JAGUAR Service	**TECHNICAL BULLETIN**	**S501-14v2** **04/2002**

Subject

DIAGNOSTIC PROCEDURE FOR MEMORY SYSTEMS

Model: S-TYPE

Year: 1999 Onwards **VIN L00600 Onwards**

Section: 501 **Body Systems**

Summary
This Technical Bulletin will aid in diagnosing memory system concerns (recall of drivers seat, steering column, and door mirrors).

This Technical Bulletin has been issued for the change in the FAQ number and is a replacement for Technical Bulletin S501-14, please destroy all copies of S501-14 and replace it with this Technical Bulletin S501-14v2.

Memory System Diagnosis

This Technical Bulletin will help eliminate the possible causes of a memory recall concern. In most cases, a memory recall problem is not caused by the memory system itself. There is often an electrical or mechanical fault with another component, resulting in the memory not recalling as expected.

Information to aid with diagnosing faults

Note: Before starting work on the car it is recommended that you print a copy of Frequently Asked Question (FAQ) ref 2101 on S-TYPE, from the Electronic Product Quality Report (EPQR) system. The information in the FAQ may be needed to help diagnose the faults.

Please read the 'Key elements of memory systems' on pages 9 and 10 for help on what memory functions the vehicle has. The table includes information on the modules used to store memory, the controls used to store and recall memory, and the easy entry/exit function.

When the customer first reports the concern it is recommended that you complete a **'customer memory system questionnaire**' to record all the details of the issue. A copy of the questionnaire is included in this bulletin.

Whenever possible identify the exact axis that is not recalling correctly, as it will be needed to help identify the cause of the fault. You should also identify if the memory fails to recall correctly during:

1 Easy entry/easy exit mode.
2 Memory recall from drivers door switch pack.
3 Memory recall from key fob.
4 Programming of memory system.

Outline of bulletin contents

How to check if the easy entry/easy exit function is working correctly see – Flow chart 1.

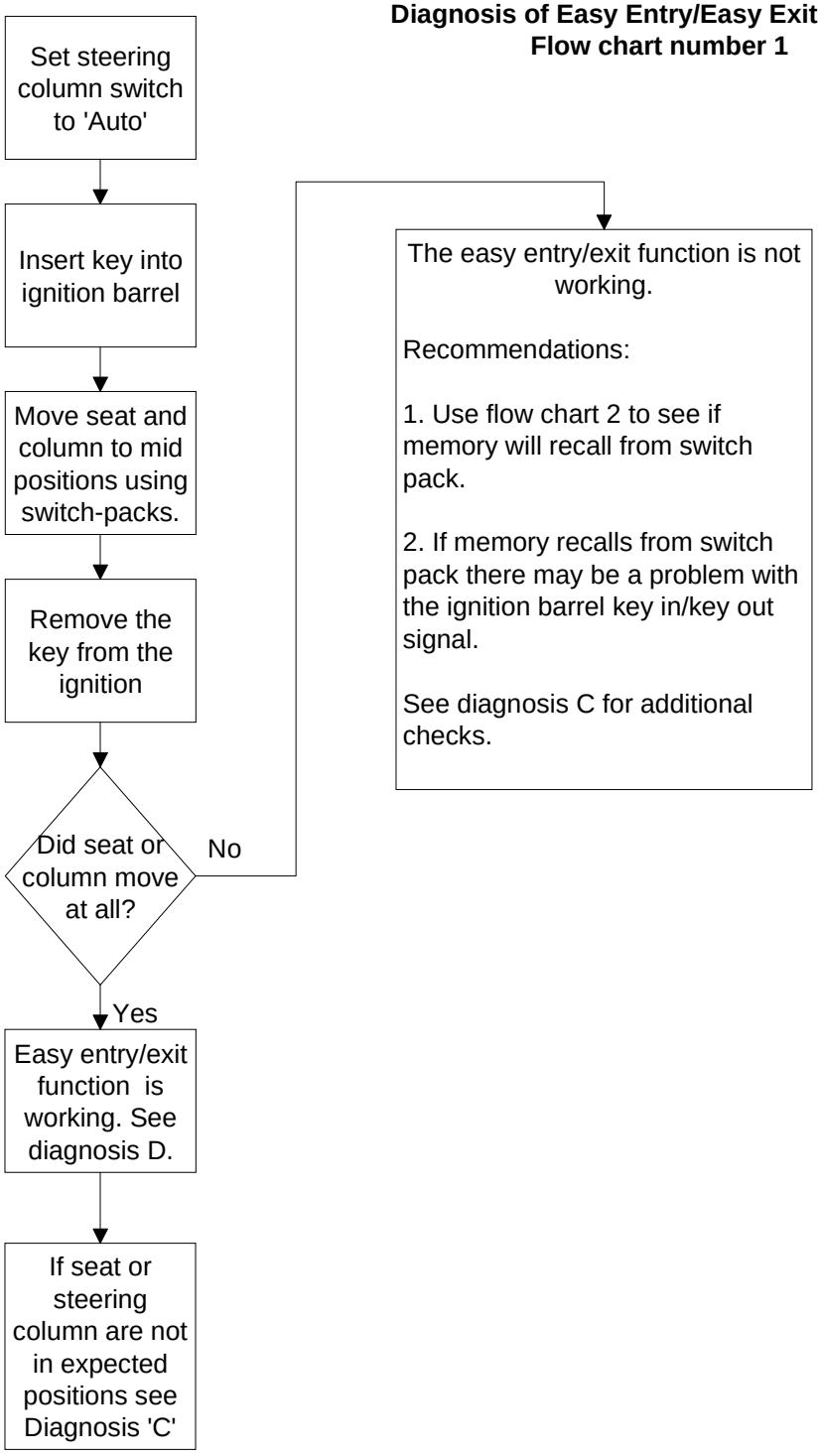
Things to know about the easy/exit function:

