REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST G (CONTINUED) HARDTOP HYDRAULIC SYSTEM

	TEST STEP	RESU	LT 🕨	ACTION TO TAKE
G-6	CHECK HARDTOP HYDRAULIC PUMP OPEN (EXTEND) PRESSURE			
• Rou ord • Plac mai • Parl • Har • Turi • Cor	E: BE CAREFUL CONNECTING PRESSURE GAUGE ARDTOP IS PARTIALLY OPEN. MOVEMENT OF THE DTOP MAY OCCUR. Interpressure gauge and hose through rear seat, in er to stay clear of moving components. The transaxle in park (P) automatic, neutral for including brake applied. It is in hardtop bypass valve to MANUAL position. The pressure gauge to hardtop hydraulic pump in (extend) side.	Yes No	>	Go to G-7 . Replace hardtop hydraulic pump. Restore vehicle. Retest system.
• Ma • Tur • Ope	o open fitting on manifold. nually move hardtop to half open position. n ignition to ON position. erate hardtop control switch to OPEN position. ad pressure gauge.			
• Is p	ressure 400 psi or greater?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST G (CONTINUED) HARDTOP HYDRAULIC SYSTEM

	TEST STEP	R	RESULT >	ACTION TO TAKE
G-7	CHECK HARDTOP HYDRAULIC PUMP CLOSE (RETRACT) PRESSURE			
IF HA	E: BE CAREFUL CONNECTING PRESSURE GAUGE RDTOP IS PARTIALLY OPEN. MOVEMENT OF THE DTOP MAY OCCUR.	Yes No	>	Go to G-8 . Replace hardtop
man • Park • Turn • Con	e transaxle in park (P) automatic, neutral for nual. ting brake applied. In hardtop bypass valve to MANUAL position. In nect pressure gauge to hardtop hydraulic pump nect pressure gauge to hardtop hydraulic pump e (retract) side.		į	hydraulic pump. Restore vehicle. Retest system.
• Man • Turn • Oper	open fitting on manifold. ually move hardtop to half open position. ignition to ON position. rate hardtop control switch to CLOSE position. I pressure gauge.			
• is pro	essure 400 psi or greater?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST G (CONTINUED) HARDTOP HYDRAULIC SYSTEM

	TEST STEP	RESULT		ACTION TO TAKE
G-8	CHECK HARDTOP HYDRAULIC SYSTEM FLOW PRESSURE			
• Ope • Turi • Cor	erate hard tonneau to OPEN position. erate hardtop to CLOSED position. In hardtop bypass valve to MANUAL position. Innect pressure gauge to LH cylinder retract side.	Yes	•	Hydraulic system Okay. Restore vehicle. Retest system. Pressure over 400 psi check for hardtop binding. Under 400 psi replace hydraulic cylinder on side with the lowest pressure. Restore vehicle. Retest system.
• Turr • Pres • Pres • CLC • Rea • Res • Turr	n hardtop bypass valve to POWER position. n ignition to ON position. ss hardtop control switch and operate hardtop to EN position. ss hardtop control switch and operate hardtop to DSE position. d and record highest pressure indicated. tore LH cylinder retract side. n hardtop bypass valve to MANUAL position. innect pressure gauge to RH cylinder retract side.			
• Turi • Pre: OPI • Pre: CLO	n hardtop bypass valve to POWER position. n ignition to ON position. ss hardtop control switch and operate hardtop to EN position. ssure hardtop control switch and operate hardtop to OSE position. Indiand record highest pressure indicated.			
• Are eac	pressure less than 400 psi and within 100 psi of h other?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST H HARDTOP CONTROL SWITCH INOPERATIVE

