



SI B54 09 07
Special Roofs

September 2018
Technical Service

RETRACTABLE HARDTOP STATUS REQUEST SUPPLEMENT

New information provided by this revision is preceded by this symbol  .

This Service Information bulletin replaces SI B54 09 07 **dated May 2018**


What's New:

- Convertible top status document added for I15

MODEL

E93 (3 series convertible)	F33 (4 series convertible)	F83 (M4 Convertible)	I15 (I8 Roadster)
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INFORMATION

- Documents have been developed showing the known correct statuses for all hall sensors and micro switches used to operate the retractable hard top (RHT).
- This document is intended to act as a supplement to the diagnostic information available in ISTA.
- Comparing these statuses to the actual statuses of a vehicle with a functional problem may assist in narrowing down which sensor/switch is contributing to the functional problem.
- For E93, the status request may be found by connecting the car to ISTA and selecting: **Control module functions/CTM Convertible top module/Diagnosis Requests – Sensors/Switches**
- For F33/F83, the statuses should be checked using the applicable test plan as instructed in attachment B54 09 07 F33 F83 RHT Status.pdf
-  For I15, the statuses should be checked using the applicable test plan as instructed in attachment B54 09 07 I15 Top Status.pdf

Posted: Friday, September 28, 2018

ATTACHMENTS

View PDF attachment [B54 09 07 E93 RHT Status](#).

View PDF attachment [B54 09 07 F33 F83 RHT Status](#).

View PDF attachment [B54 09 07 I15 Top status](#).

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F33 Retractable hardtop diagnosis

Step 1- Perform a vehicle test and work through any corresponding faults. Work through any test plans for the retractable hardtop or loading aid as needed. If the test plans do not provide an accurate diagnosis, proceed to step 2.

Step 2- In case of a fault with the retractable hardtop, select test plan ABL-DIT-AT5437_CTM33FTEST-CTM functional check. In case of loading aid faults, select test plan ABL-DIT-AT5437_CTM33BELHI-CTM loading aid. Note: Keep in mind that faults in one system could be the result of an issue with the other. If required, run test plans for both systems.

Step 3- Select “functional test” from test plan options

Step 4- Select “status display for all sensors” (RHT) or “Read out the status of the sensors” (Loading aid) depending on which test plan was chosen.

Step 5- Ensure hardtop is closed completely and select “retractable hardtop closed”

Step 6- Hold the hardtop adjustment switch in the up position to switch the statuses from “currently not monitored” to show the current status. While holding the switch in the up position, compare the actual status to the target status as shown in the test plan and this document. They should match.

Step 7- Go back to “status display for all sensors”

Step 8- Ensure the hardtop is completely open and select “retractable hardtop open”