1 If the seat is within approximately 50mm of its rear most travel the seat may not move during easy entry/exit mode, as this position is outside the defined operating range for this function.

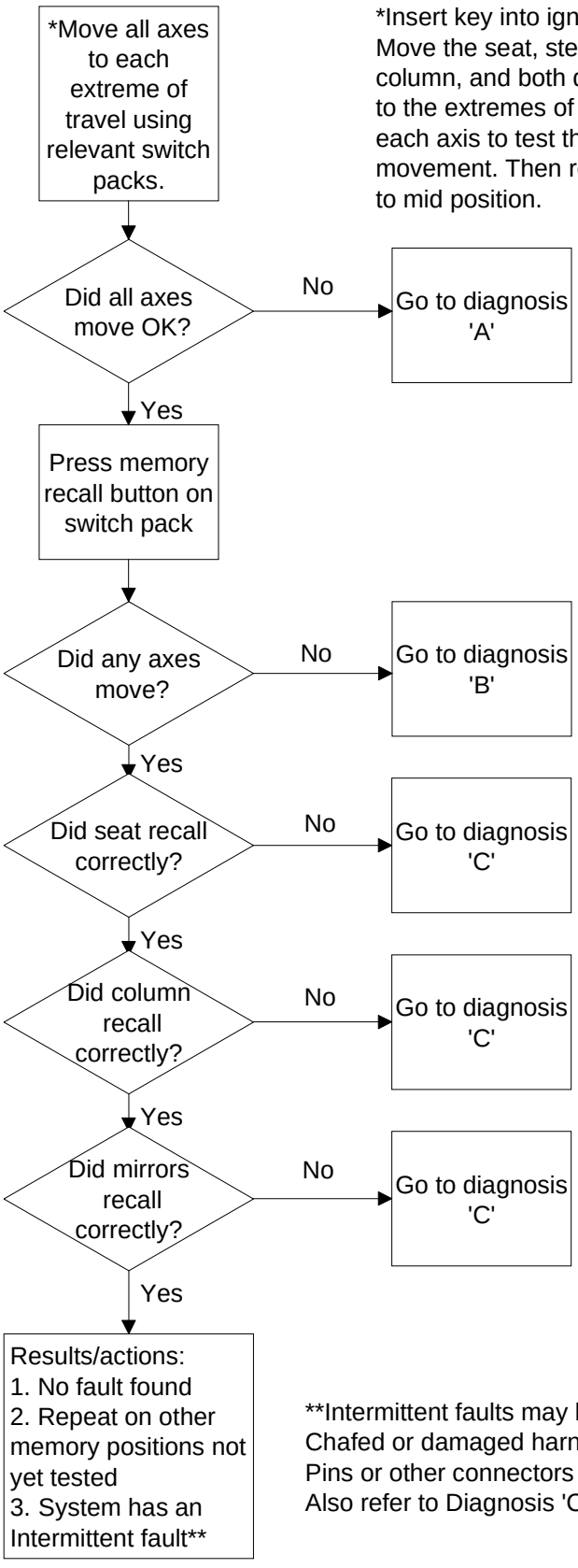
2 If the key fob has not been programmed with memory settings, and it is used to unlock the vehicle, the seat and steering column will recall to the last position you set and not the memorized position.

