* A/C-HEATER SYSTEM UNIFORM INSPECTION GUIDELINES * Article Text

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ARTICLE BEGINNING

GENERAL INFORMATION
A/C-Heater System Motorist Assurance Program
Standards For Automotive Repair

All Makes and Models

INTRODUCTION TO MOTORIST ASSURANCE PROGRAM (MAP)

The Motorist Assurance Program was formed in 1992 by forty (40) companies who were concerned about the image of automotive service establishments. Today, MAP is an industry-wide association dedicated to strengthening consumer satisfaction with the automotive repair industry. MAP's participants represent the majority of the nation's multi-bay retail automotive outlets, their parts and equipment suppliers, independent repair shops, industry associations, car companies, manufacturers representatives, and the trade press. MAP

is developing standards of service, uniform inspection procedures and other programs to assure consumers of the industry's professionalism and the commitment to excellence shared by MAP's sponsoring companies.

MAP's achievements to date include production and distribution (over 280,000) of the consumer brochure "How to Find Your Way Under the Hood and Around Your Car", development of a Pledge of Satisfaction to Consumers and Standards of Service and establishment of relationships with regulatory agencies.

As auto repair becomes an issue for federal and state regulators, MAP is working to educate government leaders on the dynamics of automotive service and the self-monitoring efforts MAP has undertaken on the industry's behalf. MAP's sponsoring companies are becoming well-known to government representatives as exemplary businesses working to improve the industry. Media sources also look to MAP to provide information and advice to consumers and on working with automotive technicians and repair establishments.

In the next few months, MAP plans to assist member repair facilities in implementing the MAP Pledge to Customers, establishing an alternate dispute resolution system to help resolve customer complaints within the industry, and developing a shop accreditation program to encourage policies in concert with the MAP Standards of Service and Inspection Guidelines.

MAP has united the aftermarket behind its consumer-oriented goals and has established itself both within and outside of the industry. We welcome you to join us as MAP continues its outreach. With your support, both the automotive repair industry and your customers will reap the benefits. Please contact MAP at:

808 17th Street, NW Suite 200 Washington, D.C. 20006 202 466 7050

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MAP UNIFORM INSPECTION GENERAL GUIDELINES

OVERVIEW OF SERVICE REQUIREMENTS & SUGGESTIONS

It is MAP policy that all exhaust, brake, ABS, steering and suspension, wheel alignment, tires and wheels, driveline, engine performance and maintenance and heating, ventilation and air conditioning services be offered and performed under the guidelines and procedures specified in these sections.

Before any service is performed on a vehicle, an inspection of the appropriate system must be performed. The results of this inspection must be explained to the customer and documented on an inspection form. The condition of the vehicle and its components will indicate what services/part replacements may be required or suggested. In addition, suggestions may be made to satisfy the needs expressed by the customer.

This section lists the various parts and conditions that indicate required or suggested service or part replacement. Although this list is extensive, it is not inclusive. In addition to this list, a technician may make a suggestion. This suggestion must be based on substantial and informed experience or the vehicle manufacturer's recommended service interval.

Some conditions indicate that service or part replacement is required because the part in question is no longer providing the function for which it is intended, does not meet a vehicle manufacturer's design specification or is missing.

- * Example: An exhaust pipe has corroded severely and has a hole in it through which exhaust gases are leaking. Replacement of the exhaust pipe in this case is required due to functional failure.
- * Example: A brake rotor has been worn to the point where it measures less than the vehicle manufacturer's specifications. Replacement of the rotor is required because it does not meet design specifications.

Some conditions indicate that a service or part replacement is suggested because the part is close to the end of its useful life or to address a customer's need, convenience or request. If a customer's vehicle has one of these conditions, the procedure may only be to suggest service.

- * Example: An exhaust pipe is rusted, corroded or weak, but no leaks are present. In this case, the exhaust pipe has not failed. However, there is evidence that the pipe may need replacement in the near future. Replacement of the pipe may be suggested for the customer's convenience in avoiding a future problem.
- * Example: The customer desires improved ride and/or handling, but the vehicle's shocks or struts have not failed. In this case, replacement may be suggested to satisfy the customer's wishes. In this case, replacement of the shocks or struts may

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not be sold as a requirement.