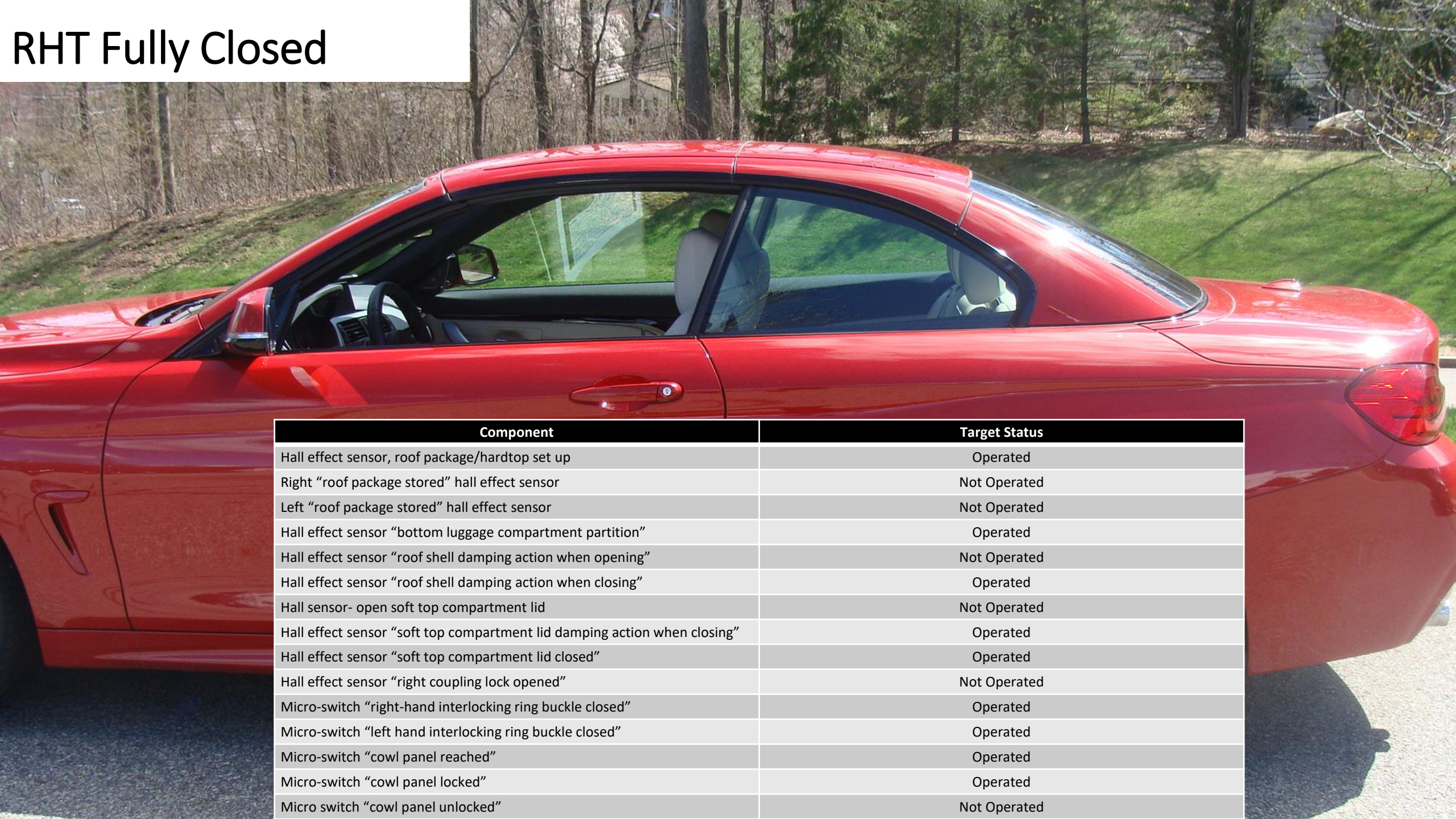
Step 9- Hold the switch in the down position to switch the statuses from “currently not monitors” to show the current status. While holding the switch in the down position, compare the actual status to the target status as shown in the test plan and this document. They should match.

Step 10- Go back to “status display for all sensors”

Step 11- Select “retractable hardtop is in an intermediate position”

Step 12- Reference the photos/statuses in this document at different positions and compare.

RHT Fully Closed



Component	Target Status
Hall effect sensor, roof package/hardtop set up	Operated
Right "roof package stored" hall effect sensor	Not Operated
Left "roof package stored" hall effect sensor	Not Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Not Operated
Hall effect sensor "roof shell damping action when closing"	Operated
Hall sensor- open soft top compartment lid	Not Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Operated
Hall effect sensor "soft top compartment lid closed"	Operated
Hall effect sensor "right coupling lock opened"	Not Operated
Micro-switch "right-hand interlocking ring buckle closed"	Operated
Micro-switch "left hand interlocking ring buckle closed"	Operated
Micro-switch "cowl panel reached"	Operated
Micro-switch "cowl panel locked"	Operated
Micro switch "cowl panel unlocked"	Not Operated

Latches Released



Component	Target Status
Hall effect sensor, roof package/hardtop installed	Operated
Hall effect sensor, Roof package stored, right	Not Operated
Hall effect sensor, Roof package stored, left	Not Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Not Operated
Hall effect sensor "roof shell damping action when closing"	Operated
Micro-switch "cowl panel reached"	Not Operated
Hall sensor, open soft top compartment lid	Not Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Operated
Hall effect sensor "soft top compartment lid is closed"	Operated
Hall effect sensor "right coupling lock open"	Operated
Microswitch "right coupling lock closed"	Not Operated
Microswitch left coupling lock closed	Not Operated
Microswitch "cowl panel locked"	Not Operated
Microswitch, cowl panel unlocked	Operated

