



## Description of System Operation

### *BeCM sleep mode detection*

The BeCM will wake up or remain awake (vehicle quiescent current drain approx. 1A) if any of the activation input are active. When all timers have timed out and the activation inputs are not active (see activation input table), the BeCM quiescent current will drop to approx. 30mA after approximately 2 minutes.

There are two ways to check if the BeCM is asleep or not:

1. Follow the Quiescent current (I<sub>q</sub>) drain test (page 14) with an ammeter. If the vehicle passes, then the BeCM is allowed to go into sleep mode. If the vehicle does not pass the I<sub>q</sub> test then some vehicle component is keeping the BeCM awake with an activation input (see Table 1). This can be done by either an inductive ammeter or by putting an ammeter/voltmeter in series between the disconnected negative battery cable and the negative post on the battery.
2. If an ammeter is not available, then making sure that all doors are closed, wait until 2 minutes and see whether or not the interior lamps extinguish and if the Gearbox H-gate selector dot extinguishes. The selector dot will remain lit at a **low** intensity if the BeCM is kept awake or completely extinguish after two minutes if the BeCM does not receive any more activation inputs. This may be difficult to observe in highly lighted areas (i.e. you may need to cup your hands around the dot to determine whether or not the dot is still illuminated during lower I<sub>q</sub> drains).

**Number 1 is the preferred sleep mode detection procedure, use number 2 only as a last resort if any means of current monitoring can not be found.**

Table 1 shows the activation inputs.

The BeCM will recognise an input Low (GND) as anything < 3v and an input High as >5v.



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Table 1. ACTIVATION INPUTS TO THE BeCM.

