



# TECHNICAL BULLETIN

S419-09

01/2002

## Subject

### DIGITAL TELEPHONE SYSTEM-DIAGNOSTIC FLOWCHARTS

**Model: S-TYPE (North American Market)**

**Year: 2001 to 2002**

**VIN L86902 to M44997**

**Model: S-TYPE (Rest of the World)**

**Year: 2001 to 2002**

**VIN L00600 to M44997**

**Section: 419**

**Electronic Feature Group**

**Sub-Section: 419-08**

**Cellular Phone**

## Summary

S419-09: In-car digital telephone concern flowcharts.

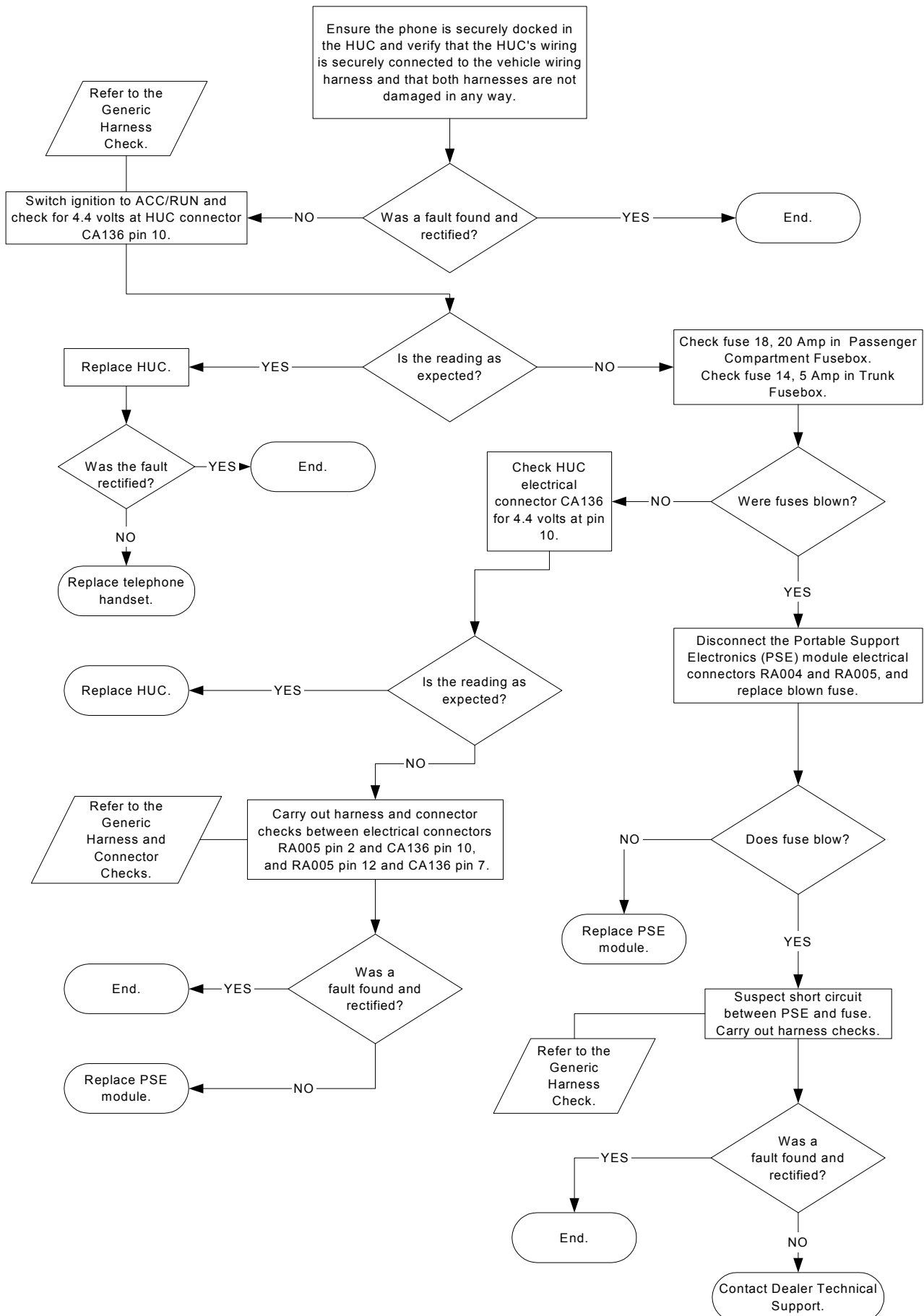
## Action

This Technical Bulletin is designed to assist in the diagnosis of Digital In-car Telephone Concerns. Each of the possible concerns has its own particular diagnostic flowchart and must be followed in order to remedy the concern.