3 If any of the manual switch packs (directional controls) are operated during easy entry/exit mode the function will cease.

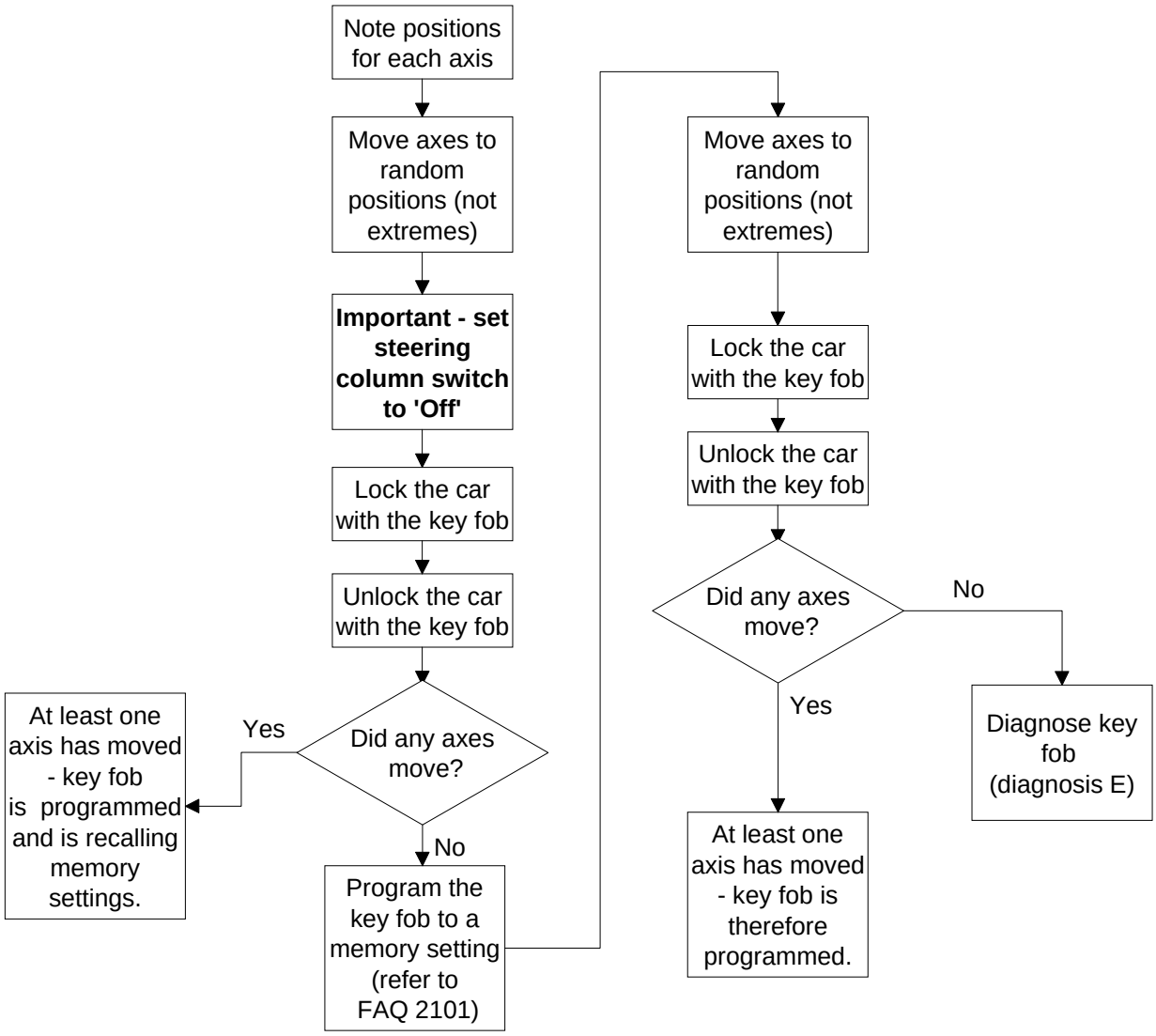
Diagnosis of Easy Entry/Easy Exit function
Flow chart number 1



