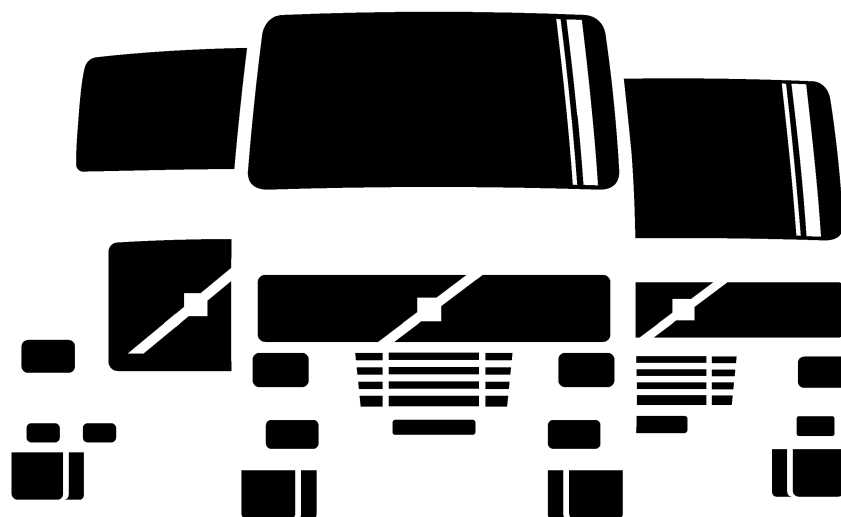


# Service Manual Trucks

Group **37**  
Release **03**

Wiring diagram  
FM, FH, NH12 VERSION2  
FM, FH CHID A622782–  
FM, FH CHID B433164–



# Foreword

The descriptions and service procedures contained in this manual are based on designs and methods studies carried out up to September 06.

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

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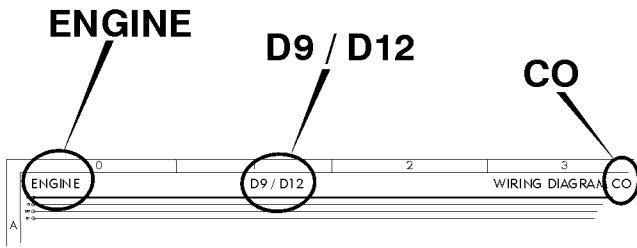
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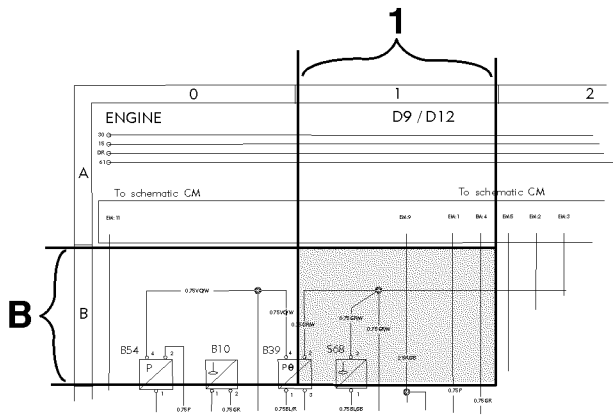
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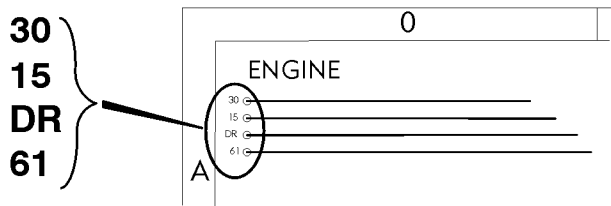
# Example of wiring diagram



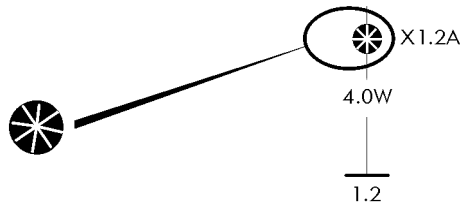
Component wiring diagram title, variant/subtitle and symbol.



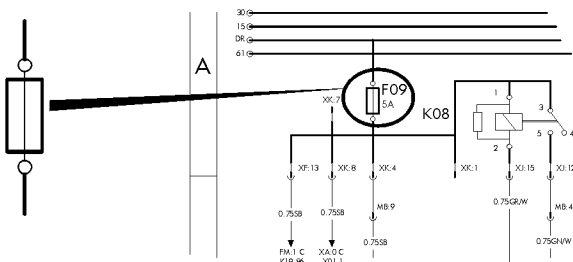
Coordinates (B 1).