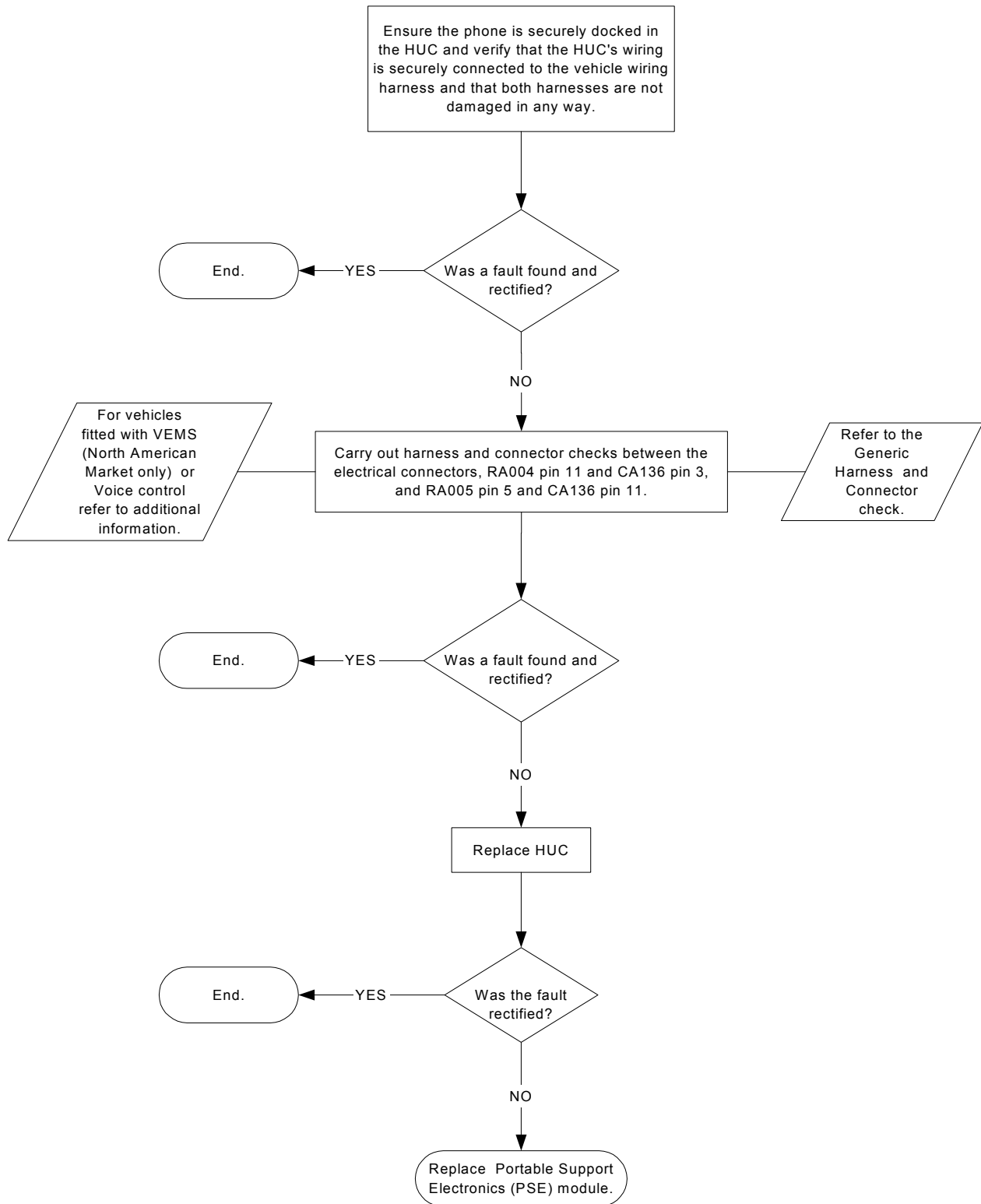
## Flowcharts to Aid in the Diagnosis of S-TYPE Telephone Concerns

Concern	Flowchart Page Number
Telephone will not power-up automatically in hang-up cup	P1
Telephone will not unlock in hang-up cup	P2
Telephone will not place/receive calls or consistently experience static or dropped calls	P3
Telephone battery getting hot when in hang-up cup	P4
Telephone will not transmit when in hands free mode	P5
No tones from audio speakers when in hands free mode	P6
Radio does not mute during call	P7
Telephone battery will not charge when in hang-up cup	P8
Assist system does not recognize telephone when in hang-up cup N.A markets only	P9

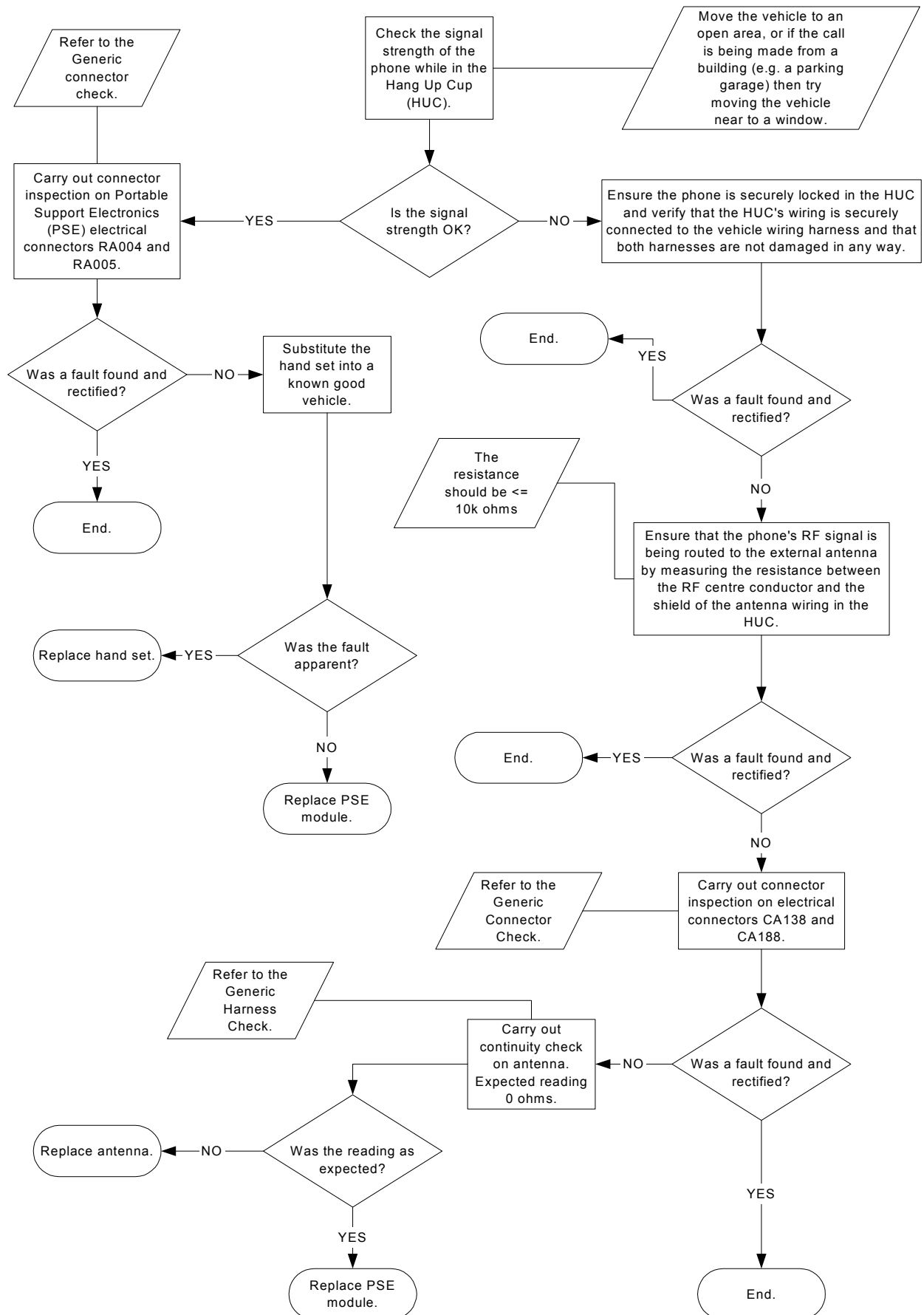
## Telephone Will Not Power Up Automatically In Hang-Up Cup (HUC) Flowchart P-1.



