

Reference Section

Competitor crossover list

Condenser crossover list

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Boiling Points

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Superheat

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Trans Air limited warranty

Charging Chart

<u>Trans/Air PN#</u>	<u>PartDescription</u>	<u>Carrier PN #</u>	<u>Omega PN #</u>	<u>ACT PN #</u>	<u>ACC Part #</u>
110001	Circuit Breaker, 40 Amp, Manual Reset	201-112		BRK-040	
110004	Circuit Breaker, 40 Amp, Auto Reset, Hermetically Sealed, Metal Case	201-119		BRK-140	
111001	Switch, High Pressure, w/Shrader Valve	201-400	29-30120	HPS-505-P	08813921A
111022	Resistor, 1 Ohm, 35 Watts + 10%	20-111022	33-31961		
111025	Switch, Low Pressure, w/Shrader Port	201-404	29-30104	LPS-101-P	08813961A
111051	Thermostat, Rotary	201-500		SWC-301	
111059	Thermostat, Rotary, 40, 58-66, 80 Range	20-111059			
111060	Resistor, 1.8 Ohm, Metal Case, 4 Tap	201-611		RES-400	
112001	Relay, Control, MCR, 12V, Solenoid, SPNO	201-800			
112007	Relay, Mini, 12V, 40 Amp w/Flange	201-806	30-13331	REL-500	
112024	Relay, 12 Volt, 75 Amp		30-13377		
112027	Relay, 24 Volt, SPST, 50 Amp		30-13329		
112029	Relay, Mini, 12V, 70 Amp	10-00328-00		REL-510	
113006	Switch, Rotary, 4 Position	201-305	29-21901	SWC-300	
113032	Knob, Thermostat, Snow Chrome, Soft	202-303	28-51602	NOB-002	
113033	Knob, Rotary Switch, Fan Chrome Soft	202-300	28-51601	NOB-001	
115082	Connector, Delco A6 Compressor		33-41603		
210019	Expansion Valve, 2 Ton, Block Type, R134a	20-210019		EXP-001	
210031	Expansion Valve, 3 Ton, 3/8 x 1/2 SAE, R12	20-210031			
210035	Expansion Valve, Block Type, 2 Ton, w/Schrader Valve			EXP-002	
211004	Sight Glass, 1/2 MFL x 1/2 FFL	101-200	37-10867	PEP-101	
212010	Filter Drier, 30 CI, XH9, 1/2 MFL x 1/2 MFL	14-01063-05	37-10866	DRI-101	
212011	Receiver Drier, XH9, 3/8 MIO x 3/8 MIO	101-304		DRI-103	
212012	Filter Drier, 30 CI, XHP, 1/2 MIO x 1/2 MIO		37-10870		
212021	Filter Drier, with Sight Glass	14-00288-00	37-10871	DSI-300	
311006	Hose, Refrigeration, #6, 5/16" ID Barrier	301-100			
311007	Hose, Refrigeration, #8, 13/32" ID, Barrier	301-101F50			
311008	Hose, Refrigeration, #10, 1/2" ID Barrier	301-102			
311009	Hose, Refrigeration, #12, 5/8" ID Barrier	301-103			
311011	Hose, Refrigeration, #16, 7/8" ID	301-104			
311019	Hose, Refrigeration, #6			HSE-006-EZ	
311020	Hose, Refrigeration, #8			HSE-008-EZ	
311021	Hose, Refrigeration, #10			HSE-010-EZ	
311022	Hose, Refrigeration, #12			HSE-012-EZ	
311026	Hose, Refrigeration, #8, Trans/Air Clip-Lok				03300603A

<u>Trans/Air PN#</u>	<u>PartDescription</u>	<u>Carrier PN #</u>	<u>Omega PN #</u>	<u>ACT PN #</u>	<u>ACC Part #</u>
311027	Hose, Refrigeration, #10, Trans/Air Clip-Lok				03300703A
311028	Hose, Refrigeration, #12, Trans/Air Clip-Lok				03300803A
311029	Hose, Refrigeration, #16, Aeroquip			HSE-016-EZ	
312010	Tubing, Kazoo, 1 1/4" x 3" (5/8" Hole)	301-240		KAZ-002	02220606A
312019	Hose, Drain, .50 ID x .69 OD, Ivory				03300300A
313176	Fitting, 90 Deg, 5/8 FO x #12 Hose, Bdlk	302-432		FTG-103	
313177	Fitting, 90 Deg, 1/2 FO x #10 Hose, Bdlk	301-419		FTG-102	
313178	Fitting, 90 Deg, 5/8 FO x #10 Hose, Bdlk	301-473		FTG-133	
313179	Fitting, Str, 1/2 FO x #10 Hose, Bdlk	301-447		FTG-121	
313181	Fitting, 90 Deg, 3/4 FO x #12 Hose, Bdlk	302-465		FTG-134	
313183	Fitting, T, #12 x #12 x #12 Hose, Bdlk	301-429		FTG-113	
313184	Fitting, T, #8 x #8 x #8 Hose, Bdlk	301-432		FTG-112	
313185	Fitting, 90 Deg, 1/2 FO x #8 Hose, Bdlk	301-418		FTG-124	
313186	Fitting, Str, 3/4 FO x #12 Hose, Bdlk	301-497			
313189	Fitting, Str, 5/8 MO x #12 Hose, Bdlk	301-435		FTG-119	
313191	Fitting, Str, 3/8 MO x #8 Hose, Bdlk	301-465		FTG-118	
313193	Fitting, 90 Deg, Tube-O x 1/2 MIO, R134a, High Side	301-457			
313194	Fitting, 90 Deg, Tube-O x 5/8 MIO, R134a, Low Side	301-458			
313195	Fitting, Splicer, #12 Hose x #12 Hose x 134a SV, Low Side, Beadlock	302-436		FTG-108	
313197	Fitting, Splicer, #10 Hose x #10 Hose x 134a SV, High Side, Beadlock	302-437		FTG-107	
313199	Fitting, Str, 5/8 FO x #10 Hose, Bdlk	301-483			
313204	Fitting, T, #12 M x #12 F x #12 Hose, Springlock, Beadlock	302-443			
313208	Fitting, Str, 1/2 FO x #8 Hose, Bdlk	301-482		FTG-125	
313209	Fitting, 90 Deg, #8 MSL x #10 Hose, Bdlk	301-444			
313210	Fitting, 90 Deg, #8 MSL x #8 Hose, Bdlk	301-403			
313212	Fitting, 90 Deg, 3/8 FO x #8 Hose, Bdlk	301-433		FTG-122	
313213	Fitting, T, 27MM FO x 27MM MIO x #12 Hose, Beadlock	302-429		FTG-126	
313214	Fitting, T, 22MM MIO x 22MM FO x #12 Hose, Beadlock	302-452			
313215	Fitting, T, 22MM MIO x 22MM FO x #10 Hose, Beadlock	302-457			
313216	Fitting, Str, 3/8 MO x #6 Hose, Bdlk	301-423			
313217	Fitting, Str, 5/8 MO x #10 Hose, Bdlk	301-421			

Trans/Air PN#	PartDescription	Carrier PN #	Omega PN #	ACT PN #	ACC Part #
313219	Fitting, 90 Deg, 3/8 FO x #6 Hose, Bdlk	301-462		FTG-181	
313221	Fitting, T, #10 M x #10 F x #12 Hose, Springlock	302-405			
313224	Fitting, T, #12 x #12 x #10 Hose, Bdlk	301-409		FTG-190	
313225	Fitting, T, #8 x #8 x #6 Hose, Bdlk	301-408			
313228	Fitting, 90 Deg, 20MM FO x #6 Hose, Bdlk	302-473		FTG-187	
313230	Fitting, T, 20MM FO x 20MM MIO x #8 Hose, Bdlk	302-433		FTG-161	
313231	Fitting, Str, 3/8 FO x #8 Hose, Bdlk	301-464		FTG-123	
313232	Fitting, 90 Deg, 3/8 MO x #8 Hose, Bdlk	301-403		FTG-100	
313241	Fitting, Str, #8 FSL x #8 Hose, Bdlk	301-492			
313252	Fitting, Splicer, Str, #8 Bdlk x #8 Bdlk	301-412		FTG-109	
313253	Fitting, Splicer, Str, #10 x #10 Bdlk	301-413		FTG-110	
313254	Fitting, Splicer, Str, #12 x #12 Bdlk	301-414		FTG-111	
313340	Clip, #6			CLP-006	
313341	Clip, #8			CLP-008	
313342	Clip, #10			CLP-010	
313343	Clip, #12			CLP-012	
313344	Cage, #6			CAG-006	
313345	Cage, #8			CAG-008	
313346	Cage, #10			CAG-010	
313347	Cage, #12			CAG-012	
313348	Fitting, Clip, 90 Deg, 1/2 FO x #10 Hose			FTG-102-EZ	08830023C
313349	Fitting, Clip, 90 Deg, 5/8 FO x #10 Hose			FTG-195-EZ	08830113C
313350	Fitting, Clip, Str, 5/8 MO x #12 Hose			FTG-119-EZ	
313351	Fitting, Clip, 90 Deg, 5/8 FO x #12 Hose			FTG-103-EZ	
313352	Fitting, Clip, Str, 3/4 FO x #12 Hose				08830170C
313353	Fitting, Clip, Inline Access, #12 Hose			FTG-108-EZ	08830415C
313354	Fitting, Clip, Inline Access, #10 Hose			FTG-107-EZ	08830447C
313355	Fitting, Clip, T, #8 x #8 x #8 Hose			FTG-112-EZ	08830081C
313356	Fitting, Clip, 90 Deg, 1/2 FO x #8 Hose			FTG-124-EZ	08830011C
313357	Fitting, Clip, Str, 3/8 MO x #8 Hose			FTG-118-EZ	
313358	Fitting, Clip, 90 Deg, 3/4 FO x #12 Hose			FTG-196-EZ	08830164C
313359	Fitting, Clip, Str, 1/2 FO x #8 Hose				08830092C
313363	Fitting, Clip, 90 Deg, 3/8 FO x #8 Hose			FTG-122-EZ	
313378	Fitting, Str, M27 FO x #12 Hose, Bdlk			FTG-080-1	
313381	Fitting, Clip, 45 Deg, 1/2 FO x #10 Hose				08830181C
313382	Fitting, Clip, 45 Deg, 5/8 FO x #12 Hose				08830021C
313392	Fitting, Clip, 90 Deg, 3/8 MO x #8 Hose			FTG-100-EZ	

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313393	Fitting, Clip, 90 Deg, 5/8 MO x #12 Hose			FTG-101-EZ	
313397	Fitting, Clip, 90 Deg, 20MM FO x #8 Hose w/High Side Access			FTG-128-EZ	
313403	Fitting, Clip, 45 Deg, 27MM FO x #12 Hose			FTG-172-EZ	
313413	Fitting, Clip, T, #12 x #12 x #12 Hose			FTG-113-EZ	08830039C
313419	Fitting, Clip, Str, 5/8 FO x #12 Hose			FTG-144-EZ	08830087C
313420	Fitting, Clip, Str, 3/8 FO x #6 Hose			FTG-178-EZ	
313426	Fitting, Clip, Splicer, #6 x #6 Hose			FTG-241-EZ	
313427	Fitting, Clip, Splicer, #8 x #8 Hose			FTG-109-EZ	
313428	Fitting, Clip, Splicer, #10 x #10 Hose			FTG-110-EZ	
313429	Fitting, Clip, Splicer, #12 x #12 Hose			FTG-111-EZ	
313432	Fitting, Clip, Str, 5/8 FO x #10 Hose			FTG-228-EZ	
313435	Fitting, Clip, Str, 1/2 FO x #10 Hose			FTG-121-EZ	
313446	Fitting, Clip, Splicer, #10 x #10 Hose, w/R12 Charge Port				08830106C
313459	Fitting, T, 5/8 FO x 5/8 MIO x 5/8 MIO, w/Schrader			FTG-125-EZ	
313464	Fitting, 90 Deg, 3/4 FO x #10 Hose, Steel, Beadlock			FTG-123-EZ	
313465	Fitting, Clip, 90 Deg, 1/2 FO x #10 Hose, w/High Side Access			FTG-114-EZ	08830379C
313466	Fitting, Clip, 90 Deg, 5/8 FO x #12 Hose, w/Low Side Access			FTG-115-EZ	08830361C
313505	Clip Holder, #8				08830700C
313506	Clip Holder, #10				08830800C
313507	Clip Holder, #12				08830900C
313552	Fitting, Clip, 90 Deg, 3/4 FO x #16			FTG-285-EZ	
313553	Fitting, Clip, Splicer, #16, Low Side Access Port			FTG-083-EZ	
314016	Adapter, 7/16 FFL x R134a, High Side	40-01184-00			
314017	Adapter, 7/16 FFL x R134a, Low Side	40-01184-00			
320001	Ell, 90, 1/2 Barb x 1/2 Barb, Plastic	301-908		PDE-001	
320002	Tee, 1/2" Barb x 1/2" Barb x 1/2" Barb	301-907		PTD-001	02220700A
320012	Elbow, 90, 1/2 ID Hose x 1/2 ID Hose				02220801A
412005	Wheel, Blower, w/Clip (Black)		28-01713		
412012	Louver, 3" Black w/Spring & Screw	401-301	28-31528	200-027	
412014	Louver Assy, Rectangular	401-314	28-21565		
412019	Blower Housing Assembly, w/Motor, DCM		26-19902		
412032	Blower Housing Assembly	401-209A	26-19912	BLW-200-41	
501003	Cover, Hose Transition, ABS	011-032			