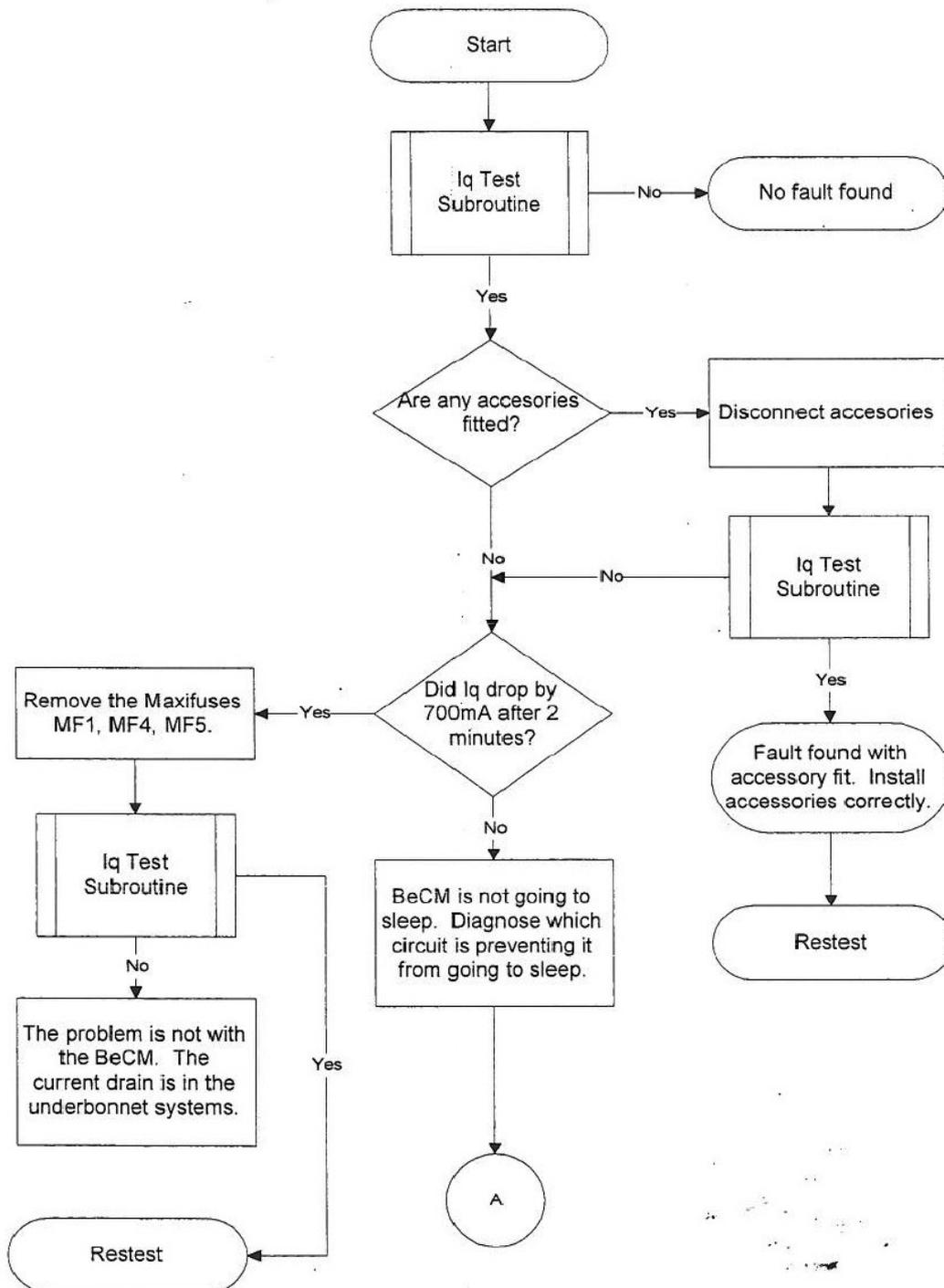
Input ( BeCM )	Connector	Pin	Wire Col.	Signal
Bonnet Open Switch	C114 GREEN 20WAY	14	PW	When bonnet is open -- I/P to BeCM is GND (edge triggered)
Diagnostic line "K"	C255 WHITE 20WAY	8	KR	Input Short to ground will wake up BeCM
Hazard Switch	C255 WHITE 20WAY	13	PG	When hazards are on -- I/P to BeCM is GND
Diagnostic line "L"	C255 WHITE 20WAY	17	LGR	Input Short to ground will wake up BeCM
IGN position I	C256 WHITE 16WAY	13	WK	Ignition 1 on -- I/P to BeCM is GND
H/Lamp Flash Switch	C257YELLOW 20WAY	8	US	Switch Closed -- I/P to BeCM is GND (non latching )
Sidelight Switch	C257 YELLOW 20WAY	9	OR	If sidelights are on -- I/P to BeCM is GND
Horn Switch	C257 YELLOW 20WAY	17	PB	If switch is closed -- I/P to BeCM is GND (non latching )
Fuel Flap Release Switch	C257 YELLOW 20WAY	18	LGS	If switch is closed -- I/P to BeCM is GND ( non latching )
IGN position II	C258 WHITE 10 WAY	8	W	IGN. 2 on -- I/P to BeCM is GND
Courtesy Lamp Switch	C326 BLUE 20WAY	2	BP	Switch Closed -- I/P to BeCM is GND ( non latching )
Tailgate Open Switch	C326 BLUE 20WAY	3	PY	When tailgate is open -- I/P to BeCM is GND (edge triggered)
Radio remote I/P	C326 BLUE 20WAY	6	OR	BeCM wakes up when 433MHz / 315MHz received *. * An intermittent contact does not activate BeCM
Rear L Door open Switch	C362 BLACK 16WAY	4	PW	If door is open -- I/P to BeCM is GND ( edge triggered )
Security - Ultrasonic I/P	C362 BLACK 16WAY	6	YK	If active -- I/P to BeCM is GND
Diagnostic line "K" (Gearbox ECU)	C626 BLACK 20WAY	12	K	Input Short to ground will wake up BeCM