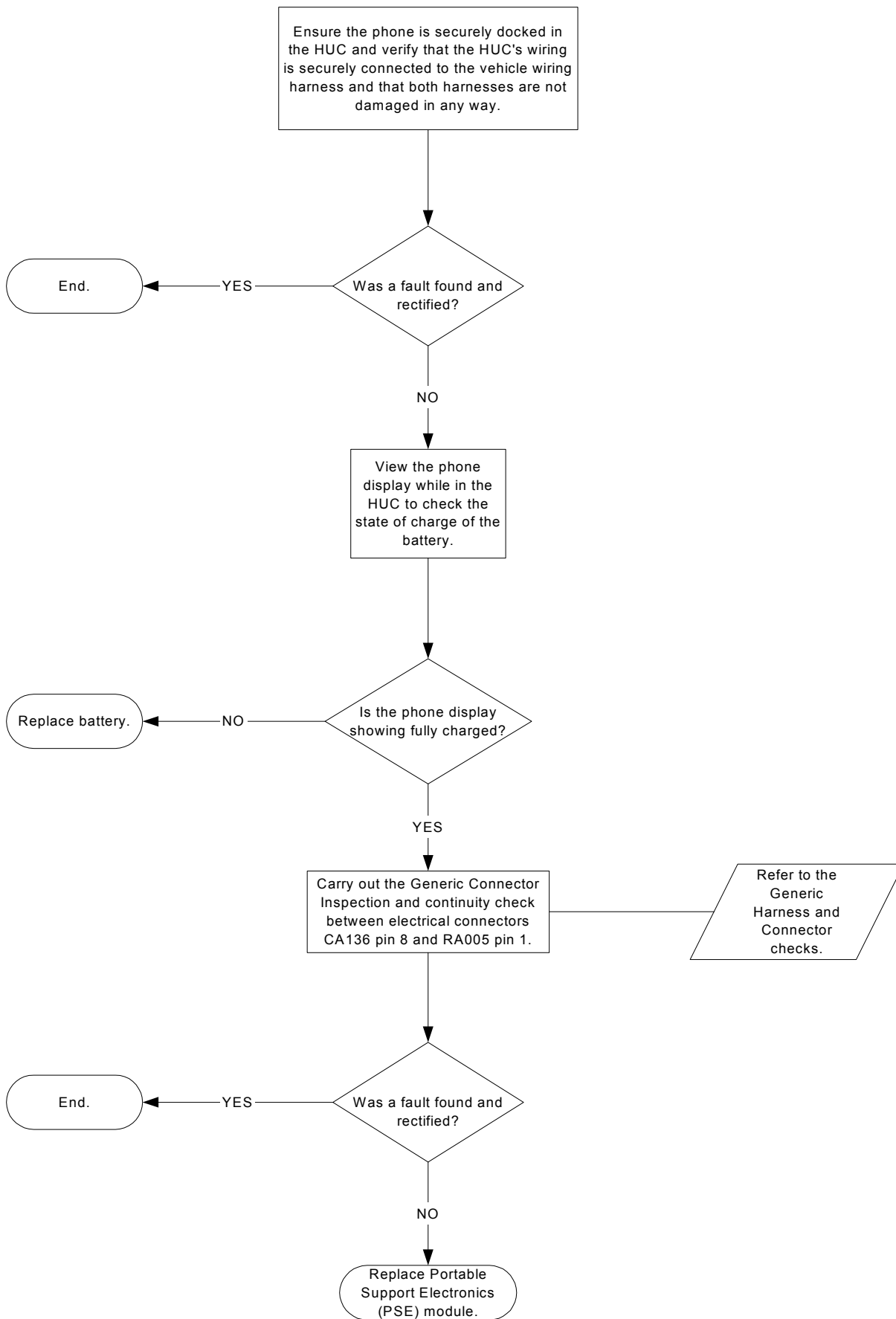
**Telephone Will Not Unlock In Hang-Up Cup (HUC)  
Flowchart P-2.**



