



## Contents

<b>00 - Technical data</b>	<b>1</b>
1 <b>Safety information</b>	1
1.1 Safety precautions when working on vehicles with high-voltage system	1
1.2 Safety precautions when using testing and measuring instruments during a road test	2
2 <b>Repair instructions</b>	3
2.1 Raising vehicle	3
2.2 Contact corrosion	3
2.3 Routing and attachment of lines	3
3 <b>Battery</b>	4
3.1 Battery - general notes	4
<b>27 - Starter, current supply, CCS</b>	<b>6</b>
1 <b>Battery</b>	6
1.1 Assembly overview - battery	6
1.2 Removing and installing battery	7
1.3 Removing and installing earth wire with battery monitor control unit J367	9
1.4 Disconnecting and connecting battery	10
<b>90 - Gauges, instruments</b>	<b>12</b>
1 <b>Dash panel insert</b>	12
1.1 Assembly overview - dash panel insert	12
1.2 Removing and installing dash panel insert KX2	13
2 <b>Horn</b>	14
2.1 Assembly overview - horn	14
2.2 Removing and installing treble horn H2 / bass horn H7	14
<b>92 - Windscreen wash/wipe system</b>	<b>16</b>
1 <b>windscreen wiper system.</b>	16
1.1 Assembly overview - windscreen wiper system	16
1.2 Moving wipers to service position	18
1.3 Removing and installing wiper blade	18
1.4 Removing and installing wiper arms	19
1.5 Adjusting wiper arms	20
1.6 Removing and installing wiper motor V	20
2 <b>Windscreen washer system</b>	21
2.1 Assembly overview - windscreen washer system	21
2.2 Removing and installing washer fluid reservoir	22
2.3 Removing and installing washer pump V5	22
2.4 Removing and installing washer fluid warning contact F77	23
2.5 Removing and installing washer jets	23
2.6 Adjusting spray jets	24
<b>93 - Electric drive systems</b>	<b>25</b>
1 <b>General warnings for working on high-voltage system</b>	25
1.1 General warnings for working on high-voltage system	25
1.2 Rules for cleanliness when working on the high-voltage system	26
1.3 Warning stickers	27
1.4 Hazard classification for the high-voltage system	30
1.5 De-energising high-voltage system	38
1.6 Re-energising high-voltage system	39
2 <b>High-voltage components</b>	44
2.1 Overview of fitting locations - high-voltage components	44



<b>3</b>	<b>High-voltage battery unit</b>	<b>45</b>
3.1	Assembly overview - hybrid battery unit AX1	45
3.2	Visual inspection of hybrid battery unit AX1	46
3.3	Removing and installing hybrid battery unit AX1	46
3.4	Raising hybrid battery unit AX1	49
<b>4</b>	<b>Power and control electronics for electric drive</b>	<b>51</b>
4.1	Assembly overview - power and control electronics for electric drive JX1	51
4.2	Visual inspection of power and control electronics for electric drive JX1	52
4.3	Removing and installing power and control electronics for electric drive JX1	52
<b>5</b>	<b>Electric drive motor</b>	<b>57</b>
5.1	Assembly overview - electric drive motor V141	57
5.2	Removing and installing electric drive motor V141	58
5.3	Removing and installing drive motor rotor position sender 1 G713	68
<b>6</b>	<b>High-voltage cables</b>	<b>70</b>
6.1	Overview of fitting locations - high-voltage cables	70
6.2	Specified torques for high-voltage cables	71
6.3	Removing and installing high-voltage cable for electrical air conditioner compressor P3	72
6.4	Removing and installing high-voltage wiring harness for hybrid battery PX1	73
6.5	Removing and installing high-voltage wiring harness for drive motor PX2	74
6.6	Removing and installing high-voltage cable for high-voltage charge current distributor SX4	75
6.7	Removing and installing high-voltage cable for high-voltage heater (PTC) P11	76
<b>7</b>	<b>Charging connection</b>	<b>78</b>
7.1	Assembly overview - high-voltage battery charging connection 1 U34	78
7.2	Removing and installing connection 1 for charging high-voltage battery U34	79
7.3	Actuator for locking element of high-voltage charging connection	80
<b>8</b>	<b>High-voltage charge current distributor</b>	<b>81</b>
8.1	Assembly overview - high-voltage charge current distributor SX4	81
8.2	Removing and installing high-voltage charge current distributor SX4	82
<b>94 - Lights, bulbs, switches - exterior</b>		<b>84</b>
<b>1</b>	<b>Headlights</b>	<b>84</b>
1.1	Assembly overview - headlight	84
1.2	Removing and installing headlight MX1 / MX2	85
1.3	Adjusting headlights	85
<b>2</b>	<b>Lights in exterior mirror</b>	<b>87</b>
2.1	Assembly overview - lights in exterior mirror	87
2.2	Removing and installing turn signal	87
<b>3</b>	<b>Tail lights</b>	<b>89</b>
3.1	Assembly overview - tail lights in body	89
3.2	Assembly overview - tail lights in rear lid	90
3.3	Removing and installing tail light MX3 / MX4	90
3.4	Removing and installing rear LED module L259	91
3.5	Removing and installing centre tail light cluster MX13	92
<b>4</b>	<b>High-level brake light</b>	<b>93</b>
4.1	Assembly overview - high-level brake light	93
4.2	Removing and installing high-level brake light	93
<b>5</b>	<b>Number plate light</b>	<b>95</b>
5.1	Assembly overview - number plate light	95
5.2	Removing and installing number plate light X4 / X5	96
<b>6</b>	<b>Entry and start authorisation system</b>	<b>97</b>
6.1	Overview of fitting locations - entry and start authorisation system	97
6.2	Removing and installing entry and start authorisation control unit J518	98

