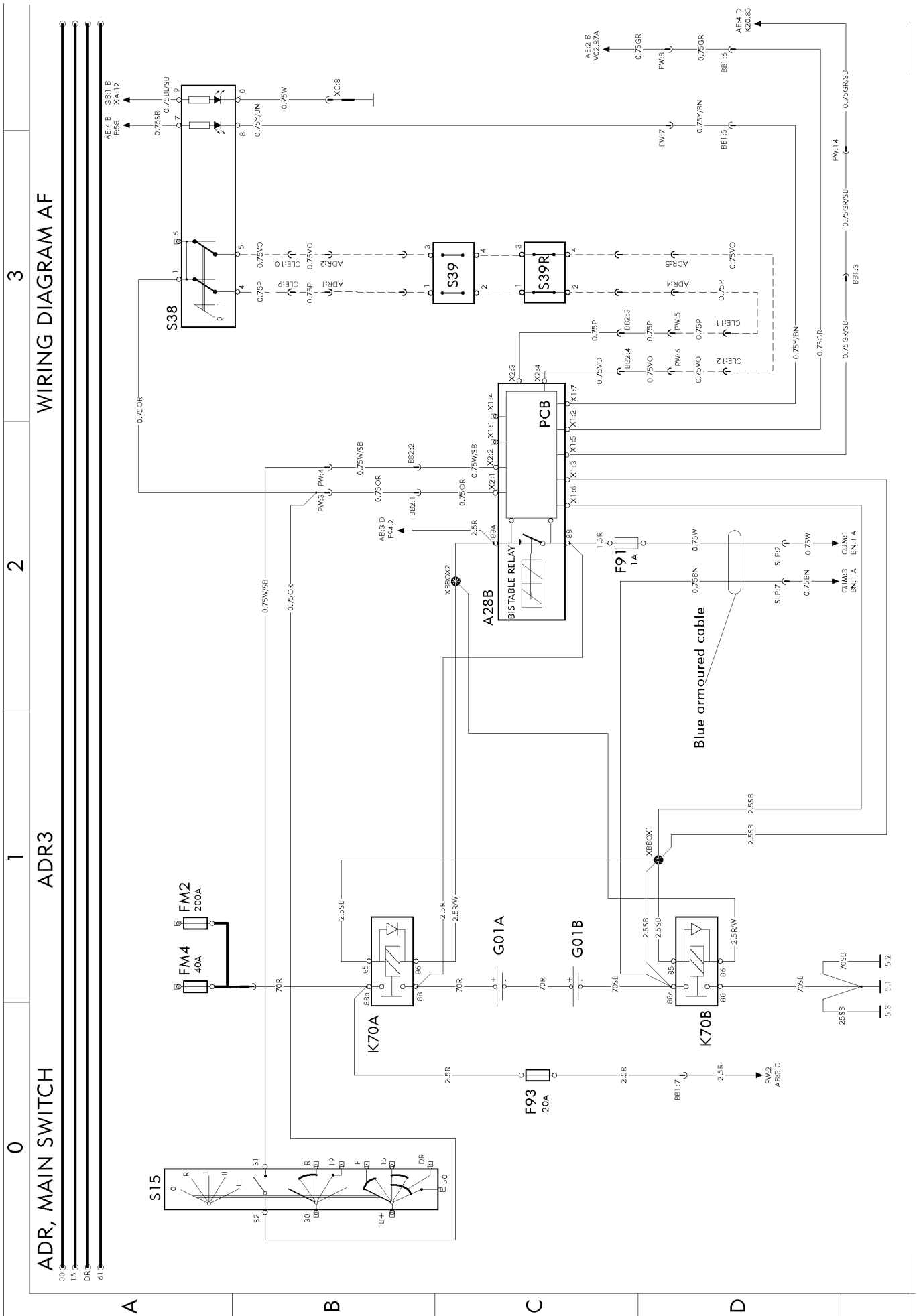
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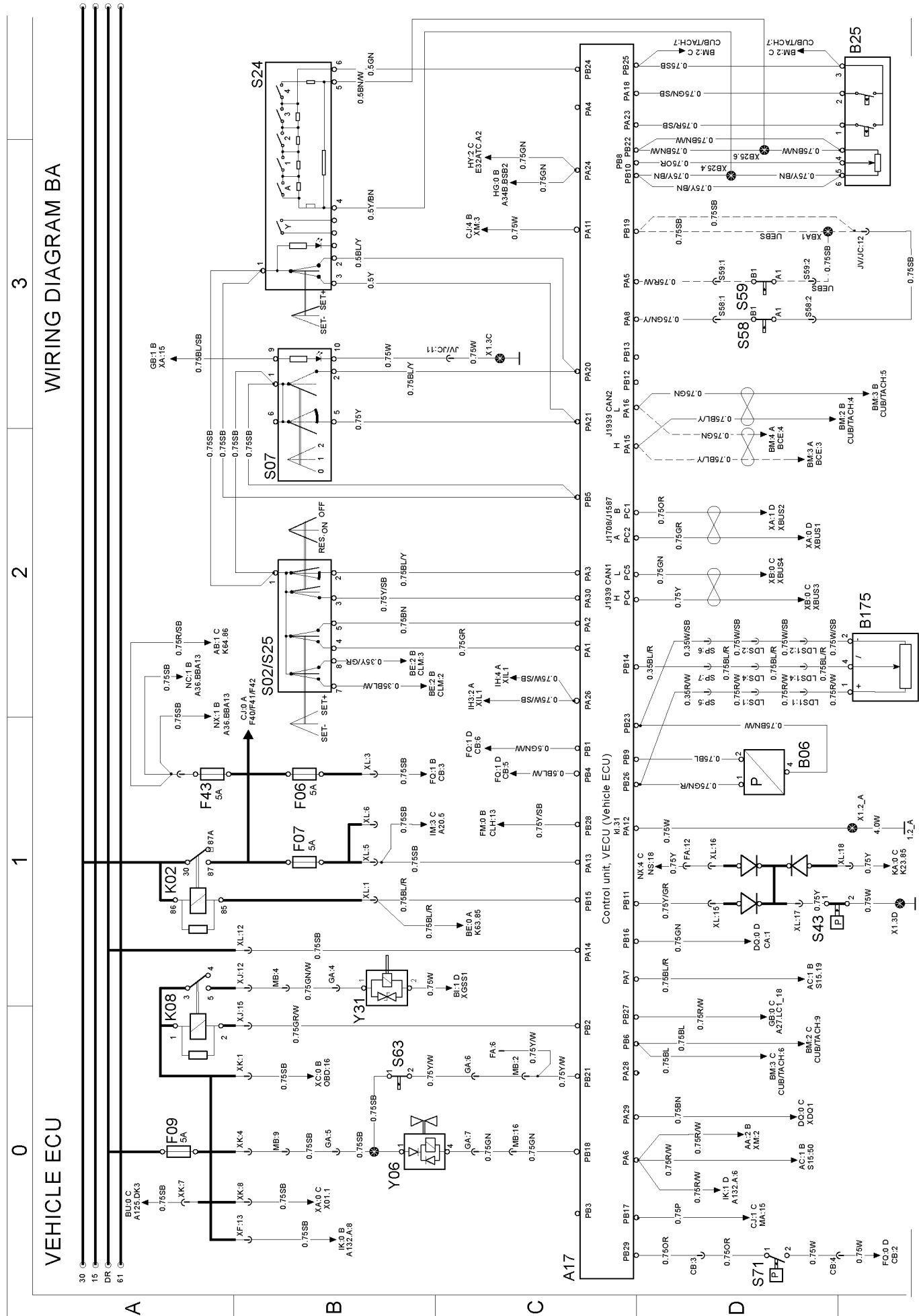


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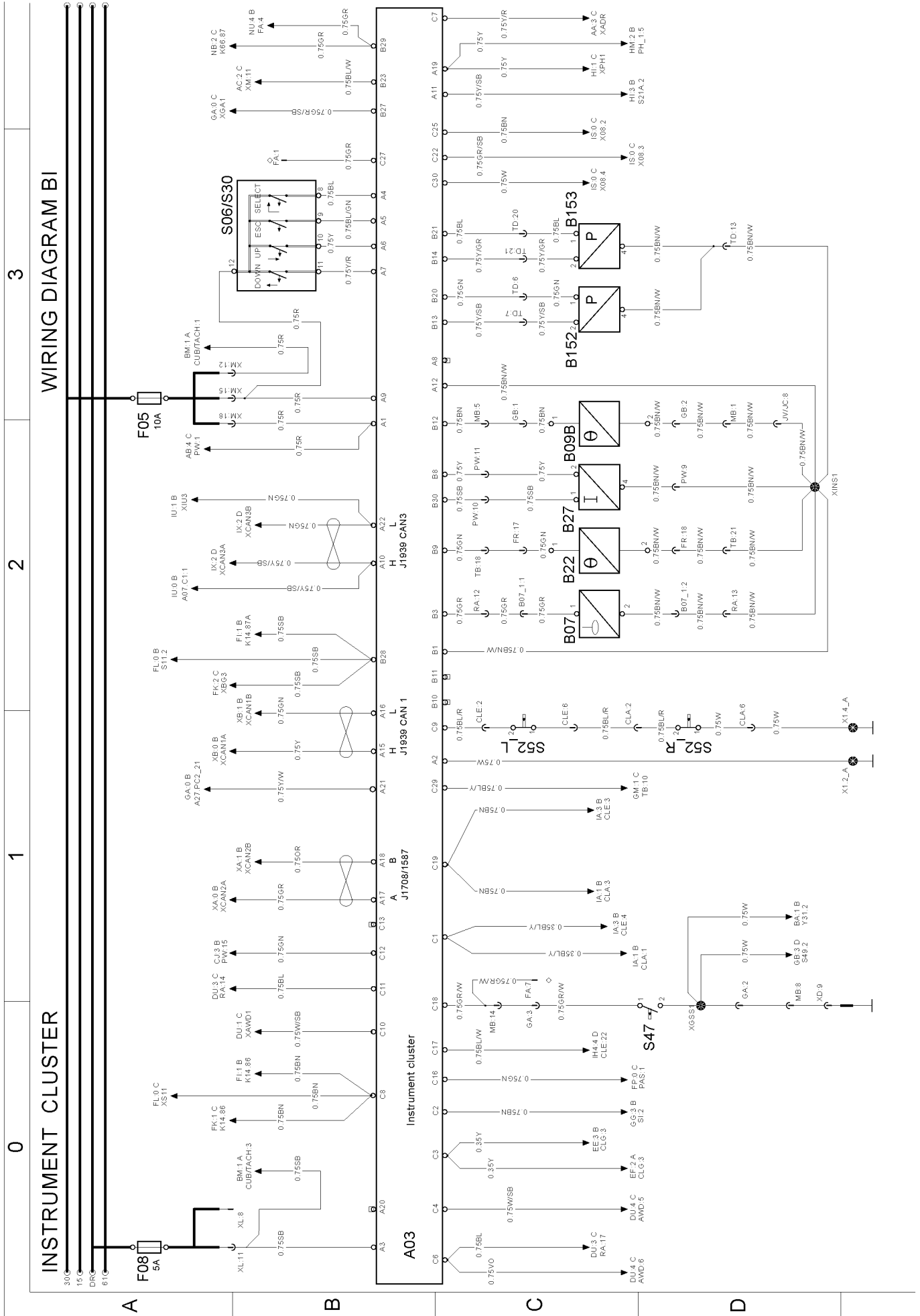


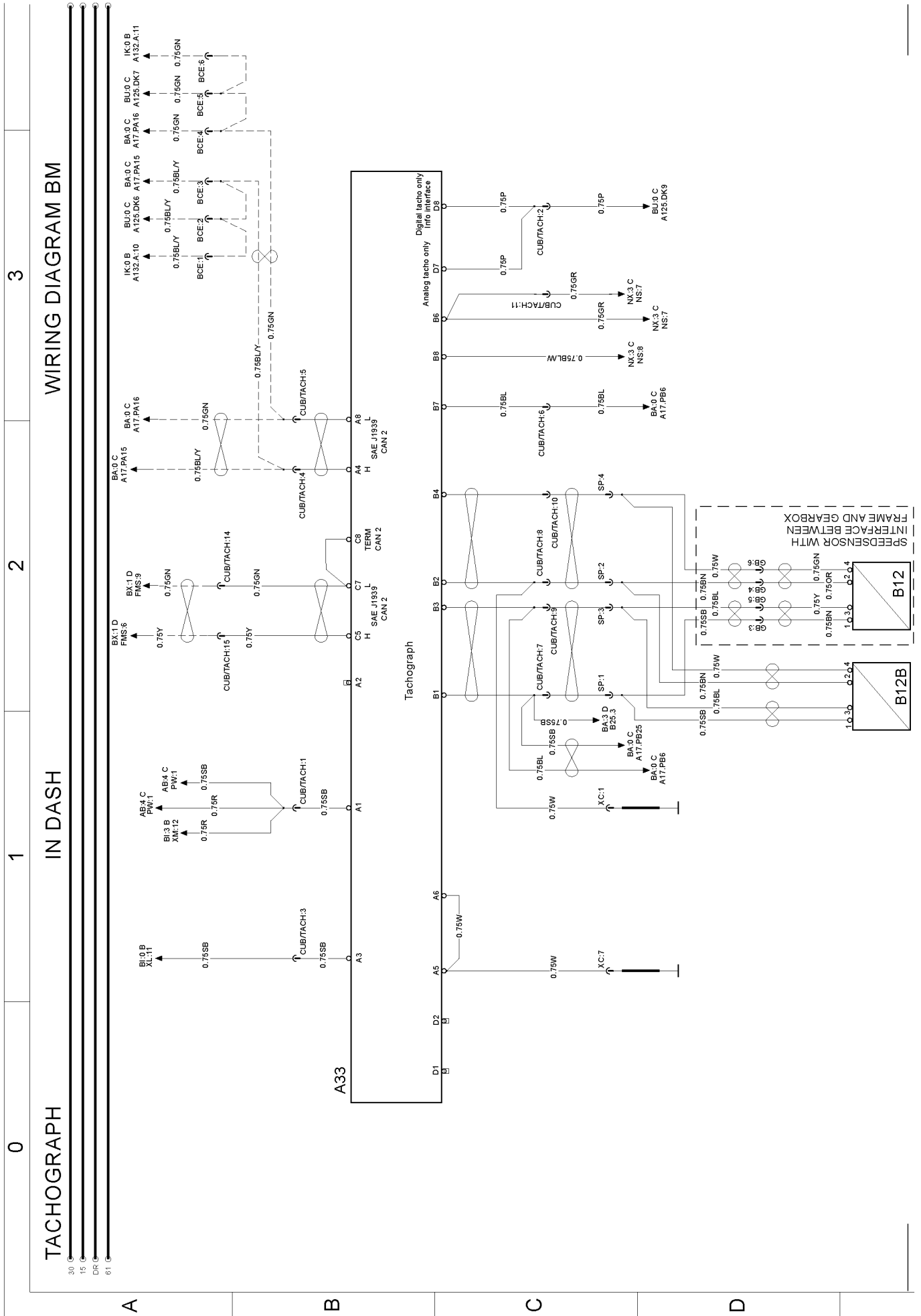


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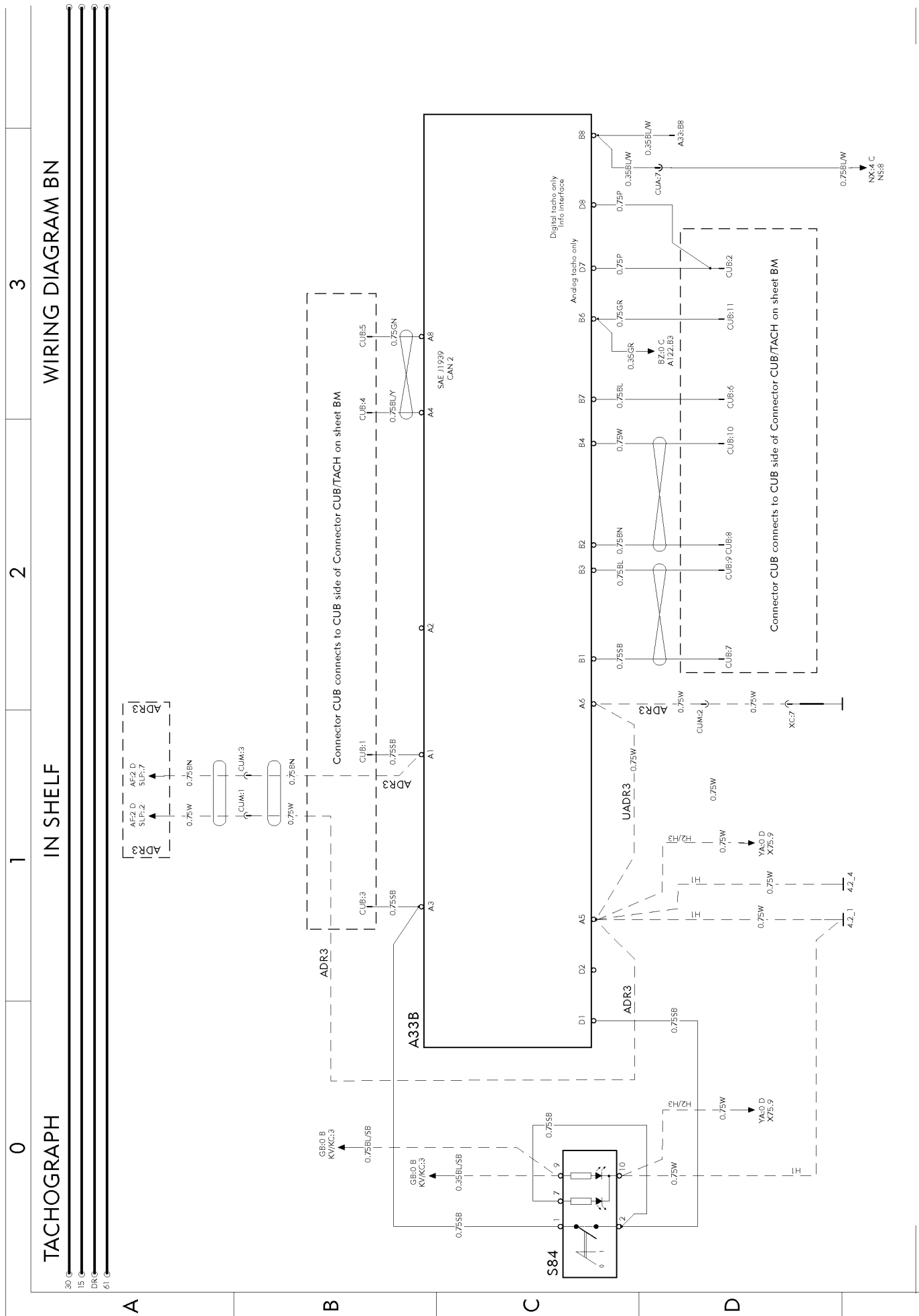


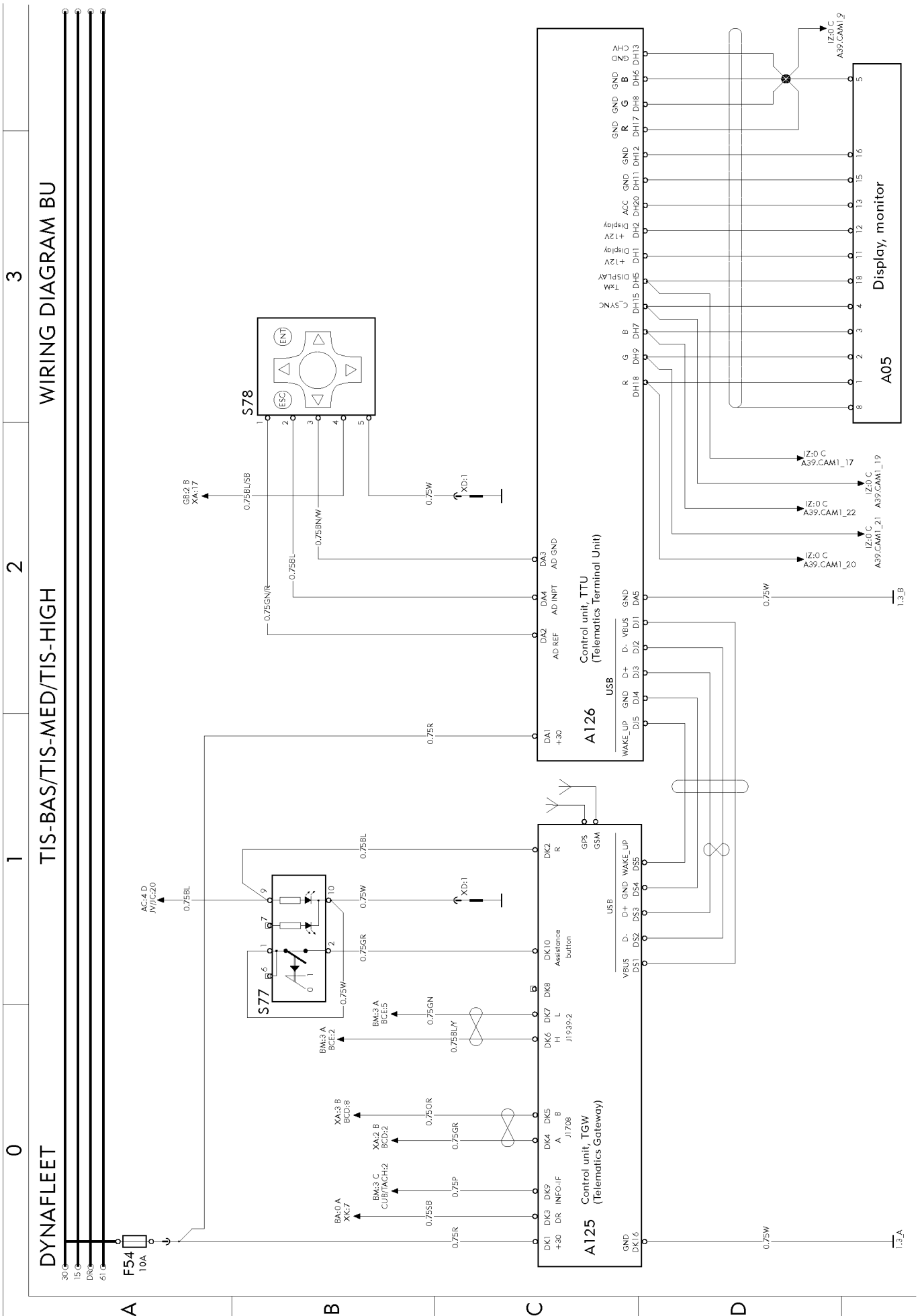




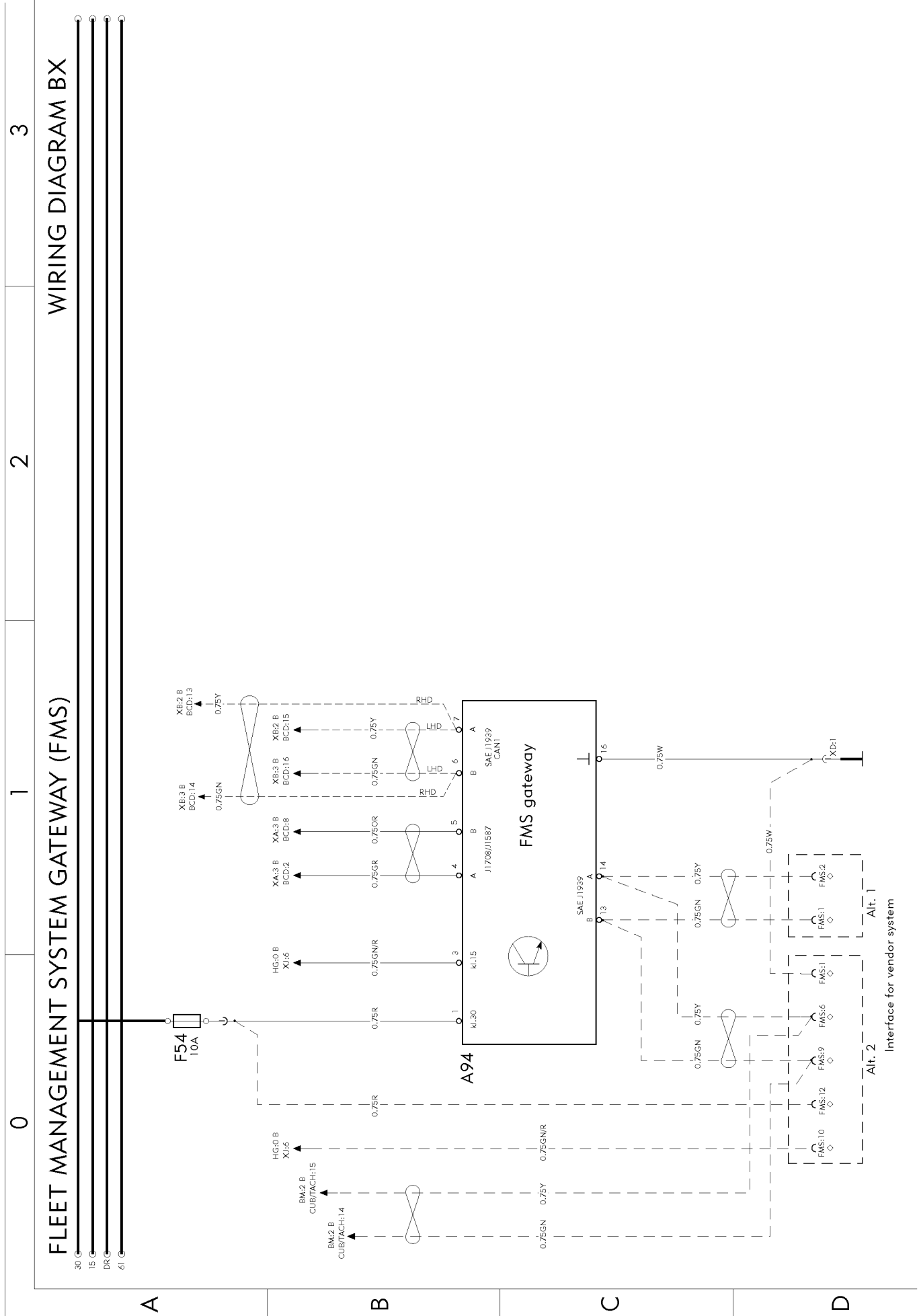


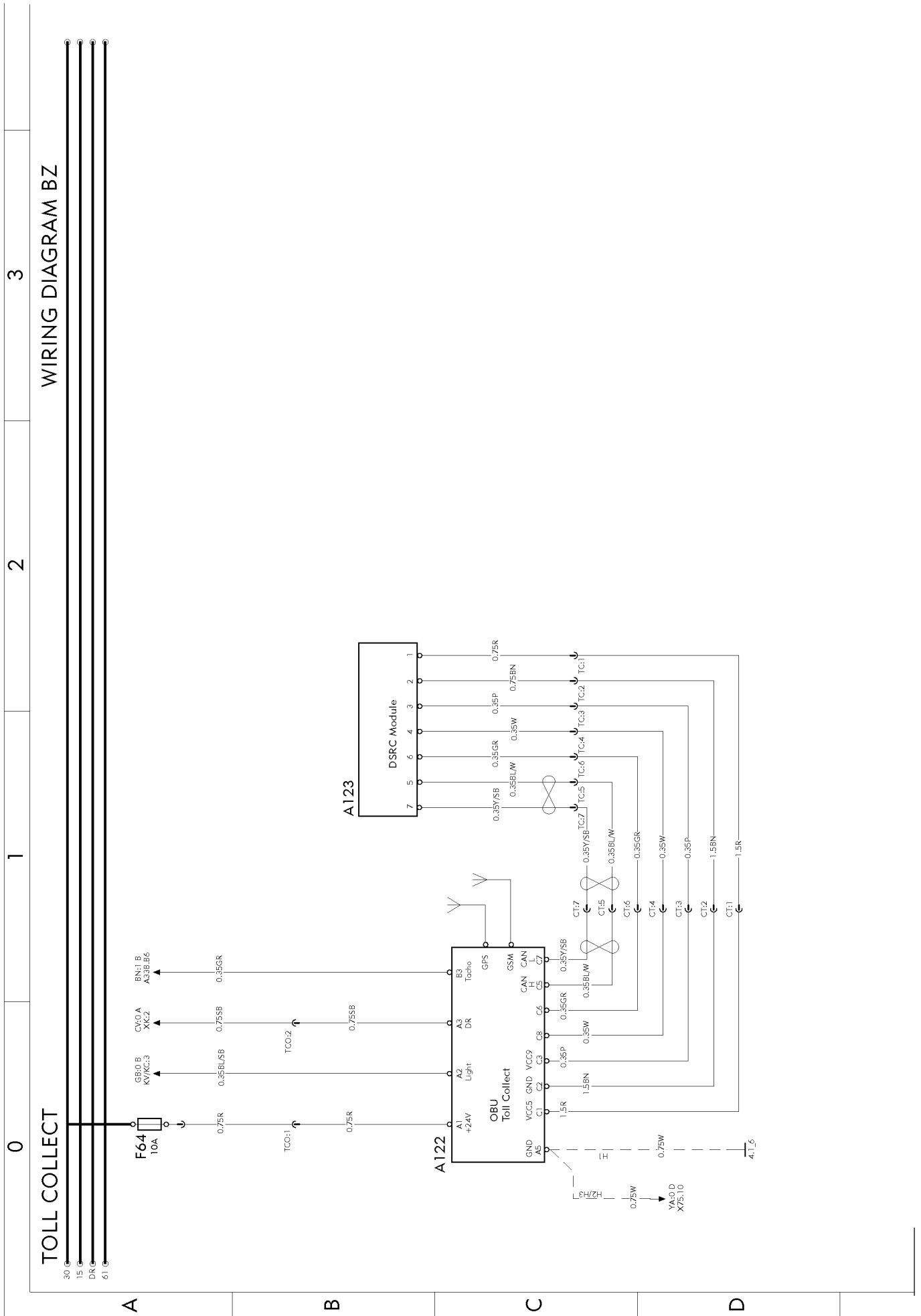
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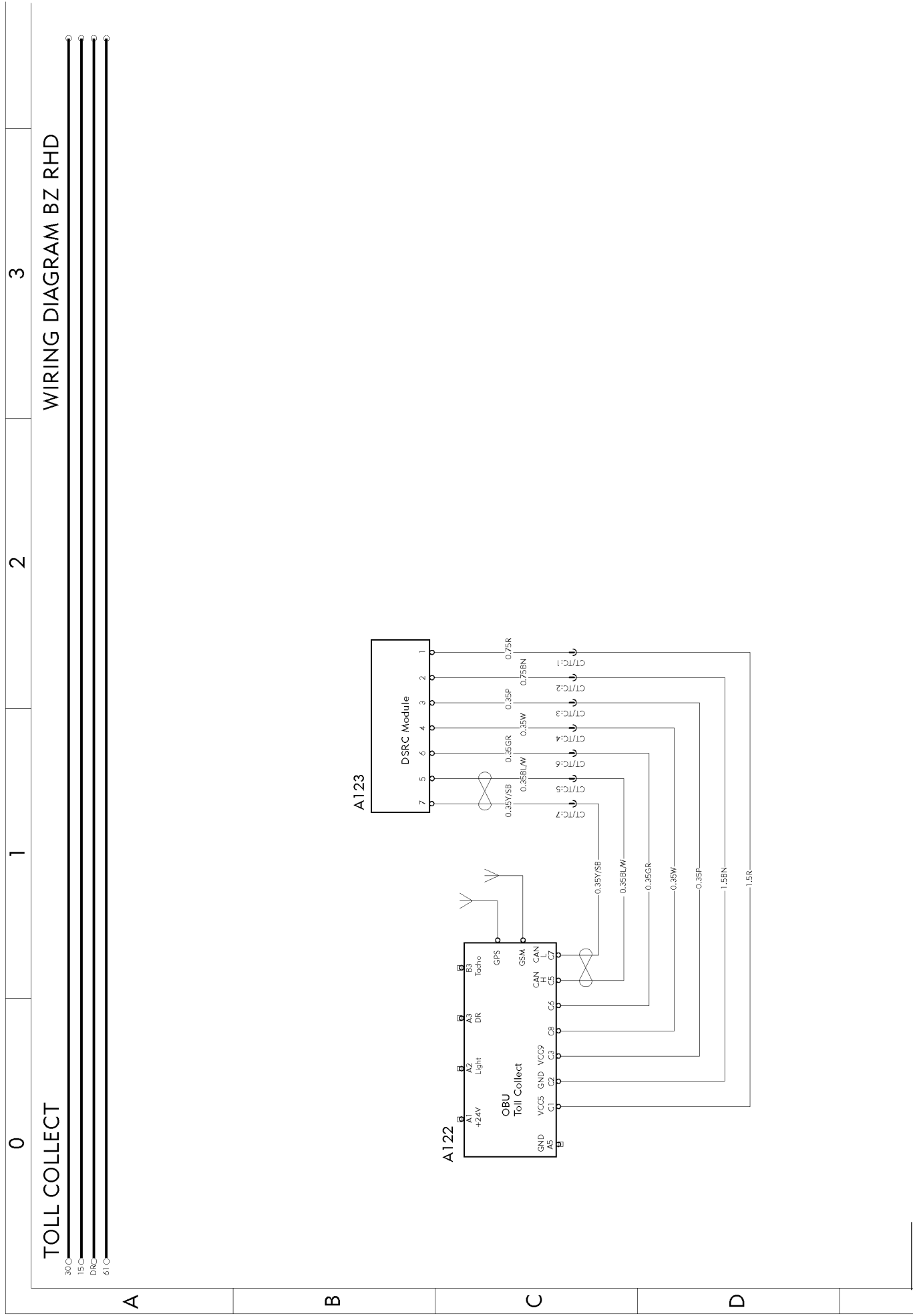




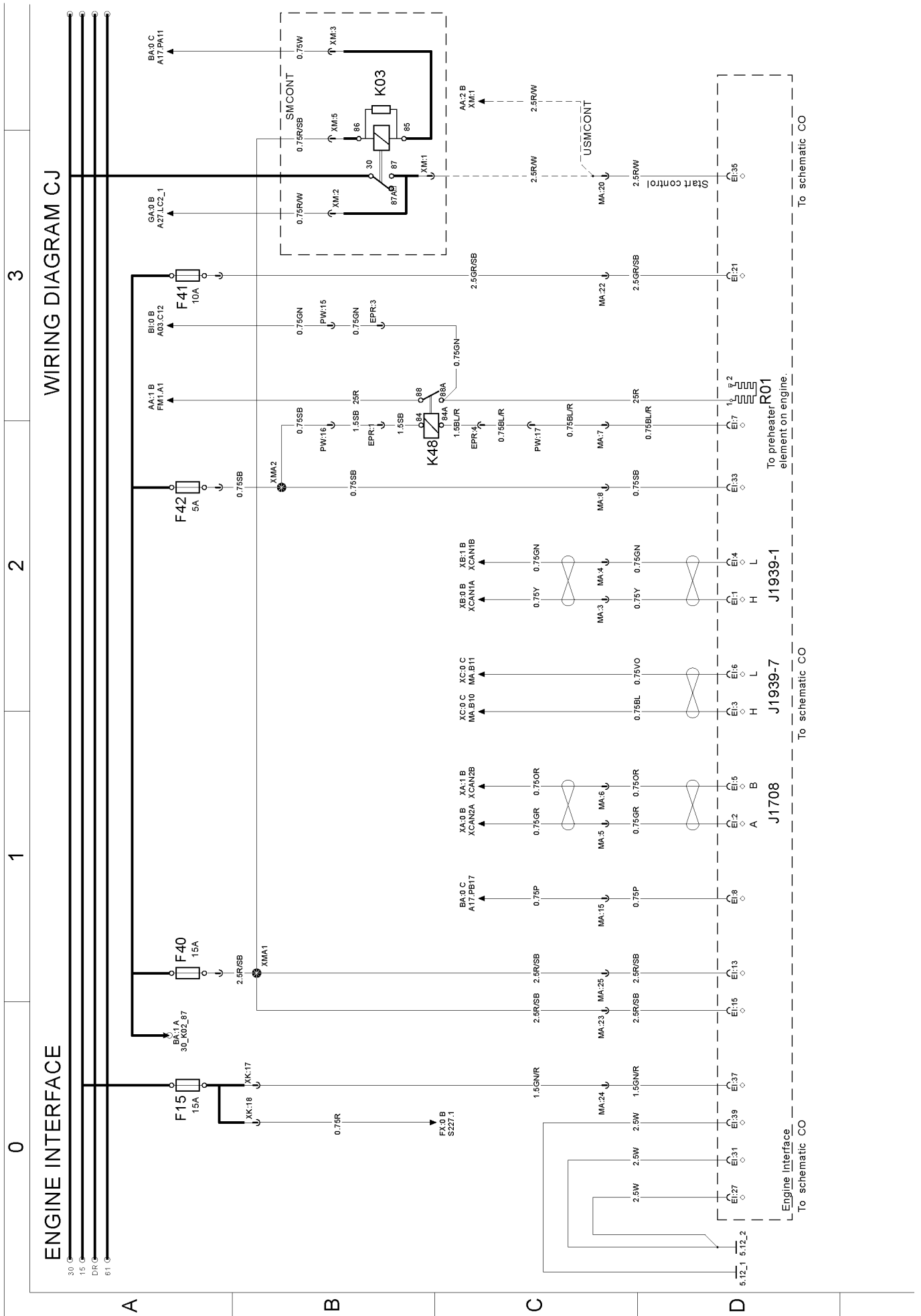
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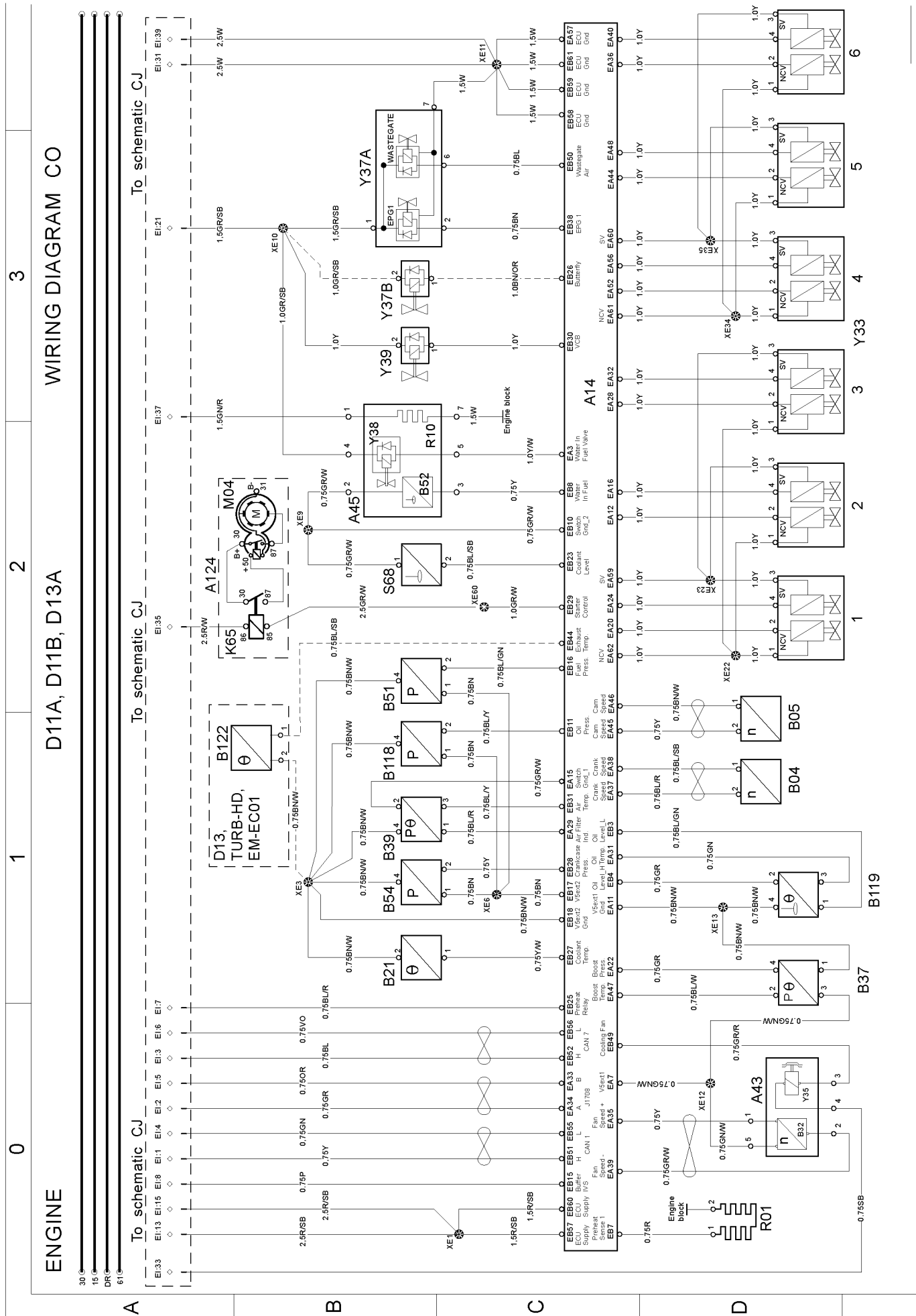


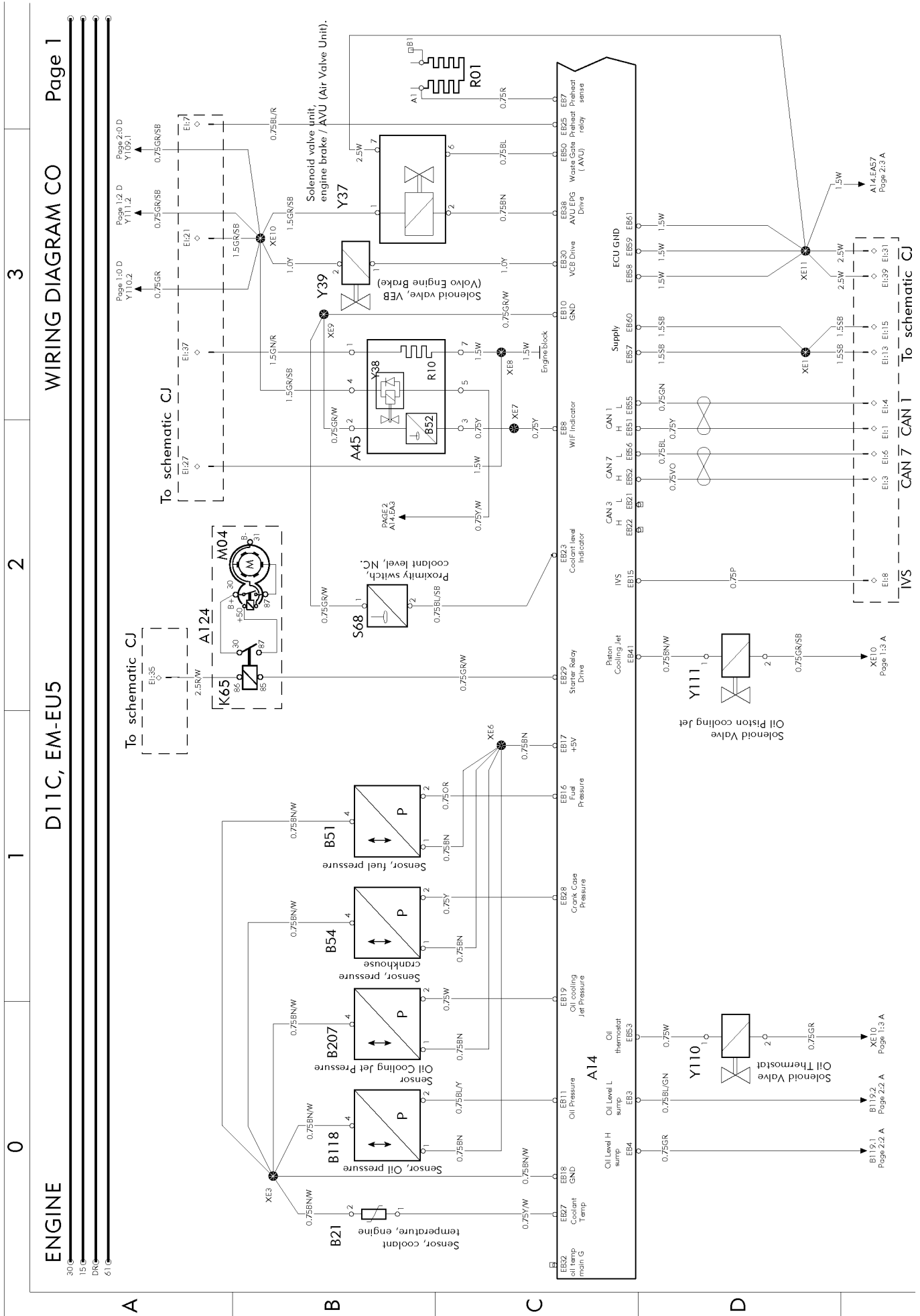


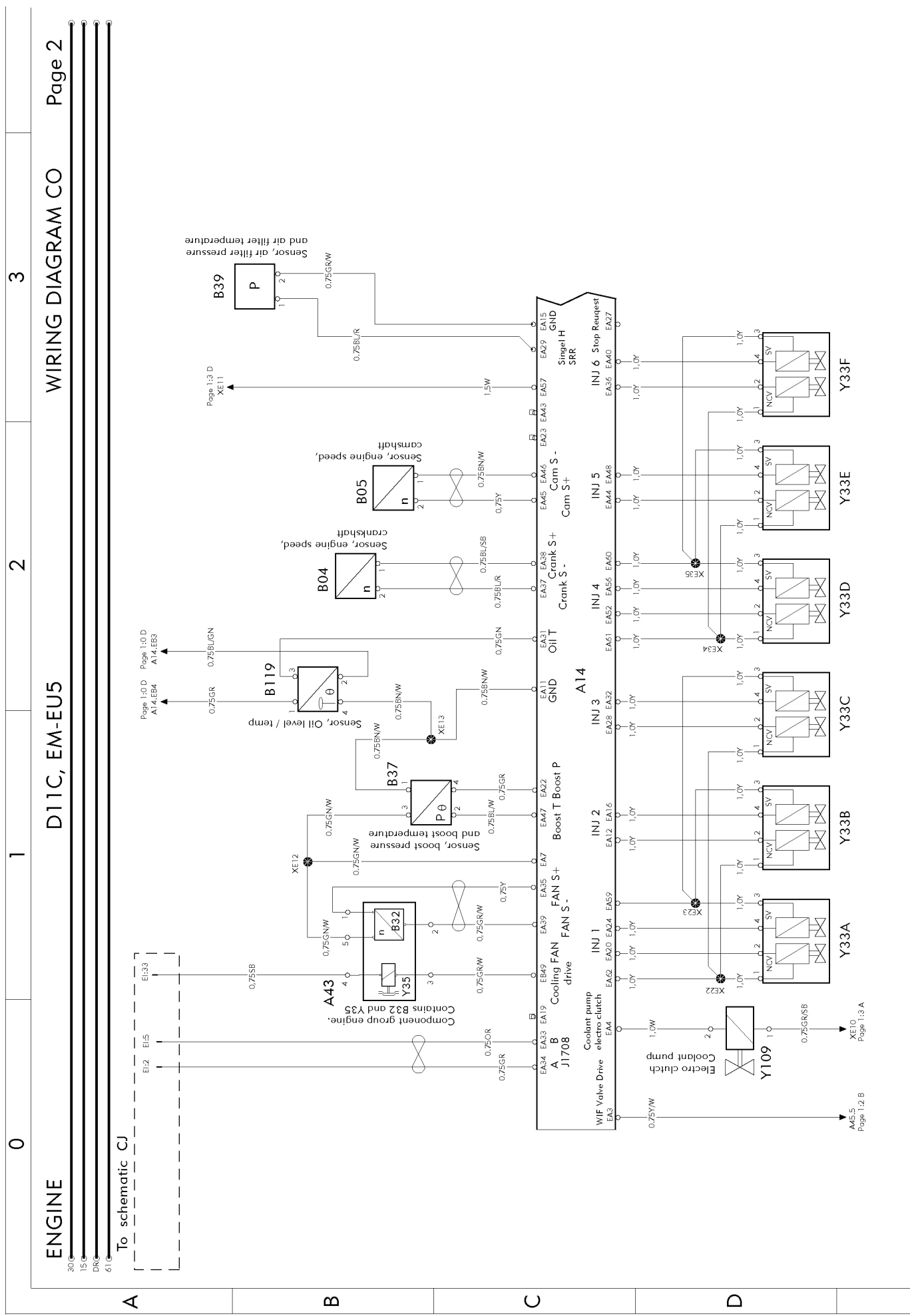












To schematic CJ

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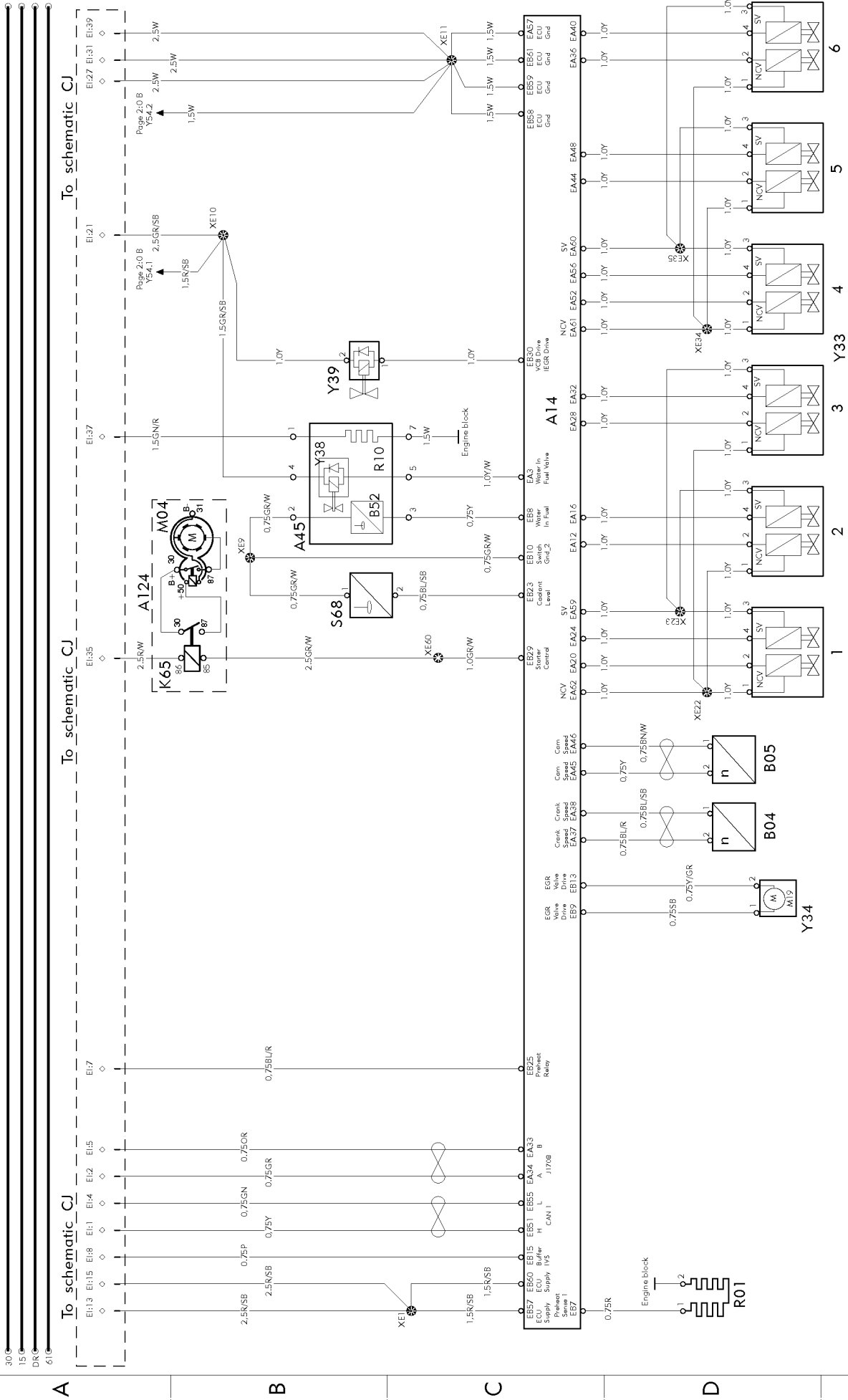
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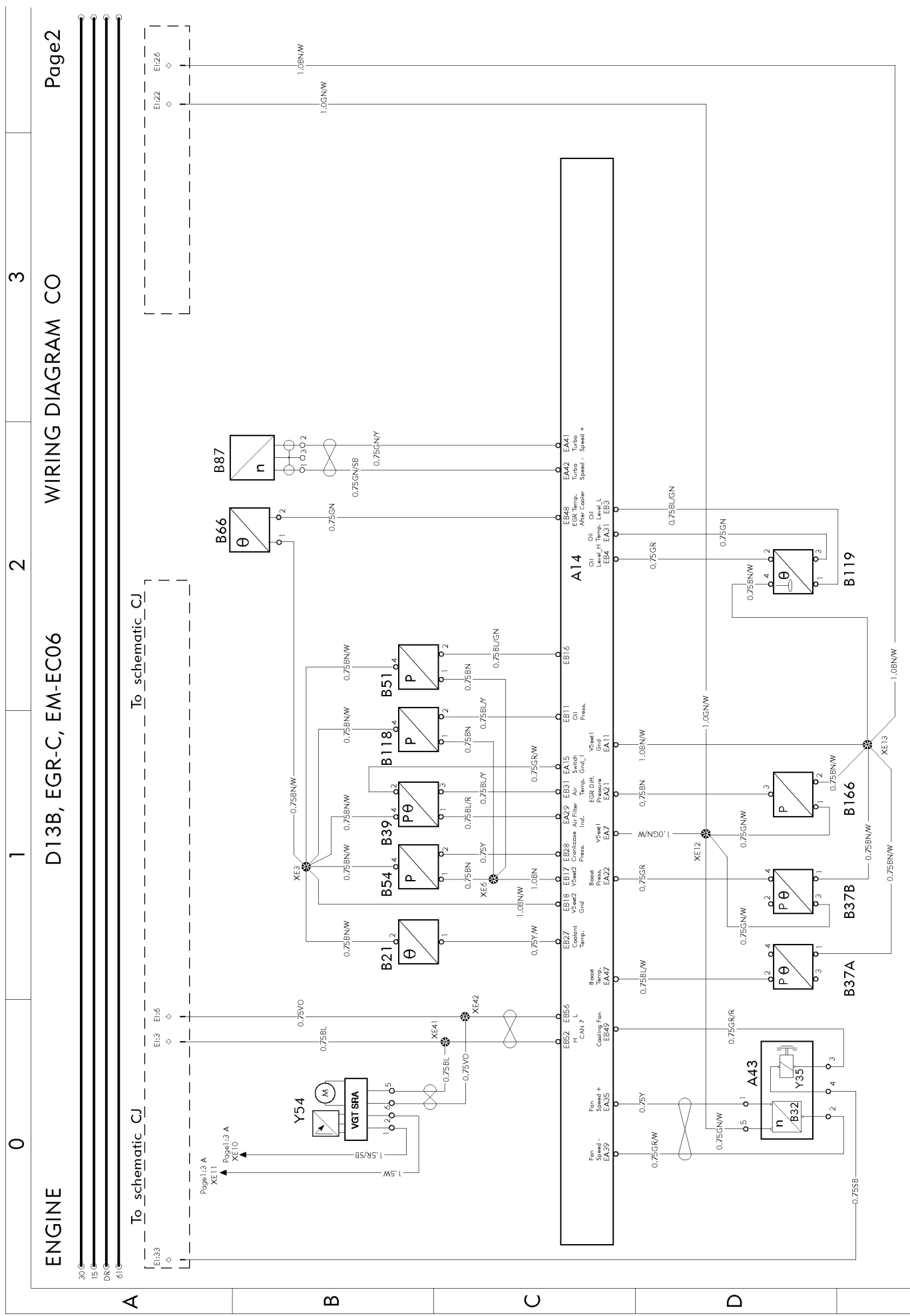
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ENGINE

D13B, EGR-C, EM-EC06

WIRING DIAGRAM CO





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DK  
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To schematic\_CJ  
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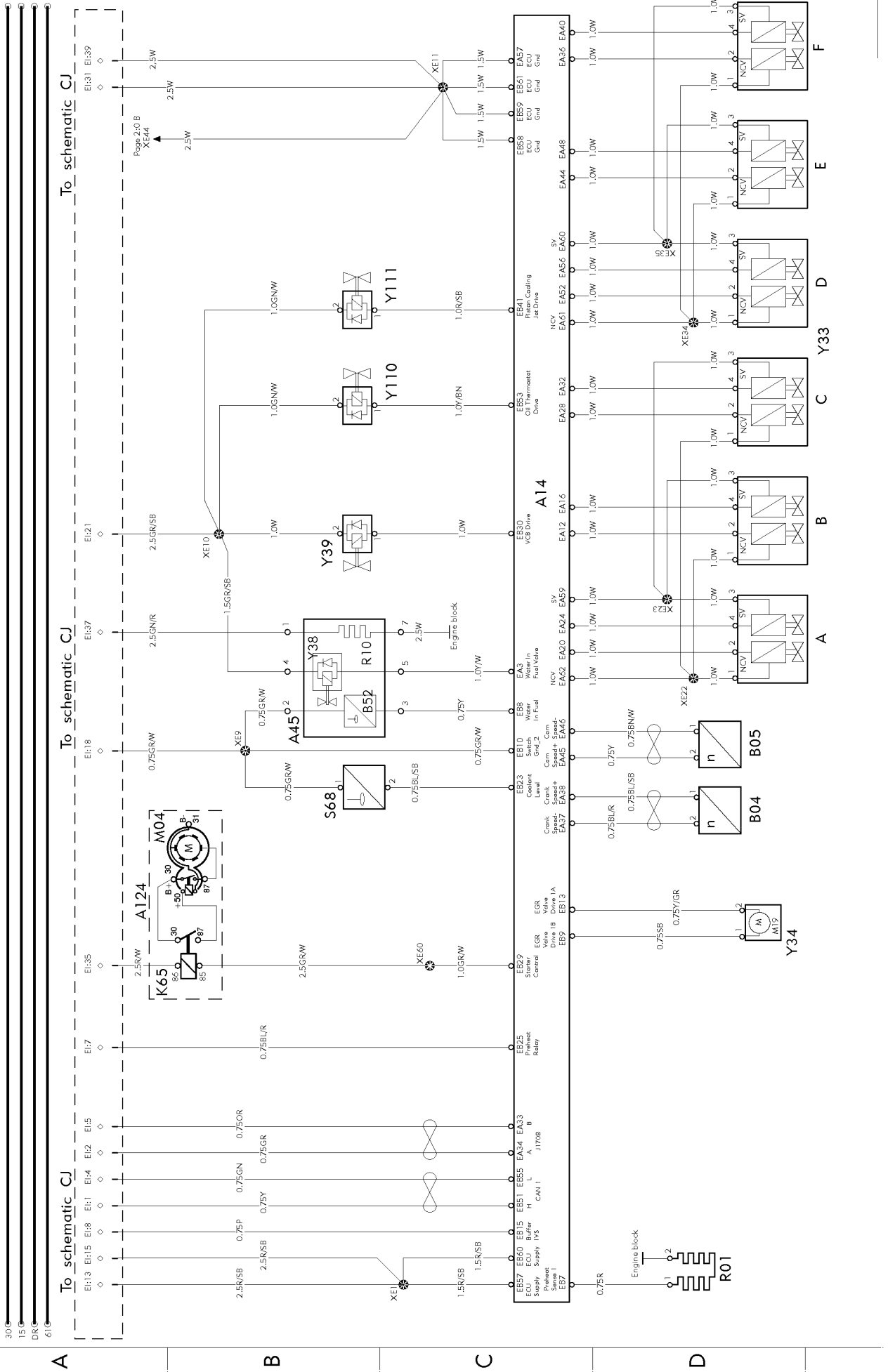
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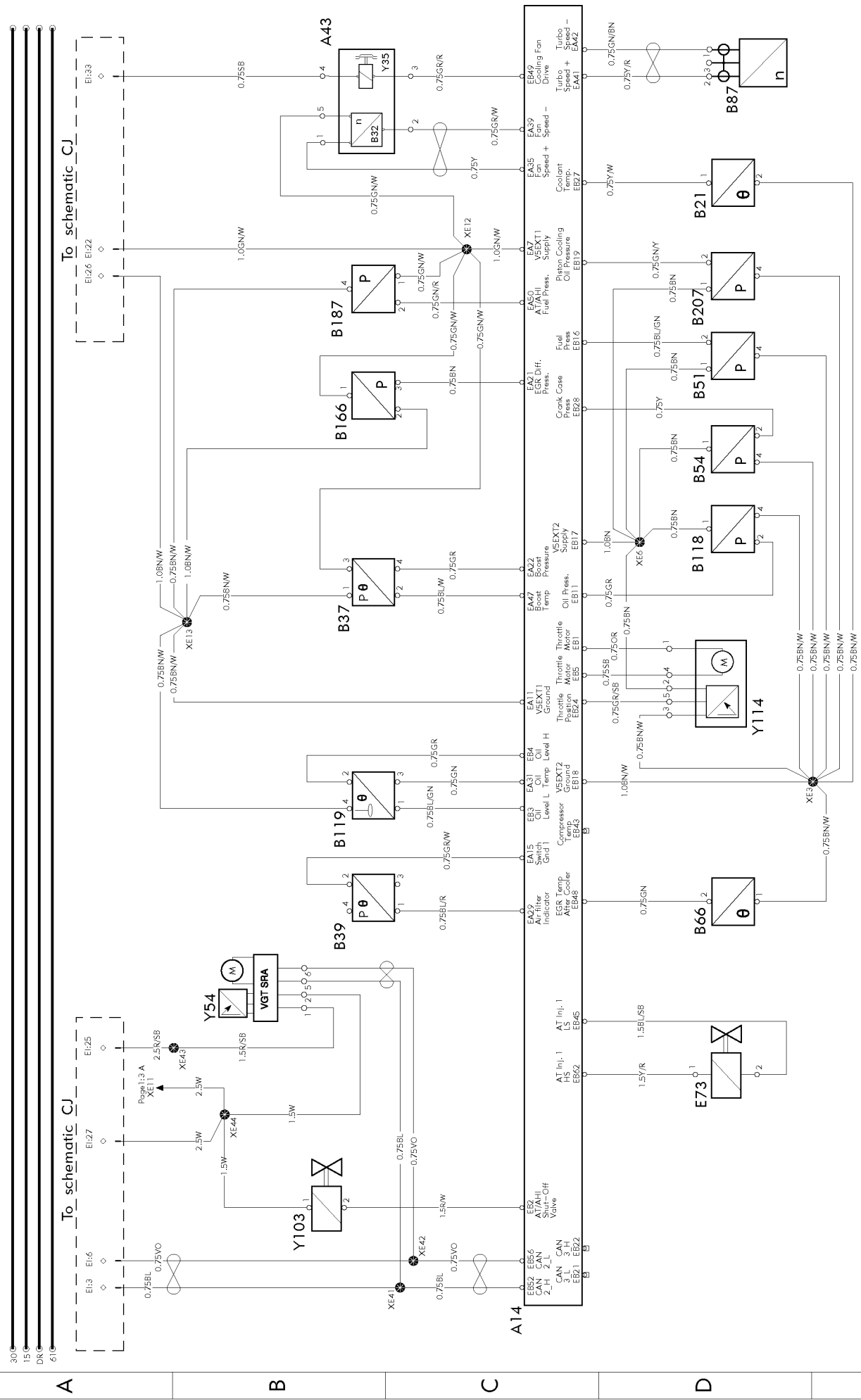
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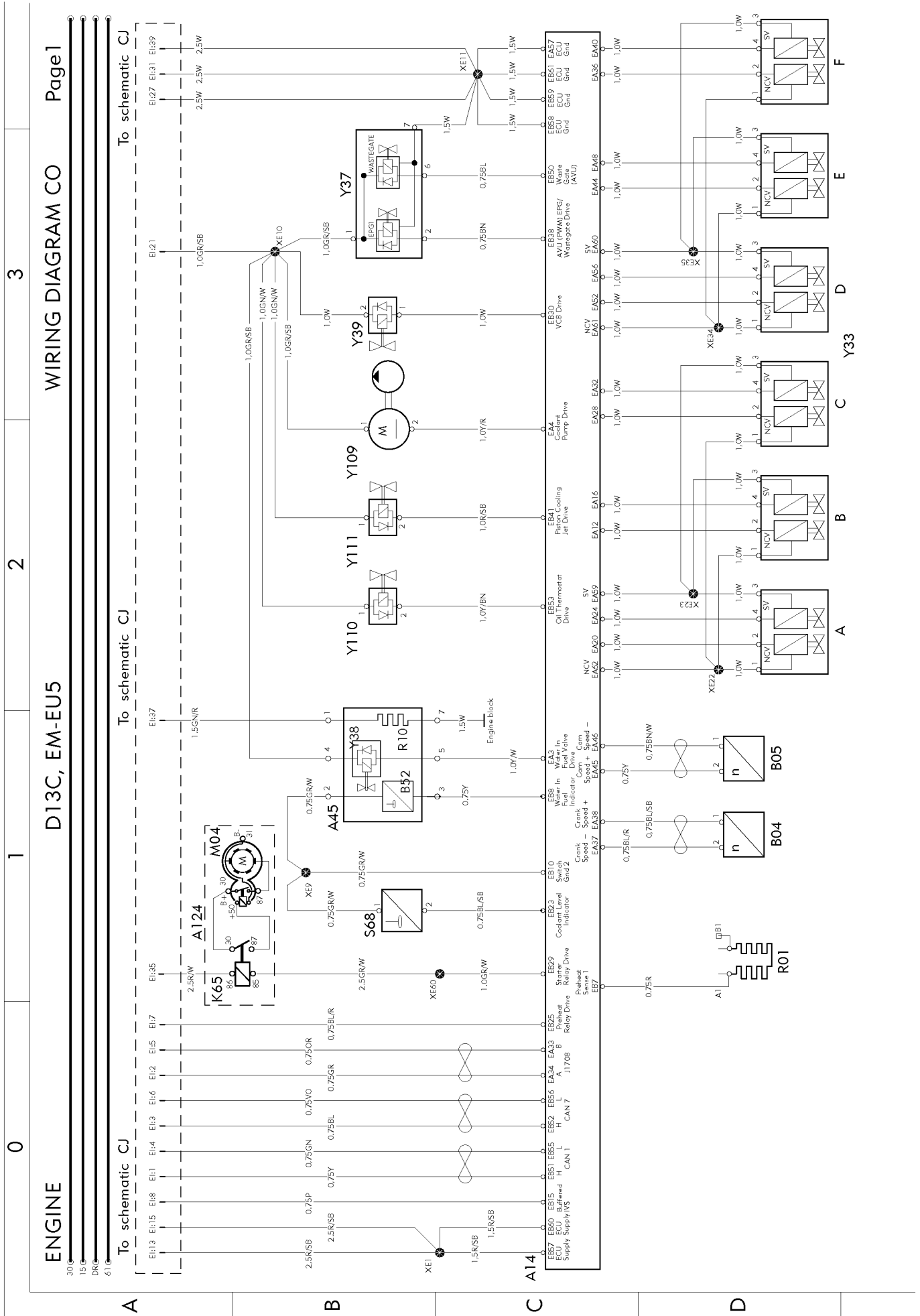
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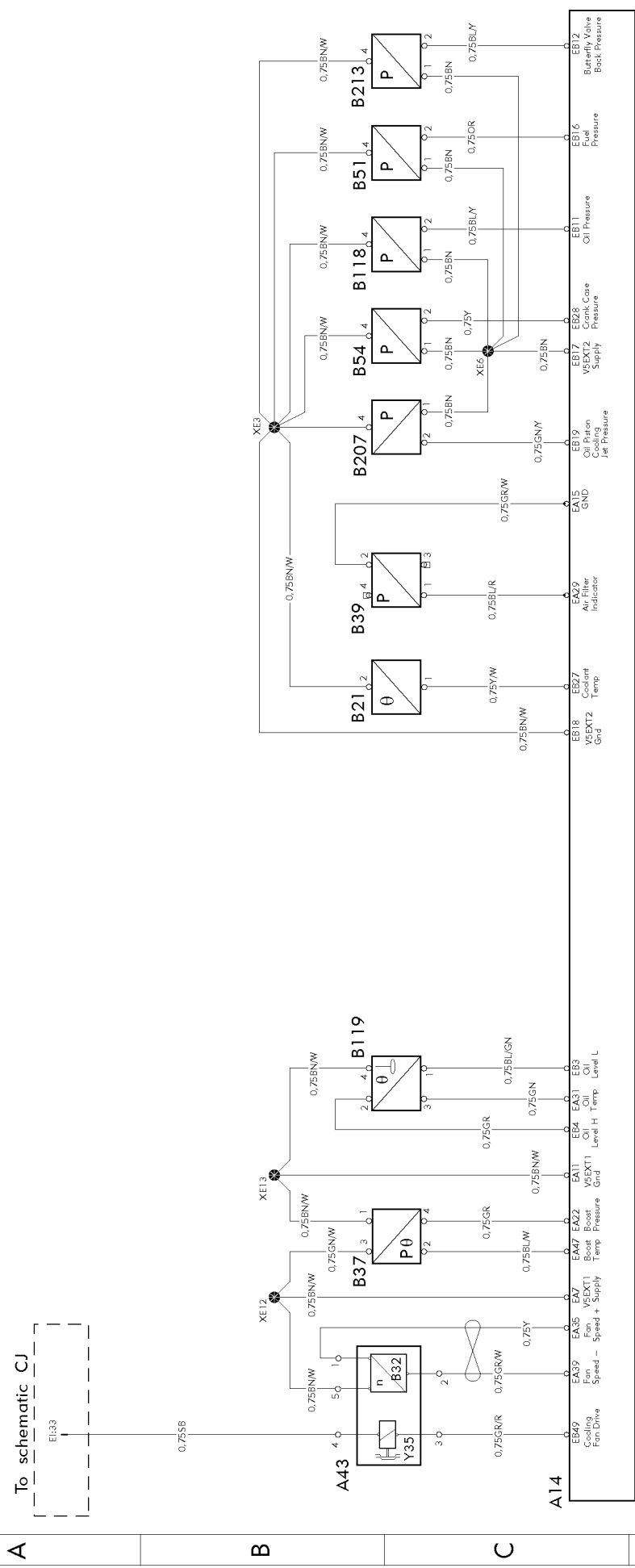




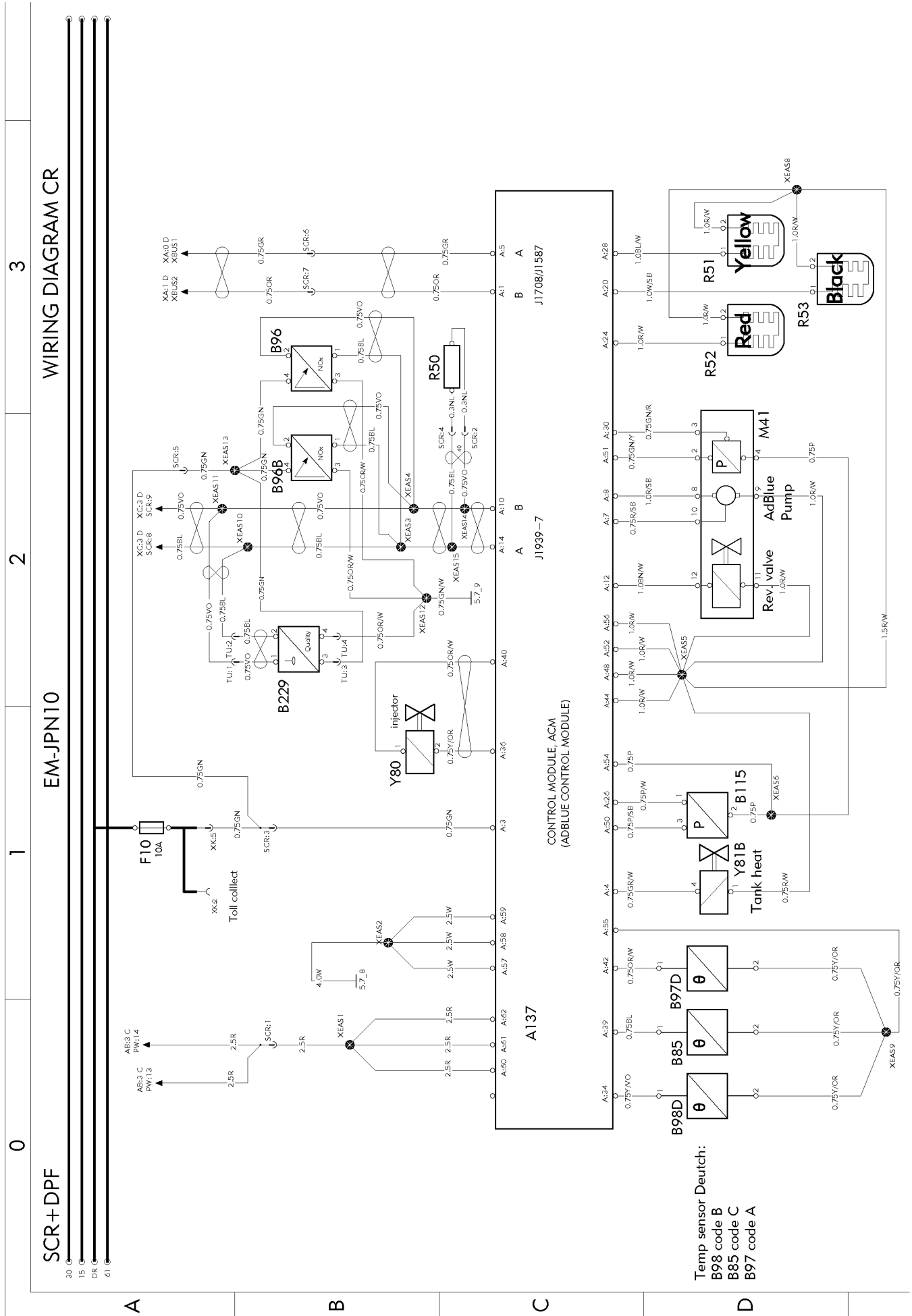




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WIRING DIAGRAM CR

EM-JPN10

SCR+DPF

3

2

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A

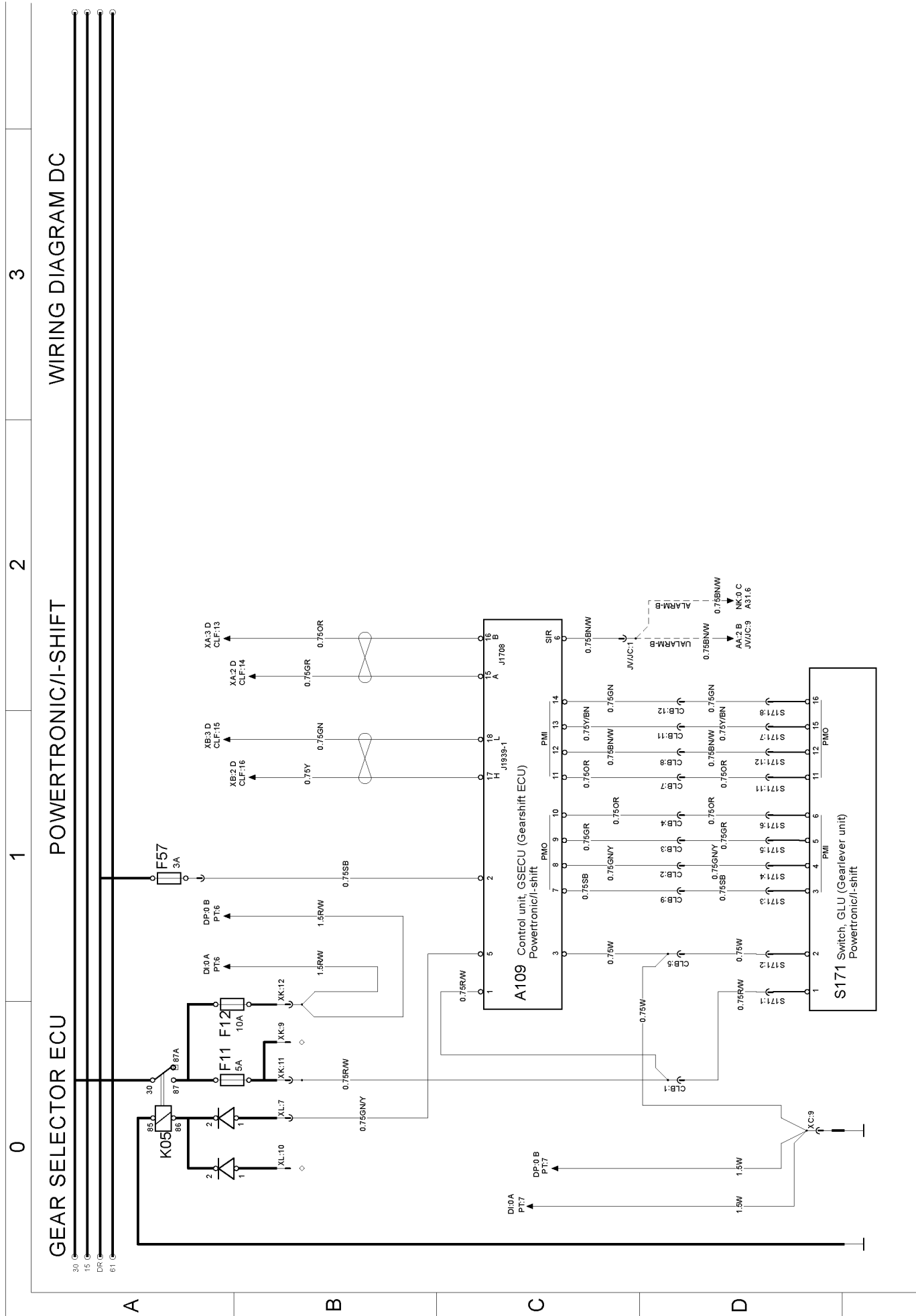
B

C

D

Temp sensor Deutch:  
 B98 code B  
 B85 code C  
 B97 code A





GEAR SELECTOR ECU

POWERTRONIC/I-SHIFT

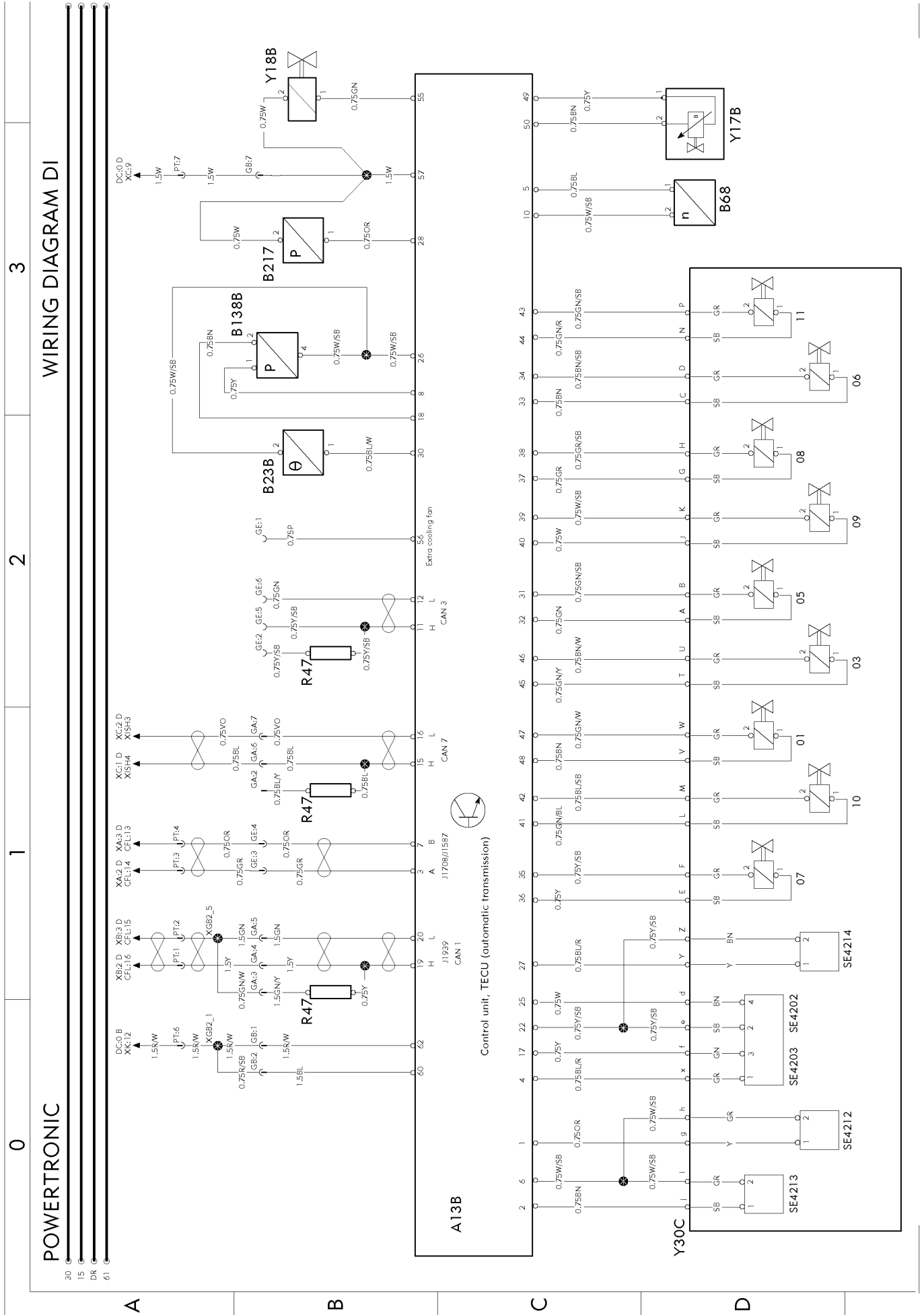
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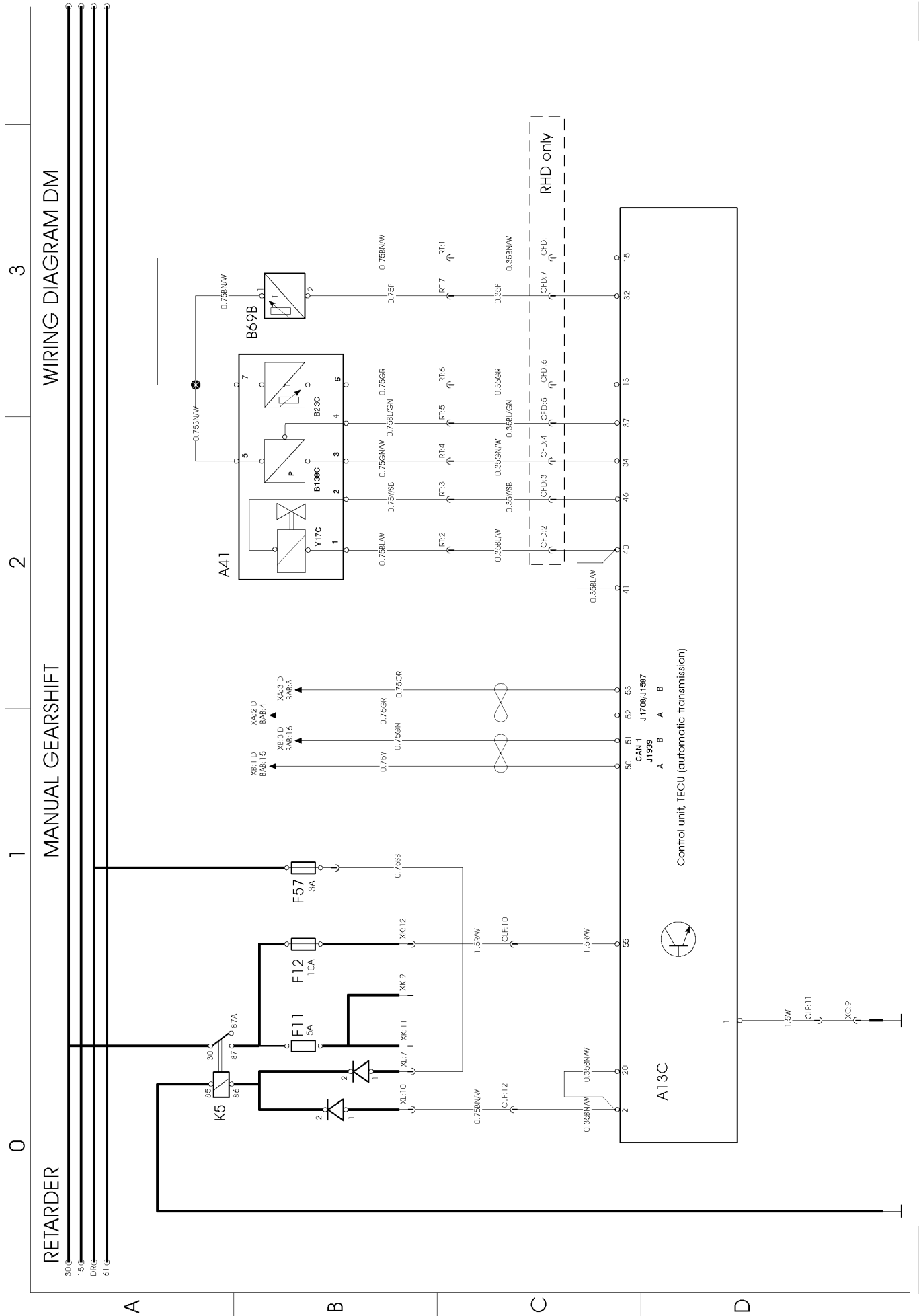
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1

2

3







I-SHIFT  
WIRING DIAGRAM DP

3

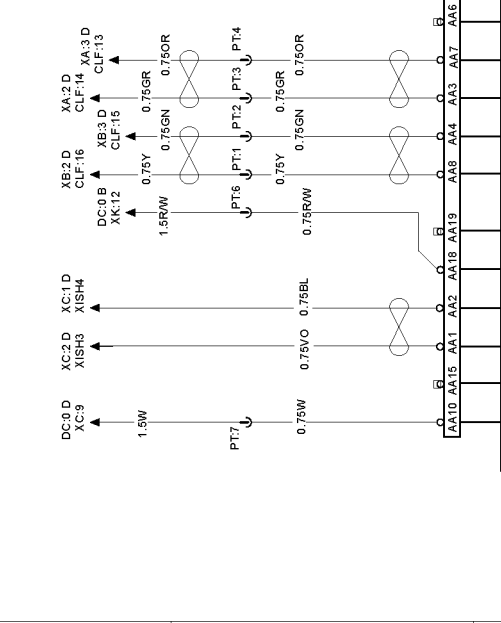
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1

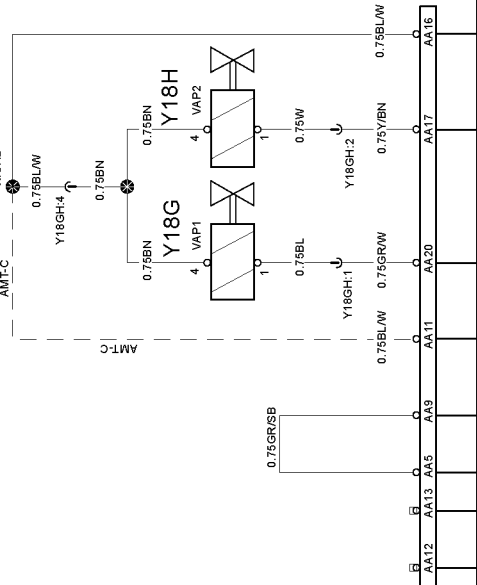
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A



B

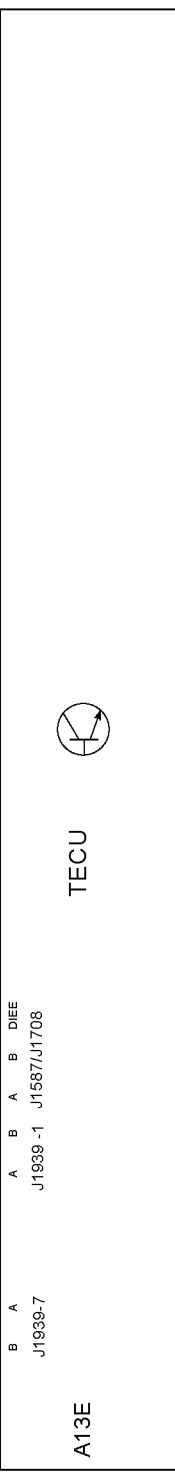


TECU

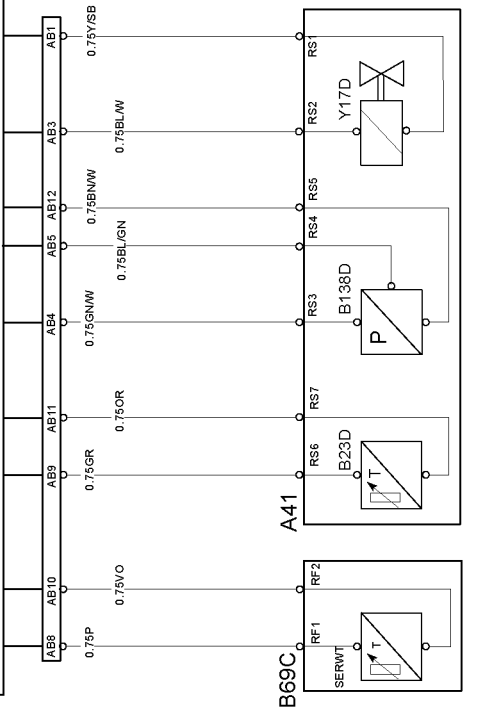


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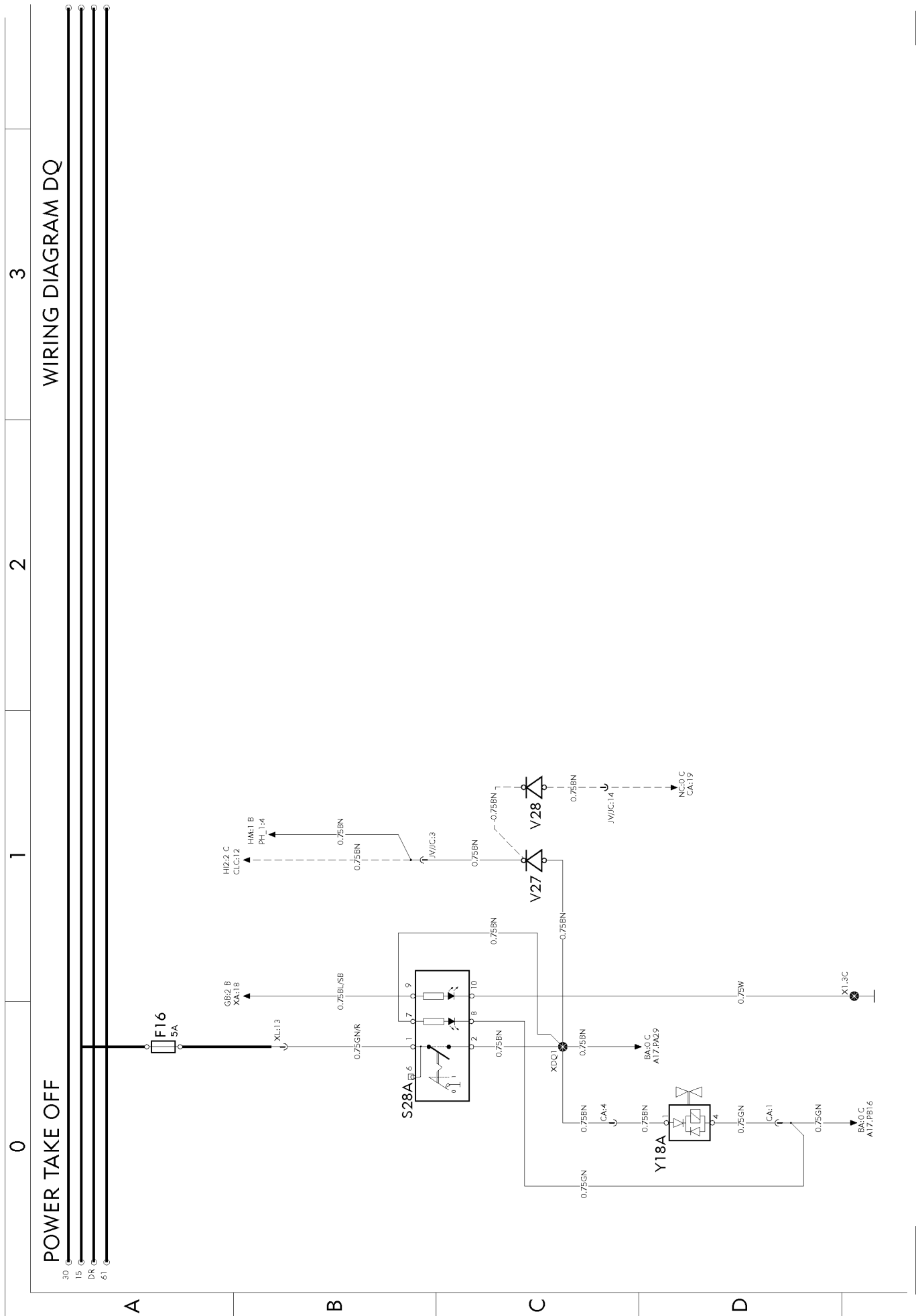
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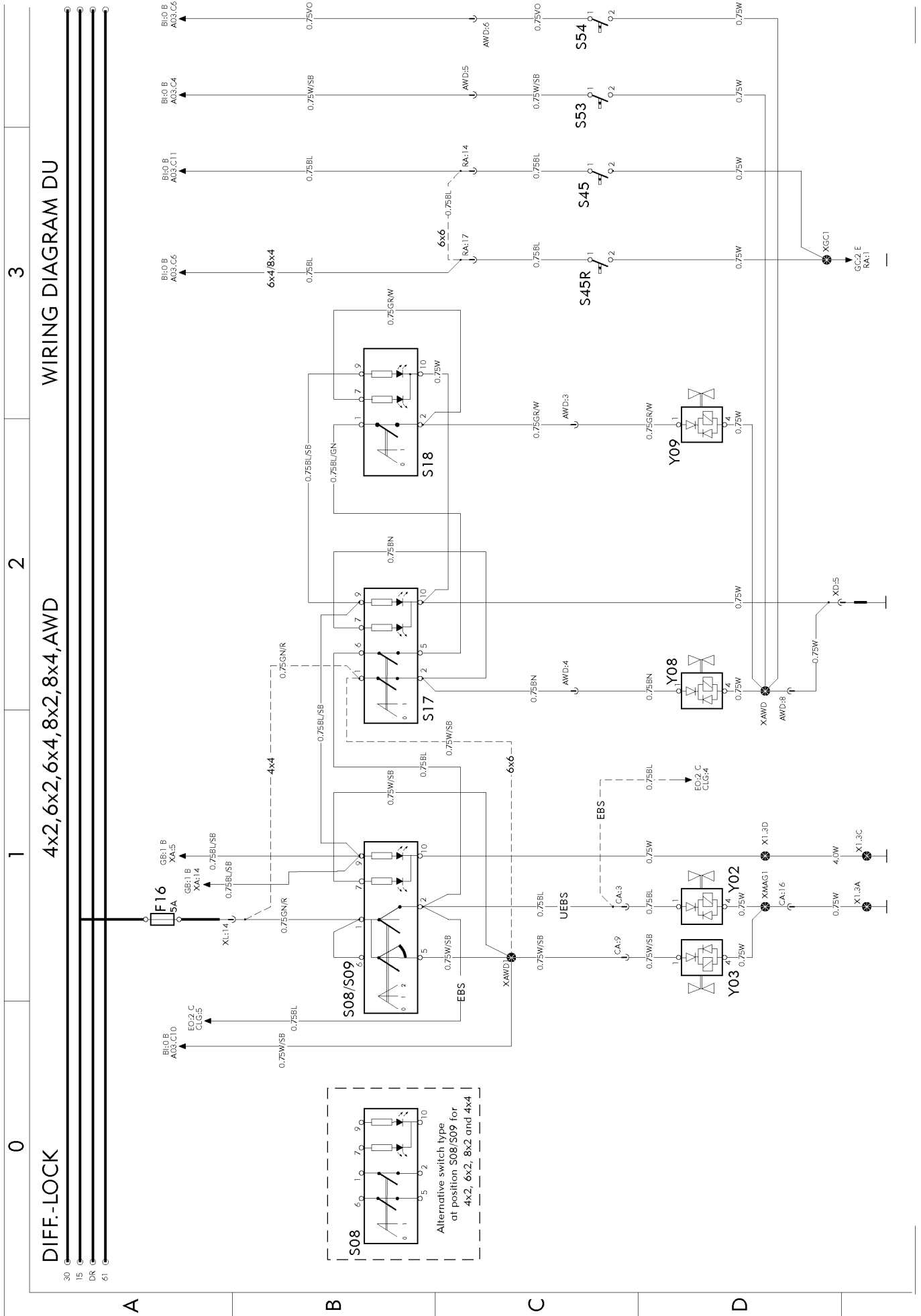


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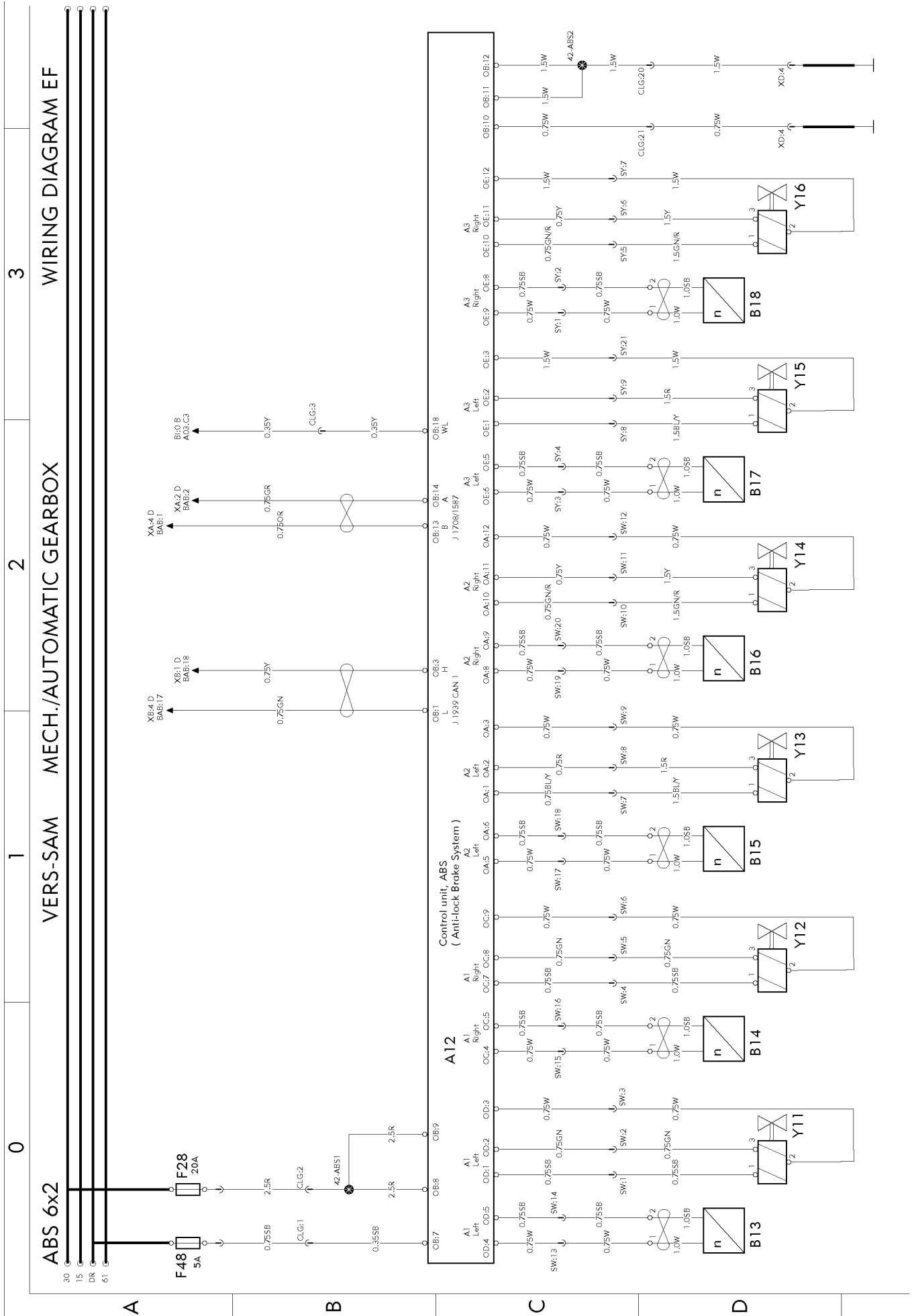
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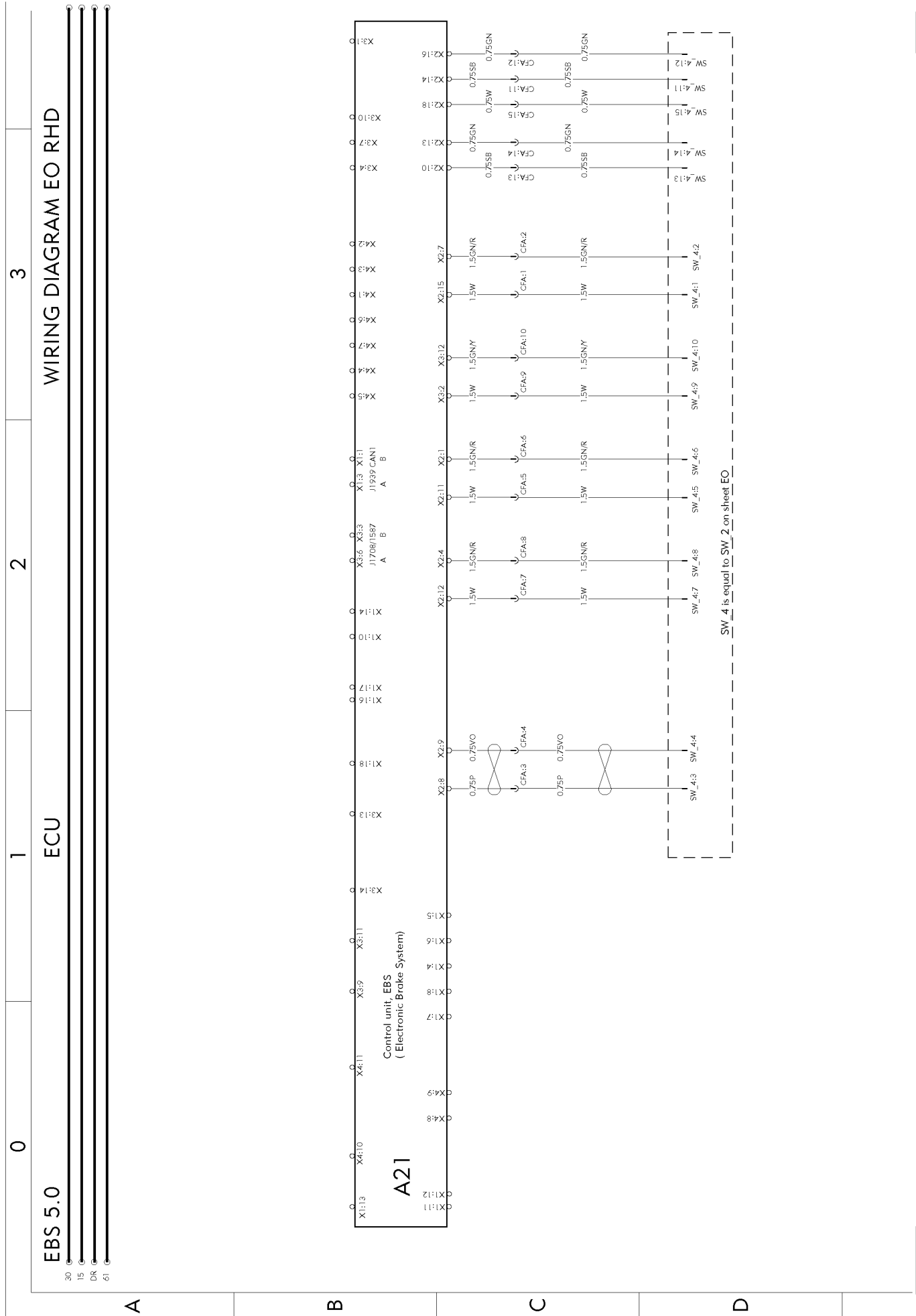