A customer, of course, has the choice of whether or not a Shop will service his or her vehicle. He or she may decide not to follow some of your suggestions. The following reasons may be used for required and suggested services:

Reasons to Require Repair or Replacement:

- * component no longer performs intended purpose
- * component does not meet a design specification (regardless of performance)
- * component is missing.

Reasons to Suggest Repair or Replacement

- * component is close to the end of its useful life (just above discard specifications or weak; failure likely to occur soon, etc.)
- * address a customer need, convenience or request (stiffen ride, enhance performance, eliminate noise, etc.)
- * comply with maintenance recommended by the vehicle's Original Equipment Manufacturer (OEM)
- * technician's recommendation based on substantial and informed experience.

HEATING, VENTILATION & AIR CONDITIONING GUIDELINES

* PLEASE READ THIS FIRST *

NOTE:

When servicing R-12 Systems it is suggested to use "O" rings, seals and hose materials which are also compatible with R-134a in case the vehicle requires retrofitting later in its life.

COMPRESSOR & CLUTCH ASSEMBLY

3

COMPRESSOR Condition Procedure Note Seized 3 Requires replacement 3 Inoperative 3 Further inspection 3 Check/service state of 3 required. ³ charge following the 3 ³ manufacturer's recommended 3 3 service procedures. If the 3 3 compressor is still

³ inoperative, require ³ repair or replacement.

Noisy ³ Further inspection ³ Check/service oil level and

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³ required.

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3 state of charge following

	required.	state of charge following
	3	³ manufacturer's recommended
	3	³ service procedures. If the
	3	³ compressor is still noisy,
	3	3 suggest repair or
	3	³ replacement. Compressor may
	3	s be near the end of its
	3	s useful life.
****	* * * * * * * * * * * * * * * * * * * *	uselul lile. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Damaged housing	3 Suggest repair or	3 If damage affects proper
	³ replacement.	³ operation of system require
		³ replacement.
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Leaks	³ Require repair or	3
	³ replacement.	3
AAAAAAAAAAAAAA	AAAAAAAAAAAAAAAAAAAAAAA	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Missing or	з Require repair or	3
damaged mounting	³ replacement.	3
brackets/hardware	3	3
	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	***************************************
OLIMOIL ACCEMBLY		
CLUTCH ASSEMBLY	*****************	
Condition	Procedure	3 Note
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Inoperative/slips	³ Further inspection	з Check air gap, belt
	³ required.	³ tension, system pressure,
	3	³ electrical system. Require
	3	³ repair or replacement
	3	³ according to manufacturer's
	3	³ specifications.
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Noisy	³ Suggest repair or	3
110127	s replacement.	3
****		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Seized bearing	³ Require replacement	3
Serzed bearing	a of bearing.	3
*************		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Burnt coil	3 Require replacement	3
	3 of coil.	3
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Damaged connector	³ Require repair or	3
	³ replacement.	3
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÅÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
Damaged hub	³ Require repair or	3
_	3 replacement of hub.	3
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	e ³ Further inspection	³ Check air gap & electrical
gc albeingage	³ required.	3 system. Suggest repair or
	3	³ replacement.
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	