---



6.3	Removing and installing interior aerial 1 for entry and start authorisation R138 . . . . .	98
<b>7</b>	<b>Steering column switch module . . . . .</b>	<b>100</b>
7.1	Assembly overview - steering column switch module . . . . .	100
7.2	Removing and installing steering column electronics control unit J527 . . . . .	101
7.3	Removing and installing steering column combination switch E595 . . . . .	102
<b>8</b>	<b>Parking aid . . . . .</b>	<b>103</b>
8.1	Assembly overview – parking aid . . . . .	103
8.2	Removing and installing parking aid control unit J446 . . . . .	104
8.3	Removing and installing parking aid loudspeaker R169 . . . . .	104
8.4	Removing and installing rear parking aid senders G203 / G204 / G205 / G206 . . . . .	105
<b>96 - Lights, bulbs, switches - interior . . . . .</b>		<b>106</b>
<b>1</b>	<b>Lights . . . . .</b>	<b>106</b>
1.1	Overview of fitting locations - interior lights . . . . .	106
1.2	Overview of fitting locations - lights in front doors . . . . .	107
1.3	Overview of fitting locations - lights in roof trim . . . . .	108
1.4	Removing and installing emergency exit and door jettison warning lamp K180 / K296 . . . . .	109
1.5	Removing and installing Central locking SAFELOCK function warning lamp K133 . . . . .	110
1.6	Removing and installing bulb for front interior light W1 . . . . .	111
<b>2</b>	<b>Controls . . . . .</b>	<b>113</b>
2.1	Overview of fitting locations - controls in dash panel . . . . .	113
2.2	Overview of fitting locations - controls in centre console . . . . .	114
2.3	Overview of fitting locations - controls in roof trim . . . . .	115
2.4	Removing and installing rotary light switch EX1 . . . . .	117
2.5	Removing and installing controls for centre of dash panel J819 . . . . .	117
2.6	Removing and installing Tyre Pressure Monitoring System button E226 . . . . .	119
2.7	Removing and installing hazard warning light switch EX3 . . . . .	119
2.8	Removing and installing electromechanical parking brake button E538 . . . . .	120
2.9	Removing and installing the starter button E378 . . . . .	120
2.10	Removing and installing front left/right door opener release switch E763 / E764 . . . . .	121
2.11	Removing and installing front interior light WX1 . . . . .	122
<b>3</b>	<b>Immobiliser . . . . .</b>	<b>124</b>
3.1	Removing and installing immobiliser reader coil D2 . . . . .	124
<b>97 - Wiring . . . . .</b>		<b>125</b>
<b>1</b>	<b>Relay carriers, fuse holders, electronics boxes . . . . .</b>	<b>125</b>
1.1	Overview of fitting locations - relay carriers, fuse holders, E-boxes . . . . .	125
1.2	Removing and installing relay carrier, fuse holder C SC in vehicle front end . . . . .	130
1.3	Removing and installing fuse holder D SD under dash panel . . . . .	132
1.4	Removing and installing relay carrier under dash panel . . . . .	132
1.5	Removing and installing relay carrier, fuse holder F SF in luggage compartment . . . . .	133
1.6	Removing and installing fuse holder B SB on battery . . . . .	133
<b>2</b>	<b>Select Control units . . . . .</b>	<b>135</b>
2.1	Overview of fitting locations - control units . . . . .	135
2.2	Removing and installing onboard supply control unit J519 . . . . .	138
2.3	Removing and installing data bus diagnostic interface J533 . . . . .	139
2.4	Removing and installing telematics control unit J499 . . . . .	140
2.5	Removing and installing charge voltage control unit for high-voltage battery J966 . . . . .	141
2.6	Removing and installing operating range display control unit J1033 . . . . .	144
2.7	Removing and installing data recorder J1063 . . . . .	144
2.8	Removing and installing communication unit . . . . .	146