Service Position



Component	Target Status
Hall effect sensor, roof package/hardtop installed	Operated
Hall effect sensor, Roof package stored, right	Not Operated
Hall effect sensor, Roof package stored, left	Not Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Not Operated
Hall effect sensor "roof shell damping action when closing"	Not Operated
Micro-switch "cowl panel reached"	Not Operated
Hall sensor, open soft top compartment lid	Not Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Operated
Hall effect sensor "soft top compartment lid is closed"	Operated
Hall effect sensor "right coupling lock open"	Operated
Microswitch "right coupling lock closed"	Not Operated
Microswitch left coupling lock closed	Not Operated
Microswitch "cowl panel locked"	Not Operated
Microswitch, cowl panel unlocked	Operated

Roof Shells Stacked



Component	Target Status
Hall effect sensor, roof package/hardtop installed	Operated
Hall effect sensor, Roof package stored, right	Not Operated
Hall effect sensor, Roof package stored, left	Not Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Operated
Hall effect sensor "roof shell damping action when closing"	Not Operated
Micro-switch "cowl panel reached"	Not Operated
Hall sensor, open soft top compartment lid	Not Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Operated
Hall effect sensor "soft top compartment lid is closed"	Operated
Hall effect sensor "right coupling lock open"	Operated
Microswitch "right coupling lock closed"	Not Operated
Microswitch left coupling lock closed	Not Operated
Microswitch "cowl panel locked"	Not Operated
Microswitch, cowl panel unlocked	Operated

Stacked, trunk lid open



Component	Target Status
Hall effect sensor, roof package/hardtop installed	Operated
Hall effect sensor, Roof package stored, right	Not Operated
Hall effect sensor, Roof package stored, left	Not Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Operated
Hall effect sensor "roof shell damping action when closing"	Not Operated
Micro-switch "cowl panel reached"	Not Operated
Hall sensor, open soft top compartment lid	Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Not Operated
Hall effect sensor "soft top compartment lid is closed"	Not Operated
Hall effect sensor "right coupling lock open"	Operated
Microswitch "right coupling lock closed"	Not Operated
Microswitch left coupling lock closed	Not Operated
Microswitch "cowl panel locked"	Not Operated
Microswitch, cowl panel unlocked	Operated

RHT Stowed, trunk lid open



Component	Target Status
Hall effect sensor, roof package/hardtop installed	Not Operated
Hall effect sensor, Roof package stored, right	Operated
Hall effect sensor, Roof package stored, left	Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Operated
Hall effect sensor "roof shell damping action when closing"	Not Operated
Micro-switch "cowl panel reached"	Not Operated
Hall sensor, open soft top compartment lid	Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Not Operated
Hall effect sensor "soft top compartment lid is closed"	Not Operated
Hall effect sensor "right coupling lock open"	Operated
Microswitch "right coupling lock closed"	Not Operated
Microswitch left coupling lock closed	Not Operated
Microswitch "cowl panel locked"	Not Operated
Microswitch, cowl panel unlocked	Operated

RHT Fully Open



Component	Target Status
Hall effect sensor, roof package/hardtop set up	Not Operated
Right "roof package stored" hall effect sensor	Operated
Left "roof package stored" hall effect sensor	Operated
Hall effect sensor "bottom luggage compartment partition"	Operated
Hall effect sensor "roof shell damping action when opening"	Operated
Hall effect sensor "roof shell damping action when closing"	Not Operated
Hall sensor- open soft top compartment lid	Not Operated
Hall effect sensor "soft top compartment lid damping action when closing"	Operated
Hall effect sensor "soft top compartment lid closed"	Operated
Hall effect sensor "right coupling lock opened"	Not Operated
Micro-switch "right-hand interlocking ring buckle closed"	Operated
Micro-switch "left hand interlocking ring buckle closed"	Operated
Micro-switch "cowl panel reached"	Not Operated
Micro-switch "cowl panel locked"	Operated
Micro switch "cowl panel unlocked"	Not Operated

Rear Module Lowered



Component	Target Status
Microswitch left loading aid fastening open	Not Operated
Mircroswitch left loading aid fastening closed	Operated
Microswitch right loading aid fastening open	Not Operated
Microswitch right loading aid fastening closed	Operated
Mircroswitch of the retractable hardtop in the loading position	Operated
Hall effect sensor, roof package stored, left	Operated
Hall effect sensor, roof package stored, right	Operated
Microswitch of cowl panel is locked/stowage compartment is closed	Operated
Microswitch of cowl panel released/stowage compartment unlatched	Not Operated
Hall effect sensor soft top compartment lid is closed	Operated
Hall sensor, open soft top compartment lid	Not Operated
Hall effect sensor, bottom luggage compartment partition	Operated