<u>Trans/Air PN#</u>	<u>PartDescription</u>	<u>Carrier PN #</u>	<u>Omega PN #</u>	<u>ACT PN #</u>	<u>ACC Part #</u>
501005	Cover, Hose Back	010-008			28000004B
501079	Cover, Hose, Outside	010-007			
501178	Cover, Hose, 45 Degree Transition, ABS	010-049			
501273	Pad Fitting, Top Port, 3/4 MIO x 5/8 MIO			410-005	
501279	Pad Fitting, Bottom Port, 3/4 MIO x 5/8 MIO			410-005	
511002	Motor, Fan, Cond, 12 VDC		26-14596		
511017			26-14522		
512068	Compressor, SD709, Dual "A" Grv, R134a, Horiz Tube "O" Ring, Dual 1"-14 Fit		20-10151		
512073	Compressor Assy, Delco A6, R134a, Pag Oil, Single 5" Dia, 1/2" Grv, 12 VDC		20-10838		
512084	Compressor, ICE TM15, 135MM, 2 'A' Grv, Verticle MIO, 12V, Univ Mntg Ears, R134a		20-45021		
512085	Compressor Assy, SD709, R134a, w/Ftgs		20-10152		
512103	Compressor, ICE TM16, 125MM, 2 'A' Grv, Pad Mount, Univ Mntg Ears, R134a		20-46222		
512113	Compressor, ICE TM16, 125MM, Pad Mount, 1 'A' Overhang Grv, 12V, Univ Mntg Ears		20-46230		
512117	Compressor, DKS, TM16, 12V, 135MM, Dual 'A' Grv (Rear Port Delco Pad)		20-46210		
512119	Compressor, DKS, TM16, 24V, 135MM, Dual 'A' Grv Pad		20-46212		
512124	Compressor, ICE, TM16, 159MM, 1 Var Grv, Pad Mount, 12V, Univ Mntg Ears, R134a		20-46226		
512129	Compressor, QP16, 119MM, 8 Grv, 12V, Vertical MIO, Univ Mntg Ears, R134a	502-210		400-015	
512130	Compressor, ICE, TM15, 159MM, 1 Var Grv, 12V, Vertical MIO, Univ Mntg Ears, R134a		20-45035		
512131	Compressor, ICE TM16, 159MM, 1 Var Grv, V-MIO, 24V, Univ Mntg Ears, R134a		20-10290		
512137	Compressor, ICE, TM16, 119MM, 8 Grv, 12V, Pad Mount, Univ Mtg Ears, No Fitting, R134a		20-46234		
512139	Compressor, Sanden SD7H15HD, Model 4663, 125MM, Dual 1/2" Grv, 12 VDC, Vertical MIO, 5/8" x 1/2"		20-10080		
512140	Compressor, SD7H15, 125MM, 12 VDC Clutch, QC GM Pad, Sanden		20-09993		

Trans/Air PN#	PartDescription	Carrier PN #	Omega PN #	ACT PN #	ACC Part #
512147	Compressor, ICE, TM15, 125MM, 2 'A' Grv, Pad Mount, 12V, Univ Mntg Ears, R134a		20-45222		
512148	Compressor, TM31, Dual 5/8 Grv, 24V		20-10282		
512149	Compressor, ICE, TM31, 152MM, 2 'A' Grv, 12V, R134a		20-10279		
512150	Compressor, ICE, TM31, 158MM, 2 'B' Grv, 12V, R134a		20-10281	400-016	
512184	Compressor, SD7H15, PV8, Pad Ftg		20-09980		
512204	Compressor, QP31 152MM, 8 Groove			400-036	
512218	Compressor, TM16, 119MM, 8 GRV, 24V, Ftg Pad		20-46236		
512219	Compressor, TM21, 137MM, 8 Grv, 24V, Ftg Pad			400-045	
512241	Compressor, 10 CID, 119MM, 10 Groove, 12 Volt			400-092	
512253	Compressor, SD7H15, PV8 Pad-Style, Direct Mount		20-14420		
512262	Compressor, SD7H15, PV8, 49MM Gage Line Direct Mount			400-027	
512263	Compressor, TM16, 119MM, 8 Groove, V-MIO		20-46120	400-091	
512264	Compressor, TM31, 152MM 8 Groove		20-10283		
512265	Compressor, TM21, 13CID, 137MM 8 Groove		20-47244		
512266	Compressor, SD7H15 FLX PV8, Pad Ftg		20-14864		
512267	Compressor, SD7H15 FLX (2) A Groove, Pad Ftg		20-14860		
512268	Compressor, SD7H15, 6 Groove, Direct Mount		20-10093		
512269	Compressor, TM21, 13CID, 145MM, 2 "A" Groove		20-47240	400-044	
512270	Compressor, SD7H15, 2 "A" Groove, Direct Mount		20-14419		
512271	Compressor, TM21, 13CID, 127MM, 8 Groove, 12V		20-47245	400-047	
517070	Pad Fitting Kit, V-MIO 5/8" x 1/2", w/Hardware			410-001	
518002	O-Ring, 3/8"	801-201		ORG-038	
518003	O-Ring, 1/2"	801-202		ORG-012	
518004	O-Ring, 5/8"	801-203		ORG-058	08801800A
518006	O-Ring, 3/4"	801-217		ORG-034	08802000A
611005	Clamp, Worm #72, 3.13 to 5.0 ID				05250300A
611008	Clamp, Worm Mini, .25 to .63 ID				05250500A
611028	Ferrule, #8 Long Crimp	701-213			
611029	Ferrule, #10 Long Crimp	701-214			
611030	Ferrule, #12 Long Crimp	701-215			
611031	Ferrule, #6 Long Crimp	701-216			
701127	Plate, Switch/Thermostat	202-301		PLT-100	
711003	Arm, Idler, Short 1-1/4" x 1 1/8"	601-505			

<u>Trans/Air PN#</u>	<u>PartDescription</u>	<u>Carrier PN #</u>	<u>Omega PN #</u>	<u>ACT PN #</u>	<u>ACC Part #</u>
711008	Bolt, Shoulder, #120 for Single Pulley	601-524			
711018	Idler Arm, 1.25" Throw x 1.875 High	601-510			
714053	Bushing, Idler, 1/2" Lng, 7/16" Bore	601-508			
816021	Hose Cutters	101-708		CUT-001	
816035	Leak Detector, R12 & R134a				
816039	Crimp Tool, Bubble Style, Portable				
816075	Hydraulic Bubble Crimper, Air Operated	101-719			
816147	Crimp Tool, Clip Fittings			EZT-001	
816179	Crimp Tool, #16 Hose Fitting, Aeroquip			EZT-016	
2160074	Expansion Valve, 2 Ton, Block Type, 134a	14-00301-03			
2160088	Retrofit Kit, 10" Flush Mount Fan (Spal)	20-2160088	25-14863-T	MTR-120-T	
501357-07	Cover, Hose, 48" Long, White				09965049A

Condenser

<u>Style</u>	<u>Part Number</u>	<u>Description</u>	<u>Filter Drier</u>	<u>Sight Glass</u>	<u>Coil Assembly</u>	<u>Fan</u>	<u>Black Screen</u>	<u>Aluminum Screen</u>
Skirt Mounted	301297	Condenser, 3-Fan Flush Mnt, O-Ring, Standard Coil,	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301309	Condenser, 3-Fan Stacked, Baco, O-Ring	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301362	Condenser 3-Fan Flush O-Ring Std Coil	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301363	Condenser Sub-Assy 3-Fan Baco O-Ring Std Coil	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301364	Condenser 3-Fan Rooftop O-Ring Ftgs	212010	211004	301366	2160088	301215-1	301215-11
Skirt Mounted	301365	Condenser Sub-Assy 2-Fan Short Baco	212010	211004	301366	2160088	301215-1	301215-11
Skirt Mounted	301379	Condenser 2-Fan High Short	212010	211004	301380	2160089	301215-04	301215-18
Skirt Mounted	301387	Condenser 3-Fan High Long	212010	211004	301393	2160089	301215-3	301215-17
Skirt Mounted	301407	Condenser, 3-Fan, Flush Mnt,	212010	211004	301413	2160088	301215-02	301215-12
Skirt Mounted	301440	Condenser, 3-Fan High Long, w/o Screen	212021 *	211004	301393	2160089	301215-3	301215-17
Skirt Mounted	301462	Condenser, 3-Fan, Flush Mount, O-Ring, Std Coil,	212010	211004	301461	2160088	301215-2	301215-12
Skirt Mounted	301463	Condenser, 3-Fan, Flush Mount, O-Ring, Std Coil,	212010	211004	301461	2160088	301215-2	301215-12
Skirt Mounted	301482	Condenser Sub-Assy, 3-Fan, Baco, O-Ring, Std Coil, 3-fan, o-ring	212010	211004	301366	2160088	301215-1	301215-11
Skirt Mounted	301491	Condenser Sub-Assy, 3-Fan, Baco, O-Ring,	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301492	Condenser Sub-Assy, 3-Fan (Flush Mount), O-Ring,	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301526	Condenser, 5-Fan		N/A	301531	2160093	301525	N/A
Skirt Mounted	301559	Condenser, 2-Fan Short	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301560	Condenser, 2-Fan Short	212010	211004	301301	2160088	301215-2	301215-12
Skirt Mounted	301573	Condenser, 2-Fan (Flush Mount), O-Ring,	212021 *	N/A	301493	2160088	301571-01	301574-02

Condenser

<u>Style</u>	<u>Part Number</u>	<u>Description</u>	<u>Filter Drier</u>	<u>Sight Glass</u>	<u>Coil Assembly</u>	<u>Fan</u>	<u>Black Screen</u>	<u>Aluminum Screen</u>
Skirt Mounted	301574	Condenser, 2-Fan (Flush Mount), O-Ring	212021 *	N/A	301493	2160088	301571-01	301574-02
Skirt Mounted	301584	Condenser, 2-Fan Short, Flush Mount	212021 *	N/A	301579	2160088	301583-01	301583-02
Skirt Mounted	301585	Condenser Sub-Assy, 2-Fan Short, Baco	212021 *	N/A	301579	2160088	301583-01	301583-02
Skirt Mounted	301622	Coil Assembly 2-Fan Short	212021 *	N/A	301493	2160088	301571-01	301571-02
Skirt Mounted	301623	Condenser, 2-Fan High Short,	212021 *	N/A	301493	2160088	301571-01	301571-02
Skirt Mounted	301625	Condenser, 2-Fan High Short,	212021 *	N/A	301618	2160080	301571-01	301571-02
Skirt Mounted	301626	Condenser, 2-Fan High Long, Flush Mount Fans,	212021 *	N/A	301624	2160088	301583-01	301583-02
Skirt Mounted	301627	Condenser, 2-Fan High Long, Flush Mount Fans,	212021 *	N/A	301618	2160080	301571-01	301571-02
Skirt Mounted	301628	Condenser Assembly, 2-Fan (Micro Channel Coil)	212021 *	N/A	301624	2160088	301583-01	301583-02
Skirt Mounted	301638	Condenser, 3-Fan High Long,	212021 *	N/A	301618	2160088	301571-01	301571-02
Skirt Mounted	301639	Condenser Assembly, 3-Fan w/ ISO Valves (Micro Channel Coil)	212021 *	N/A	301618	2160088	301571-01	301571-02
Skirt Mounted	301657	Condenser, SMC3L, IC Corp	212021 *	N/A	301493	2160088	301668	N/A
Skirt Mounted	301663	Condenser, SMC2S, IC Corp	212021 *	N/A	301579	2160088	301670	N/A
Skirt Mounted	301665	Condenser Assy, SC3,	212010	211004	301380	2160089	301215-4	N/A
Skirt Mounted	301667	Condenser Sub-Assy, 3-Fan, IC Corp	212021 *	N/A	301493	2160088	301668	N/A
Skirt Mounted	301669	Condenser Sub-Assy, 2 Fan, IC Corp	212021 *	N/A	301618	2160088	301571-01	301571-02
Skirt Mounted	301681	Condenser, 3-Fan High Long,	212021 *	N/A	301618	2160088	301571-01	301571-02
Skirt Mounted	301682	Condenser, 3-Fan High Long, Flush Mount Fans,	212021 *	N/A	301618	2160088	301571-01	301571-02
Skirt Mounted	301697	Condenser, 3- Fan (Micro Channel Coil) I.C.Corp	212021 *	N/A	301618	2160088	301668	N/A

