

**CONVERTIBLE TOP - POWER****1997 ACCESSORIES & EQUIPMENT SAAB - Power Convertible Top****DESCRIPTION & OPERATION**

Convertible top utilizes 6 motors to raise and lower convertible top. Operation of electric motors is controlled by an electromechanical drive system called Top Slack Actuation System (TSAS).

**TOP SLACK ACTUATION SYSTEM (TSAS)**

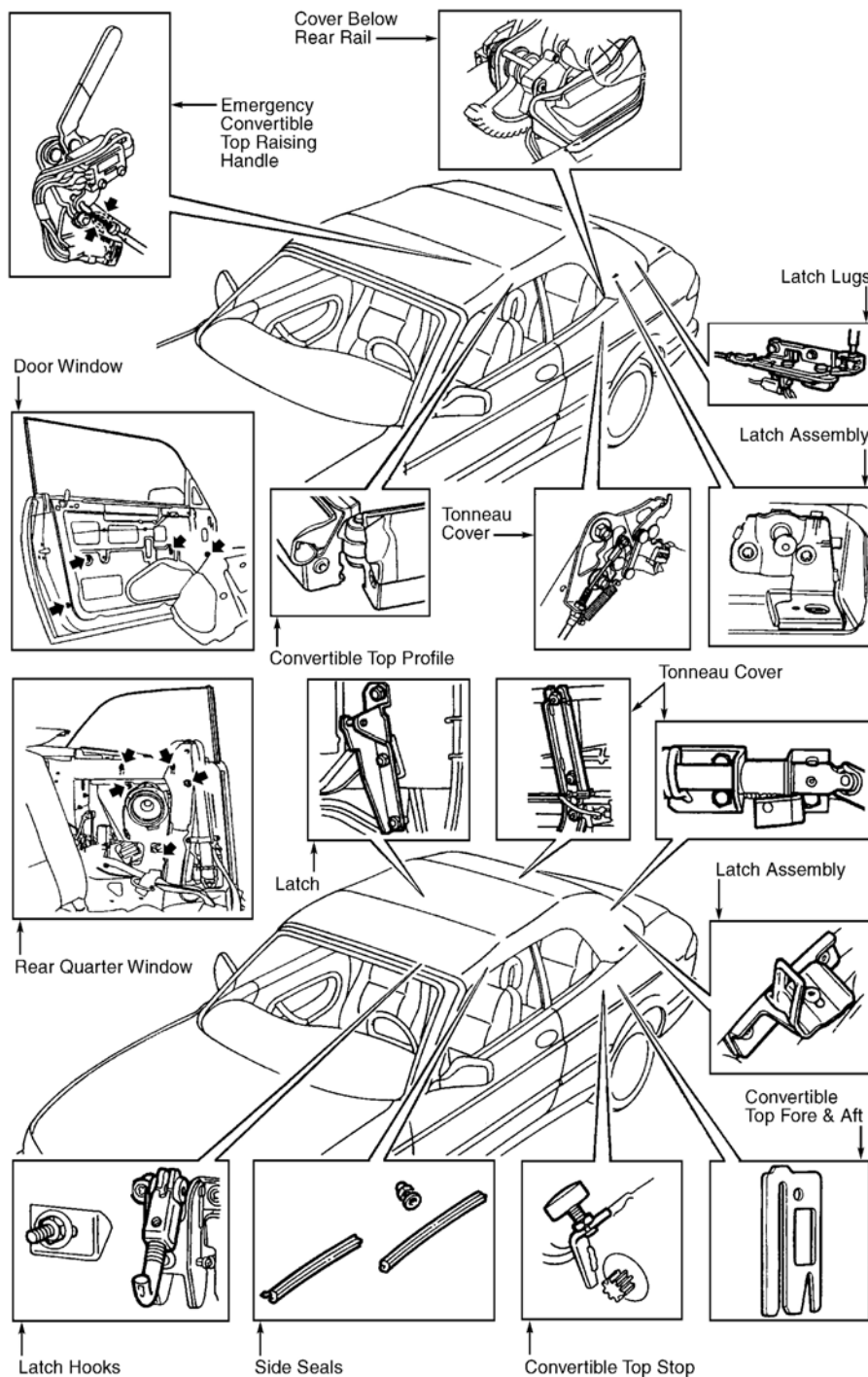
In addition to 6 motors, TSAS system consists of control module, 3 potentiometers, and 7 microswitches. System operates by means of electric motors which are activated by control module, causing top to be raised or lowered. Control module also uses potentiometers to ensure that all movements take place in correct order. When top movement comes to an end, microswitches confirm that top is latched at front and rear, and tonneau cover is latched to the body. If a fault occurs, top movement will be interrupted and a signal will be sent to Saab Information Display (SID), which will sound a buzzer and display an error message.