Rear Module Unlatched



Component	Target Status
Microswitch left loading aid fastening open	Operated
Mircroswitch left loading aid fastening closed	Not Operated
Microswitch right loading aid fastening open	Operated
Microswitch right loading aid fastening closed	Not Operated
Mircroswitch of the retractable hardtop in the loading position	Not Operated
Hall effect sensor, roof package stored, left	Operated
Hall effect sensor, roof package stored, right	Operated
Microswitch of cowl panel is locked/stowage compartment is closed	Not Operated
Microswitch of cowl panel released/stowage compartment unlatched	Not Operated
Hall effect sensor soft top compartment lid is closed	Not Operated
Hall sensor, open soft top compartment lid	Not Operated
Hall effect sensor, bottom luggage compartment partition	Operated

Rear Module linkage raised rear module stowed



Component	Target Status
Microswitch left loading aid fastening open	Operated
Mircroswitch left loading aid fastening closed	Not Operated
Microswitch right loading aid fastening open	Operated
Microswitch right loading aid fastening closed	Not Operated
Mircroswitch of the retractable hardtop in the loading position	Not Operated
Hall effect sensor, roof package stored, left	Operated
Hall effect sensor, roof package stored, right	Operated
Microswitch of cowl panel is locked/stowage compartment is closed	Not Operated
Microswitch of cowl panel released/stowage compartment unlatched	Operated
Hall effect sensor soft top compartment lid is closed	Not Operated
Hall sensor, open soft top compartment lid	Operated
Hall effect sensor, bottom luggage compartment partition	Operated

Rear Module Raised



Component	Target Status
Microswitch left loading aid fastening open	Operated
Mircroswitch left loading aid fastening closed	Not Operated
Microswitch right loading aid fastening open	Operated
Microswitch right loading aid fastening closed	Not Operated
Mircroswitch of the retractable hardtop in the loading position	Operated
Hall effect sensor, roof package stored, left	Not Operated
Hall effect sensor, roof package stored, right	Not Operated
Microswitch of cowl panel is locked/stowage compartment is closed	Not Operated
Microswitch of cowl panel released/stowage compartment unlatched	Operated
Hall effect sensor soft top compartment lid is closed	Not Operated
Hall sensor, open soft top compartment lid	Operated
Hall effect sensor, bottom luggage compartment partition	Operated

RHT Fully Closed



Sensor/Switch	Status	On/Off	Sensor Number	Sensor/Switch	Status	On/Off	Sensor Number
Cowl Panel Reached MS	Yes	On	8.0	Rear Module Closed HS	Yes	On	5.1
Cowl Panel Locked MS	Yes	On	4.1	Rear Module Almost Closed HS	Yes	On	5.3
Cowl Panel Unlocked MS	No	Off	4.2	Rear Module Open HS	No	Off	5.2
Roof Shells Partially Closed HS	Yes	On	2.3	Roof Package Stowed HS	No	Off	1.2
Roof Shells Partially Open HS	No	Off	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	No	Off	6.2	Coupling fastener, left, closed MS	Yes	On	6.3
Coupling fastener, right, closed MS	Yes	On	6.1	Roof Package Extended	Yes	On	1.1

Latches Released



Sensor/Switch	Status	On/Off	Sensor Number	Sensor/Switch	Status	On/Off	Sensor Number
Cowl Panel Reached MS	No	Off	8.0	Rear Module Closed HS	Yes	On	5.1
Cowl Panel Locked MS	No	Off	4.1	Rear Module Almost Closed HS	Yes	On	5.3
Cowl Panel Unlocked MS	Yes	On	4.2	Rear Module Open HS	No	Off	5.2
Roof Shells Partially Closed HS	Yes	On	2.3	Roof Package Stowed HS	No	Off	1.2
Roof Shells Partially Open HS	No	Off	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	Yes	On	6.2	Coupling fastener, left, closed MS	No	Off	6.3
Coupling fastener, right, closed MS	No	Off	6.1	Roof Package Extended	Yes	On	1.1