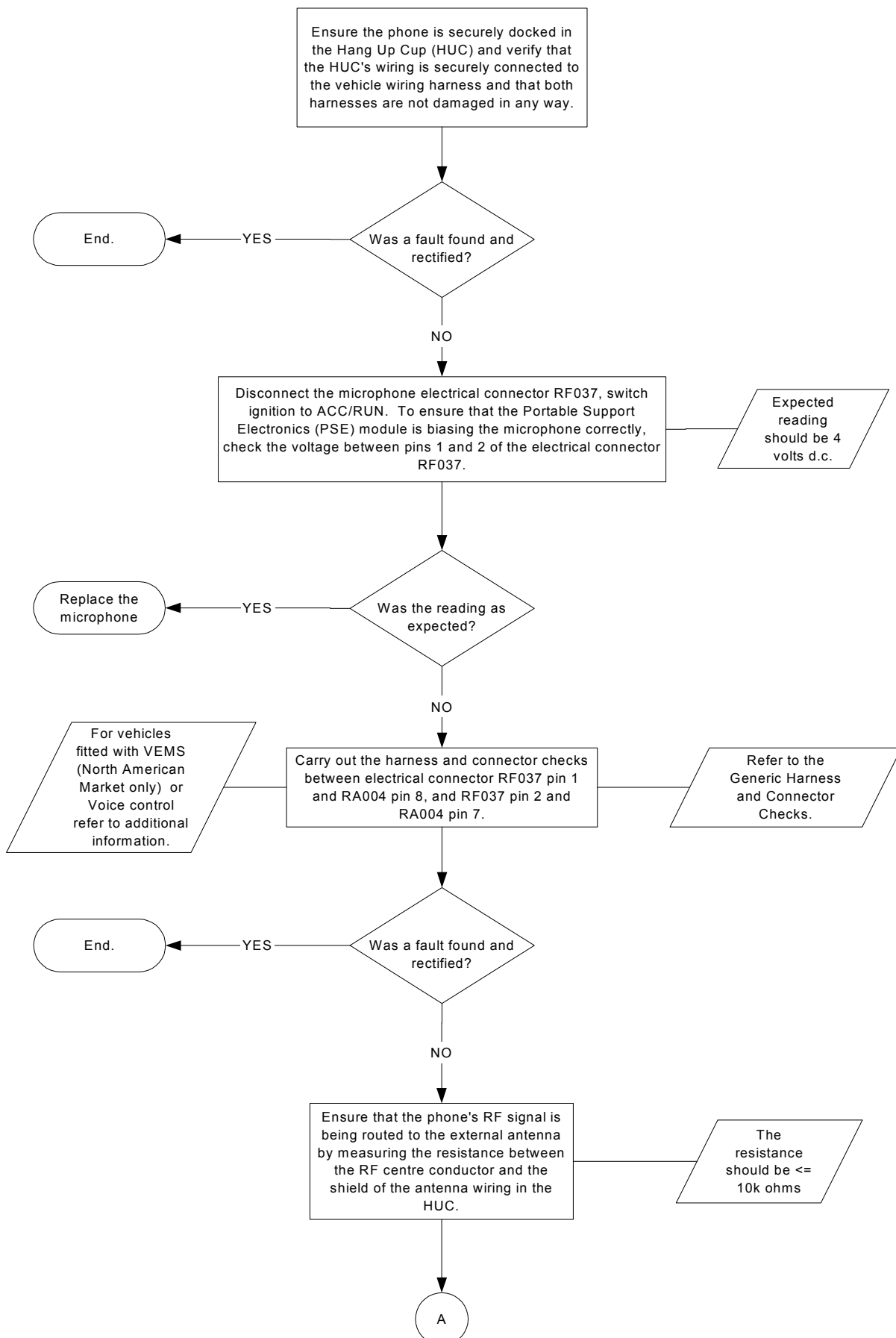
# Telephone Will Not Place/Receive Calls or Consistently Experiences Static or Dropped Calls Flowchart P-3.