Condenser

<u>Style</u>	<u>Part Number</u>	<u>Description</u>	<u>Filter Drier</u>	<u>Sight Glass</u>	<u>Coil Assembly</u>	<u>Fan</u>	<u>Black Screen</u>	<u>Aluminum Screen</u>
Skirt Mounted	301698	Condenser Assembly, 3- Fan (Micro Channel Coil) I.C.Corp.	212021 *	N/A	301618	2160088	301668	N/A

* Sight Glass is Part of Filter-Dryer

<u>Style</u>	<u>Part Number</u>	<u>Description</u>	<u>Filter Drier</u>	<u>Sight Glass</u>	<u>Coil Assembly</u>	<u>Fan</u>	<u>Cover Assembly</u>
Roof Top	301311	Condenser 3-Fan Rooftop w/O-Ring 24V Flat Roof	212010	N/A	301338	511004 Motor, 410015 Fan	302027 Cover Assy.
Roof Top	301332	Condenser 3-Fan Rooftop w/O-Ring	212010	N/A	301338	511002 Motor, 410015 Fan	302027 Cover Assy.
Roof Top	301468	Condenser, 6-Fan Rooftop,	212012	N/A	301447	511002 12v motor,511004 24v motor, 410002 Blade	**
Roof Top	302150	Rooftop Condenser, 3-Fan	212012	N/A	302007	511002 12v motor,511004 24v motor, 410015 Blade	302145 Cover Assy
Roof Top	302155	RTC6 Assembly, IC Corp	212012	N/A	301447	2160088 12v, 2160081 24v	**
Roof Top	302161	RTC6 Assembly, IC Corp	212012	N/A	301147	2160088	**
Roof Top	302165	Rooftop Condenser120K, 6-Fan (Micro Channel Coil)	212021 *	N/A	301618	2160088	302180 Cover Assy.
Roof Top	302195	Rooftop Condenser, 120K, 6- Fan, (Micro Channel Coil), I.C. Corp.	212021 *	N/A	301618	2160088	302202 Cover Assy.
Roof Top	302200	Rooftop Condenser, 120K, 6- Fan, (Micro Channel Coil)	212021 *	N/A	301618	2160088	302204 Cover Assy.

* Sight Glass is Part of Filter-Dryer

** Call Trans/Air Mfg Part Deptment for Part Number

Evaporator Parts

<u>Evap PN</u>	<u>Description</u>	<u>Expansion Valve</u>	<u>Blower Assembly</u>	<u>Coil Assembly</u>	<u>Heat Coil</u>	<u>Inlet Filter ABS Cover</u>	<u>Cover Assembly ABS</u>	<u>Inlet filter Metal Cover</u>	<u>Cover Assembly Metal</u>
202394	Evaporator, TA-73	Valve 210001, **REQUIRES CAGE 210012**, Oct 1990 and newer Valve 210031	412025	202143, 10/1990 and newer 202621	N/A	915008	NLA	NLA	NLA
202395	Evaporator, TA98, EC1, Evap Mounted	Valve 210001, **REQUIRES CAGE 210012**, Oct 1990 and newer Valve 210031	412025	202143	N/A	915020	N/A	NLA	NLA
202405	Evaporator, TA-73	Valve 210001, **REQUIRES CAGE 210012**.	412025	202621	202029	915008	202620***	NLA	202332
202478	Evaporator, TA96, Basic II	Valve 210001, **REQUIRES CAGE 210012**, Oct 1990 and newer Valve 210031	412025	202143	N/A	202605-3	202399 Head Pad***	NLA	N/A
202483	Evaporator, TA-73	Valve 210001, **REQUIRES CAGE 210012**.	412025	202561	N/A	NLA	202454***	N/A	N/A
202484	Evaporator, TA-73	Valve 210001, **REQUIRES CAGE 210012**, Oct 1990 and newer Valve 210031	412025	10/01/1990 and newer 202621	202709	915008	202548 ***	N/A	202708
202486	Evaporator, TA-73	Valve 210001, **REQUIRES CAGE 210012**, Oct 1990 and newer Valve 210031	412025	202143, 10/01/1990 and newer 202621	*	*	*	*	*
202613	Evaporator, TA-73	Valve 210001, **REQUIRES CAGE 210012**.	412025	10/01/1990 newer 202621	*	915008	202548 ***	*	*
202615	Evaporator, TA-73	210031	412025	07/21/91 newer 202621	202029	915008	202620 ***	*	202332
202621	Coil Assembly	210031	N/A	N/A	N/A	N/A	N/A	N/A	N/A
202642	Evaporator,TA-77	210033	412025	202661	N/A	915035	202660 ***	N/A	N/A
202672	Evaporator,TA-77	210033	412025	202661	N/A	915035	2021841 ***	N/A	202671
202674	Evaporator, TA-73	210031	412025	202621	N/A	915008	202620 ***	915028	202708

Evaporator Parts

202835	Evaporator, TA96, EC1, O-Ring,	210031	412025	202821	N/A	202605-2	202399***	N/A	N/A
202836	Evaporator, TA-96	210031	412025	202821	N/A	202605-2	202399 Head Pad***	N/A	N/A
202837	Evaporator, TA96, Slave, O-Ring, White	210031	412025	202821	N/A	202605-2	202399 Head Pad***	N/A	N/A
202841	Evaporator,TA-77	210033	412025	202827	N/A	913035	2021841***	N/A	N/A
202862	Evaporator, TA73, EC1, ABS Cover, O-Ring	210031	412025	202718	N/A	915008	202620***	N/A	N/A
202877	Evaporator,TA-77	210033	412025	202827	N/A	915021	2021315	N/A	N/A
202895	Evaporator, TA77, White, TAMW	210019	412025	202296	N/A	913035	2021841***	N/A	N/A
202949	Evaporator, TA-73	210031	412025	202718	202709	915008	202620***	N/A	N/A
202970	Evaporator, TA70, Control,	210019	412025	202412	N/A	915021	202813***	N/A	N/A
202971	Evaporator, TA71,	210019	412025	202296	N/A	915029	202815***	N/A	N/A
202993	Evaporator, TA93, 3 Speed,	210019	412025	202296	N/A	202605-3	202432***	N/A	N/A
202996	Evaporator, TA-96	210031	412025	202821	N/A	202605-2	202399***	N/A	N/A
202998	Evaporator, TA98, Basic II, 3 Spd,	210031	412025	202824	N/A	202605-1	202523***	N/A	N/A
2021043	EVAPORATOR, TA-73N	<u>Valve 210037,</u> <u>**REQUIRES CAGE</u> <u>210038** June 1999</u> <u>and newer 210042</u>	412032	Sept 1999 and newer 2021162-01	2021164	915045	2021048***	915045	2021223
2021046	EVAPORATOR, TA-73N	<u>Valve 210037,</u> <u>**REQUIRES CAGE</u> <u>210038** June 1999</u> <u>and newer 210042</u>	412032	Sept 1999 and newer 2021162-01	2021164	915045	2021048***	915045	2021223
2021061	Evaporator, TA-96	210031	412026	202821	N/A	202605-2	202399 Head Pad ***	N/A	N/A
2021092	EVAPORATOR, TA-73N	<u>Valve 210037,</u> <u>**REQUIRES CAGE</u> <u>210038**</u>	412032	2021044	2021026	915045	2021048***	915045	2021223
2021093	EVAPORATOR, TA-73N	<u>Valve 210037,</u> <u>**REQUIRES CAGE</u> <u>210038**</u>	412032	2021044	2021026	915045	2021048***	915045	2021223
2021151	Evaporator, TA-96	210031	412025	202821	N/A	202605-2	2021157 Head Pad***	N/A	N/A
2021377	Evaporator, TA77, Basic II, Split Coil,	210019	412032	202296	N/A	915029	2021841***	915029	202983

Evaporator Parts

2021380	Evaporator, TA71, Control, 3 Spd	210019	412042	202296	202278	915029	202815***	N/A	N/A
2021382	Evaporator, TA70, Control,	210019	412042	202412	N/A	915029	202817***	N/A	N/A
2021430	Evaporator Assy, Dual Blowers, FM45	210019	412042	2021478	N/A	915061	N/A	N/A	N/A
2021718	Evaporator Assy, TA70, EC3,	210019	412032	202412	N/A	915029	2021833***	N/A	N/A
2021731	Evaporator Assembly, TA77, Split Coil, EC3	210019	412032 12v, 412026 24v	202296	202778	915029	2021841***	915029	202983
2021785	Evaporator, Dash Air, Dual Blowers,	210019	412051	2021770	2021772	915066	2021784 Inlet Grill	N/A	N/A
2021800	Evaporator, Dash Air w/Heat, Dual Blowers, EC2.5/ Basic,	210019	412051	2021770	2021772	915066	2021784 Inlet Grill	N/A	N/A
2021808	Evaporator, TA73, Metal Cover, EC3, Lines Right	210042	412032	2021365	2021164	N/A	N/A	915045	2021829-01
2021871	Evaporator, TA96, EC3, IC Corp,	210042	412032	2021280	2021164	915045	2021324***	N/A	N/A
2021874	Evaporator, Dash Air, Trident, Single Blower	210019	412050	2021770	2021862	*	*	N/A	N/A
2021881	Evaporator, TA96, EC2.5, IC Corp	210042	412032	2021280	N/A	915045	2021921***	N/A	N/A
2021885	Evaporator, TA73, EC2.5, IC Corp	210042	412032	2021365	N/A	915045	2021936***	N/A	N/A
2021897	Evaporator, TA73, EC3, IC Corp	210042	412032	2021365	N/A	915045	2021936***	N/A	N/A
2021903	Evaporator, TA93, EC2.5, IC Corp	210042	412032	2021321	N/A	915057	2021324 Head pad***	N/A	N/A
2021909	Evaporator, TA93, EC3, IC Corp	210042	412032	2021321	N/A	915057	2021324 Head Pad***	N/A	N/A
2021915	Evaporator, TA96, EC3, IC Corp	210042	412032	2021280	N/A	915045	2021921***	N/A	N/A
2021919	Evaporator Assy, TA96, Basic, IC Corp	210042	412032	2021280	N/A	915045	2021921***	N/A	N/A
2021930	Evaporator Assy, Lines Left, TA73, IC Corp	210042	412032	2021365	N/A	915045	2021936***	N/A	N/A
2021938	Evaporator Assy, TA96, EC3, IC Corp	210042	412032	2021280	N/A	915045	2021921***	N/A	N/A
2021940	Evaporator Assy, TA93, Basic, IC Corp	210042	413032	2021321	N/A	915057	2021324 Head pad***	N/A	N/A
2021942	Evaporator Assy, TA93, EC3, IC Corp	210042	412032	2021321	N/A	915057	2021324 Head Pad***	N/A	N/A