**CONTROL MODULE**

Control module is located behind cover in left side of trunk. It controls electric motors which raise and lower convertible and tonneau cover. In addition, it performs a self-test to detect any faults in system. Any faults detected by control module are stored in memory as Diagnostic Trouble Codes (DTCs). Control module can store up to 5 DTCs simultaneously. DTCs can be accessed and erased using Saab ISAT scan tool.

**ADJUSTMENTS**

**NOTE:** For convertible top adjustment, See [Fig. 1](#) .



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**Fig. 1: Adjusting Points On Cabriolet**  
Courtesy of SAAB-SCANIA OF AMERICA, INC.

## SELF-DIAGNOSTIC SYSTEM

## 1997 Saab 900 S

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**NOTE:** Self-diagnosis of convertible top system requires use of Saab Intelligent Tester (ISAT) scan tool, SDA II Adapter (86-11-436) and Breakout Box (86-11-329). For component testing, see **WIRING DIAGRAMS** .

1. Connect scan tool to Data Link Connector (DLC) located under left side of instrument panel, next to steering column. If control module has been inactive for more than 3 seconds, it must be activated in order to access Diagnostic Trouble Codes (DTCs).
2. To activate control module, open header latches that secure convertible top to windshield frame. Advance to TSAS on scan tool. Turn ignition on. Press a window lift button to lower window automatically, then immediately press ON/ENTER on ISAT scan tool. Because header latches are open, control module is prevented from resuming idle state. Record DTCs. To diagnose DTCs, see CONVERTIBLE TOP DTC table. Also see **WIRING DIAGRAMS** .

### CONVERTIBLE TOP DTC

DTC	Probable Cause
B1171	Top Latch Microswitch Does Not Show Same Information As Main Potentiometer
B1172	Top Latch Microswitch Shorted To Ground
B1173	Top Latch Microswitch Open Circuit
B1174	Top Latch Microswitch Short To Voltage
B1176	Top Stowage Bag Switch Does Not Show Same Information As Main Motor Potentiometer
B1177	Top Stowage Bag Microswitch Shorted To Ground
B1178	Top Stowage Bag Microswitch Open Circuit
B1179	Top Stowage Bag Microswitch Shorted To Voltage
B1181	Fifth Bow Latch Switch Does Not Show Same Information As Fifth Bow Potentiometer
B1182	Fifth Bow Microswitch Shorted To Ground
B1183	Fifth Bow Microswitch Open Circuit
B1184	Fifth Bow Microswitch Short To Voltage
B1186	Top Cover Switch Does Not Give Same Information As Tonneau Cover Potentiometer
B1187	Tonneau Cover Latch Microswitch Short To Ground
B1188	Tonneau Cover Latch Microswitch Open Circuit
B1189	Tonneau Cover Latch Microswitch Short To Voltage
B1306	Defective Diode In Potentiometer
B1307	Potentiometer Power Supply Short To Ground
B1308	Potentiometer Power Supply Shorted
B1309	Control Unable To Read Change In Potentiometer Value On Activation Of Motor
B1316	Fifth Bow Potentiometer Unstable Reading
B1317	Fifth Bow Potentiometer Value Outside Programmed Value
B1318	Fifth Bow Potentiometer Open Circuit
B1321	Tonneau Cover Potentiometer Unstable Reading
B1322	Tonneau Cover Potentiometer Value Outside Programmed Value
B1323	Tonneau Cover Potentiometer Open Circuit
B1326	Main Motor Potentiometer Unstable Reading