	TEST STEP	RESULT	•	ACTION TO TAKE
H-1	CHECK CIRCUIT GC 2 FOR VOLTAGE AT HARDTOP CONTROL SWITCH			
con	ess connector D48 at hardtop and hard tonneau trol switch. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt,	Yes No	•	Go to H-2 .
con • Bac hard • Turr • Rea	nect negative lead to a known good ground. k probe and connect the positive lead to pin 4 at dtop and hard tonneau control switch connector D48. n ignition to ON position. d voltmeter.	NO		Repair circuit GC 2. Restore vehicle. Retest system.
· Is sy	ystem voltage present?			
H-2	CHECK CIRCUIT GC 4 AT HARDTOP AND HARD TONNEAU CONTROL SWITCH			
• Acc	ess connector D48 at hardtop and hard tonneau trol switch.	Yes	>	Go to H-3 .
• Usir a kn • Bac hard • Turr • Pres	ing a DVOM set to DC volt, connect negative lead to nown good ground. k probe and connect the positive lead to pin 11 at dtop and hard tonneau control switch connector D48. in ignition to ON position. ss hardtop control switch to OPEN position. d voltmeter.	No	•	Replace hardtop and hard tonneau control switch. Restore vehicle. Retest system.
· Is sy	ystem voltage present?			
H-3	CHECK CIRCUIT GC 4 FOR VOLTAGE AT ECU			
• Usir	ess connector F-124 at ECU. ng a DVOM set to DC volt, connect negative lead to own good ground.	Yes	>	Go to H-4 .
I • Bacl	k probe and connect the positive lead to pin 42 at connector F-124.	No	▶	Repair circuit GC 4. Restore vehicle.
• Turr • Pres	n ignition to ON position. as hardtop control switch to the OPEN position. d voltmeter.		į	Retest system.
• Is sy	/stem voltage present?			
H-4	CHECK CIRCUIT GC 3 AT HARDTOP AND HARD TONNEAU CONTROL SWITCH			
	ess connector D48 at hardtop and hard tonneau	Yes	>	Go to H-5 .
• Usir a kn • Back hard • Turr • Pres	trol switch. Ing a DVOM set to DC volt, connect negative lead to own good ground. It is probe and connect the positive lead to pin 3 at all itop and hard tonneau control switch connector D48. It is ignition to ON position. It is hard tonneau control switch to CLOSE position. It is do not be a switch to CLOSE position. It is do not be a switch to CLOSE position.	No	>	Replace hardtop and hard tonneau control switch. Restore vehicle. Retest system.
• Is sy	stem voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST H (CONTINUED) HARDTOP CONTROL SWITCH INOPERATIVE

	TEST STEP	RESULT	· <u> </u>	ACTION TO TAKE
H-5	CHECK CIRCUIT GC 3 FOR VOLTAGE AT ECU			
• Usir confidence of the confi	ess connector F-124 at ECU. Ing a Digital Volt/Ohm Meter (DVOM) set to DC volt Inect, negative lead to a known good ground. It is probe and connect the positive lead to pin 28 at I connector F-124. In ignition to ON position. It is hard tonneau control switch to the CLOSE Ition. It is distributed by the control of the close ition. It is a set of the close it is a set	Yes No	>	Replace ECU. Restore vehicle. Retest system. Repair circuit GC 3. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST J HARDTOP OPERATES WHEN AUTOMATIC TRANSMISSION IS IN ANY GEAR

