



Contents

00 - Technical data	1
1 Notes on safety	1
1.1 Safety precautions when working on air conditioning systems	1
1.2 Safety measures for when working on vehicles with a start-stop system	1
1.3 Safety precautions when working on cooling system	1
2 General notes	3
2.1 Notes concerning odours in air conditioned vehicles	3
2.2 Notes for vehicles with start-stop system	3
3 Repair notes	4
3.1 Working on refrigerant circuit	4
3.2 Refrigerant circuit seals	4
4 Technical data	5
4.1 Capacities for refrigerant R134a	5
4.2 Refrigerant oil	5
4.3 Oil distribution	5
80 - Heating	6
1 Heating	6
87 - Air conditioning system	7
1 Overview of fitting locations - air conditioning system	7
1.1 Overview of fitting locations - components not located in passenger compartment	7
2 Refrigerant circuit	11
2.1 System overview - refrigerant circuit	11
2.2 Removing and installing condenser	12
2.3 Removing and installing restrictor	13
2.4 Removing and installing refrigerant pressure and temperature sender G395	14
2.5 Quick release coupling	16
2.6 Removing and installing evacuating and charging valves on low and high-pressure side	19
2.7 Removing and installing drier	21
3 Air conditioner compressor	24
3.1 Removing and installing air conditioner compressor	24
3.2 Removing and installing freewheel on air conditioner compressor	28
3.3 Checking excess pressure relief valve on air conditioner compressor	31
3.4 Ancillary bracket	31
4 Control motors	44
4.1 Overview of fitting locations - front control motors	44
4.2 Removing and installing air flow flap control motor V71	46
4.3 Removing and installing defroster flap control motor V107	47
4.4 Removing and installing left footwell flap control motor V108	47
4.5 Removing and installing right footwell flap control motor V109	48
4.6 Removing and installing air recirculation flap control motor V113	49
4.7 Removing and installing front cold air flap control motor V197	50
4.8 Removing and installing front warm air flap control motor V198	51
4.9 Removing and installing front right defroster and chest vent shut-off flap control motor V199	51
4.10 Removing and installing front left defroster and chest vent shut-off flap control motor V200	52
4.11 Removing and installing rear right centre console warm air flap control motor V201 and rear left centre console warm air flap control motor V202	52
4.12 Removing and installing rear right centre console cold air flap control motor V203 and rear left centre console cold air flap control motor V204	53



4.13	Removing and installing right defroster and chest vent flap control motor V205	53
4.14	Removing and installing left defroster and chest vent flap control motor V206	54
4.15	Removing and installing right B-pillar and footwell shut-off flap control motor V211	54
4.16	Removing and installing left B-pillar and footwell shut-off flap control motor V212	55
5	Front heater and air conditioning unit	56
5.1	Assembly overview - distribution box in rear left or right footwell	56
5.2	Removing and installing heater and air conditioning unit	57
5.3	Removing and installing evaporator temperature sensor G308	62
5.4	Dismantling and assembling air distribution housing	62
5.5	Removing and installing evaporator	63
5.6	Dismantling and assembling lower part of housing	65
5.7	Assembly overview - evaporator and covers in plenum chamber	67
5.8	Checking, removing and installing water drain hose with valve	68
5.9	Removing and installing dust and pollen filter	71
5.10	Removing and installing fresh air blower V2	71
5.11	Removing and installing fresh air blower control unit J126	72
5.12	Removing and installing heat exchanger	73
5.13	Removing and installing pump-valve unit	81
5.14	Checking condensation drainage	89
5.15	Removing and installing condensate drain hose	91
6	Air duct	92
6.1	Assembly overview - air duct and air distribution in passenger compartment	92
6.2	Removing and installing left design trim control motor V207	94
6.3	Removing and installing left dash panel vent	94
6.4	Removing and installing right design trim control motor V209	95
6.5	Removing and installing right dash panel vent	96
6.6	Removing and installing centre design trim control motor V208	98
6.7	Removing and installing centre dash panel vent	98
6.8	Removing and installing defroster vent panel	100
6.9	Removing and installing air distribution housing in centre of dash panel	101
6.10	Assembly overview - air distribution housing in dash panel centre	101
6.11	Renewing design trim bearings	103
6.12	Assembly overview - fresh air blower	104
6.13	Removing and installing intake duct with air flow flap	106
6.14	Removing and installing rear vent	107
6.15	Checking exhaust ventilation for passenger compartment	108
7	Operating and display unit	109
7.1	Overview of operating and display unit	109
7.2	Removing and installing Climatronic control unit J255	112
7.3	Connectors on Climatronic control unit J255	114
7.4	Removing and installing rear operating and display unit	121
8	Other controlling and regulating components	123
8.1	Removing and installing ambient temperature sensor G17	123
8.2	Removing and installing dash panel temperature sensor G56	124
8.3	Removing and installing fresh air intake duct temperature sensor G89	125
8.4	Removing and installing photo sensor 2 for sunlight penetration G134	125
8.5	Removing and installing centre vent temperature sender G191	126
8.6	Removing and installing air quality sensor G238	127
8.7	Working principles of air quality sensor G238	127
8.8	Removing and installing left heat exchanger temperature sensor G306 / right heat exchanger temperature sensor G307	129
8.9	Removing and installing rear left centre console temperature sensor G311 and rear right centre console temperature sensor G312	130
8.10	Removing and installing humidity sender G355	130
8.11	Removing and installing rear left defroster button E299 and rear right defroster button E300	131



8.12	Removing and installing front left vent button E301	132
8.13	Removing and installing vent buttons -E302-, -E303-, -E304- and -E305- in dash panel ..	133
8.14	Removing and installing rear left vent button in centre console E306 and rear right vent button in centre console E307	136
8.15	Removing and installing driver side defroster button E323 and front passenger side defroster button E324	136