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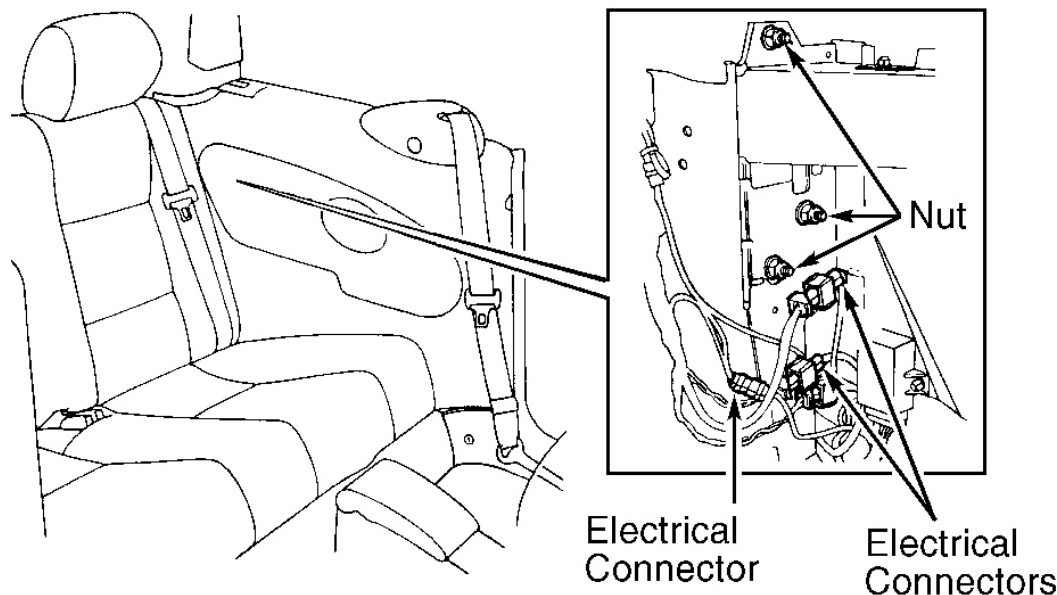
B1327	Main Motor Potentiometer Value Outside Programmed Value
B1328	Main Motor Potentiometer Open Circuit
B1447	Tonneau Cover Short To Ground
B1452	Fifth Bow Motor Short To Ground
B1462	Fifth Bow Latch Motor Short To Ground
B1467	Main Motor Short To Ground
B1500	Battery Voltage Outside Limit (10-16 Volts)
B1520	Battery Voltage Absent
B1605	Control Module Defective
B2471	Front Left Window Motor Uses No Current On Activation
B2472	Front Right Window Motor Uses No Current On Activation
B2473	Rear Left Window Motor Uses No Current On Activation
B2474	Right Rear Window Motor Uses No Current On Activation

## REMOVAL & INSTALLATION

### CONVERTIBLE TOP

#### Removal & Installation

1. Lower convertible top and raise tonneau cover to upright position. Remove rear seat side panels. Disconnect electrical connectors. Remove convertible top nuts. See **Fig. 2** . With a helper, lift out convertible top and pull out wiring.
2. Note number of shims on left and right sides for reassembly reference. To install, reverse removal procedure.



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**Fig. 2: Removing Convertible Top**

Courtesy of SAAB-SCANIA OF AMERICA, INC.

**MAIN MOTORS****Removal & Installation**

Main motors are removed as a unit with convertible top. See CONVERTIBLE TOP.

**ELECTRONIC CONTROL MODULE****Removal & Installation**

Control module is located behind cover, on left side of trunk. Remove trunk scuff plate. Remove clips from left side trunk cover. Pull off left trunk weatherstrip. Disconnect trunk light electrical connectors. Remove control module nuts. Remove control module.