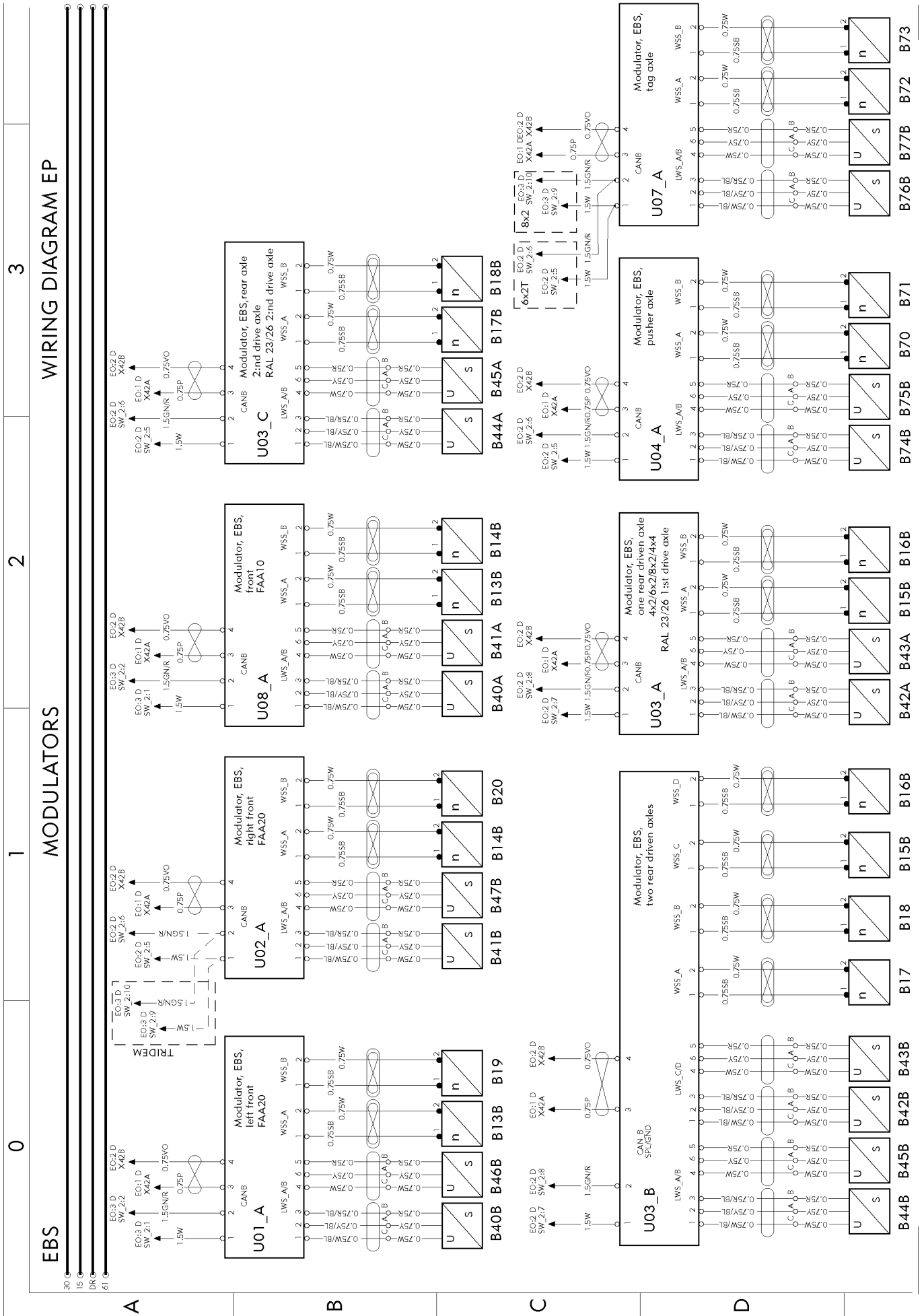


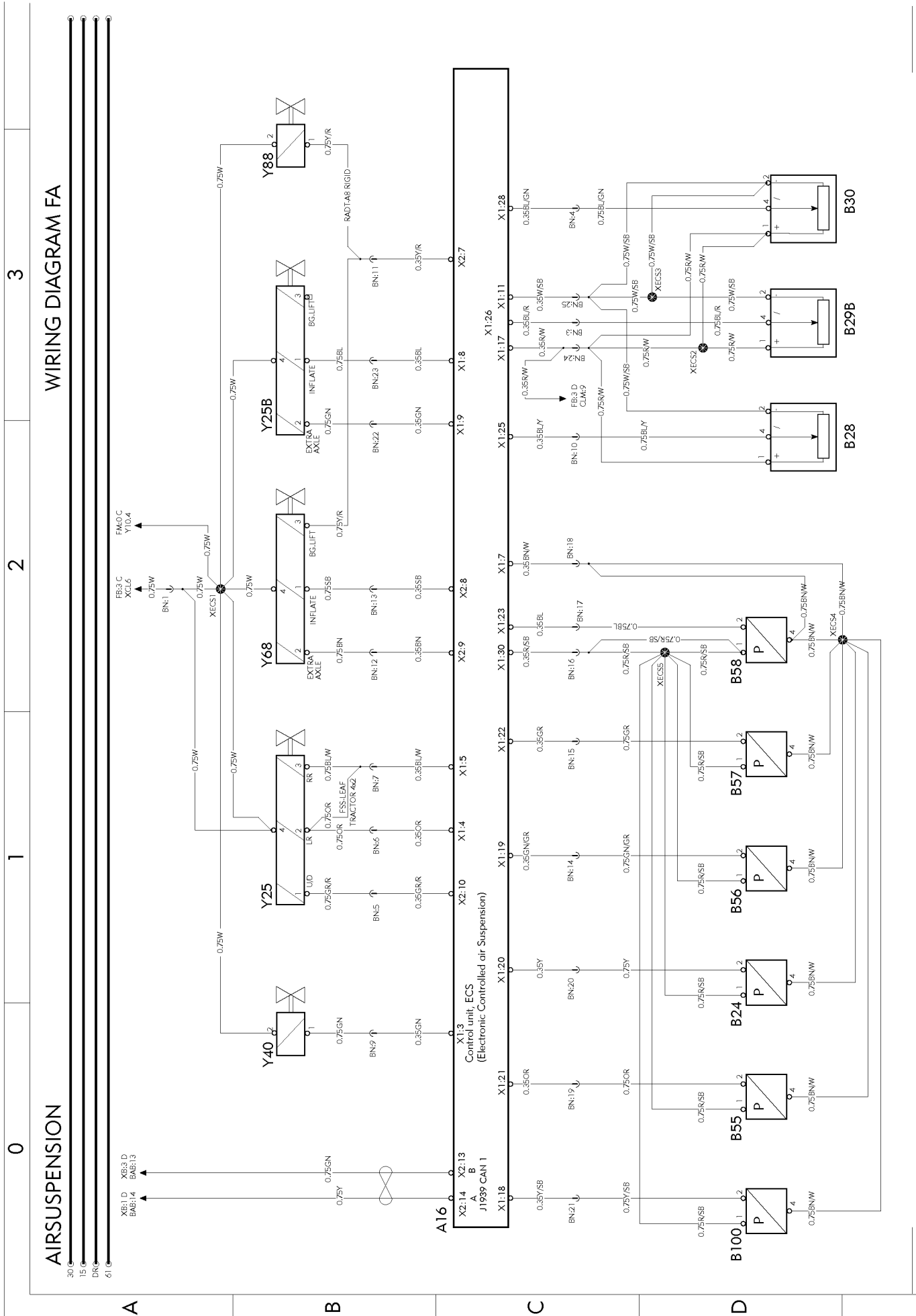
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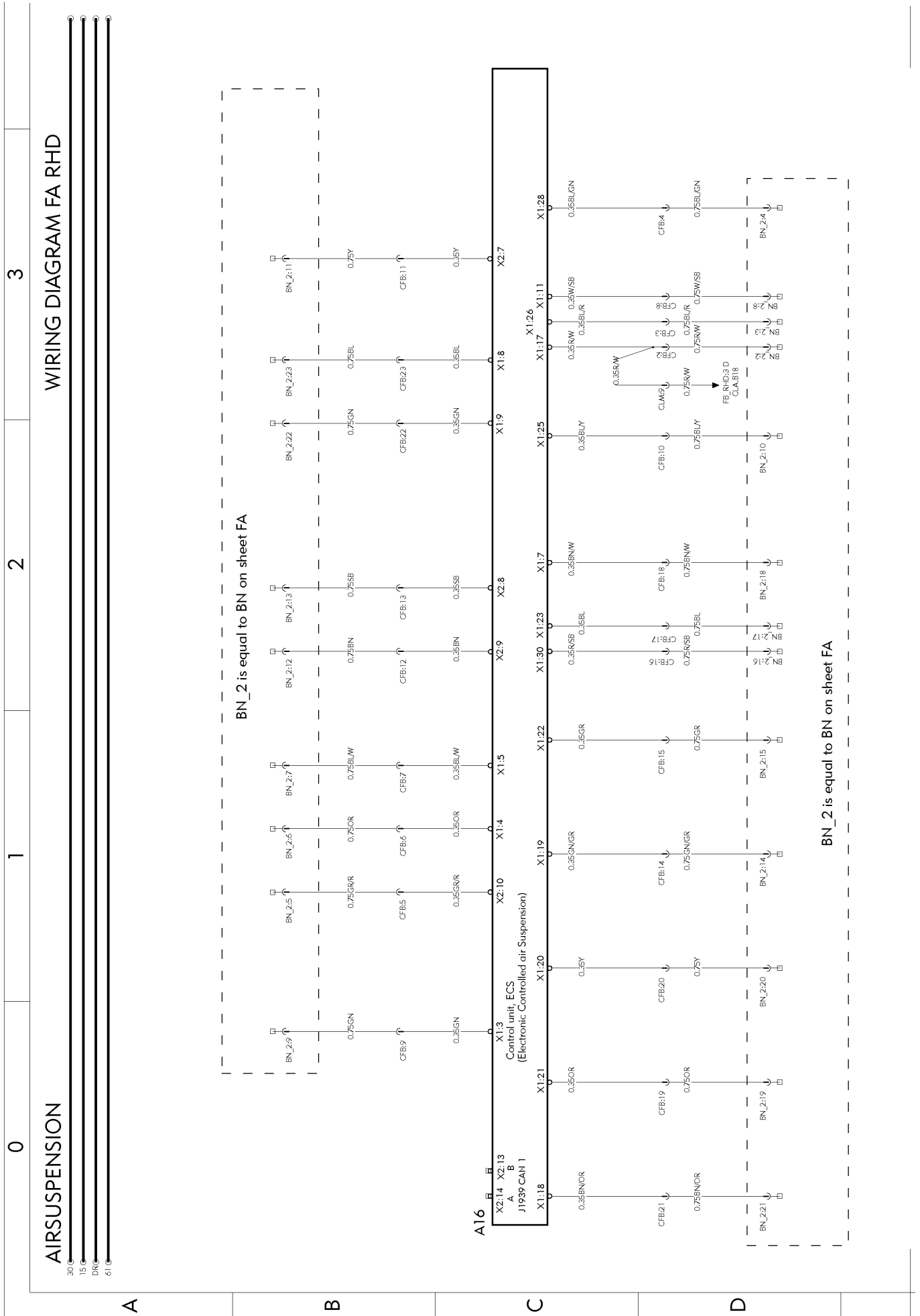


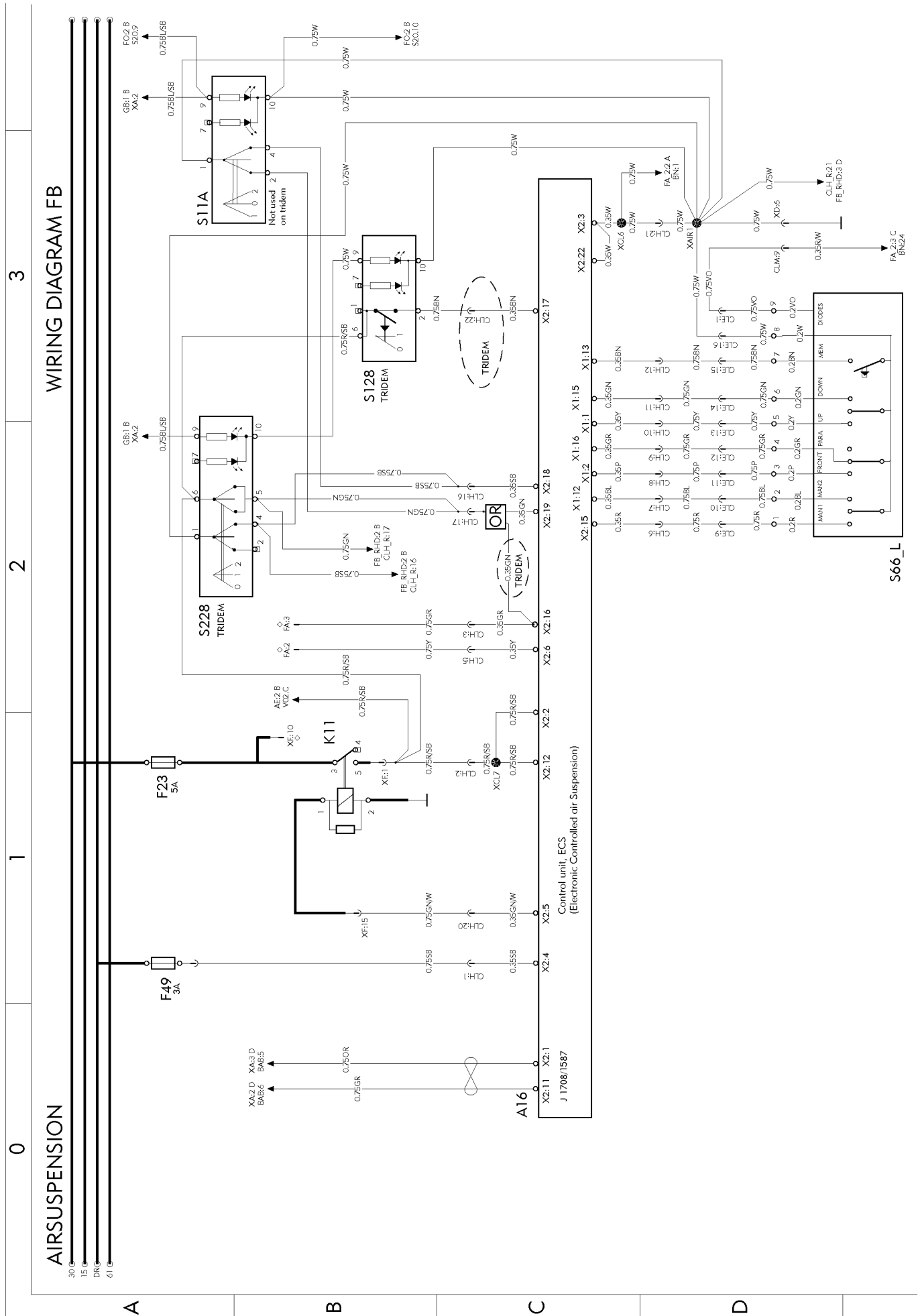


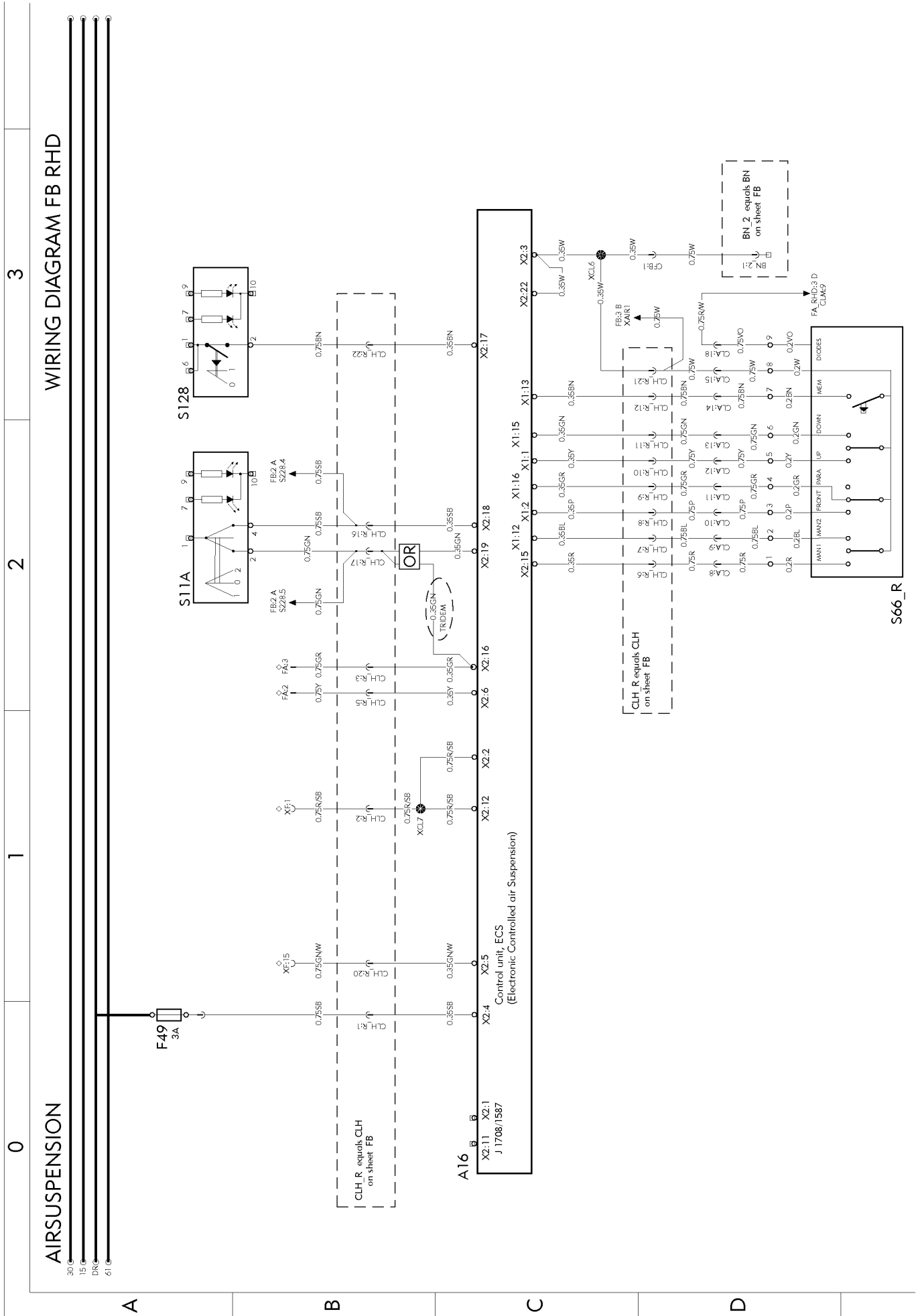




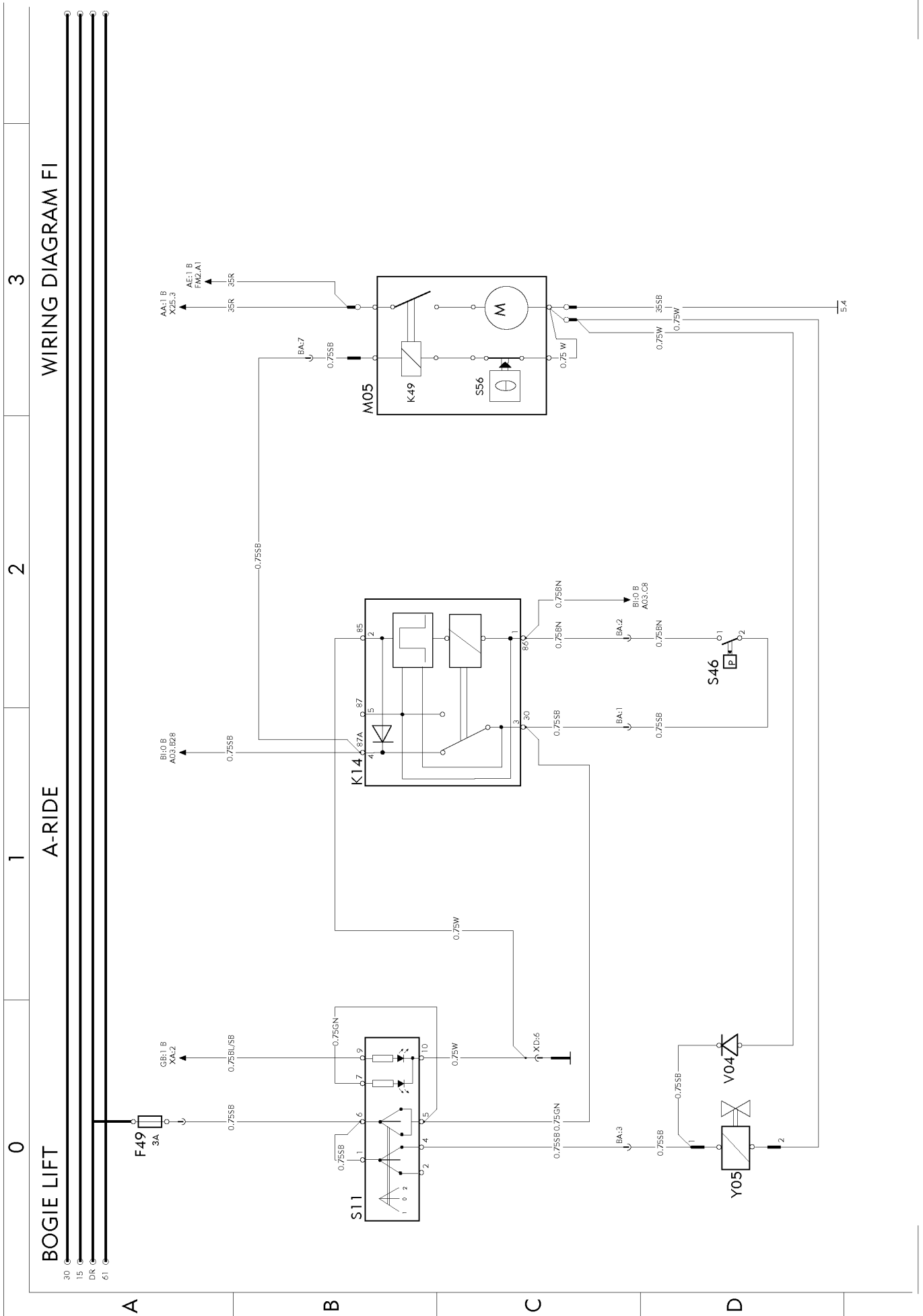


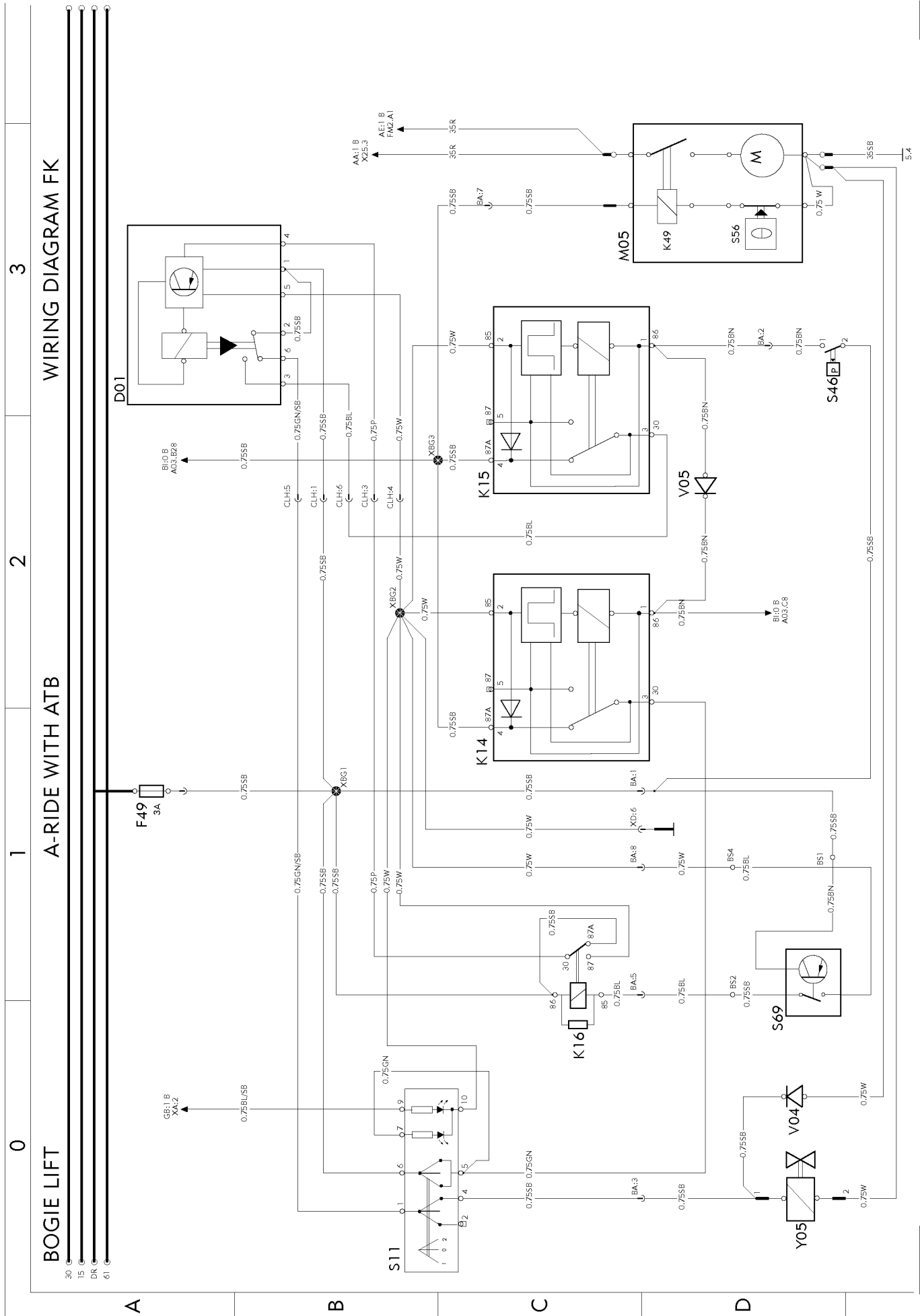






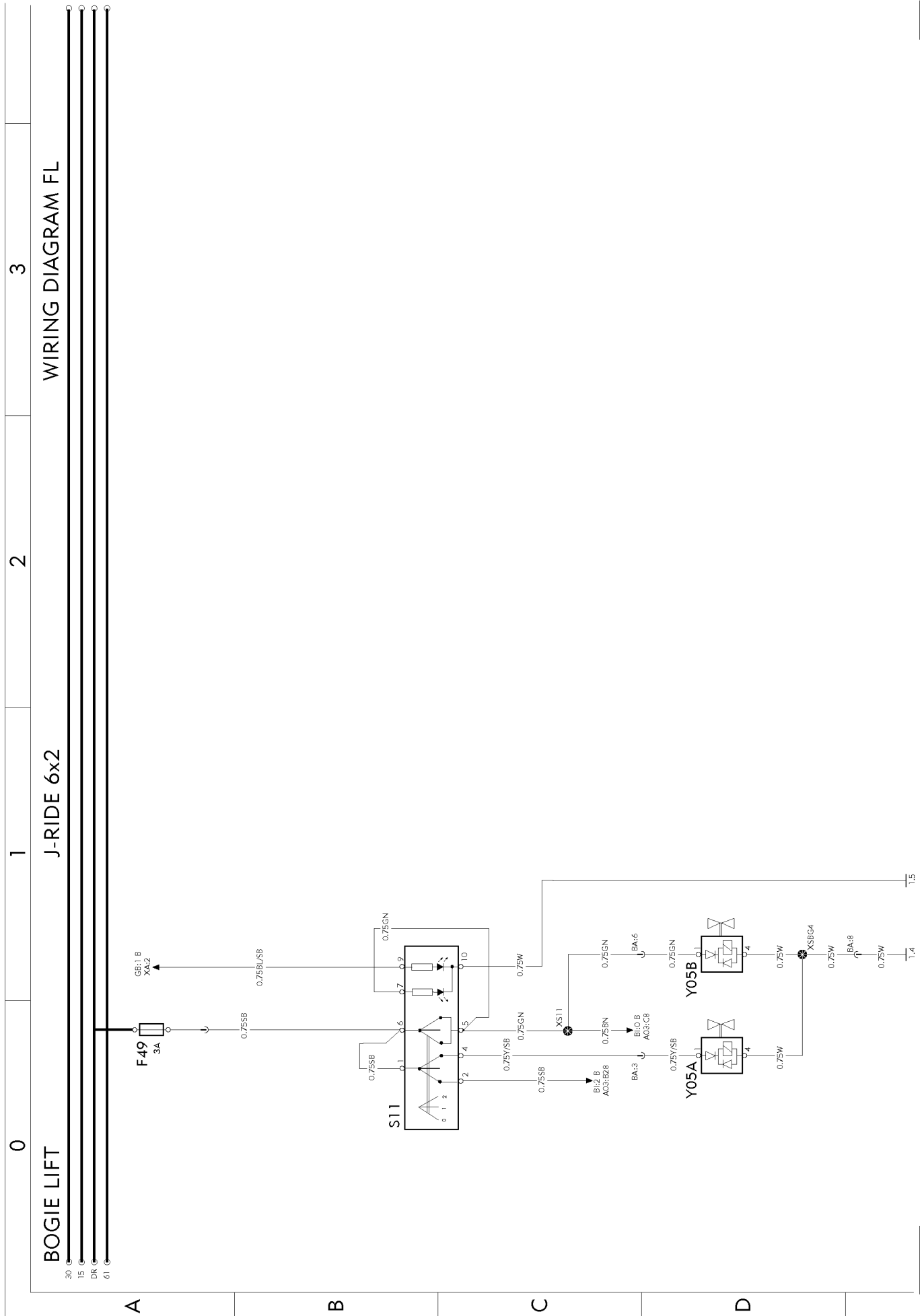




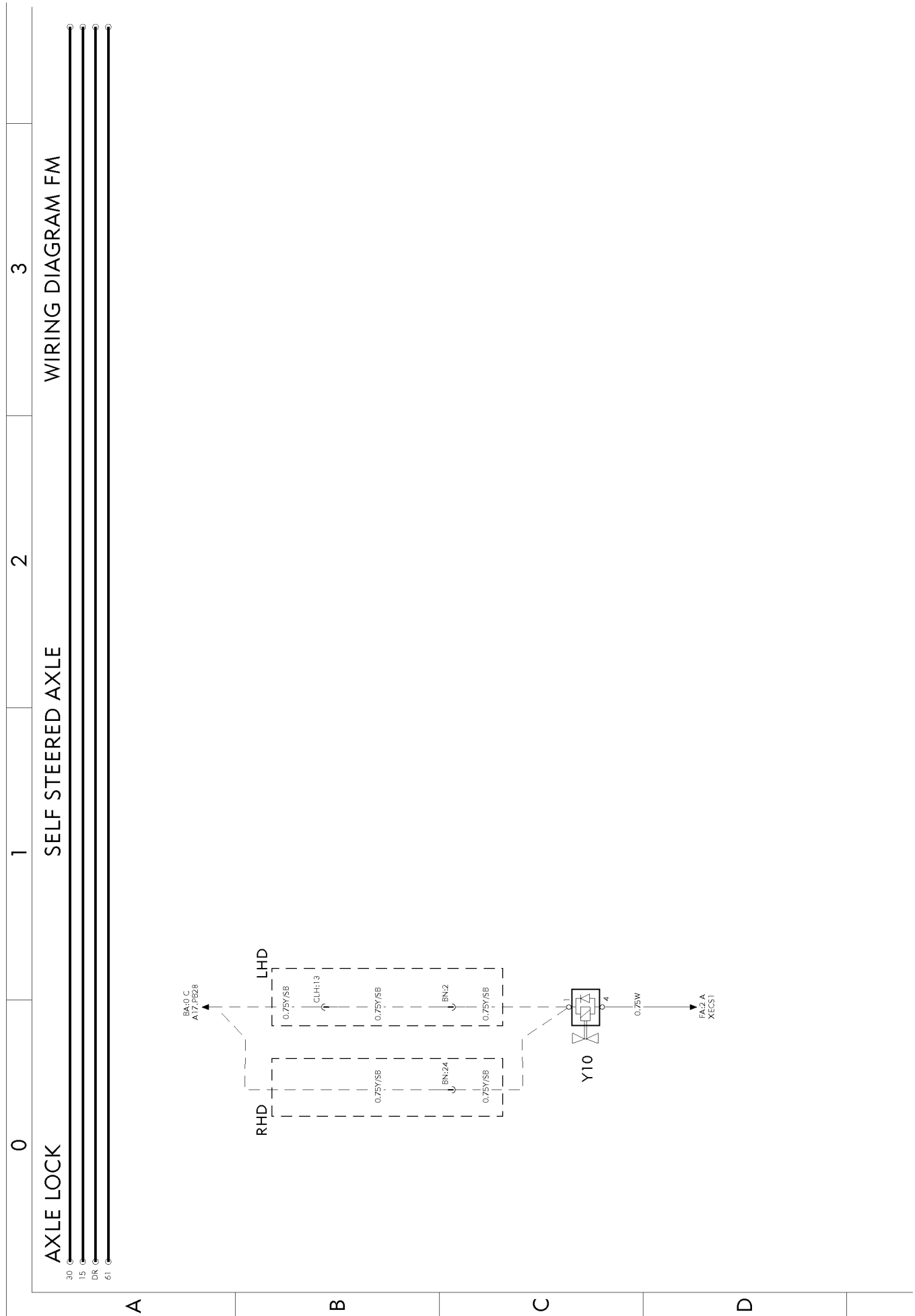


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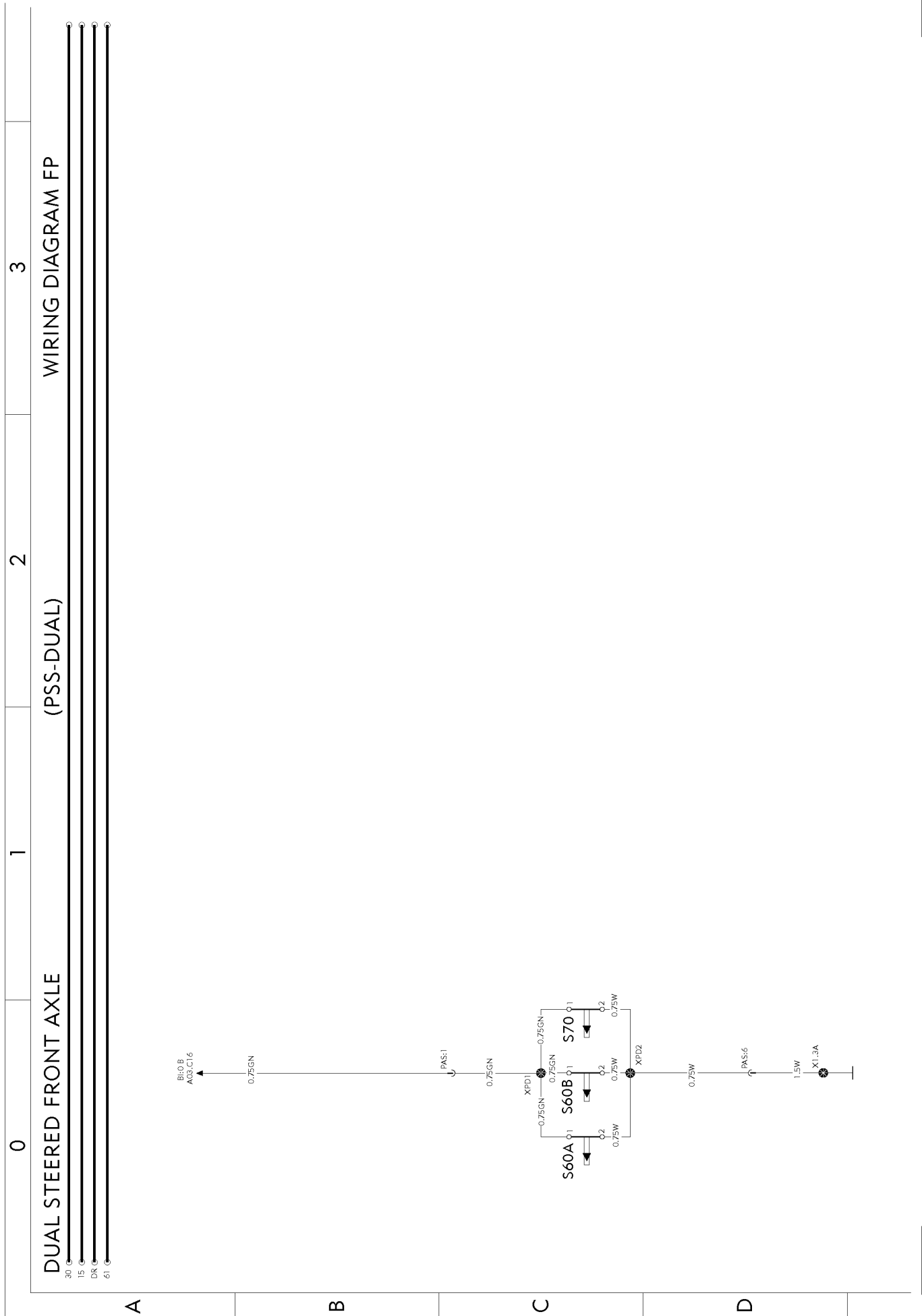


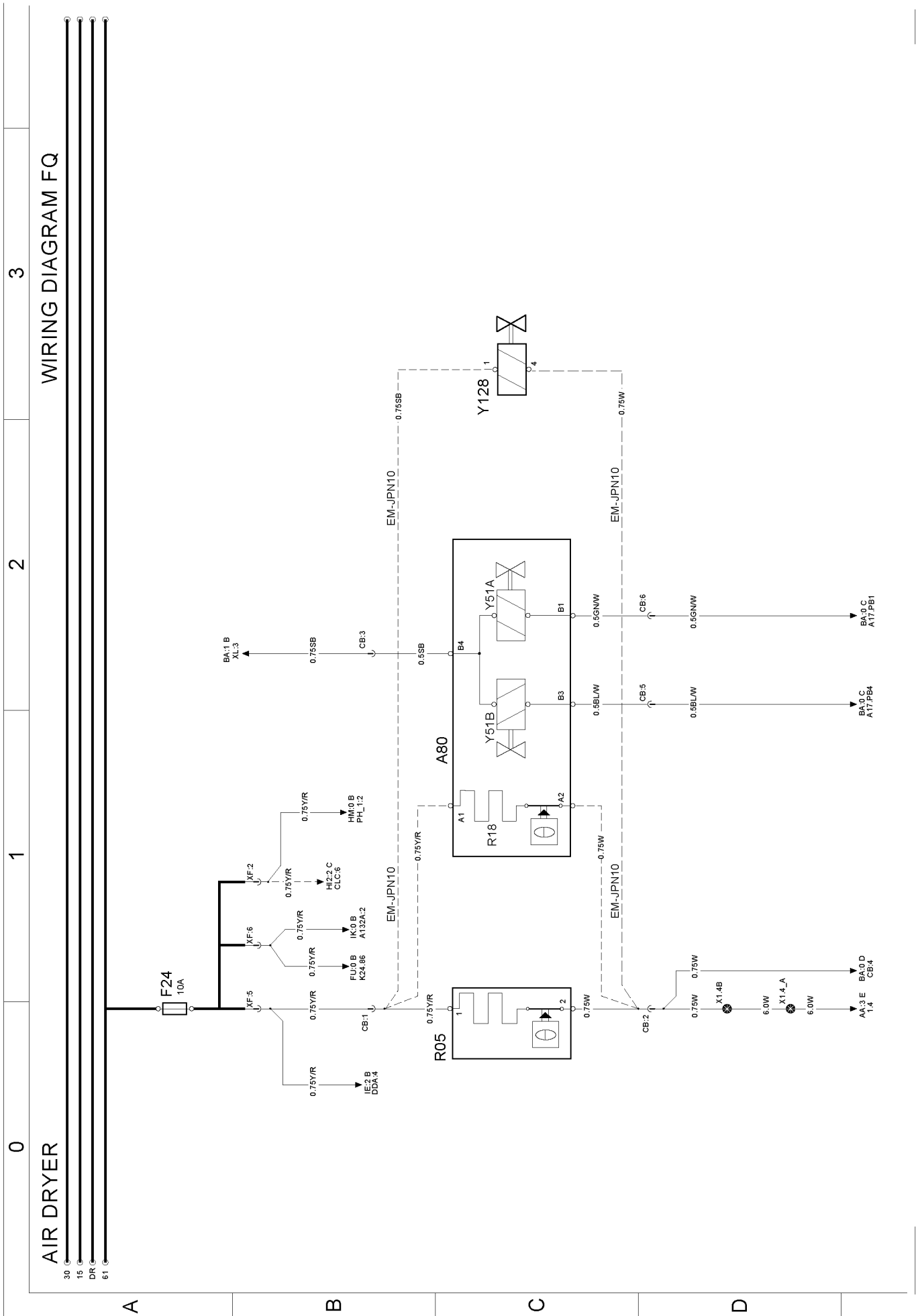


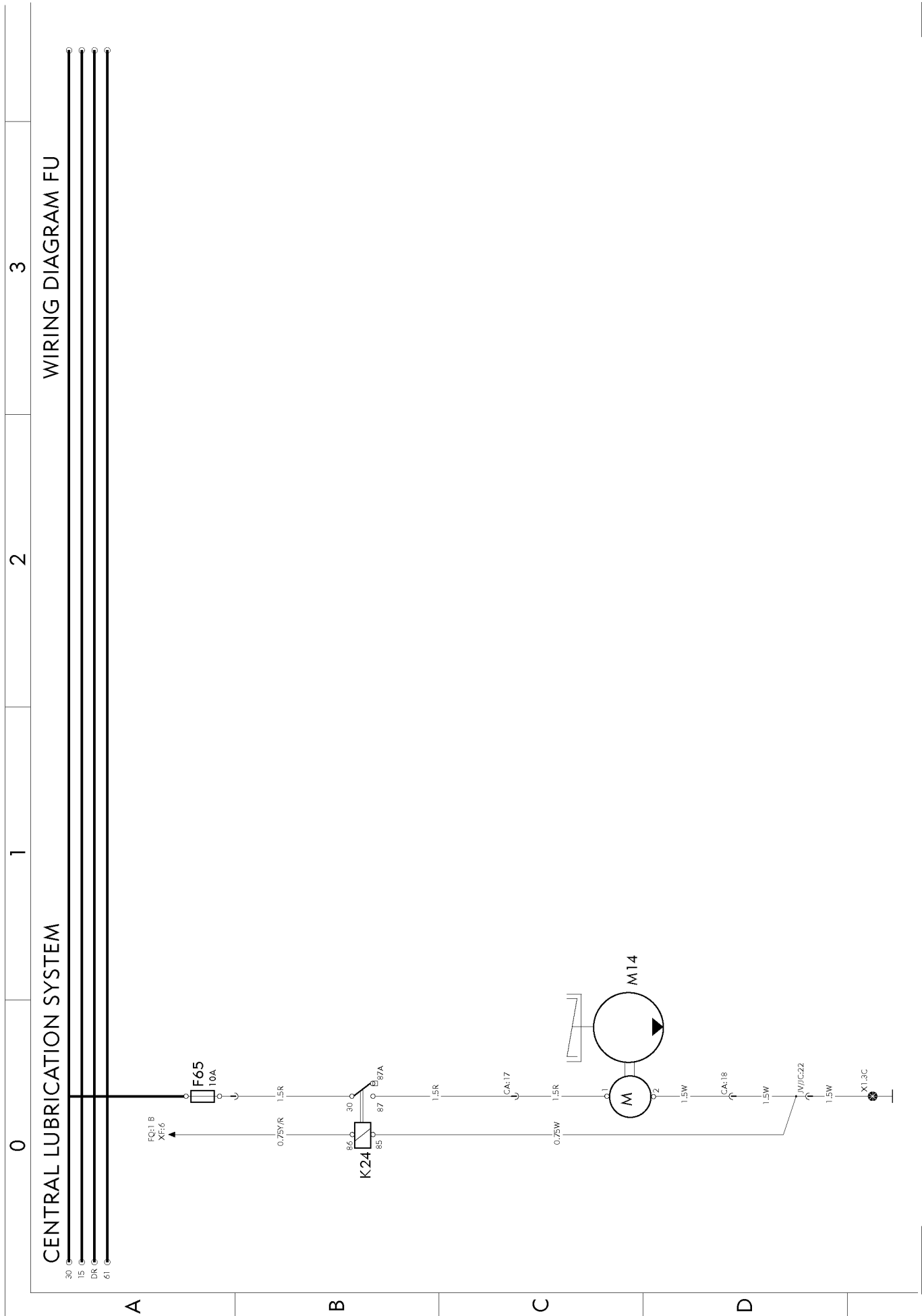
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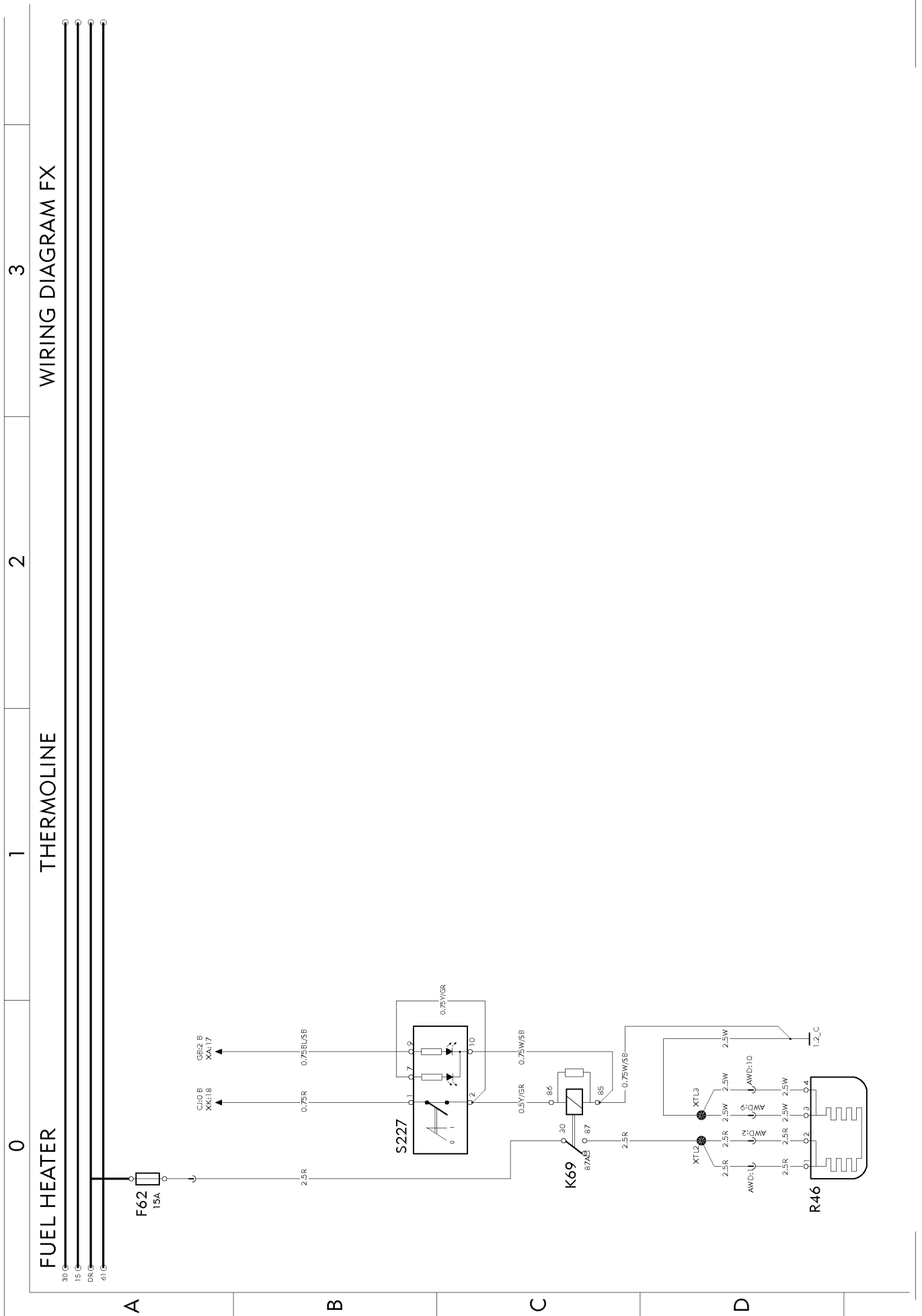










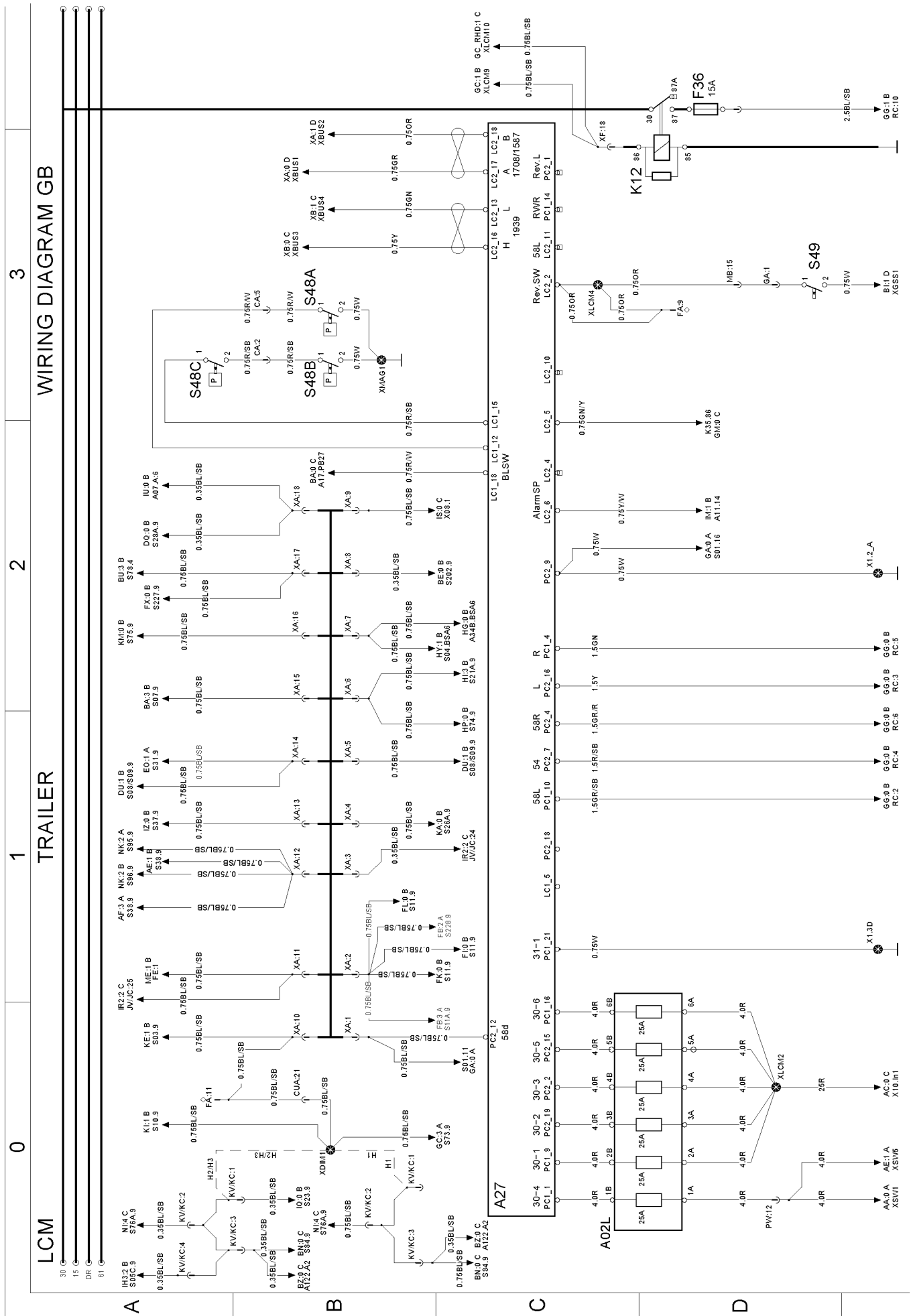


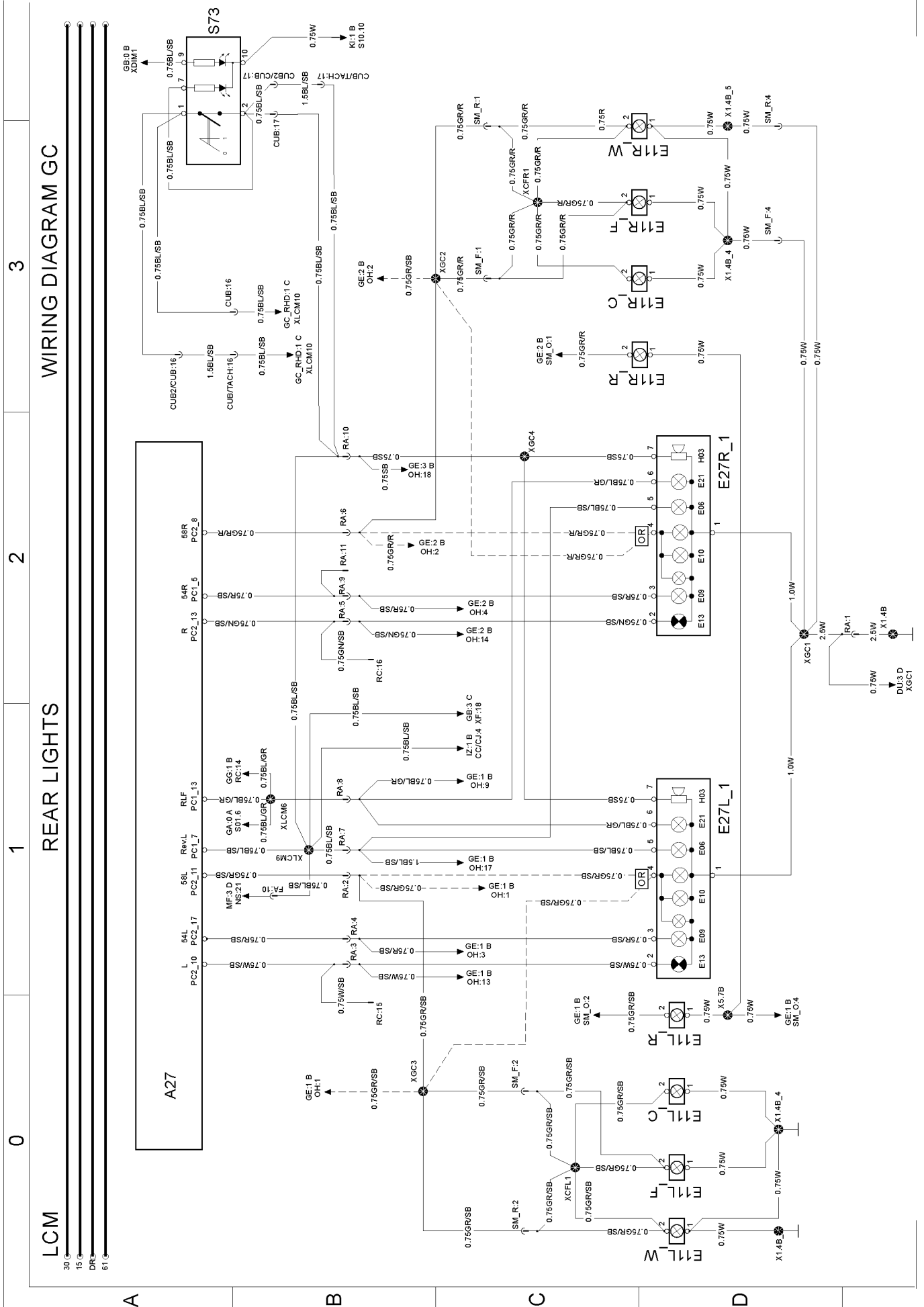
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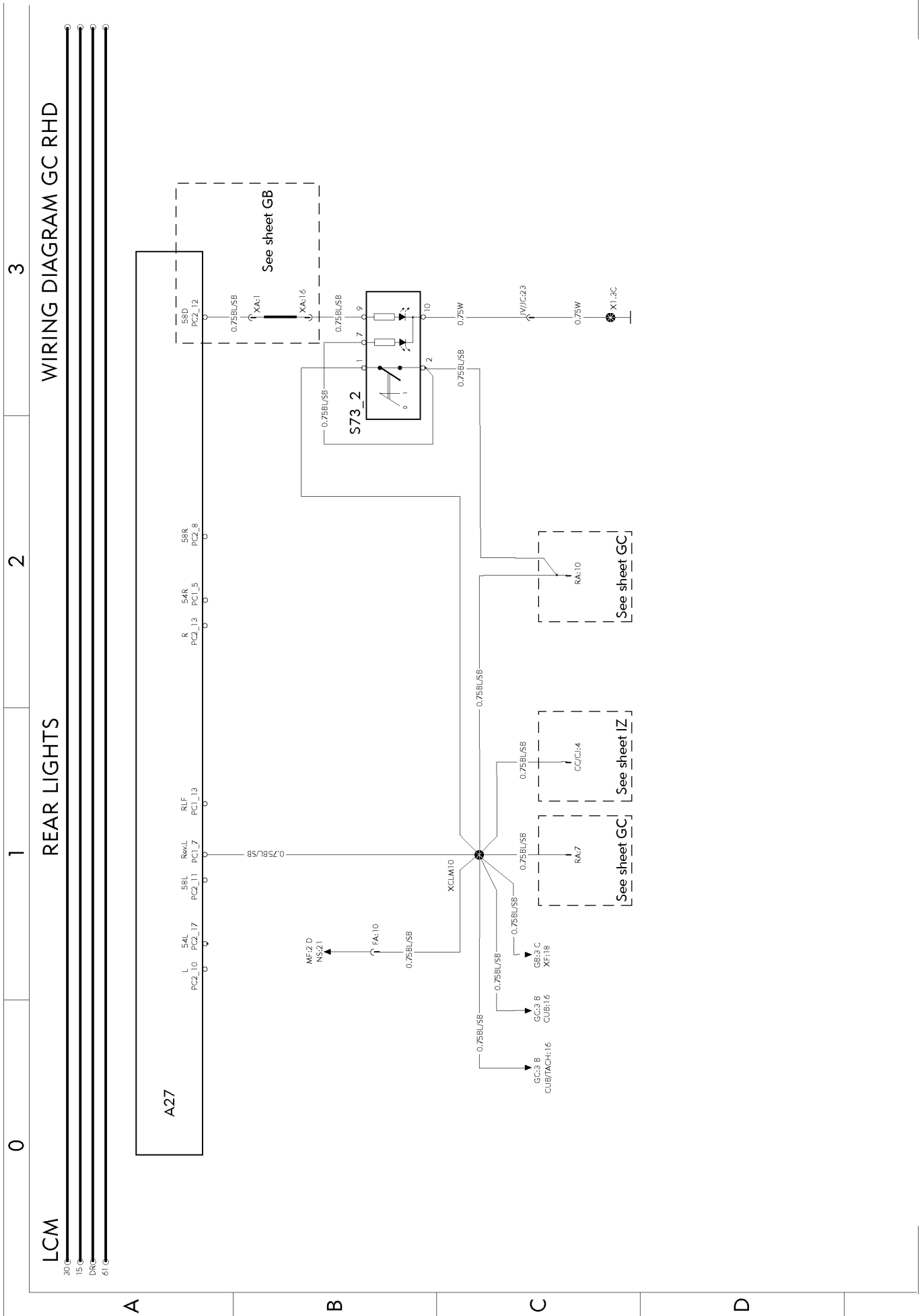