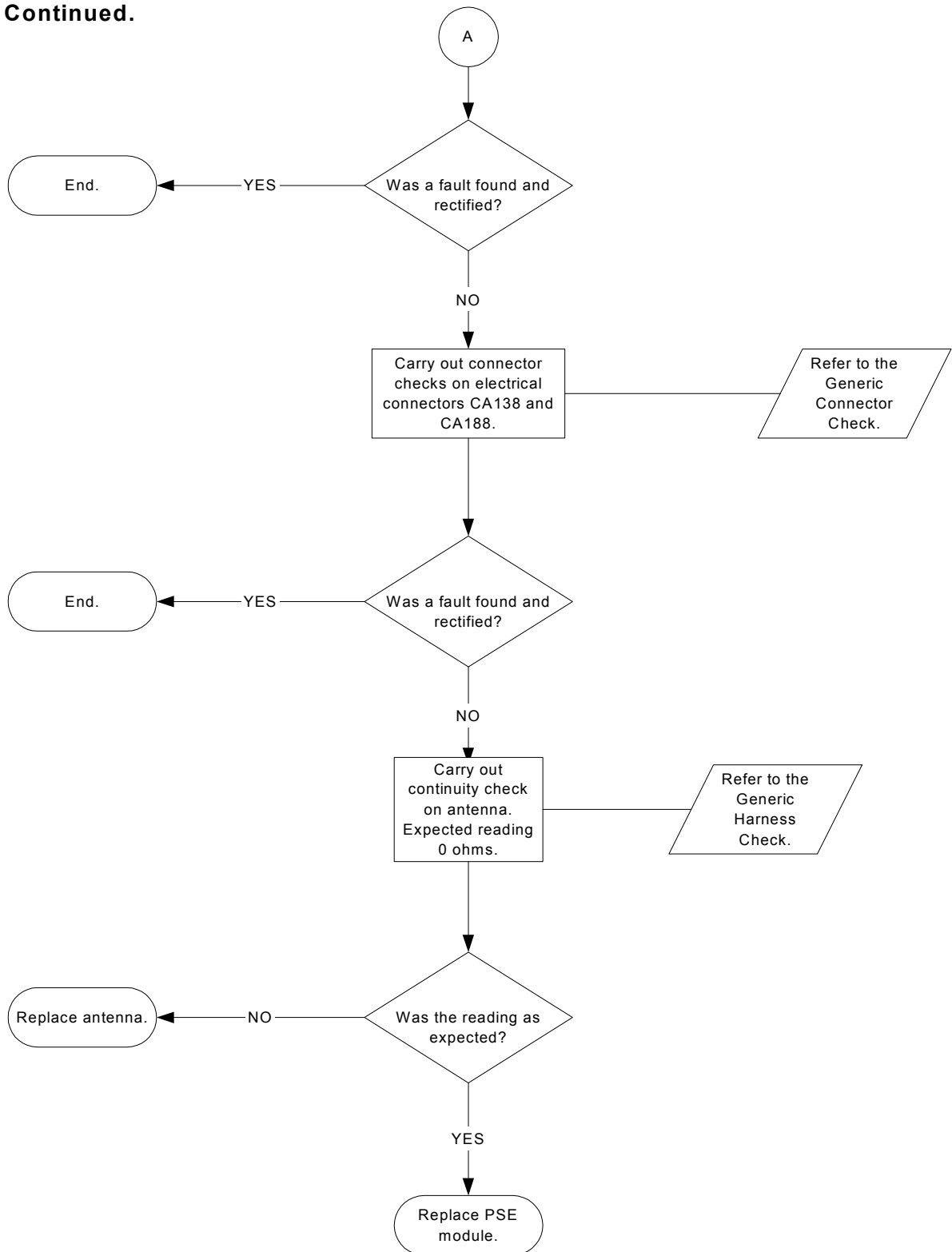


**Telephone Battery Getting Hot When In Hang-Up Cup (HUC)  
Flowchart P-4.**



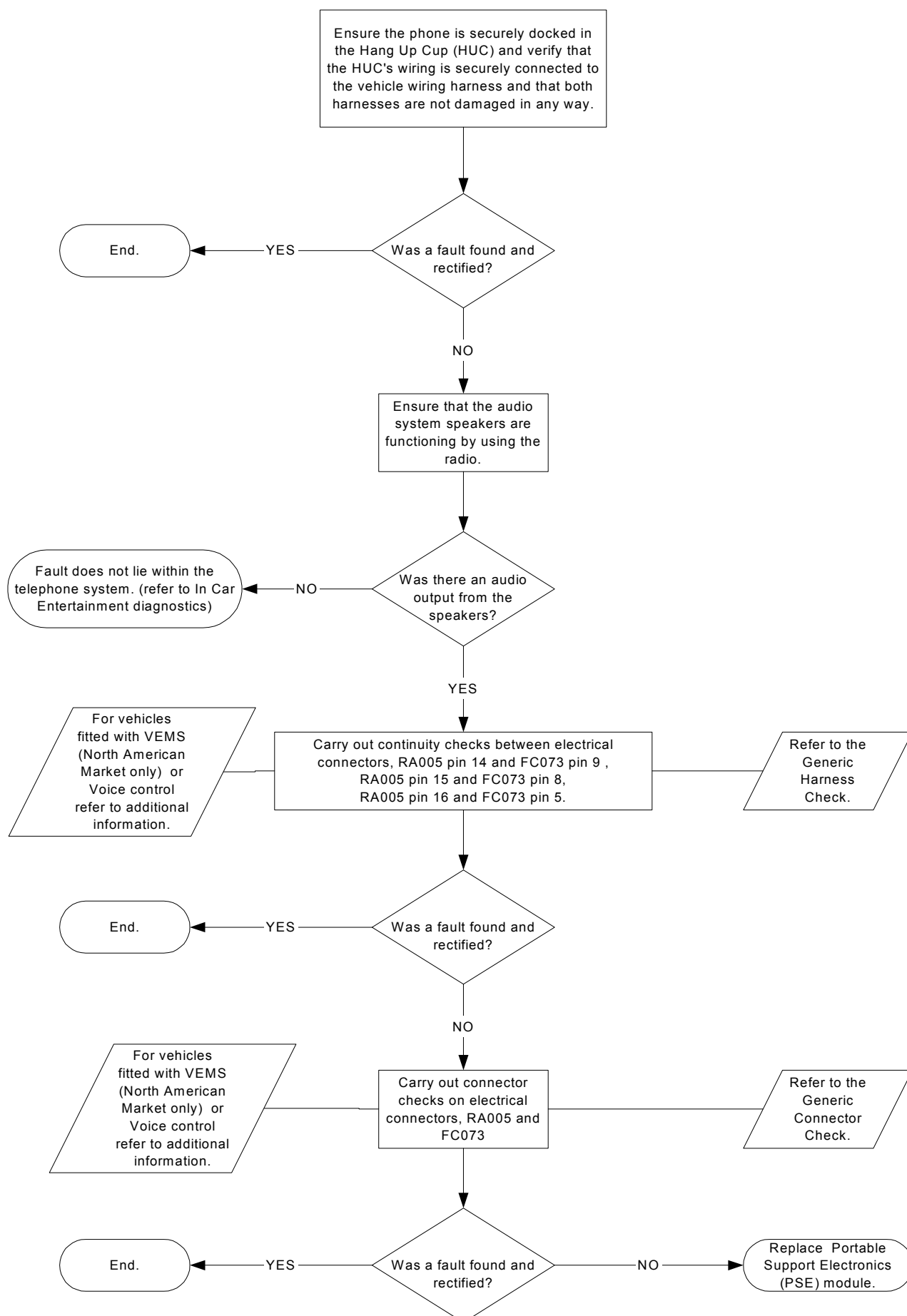
## Telephone Will Not Transmit When In Hands Free Mode Flowchart P-5.



**P-5 Continued.**

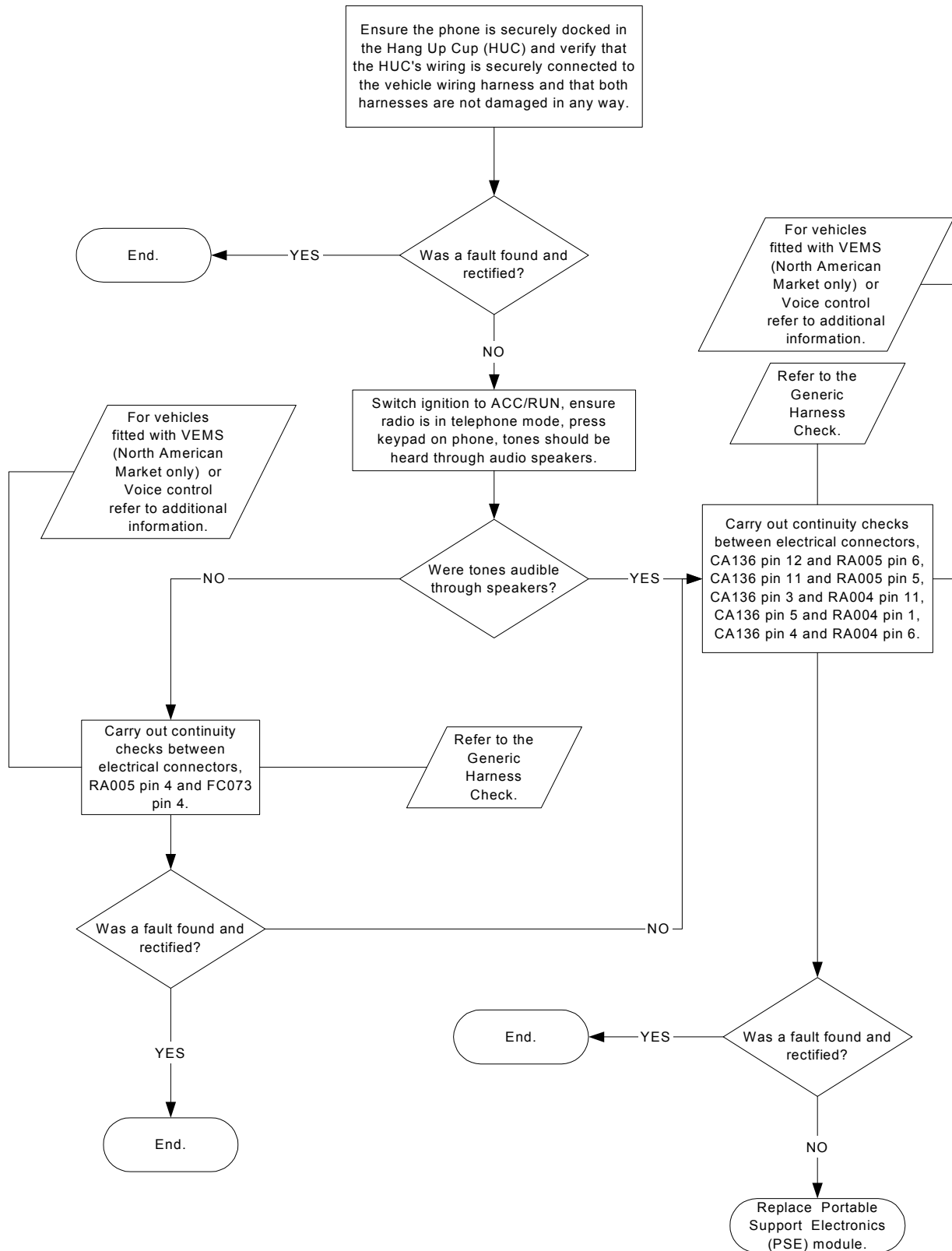
## No Tones From Audio Speakers When In Hands Free Mode