Evaporator Parts

2021944	Evaporator Assy, Lines Left, TA73, EC3, IC Corp	210042	412032	2021365	N/A	915045	2021936***	N/A	N/A
2021950	Evaporator, Dash Air w/Heat, Single Blower, IC BE & CE	210019	412051	2021770	2021772	915066	*	N/A	N/A
2021975	Coil Assembly, Evaporator, FM-55, Thomas C2, Front	210042	412042	2021797	N/A	N/A	N/A	N/A	N/A
2021983	Evaporator, EC3, TA77, IC Corp	210042	412032	2021097	N/A	915057	2021986***	N/A	N/A
2021984	Evaporator Assembly, TA77, EC3 Split Coil, IC Corp	210042	412032	2021097	N/A	915057	2021986***	N/A	N/A
2021993	Evaporator, Dash Air w/Heat, Single Blower, EC3.0, Tie-In, BE/CE, IC Corp	210019	412051	2021770	2021772	915066	*	N/A	N/A
2022001	Evaporator, FM55, EC2.5, I.C. Corp.	210042	412042	2021510	N/A	915062	*	N/A	N/A
2022002	Evaporator Assembly, FM55 Spring White I.C. Corp.	210042	412042	2021510	N/A	915062	*	N/A	N/A
2022004	Evaporator, FM55, EC3, Spring White, I.C. Corp.	210042	412042	2021510	N/A	915062	*	N/A	N/A
2022005	Evaporator Assembly, FM55, EC3, Spring White I.C. Corp.	210042	412042	2021510	N/A	915062	*	N/A	N/A
2022006	Evaporator, Dash Air w/ Heat, Single Blower, EC2.5, Super, BE/CE, IC Corp	210019	412051	2021770	2021772	915066	*	N/A	N/A
2022007	Evaporator, Dash Air w/Heat, Single Blower, EC3, Super, BE/CE, IC Corp	210019	412051	2021770	2021772	915066	*	N/A	N/A
2022014	Evaporator, Dash Air w/Heat, EC2.5 Super, Dual Blower, Type BE/CE, IC Corp.	210019	412051	2021770	2021772	915066	*	N/A	N/A
2022018	Evaporator, Dash Air w/Heat, EC3 Super, Dual Blower, Type BE/CE, IC Corp	210019	412051	2021770	2021772	915066	*	N/A	N/A
2022038	Evaporator, FM-55, EC3, I.C. Corp.	210042	412042	2021510	N/A	915062	*	N/A	N/A
2022040	Evaporator, EC2.5, T/A-77, I.C. Corp.	210042	412032	2021097	N/A	915057	2021986***	N/A	N/A
2022042	Evaporator Assembly, T/A-77, EC2.5, I.C. Corp.	210042	412032	2021097	N/A	915057	2021986***	N/A	N/A

* Call Trans/Air Mfg Parts Department For Part Numbers

*** Color Is Determined By Number Designation

Compressor Cross Reference

Mfg Part Number	Trans /Air Part Number	Model	Oil Weight	Description	Other Comp equivalent
4034	512241	SD7H15	PAG 100	10 CID, 119MM, 20 Groove, 12 Volt, 9.5 cid/155 cc, 4.6 oz SP 20 oil, Pag 100 T/A p/n 913017	----
4419	512270	FLX7	PAG 100	SD7H15, 2 "A" Groove, Direct Mount, 9.5 cid/155 cc, 6.8 oz SP 20 oil, T/A p/n 913017	512224
4420	512253	FLX7	PAG 100	SD7H15, PV8 Pad-Style, Direct Mount, 9.5 cid/155 cc, 6.8 oz SP 20 oil, T/A p/n 913017	512226
4510	512080	SD510		COMPRESSOR, SANDEN SD510, 132MM DIA, 2 GRV "A"	512084
4628	512089	SD7H15	PAG 100	Sanden SD709, Model 4628, Ford Direct Mount, Std Tube "O" Ring, 3/4" x 7/8", 6 Grv, Poly-V Clutch, 12 VDC, R134a, 9.5 cid/155 cc, 8.1 oz SP 20 oil, Pag 100 T/A p/n 913017	512087
4641	512268	SD7H15	PAG 100	Compressor, SD7H15, 6 Groove, Direct Mount, 9.5 cid/155 cc, 8.1 oz SP 20 oil, Pag 100 T/A p/n 913017	512221
4663	512139	SD7H15	PAG 100	Sanden SD7H15HD, Model 4663, 125MM, Dual 1/2" Grv, 12 VDC, Vertical MIO, 5/8" x 1/2", 9.5 cid/155 cc, 4.6 oz SP 20 oil, Pag 100 T/A p/n 913017	512121
4664	512186	SD7H15	PAG 100	SD7H15, 2 ' A' Grv, V-MIO, 9.5 cid/155 cc, 8.1 oz SP 20 oil, Pag 100 T/A p/n 913017	512084
4666	512262	SD7H15	PAG 100	SD7H15, PV8, 49MM Gage Line Direct Mount, 9.5 cid/155 cc, 8.1 oz SP 20 oil, Pag 100 T/A p/n 913017	512090
4707	512184	SD7H15	PAG 100	Compressor, SD7H15, PV8, Pad Ftg, 9.5 cid/155 cc, 4.6 oz SP 20 oil, Pag 100 T/A p/n 913017	512209
4708	512140	SD7H15	PAG 100	SD7H15, 125MM, 12 VDC Clutch, QC GM Pad, Sanden, Pag 100 T/A p/n 913017	512103
4711	512143	SD7H15	PAG 100	Sanden SD709, Model 8103, 119MM Clutch, 12V, Vertical 3/4 x 7/8 MIO, Universal Mount, 9.5 cid/155 cc, 4.6 oz SP 20 oil, Pag 100 T/A p/n 913017	512129
4860	512267	FLX7	PAG 100	SD7H15 FLX (2) A Groove, Pad Ftg, 9.5 cid/155 cc, 6.8 oz SP 20 oil, T/A p/n 913017	512210
4864	512266	FLX7	PAG 100	SD7H15 FLX PV8, Pad Ftg, 9.5 cid/155 cc, 6.8 oz SP 20 oil, T/A p/n 913017	512209
7819	512068	SD7H15	PAG 100	SD709, Dual "A" Grv, R134a, Horiz Tube "O" Ring, Dual 1"-14 Fit, Pag 100 T/A p/n 913017	512075
7822	512059	SD7H15	PAG 100	SD709, 119MM, 12VDC, R134a, Horiz 1" x 14 TAD Tube "O" Ring, 9.5 cid/155 cc, 8.1 oz SP 20 oil, Pag 100 T/A p/n 913017	512088
9125	512012	SD5H14		SANDEN, W/ROTOLOCK FTGS, (R12)	-----
252119	512131	TM16	PAG 46	ICE TM16, 159MM, 1 Var Grv, V-MIO, 24V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
500252	512041	A6	PAG 150	Compressor, Delco A6, (Rebuilt), W/O OIL	-----

Compressor Cross Reference

Mfg Part Number	Trans /Air Part Number	Model	Oil Weight	Description	Other Comp equivalent
500408	512008	A6		DELCO A6, R12, T/A 512073 IS R134A EQUIVALENT	512073-134a
500409	512008	A6		DELCO A6, R12, T/A 512073 IS R134A EQUIVALENT	512073-134a
1131273	512008	A6		DELCO A6, R12, T/A 512073 IS R134A EQUIVALENT	512073 -134a
1131346	512065	A6	PAG 150	DELCO 12.6, 1/2" GRV, 5.0" DIA, 24 VDC, R12	512102 -134a
1136451	512092	HR-6-HE	PAG 150		512093 - R12
1136456	512165			Compressor, Hds Type VII, Type I "A" Pulley	-----
1136521	512159	HT-6	PAG 150	Compressor, HT-6 Direct Mount	----
1136566	512093	HDS	PAG 150	Compressor, HR-6-HE, R134a, 6 Grv, Poly-V	512092 - R12
1138008	512126	A6	PAG 150	Delco A6, R134a, Pag, 12 VDC, Single 1/2" 'V' Grv (Formerly 512073)	512073 - 134a
1138015	512096	A6	PAG 150	Compressor Assy, 512144 w/Label, 12 VDC, Single 5/8" Grv, 4.73" Dia, CW Rotation, 10 O'clock Plug	----
2521156	512086	TM15	PAG 46	DKS15CH, R134a, 150CC Dis, Vertical MIO 5/8 x 1/2, Single 'A' Grv (Overhang), 125MM Dia Clutch, 12 VDC, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
2521157	512084	TM15	PAG 46	ICE TM15, 135MM, 2 'A' Grv, Vertical MIO, 12V, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512186
2521159	512130	TM15	PAG 46	ICE, TM15, 159MM, 1 Var Grv, 12V, Vertical MIO, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
2521161	512121	TM15	PAG 46	ICE, TM15, 125MM, 2 'A' Grv, Vertical MIO, 12V, Univ Mntg Ears, R134a, Pag 46 oil, T/A p/n 913018 Note : DO NOT SUBSTITUTE FOR FORD 7.3L Ford	512139
2521166	512086	TM15	PAG 46	DKS15CH, R134a, 150CC Dis, Vertical MIO 5/8 x 1/2, Single 'A' Grv (Overhang), 125MM Dia Clutch, 12 VDC, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
2521168	512075	TM-15	PAG 46	TM15,125MM,2'A'GRV H-T/O, Pag 46 oil, T/A p/n 913018	512068
2521170	512087	TM15	PAG 46	ICE TM15, 119MM, 6 Grv, H-T/O, 6 Grv, Vertical MIO, 12V, Direct Mount, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512098
2521173	512088	TM15	PAG 46	ICE TM15, 119MM, 8 Grv, H-T/O, Horizontal Tube "O", 12V, Univ Mntg Ears, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512059
2521176	512147	TM15	PAG 46	ICE, TM15, 125MM, 2 'A' Grv, Pad Mount, 12V, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512210
2521190	512131	TM16	PAG 46	ICE TM16, 159MM, 1 Var Grv, V-MIO, 24V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
2521195	512263	TM16	PAG 46	TM16, 119MM, 8 Groove, V-MIO, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512129
2521198	512117	TM16	PAG 46	DKS, TM16, 12V, 135MM, Dual 'A' Grv (Rear Port Delco Pad), Pag 46 oil, T/A p/n 913018	512103

Compressor Cross Reference

Mfg Part Number	Trans /Air Part Number	Model	Oil Weight	Description	Other Comp equivalent
2521199	512119	TM16	PAG 46	DKS, TM16, 24V, 135MM, Dual 'A' Grv Pad, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
2521201	512103	TM-16	PAG 46	ICE TM16, 125MM, 2 'A' Grv, Pad Mount, Univ Mntg Ears, R134a, Pag 46 oil, T/A p/n 913018	512210
2521204	512113	TM16	PAG 46	ICE TM16, 125MM, Pad Mount, 1 'A' Overhang Grv, 12V, Univ Mntg Ears, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
2521206	512137	TM16	PAG 46	ICE, TM16, 119MM, 8 Grv, 12V, Pad Mount, Univ Mtg Ears, No Fitting, R134a, Pag 46 oil, T/A p/n 913018	512209
2521209	512149	TM31	PAG 46	Compressor, ICE, TM31, 152MM, 2 'A' Grv, 12V, R134a, Pag 46 oil, T/A p/n 913018	----
2521211	512150	TM31	PAG 46	ICE, TM31, 158MM, 2 'B' Grv, 12V, R134a, Pag 46 oil, T/A p/n 913018	----
2521212	512148	TM31	PAG 46	Compressor, TM31, Dual 5/8 Grv, 24V, Pag 46 oil, T/A p/n 913018	----
2521213	512264	TM31	PAG 46	Compressor, TM31, 152MM 8 Groove, Pag 46 oil, T/A p/n 913018	512204
2521280	512256	TM15	PAG 46	Compressor, 10 CID, 119MM, 8 Groove, 12 Volt, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
2521387	512110	TM15	PAG 46	TM15,HD PAD FTG,2 A-GRV, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
2521445	512218	TM16	PAG 46	TM16, 119MM, 8 GRV, 24V, Ftg Pad, Pag 46 oil, T/A p/n 913018	----
2521480	512124	TM16	PAG 46	ICE, TM16, 159MM, 1 Var Grv, Pad Mount, 12V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
2521562	512265	TM21	PAG 46	TM21, 13CID, 137MM 8 Groove, Pag 46 oil, T/A p/n 913018	512208
2521563	512219	TM21	PAG 46	TM21,137MM, 8 Grv, 24V, Ftg Pad, Pag 46 oil, T/A p/n 913018	----
2521564	512269	TM21	PAG 46	TM21, 13CID, 145MM, 2 "A" Groove, Pag 46 oil, T/A p/n 913018	512220
2521657	512271	TM21	PAG 46	TM21, 13CID, 127MM, 8 Groove,12V, Pag 46 oil, T/A p/n 913018	512236
4527260	512271	TM21	PAG 46	TM21, 13CID, 127MM, 8 Groove,12V, Pag 46 oil, T/A p/n 913018	512271
10067260	512271	TM21	PAG 46	TM21, 13CID, 127MM, 8 Groove,12V, Pag 46 oil, T/A p/n 913018	512271
11380072	512102	A6	PAG 150	Delco A6, R134a, 24VDC, 5" Single 1/2 V Groove	512065 --R12
1131647L	512079	A6	PAG 150	12.6 CID, A6 DELCO, SINGLE 5/8" B GRV, 4.73 DIA PULLEY, R12, 24 VDC	----
1138002L	512123	A6	PAG 150	DELCO A6, SINGLE GRV, R134A, 24 VOLT	----
1138030L	512145	A6	PAG 150	Delco A6, R134a, Pag, 12 VDC, 8K Groove Clutch	----
435-55021	512084	TM-15	PAG 46	ICE TM15, 135MM, 2 'A' Grv, Vertical MIO, 12V, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512186
435-55035	512130	TM15	PAG 46	ICE, TM15, 159MM, 1 Var Grv, 12V, Vertical MIO, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-55043	512121	TM15	PAG 46	ICE, TM15, 125MM, 2 'A' Grv, Vertical MIO, 12V, Univ Mntg Ears, R134a, Pag 46 oil, T/A p/n 913018	512139