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EVAPORATOR

Blistered hose

LVAFORATOR		
EVAPORATOR		
		XXXÂXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Condition	³ Procedure	3 Note
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Leaking	³ Require repair or	3
_	³ replacement.	3
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	XAAXAXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Internal	³ Require replacement.	3
restriction	3	3
Air flow	³ Further inspection	3 If fins cannot be cleaned
obstruction	³ required.	³ or straightened, require
*******		³ replacement.
	ananananananananananananananananananan	
Damaged connections or	- Require replacement.	3
fittings	3	3
ACCUMULATOR/D	RIER	
ACCUMULATOR/DRIER		
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ĬÄÂÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
Condition	3 Procedure	3 Note
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Leaking	³ Require replacement.	
		NAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
Restricted	^з Require replacement.	· · · · · · · · · · · · · · · · · · ·
	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	
Desiccant bag deterioration	- Require replacement.	3
	m ³ Require replacement.	3
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
System has been	³ Suggest replacement.	
exposed to air	3	3
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
Missing, damaged	з Require repair or	3
mounting hardware		3
or brackets	³ hardware or brackets	
AAAAAAAAAAAAA		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
HOSES/LINES/FIT	HNGS	
	MCC	
HOSES/LINES/FITTI		
Condition	ААААААААААААААААААА З	
CONGILLION		Procedure

³ Suggest repair or replacement.

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3 Require repair or replacement. Damaged Routed incorrectly 3 Suggest re-routing. 3 Require repair or replacement. Leaking 3 Require repair or replacement. Restricted Outer covering is cracked to the 3 Require repair or replacement. extent inner fabric of hose is 3 visible Crimped 3 Require repair or replacement. Missing/damaged mounting hardware a Require repair or replacement of or brackets ³ hardware or brackets. EVAPORATOR FILTER (IF APPLICABLE) EVAPORATOR FILTER (IF APPLICABLE) Condition Procedure Note 3 Further inspection 3 If filter cannot be cleaned, Air flow obstruction ³ required. ³ require replacement. Missina 3 Require replacement. 3 EXPANSION VALVE/ORIFICE TUBE EXPANSION VALVE/ORIFICE TUBE Condition 3 Procedure Not.e Leaking ³ Require replacement. ³ Restricted ³ Require repair or ³ replacement. Filter screen torn 3 Require replacement. 3 Inoperative 3 Further inspection 3 Inspect capillary tube and 3 required. expansion valve ³ ensure proper positioning. 3 3 Re-check system 3 ³ performance. If still 3 ³ inoperative require 3 replacement of expansion ³ valve.

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PRESSURE CONTROL VALVES

3

Includes Evaporator Pressure Regulator (EPR), Pilot Operated NOTE: Absolute (POA), Suction Throttling Valve (STV), Valves In Receiver (VIR). PRESSURE CONTROL VALVES Procedure Leaking 3 Require repair or replacement. Restriction ³ Require repair or replacement. Stuck open or closed 3 Require repair or replacement. 3 Require repair or replacement. Damaged connections or fittings SERVICE PORTS SERVICE PORTS Condition Procedure Leaking 3 Require repair or replacement. Sticking valve core 3 Require repair or replacement 3 Require replacement of valve cap. Missing valve cap Damaged threads 3 Require repair or replacement. **DRIVE BELTS** DRIVE BELTS Condition Procedure Not.e ³ Require replacement. ³ Missina Improper tension 3 Require adjustment. Improper alignment 3 Further inspection 3 Check alignment of pulleys з required. 3 and proper belt 3 ³ installation. Suggest 3 3 repair or replacement. Damaged 3 Require replacement. 3 Damaged conditions may

3 include but are not

3 limited to: teeth missing,

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3	³ chunking or excessive
3	³ cracking, missing rib,
3	³ broken or cut, ply
3	s separation.
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Noisy ³ Suggest replacement	
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Worn Suggest replacement	
3	3 include: belt worn
3	³ narrower than original
3	³ width, bottom and side-
3 3	³ wall cracks, protruding
	³ edge cords.
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	AAAAAAAAAAAAAAAAAAAAAAAAAAAAA
DDIVE DUIL EVO	
DRIVE PULLEYS	
DRIVE PULLEYS	
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAAAAAAAAAAAAAAAAAAAAAAAAA
Condition	Procedure
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	
	uire replacement.
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	
	uire repair.
AAAAAAAAAAAAAAAAAAAAAAAAAAAAA	
Missing, damaged mounting hardware 3 Req	
	acket of hardware or bracket.