### Flowchart P-6.

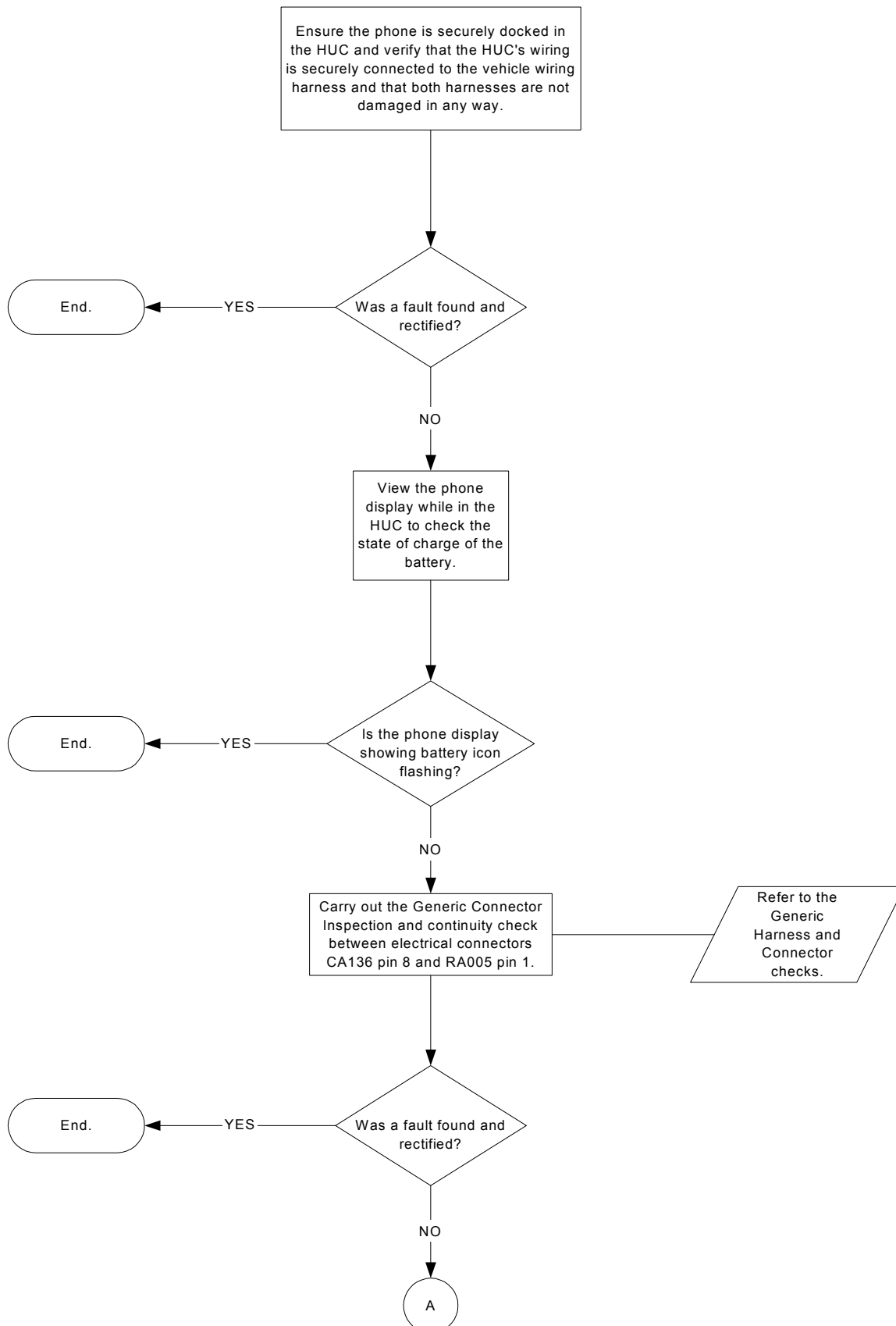


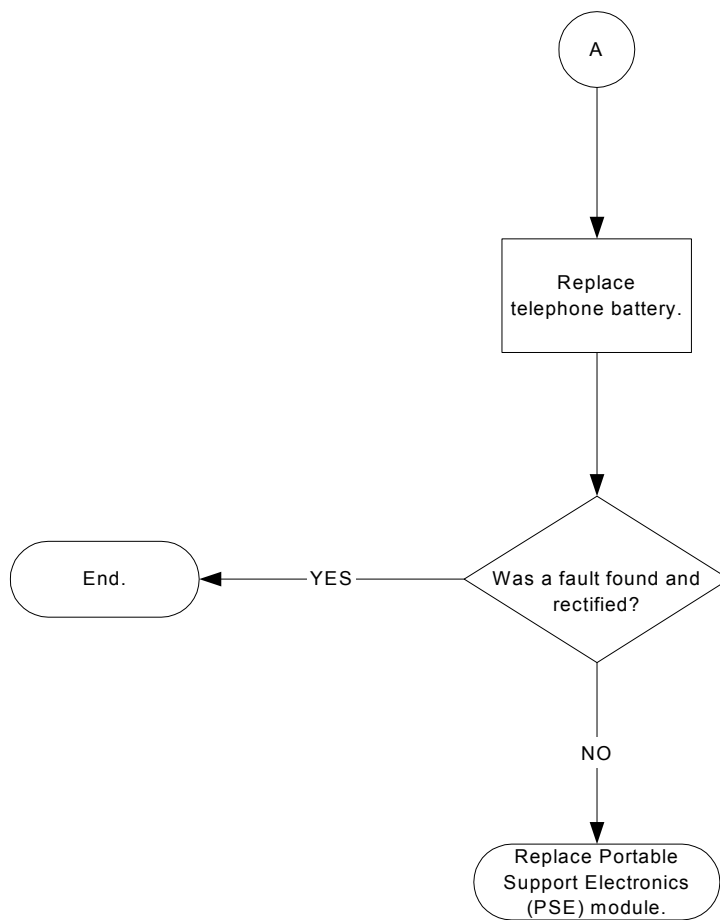


## Radio Does Not Mute During Call Flowchart P-7.

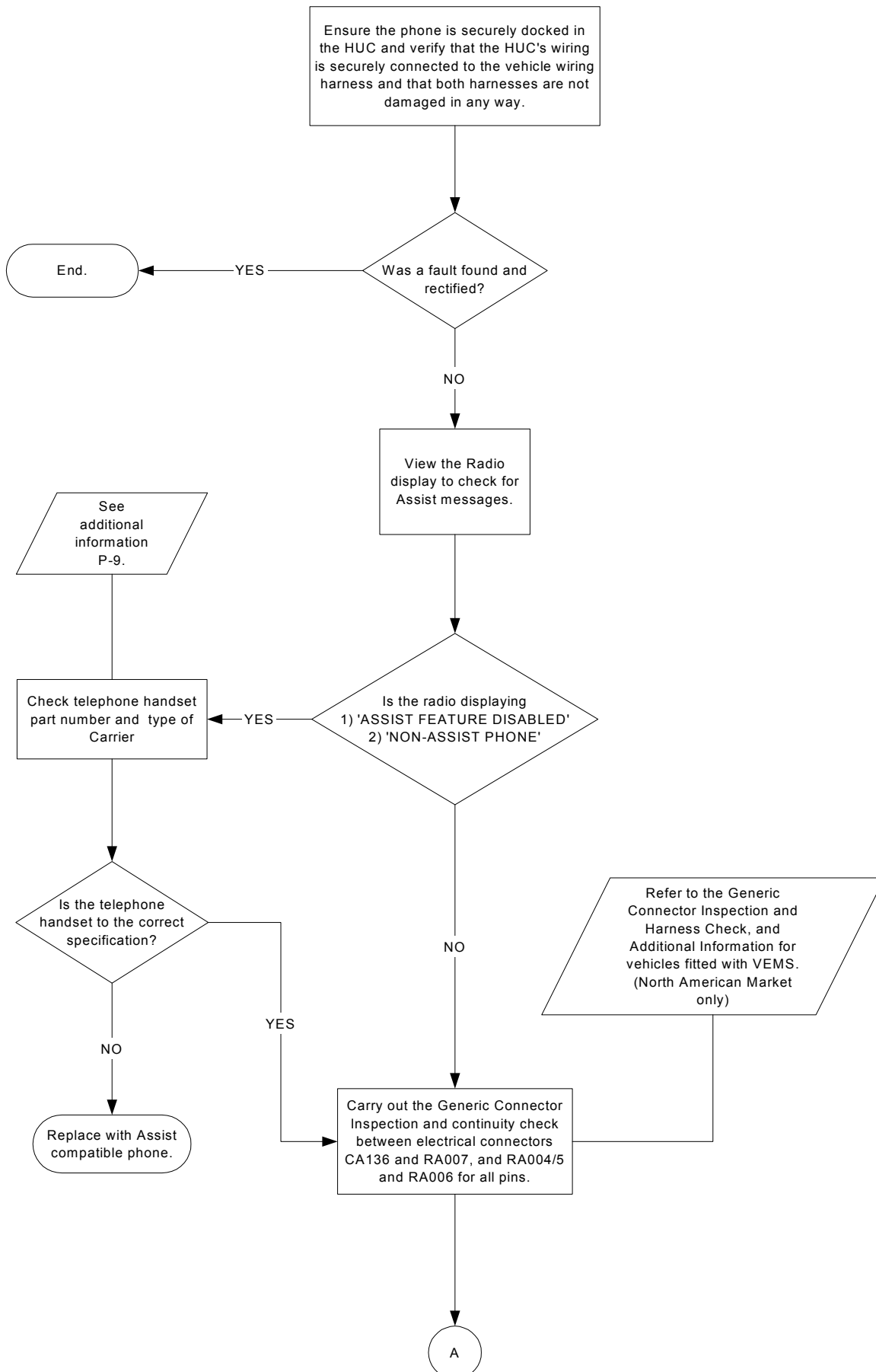


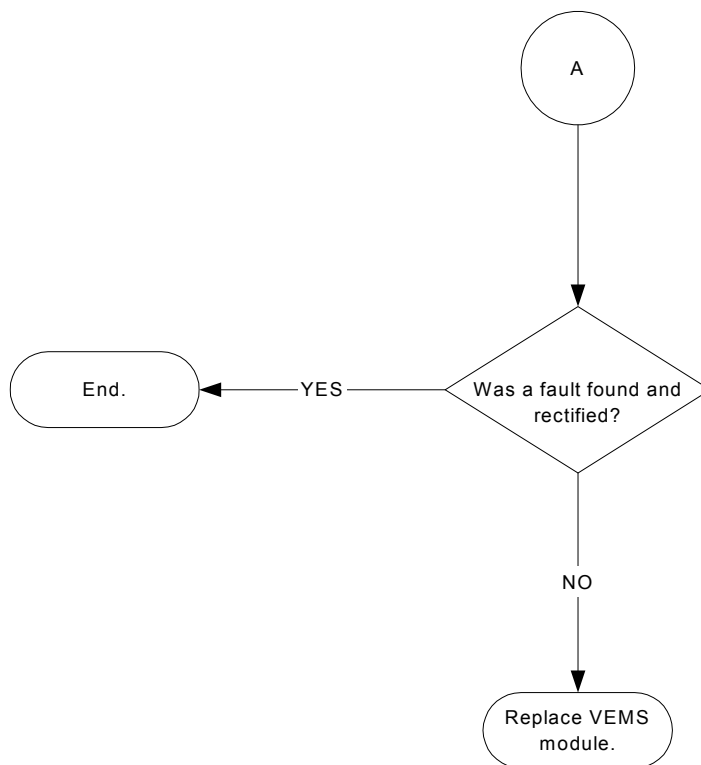
**Telephone Battery Will Not Charge When In Hang-Up Cup (HUC)**  
**Flowchart P-8.**



**P-8 Continued.**

**(North American Markets Only)**  
**Assist System Does Not Recognize Telephone When In Hang-Up Cup (HUC)**  
**Flowchart P-9.**



**P-9 Continued.**

**(North American Markets Only)****Additional Information P-9**

Assist compatible phone carriers for S-TYPE 2001 and 2002 Model Year are Sprint PCS only. The Sprint PCS banner will be shown on the phone display on power-up.