Compressor Cross Reference

Mfg Part Number	Trans /Air Part Number	Model	Oil Weight	Description	Other Comp equivalent
435-55063	512086	TM15	PAG 46	DKS15CH, R134a, 150CC Dis, Vertical MIO 5/8 x 1/2, Single 'A' Grv (Overhang), 125MM Dia Clutch, 12 VDC, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-55075	512075	TM-15	PAG 46	TM15,125MM,2'A'GRV H-T/O, Pag 46 oil, T/A p/n 913018	512068
435-55082	512256	TM15	PAG 46	Compressor, 10 CID, 119MM, 8 Groove, 12 Volt, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-55088	512087	TM15	PAG 46	ICE TM15, 119MM, 6 Grv, H-T/O, 6 Grv, Vertical MIO, 12V, Direct Mount, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512089
435-55126	512088	TM15	PAG 46	ICE TM15, 119MM, 8 Grv, H-T/O, Horizontal Tube "O", 12V, Univ Mntg Ears, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512059
435-55210	512110	TM15	PAG 46	TM15,HD PAD FTG,2 A-GRV, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-55222	512147	TM15	PAG 46	ICE, TM15, 125MM, 2 'A' Grv, Pad Mount, 12V, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512210
435-56057	512131	TM16	PAG 46	ICE TM16, 159MM, 1 Var Grv, V-MIO, 24V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-56120	512263	TM16	PAG 46	TM16, 119MM, 8 Groove, V-MIO, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512129
435-56210	512117	TM16	PAG 46	DKS, TM16, 12V, 135MM, Dual 'A' Grv (Rear Port Delco Pad),Pag 46 oil, T/A p/n 913018	512103
435-56212	512119	TM16	PAG 46	DKS, TM16, 24V, 135MM, Dual 'A' Grv Pad, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-56222	512103	TM-16	PAG 46	ICE TM16, 125MM, 2 'A' Grv, Pad Mount, Univ Mntg Ears, R134a, Pag 46 oil, T/A p/n 913018	512210
435-56226	512124	TM16	PAG 46	ICE, TM16, 159MM, 1 Var Grv, Pad Mount, 12V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-56230	512113	TM16	PAG 46	ICE TM16, 125MM, Pad Mount, 1 'A' Overhang Grv, 12V, Univ Mntg Ears, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
435-56234	512137	TM16	PAG 46	ICE, TM16, 119MM, 8 Grv, 12V, Pad Mount, Univ Mtg Ears, No Fitting, R134a, Pag 46 oil, T/A p/n 913018	512209
435-56236	512218	TM16	PAG 46	TM16, 119MM, 8 GRV, 24V, Ftg Pad,Pag 46 oil, T/A p/n 913018	----
488-45021	512084	TM-15	PAG 46	ICE TM15, 135MM, 2 'A' Grv, Vertical MIO, 12V, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512186
488-45035	512130	TM15	PAG 46	ICE, TM15, 159MM, 1 Var Grv, 12V, Vertical MIO, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
488-45037	512110	TM15	PAG 46	TM15,HD PAD FTG,2 A-GRV, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----

Compressor Cross Reference

Mfg Part Number	Trans /Air Part Number	Model	Oil Weight	Description	Other Comp equivalent
488-45043	512121	TM15	PAG 46	ICE, TM15, 125MM, 2 'A' Grv, Vertical MIO, 12V, Univ Mntg Ears, R134a, Pag 46 oil, T/A p/n 913018	512139
488-45063	512086	TM15	PAG 46	DKS15CH, R134a, 150CC Dis, Vertical MIO 5/8 x 1/2, Single 'A' Grv (Overhang), 125MM Dia Clutch, 12 VDC, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
488-45075	512075	TM-15	PAG 46	TM15,125MM,2'A'GRV H-T/O, Pag 46 oil, T/A p/n 913018	512068
488-45088	512087	TM15	PAG 46	ICE TM15, 119MM, 6 Grv, H-T/O, 6 Grv, Vertical MIO, 12V, Direct Mount, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512089
488-45126	512088	TM15	PAG 46	ICE TM15, 119MM, 8 Grv, H-T/O, Horizontal Tube "O", 12V, Univ Mntg Ears, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512059
488-45210	512110	TM15	PAG 46	TM15,HD PAD FTG,2 A-GRV, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
488-45222	512147	TM15	PAG 46	ICE, TM15, 125MM, 2 'A' Grv, Pad Mount, 12V, Univ Mntg Ears, R134a, 9.0 cid/146.7cc, 5.0oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512210
488-46057	512131	TM16	PAG 46	ICE TM16, 159MM, 1 Var Grv, V-MIO, 24V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	-----
488-46120	512263	TM16	PAG 46	TM16, 119MM, 8 Groove, V-MIO, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	512129
488-46210	512117	TM16	PAG 46	DKS, TM16, 12V, 135MM, Dual 'A' Grv (Rear Port Delco Pad), Pag 46 oil, T/A p/n 913018	512103
488-46212	512119	TM16	PAG 46	DKS, TM16, 24V, 135MM, Dual 'A' Grv Pad, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
488-46222	512103	TM-16	PAG 46	ICE TM16, 125MM, 2 'A' Grv, Pad Mount, Univ Mntg Ears, R134a, Pag 46 oil, T/A p/n 913018	512210
488-46226	512124	TM16	PAG 46	ICE, TM16, 159MM, 1 Var Grv, Pad Mount, 12V, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
488-46230	512113	TM16	PAG 46	ICE TM16, 125MM, Pad Mount, 1 'A' Overhang Grv, 12V, Univ Mntg Ears, 9.9 cid/162.9 cc, 6.0 oz oil ZXL 100pg, Pag 46 oil, T/A p/n 913018	----
488-46234	512137	TM16	PAG 46	ICE, TM16, 119MM, 8 Grv, 12V, Pad Mount, Univ Mtg Ears, No Fitting, R134a, Pag 46 oil, T/A p/n 913018	512209
488-46236	512218	TM16	PAG 46	TM16, 119MM, 8 GRV, 24V, Ftg Pad, Pag 46 oil, T/A p/n 913018	----
488-46500	512149	TM31	PAG 46	Compressor, ICE, TM31, 152MM, 2 'A' Grv, 12V, R134a, Pag 46 oil, T/A p/n 913018	-----
488-46520	512150	TM31	PAG 46	ICE, TM31, 158MM, 2 'B' Grv, 12V, R134a, Pag 46 oil, T/A p/n 913018	----
488-46530	512148	TM31	PAG 46	Compressor, TM31, Dual 5/8 Grv, 24V, Pag 46 oil, T/A p/n 913018	-----
488-46540	512264	TM31	PAG 46	Compressor, TM31, 152MM 8 Groove, Pag 46 oil, T/A p/n 913018	512204
488-47240	512269	TM21	PAG 46	TM21, 13CID, 145MM, 2 "A" Groove, Pag 46 oil, T/A p/n 913018	512220
488-47244	512265	TM21	PAG 46	TM21, 13CID, 137MM 8 Groove, Pag 46 oil, T/A p/n 913018	512208

Compressor Cross Reference

Mfg Part Number	Trans /Air Part Number	Model	Oil Weight	Description	Other Comp equivalent
488-47246	512219	TM21	PAG 46	TM21,137MM, 8 Grv, 24V, Ftg Pad, Pag 46 oil, T/A p/n 913018	----
50-039MZ	512041	A6		Compressor, Delco A6, (Rebuilt) W/O OIL	-----
50-039MZ	512172	A6	PAG 150	Compressor Assy, 512041 with Oil	-----
QP16-1195	512129	QP16	PAG 46	QP16, 119MM, 8 Grv, 12V, Vertical MIO, Univ Mntg Ears, R134a, 9.9 cid/162.9 cc, 6.0 oz Pag 46 oil, T/A p/n 913018	512143
QP21-1562	512208	QP21	PAG 46	QP21, 13CID,137MM, 8 Grv, 12V, Pag 46 oil, T/A p/n 913018	512265
QP21-1564	512220	QP21	PAG 46	QP21, 13CID, 145MM, 2 "A" Groove,Pag 46 oil, T/A p/n 913018	512269
QP21-1657	512236	QP21	PAG 46	QP21, 13CID, 127MM, 8 Grv, 12V, Pag 46 oil, T/A p/n 913018	512271
QP21-1700	512242	QP21	PAG 46	QP21, 13CID, 127MM, 10 Groove, 12V, Pag 46 oil, T/A p/n 913018	----
QP21-1701	512254	QP21	PAG 46	QP21, 127MM, 10 Groove, 24 Volt, Pag 46 oil, T/A p/n 913018	----
QP21-1704	512243	QP21	PAG 46	QP21, 127MM, 8 Groove, 24V, Pag 46 oil, T/A p/n 913018	----
QP31-1213	512204	QP31	PAG 46	QP31 152MM, 8 Groove, Pag 46 oil, T/A p/n 913018	512264
QP7H15-4419	512224	QP7H15	PAG 46	QP7H15, 2 'A' Grv, Direct Mt, 9.5 cid/155 cc, 6.8 oz Pag 46 oil, T/A p/n 913018	512070
QP7H15-4420	512226	QP7H15	PAG 46	Compressor, QP7H15, PV8, Pad-Style, Dir, 9.5 cid/155 cc, 6.8 oz Pag 46 oil, T/A p/n 913018	512253
QP7H15-4641	512221	QP7H15	PAG 46	QP7H15 6 Grv, Direct Mount,9.5 cid/155 cc, 8.1 oz SP 20 oil, Pag 46 oil, T/A p/n 913018	512268
QP7H15-4666	512090	QP7H15	PAG 46	QP7H15, R134a, 9.5 cid/155 cc, 8.1 oz Pag 46 oil, T/A p/n 913018	----
QP7H15-4860	512210	QP7H15	PAG 46	QP7H15 FLX, (2) A Grv, Pad Ftg, 9.5 cid/155 cc, 6.8 oz Pag 46 oil, T/A p/n 913018	512103, 512267
QP7H15-4864	512209	QP7H15	PAG 46	QP7H15 FLX, PV8, Pad Ftg, 9.5 cid/155 cc, 6.8 oz Pag 46 oil, T/A p/n 913018	512137, 512226
UP-150	512167	UP-150		Compressor, Unicla Up-150, W/27201-0020 CLUTCH ASSY, AA Grv, 12V	-----
UP-170/27201-01200	512191	UP-170		Compressor, Unicla, Up-170, 8 Grv, 12V, EQUIVALENT TO 512129	-----

Boiling Point of Water at Various Vacuum Levels

Temp. F	Temp. C	Microns	Inches of HG Vacuum	Pressure PSIA
212	100	759,968	0.00	14.696
205	96.11	535,000	4.92	12.279
194	90	525,526	9.23	10.162
176	80	355,092	15.94	6.866
158	70	233,680	20.72	4.519
140	60	149,352	24.04	2.888
122	50	92,456	26.28	1.788
104	40	55,118	27.75	1.066
86	30	31,750	28.67	0.614
80	26.67	25,400	28.92	0.491
76	24.44	22,860	29.02	0.442
72	22.22	20,320	29.12	0.393
69	20.56	17,780	29.22	0.344
64	17.78	15,240	29.32	0.295
59	15	12,700	29.42	0.246
53	11.67	10,160	29.52	0.196
45	7.22	7,620	29.62	0.147
32	0	4,572	29.74	0.088
21	-6.11	2,540	29.82	0.049
6	-14.44	1,270	29.87	0.0245
-24	-31.11	254	29.91	0.0049
-35	-37.22	127	29.9150	0.00245
-60	-51.11	25.40	29.9190	0.00049
-70	-56.67	12.70	29.9195	0.00024
-90	-67.78	2.54	29.9199	0.00005
--		0.00	29.9200	0.000000

BOLT TORQUE

Metric --- Capscrew Markings and Torque Values

Torque Values Markings – Numeric on head of bolt (8.8, 10.9, 12.9, etc)

Body Size Dia. (mm)	Torque (8.8)				Torque (10.9)				Torque (12.9)			
	Cast Iron		Aluminum		Cast Iron		Aluminum		Cast Iron		Aluminum	
	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
6	9	7	7	5	14	9	11	8	14	9	11	8
7	14	10	11	8	18	13	14	10	23	18	18	13
8	25	18	18	13	32	23	25	18	36	27	28	21
10	40	30	30	22	60	45	45	35	70	50	55	40
12	70	55	55	40	105	75	80	60	125	95	100	75
14	115	85	90	65	160	120	125	95	195	145	150	110
16	180	130	140	100	240	175	190	135	290	210	220	165
18	230	170	180	135	320	240	250	185	400	290	310	230