Input ( Door Outstation )	Connector	Pin	Wire Col.	Signal
FLH Door Open Switch	C758L 20WAY BLACK	7	PW	If door open -- I/P to Door Outstation is GND (edge triggered)
FLH CDL Switch	C758L 20WAY BLACK	5	WP	Switch Closed -- I/P to Door Outstation is GND (edge triggered)
FLH Key Switch	C758L 20WAY BLACK	6	UR	Switch Closed -- I/P to Door Outstation is GND (edge triggered)
FRH Door Open Switch	C758R 20WAY BLACK	7	PW	Door open -- I/P to Door Outstation is GND (edge triggered)
FRH CDL Switch	C758R 20WAY BLACK	5	WP	Switch Closed -- I/P to Door Outstation is GND (edge triggered)
FRH Key Switch	C758R 20WAY BLACK	6	UR	Switch Closed -- I/P to Door Outstation is GND (edge triggered)

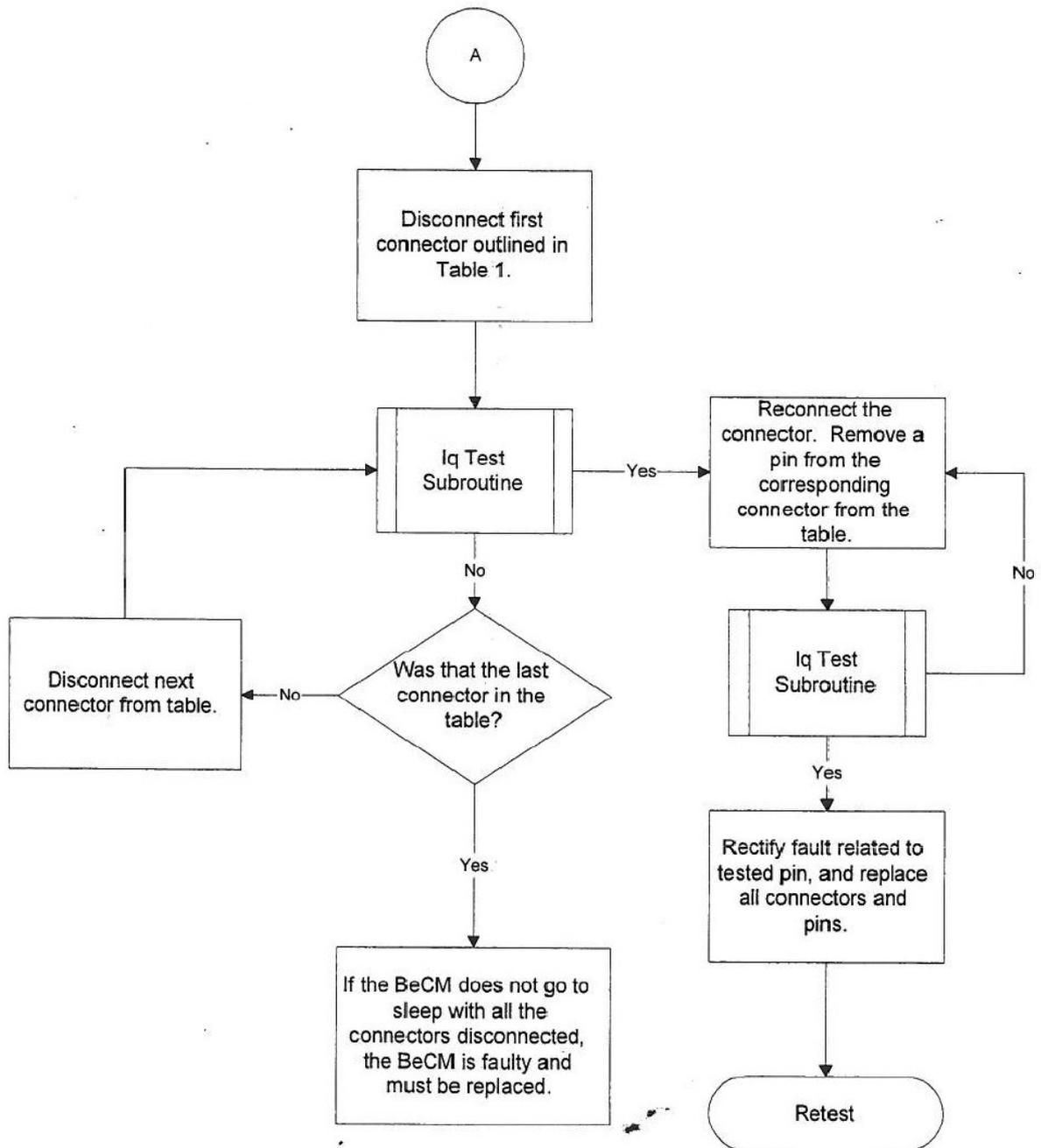
Should a BeCM fail to go to sleep then the diagnostic flowchart on pages 11 -15 should be followed.



