



Contents

00 - Technical data	1
1 Safety information	1
1.1 Safety precautions when working on air conditioning systems	1
1.2 Safety precautions when handling refrigerants	1
1.3 Safety measures when working on vehicles with a start/stop system	2
1.4 Safety precautions when working on the cooling system	2
2 General information	3
2.1 Notes concerning odours in air conditioned vehicles	3
2.2 Notes for vehicles with start-stop system	3
2.3 Type plates	4
3 Repair notes	5
3.1 Working on refrigerant circuit	5
3.2 General repair instructions	5
3.3 Refrigerant circuit seals	5
3.4 Notes on control motors	6
4 Technical data	12
4.1 Refrigerant capacity	12
4.2 Refrigerant oil	12
4.3 Oil distribution	12
80 - Heating	14
1 Heating	14
87 - Air conditioning system	15
1 Overview of fitting locations - air conditioning system	15
1.1 Overview of fitting locations - components not located in passenger compartment	15
1.2 Overview of fitting locations - components located in front section of passenger compartment	19
2 Refrigerant circuit	24
2.1 System overview - refrigerant circuit	24
2.2 Assembly overview - condenser	26
2.3 Removing and installing high-pressure sender G65	28
2.4 Removing and installing expansion valve	30
2.5 Removing and installing condenser	34
2.6 Removing and installing desiccant bag or cartridge	36
2.7 Removing and installing evacuating and charging valves on low and high-pressure side	43
3 Air conditioner compressor	46
3.1 Assembly overview - drive unit of air conditioner compressor	46
3.2 Assembly overview - pulley	47
3.3 Removing air conditioning compressor from and installing on bracket	50
3.4 Removing and installing air conditioner compressor	52
3.5 Checking high-pressure safety valve on air conditioner compressor	57
3.6 Removing and installing pulley	58
4 Control motors	61
4.1 Overview of fitting locations - front control motors	61
4.2 Removing and installing temperature flap control motor V68	66
4.3 Removing and installing defroster flap control motor V107	70
4.4 Removing and installing air recirculation flap control motor V113	71
4.5 Removing and installing left temperature flap control motor V158	75
4.6 Removing and installing right temperature flap control motor V159	79
4.7 Removing and installing fresh air/air recirculation, air flow flap control motor V425	82



4.8	Removing and installing front air distribution flap control motor V426	85
4.9	Removing and installing air distribution flap control motor V428	86
4.10	Removing and installing air distribution flap actuator	87
4.11	Removing and installing fresh air/air recirculation, air flow flap actuator	88
5	Front heater and air conditioning unit	90
5.1	Assembly overview - heater and air conditioning unit	90
5.2	Assembly overview - evaporator housing	95
5.3	Removing and installing heater and air conditioning unit	96
5.4	Removing and installing evaporator	102
5.5	Dismantling and assembling evaporator housing	103
5.6	Removing and installing air distribution housing	104
5.7	Removing and installing heat exchanger	106
5.8	Removing and installing dust and pollen filter	110
5.9	Checking auxiliary air heater element Z35	114
5.10	Removing and installing auxiliary air heater element Z35	115
5.11	Removing and installing fresh air blower V2	116
5.12	Removing and installing fresh air blower control unit J126	119
5.13	Removing and installing fresh air blower series resistor with overheating fuse N24	120
5.14	Removing and installing evaporator output temperature sender G263	120
5.15	Checking condensation drain	121
5.16	Removing and installing glove box cooling	123
5.17	Removing and installing coolant pipes on heat exchanger	123
5.18	Removing and installing flexible shaft for air distribution	125
5.19	Removing and installing baffle plate	126
6	Air duct	127
6.1	Assembly overview - air duct and air distribution in passenger compartment	127
6.2	Removing and installing rear footwell vent	128
6.3	Removing and installing driver side footwell vents	129
6.4	Removing and installing front passenger side footwell vents	130
6.5	Checking forced ventilation for passenger compartment	131
6.6	Removing and installing forced ventilation for passenger compartment	131
6.7	Removing and installing fresh air intake	132
6.8	Removing and installing air duct for defroster vent	135
6.9	Removing and installing air duct for centre vent	135
7	Operating and display unit	136
7.1	Overview of fitting locations - operating and display unit	136
7.2	Removing and installing operating and display unit	139
8	Other controlling and regulating components	142
8.1	Removing and installing sunlight penetration photosensor G107	142
8.2	Principle of operation of air quality sensor G238	143
8.3	Removing and installing air quality sensor G238	144
8.4	Ambient temperature sensor G17	146
8.5	Removing and installing left vent temperature sender G150	146
8.6	Removing and installing right vent temperature sender G151	147
8.7	Removing and installing centre vent temperature sender G191	148
8.8	Removing and installing footwell vent temperature sender G192	149
8.9	Removing and installing left footwell vent temperature sender G261	149
8.10	Removing and installing right footwell vent temperature sender G262	150