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TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ Procedure
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TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
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TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	Procedure AAAAAAAAAAAAAAAAAAAAAAAAAAAA ire replacement. AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	Procedure AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA ire replacement. AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	Procedure AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA ire replacement. AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	Procedure AAAAAAAAAAAAAAAAAAAAAAAAAAAAA ire replacement. AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
TENSIONERS ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	Procedure AAAAAAAAAAAAAAAAAAAAAAAAAAAAA ire replacement. AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

3 3 Condition Procedure Note Leaking

³ Require repair or

³ replacement.

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Damaged connections 3 Require replacement.3 or fittings Internal restriction 3 Require replacement.3 Air flow obstruction 3 Further inspection 3 If fins cannot be cleaned ³ required. ³ or straightened, require ³ replacement. Missing/damaged 3 Require repair or 3 mounting hardware/ ³ replacement of brackets ³ hardware or 3 3 brackets. "O" RINGS/GASKETS/SEALS/SPRING LOCKS "O" RINGS/GASKETS/SEALS/SPRING LOCKS Procedure 3 Require repair or replacement. IN-LINE FILTER IN-LINE FILTER Procedure 3 Require repair or replacement. Leaking Restricted ³ Require replacement. Damaged connections or fittings 3 Require repair or replacement. REFRIGERANT OIL REFRIGERANT OIL Condition 3 Procedure Overcharge/ 3 Require service to 3 ³ manufacturer's undercharge 3 specifications. 3 Contaminated 3 Suggest replacement.3 Particulate material 3 3 (contaminants) may indicate a 3 3 need for additional service. 3 ³ Determine cause of contamination ³ and repair or replace affected

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3

3 components as necessary. 3 3 Discoloration of oil does not 3 ³ necessarily indicate a system 3 ³ problem. REFRIGERANT REFRIGERANT Condition Procedure Overcharge/undercharge 3 Require service to manufacturer's 3 specifications. Cross-contamination Different types of refrigerants manufacturer's procedures and specifications. in the same system Incompatible refrigerants mixed together AIR DISTRIBUTION PLENUM/EVAPORATOR CASE/HEATER CASE Condition Procedure Cracked ³ Suggest repair or 3 3 replacement. Air leaks ³ Require repair or 3 ³ replacement Restricted 3 Suggest cleaning, 3 repair or replacement.3 Odor ³ Further inspection 3 Identify source. Suggest 3 cleaning or repair. з required. 3 Further inspection 3 Identify source. Suggest Noisy ³ required. 3 cleaning or repair. 3 Further inspection 3 Determine source of leak. Leak Cold water 3 required. leak in ³ may be caused due to restricted 3 ³ drain tube, cracked evaporator passenger 3 3 case, leaking seal or gasket. compartment 3 Require repair or replacement.

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ELECTRICAL/VACUUM ACTUATORS (MOTORS)

ELECTRICAL/VACUUM ACTUATORS (MOTO			
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAAAAAAAAA 3		IAAAAAAAAAA AA
Condition AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		Procedure	
Leaking vacuum		replacement.	NAAAAAAAAAA
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ			
Inoperative		replacement	НАНАНАНАНАН
Damaged		replacement.	
Missing	3 Require	replacement.	
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ			ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
Missing, damaged mounting hardwar	re ³ Require	repair of mour	nting
	³ hardwar	e or bracket.	_
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Corroded, loose terminals		repair or repl	
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	NAAAÁAAAAAA	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
LINKAGE			
LINKAGE			
AAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAAAAAAAA 3		LAAAAAAAAAAA
Condition		Procedure	
AAAAAAAAAAAAAAAAAAAAAAAAAA			
Broken/damaged or binding		repair or repl	
Missing or disconnected			
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ		repair or repl	
Out of adjustment		adjustment.	нанананана
CABLES			
3/13EE3			
CABLES			
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
Condition	3	Procedure	
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	NAAAAAAAAA AAAA	ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	XXXXXXXXXXX XXXX
Binding	3 Suggest	repair or repl	Lacement.
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ			LAAAAAAAAAA AAAA
Out of adjustment	3 Require	adjustment.	
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ			LAAÄÄÄÄÄÄÄÄÄÄ
Broken or seized	Require	replacement.	
AAAAAAAAAAAAAAAAAAAAAAAA			NAAAAAAAAAA
Disconnected	³ Require	repair.	
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ	AAAAAAAAAAA	AAAAAAAAAAAAAA	NAAAAAAAAAA