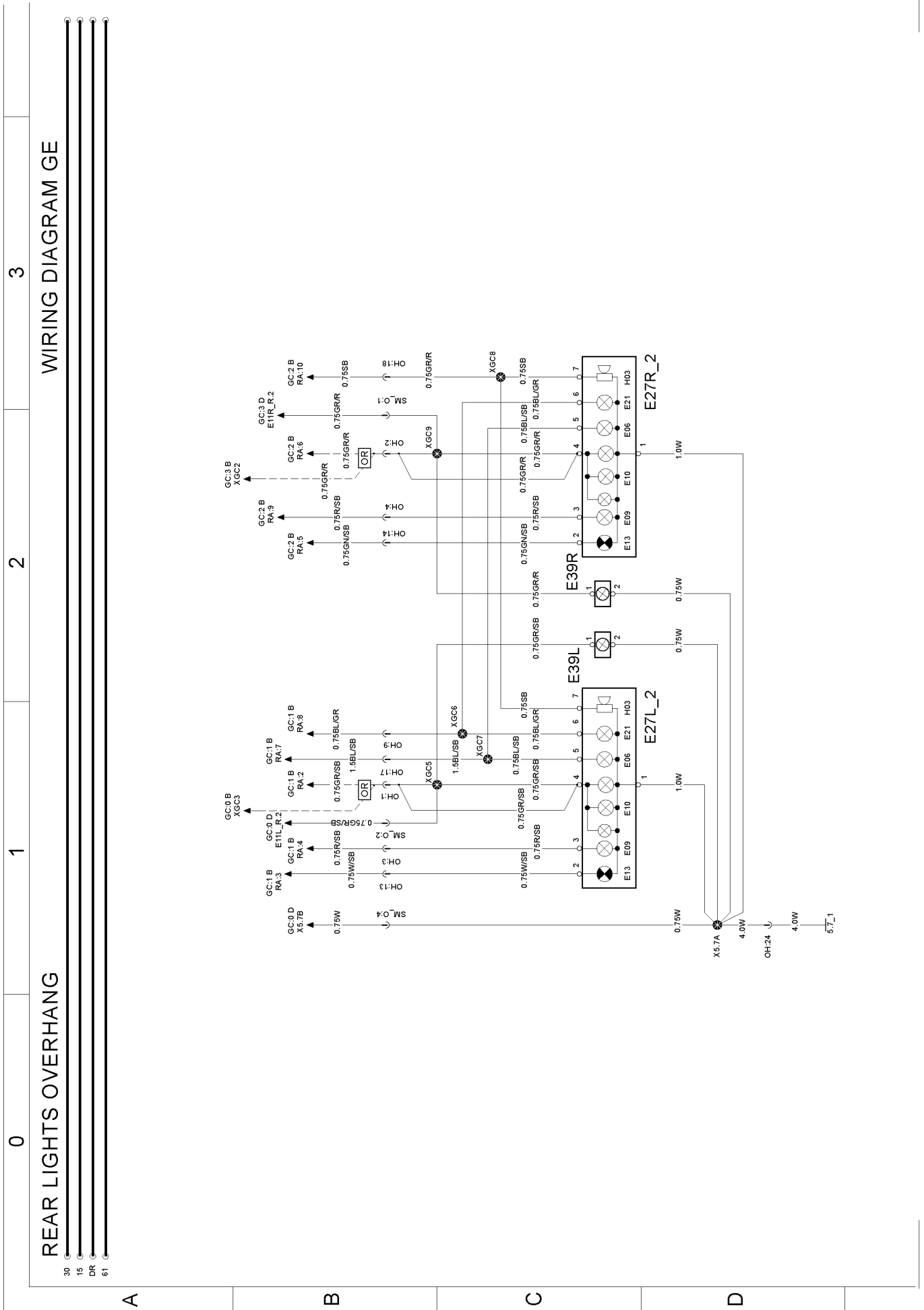


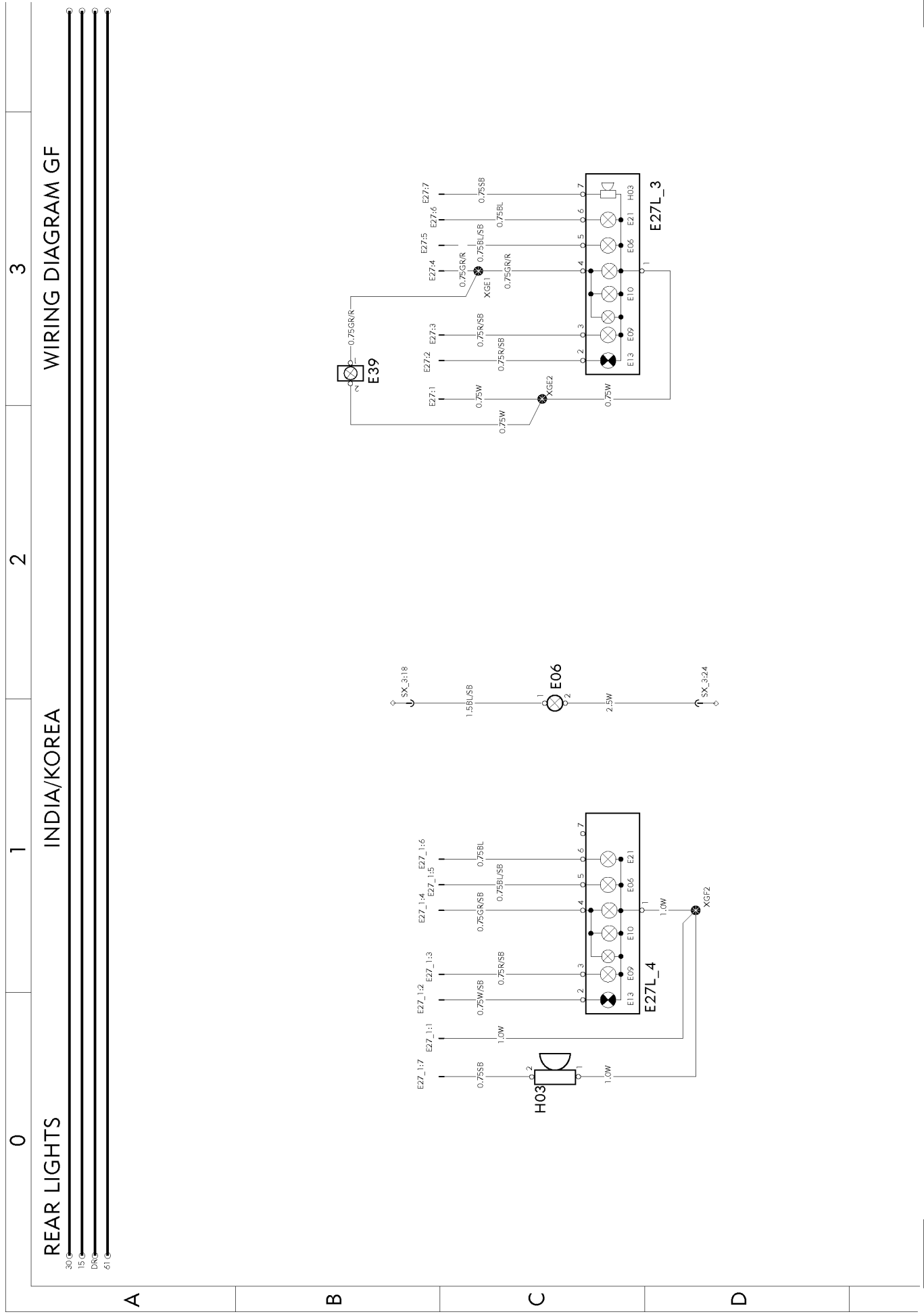


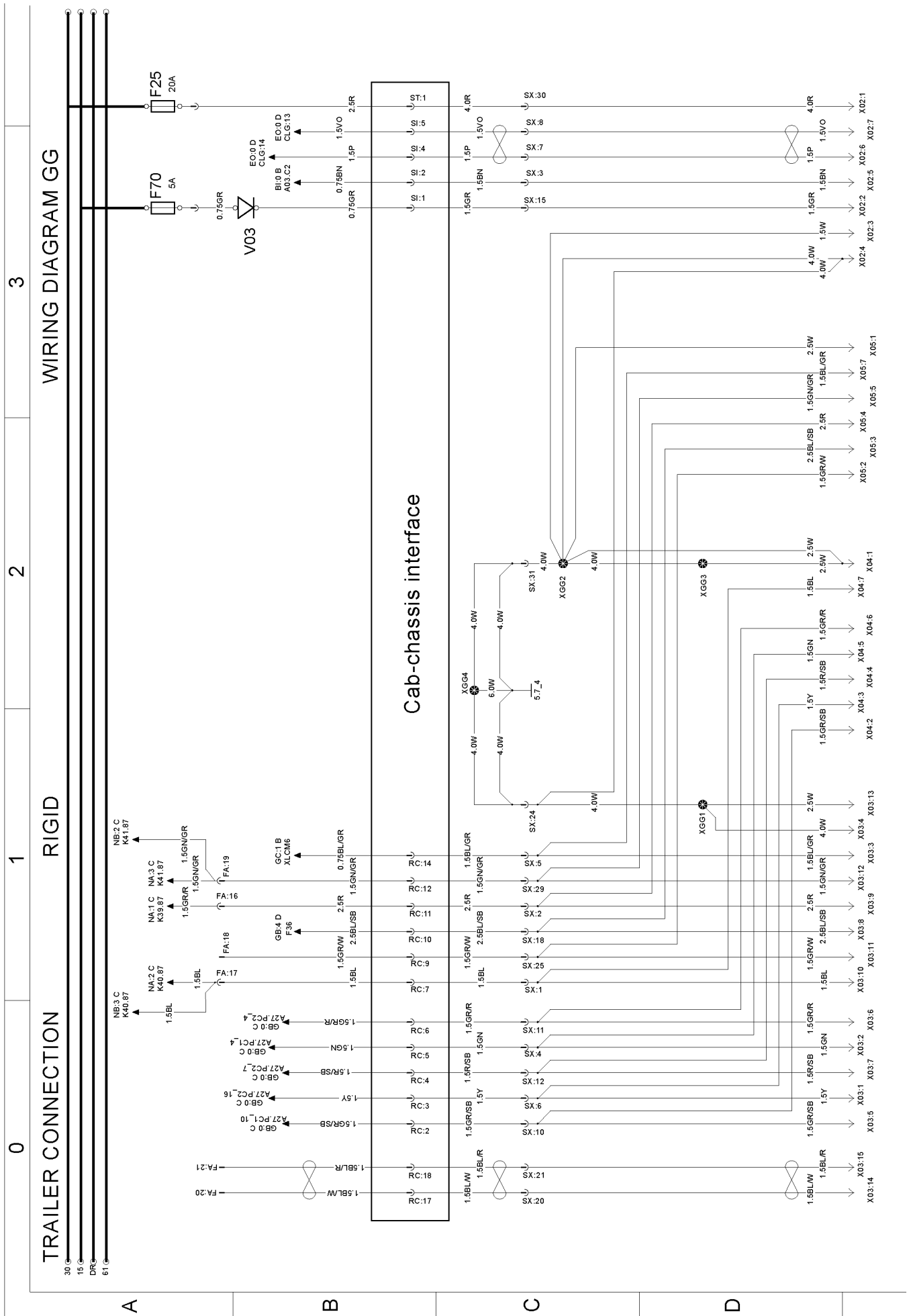








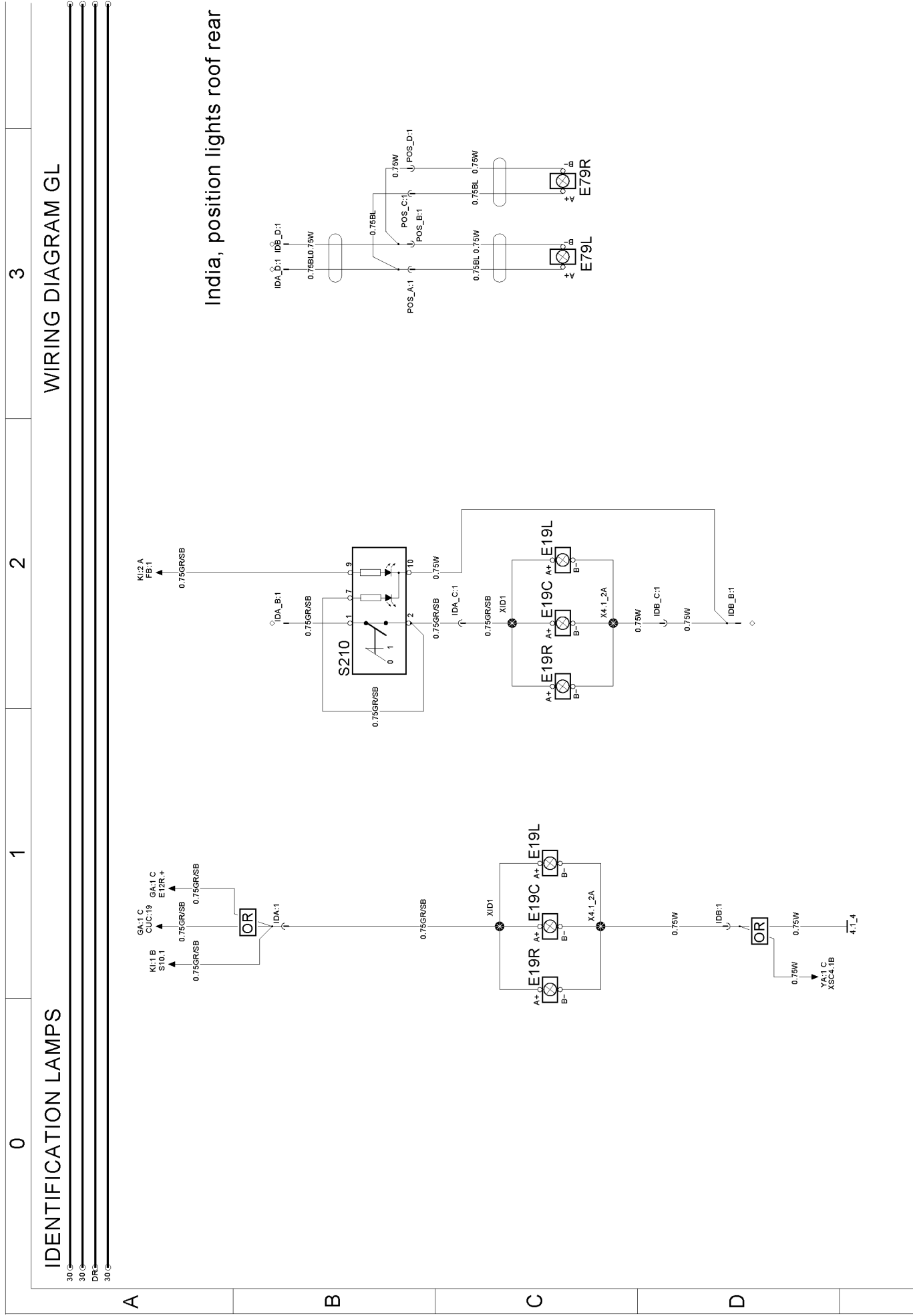


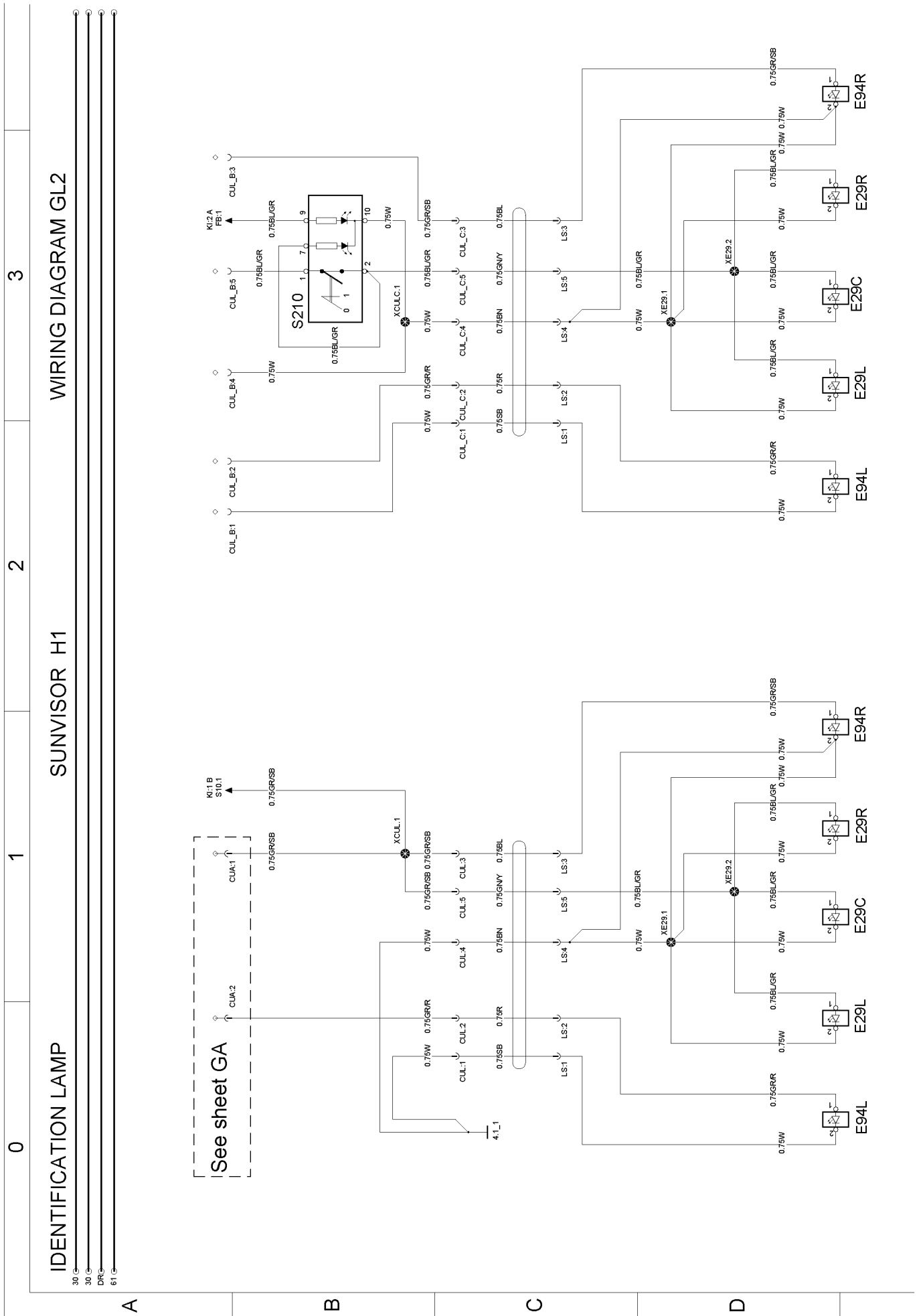


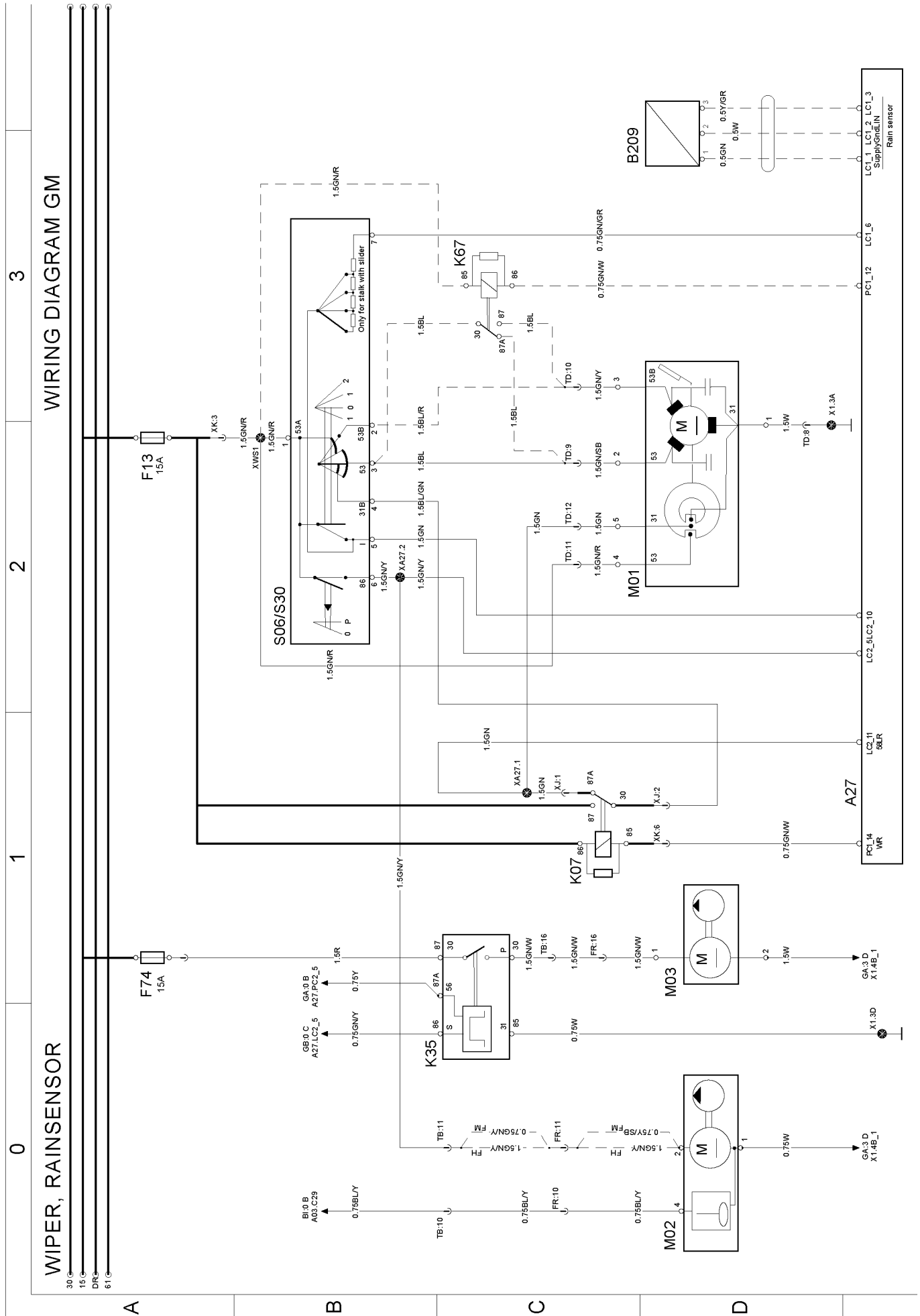


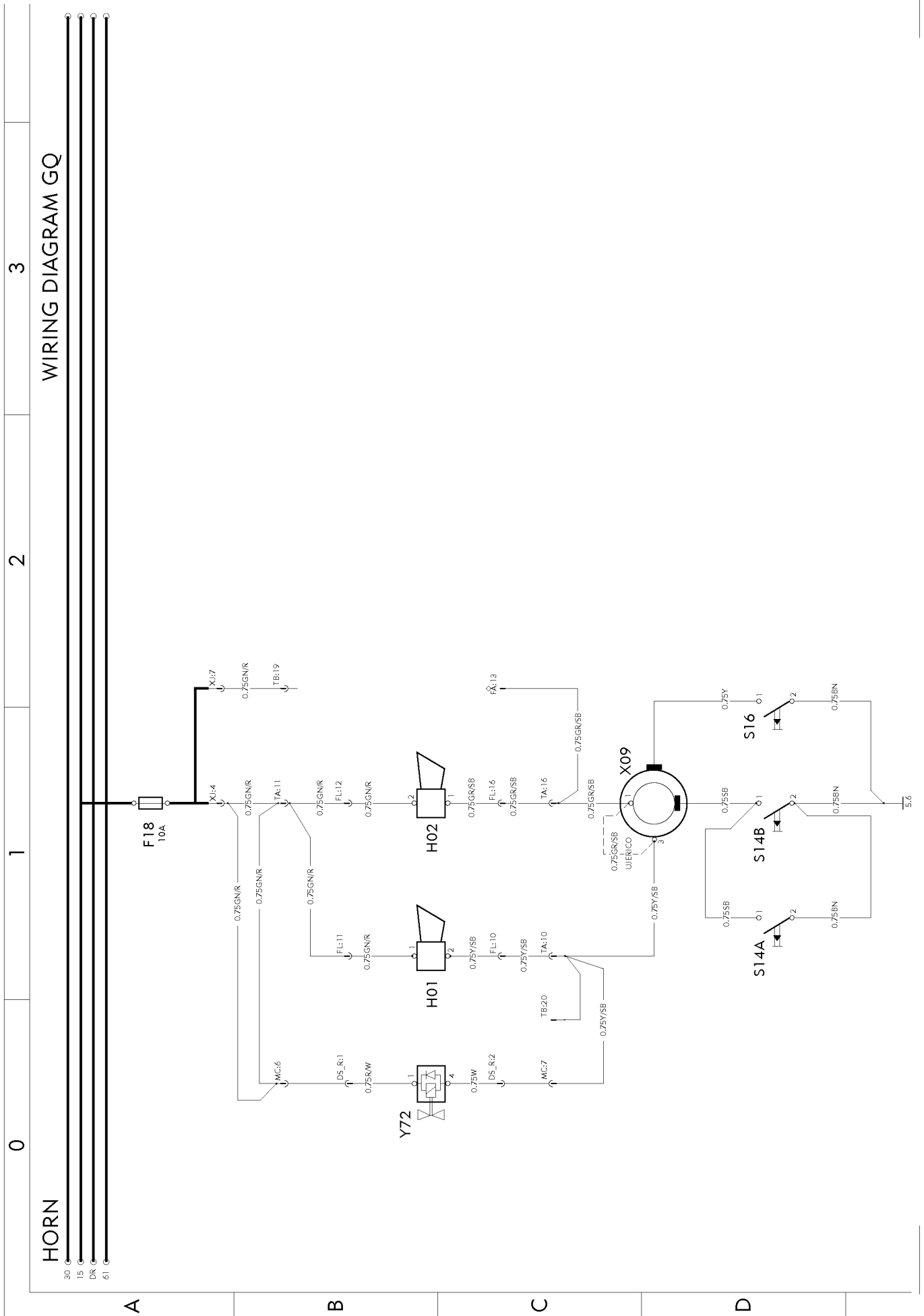




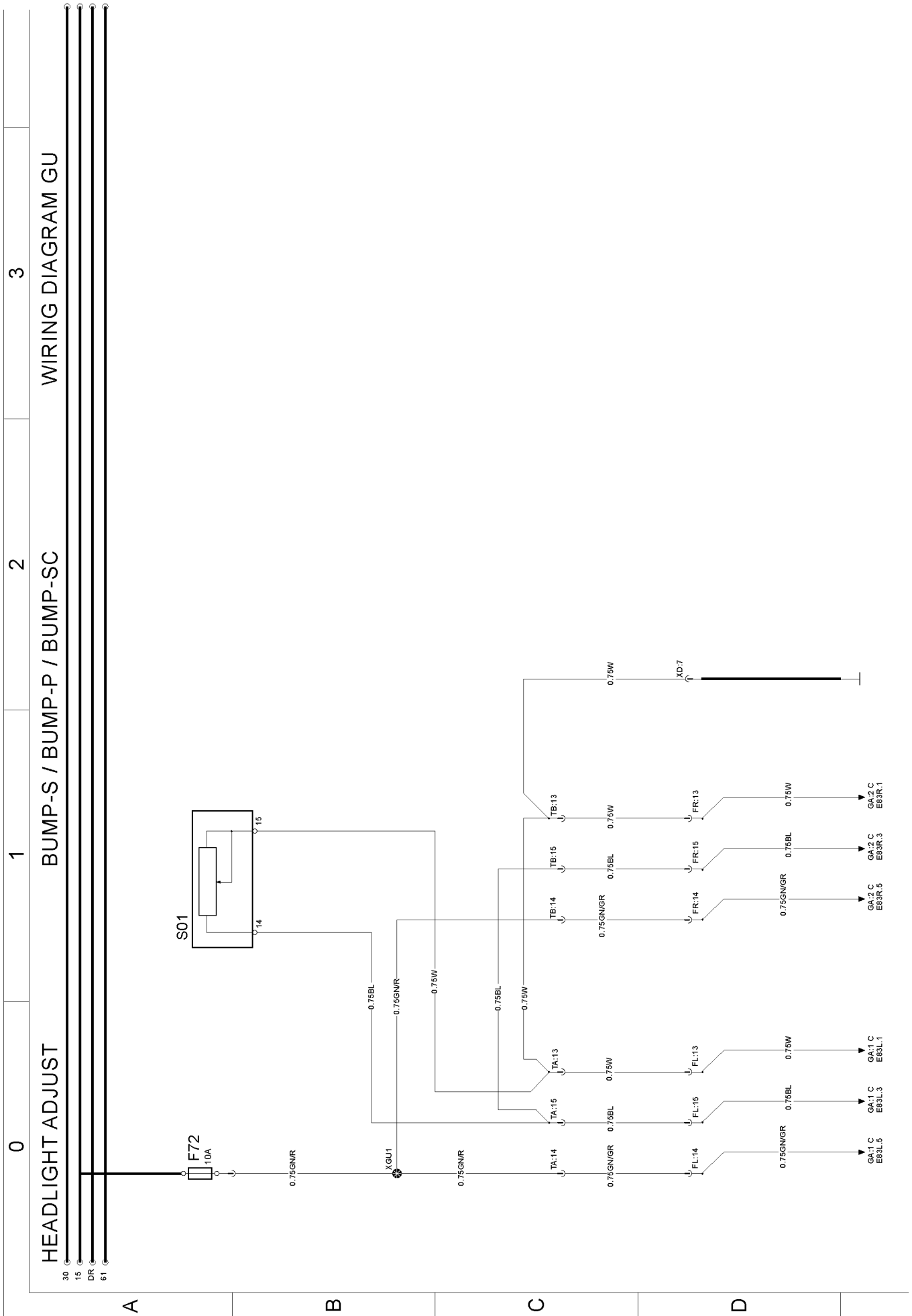


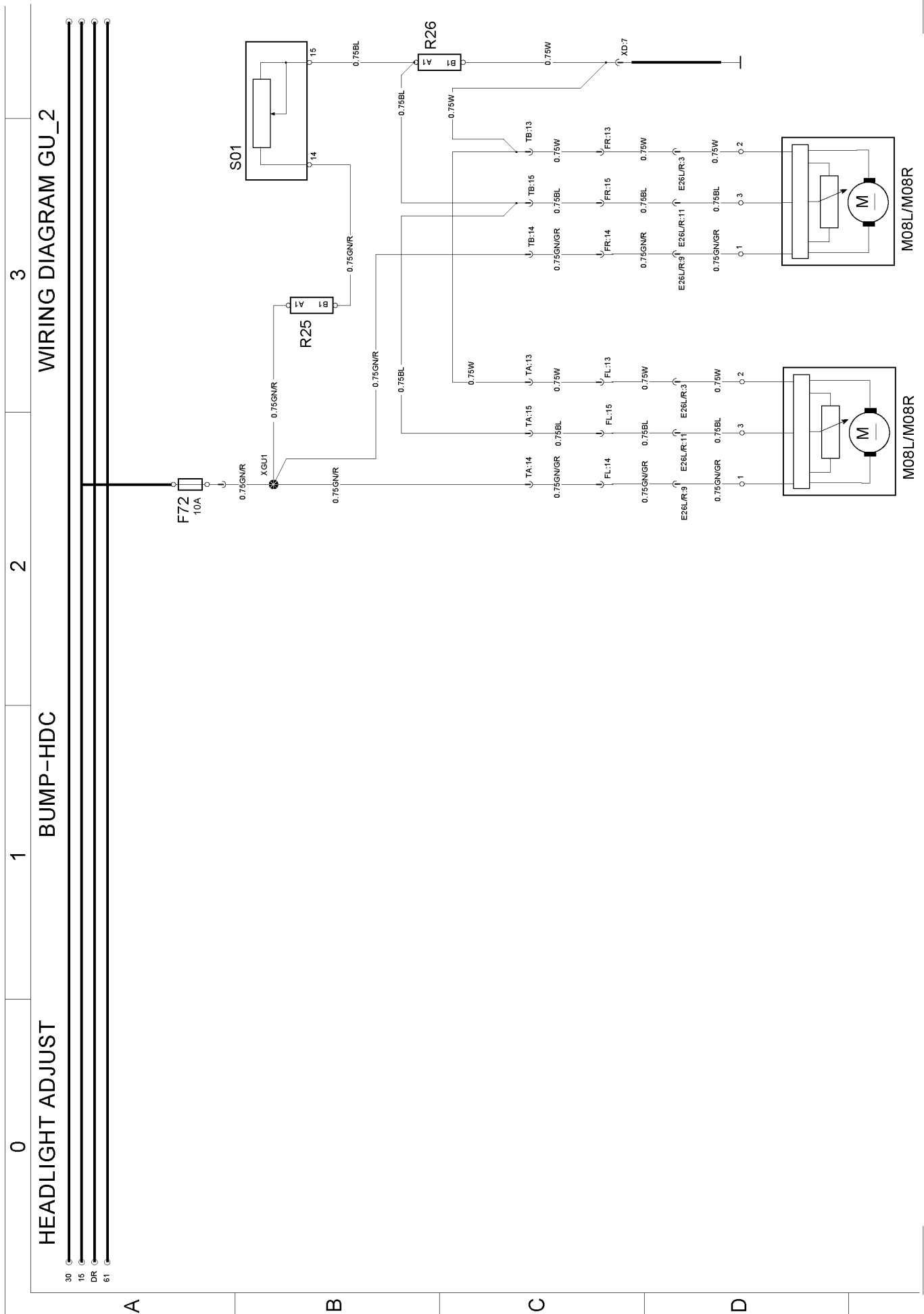




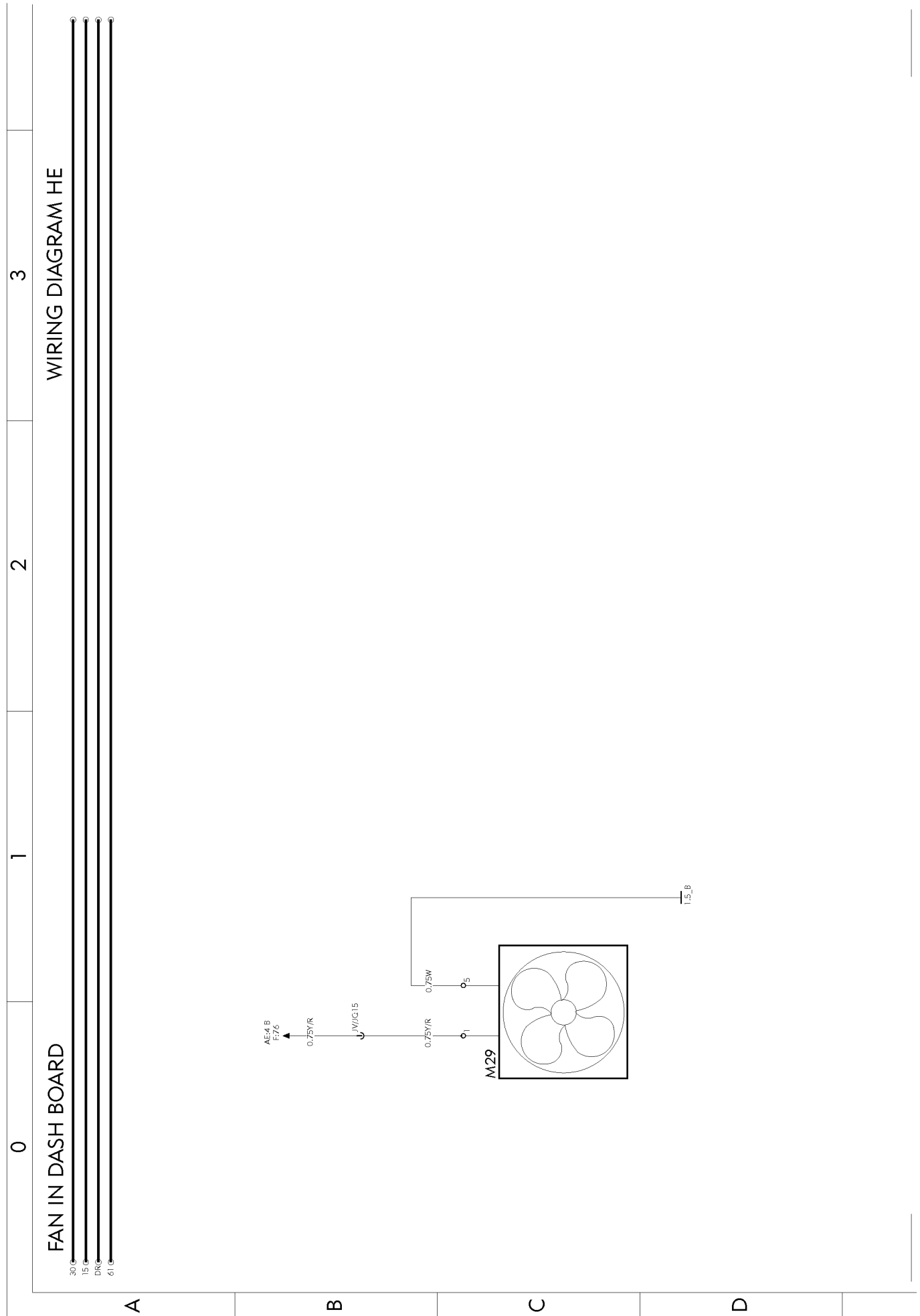


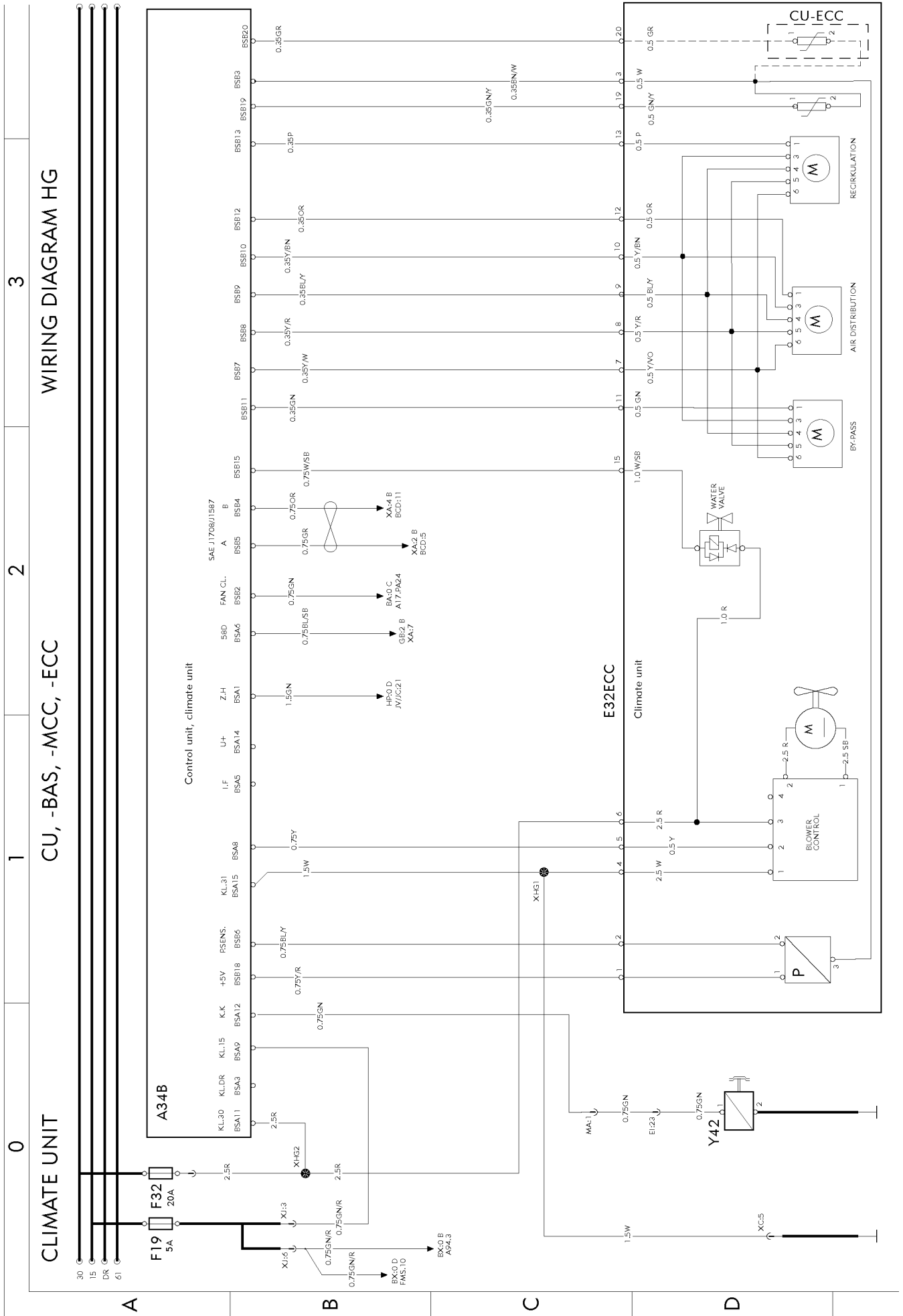


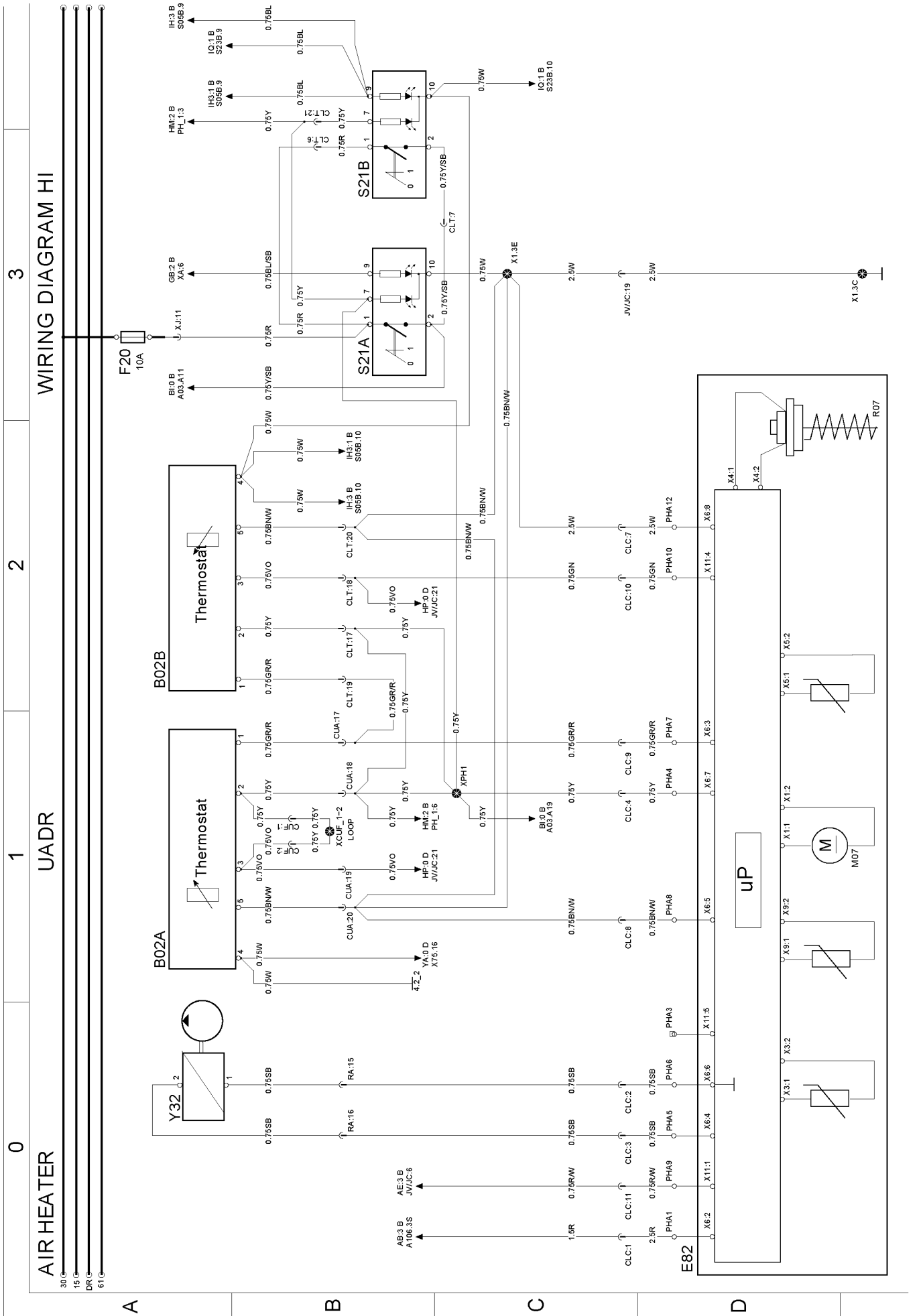


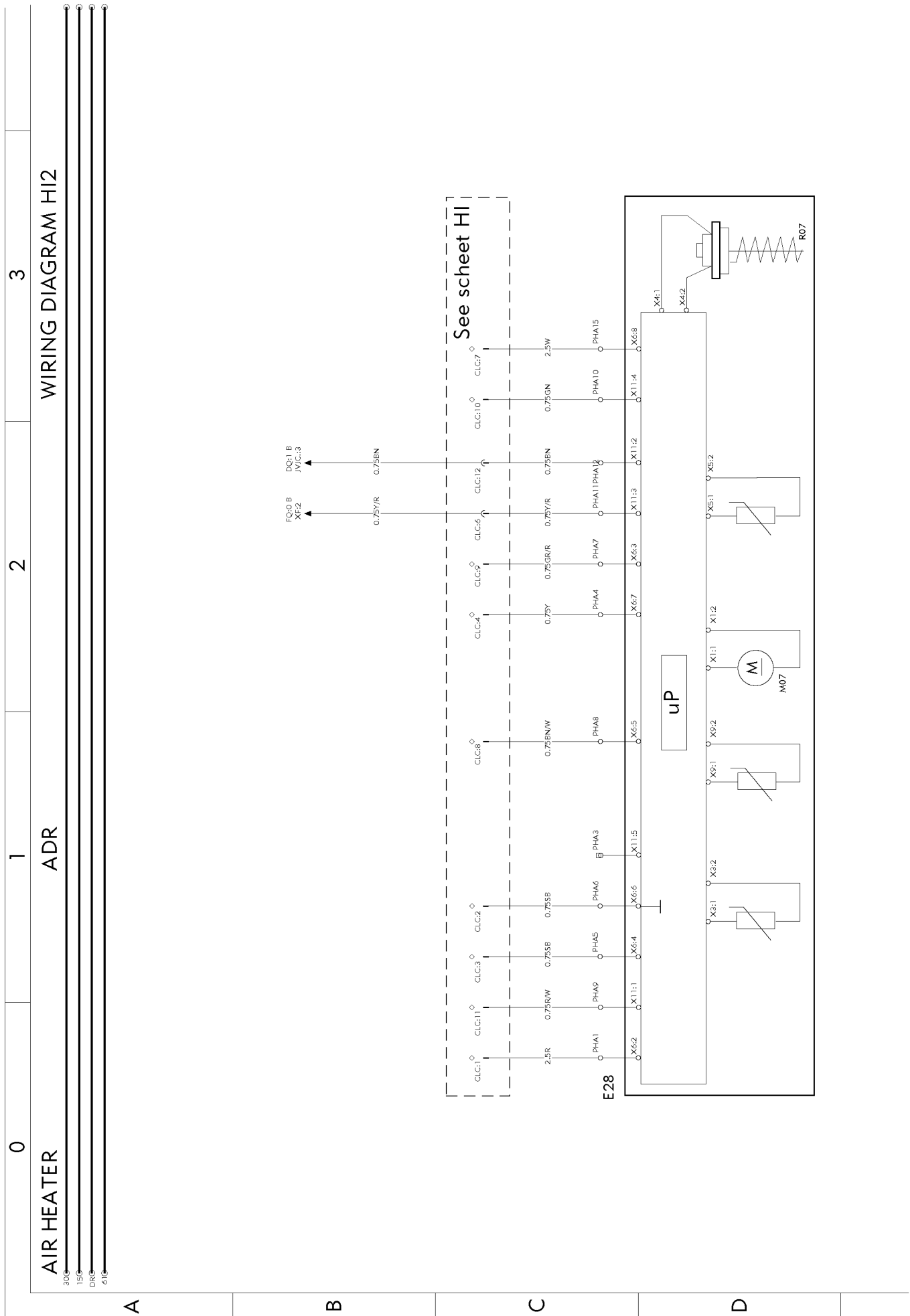


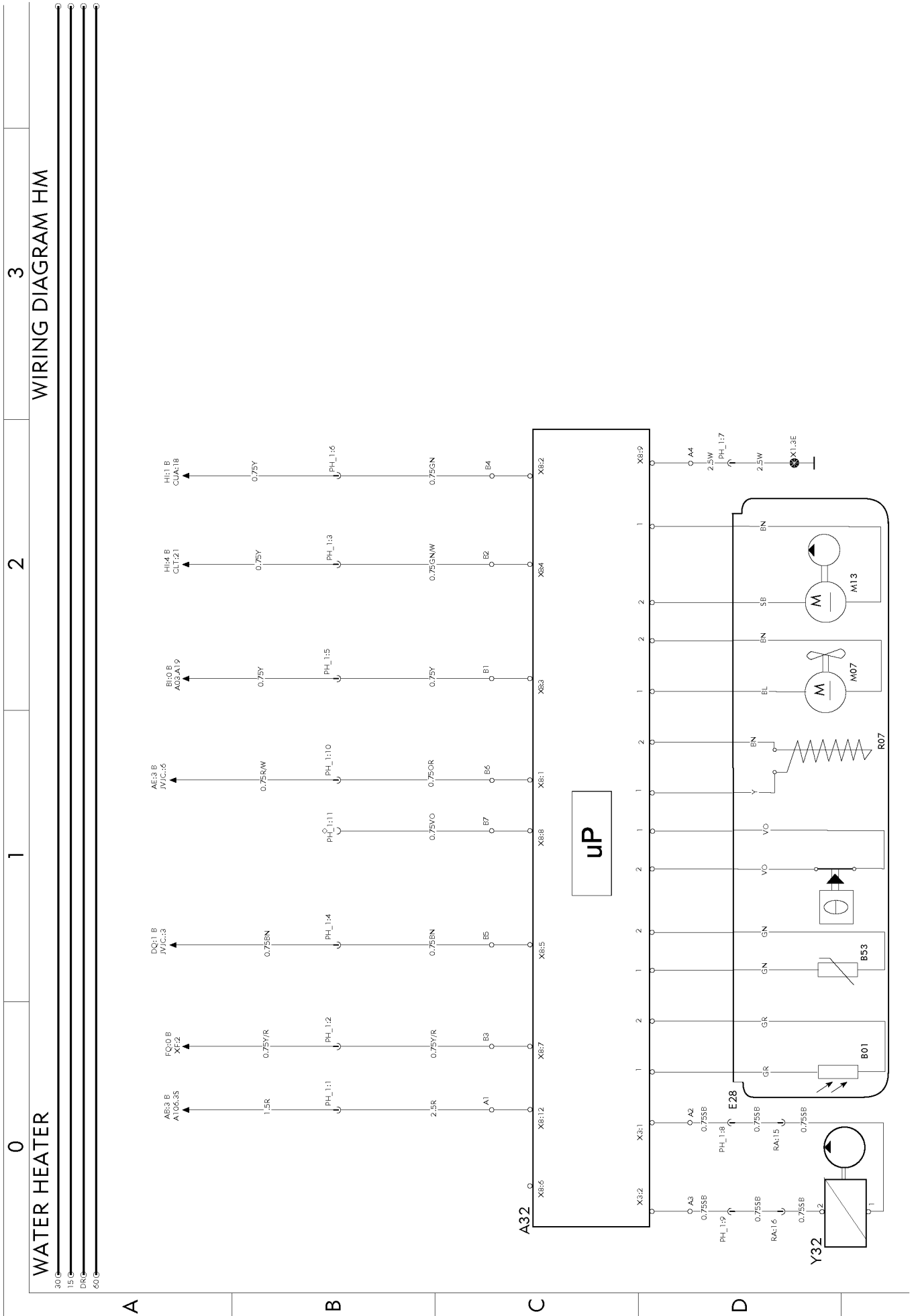


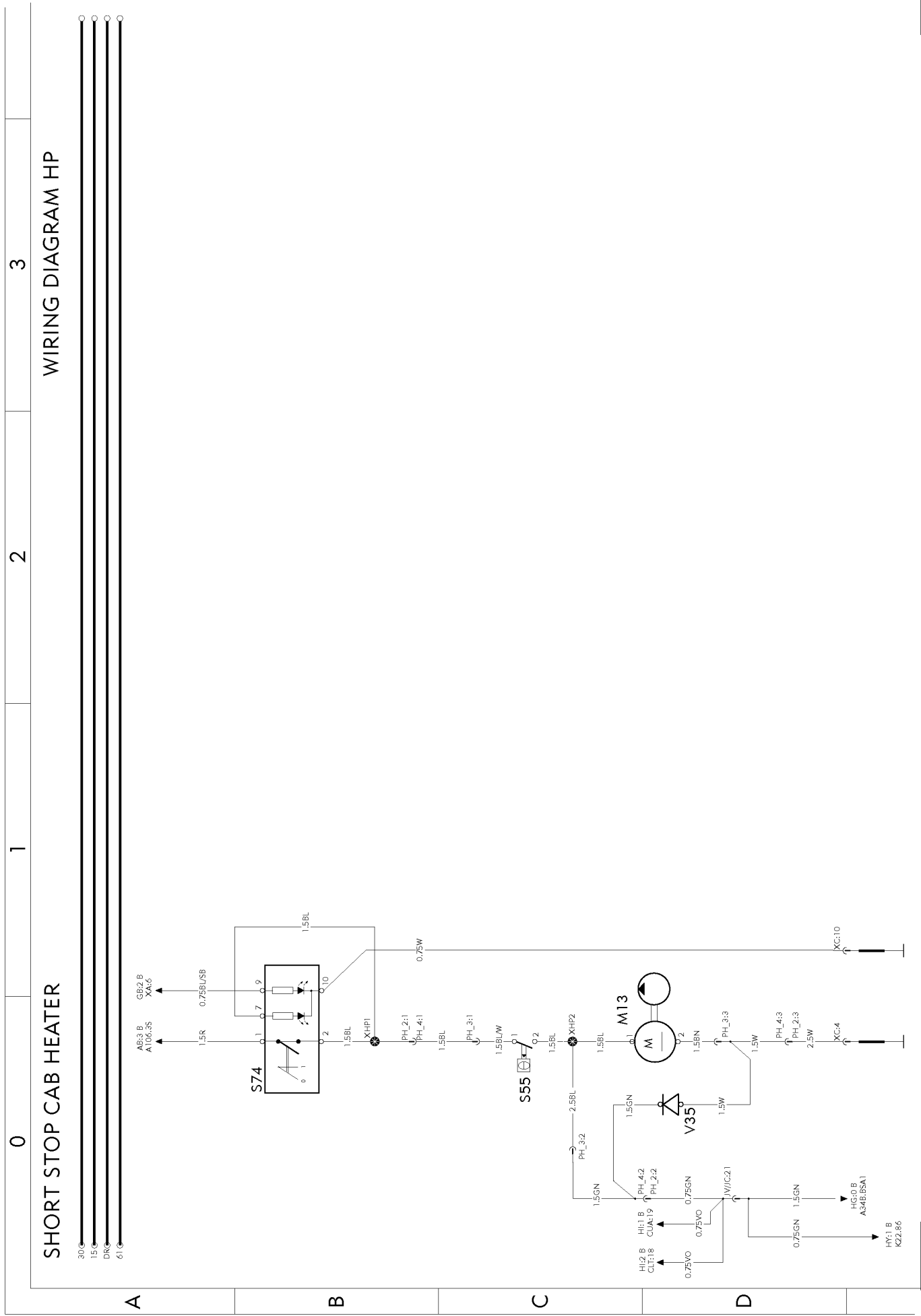












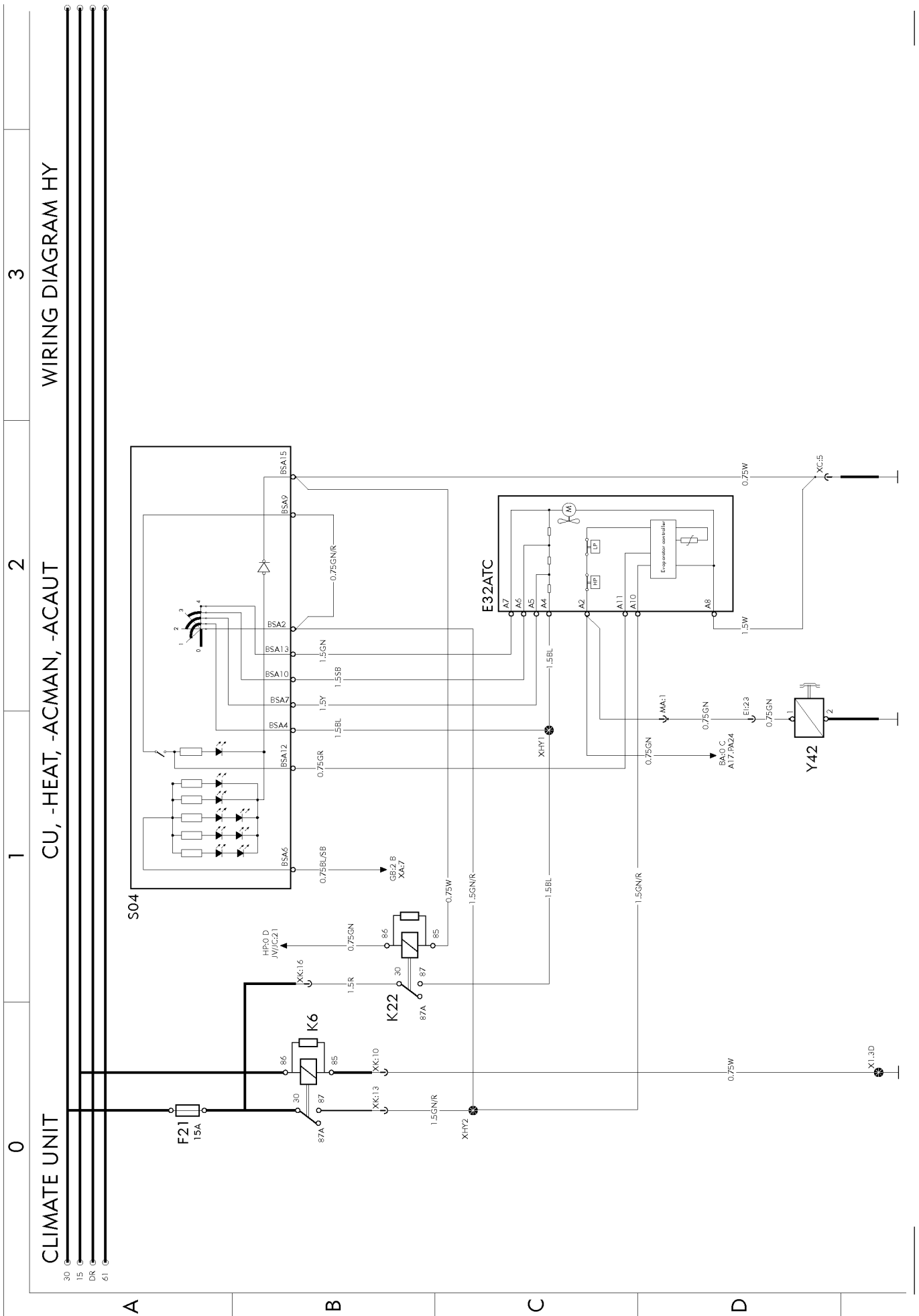
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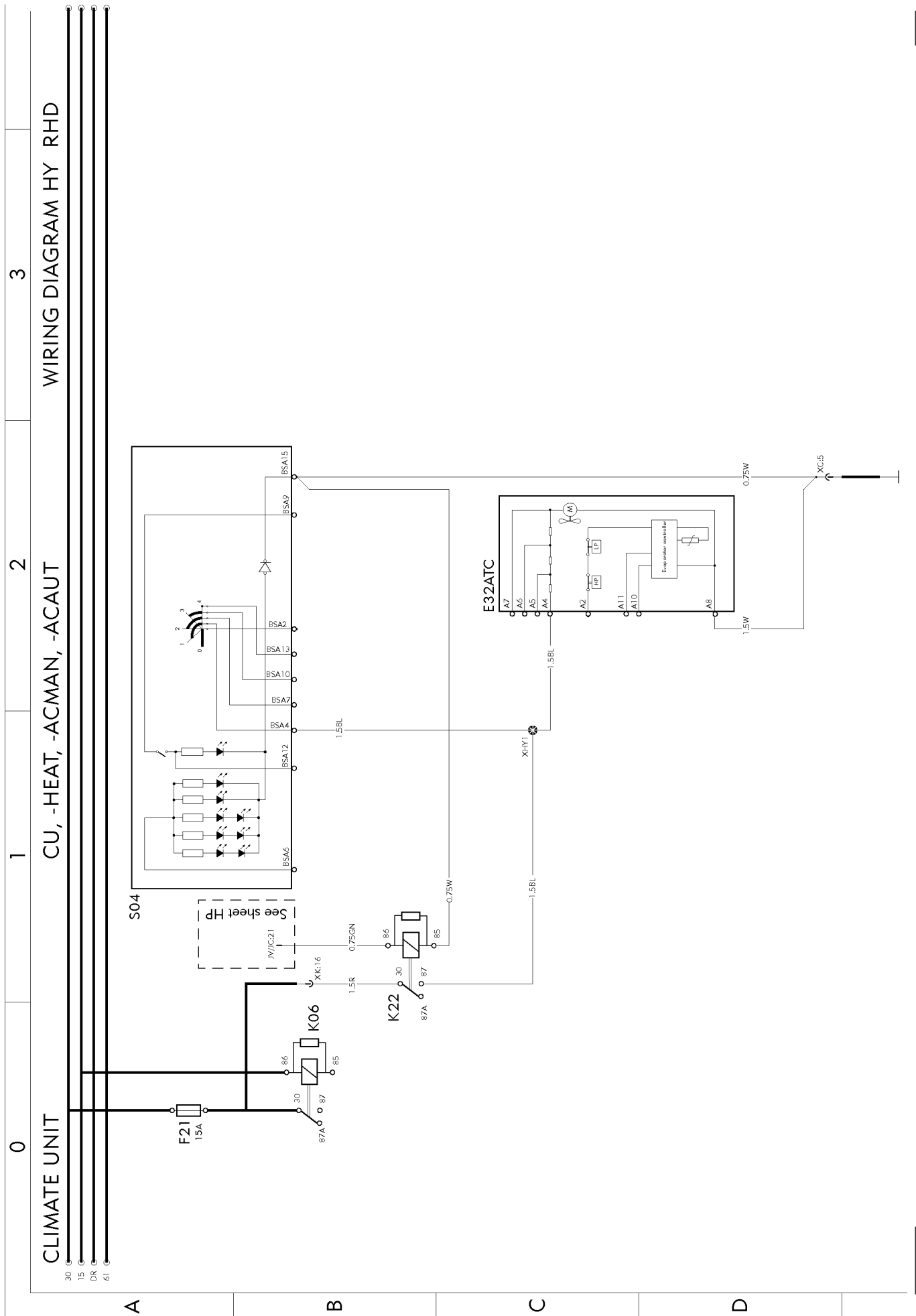
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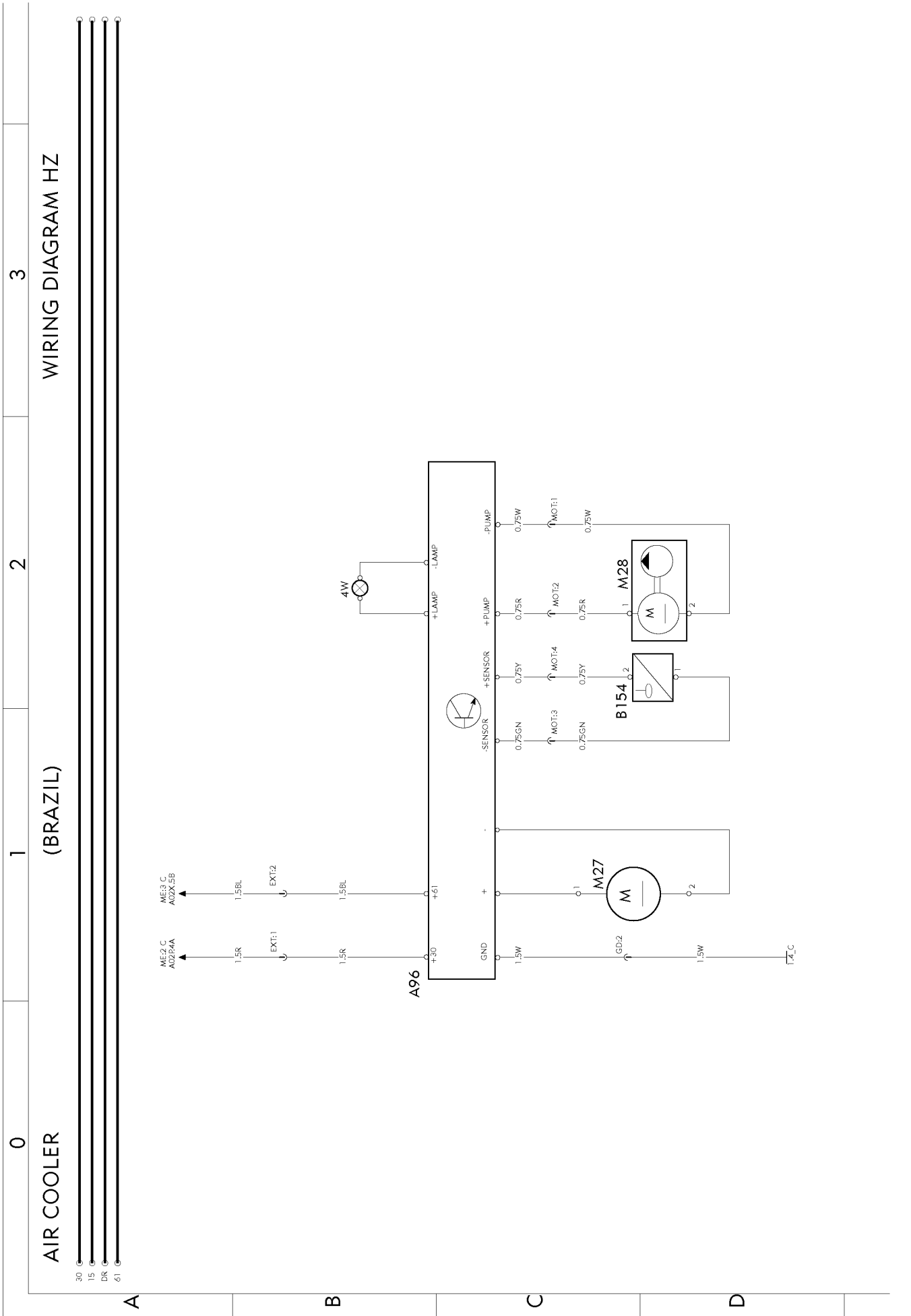
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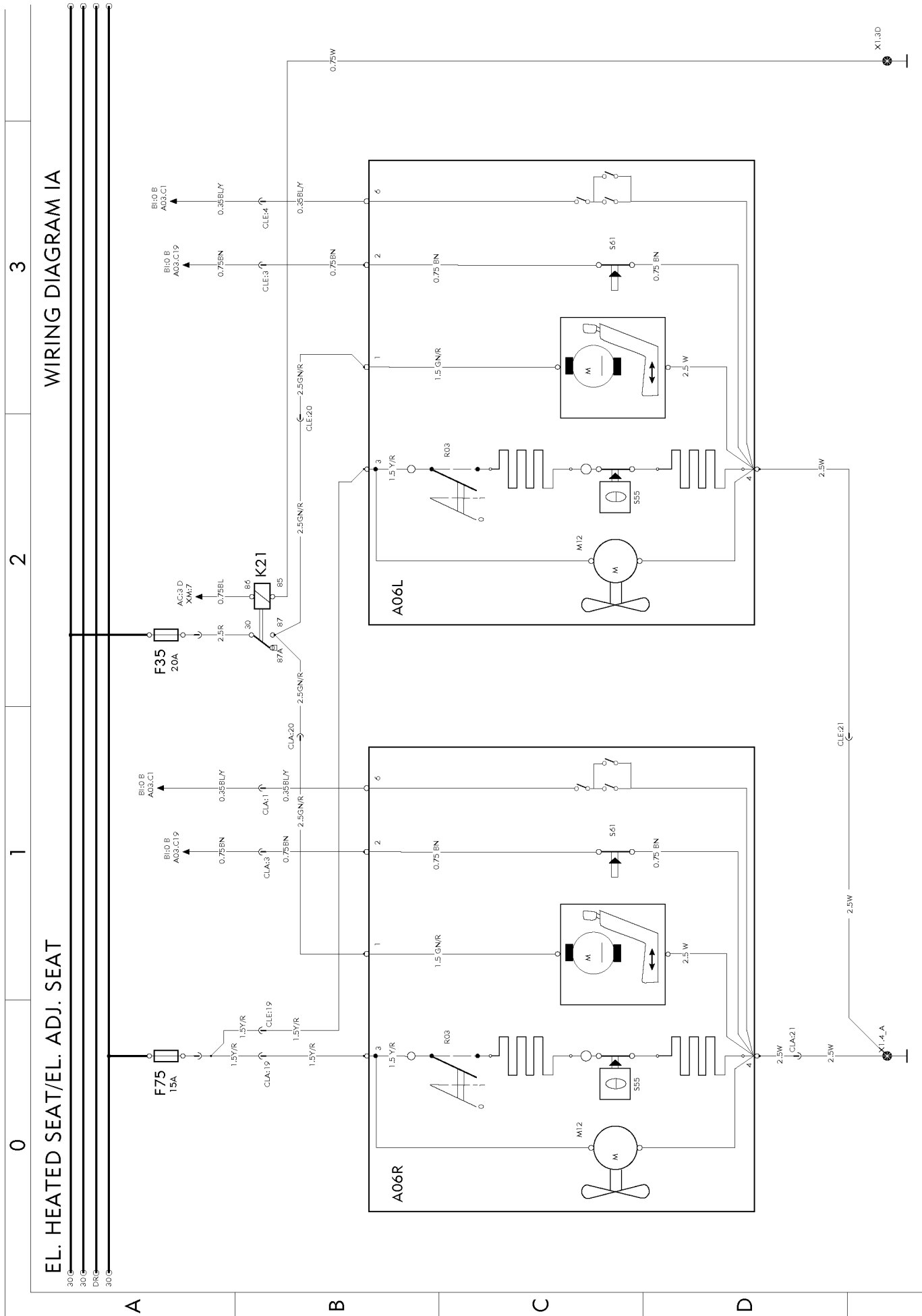
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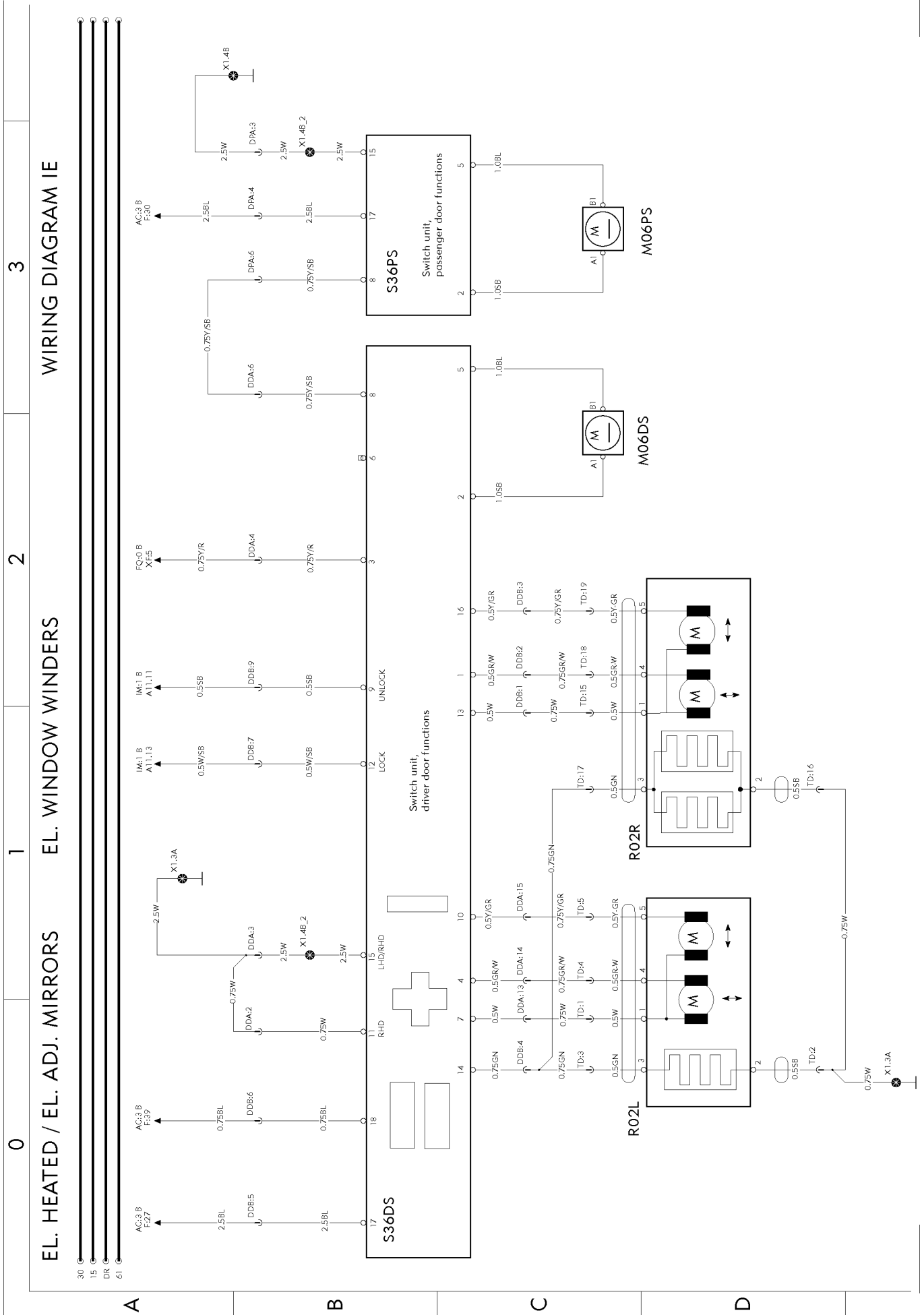


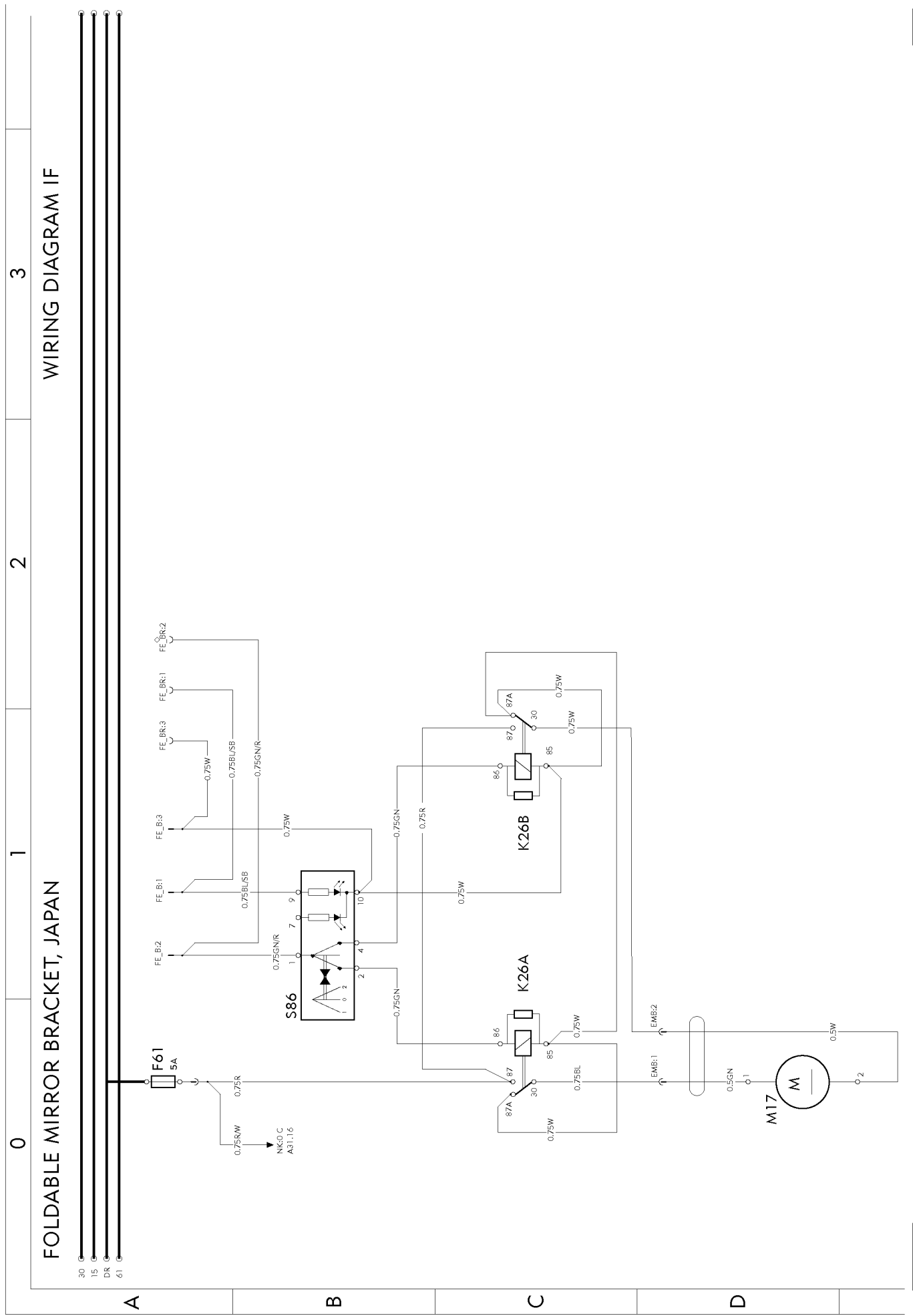


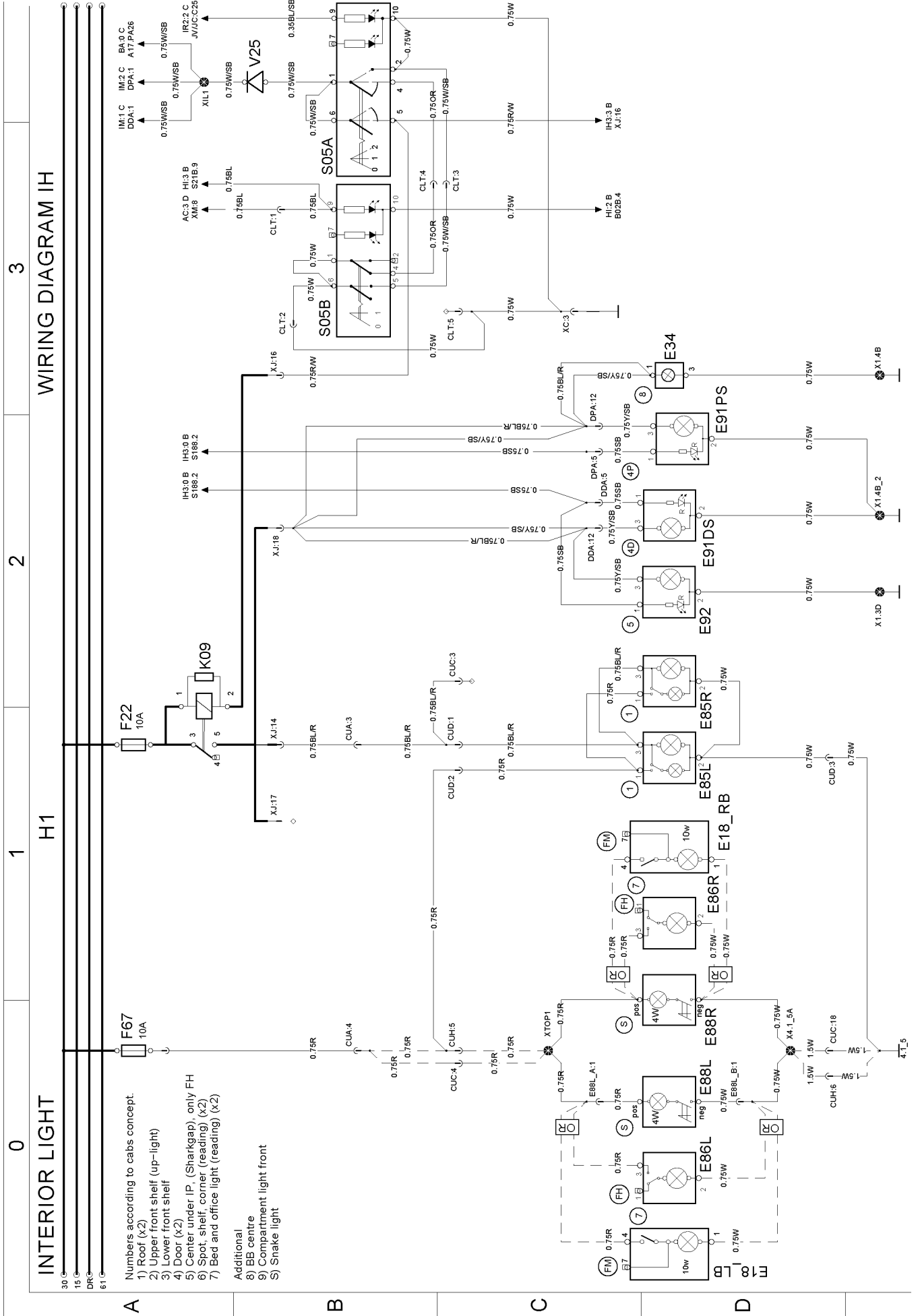






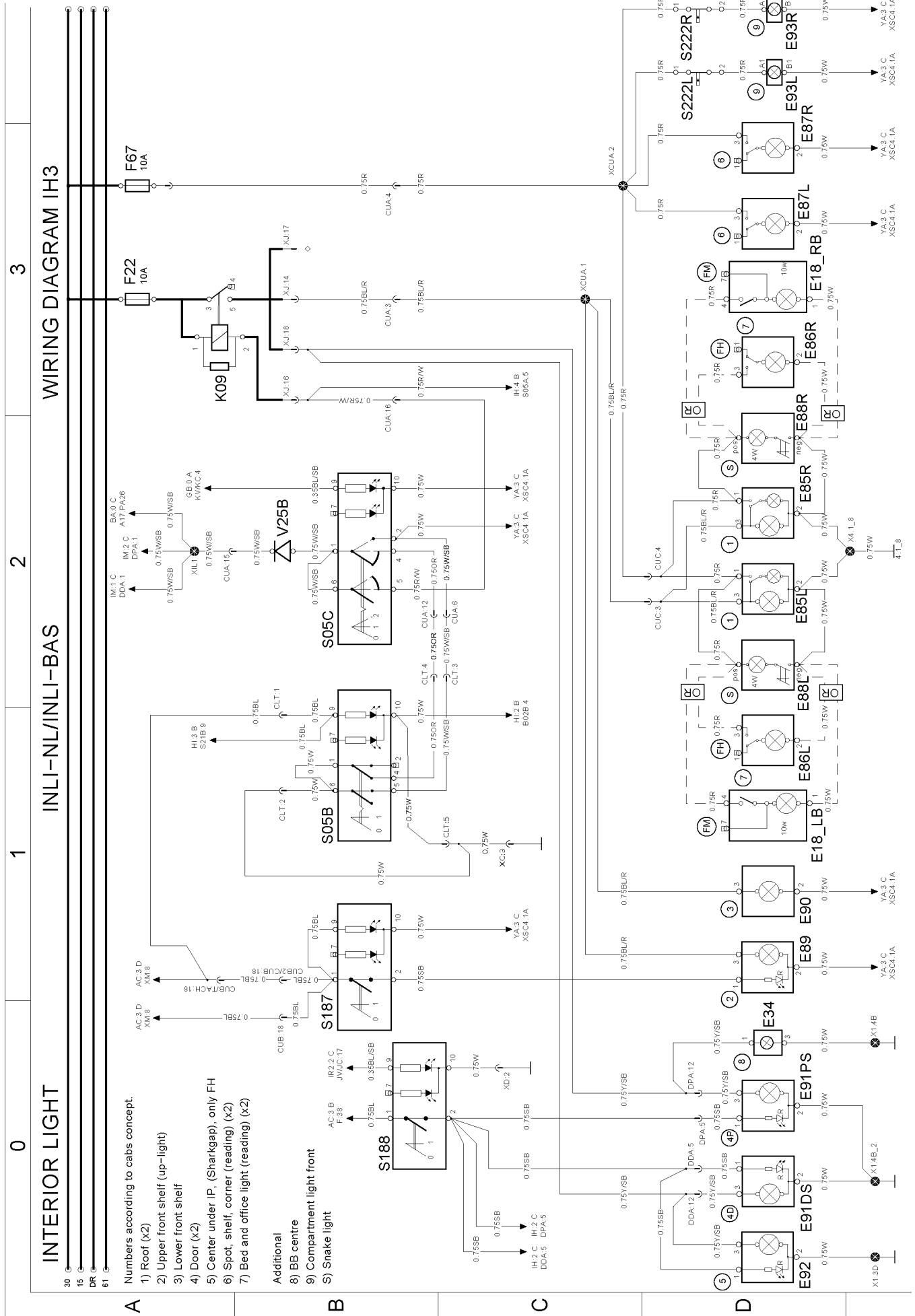


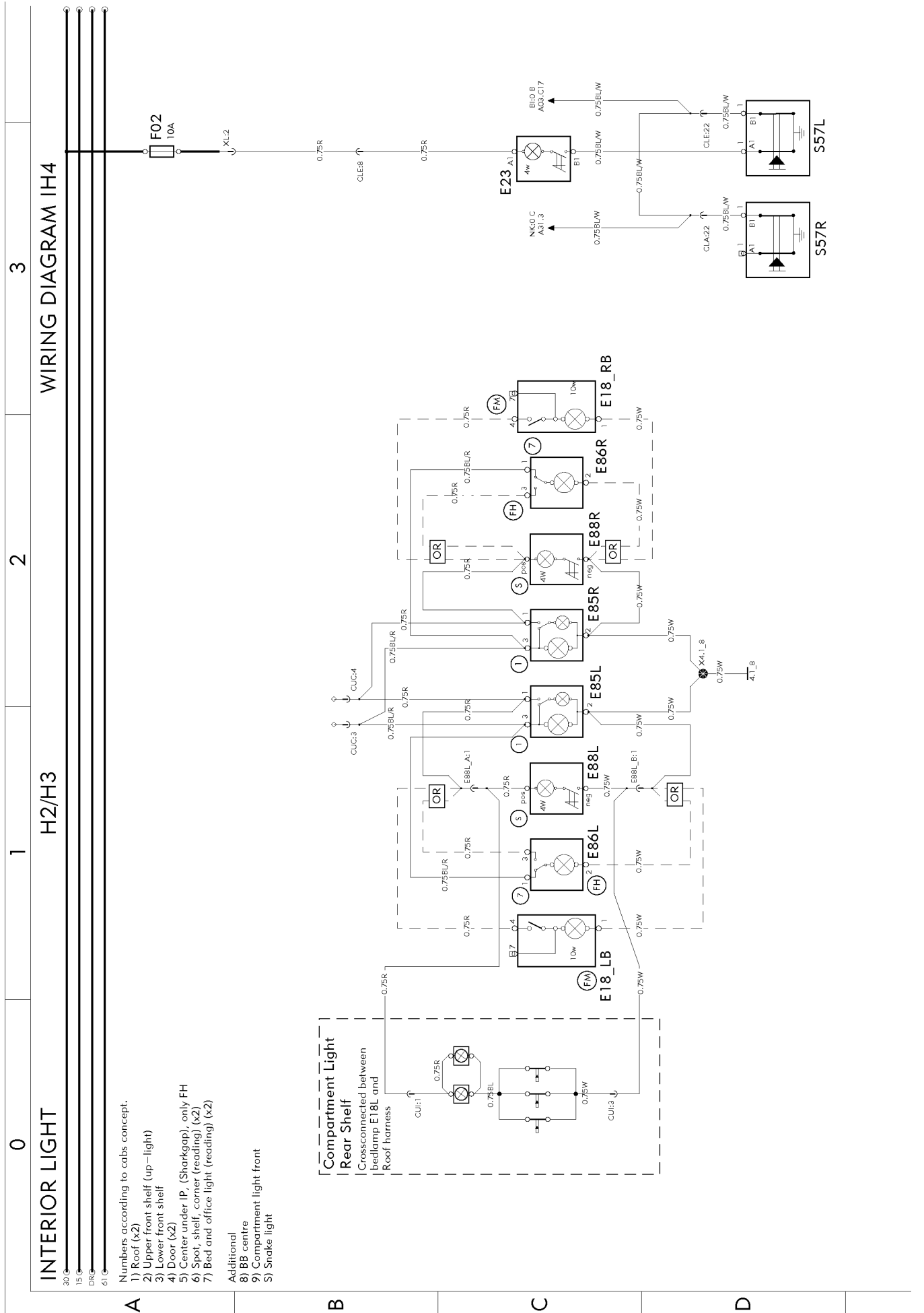


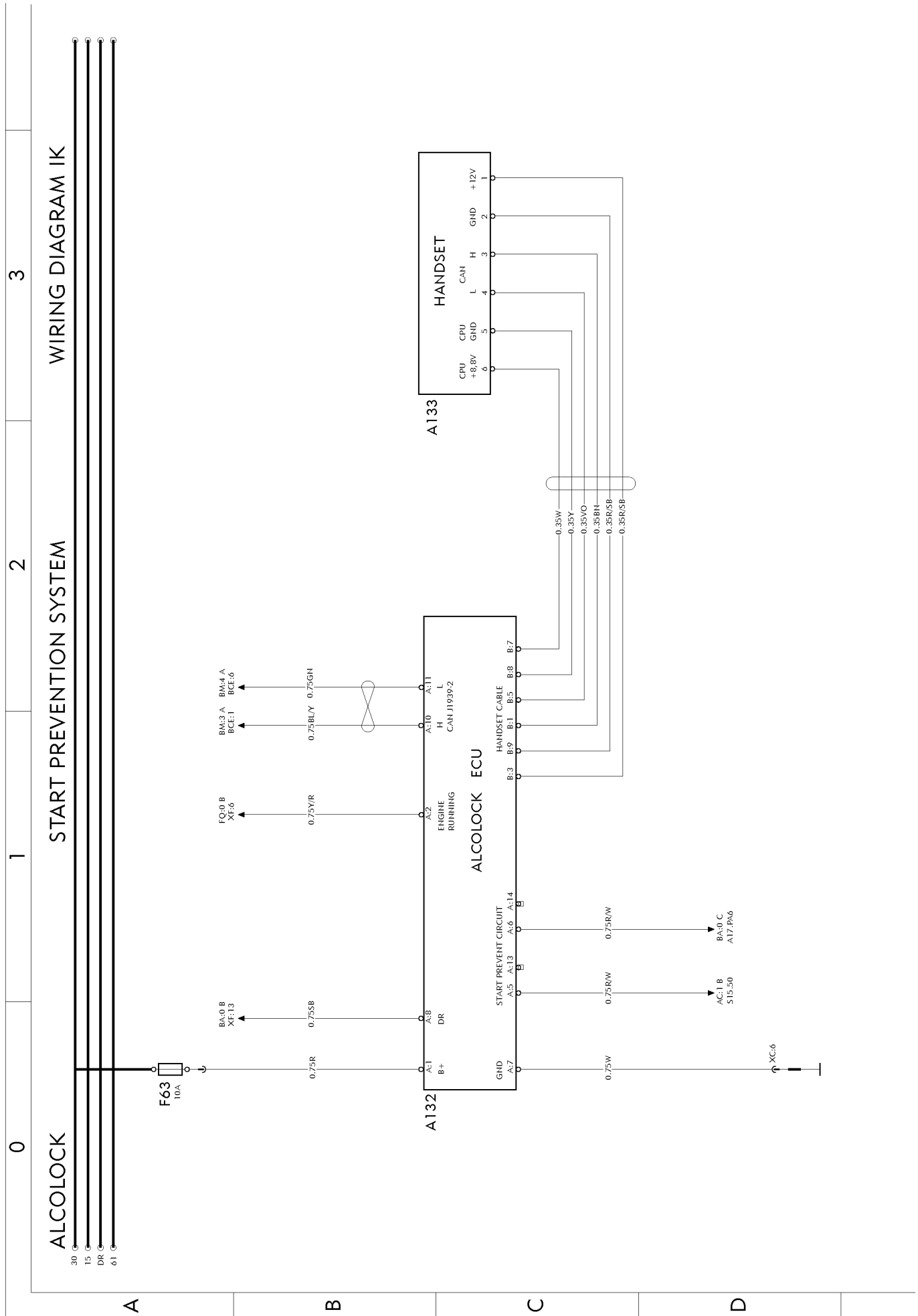


WIRING DIAGRAM IH

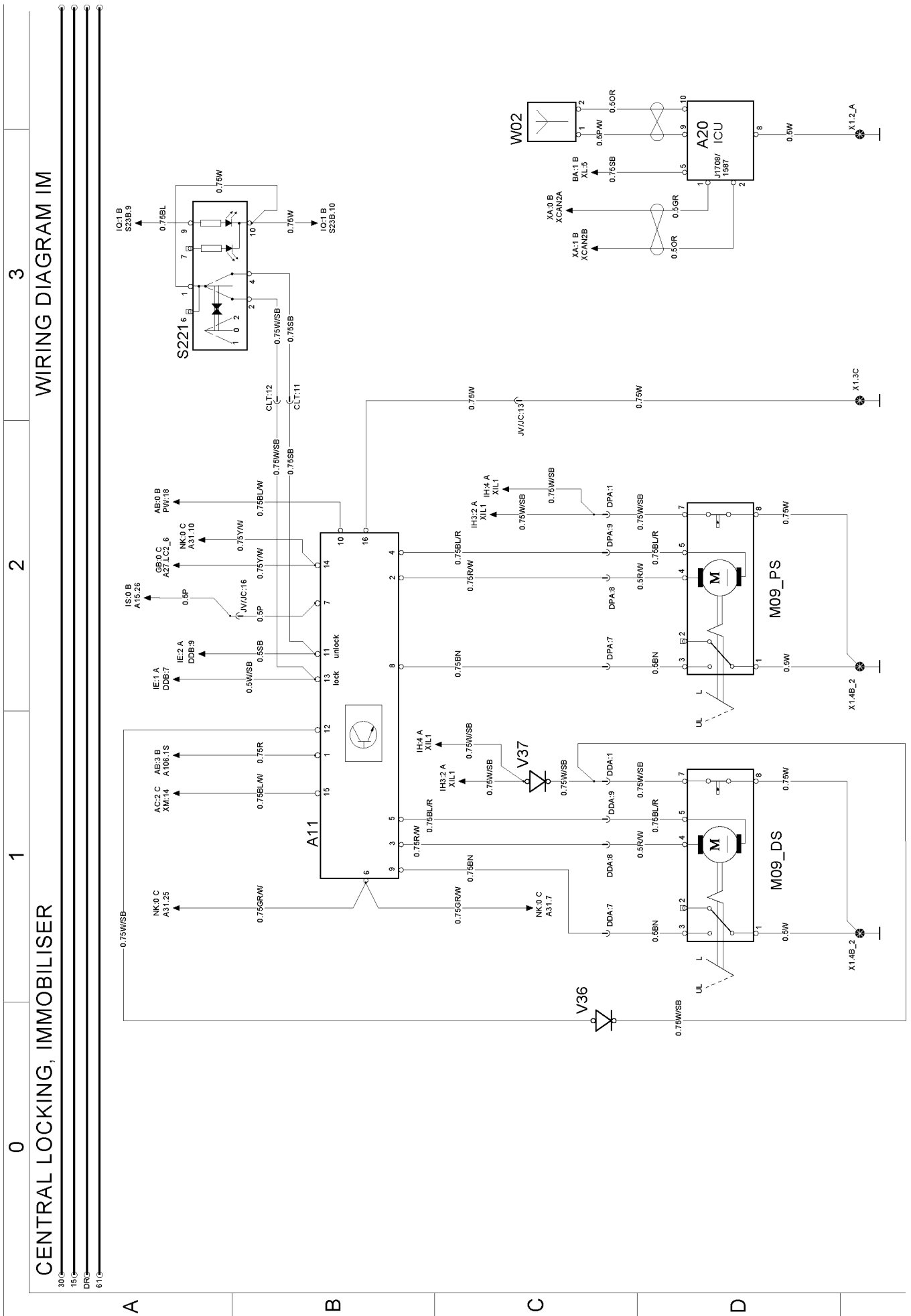
- Interior LIGHT**
- Numbers according to cabs concept.
- 1) Roof (x2)
  - 2) Upper front shelf (up-light)
  - 3) Lower front shelf
  - 4) Door (x2)
  - 5) Center under IP, (Sharkgap), only FH
  - 6) Spot, shelf, corner (reading) (x2)
  - 7) Bed and office light (reading) (x2)
- Additional
- 8) BB centre
  - 9) Compartment light front
  - S) Snake light

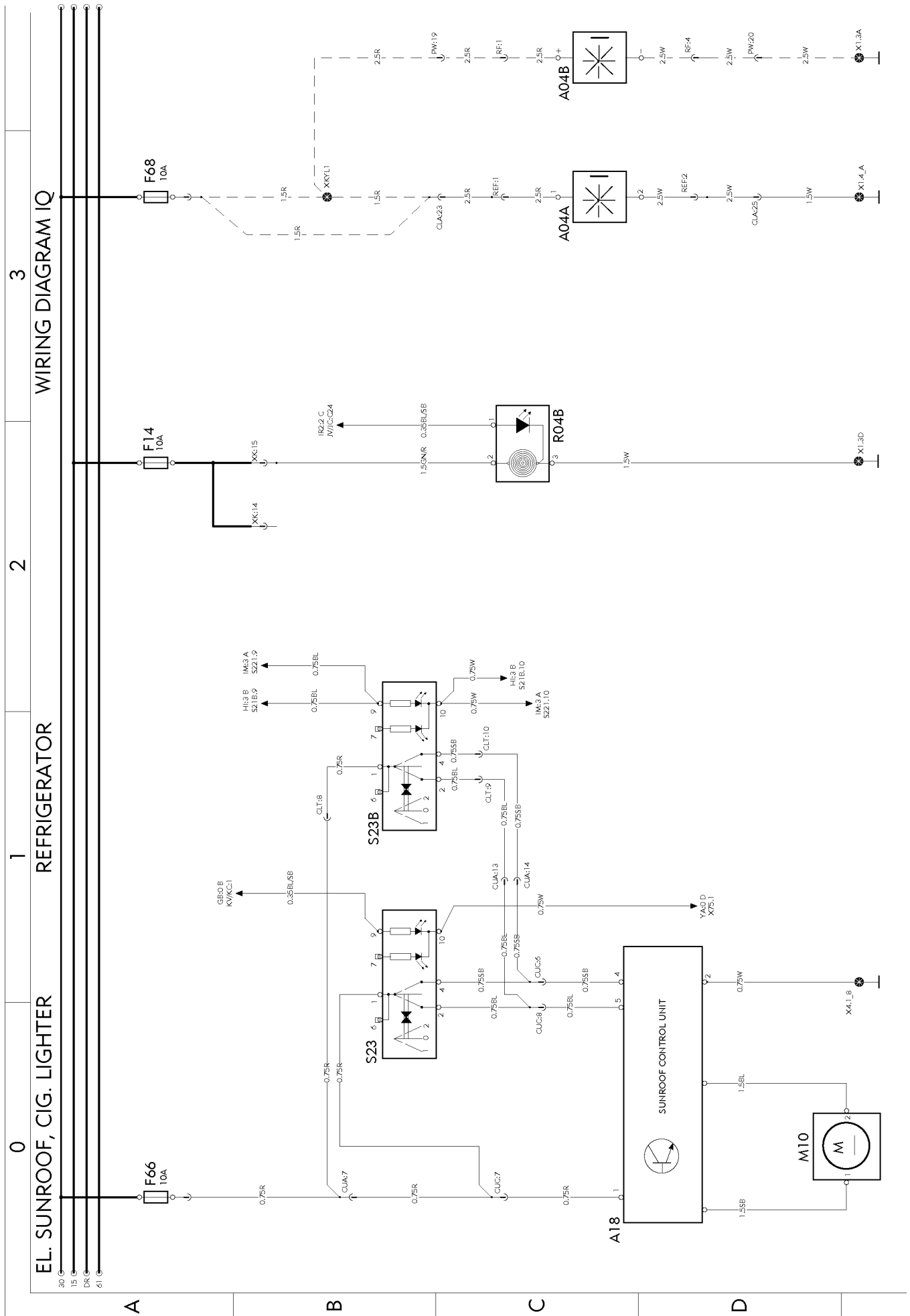


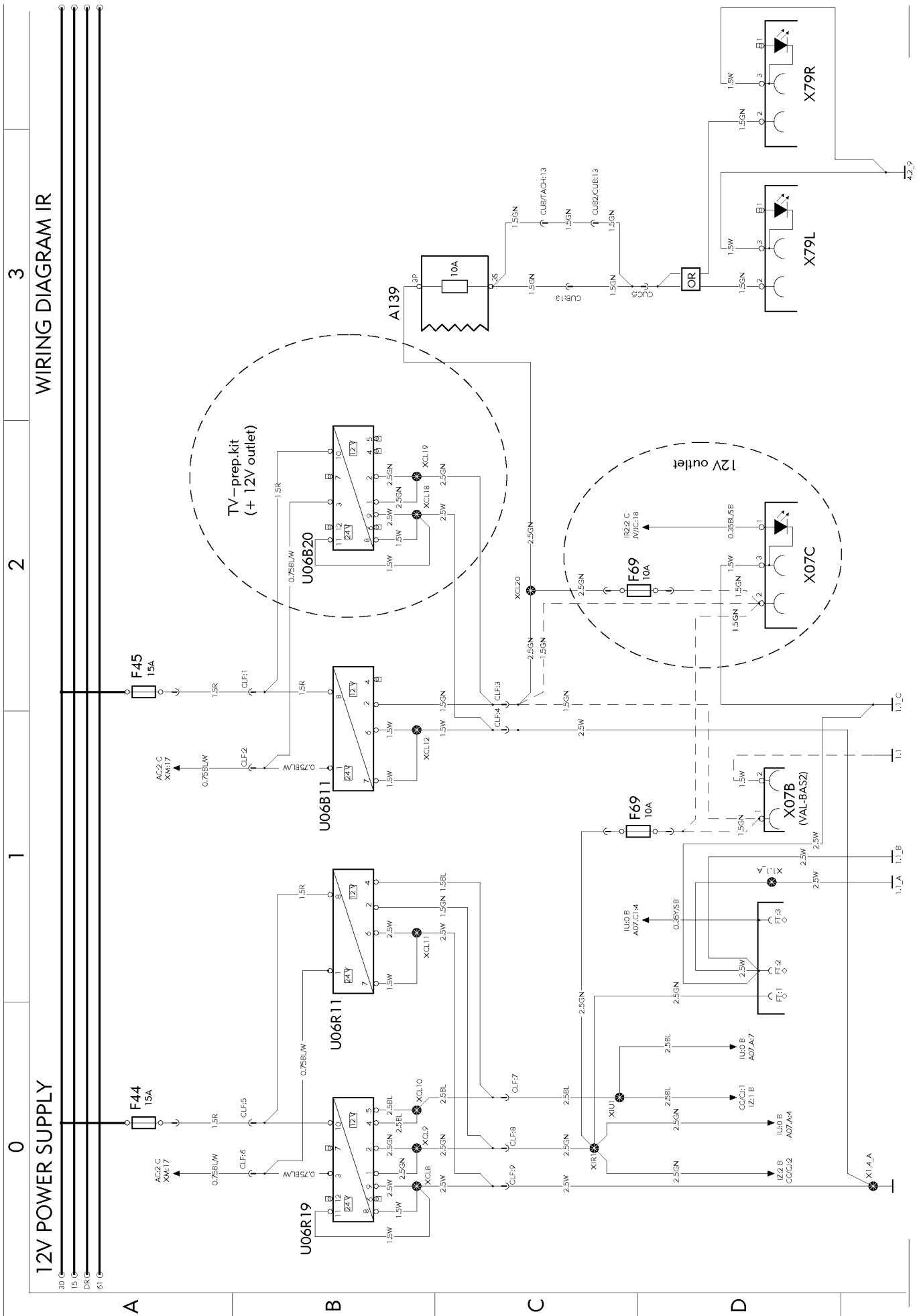




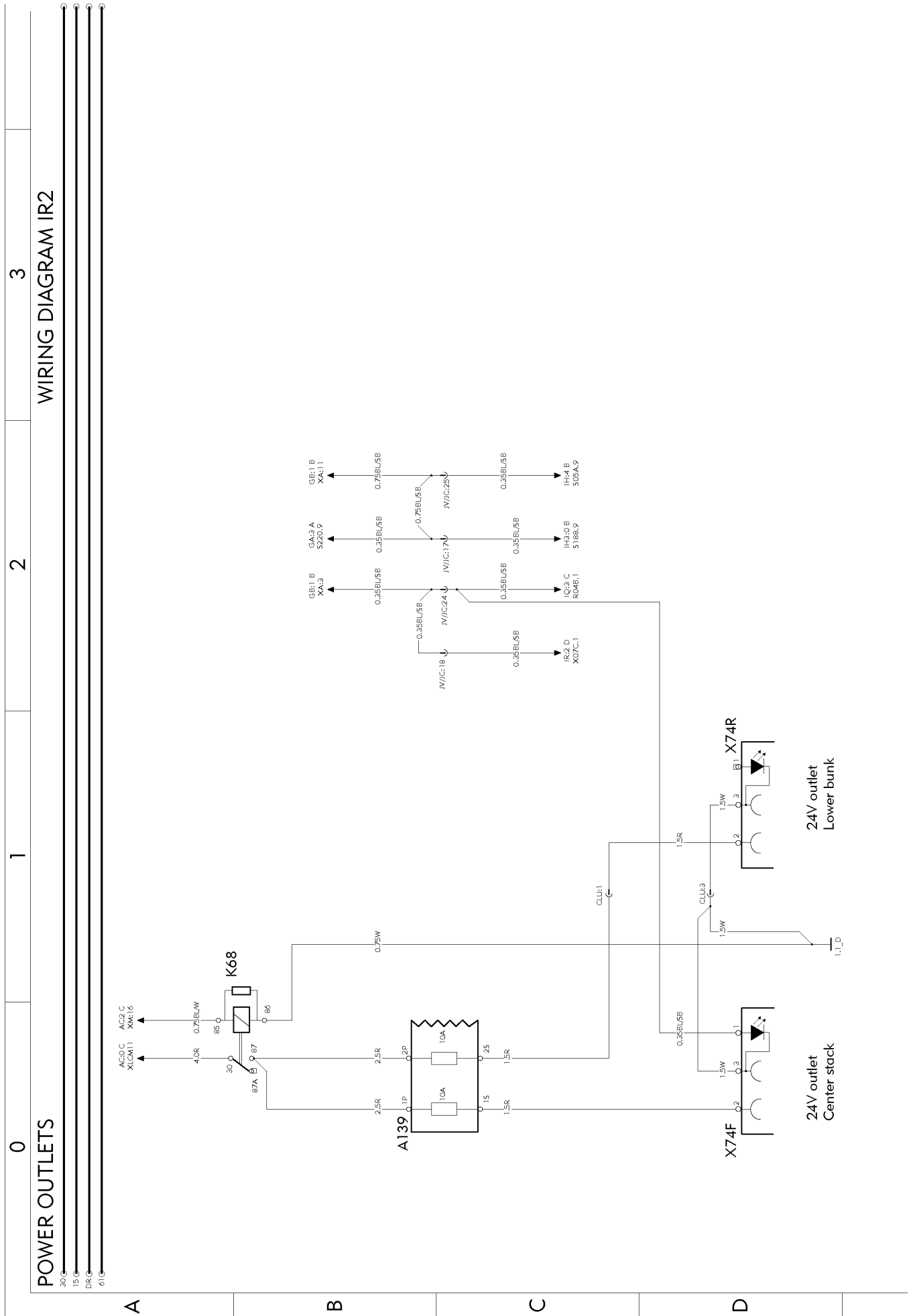




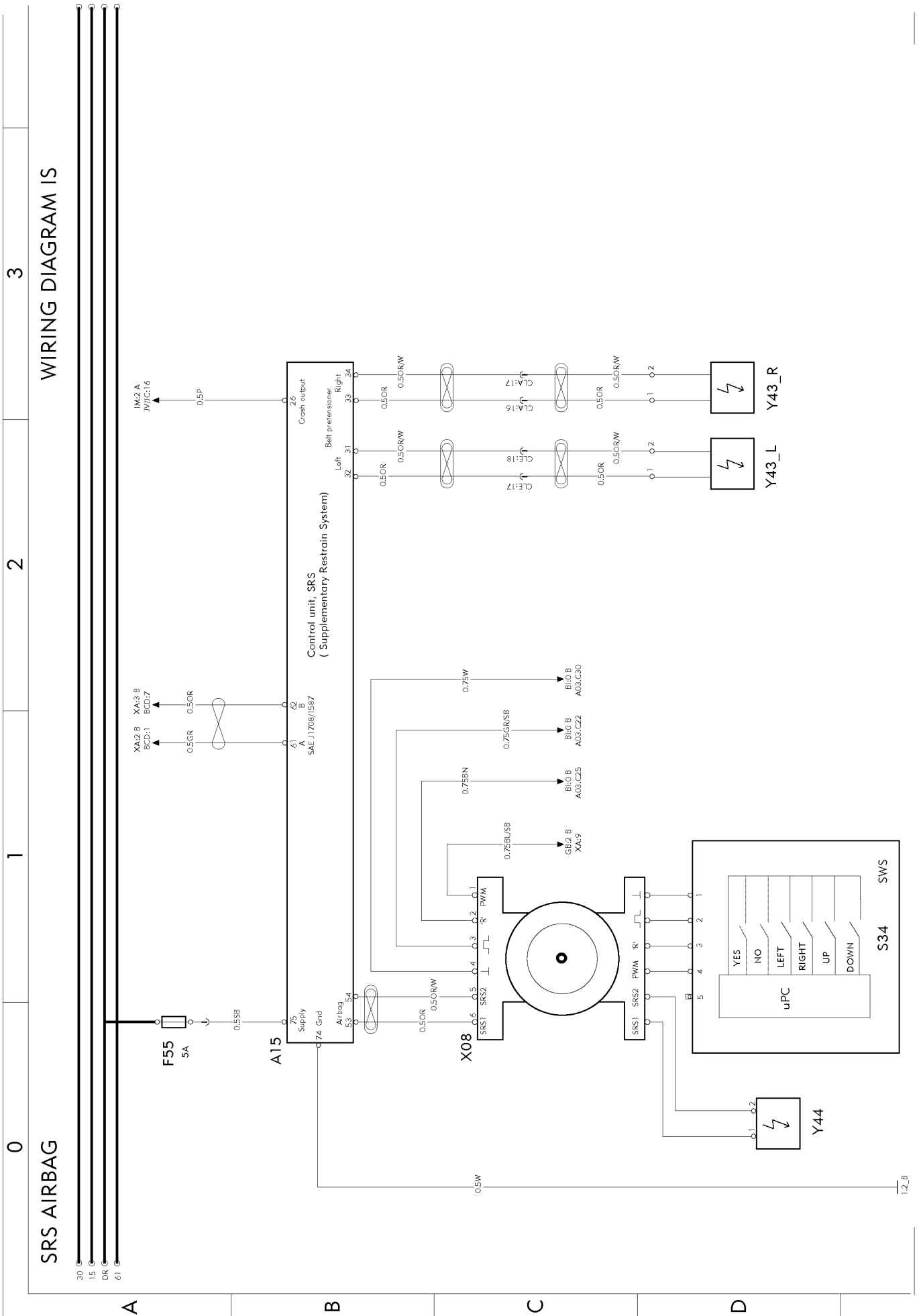




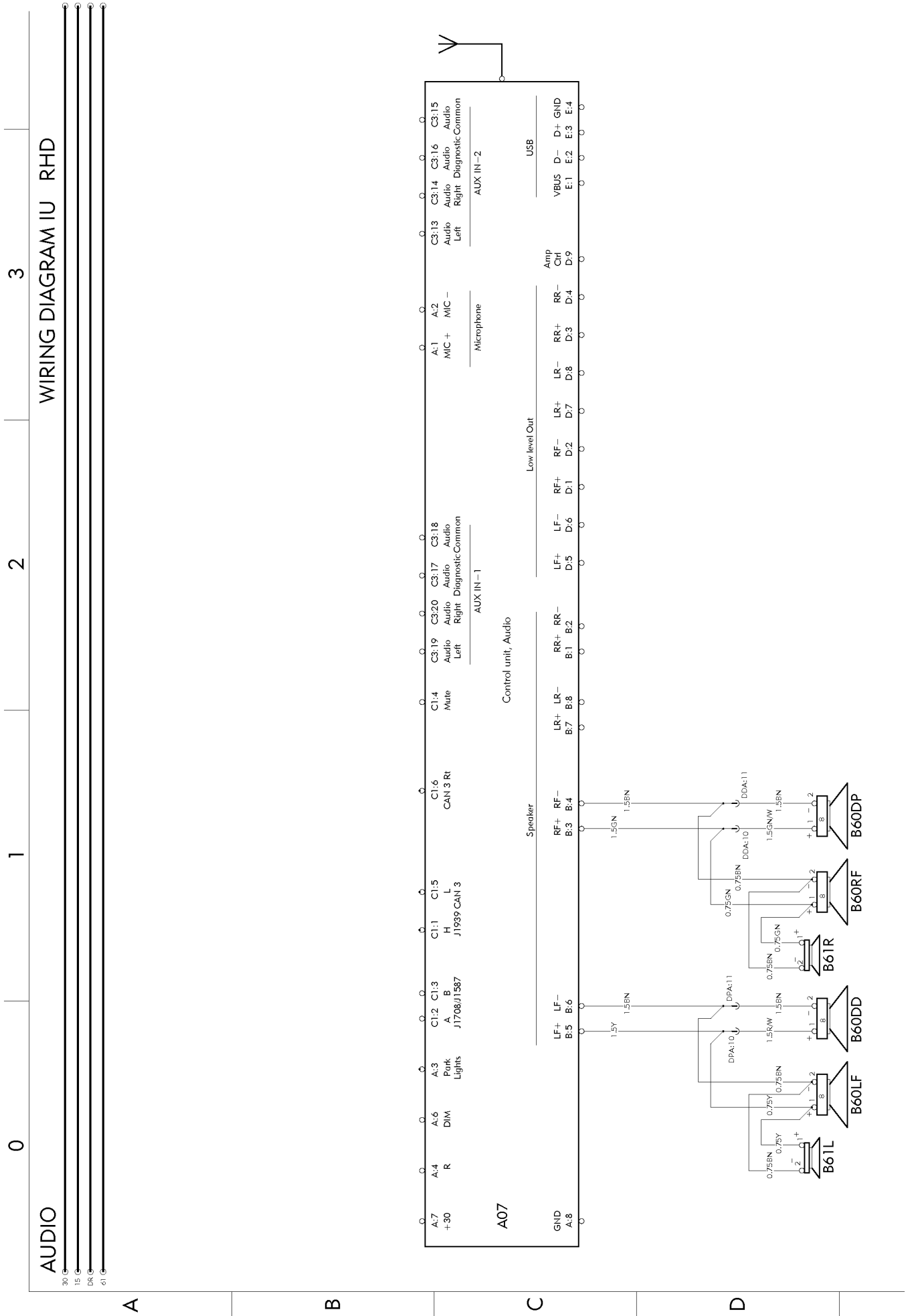
T3021479



T3021480

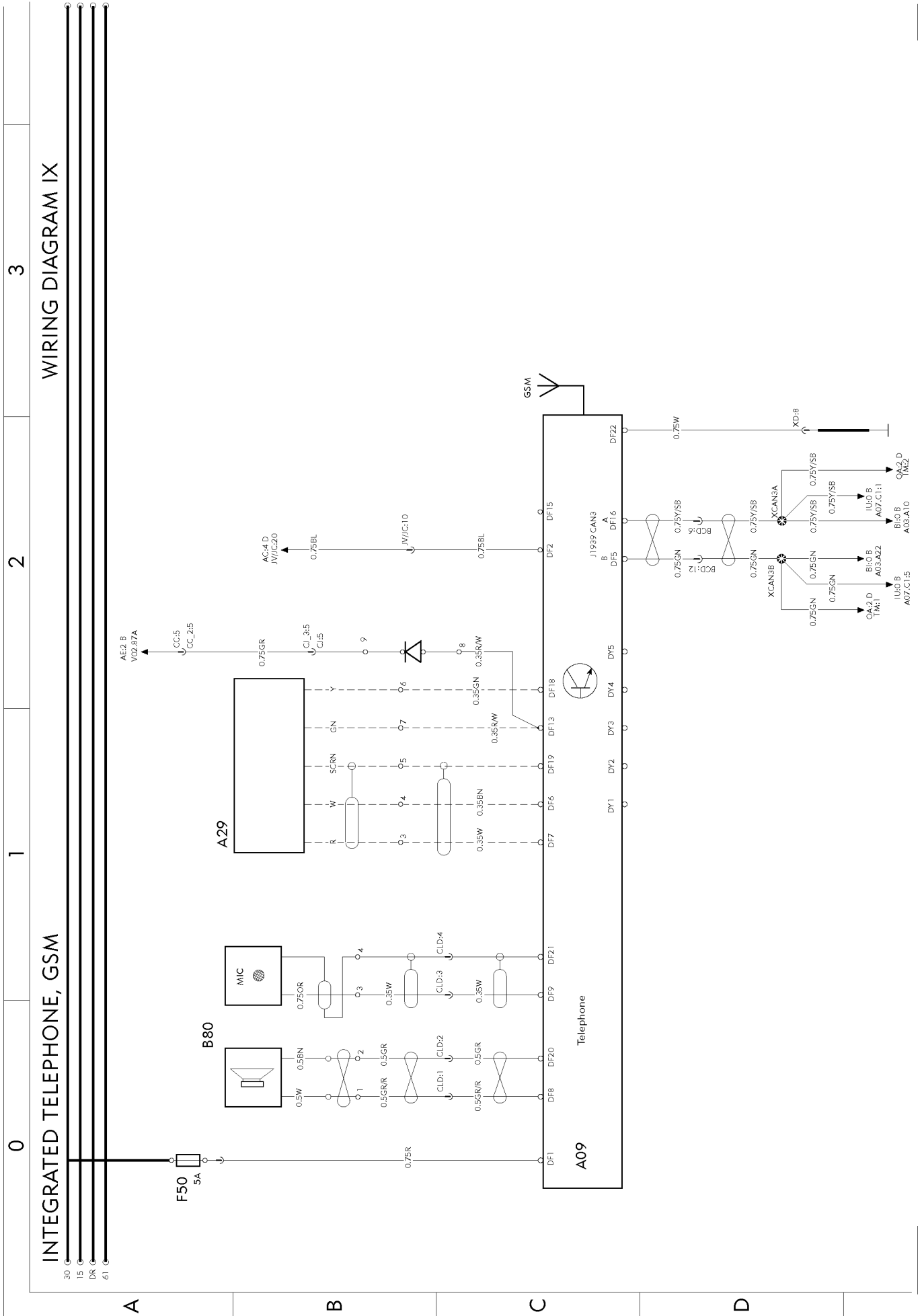


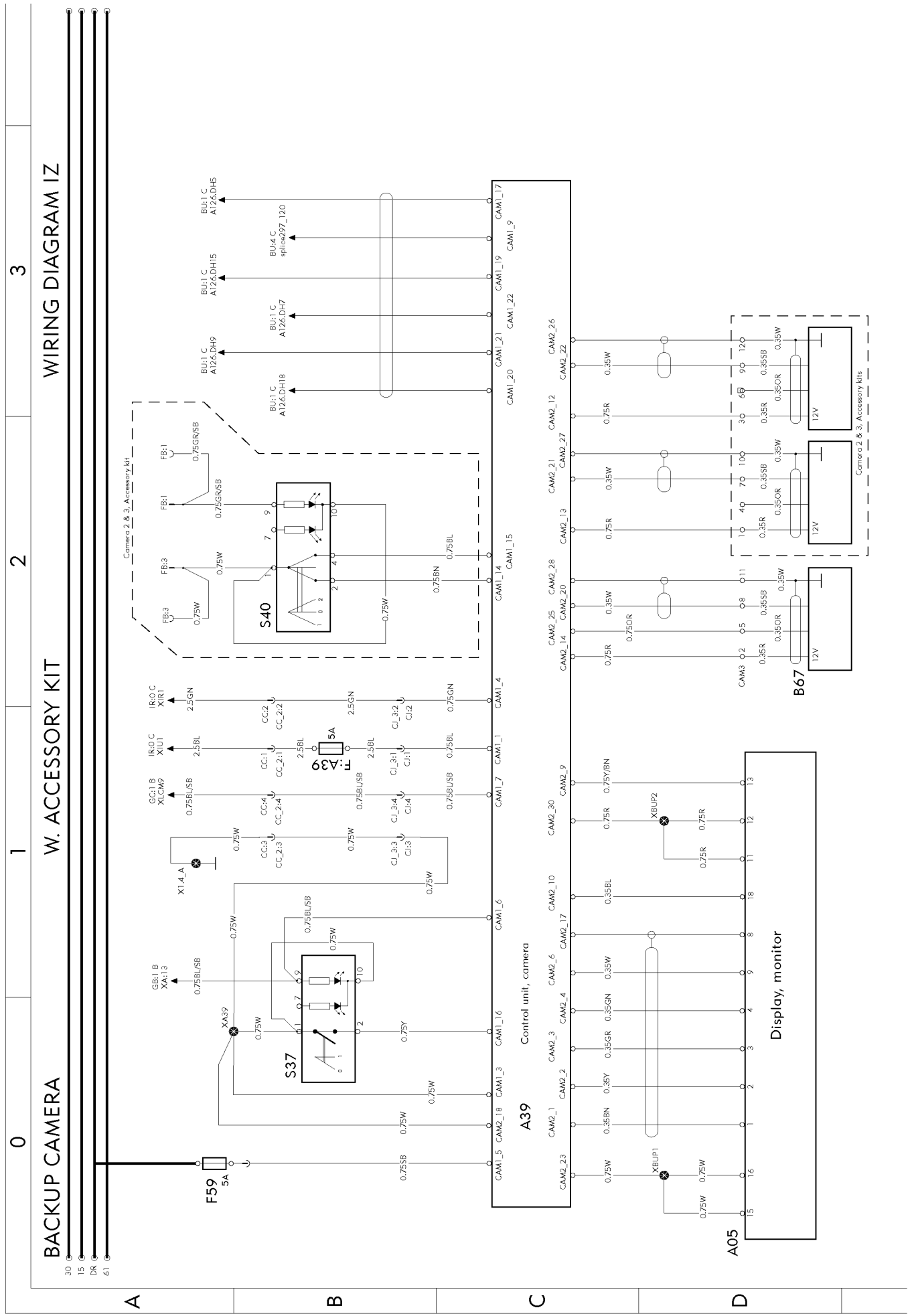


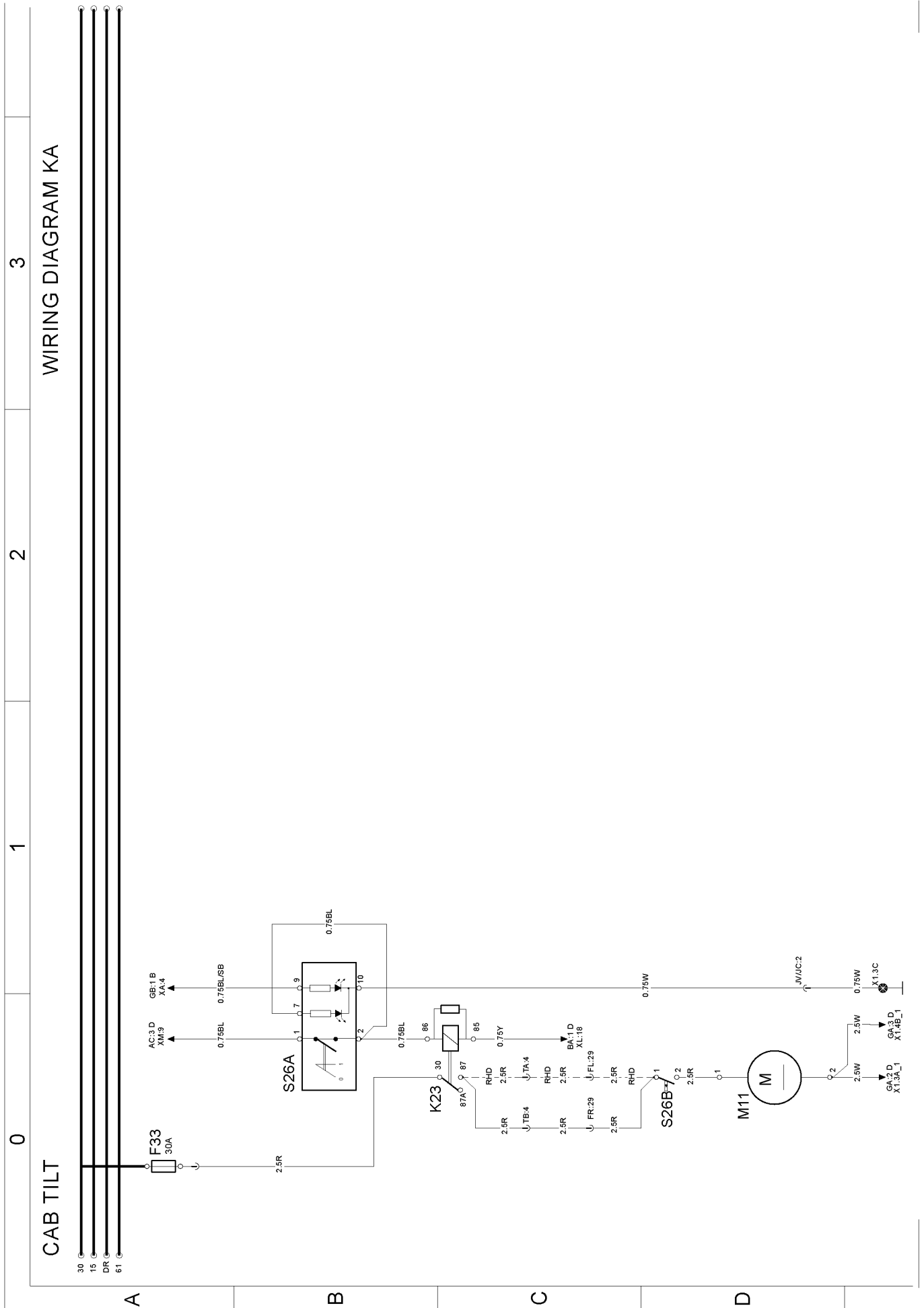




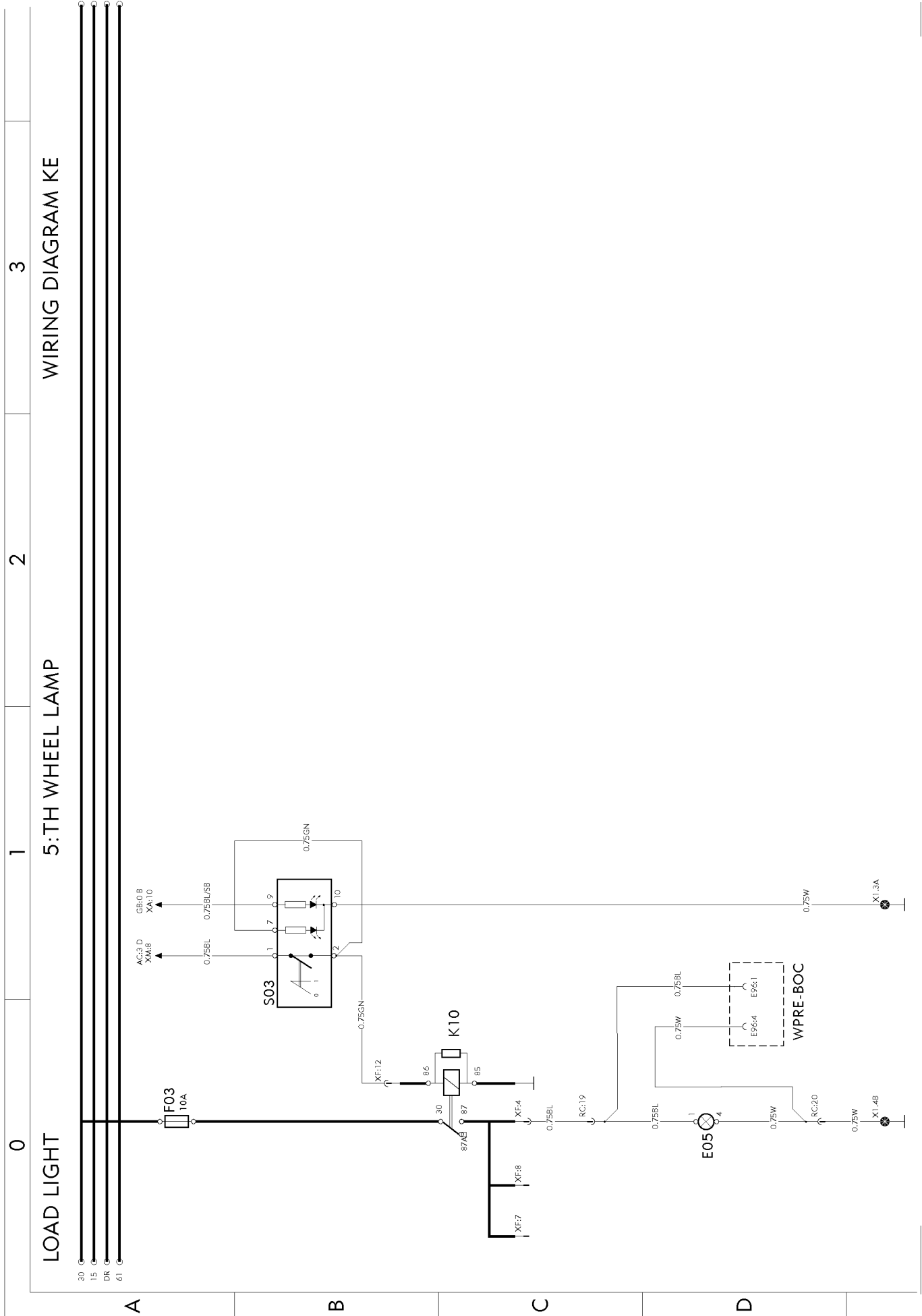




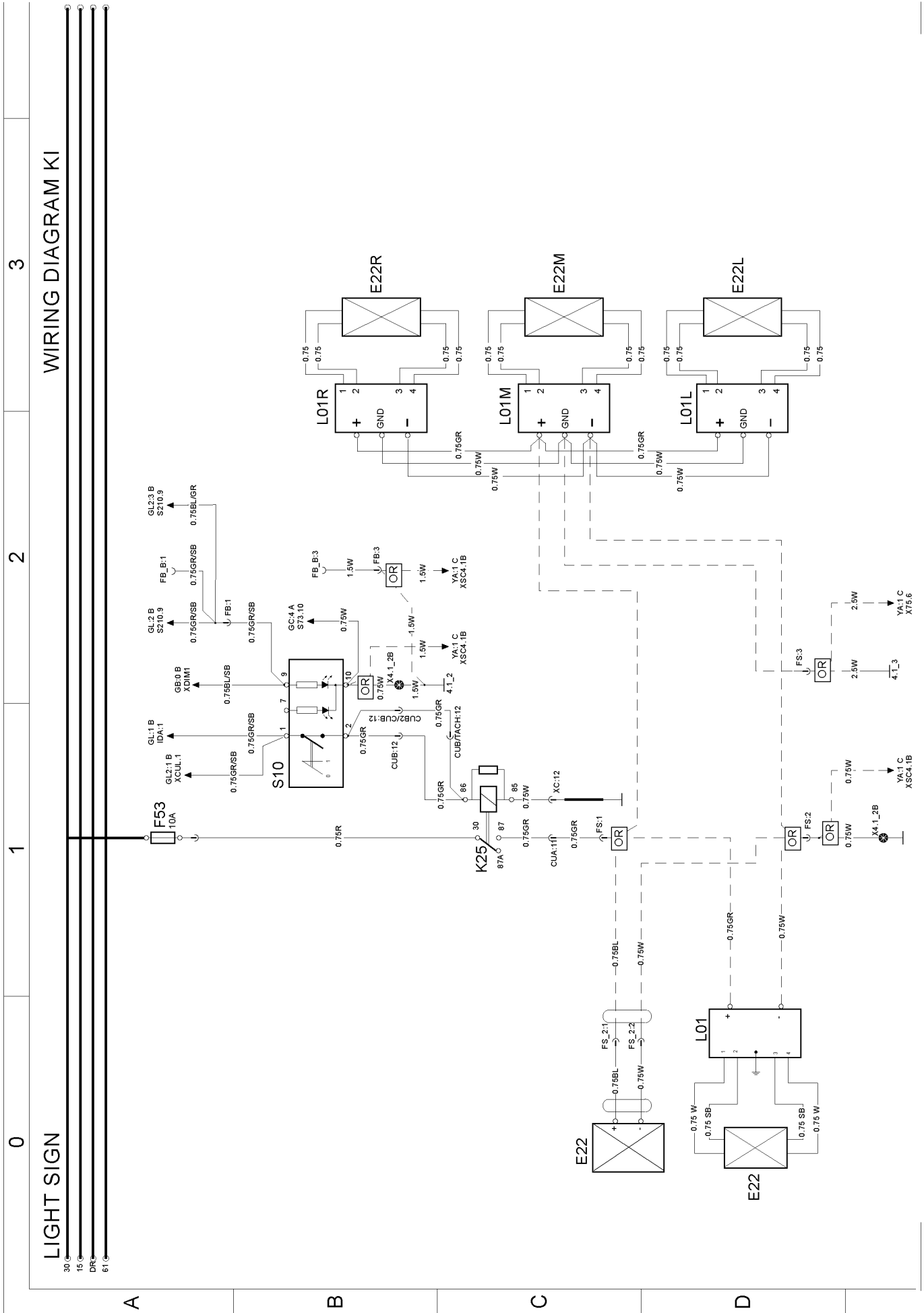


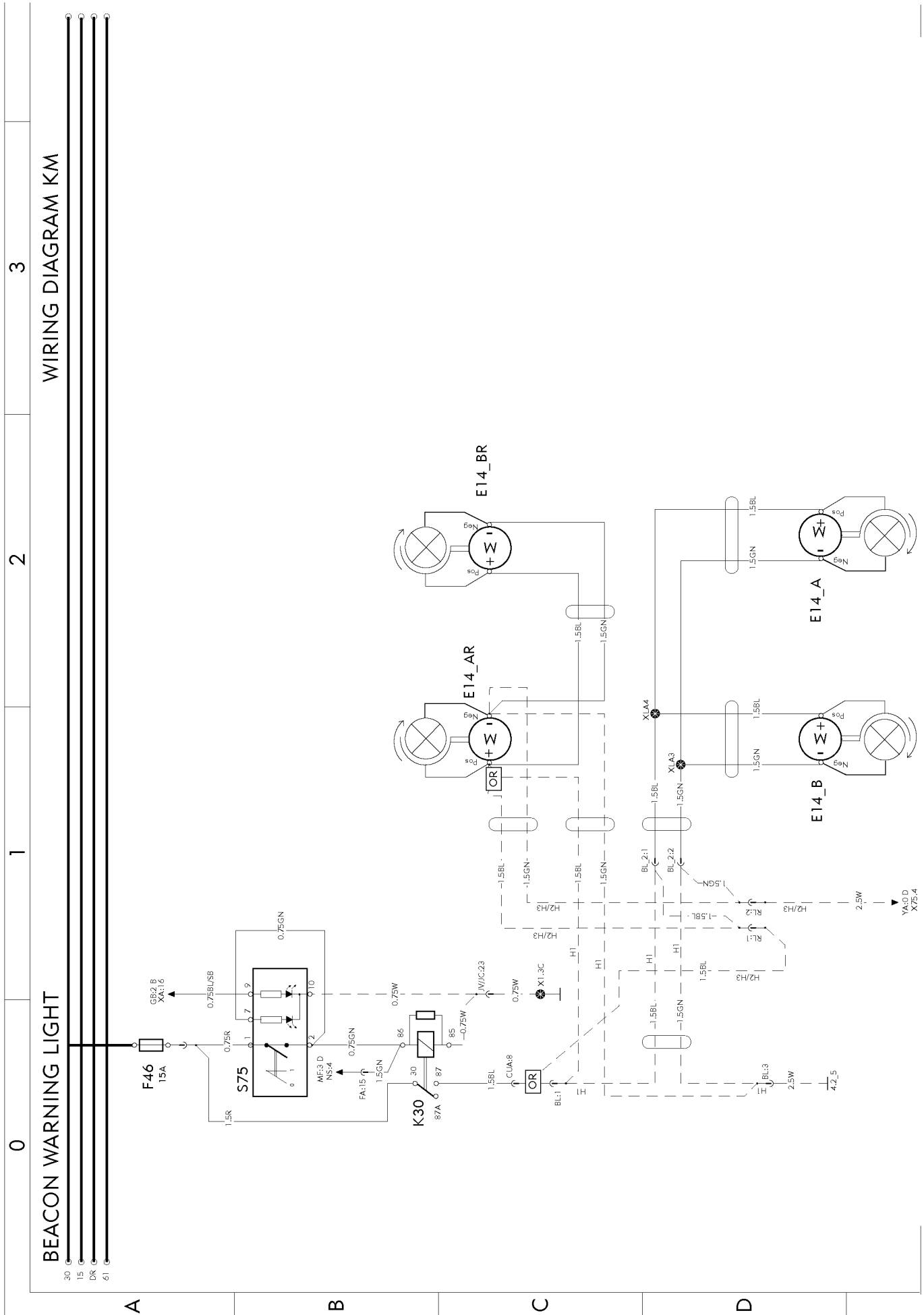


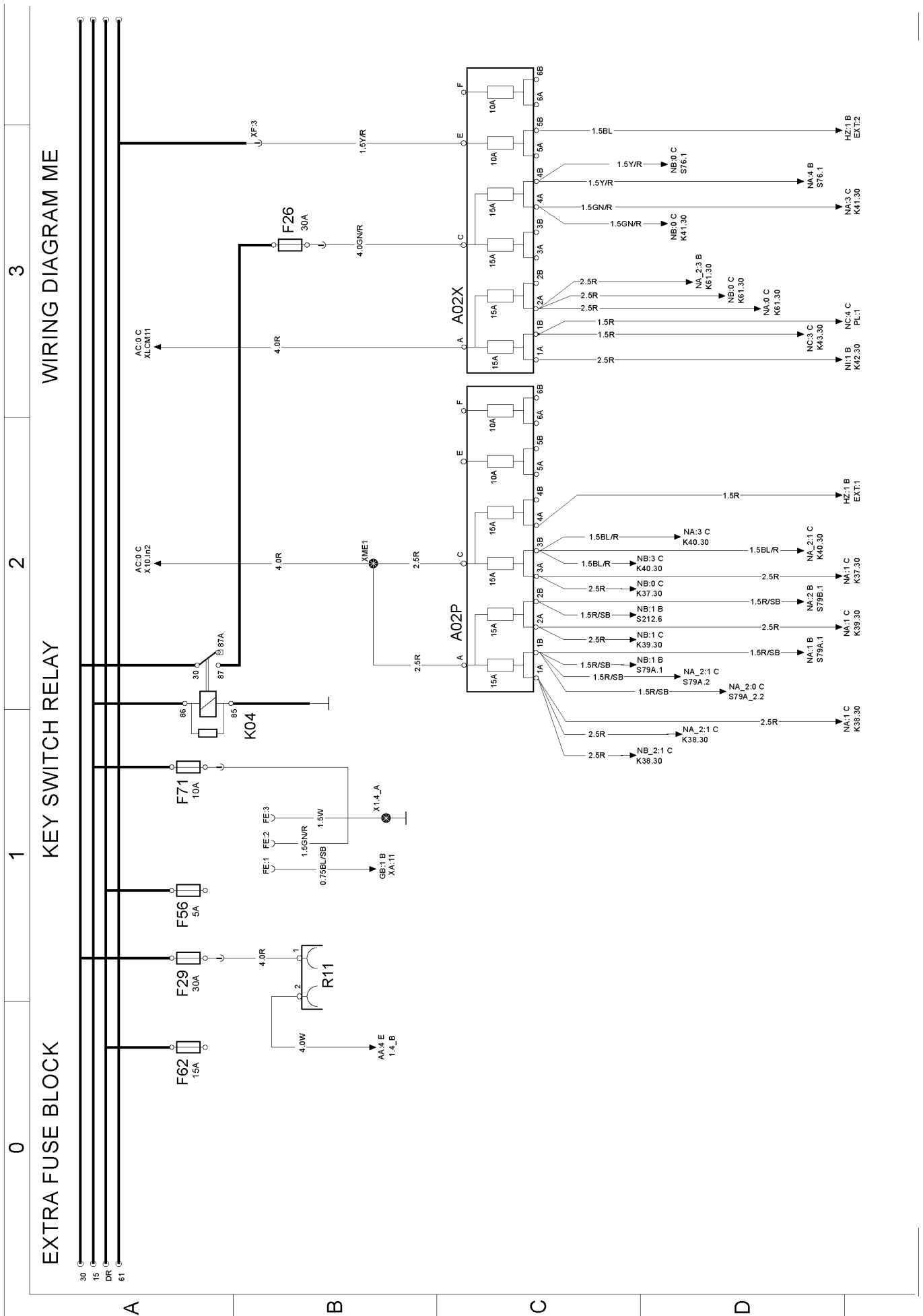
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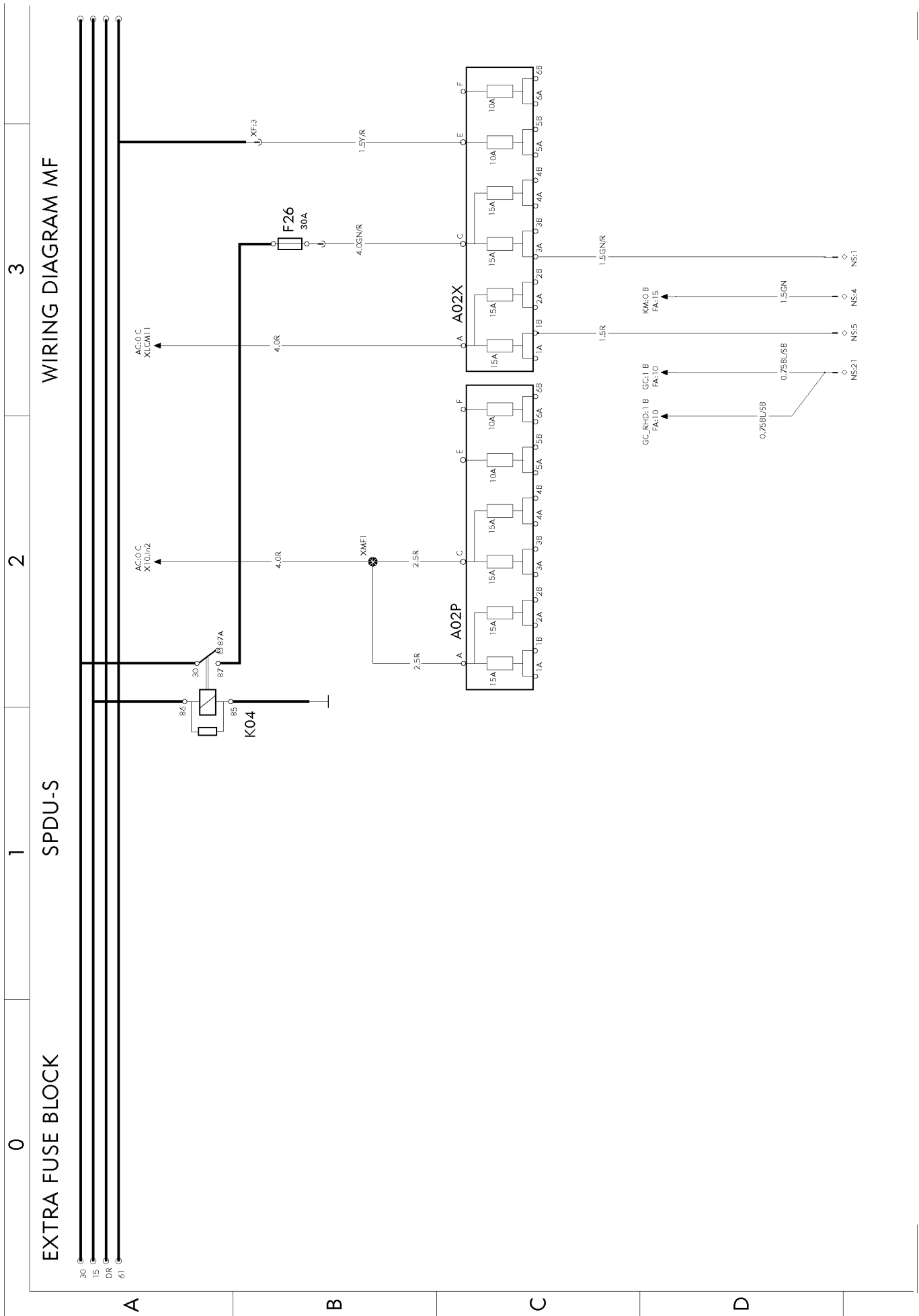


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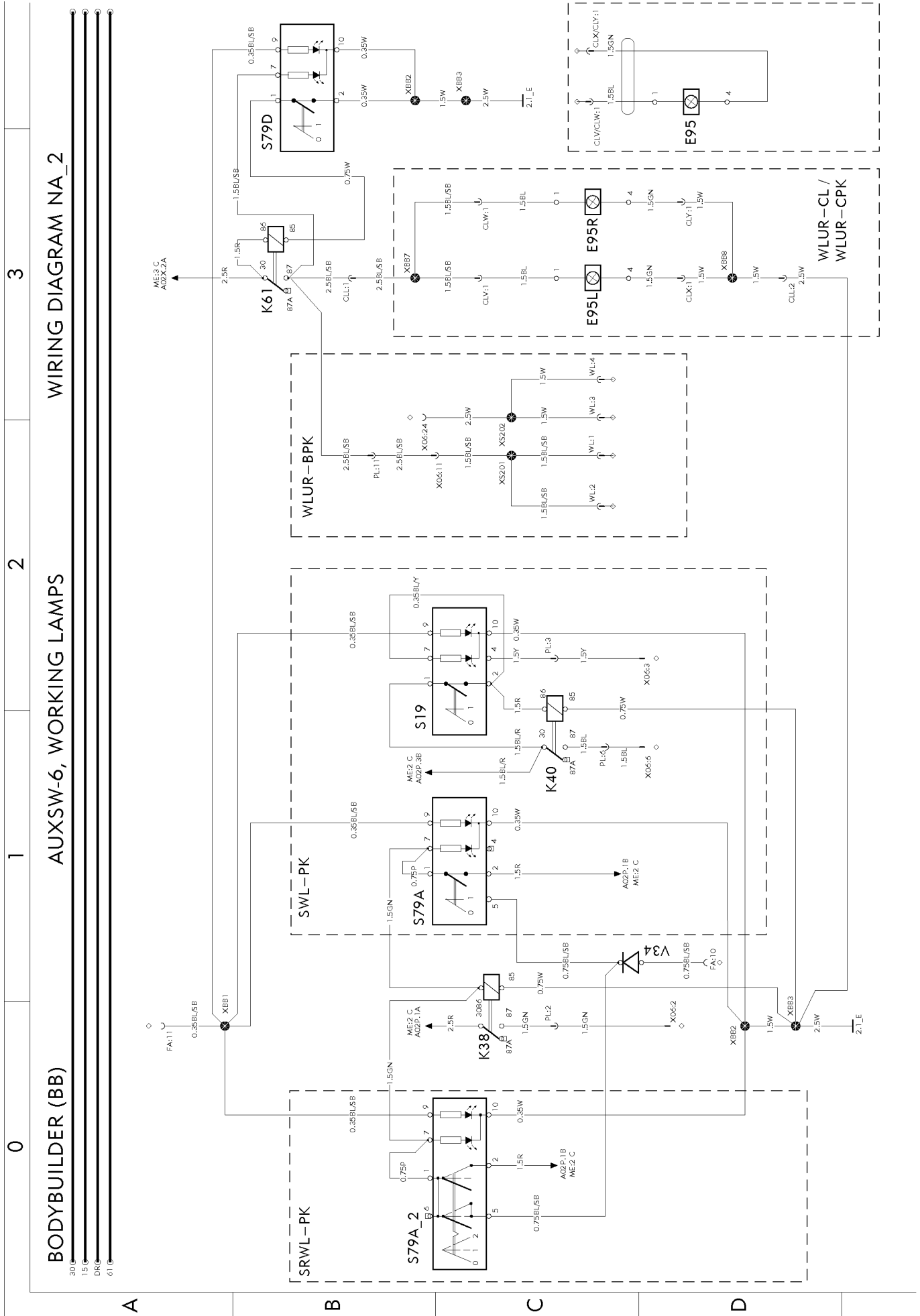








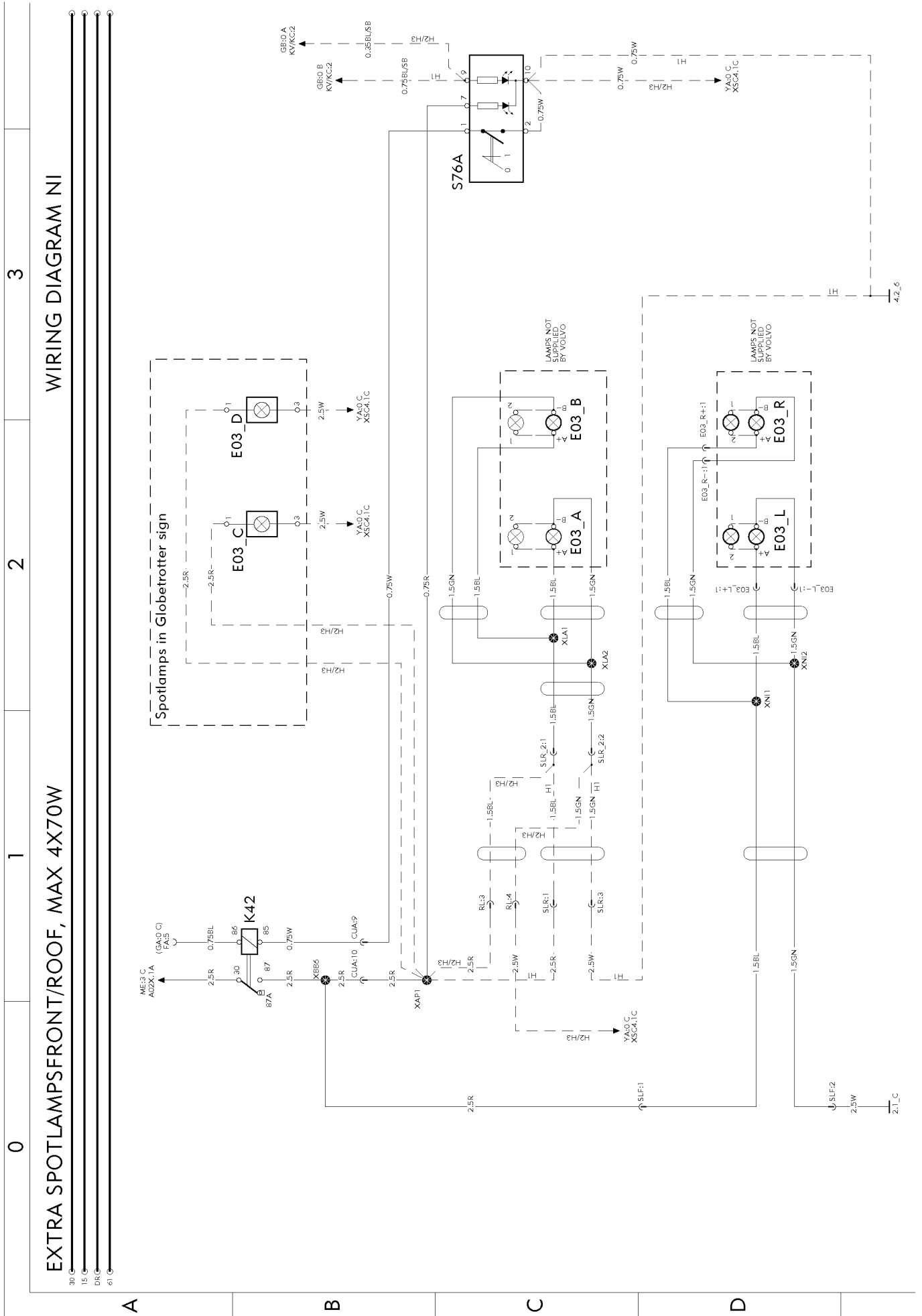




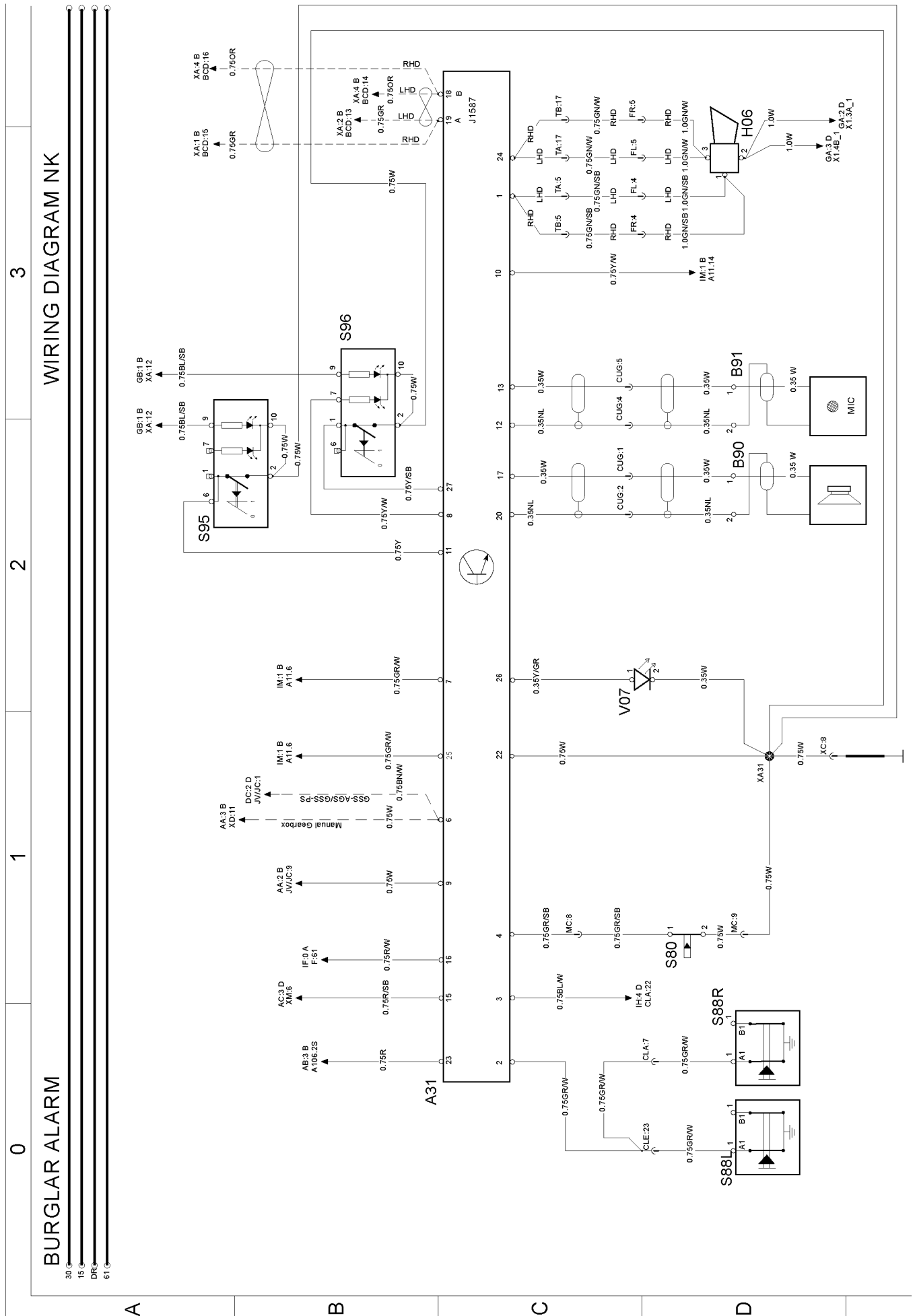
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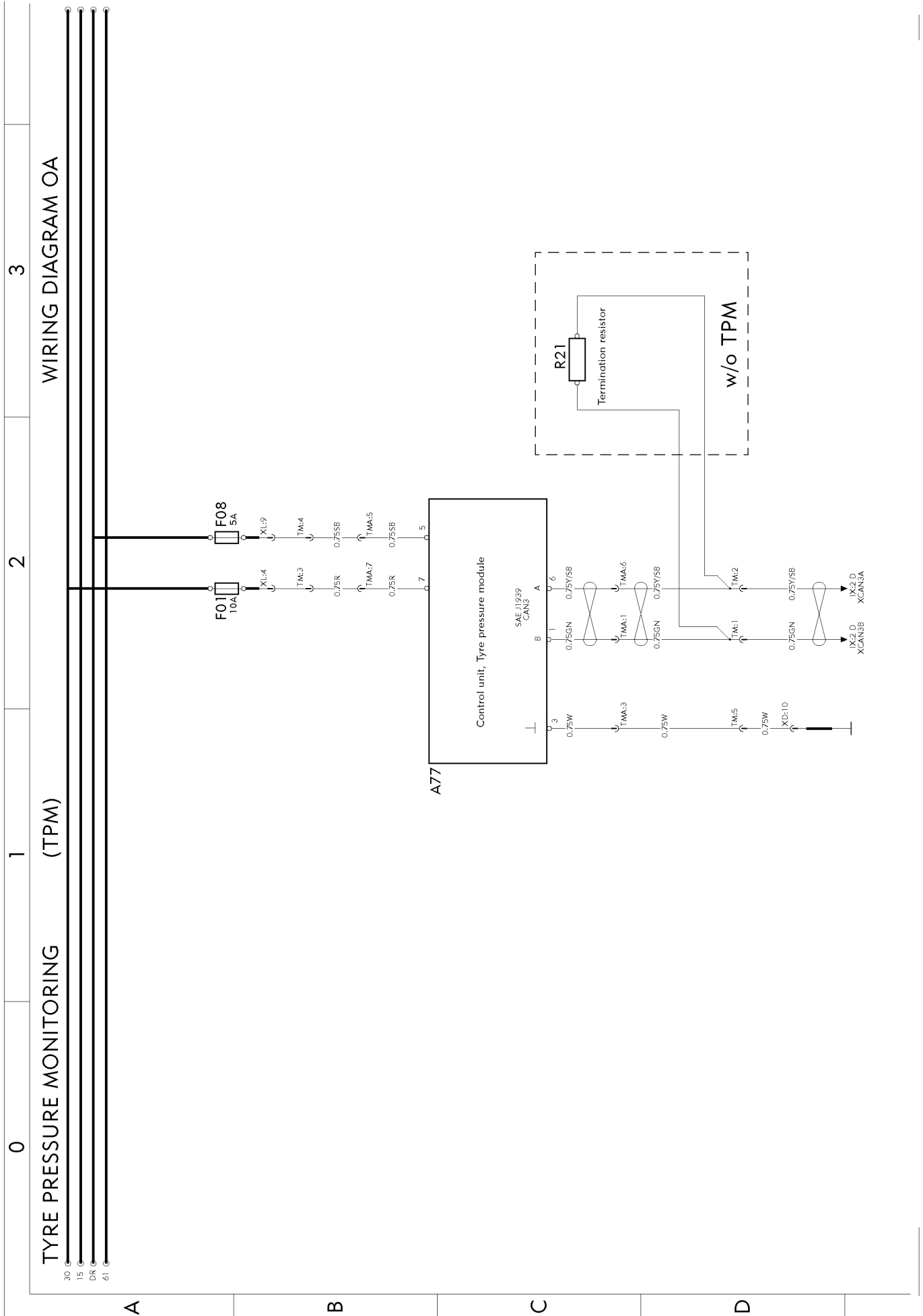
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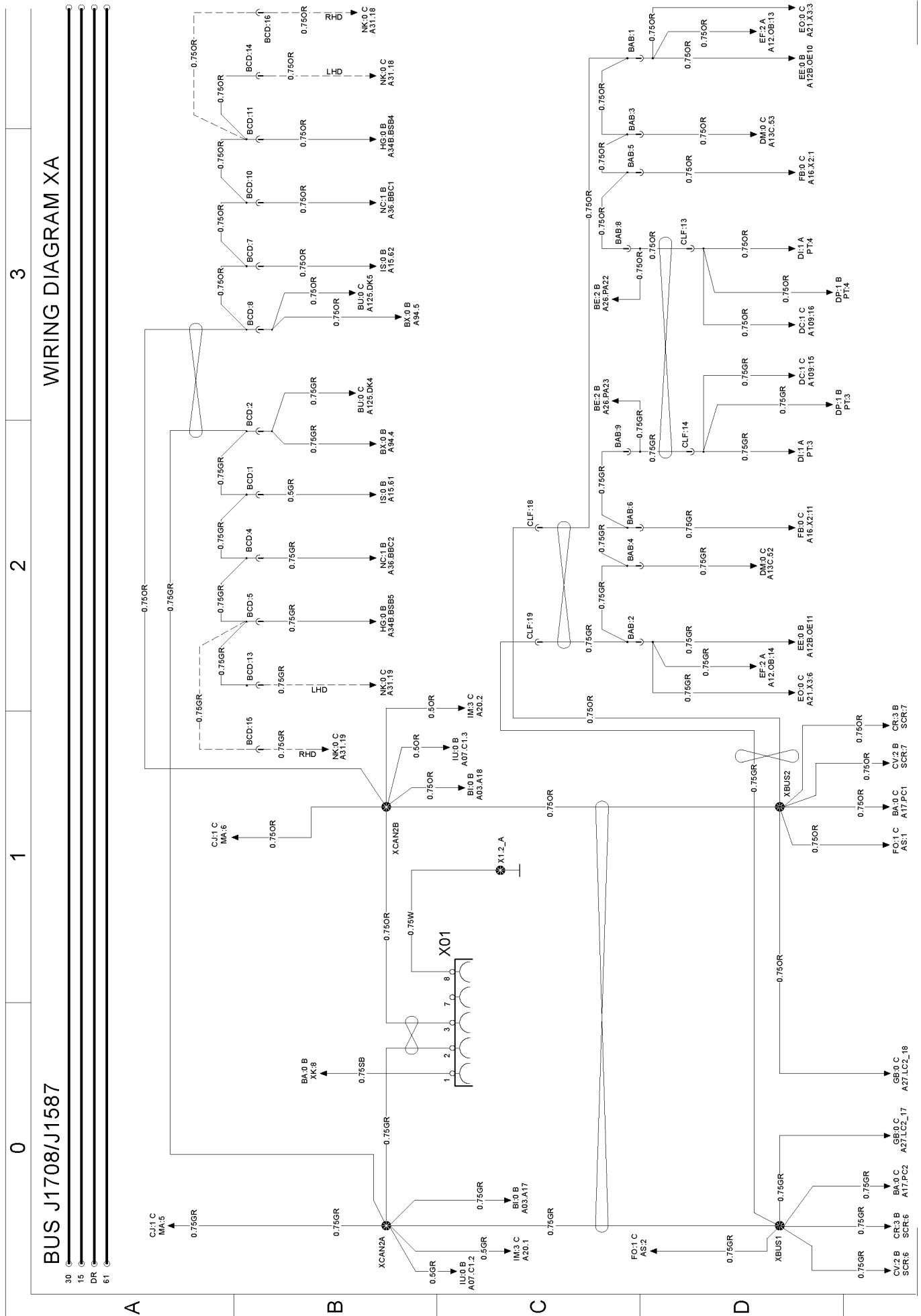