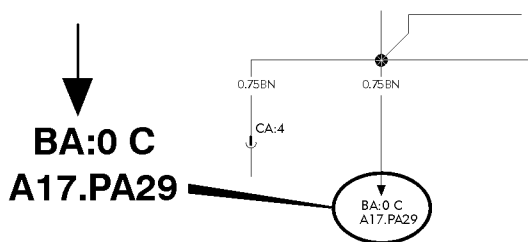
30 Voltage battery, kl.30.  
15 Voltage with starter key in drive position, kl.15.  
DR Voltage with starter key in drive position, preheat position and start position, kl.DR.  
61 Voltage when alternator charges, kl.61.



Splice.

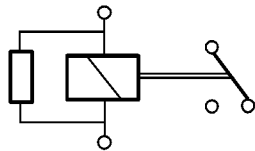
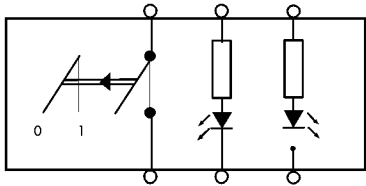
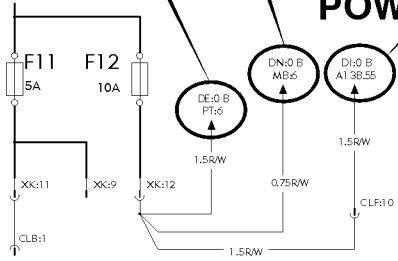


Fuse.



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

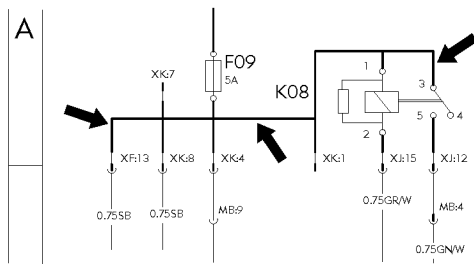
**GEARTRONIC**  
**I-SHIFT**  
**POWERTRONIC**



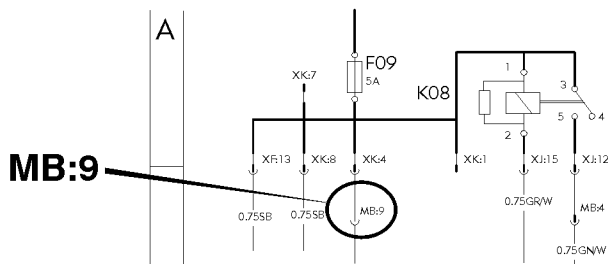
The maximum of variants are drawn, think about that all wires and components are not standard for all markets or vehicle models.

Switch.

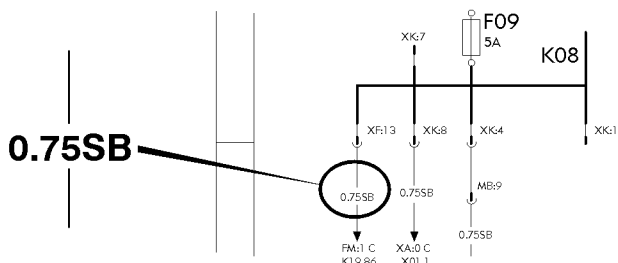
Relay.



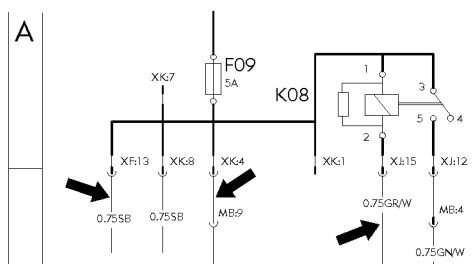
Conductor on circuit card.



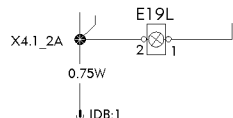
Connector MB terminal 9.



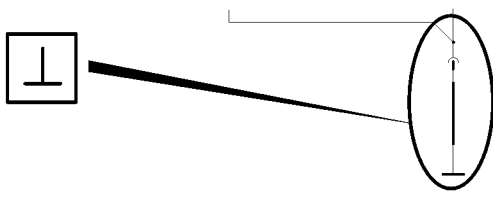
Wire area and colour.