U.S. Customary - SAE --- Capscrew Markings and Torque Values

Torque Values Markings – Spokes on head of bolt (3 = grade 5 / 6 = grade 8)

Body Dia. (mm)	Torque (5)				Torque (8)		Size	
	Cast Iron		Aluminum		Cast Iron		Aluminum	
	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
1/4 - 20.	9	7	8	6	15	11	12	9
1/4 - 28.	12	9	9	7	18	13	14	10
5/16 – 18	20	15	16	12	30	22	24	18
5/16 – 24	23	17	19	14	33	24	25	19
3/8 – 16	40	30	25	20	55	40	40	30
3/8 – 24	40	30	35	25	60	45	45	35
7/16 – 14	60	45	45	35	90	65	65	50
7/16 – 20	65	50	55	40	95	70	75	55
1/2 - 13.	95	70	75	55	130	95	100	75
1/2 - 20.	100	75	80	60	150	110	120	90
9/16 – 12	135	100	110	80	190	140	150	110
9/16 – 18	150	110	115	85	210	155	170	125
5/8 – 11	180	135	150	110	255	190	205	150
5/8 – 18	210	155	160	120	290	215	230	170
3/4 - 10.	325	240	255	190	460	340	365	270
3/4 - 16.	365	270	285	210	515	380	410	300

BELT TENSION

Belt Tension (pounds) -- Using Kriket Gage

Belt Type Width (Inches)	New Belt Installation Tension	Running Tension	Re-set to Running Tension When Tension Falls Below:	Gage Type (Kriket)
'V' - 3/8"	110	70 - 90	70	P/N 91107
'V' - 7/16"	110	80 - 95	80	P/N 91107
'V' - 1/2"	110	80 - 100	80	P/N 91107
Poly-V	130	100-110	100	P/N 91132

RECOMMENDED STANDARD FITTING TORQUE

Flare Connections

<u>Tube O.D.</u>	<u>Thread Size</u>	<u>Ft/Lb</u>
1/4"	7/16"	11-12.
3/8"	5/8"	18-20
1/2"	3/4"	36-39
5/8"	7/8"	52-57
3/4"	1 1/16"	71-79

O-Ring Connections

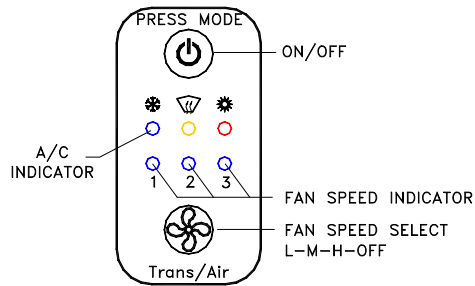
1/4"	7/16"	5-7.
3/8"	5/8"	11-13.
3/8"	11/16"	11-13.
1/2"	3/4"	15-20
5/8"	7/8"	21-27
3/4"	1 1/16"	28-33

Cross Reference of Vacuum Measurements

MICRONS	INCHES OF HG VACUUM	PRESSURE PSIA
759,968	0.00	14.696
535,000	4.92	12.279
525,526	9.23	10.162
355,092	15.94	6.866
233,680	20.72	4.519
149,352	24.04	2.888
92,456	26.28	1.788
55,118	27.75	1.066
31,750	28.67	0.614
25,400	28.92	0.491
22,860	29.02	0.442
20,320	29.12	0.393
17,780	29.22	0.344
15,240	29.32	0.295
12,700	29.42	0.246
10,160	29.52	0.196
7,620	29.62	0.147
4,572	29.74	0.088
2,540	29.82	0.049
1,270	29.87	0.0245
254	29.91	0.0049
127	29.915	0.00245
25.4	29.919	0.00049
12.7	29.9195	0.00024
2.5	29.9199	0.00005
0.00	29.92	0.00000

Operation Manual

Trans/Air EC 2.0 Climate Control System



Turn system on

With the vehicle running, press the MODE button to turn EC2.0 system on. The A/C indicator will light up indicating system is in A/C mode. Fan speed indicator 1 will light up indicating the fan speed is Low. Compressor clutch will engage automatically regardless of cabin air temperature.

Change fan speed

Press the FAN button to change the fan speed between Low, Medium, and High.

Turn system off

Press the MODE button. The A/C indicator and fan speed indicator will turn off.

Fan Only mode operation

Press the FAN button while the EC2.0 system is off. The A/C system will be running in Fan Only mode. (Only evaporator blowers run, compressor and condenser remain off.) Press the FAN button to set the fan to desired speed (Low, Medium or High). To turn Fan Only mode off, just keep pressing the FAN button until all the fan speed indicators turn off.

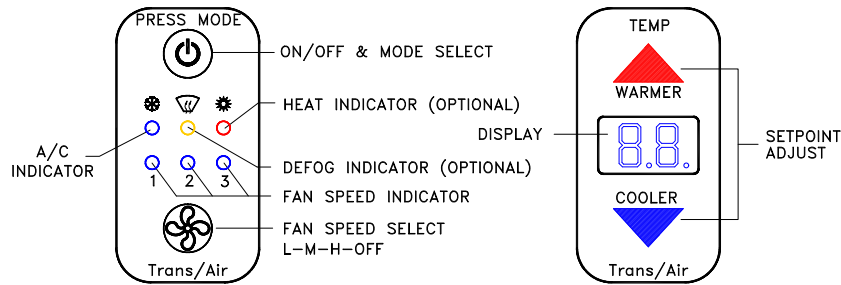


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480 E. Locust St. Dallastown, PA 17313

Operation Manual

Trans/Air EC 2.5 Climate Control System



The EC2.5 climate control system has two driver control modules: Mode/Fan control switch and Thermostat. The Mode/Fan control switch turns system on/off and controls evaporator blower speed. The Thermostat displays cabin air temperature, service codes and adjusts set point temperature.

BASIC OPERATION

Turn system on

With the vehicle running, press the MODE button to turn EC2.5 system on. The A/C indicator will light up indicating system is in A/C mode. Fan speed indicator 1 will light up indicating the fan speed is Low. Thermostat will also turn on automatically. LED display shows cabin air temperature.

Select mode of operation (Heat / Defog Optional)

Press the MODE button to change the operation mode between A/C, Defog or Heat.

Change fan speed

Press the FAN button to change the fan speed between Low, Medium, and High.

Change set point temperature

The thermostat LCD display shows cabin air temperature during normal operation. Press UP or DOWN arrow once for set point mode. The set point temperature and a flashing decimal point will be displayed on the LED in set point mode. Press the UP or DOWN arrow again to adjust the set point to the desired value. After 5 seconds, EC2.5 will switch back to normal operating mode displaying cabin temperature. The new set point then becomes effective.

The default set point temperature is 70°F. This setting is stored in EC2.5's non-volatile memory. It takes effect every time the system turns on. To change the default set point temperature setting, go into the setting mode and adjust the set point to the desired value, then press the UP and DOWN arrow **simultaneously**. The new set point value will be stored into the non-volatile memory and become the default set point.

Turn system off

Press the MODE button until all the mode indicators turn off. The fan speed indicators and the thermostat LCD display will turn off consequently.

Fan Only mode operation

Press the FAN button while the EC2.5 system is off. The A/C system will be running in Fan Only mode. (Only evaporator blowers run, compressor and condenser remain off.) Press the FAN button to set the fan to desired speed (Low, Medium or High). In Fan Only mode, the thermostat LCD still shows the cabin air temperature. To turn Fan Only mode off, just keep pressing the FAN button until all the fan speed indicators turn off.

TROUBLE SHOOTING

Service Indicator	
Hi	Internal temperature above 90 °F
Lo	Internal temperature below 60 °F
Sr	Service required High pressure fault or Low pressure fault

No service required when the thermostat LCD shows “Hi” or “Lo”.

Turn the system off and then turn it back on to reset the “Sr” code. Service is required if “Sr” code can not be reset.

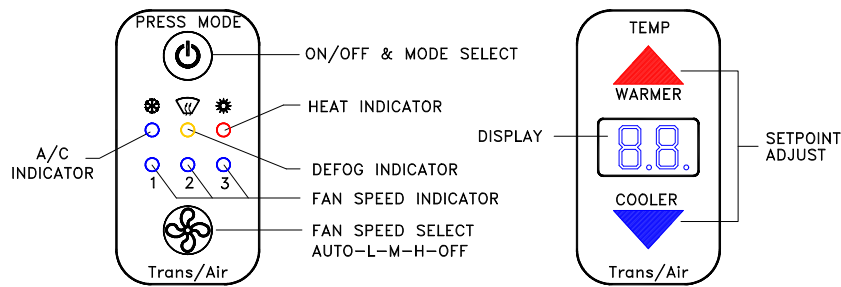


717-246-2627

480 E. Locust St. Dallastown, PA 17313

Operation Manual

Trans/Air EC 3 Climate Control System



The EC3 climate control system has two driver control modules: Mode/Fan control switch and Thermostat. The Mode/Fan control switch controls system operating mode and evaporator blower speed. The Thermostat displays cabin air temperature, fault codes and adjusts set point temperature.

BASIC OPERATION

Turn system on

With the vehicle running, press the **MODE** button to turn EC3 system on. The A/C indicator will light up indicating system is in A/C mode. All 3 fan speed indicators will light up indicating the fan speed is in Auto mode. This is the default mode of operation. Thermostat will also turn on automatically. LED display shows cabin air temperature.

Select operating mode

Press the **MODE** button to change the operating mode between A/C, Defog and Heat.

Change fan speed

Press the **FAN** button to change the fan speed between Auto, High, Medium, and Low. In Auto fan speed, the evaporator fan speed is controlled automatically by EC3 system based on the difference of the cabin air temperature and the set point temperature.

Change set point temperature

Press the **▲** or **▼** once for set point mode. The set point temperature and a flashing decimal point will be displayed on the LED in set point mode. Press the **▲** or **▼** again to adjust the set point to the desired value. After 5 seconds, EC3 will switch back to normal operating mode displaying cabin temperature. The new set point then becomes effective.

The default set point temperature is 70°F. This setting is stored in EC3's non-volatile memory. It takes effect every time the EC3 system turns on. To change the default set point temperature setting, go into the setting mode and adjust the set point to the desired value, then press the **▲** and **▼** **simultaneously**. The new set

point value will be stored into the non-volatile memory and become the default set point.

Turn system off

Press the **MODE** button until all the mode indicators turn off. The fan speed indicators and the thermostat LCD display will turn off consequently.

Fan Only mode operation

Press the **MODE** button to turn EC3 system off and then press the **FAN** button. The A/C system will be running in Fan Only mode. (Only evaporator blowers run, compressor and condenser remain off.) Press the **FAN** button to set the fan to desired speed (Auto, Low, Medium or High). In Fan Only mode, the thermostat LCD still shows the cabin air temperature. To turn Fan Only mode off, just keep pressing the **FAN** button until all the fan speed indicators turn off.

TROUBLE SHOOTING

Fault code listing

Fault Code	Description
HP	High pressure fault
LP	Low pressure fault
Fr	Freezestat fault
Lu	Low clutch voltage/ Blown fuse
bF	Blown fuse
System Indicator	
Hi	Return air temperature above 90 °F
Lo	Return air temperature below 60 °F
Sr	Maintenance required

Reset fault code

Turn the system off and then turn it back on.

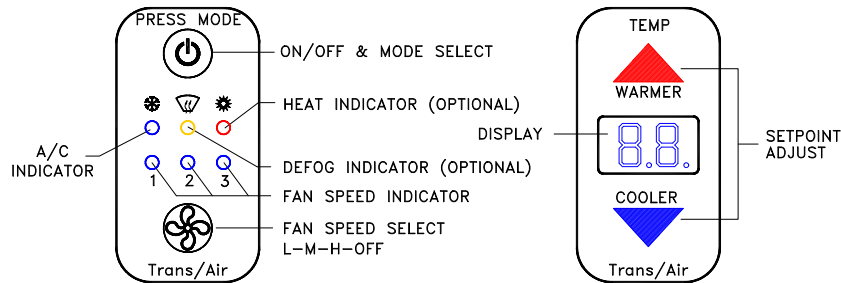


717-246-2627

480 E. Locust St. Dallastown, PA 17313

Operation Manual

Trans/Air EC 4.0 Climate Control System



The EC4.0 climate control system has two driver control modules: Mode/Fan control switch and Thermostat. The Mode/Fan control switch turns system on/off and controls evaporator blower speed. The Thermostat displays cabin air temperature, fault and service codes, and adjusts set point temperature.