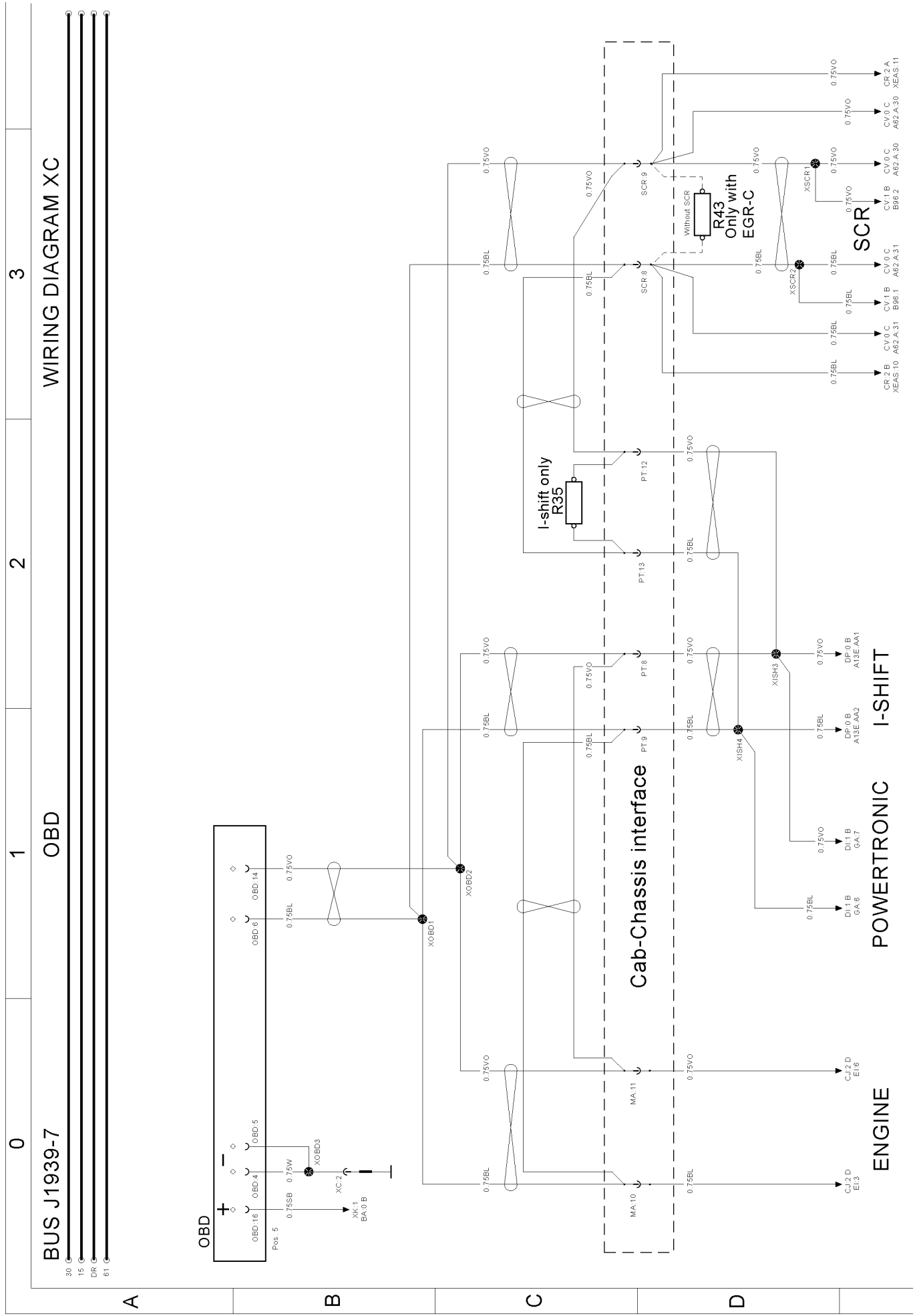




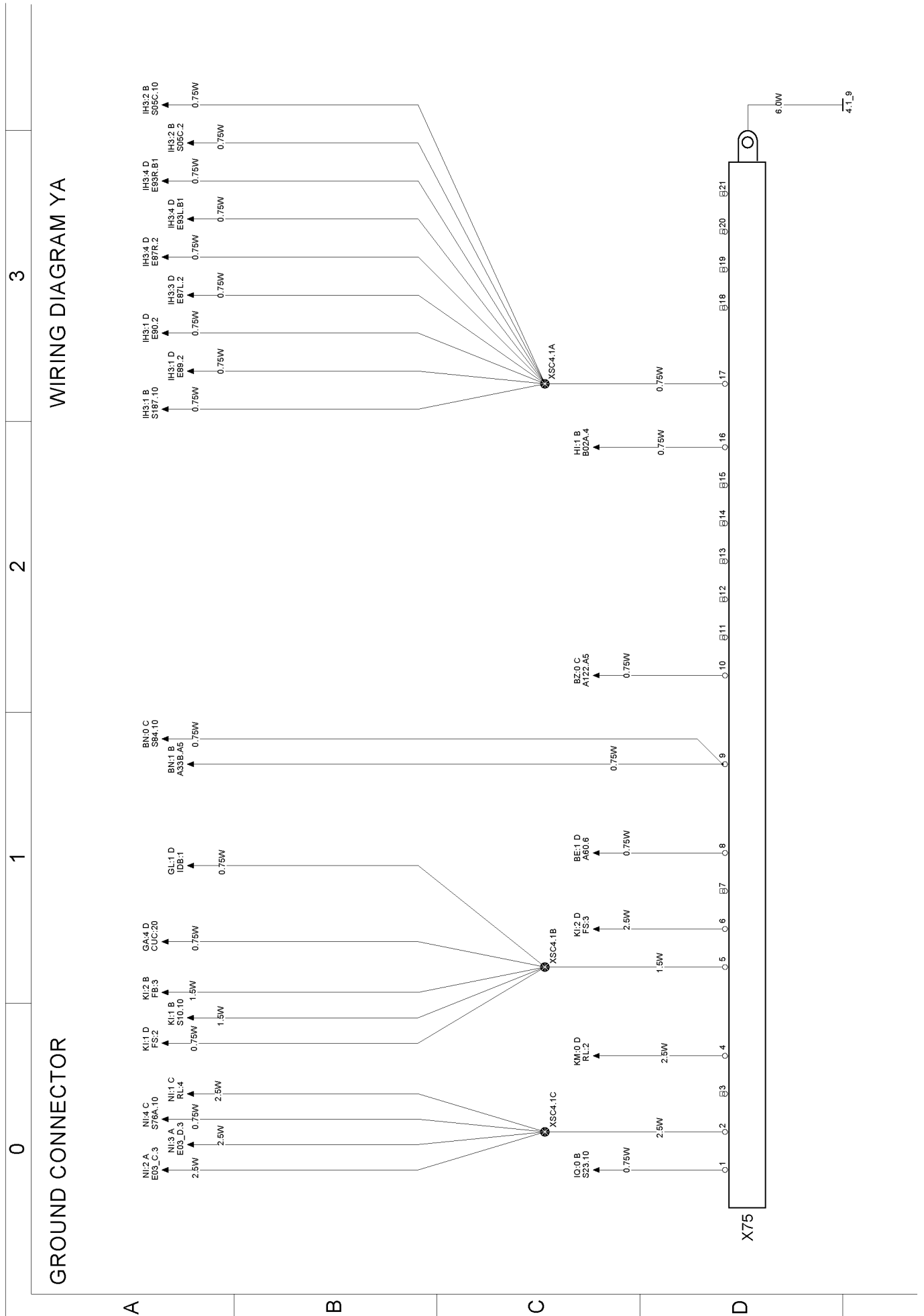


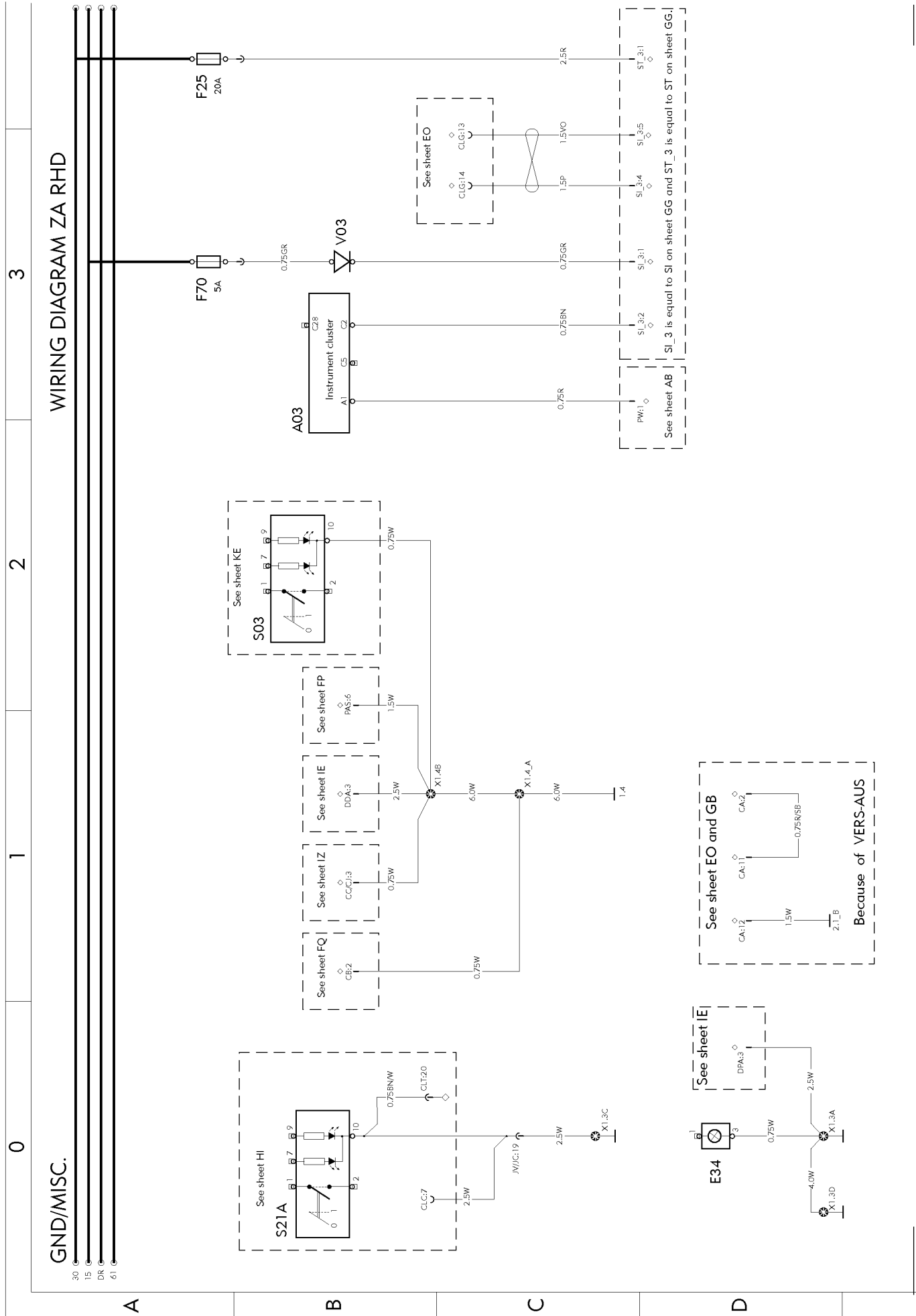
T3059904





T3059905



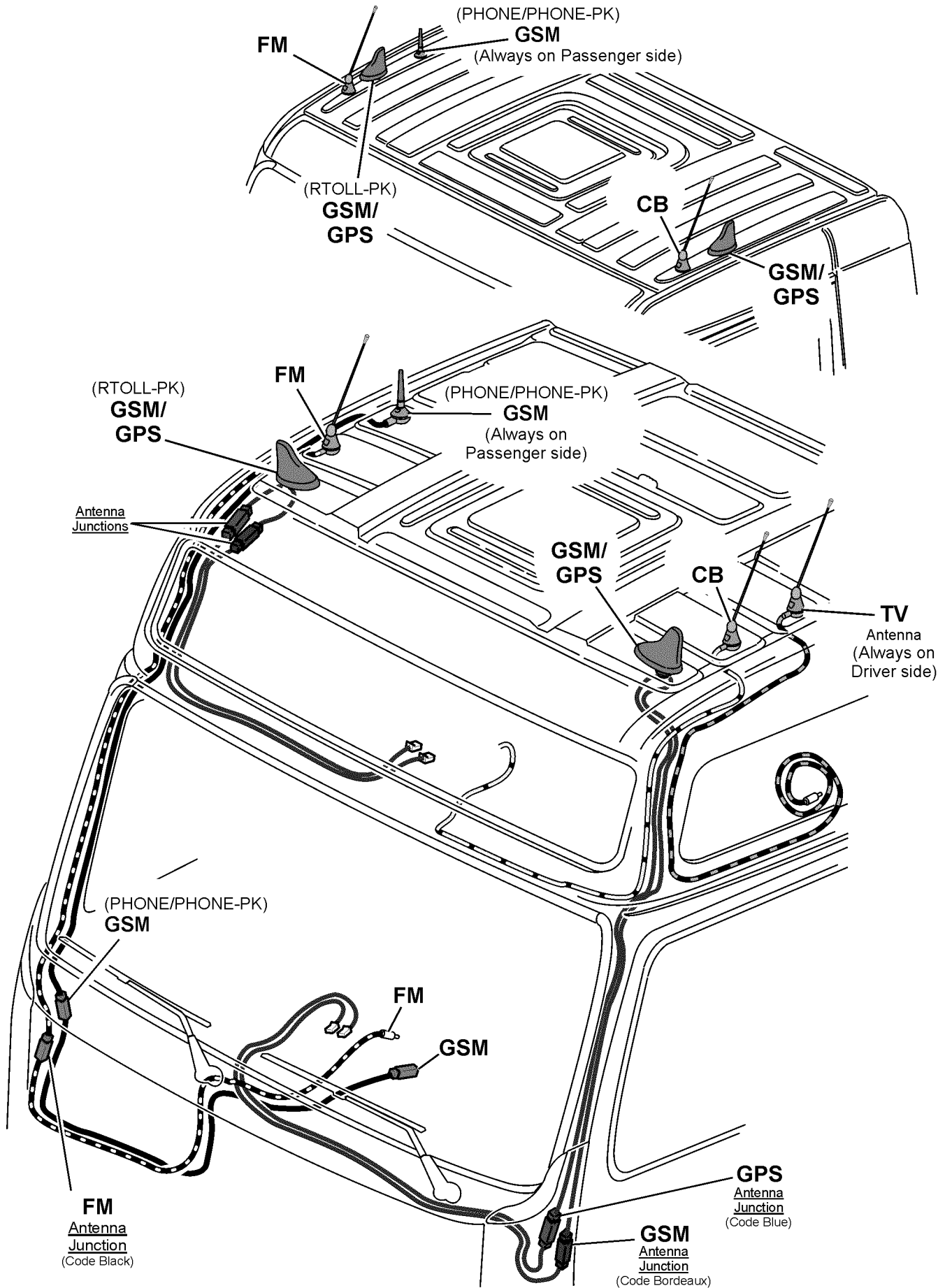


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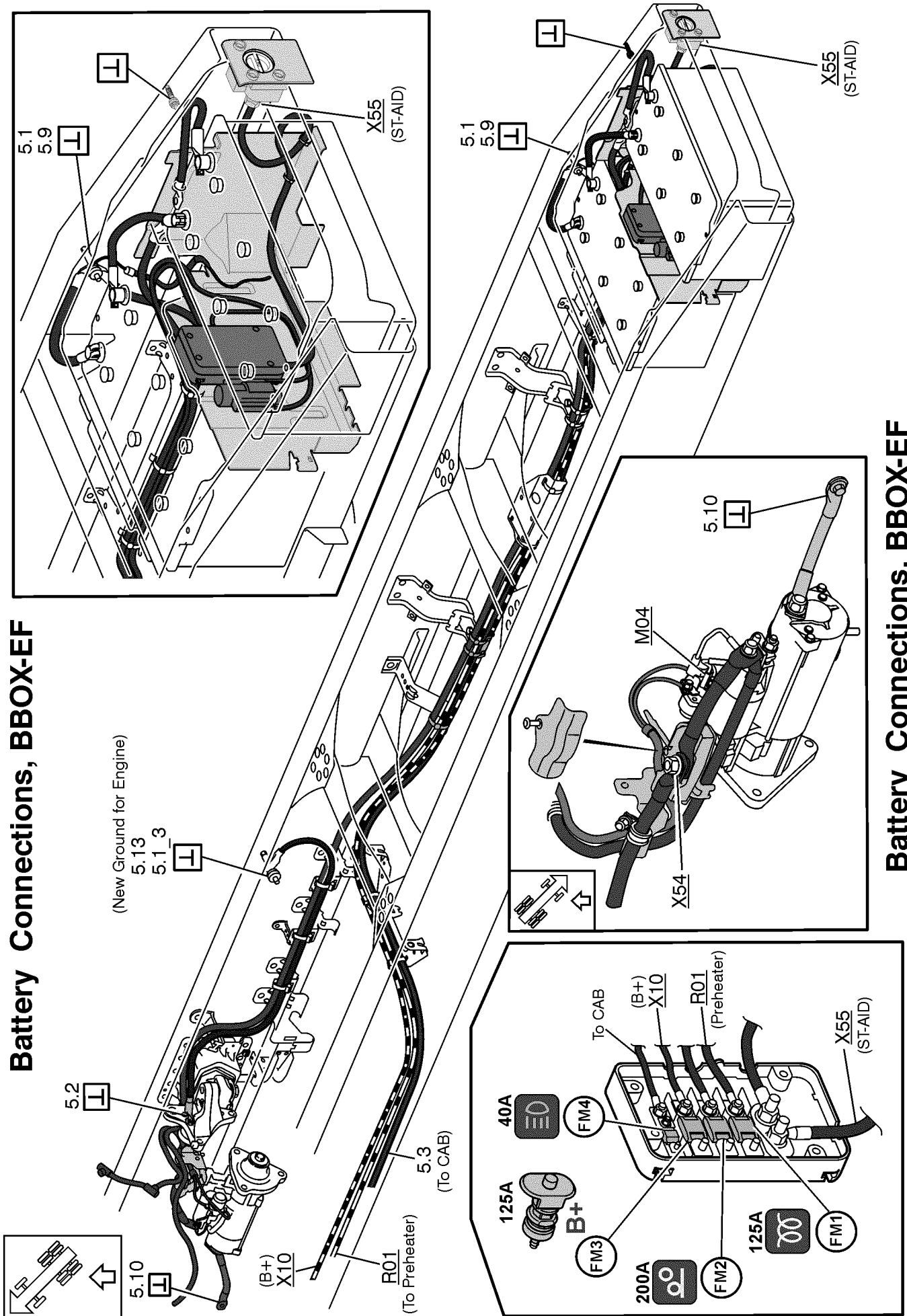
# Illustrations



T3057735

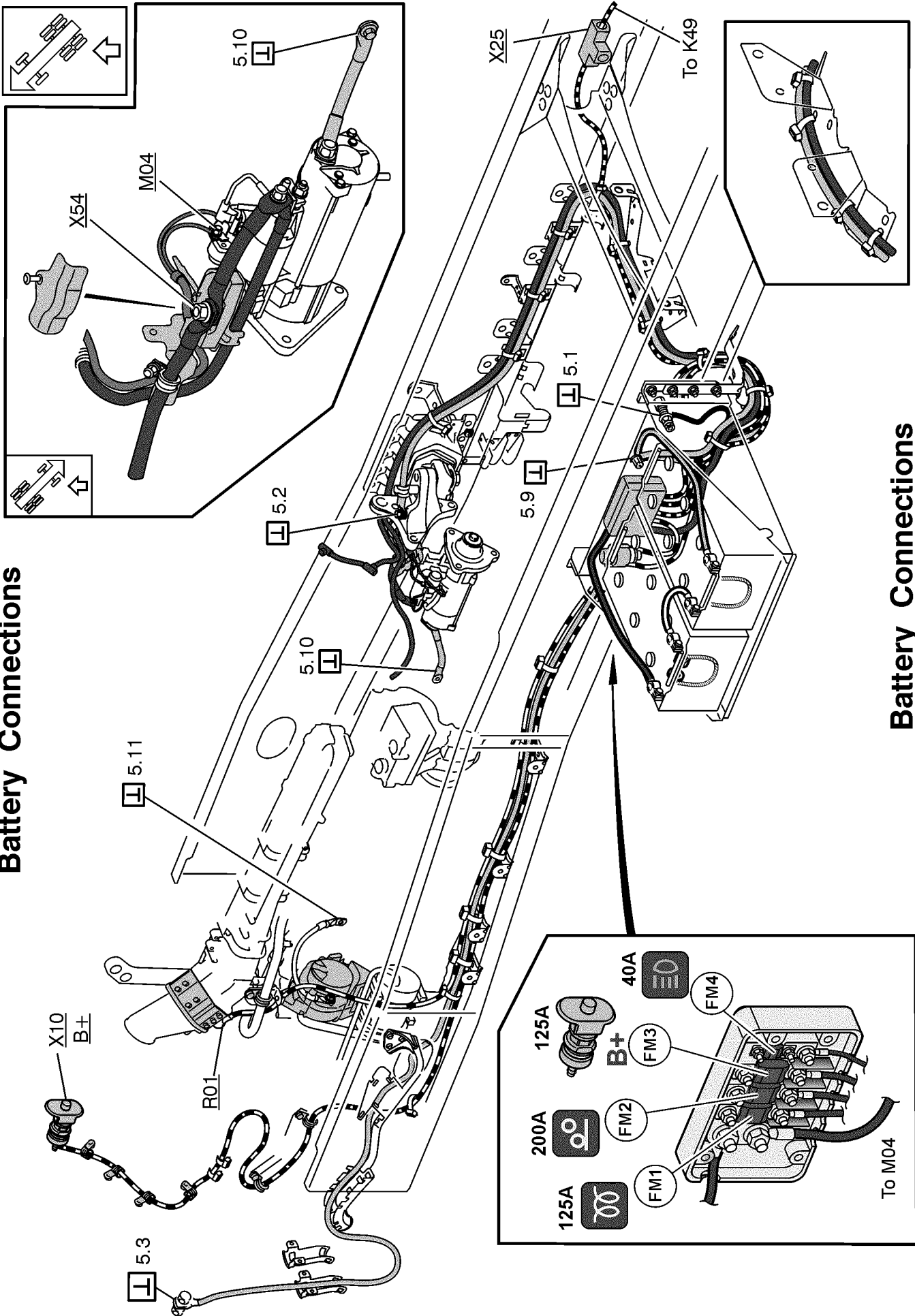


# Battery Connections, BBOX-EF

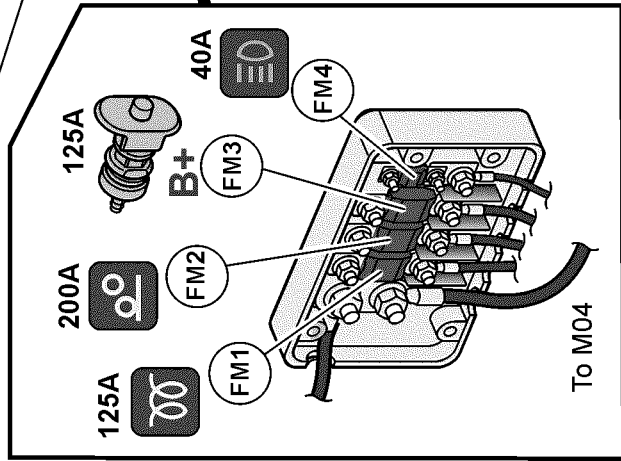


# Battery Connections, BBOX-EF

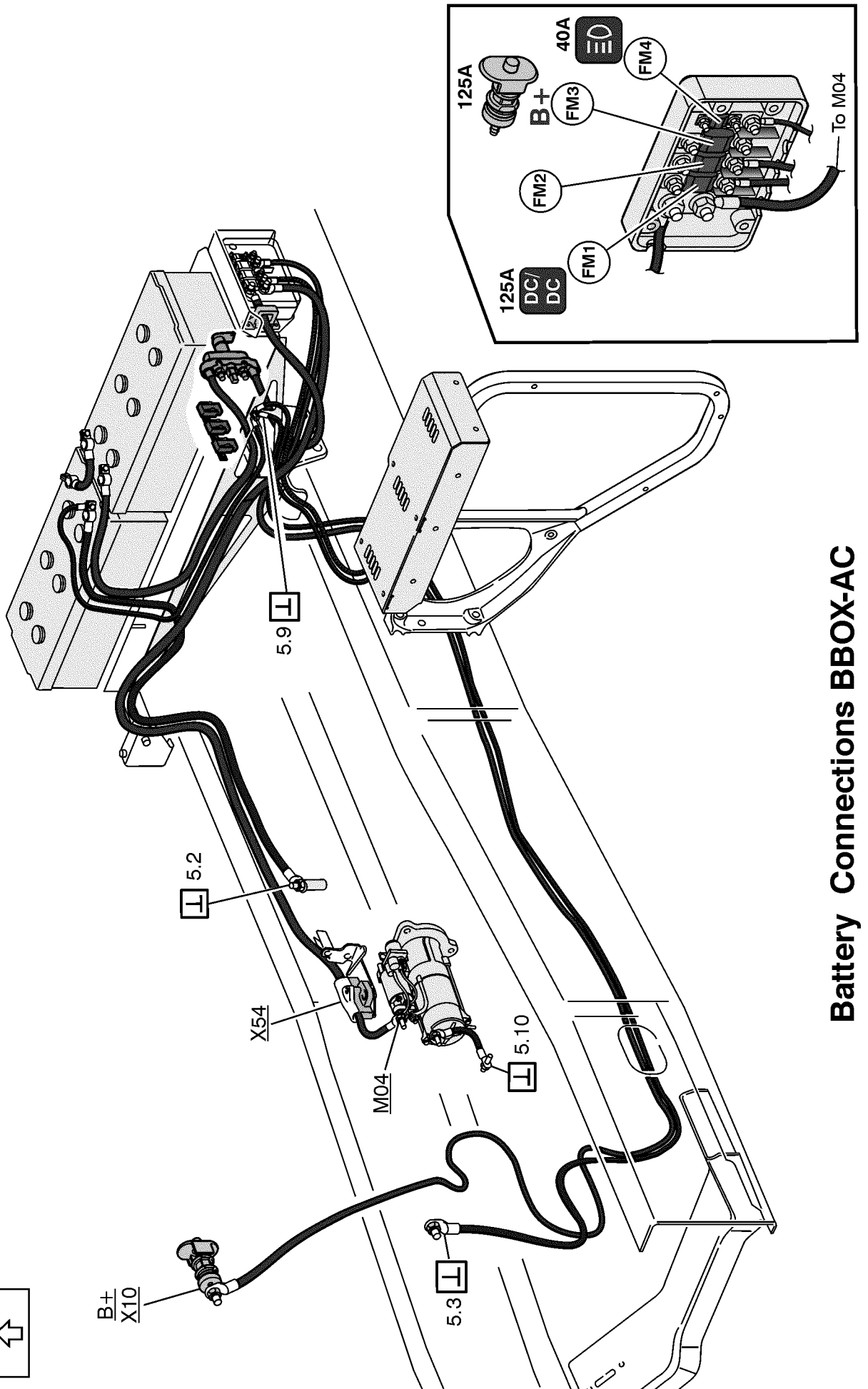
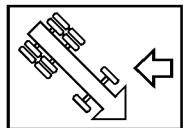
# Battery Connections



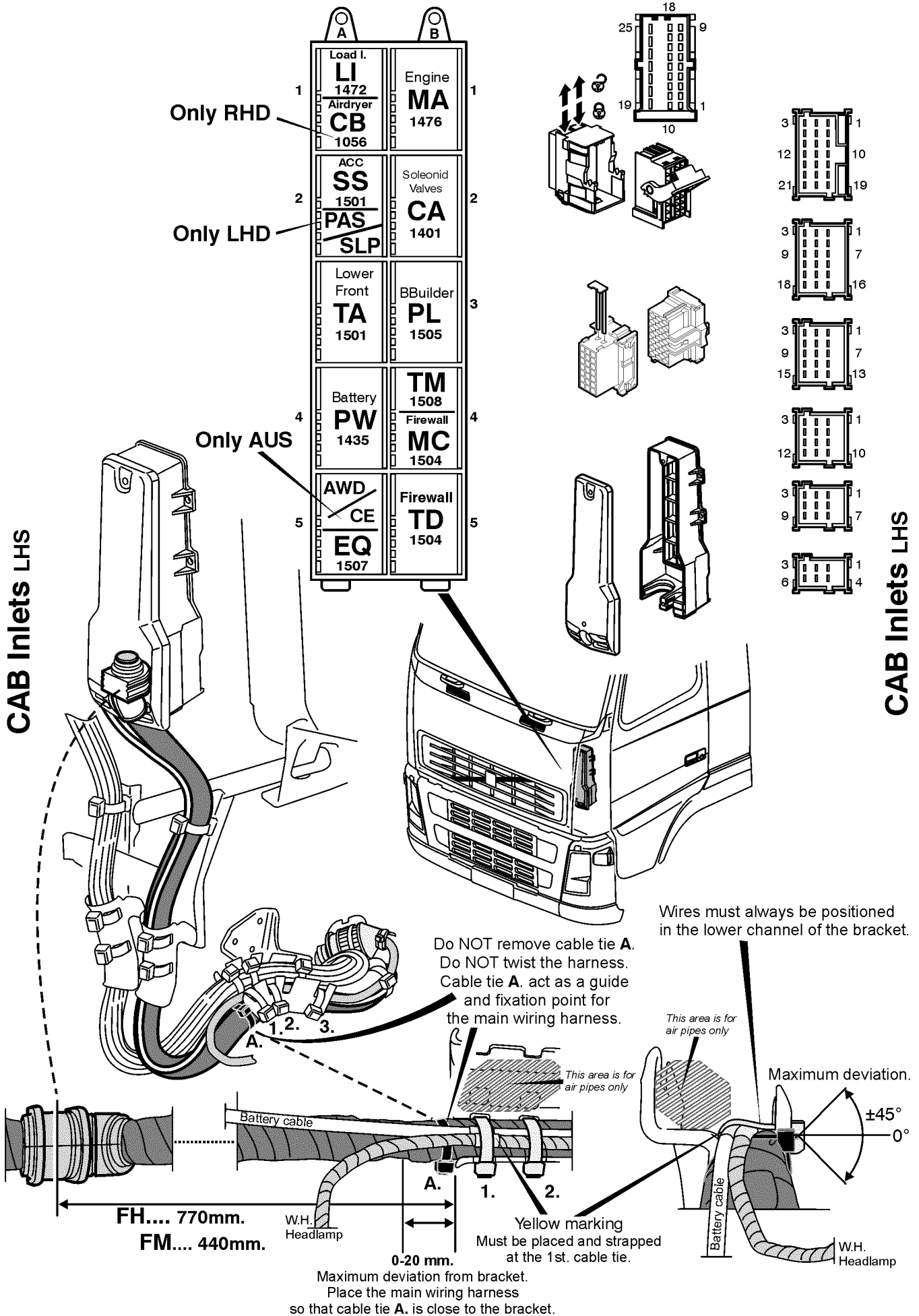
# Battery Connections



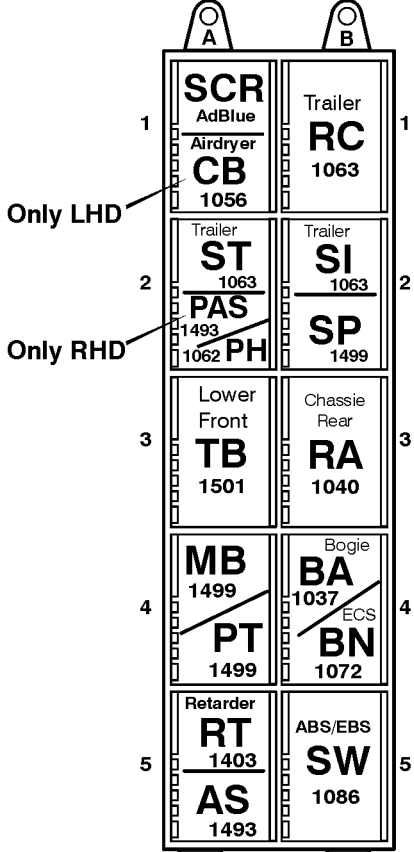
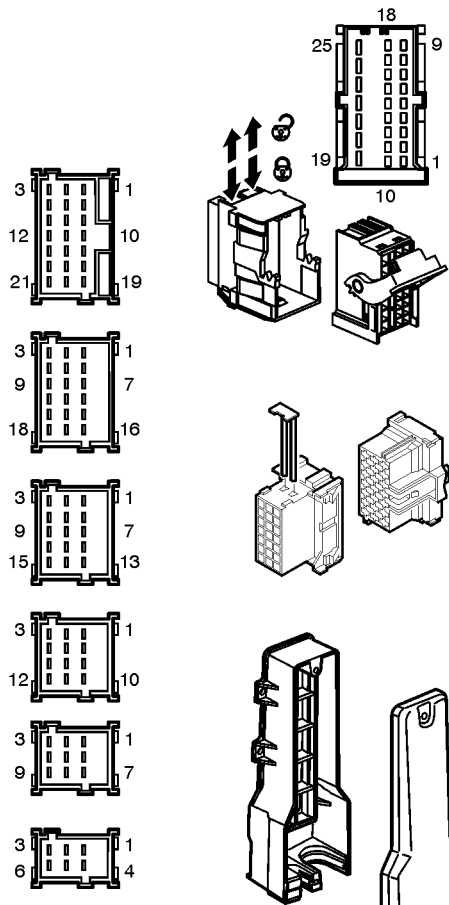
# Battery Connections BBOX-AC



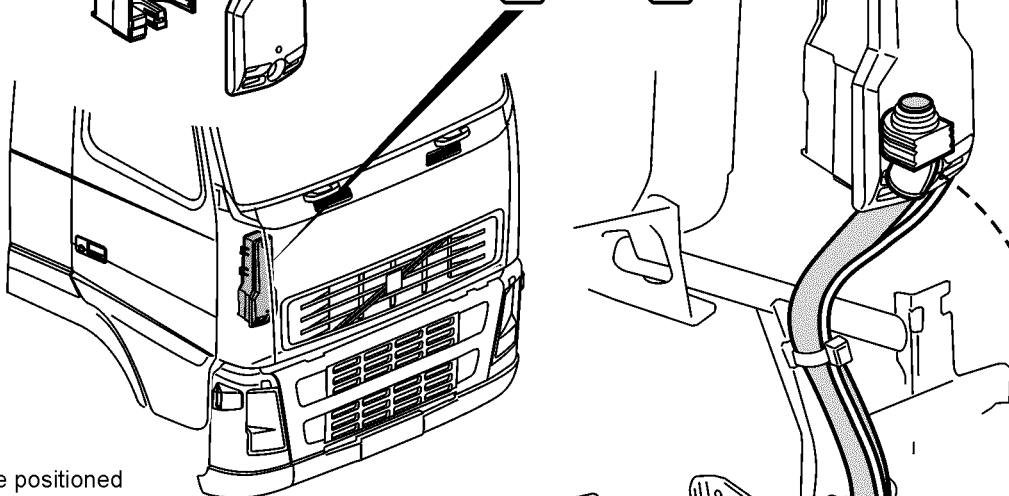
# Battery Connections BBOX-AC



CAB Inlets RHS

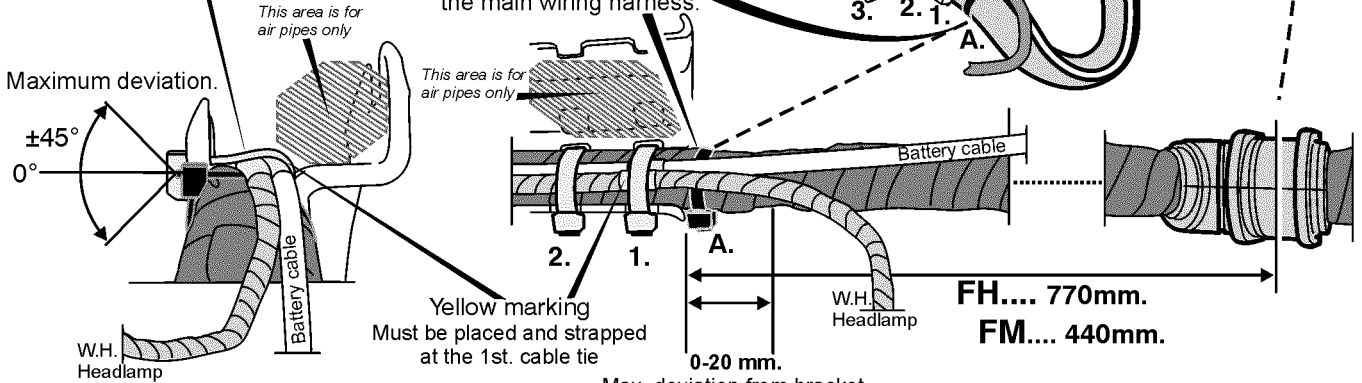


CAB Inlets RHS

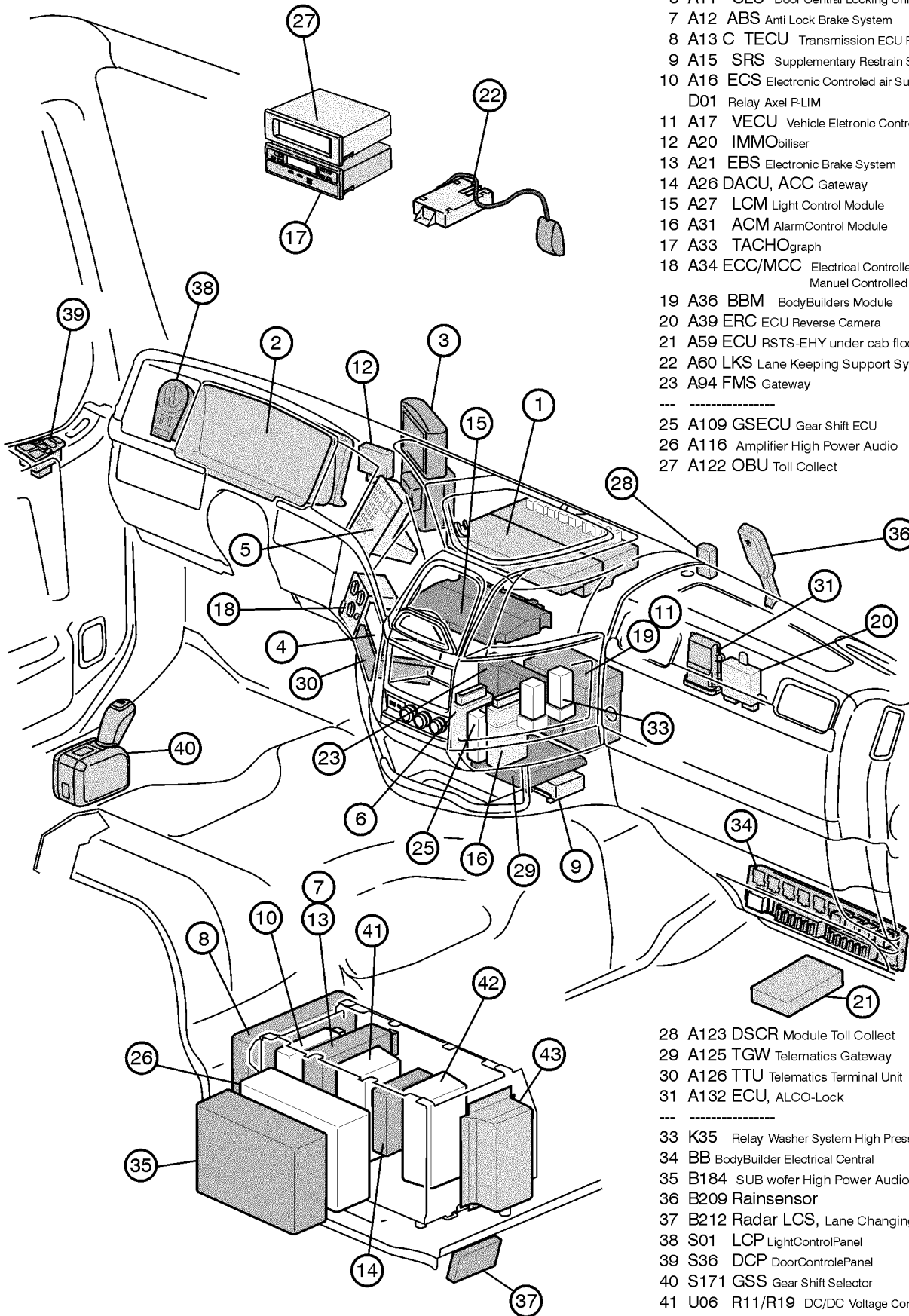


Wires must always be positioned in the lower channel of the bracket.

Do NOT remove cable tie **A**.  
Do NOT twist the harness.  
Cable tie **A** act as a guide and fixation point for the main wiring harness.



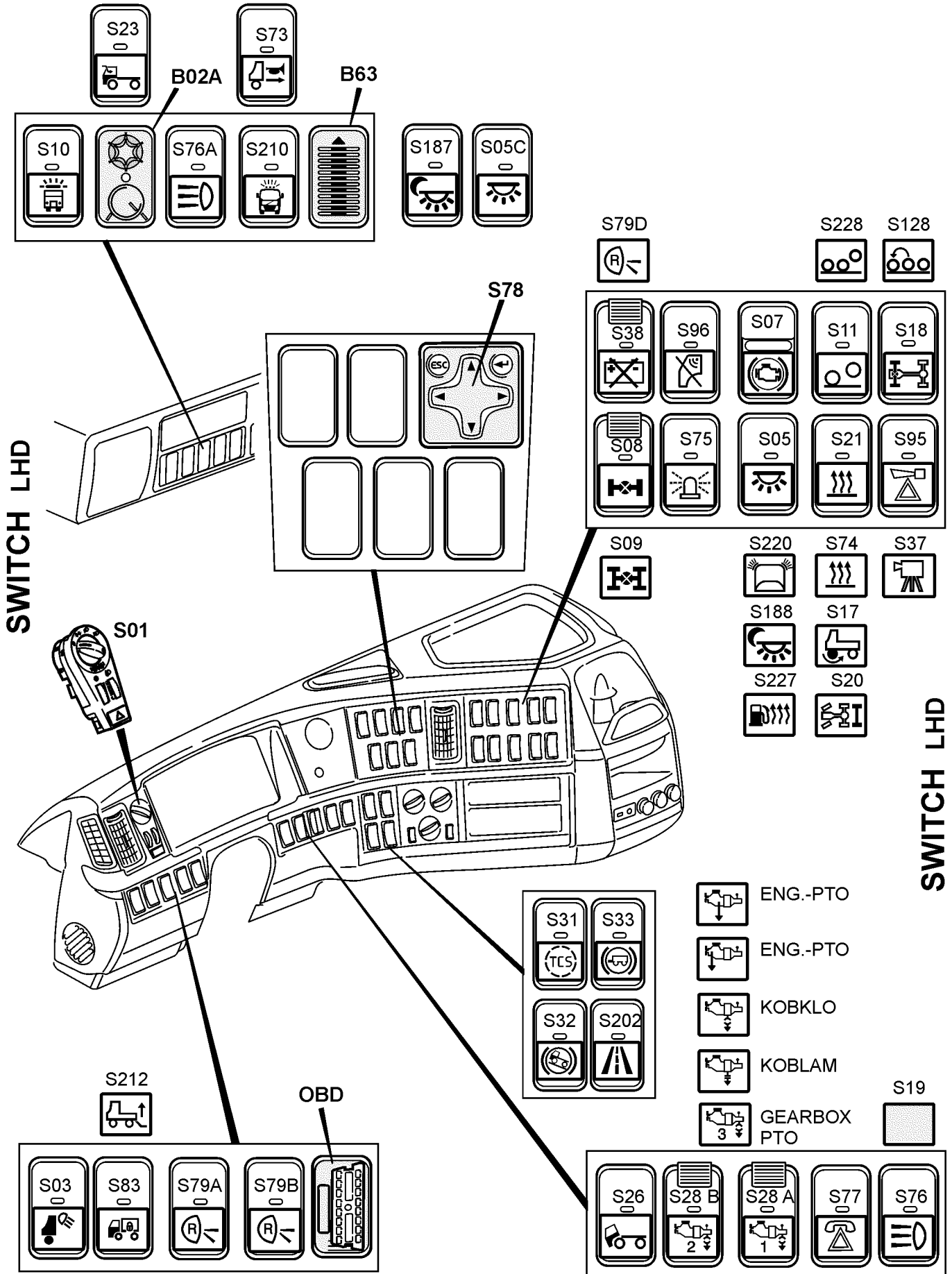
Max. deviation from bracket.  
Place the main wiring harness so that cable tie **A** is close to the bracket.



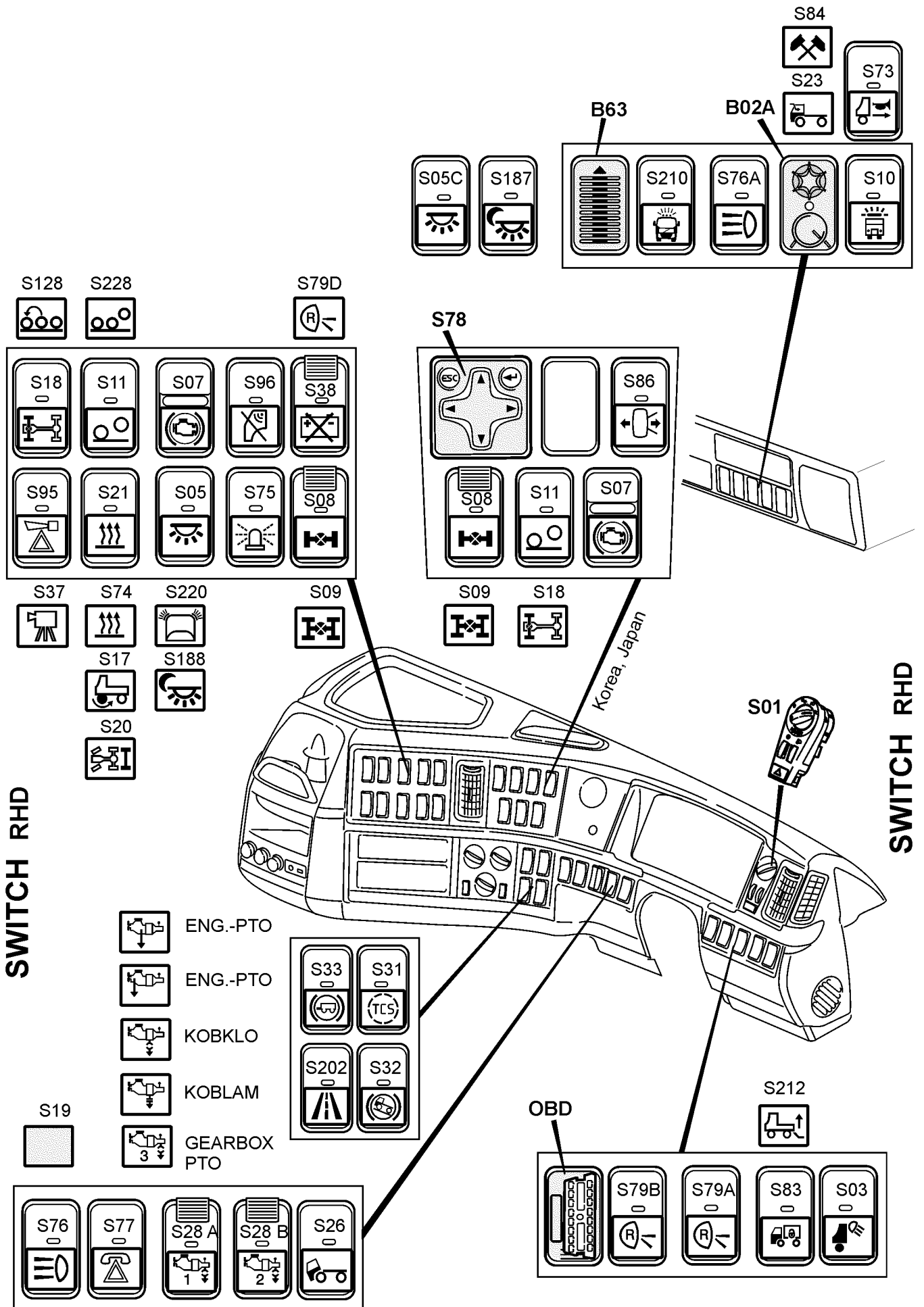
- 1 A01 FRC Fuse and Relay Center
- 2 A03 Instrument Cluster
- 3 A05 SID Secondary Info. Display
- 4 A07 Radio
- 5 A09 Telephone
- 6 A11 CLU Door Central Locking Unit
- 7 A12 ABS Anti Lock Brake System
- 8 A13 C TECU Transmission ECU Retarder
- 9 A15 SRS Supplementary Restrain System
- 10 A16 ECS Electronic Controlled air Suspension  
D01 Relay Axel P-LIM
- 11 A17 VECU Vehicle Eletronic Control Unite
- 12 A20 IMMObiliser
- 13 A21 EBS Electronic Brake System
- 14 A26 DACU, ACC Gateway
- 15 A27 LCM Light Control Module
- 16 A31 ACM AlarmControl Module
- 17 A33 TACHOgraph
- 18 A34 ECC/MCC Electrical Controlled Climate/  
Manual Controlled Climate
- 19 A36 BBM BodyBuilders Module
- 20 A39 ERC ECU Reverse Camera
- 21 A59 ECU RSTS-EHY under cab floor
- 22 A60 LKS Lane Keeping Support System
- 23 A94 FMS Gateway
- 
- 25 A109 GSECU Gear Shift ECU
- 26 A116 Amplifier High Power Audio
- 27 A122 OBU Toll Collect
- 
- 28 A123 DSCR Module Toll Collect
- 29 A125 TGW Telematics Gateway
- 30 A126 TTU Telematics Terminal Unit
- 31 A132 ECU, ALCO-Lock
- 
- 33 K35 Relay Washer System High Pressure
- 34 BB BodyBuilder Electrical Central
- 35 B184 SUB wofer High Power Audio
- 36 B209 Rainsensor
- 37 B212 Radar LCS, Lane Changing Support System
- 38 S01 LCP LightControlPanel
- 39 S36 DCP DoorControlPanel
- 40 S171 GSS Gear Shift Selector
- 41 U06 R11/R19 DC/DC Voltage Converter
- 42 U06 B11 DC/DC Voltage Converter
- 43 U10 DC/DC Voltage Converter ABS Austalia

## Cross index component number-MID number

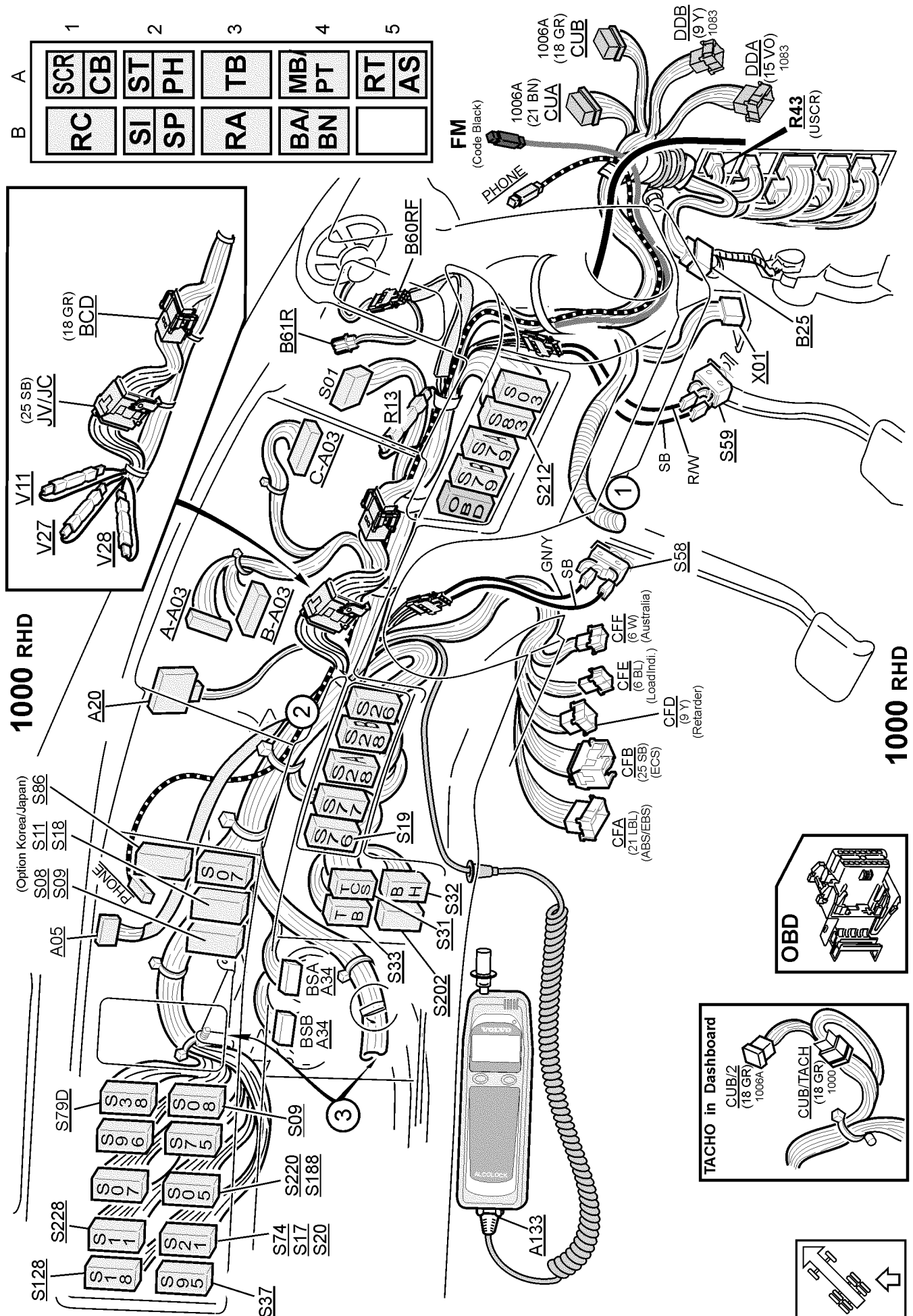
<b><i>Component number</i></b>	<b><i>MID number</i></b>
A03 Instrument cluster	MID 140
A07 Radio	MID 206
A09 Telephone	MID 231
A12 Control unit ABS (Anti-lock Brake System)	MID 136
A13B Control unit TECU (Automatic transmission)	MID 130
A13C Control unit Retarder	MID 222
A13E Control unit TECU (Automatic transmission)	MID 130
A14 Control unit EMS (Engine Management System)	MID 128
A15 Control unit SRS (Supplementary Restrain System)	MID 232
A16 Control unit ECS (Electronic Controlled air Suspension)	MID 150
A17 Control unit VECU (Vehicle ECU)	MID 144
A20 Control unit Immobiliser	MID 163
A21 Control unit EBS (Electronic Brake System)	MID 136
A26 Control unit DACU	MID 238
A27 Control unit LCM (Light Control Module)	MID 216
A31 Control unit burglar alarm	MID 214
A33 Tachograph	MID 220
A34 Control unit climate unit	MID 146
A36 Control unit BBM (Body Builder Module)	MID 249
A59 Control unit RAS (Rear Axle Steering)	MID 184
A60 Control unit LKS (Lane Keeping Support System)	MID 248
A77 Control unit TPM (Tyre pressure monitoring)	MID 166
A94 Control unit FMS Gateway (Fleet Management System)	MID 179
A109 Control unit GSECU (Gearshift ECU)	MID 223
A125 Control unit TGW (Telematics Gateway)	MID 141
A126 Control unit TTU (Telematics Terminal Unit)	MID 203
B120 Radar ACC (Adaptive Cruise Control)	MID 219
B212 Radar LCS (Lane Change Support)	MID 204

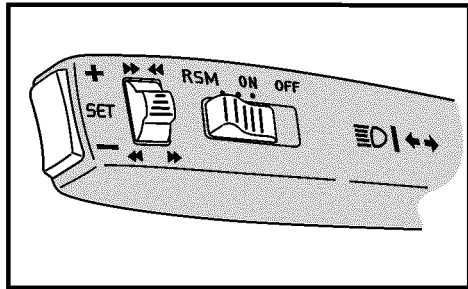
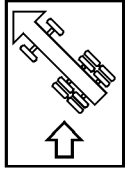






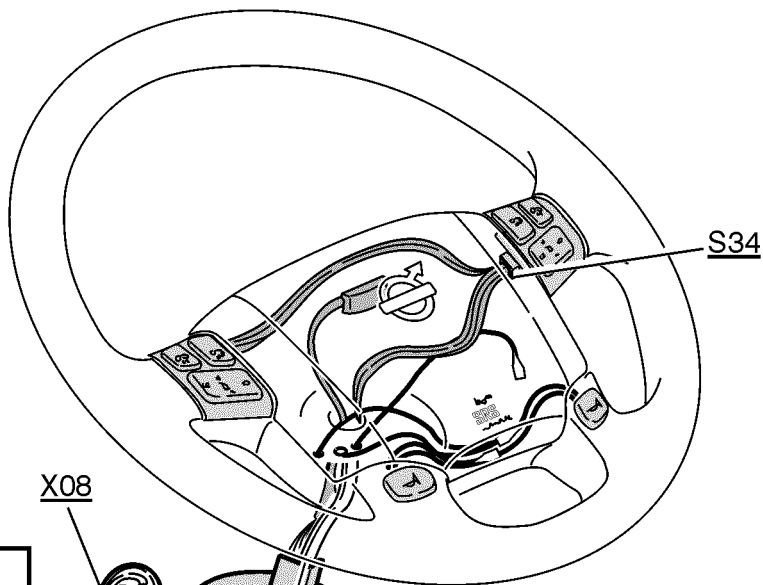






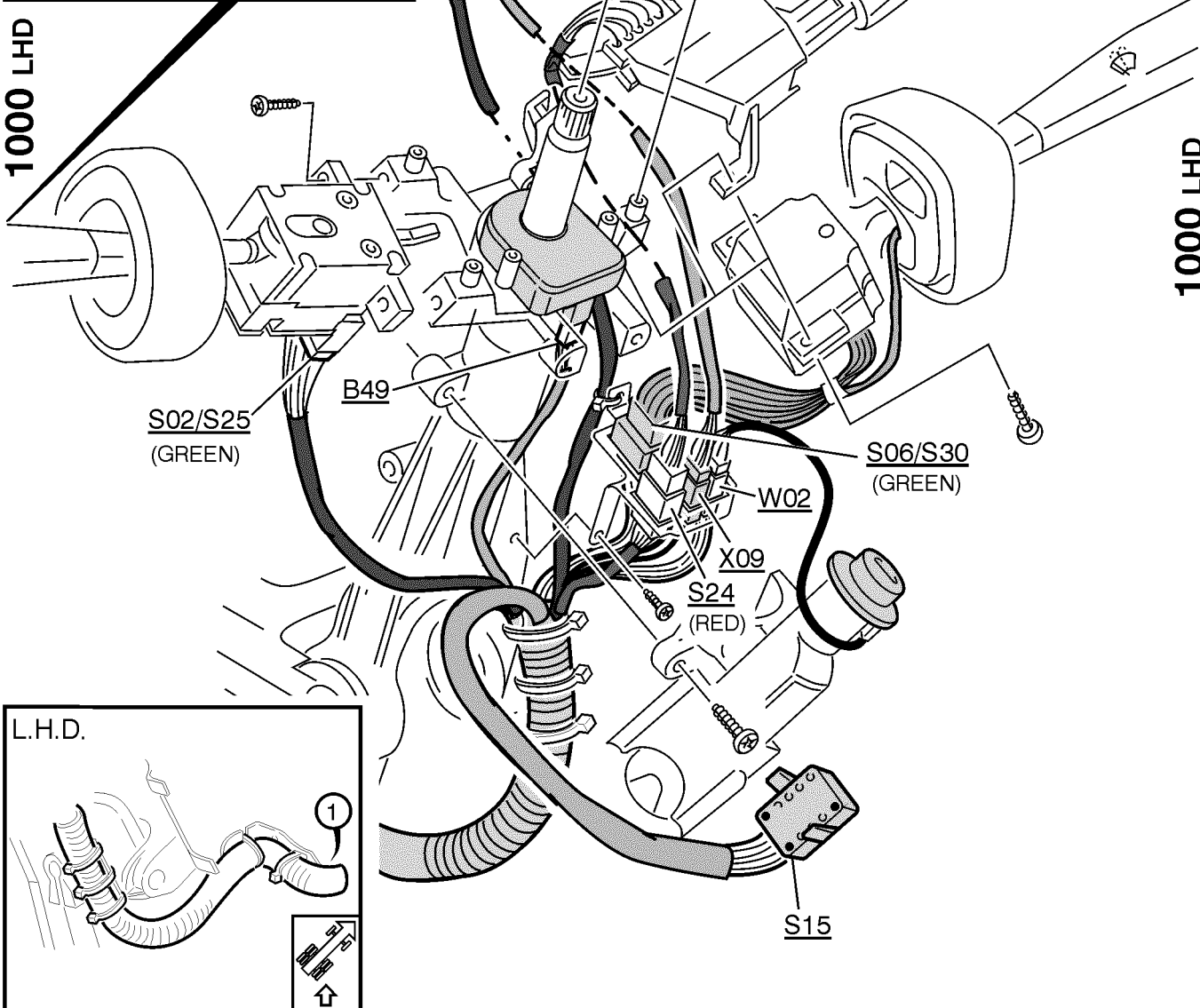
1000 LHD

1000 LHD



X08

S34



S02/S25  
(GREEN)

B49

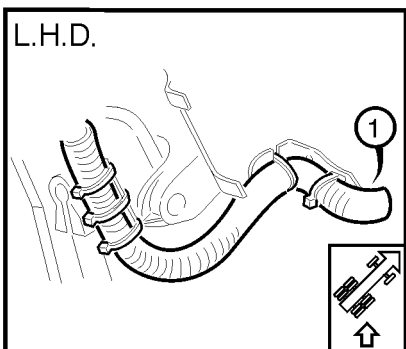
S06/S30  
(GREEN)

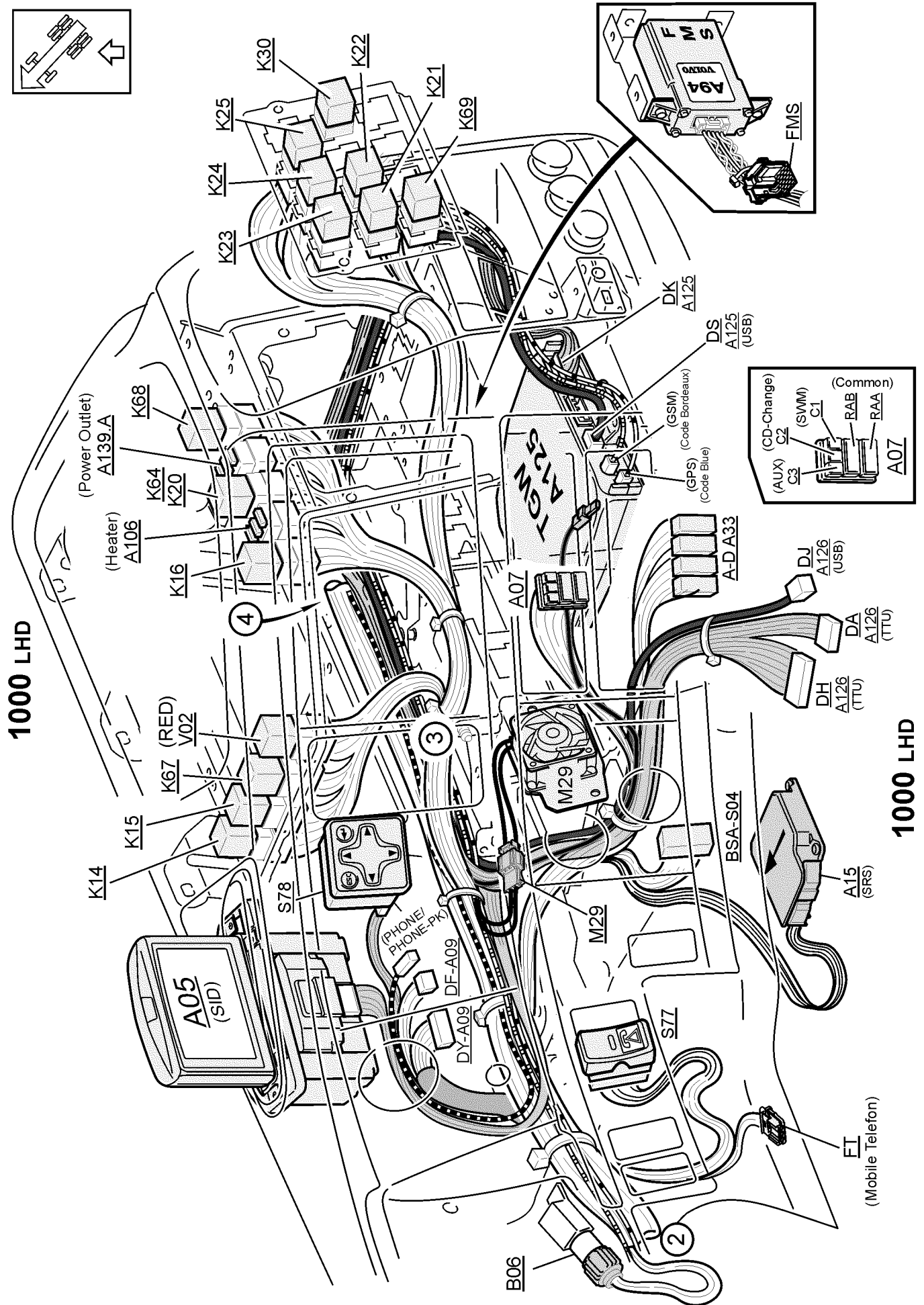
W02

X09

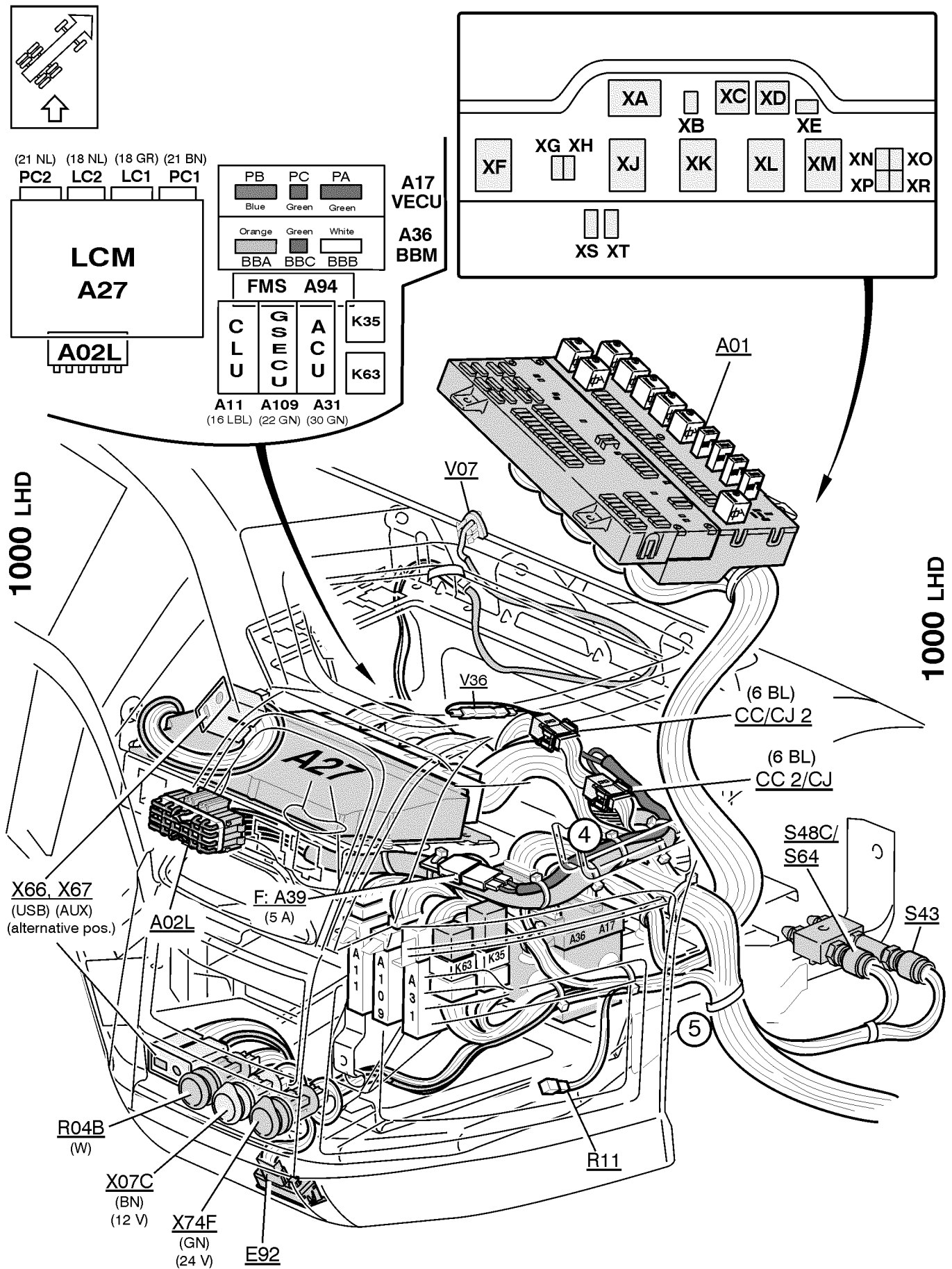
S24  
(RED)

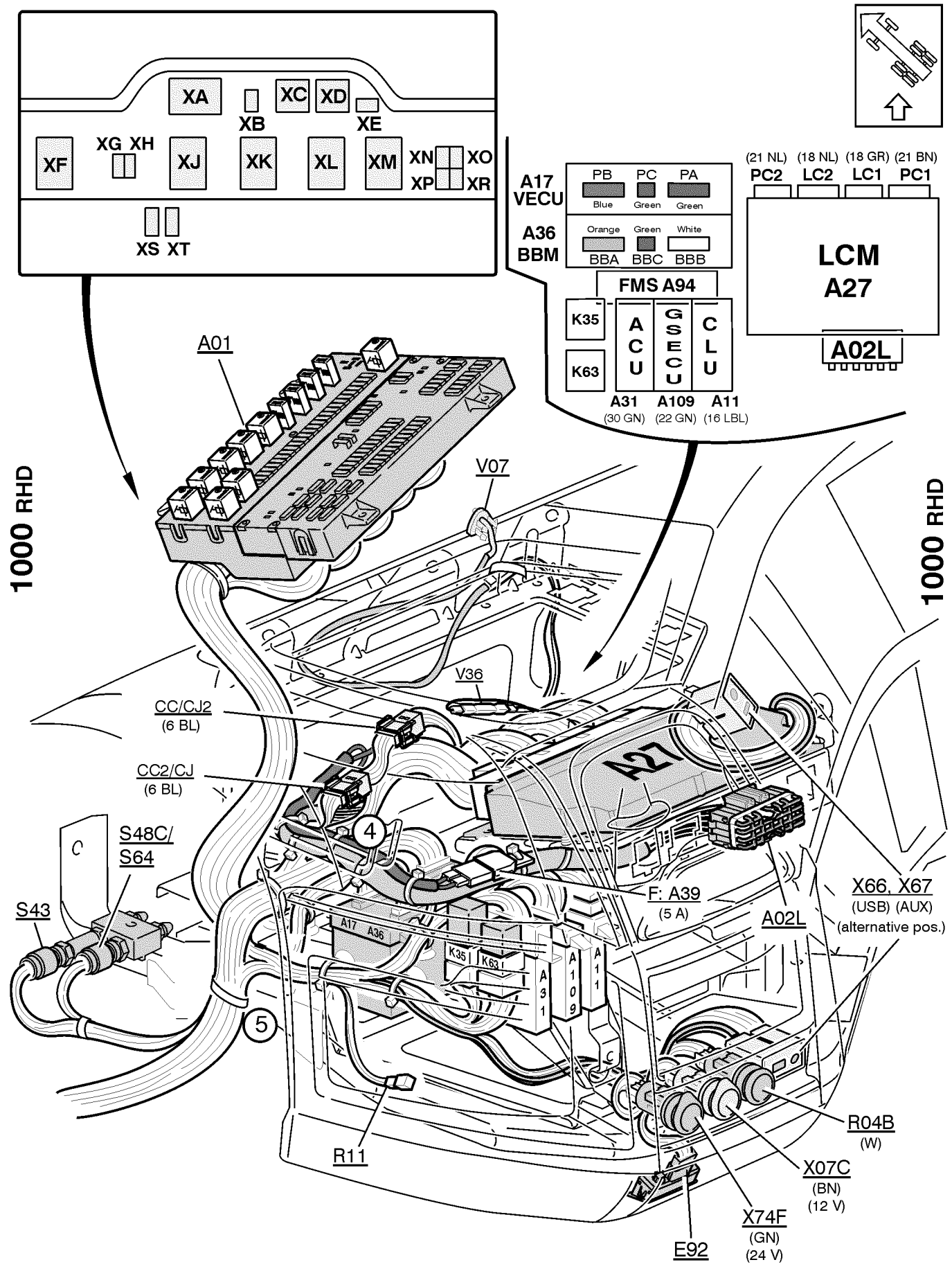
S15



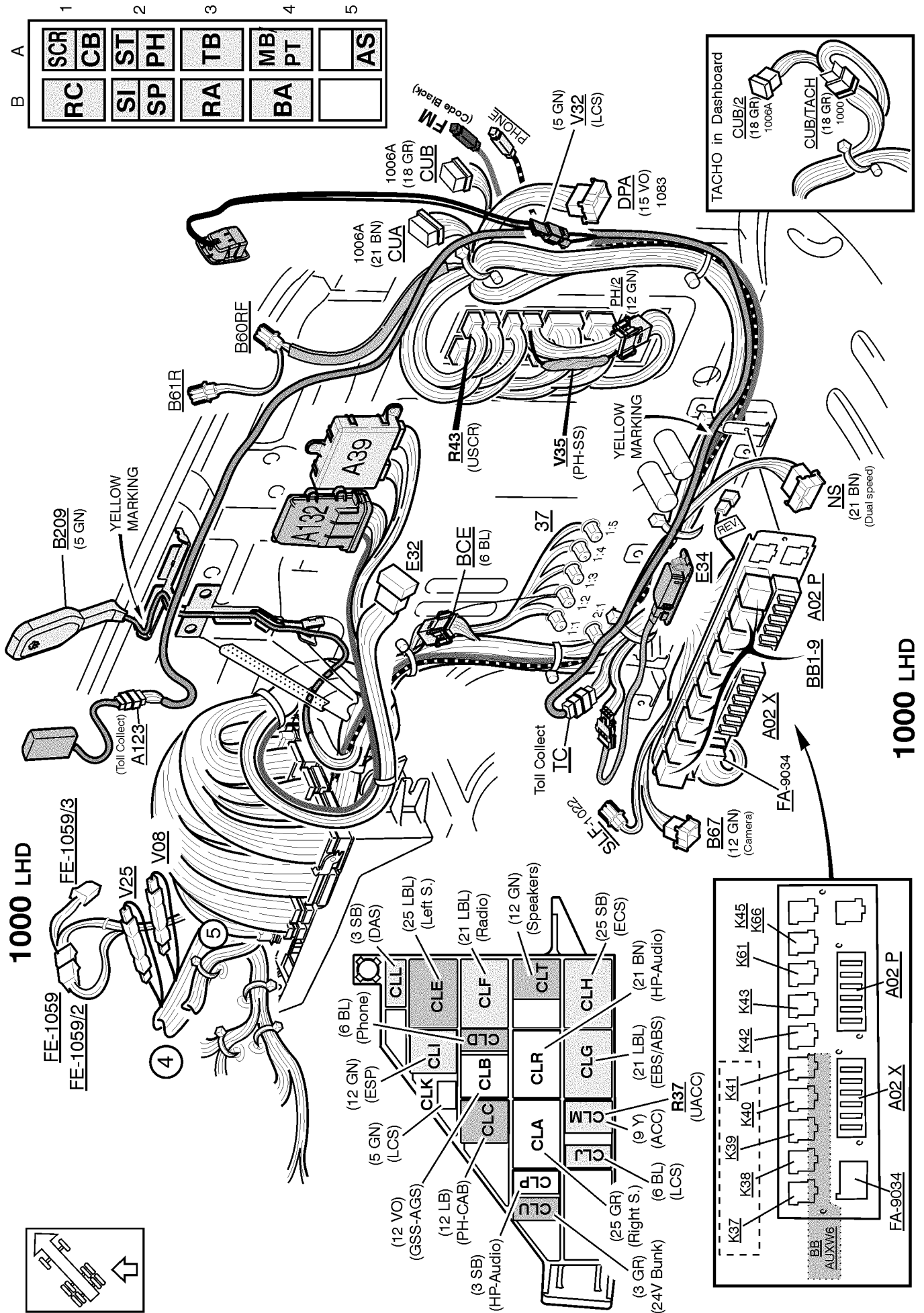












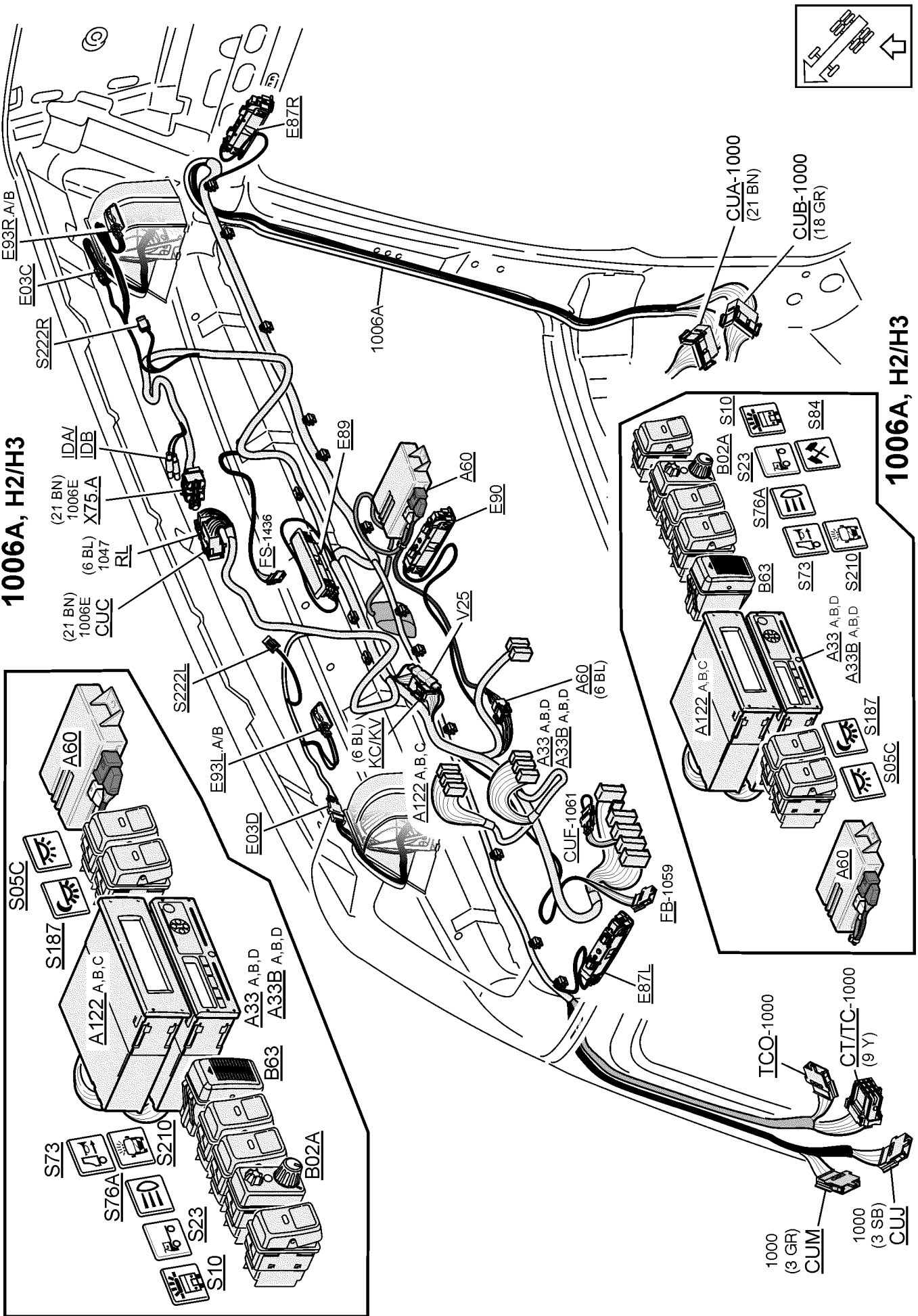
**1000 LHD**

**1000 LHD**

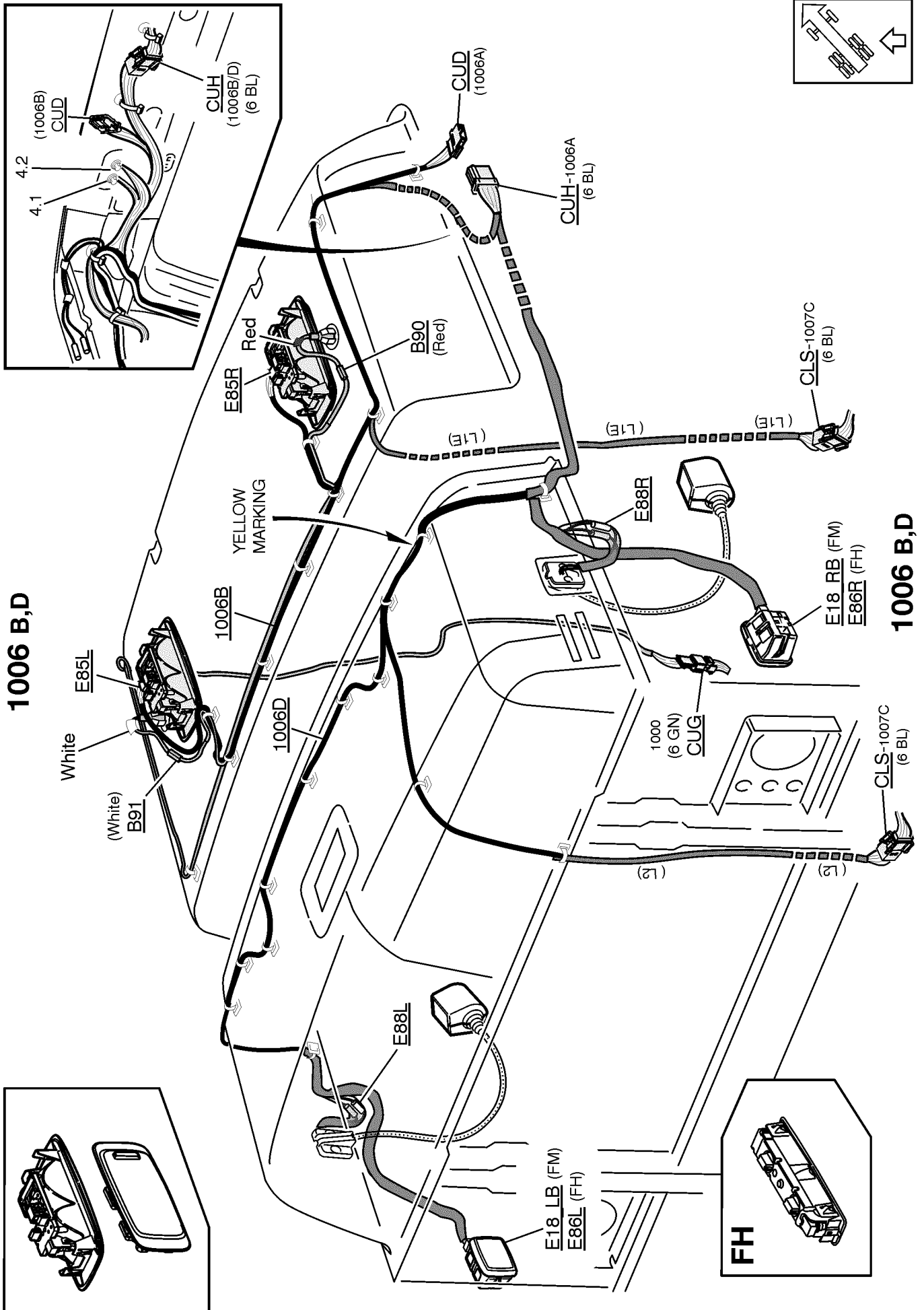




**1006A, H2/H3**

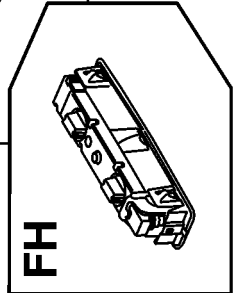


**1006A, H2/H3**

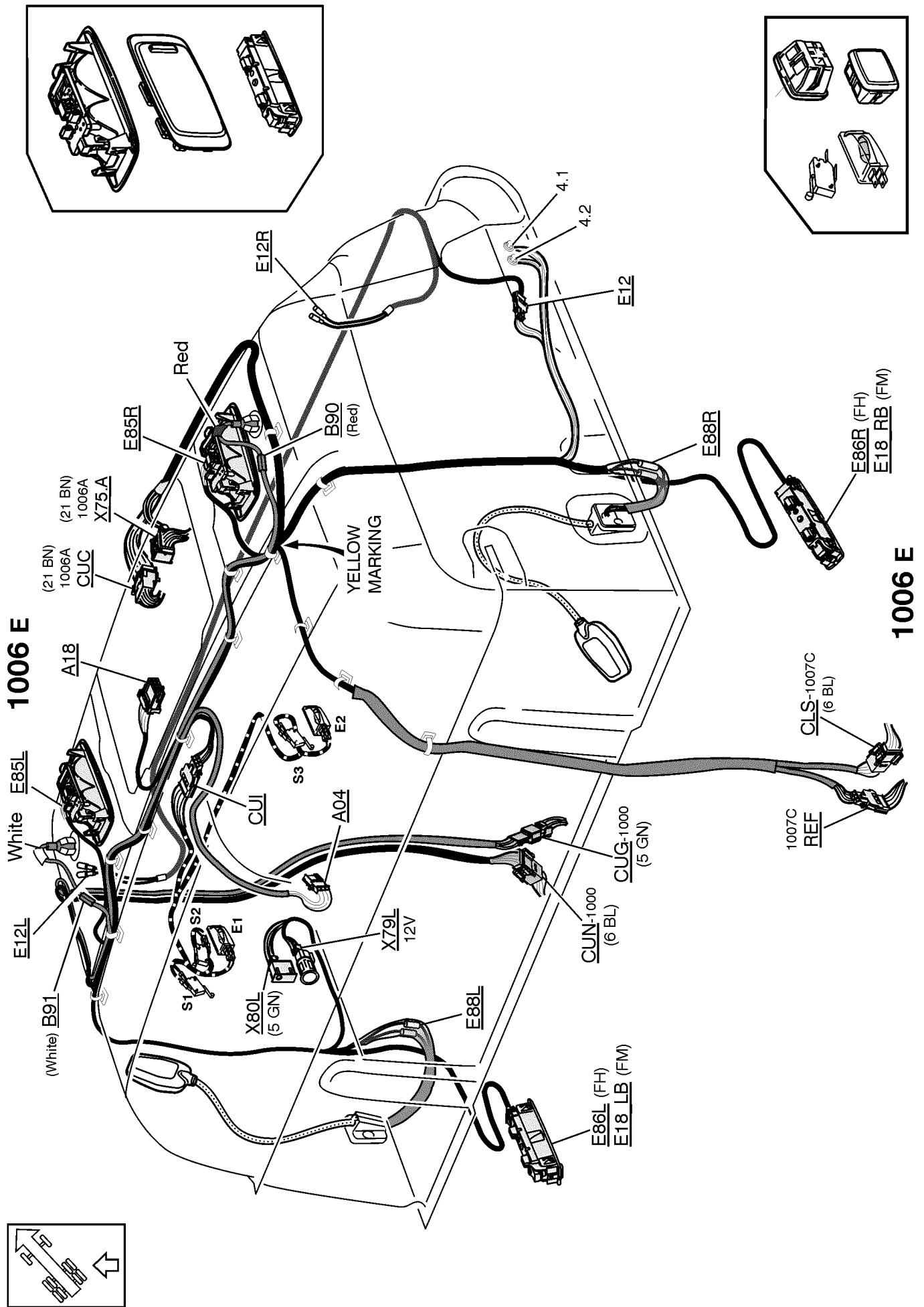


**1006 B,D**

**1006 B,D**



**FH**





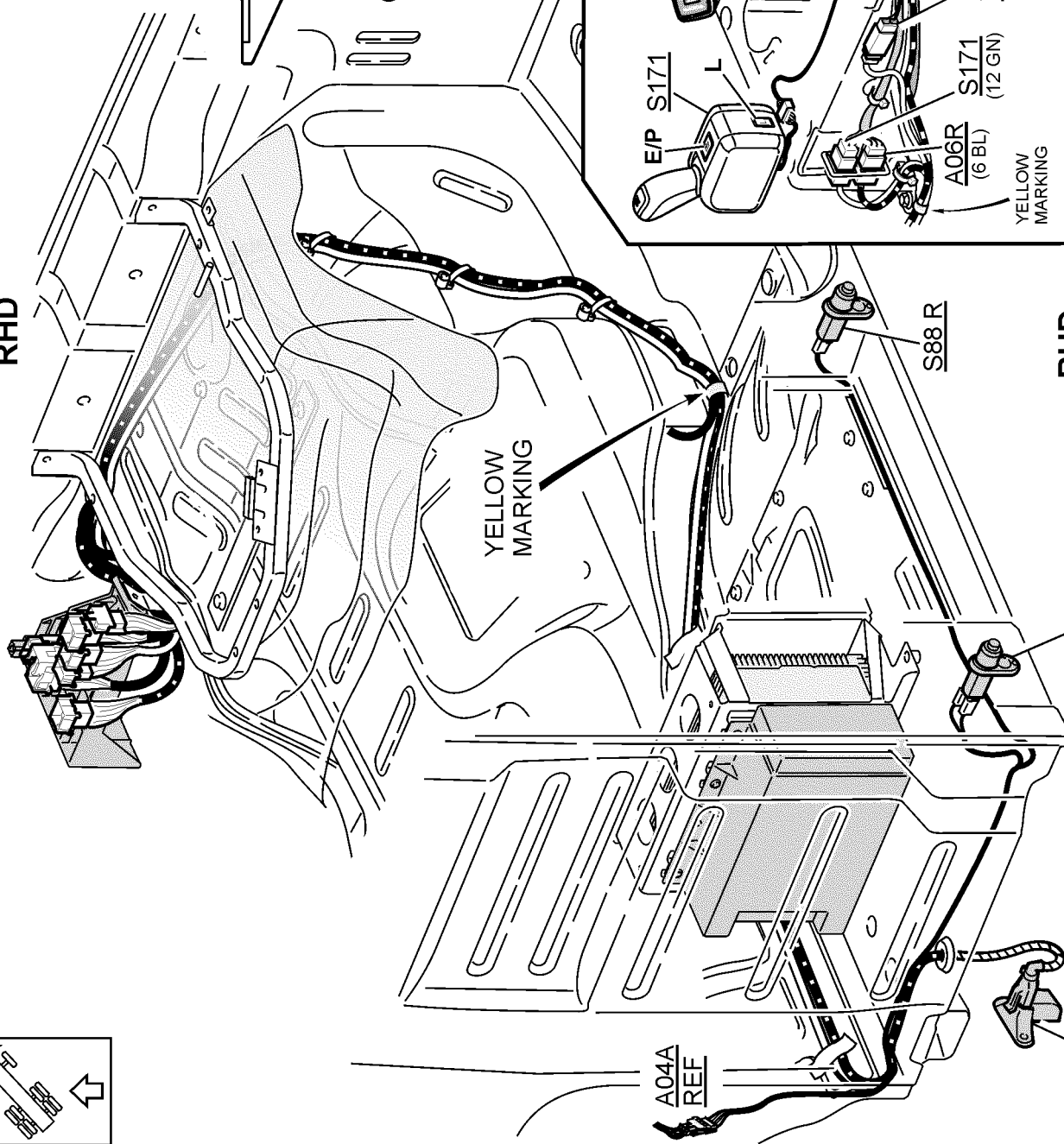
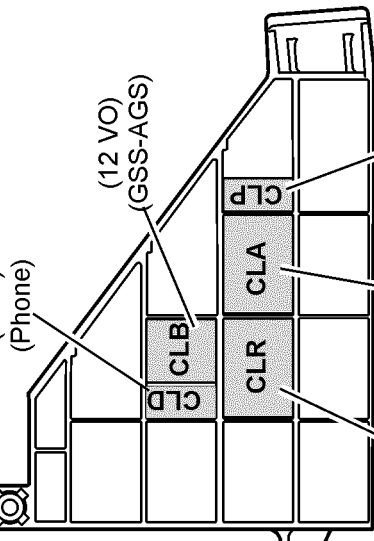
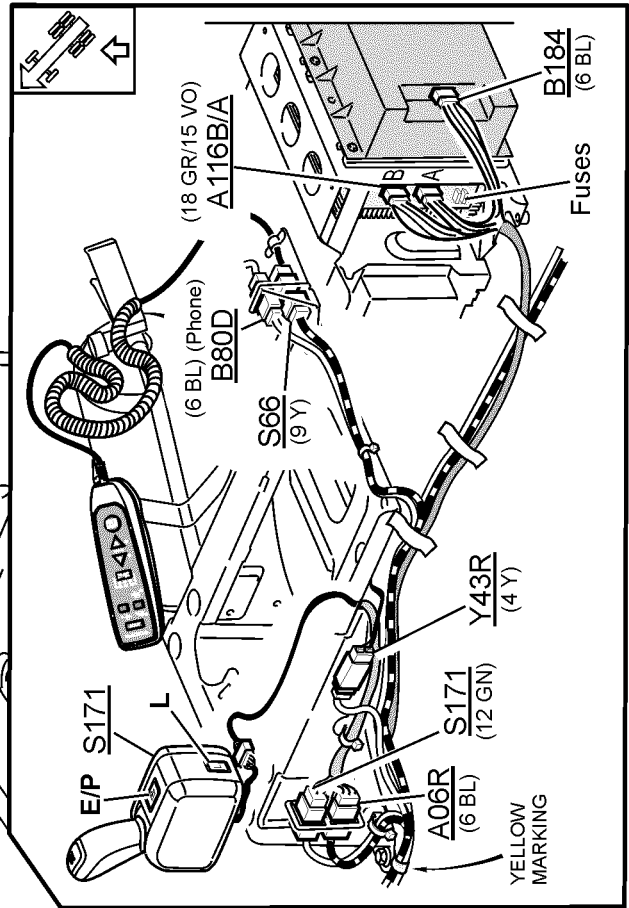
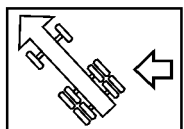






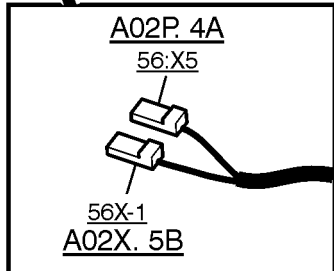
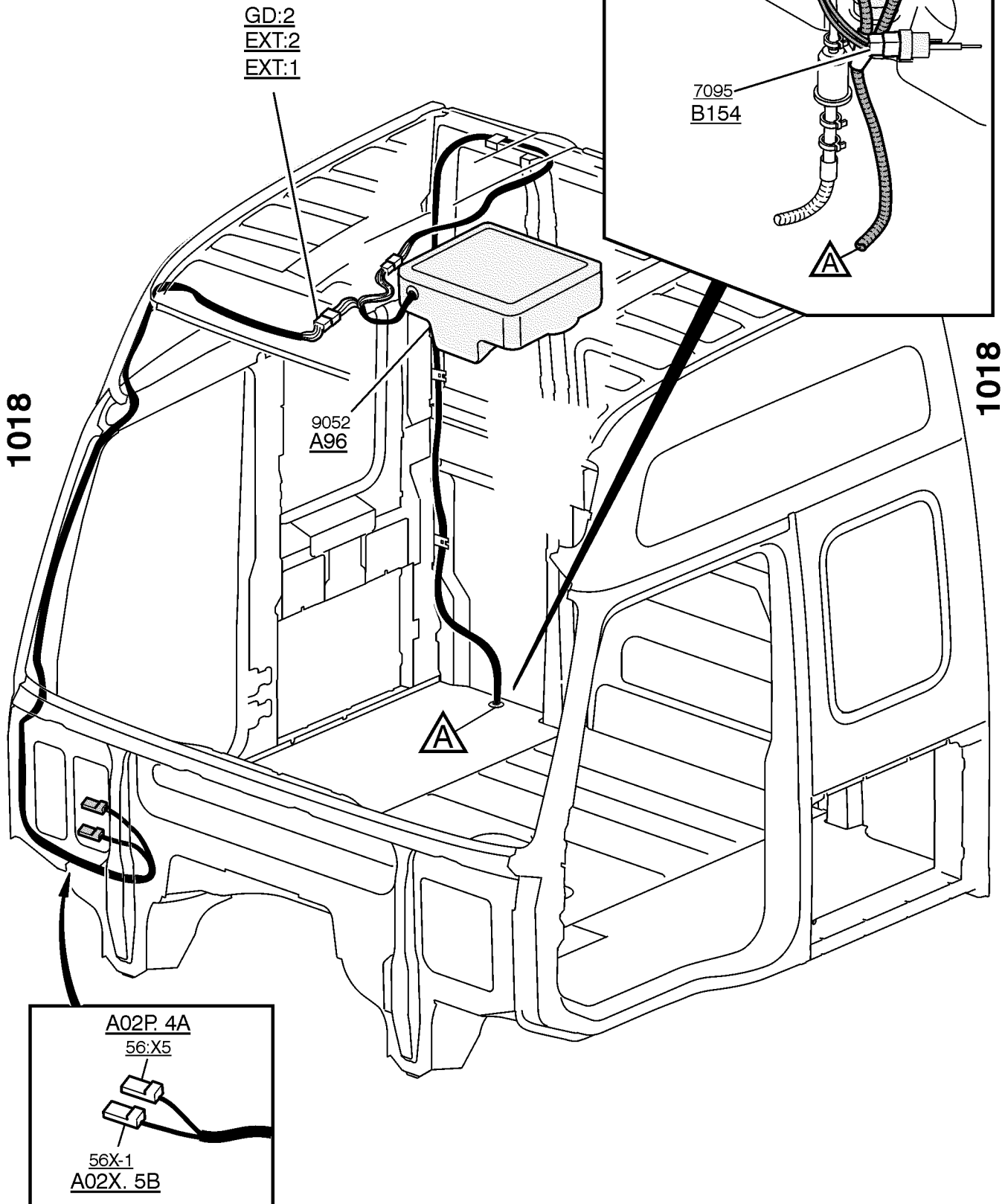
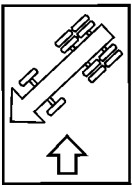
1007 B  
RHD

RHD  
1007 B

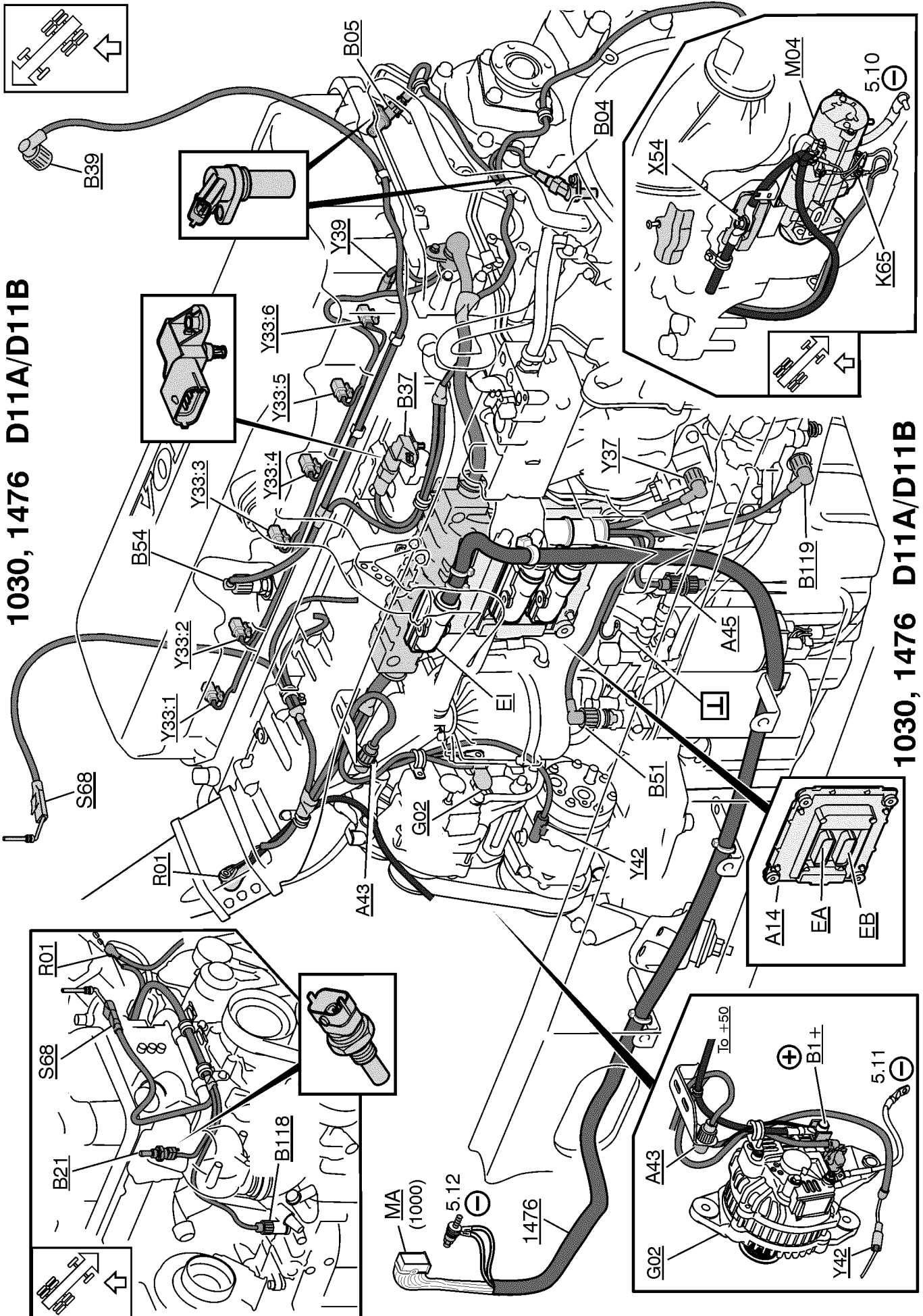




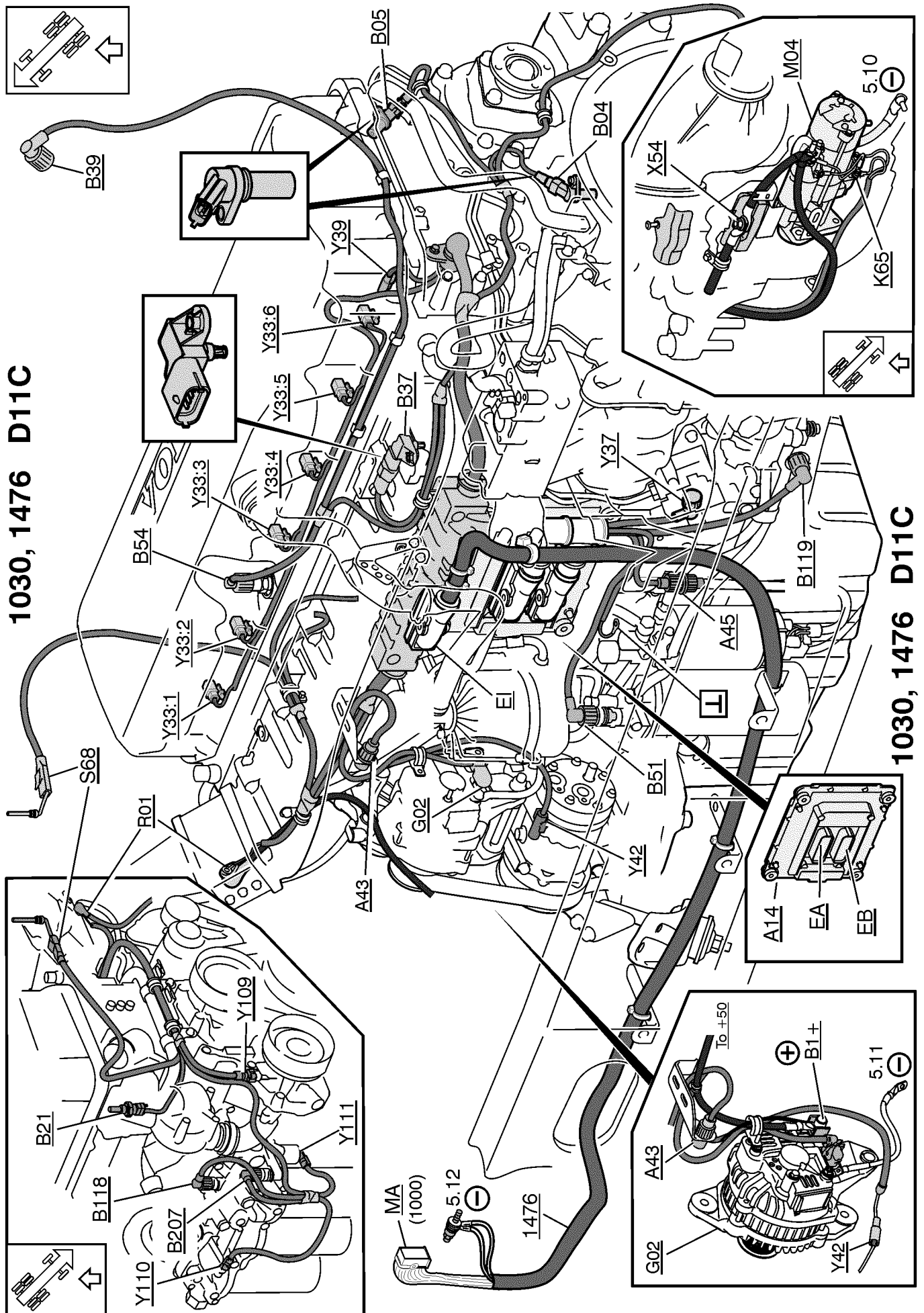




1030, 1476 D11A/D11B

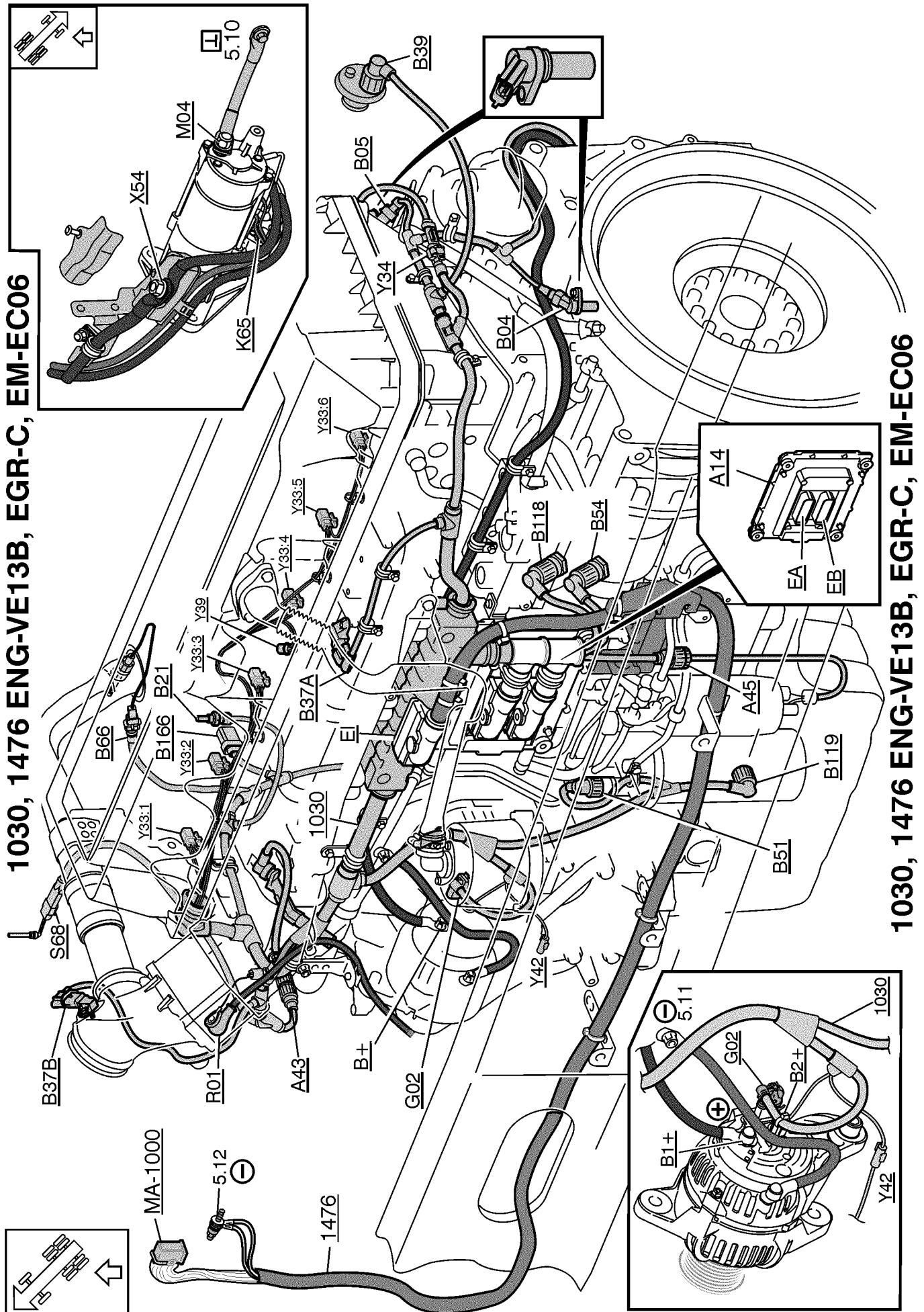


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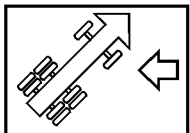
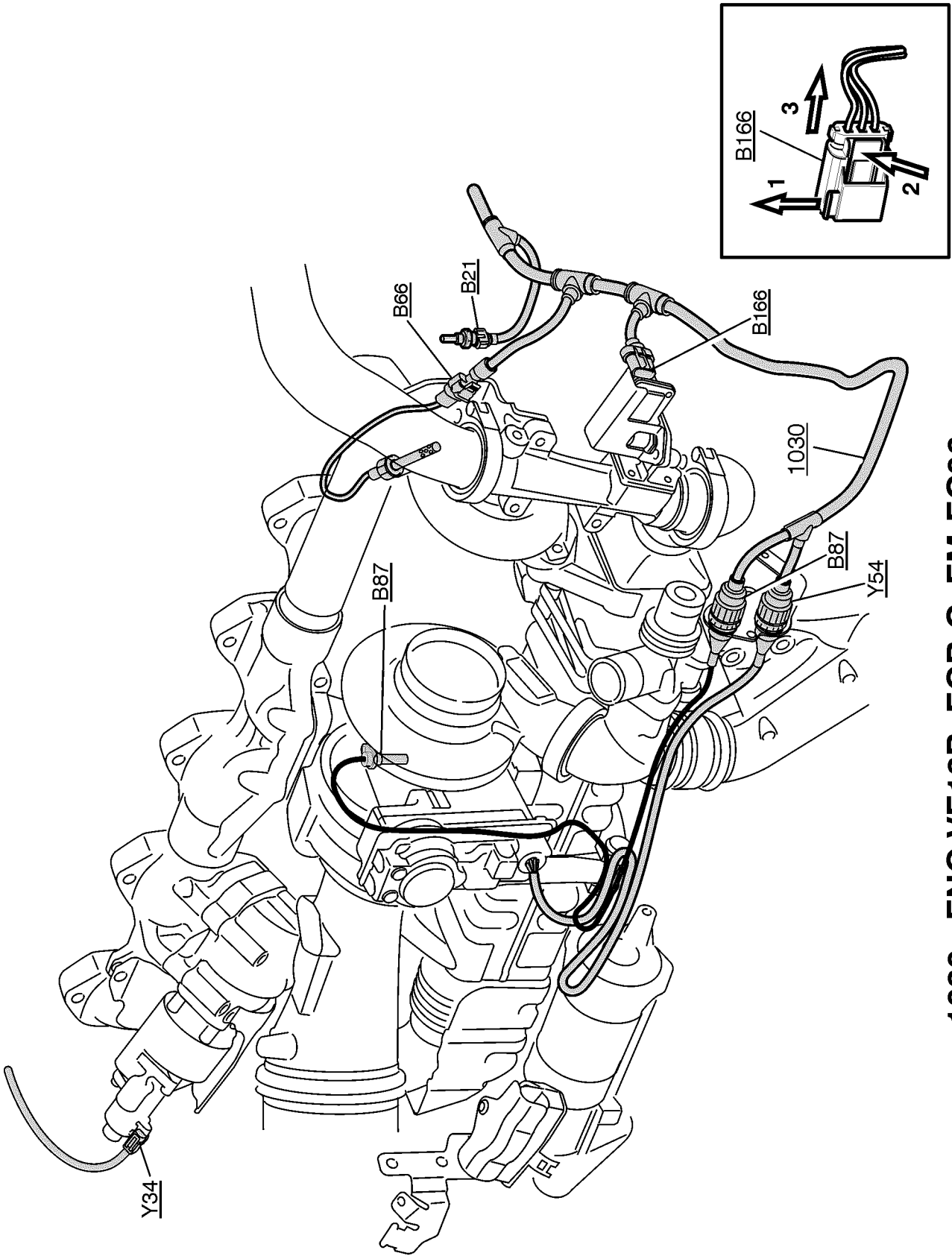