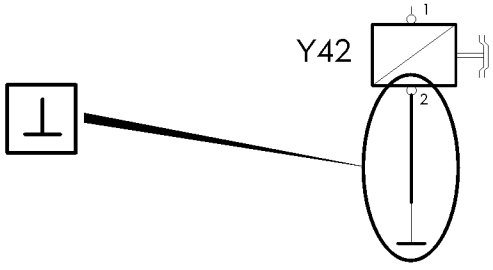
Thin lines, wires.



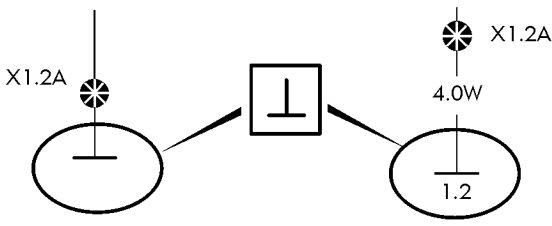
Earth connection point 4, earth connection 1 and wire 2.



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.

## Component wiring diagram index

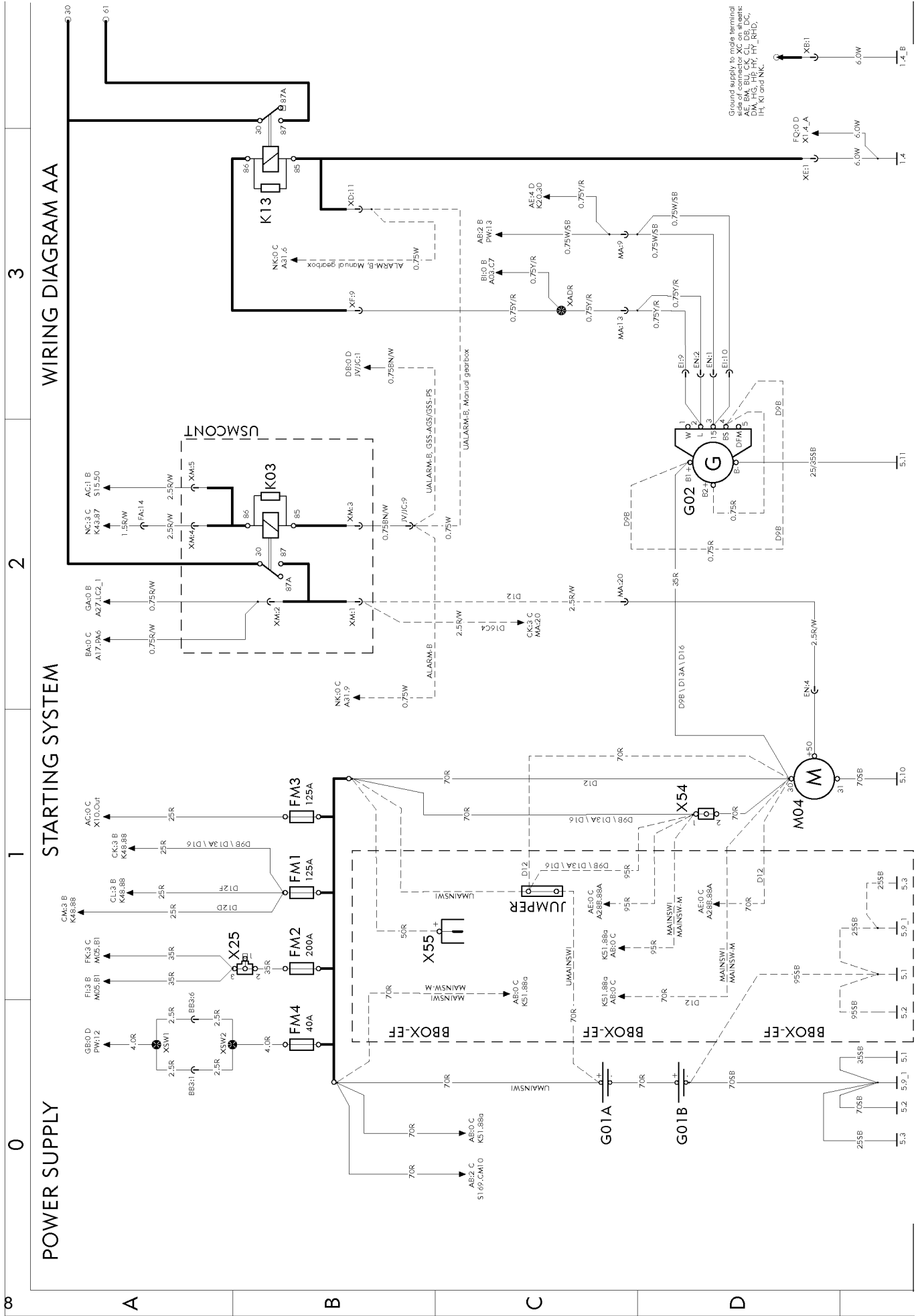
|               |   |         |
|---------------|---|---------|
| <b>AA</b>     | Power supply, starting system .....                       | page 8  |
| <b>AB</b>     | Main switch .....   | page 9  |
| <b>AC</b>     | Power distribution .....                                  | page 10 |
| <b>AE</b>     | ADR, main switch .....                                    | page 11 |
| <b>BA</b>     | Vehicle ECU .....   | page 12 |
| <b>BE</b>     | ACC Adaptive cruise control .....                         | page 13 |
| <b>BI</b>     | Instrument cluster .....                                  | page 14 |
| <b>BM</b>     | Tachograph in dash .....                                  | page 15 |
| <b>BN</b>     | Tachograph in shelf .....                                 | page 16 |
| <b>BU</b>     | Dynafleet TIS-LOG/TIS-MAP .....                           | page 17 |
| <b>BU 2</b>   | Dynafleet TIS-BAS/TIS-MED/TIS-HIGH .....                  | page 18 |
| <b>BX</b>     | FMS Gateway .....   | page 19 |
| <b>BY</b>     | Volvo link (VERS-SAM) .....                               | page 20 |
| <b>BZ</b>     | Toll collect .....  | page 21 |
| <b>BZ RHD</b> | Toll collect .....  | page 22 |
| <b>CK</b>     | Engine interface D9B, D13A, D16C4, D16E .....             | page 23 |
| <b>CL</b>     | Engine interface D12F .....                               | page 24 |
| <b>CM</b>     | Engine interface D12D .....                               | page 25 |
| <b>CO</b>     | Engine D9B, D13A .....                                    | page 26 |
|               | Engine D12D .....   | page 27 |
|               | Engine D12F .....   | page 28 |
|               | Engine D16C4 .....  | page 29 |
|               | Engine D16E .....   | page 30 |
| <b>CP</b>     | ISX functions, 12V trailer ABS converter (AUS only) ..... | page 31 |
| <b>CS</b>     | Engine ISX (AUS only) .....                               | page 32 |
| <b>CV</b>     | SCR .....   | page 33 |
| <b>DB</b>     | Gear selector ECU (GEARTRONIC) .....                      | page 34 |
| <b>DC</b>     | Gear selector ECU (I-SHIFT/POWERTRONIC) .....             | page 35 |
| <b>DE</b>     | Geartronic automatic gearshift .....                      | page 36 |
| <b>DI</b>     | Powertronic .....   | page 37 |
| <b>DI RHD</b> | Powertronic .....   | page 38 |
| <b>DM</b>     | Retarder manual gearshift .....                           | page 39 |
| <b>DN</b>     | I-shift VT2412B .....                                     | page 40 |
| <b>DP</b>     | I-shift AT2412C/AT2512C/ATO2512C .....                    | page 41 |
| <b>DQ</b>     | Power take off .....                                      | page 42 |
| <b>DU</b>     | Diff-lock .....   | page 43 |
| <b>EE</b>     | ABS basic, D-version .....                                | page 44 |