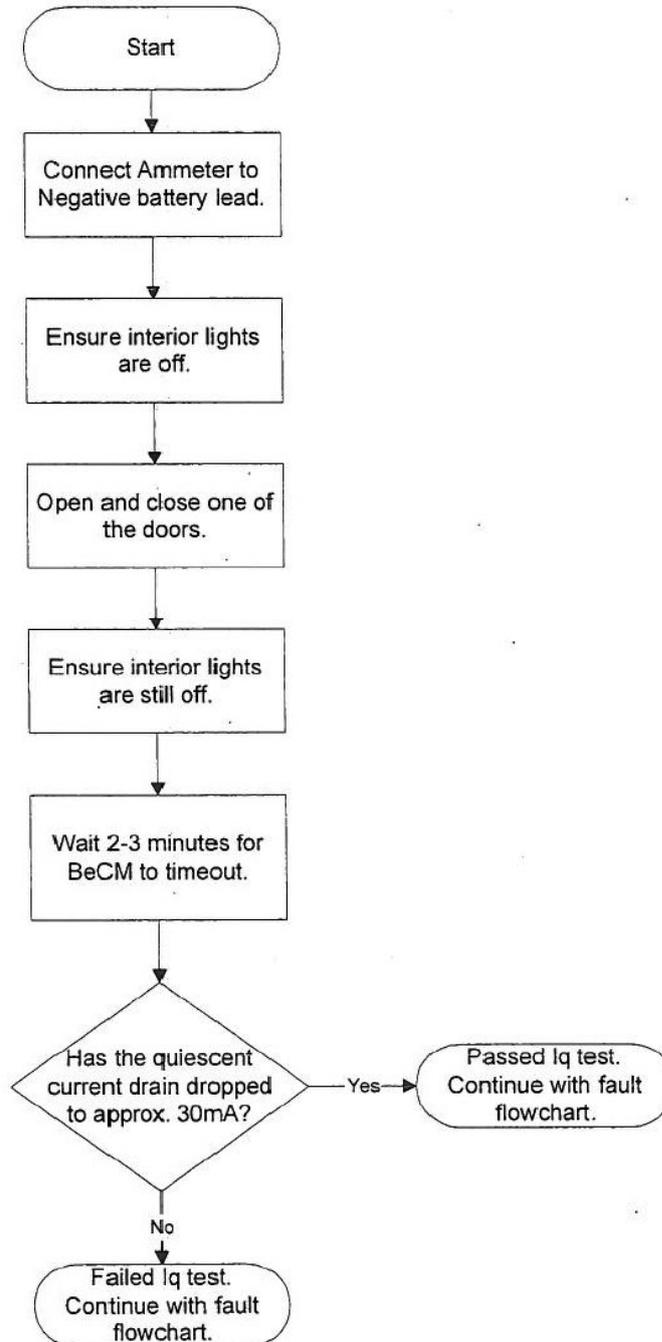
Quiescent current drain (Iq) fault location flowchart