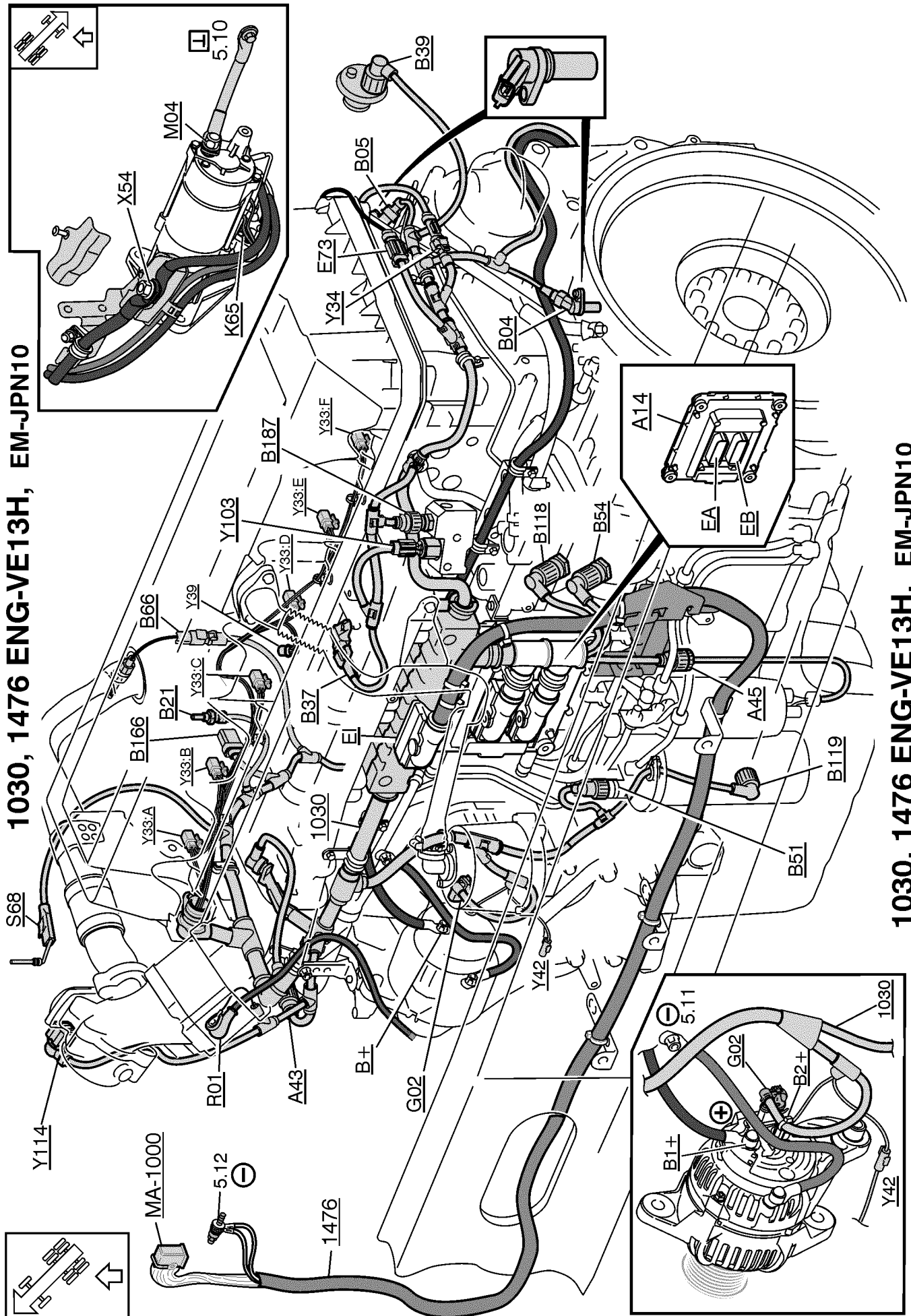
1030, 1476 ENG-VE13B, EGR-C, EM-EC06

1030, 1476 ENG-VE13B, EGR-C, EM-EC06

1030 ENG-VE13B, EGR-C, EM-EC06

1030 ENG-VE13B, EGR-C, EM-EC06





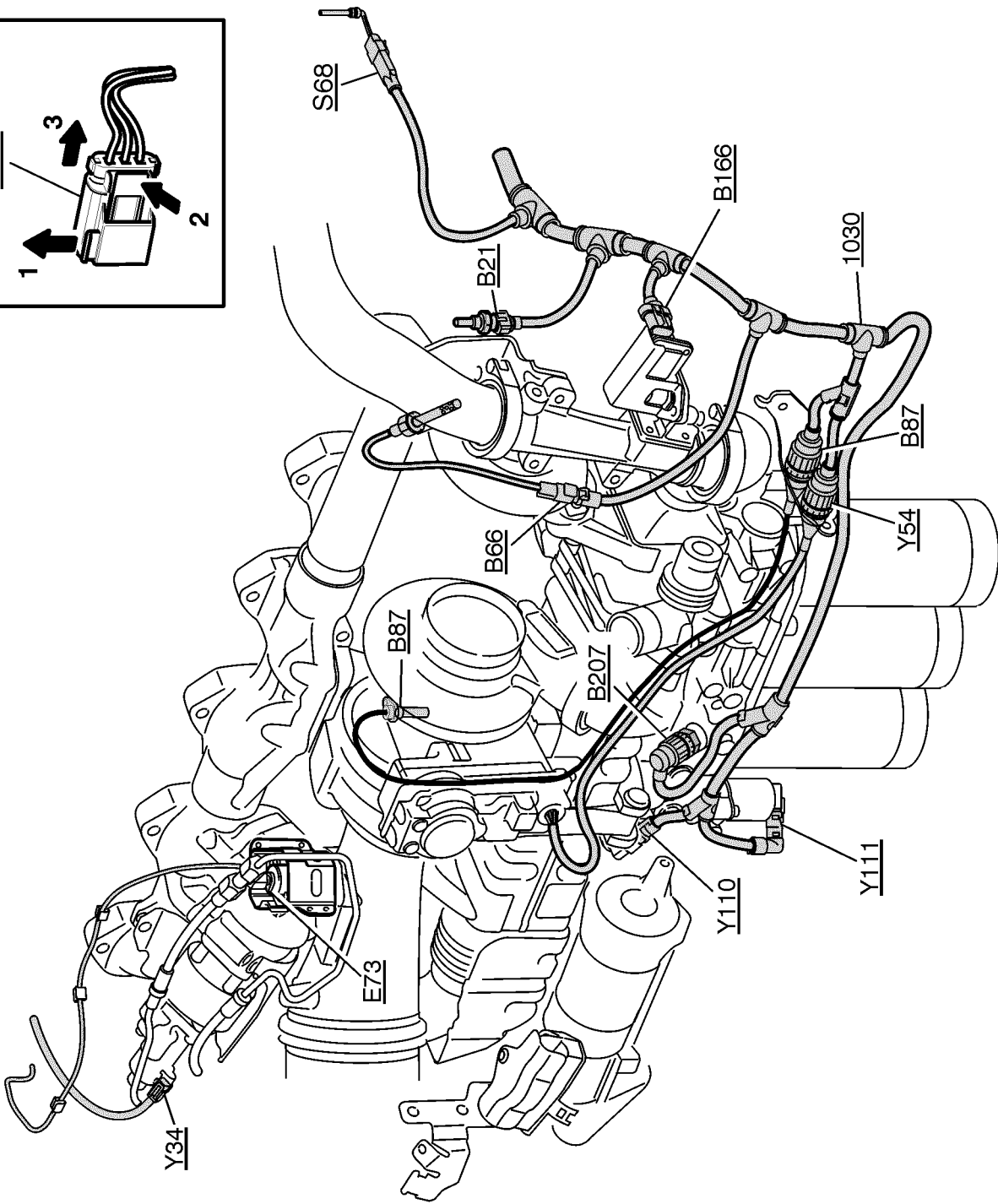
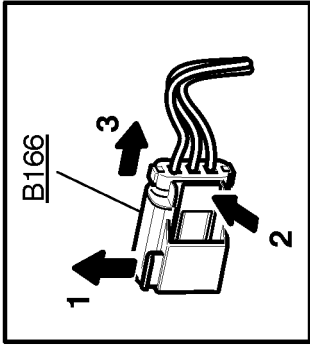
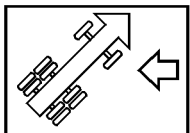
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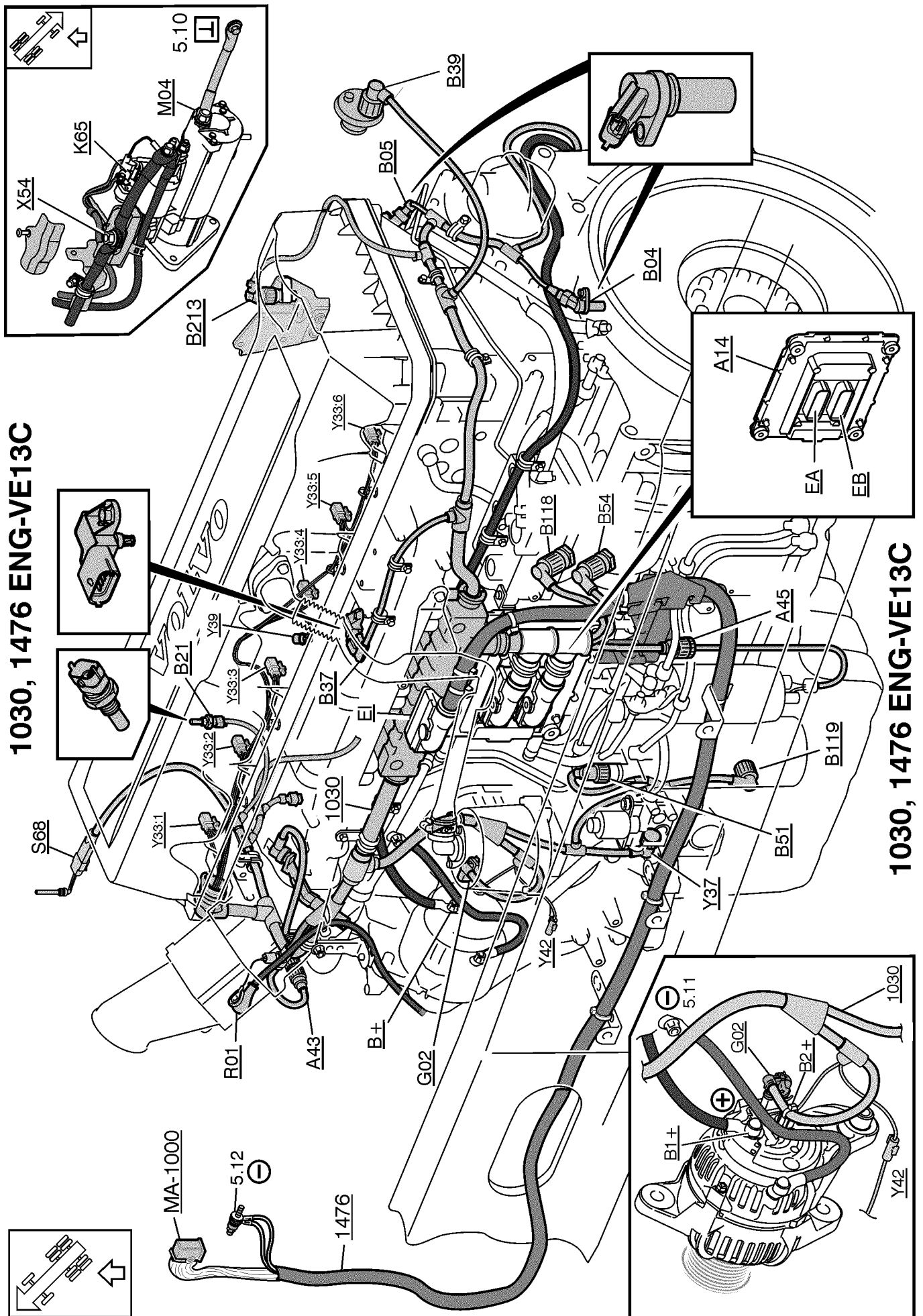
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T3056932

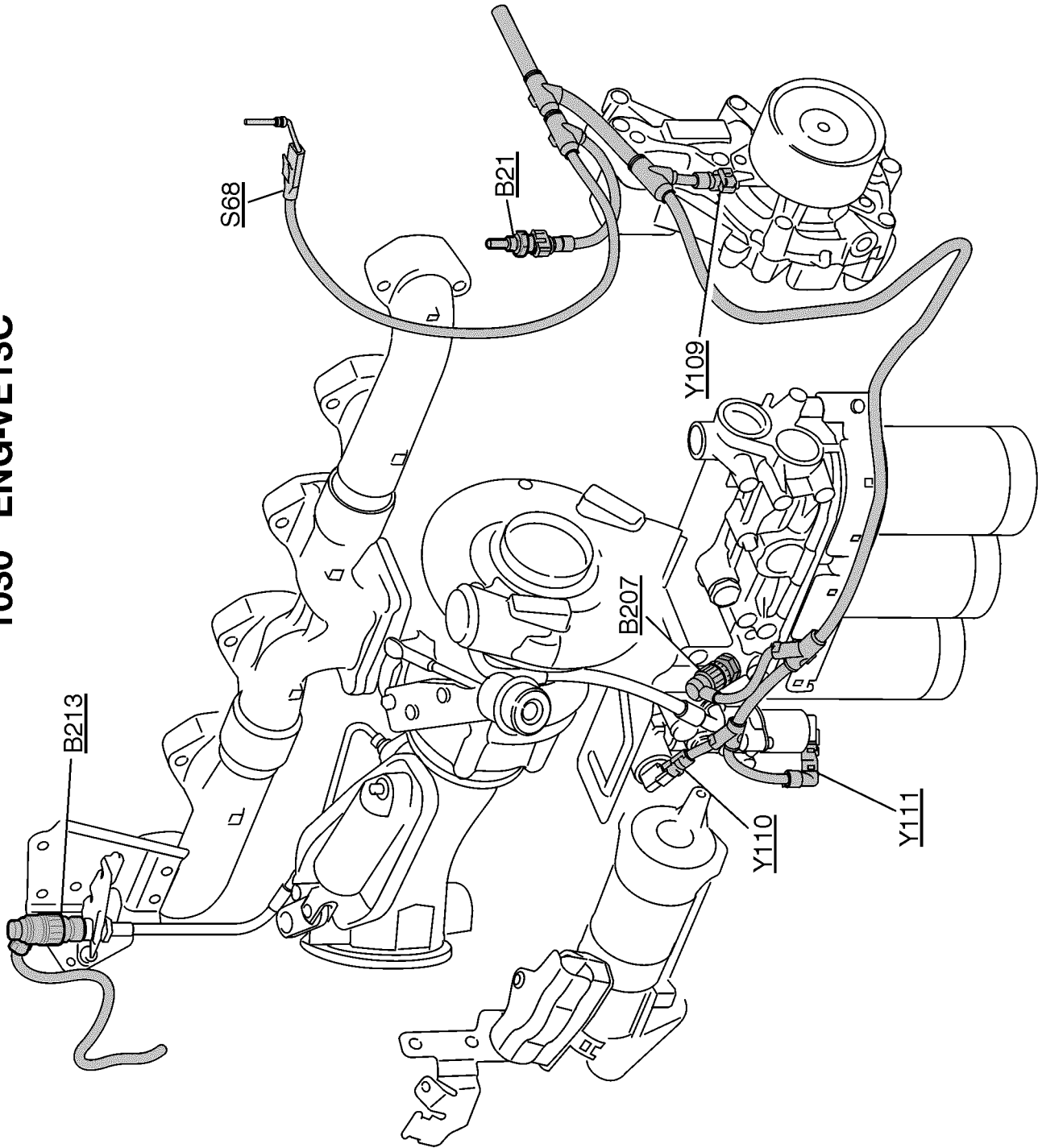
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1030, 1476 ENG-VE13H, EM-JPN10

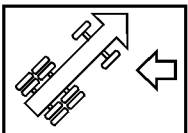


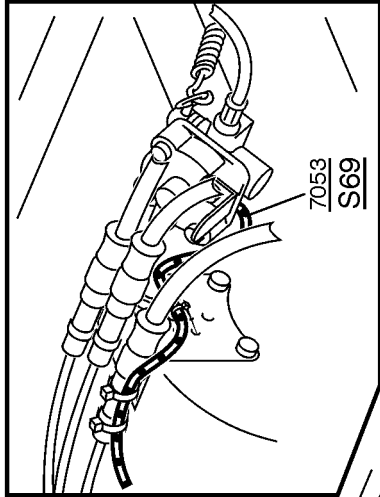
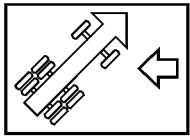


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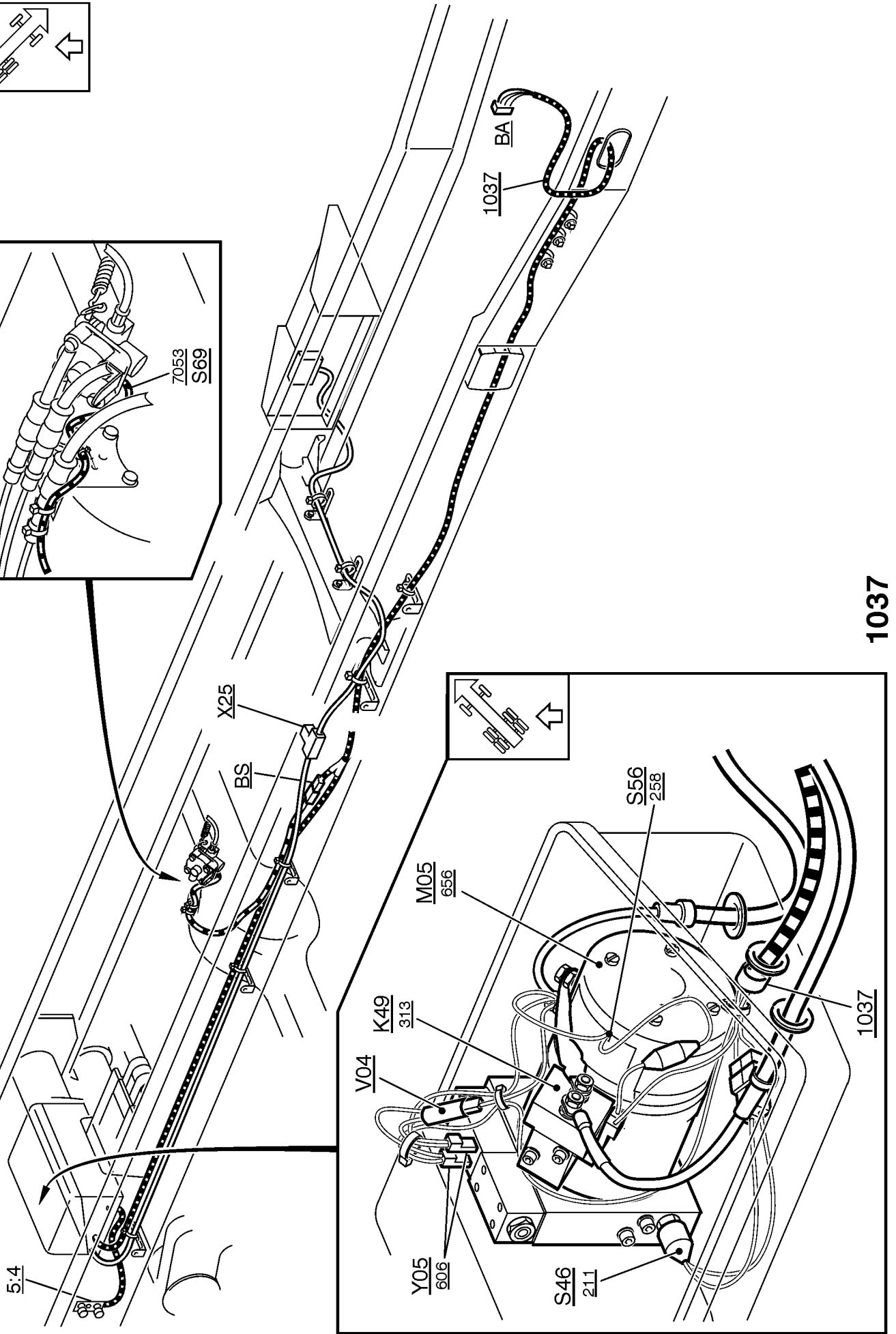


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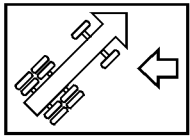




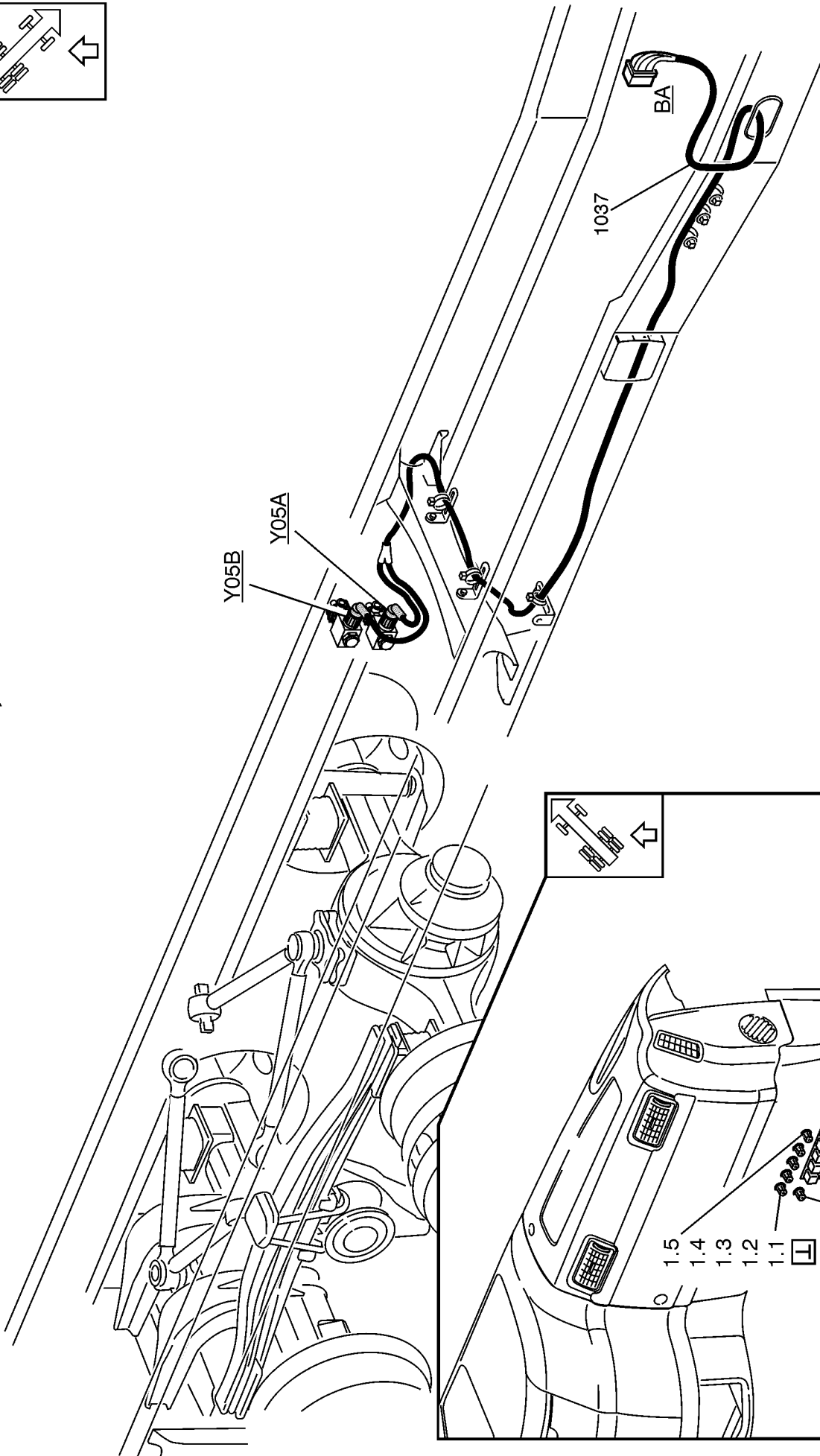
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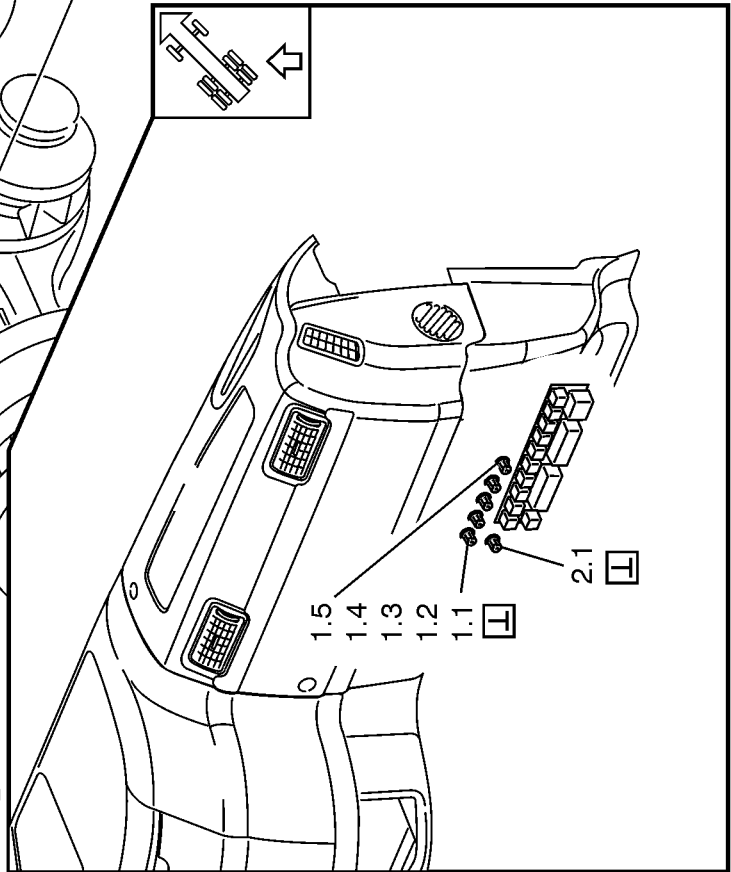
1037



1037, J-RIDE

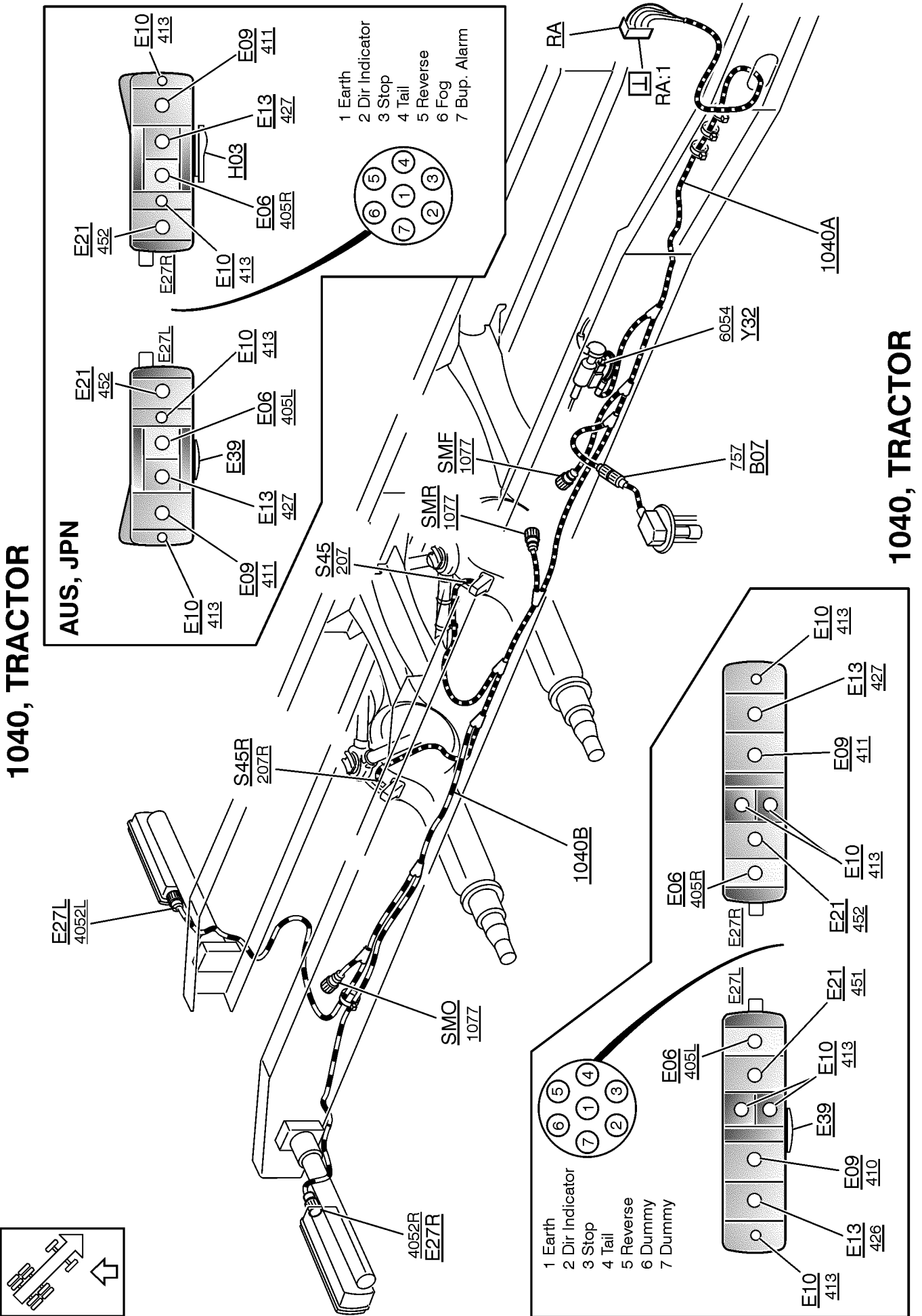


1037, J-RIDE





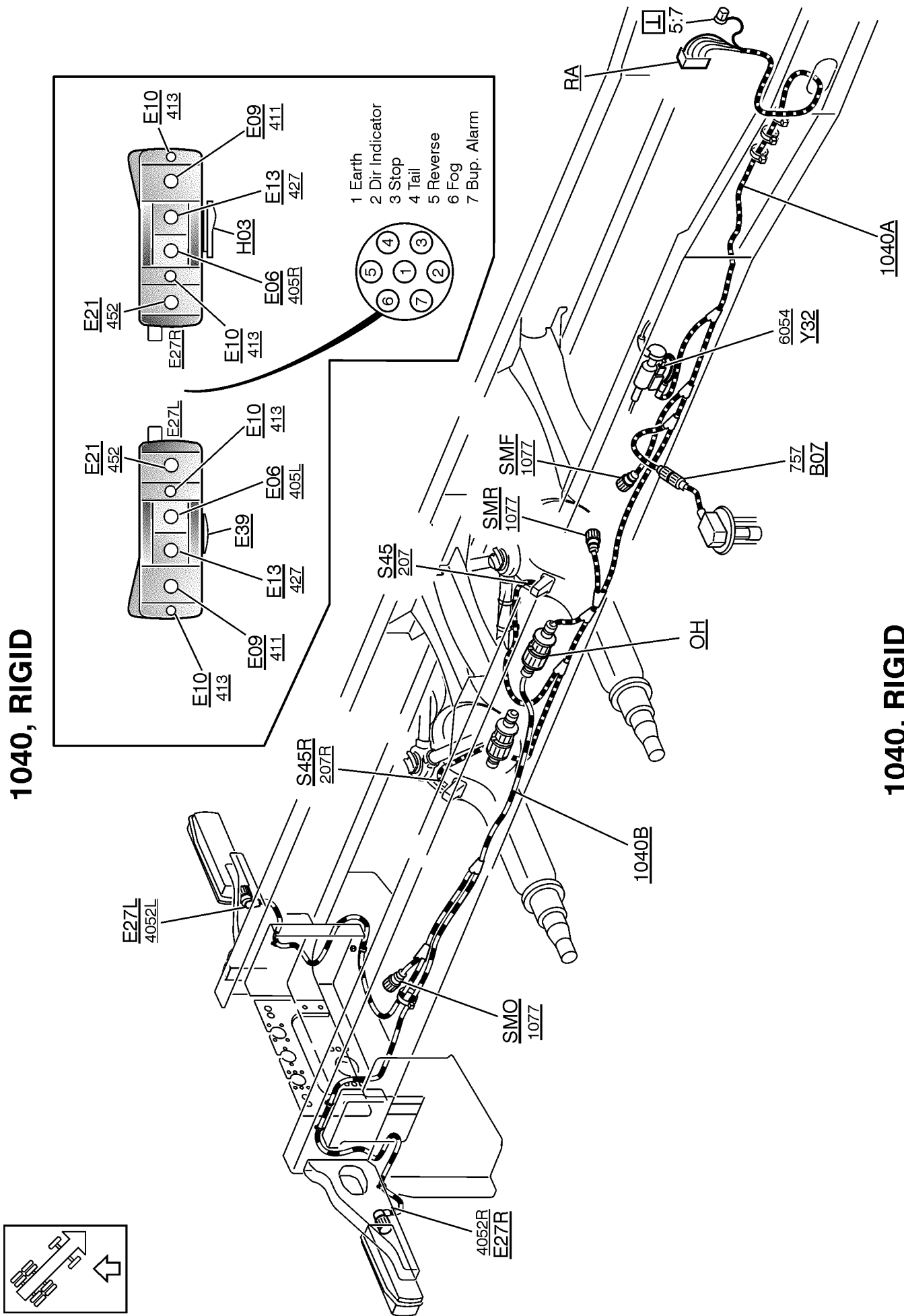
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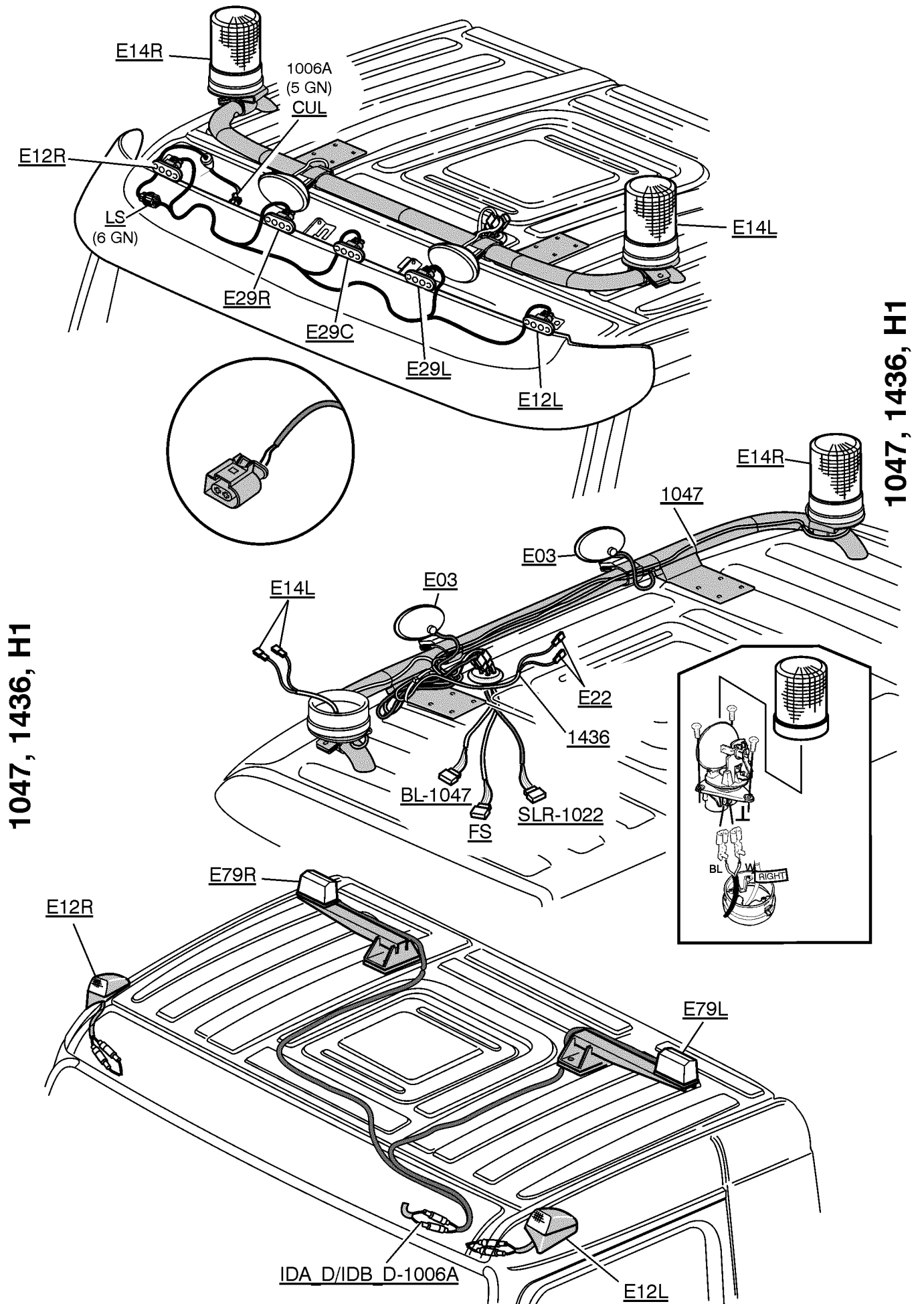


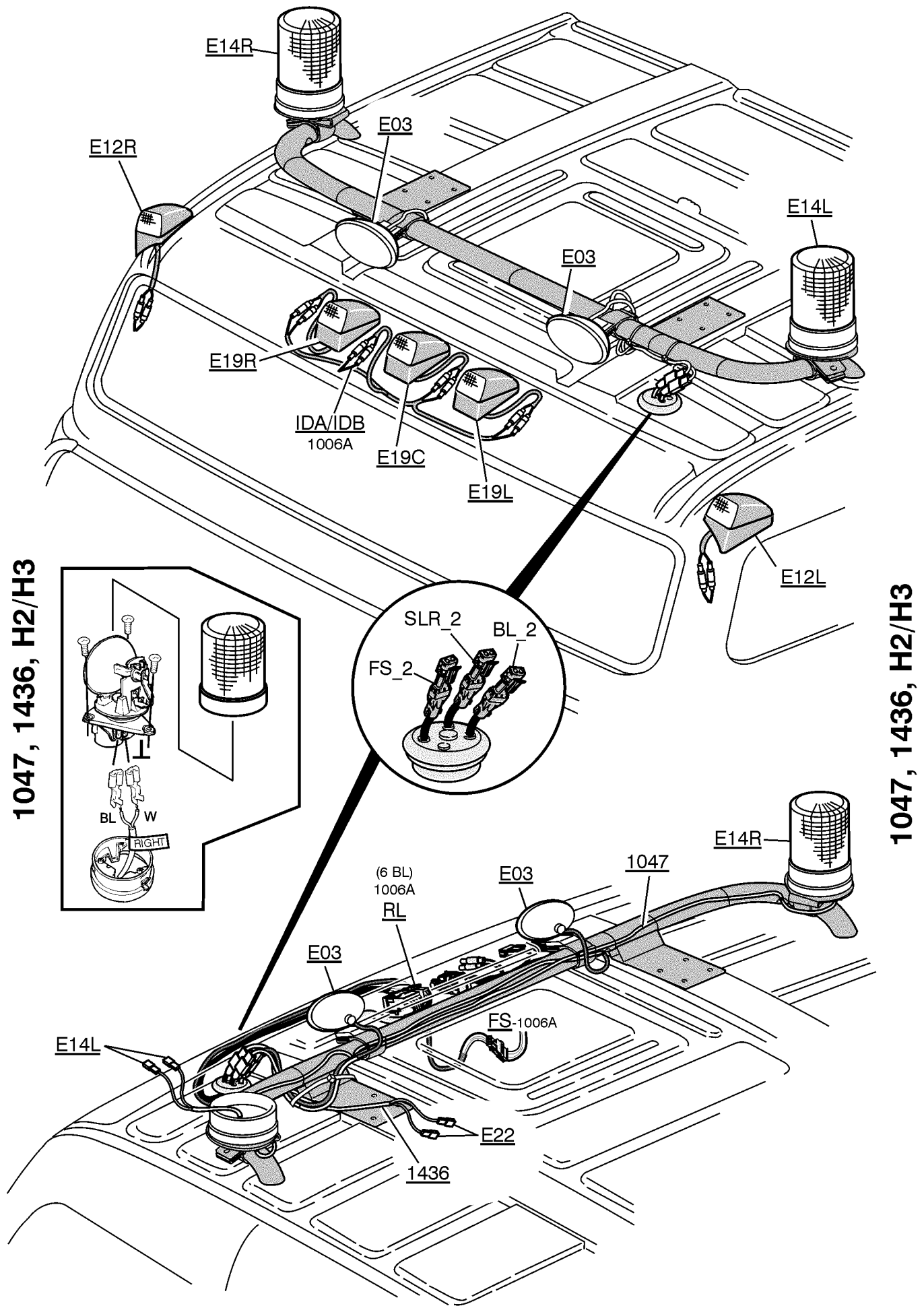
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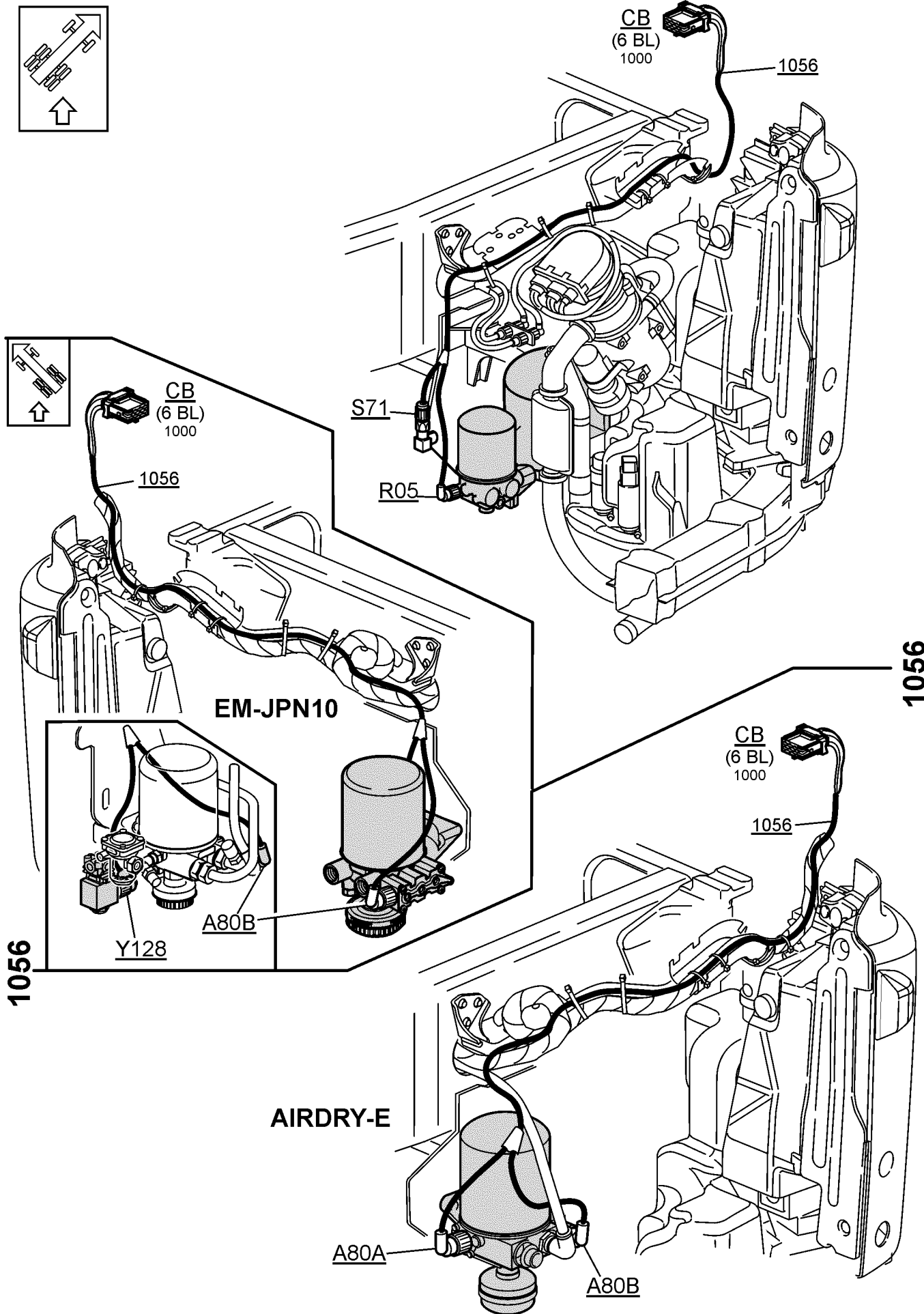
**1040, RIGID**

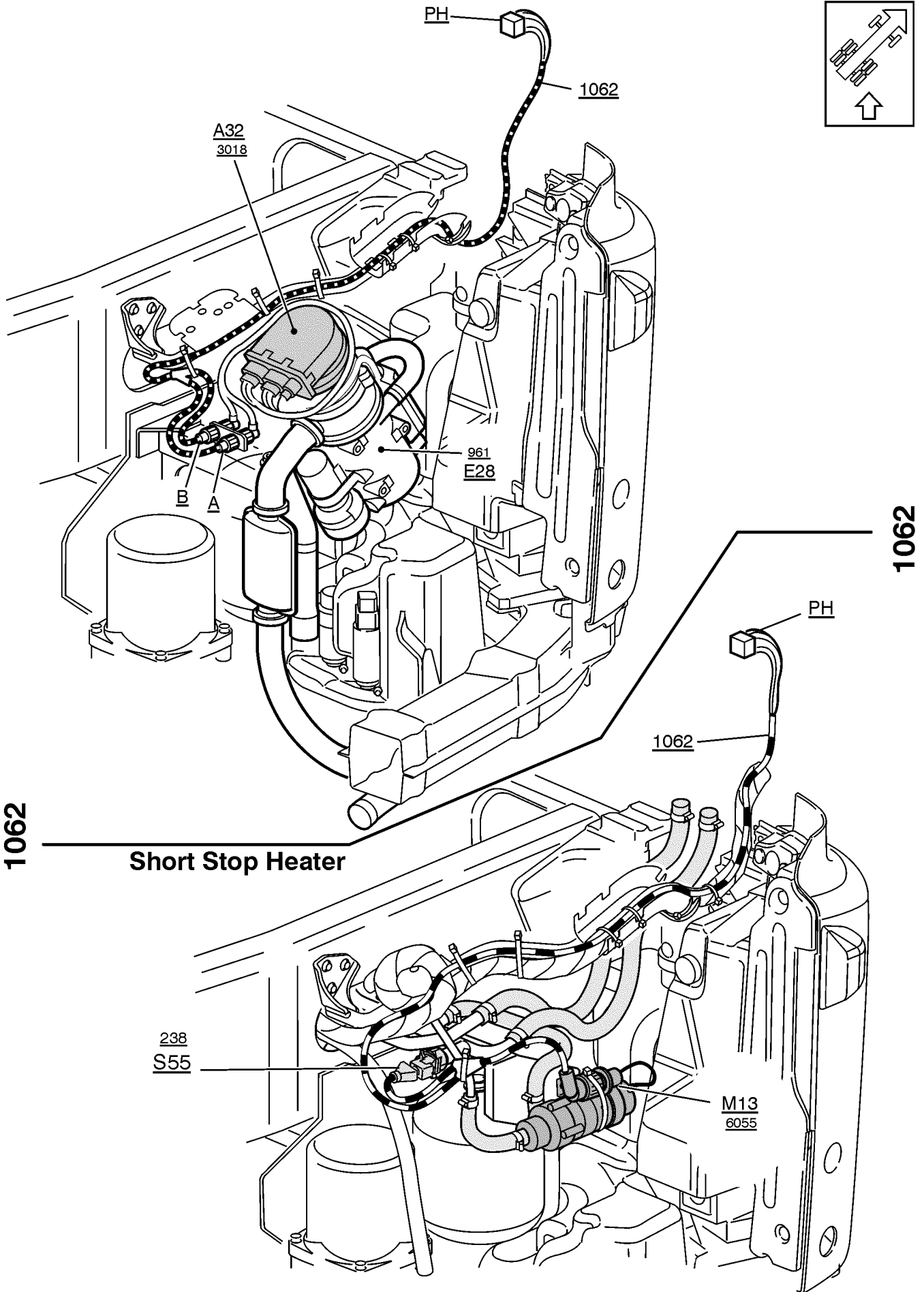
**1040, RIGID**







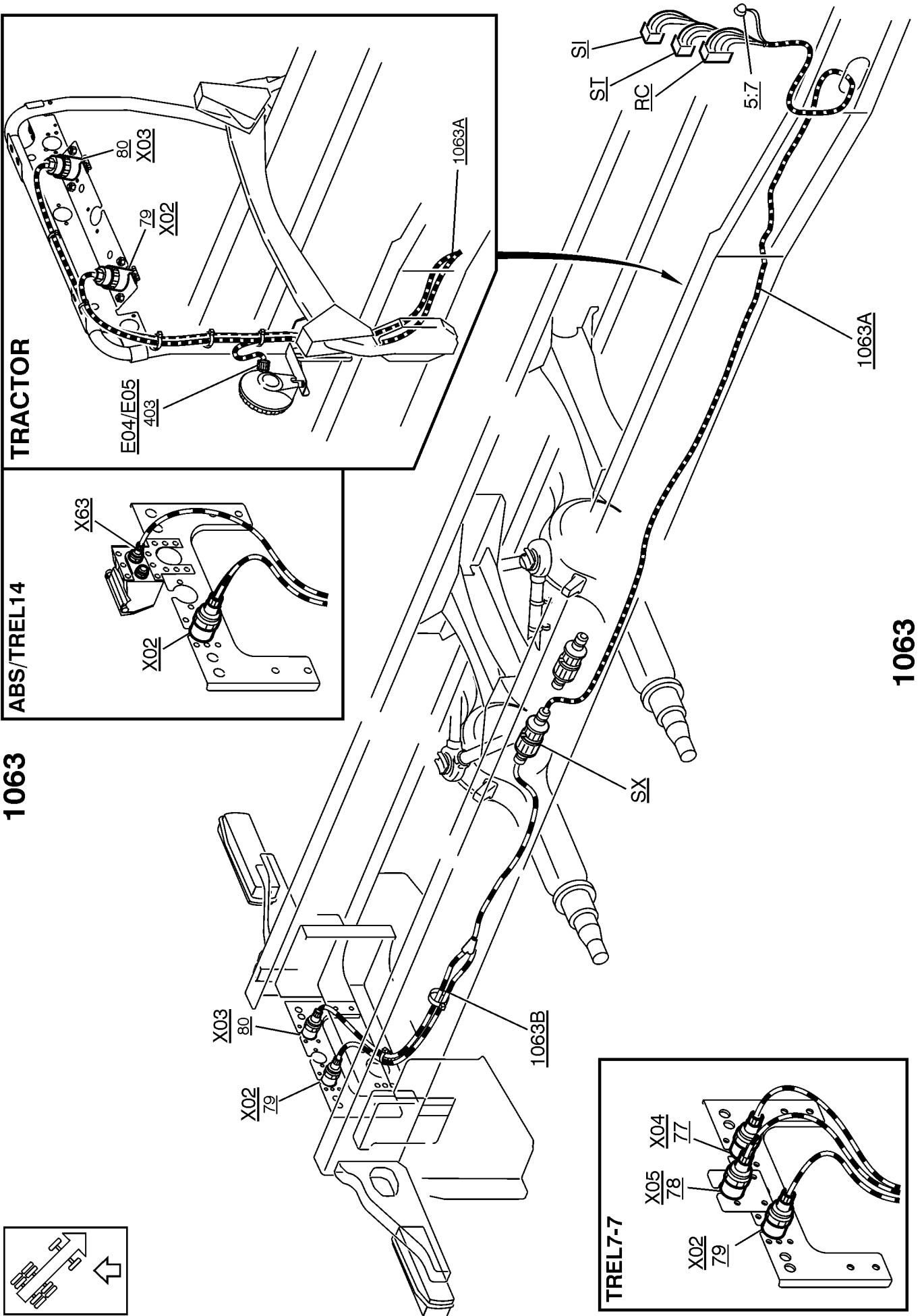




1062

Short Stop Heater

1062



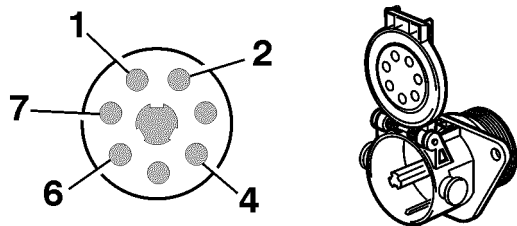
1063

ABS/TREL14

TRACTOR

1063

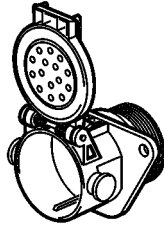
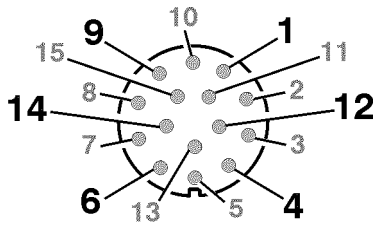
## X02



T3019932

Pin no:	Circuit function	Colour	Diagram
1	Power supply kl. 30	OR	GG:4 E/ GH:3 D/ GK:3 E/ GR:3 E
2	Power supply kl. 15	GR	GG:3 E/ GH:3 D/ GK:3 E/ GR:2 E
3	Ground	W	GG:3 E/ GH:3 D/ GK:3 E/ GR:2 E
4	Ground	W	GG:3 E/ GH:3 D/ GK:3 E/ GR:2 E
5	ABS trailer status	BN	GG:3 E/ GH:3 D/ GK:3 E/ GR:3 E
6	Trailer CAN bus A	P	GG:3 E/ GH:3 D/ GK:4 E/ GR:3 E
7	Trailer CAN bus B	VO	GG:3 E/ GH:3 D/ GK:4 E/ GR:3 E

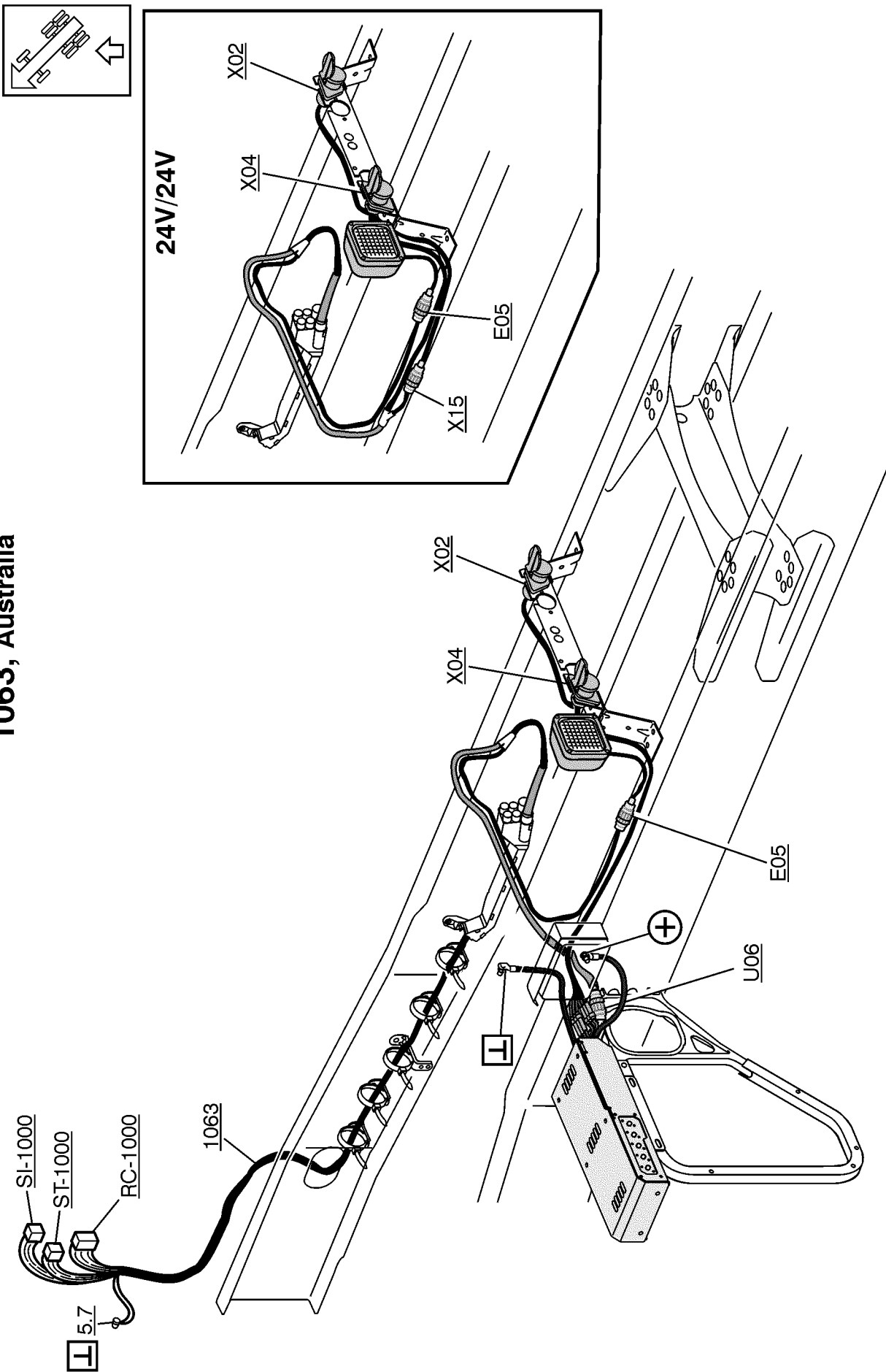


**X03**

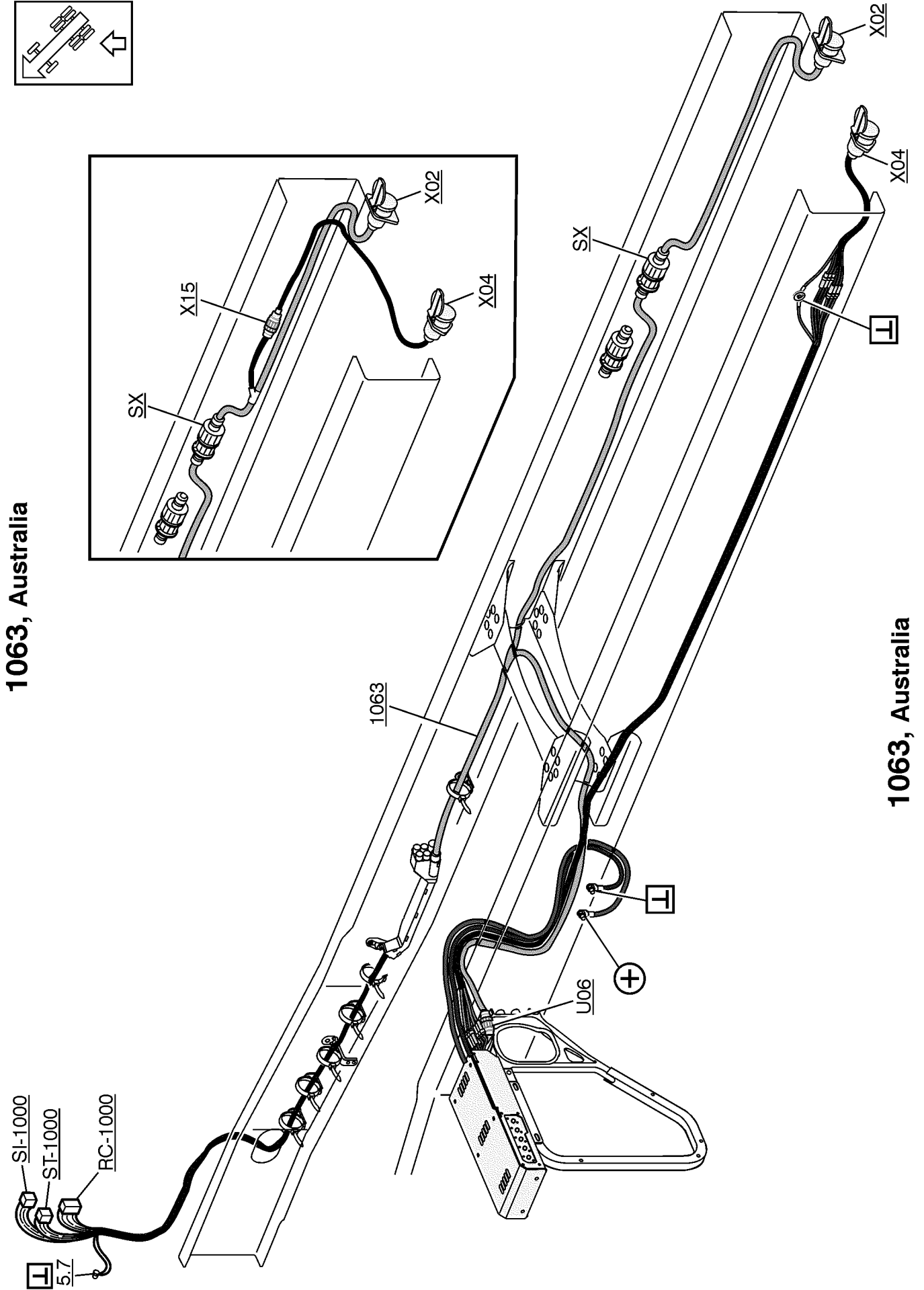
T3019933

Pin no:	Circuit function	Colour	Diagram
1	Direction indicator left, trailer	Y	GG:0 E/ GH:1 D
2	Direction indicator right, trailer	GN	GG:0 E/ GH:1 D
3	Rear fog lights, trailer	BL/GR	GG:1 E/ GH:0 D
4	Ground	W	GG:1 E/ GH:1 D
5	Parking lights left, trailer	GR/SB	GG:0 E/ GH:1 D
6	Parking lights right, trailer	GR/R	GG:0 E/ GH:1 D
7	Brake lights, trailer	R/SB	GG:0 E/ GH:1 D
8	Reverse lights, trailer	BL/SB	GG:0 E/ GH:1 D
9	Body builder preparation	R	GG:1 E/ GH:1 D
10	Body builder preparation	BL	GG:1 E/ GH:1 D
11	Body builder preparation	GR/SB	GG:1 E/ GH:1 D
12	Body builder preparation	GN/GR	GG:1 E/ GH:1 D
13	Ground	W	GG:0 E/ GH:1 D
14	Body builder preparation	BL/W	GG:0 E/ GH:0 D
15	Body builder preparation	BL/R	GG:0 E/ GH:0 D

1063, Australia



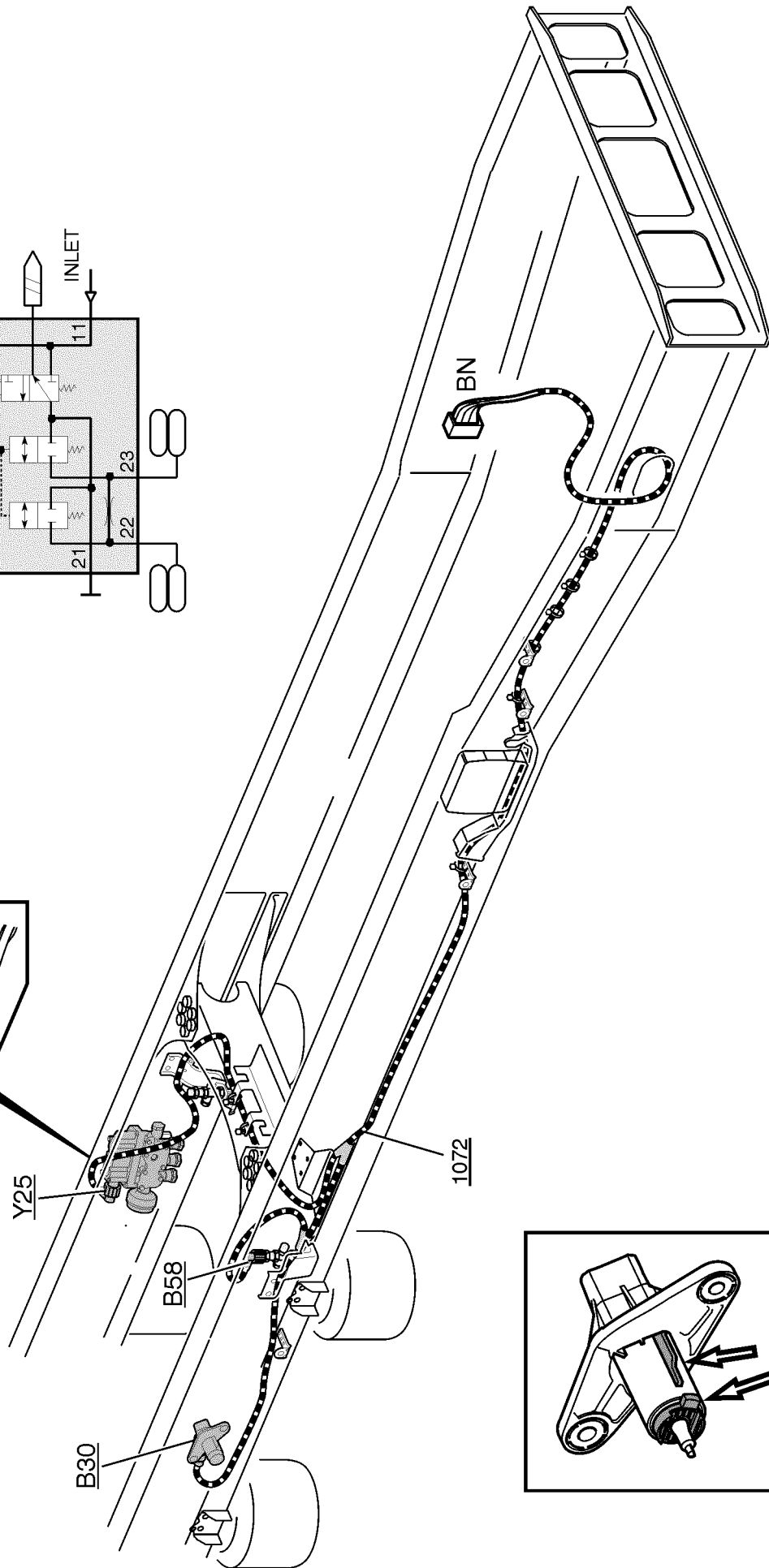
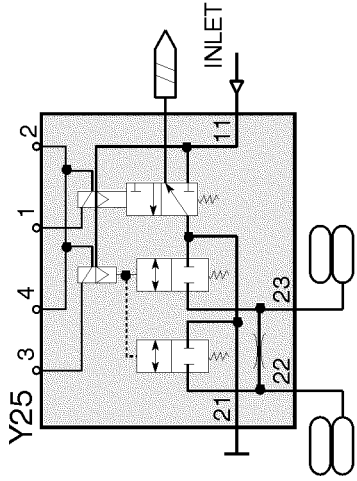
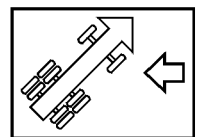
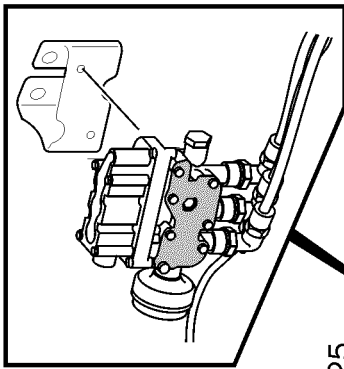
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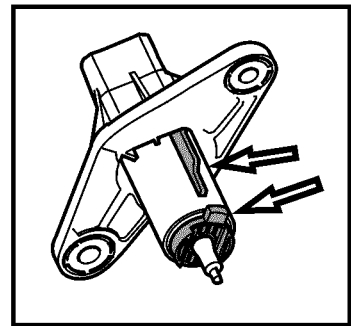
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1063, Australia

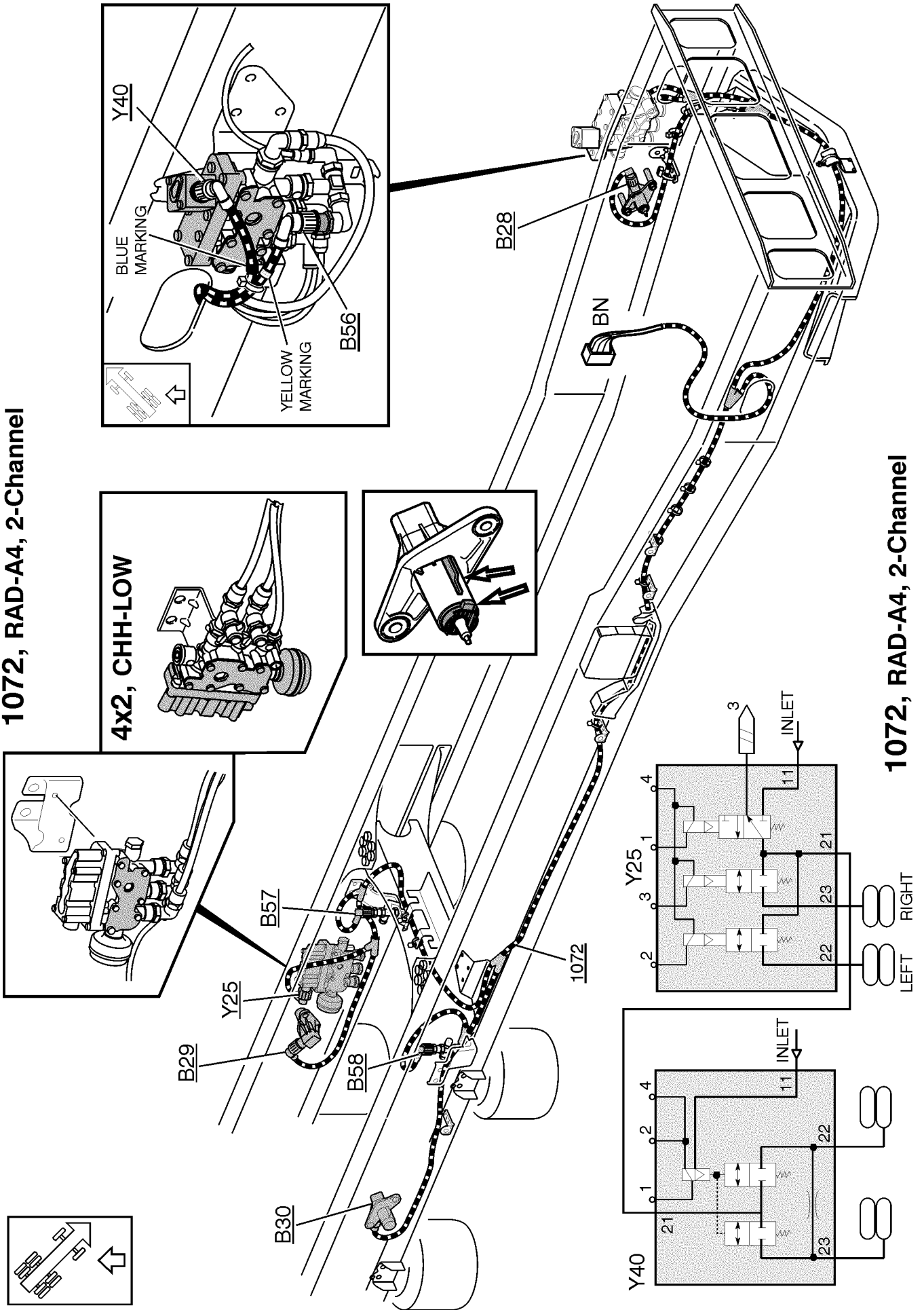
**1072, RAD-A4, 1-Channel**



**1072, RAD-A4, 1-Channel**



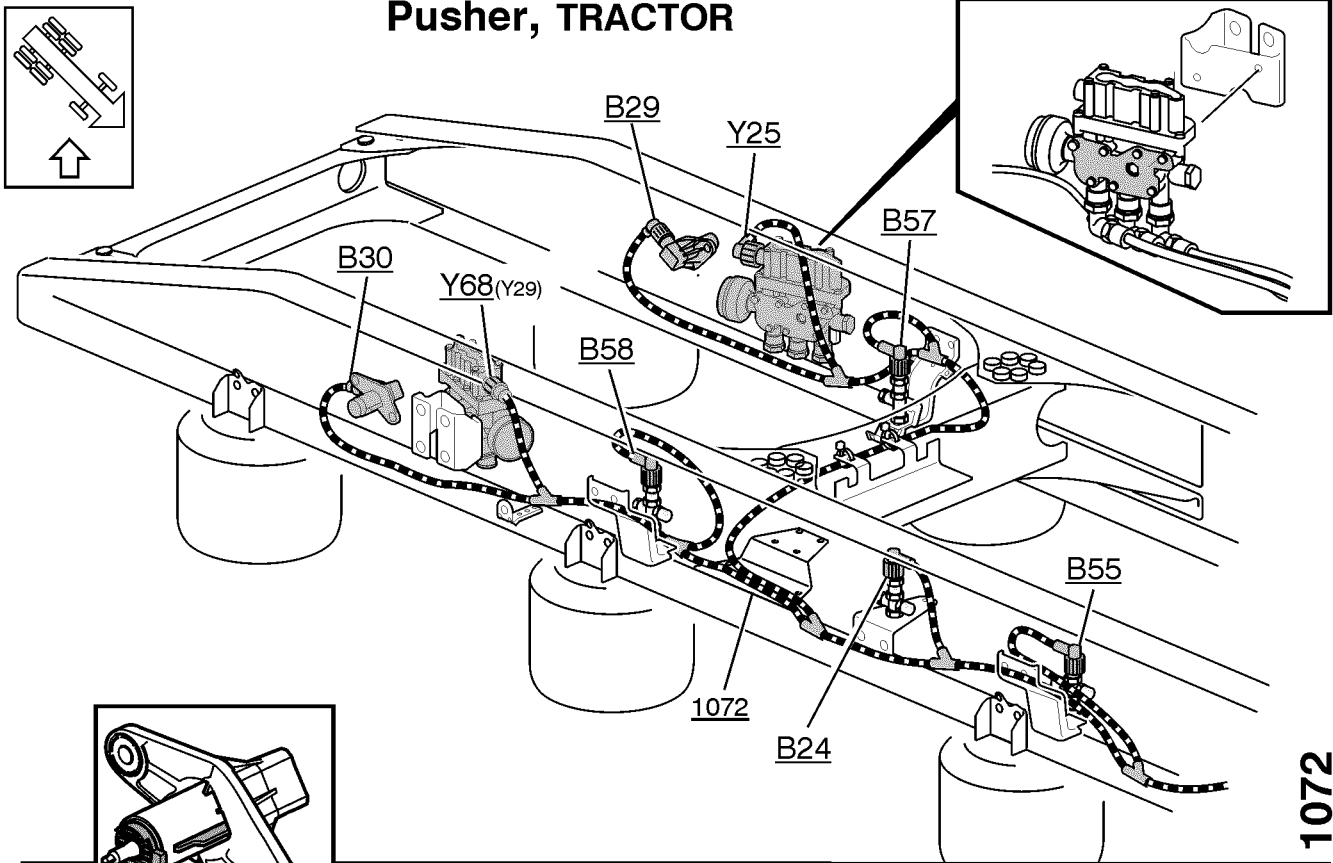
**1072, RAD-A4, 2-Channel**



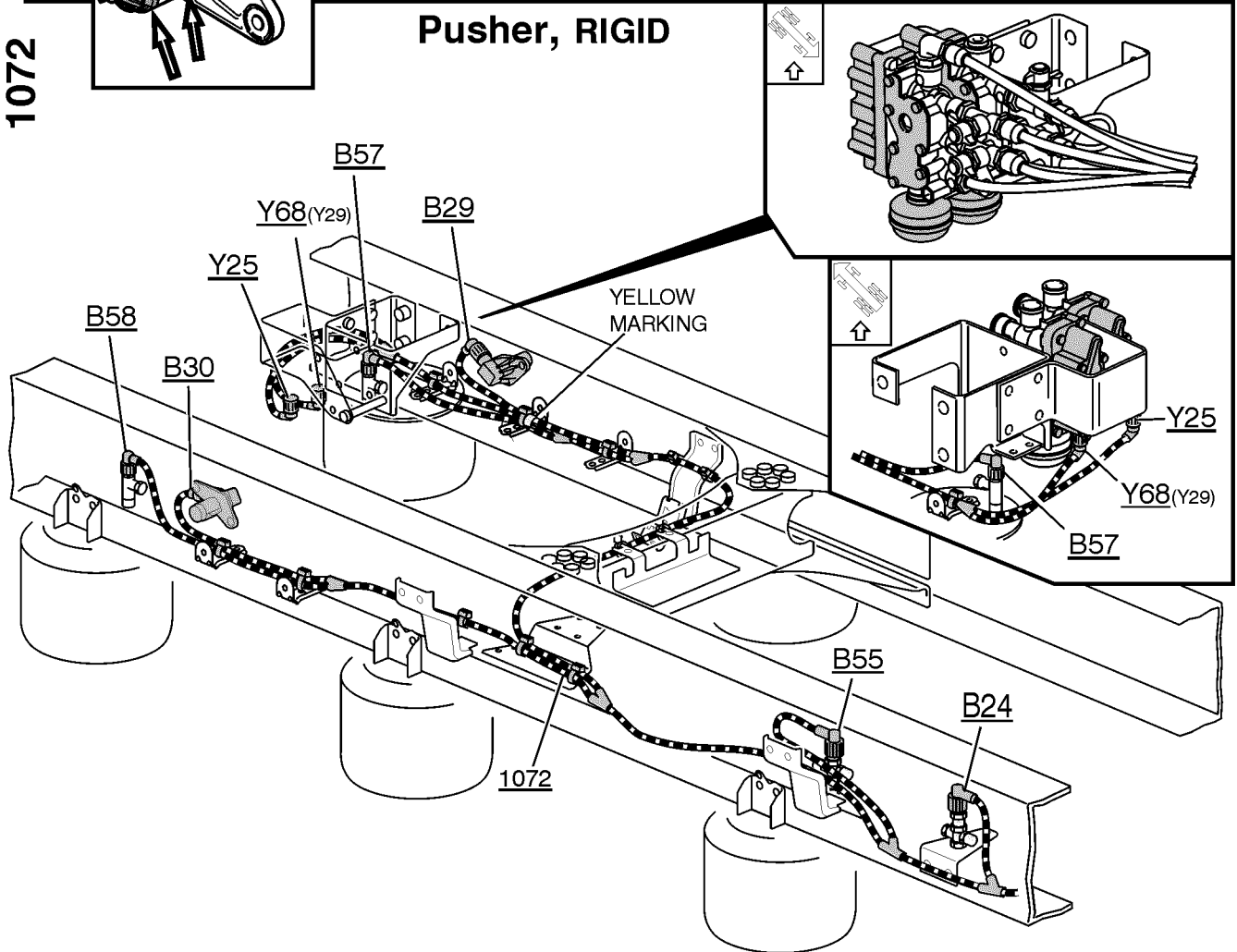
**1072, RAD-A4, 2-Channel**

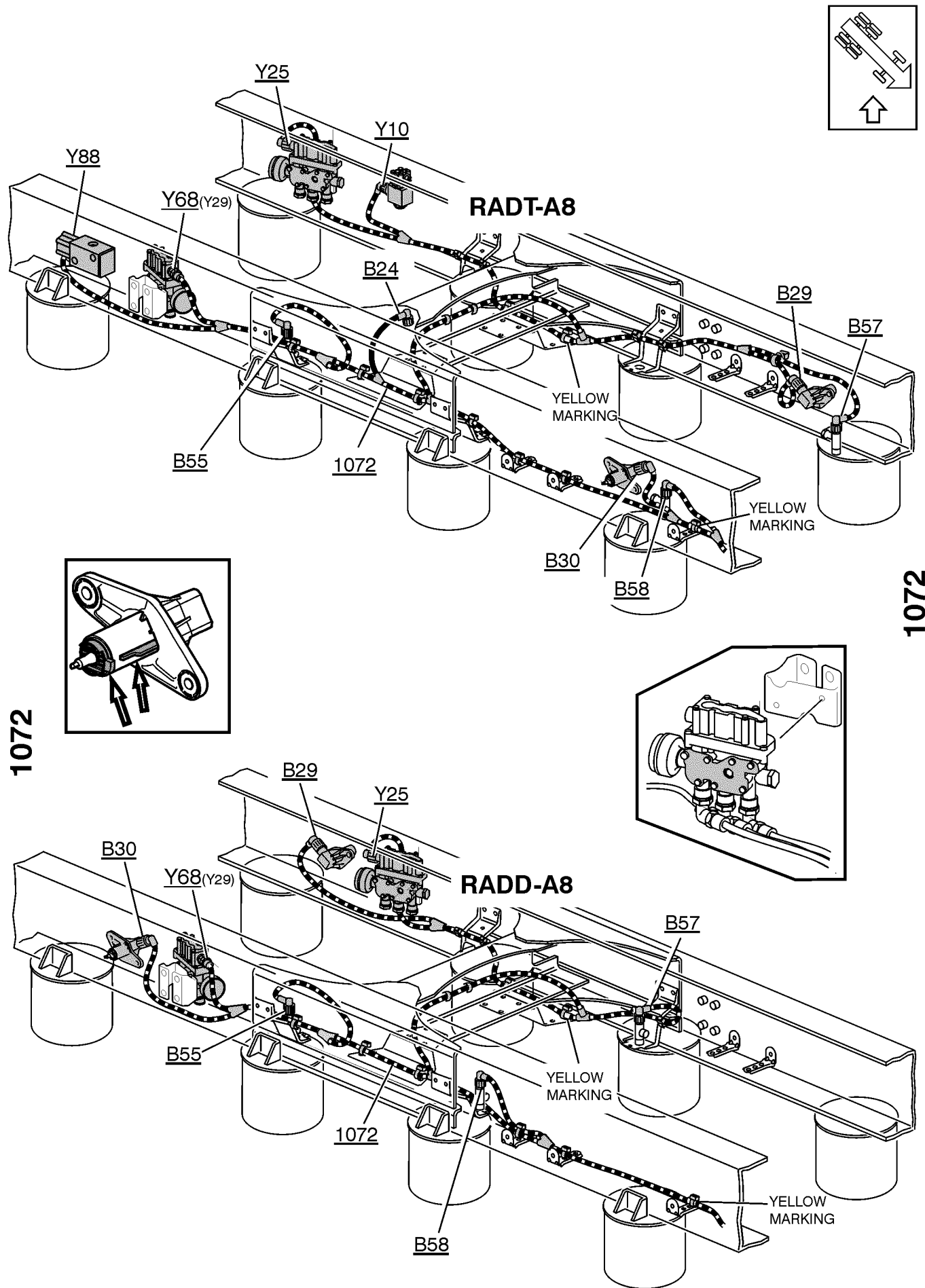
T3020571

### Pusher, TRACTOR



### Pusher, RIGID



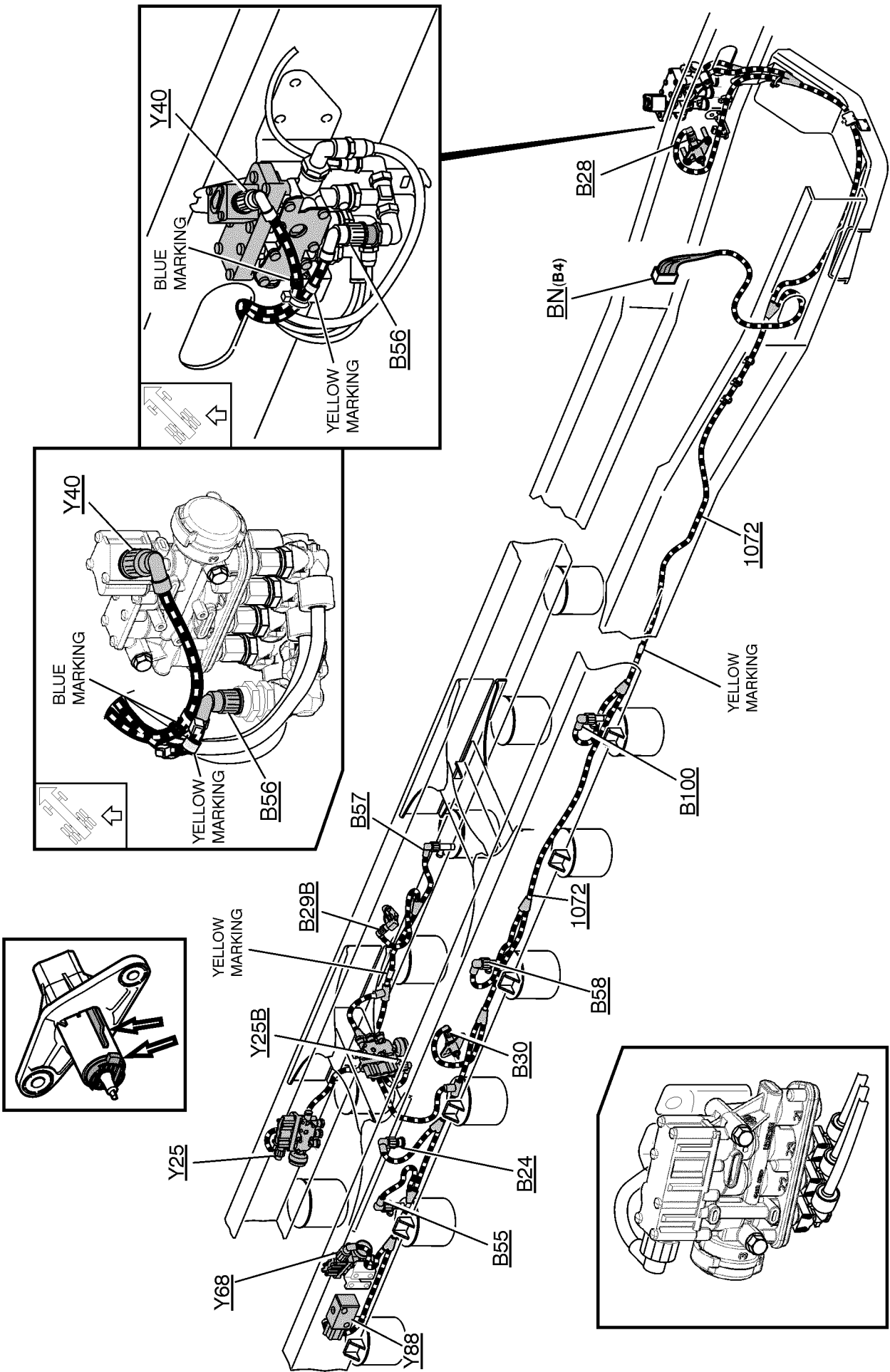


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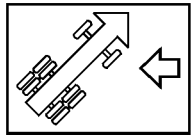
1072

1072, TRIDEM

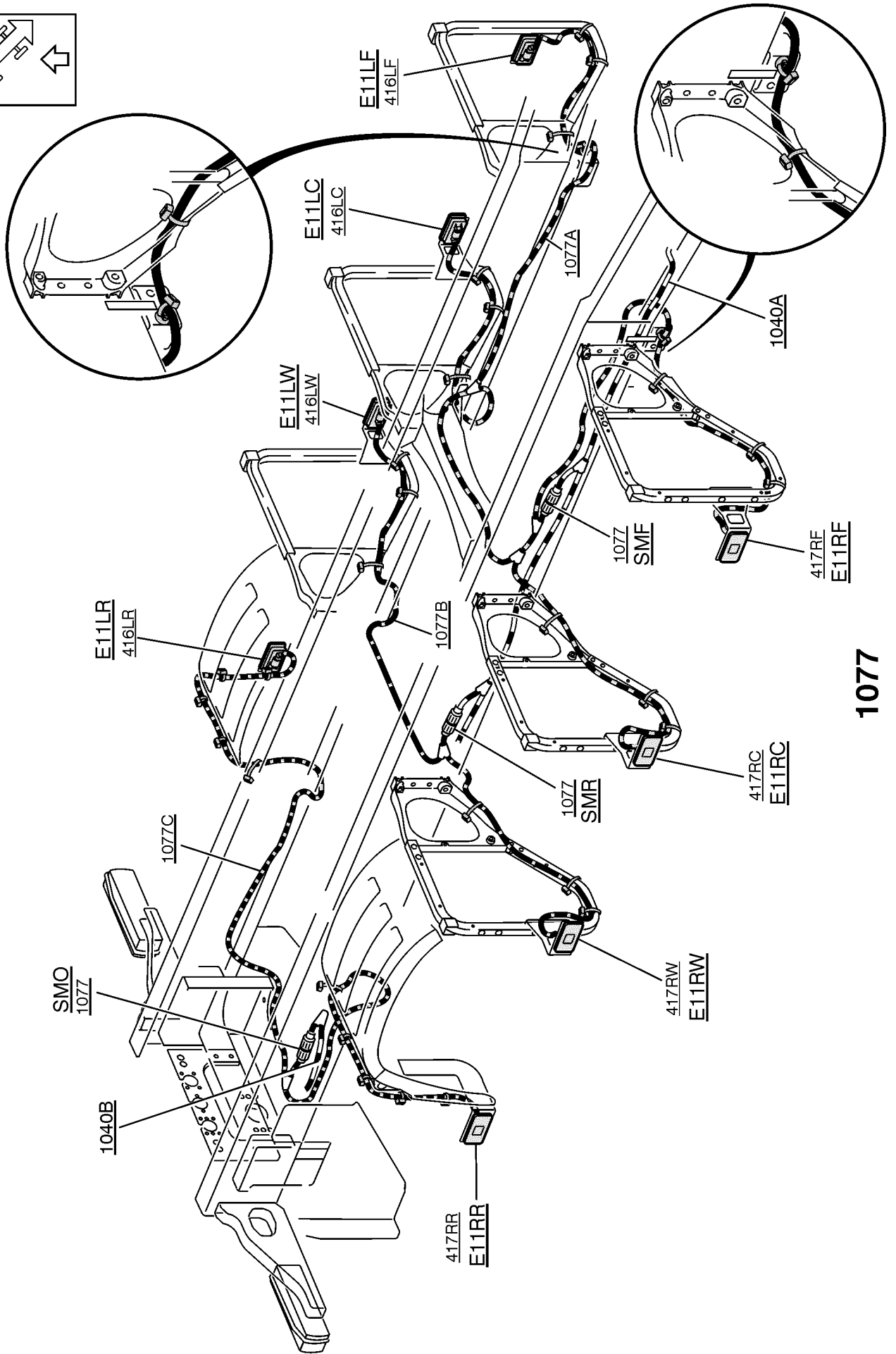
1072, TRIDEM





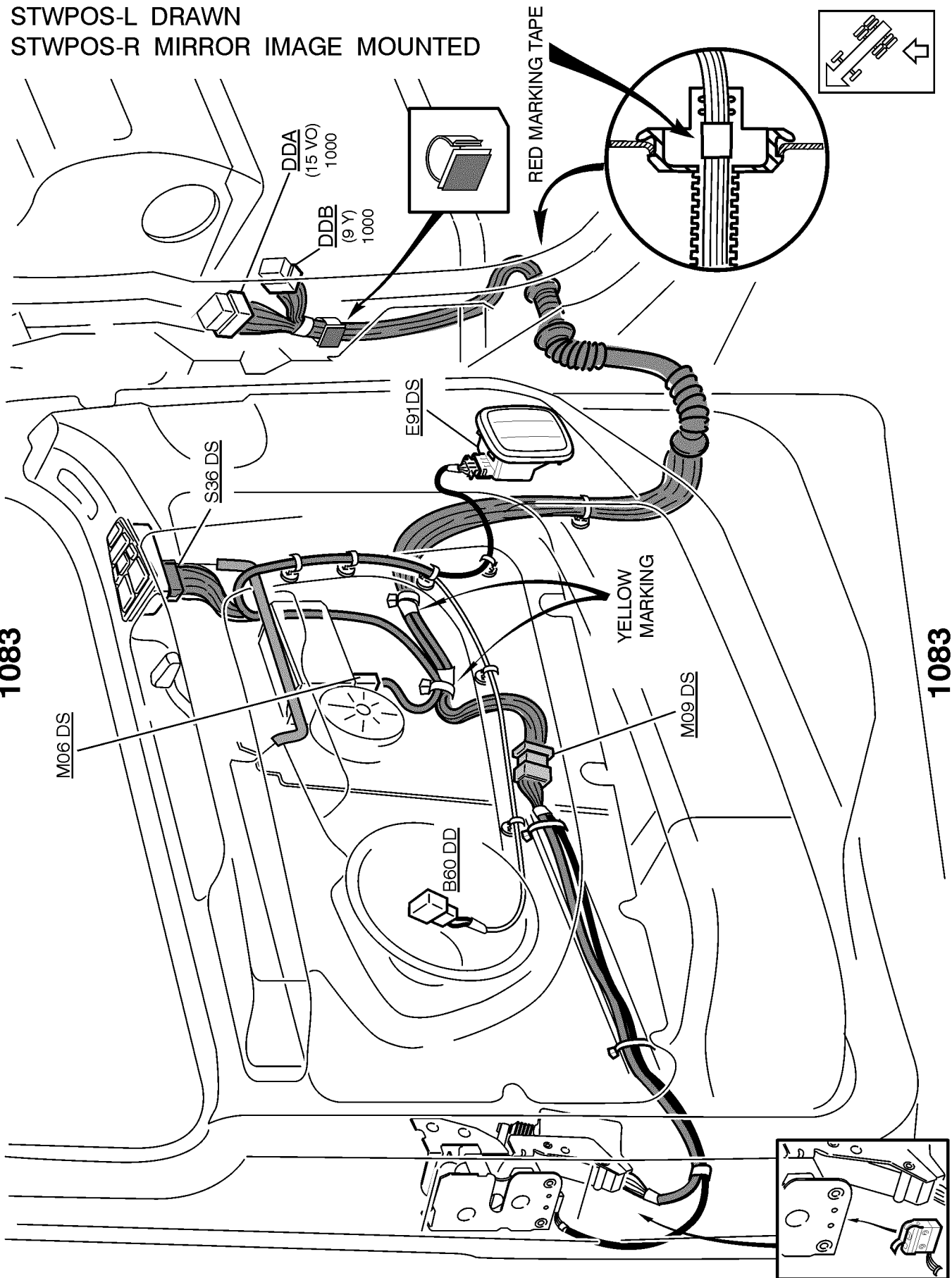


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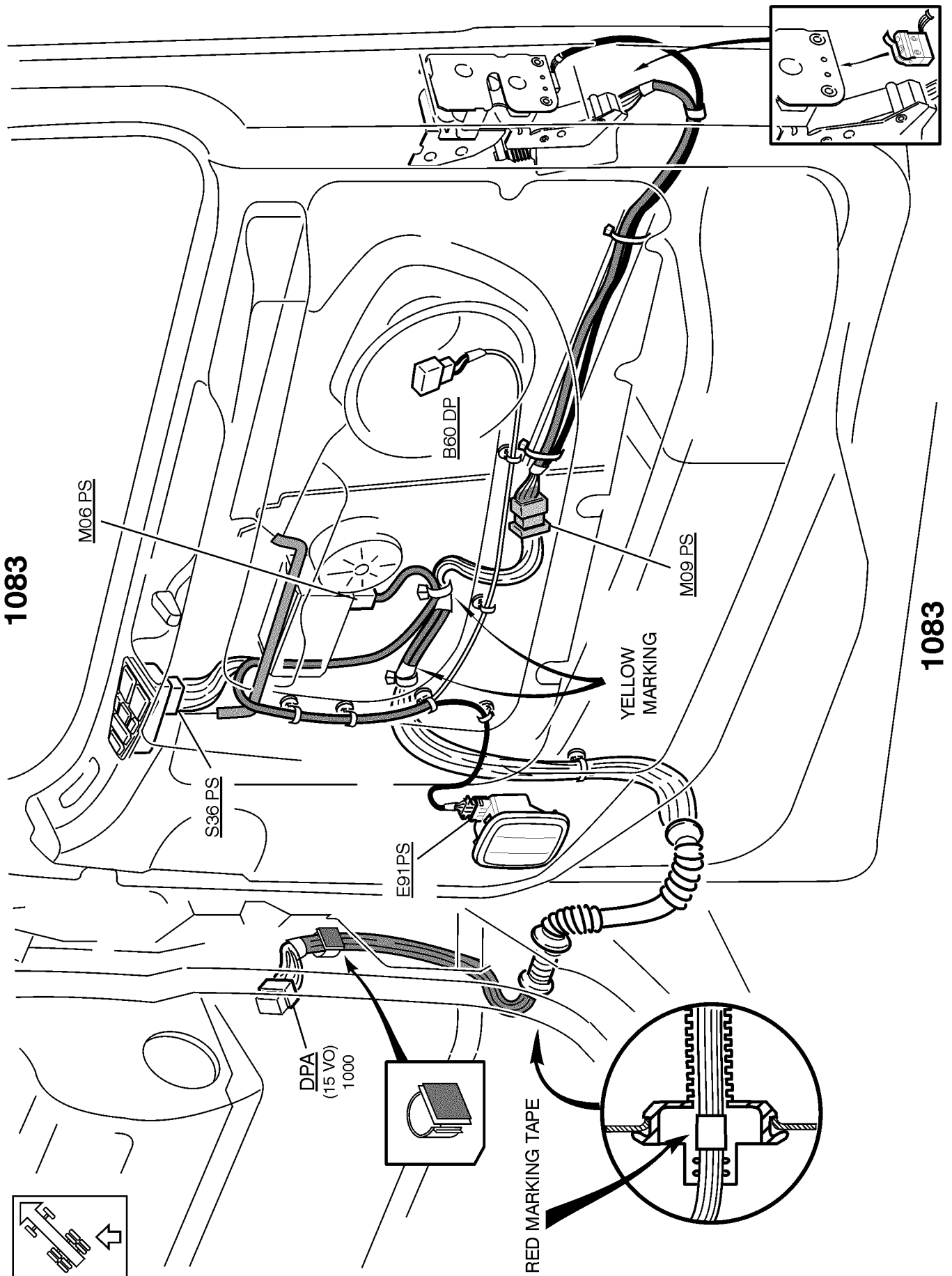


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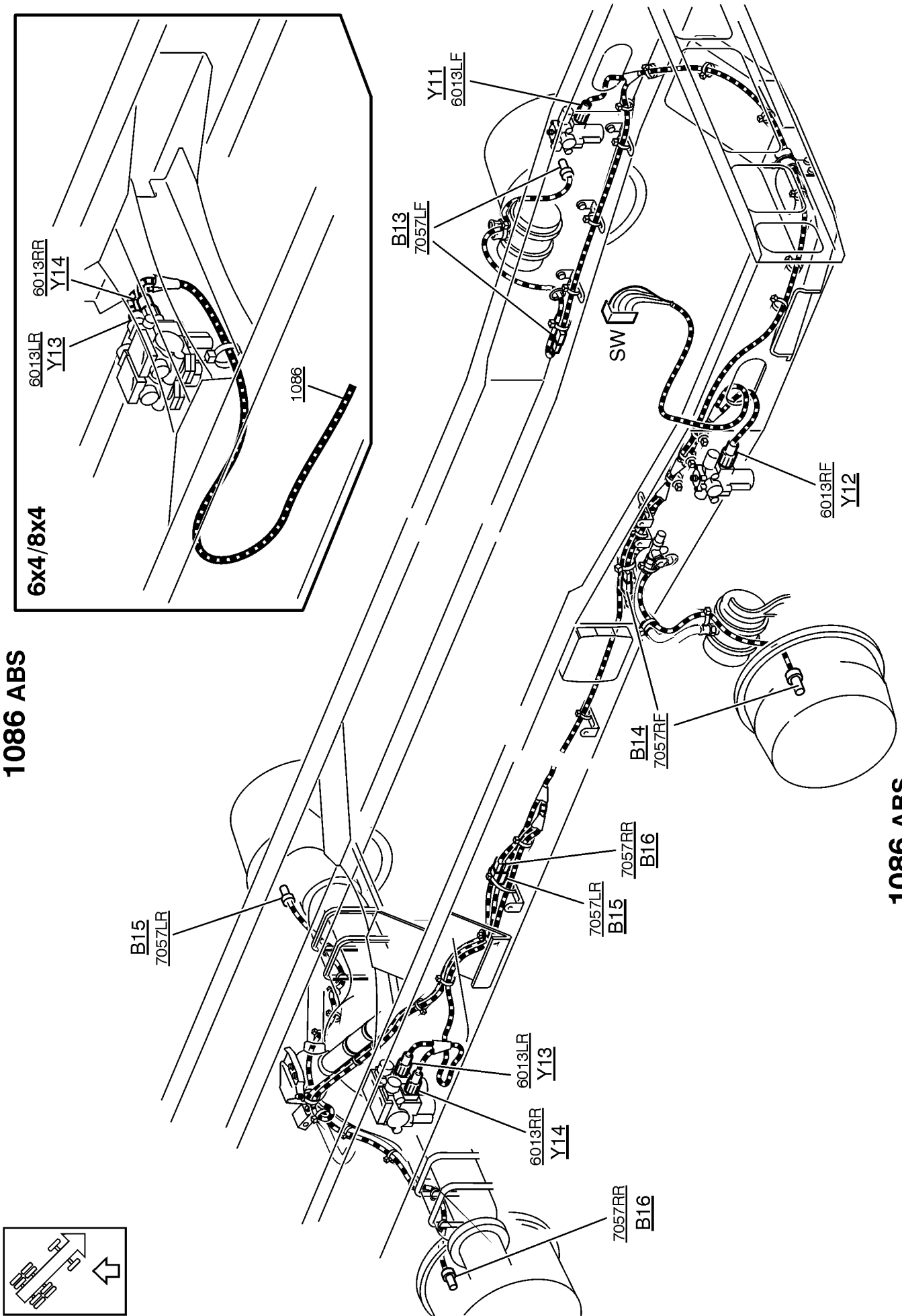
STWPOS-L DRAWN  
STWPOS-R MIRROR IMAGE MOUNTED