	TEST STEP	RESULT	▶	ACTION TO TAKE
J-1	CHECK SYSTEM VOLTAGE AT ECU, PRNDL IN PARK POSITION			
	ess connector F-124 at ECU.	Yes	>	Go to J-2 .
• Usir coni • Back ECU • Turr	te sure PRNDL is in PARK position. Ing a Digital Volt/Ohm Meter (DVOM) set to DC volt, Innect negative lead to a known good ground. In probe and connect the positive lead to pin 13 at a large connector F-124. In ignition to ON position. It would not be a connected to the probability of the pro	No	•	Go to J-3 .
∙ Is sy	rstem voltage present?			
J-2	CHECK SYSTEM VOLTAGE AT ECU, PRNDL IN DRIVE POSITION			
	ess connector F-124 at ECU. e PRNDL in DRIVE position.	Yes	•	Go to J-4 .
• Usin a kn • Back ECU • Turn	or INDE III DRIVE position. Ig a DVOM set to DC volt, connect negative lead to own good ground. It probe and connect the positive lead to pin 13 at connector F-124. I ignition to ON position. I d voltmeter.	No	•	Replace ECU. Restore vehicle. Retest system.
∙ Is sy	stem voltage present?			
J-3	CHECK CIRCUIT GC 7 AT PARKING SWITCH			
• Place • Usin	ess parking switch connector D-50. e PRNDL in PARK position. g a DVOM set to DC volt, connect negative lead to wn good ground.	Yes	•	Repair circuit GC 7. Restore vehicle. Retest system.
• Back conr • Turn • Read	c probe and connect positive lead to pin 2 at nector D-50. I ignition to ON position. I voltmeter.	No		Replace park switch or repair circuit GC 8. Restore vehicle. Retest system.
• Is sy	stem voltage present?			
J-4	CHECK CIRCUIT GC 7 FOR SHORT TO VOLTAGE			
• Acce • Usin knov	ess and disconnect parking switch connector D-50. ess and disconnect connector F-124 at ECU. g a DVOM set to DC volt, connect negative lead to vn good ground. nect positive lead to pin 13 at ECU connector F-124.	Yes		Repair circuit GC 7. Restore vehicle. Retest system.
• Turn • Reac	ignition to ON position. I voltmeter. stem voltage present?	140		Replace park switch or repair circuit GC 8. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST K HARDTOP OPERATES WHEN VEHICLE IS MOVING

	TEST STEP	RESULT ▶	ACTION TO TAKE
K-1	CHECK CIRCUIT GC 12 AT ECU FOR SYSTEM VOLTAGE		
occur Pinpo	: Two different conditions must exist for this to . This Pinpoint Test should be performed after oint Test J (for automatic transaxle) and Pinpoint . (for manual transaxle) has been performed.	Yes No	Go to K-2 . Go to K-3 .
• Acco • Usir coni • Bacl ECU • Turr	te vehicle off ground and set stands under vehicle. ess connector F-124 at ECU. Ing a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. It is probe and connect the positive lead to pin 12 at of connector F-124. In ignition to ON position. It is a contractor for the positive lead to pin 12 at of connector for the position.		
NOTE to 90	: If voltage is initially low, rotate LH front wheel 45 degrees and read voltmeter.		
• Is vo	oltage 9.0 vdc or more?		
K-2	CHECK CIRCUIT GC 12 AT ECU WITH WHEEL TURNING		
• Acco • Usir a kn • Bacl ECU • Star • Place • Care	icle raised off ground and stands under vehicle. ess connector F-124 at ECU. ing a DVOM set to DC volt, connect negative lead to lown good ground. ix probe and connect the positive lead to pin 12 at l connector F-124. It engine. It er transaxle in gear. efully allow front wheels to rotate over 3 mph. d voltmeter.	Yes No	Restore vehicle. Retest system.
· Is vo	oltage between 5 and 10 vdc?		
К-3	CHECK CIRCUIT HE 3 AT ETAC		
• Acco • Usir a kn • Bacl ETA	icle raised off ground and stands under vehicle. ess ETAC connector C-66. ng a DVOM set to DC volt, connect negative lead to nown good ground. k probe and connect the positive lead to pin 61 at C connector C-66. n ignition to ON position.	Yes No	Restore vehicle. Retest system.
• Real NOTE to 90	d voltmeter. E: If voltage is initially low, rotate LH front wheel 45 degrees and read voltmeter. coltage 9.0 vdc or more?		service.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

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TEST L HARDTOP OPERATES WITHOUT PARKING BRAKE APPLIED (MANUAL TRANSMISSION)