|               |  |         |
|---------------|--|---------|
| <b>EE RHD</b> | ABS basic, D-version .....                     | page 45 |
| <b>EI</b>     | ABS/ASR D-version .....                        | page 46 |
| <b>EI RHD</b> | ABS/ASR D-version .....                        | page 47 |
| <b>EO</b>     | EBS ECU .....                                  | page 48 |
| <b>EO RHD</b> | EBS ECU .....                                  | page 49 |
| <b>EP</b>     | EBS modulators .....                           | page 50 |
| <b>FA</b>     | Air-suspension .....                           | page 51 |
| <b>FA RHD</b> | Air-suspension .....                           | page 52 |
| <b>FG</b>     | Load indicator .....                           | page 53 |
| <b>FI</b>     | Bogie lift A-ride .....                        | page 54 |
| <b>FK</b>     | Bogie lift A-ride with axle load limiter ..... | page 55 |
| <b>FK RHD</b> | Bogie lift A-ride with axle load limiter ..... | page 56 |
| <b>FM</b>     | Axle lock, self steered axle .....             | page 57 |
| <b>FO</b>     | Electronic steered axle .....                  | page 58 |
| <b>FP</b>     | Dual steered front axle .....                  | page 59 |
| <b>FQ</b>     | Air dryer .....                                | page 60 |
| <b>FU</b>     | Central lubrication system .....               | page 61 |
| <b>GA</b>     | LCM head lights .....                          | page 62 |
| <b>GB</b>     | LCM trailer .....                              | page 63 |
| <b>GC</b>     | LCM rear lights .....                          | page 64 |
| <b>GC RHD</b> | LCM rear lights .....                          | page 65 |
| <b>GD</b>     | HID relays .....                               | page 66 |
| <b>GE</b>     | Rear lights overhang .....                     | page 67 |
| <b>GF</b>     | Rear lights, India/Korea .....                 | page 68 |
| <b>GG</b>     | Trailer connections, RIGID .....               | page 69 |
| <b>GH</b>     | Trailer connections, TRACTOR .....             | page 70 |
| <b>GI</b>     | LCM head lights (VERS-SAM TYPE-N) .....        | page 71 |
| <b>GK</b>     | Trailer connections (AUS only) .....           | page 72 |
| <b>GL</b>     | Identification lamps .....                     | page 73 |
| <b>GM</b>     | Wiper, washer .....                            | page 74 |
| <b>GQ</b>     | Horn .....                                     | page 75 |
| <b>GR</b>     | Trailer connections TREL14 .....               | page 76 |
| <b>GU</b>     | Headlights adjust .....                        | page 77 |
| <b>HG</b>     | Climate unit, CU,-BAS,-MCC,-ECC .....          | page 78 |
| <b>HI</b>     | Air heater .....                               | page 79 |
| <b>HM</b>     | Water heater .....                             | page 80 |
| <b>HP</b>     | Short stop cab heater .....                    | page 81 |
| <b>HY</b>     | Climat unit, CU,-HEAT,-ACMAN,-ACAUT. ....      | page 82 |