Checking memory recall from driver door switch-pack
Flow chart number 2



Check memory recall from key fob
Flow Chart number 3



Diagnosis A – One or more axis does not move correctly when operating the applicable switch-pack

If this happens the problem may not be related to the memory system. If one axis does not recall correctly it may be caused by a mechanical or electrical problem with that part of the system rather than memory recall.

Check points:

1 If a complete system will not move then check the relevant fuses.
2 Chaffed or damaged harnesses.
3 Pins backed out of connectors.
4 Poor connections to motors, potentiometers, and modules.
5 Short or open circuits.
6 Motors being strained or overloaded.
7 Bent, buckled, or damaged mechanisms.
8 Worn mechanisms.
9 Poor connections to the controlling switch pack.
10 Switch pack buttons not operating correctly.
11 Check the type of seat that is fitted – perhaps the customer thinks the seat has more movements than it actually has.

Diagnosis B – No memory recall from the switch pack

If, after pressing the memory recall button on the switch pack the seat, door mirrors, steering column, and head-restraint did not move at all, the memory system does not appear to be working.

Note: Look at each part of the system carefully for any signs of movement – if part of a system moves even slightly then the memory system is trying to recall the stored settings. If this is the case the memory system is working, but not all positions are recalling correctly.

Things to check if there is no memory recall at all:

1 Is the driver door switch pack faulty? (Look for buttons sticking, water ingress, do the memory recall buttons appear to work OK)
2 Are the fuses for the memory system OK?
3 Has memory been programmed to a switch-pack button?
4 Is the driver door module working correctly?
5 Are the connections and harnesses to the driver door module OK?
6 Is the BPM working?

Diagnosis C – One or more axis does not return to the memorized position

If at least one axis moves when the memory is recalled, either from the driver door switch-pack or the key fob, then the memory system is working. Therefore, the problem is a mechanical or electrical problem with the affected axis, or a problem with one of the modules.

Note: It is not possible for a module to intermittently loose its memory and then re-gain it. Intermittent memory recall problems will be caused by something other than the memory system.

Check points:

1 A chaffed or damaged harness.
2 Loose or backed out pins to modules and the corresponding harnesses connectors.
3 Poor connections to motors or potentiometers.
4 Potentiometers not functioning correctly – use data logger to check the output of the potentiometers.
5 Potentiometer may be out of range – this may happen if a memory position is towards the maximum travel of an axis.
6 Poor connections to switch-packs.
7 Short or open circuits on harnesses.
8 Physical damage or wear of mechanical components such as slides, linkages, or gears.

Diagnosis D – The memory system will not store the required positions (no confirmation chime from the system)

When programming the memory system, a chime should be heard when the 'M' memory button is pressed to confirm that the memory has been stored.

If this does not happen check:

- All conditions required to program the memory system are correct. Refer to 'other sources of information' on where to find details on programming the memory system.

- If the conditions have been met diagnosis of the components will be required.

Check points:

1 Connections to the driver door switch pack.
2 Correct operation of the switch pack buttons.
3 Connections to the driver front door module.
4 Harness integrity to the switch pack and door module.
5 Connections to the body processor module.
6 Correct operation of the BPM.

Diagnosis E – Key fob does not recall memory settings

This section deals with the key fob not recalling any memory positions – the seat, steering column, door mirrors, and head restraints do not move at all. If this is the case it may be a key fob issue rather than a memory issue.

