

Diagnosis – Recalling Actual Values with HHT

The following tests or activations are possible with the **Hand-Held Tester**




















Prerequisite for recalling the actual values

1. Fuses O. K.
2. Battery voltage > 11 V.
3. Connect HHT according to connection diagram, see section 0.













The gong in the instrument cluster can be actuated via the HHT.




















Electrical Test Program – Recalling Power Windows Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		Terminal 15R		Ignition switch position 1 ON  OFF 		23 ⇒ 3.0
2.0		Terminal 15		Ignition switch position 2 ON  OFF 		23 ⇒ 4.0
3.0		Low voltage		>10V < 10V	YES NO	23 ⇒ 1.0 – 5.0
4.0		High voltage		> 15.5V < 15.5V	YES NO	23 ⇒ 1.0 – 5.0
5.0		Left front power window switch (front center console) (S21/1)		Ignition: ON Switch S21/1: Press open (backward) Press open (past first detent) Not activated Press close (forward)	OPEN EXPRESS DOWN  CLOSE	23 ⇒ 20.0
6.0		One touch function, left front and right front power windows		Press retractable hardtop switch (S84) twice within 0.5 seconds: Press open (backward) Not activated Press close (forward)	OPEN  CLOSE	23 ⇒ 17.0, 21.0, 25.0






Electrical Test Program – Recalling Power Windows Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0		Left front power window motor (M10/3) activation via combination control module (N10-3)		Switch S21/1: Press open (backward) Not actuated Press close (forward)	OPEN  CLOSE	23 ⇒ 21.0
8.0		Right front power window switch (S21/2)		Switch S21/2: Press open (backward) Press open (past first detent) Not actuated Press close (forward)	OPEN EXPRESS DOWN  CLOSE	23 ⇒ 24.0
9.0		Right front power window motor (M10/4) activation via combination control module (N10-3)		Switch S21/2: Press open (backward) Not actuated Press close (forward)	OPEN  CLOSE	23 ⇒ 25.0






Electrical Test Program – Recalling Retractable Hardtop (RH) Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		Terminal 15R		Ignition switch position 1 ON  OFF 		23 ⇒ 3.0
2.0		Terminal 15		Ignition switch position 2 ON  OFF 		23 ⇒ 4.0
3.0		Low voltage		< 10V > 10V	YES NO	23 ⇒ 1.0 – 5.0
4.0		High voltage		> 15.5V < 15.5V	YES NO	23 ⇒ 1.0 – 5.0
5.0		Left front wheel speed signal (VSS) from traction systems control module (N47)		Vehicle stationary Vehicle moving > 3 mph (5 km/h)	0 mph 3 mph (>5 km/h)	23 ⇒ 35.0
6.0		Left front wheel speed status signal (VSS) from traction systems control module (N47)		Vehicle stationary Vehicle moving > 3 mph (5 km/h)	0 mph > 3 mph (5 km/h)	23 ⇒ 34.0
7.0		Retractable hardtop hydraulic unit (A7/5) temperature		< 203 °F (95 °C) > 203 °F (95 °C)	✓ F	23 ⇒ 8.0








Electrical Test Program – Recalling Retractable Hardtop (RH) Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
8.0	22	Retractable hardtop switch (S84)		Switch S84: Press open (backward) Not actuated Press close (forward)	OPEN □ CLOSE	23 ⇒ 16.0, 17.0
9.0	23	Indicator lamp retractable hardtop switch (S84)		Hardtop/soft top switch: Depressed Not activated	ON OFF	23 ⇒ 16.0
10.0	24	Left rear power window motor (M10/5) activation		Ignition: ON Retractable hardtop closed, retractable hardtop switch (S84): Press open (backward) Not actuated Press close (forward)	OPEN □ CLOSE	23 ⇒ 27.0
11.0	25	Right rear power window motor (M10/6) activation		Ignition: ON Retractable hardtop closed, retractable hardtop switch (S84): Press open (backward) Not actuated Press close (forward)	OPEN □ CLOSE	23 ⇒ 29.0








Electrical Test Program – Recalling Retractable Hardtop (RH) Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
12.0	26	Hydraulic unit relay (A7/5k1) activation		Ignition: ON Retract. hardtop closed. Retract. hard top switch (S84): Press open (backward) Press close (forward)	ON OFF	23 ⇒ 7.0
13.0	27	Retractable hardtop solenoid valve (A7/5y1) activation		Ignition: ON Retract. hardtop closed. Retract. hardtop switch (S84): Press open (backward) Press close (forward)	ON OFF	23 ⇒ 31.0
14.0	28	Trunk lid solenoid valve (A7/5y2) activation		Ignition: ON Retract. hardtop closed. Retract. hardtop switch (S84): Press open (backward) Press close (forward)	ON OFF	23 ⇒ 32.0
15.0	29	Retractable luggage cover engaged limit switch (S69/10)		Luggage cover: Extended (engaged) Not extended (open)	CLOSED OPEN	23 ⇒ 14.0

Electrical Test Program – Recalling Retractable Hardtop (RH) Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
16.0		Trunk lock/trunk illumination rotary latch selector switch (S69/12)		Trunk lid: Open Closed	OPEN CLOSED	23 ⇒ 15.0
17.0		Retractable hardtop closed limit switch (left/right rotary latch, S69/2, S69/3)		Press retractable hardtop switch (S84) to open (backwards): Retract. hardtop opens Press retract. hardtop switch (S84) to close (forwards): Retract. hardtop closes	OPEN CLOSED	23 ⇒ 9.0
18.0		Retractable hardtop closed limit switch (right pin) (S69/1)		Press retractable hardtop switch (S84) to open (backwards) Retract. hardtop opens Press retract. hardtop switch (S84) to close (forwards) Retract. hardtop closes	Open Closed	23 ⇒ 14.0

Electrocal Test Program – Recalling Retractable Hardtop (RH) Actual Values with HHT

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
19.0		Trunk lid closed/locked left or right limit switch (S69/7 or S69/8)		Press switch (S84) to open (backwards) Trunk lid opens Press retract. hardtop switch (S84) to close (forwards) Trunk lid closes and locks	Open Closed	23 ⇒ 13.0
20.0		Trunk lid open limit switch (S69/9)		Press switch (S84) to open (backwards) Trunk lid opens Press retract. hardtop switch (S84) to close (forwards) Trunk lid closes	Open Closed	23 ⇒ 12.0
21.0		Retractable hardtop open/stored limit switch (S69/11)		Press switch (S84) to open (backwards) Retractable hardtop open/stored Press retract. hardtop switch (S84) to close (forwards) Retract hardtop closes	YES Closed	23 ⇒ 11.0