|               |   |          |
|---------------|---|----------|
| <b>HY RHD</b> | Climat unit, CU,-HEAT,-ACMAN,-ACAUT. ....       | page 83  |
| <b>HZ</b>     | Air cooler, Brazil .....                        | page 84  |
| <b>IA</b>     | El. heated/adj. seat .....                      | page 85  |
| <b>IE</b>     | El. heat/adj. mirrors, El. window winders ..... | page 86  |
| <b>IF</b>     | Foldable mirror bracket .....                   | page 87  |
| <b>IH</b>     | Interior light .....                            | page 88  |
| <b>IJ</b>     | Interior light, storage .....                   | page 89  |
| <b>IM</b>     | Central locking, immobiliser .....              | page 90  |
| <b>IQ</b>     | El. sunroof, cig. lighter, refrigerator .....   | page 91  |
| <b>IR</b>     | 12V power supply .....                          | page 92  |
| <b>IS</b>     | SRS. Air-bag .....                              | page 93  |
| <b>IU</b>     | Radio .....                                     | page 94  |
| <b>IU RHD</b> | Radio .....                                     | page 95  |
| <b>IV</b>     | Amplifier .....                                 | page 96  |
| <b>IX</b>     | Integrated telephone .....                      | page 97  |
| <b>IZ</b>     | Backup camera .....                             | page 98  |
| <b>KA</b>     | Cab tilt .....                                  | page 99  |
| <b>KE</b>     | Load light, 5:th wheel lamp .....               | page 100 |
| <b>KI</b>     | Light sign .....                                | page 101 |
| <b>KM</b>     | Beacon warning light .....                      | page 102 |
| <b>ME</b>     | Extra fuse block, key switch relay .....        | page 103 |
| <b>NA</b>     | Body builder (BB), auxsw-6 and swapbody .....   | page 104 |
| <b>NB</b>     | Body builder (BB), tailprep and swapbody .....  | page 105 |
| <b>NC</b>     | Body builder (BB), ELCE-CK, BBM, PTO2 .....     | page 106 |
| <b>NI</b>     | Extra spotlamps front/roof, max 4x70W .....     | page 107 |
| <b>NK</b>     | Burglar alarm .....                             | page 108 |
| <b>NU</b>     | Body builder (BB), DUAL-SPEED .....             | page 109 |
| <b>OA</b>     | Tyre pressure monitoring (TPM) .....            | page 110 |
| <b>XA</b>     | Bus J1708/J1587 .....                           | page 111 |
| <b>XB</b>     | Bus J1939 .....                                 | page 112 |
| <b>XC</b>     | Bus J1939-7, OBD .....                          | page 113 |
| <b>ZA RHD</b> | Ground/Misc. ....                               | page 114 |

# Component wiring diagrams



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