STWPOS-L DRAWN  
STWPOS-R MIRROR IMAGE MOUNTED

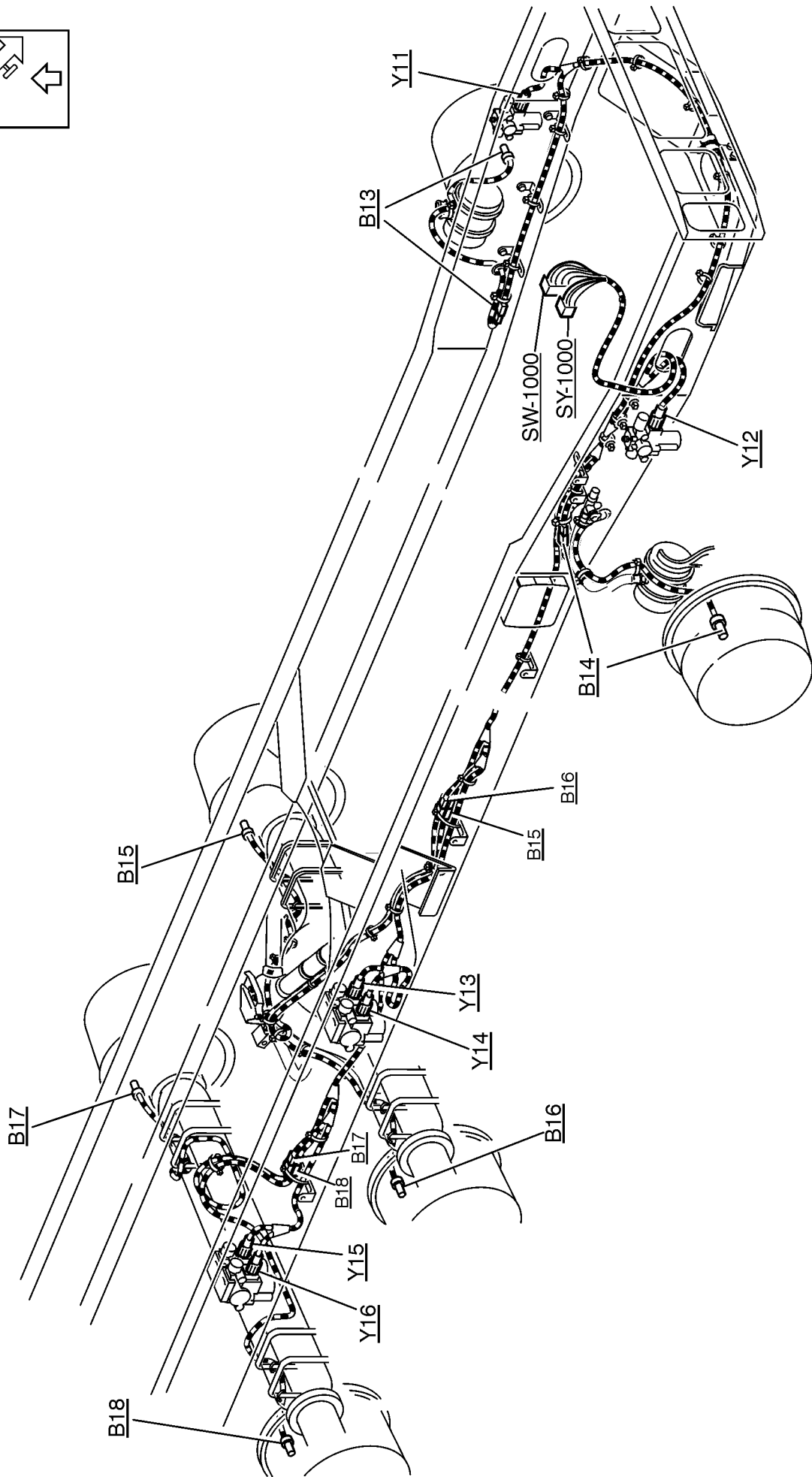
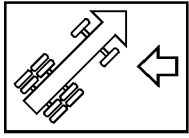


1086 ABS



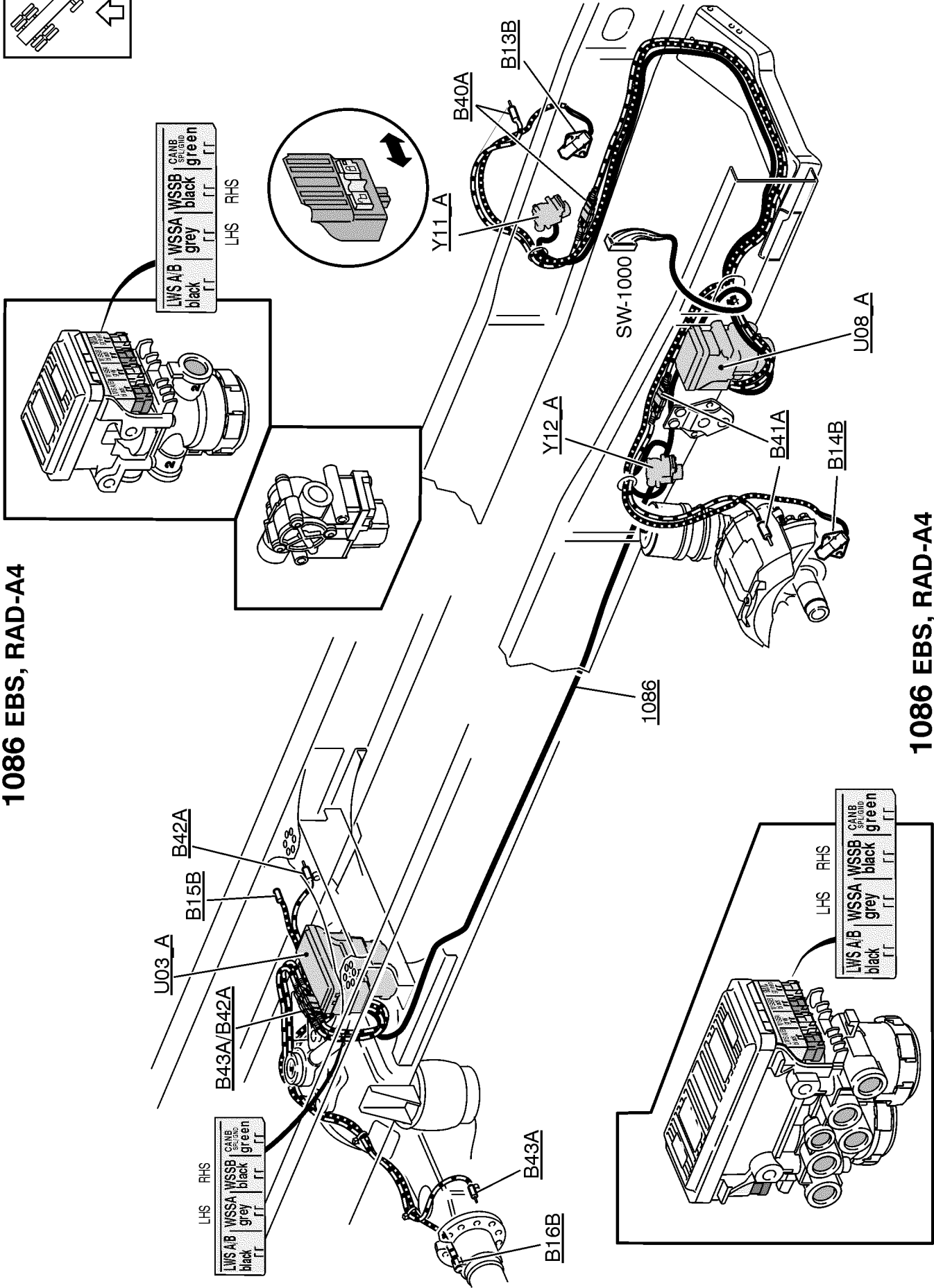
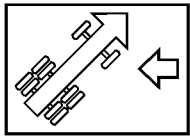
1086 ABS

**1086 ABS, 6x2, VERS-SAM**

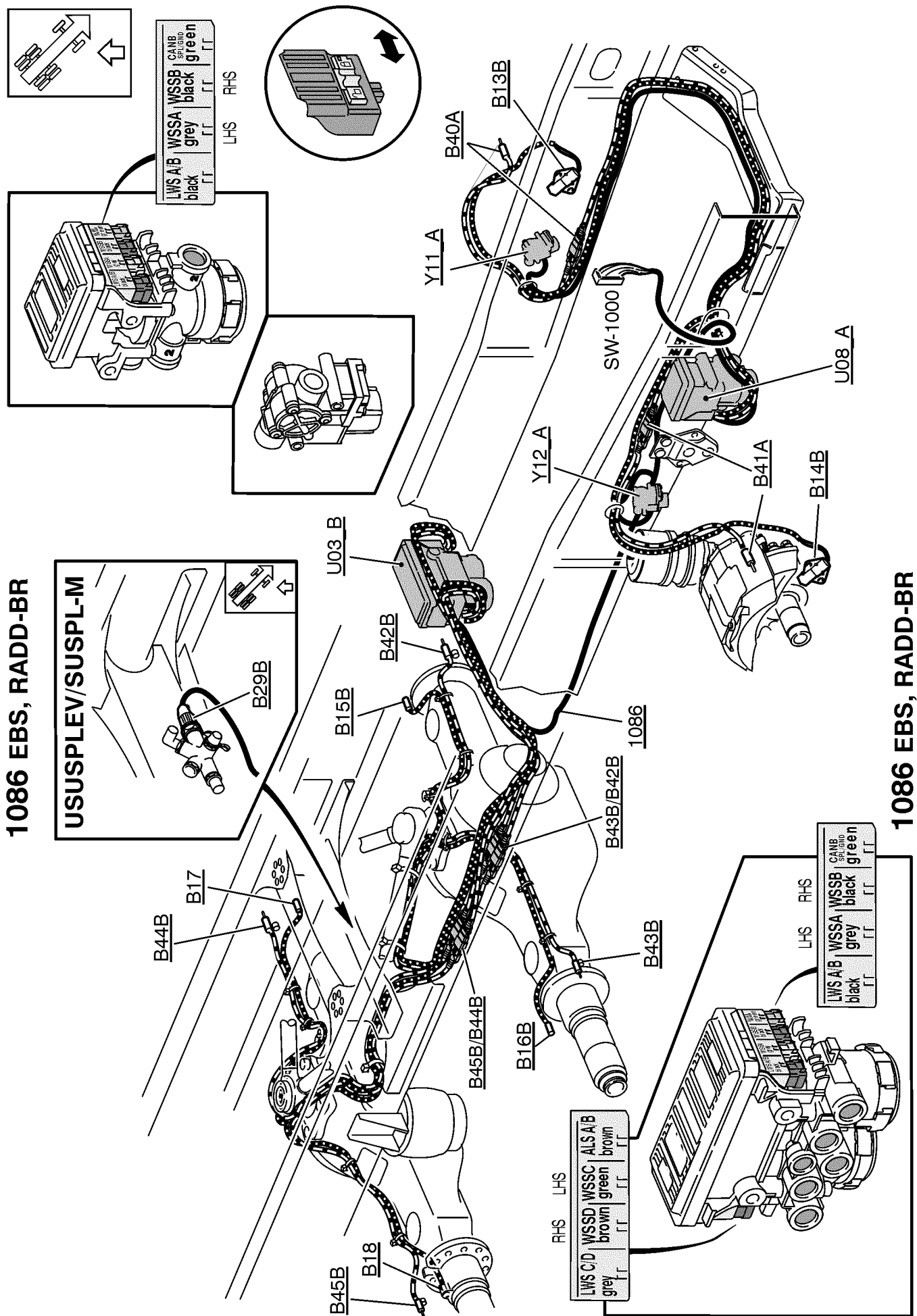


**1086 ABS, 6x2, VERS-SAM**

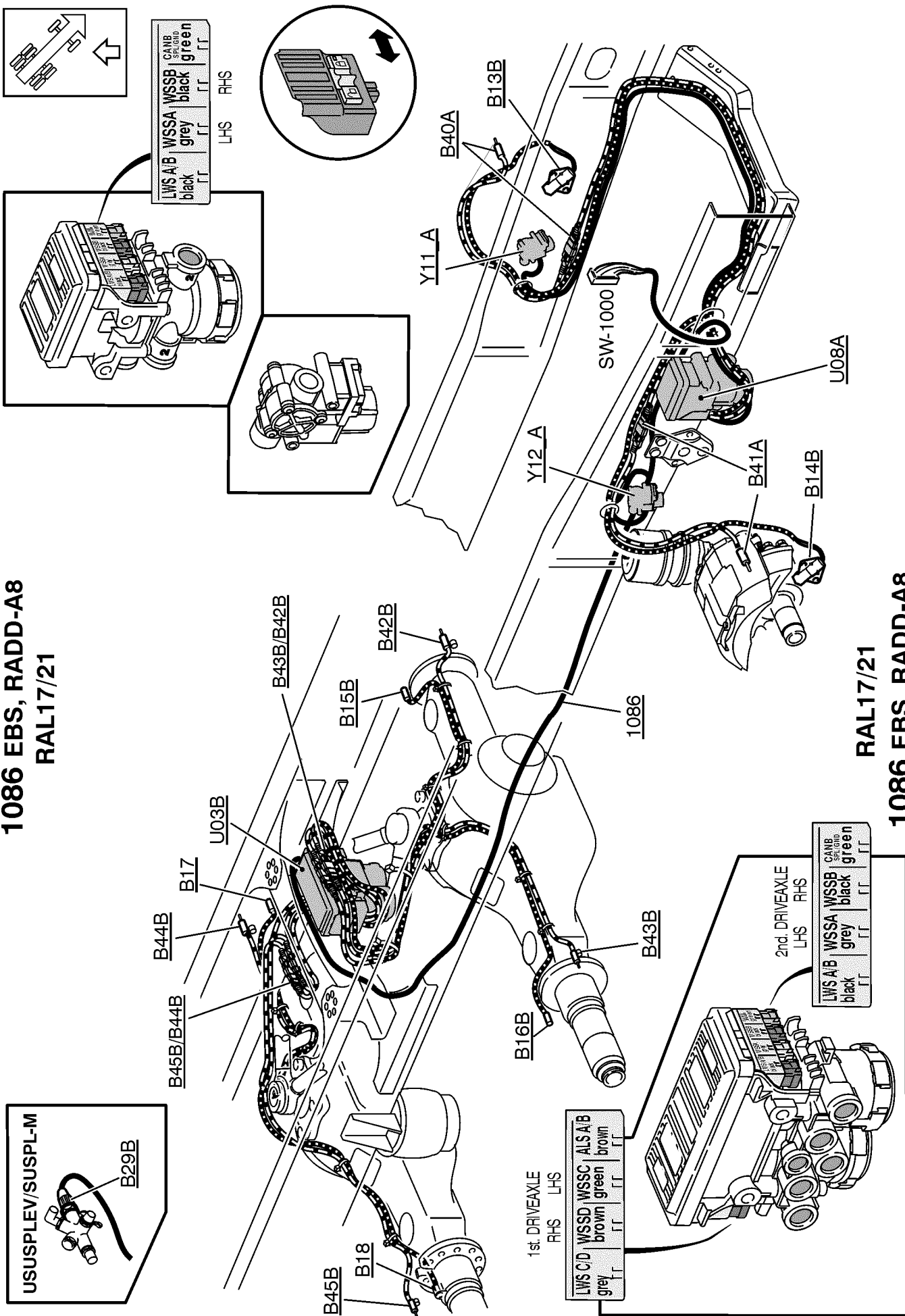
**1086 EBS, RAD-A4**



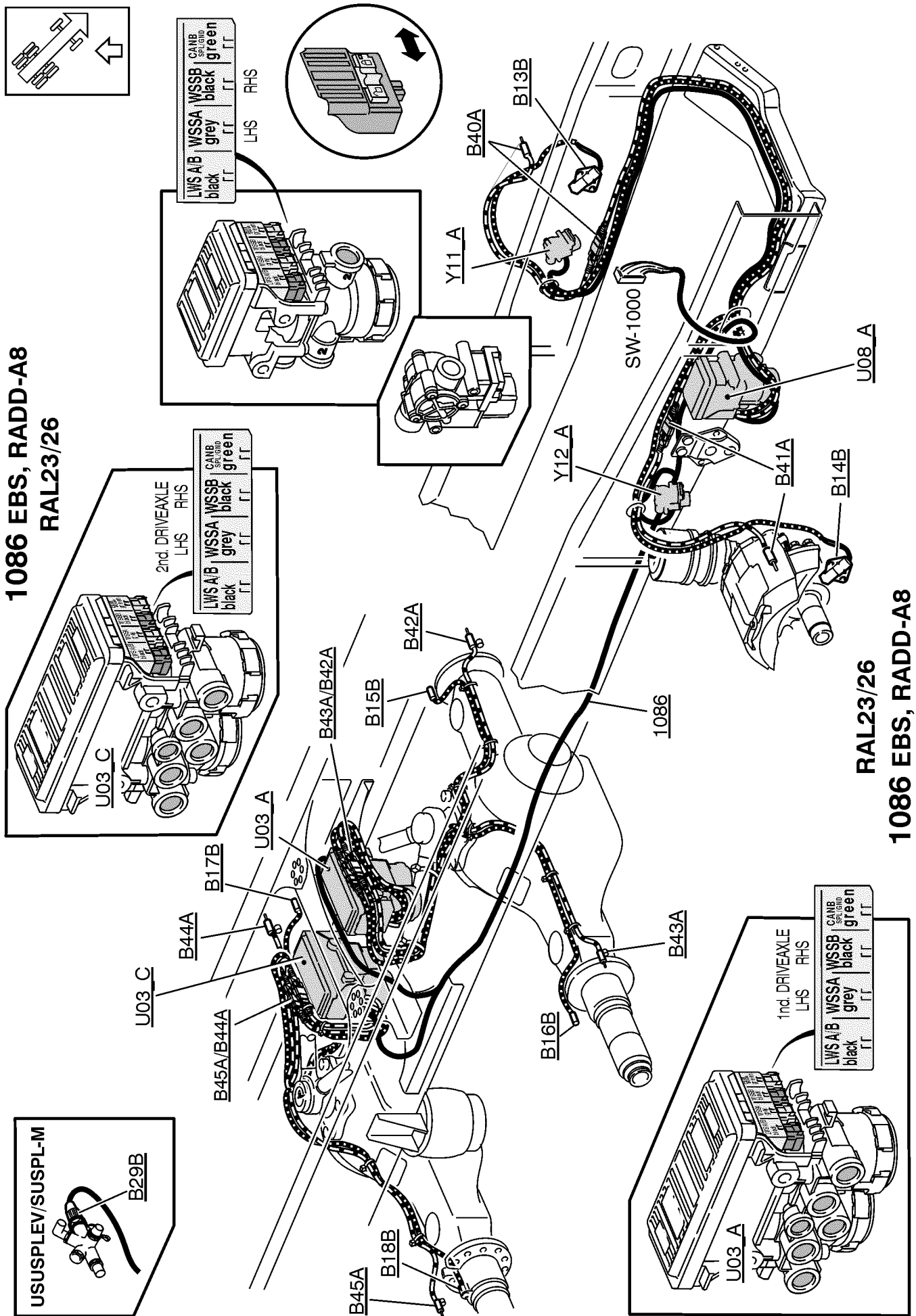
**1086 EBS, RAD-A4**



**1086 EBS, RADD-A8  
RAL17/21**

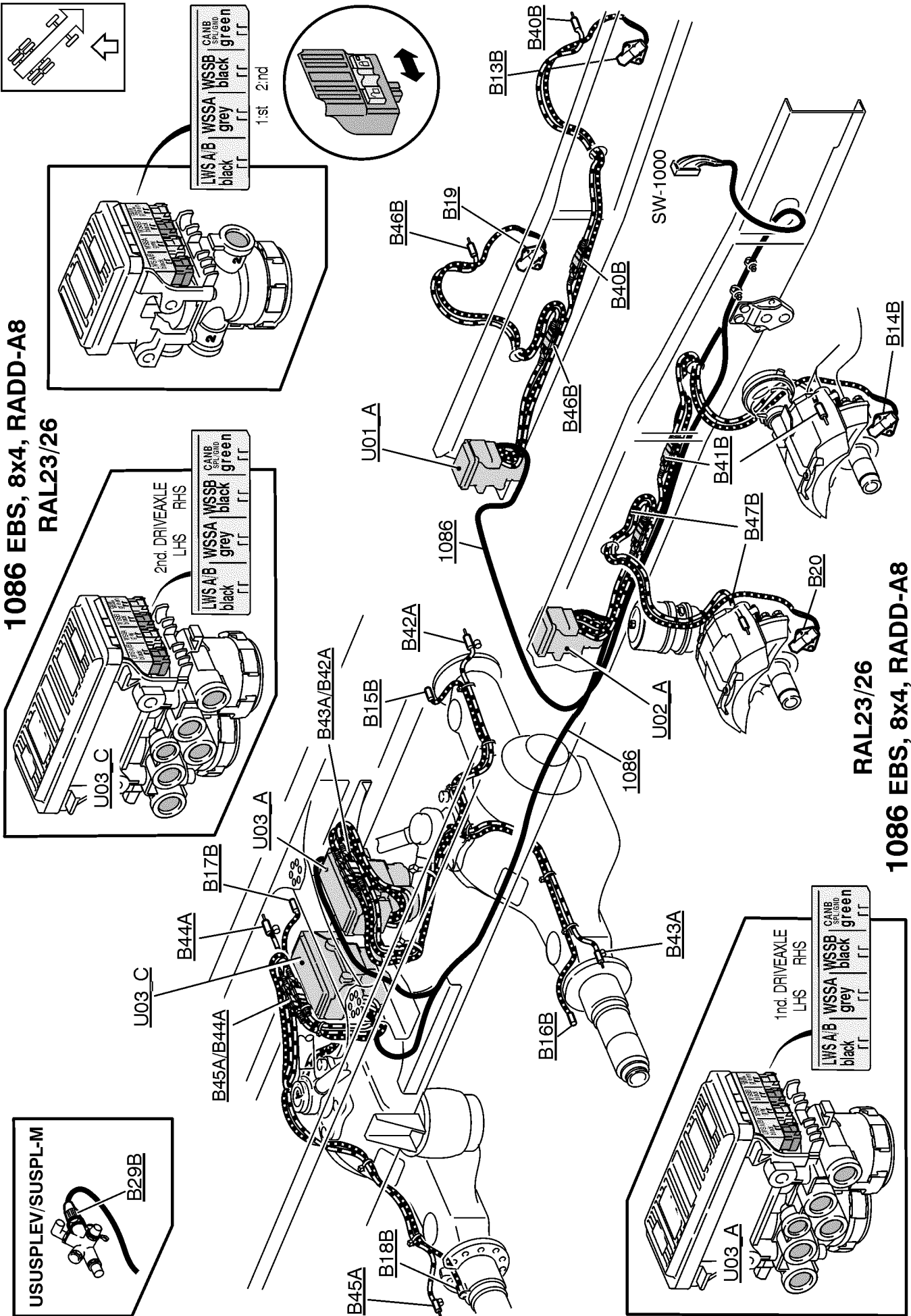






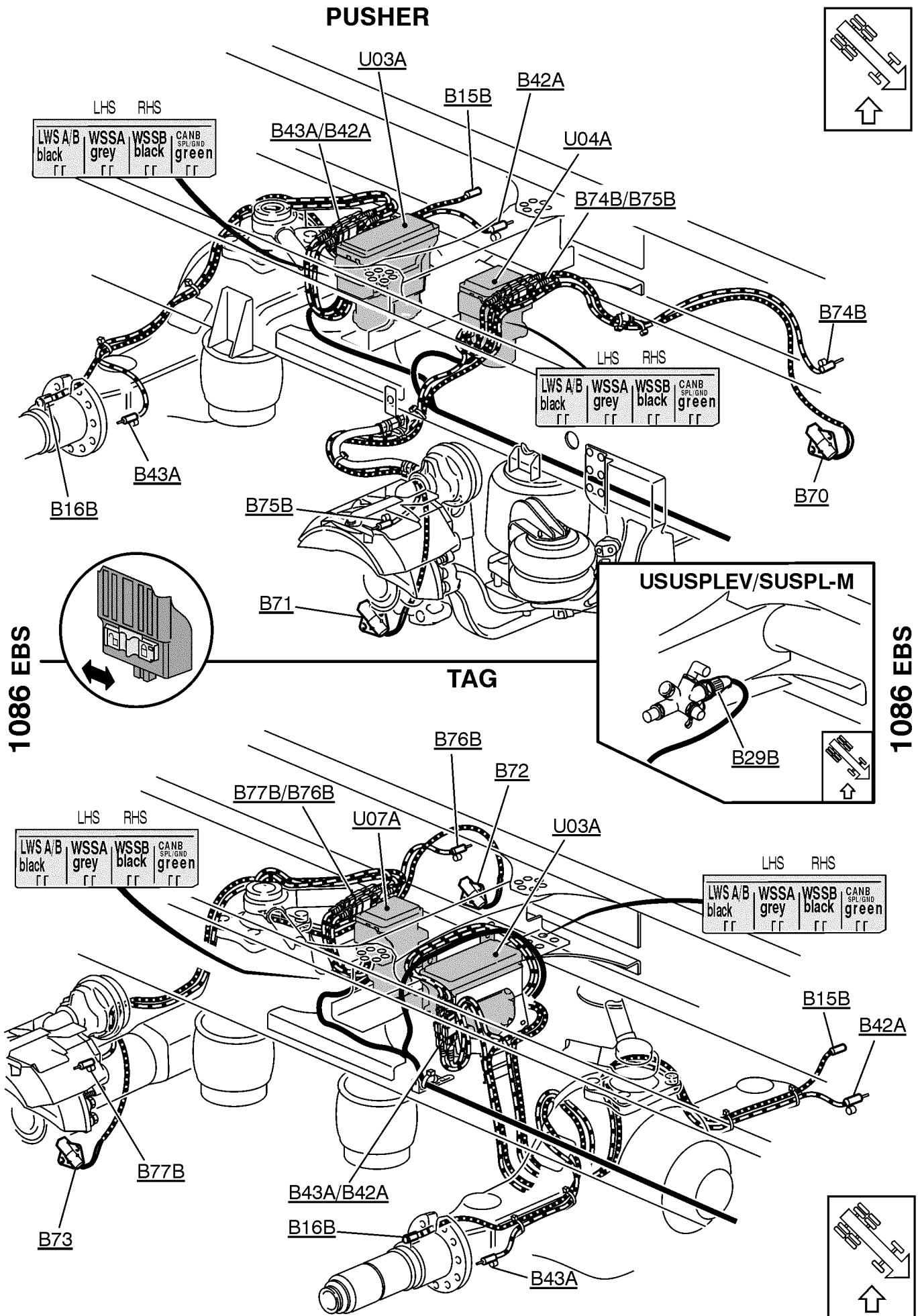
**1086 EBS, RADD-A8**  
**RAL23/26**

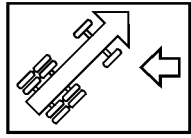
**1086 EBS, RADD-A8**  
**RAL23/26**



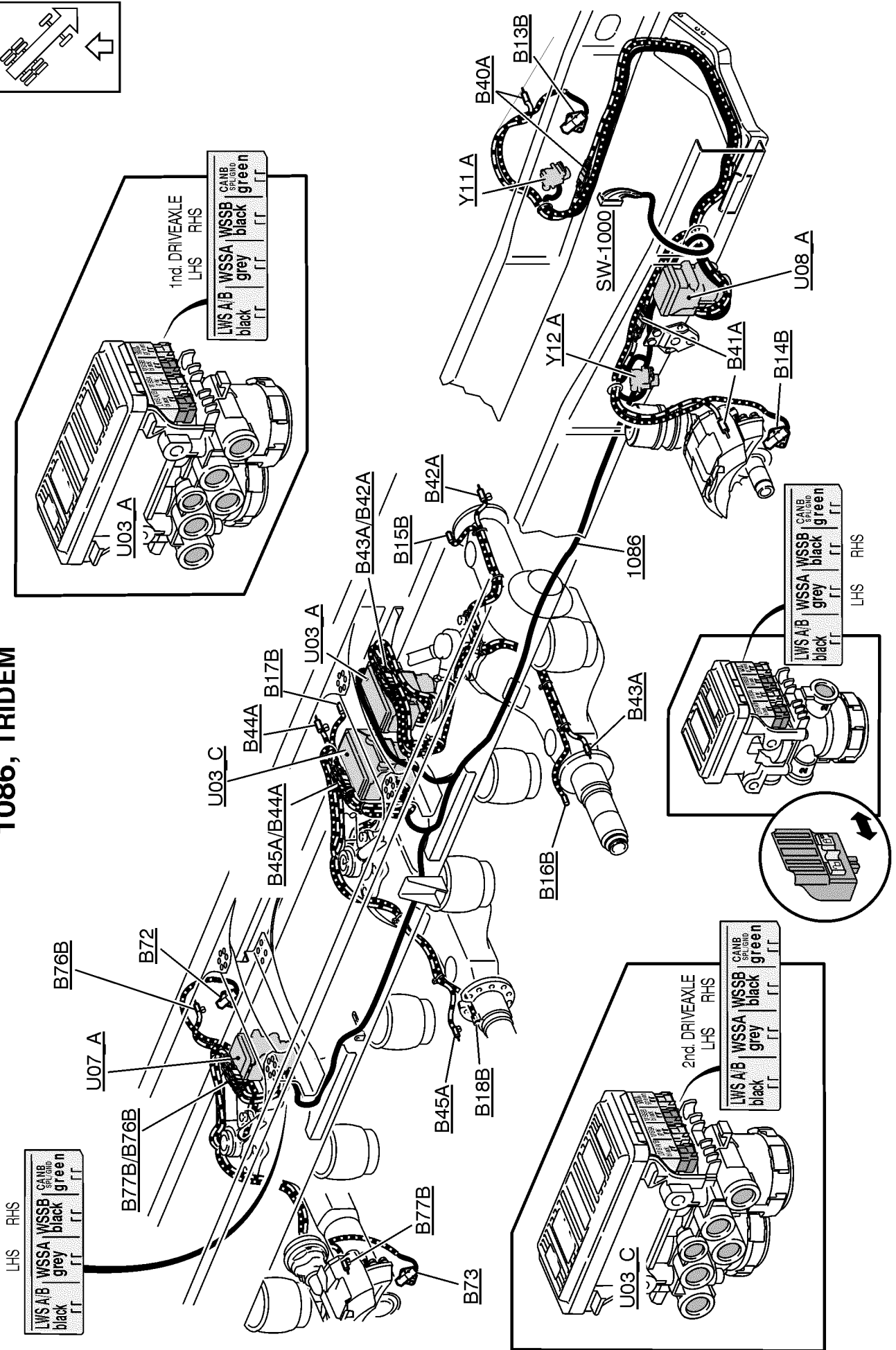
**1086 EBS, 8x4, RADD-A8  
RAL23/26**

**RAL23/26  
1086 EBS, 8x4, RADD-A8**



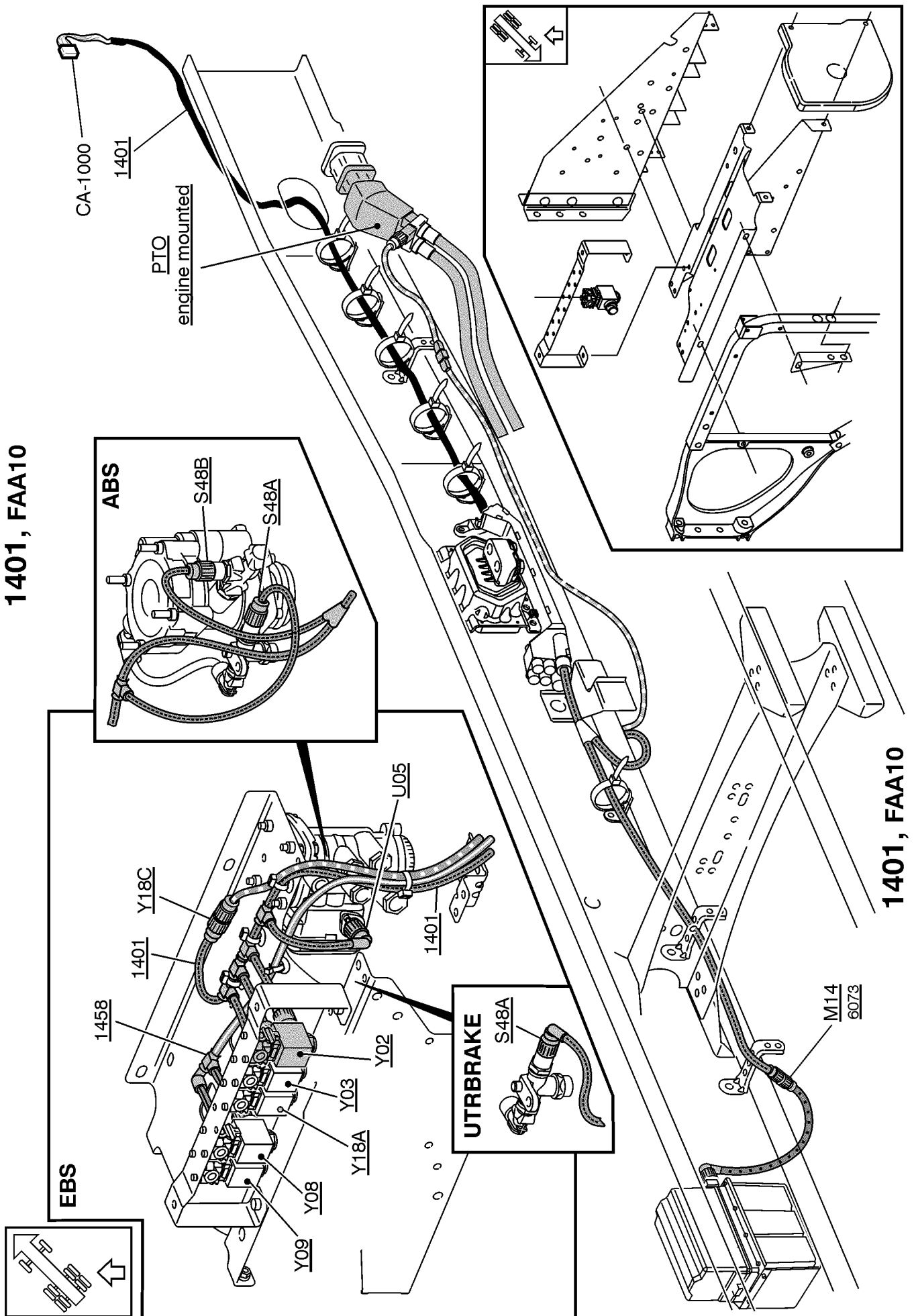


# 1086, TRIDEM



# 1086, TRIDEM

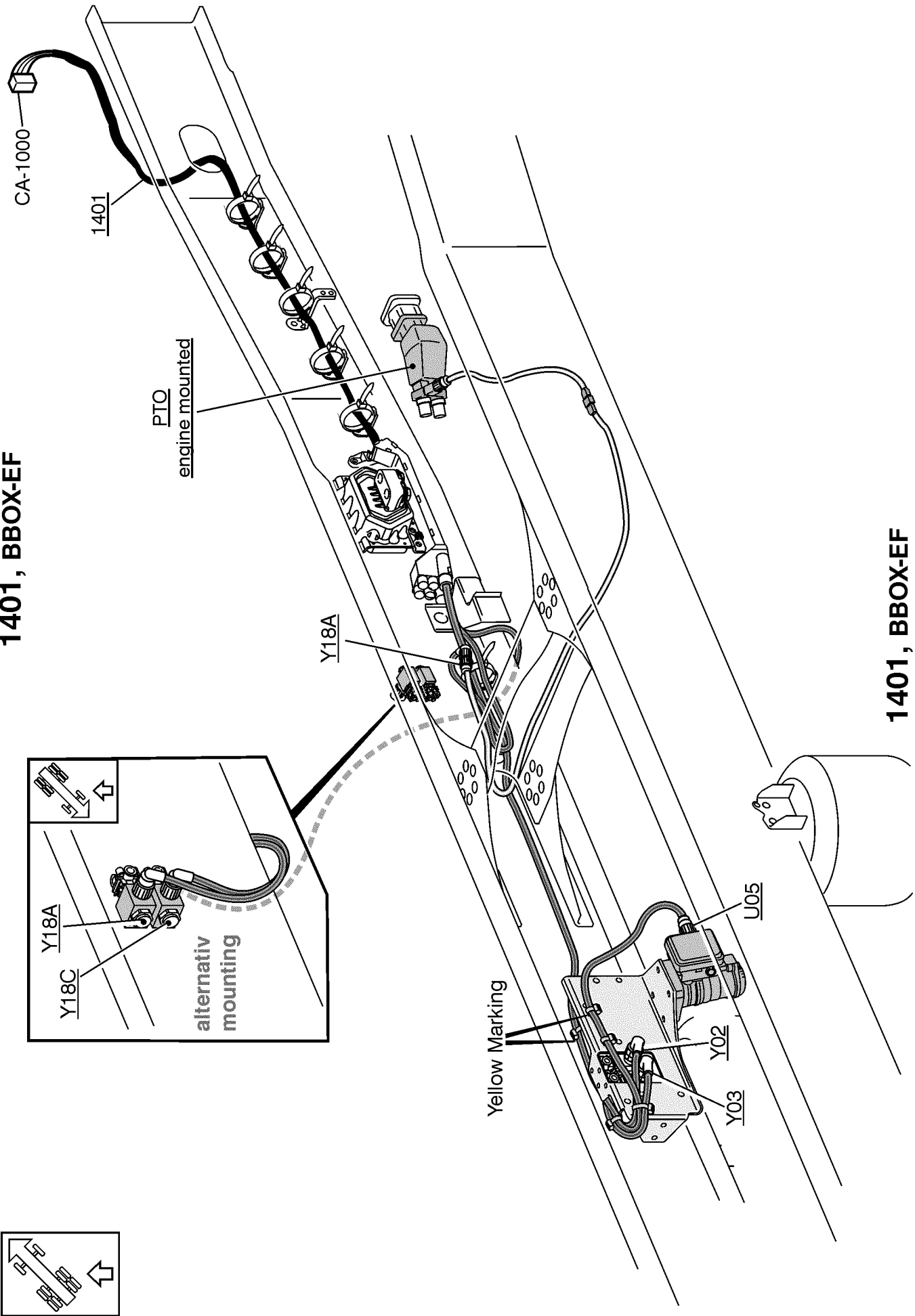
**1401, FAA10**

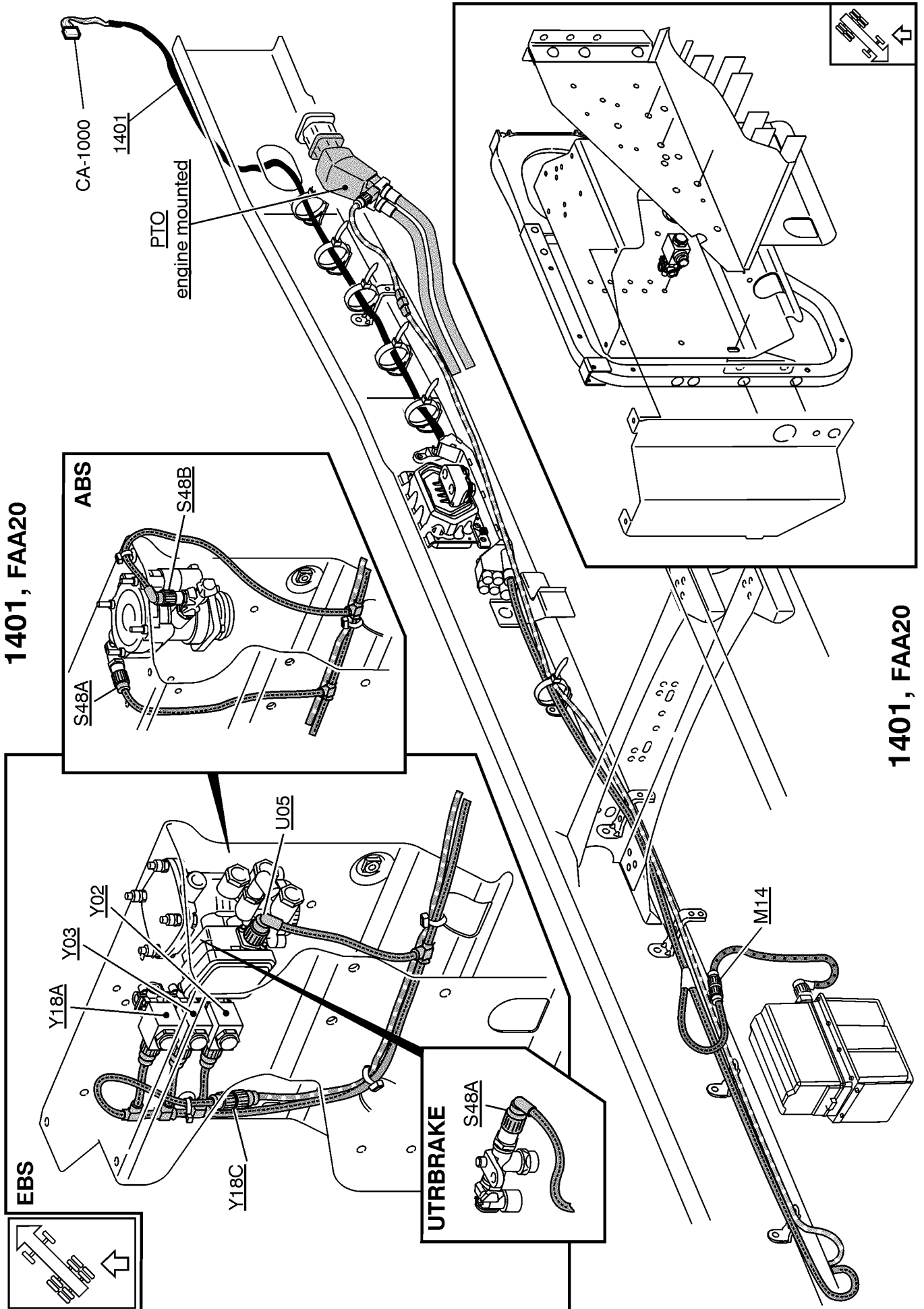


**1401, FAA10**

1401, BBOX-EF

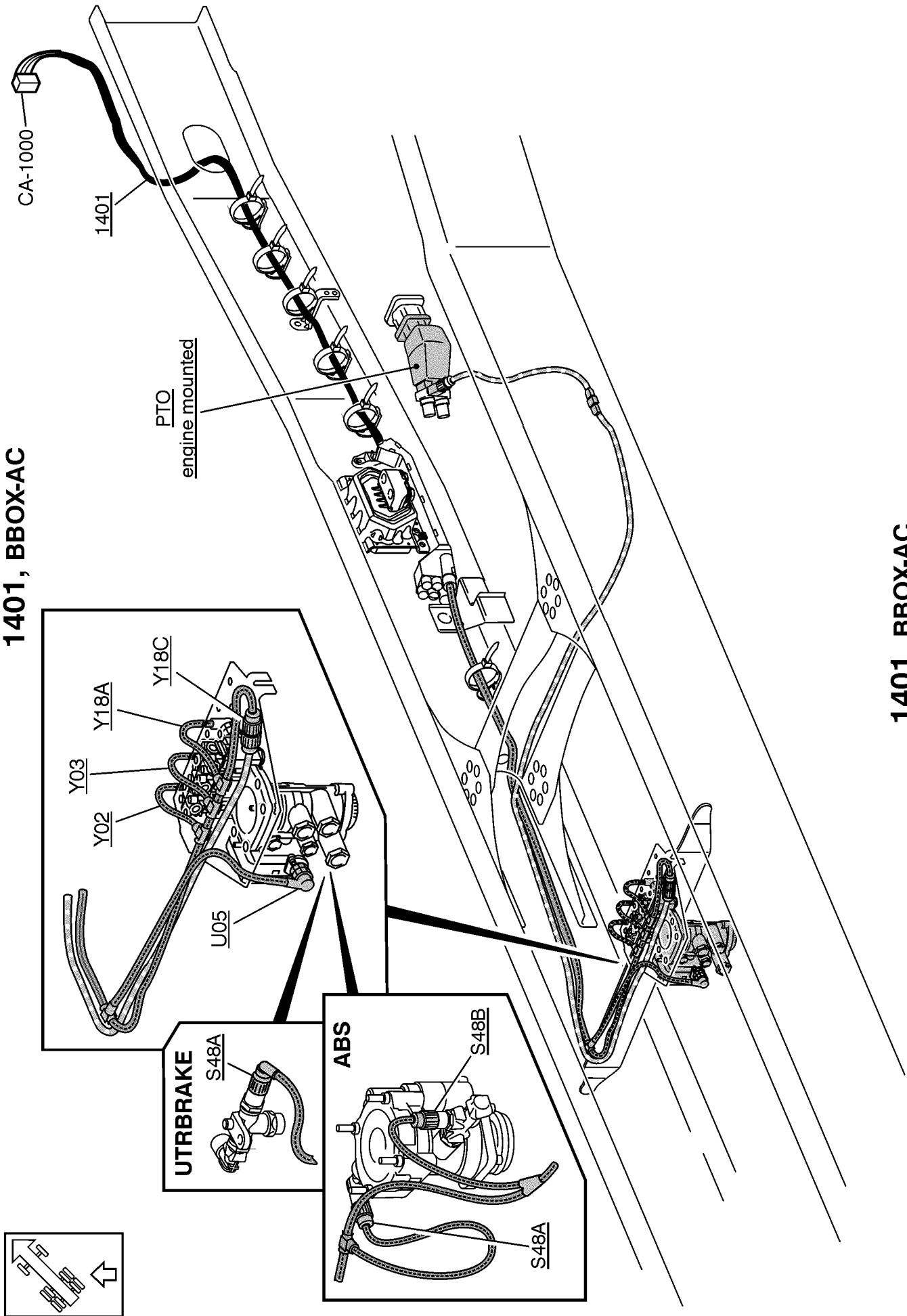
1401, BBOX-EF



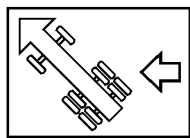


1401, BBOX-AC

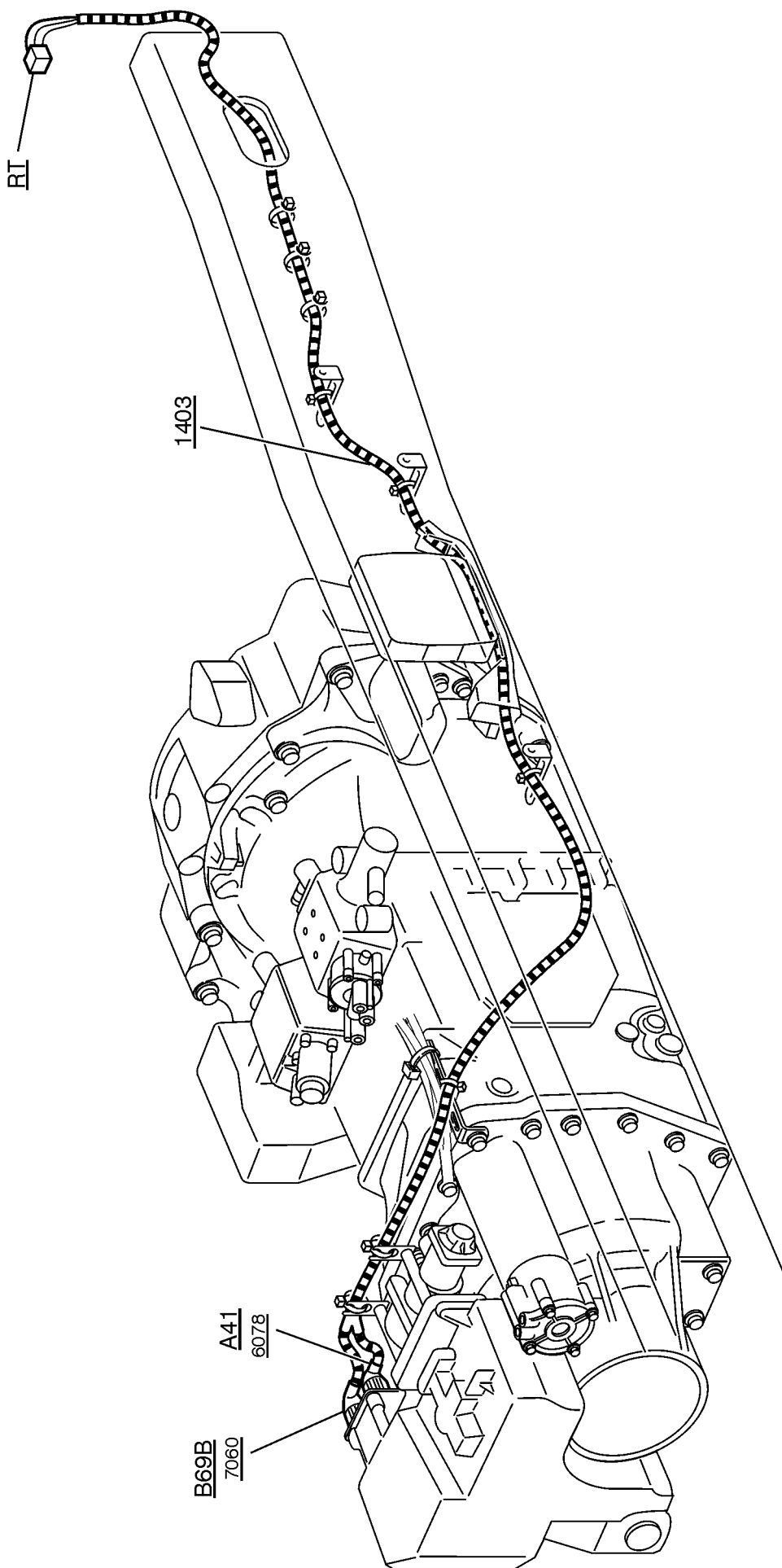
1401, BBOX-AC



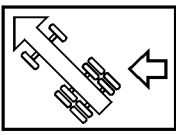
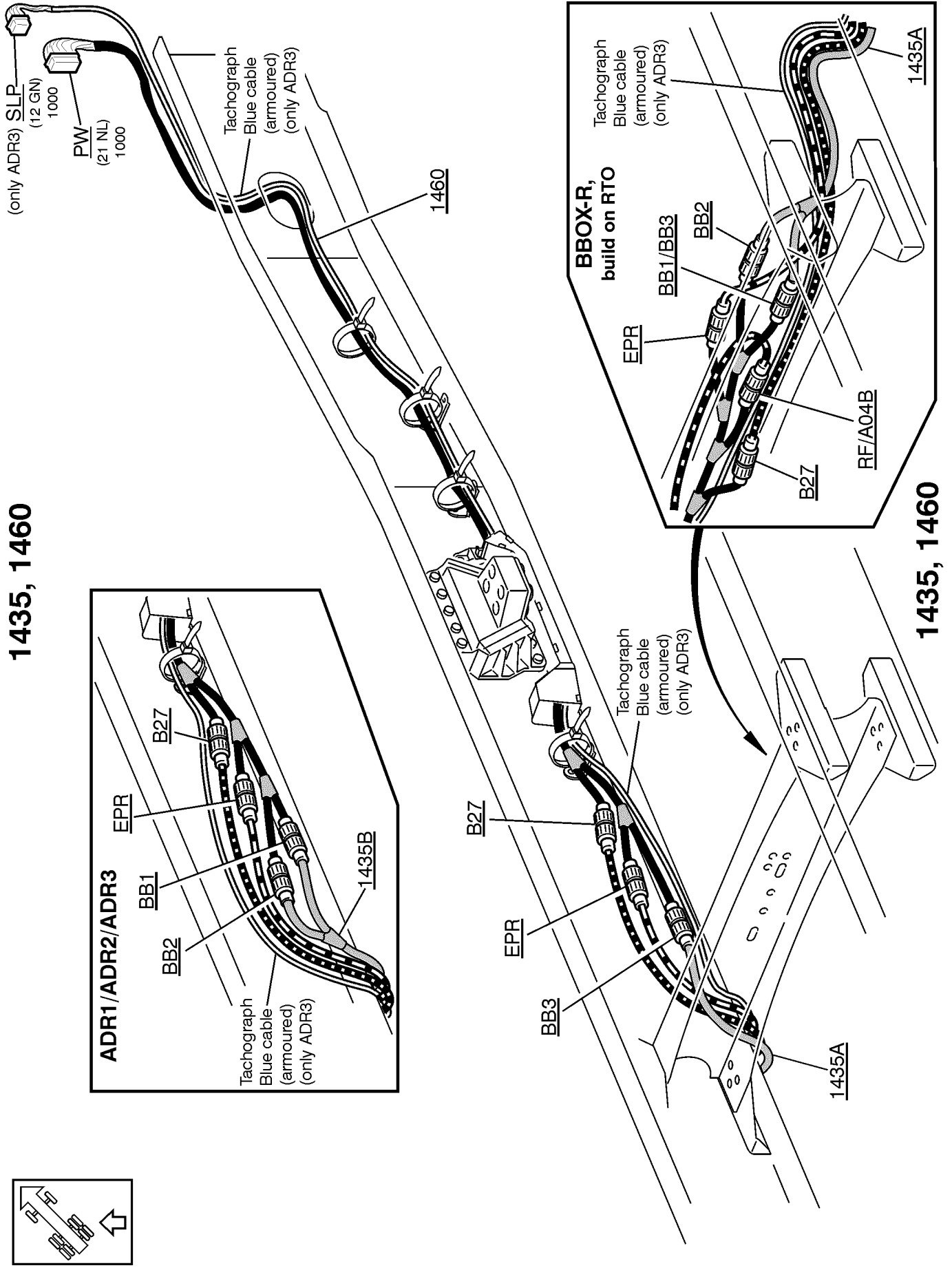


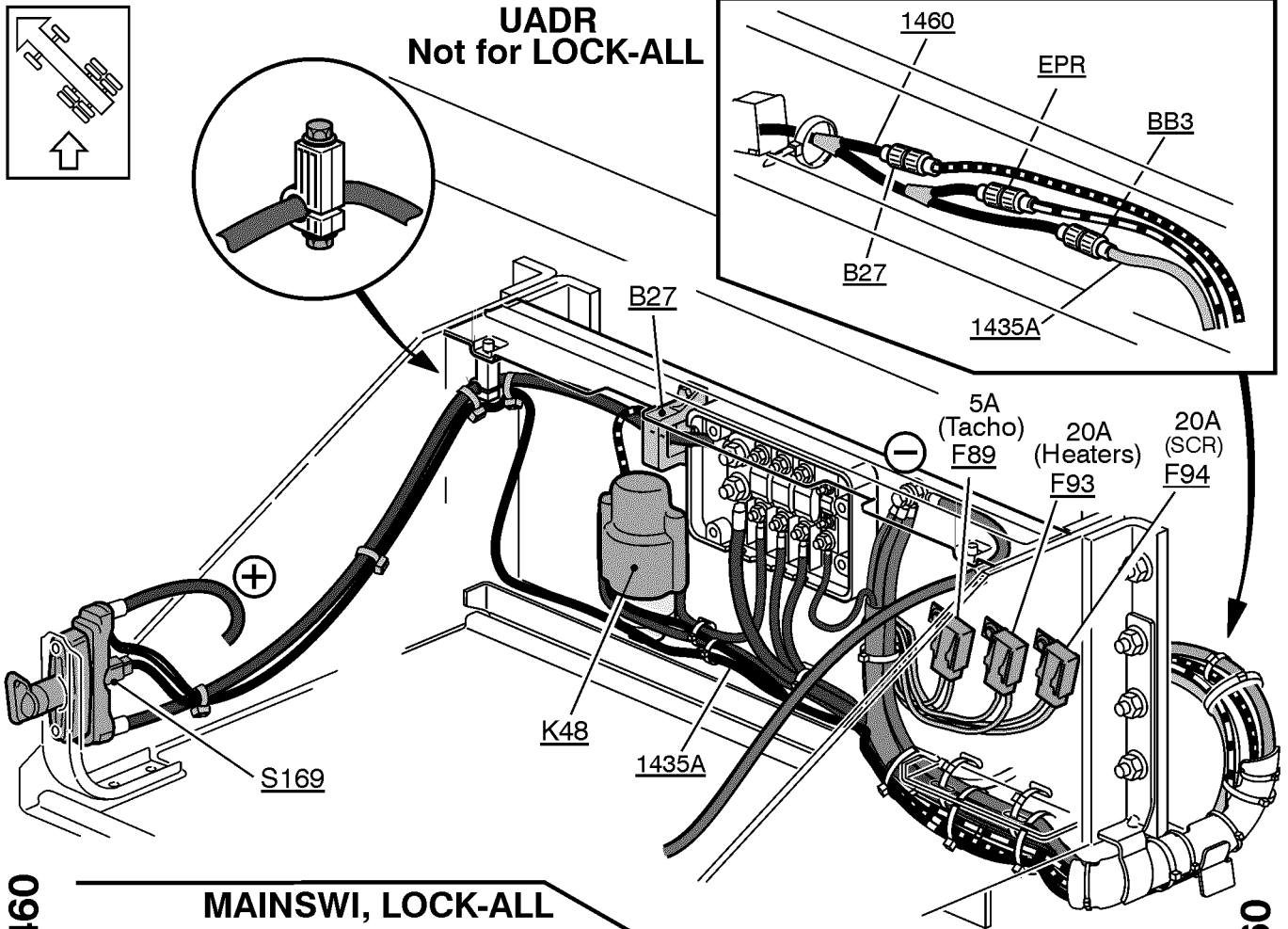


1403

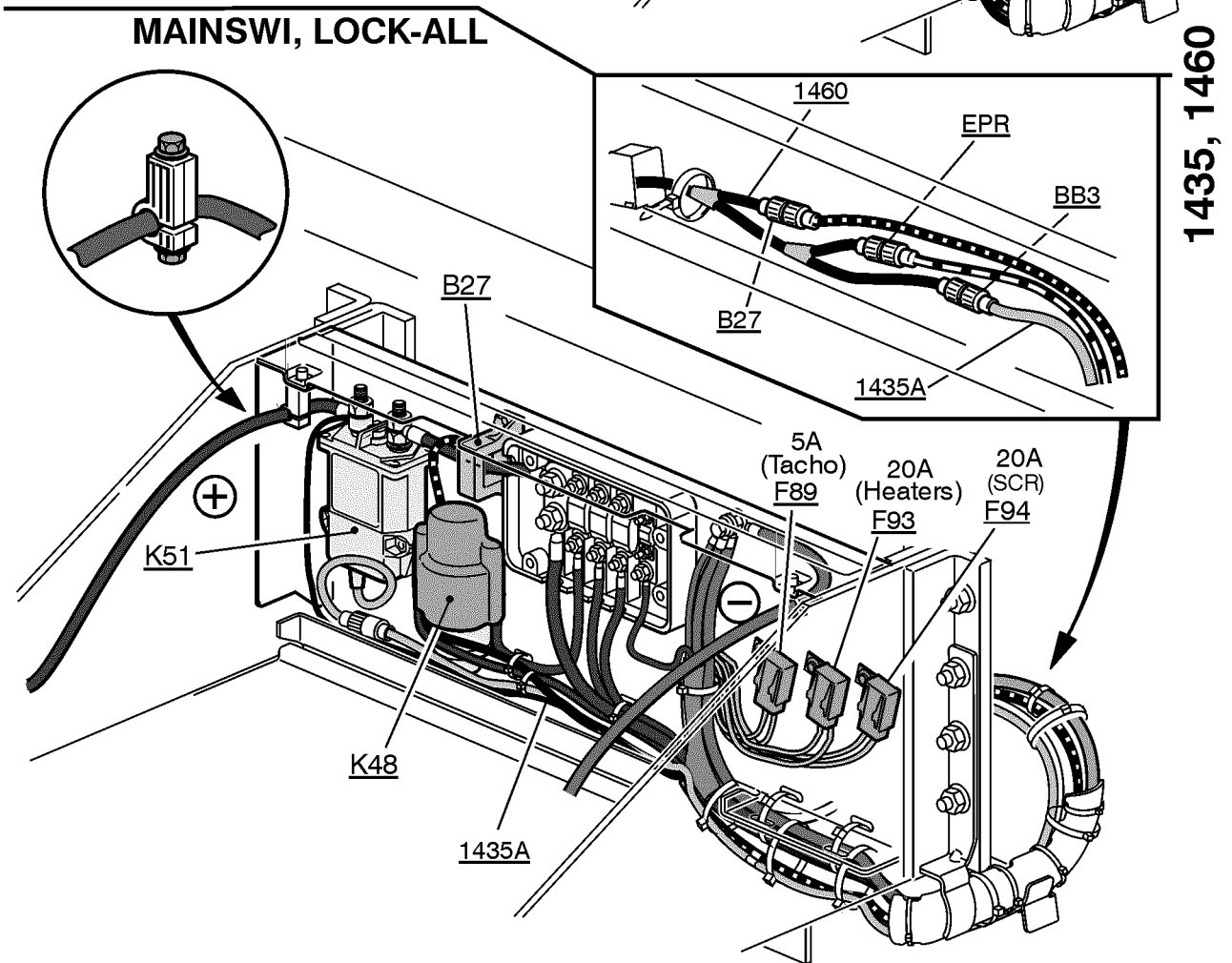


1403

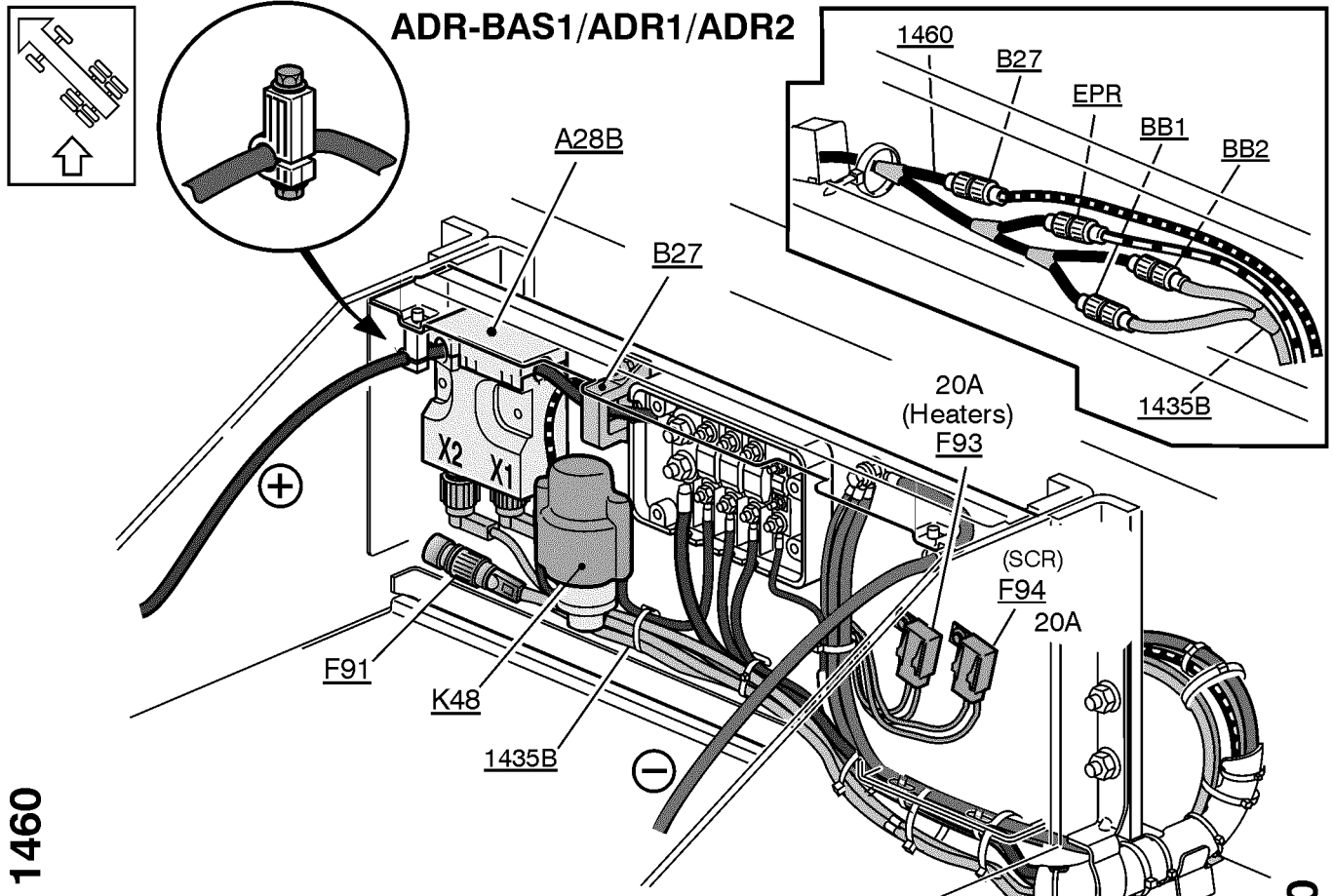




1435, 1460

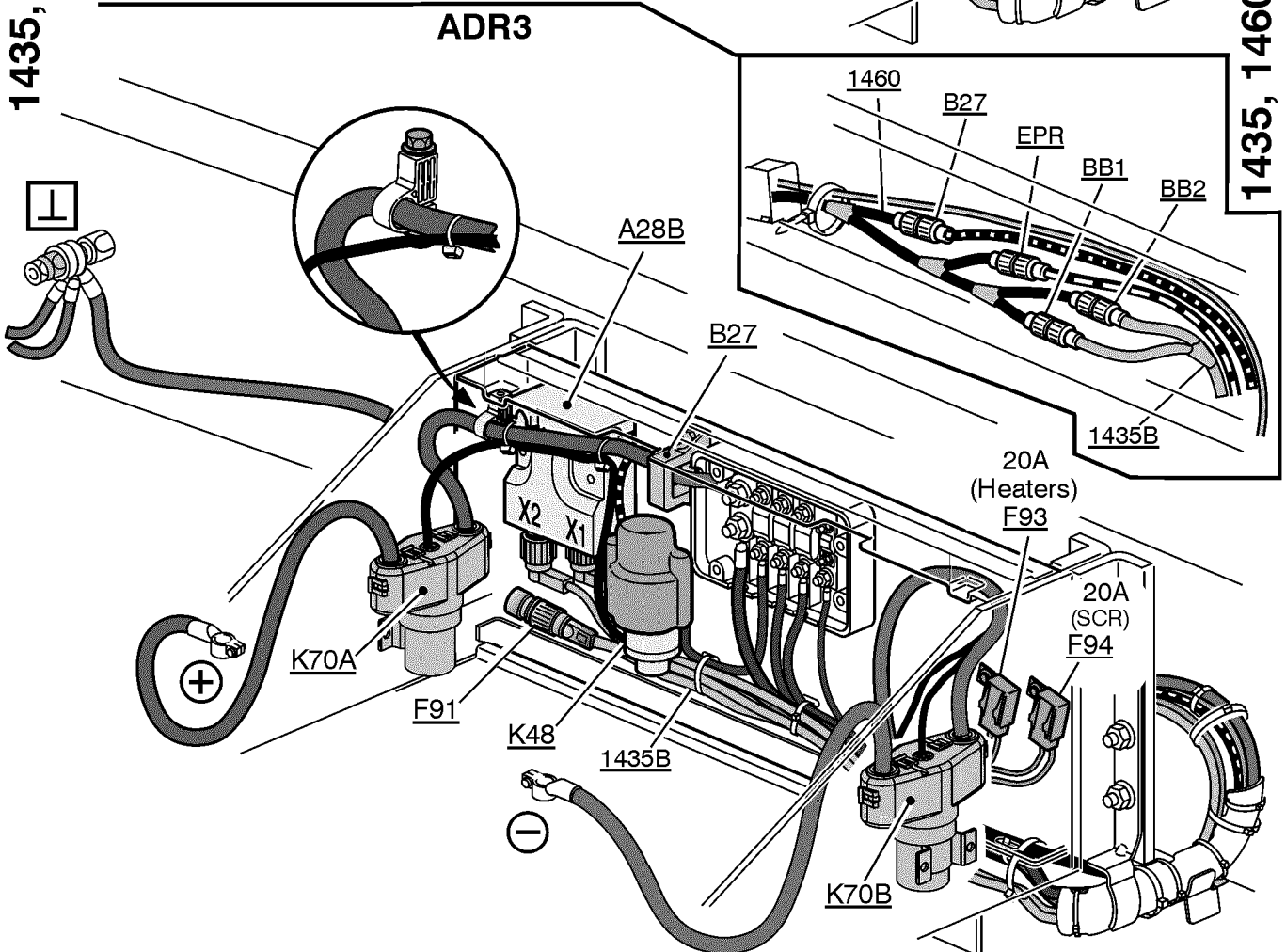


1435, 1460

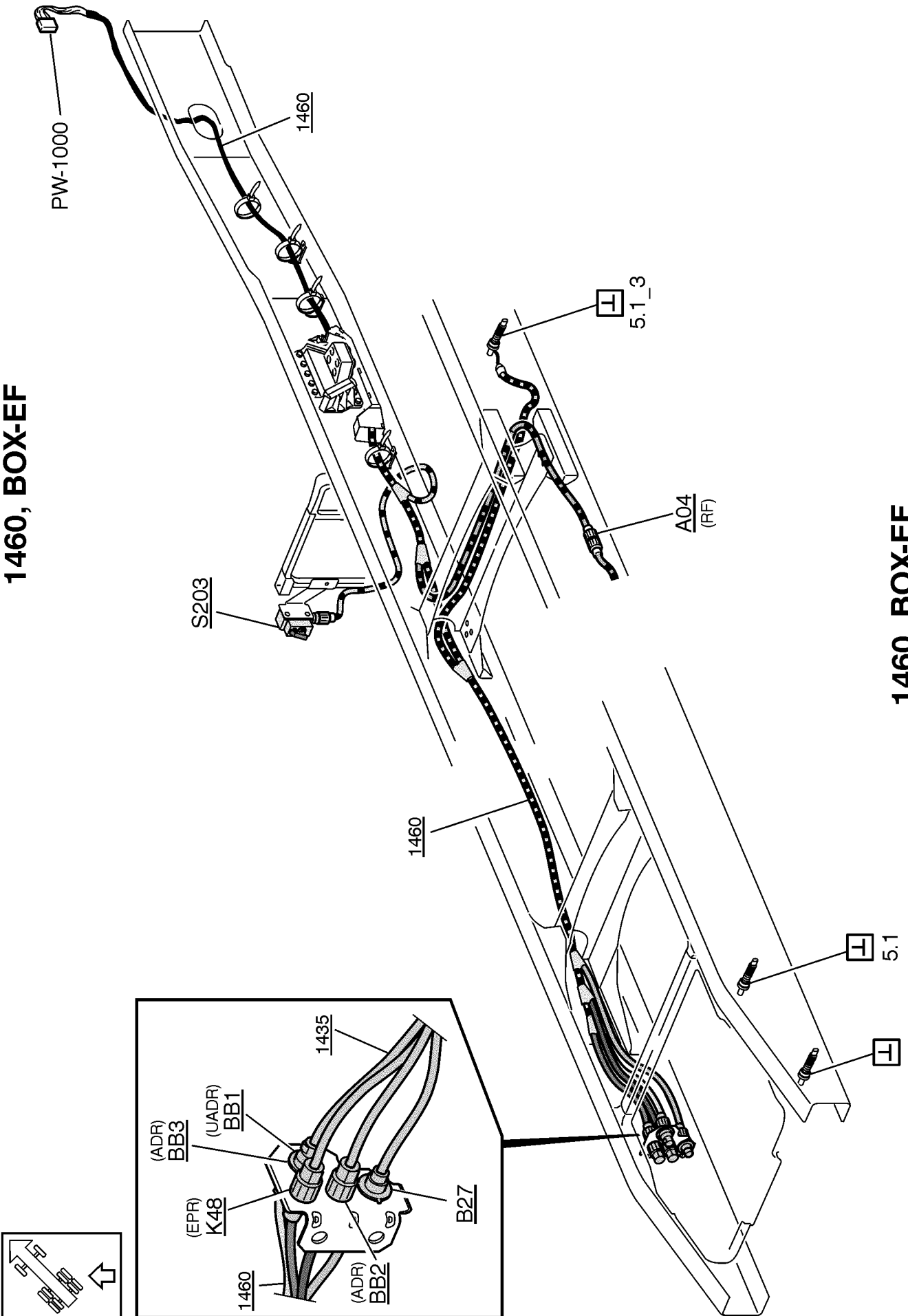


1435, 1460

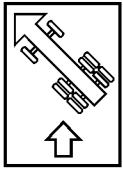
1435, 1460



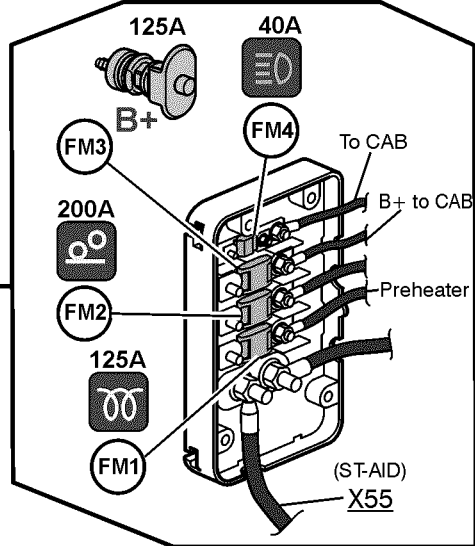
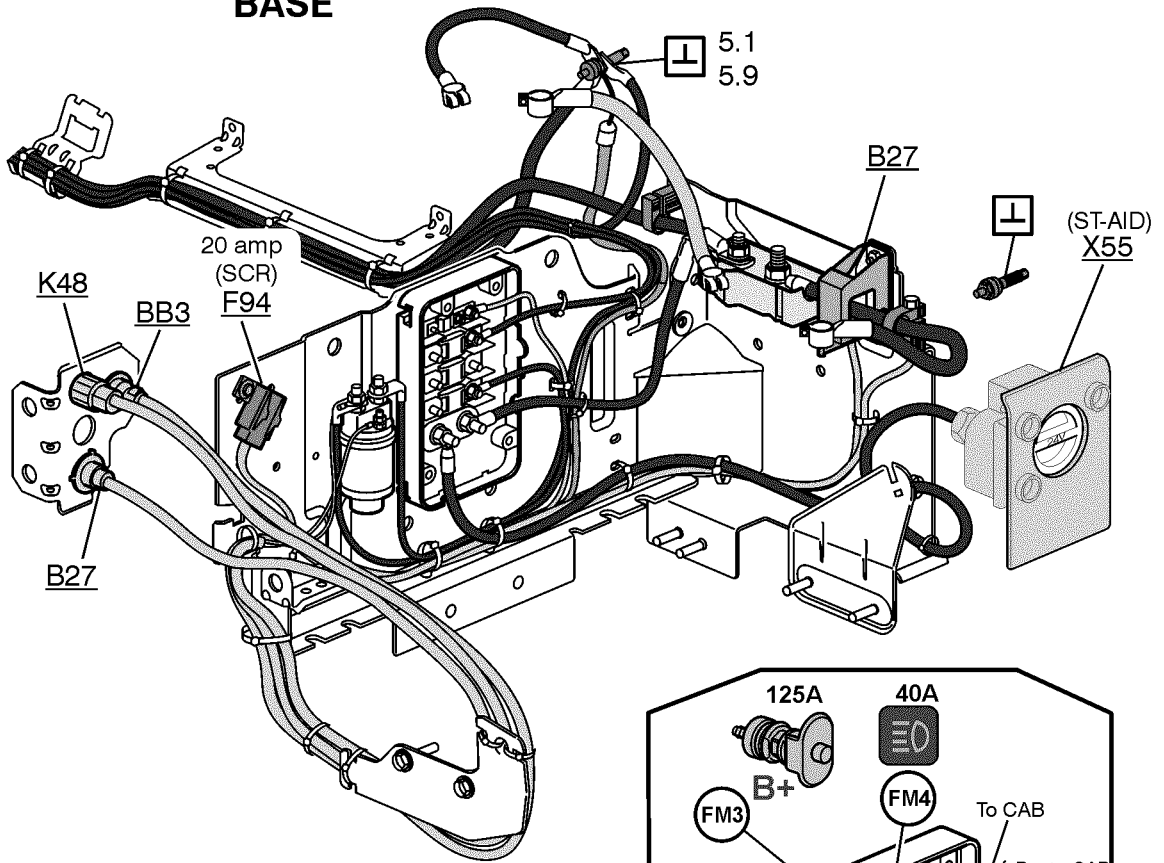
**1460, BOX-EF**



**1460, BOX-EF**



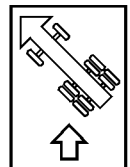
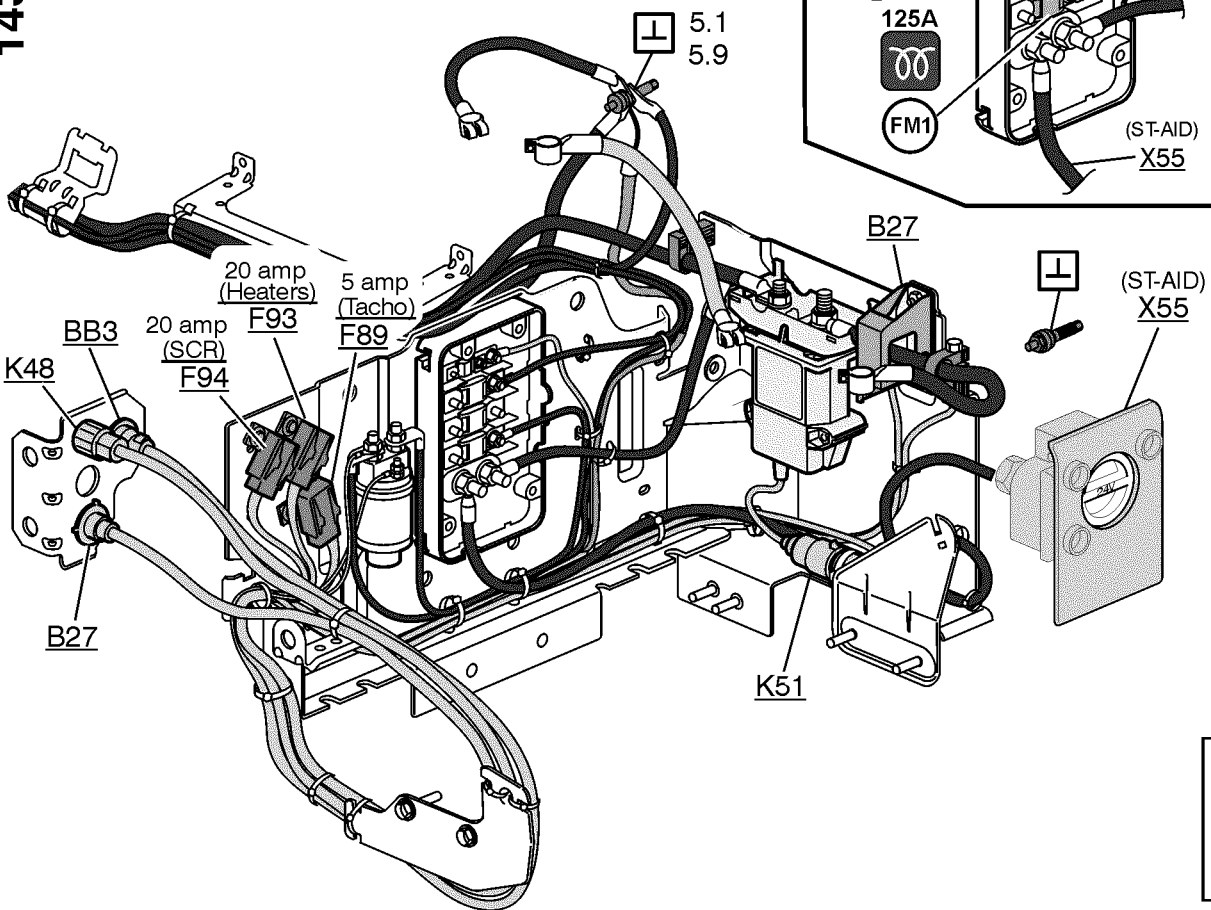
**BASE**



**1435, BBOX-EF**

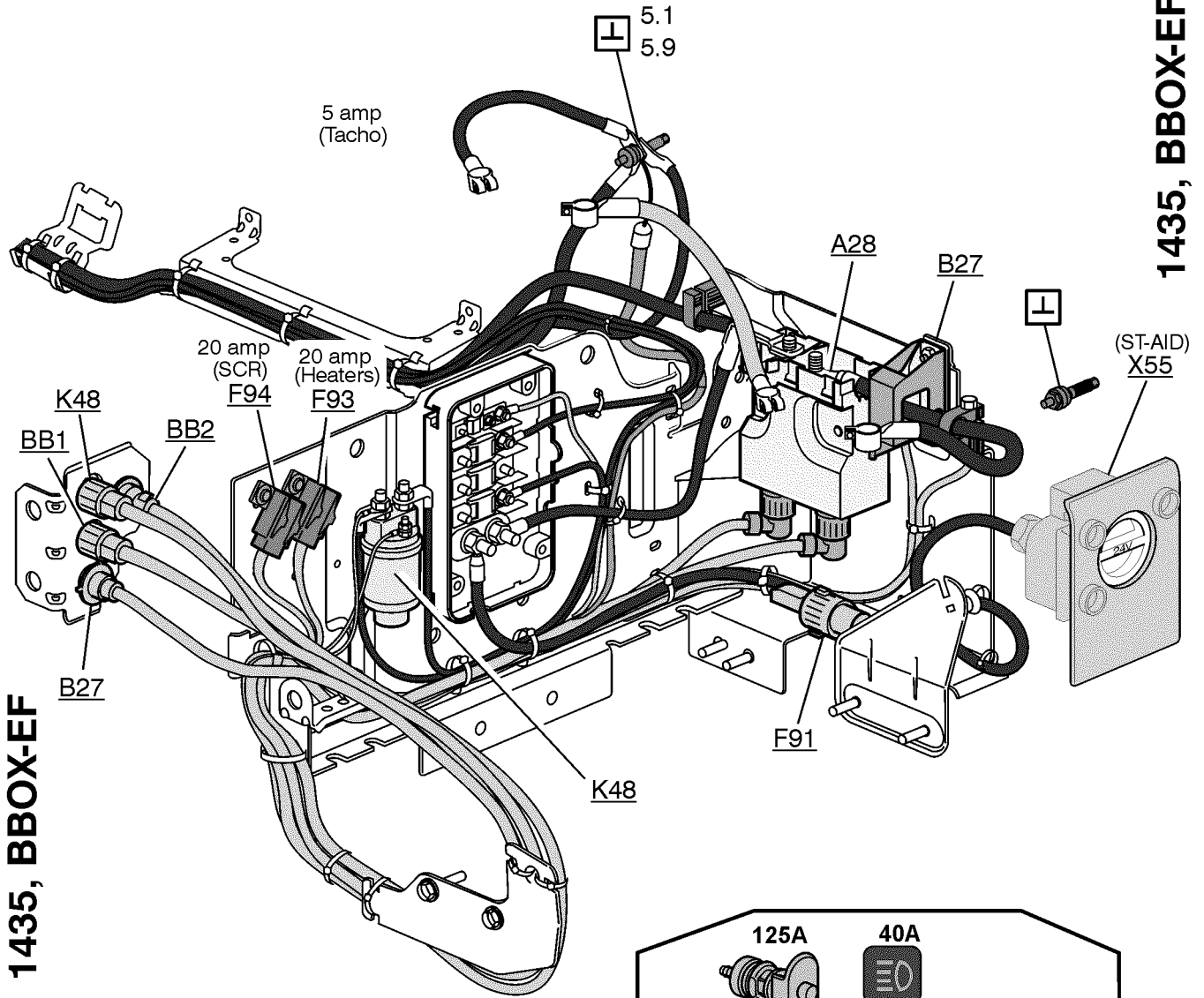
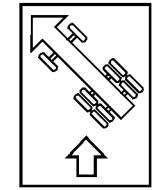
**1435, BBOX-EF**

**LOCK-ALL**

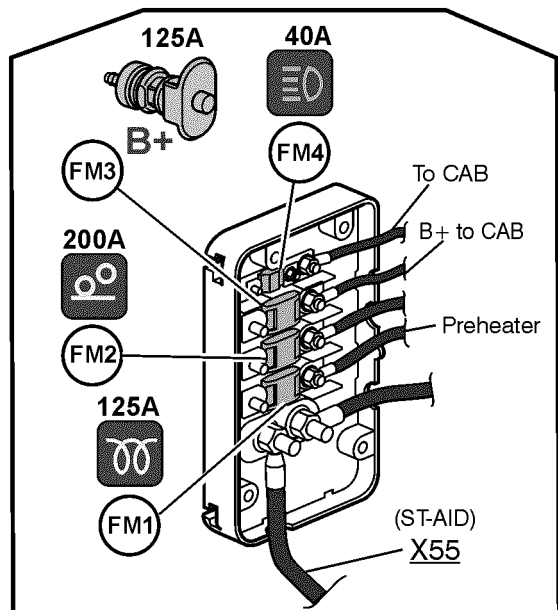


ADR

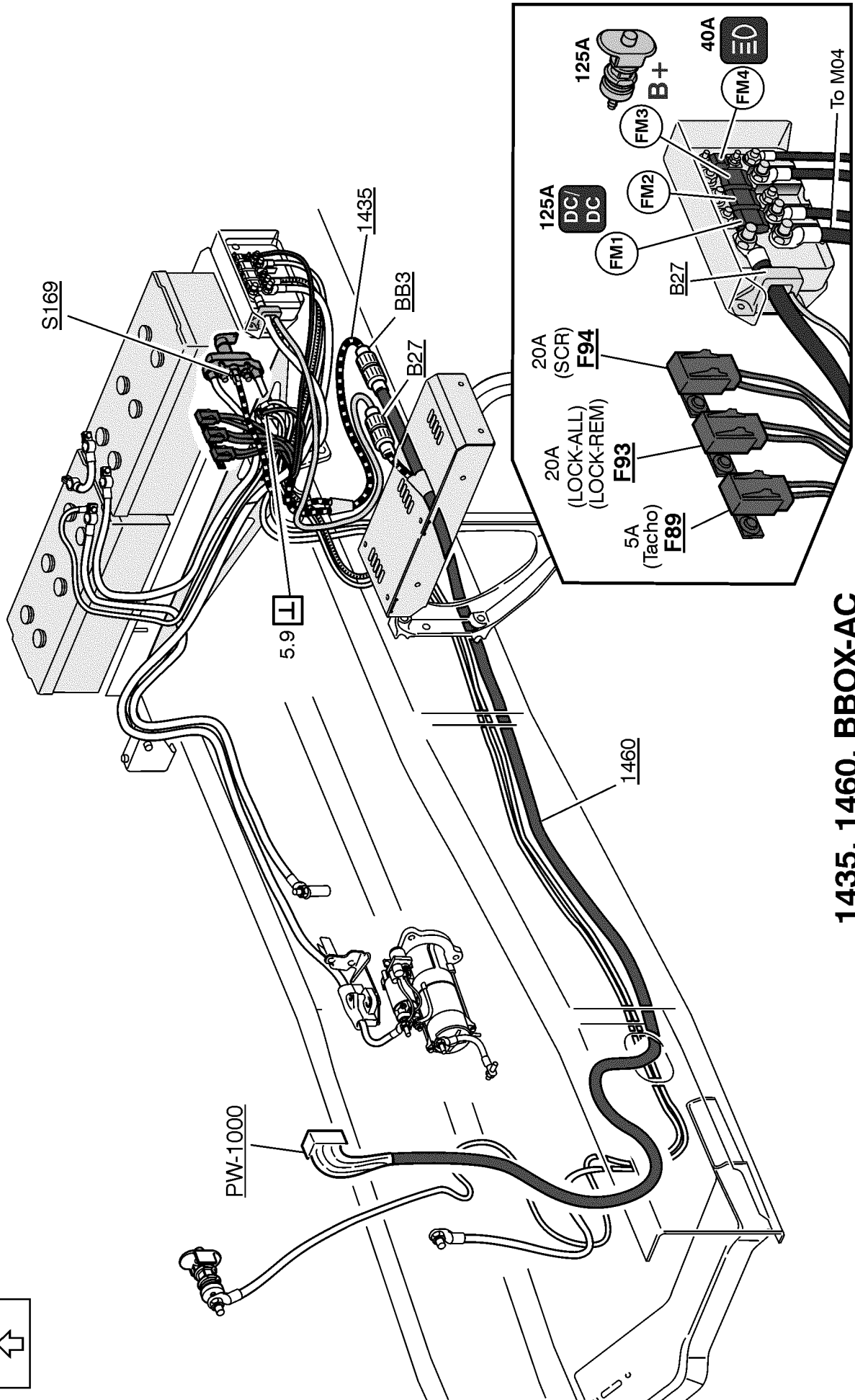
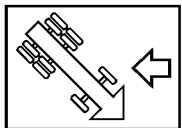
1435, BBOX-EF



1435, BBOX-EF

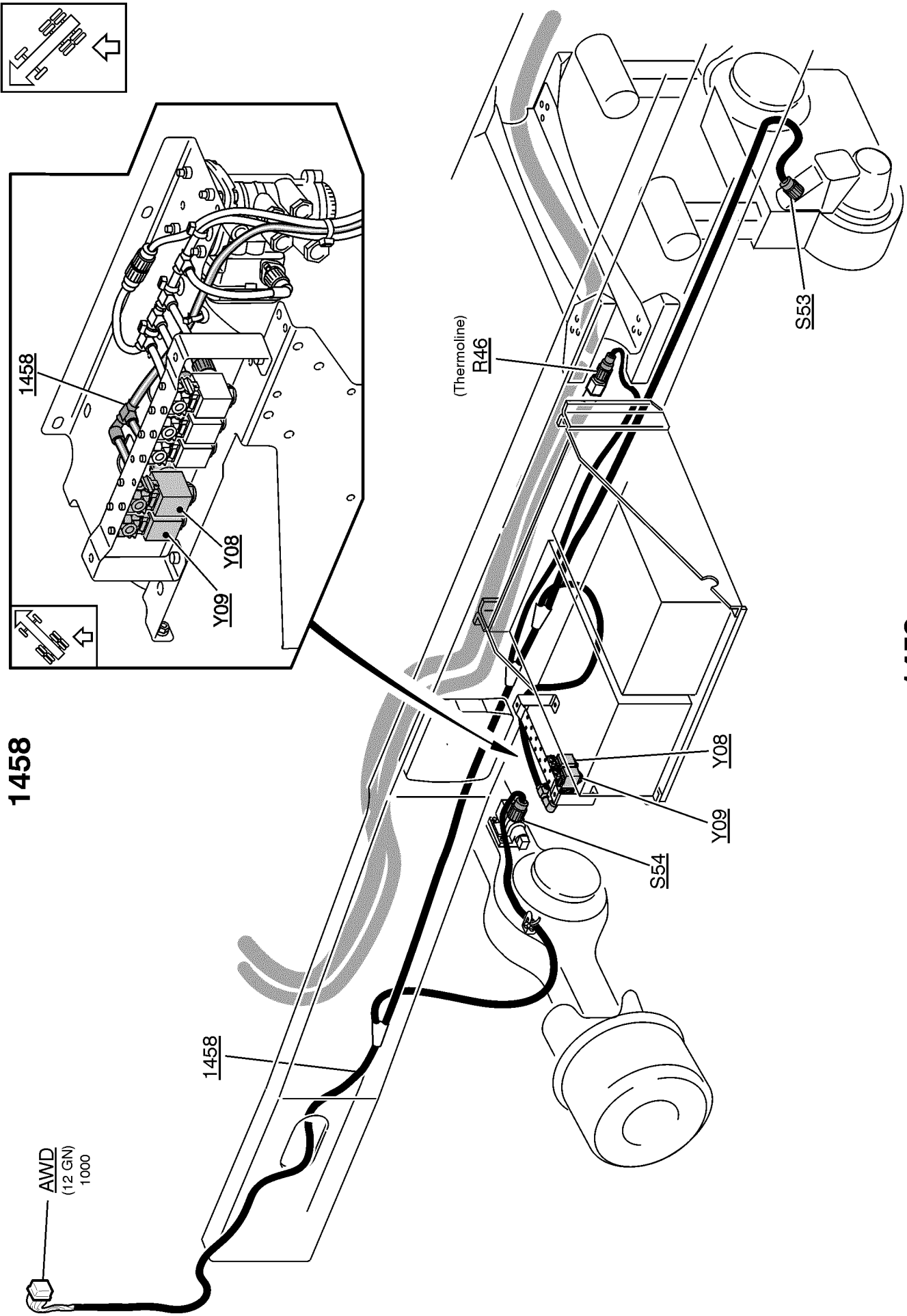


1435, 1460, BBOX-AC



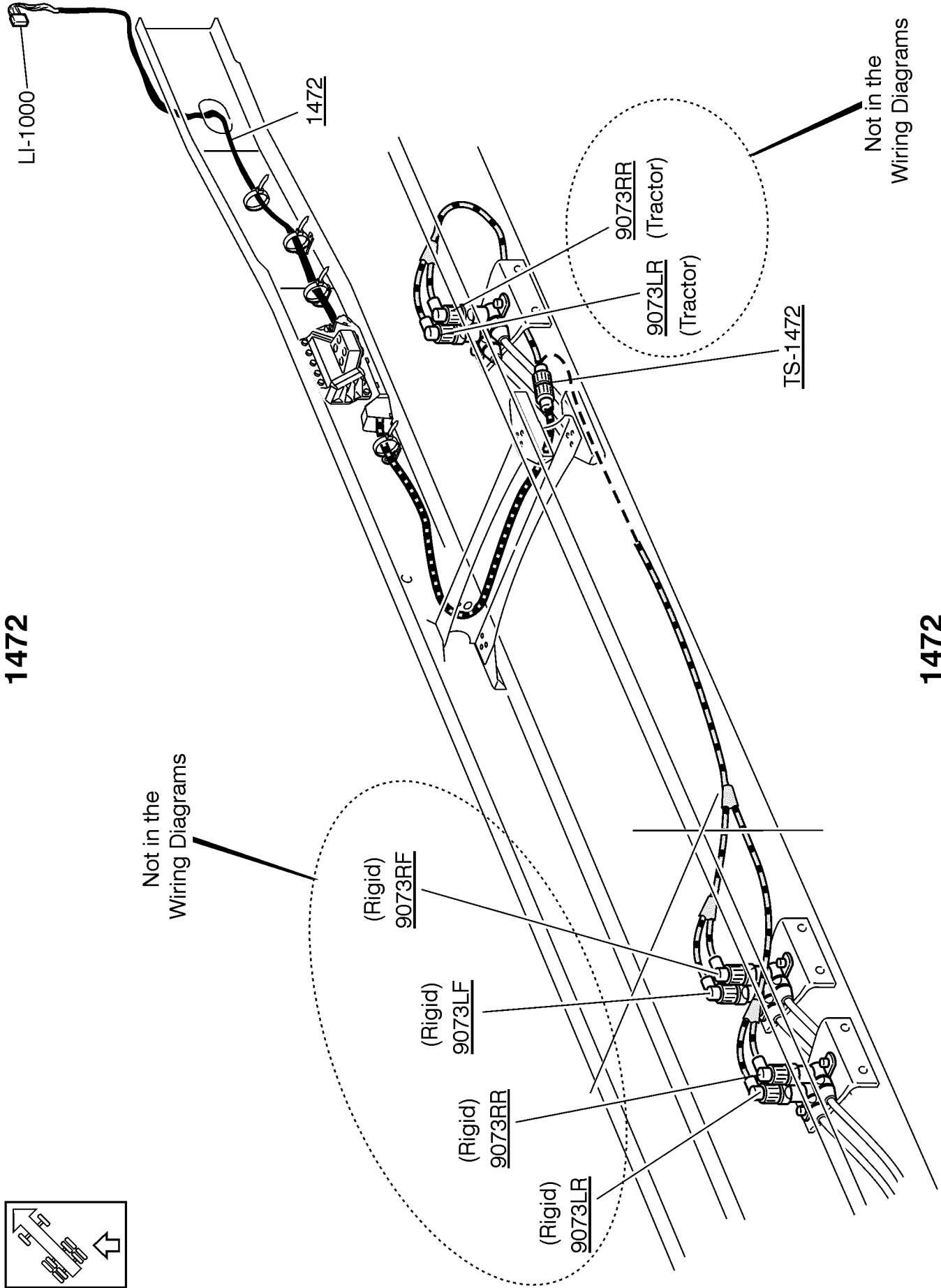
1435, 1460, BBOX-AC



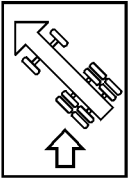


1458

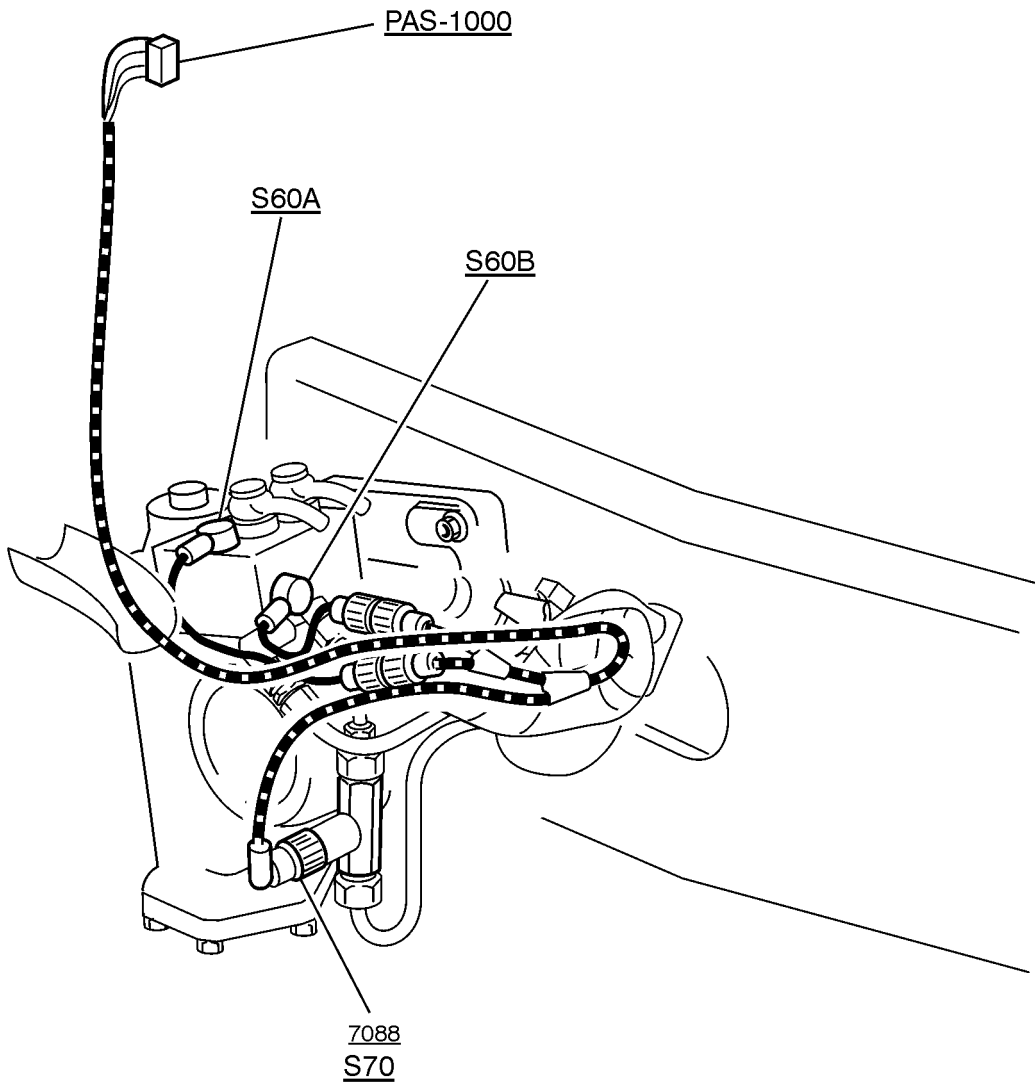
1458



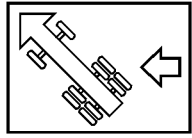
T3016441



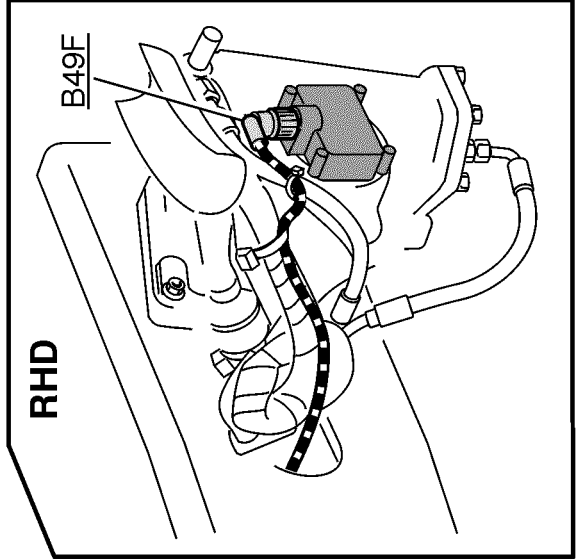
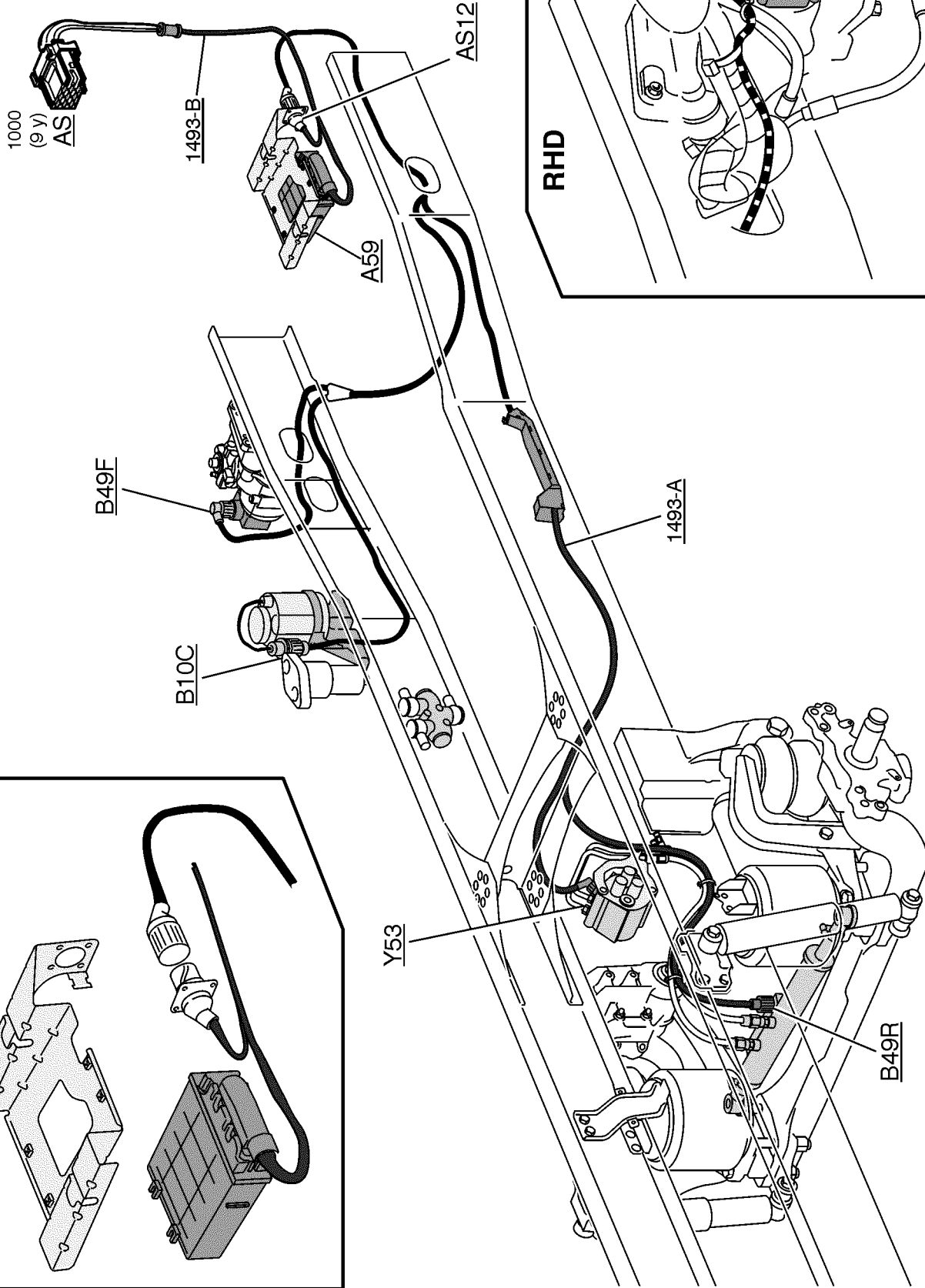
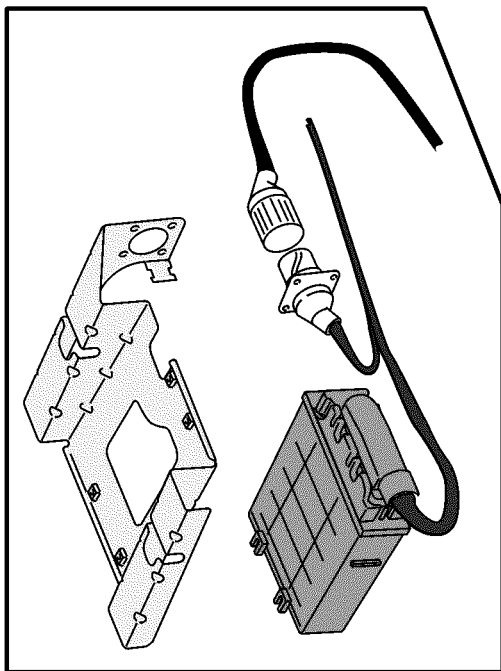
1493 LHD, PSS-DUAL