Quiescent current drain (Iq) fault location flowchart, continued



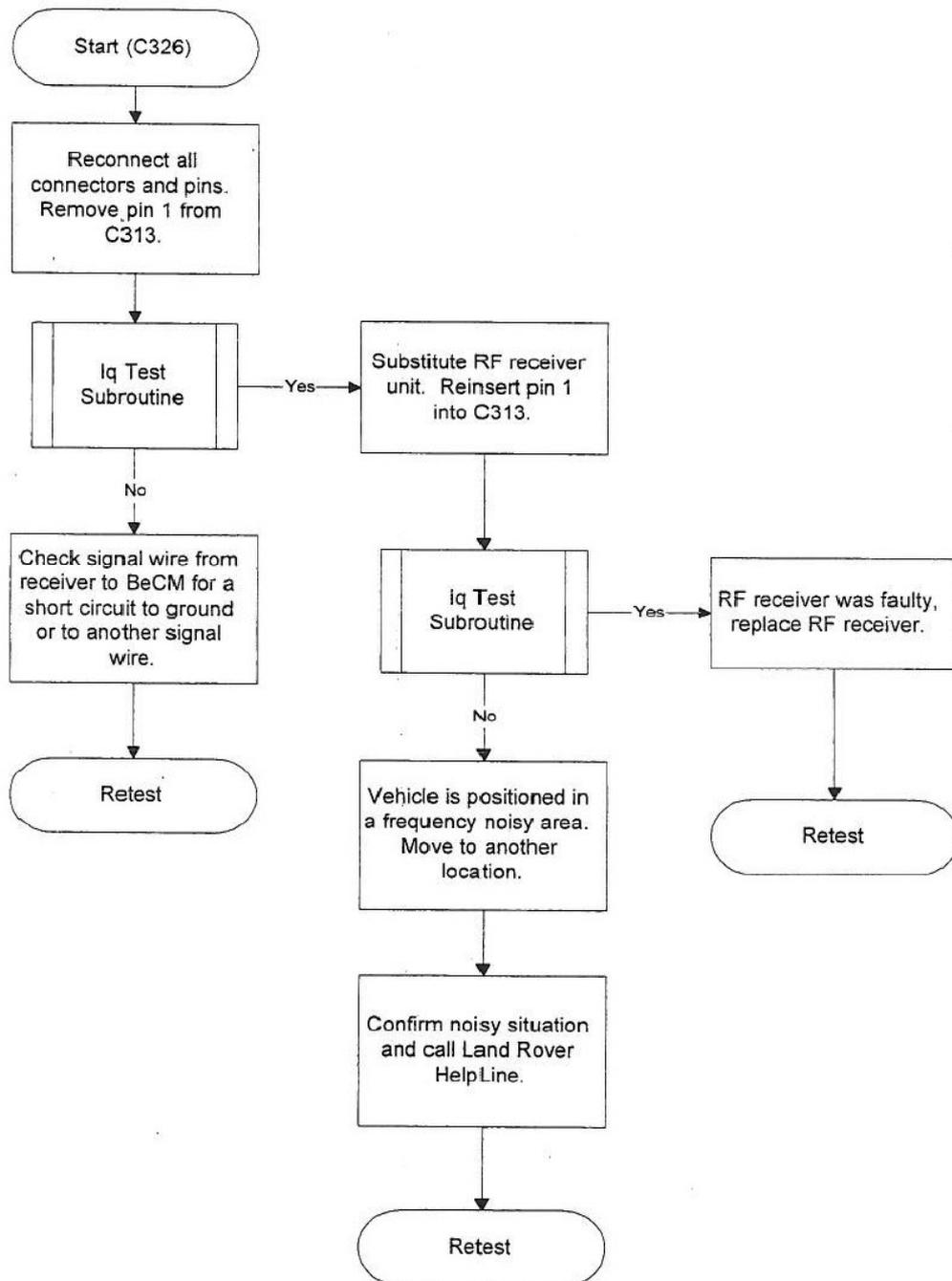
Quiescent current drain (Iq) subroutine test





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If pin 6 in C326 is found to be the cause for keeping the BeCM awake, follow the flowchart below.



If pin 8 in C255 is found to be the cause for keeping the BeCM awake, follow the flowchart below.