The part number of the telephone handset can also be checked to ensure compatibility, this can be found attached to the telephone, under the battery.

Correct part numbers are:

<b>Model Year</b>	<b>Part Number</b>
2001	LNG 7312 AA
2002	LNG 7312 AB or LNG 7312 AD

### Additional Information for VEMS (North American Markets Only) and Voice Equipped Vehicles:

The modules for these systems are situated in series with the connectors probed in the flowcharts. The connector information will therefore differ for these vehicles.

Below are tables to reference the appropriate connectors.

Telephone PSE Module	VEMS Module (North American Markets)		Telephone Hang-Up Cup
RA005/011	RA006/008	RA007/001	CA136/009
RA005/006	RA006/003	RA007/010	CA136/012
RA005/005	RA006/002	RA007/009	CA136/011
RA004/011	RA006/004	RA007/011	CA136/003
RA004/001	RA006/010	RA007/003	CA136/005
RA004/006	RA006/009	RA007/002	CA136/004
RA005/013	RA006/012	RA007/005	CA136/002

Telephone PSE Module	Voice Module		Radio Head Unit
RA005/015	RA002/007	RA002/005	FC073/008
RA005/014	RA002/018	RA002/016	FC073/009
RA005/016	RA002/019	RA002/017	FC073/005
RA005/004	RA002/004	RA002/015	FC073/004

Telephone PSE Module	Voice Module		Microphone
RA004/007	RA002/013	RA002/012	RF037/002
RA004/008	RA002/003	RA002/001	RF037/001

If problems are encountered when carrying out harness checks on these vehicles contact Dealer Technical Support for further assistance.

## Generic Connector Inspection

Electrical failures can be caused by problems with the connectors and the pins. Below are a number of points, which may aid in investigation.

### Backed-out pins

Inspection of the connector, look for signs that the pin has backed out. If a seal is fitted to the pin it may be protruding further out the back of the connector.

If a pin has backed out of the cavity in the connector, there is a possibility that it has been forced out when the connector was mated. Make sure that the pins are in line when the two halves of the connector mated.

### Bent pins

Disconnect the two halves of the connector and visually inspect the pins. If a pin is bent over there is a possibility of a short from pin to pin.

Pins can easily be bent over when the connector is mated. Check to ensure the pins are not knocked out of alignment.

### Water ingress/fluid ingress

Disconnect the connector and inspect for signs of water ingress, corrosion may have occurred.

If water or any other fluid is visible this may cause a bad connection or even short circuit to other pins within the connector.

Examine the connector seals for any damage and to ensure that the seals are fitted correctly.

### Probing

Ensure when probing a pin the correct probe is used and excessive force is not used as this may weaken the location clip and allow the pin to work loose.

Care also needs to be taken when probing female pins as the pin can easily be splayed if probed with incorrect adaptor or wrong tool. This would then have the potential to cause a bad connection between the two mating halves.

### Insertion force

Insertion force is imperative to ensure a good connection is made between the two mating pins. If the female pin is splayed, the connection will be poor.

To check the insertion force of the female connector, identify the correct male pin within the WDS probe adapter kit. Gently insert the adaptor into female pin and repeat with the other pins within the connector. If the pin in question feels loose in comparison replace both male and female pins.

### Chafing

Inspect harness where it is in close contact to other objects. (i.e. Sharp steel brackets)

Engine vibration will cause the outer protection to quickly chafe through if harness is not routed correctly.

When performing a repair, ensure that heat resistant tape is used where relevant.

Before repairing or replacing any harness, always refer to electrical wiring harness repair guide. Publication number JTP 586.

When repairing a harness ensure Jaguar Harness Repair kit is used. (Part number 418-S411)

Always refer to Dealer Technical Support if problems are encountered.



## Generic Harness Check

When carrying out any of the tests below, it is imperative that any other sources that share the harness are taken into consideration when a measurement is taken. The S-Type electrical guide (Publication Part Number - JJM 10 38 16/10) will show all other sources sharing that harness i.e. splices and sensors. This electrical guide is also within JTIS.

Always ensure digital voltmeter is operating correctly before proceeding.

Always use the Worldwide Diagnostic System probe kit when probing pins within a connector;

**DO NOT** insert the meter leads into the connector pins. (Probe adaptor kit part number 3548-1358-00)

## Continuity test

Using a Digital Multi Meter. (DMM)

Connect the meter to the pins at both ends of the circuit that you wish to test.

Take care to ensure you connect to the correct pin when large numbers of pins are used in a connector. (Use WDS probe adaptor kit if necessary)

Set meter to resistance test or continuity beeper.

The resistance should not be higher than approximately 5 ohms.

If a high resistance or open circuit is found investigate harness for damage.

## Short circuit high fault

Select Volts D/C on DMM 0-20v scale.

Connect the red probe of meter to the pin of harness in question and black probe of the meter to battery negative pole.

No voltage should be seen, if 4-13 volts is seen suspect short circuit high and investigate harness for damage.

Always test circuit with ignition 'ON' and 'OFF' when trying to identify this fault condition.

## Short circuit low fault (To ground)

The meter can be connected to any ground source on the vehicle, but it is preferable to use the battery negative pole.

Set meter to resistance test.

Connect meter to suspect pin of circuit and battery negative pole, an infinity reading open circuit (O/C) should be seen.

If a resistance is seen suspect short circuit low and investigate harness for damage.

Always refer to Dealer Technical Support if problems are encountered.