

## Contents

<b>27 - Starter, current supply, CCS</b> .....	<b>1</b>
1 <b>Contact corrosion</b> .....	1
<b>2 Battery</b> .....	2
2.1 Battery - general notes .....	2
2.2 Maintenance-free batteries .....	2
2.3 Disconnecting and connecting battery .....	2
2.4 Removing and installing battery .....	3
2.5 Checking battery .....	7
2.6 Charging battery .....	8
2.7 Preparations before charging battery .....	8
2.8 Preparations for back-up power supply of battery .....	9
<b>3 Removing and installing alternator</b> .....	10
3.1 Vehicles with 1.4 l MPI engine .....	10
3.2 Vehicles with 1.6 l FSI engine .....	13
3.3 Vehicles with 1.2 l TDI engine .....	18
3.4 Vehicles with 1.4 l TDI engine .....	23
<b>4 Servicing alternator</b> .....	28
4.1 Checking alternator .....	28
4.2 Servicing alternator .....	28
<b>5 Removing and installing starter</b> .....	29
5.1 Vehicles with 1.4 ltr. MPI and 1.6 ltr. FSI engine .....	29
5.2 Vehicles with 1.2 l TDI engine .....	32
5.3 Vehicles with 1.4 l TDI engine .....	34
<b>6 Cruise control system (CCS)</b> .....	38
<b>90 - Gauges, instruments</b> .....	<b>39</b>
1 <b>Dash panel insert</b> .....	39
1.1 Fault message "deft" on trip recorder display .....	39
1.2 Removing and installing dash panel insert .....	39
1.3 Multi-pin connectors at dash panel insert .....	42
1.4 Assignment of contacts at multi-pin connectors at dash panel insert .....	43
1.5 Terminal assignment on fuel gauge sender G .....	45
1.6 Connection assignment at coolant temperature gauge sender G2 / coolant temperature sender G62 .....	47
<b>92 - Windscreen wash/wipe system</b> .....	<b>50</b>
1 <b>Contact corrosion</b> .....	50
<b>2 Windscreen wiper system</b> .....	51
2.1 Windscreen wiper system - exploded view .....	51
2.2 Replacing wiper blade - vehicles up to Model Year 2001 .....	52
2.3 Replacing wiper blade - vehicles as of Model Year 2002 .....	52
2.4 Eliminating wiper judder - vehicles up to Model Year 2001 .....	52
2.5 Removing and installing wiper arm .....	53
2.6 Adjusting wiper arm .....	55
2.7 Removing and installing wiper motor with wiper frame .....	57
<b>3 Windscreen washer system</b> .....	61
3.1 Removing and installing filler neck with flexible pipe for washer fluid container .....	61
3.2 Removing and installing washer fluid reservoir - vehicles with 1.2 l TDI engine .....	62
3.3 Removing and installing washer fluid reservoir - vehicles without headlight washer system .....	64
3.4 Removing and installing washer fluid reservoir - vehicles with headlight washer system ..	66
3.5 Removing and installing spray jets - vehicles up to Model Year 2002 .....	69



3.6	Removing and installing spray jets - vehicles as of Model Year 2003	70
3.7	Adjusting spray jets - vehicles up to Model Year 2002	72
3.8	Adjusting spray jets - vehicles as of Model Year 2003	72
<b>4</b>	<b>Headlight washer system</b>	<b>74</b>
4.1	Removing and installing headlight washer spray jets	74
4.2	Adjusting spray jets	75
4.3	Removing and installing washer fluid reservoir	75
<b>5</b>	<b>Washer fluid hoses</b>	<b>76</b>
<b>94</b>	<b>Lights, bulbs, switches - exterior</b>	<b>77</b>
<b>1</b>	<b>Contact corrosion</b>	<b>77</b>
<b>2</b>	<b>Headlights</b>	<b>78</b>
2.1	Headlights - exploded view	78
2.2	Removing and installing headlights	79
2.3	Aligning headlight to body contours (gap widths)	81
2.4	Adjusting headlights	81
2.5	Preparation for working on headlight	81
2.6	Replacing dipped beam bulb	82
2.7	Replacing main beam bulb	83
2.8	Replacing side light bulb	84
2.9	Replacing turn signal bulb	84
2.10	Removing and installing headlight range control motor V48 / V49	85
2.11	Installing repair set for headlight housing	85
2.12	Resetting headlights for driving on the left instead of on the right	86
2.13	Resetting headlights for driving on the right instead of on the left	86
<b>3</b>	<b>Fog lights</b>	<b>87</b>
3.1	Removing and installing fog lights	87
3.2	Replacing fog light bulb	87
3.3	Adjusting fog lights	88
<b>4</b>	<b>Side-mounted turn signals</b>	<b>89</b>
4.1	Removing and installing side mounted turn signals	89
<b>5</b>	<b>Rear lights</b>	<b>90</b>
5.1	Rear light - exploded view	90
5.2	Removing and installing rear light	90
5.3	Replacing rear light bulbs	91
<b>6</b>	<b>High-level brake light</b>	<b>92</b>
6.1	Removing and installing high-level brake light	92
<b>7</b>	<b>Number plate light</b>	<b>93</b>
7.1	Removing and installing number plate light	93
<b>8</b>	<b>Steering column switch</b>	<b>94</b>
8.1	Steering column switch - exploded view	94
8.2	Removing and installing steering column switch	94
8.3	Removing and installing coil connector with slip ring and steering angle sender G85	98
8.4	Removing and installing lever switch for windscreen wipe/wash, FIS, turn signals/lights, CCS	99
8.5	Connection assignment at steering column switch	99
<b>9</b>	<b>Lock cylinder and ignition/starter switch</b>	<b>101</b>
9.1	Removing and installing lock cylinder	101
9.2	Removing and installing ignition/starter switch	103
9.3	Terminal assignment on ignition/starter switch	103
<b>10</b>	<b>Parking aid</b>	<b>104</b>
10.1	Parking aid - overview	104
10.2	Removing and installing parking aid control unit J446	104
10.3	Removing and installing rear parking aid warning buzzer H15	105