1493 LHD, PSS-DUAL

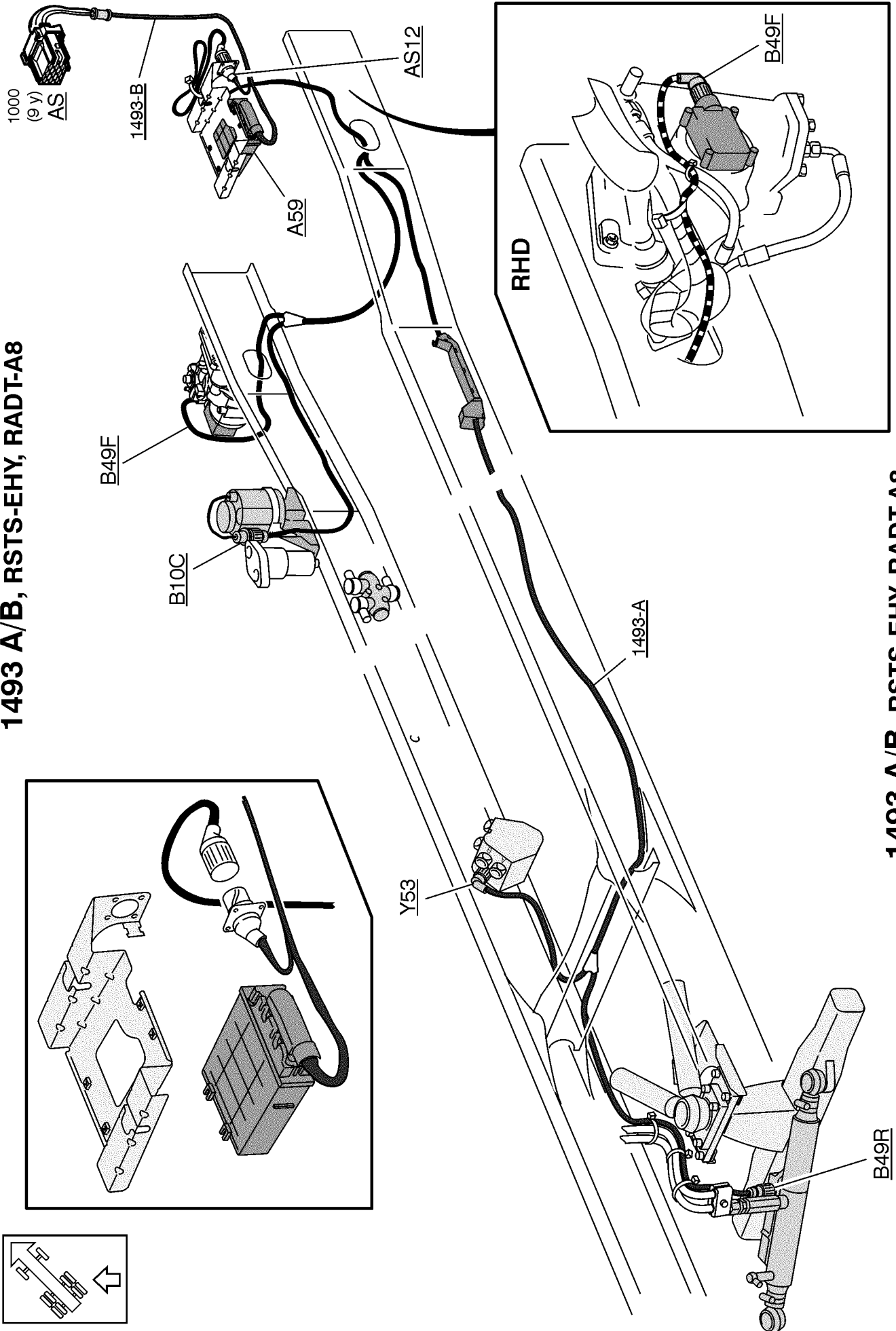


**1493 A/B, RSTS-EHY, RAPD-A6**

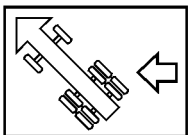


**1493 A/B, RSTS-EHY, RAPD-A6**

**1493 A/B, RSTS-EHY, RADT-A8**

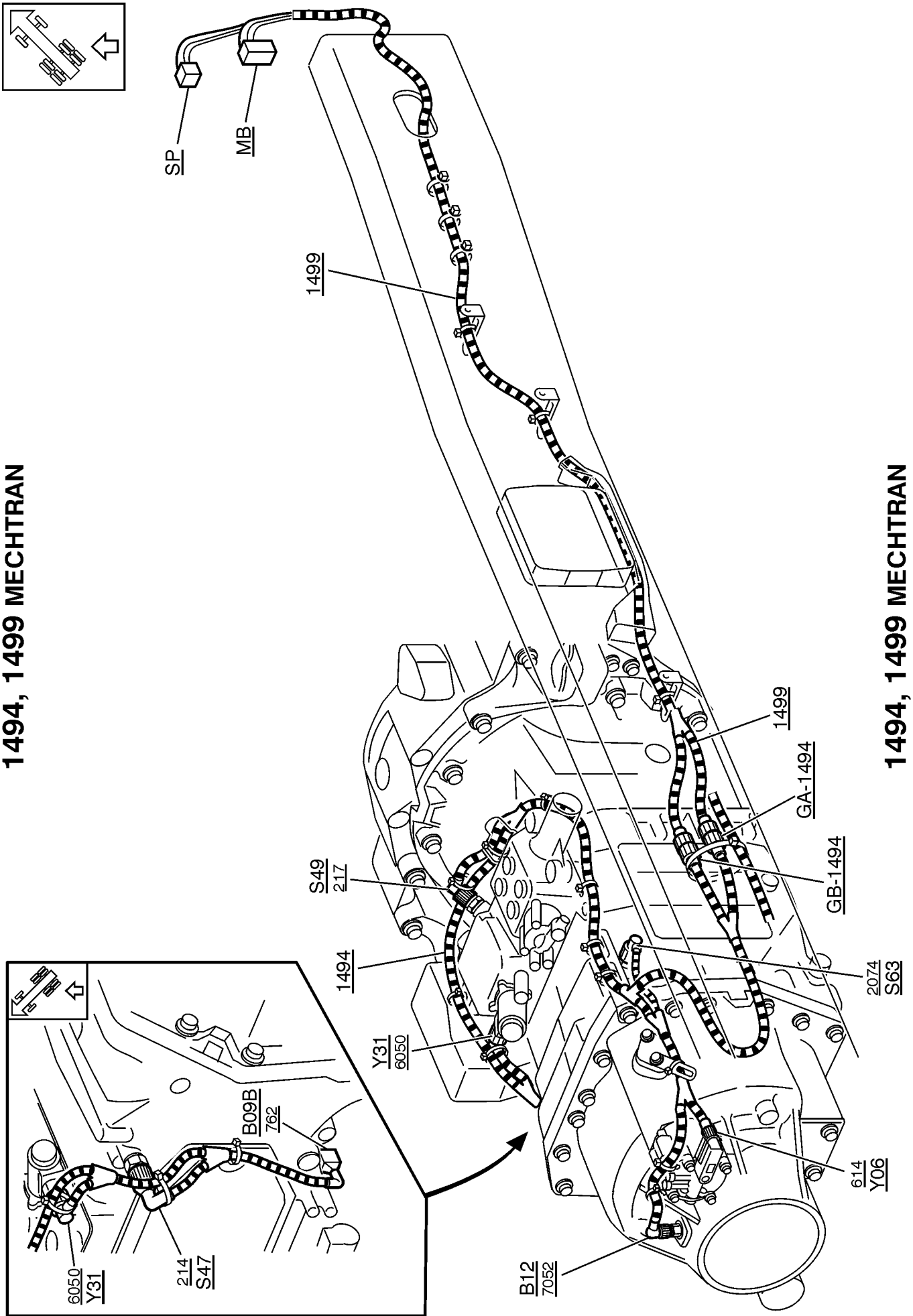


**1493 A/B, RSTS-EHY, RADT-A8**



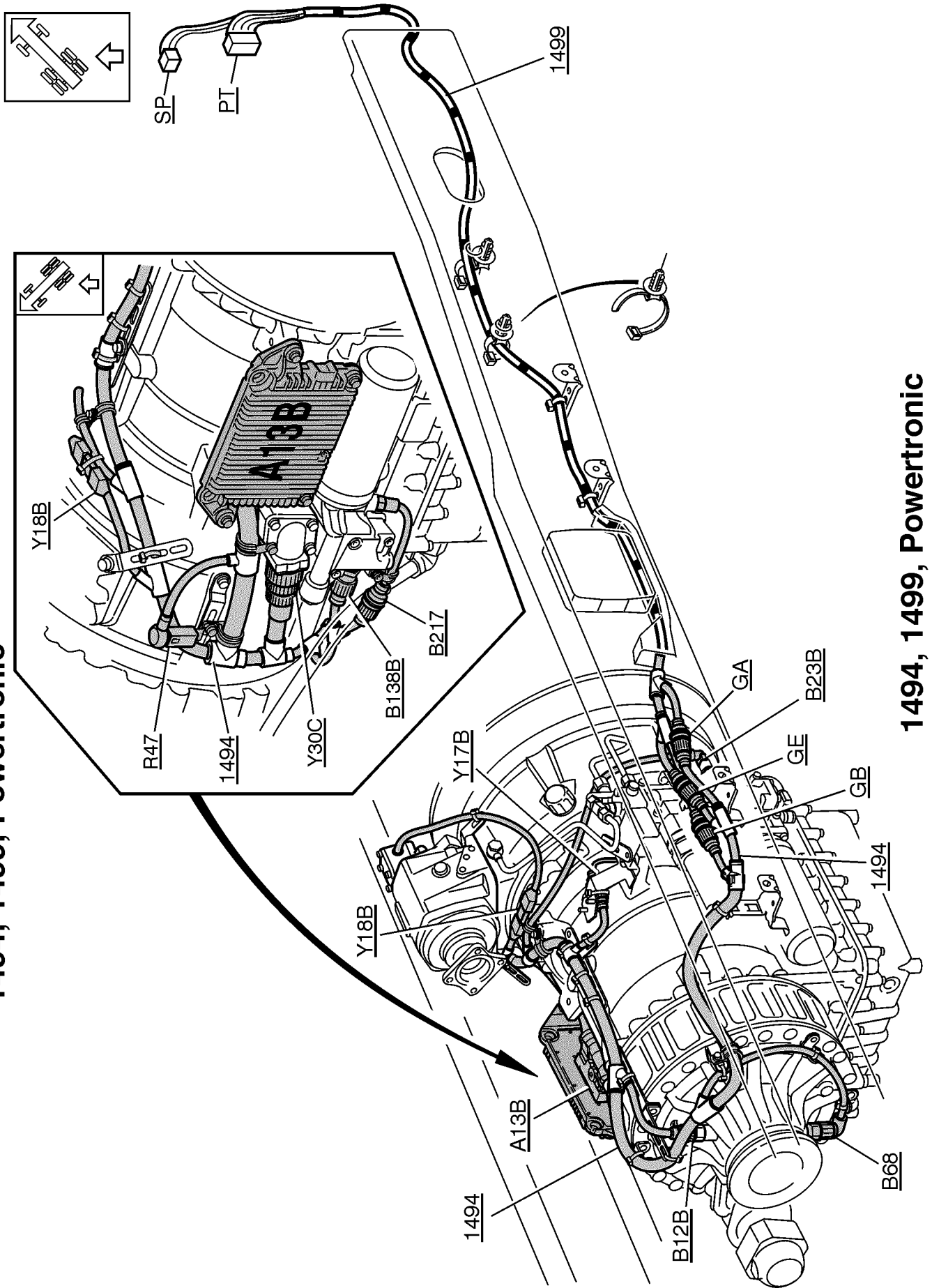
1494, 1499 MECHTRAN

1494, 1499 MECHTRAN



**1494, 1499, Powertronic**

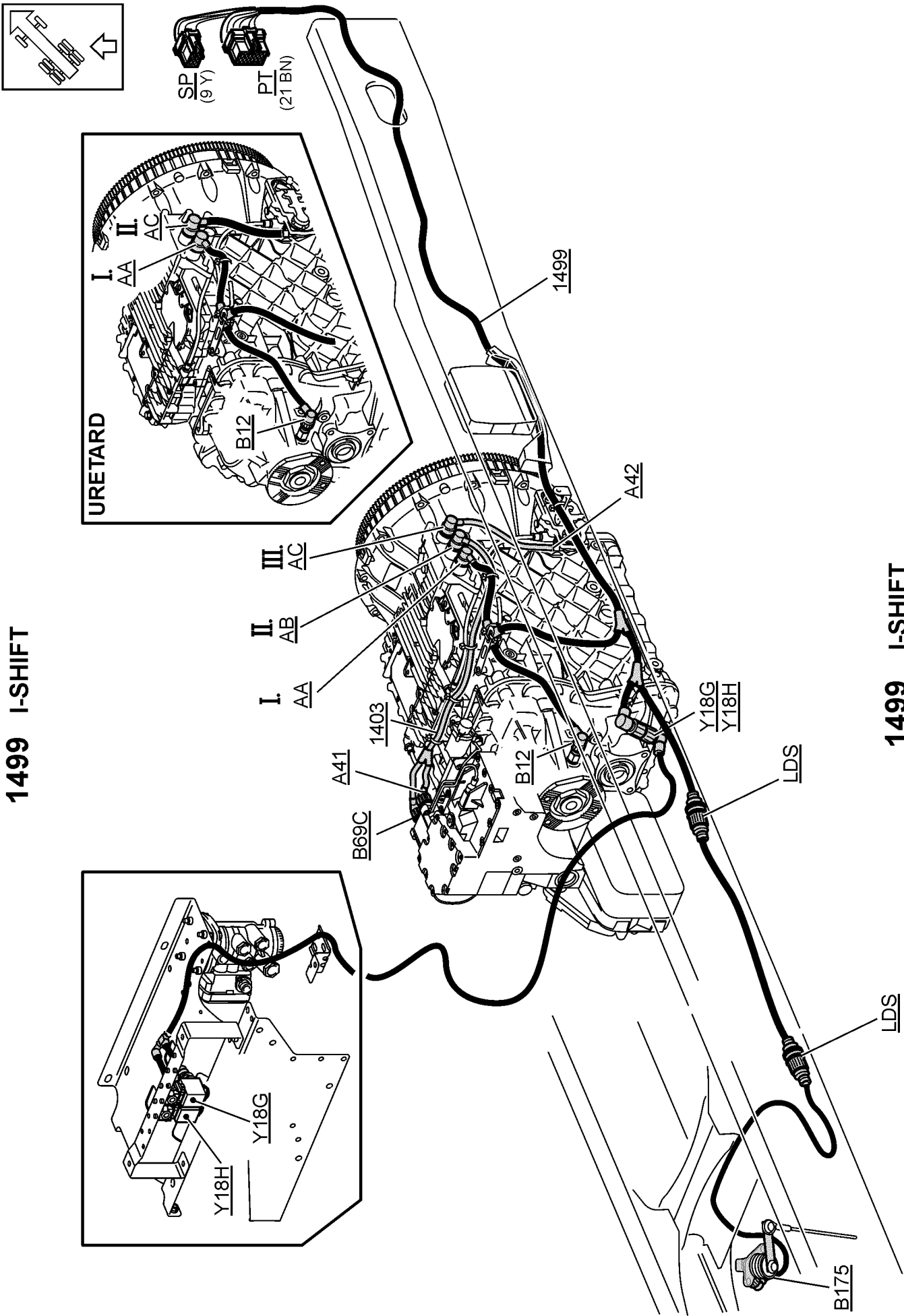
**1494, 1499, Powertronic**



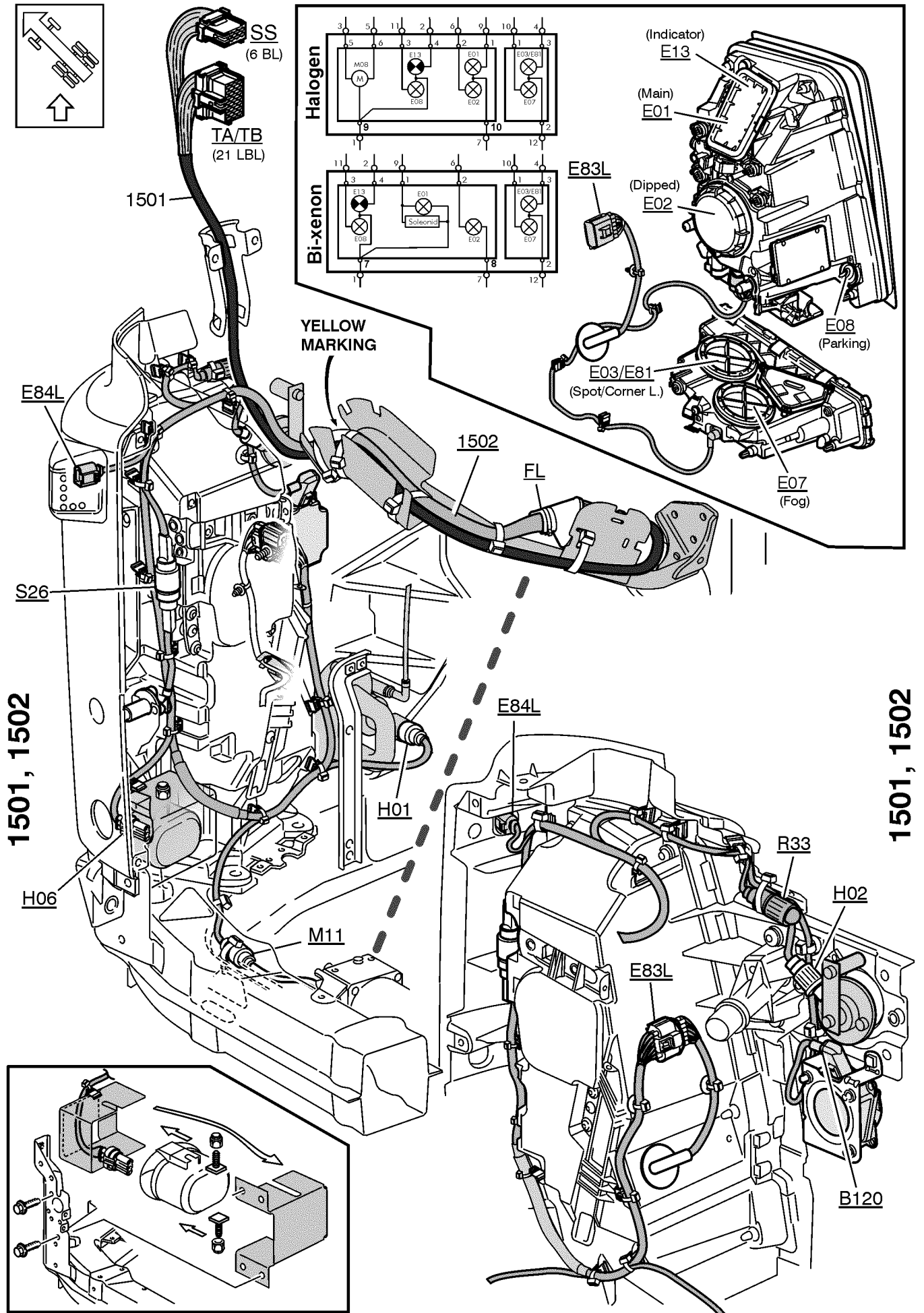
T3028810

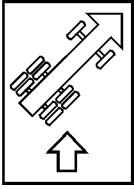
1499 I-SHIFT

1499 I-SHIFT



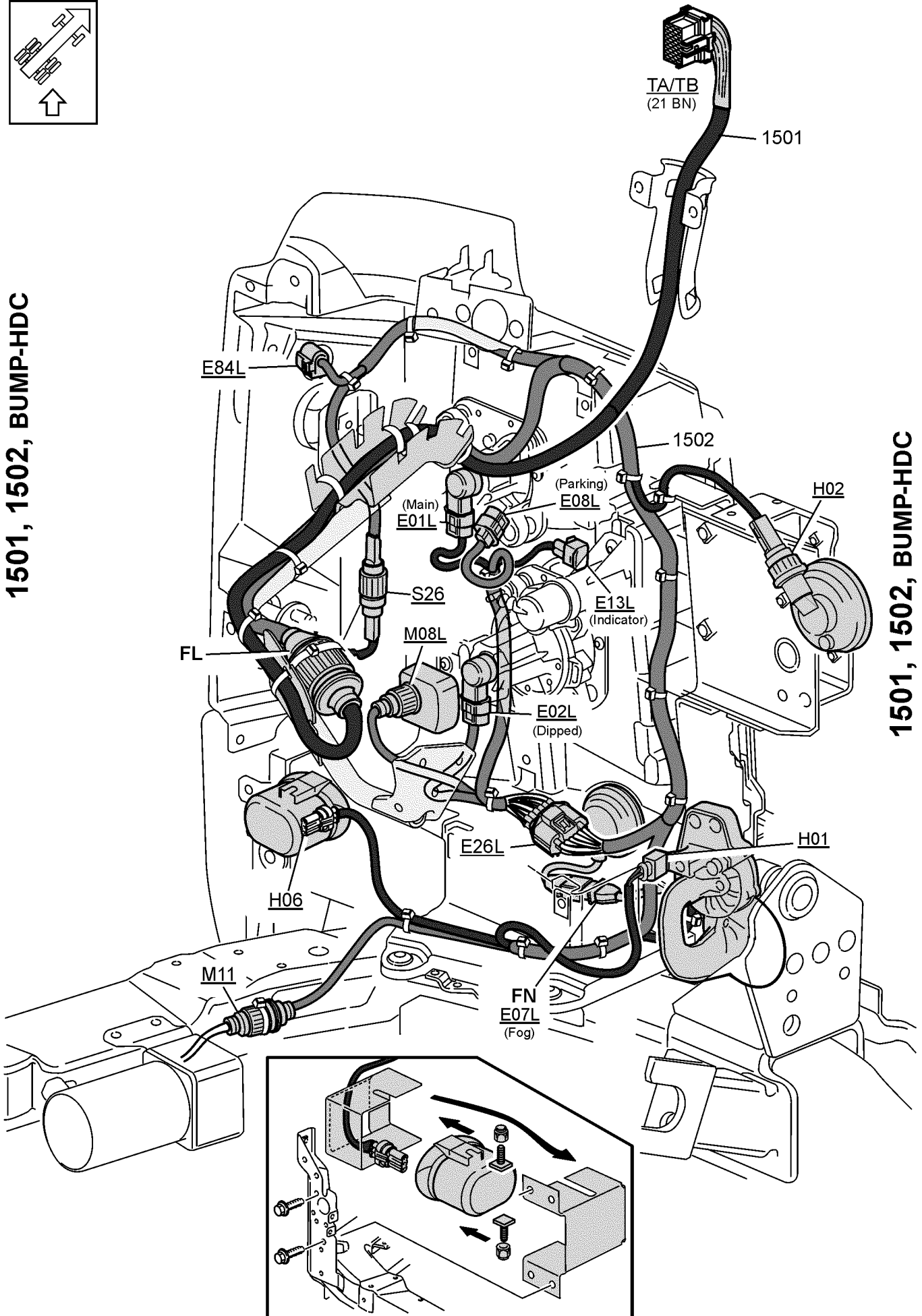


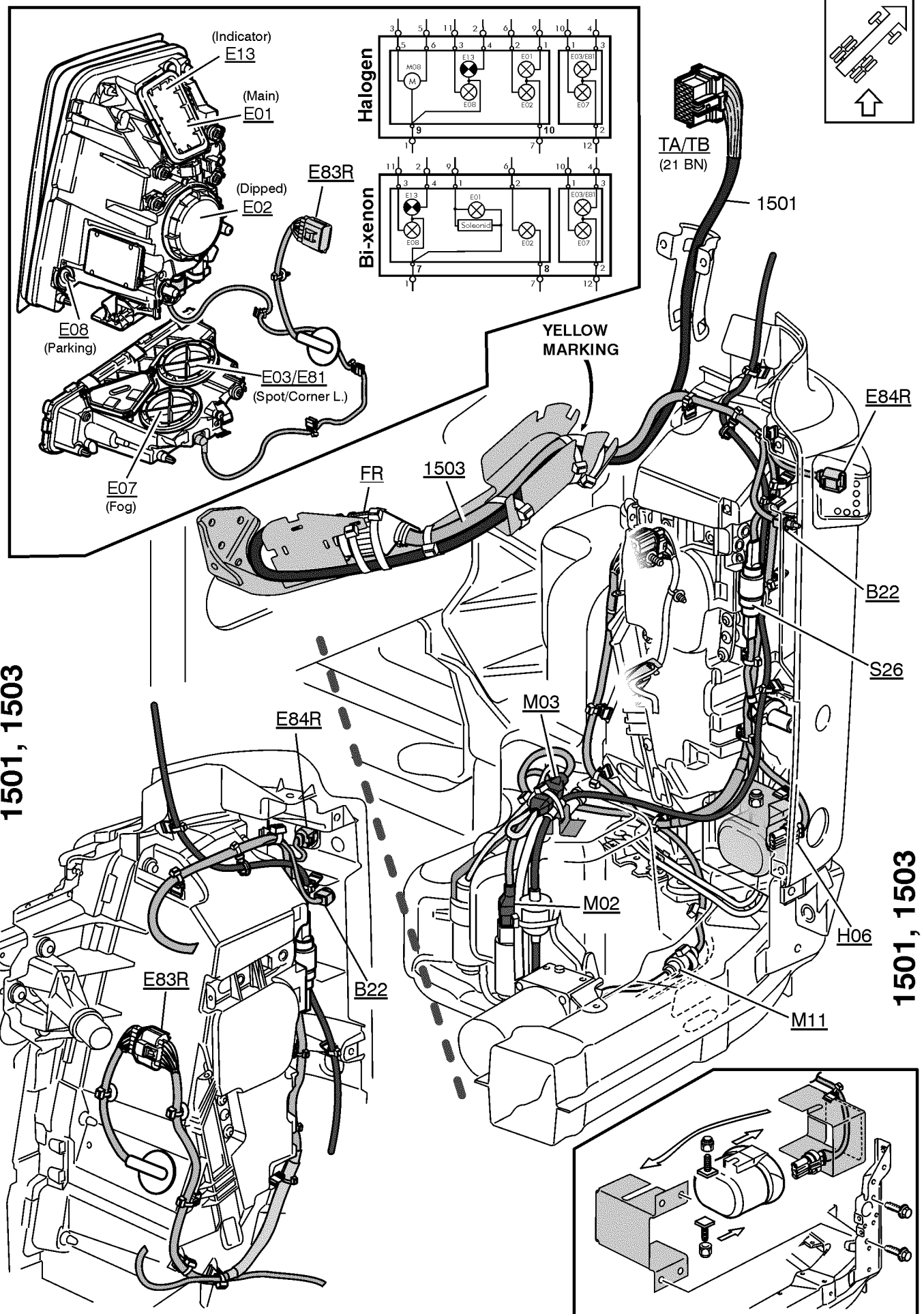


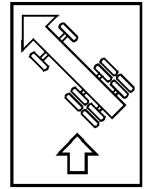


1501, 1502, BUMP-HDC

1501, 1502, BUMP-HDC

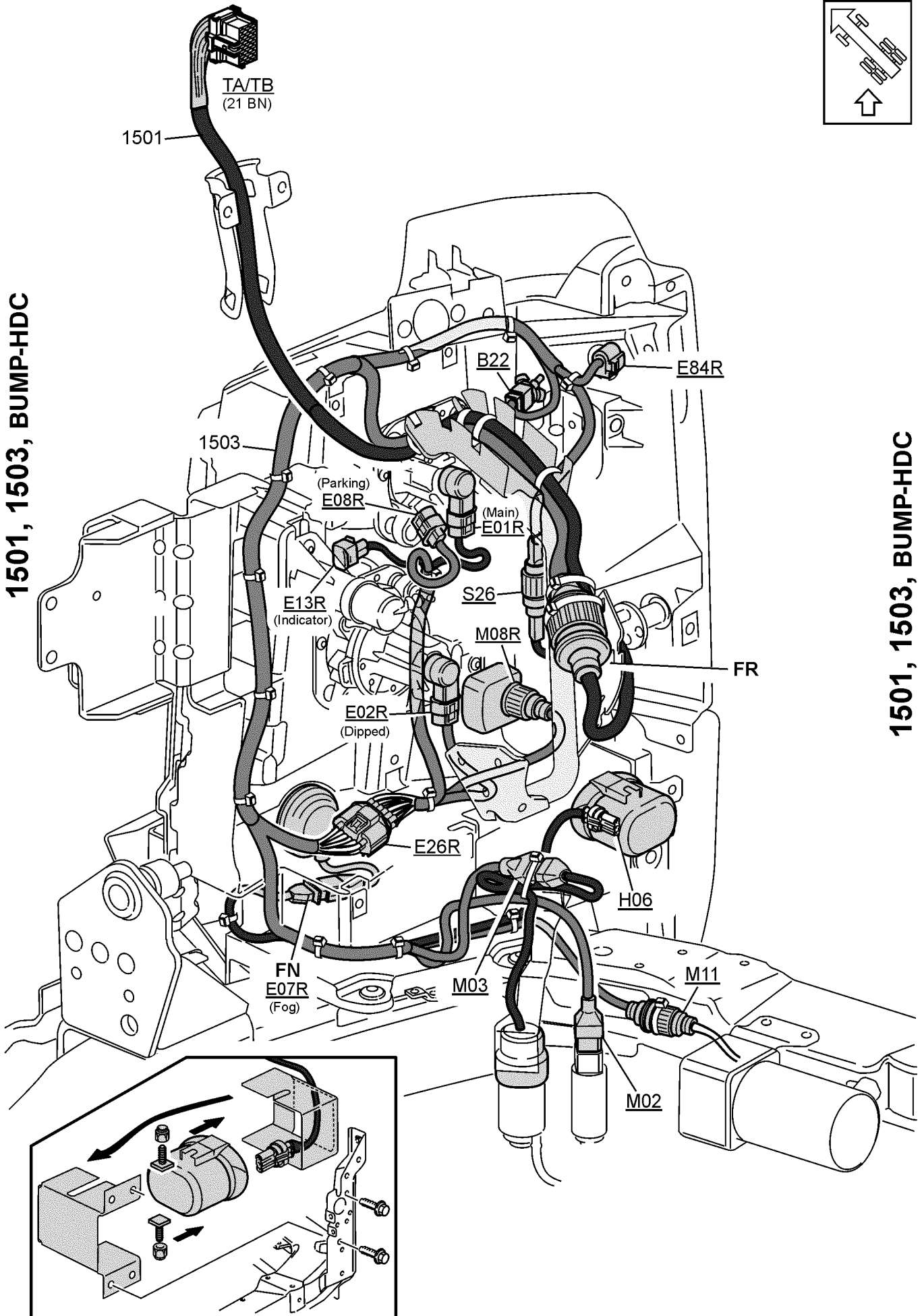


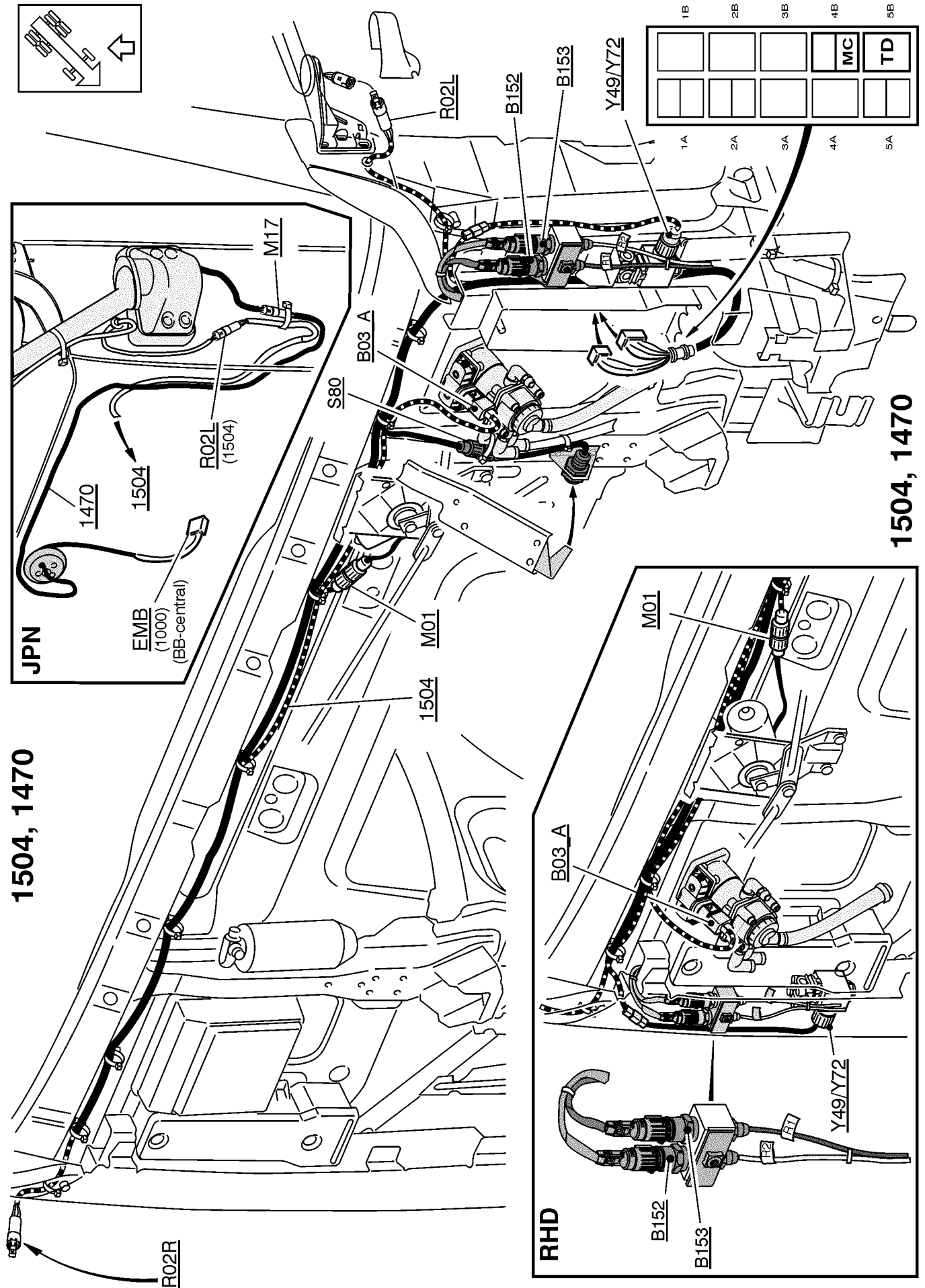




1501, 1503, BUMP-HDC

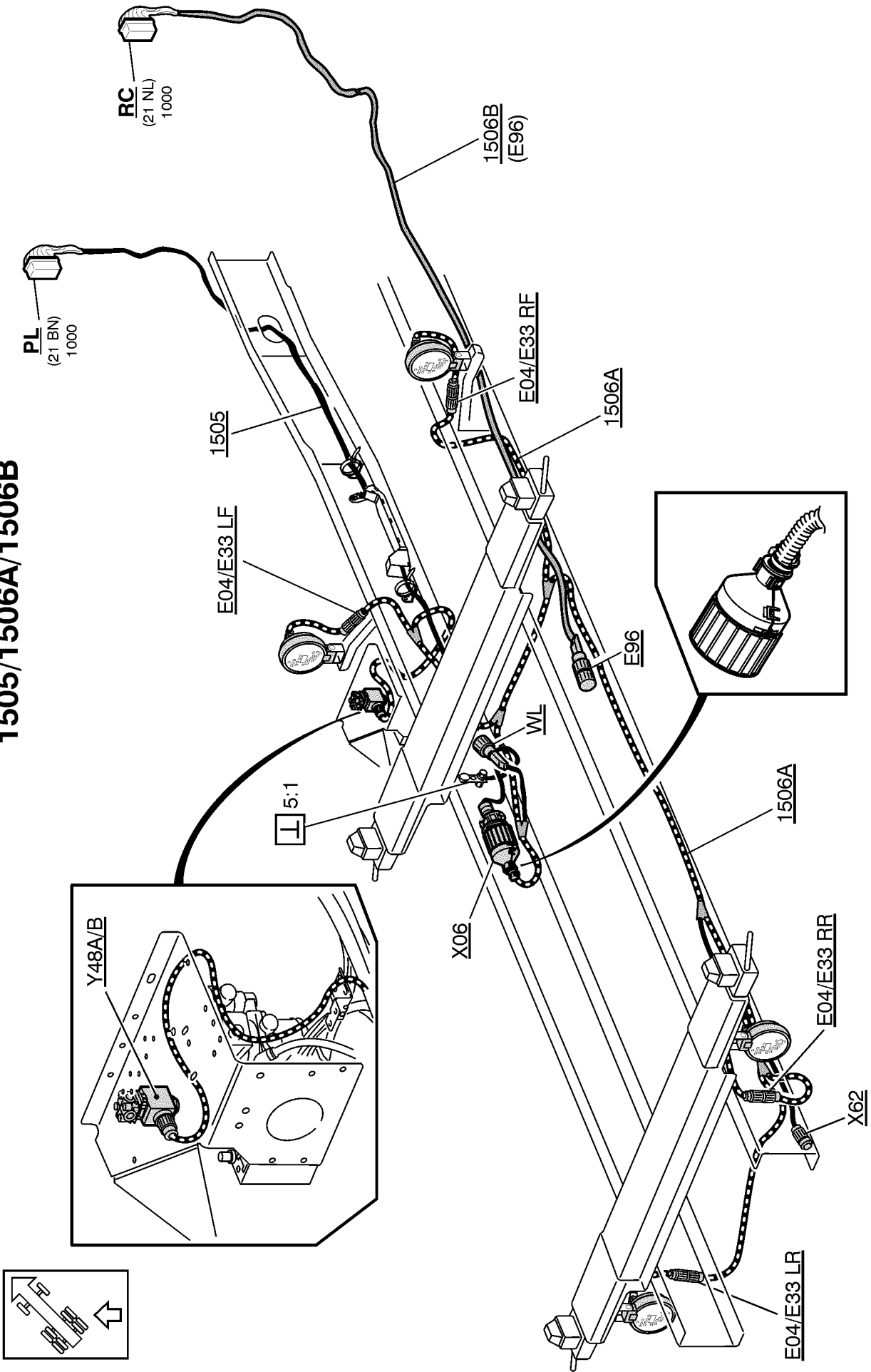
1501, 1503, BUMP-HDC



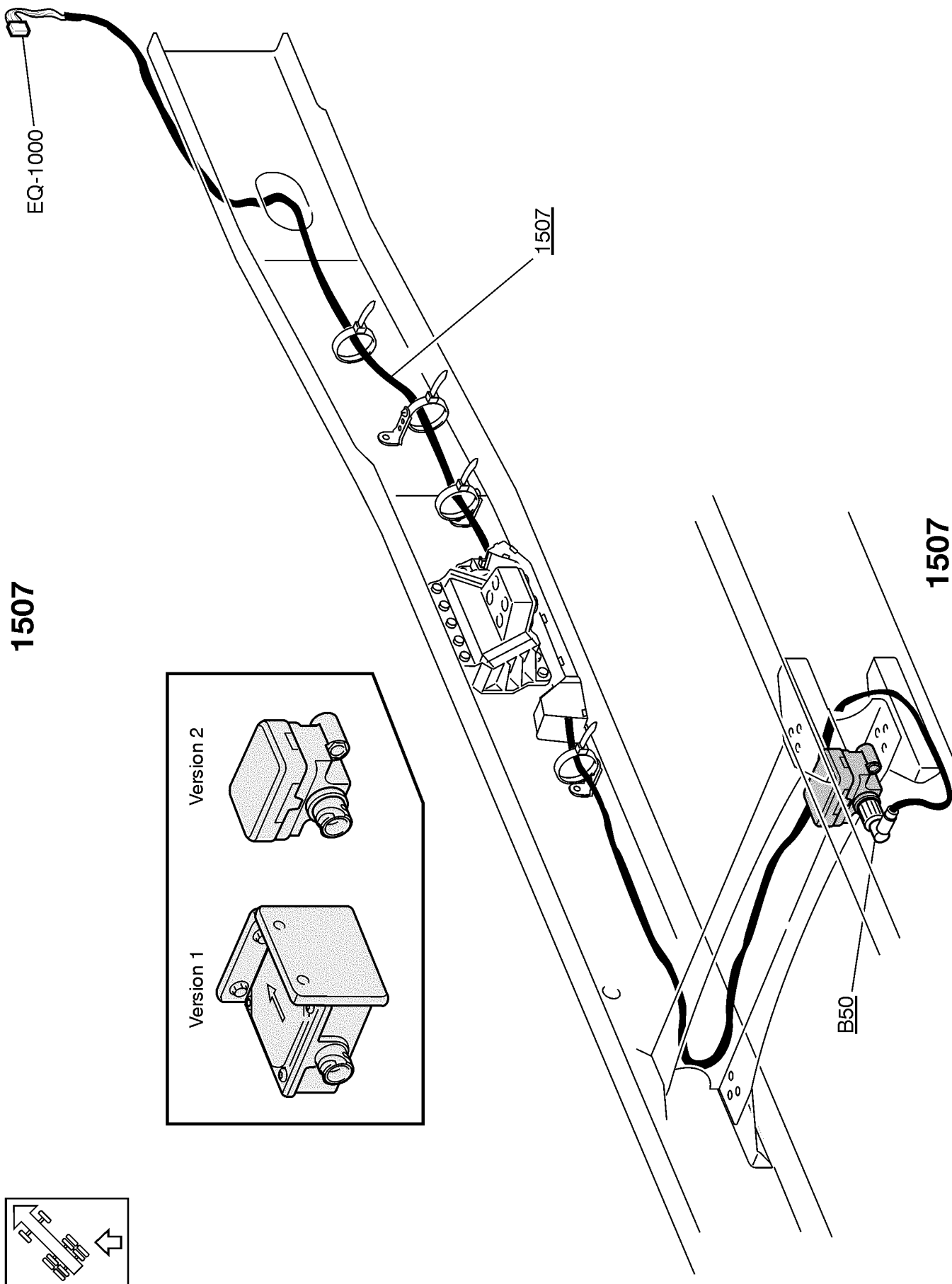


T3059953

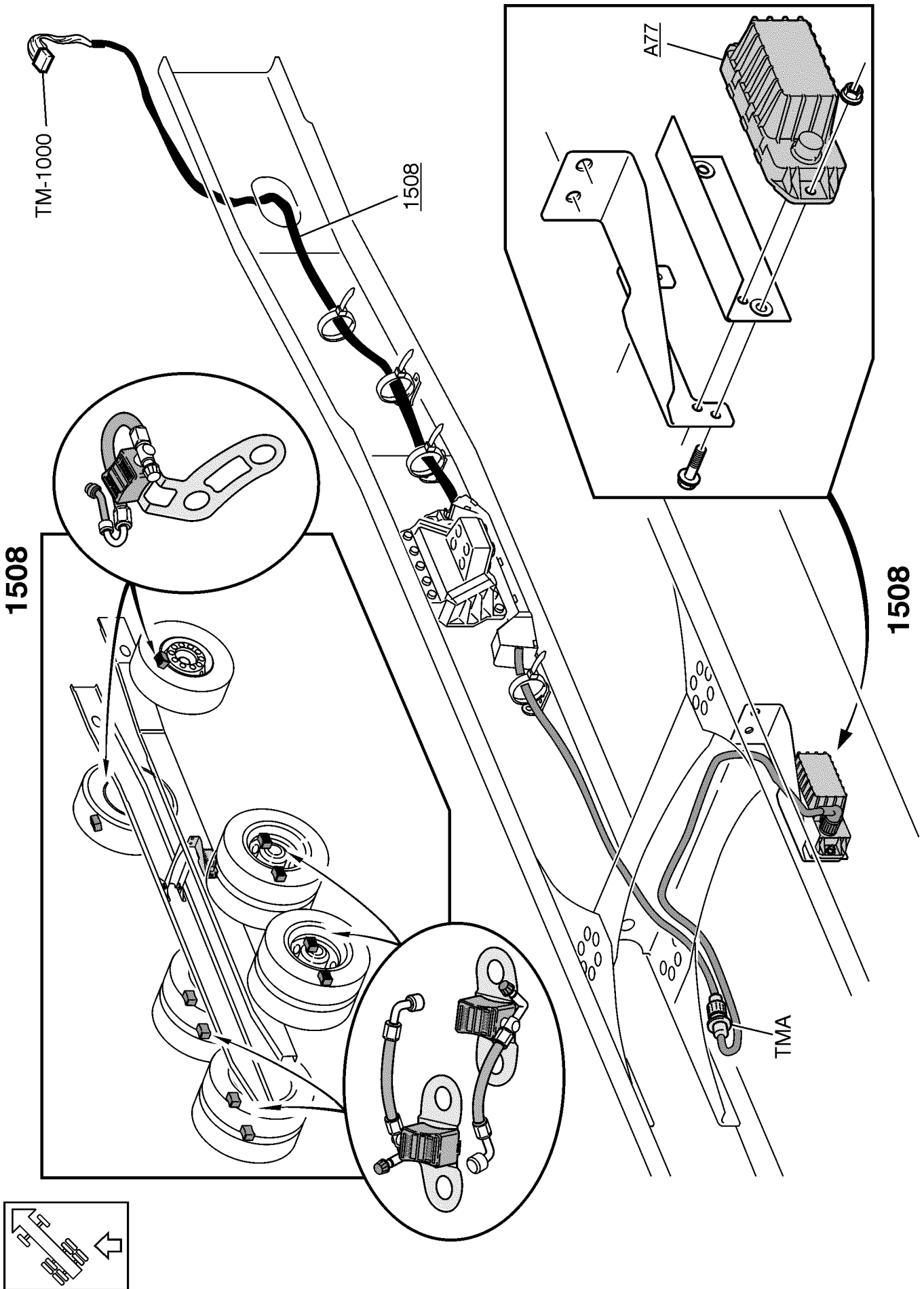
1505/1506A/1506B



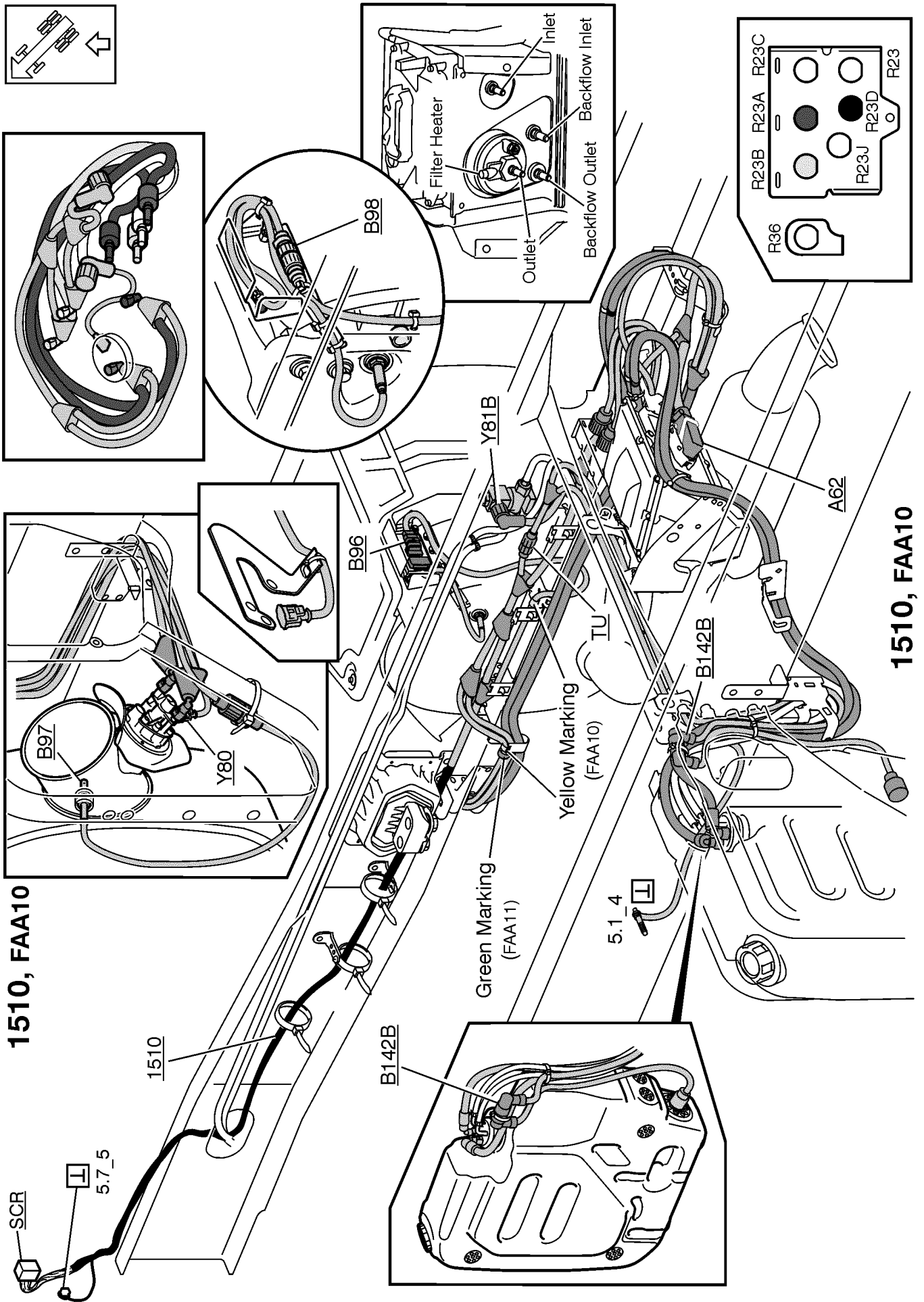
1505/1506A/1506B



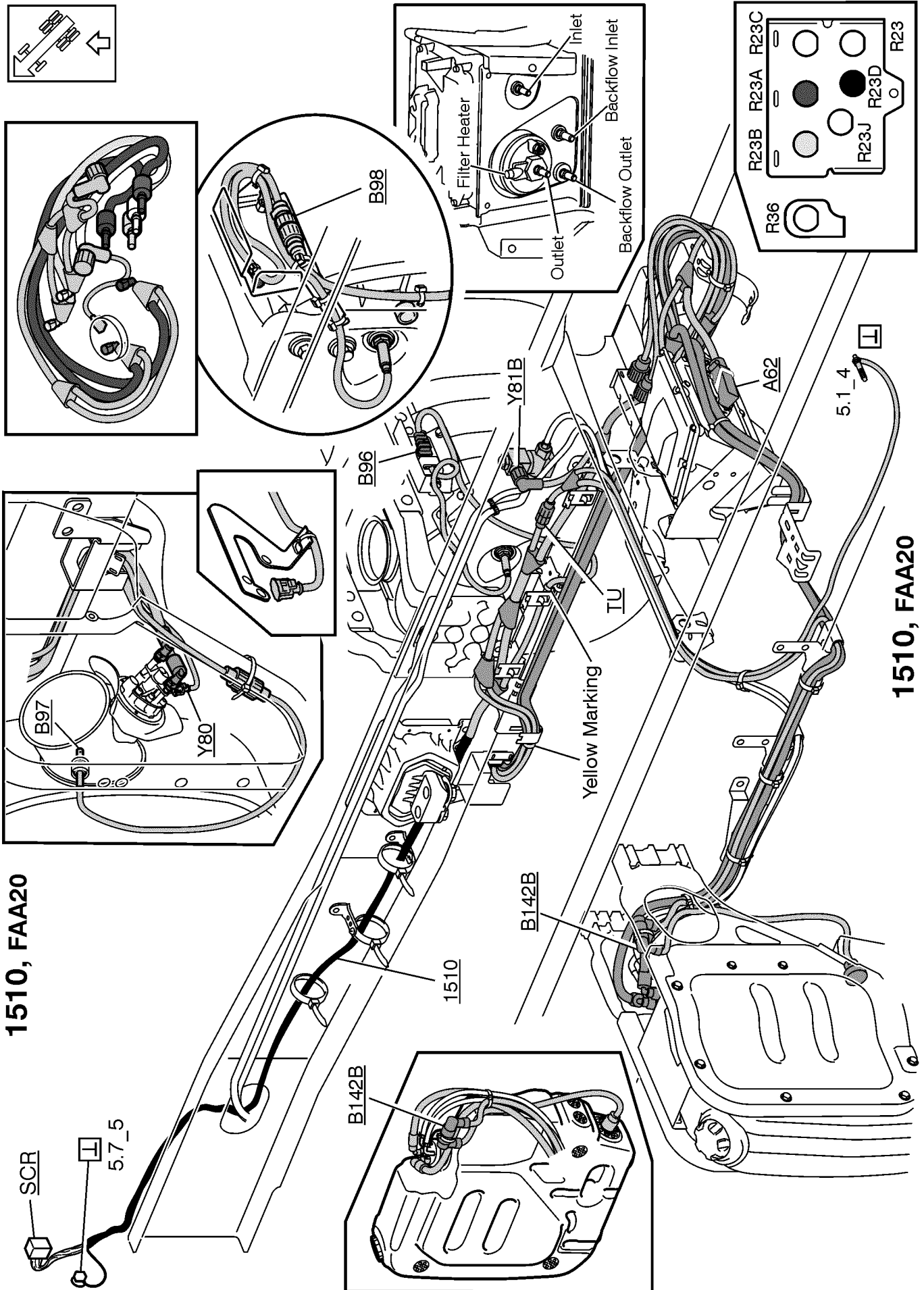
T3029531



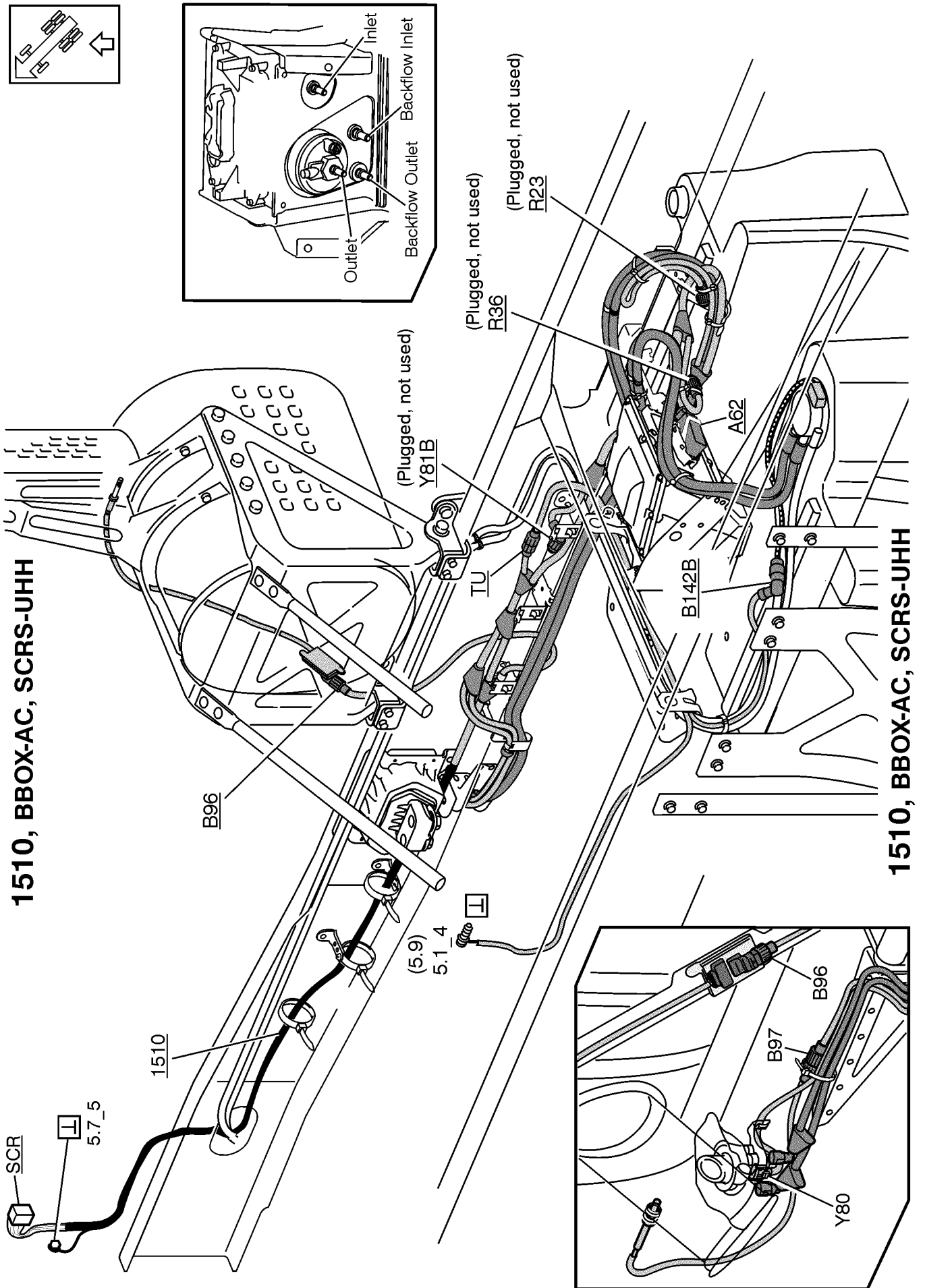




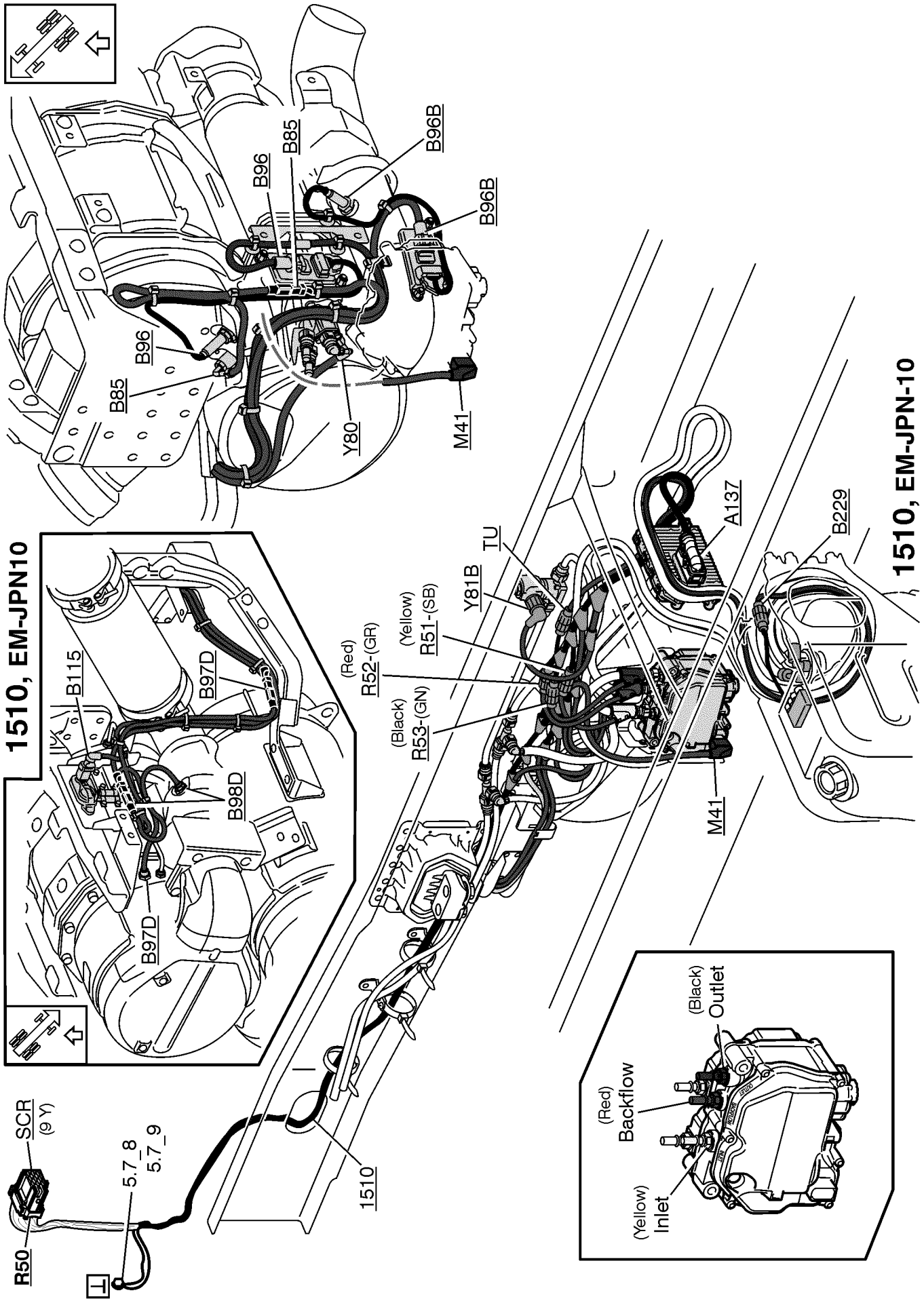
T3019694



**1510, FAA20**



T3020635



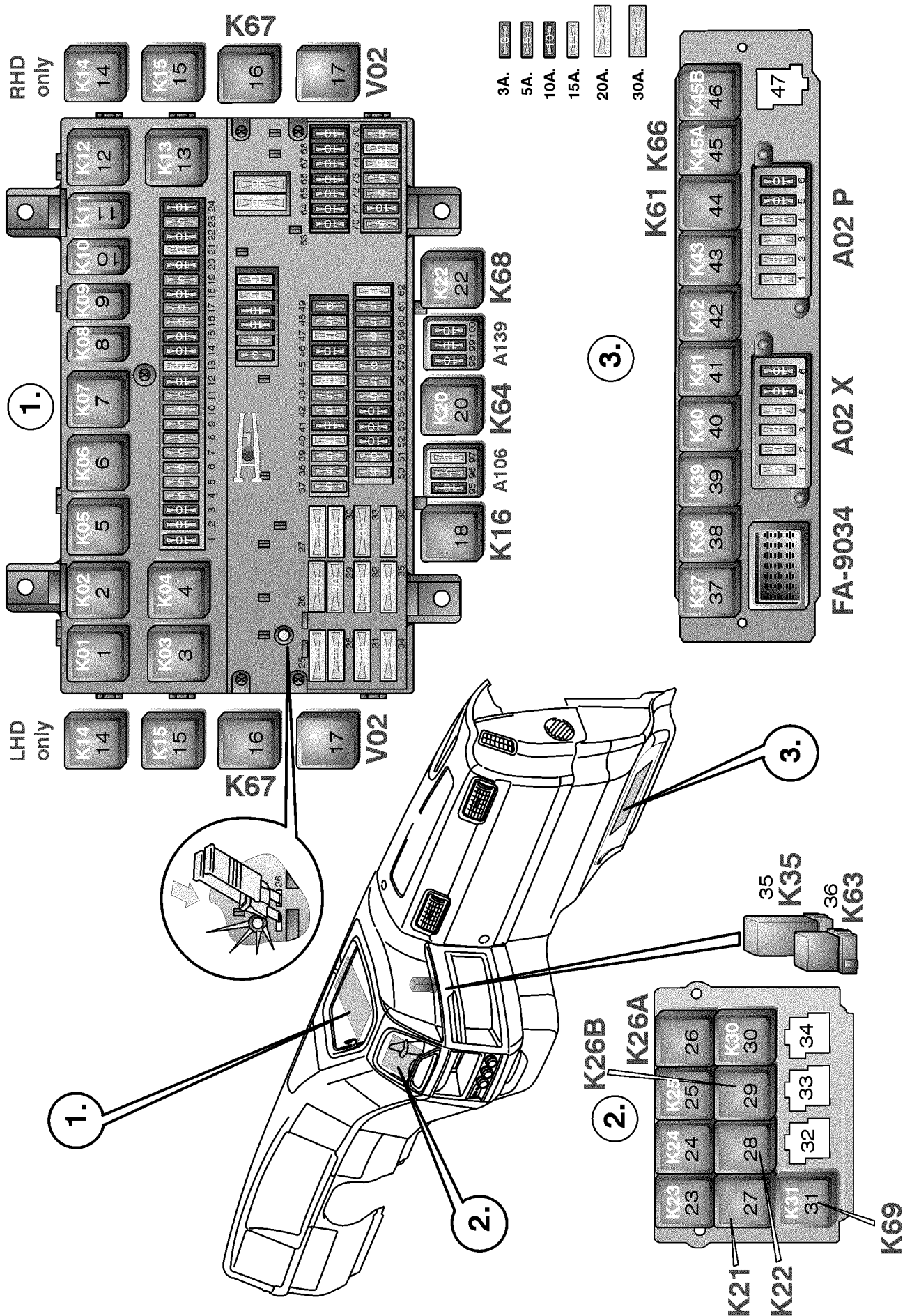
T3056934

## Fuses

F01	TPM (Tyre pressure Monitoring)	(OA:2 A)	F30	El. window winder, rhs	(AC:3 B)
F02	Luggage compartment lamp	(IH4:3 A)	F31	Main fuse for fuses 95–97	(AB:3 A)
F03	Loadlight, 5:th wheel lamp	(KE:0 A)	F32	Climate unit	(HG:0 A)
F04	Adj. seat, cab tilt, load- / 5th wheel lamp, interior light	(AC:3 D)	F33	El. cab tilt	(KA:0 A)
F05	Instrumentation, (kl.30)	(BI:3 A)	F34	High power amplifier	(IV:1 A)
F06	Air dryer	(BA:1 B)	F35	El. adjustable seat	(IA:2 A)
F07	Vehicle ECU, immobiliser	(BA:1 B)	F36	Reverse lamp circuit trailer	(GB:4 D)
F08	Instrumentation, TPM (Tyre Pressure Monitoring), Tachograph	(BI:0 A/ OA:2 A)	F37	Telephone, Dynafleet	(AC:3 C)
F09	Range-, area-inhibitors, Dynafleet	(BA:0 A)	F38	Instep lamps	(AC:3 B)
F10	NOx sensor, Road toll system	(CR:1 A/ CV:1 A)	F39	El. adjustable rear view mirrors	(AC:3 B)
F11	Gear selector ECU	(DC:0 A/ DM:0 B)	F40	Engine ECU	(CJ:1 A)
F12	Transmission ECU/retarder	(DC:0 A/ DM:1 B)	F41	Engine solenoid valves	(CJ:3 A)
F13	Windscreen wiper	(GM:2 A)	F42	Cooling fan clutch, engine preheating relay	(CJ:2 A)
F14	Cigarette lighter, centre section storage lamp	(IQ:2 A)	F43	BBM (body builder module), Man. main switch BBOX-EF	(BA:1 A)
F15	Water separator heater and water in fuel drain	(CJ:0 A)	F44	Voltage converter 1, radio, rear view camera	(IR:0 A)
F16	Differential lock, power take off	(DQ:0 A/ DU:1 A)	F45	Voltage converter 2, 12 Volt outlet	(IR:2 A)
F17	LCM control	(GA:0 A)	F46	Beacon warning light	(KM:0 A)
F18	Horn, solenoid valve for air horn	(GQ:1 A)	F47	ACC	(BE:0 A)
F19	Climate unit, FMS gateway	(HG:0 A)	F48	ABS/EBS	(EE:0 A/ EF:0 A/ EO:0 A)
F20	Parking heater control	(HI:3 A)	F49	Air suspension/A-ride/J-ride	(FB:1 A/ FB RHD:0 A/ FI:0 A/ FK:1 A/ FL:0 A)
F21	Fan, climate unit	(HY:0 A/ HY RHD:0 A)	F50	Telephone	(IX:0 A)
F22	Interior lamps	(IH:1 A/ IH3:3 A)	F51	Hydraulic steered axle	(FO:1 A)
F23	Air suspension	(FB:1 A)	F52	Functions in key position "R", engine preheating	(AC:1 A)
F24	Air dryer, parking heater ADR, el. heated mirrors	(FQ:0 A)	F53	Light sign	(KI:1 A)
F25	Supply ABS/EBS trailer	(CP:4 A/ GG:4 A/ ZA RHD:4 A)	F54	Dynafleet, FMS gateway	(BU:0 A/ BX:0 A)
F26	Body builder fuse box	(ME:3 B/ MF:3 B)	F55	SRS airbag, safety belt tensioner	(IS:0 A)
F27	El. window winder lhs, el. heated mirrors	(AC:3 B)	F56	Free	(ME:1 A)
F28	Supply ABS/EBS truck	(EE:0 A/ EF:0 A/ EO:2 A)	F57	Gear selector ECU/retarder	(DC:1 A/ DM:1 B)
F29	Coffee machine	(ME:1 A)	F58	Alternator control, ADR battery main switch	(AB:2 A/ AE:4 B)
			F59	Rear view camera	(IZ:0 A)
			F60	Hydraulic steered axle	(FO:1 A)
			F61	Foldable rear view mirror arm, Japan, burglar alarm, Volvo link	(IF:0 A)

F62	Fuel heater, thermoline .....	(FX:0 A/ ME:0 A)	F90	12V converter, ABS trailer/info- module (1007C) .....	(CP:3 C)
F63	Alcolock system .....	(IK:0 A)	F91	Tachograph, ADR .....	(AE:0 D/ AF:2 C) (1435)
F64	Road toll system .....	(BZ:0 A)	F93	Main fuse for fuses 95–97 .....	(AB:3 D/ AE:0 D/ AF:0 C) (1435)
F65	Central lubrication system .....	(FU:0 A)	F94	AdBlue system .....	(AB:3 D) (1435)
F66	Roof hatch .....	(IQ:0 A)	F95	Central door lock .....	(AB:3 B)
F67	Reading lamps, bedlamps .....	(IH:0 A/ IH3:3 A)	F96	Burglar alarm .....	(AB:3 B)
F68	Refrigerator .....	(IQ:3 A)	F97	Parking heater .....	(AB:3 B)
F69	12-volt outlet .....	(IR:1 C/ IR:2 C)	F:A39	Fuse in wiring harness (1000) .....	(IZ:1 B)
F70	Supply ABS/EBS trailer, (kl.15) .....	(CP:3 A/ GG:3 A/ ZA RHD:3 A)	FM1	Fuse, main, preheating .....	(AA:1 B)
F71	Extra equipment .....	(ME:1 A)	FM2	Fuse, main, bogie lift/extra equipment .....	(AA:1 B/ AE:1 B/ AF:1 A)
F72	Headlamp level regulation system ....	(GU:0 A/ GU_2:2 A)	FM3	Fuse, main, cab and chassis .....	(AA:1 B)
F73	Tail lift indication .....	(NB:2 A)	FM4	Fuse, main, LCM (Light Control Module) partly .....	(AA:0 B/ AE:1 B/ AF:1 A))
F74	Headlamp high-pressure washer .....	(GM:1 A)			
F75	El. heated seat and el. ventilated seat .....	(IA:0 A)			
F76	ADR, D+ short circuit relay, dashboard fan .....	(AE:4 B)			
F89	Tachograph .....	(AB:4 D) (1435)			

# Relays

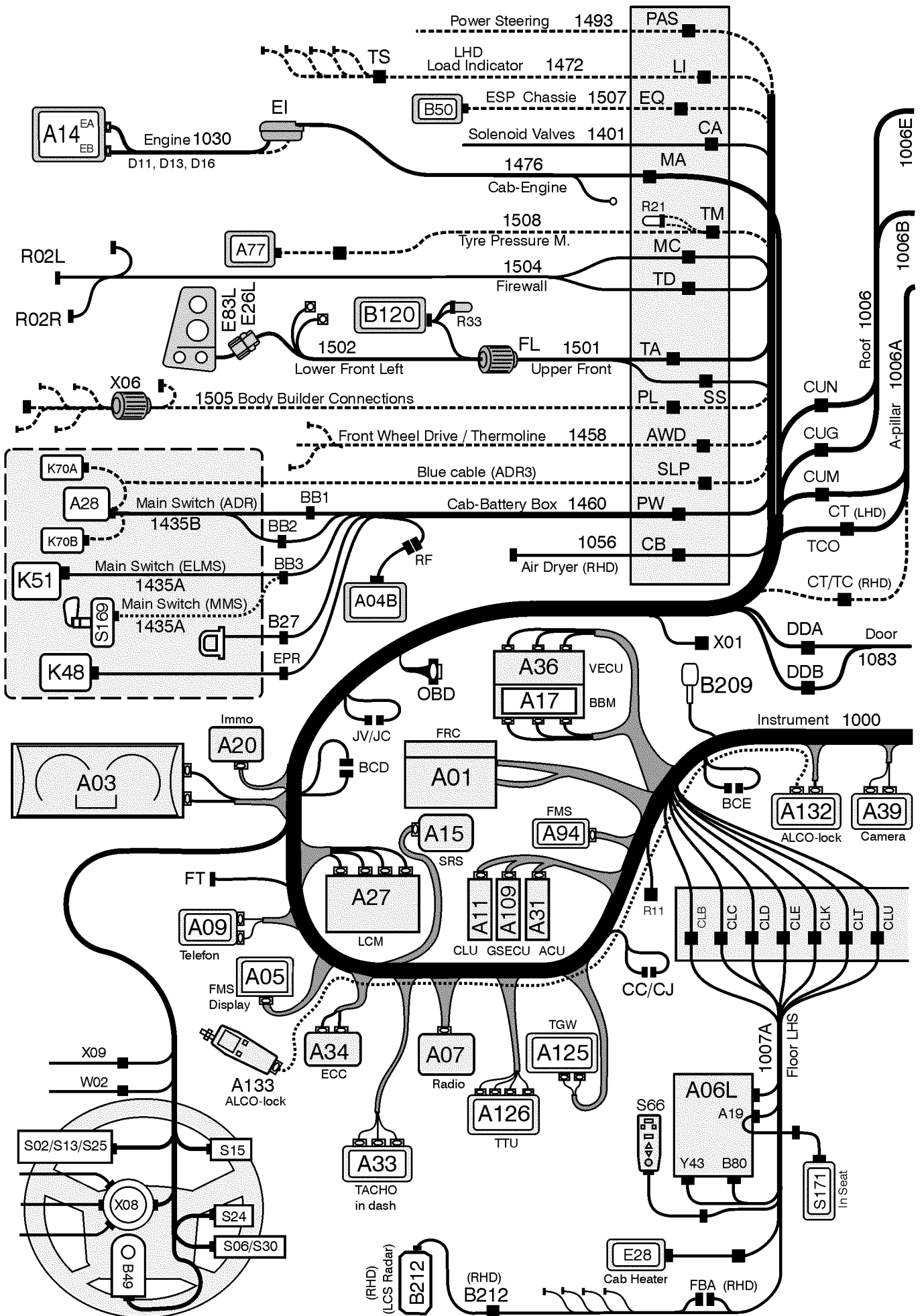


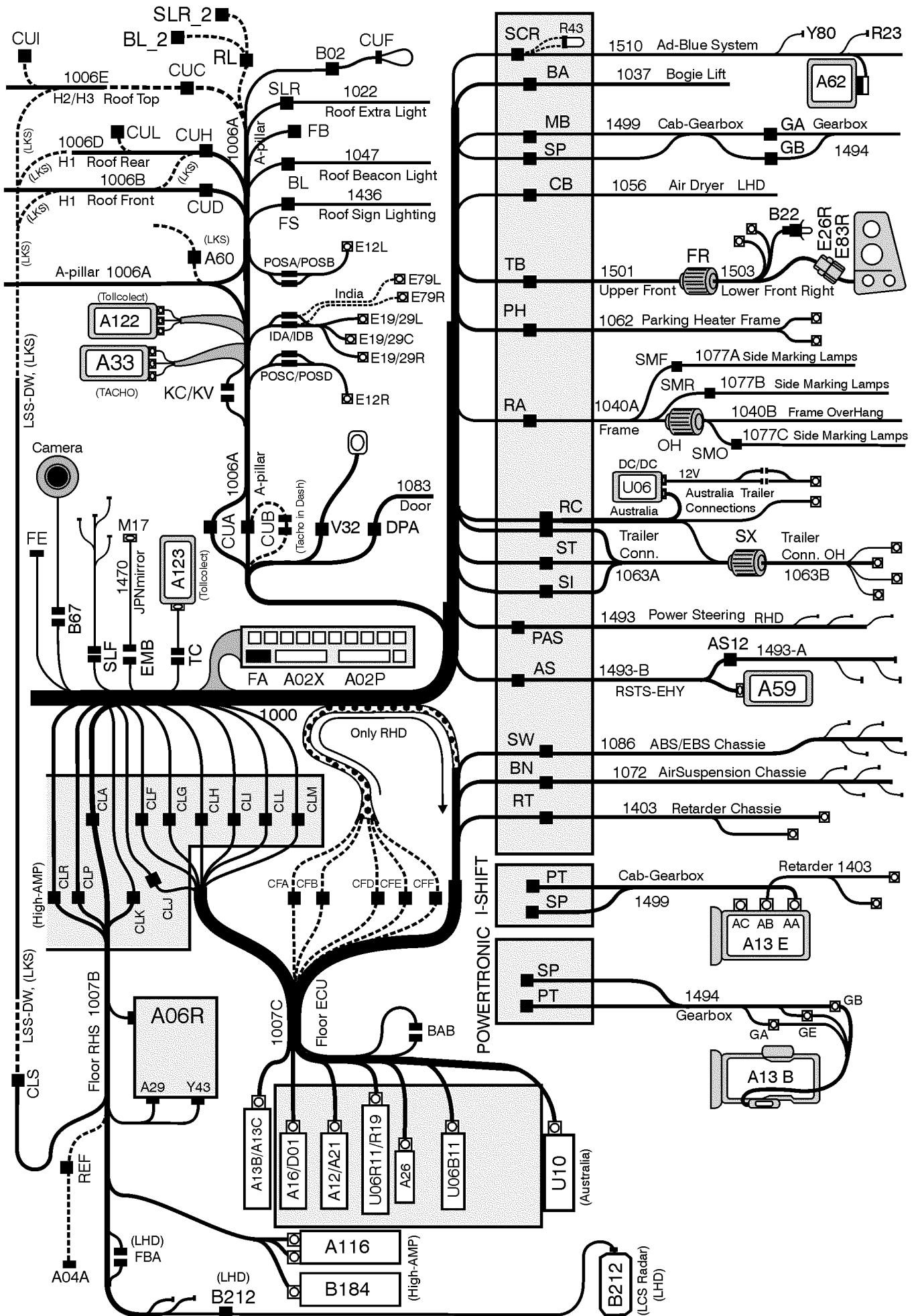
K01	Relay, starting switch, radio position	(AC:3 C)	K30	Relay, beacon warning light .....	(KM:0 B)
K02	Relay, EMS (Engine Management System) .....	(BA:1 A)	K35	Relay, headlamp high pressure wash	(GM:0 B)
K03	Relay, starter motor .....	(AA:2 B/ CJ:4 B)	K37	Relay, parking light .....	(NA:1 C/ NB:0 C)
K04	Relay, body builder fuse box (kl.15) .	(ME:2 A/ MF:1 A)	K38	Relay, body builder preparation, swapbody lamps .....	(NA:1 C/ NA_2:1 C/ NB:1 C)
K05	Relay, I-shift/Powertronic/Retarder ...	(DC:0 A/ DM:0 A)	K39	Relay, body builder preparation, plough light, spotlights .....	(NA:1 C/ NB:1 C)
K06	Relay, fan climate unit .....	(HY:0 B/ HY RHD:0 B)	K40	Relay, body builder preparation .....	(NA:3 C/ NA_2:2 C/ NB:3 C)
K07	Relay, intermittent wiper .....	(GM:1 C)	K41	Relay, body builder preparation, swapbody .....	(NA:2 C/ NB:2 C)
K08	Relay, gearbox area inhibitor .....	(BA:1 A)	K42	Relay, body builder preparation, spotlights .....	(NI:1 B)
K09	Relay, interior lamps .....	(IH:2 A/ IH3:3 A)	K43	Relay, body builder preparation, external start .....	(NC:3 C)
K10	Relay, fifth wheel-, working-light .....	(KE:0 C)	K45A	Relay, body builder preparation, dual speed .....	(NU:2 B)
K11	Relay, air suspension .....	(FB:1 B)	K45B	Relay, body builder preparation, dual speed .....	(NU:2 C)
K12	Relay, reverse light, trailer .....	(GB:4 D)	K48	Power relay, engine preheating .....	(CJ:3 B)
K13	Relay, alternator controlled .....	(AA:4 B)	K49	Power relay, bogie lift motor .....	(FI:3 B/ FK:3 D)
K14	Time delay relay, bogie lift, A-ride .....	(FI:1 B/ FK:1 C)	K51	Power relay, battery main switch .....	(AB:0 C)
K15	Time delay relay, bogie lift, A-ride, with axle load limiter .....	(FK:2 C)	K61	Relay, auxiliary reverse light, truck ...	(NA:0 C/ NA_2:3 B/ NB:0 C)
K16	Relay, bogie lift, A-ride, with axle load limiter .....	(FK:1 C)	K63	Relay, ACC Adaptive cruise control ..	(BE:0 B)
K20	Relay, D+ short-circuit, (ADR-trucks only) .....	(AE:4 D)	K64	Relay, man. main switch BBOX-EF ..	(AB:1 C)
K21	Relay, el. adjustable seat .....	(IA:2 B)	K65	Power relay, starter motor pre-relay .	(AA:1 D/ CO:2 B)
K22	Relay, climate fan, 1:st speed (by parking heater) .....	(HY:1 B/ HY RHD:0 B)	K66	Relay, tail lift indication .....	(NB:2 C)
K23	Relay, cab tilt .....	(KA:0 C)	K67	Relay, rainsensor, high speed wiper .	(GM:3 C)
K24	Relay, central lubrication .....	(FU:0 B)	K68	Relay, 24V, outlet .....	(IR2:1 A)
K25	Relay, light sign .....	(KI:1 C)	K69	Relay, fuel heater, thermoline .....	(FX:0 C)
K26A	Relay, foldable rear view mirror arm, Japan .....	(IF:0 C)	K70A	Relay, ADR/SLP .....	(AF:0 B)
K26B	Relay, foldable rear view mirror arm, Japan .....	(IF:1 C)	K70B	Relay, ADR/SLP .....	(AF:0 D)



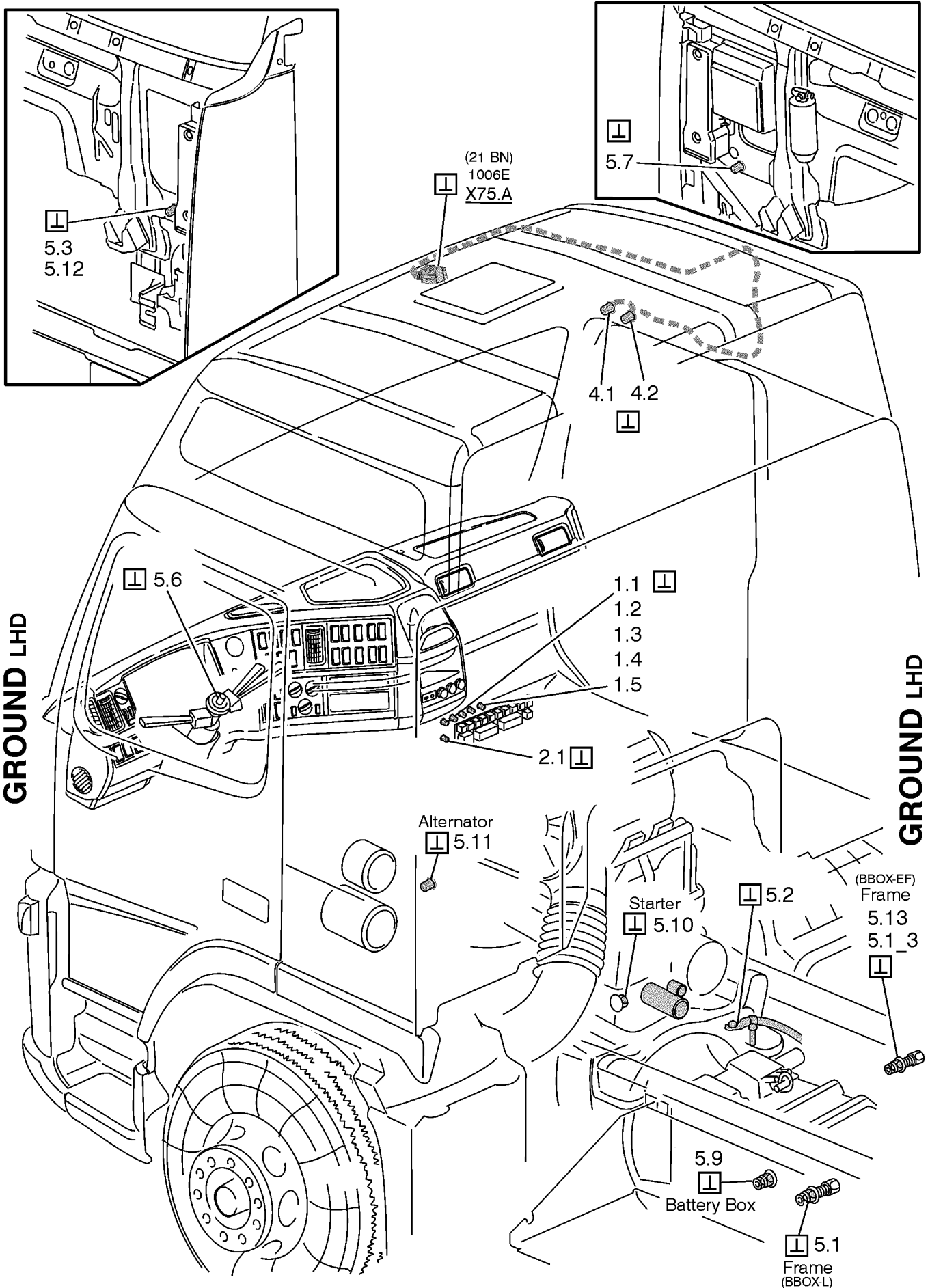
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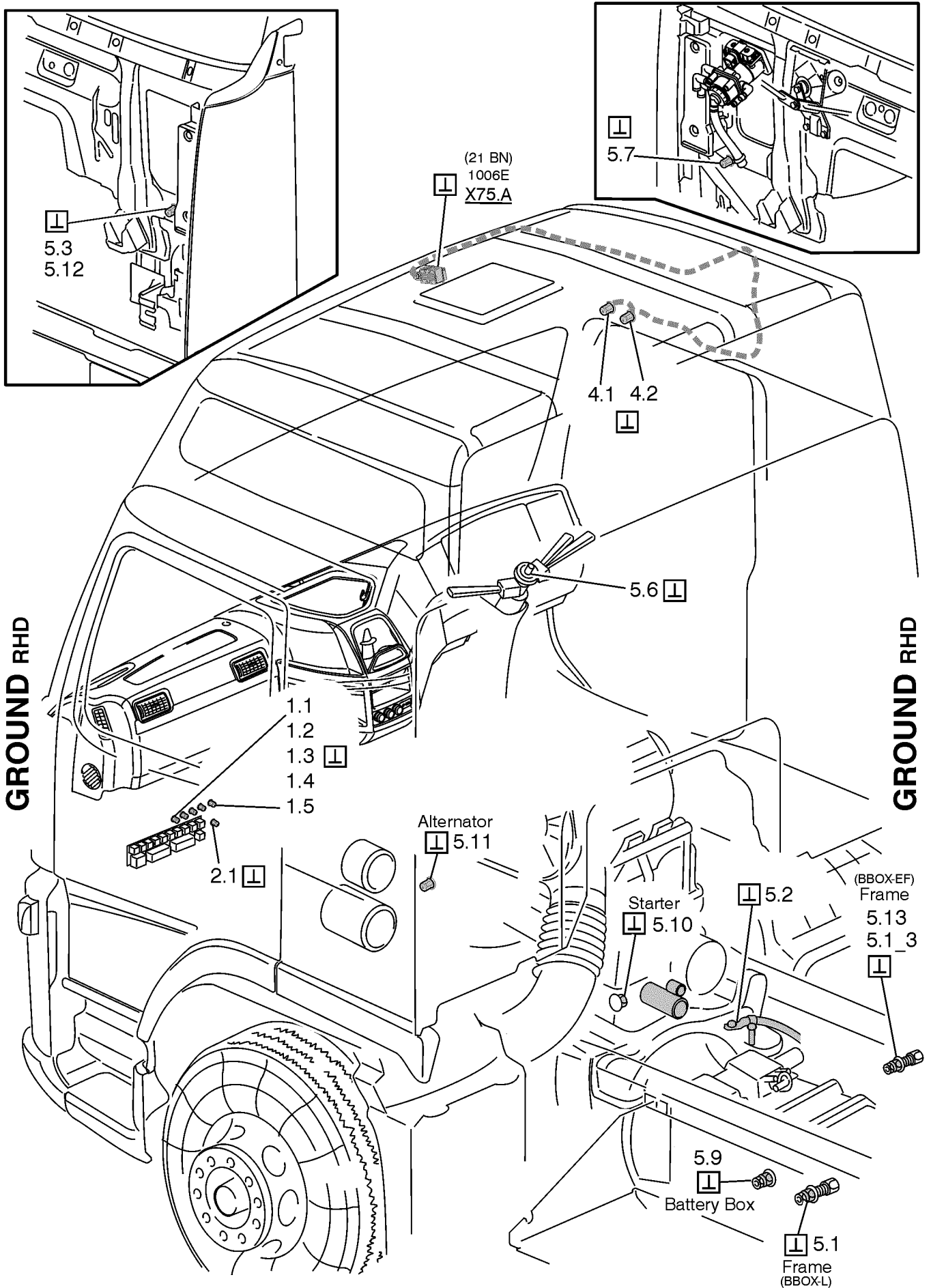




# Ground connections



T3021593



T3021594

## List of ground connections

1.1	(IR:1 E)	2.1_G	(BE:0 C)	5.13	(AA:0 D)
1.1_A	(IR:1 E)	4.1_1	(GA:1 E)	5.13	(AB:1 D)
1.1_A	(IU:0 E)	4.1_1	(GA:4 E)	5.2	(AA:0 E)
1.1_B	(IR:1 E)	4.1_1	(GL2:0 C)	5.2	(AF:1 E)
1.1_C	(IR:2 E)	4.1_2	(KI:2 C)	5.3	(AA:0 E)
1.1_D	(IR2:1 E)	4.1_3	(KI:2 E)	5.3	(AF:0 E)
1.2_A	(BA:1 E)	4.1_4	(GL:1 D)	5.4	(FI:3 D)
1.2_B	(IS:0 E)	4.1_5	(IH:0 E)	5.4	(FK:3 E)
1.2_C	(FX:0 D)	4.1_6	(BZ:0 D)	5.6	(GQ:1 E)
1.3	(AE:4 E)	4.1_7	(BE:0 D)	5.7_1	(GE:1 D)
1.3_A	(BU:0 E)	4.1_8	(IH3:2 E)	5.7_1	(GK:1 D)
1.3_B	(BU:2 E)	4.1_8	(IH4:2 D)	5.7_2	(GH:2 D)
1.4	(AA:3 E)	4.1_9	(YA:4 E)	5.7_2	(GK:1 D)
1.4	(AC:2 D)	4.2_1	(BN:1 D)	5.7_3	(GH:2 D)
1.4	(FL:1 E)	4.2_2	(HI:1 B)	5.7_3	(GK:0 D)
1.4	(ZA RHD:1 C)	4.2_4	(BN:1 D)	5.7_4	(GG:2 C)
1.4_B	(AA:4 E)	4.2_5	(KM:0 D)	5.7_5	(CV:1 C)
1.4_C	(HZ:1 D)	4.2_6	(NI:3 E)	5.7_6	(CV:0 C)
1.4_E	(IV:1 E)	4.2_9	(IR:3 E)	5.7_8	(CR:1 B)
1.5	(FL:1 E)	5.1	(AA:0 E)	5.7_9	(CR:2 C)
1.5_A	(HE:1 D)	5.1	(AB:0 E)	5.9_1	(AA:0 E)
1.5_B	(GA:3 B)	5.1	(AF:1 E)	5.9_1	(AB:0 D)
2.1_A	(CP:4 D)	5.10	(AA:1 E)	5.9_1	(AB:2 D)
2.1_B	(ZA RHD:1 D)	5.11	(AA:2 E)	5.9_1	(AE:0 E)
2.1_C	(NI:0 E)	5.1_1	(NA:4 D)	5.9_3	(AB:2 D)
2.1_E	(NA:2 D)	5.1_1	(NB:4 D)	5.9_4	(AE:0 E)
2.1_E	(NA_2:1 E)	5.1_2	(NA:4 D)	5.9_8	(AB:0 D)
2.1_E	(NA_2:4 C)	5.1_2	(NB:4 D)		
2.1_E	(NB:2 D)	5.12_1	(CJ:0 D)		
2.1_F	(BE:1 C)	5.12_2	(CJ:0 D)		

## List of connectors

ADR:1	(AE:1 C)	BA:2	(FI:2 C)	BB3:1	(AA:0 A)
ADR:1	(AE:2 C)	BA:2	(FK:3 D)	BB3:2	(AB:4 C)
ADR:1	(AF:3 B)	BA:3	(FI:0 C)	BB3:3	(AB:0 B)
ADR:2	(AE:1 C)	BA:3	(FK:0 D)	BB3:3	(AB:2 C)
ADR:2	(AE:2 C)	BA:3	(FL:0 C)	BB3:4	(AB:0 B)
ADR:2	(AF:3 B)	BA:5	(FK:1 D)	BB3:5	(AB:3 C)
ADR:4	(AE:1 C)	BA:6	(FL:0 C)	BB3:6	(AA:0 A)
ADR:4	(AE:2 C)	BA:7	(FI:3 B)	BB3:7	(AB:3 C)
ADR:4	(AF:3 D)	BA:7	(FK:3 C)	BCD:1	(XA:2 B)
ADR:5	(AE:1 C)	BA:8	(FK:1 D)	BCD:2	(XA:3 B)
ADR:5	(AE:2 C)	BA:8	(FL:0 D)	BCD:3	(NX:2 A)
ADR:5	(AF:3 D)	BAB:1	(XA:4 D)	BCD:3	(XB:2 B)
AG:1	(FO:3 C)	BAB:2	(XA:2 D)	BCD:4	(NX:2 A)
AG:2	(FO:3 C)	BAB:3	(XA:3 D)	BCD:4	(XA:2 B)
AG:3	(FO:3 C)	BAB:4	(XA:2 D)	BCD:5	(XA:2 B)
AG:4	(FO:3 C)	BAB:5	(XA:3 D)	BCD:6	(IX:2 D)
AS:1	(FO:1 C)	BAB:6	(XA:2 D)	BCD:7	(XA:3 B)
AS:2	(FO:1 C)	BAB:7	(XB:3 D)	BCD:8	(XA:3 B)
AS:4	(FO:1 B)	BAB:8	(XA:3 C)	BCD:9	(NX:2 A)
AS:5	(FO:1 B)	BAB:9	(XA:2 C)	BCD:9	(XB:3 B)
AS:6	(FO:2 B)	BAB:10	(XB:3 D)	BCD:10	(NX:3 A)
AS:7	(FO:3 B)	BAB:11	(XB:2 D)	BCD:10	(XA:3 B)
AS:8	(FO:3 B)	BAB:12	(XB:2 D)	BCD:11	(XA:4 B)
AS:9	(FO:1 E)	BAB:13	(XB:3 D)	BCD:12	(IX:2 D)
AS12:1	(FO:3 C)	BAB:14	(XB:1 D)	BCD:13	(XA:2 B)
AS12:2	(FO:3 C)	BAB:15	(XB:1 D)	BCD:13	(XB:2 B)
AS12:3	(FO:3 C)	BAB:16	(XB:3 D)	BCD:14	(XA:4 B)
AS12:4	(FO:3 C)	BAB:17	(XB:4 D)	BCD:14	(XB:3 B)
AS12:5	(FO:2 C)	BAB:18	(XB:1 D)	BCD:15	(XA:1 B)
AS12:6	(FO:2 C)	BB1:1	(AE:1 A)	BCD:15	(XB:2 B)
AS12:7	(FO:2 C)	BB1:2	(AE:0 D)	BCD:16	(XA:4 B)
AS12:8	(FO:2 C)	BB1:3	(AE:1 E)	BCD:16	(XB:3 B)
AS12:9	(FO:1 C)	BB1:3	(AF:3 E)	BCE:1	(BM:3 A)
AS12:10	(FO:0 B)	BB1:4	(AE:1 A)	BCE:2	(BM:3 A)
AS12:11	(FO:0 B)	BB1:5	(AE:2 D)	BCE:3	(BM:3 A)
AS12:12	(FO:1 D)	BB1:5	(AF:3 D)	BCE:4	(BM:4 A)
AWD:1	(FX:0 D)	BB1:6	(AE:2 D)	BCE:5	(BM:4 A)
AWD:2	(FX:0 D)	BB1:6	(AF:4 D)	BCE:6	(BM:4 A)
AWD:3	(DU:2 C)	BB1:7	(AE:0 D)	BL:1	(KM:0 C)
AWD:4	(DU:2 C)	BB1:7	(AF:0 D)	BL:3	(KM:0 D)
AWD:5	(DU:4 C)	BB2:1	(AE:0 C)	BL_2:1	(KM:1 D)
AWD:6	(DU:4 C)	BB2:1	(AF:2 B)	BL_2:2	(KM:1 D)
AWD:8	(DU:2 D)	BB2:2	(AE:1 C)	BN:1	(FA:2 A)
AWD:9	(FX:0 D)	BB2:2	(AF:2 B)	BN:2	(FM:1 C)
AWD:10	(FX:0 D)	BB2:3	(AE:1 D)	BN:3	(FA:3 C)
B07_1:1	(BI:2 C)	BB2:3	(AF:3 C)	BN:4	(FA:3 C)
B07_1:2	(BI:2 D)	BB2:4	(AE:1 D)	BN:5	(FA:1 B)
BA:1	(FI:1 C)	BB2:4	(AF:3 C)	BN:6	(FA:1 B)
BA:1	(FK:1 D)	BB2:7	(AB:3 C)	BN:7	(FA:1 B)

BN:9	(FA:0 B)	CA:4	(DQ:0 C)	CJ_3:5	(IX:2 B)
BN:10	(FA:2 C)	CA:5	(GB:3 B)	CFA:1	(EE RHD:0 C)
BN:11	(FA:3 B)	CA:6	(EO:3 B)	CFA:1	(EO RHD:3 C)
BN:12	(FA:2 B)	CA:9	(DU:1 C)	CFA:2	(EE RHD:0 C)
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CA:2	(ZA RHD:1 D)	CJ_3:3	(IZ:1 B)	CFB:13	(FA RHD:2 B)
CA:3	(DU:1 C)	CJ_3:4	(IZ:1 B)	CFB:14	(FA RHD:1 D)



CFB:15	(FA RHD:1 D)	CLA:20	(IA:1 B)	CLE:10	(AF:3 B)
CFB:16	(FG:2 C)	CLA:21	(IA:0 D)	CLE:10	(FB:2 D)
CFB:16	(FA RHD:2 D)	CLA:22	(IH4:3 D)	CLE:11	(AE:1 C)
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CFB:18	(FG:2 C)	CLA:25	(IQ:3 D)	CLE:11	(FB:2 D)
CFB:18	(FA RHD:2 D)	CLB:1	(DC:0 D)	CLE:12	(AE:1 C)
CFB:19	(FA RHD:0 D)	CLB:2	(DC:1 D)	CLE:12	(AF:3 D)
CFB:20	(FA RHD:1 D)	CLB:3	(DC:1 D)	CLE:12	(FB:2 D)
CFB:21	(FA RHD:0 D)	CLB:4	(DC:1 D)	CLE:13	(FB:3 D)
CFB:22	(FA RHD:3 B)	CLB:5	(DC:1 D)	CLE:14	(FB:3 D)
CFB:23	(FA RHD:3 B)	CLB:7	(DC:1 D)	CLE:15	(FB:3 D)
CFD:1	(DM:3 C)	CLB:8	(DC:1 D)	CLE:16	(FB:3 D)
CFD:2	(DM:2 C)	CLB:9	(DC:1 D)	CLE:17	(IS:2 C)
CFD:3	(DM:2 C)	CLB:11	(DC:1 D)	CLE:18	(IS:2 C)
CFD:4	(DM:2 C)	CLB:12	(DC:2 D)	CLE:19	(IA:0 B)
CFD:5	(DM:2 C)	CLC:1	(HI:0 C)	CLE:20	(IA:2 B)
CFD:6	(DM:3 C)	CLC:1	(HI2:0 C)	CLE:21	(IA:1 D)
CFD:7	(DM:3 C)	CLC:2	(HI:0 C)	CLE:22	(IH4:4 D)
CFE:1	(FG:1 C)	CLC:2	(HI2:1 C)	CLE:23	(NK:0 D)
CFE:2	(FG:2 C)	CLC:3	(HI:0 C)	CLF:1	(IR:2 B)
CFE:3	(FG:2 C)	CLC:3	(HI2:1 C)	CLF:2	(IR:1 B)
CFE:4	(FG:2 C)	CLC:4	(HI:1 C)	CLF:3	(IR:2 C)
CFE:5	(FG:2 C)	CLC:4	(HI2:2 C)	CLF:4	(IR:1 C)
CFE:6	(FG:2 C)	CLC:6	(HI2:2 C)	CLF:5	(IR:0 B)
CFF:1	(CP:4 B)	CLC:7	(HI:2 C)	CLF:6	(IR:0 B)
CFF:2	(CP:4 B)	CLC:7	(HI2:3 C)	CLF:7	(IR:0 C)
CFF:3	(CP:3 B)	CLC:7	(ZA RHD:0 B)	CLF:8	(IR:0 C)
CFF:4	(CP:4 C)	CLC:8	(HI:1 C)	CLF:9	(IR:0 C)
CFF:5	(CP:3 C)	CLC:8	(HI2:1 C)	CLF:10	(DM:1 C)
CLA:1	(IA:1 B)	CLC:9	(HI:1 C)	CLF:11	(DM:0 D)
CLA:2	(BI:1 C)	CLC:9	(HI2:2 C)	CLF:12	(DM:0 C)
CLA:3	(IA:1 B)	CLC:10	(HI:2 C)	CLF:13	(XA:3 D)
CLA:6	(BI:1 D)	CLC:10	(HI2:3 C)	CLF:14	(XA:2 D)
CLA:7	(NK:0 D)	CLC:11	(HI:0 C)	CLF:15	(XB:3 D)
CLA:8	(FB RHD:2 D)	CLC:11	(HI2:0 C)	CLF:16	(XB:2 D)
CLA:9	(AE:2 C)	CLC:12	(HI2:2 C)	CLF:17	(FG:1 C)
CLA:9	(FB RHD:2 D)	CLD:1	(IX:0 C)	CLF:18	(XA:2 C)
CLA:10	(AE:2 C)	CLD:2	(IX:0 C)	CLF:19	(XA:2 C)
CLA:10	(FB RHD:2 D)	CLD:3	(IX:1 C)	CLF:20	(XB:1 C)
CLA:11	(AE:2 C)	CLD:4	(IX:1 C)	CLF:21	(XB:1 C)
CLA:11	(FB RHD:2 D)	CLE:1	(FB:3 D)	CLG:1	(EE:0 B)
CLA:12	(AE:2 C)	CLE:2	(BI:1 C)	CLG:1	(EF:0 B)
CLA:12	(FB RHD:2 D)	CLE:3	(IA:3 B)	CLG:1	(EO:0 C)
CLA:13	(FB RHD:2 D)	CLE:4	(IA:3 B)	CLG:2	(EE:0 B)
CLA:14	(FB RHD:3 D)	CLE:6	(BI:1 C)	CLG:2	(EF:0 B)
CLA:15	(FB RHD:3 D)	CLE:8	(IH4:3 B)	CLG:2	(EO:2 B)
CLA:16	(IS:3 C)	CLE:9	(AE:1 C)	CLG:3	(EE:3 B)
CLA:17	(IS:3 C)	CLE:9	(AF:3 B)	CLG:3	(EF:2 B)
CLA:18	(FB RHD:3 D)	CLE:9	(FB:2 D)	CLG:4	(EO:2 C)
CLA:19	(IA:0 B)	CLE:10	(AE:1 C)	CLG:5	(EO:2 C)

CLG:6	(EO:1 C)	CLH_R:5	(FB RHD:2 B)	CLR:2	(IV:1 C)
CLG:7	(EO:1 C)	CLH_R:6	(FB RHD:2 C)	CLR:3	(IV:1 C)
CLG:8	(EO:1 C)	CLH_R:7	(FB RHD:2 C)	CLR:4	(IV:1 C)
CLG:9	(EO:0 C)	CLH_R:8	(FB RHD:2 C)	CLR:5	(IV:1 C)
CLG:10	(EO:0 C)	CLH_R:9	(FB RHD:2 C)	CLR:6	(IV:1 C)
CLG:11	(EO:1 C)	CLH_R:10	(FB RHD:2 C)	CLR:7	(IV:1 C)
CLG:12	(EO:1 C)	CLH_R:11	(FB RHD:2 C)	CLR:8	(IV:2 C)
CLG:13	(EO:0 D)	CLH_R:12	(FB RHD:3 C)	CLR:9	(IV:2 C)
CLG:13	(ZA RHD:3 C)	CLH_R:16	(FB RHD:2 B)	CLR:10	(IV:2 C)
CLG:14	(EO:0 D)	CLH_R:17	(FB RHD:2 B)	CLR:11	(IV:2 C)
CLG:14	(ZA RHD:3 C)	CLH_R:20	(FB RHD:1 B)	CLR:12	(IV:2 C)
CLG:15	(EO:1 D)	CLH_R:21	(FB RHD:3 C)	CLR:13	(IV:1 B)
CLG:16	(EO:3 C)	CLH_R:22	(FB RHD:3 B)	CLR:14	(IV:1 B)
CLG:17	(EO:3 C)	CLI:1	(EO:0 D)	CLR:15	(IV:1 B)
CLG:18	(EO:3 C)	CLI:2	(EO:1 D)	CLR:16	(IV:1 B)
CLG:19	(BE:1 B)	CLI:3	(EO:1 D)	CLR:17	(IV:2 B)
CLG:20	(EE:4 D)	CLI:4	(EO:1 D)	CLR:18	(IV:2 B)
CLG:20	(EF:4 C)	CLI:5	(EO:3 C)	CLR:19	(IV:2 B)
CLG:20	(EO:0 D)	CLI:6	(EO:3 C)	CLR:20	(IV:2 B)
CLG:21	(EF:4 C)	CLI:7	(EO:3 C)	CLR:21	(IV:2 B)
CLH:1	(FB:1 C)	CLI:8	(EO:3 C)	CLS:1	(BE:1 C)
CLH:1	(FK:2 B)	CLI:9	(EO:3 C)	CLS:2	(BE:1 C)
CLH:2	(FB:1 C)	CLI:10	(EO:3 C)	CLS:3	(BE:1 C)
CLH:3	(FB:2 C)	CLI:11	(EO:4 C)	CLS:4	(BE:1 C)
CLH:3	(FK:2 B)	CLI:12	(EO:4 C)	CLS:5	(BE:1 C)
CLH:4	(FG:0 C)	CLJ:1	(BE:3 C)	CLT:1	(IH:3 B)
CLH:4	(FK:2 B)	CLJ:2	(BE:3 C)	CLT:1	(IH3:2 B)
CLH:5	(FB:2 C)	CLJ:3	(BE:3 C)	CLT:2	(IH:3 B)
CLH:5	(FK:2 B)	CLJ:4	(BE:3 C)	CLT:2	(IH3:1 B)
CLH:6	(FB:2 D)	CLJ:5	(BE:4 C)	CLT:3	(IH:3 C)
CLH:6	(FK:2 B)	CLJ:6	(BE:4 C)	CLT:3	(IH3:2 C)
CLH:7	(FB:2 D)	CLK:1	(BE:3 C)	CLT:4	(IH:3 C)
CLH:8	(FB:2 D)	CLK:2	(BE:3 C)	CLT:4	(IH3:2 B)
CLH:9	(FB:2 D)	CLK:3	(BE:3 C)	CLT:5	(IH:3 C)
CLH:10	(FB:3 D)	CLK:4	(BE:3 C)	CLT:6	(HI:3 B)
CLH:11	(FB:3 D)	CLL:1	(NA_2:3 B)	CLT:7	(HI:3 B)
CLH:12	(FB:3 D)	CLL:2	(NA_2:3 D)	CLT:8	(IQ:1 B)
CLH:13	(FM:0 B)	CLM:1	(BE:1 B)	CLT:9	(IQ:1 C)
CLH:14	(FG:0 C)	CLM:2	(BE:3 B)	CLT:10	(IQ:1 C)
CLH:15	(FG:0 C)	CLM:3	(BE:2 B)	CLT:11	(IM:3 B)
CLH:16	(FB:2 C)	CLM:4	(BE:2 C)	CLT:12	(IM:3 B)
CLH:17	(FB:2 C)	CLM:5	(BE:2 C)	CLT:13	(IU:1 D)
CLH:18	(FG:1 C)	CLM:6	(BE:3 C)	CLT:13	(IV:1 D)
CLH:19	(FG:1 C)	CLM:7	(BE:3 C)	CLT:14	(IU:2 D)
CLH:20	(FB:1 C)	CLM:8	(BE:1 C)	CLT:14	(IV:1 D)
CLH:21	(FB:3 D)	CLM:9	(FA RHD:3 D)	CLT:15	(IU:2 D)
CLH:22	(FB:3 C)	CLM:9	(FB:3 D)	CLT:15	(IV:2 D)
CLH_R:1	(FB RHD:0 B)	CLP:1	(IV:1 C)	CLT:16	(IU:2 D)
CLH_R:2	(FB RHD:1 B)	CLP:2	(IV:1 B)	CLT:16	(IV:2 D)
CLH_R:3	(FB RHD:2 B)	CLR:1	(IV:1 C)	CLT:17	(HI:2 B)

CLT:18	(HI:2 B)	CUA:20	(HI:1 B)	CUC:11	(BE:1 D)
CLT:19	(HI:2 B)	CUA:21	(GB:0 B)	CUC:18	(IH:0 D)
CLT:20	(HI:2 B)	CUB:1	(BN:1 B)	CUC:19	(GA:1 C)
CLT:20	(ZA RHD:0 B)	CUB:2	(BN:3 D)	CUC:20	(GA:4 D)
CLT:21	(HI:4 B)	CUB:3	(BN:1 B)	CUC:21	(GA:4 C)
CLU:1	(IR2:1 C)	CUB:4	(BN:3 B)	CUD:1	(IH:1 C)
CLU:3	(IR2:1 D)	CUB:5	(BN:3 B)	CUD:2	(IH:1 C)
CLV/CLW:1	(NA_2:4 C)	CUB:6	(BN:3 D)	CUD:3	(IH:1 D)
CLV:1	(NA_2:3 C)	CUB:7	(BN:2 D)	CUF:1	(HI:1 B)
CLW:1	(NA_2:3 C)	CUB:8	(BN:2 D)	CUF:2	(HI:1 B)
CLX:1	(NA_2:3 D)	CUB:9	(BN:2 D)	CUG:1	(NK:2 C)
CLX/CLY:1	(NA_2:4 C)	CUB:10	(BN:2 D)	CUG:2	(NK:2 C)
CLY:1	(NA_2:3 D)	CUB:11	(BN:3 D)	CUG:4	(NK:2 C)
CT:1	(BZ:1 D)	CUB:12	(KI:1 B)	CUG:5	(NK:3 C)
CT:2	(BZ:1 D)	CUB:13	(IR:3 C)	CUH:2	(BE:0 D)
CT:3	(BZ:1 D)	CUB:16	(GC:3 A)	CUH:3	(BE:0 D)
CT:4	(BZ:1 D)	CUB:17	(GC:3 B)	CUH:4	(BE:0 D)
CT:5	(BZ:1 C)	CUB2/CUB:12	(KI:1 B)	CUH:5	(IH:0 C)
CT:6	(BZ:1 C)	CUB2/CUB:13	(IR:3 C)	CUH:6	(IH:0 D)
CT:7	(BZ:1 C)	CUB2/CUB:16	(GC:3 A)	CUI:1	(IH4:0 B)
CT/TC:1	(BZ RHD:2 C)	CUB2/CUB:17	(GC:4 B)	CUI:3	(IH4:0 C)
CT/TC:2	(BZ RHD:2 C)	CUB/TACH:1	(BM:1 A)	CUJ:1	(IU:3 B)
CT/TC:3	(BZ RHD:1 C)	CUB/TACH:2	(BM:3 C)	CUJ:2	(IU:3 B)
CT/TC:4	(BZ RHD:1 C)	CUB/TACH:3	(BM:1 A)	CUL:1	(GL2:0 C)
CT/TC:5	(BZ RHD:1 C)	CUB/TACH:4	(BM:2 B)	CUL:2	(GL2:0 C)
CT/TC:6	(BZ RHD:1 C)	CUB/TACH:5	(BM:3 B)	CUL:3	(GL2:1 C)
CT/TC:7	(BZ RHD:1 C)	CUB/TACH:6	(BM:3 C)	CUL:4	(GL2:1 C)
CUA:1	(GA:1 C)	CUB/TACH:7	(BM:2 C)	CUL:5	(GL2:1 C)
CUA:1	(GL2:1 A)	CUB/TACH:8	(BM:2 C)	CUL_B:1	(GL2:2 A)
CUA:2	(GA:4 C)	CUB/TACH:9	(BM:2 C)	CUL_B:2	(GL2:2 A)
CUA:2	(GL2:0 A)	CUB/TACH:10	(BM:2 C)	CUL_B:3	(GL2:3 A)
CUA:3	(IH:1 B)	CUB/TACH:11	(BM:3 C)	CUL_B:4	(GL2:3 A)
CUA:3	(IH3:3 B)	CUB/TACH:12	(KI:1 C)	CUL_B:5	(GL2:3 A)
CUA:4	(IH:0 B)	CUB/TACH:13	(IR:3 C)	CUL_C:1	(GL2:2 C)
CUA:4	(IH3:3 B)	CUB/TACH:14	(BM:2 B)	CUL_C:2	(GL2:3 C)
CUA:6	(IH3:2 C)	CUB/TACH:15	(BM:2 B)	CUL_C:3	(GL2:3 C)
CUA:7	(BN:3 C)	CUB/TACH:16	(GC:3 B)	CUL_C:4	(GL2:3 C)
CUA:7	(IQ:0 B)	CUB/TACH:17	(GC:4 B)	CUL_C:5	(GL2:3 C)
CUA:8	(KM:0 C)	CUC:3	(IH:2 C)	CUM:1	(BN:1 B)
CUA:9	(NI:1 B)	CUC:3	(IH3:2 D)	CUM:2	(BN:1 D)
CUA:10	(NI:1 B)	CUC:3	(IH4:1 B)	CUM:3	(BN:1 B)
CUA:11	(KI:1 C)	CUC:4	(IH:0 C)	CUN:1	(IU:2 B)
CUA:12	(IH3:2 B)	CUC:4	(IH3:2 D)	CUN:2	(IU:2 B)
CUA:13	(IQ:1 C)	CUC:4	(IH4:2 B)	CUN:4	(IU:2 B)
CUA:14	(IQ:1 C)	CUC:5	(IR:3 D)	CUN:5	(IU:2 B)
CUA:15	(IH3:2 A)	CUC:6	(IQ:1 C)	DDA:1	(IM:1 C)
CUA:16	(IH3:3 B)	CUC:7	(IQ:0 C)	DDA:2	(IE:0 B)
CUA:17	(HI:1 B)	CUC:8	(IQ:0 C)	DDA:3	(IE:1 B)
CUA:18	(HI:1 B)	CUC:9	(BE:1 D)	DDA:3	(ZA RHD:1 B)
CUA:19	(HI:1 B)	CUC:10	(BE:1 D)	DDA:4	(IE:2 B)