Check points:

1 Does the locking and security system work correctly? If it does not it may indicate that the SLM is the cause of the problem.
2 Has the key fob been programmed with memory setting?
3 When programming the fob does the vehicle give a chime to confirm the memory has been assigned to the fob?
4 Is the key fob battery OK?

Other sources of information to aid diagnosis:

- WDS can be used in data logger or guided diagnostics modes to help pinpoint the source of concern. Frequently Asked Questions (FAQ) available on Electronic Product Quality Report (EPQR) system.

1 2101 – S-TYPE memory system.

Key elements of memory systems on V8 XJ, XK, and S-TYPE vehicles:

Modules used for memory storage			
Model and memory system feature	V8 XJ	XK	S-TYPE
Driver seat memory is stored in:	Driver's Seat module	Driver's Seat module	Driver's Seat module
Driver head restraint memory is stored in:	Driver's Seat module	Driver's head-restraint module	Driver's seat module
Passenger head restraint memory is stored in:		Passenger head restraint module (for dump feature only)	
Driver door mirror memory is stored in:	Driver's door module	Driver's door module	Driver's door module
Passenger door mirror memory is stored in:	Passenger's door module	Passenger's door module	Passenger's door module
Steering column memory is stored in:	Body Processor module	Body Processor module	Body Processor module
Controls for memory recall and storage			
Store memory settings using:	Driver's door switch pack	Driver's door switch pack	Driver's door switch pack
Can key fobs be programmed with memory settings?	Yes	No	Yes
Can key fob memory programming be cleared?	Yes		Yes
Memory recall available from: (*only when programmed)	Driver's door switch pack & key fob*	Driver's door switch pack only	Driver's door switch pack & key fob*
Memory recall type, using driver door switch pack:	One touch	Hold memory recall button down	One touch
Number of memory storage positions available:	3	2	2

Controls for memory recall and storage (continued)			
Model and memory system feature	V8 XJ	XK	S-TYPE
Sequence to set memory on driver door switch pack:	Press 'M', red light on switch pack illuminates, press numbered button within 4 seconds	Press 'M', red light on switch pack illuminates, press numbered button within 4 seconds	Press 'M', red light on switch pack illuminates, press numbered button within 4 seconds
Confirmation that memory has been set:	Chime	Chime	Chime
Confirmation that a memory setting has been recalled correctly:	No confirmation	Chime	No confirmation
Easy entry/easy exit function			
Does seat move in easy entry/easy exit mode?	Yes	No	Yes
Does seat move fully rearwards in easy entry/exit mode?	No		No
Does steering column move in easy entry/easy exit mode?	Yes – fully up and fully forward	Yes – fully up and fully forward	Yes – fully up and fully forward
What happens if a switch pack is manually operated during memory recall:	The affected system will stop memory recall (e.g. seat, column, or mirrors).	When recall button is released memory recall will stop on all axis	The affected system will stop memory recall (e.g. seat, column, or mirrors).

Memory System – Customer Questionnaire				
VIN:		Customer Name:		
Model:	V8 XJ	XK	S-TYPE	Date
How does the customer describe the concern?				

Has the customer reported this concern before?	Yes		No		
Is the concern intermittent or constant?	Intermittent		Constant		
If the concern is intermittent, how long elapses between occurrences?	1 WK	2 WK	3 WK	4 WK	Random

Tick the following boxes to show which elements of the memory system is not working correctly. If that part of the system is working correctly tick 'OK.'

Seat position	Forward/rearward	Up/down	Recline	OK
Column position	In/Out	Up/Down		OK
Passenger mirror	In/Out	Up/Down		OK
Driver mirror	In/Out	Up/Down		OK
Head restraint	Up/Down			OK
Memory position?	Memory 1	Memory2	Memory3	
Recall from driver door switch pack?	Problem	OK		
Recall from key fob?	Problem	OK		
Have memory positions been programmed into fob?	Yes	No		
Steering column set to Auto?	Yes	No	Don't know	
Was customer last person to drive the car?	Yes	No	Don't Know	
If no, did the other driver use a memory position?	Yes	No	Don't know	