VACUUM HOSES/TUBES

VACUUM HOSES/TUBES

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Condition Procedure Missina 3 Require replacement. 3 Suggest repair or replacement. Damaged ³ Require repair or replacement. Leaking/restricted Routed incorrectly 3 Suggest re-routing. **EVAPORATOR DRAIN TUBE** EVAPORATOR DRAIN TUBE Condition Procedure Disconnected 3 Require repair. ³ Require replacement. Damaged/leaking ³ Require replacement. ³ Require repair or replacement. Restricted CONTROLS FUNCTION SELECTORS Condition Procedure Inoperative 3 Require repair or replacement. ³ Suggest repair or replacement. Malfunctioning Damaged ³ Suggest replacement. Missina ³ Require replacement. Missing, damaged mounting hardware 3 Require repair of mounting ³ hardware or bracket. Corroded, loose terminals 3 Require repair or replacement. BLOWER SWITCH Procedure 3 Require replacement.

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Malfunctioning 3 Suggest repair or replacement. 3 Suggest replacement. Damaged Missina 3 Require replacement. Missing, damaged mounting hardware 3 Require repair of mounting ³ hardware or bracket. 3 Require repair or replacement. Corroded, loose terminals **BLOWER MOTOR** BLOWER MOTOR Condition Procedure Inoperative 3 Require replacement. ³ Suggest replacement. 3 Suggest replacement. Damaged Missing 3 Require replacement. Missing, damaged mounting hardware 3 Require repair of mounting ³ hardware or bracket. Corroded, loose terminals 3 Require repair or replacement. **BLOWER FAN** BLOWER FAN Condition Procedure Damaged 3 Require replacement. 3 Suggest replacement. Noisy **BLOWER RESISTOR** BLOWER RESISTOR Condition Procedure ³ Require replacement. Inoperative

3 Suggest replacement.

Malfunctioning

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³ Suggest replacement. Damaged Missina ³ Require replacement. Missing, damaged mounting hardware 3 Require repair of mounting ³ hardware or bracket. Corroded, loose terminals 3 Require repair or replacement. **SWITCHES** Includes, but not limited to: High Pressure Cut-Off, NOTE: Low Pressure Cut-Off, Thermostatic Fan Control, Ambient, Pressure Cycling, etc. SWITCHES Procedure Inoperative/intermittent ³ Require replacement. ³ Suggest replacement. Malfunctioning Leaking 3 Require repair or replacement. Damaged ³ Suggest replacement. 3 Require replacement. Missina Missing, damaged mounting hardware 3 Require repair of mounting 3 hardware or bracket. Corroded, loose terminals ³ Require repair or replacement. THERMISTOR/SENSORS NOTE: Includes, but not limited to: In-car Temperature, Ambient Air Temperature, Sun Load Sensor, etc.

THERMISTOR/SENSORS

Condition Procedure

Inoperative 3 Require replacement.

3 Suggest replacement. Malfunctioning

³ Suggest replacement.

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3 Require replacement. Missing Missing, damaged mounting hardware 3 Require repair of mounting ³ hardware or bracket. Corroded, loose terminals 3 Require repair or replacement. RFI AYS RELAYS Procedure Inoperative ³ Require replacement. Malfunctioning ³ Suggest replacement. 3 Suggest replacement. Damaged Missina ³ Require replacement. Missing, damaged mounting hardware 3 Require repair or replacement of з hardware. Corroded, loose terminals 3 Require repair or replacement. FUSE/FUSIBLE LINK/CIRCUIT BREAKER FUSE/FUSIBLE LINK/CIRCUIT BREAKER Condition Procedure 3 Note Inoperative/intermittent 3 Require replacement.3 Determine cause of 3 Further inspection 3 condition & correct ³ required. prior to replacement. 3 Damaged 3 Suggest repair or replacement. 3 Require replacement.3 Open Missing 3 Require replacement.3 Refer to OEM owner's 3 ³ manual for proper 3 amperage & location. WIRING HARNESS/CONNECTORS WIRING HARNESS/CONNECTORS