DDA:5	(IH:2 C)	E03_L+:1	(NI:2 D)	EI:4	(CO:0 A)
DDA:5	(IH3:0 D)	E03_R-:1	(NI:2 D)	EI:5	(CJ:1 D)
DDA:6	(IE:3 B)	E03_R+:1	(NI:2 D)	EI:5	(CO:0 A)
DDA:7	(IM:1 C)	E12:1	(GA:1 C)	EI:6	(CJ:2 D)
DDA:8	(IM:1 C)	E12:2	(GA:4 D)	EI:6	(CO:0 A)
DDA:9	(IM:1 C)	E12:3	(GA:4 C)	EI:7	(CJ:3 D)
DDA:10	(IU:0 D)	E26L/R:1	(GA4:0 D)	EI:7	(CO:1 A)
DDA:10	(IU RHD:1 D)	E26L/R:1	(GA4:3 D)	EI:8	(CJ:1 D)
DDA:10	(IV:1 D)	E26L/R:3	(GU_2:3 D)	EI:8	(CO:0 A)
DDA:11	(IU:1 D)	E26L/R:4	(GA4:2 C)	EI:9	(AA:3 D)
DDA:11	(IU RHD:1 D)	E26L/R:4	(GA4:0 C)	EI:10	(AA:3 D)
DDA:11	(IV:1 D)	E26L/R:6	(GA4:0 D)	EI:13	(CJ:1 D)
DDA:12	(IH:2 C)	E26L/R:6	(GA4:2 D)	EI:13	(CO:0 A)
DDA:12	(IH3:0 D)	E26L/R:7	(GA4:0 C)	EI:15	(CJ:0 D)
DDA:13	(IE:0 C)	E26L/R:7	(GA4:3 C)	EI:15	(CO:0 A)
DDA:14	(IE:1 C)	E26L/R:8	(GA4:1 C)	EI:18	(CO:1 A)
DDA:15	(IE:1 C)	E26L/R:8	(GA4:3 C)	EI:21	(CJ:3 D)
DDB:1	(IE:1 C)	E26L/R:9	(GU_2:2 D)	EI:21	(CO:3 A)
DDB:2	(IE:2 C)	E26L/R:9	(GU_2:3 D)	EI:22	(CO:4 A)
DDB:3	(IE:2 C)	E26L/R:10	(GA4:0 C)	EI:23	(HG:0 D)
DDB:4	(IE:0 C)	E26L/R:10	(GA4:3 C)	EI:23	(HY:2 D)
DDB:5	(IE:0 B)	E26L/R:11	(GU_2:2 D)	EI:25	(CO:1 A)
DDB:6	(IE:0 B)	E26L/R:11	(GU_2:3 D)	EI:26	(CO:4 D)
DDB:7	(IE:1 B)	E27:1	(GF:3 C)	EI:27	(CJ:0 D)
DDB:9	(IE:2 B)	E27:2	(GF:3 C)	EI:27	(CO:4 D)
DPA:1	(IM:2 C)	E27:3	(GF:3 C)	EI:31	(CJ:0 D)
DPA:3	(IE:3 B)	E27:4	(GF:3 C)	EI:31	(CO:4 A)
DPA:3	(ZA RHD:0 D)	E27:5	(GF:3 C)	EI:33	(CJ:2 D)
DPA:4	(IE:3 B)	E27:6	(GF:3 C)	EI:33	(CO:0 A)
DPA:5	(IH:2 C)	E27:7	(GF:3 C)	EI:35	(AA:2 D)
DPA:5	(IH3:0 D)	E27_1:1	(GF:0 C)	EI:35	(CJ:3 D)
DPA:6	(IE:3 B)	E27_1:2	(GF:0 C)	EI:35	(CO:2 A)
DPA:7	(IM:2 C)	E27_1:3	(GF:1 C)	EI:37	(CJ:0 D)
DPA:8	(IM:2 C)	E27_1:4	(GF:1 C)	EI:37	(CO:3 A)
DPA:9	(IM:2 C)	E27_1:5	(GF:1 C)	EI:39	(CJ:0 D)
DPA:10	(IU:1 D)	E27_1:6	(GF:1 C)	EI:39	(CO:4 A)
DPA:10	(IU RHD:0 D)	E27_1:7	(GF:0 C)	EMB:1	(IF:0 D)
DPA:10	(IV:1 D)	E88L_A:1	(IH:0 C)	EMB:2	(IF:0 D)
DPA:11	(IU:1 D)	E88L_A:1	(IH4:1 C)	EPR:1	(CJ:2 B)
DPA:11	(IU RHD:1 D)	E88L_B:1	(IH:0 D)	EPR:3	(CJ:3 B)
DPA:11	(IV:1 D)	E88L_B:1	(IH4:1 C)	EPR:4	(CJ:2 C)
DPA:12	(IH:2 C)	E96:1	(KE:1 D)	EQ_A:1	(EO:4 B)
DPA:12	(IH3:0 D)	E96:4	(KE:0 D)	EQ_A:2	(EO:4 B)
DS_L:1	(NU:2 C)	EI:1	(CJ:2 D)	EQ_A:3	(EO:4 B)
DS_L:2	(NU:2 D)	EI:1	(CO:0 A)	EQ_A:4	(EO:4 C)
DS_R:1	(GQ:0 B)	EI:2	(CJ:1 D)	EXT:1	(HZ:1 B)
DS_R:1	(NU:2 C)	EI:2	(CO:0 A)	EXT:2	(HZ:1 B)
DS_R:2	(GQ:0 C)	EI:3	(CJ:2 D)	FA:1	(BI:3 B)
DS_R:2	(NU:2 D)	EI:3	(CO:0 A)	FA:2	(FB:2 B)
E03_L-:1	(NI:2 D)	EI:4	(CJ:2 D)	FA:2	(FB RHD:2 B)

FA:3	(FB:2 B)	FE:3	(NC:1 B)	FL:26	(GA4:1 C)
FA:3	(FB RHD:2 B)	FE:3	(NU:0 A)	FL:29	(KA:0 C)
FA:4	(NU:4 B)	FE_B:1	(IF:1 A)	FMS:1	(BX:0 D)
FA:5	(GA:0 C)	FE_B:2	(IF:1 A)	FMS:1	(BX:1 D)
FA:5	(NI:1 A)	FE_B:3	(IF:1 A)	FMS:2	(BX:1 D)
FA:6	(BA:0 C)	FE_BR:1	(IF:2 A)	FMS:6	(BX:0 D)
FA:7	(BI:1 C)	FE_BR:2	(IF:2 A)	FMS:9	(BX:0 D)
FA:8	(GA:4 C)	FE_BR:3	(IF:1 A)	FMS:10	(BX:0 D)
FA:8	(NA:0 A)	FE_C:1	(NX:0 B)	FMS:12	(BX:0 D)
FA:8	(NB:0 A)	FE_C:2	(NX:0 B)	FN:1	(GA4:1 C)
FA:9	(GB:3 D)	FE_C:3	(NX:0 B)	FN:1	(GA4:3 C)
FA:9	(NA:0 A)	FE2_C:1	(NX:0 B)	FN:3	(GA4:1 D)
FA:9	(NB:0 A)	FE2_C:2	(NX:0 B)	FN:3	(GA4:3 D)
FA:10	(GC:1 B)	FE2_C:3	(NX:0 B)	FR:1	(GA:3 D/GA4:3 D)
FA:10	(GC RHD:1 B)	FE2:1	(NC:1 B)	FR:2	(GA:3 C)
FA:10	(NA:0 A)	FE2:1	(NU:0 A)	FR:2	(GA4:3 C)
FA:10	(NA_2:1 D)	FE2:2	(NC:0 B)	FR:3	(GA:3 C)
FA:10	(NB:0 A)	FE2:2	(NU:0 A)	FR:3	(GA4:3 C)
FA:10	(NU:2 B)	FE2:3	(NC:1 B)	FR:4	(NK:3 D)
FA:11	(GB:0 A)	FE2:3	(NU:0 A)	FR:5	(NK:4 D)
FA:11	(NA:3 A)	FL:1	(GA:2 D/GA4:0 D)	FR:6	(GA:3 C)
FA:11	(NA_2:0 A)	FL:2	(GA:2 C)	FR:7	(GA:3 C)
FA:11	(NB:3 A)	FL:2	(GA4:0 C)	FR:7	(GA4:2 C)
FA:12	(BA:1 D)	FL:3	(GA:2 C)	FR:8	(GA:3 C)
FA:12	(CP:1 A)	FL:3	(GA4:0 C)	FR:8	(GA4:3 C)
FA:12	(NU:4 B)	FL:4	(NK:3 D)	FR:9	(GA:3 C)
FA:13	(GQ:2 C)	FL:5	(NK:3 D)	FR:9	(GA4:3 C)
FA:14	(AA:2 A)	FL:6	(GA:2 C)	FR:10	(GM:0 C)
FA:15	(KM:0 B)	FL:7	(GA:2 C)	FR:11	(GM:0 C)
FA:16	(GG:1 A)	FL:7	(GA4:0 C)	FR:13	(GU:1 D)
FA:17	(GG:1 A)	FL:8	(GA:1 C)	FR:13	(GU_2:3 C)
FA:18	(GG:1 A)	FL:8	(GA4:1 C)	FR:14	(GU:1 D)
FA:19	(GG:1 A)	FL:9	(GA:2 C)	FR:14	(GU_2:3 C)
FA:20	(GG:0 A)	FL:9	(GA4:1 C)	FR:15	(GU:1 D)
FA:21	(GG:0 A)	FL:10	(GQ:1 C)	FR:15	(GU_2:3 C)
FB:1	(IZ:2 A)	FL:11	(GQ:1 B)	FR:16	(GM:1 C)
FB:1	(KI:2 A)	FL:12	(GQ:1 B)	FR:17	(BI:2 C)
FB:3	(IZ:2 A)	FL:13	(GU:0 D)	FR:18	(BI:2 D)
FB:3	(KI:2 B)	FL:13	(GU_2:3 C)	FR:25	(GA:3 D/GA4:3 D)
FB_B:1	(KI:2 A)	FL:14	(GU:0 D)	FR:26	(GA:3 C)
FB_B:3	(KI:2 B)	FL:14	(GU_2:2 C)	FR:26	(GA4:4 C)
FBA:1	(BE:3 D)	FL:15	(GU:0 D)	FR:29	(KA:0 C)
FBA:3	(BE:3 D)	FL:15	(GU_2:2 C)	FS:1	(KI:1 C)
FE:1	(ME:1 B)	FL:16	(GQ:1 C)	FS:2	(KI:1 D)
FE:1	(NC:0 B)	FL:20	(BE:3 D)	FS:3	(KI:2 D)
FE:1	(NU:0 A)	FL:21	(BE:2 D)	FS_2:1	(KI:0 C)
FE:2	(ME:1 B)	FL:22	(BE:3 D)	FS_2:2	(KI:0 D)
FE:2	(NC:0 B)	FL:23	(BE:3 D)	FT:1	(IR:0 D)
FE:2	(NU:0 A)	FL:25	(GA:2 D/GA4:1 D)	FT:2	(IR:1 D)
FE:3	(ME:1 B)	FL:26	(GA:1 C)	FT:3	(IR:1 D)

GA:1	(GB:3 D)	JV/JC:13	(IM:3 C)	MA:8	(CJ:2 C)
GA:2	(BI:1 D)	JV/JC:14	(DQ:1 C)	MA:9	(AA:3 C)
GA:2	(DI:1 B)	JV/JC:15	(HE:0 B)	MA:10	(XC:0 C)
GA:3	(BI:1 C)	JV/JC:16	(IM:2 A)	MA:11	(XC:0 C)
GA:3	(DI:1 B)	JV/JC:17	(IR2:2 C)	MA:13	(AA:3 C)
GA:4	(BA:1 B)	JV/JC:18	(IR2:2 C)	MA:15	(CJ:1 C)
GA:4	(DI:1 B)	JV/JC:19	(HI:3 C)	MA:20	(AA:2 C)
GA:5	(BA:0 B)	JV/JC:19	(ZA RHD:0 C)	MA:20	(CJ:3 C)
GA:5	(DI:1 B)	JV/JC:20	(AC:3 D)	MA:22	(CJ:3 C)
GA:6	(BA:0 C)	JV/JC:21	(HP:0 D)	MA:23	(CJ:0 C)
GA:6	(DI:1 B)	JV/JC:21	(HY RHD:1 B)	MA:24	(CJ:0 C)
GA:7	(BA:0 C)	JV/JC:22	(FU:0 D)	MA:25	(CJ:1 C)
GA:7	(DI:1 B)	JV/JC:23	(GC RHD:3 C)	MB:1	(BI:2 D)
GB:1	(BI:2 C)	JV/JC:23	(KM:1 C)	MB:2	(BA:0 C)
GB:1	(DI:0 B)	JV/JC:24	(IR2:2 C)	MB:4	(BA:1 B)
GB:2	(BI:2 D)	JV/JC:25	(IR2:2 C)	MB:5	(BI:2 C)
GB:2	(DI:0 B)	KV/KC:1	(GB:0 B)	MB:8	(BI:1 D)
GB:3	(BM:2 D)	KV/KC:2	(GB:0 A)	MB:9	(BA:0 B)
GB:4	(BM:2 D)	KV/KC:2	(GB:0 B)	MB:14	(BI:1 C)
GB:5	(BM:2 D)	KV/KC:3	(GB:0 B)	MB:15	(GB:3 D)
GB:6	(BM:2 D)	KV/KC:4	(GB:0 A)	MB:16	(BA:0 C)
GB:7	(DI:3 B)	LDS:1	(BA:2 D)	MC:1	(EO:0 D)
GD:2	(HZ:1 C)	LDS:2	(BA:2 D)	MC:2	(EO:1 D)
GE:1	(DI:2 B)	LDS:4	(BA:2 D)	MC:3	(EO:1 D)
GE:2	(DI:2 B)	LDS1:1	(BA:2 D)	MC:4	(EO:1 D)
GE:3	(DI:1 B)	LDS1:2	(BA:2 D)	MC:5	(EO:1 D)
GE:4	(DI:1 B)	LDS1:4	(BA:2 D)	MC:6	(GQ:0 B)
GE:5	(DI:2 B)	LI:1	(FG:0 B)	MC:6	(NU:2 C)
GE:6	(DI:2 B)	LI:2	(FG:0 B)	MC:7	(GQ:0 C)
IDA:1	(GL:1 B)	LI:3	(FG:0 B)	MC:7	(NU:2 D)
IDA_B:1	(GL:2 B)	LI:4	(FG:1 B)	MC:8	(NK:1 C)
IDA_C:1	(GL:2 C)	LI:5	(FG:1 B)	MC:9	(NK:1 D)
IDA_D:1	(GL:3 B)	LI:6	(FG:1 B)	MOT:1	(HZ:2 C)
IDB:1	(GL:1 D)	LS:1	(GL2:0 C)	MOT:2	(HZ:2 C)
IDB_B:1	(GL:2 D)	LS:1	(GL2:2 C)	MOT:3	(HZ:1 C)
IDB_C:1	(GL:2 D)	LS:2	(GL2:0 C)	MOT:4	(HZ:2 C)
IDB_D:1	(GL:3 B)	LS:2	(GL2:3 C)	NS:1	(MF:3 D)
JV/JC:1	(DC:2 C)	LS:3	(GL2:1 C)	NS:2	(NU:1 C)
JV/JC:2	(KA:1 D)	LS:3	(GL2:3 C)	NS:3	(NX:2 C)
JV/JC:3	(DQ:1 B)	LS:4	(GL2:1 C)	NS:4	(MF:3 D)
JV/JC:4	(AE:3 B)	LS:4	(GL2:3 C)	NS:5	(MF:3 D)
JV/JC:5	(AE:3 B)	LS:5	(GL2:1 C)	NS:5	(NU:3 B)
JV/JC:6	(AE:3 B)	LS:5	(GL2:3 C)	NS:6	(NU:3 B)
JV/JC:7	(AC:1 D)	MA:1	(HG:0 C)	NS:6	(NX:2 A)
JV/JC:7	(AE:4 D)	MA:1	(HY:1 D)	NS:7	(NX:3 C)
JV/JC:8	(BI:3 D)	MA:3	(CJ:2 C)	NS:8	(NU:4 B)
JV/JC:9	(AA:2 B)	MA:4	(CJ:2 C)	NS:8	(NX:4 C)
JV/JC:10	(IX:2 B)	MA:5	(CJ:1 C)	NS:9	(NU:1 B)
JV/JC:11	(BA:3 C)	MA:6	(CJ:1 C)	NS:10	(NU:0 B)
JV/JC:12	(BA:3 D)	MA:7	(CJ:2 C)	NS:10	(NX:0 D)

NS:11	(NX:2 C)	PH_3:3	(HP:0 D)	PL:11	(NB:0 C)
NS:12	(NX:1 A)	PH_4:1	(HP:0 B)	PL:12	(NA:1 C)
NS:13	(NX:1 C)	PH_4:2	(HP:0 C)	PL:12	(NB:0 C)
NS:14	(NX:1 C)	PH_4:3	(HP:0 D)	PL:13	(NC:2 C)
NS:15	(NU:1 B)	PHA:1	(HI:0 D)	PL:13	(NU:1 C)
NS:15	(NX:2 A)	PHA:1	(HI2:0 C)	PL:14	(NC:2 C)
NS:16	(NX:3 A)	PHA:3	(HI:0 D)	PL:14	(NU:1 C)
NS:17	(NU:1 B)	PHA:3	(HI2:1 C)	PL:15	(NC:2 C)
NS:17	(NX:3 A)	PHA:4	(HI:1 D)	PL:15	(NU:2 C)
NS:18	(NU:3 B)	PHA:4	(HI2:2 C)	PL:16	(NC:2 C)
NS:18	(NX:4 C)	PHA:5	(HI:0 D)	PL:16	(NU:2 C)
NS:19	(NU:4 B)	PHA:5	(HI2:1 C)	PL:17	(NC:2 C)
NS:19	(NX:3 A)	PHA:6	(HI:0 D)	PL:17	(NU:2 C)
NS:20	(NU:3 B)	PHA:6	(HI2:1 C)	PL:18	(NA:2 C)
NS:20	(NX:2 C)	PHA:7	(HI:1 D)	PL:18	(NB:3 C)
NS:21	(MF:3 D)	PHA:7	(HI2:2 C)	PL:19	(NC:3 C)
OBD:4	(XC:0 B)	PHA:8	(HI:1 D)	PL:19	(NU:3 C)
OBD:5	(XC:0 B)	PHA:8	(HI2:1 C)	PL:20	(NC:3 C)
OBD:6	(XC:1 B)	PHA:9	(HI:0 D)	PL:20	(NU:3 C)
OBD:14	(XC:1 B)	PHA:9	(HI2:0 C)	PL:21	(NC:3 C)
OBD:16	(XC:0 B)	PHA:10	(HI:2 D)	PL:21	(NU:3 C)
OH:1	(GE:1 B)	PHA:10	(HI2:3 C)	POS_A:1	(GL:3 B)
OH:2	(GE:2 B)	PHA:11	(HI2:2 C)	POS_B:1	(GL:3 B)
OH:3	(GE:1 B)	PHA:12	(HI:2 D)	POS_C:1	(GL:4 B)
OH:4	(GE:2 B)	PHA:12	(HI2:2 C)	POS_D:1	(GL:4 B)
OH:9	(GE:1 B)	PHA:15	(HI2:3 C)	PT:1	(DI:1 A)
OH:13	(GE:1 B)	PL:1	(NC:4 C)	PT:1	(DP:1 B)
OH:14	(GE:2 B)	PL:2	(NA:1 C)	PT:2	(DI:1 A)
OH:17	(GE:1 B)	PL:2	(NA_2:0 C)	PT:2	(DP:1 B)
OH:18	(GE:3 B)	PL:2	(NB:1 C)	PT:3	(DI:1 A)
OH:24	(GE:1 D)	PL:3	(NA:1 C)	PT:3	(DP:1 B)
PAS:1	(FP:0 C)	PL:3	(NA_2:2 C)	PT:4	(DI:1 A)
PAS:6	(FP:0 D)	PL:3	(NB:2 C)	PT:4	(DP:1 B)
PAS:6	(ZA RHD:1 B)	PL:4	(NA:1 C)	PT:6	(DI:0 A)
PH_1:1	(HM:0 B)	PL:4	(NB:1 C)	PT:6	(DP:0 B)
PH_1:2	(HM:0 B)	PL:5	(NA:2 C)	PT:7	(DI:3 A)
PH_1:3	(HM:2 B)	PL:5	(NB:2 C)	PT:7	(DP:0 B)
PH_1:4	(HM:1 B)	PL:6	(NA:3 C)	PT:8	(XC:2 D)
PH_1:5	(HM:2 B)	PL:6	(NA_2:1 C)	PT:9	(XC:1 D)
PH_1:6	(HM:2 B)	PL:6	(NB:3 C)	PT:12	(XC:2 D)
PH_1:7	(HM:2 D)	PL:7	(NC:1 C)	PT:13	(XC:2 D)
PH_1:8	(HM:0 D)	PL:7	(NU:1 C)	PW:1	(AB:4 C)
PH_1:9	(HM:0 D)	PL:8	(NA:4 C)	PW:1	(ZA RHD:3 C)
PH_1:10	(HM:1 B)	PL:8	(NB:4 C)	PW:2	(AB:3 C)
PH_1:11	(HM:1 B)	PL:9	(NC:1 C)	PW:3	(AE:0 C)
PH_2:1	(HP:0 B)	PL:9	(NU:1 C)	PW:3	(AF:2 B)
PH_2:2	(HP:0 D)	PL:10	(NC:2 C)	PW:4	(AE:1 C)
PH_2:3	(HP:0 D)	PL:10	(NU:3 C)	PW:4	(AF:2 B)
PH_3:1	(HP:0 C)	PL:11	(NA:0 C)	PW:5	(AE:1 D)
PH_3:2	(HP:0 C)	PL:11	(NA_2:2 B)	PW:5	(AF:3 D)

PW:6	(AE:1 D)	RC:2	(GK:0 A)	RT:1	(DM:3 C)
PW:6	(AF:3 D)	RC:3	(GG:0 B)	RT:2	(DM:2 C)
PW:7	(AE:2 D)	RC:3	(GK:1 A)	RT:3	(DM:2 C)
PW:7	(AF:3 D)	RC:4	(GG:0 B)	RT:4	(DM:2 C)
PW:8	(AE:2 D)	RC:4	(GK:1 A)	RT:5	(DM:2 C)
PW:8	(AF:4 D)	RC:5	(GG:0 B)	RT:6	(DM:3 C)
PW:9	(BI:2 D)	RC:5	(GK:1 A)	RT:7	(DM:3 C)
PW:10	(BI:2 C)	RC:6	(GG:0 B)	S58:1	(BA:3 D)
PW:11	(BI:2 C)	RC:6	(GK:1 A)	S58:2	(BA:3 D)
PW:12	(GB:0 D)	RC:7	(GG:1 B)	S59:1	(BA:3 D)
PW:13	(AB:2 B)	RC:9	(GG:1 B)	S59:2	(BA:3 D)
PW:13	(AB:3 C)	RC:10	(GG:1 B)	S171:1	(DC:1 D)
PW:14	(AB:3 C)	RC:10	(GK:1 A)	S171:2	(DC:1 D)
PW:14	(AE:2 D)	RC:11	(GG:1 B)	S171:3	(DC:1 D)
PW:14	(AF:3 D)	RC:12	(GG:1 B)	S171:4	(DC:1 D)
PW:15	(CJ:3 B)	RC:14	(GG:1 B)	S171:5	(DC:1 D)
PW:16	(CJ:2 B)	RC:15	(GC:0 B)	S171:6	(DC:1 D)
PW:17	(CJ:2 C)	RC:16	(GC:2 B)	S171:7	(DC:1 D)
PW:18	(AB:0 B)	RC:17	(GG:0 B)	S171:8	(DC:2 D)
PW:19	(IQ:4 C)	RC:18	(GG:0 B)	S171:11	(DC:1 D)
PW:20	(IQ:4 D)	RC:19	(GK:1 A)	S171:12	(DC:1 D)
PW:21	(AB:0 B)	RC:19	(KE:0 C)	SCR:1	(CR:0 B)
R23:1	(CV:1 D)	RC:20	(GK:1 A)	SCR:1	(CV:2 B)
R23:2	(CV:2 D)	RC:20	(KE:0 D)	SCR:2	(CR:2 C)
R23:3	(CV:1 D)	RC:21	(CP:1 A)	SCR:3	(CR:1 B)
R23:4	(CV:2 D)	RC:21	(GK:1 A)	SCR:3	(CV:1 B)
R23:5	(CV:1 D)	RC_2:2	(GH:1 B)	SCR:4	(CR:2 C)
R23:6	(CV:2 D)	RC_2:3	(GH:1 B)	SCR:5	(CR:2 A)
RA:1	(GC:2 E)	RC_2:4	(GH:1 B)	SCR:5	(CV:1 B)
RA:2	(GC:1 B)	RC_2:5	(GH:1 B)	SCR:6	(CR:3 B)
RA:3	(GC:1 B)	RC_2:6	(GH:1 B)	SCR:6	(CV:2 B)
RA:4	(GC:1 B)	RC_2:7	(GH:1 B)	SCR:7	(CR:3 B)
RA:5	(GC:2 B)	RC_2:9	(GH:1 B)	SCR:7	(CV:2 B)
RA:6	(GC:2 B)	RC_2:10	(GH:1 B)	SCR:8	(XC:3 D)
RA:7	(GC:1 B)	RC_2:11	(GH:1 B)	SCR:9	(XC:3 D)
RA:7	(GC RHD:1 C)	RC_2:12	(GH:1 B)	SI:1	(GG:3 B)
RA:8	(GC:1 B)	RC_2:14	(GH:0 B)	SI:1	(GK:3 A)
RA:9	(GC:2 B)	RC_2:17	(GH:0 B)	SI:2	(GG:3 B)
RA:10	(GC:2 B)	RC_2:18	(GH:0 B)	SI:2	(GK:3 A)
RA:10	(GC RHD:2 C)	RC_2:19	(GH:0 B)	SI:4	(GG:3 B)
RA:11	(GC:2 B)	RC_2:20	(GH:0 B)	SI:4	(GK:4 A)
RA:12	(BI:2 C)	REF:1	(IQ:3 C)	SI:5	(GG:3 B)
RA:13	(BI:2 D)	REF:2	(IQ:3 D)	SI:5	(GK:4 A)
RA:14	(DU:3 C)	REV:1	(NU:2 C)	SI_2:1	(GH:3 B)
RA:15	(HI:0 B)	RF:1	(IQ:4 C)	SI_2:2	(GH:3 B)
RA:15	(HM:0 D)	RF:4	(IQ:4 D)	SI_2:4	(GH:3 B)
RA:16	(HI:0 B)	RL:1	(KM:1 D)	SI_2:5	(GH:3 B)
RA:16	(HM:0 D)	RL:2	(KM:1 D)	SI_3:1	(CP:2 A)
RA:17	(DU:3 C)	RL:3	(NI:1 C)	SI_3:1	(ZA RHD:3 C)
RC:2	(GG:0 B)	RL:4	(NI:1 C)	SI_3:2	(CP:2 A)



SI_3:2	(ZA RHD:3 C)	SW:13	(EF:0 C)	SW_3:8	(EE RHD:2 D)
SI_3:4	(ZA RHD:3 C)	SW:14	(EF:0 C)	SW_3:9	(EE RHD:4 D)
SI_3:5	(ZA RHD:3 C)	SW:15	(EF:0 C)	SW_3:10	(EE RHD:3 D)
SLF:1	(NI:0 D)	SW:16	(EF:0 C)	SW_3:11	(EE RHD:3 D)
SLF:2	(NI:0 D)	SW:17	(EF:1 C)	SW_3:12	(EE RHD:4 D)
SLP:2	(AF:2 D)	SW:18	(EF:1 C)	SW_3:13	(EE RHD:0 D)
SLP:7	(AF:2 D)	SW:19	(EF:2 C)	SW_3:14	(EE RHD:0 D)
SLR:1	(NI:1 C)	SW:20	(EF:2 C)	SW_3:15	(EE RHD:1 D)
SLR:3	(NI:1 C)	SW_1:1	(EE:0 C)	SW_3:16	(EE RHD:1 D)
SLR_2:1	(NI:1 C)	SW_1:2	(EE:0 C)	SW_3:17	(EE RHD:2 D)
SLR_2:2	(NI:1 C)	SW_1:3	(EE:0 D)	SW_3:18	(EE RHD:2 D)
SM_F:1	(GC:3 C)	SW_1:4	(EE:1 C)	SW_3:19	(EE RHD:3 D)
SM_F:2	(GC:0 C)	SW_1:5	(EE:1 C)	SW_3:20	(EE RHD:3 D)
SM_F:4	(GC:3 D)	SW_1:6	(EE:1 D)	SW_4:1	(EO RHD:3 D)
SM_O:1	(GE:2 B)	SW_1:7	(EE:2 C)	SW_4:2	(EO RHD:3 D)
SM_O:2	(GE:1 B)	SW_1:8	(EE:2 C)	SW_4:3	(EO RHD:1 D)
SM_O:4	(GE:1 B)	SW_1:9	(EE:2 D)	SW_4:4	(EO RHD:1 D)
SM_R:1	(GC:3 C)	SW_1:10	(EE:3 C)	SW_4:5	(EO RHD:2 D)
SM_R:2	(GC:0 C)	SW_1:11	(EE:3 C)	SW_4:6	(EO RHD:2 D)
SM_R:4	(GC:3 D)	SW_1:12	(EE:3 D)	SW_4:7	(EO RHD:2 D)
SP:1	(BM:2 C)	SW_1:13	(EE:0 C)	SW_4:8	(EO RHD:2 D)
SP:2	(BM:2 C)	SW_1:14	(EE:0 C)	SW_4:9	(EO RHD:3 D)
SP:3	(BM:2 C)	SW_1:15	(EE:1 C)	SW_4:10	(EO RHD:3 D)
SP:4	(BM:2 C)	SW_1:16	(EE:1 C)	SW_4:11	(EO RHD:4 D)
SP:5	(BA:2 D)	SW_1:17	(EE:2 C)	SW_4:12	(EO RHD:4 D)
SP:6	(BA:2 D)	SW_1:18	(EE:2 C)	SW_4:13	(EO RHD:3 D)
SP:7	(BA:2 D)	SW_1:19	(EE:3 C)	SW_4:14	(EO RHD:3 D)
SS:1	(BE:3 D)	SW_1:20	(EE:3 C)	SW_4:15	(EO RHD:4 D)
SS:2	(BE:3 D)	SW_2:1	(EO:3 D)	SX:1	(GG:1 C)
SS:3	(BE:3 D)	SW_2:2	(EO:3 D)	SX:1	(GK:2 C)
SS:4	(BE:3 D)	SW_2:3	(EO:1 D)	SX:2	(GG:1 C)
ST:1	(GG:4 B)	SW_2:4	(EO:1 D)	SX:3	(GG:3 C)
ST:1	(GK:3 A)	SW_2:5	(EO:2 D)	SX:3	(GK:3 C)
ST:2	(GK:3 A)	SW_2:6	(EO:2 D)	SX:4	(GG:0 C)
ST_2:1	(GH:3 B)	SW_2:7	(EO:2 D)	SX:4	(GK:2 C)
ST:3	(GK:3 A)	SW_2:8	(EO:2 D)	SX:5	(GG:1 C)
ST_3:1	(CP:3 A)	SW_2:9	(EO:3 D)	SX:6	(GG:0 C)
ST_3:1	(ZA RHD:4 C)	SW_2:10	(EO:3 D)	SX:6	(GK:2 C)
SW:1	(EF:0 C)	SW_2:11	(EO:4 D)	SX:7	(GG:3 C)
SW:2	(EF:0 C)	SW_2:12	(EO:4 D)	SX:7	(GK:3 C)
SW:3	(EF:0 C)	SW_2:13	(EO:3 D)	SX:8	(GG:3 C)
SW:4	(EF:1 C)	SW_2:14	(EO:3 D)	SX:8	(GK:3 C)
SW:5	(EF:1 C)	SW_2:15	(EO:4 D)	SX:10	(GG:0 C)
SW:6	(EF:1 C)	SW_3:1	(EE RHD:0 D)	SX:10	(GK:2 C)
SW:7	(EF:1 C)	SW_3:2	(EE RHD:0 D)	SX:11	(GG:0 C)
SW:8	(EF:1 C)	SW_3:3	(EE RHD:3 D)	SX:11	(GK:2 C)
SW:9	(EF:1 C)	SW_3:4	(EE RHD:1 D)	SX:12	(GG:0 C)
SW:10	(EF:2 C)	SW_3:5	(EE RHD:1 D)	SX:12	(GK:2 C)
SW:11	(EF:2 C)	SW_3:6	(EE RHD:3 D)	SX:15	(GG:3 C)
SW:12	(EF:2 C)	SW_3:7	(EE RHD:2 D)	SX:15	(GK:3 C)

SX:18	(GG:1 C)	TA:5	(NK:3 C)	TB:19	(GA:3 C)
SX:20	(GG:0 C)	TA:6	(GA:2 C)	TB:19	(GA4:4 B)
SX:21	(GG:0 C)	TA:7	(GA:2 C)	TB:20	(GQ:0 C)
SX:24	(GG:1 C)	TA:7	(GA4:0 B)	TB:21	(BI:2 D)
SX:24	(GK:3 C)	TA:8	(GA:1 C)	TC:1	(BZ:2 C)
SX:25	(GG:1 C)	TA:8	(GA4:1 B)	TC:2	(BZ:2 C)
SX:29	(GG:1 C)	TA:9	(GA:2 C)	TC:3	(BZ:2 C)
SX:30	(GG:4 C)	TA:9	(GA4:1 B)	TC:4	(BZ:1 C)
SX:30	(GK:3 C)	TA:10	(GQ:1 C)	TC:5	(BZ:1 C)
SX:31	(GG:2 C)	TA:11	(GQ:1 B)	TC:6	(BZ:1 C)
SX:31	(GK:2 C)	TA:12	(GA:2 D)	TC:7	(BZ:1 C)
SX_2:1	(GR:1 B)	TA:12	(GA4:1 D)	TCO:1	(BZ:0 B)
SX_2:2	(GR:1 B)	TA:13	(GU:0 C)	TCO:2	(BZ:0 B)
SX_2:3	(GR:2 B)	TA:13	(GU_2:3 C)	TD:1	(IE:0 C)
SX_2:4	(GR:0 B)	TA:14	(GU:0 C)	TD:2	(IE:0 D)
SX_2:5	(GR:1 B)	TA:14	(GU_2:2 C)	TD:3	(IE:0 C)
SX_2:6	(GR:0 B)	TA:15	(GU:0 C)	TD:4	(IE:1 C)
SX_2:7	(GR:3 B)	TA:15	(GU_2:2 C)	TD:5	(IE:1 C)
SX_2:8	(GR:3 B)	TA:16	(GQ:1 C)	TD:6	(BI:3 C)
SX_2:10	(GR:0 B)	TA:17	(NK:3 C)	TD:7	(BI:3 C)
SX_2:11	(GR:0 B)	TA:19	(GA:1 C)	TD:8	(GM:2 D)
SX_2:12	(GR:0 B)	TA:19	(GA4:1 B)	TD:9	(GM:2 C)
SX_2:15	(GR:2 B)	TB:1	(GA:3 D)	TD:10	(GM:3 C)
SX_2:18	(GR:1 B)	TB:1	(GA4:3 D)	TD:11	(GM:2 C)
SX_2:20	(GR:0 B)	TB:2	(GA:3 C)	TD:12	(GM:2 C)
SX_2:21	(GR:0 B)	TB:2	(GA4:3 B)	TD:13	(BI:3 D)
SX_2:24	(GR:1 B)	TB:3	(GA:3 C)	TD:15	(IE:1 C)
SX_2:25	(GR:1 B)	TB:3	(GA4:3 B)	TD:16	(IE:1 D)
SX_2:29	(GR:1 B)	TB:4	(KA:0 C)	TD:17	(IE:1 C)
SX_2:30	(GR:3 B)	TB:5	(NK:3 C)	TD:18	(IE:2 C)
SX_2:31	(GR:2 B)	TB:6	(GA:3 C)	TD:19	(IE:2 C)
SX_3:18	(GF:1 B)	TB:7	(GA:3 C)	TD:20	(BI:3 C)
SX_3:24	(GF:1 D)	TB:7	(GA4:2 B)	TD:21	(BI:3 C)
SY:1	(EF:3 C)	TB:8	(GA:3 C)	TM:1	(OA:2 D)
SY:2	(EF:3 C)	TB:8	(GA4:3 B)	TM:2	(OA:2 D)
SY:3	(EF:2 C)	TB:9	(GA:3 C)	TM:3	(OA:2 B)
SY:4	(EF:2 C)	TB:9	(GA4:3 B)	TM:4	(OA:2 B)
SY:5	(EF:3 C)	TB:10	(GM:0 C)	TM:5	(OA:1 D)
SY:6	(EF:3 C)	TB:11	(GM:0 C)	TMA:1	(OA:2 C)
SY:7	(EF:3 C)	TB:12	(GA:3 D)	TMA:3	(OA:1 C)
SY:8	(EF:3 C)	TB:12	(GA4:3 D)	TMA:5	(OA:2 B)
SY:9	(EF:3 C)	TB:13	(GU:1 C)	TMA:6	(OA:2 C)
SY:21	(EF:3 C)	TB:13	(GU_2:3 C)	TMA:7	(OA:2 B)
TA:1	(GA:2 D)	TB:14	(GU:1 C)	TS:1	(FG:0 A)
TA:1	(GA4:0 D)	TB:14	(GU_2:3 C)	TS:2	(FG:0 A)
TA:2	(GA:2 C)	TB:15	(GU:1 C)	TS:3	(FG:0 A)
TA:2	(GA4:0 B)	TB:15	(GU_2:3 C)	TS:4	(FG:1 A)
TA:3	(GA:2 C)	TB:16	(GM:1 C)	TS:5	(FG:1 A)
TA:3	(GA4:0 B)	TB:17	(NK:4 C)	TS:6	(FG:1 A)
TA:4	(KA:0 C)	TB:18	(BI:2 C)	TU:1	(CR:2 A)

TU:1	(CV:2 D)	X03:5	(GG:0 E)	X04_2:3	(GH:2 D)
TU:2	(CR:2 A)	X03:6	(GG:0 E)	X04_2:3	(GK:2 E)
TU:2	(CV:2 D)	X03:7	(GG:0 E)	X04_2:4	(GH:2 D)
TU:3	(CR:2 B)	X03:8	(GG:1 E)	X04_2:4	(GK:2 E)
TU:3	(CV:2 D)	X03:9	(GG:1 E)	X04_2:5	(GH:2 D)
TU:4	(CR:2 B)	X03:10	(GG:1 E)	X04_2:5	(GK:2 E)
TU:4	(CV:2 D)	X03:11	(GG:1 E)	X04_2:6	(GH:3 D)
WL:1	(NA_2:2 C)	X03:12	(GG:1 E)	X04_2:6	(GK:2 E)
WL:2	(NA_2:2 C)	X03:13	(GG:1 E)	X04_2:7	(GH:3 D)
WL:3	(NA_2:3 C)	X03:14	(GG:0 E)	X04_2:7	(GK:2 E)
WL:4	(NA_2:3 C)	X03:15	(GG:0 E)	X05:1	(GG:3 E)
X02:1	(GG:4 E)	X03_2:1	(GH:1 D)	X05:2	(GG:2 E)
X02:2	(GG:3 E)	X03_2:2	(GH:1 D)	X05:3	(GG:2 E)
X02:3	(GG:3 E)	X03_2:3	(GH:0 D)	X05:4	(GG:2 E)
X02:4	(GG:3 E)	X03_2:4	(GH:1 D)	X05:5	(GG:3 E)
X02:5	(GG:3 E)	X03_2:5	(GH:1 D)	X05:7	(GG:3 E)
X02:6	(GG:3 E)	X03_2:6	(GH:1 D)	X06:1	(NC:4 D)
X02:7	(GG:3 E)	X03_2:7	(GH:1 D)	X06:2	(NA:1 D)
X02_1:1	(GK:3 E)	X03_2:8	(GH:1 D)	X06:2	(NA_2:0 D)
X02_1:2	(GK:3 E)	X03_2:9	(GH:1 D)	X06:2	(NB:1 D)
X02_1:3	(GK:3 E)	X03_2:10	(GH:1 D)	X06:3	(NA:1 D)
X02_1:4	(GK:3 E)	X03_2:11	(GH:1 D)	X06:3	(NA_2:2 D)
X02_1:5	(GK:3 E)	X03_2:12	(GH:1 D)	X06:3	(NB:2 D)
X02_1:6	(GK:3 E)	X03_2:13	(GH:1 D)	X06:4	(NA:1 D)
X02_1:7	(GK:3 E)	X03_2:14	(GH:0 D)	X06:4	(NB:1 D)
X02_2:1	(GH:3 D)	X03_2:15	(GH:0 D)	X06:5	(NA:2 D)
X02_2:1	(GK:3 E)	X04:1	(GG:2 E)	X06:5	(NB:2 D)
X02_2:2	(GH:3 D)	X04:1	(GK:0 D)	X06:6	(NA:3 D)
X02_2:2	(GK:3 E)	X04:2	(GG:1 E)	X06:6	(NA_2:1 D)
X02_2:3	(GH:3 D)	X04:2	(GK:1 D)	X06:6	(NB:3 D)
X02_2:3	(GK:3 E)	X04:3	(GG:2 E)	X06:7	(NC:1 D)
X02_2:4	(GH:3 D)	X04:3	(GK:0 D)	X06:7	(NU:1 D)
X02_2:4	(GK:3 E)	X04:4	(GG:2 E)	X06:8	(NA:4 C)
X02_2:5	(GH:3 D)	X04:4	(GK:0 D)	X06:8	(NC:4 C)
X02_2:5	(GK:3 E)	X04:5	(GG:2 E)	X06:9	(NC:1 D)
X02_2:6	(GH:3 D)	X04:5	(GK:0 D)	X06:9	(NU:1 D)
X02_2:6	(GK:4 E)	X04:6	(GG:2 E)	X06:10	(NC:2 D)
X02_2:7	(GH:3 D)	X04:6	(GK:1 D)	X06:10	(NU:3 D)
X02_2:7	(GK:4 E)	X04:7	(GG:2 E)	X06:11	(NA:0 D)
X02_3:1	(GR:3 E)	X04:7	(GK:1 D)	X06:11	(NA_2:2 B)
X02_3:2	(GR:2 E)	X04_1:1	(GK:2 E)	X06:11	(NB:0 D)
X02_3:3	(GR:2 E)	X04_1:2	(GK:2 E)	X06:12	(NA:1 D)
X02_3:4	(GR:2 E)	X04_1:3	(GK:2 E)	X06:12	(NB:0 D)
X02_3:5	(GR:2 E)	X04_1:4	(GK:2 E)	X06:13	(NC:2 D)
X02_3:6	(GR:3 E)	X04_1:6	(GK:2 E)	X06:13	(NU:1 D)
X02_3:7	(GR:3 E)	X04_1:7	(GK:2 E)	X06:14	(NC:2 D)
X03:1	(GG:0 E)	X04_2:1	(GH:2 D)	X06:14	(NU:1 D)
X03:2	(GG:0 E)	X04_2:1	(GK:2 E)	X06:15	(NC:2 D)
X03:3	(GG:1 E)	X04_2:2	(GH:2 D)	X06:15	(NU:1 D)
X03:4	(GG:1 E)	X04_2:2	(GK:2 E)	X06:16	(NC:2 D)

X06:16	(NU:2 D)	X63:12	(GR:1 E)	XD:6	(FB:3 D)
X06:17	(NC:2 D)	XA:1	(GB:0 B)	XD:6	(FI:0 C)
X06:17	(NU:2 D)	XA:1	(GC RHD:3 B)	XD:6	(FK:1 D)
X06:18	(NA:2 D)	XA:2	(GB:1 B)	XD:7	(GU:2 D)
X06:18	(NB:3 D)	XA:3	(GB:1 B)	XD:7	(GU_2:4 C)
X06:19	(NA:3 D)	XA:4	(GB:1 B)	XD:8	(IX:2 D)
X06:19	(NB:3 D)	XA:5	(GB:1 B)	XD:9	(BI:1 D)
X06:20	(NC:3 D)	XA:6	(GB:2 B)	XD:10	(OA:2 D)
X06:20	(NU:3 D)	XA:7	(GB:2 B)	XD:11	(AA:3 B)
X06:21	(NC:3 D)	XA:8	(GB:2 B)	XD:12	(NC:0 C)
X06:21	(NU:3 D)	XA:9	(GB:2 B)	XD:12	(NU:2 D)
X06:22	(NC:3 D)	XA:10	(GB:0 B)	XD:12	(NX:0 B)
X06:22	(NU:3 D)	XA:11	(GB:1 B)	XE:1	(AA:3 D)
X06:24	(NA:3 D)	XA:12	(GB:1 B)	XE:1	(AC:2 D)
X06:24	(NA_2:3 B)	XA:13	(GB:1 B)	XF:1	(FB:1 B)
X06:24	(NB:3 D)	XA:14	(GB:1 B)	XF:1	(FB RHD:1 B)
X06:30	(NA:3 D)	XA:15	(GB:2 B)	XF:2	(FQ:1 B)
X06:30	(NB:3 D)	XA:16	(GB:2 B)	XF:3	(ME:3 B)
X06:31	(NA:4 D)	XA:16	(GC RHD:3 B)	XF:3	(MF:3 B)
X06:31	(NB:4 D)	XA:17	(GB:2 B)	XF:4	(KE:0 C)
X15_1:1	(GK:2 D)	XA:18	(GB:2 B)	XF:5	(FQ:0 B)
X15_1:2	(GK:2 D)	XB:1	(AA:4 D)	XF:6	(FQ:1 B)
X15_1:3	(GK:2 D)	XC:1	(BM:1 C)	XF:7	(KE:0 C)
X15_1:4	(GK:2 D)	XC:2	(XC:0 B)	XF:8	(KE:0 C)
X15_1:5	(GK:2 D)	XC:3	(IH:3 C)	XF:9	(AA:3 B)
X15_1:6	(GK:2 D)	XC:4	(HP:0 E)	XF:10	(FB:1 B)
X15_1:7	(GK:2 D)	XC:5	(HG:0 D)	XF:12	(KE:0 B)
X15_2:1	(GK:2 C)	XC:5	(HY:2 D)	XF:13	(BA:0 B)
X15_2:2	(GK:2 C)	XC:5	(HY RHD:2 D)	XF:15	(FB:1 B)
X15_2:3	(GK:2 C)	XC:6	(IK:0 D)	XF:15	(FB RHD:1 B)
X15_2:4	(GK:2 C)	XC:7	(BM:1 C)	XF:18	(GB:3 C)
X15_2:5	(GK:2 C)	XC:7	(BN:1 D)	XG:1	(AC:0 A)
X15_2:6	(GK:2 C)	XC:8	(AE:2 C)	XH:1	(AC:2 A)
X15_2:7	(GK:2 C)	XC:8	(AF:4 B)	XJ:1	(GM:1 C)
X62:1	(NB:1 D)	XC:8	(NK:1 D)	XJ:2	(GM:1 D)
X62:5	(NB:2 D)	XC:9	(DC:0 D)	XJ:3	(HG:0 B)
X62:6	(NB:2 D)	XC:9	(DM:0 E)	XJ:4	(GQ:1 A)
X63:1	(GR:1 E)	XC:10	(HP:1 E)	XJ:6	(HG:0 B)
X63:2	(GR:0 E)	XC:11	(NU:2 D)	XJ:7	(GQ:2 A)
X63:3	(GR:0 E)	XC:12	(KI:1 C)	XJ:10	(GA:0 A)
X63:4	(GR:0 E)	XD:1	(BU:1 C)	XJ:11	(HI:3 A)
X63:5	(GR:0 E)	XD:1	(BU:2 C)	XJ:12	(BA:1 B)
X63:6	(GR:0 E)	XD:1	(BX:1 D)	XJ:13	(GA:0 A)
X63:7A	(GR:0 E)	XD:2	(IH3:0 C)	XJ:14	(IH:1 B)
X63:7B	(GR:1 E)	XD:3	(AB:1 D)	XJ:14	(IH3:3 B)
X63:8A	(GR:0 E)	XD:4	(EE:4 D)	XJ:15	(BA:0 B)
X63:8B	(GR:0 E)	XD:4	(EF:4 D)	XJ:16	(IH:3 B)
X63:9	(GR:1 E)	XD:4	(EO:0 D)	XJ:16	(IH3:3 B)
X63:10	(GR:1 E)	XD:5	(DU:2 E)	XJ:17	(IH:1 B)
X63:11	(GR:1 E)	XD:5	(EO:0 D)	XJ:18	(IH:2 B)

XJ:18	(IH3:3 B)	XL:1	(BA:1 B)	XM:3	(CJ:4 B)
XK:1	(BA:0 B)	XL:2	(IH4:3 A)	XM:4	(AA:2 A)
XK:2	(CR:1 A)	XL:3	(BA:1 B)	XM:5	(AA:2 A)
XK:2	(CV:0 A)	XL:4	(OA:2 B)	XM:5	(CJ:4 B)
XK:3	(GM:2 A)	XL:5	(BA:1 B)	XM:6	(AC:3 D)
XK:4	(BA:0 B)	XL:6	(BA:1 B)	XM:7	(AC:3 D)
XK:5	(CR:1 A)	XL:7	(DM:0 B)	XM:8	(AC:3 D)
XK:5	(CV:1 A)	XL:8	(BI:0 B)	XM:9	(AC:3 D)
XK:6	(GM:1 D)	XL:9	(OA:2 B)	XM:10	(AC:3 D)
XK:7	(BA:0 A)	XL:10	(DM:0 B)	XM:11	(AC:2 C)
XK:7	(DC:0 B)	XL:11	(BI:0 B)	XM:12	(BI:3 B)
XK:8	(BA:0 B)	XL:12	(BA:1 B)	XM:13	(AC:2 B)
XK:9	(DM:1 B)	XL:13	(DQ:0 B)	XM:14	(AC:2 C)
XK:10	(HY:0 B)	XL:14	(DU:1 B)	XM:15	(BI:3 B)
XK:11	(DC:0 B)	XL:15	(BA:1 D)	XM:16	(AC:2 B)
XK:11	(DM:0 B)	XL:16	(BA:1 D)	XM:17	(AC:2 B)
XK:12	(DC:1 B)	XL:16	(CP:1 C)	XM:18	(BI:3 B)
XK:12	(DM:1 B)	XL:17	(BA:1 D)	XO:1	(AC:0 A)
XK:13	(HY:0 B)	XL:18	(BA:1 D)	XS:1	(AC:2 A)
XK:15	(IQ:2 B)	XM:1	(AA:2 B)	XT:1	(AC:1 A)
XK:16	(HY:1 B)	XM:1	(CJ:3 B)	Y18GH:1	(DP:2 B)
XK:16	(HY RHD:1 B)	XM:2	(AA:2 B)	Y18GH:2	(DP:2 B)
XK:17	(CJ:0 B)	XM:2	(CJ:3 B)	Y18GH:4	(DP:2 A)
XK:18	(CJ:0 B)	XM:3	(AA:2 B)		

## List of components

A01	Fuse and Relay Centre (1000)	A36	Control unit, BBM (Body Builder Module) (NC:1 B/NU:1 A/NX:1 B) (1000)
A02L	Fuse holder, 6–fuses (GB:0 C) (1000)	A39	Control unit, camera (IZ:0 C) (1000)
A02P	Fuse holder, 6–fuses (ME:2 C/MF:2 C) (1000)	A41	Component group transmission. Contains B23D, B138D and Y17D (DM:2 B/DP:0 D) (1403/1499)
A02X	Fuse holder, 6–fuses (ME:3 C/MF:3 C) (1000)	A42B	Component group transmission. Contains B26, Y21, Y22, Y23 and Y26B (DP:2 D) (1494/1499)
A03	Instrument cluster (BI:0 B/CP:2 C/ZA RHD:2 B) (1000)	A43	Electric fan control (B32 fan speed sensor, Y35 visco clutch) (CO:0 D) (1030)
A04A	Refrigerator (IQ:3 C) (1006E/1007B)	A45	Fuel pre filter (B52 water level sensor, R10 heater, Y38 water drain solenoid (CO:3 B) (1030)
A04B	Refrigerator (IQ:4 C) (1460)	A59	Control unit, RAS (Rear Axle Steering) (FO:1 B) (1493)
A05	Display, FMS (Fleet Management System) (BU:3 D/IZ:0 D) (1000)	A60	Control unit, LDWS (Lane Departure Warning System) (BE:0 E) (1006A)
A06L	El. adjustable seat (IA:2 B) (1007A)	A62	Control unit, ADS (AdBlue Dosing System) (CV:1 C) (1510)
A06R	El. adjustable seat (IA:0 B) (1007B)	A77	Control unit, Tyre pressure monitoring (OA:1 B) (1508)
A07	Radio (IU:0 C/IU RHD:0 C) (1000)	A80	Airdryer, electrical controlled (FQ:1 C) (1056)
A09	Telephone (IX:0 C) (1000)	A94	Control unit, FMS Gateway (Fleet Management System) (BX:0 B) (1000)
A11	Control unit, door lock (IM:1 B) (1000)	A96	Control unit, Roof cooler (HZ:1 B) (1018)
A12	Control unit, ABS (Anti-lock Brake System) (EE:0 B/EE RHD:0 B/EF:0 C) (1007C)	A106	Fuse holder, 3–fuses, not mainswitch dependent (AB:3 B) (1000)
A13B	Control unit, TECU (automatic transmission) (DI:0 C) (1494)	A109	Control unit, GSECU (Gearshift ECU) (DC:1 C) (1000)
A13C	Control unit, TECU (automatic transmission) (DM:0 C) (1007C)	A116	Control unit, amplifier (IV:1 B) (1007B)
A13E	Control unit, TECU (automatic transmission) (DP:0 C)	A122	Control unit, toll collect OBU (BZ:0 C/BZ RHD:0 C) (1006A)
A14	Control unit, EMS (Engine Management System) (CO:2 C) (1030)	A123	Control unit toll collect DSRC (BZ:1 B/BZ RHD:1 B) (1000)
A15	Control unit, SRS (Supplementary Restrain System) (IS:0 B) (1000)	A124	Component group engine (K65 power relay, starter motor pre-relay M04 starter motor) (AA:1 D/CO:2 A)
A16	Control unit, ECS (Electronic Controlled air Suspension) (FA:0 C/FA RHD:0 C/FB:0 C/FB RHD:0 C/FG:0 D/FG:2 D/) (1007C)	A125	Control unit, TGW (Telematics Gateway) (BU:0 C) (1000)
A17	Control unit, VECU (Vehicle ECU) (BA:0 C) (1000)	A126	Control unit, TTU (Telematics Terminal Unit) (BU:2 C) (1000)
A18	Control unit, roof hatch (IQ:0 C) (1006E)	A132	Control unit, alcolock (IK:0 B) (1000)
A20	Control unit, Immobiliser (IM:3 D) (1000)	A133	Handset, alcolock (IK:3 C) (1000)
A21	Control unit, EBS (Electronic Brake System) (EO:0 C/EO RHD:0 B) (1007C)	A137	Control module, ACM (Adblue Control Module) (CR:0 C) (1510)
A26	Control unit, DACU (Driver Assistance Control Unit) (BE:1 B) (1007C)	A139	Fuseholder, 3–fuses (IR:3 B/IR2:0 B/IR3:0 B) (1000)
A27	Control unit, LCM (Light Control Module) (GA:0 B/GA4:1 A/GB:0 C/GC:0 A/GC RHD:0 A/GM:1 E) (1000)	B01	Sensor, flame, parking heater (HM:0 E)
A28B	Control unit, ADR main switch, integrated power relay (AE:0 C/AF:2 C) (1435B)	B02A	Thermostat, parking heater (HI:1 A) (1006A/1006E)
A29	Telephone handset, secrecy receiver (IX:1 B) (1000)	B02B	Thermostat, parking heater (HI:2 A) (1007A)
A31	Control unit, burglar alarm (NK:0 C) (1000)	B03_A	Sensor, footbrake valve (EO:0 D) (1504)
A32	Control unit, parking heater (HM:0 C) (1062)		
A33	Tachograph (BM:1 B) (1000)		
A33B	Tachograph (BN:1 B) (1006A)		
A34B	Control unit, climate unit (HG:0 A) (1000)		

B04	Sensor, engine speed, crankshaft (CO:1 D) (1030)	B22	Sensor, outdoor temperature (BI:2 C) (1503)
B05	Sensor, engine speed, camshaft (CO:1 D) (1030)	B23B	Sensor, oil temperature, retarder (DI:2 B) (1494)
B06	Sensor, air pressure, air tank (BA:2 D) (1000)	B23C	Sensor, oil temperature, retarder (DM:3 B)
B07	Sensor, fuel level (BI:2 C) (1040)	B24	Sensor, air pressure, bogie lift bellow (FA:0 D) (1072)
B09B	Sensor, oil temperature, gearbox (BI:2 C) (1494)	B25	Sensor, accelerator pedal (BA:4 D) (1000)
B10C	Sensor, oil level (FO:0 C) (1493)	B26B	Sensor, clutch position (DP:2 D)
B12	Sensor, tachograph/speedometer (BM:2 D) (1494/1499)	B27	Sensor, battery charging (BI:2 C) (1435A/1435B)
B12B	Sensor, tachograph/speedometer (BM:1 D) (1494)	B28	Sensor, chassis level, front axle (FA:2 D) (1072)
B13	Sensor, wheel speed, lhs. 1:st front axle (EF:0 D) (1086)	B29B	Sensor, chassis level, lhs. rear axle (FA:3 D) (1072/1086)
B13A	Sensor, wheel speed, lhs. 1:st front axle (EE:0 D) (1086)	B30	Sensor, chassis level, rhs. rear axle (FA:3 D) (1072)
B13B	Sensor, wheel speed, lhs. 1:st front axle (EP:0 C/EP:2 C) (1086)	B32	Sensor, engine cooling fan speed (Included in A43) (CO:0 B)
B14	Sensor, wheel speed, rhs. 1:st front axle (EF:0 D) (1086)	B37	Sensor, boost pressure and boost temperature (CO:1 D) (1030)
B14A	Sensor, wheel speed, rhs. 1:st front axle (EE:1 D) (1086)	B37A	Sensor, boost temperature (CO:1 D) (1030)
B14B	Sensor, wheel speed, rhs. 1:st front axle (EP:1 C/EP:2 C) (1086)	B37B	Sensor, boost pressure (EGR Mixer position) (CO:1 D) (1030)
B15	Sensor, wheel speed, lhs. 1:st driven rear axle (EF:1 D) (1086)	B39	Sensor, air filter pressure and air filter temperature (CO:1 B) (1030)
B15A	Sensor, wheel speed, lhs. 1:st driven rear axle (EE:2 D) (1086)	B40A	Sensor, brake lining wear indicator, lhs. 1:st front axle (EP:2 C) (1086)
B15B	Sensor, wheel speed, lhs. 1:st driven rear axle (EP:1 E/EP:2 E) (1086)	B40B	Sensor, brake lining wear indicator, lhs. 1:st front axle (EP:0 C) (1086)
B16	Sensor, wheel speed, rhs. 1:st driven rear axle (EF:2 D) (1086)	B41A	Sensor, brake lining wear indicator, rhs. 1:st front axle (EP:2 C) (1086)
B16A	Sensor, wheel speed, rhs. 1:st driven rear axle (EE:3 D) (1086)	B41B	Sensor, brake lining wear indicator, rhs. 1:st front axle (EP:1 C) (1086)
B16B	Sensor, wheel speed, rhs. 1:st driven rear axle (EP:1 E/EP:2 E) (1086)	B42A	Sensor, brake lining wear indicator, lhs. 1:st driven rear axle (EP:2 E) (1086)
B17	Sensor, wheel speed, lhs. 2:nd driven rear axle (EF:2 D) (1086)	B42B	Sensor, brake lining wear indicator, lhs. 1:st driven rear axle (EP:0 E) (1086)
B17	Sensor, wheel speed, lhs. 2:nd driven rear axle (EP:1 E) (1086)	B43A	Sensor, brake lining wear indicator, rhs. 1:st driven rear axle (EP:2 E) (1086)
B17B	Sensor, wheel speed, lhs. 2:nd driven rear axle (EP:3 C) (1086)	B43B	Sensor, brake lining wear indicator, rhs. 1:st driven rear axle (EP:2 E) (1086)
B18	Sensor, wheel speed, rhs. 2:nd driven rear axle (EF:3 D) (1086)	B44A	Sensor, brake lining wear indicator, lhs. 2:nd driven rear axle (EP:2 C) (1086)
B18	Sensor, wheel speed, rhs. 2:nd driven rear axle (EP:1 E) (1086)	B44B	Sensor, brake lining wear indicator, lhs. 2:nd driven rear axle (EP:0 E) (1086)
B18B	Sensor, wheel speed, rhs. 2:nd driven rear axle (EP:3 C) (1086)	B45A	Sensor, brake lining wear indicator, rhs. 2:nd driven rear axle (EP:3 C) (1086)
B19	Sensor, wheel speed, lhs. 2:nd front axle (EP:0 C) (1086)	B45B	Sensor, brake lining wear indicator, rhs. 2:nd driven rear axle (EP:0 E) (1086)
B20	Sensor, wheel speed, rhs. 2:nd front axle (EP:1 C) (1086)	B46B	Sensor, brake lining wear indicator, lhs. 2:nd front axle (EP:0 C) (1086)
B21	Sensor, coolant temperature, engine (CO:1 B) (1030)	B47B	Sensor, brake lining wear indicator, rhs. 2:nd front axle (EP:1 C) (1086)
		B49	Sensor, steering angle (EO:3 A) (1000)

B49F	Sensor, steering angle (FO:1 D) (1493)	B77B	Sensor, brake lining wear indicator, rhs., tag axle (EP:3 E) (1086)
B49R	Sensor, steering angle (FO:2 D) (1493)	B80	Handsfree, Loudspeaker, Microphone (IX:0 B) (1007A/1007B)
B50	Sensor, yaw-rate (EO:4 B) (1507)	B85	Sensor, temp, downstream particle filter (CR:0 D) (1510)
B51	Sensor, fuel pressure (CO:2 B) (1030)	B87	Sensor, turbo speed (CO:2 B) (1030)
B52	Sensor, water level (CO:3 B)	B90	Transmitter, movement sensor (NK:2 D) (1006B/1006E)
B53	Sensor, temperature, parking heater (HM:1 E)	B91	Receiver, movement sensor (NK:3 D) (1006B/1006E)
B54	Sensor, crank case pressure (CO:1 B) (1030)	B96	Sensor, NOx (CAN based) (CR:3 B/CV:1 B) (1510)
B55	Sensor, air pressure, suspension bellows, 3:rd axle (FA:0 D) (1072)	B96B	Sensor, NOx (CAN based) (CR:2 B) (1510)
B56	Sensor, air pressure, suspension bellows, front axle (FA:1 D) (1072)	B97	Sensor, exhaust temp (before catalyst) (CV:3 D) (1510)
B57	Sensor, air pressure, suspension bellows, lhs. rear (FA:1 D) (1072)	B97D	Sensor, exhaust temp (before catalyst) (CR:1 D) (1510)
B58	Sensor, air pressure, suspension bellows, rhs. rear (FA:2 D) (1072)	B98	Sensor, exhaust temp (after catalyst) (CV:3 D) (1510)
B60DD	Loudspeaker (IU:0 D/IU RHD:0 D/IV:1 D) (1083)	B98D	Sensor, exhaust temp (after catalyst) (CR:0 D) (1510)
B60DP	Loudspeaker (IU:1 D/IU RHD:1 D/IV:1E) (1083)	B100	Sensor, air pressure, suspension bellows, tridem (FA:0 D) (1072)
B60LF	Loudspeaker (IU:0 D/IU RHD:0 D/IV:2 E) (1000)	B115	Sensor, DPF pressure (CR:1 D) (1510)
B60LR	Loudspeaker (IU:1 D/IV:1 D) (1007A)	B118	Sensor, oil pressure (CO:1 B) (1030)
B60RF	Loudspeaker (IU:1 D/IU RHD:1 D/IV:2 E) (1000)	B119	Sensor, oil level and oil temp (CO:1 D) (1030)
B60RR	Loudspeaker (IU:2 D/IV:2 E) (1007A)	B120	Radar ACC, Adaptive Cruise Control (BE:2 D) (1502)
B61L	Loudspeaker, treble (IU:0 D/IU RHD:0 D/IV:2 D) (1000)	B122	Sensor, exhaust temp, engine mounted (CO:1 A) (1030)
B61R	Loudspeaker, treble (IU:1 D/IU RHD:1 D/IV:3 D) (1000)	B138B	Sensor, Control pressure retarder (DI:3 B) (1494)
B63	Microphone, (handsfree) (IU:3 A) (1006A)	B138C	Sensor, Control pressure retarder (DM:2 B)
B66	Sensor, temperature EGR (CO:2 B) (1030)	B142B	Sensor, AdBlue level and temperature (CV:2 D) (1510)
B67	Rear view camera (IZ:2 D) (1000)	B152	Sensor, brake airpressure, front (BI:3 C) (1504)
B68	Sensor, output shaft speed, gearbox (DI:3 D) (1494)	B153	Sensor, brake airpressure, rear (BI:3 C) (1504)
B69B	Sensor, coolant temperature, retarder (DM:3 B) (1403)	B154	Sensor, water level roof cooler (HZ:2 C) (1018)
B69C	Sensor, coolant temperature, retarder (DP:0 D) (1499)	B166	Sensor, EGR Differential pressure (Venturi) (CO:1 D) (1030)
B70	Sensor, wheel speed, lhs., pusher axle (EP:3 E) (1086)	B175	Sensor, chassis level, rear axle (BA:2 E) (1499)
B71	Sensor, wheel speed, rhs., pusher axle (EP:3 E) (1086)	B184	Loudspeaker, subwofer (IV:3 D) (1007B)
B72	Sensor, wheel speed, lhs., tag axle (EP:4 E) 1086)	B187	Sensor, after treatment fuel pressure (CO:3 B) (1030)
B73	Sensor, wheel speed, rhs., tag axle (EP:4 E) (1086)	B207	Sensor, oil cooling jet pressure (CO:0 B) (1030)
B74B	Sensor, brake lining wear indicator, lhs., pusher axle (EP:2 E) (1086)	B209	Sensor, rainsensor (GM:3 D) (1000)
B75B	Sensor, brake lining wear indicator, rhs., pusher axle (EP:3 E) (1086)	B212	Radar, LCS (Lane Change Support) (BE:3 E) (1007A/1007B)
B76B	Sensor, brake lining wear indicator, lhs., tag axle (EP:3 E) (1086)		



B213	Sensor, pressure, butterfly valve backpressure (CO:4 B) (1030)	E14_B	Lamp, beacon warning lamp (KM:1 D) (1047)
B217	Sensor, Diff. pressure (DI:3 B) (1494)	E14_BR	Lamp, beacon warning lamp (KM:2 C) (1047)
B229	Sensor, Adblue level, temp, quality (CR:2 B) (1510)	E18_LB	Lamp, reading light (IH:0 D/IH3:1 D/IH4:1 C) (1006D/1006E)
D01	Time delay relay, bogie lift, axle load limiter (FK:3 A) (1007C)	E18_RB	Lamp, reading light (IH:1 D/IH3:3 D/IH4:3 C) (1006D/1006E)
E01	Lamp, full beams (GA:2 C/GA:3 C) (1502/1503)	E19C	Lamp, identification light, roof (GL:1 C/GL:2 C) (1436)
E01L/R	Lamp, full beams (GA4:0 C/GA4:3 C)	E19L	Lamp, identification light, roof (GL:1 C/GL:2 C) (1436)
E02	Lamp, dipped beams (GA:2 D/GA:3 D) (1502/1503)	E19R	Lamp, identification light, roof (GL:1 C/GL:2 C) (1436)
E02L/R	Lamp, dipped beams (GA4:0 C/GA4:3 C)	E21	Lamp, rear fog light (GC:1 D/GC:2 D) (1040)
E03	Lamp, spot light (GA:2 C/GA:3 C) (1502/1503/1047)	E22	Lamp, roof sign illumination (KI:0 C/KI:0D) (1436)
E03_A	Lamp, spot light (NI:2 C)	E22L	Lamp, roof sign illumination (KI:3 D)
E03_B	Lamp, spot light (NI:2 C)	E22M	Lamp, roof sign illumination (KI:3 C)
E03_L	Lamp, spot light (NI:2 D)	E22R	Lamp, roof sign illumination (KI:3 B)
E03_R	Lamp, spot light (NI:2 D)	E23	Lamp, luggage compartment illumination (IH4:3 C) (1007A)
E03_C	Lamp, spot light (NI:2 A) (1006A)	E27L_1	Tail lamp module (GC:1 D) (1040)
E03_D	Lamp, spot light (NI:3 A) (1006A)	E27L_2	Tail lamp module (GE:1 C) (1040)
E05	Lamp, 5:th wheel light (GH:0 D/GK:1 B/KE:0 D) (1063)	E27L_3	Tail lamp module (GF:3 C) (1040)
E06	Lamp, reversing light (GC:1 D/GC:2 D/GF:1 C) (1040)	E27L_4	Tail lamp module (GF:0 C) (1040)
E07	Lamp, fog light (GA:2 D/GA:3 D) (1502/1503)	E27R_1	Tail lamp module (GC:2 D) (1040)
E07L/R	Lamp, fog light (GA4:1 C/GA4:3 C)	E27R_2	Tail lamp module (GE:2 C) (1040)
E08	Lamp, parking light, front (GA:1 D/GA:3 D) (1502/1503)	E28	Parking heater, ADR (HI2:0 C/HM:0 D) (1007A/1062)
E08L/R	Lamp, parking light, front (GA4:1 C/GA4:3 C)	E29C	Lamp, external speed indication (GL:0 C/GL2:1 D/GL2:3 D) (1436)
E09	Lamp, brake light (GC:1 D/GC:2 D) (1040)	E29L	Lamp, external speed indication (GL:0 D/GL2:0 D/GL2:3 D) (1436)
E10	Lamp, tail light (GC:1 D/GC:2 D) (1040)	E29R	Lamp, external speed indication (GL2:1 D/GL2:3 D) (1436)
E11L_C	Lamp, side marker light (GC:0 D) (1077)	E32ATC	Climate unit (HY:2 C/HY RHD:2 C) (1000)
E11L_F	Lamp, side marker light (GC:0 D) (1077)	E32ECC	Climate unit (HG:1 C) (1000)
E11L_R	Lamp, side marker light (GC:0 D) (1077)	E33LF	Lamp, additional load lamps (reverse lamps) (NA:0 D/NB:0 D) (1506A)
E11L_W	Lamp, side marker light (GC:0 D) (1077)	E33LR	Lamp, additional load lamps (reverse lamps) (NA:1 D/NB:1 D) (1506A)
E11R_C	Lamp, side marker light (GC:3 D) (1077)	E33RF	Lamp, additional load lamps (reverse lamps) (NA:1 D/NB:1 D) (1506A)
E11R_F	Lamp, side marker light (GC:3 D) (1077)	E33RR	Lamp, additional load lamps (reverse lamps) (NA:1 D/NB:1 D) (1506A)
E11R_R	Lamp, side marker light (GC:3 D) (1077)	E34	Lamp, body builder centre light (IH:3 D/IH3:0 D/ZA RHD:0 D) (1000)
E11R_W	Lamp, side marker light (GC:3 D) (1077)	E39	Lamp, Licence Plate Illumination (GF:3 B) (1040)
E12L	Lamp, roof position light (GA:4 D) (1006A/1006E/1436)	E39L	Lamp, Licence Plate Illumination (GE:2 C) (1040)
E12R	Lamp, roof position light (GA:1 D) (1006A/1006E/1436)	E39R	Lamp, Licence Plate Illumination (GE:2 C) (1040)
E13	Lamp, direction indicator (GA:2 C/GA:3 C/GC:1 D/GC:2 D) (1040/1502/1503)		
E13L/R	Lamp, direction indicator (GA:0 C/GA4:2 C)		
E14_A	Lamp, beacon warning lamp (KM:2 D) (1047)		
E14_AR	Lamp, beacon warning lamp (KM:1 C) (1047)		

E73	7th injector (CO:1 D) (1030)	H02	Horn (GQ:1 B) (1502)
E79L	Lamp, roof position light, rear, left (GL:3 C) (1436)	H03	Reverse warner, acoustic (GC:1 D/GC:2 D/GF:0 C) (1040)
E79R	Lamp, roof position light, rear, right (GL:4 C) (1436)	H06	Siren (NK:3 D) (1502/1503)
E81	Lamp, static corner light (GA:2 C/GA:3 C) (1502/1503)	K01	Relay, starting switch, radio position (AC:3 C) (1000)
E82	Parking heater, UADR (HI:0 D) (1007A)	K02	Relay, EMS (Engine Management System) (BA:1 A) (1000)
E83L	Headlight module (GA:1 C) (1502)	K03	Relay, starter motor (AA:2 B/CJ:4 B) (1000)
E83R	Headlight module (GA:2 C) (1503)	K04	Relay, body builder fuse box (kl.15) (ME:2 A) (1000)
E84L	Lamp, direction indicator, LED (GA:1 D/GA4:1 C) (1502)	K05	Relay, I-shift/Powertronic/Retarder (DC:0 A/DM:0 A) (1000)
E84R	Lamp, direction indicator, LED (GA:3 D/GA4:4 C) (1503)	K06	Relay, fan climate unit (HY:0 B/HY RHD:0 B) (1000)
E85L	Lamp, interior light, roof (IH:1 D/IH3:2 D/IH4:2 C) (1006B/1006E)	K07	Relay, intermittent wiper (GM:1 C) (1000)
E85R	Lamp, interior light, roof (IH:2 D/IH3:2 D/IH4:2 C) (1006B/1006E)	K08	Relay, gearbox area inhibitor (BA:1 A) (1000)
E86L	Lamp, interior light, reading light, lower bunk (IH:0 D/IH3:1 D/IH4:1 C) (1006D/1006E)	K09	Relay, interior lamps (IH:2 A/IH3:3 A) (1000)
E86R	Lamp, interior light, reading light, lower bunk (IH:1 D/IH3:3 D/IH4:2 C) (1006D/1006E)	K10	Relay, fifth wheel-, working-light (KE:0 C) (1000)
E87L	Lamp, interior light, reading light, front shelf (IH3:3 D) (1006A)	K11	Relay, air suspension (FB:1 B) (1000)
E87R	Lamp, interior light, reading light, front shelf (IH3:3 D) (1006A)	K12	Relay, reverse light, trailer (GB:4 D) (1000)
E88L	Lamp, interior light, snake lamp (IH:0 D/IH3:2 D/IH4:1 C) (1006D/1006E)	K13	Relay, alternator controlled (AA:4 B) (1000)
E88R	Lamp, interior light, snake lamp (IH:1 D/IH3:2 D/IH4:2 C) (1006D/1006E)	K14	Time delay relay, bogie lift, A-ride (FI:1 B/FK:1 C) (1000)
E89	Lamp, interior light, overall storage, midsection (IH3:1 D) (1006A)	K15	Time delay relay, bogie lift, A-ride, with axle load limiter (FK:2 C) (1000)
E90	Lamp, interior light, map/reading light, midsection (IH3:1 D) (1006A)	K16	Relay, bogie lift, A-ride, with axle load limiter (FK:1 C) (1000)
E91DS	Lamp, interior light, door (IH:2 D/IH3:0 D) (1083)	K20	Relay, D+ short-circuit, (ADR-trucks only) (AE:4 D) (1000)
E91PS	Lamp, interior light, door (IH:2 D/IH3:0 D) (1083)	K21	Relay, el. adjustable seat (IA:2 B) (1000)
E92	Lamp, interior light, drawer/floor light (IH:2 D/IH3:0 D) (1000)	K22	Relay, climate fan, 1:st speed (by parking heater) (HY:1 B/HY RHD:1 B) (1000)
E93L	Lamp, interior light, compartment light, front (IH3:4 D) (1006A)	K23	Relay, cab tilt (KA:0 C) (1000)
E93R	Lamp, interior light, compartment light, front (IH3:4 D) (1006A)	K24	Relay, central lubrication (FU:0 B) (1000)
E94L	Lamp, position light, sunvisor (GL2:0 D/GL2:2 D)	K25	Relay, light sign (KI:1 C) (1000)
E94R	Lamp, position light, sunvisor (GL2:1 D/GL2:4 D)	K26A	Relay, foldable rear view mirror arm, Japan (IF:0 C) (1000)
E95	Lamp, working, roof (NA_2:4 D)	K26B	Relay, foldable rear view mirror arm, Japan (IF:1 C) (1000)
E95L	Lamp, working, roof (NA_2:3 C) (1007A)	K30	Relay, beacon warning light (KM:0 B) (1000)
E95R	Lamp, working, roof (NA_2:3 C) (1007A)	K35	Relay, headlamp high pressure wash (GM:0 B) (1000)
G01A	Battery (AA:0 D/AB:1 D/AE:0 D/AF:1 C)	K37	Relay, parking light (NA:1 C/NB:0 C) (1000)
G01B	Battery (AA:0 D/AB:1 D/AE:0 D/AF:1 C)	K38	Relay, body builder preparation, pressure sel./switch 2/free (NA:1 C/NA_2:0 C/NB:1 C) (1000)
G02	Alternator (AA:3 D) (1476)	K39	Relay, body builder preparation, plough light, spotlights (NA:1 C/NB:1 C) (1000)
H01	Horn, air-operated (GQ:1 B) (1502)	K40	Relay, body builder preparation (NA:3 C/NA_2:1 C/NB:3 C) (1000)
256		K41	Relay, body builder preparation, swapbody (NA:2 C/NB:2 C) (1000)

K42	Relay, body builder preparation, spotlights/free (NI:1 B) (1000)	M12	Motor, seat fan (IA:0 C/IA:2 C)
K43	Relay, body builder preparation, external start/free (NC:3 C) (1000)	M13	Motor, coolant pump, parking heater (HM:2 E/HP:0 C) (1062)
K45A	Relay, body builder preparation, dual speed (NU:2 B) (1000)	M14	Motor, central lubrication pump (FU:0 C) (1401)
K45B	Relay, body builder preparation, dual speed (NU:2 C) (1000)	M17	Motor, foldable rear view mirror arm, Japan (IF:0 D) (1470)
K48	Power relay, engine preheating (CJ:3 C) (1435A/1435B)	M27	Motor, roof cooler fan (HZ:1 C)
K49	Power relay, bogie lift motor (FI:3 B/FK:3 D) (1037)	M28	Motor, washer, roof cooler (HZ:2 C) (1018)
K51	Power relay, battery main switch (AB:0 C/CS:0 C) (1435A)	M29	Motor, fan in dash board (HE:0 C) (1000)
K61	Relay, auxiliary revers light, truck (NA:0 C/NA_2:3 B/NB:0 C) (1000)	M41	Motor, pump, Adblue (CR:2 D) (1510)
K63	Relay, ACC Adaptive cruise control (BE:1 B) (1000)	R01	Heater, engine preheat (CO:0 D) (1030)
K64	Relay, man. main switch BBOX-EF (AB:1 C) (1000)	R02L	Heater, rear-view mirror (IE:0 D) (1504)
K65	Power relay, starter motor pre-relay (AA:1 D/CO:2 B) (1030)	R02R	Heater, rear-view mirror (IE:1 D) (1504)
K66	Relay, tail lift indication (NB:2 C) (1000)	R03	Heater, seat (IA:0 C/IA:2 C)
K67	Relay, rainsensor, high speed wiper (GM:3 C) (1000)	R04B	Cigarette lighter (IQ:3 C) (1000)
K68	Relay, power outlets (IR2:1 A) (1000)	R05	Heater, air dryer (FQ:0 C) (1056)
K69	Relay, fuel heater, thermoline (FX:0 C) (1000)	R07	Glow plug, parking heater (HI:3 E/HI2:3 D/HM:1 E)
K70A	Relay, ADR/SLP (AF:0 B) (1435)	R10	Heater, fuel pre filter (Included in A45) (CO:2 B)
K70B	Relay, ADR/SLP (AF:0 D) (1435)	R11	Heater, coffee maker (ME:1 B) (1000)
L01	Reactor, light sign illumination (KI:0 D)	R14	Termination resistor (XB:2 D) (1007C)
L01L	Reactor, light sign illumination (KI:3 D)	R17	Resistor (AB:2 B/AE:3 C) (1000)
L01M	Reactor, light sign illumination (KI:3 C)	R18	Heater, electronic controlled air dryer (FQ:1 C)
L01R	Reactor, light sign illumination (KI:3 B)	R21	Termination resistor (OA:3 C) (1000)
M01	Motor, windscreen wiper (GM:2 C) (1504)	R23A	Heater, AdBlue hose (CV:1 D) (1510)
M02	Motor, windscreen washer pump (GM:0 D) (1503)	R23B	Heater, AdBlue hose (CV:2 D) (1510)
M03	Motor, headlamp high pressure washer pump (GM:1 D) (1503)	R23C	Heater, AdBlue hose (CV:2 D) (1510)
M04	Motor, starter motor (AA:1 D/CO:2 A) (1476)	R23D	Heater, AdBlue hose (CV:1 D) (1510)
M05	Motor, hydraulic bogie lift pump unit (FI:3 B/FK:3 C) (1037)	R23J	Heater, AdBlue hose (CV:1 D) (1510)
M06DS	Motor, window winder (IE:2 C) (1083)	R25	Resistor (GU_2:3 B)
M06PS	Motor, window winder (IE:3 C) (1083)	R26	Resistor (GU_2:4 B)
M07	Motor, parking heater fan (HI:1 E/HI2:2 D/HM:2 E)	R33	Termination resistor (BE:2 D) (1502)
M08	Motor, levelling control, headlights (GA:1 C/GA:2 C) (1502/1503)	R35	Termination resistor (XC:2 C)
M08L/M08R	Motor, levelling control, headlights (GU_2:2 E/GU_2:3 E)	R36	Heater, AdBlue filter housing (CV:0 E) (1510)
M09DS	Motor, door lock (IM:1 D) (1083)	R37	Termination resistor, Can-bus (BE:2 D) (1000)
M09PS	Motor, door lock (IM:2 D) (1083)	R43	Termination resistor (XC:3 D) (1000)
M10	Motor, roof hatch (IQ:0 D)	R45	Termination resistor (BE:3 D) (1007A/1007B)
M11	Motor, cab tilt pump (KA:0 D) (1502/1503)	R46	Heater, fuel hose, thermoline (FX:0 D) (1458)
		R47	Termination resistor (DI:1 B) (1494)
		R50	Termination resistor (CR:3 C)
		R51	Heater, hose, AdBlue (CR:3 D) (1510)
		R52	Heater, hose, AdBlue (CR:3 D) (1510)
		R53	Heater, hose, AdBlue (CR:3 D) (1510)
		S01	Switch, main lighting, selector type (GA:0 A/GU:1 A/GU_2:4 B) (1000)

S02	Stalk switch, full-/dipped beam, direction indicator (BA:2 B/GA:2 A) (1000)	S31	Switch, TCS (Traction Control System) (EO:1 A) (1000)
S03	Switch, loading lamps/working lamps (KE:1 B/ZA RHD:2 B) (1000)	S32	Switch, brake hold (EO:1 B) (1000)
S04	Switch unit, climate fan (HY:1 A/HY RHD:1 A) (1000)	S33	Switch, trailer brake (EO:0 B) (1000)
S05A	Switch, interior light, selector type (IH:3 B) (1000)	S34	Switch unit, steering wheel push buttons (IS:1 D) (1000)
S05B	Switch, interior light, selector type (IH:3 B/IH3:1 B) (1007A)	S36DS	Switch unit, door functions (IE:0 B) (1083)
S05C	Switch, interior light, selector type (IH3:2 B) (1006A)	S36PS	Switch unit, door functions (IE:3 B) (1083)
S06	Stalk switch, windscreen wiper, selector type (BI:3 B/GM:2 B) (1000)	S37	Switch, rear view camera, camera activation (IZ:1 B) (1000)
S07	Switch, engine brake, selector type (BA:3 B) (1000)	S38	Switch, ADR, emergency switch, cab (AE:1 B/AF:3 A) (1000)
S08	Switch, differential gear lock, rear wheels (DU:1 B) (1000)	S39	Switch, ADR, emergency switch, exterior (AE:1 C/AF:3 C) (1007A)
S09	Switch, differential gear locks, inter axles and rear wheels, selector type (DU:1 B) (1000)	S39	Switch, ADR, emergency switch, exterior (AE:2 C) (1007A/1007B)
S10	Switch, sign light, roof (KI:1 B) (1006A)	S39R	Switch, ADR, emergency switch, exterior (AF:3 C) (1007A)
S11	Switch, bogie lift, selector type (FI:0 B/FK:0 B/FL:0 B) (1000)	S40	Switch, rear view camera, camera selection (IZ:2 B)
S11A	Switch, bogie lift, selector type (FB:3 A/FA RHD:2 A) (1000)	S43	Pressure switch, parking brake indicator, NC. (BA:1 D) (1000)
S14A	Switch, push button, horn (GQ:1 D)	S45	Position switch, differential gear lock indicator, rear wheels, NC. or NO. (DU:3 C) (1040)
S14B	Switch, push button, horn (GQ:1 D)	S45R	Position switch, differential gear lock indicator, rear wheels, NC. or NO. (DU:3 C) (1040)
S15	Switch, starting (AC:1 B/AE:0 B/AF:0 A) (1000)	S46	Pressure switch, bogie lift indicator, NO. (FI:2 D/FK:3 E) (1037)
S16	Switch, push button, air horn (GQ:2 D)	S47	Position switch, low split indicator, NO. (BI:1 D) (1494)
S17	Switch, front wheel drive (DU:2 B) (1000)	S48A	Pressure switch, brake light, NO. (ABS/UABS) (GB:3 B) (1401)
S18	Switch, differential gear lock, front (DU:2 B) (1000)	S48B	Pressure switch, brake light, NO. (ABS/UABS trailer control valve) (GB:3 B) (1401)
S19	Switch, extra (NA:3 B/NA_2:2 C/NB:3 B) (1000)	S48C	Pressure switch, brake light, NO. (ABS/UABS trailer control valve) (GB:3 A) (1000)
S20	Switch, 3:rd axle lock (FO:3 B) (1000)	S49	Position switch, reverse lamps, NO (GB:3 D) (1494)
S21A	Switch, parking heater (HI:3 B/ZA RHD:0 B) (1000)	S52_L	Proximity switch, cab lock, NO. (BI:1 C) (1007A)
S21B	Switch, parking heater (HI:3 B) (1007A)	S52_R	Proximity switch, cab lock, NO. (BI:1 D) (1007B)
S23	Switch, roof hatch, selector type (IQ:0 B) (1006A)	S53	Position switch, front-wheel drive indication, NO. (DU:4 C) (1458)
S23B	Switch, roof hatch, selector type (IQ:1 B) (1007A)	S54	Position switch, differential gear lock, front-wheels, NO. (DU:4 C) (1458)
S24	Stalk switch, retarder, selector type (BA:3 B) (1000)	S55	Thermal switch (HP:0 C/IA:0 C/IA:2 C) (1062)
S25	Switch unit, cruise control (BA:2 B/GA:2 A) (1000)	S56	Thermal switch, bogie lift, NC (FI:3 C/FK:3 D) (1037)
S26A	Switch, cab tilt pump (KA:0 B) (1000)	S57L	Position switch, luggage compartment lighting, NC. (IH4:3 D) (1007A)
S26B	Switch, cab tilt pump (KA:0 D) (1502/1503)		
S28A	Switch, power take off (DQ:0 B) (1000)		
S28B	Switch, power take off (NC:0 C/NU:0 B/NX:0 B) (1000)		
S30	Switch unit, multi-function display (BI:3 B/GM:2 B) (1000)		

S57R	Position switch, luggage compartment lighting, NC. (IH4:3 D) (1007B)	S86	Switch, foldable rear view mirror arm, Japan (IF:1 B) (1000)
S58	Position switch, clutch pedal, NO. (BA:3 D) (1000)	S88L	Position switch, door, NC (NK:0 D) (1007A)
S59	Position switch, brake pedal, NO. (BA:3 D) (1000)	S88R	Position switch, door, NC (NK:0 D) (1007B)
S60A	Pressure switch, oil, power steering, NC. (FP:0 C) (1493)	S95	Switch, Panic alarm (NK:2 A) (1000)
S60B	Pressure switch, oil, power steering, NC. (FP:0 C) (1493)	S96	Switch, Reduced set, Alarm (NK:2 B) (1000)
S61	Position switch, seat belt lock, NC. (IA:1 C/IA:3 C)	S128	Switch, Axle pressure divider (FB:3 B/FB RHD:3 A) (1000)
S63	Position switch, low range gear (BA:0 B) (1494)	S169	Switch, battery main switch (AB:2 C) (1435)
S64	Pressure switch, air pressure, parking brake tank, NC. (EO:1 B) (1000)	S171	Switch, GLU (Gearlever unit) (DC:1 D) (1007A/1007B)
S66_L	Switch unit, ECS (electronic controlled susp.), full air suspension (FB:2 E) (1007A)	S187	Switch, night driving light roof (IH3:0 B) (1006A)
S66_R	Switch unit, ECS (electronic controlled susp.), full air suspension (FA RHD:2 E) (1007B)	S188	Switch, night driving light dash (IH3:0 B) (1000)
S68	Sensor, coolant level (CO:2 B) (1030)	S202	Switch, LDWS (Lane Departure Warning System) (BE:0 B) (1000)
S69	Proximity switch, bogie lift position, NO. (FK:1 D) (1037)	S203	Switch, BBOX-EF manual el/mek (AB:1 C) (1460)
S70	Position switch, flow sensor, power-steering, NC. (FP:0 C) (1493)	S210	Switch, ID-lamps (GL:2 B/GL2:3 B) (1006A)
S71	Pressure switch, compressor charging, NO. (BA:0 D) (1056)	S212	Switch, tail lift (NB:1 B) (1000)
S73	Switch, acoustic reverse warning (GC:4 A) (1006A)	S220	Switch, static corner light (GA:3 A) (1000)
S73_2	Switch, acoustic reverse warning (GC RHD:3 B) (1006A)	S221	Switch, door lock/unlock (IM:3 A) (1007A)
S74	Switch, short stop cab heater (HP:0 B) (1000)	S222L	Switch, interior light, compartment light, front (IH3:4 D) (1006A)
S75	Switch, beacon warning light (KM:0 B) (1000)	S222R	Switch, interior light, compartment light, front (IH3:4 D) (1006A)
S76	Switch, spotlights (NA:4 B/NB:4 B) (1000)	S227	Switch, fuel heater, thermoline (FX:0 B) (1000)
S76A	Switch, spotlights (NI:4 C) (1006A)	S228	Switch, tridem bogie control (FB:2 A) (1000)
S77	Switch, emergency call (BU:1 B) (1000)	U01_A	Modulator, EBS, left front (EP:0 B) (1086)
S78	Switch unit, TIS (Traffic Information System) (BU:3 B) (1000)	U02_A	Modulator, EBS, right front (EP:1 B) (1086)
S79A	Switch, additional work lamps (reverse lamps), manual turn on (NA:1 B/NA_2:1 C/NB:1 B) (1000)	U03_A	Modulator, EBS, rear axle (EP:2 D) (1086)
S79A_2	Switch, additional work lamps (reverse lamps), manual turn on (NA_2:0 C)	U03_B	Modulator, EBS, rear axle (EP:0 D) (1086)
S79B	Switch, additional work lamps (reverse lamps), manual turn on (NA:2 B) (1000)	U03_C	Modulator, EBS, rear axle (EP:2 B) (1086)
S79D	Switch, additional work lamps (reverse lamps), manual turn on (NA:0 B/NA_2:4 B/NB:0 B) (1000)	U04_A	Modulator, EBS, pusher axle (EP:2 D) (1086)
S80	Position switch, front hatch (NK:1 D) (1504)	U05_A	Modulator, EBS, trailer (EO:3 B) (1401)
S83	Switch, container lock (NA:2 B/NB:2 B) (1000)	U06	Voltage converter (GK:0 D) (1063)
S84	Switch, tachograph mode (BN:0 C) (1006A)	U06B11	Voltage converter (IR:1 B) (1007C)
		U06B20	Voltage converter (IR:2 B) (1007C)
		U06R11	Voltage converter (IR:1 B) (1007C)
		U06R19	Voltage converter (IR:0 B) (1007C)
		U07_A	Modulator, EBS, tag axle (EP:3 D) (1086)
		U08_A	Modulator, EBS, front (EP:2 B) (1086)
		U10	Voltage converter, 12V ABS Trailer (CP:3 B) (1007C)
		V02	Diode module (AE:2 B) (1000)
		V03	Diode (GG:3 B/ZA RHD:3 B) (1000)
		V04	Diode (FI:0 D/FK:0 D) (1037)
		V05	Diode (FK:2 D) (1000)
		V07	LED, indicator, Alarm (NK:2 C) (1000)

V08	Diode (NU:2 B) (1000)	Y05	Solenoid valve, bogie lift (FI:0 D/FK:0 D) (1037)
V10	Diode (CP:1 B) (1000)	Y05A	Solenoid valve, bogie lift (FL:0 D) (1037)
V11	Diode (CP:2 B) (1000)	Y05B	Solenoid valve, bogie lift (FL:1 D) (1037)
V25	Diode (IH:4 B) (1000)	Y06	Solenoid valve, range inhibitor (BA:0 B) (1494)
V25B	Diode (IH3:2 B) (1006A)	Y08	Solenoid valve, front-wheel drive (DU:2 D) (1458)
V27	Diode (DQ:1 C) (1000)	Y09	Solenoid valve, differential lock, front axle (DU:2 D) (1458)
V28	Diode (DQ:1 C) (1000)	Y10	Solenoid valve, 3:rd axle lock (FM:0 C) (1072)
V32	LED, indicator, LCS (Lane Change Support) (BE:3 C) (1000)	Y11	Solenoid valve unit, ABS, lhs. front (EE:0 D/EF:0D) (1086)
V33	Diode (CP:1 B)	Y11_A	Solenoid valve unit, ABS, lhs. front (EO:3 D) (1086)
V34	Diode (NA_2:1 D)	Y12	Solenoid valve unit, ABS, rhs. front (EE:1 D/EF:1 D) (1086)
V35	Diode (HP:0 D) (1000)	Y12_A	Solenoid valve unit, ABS, rhs. front (EO:4 D) (1086)
V36	Diode (IM:0 C) (1000)	Y13	Solenoid valve unit, ABS, lhs. rear (EE:2 D/EF:1 D) (1086)
V37	Diode (IM:1 C)	Y14	Solenoid valve unit, ABS, rhs. rear (EE:3 D/EF:2 D) (1086)
W02	Antenna, immobiliser (IM:3 C) (1000)	Y15	Solenoid valve unit, ABS, rhs. rear (EF:3 D) (1086)
X01	Connector, vehicle diagnostics (XA:0 C) (1000)	Y16	Solenoid valve unit, ABS, rhs. rear (EF:3 D) (1086)
X02	Trailer connection, ABS/EBS (1063)	Y17B	Solenoid valve, retarder (DI:3 D) (1494)
X03	Trailer connection, 15-pole unit (1063)	Y17C	Solenoid valve, retarder (DM:2 B)
X04	Trailer connection, 7-pole unit, 24 N (1063)	Y18A	Solenoid valve, PTO (Power Take Off) (DQ:0 D) (1401)
X05	Trailer connection, 7-pole unit, 24 S (1063)	Y18B	Solenoid valve, PTO (Power Take Off) (DI:4 B) (1494)
X06	Connector, 31-pole, in lhs. frame side, for body builder preparations (1505)	Y18C	Solenoid valve, PTO (Power Take Off) (NC:0 D/NU:0 C/NX:0 D) (1401)
X07B	Socket, 12V (IR:1 D) (1000)	Y18G	Solenoid valve, PTO (Power Take Off) (DP:2 B) (1499)
X07C	Socket, 12V (IR:2 D) (1000)	Y18H	Solenoid valve, PTO (Power Take Off) (DP:2 B) (1499)
X08	Contact reel, air bag (IS:0 C) (1000)	Y25	Solenoid valve unit, level control, air suspension (FA:1 B) (1072)
X09	Slip contact, horn (GQ:1 C) (1000)	Y25B	Solenoid valve unit, level control, air suspension (FA:2 B) (1072)
X10	B+ pass through, cab (AC:0 B) (1000)	Y30C	Solenoid valve unit, gearbox (DI:0 D) (1494)
X25	Power connector, bogie lift/extra equipment (AA:1 B) (1037)	Y31	Solenoid valve, area inhibitor (BA:1 B) (1494)
X54	Power connector, Engine (B+) (AA:1 D) (1030)	Y32	Fuel dosing pump, parking heater (HI:0 A/HM:0 D) (1040)
X55	Plug, start aid (AA:1 C) (1435)	Y33	Solenoid valve, UI (Unit Injectors) (CO:3 D) (1030)
X63	Trailer connection, VBG 14 (1063)	Y34	Actuator, EGR system (Lisk) (CO:1 D) (1030)
X66	Connector, USB, Audio (IU:3 D) (1000)	Y35	Solenoid valve, engine cooling fan (Included in A43) (CO:0 B)
X67	Connector, USB, AUX (IU:3 A) (1000)		
X74F	Power outlet, 24V (IR2:0 D) (1000)		
X74R	Power outlet, 24V (IR2:1 D) (1007A)		
X75	Split connector, ground (YA:0 D) (1006A/1006E)		
X79L	Connector, 12V, TV preparation kit (IR:3 D) (1006E)		
X79R	Connector, 12V, TV preparation kit (IR:4 D)		
X80L	Connector, AUX, Audio, TV preparation kit (IU:2 A) (1006E)		
X80R	Connector, AUX, Audio, TV preparation kit (IU:2 A)		
Y02	Solenoid valve, differential lock, rear wheels (DU:1 D) (1401)		
Y03	Solenoid valve, differential lock, inter axles, rear (DU:1 D/ZA RHD:3 B) (1401)		

Y37	Solenoid valve unit, AVU (CO:3 B) (1030)	Y51B	Solenoid valve, compressor control (FQ:1 C)
Y37A	Solenoid valve unit, AVU (Air Valve Unit) (CO:3 B) (1030)	Y53	Control valve block , RAS (FO:3 D) (1493)
Y37B	Solenoid valve unit, AVU (Butterfly) (CO:3 B) (1030)	Y54	Control module VGT (Variable Geometry Turbine) (CO:0 B) (1030)
Y38	Solenoid valve, fuel water separator (Included in A45) (CO:3 B)	Y68	Solenoid valve, tridemaxle (FA:2 B) (1072)
Y39	Solenoid valve, VCB (CO:3 B) (1030)	Y72	Solenoid valve, Airhorn (GQ:0 B) (1504)
Y40	Solenoid valve unit, front axle, air suspension (FA:0 B) (1072)	Y80	Solenoid valve, AdBlue dosing unit (CR:1 B/CV:3 D) (1510)
Y42	Clutch, magnetic, air conditioning compressor (HG:0 D/HY:1 D) (1476)	Y81B	Solenoid valve, AdBlue tank heating (CR:1 D/CV:0 D) (1510)
Y43L	Seat belt tensioner, pyrotechnical (IS:2 D) (1007A)	Y88	Solenoid valve, trailing axle, air suspension, bogie lift (FA:3 B) (1072)
Y43R	Seat belt tensioner, pyrotechnical (IS:3 D) (1007B)	Y103	Safety valve, fuel system, ATI (CO:0 B) (1030)
Y44	Air-bag, pyrotechnical (IS:0 D)	Y109	Electro clutch, coolant pump (CO:1 D) (1030)
Y48A	Solenoid valve, container lock (NA:2 D/NB:2 D) (1506A)	Y110	Solenoid valve, oil thermostat (CO:0 D) (1030)
Y48B	Solenoid valve, fifth wheel lock (NA:4 D/NB:3 D) (1506A)	Y111	Solenoid valve, oil piston cooling jet (CO:2 D) (1030)
Y49	Solenoid valve, parking brake (NU:2 C) (1504)	Y114	Throttle (CO:2 D) (1030)
Y51A	Solenoid valve, regeneration (FQ:2 C)	Y128	Solenoid valve, air shut-off (FQ:3 C) (1056)

## Abbreviations

ABS .....	Antilock brake system	EM-EC01 .....	European community 2001 level EURO3
ACC .....	Adaptive cruise control	EM-EC06 .....	European community 2006 level EURO4
ACU .....	Alarm control unit	EM-EU5 .....	Engine emission control, EURO5
ADR-BAS1/ ADR1 ...	ADR adaptation, 1 switch	EM-JPN10 .....	Emission control Japan community 2010
ADR2 .....	ADR adaptation, 2 switches	ENG-VE11 .....	Volvo engine 11 litre
ADR3 .....	ADR adaptation, 3 switches	ENG-VE13 .....	Volvo engine 13 litre
AIRDRY-E .....	Electric airdryer	EPG .....	Exhaust pressure governor
ATB .....	Axle load limiter	ESP .....	Electronic stability program
ATC .....	Automatic temperature control	FAA10 .....	1 front axle, non driven
ATO2512C .....	Gearbox variant	FAA20 .....	2 front axle, non driven
AT2412C .....	Gearbox variant	FMS .....	Fleet management system
AT2512C .....	Gearbox variant	FSS-LEAF .....	Leaf suspension, front
AUS .....	Australia	GSS-AGS .....	Automatic gear shifting system (I-shift)
AUXSW-6 .....	Wiring for six auxiliary switches for body building	GSS-PS .....	Automatic transmission, automatic gear shifting system (Powertronic)
AWD .....	All wheel drive	GSS-RC .....	Range gear shifting, cable manoeuvred
BBM .....	Body builder module	GSS-SRC .....	Split and range gear shifting, cable manoeuvred
BBOX-AC .....	Battery box across framerails	INLI-BAS .....	Interior light, basic
BBOX-EF .....	Battery box end of frame	INLI-NL .....	Interior light, night light
BBOX-R .....	Battery box right hand side	JPN .....	Japan
BUMP-HDC .....	Bumper, heavy duty, construction	L .....	Left
BUMP-P .....	Bumper, plastic	LCM .....	Light control module
BUMP-S .....	Bumper, steel	L1H1 .....	Short cab
BUMP-SC .....	Bumper, steel, construction	L2H1 .....	Long cab
CHH-LOW .....	Chassis height low	L2H2 .....	Long high cab (Globetrotter)
CLU .....	Central locking unit	LF .....	Left front
CU-ACAUT .....	Air condition, automatic	LHD .....	Left hand drive
CU-ACMAN .....	Air condition, manual	LHS .....	Left hand side
CU-BAS .....	Basic version with stepper motor without air condition	LKS .....	Lane keeping support
CU-ECC .....	Electronic controlled climate control air condition	LOCK-ALL .....	Central door lock and cut off electricity of truck
CU-HEAT .....	Heater unit	LR .....	Left rear
CU-MCC .....	Manual controlled climate control air condition	LSS-DW .....	Lane support system departure warning
DACU .....	Driver assistance control unit	MAINSW-M .....	Mechanical main switch
DS .....	Driver side	MAINSWI .....	Main switch
EBS .....	Electronic brake system	MECHTRAN .....	Mechanical transmission
ECS .....	Electronic controlled air suspension	MMS .....	Mechanical main switch
EGR-C .....	Exhaust gas regulation, cooled	OBD .....	On Board Diagnostic
ELCE-CK .....	Electrical complete kit for body builder		
ELMS .....	Electrical main switch		



PH-CAB .....	Cab parking heater	TIS-BAS .....	Transport information system, Logger and Positioning
PH-ENGCA .....	Engine and cab parking heater	TIS-HIGH .....	Transport information system, Logg. Pos. and Adv. message system
PS .....	Passenger side	TIS-MED .....	Transport information system, Logg. Pos. and message
PSS-DUAL .....	Power steering system dual	TMC .....	Traffic message channel
PTO .....	Power take off	TPM .....	Tyre pressure monitoring
R .....	Right	TRACTOR .....	Semi-trailer tractor
RAD-A4 .....	4x2, air spring, 4bellows	TREL7-7 .....	Trailer connectors 2x7-pole unit
RADD-A8 .....	6x4, air spring, 8 bellows	TREL14 .....	Trailer connectors 14-pole unit
RADT-A8 .....	6x2, air spring, 8 bellows, tag axle	TURB-HD .....	Turbo heavy duty design
RADT-AR .....	6x2, leaf spring (A-ride)	UACC .....	Without adaptive cruise control
RAL23 .....	Rear axle load 23 tonnes	UADR .....	Without ADR adaptation
RAL26 .....	Rear axle load 26 tonnes	UALARMB .....	Without alarm
RF .....	Right front	UJERICO .....	Without Jerico horn
RHD .....	Right hand drive	ULKS .....	Without lane keeping support
RHS .....	Right hand side	ULSS .....	Without lane support system
RIGID .....	Platform or tipper truck	UMAINSWI .....	Without main switch
RR .....	Right rear	URETARD .....	Without retarder
RSTS-EHY .....	Rear steering system, electrical controlled, hydraulic	USMCONT .....	Without starter motor control
SCR .....	Selective Catalyst Reduction	USUSPLEV .....	Without air suspension levelling device
SCRS-UHH .....	SCR system equipment, without heated hose	UTPM .....	Without tyre pressure monitoring
SI-GRAF .....	Tachograph	UTRBRAKE .....	Without trailer brake valve
SI-GRAFR .....	Tachograph	VECU .....	Vehicle electronic control unit
SI-SPEED .....	Speedometer	VERS-SAM .....	South American Version
SMCONT .....	Starter motor control	VT2412B .....	Gearbox variant
SPDU-S .....	Dual speed limiter for side mounted	WLUR-BPK .....	Working lamp upper rear, body, prekit
SPEED-DU .....	Dual speed limiter	WLUR-CL .....	Working lamp upper rear, cab, lamp
SRS .....	Supplementary restrain system	WLUR-CPK .....	Working lamp upper rear, cab, prekit
STWPOS-L .....	Steering wheel position left hand side	WPRE-BOC .....	Wire preparation back of cab incl. switch
STWPOS-R .....	Steering wheel position right hand side	ZT1816 .....	Gearbox variant (South America only)
SUSPL-EC .....	Air suspension, electronic control system levelling device		
SUSPL-M .....	Air suspension, manual regulation levelling device		
SWAPBODY .....	Swap body		
TECU .....	Transmission electronic control unit		

## Cable colour code

BL ..... Blue  
BN ..... Brown  
GN ..... Green  
GR ..... Grey  
OR ..... Orange  
P ..... Pink  
R ..... Red

SB ..... Black  
VO ..... Violet  
W ..... White  
Y ..... Yellow

**Note:** If a wire have two colours, this is written out like the following example: Y/R = Yellow/Red.

# Feedback

One of our objectives is that workshop personnel should have access to correct and appropriate service manuals where it concerns fault tracing, repairs and maintenance of Volvo vehicles. In order to maintain the high standards of our literature, your opinions and experience when using this manual would be greatly appreciated. If you have any comments or suggestions, make a copy of this page, write down your comments and send them to us, either via telefax or mailing directly to the address listed below. You can also send your comments via e-mail.

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Comments/proposals

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Concerns Service Manual: .....





**VOLVO**

**Volvo Truck Corporation**

Göteborg, Sweden