Service Position



Sensor/Switch	Status	On/Off	Sensor Number	Sensor/Switch	Status	On/Off	Sensor Number
Cowl Panel Reached MS	No	Off	8.0	Rear Module Closed HS	Yes	On	5.1
Cowl Panel Locked MS	No	Off	4.1	Rear Module Almost Closed HS	Yes	On	5.3
Cowl Panel Unlocked MS	Yes	On	4.2	Rear Module Open HS	No	Off	5.2
Roof Shells Partially Closed HS	No	Off	2.3	Roof Package Stowed HS	No	Off	1.2
Roof Shells Partially Open HS	No	Off	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	Yes	On	6.2	Coupling fastener, left, closed MS	No	Off	6.3
Coupling fastener, right, closed MS	No	Off	6.1	Roof Package Extended	Yes	On	1.1

Roof Shells Stacked



Sensor/Switch	Status	On/Off	Sensor Number	Sensor/Switch	Status	On/Off	Sensor Number
Cowl Panel Reached MS	No	Off	8.0	Rear Module Closed HS	Yes	On	5.1
Cowl Panel Locked MS	No	Off	4.1	Rear Module Almost Closed HS	Yes	On	5.3
Cowl Panel Unlocked MS	Yes	On	4.2	Rear Module Open HS	No	Off	5.2
Roof Shells Partially Closed HS	No	Off	2.3	Roof Package Stowed HS	No	Off	1.2
Roof Shells Partially Open HS	Yes	On	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	Yes	On	6.2	Coupling fastener, left, closed MS	No	Off	6.3
Coupling fastener, right, closed MS	No	Off	6.1	Roof Package Extended	Yes	On	1.1

Stacked Position, Trunk Lid Open



Sensor/Switch	Status	On/ Off	Sensor Number	Sensor/Switch	Status	On/ Off	Sensor Number
Cowl Panel Reached MS	No	Off	8.0	Rear Module Closed HS	No	Off	5.1
Cowl Panel Locked MS	No	Off	4.1	Rear Module Almost Closed HS	No	Off	5.3
Cowl Panel Unlocked MS	Yes	On	4.2	Rear Module Open HS	Yes	On	5.2
Roof Shells Partially Closed HS	No	Off	2.3	Roof Package Stowed HS	No	Off	1.2
Roof Shells Partially Open HS	Yes	On	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	Yes	On	6.2	Coupling fastener, left, closed MS	No	Off	6.3
Coupling fastener, right, closed MS	No	Off	6.1	Roof Package Extended	Yes	On	1.1

RHT Stowed, Trunk Lid Open



Sensor/Switch	Status	On/ Off	Sensor Number	Sensor/Switch	Status	On/ Off	Sensor Number
Cowl Panel Reached MS	No	Off	8.0	Rear Module Closed HS	No	Off	5.1
Cowl Panel Locked MS	No	Off	4.1	Rear Module Almost Closed HS	No	Off	5.3
Cowl Panel Unlocked MS	Yes	On	4.2	Rear Module Open HS	Yes	On	5.2
Roof Shells Partially Closed HS	No	Off	2.3	Roof Package Stowed HS	Yes	On	1.2
Roof Shells Partially Open HS	Yes	On	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	Yes	On	6.2	Coupling fastener, left, closed MS	No	Off	6.3
Coupling fastener, right, closed MS	No	Off	6.1	Roof Package Extended	No	Off	1.1

RHT Fully Open



Sensor/Switch	Status	On/Off	Sensor Number	Sensor/Switch	Status	On/Off	Sensor Number
Cowl Panel Reached MS	No	Off	8.0	Rear Module Closed HS	Yes	On	5.1
Cowl Panel Locked MS	Yes	On	4.1	Rear Module Almost Closed HS	Yes	On	5.3
Cowl Panel Unlocked MS	No	Off	4.2	Rear Module Open HS	No	Off	5.2
Roof Shells Partially Closed HS	No	Off	2.3	Roof Package Stowed HS	Yes	On	1.2
Roof Shells Partially Open HS	Yes	On	2.4	Luggage compartment separation HS	Closed	On	9.0
Coupling fastener, right, open HS	No	Off	6.2	Coupling fastener, left, closed MS	Yes	On	6.3
Coupling fastener, right, closed MS	Yes	On	6.1	Roof Package Extended	No	Off	1.1

I15 Convertible top diagnosis

Step 1-Perform a vehicle test and work through any corresponding faults. Work through any test plans for the retractable hardtop as needed. If the test plans do not provide an accurate diagnosis, proceed to step 2.

Step 2-Using test plan ABL-DIT-AT5434_ECVM15SENS-CVM Sensorik –V.2, the status of all the related sensors and switches can be monitored.