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3 replacement. Routed incorrectly 3 Suggest rerouting of 3 3 of wiring. Open fusible link 3 Require replacement 3 Determine cause of 3 condition and repair ³ of fusible link. ³ prior to replacement.³ 3 Require repair or Shorted/open 3 ³ replacement. Connector terminal bent, 3 Require repair or 3 ³ replacement 3 broken, corroded or 3 loose Excessive resistance ³ Require repair or 3 ³ replacement Poor ground ³ Require repair. CONTROL MODULE Includes, but not limited to: BOM (Body), ECM (Electronic), NOTE: PCM (Power), etc. CONTROL MODULE Condition Procedure Note Inoperative 3 Require replacement. 3 3 Suggest replacement. 3 Malfunctioning 3 Further inspection 3 Refer to manufacturer's Code set ³ required. 3 diagnostic trouble code 3 ³ procedure and repair or 3 ³ replace affected 3 component(s) as necessary. Damaged/cracked ³ Suggest replacement. ³ If moisture enters the ³ module it can reduce life housing 3 ³ expectancy or impair 3 function. Damaged 3 Suggest replacement. 3 Missina 3 Require replacement. 3 Missing, damaged ³ Require repair of mounting hardware 3 mounting hardware or 3 з bracket.

* A/C-HEATER SYSTEM UNIFORM INSPECTION GUIDELINES * Article Text (p. 17)

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Corroded, loose ³ Require repair or 3 3 replacement. terminals CONTROLLERS NOTE: Includes, but not limited to: IRCM, Coolant Fan Control Module (CFCM), AC Controller, Amplifier, Programmers, Control Heads, Power Modules, etc. CONTROLLERS Condition Procedure Inoperative ³ Require replacement. ³ Malfunctioning 3 Suggest replacement. 3 ³ Suggest replacement. ³ If moisture enters the Damaged/cracked 3 housing ³ controller it can reduce 3 3 life expectancy or impair 3 3 function. Damaged 3 Suggest replacement. 3 Missina ³ Require replacement. ³ Missing, damaged 3 Require repair of mounting hardware 3 mounting hardware or 3 ³ bracket. Corroded, loose ³ Require repair or terminals 3 replacement. HEATER CORE HEATER CORE Condition Procedure Note Leaking ³ Require repair or 3 replacement. ³ Suggest repair or Damaged fins, 3 tubes, fittings 3 replacement. Internal ³ Require repair or restrictions ³ replacement Missing/by-passed ³ Suggest repair or

3

³ replacement

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HEATER CONTROL VALVE ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ				
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Condition ³ Procedure				
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Coolant leak ³ Require replacement.				
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Vacuum leak ³ Require replacement.				
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA				
Inoperative Require replacement.				
Malfunctioning Suggest replacement. ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ				
Restricted Suggest repair or replacement.				
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MIX/AIR CONTROL DOORS				
MIX/AIR CONTROL DOORS				
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Condition ³ Procedure				
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA				
Broken/damaged/binding ³ Require repair or replacement.				
Disconnected ³ Require repair or replacement.				
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA				
DECUEST FOR MAR MEMBERSHIP INFORMATION				
REQUEST FOR MAP MEMBERSHIP INFORMATION				
NOTE: To print membership information request form, print portion				
of article between dashed lines.				
of affice between addied fines.				
MAP				
Request for Membership Information				
T want to be a part of the automotive maintenance and manain				
I want to be a part of the automotive maintenance and repair industry's move to improve the level of Customer satisfaction.				

Name ____

Please send me information on how I can become a member of MAP.

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Company/Organization	on	
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END OF ARTICLE