10.4	Removing and installing rear parking aid senders .....	106
<b>96</b>	<b>- Lights, bulbs, switches - interior .....</b>	<b>107</b>
<b>1</b>	<b>Contact corrosion .....</b>	<b>107</b>
<b>2</b>	<b>Switches .....</b>	<b>108</b>
2.1	Removing and installing light switch E1 .....	108
2.2	Removing and installing switches and instruments illumination regulator E20 / headlight range control regulator E102 .....	108
2.3	Removing and installing hazard warning switch E3 .....	109
2.4	Removing and installing front seat heating switches .....	109
2.5	Removing and installing switches in centre console .....	110
2.6	Removing and installing glove box light switch E26 .....	111
2.7	Removing and installing function selection switch 2 E272 .....	111
2.8	Removing and installing mirror adjustment switch E43 .....	112
2.9	Removing and installing switch unit with window lifter switches E40 , E39 , E41 , E53 and E55 .....	112
2.10	Removing and installing window regulator switch in front passenger door E107 .....	113
2.11	Removing and installing rear left/rear right window regulator switch in door E52 / E54 ..	113
2.12	Removing and installing tank filler flap remote release switch E204 .....	114
2.13	Removing and installing interior monitoring deactivation switch E183 .....	114
2.14	Removing and installing sun roof switch E8 .....	115
2.15	Removing and installing door contact switch .....	115
2.16	Removing and installing driver side interior locking switch E150 (central locking switch) ..	115
2.17	Removing and installing rear lid contact switch with integrated microswitch .....	116
2.18	Removing and installing 12 V socket in luggage compartment .....	116
<b>3</b>	<b>Immobilizer .....</b>	<b>117</b>
<b>4</b>	<b>Ultrasonic interior monitoring .....</b>	<b>118</b>
4.1	Removing and installing anti-theft alarm ultrasonic sensor G209 .....	118
4.2	Removing and installing horn for anti-theft alarm H8 and alarm horn H12 .....	118
<b>5</b>	<b>Interior lights .....</b>	<b>120</b>
5.1	Removing and installing light for vanity mirror .....	120
5.2	Removing and installing front interior/reading light .....	120
5.3	Replacing bulb for front interior light .....	121
5.4	Replacing bulbs for front reading lights .....	122
5.5	Removing and installing front passenger side airbag deactivated warning lamp K145 ..	123
5.6	Removing and installing rear interior/reading light .....	123
5.7	Replacing bulb for rear interior light/reading light .....	124
5.8	Removing and installing glove box light .....	125
5.9	Removing and installing luggage compartment light .....	125
<b>6</b>	<b>Horn .....</b>	<b>127</b>
6.1	Removing and installing horn and dual tone horn H1 .....	127
<b>7</b>	<b>Towing bracket .....</b>	<b>128</b>
7.1	Socket for towing bracket .....	128
<b>97</b>	<b>- Wiring .....</b>	<b>129</b>
<b>1</b>	<b>Contact corrosion .....</b>	<b>129</b>
<b>2</b>	<b>Relay carriers, fuse carriers .....</b>	<b>130</b>
2.1	Relay carriers, fuse carriers - overview .....	130
2.2	Removing and installing fuse carrier on 9-socket relay carrier .....	130
2.3	Removing and installing 9-socket relay carrier .....	131
2.4	Removing and installing left A-pillar connection point .....	133
2.5	Unplugging left door disconnectors .....	133
2.6	Removing and installing hazard warning light relay J2 .....	134
2.7	Removing and installing 6+6-socket relay carrier .....	134
2.8	Removing and installing 3-socket relay carrier .....	135



2.9	Removing and installing convenience system central control unit J393	136
2.10	Removing and installing right A-pillar connection point	137
2.11	Unplugging right door disconnectors	138
2.12	Removing and installing main fuse carrier	138
<b>3</b>	<b>Repairing wiring harnesses and electrical connectors</b>	<b>140</b>
<b>4</b>	<b>Repairing connector housings and electrical connectors</b>	<b>141</b>
<b>5</b>	<b>Releasing and dismantling connector housings</b>	<b>142</b>
<b>6</b>	<b>Repairing aerial wires</b>	<b>143</b>
<b>7</b>	<b>Vehicle diagnostic, testing and information systems</b>	<b>144</b>