**TONNEAU COVER MOTOR****Removal**

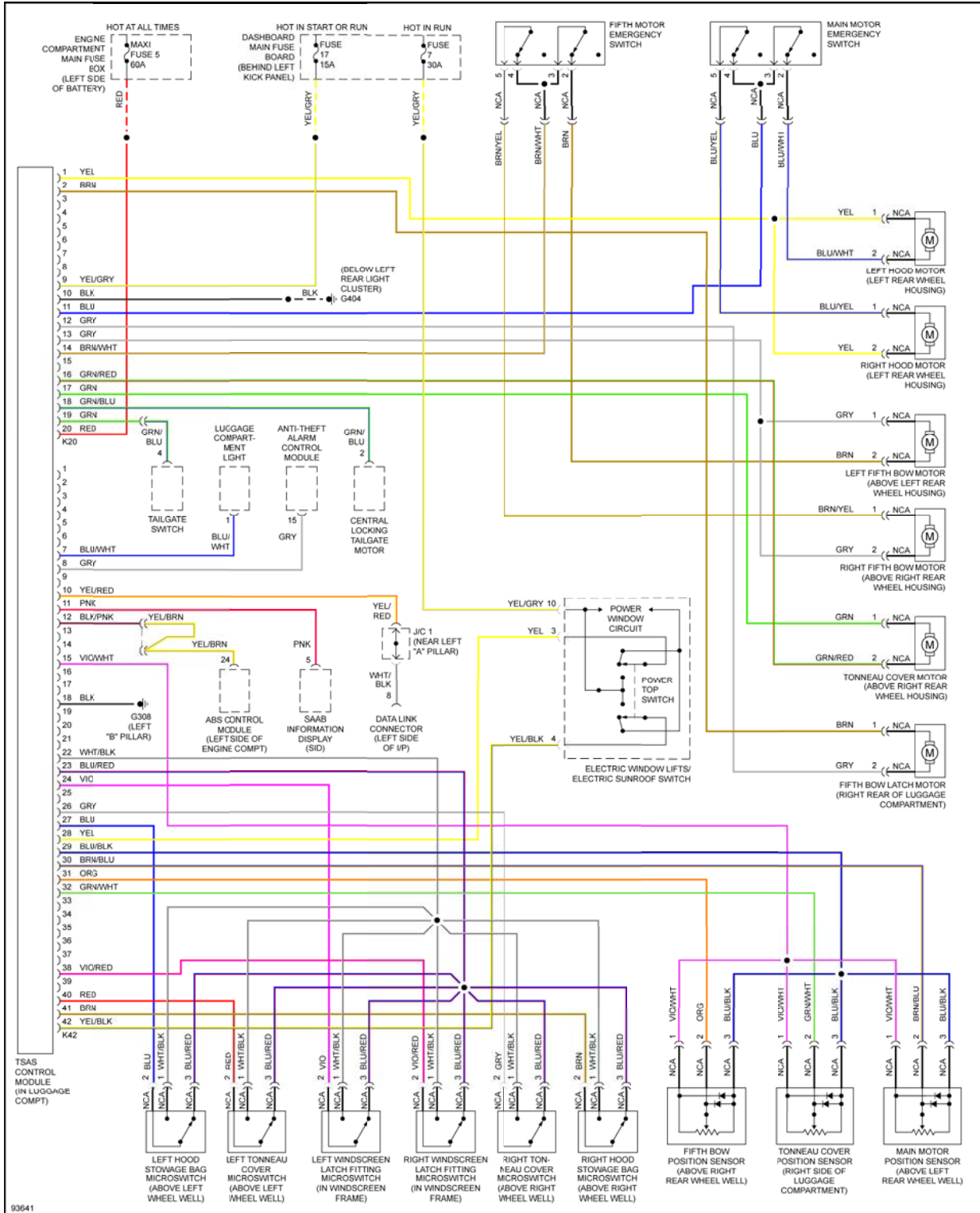
1. Lower tonneau cover. Tip rear seat backrest forward. Pull up emergency convertible top handle. Fold carpet toward front of vehicle. Remove trunk scuff plate. Remove right trunk lid weatherstrip and bend aside. Loosen right trunk trim and bend it outward. Remove right taillight assembly. Remove 2 universal joint retaining screws.

2. Remove tonneau cover latch operating cables from bracket and operating arm. Remove 3 bracket retaining bolts. Remove emergency convertible top raising cable from bracket. Disconnect electrical connectors. Lift out bracket and motor. Cut cable ties and remove potentiometer. Remove 4 motor bolts and motor shaft bolt. Remove motor from bracket. To install, reverse removal procedure.

## **WIRING DIAGRAMS**

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**Fig. 3: Power Convertible Top System Wiring Diagram**