BASIC OPERATION

Turn system on

With the vehicle running, press the **MODE** button to turn EC4.0 system on. The A/C indicator will light up indicating system is in A/C mode. Fan speed indicator 1 will light up indicating the fan speed is Low. Thermostat will also turn on automatically. LED display shows cabin air temperature.

Select mode of operation (Heat / Defog Optional)

Press the **MODE** button to change the operation mode between A/C, Defog or Heat.

Change fan speed

Press the **FAN** button to change the fan speed between Low, Medium, and High.

Change set point temperature

The thermostat LCD display shows cabin air temperature during normal operation. Press **UP** or **DOWN** arrow once for set point mode. The set point temperature and a flashing decimal point will be displayed on the LED in set point mode. Press the **UP** or **DOWN** arrow again to adjust the set point to the desired value. After 5 seconds, EC4.0 will switch back to normal operating mode displaying cabin temperature. The new set point then becomes effective.

The default set point temperature is 70°F. This setting is stored in EC4.0's non-volatile memory. It takes effect every time the system turns on. To change the default set point temperature setting, go into the setting mode and adjust the set point to the desired value, then press the **UP** and **DOWN** arrow **simultaneously**. The new set point value will be stored into the non-volatile memory and become the default set point.

Turn system off

Press the **MODE** button until all the mode indicators turn off. The fan speed indicators and the thermostat LCD display will turn off consequently.

Fan Only mode operation

Press the **FAN** button while the EC4.0 system is off. The A/C system will be running in Fan Only mode. (Only evaporator blowers run, compressor and condenser remain off.) Press the **FAN** button to set the fan to desired speed (Low, Medium or High). In Fan Only mode, the thermostat LCD still shows the cabin air temperature. To turn Fan Only mode off, keep pressing the **FAN** button until all the fan speed indicators turn off.

TROUBLE SHOOTING

Fault Code	Description
HP	High pressure fault
LP	Low pressure fault
Lu	Low clutch voltage/blown fuse
Sr	Maintenance required
System Indicator	
Hi	Return air temperature above 90°F
Lo	Return air temperature below 60°F
Sr	1500 Hr Service Reminder

No service required when the thermostat LCD shows "Hi" or "Lo".

Turn the system off and then turn it back on to reset the "Sr" code. Service is required if "Sr" code can not be reset.



717-246-2627

480 E. Locust St. Dallastown, PA 17313

Super heat

- 1. Measure the temperature of the suction line at the point the bulb is clamped.
 - 2. Obtain the suction pressure that exists in the suction line at the bulb location by either of the following methods:
 - a. A gauge in the external equalized line will indicate the pressure directly and accurately.
 - b. A gauge directly in the suction line near the evaporator or directly in the suction header of the evaporator will yield the same reading as 2a above.
 - 3. Convert the pressure obtained in 2a or 2b above to saturated evaporator temperature by using a temperature-pressure chart.
 - 4. Subtract the saturated temperature from the actual suction line temperature. The difference is Superheat.
- Alternative Superheat Method

Note: The most accurate method of measuring superheat is found by following the previous procedure, Temperature/Pressure method. However, that method may not always be practical. An alternative method which will yield fairly accurate results is the temperature / temperature method:

- 1. Measure the temperature of the suction line at the point the bulb is clamped (outlet).
 - 2. Measure the temperature of one of the distributor tubes close to the evaporator coil (inlet).
 - 3. Subtract the inlet temperature from the outlet temperature. The difference is Superheat.
- This method will yield fairly accurate results as long as the pressure drop through the evaporator coil is low.

Temperature Pressure Chart

F	C	R-12	R-134 A	F	C	R-12	R-134 A	F	C	R-12	R-134 A
-120	-65			16	-1.1	18.4	15.8	98	43.3	113.5	120.1
-115	-62.2			18	0	19.7	17.2	100	44.4	117.2	124.3
-110	-59.4			20	1.1	21	18.6	102	45.6	120.9	128.5
-105	-56.7			22	2.2	22.4	20	104	46.1	124.7	132.9
-100	-53.9			24	3.3	23.9	21.5	105	46.7		135
-95	-51.1			26	4.4	25.4	23.1	106	47.8	128.5	137.3
-90	-48.3			28	5.6	26.9	24.7	108	48.9	132.4	142.8
-85	-45.6			30	6.7	28.5	26.3	110	50	136.4	146.5
-80	-44.4			32	7.8	30.1	28	112	51.1	140.5	151.3
-75	-43.3			34	8.9	31.7	29.7	114	51.7	144.7	156.1
-70	-42.2			36	10	33.4	31.5	115	52.2		158
-65	-41.1			38	10	35.2	33.4	116	53.3	148.8	161.1
-60	-40			40	11.1	36.9	35.3	118	54.4	153.2	166.1
-55	-38.9			42	12.2	38.8	37.3	120	55.6	157.7	171.3
-50	-37.8	15.4	19.1	44	12.8	40.7	39.3	122	56.7	162.2	176.6
-48	-36.7	14.6	18.4	46	13.3	42.7	41.4	124	57.2	166.7	182
-46	-35.6	13.8	17.7	48	14.4	44.7	43.5	125	57.8		184
-44	-34.4	12.9	16.9	50	15.6	46.7	45.7	126	58.9	171.4	187.5
-42	-33.3	11.9	16.1	50	16.7			128	60	176.2	193.1
-40	-32.2	11	15.2	52	17.8	48.8	47.7	130	61.1	181	198.9
-38	-31.1	10	14.3	54	18.3	51	50.1	132	62.2	185.9	204.7
-36	-30	8.9	13.4	55	18.9		51.5	134	62.8	191	210.7
-34	-28.9	7.8	12.4	56	20	53.2	52.3	135	63.3		213
-32	-27.8	6.7	11.3	58	21.1	55.4	55	136	64.4	196.1	216.8
-30	-26.7	5.5	10.2	60	22.2	57.7	57.7	138	65.6	201.3	223
-28	-25.6	4.3	9.1	62	23.3	60.1	60.1	140	-17.8	206.6	229.4
-26	-24.4	3	7.9	64	23.9	62.5	62.7	142	-17.8	212	235.8
-24	-23.3	1.6	6.6	65	24.4		64.3	144	-17.8	217.5	242.4
-22	-22.2	0.3	5.3	66	25.6	65	65.5	145	-17.8		246
-20	-21.1	0.6	4	68	26.7	67.6	68.3	146	-17.8	223.1	249.2
-18	-20	1.3	2.5	70	27.8	70.2	71.2	148	-17.8	228.8	256
-16	-18.9	2.1	1.1	72	28.9	72.9	74.2	150	-17.8	234.6	263
-14	-17.8	2.8	0.2	74	29.4	75.6	77.2				
-12	-16.7	3.7	1	75	30		79.8				
-10	-15.6	4.5	1.9	76	31.1	78.4	80.3				
-8	-14.4	5.4	2.7	78	32.2	81.3	83.5				
-6	-13.3	6.3	3.6	80	33.3	84.2	86.8				
-4	-12.2	7.2	4.5	82	34.4	87.2	90.2				
-2	-11.1	8.2	5.5	84	35	90.2	93.6				
0	-10	9.2	6.5	85	35.6		95.4				
2	-8.9	10.2	7.5	86	36.7	93.3	97.1				
4	-7.8	11.2	8.6	88	37.8	96.5	100.7				
6	-6.7	12.3	9.7	90	38.9	99.8	104.5				
8	-5.6	13.5	10.8	92	40	103.1	108.2				
10	-4.4	14.6	12	94	40.6	106.5	112.1				
12	-3.3	15.8	13.2	95	41.1		114				
14	-2.2	17.1	14.5	96	42.2	110	116.1				

Trans/Air Manufacturing Corporation

Limited Warranty

Subject to the conditions and limitations set forth below, for a period of two (2) years (with unlimited mileage) starting at the date of delivery to the End User and with proper registration documentation, Trans/Air Manufacturing Corporation (Trans/Air) warrants to the original owner, if still the user, that each manufactured system/component will be free from defects in factory workmanship and materials when used and maintained in accordance with the recommended procedures. Trans/Air will furnish new or remanufactured replacement parts and cover the cost of repair labor for two years following delivery in accordance with the current Trans/Air flat rate labor schedule when performed at an authorized Trans/Air Service Center. This is the End User's sole and exclusive remedy.

THIS IS TRANS/AIR'S SOLE WARRANTY AND IT IS FURNISHED IN LIEU OF ANY AND ALL OTHER WARRANTIES. TRANS/AIR MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES WHATSOEVER. NO WARRANTY OF MERCHANTABILITY AND NO WARRANTY OF FITNESS FOR PARTICULAR PURPOSE IS MADE BY TRANS/AIR.

Conditions and Limitations

- 1) In order for a two (2) year system warranty to apply, the customer must purchase the evaporator(s), condenser(s), compressor(s), piping kits, electrical kits, mount kits and refrigeration hose from Trans/Air. If the full system is not purchased from Trans/Air, the two (2) year warranty applies to Trans/Air supplied evaporators and condensers only. All compressors, piping kits, and electrical kits purchased outside of a full system, will be considered a service part and will carry a 180 day warranty. All mount kits purchased outside of a full system, and used on a Trans/Air system, will be considered a service part and will carry a 180 day warranty. All mount kits purchased outside of a full system, and used on a system other than Trans/Air, will carry no warranty. All other components supplied by Trans/Air are covered by standard parts warranty (see #4 below). Extended warranty coverage may be purchased from Trans/Air at the time of purchase of the unit or system. Correction of a failure under this warranty does not extend the warranty beyond the standard two (2) year warranty period.
- 2) All auxiliary power pack engines are warranted by the engine manufacturer, only and not by Trans/Air. Trans/Air components assembled on auxiliary power packs are warranted for two (2) years or 1000 hours, whichever comes first.
- 3) Demonstration systems will be covered for the full original warranty period if delivered to an End User within 180 days after the installation date and the vehicle has not exceeded 6,000 miles at the time of delivery to the End User. If the vehicle does not meet these criteria the full warranty period may be obtained if the system passes Trans/Air's specific warranty inspection performed, at dealer's expense, at an authorized Trans/Air Service Center. Written proof that the system has passed inspection must be received by Trans/Air to complete warranty registration.
- 4) Service parts are warranted for a 180 day period from the date of sale or until the expiration of the original equipment warranty, whichever is later. (Compressors are warranted for 1 year) If required, parts covered by warranty must be returned to Trans/Air's factory in Dallastown, PA, by specified carrier freight prepaid, within standard Return Goods Authorization procedures, for evaluation, in order for Trans/Air to authorize any warranty claim.
- 5) Trans/Air will be responsible for the costs of repairs or replacement covered by warranty only if performed at an authorized Trans/Air Service Center. The Service Center is responsible for effecting repairs or replacement during the warranty period in accordance with current Trans/Air warranty procedures. A customer requesting service at a location other than an approved Service Center, or one requesting overtime, shall be responsible for all additional warranty repair expenses in excess of the flat rate allowed. Trans/Air is not responsible for towing charges.

- 6) If the customer has not properly registered the Trans/Air system, the Service Center is not authorized to render warranty services without charge. All information on the warranty registration form must be completed in its entirety and returned to Trans/Air to activate the warranty.
- 7) Trans/Air does not warrant the installation of Trans/Air products unless installed by Trans/Air or an authorized Trans/Air Turnkey installation facility. In the cases of installation related failures, which are not covered by warranty Trans/Air specifically is not responsible for failures attributable to inadequate provision by the installer of structural support or inadequate provision of electrical requirements.
- 8) This warranty does not apply in cases of a failure of Trans/Air product which is attributable to improper evacuation procedures, or the introduction of non-approved refrigerant oil, additives, or other contaminants into the system.
- 9) This warranty does not apply in cases of failure of Trans/Air product, which is attributable to failure of the end user to perform or provide preventative maintenance in accordance with Trans/Air's guidelines. Examples include, but are not limited to, failure to properly maintain belt tension, clean condenser coils, replace evaporator filters, maintain electrical systems to provide proper voltage to components, or check and tighten hardware or fittings, which may have loosened due to vibration. (See Trans/Air Preventive Maintenance Schedule)
- 10) This warranty does not apply to failure of Trans/Air product due to normal wear. Examples included but are not limited to, return air filters, refrigerant filters, power pack air filters, power pack fuel filters, power pack coolant hoses, any belts, lubricants, transit compressor oil collection rings, condenser and evaporator motor brushes, etc., all of which are considered to be expendable items.
- 11) This warranty does not apply to loss of refrigerant or any damage caused by loss of refrigerant unless directly attributable to the failure of a Trans/Air product which, at the time of the failure, was under warranty.
- 12) Trans/Air reserves the right to make changes in design or improvements to its products or parts thereof, without obligation to make or install of such changes or improvements on existing units or upon products covered by this warranty.
- 13) If Trans/Air makes a product improvement program available to the End User, Trans/Air reserves the right to limit the duration of the programs unless it is safety related. Expenses incurred in completing said product improvements after the closing date of the program are the responsibility of the End User.
- 14) Trans/Air's warranty shall not apply in the case of damage incurred during shipment, accidental damage, abuse, misuse, act of nature, or if the serial number is missing, or to any product which, in the sole opinion of Trans/Air, has been installed, altered or repaired in a manner affecting the efficiency or performance of the unit or inconsistent with Trans/Air's written procedures.
- 15) This warranty applies only within the boundaries of the whole United States, its territories, and Canada. For other available coverage that may be purchased, contact Trans/Air.