Note: Due to functional limitations of the CVM module, not all sensor statuses will be available when fully open or fully closed. At times, some sensor statuses will read “Currently not monitored”. This is not an indication of a defect.

Step 3- When the convertible top is completely open or completely closed, to force a status reading of **some** of the sensors that read “currently not monitored”, the convertible top switch can be held in the open or closed position after the top has completed its travel.

Step 4- Reference the photo/statuses in this document at different positions and compare to assist with diagnosis.

Convertible top completely closed



Sensor Name	Status
Microswitch, convertible top locked and closed, left	Operated
Microswitch, convertible top locked and closed, right	Operated
Microswitch, cowl panel locked	Operated
Microswitch, cowl panel unlocked	Not operated
Hall effect sensor, soft top up	Operated
Hall effect sensor, soft top stowed	Not operated
Microswitch, convertible top compartment lid open, left	Currently not monitored
Microswitch, convertible top compartment lid open, right	Currently not monitored
Hall effect sensor, convertible top compartment lid closed, left	Currently not monitored
Hall effect sensor, convertible top compartment lid closed, right	Currently not monitored
Microswitch, convertible top compartment lid locked, left	Operated
Microswitch, convertible top compartment lid locked, right	Operated

Convertible top locked, convertible top storage compartment unlocked



Sensor Name	Status
Microswitch, convertible top locked and closed, left	Operated
Microswitch, convertible top locked and closed, right	Operated
Microswitch, cowl panel locked	Operated
Microswitch, cowl panel unlocked	Not operated
Hall effect sensor, soft top up	Operated
Hall effect sensor, soft top stowed	Not operated
Microswitch, convertible top compartment lid open, left	Operated
Microswitch, convertible top compartment lid open, right	Operated
Hall effect sensor, convertible top compartment lid closed, left	Not operated
Hall effect sensor, convertible top compartment lid closed, right	Not operated
Microswitch, convertible top compartment lid locked, left	Not operated
Microswitch, convertible top compartment lid locked, right	Not operated

Convertible top unlocked, convertible top storage compartment raised



Sensor Name	Status
Microswitch, convertible top locked and closed, left	Not operated
Microswitch, convertible top locked and closed, right	Not operated
Microswitch, cowl panel locked	Not operated
Microswitch, cowl panel unlocked	Operated
Hall effect sensor, soft top up	Not operated
Hall effect sensor, soft top stowed	Not operated
Microswitch, convertible top compartment lid open, left	Operated
Microswitch, convertible top compartment lid open, right	Operated
Hall effect sensor, convertible top compartment lid closed, left	Not operated
Hall effect sensor, convertible top compartment lid closed, right	Not operated
Microswitch, convertible top compartment lid locked, left	Not operated
Microswitch, convertible top compartment lid locked, right	Not operated

Convertible top stowed, convertible top storage compartment raised



Sensor Name	Status
Microswitch, convertible top locked and closed, left	Not operated
Microswitch, convertible top locked and closed, right	Not operated
Microswitch, cowl panel locked	Not operated
Microswitch, cowl panel unlocked	Operated
Hall effect sensor, soft top up	Not operated
Hall effect sensor, soft top stowed	Operated
Microswitch, convertible top compartment lid open, left	Operated
Microswitch, convertible top compartment lid open, right	Operated
Hall effect sensor, convertible top compartment lid closed, left	Not operated
Hall effect sensor, convertible top compartment lid closed, right	Not operated
Microswitch, convertible top compartment lid locked, left	Not operated
Microswitch, convertible top compartment lid locked, right	Not operated

Convertible top completely open



Sensor Name	Status
Microswitch, convertible top locked and closed, left	Not operated
Microswitch, convertible top locked and closed, right	Not operated
Microswitch, cowl panel locked	Not operated
Microswitch, cowl panel unlocked	Operated
Hall effect sensor, soft top up	Not operated
Hall effect sensor, soft top stowed	Operated
Microswitch, convertible top compartment lid open, left	Currently not monitored
Microswitch, convertible top compartment lid open, right	Currently not monitored
Hall effect sensor, convertible top compartment lid closed, left	Currently not monitored
Hall effect sensor, convertible top compartment lid closed, right	Currently not monitored
Microswitch, convertible top compartment lid locked, left	Operated
Microswitch, convertible top compartment lid locked, right	Operated