TRANS/AIR'S LIABILITY TO THE PURCHASER FOR DAMAGES FROM ANY CAUSE WHATSOEVER AND REGARDLESS OF THE FORM (S) OF ACTION, WHETHER IN CONTRACT OR TORT, INCLUDING NEGLIGENCE OR OTHERWISE, SHALL BE LIMITED TO THE VALUE OF REPAIRS TO OR REPLACEMENT OF THE DEFECTIVE COMPONENTS DURING THE WARRANTY PERIOD, AS THE EXCLUSIVE REMEDY, AND STRAIGHT TIME LABOR CHARGES AS OUTLINED IN ITS CURRENT WARRANTY PROCEDURE MANUAL AND FLATE RATE LABOR SCHEDULE. IN NO EVENT SHALL TRANS/AIR BE LIABLE WHATSOEVER FOR ANY PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR LOST PROFITS OR OTHER COMMERCIAL LOSSES FROM ANY CAUSE WHATSOEVER, WHETHER OR NOT TRANS/AIR HAS RECEIVED NOTICE OF THE POSSIBILITY OR CERTAINTY OF SUCH DAMAGES OR LOSSES. TRANS/AIR WILL NOT BE LIABLE FOR ANY LOSS OCCURRING BECAUSE THE EQUIPMENT IS OUT OF SERVICE. NO ACTION OR PROCEEDING ARISING OUT OF, FOR BREACH OF, OR IN ANY MANNER RELATING TO THIS WARRANTY MAY BE BROUGHT BY ANYONE AFTER SIX (6) MONTHS FROM NOTIFICATION TO TRANS/AIR OF AN IN-WARRANTY FAILURE.

Charge Determination of Trans/Air Refrigerant and Lubricant

I. SELECT LUBRICANT

- (1) Identify the compressor to be used for the system.
- (2) Recognize the type of application and note:

TYPE OF APPLICATION	TYPE OF REFRIGERANT	TYPE OF LUBRICANT
New installation	R134a	PAG
Retrofit	R134a	PAG
Retrofit	R12	Mineral or POE

- (3) Apply the chart below to determine the type/amount of lubricant based on the compressor to be used:

COMPRESSORS		MANUFACTURER RECOMMENDED LUBRICANTS				PART NO.
Mfgr	Type	Standard	Equivalent	Viscosity	Charge, oz	Trans/Air
Alma	Delco A-6	PAG Delco 15-118	PAG Apollo G25X	150	10.0	913016
Ford	FS-10	PAG YN 12A	PAG Apollo FD46XG	46	Sys. Specific	913018
Harrison	HD6	PAG Delco 15-118	PAO Apollo G25X	150	7.8	913016
Sanden	FLX7	PAG SP 20	PAG Apollo PR	100	6.8	913017
Sanden	SD709TXV	PAG SP 20	PAG Apollo PR	100	5.1	913017
Sanden	SD709CCOT	PAG SP 20	PAG Apollo PR	100	8.1	913017
Sanden	SD5H14	PAG SP 20	PAG Apollo PR	100	7.1	913017
Sanden	SD7H15 4034	PAG SP 20	PAG Apollo PR	100	10.1	913017
Sanden	SD7H15 4628	PAG SP 20	PAG Apollo PR	100	8.1	913017
Sanden	SD7H15 4641	PAG SP 20	PAG Apollo PR	100	8.1	913017
Sanden	SD7H15 4663	PAG SP 20	PAG Apollo PR	100	4.6	913017
Sanden	SD7H15 4664	PAG SP 20	PAG Apollo PR	100	8.1	913017
Sanden	SD7H15 4666	PAG SP 20	PAG Apollo PR	100	8.1	913017
Sanden	SD7H15 4707	PAG SP 20	PAG Apollo PR	100	4.6	913017
Sanden	SD7H15 4708	PAG SP 20	PAG Apollo PR	100	4.6	913017
Sanden	SD7H15 4711	PAG SP 20	PAG Apollo PR	100	4.6	913017
Sanden	SD7H15 7819	PAG SP 20	PAG Apollo PR	100	5.1	913017
Sanden	SD7H15 7822	PAG SP 20	PAG Apollo PR	100	8.1	913017
Seltec	TM15	PAG ZXL 100	PAG Apollo PS	46	5.1	913018
Seltec	TM16	PAG ZXL 100	PAG Apollo PS	46	6.1	913018
Seltec	TM 21	PAG ZXL 100	PAG Apollo PS	46	6.1	913018
Seltec	TM -26/31	PAG ZXL 100	PAG Apollo PS	46	16.9	913018
Que	QP7H15	PAG ZXL 100	PAG Apollo PS	46	10.0	913018
Que	QP16	PAG ZXL 100	PAG Apollo PS	46	6.1	913018
Que	QP21	PAG ZXL 100	PAG Apollo PS	46	6.1	913018
Bitzer	647	POE BITZER BSE55	POE ICI RL 68S	55	84.5	913021
Bock	325/470/650	POE DEA Triton SE55	POE ICI RL 46S	55	67.7	913020
Copeland	Hermetic	POE ICI RL 32CF	POE Mobil 22 CC	32/22	64.0	913019

Charge Determination of Trans/Air Refrigerant and Lubricant

II. DETERMINE AMOUNT OF CHARGE BASED ON COMPONENT SIZE

- (1) Determine the amount of refrigerant required for each required component in the chart below.
- (2) Determine the amount of lubricant required by using a refrigerant/lubricant ratio at **1½ fl oz OF REFRIGERANT OIL FOR EVERY 1 lb R134a.**

Note: No oil added for Bock and Bitzer compressor systems.

COMPONENTS	MODEL	REFRIGERANT CHARGE (lb)	LUBRICANT CHARGE (fl oz)
EVAPORATOR	OEM Dash Air	0.80	1.20
	T/A Dash Air (27k / 40k)	0.36	0.54
	DCM II	0.28	0.42
	T/A 30 / T/A 20	0.36	0.54
	T/A 70	0.43	0.64
	T/A 71 (202971)	1.50	2.25
	T/A 71 (2021171, 2021730)	0.41	0.61
	T/A 73	0.51	0.76
	T/A 77 (202895, 2021731)	3.00 (1.50 per coil)	4.50 (2.25 per coil)
	T/A 77 (2021740, 2021767)	0.82 (0.41 per coil)	1.23 (0.61 per coil)
	T/A 93	0.44	0.66
	T/A 96	0.54	0.81
	FM 45 (2021400, 2021431)	1.50	2.25
	FM 45 (2021600)	0.46	0.69
	FM 45 (Aluminum coil)	0.29	0.43
	FM 55	0.56	0.84
	FM 55 (Aluminum coil)	0.37	0.55
T/A 17	1.9	2.85	
CONDENSER	SMC2S (slanted coil)	2.30	3.45
	SMC2S (straight coil)	1.90	2.85
	SMC2S (micro-channel coil)	1.1	1.65
	SMC3L (micro-channel coil)	1.2	1.8
	SMC3L (slanted coil)	3.20	4.80
	SMC3L (straight coil)	2.60	3.90
	SC-3	4.37	6.55
	SC-4	5.5	8.25
	C-5	4.70	7.05
	RTC-3	4.1	6.15
	RTC-6	5.5	8.25
	DKD417	4.80	7.20
	DKD656	12.50	18.75
	KL60 Condenser Dual Circuit	Estimated 23.00 (11.50 per coil)	34.50 (17.25 per coil)
	FRC (Aluminum, IC CE Chassis)	0.80	1.20
	RTC120 (micro-channel coil)	5.04 (2.52 per coil)	7.56 (3.78 per coil)
	RTC90 (micro-channel coil)	4.72 (2.36 per coil)	7 (3.5 per coil)
RTC60 (micro-channel coil)	2.35	3.53	
SYSTEM	T/A66	8.00 (4.00 per side)	12.00 (6.00 per side)
	T/A 80	8.50 (4.25 per side)	12.75 (6.38 per side)
	SUCCES-I	4.50	6.75
	T/A-2	12.00	18.00
	HKL5CT	12.10*	18.20
	HKL6CT	15.40*	22.60
	KL60	22.00*	33.00
	KL60T	24.20*	36.30
	KL70T	26.40*	39.60
	KL75T	26.40*	39.60
KL80T	27.50*	41.25	

*Approximate value from Konvekta BAKL60T12AB.DOC 06.10.2005.

Charge Determination of Trans/Air Refrigerant and Lubricant

Charge Determination of Trans/Air Refrigerant and Lubricant

III. CALCULATE TOTAL AMOUNT OF CHARGE BASED ON HOSES AND OTHER COMPONENTS

- (1) Measure hose length for each liquid/discharge/suction line.
- (2) Calculate the amount of refrigerant/lubricant based on hose sizes using chart below (left) and total up the amount of refrigerant/lubricant charge required for the system, excluding compressor (see example):

HOSE SIZE in	Hose #	REFRIGERANT lb/ft	LUBRICANT fl oz/ft
Liquid Line: 13/32	8	0.0589	0.088
	10	0.0893	0.134
	5/8	0.1395	0.209
Discharge Line: 1/2	10	0.0072	0.011
	5/8	0.0112	0.017
	3/4	0.0161	0.024
Suction Line: 5/8	12	0.002185	0.003
	3/4	0.003147	0.005
	7/8	0.004283	0.006

EXAMPLE		
System T/A733 + compressor= T/A73 + SMC3L(micro) + TM16		
Component	R134a (lb)	PAG (fl oz)
Evaporator	0.51	0.76
Condenser	1.2	1.8
10 ft Hose (13/32)	10 x .0589 = 0.589	10 x .088 = 0.88
30 ft Hose (1/2)	30 x .0072 = 0.216	30 x .011 = 0.33
40 ft Hose (5/8)	40 x .002185 = 0.0874	40 x .003 = 0.12
Total (per system)	2.6	3.9*
*NOTE: In addition to the amount of oil already in compressor		

IV. CHARGING METHOD

- (1) Calculate total charge amount as shown in **EXAMPLE**.
- (2) Charge the system with the amount obtained from above per **Trans/Air's "INSTALLATION - PROCEDURES AND GUIDELINES"** section on charging, and verify by measuring the current ambient temperature at the condenser air inlet.
- (3) Use the Pressure/Temperature (P/T) chart (shown at right) by the procedure below to verify or adjust the refrigerant and lubricant level till the pressure reading agrees with the chart:

PROCEDURE	ENTRY	EXAMPLE
1..Attach refrigeration pressure gauge on system (by Certified Mechanics only)		
2. Measure ambient (condenser inlet) air temperature and enter as Ti ⇒	Ti = ___ °F	Ti = <u>95</u> °F
3. Find refrigerant pressure corresponding to Ti in Column (A) and enter as Pr ⇒	Pr = ___ psi	Pr = <u>229</u> psi
4. Check pressure gauge reading, Ph on the discharge (high) side, compare it against Pr (as the engine running at 2000 rpm, system on and compressor engaged), and with all windows open. Note that: (a) If Ph > Pr : Reduce refrigerant charge by 4 oz increment, then wait 15 minutes for the system to stabilize. (b) If Ph < Pr : Add refrigerant as above until Ph ≈ Pr	NOTES: (a) Always keep refrigerant to lubricant ratio at 1.5 oz oil to 1 lb R134a <u>minimum</u> in the system. (b) For best results cabin temperature and ambient temperature should be equal. (c) Always use properly calibrated gauges.	

AMBIENT TEMP. °F	REFRIGERANT PRESSURE, psig
R134a	(A)
60	95
63	104
65	112
68	122
70	131
73	142
75	151
78	161
80	169
83	179
85	187
88	199
90	208
93	220
95	229
98	242
100	253
103	267
105	277
108	292
110	304
113	*
115	*
118	*
120	*

* When charging at ambient temperatures above 110 °F contact Trans/Air MFG for directions.