	TEST STEP	RESULT	•	ACTION TO TAKE
L-1	CHECK CIRCUIT GC 28 AT ECU			
 Access and disconnect connector F-124 at ECU. Make sure parking brake is not applied. Using a Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect negative lead to a known good ground. Connect the positive lead to pin 7 at ECU connector F-124. Read ohmmeter. Is there continuity? 		Yes No	>	Go to L-2 . Replace ECU. Restore vehicle. Retest system.
L-2	CHECK CIRCUIT GC 28 AT PARKING BRAKE SWITCH			
 Connector F-124 at ECU disconnected Access and disconnect parking brake switch connector D28. Using a DVOM set to ohm scale, connect negative lead to a known good ground. Connect the positive lead to pin 7at ECU connector F-124. Read ohmmeter. Is there continuity? 		Yes No	•	Repair circuit GC 28. Restore vehicle. Retest system. Replace parking brake switch. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST M LEDs INOPERATIVE OR ON AT ALL TIMES

	TEST STEP	R	ESULT 🕨	ACTION TO TAKE
M-1	CHECK CIRCUIT GC 53 FOR VOLTAGE AT HARDTOP AND HARD TONNEAU CONTROL SWITCH			
	ess and disconnect connector D-48 at hardtop and tonneau control switch.	Yes	>	Go to M-2 .
• Usin conr • Coni tonn • Turn	g a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. nect the positive lead to pin 6 at hardtop and hard leau control switch connector D-48. ignition to ON position.	No	•	Go to M-3 .
• Is sy	stem voltage present?			
M-2	CHECK CIRCUIT GC 52 FOR SHORT TO GROUND			
swite • Acce	nector D-48 at hardtop and hard tonneau control ch disconnected. ess and disconnect connector F-124 at ECU.	Yes	•	Repair circuit GC 52. Restore vehicle. Retest system.
to kr • Coni	ng a DVOM set to ohm scale, connect negative lead nown good ground. nect positive lead to pin 17 at ECU connector F-124. d ohmmeter.	No	•	Go to M-4 .
∙ Is th	ere continuity?			
M-3	CHECK CIRCUIT GC 53 FOR SHORT TO GROUND			
swite • Acce	nector D-48 at hardtop and hard tonneau control ch disconnected. ess and disconnect connector F-124 at ECU.	Yes	•	Repair circuit GC 53. Restore vehicle. Retest system.
to kr • Coni	ng a DVOM set to ohm scale, connect negative lead nown good ground. nect positive lead to pin 20 at ECU connector F-124. d ohmmeter.	No	•	Go to M-5 .
∙ Is th	ere continuity?			
M-4	CHECK CIRCUIT GC 52 FOR OPEN			
	nector D-48 at hardtop and hard tonneau control	Yes	>	Go to M-6 .
• Coni • Usin to pi • Coni tonn	nector F-124 at ECU disconnected. g a DVOM set to ohm scale, connect positive lead n 17 at ECU connector F-124. nect the negative lead to pin 3 at hardtop and hard eau control switch connector D-48. d ohmmeter.	No	•	Repair circuit GC 52. Restore vehicle. Retest system.
• Is th	ere 3 ohms or less?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST M (CONTINUED) LEDs INOPERATIVE OR ON AT ALL TIMES

	TEST STEP	RESULT	▶	ACTION TO TAKE
M-5	CHECK CIRCUIT GC 53 FOR OPEN	Yes		Ranjaca FCU
swir • Cor • Usir to p • Corr tonr • Rea	nnector D-48 at hardtop and hard tonneau control tch disconnected. nnector F-124 at ECU disconnected. nng a DVOM set to ohm scale, connect positive lead bin 20 at ECU connector F-124. nnect the negative lead to pin 6 at hardtop and hard neau control switch connector D-48. d ohmmeter. nere 3 ohms or less?	No No	>	Replace ECU. Restore vehicle. Retest system. Repair circuit GC 53. Restore vehicle. Retest system.
M-6	CHECK CIRCUIT GC 51 FOR SHORT TO GROUND			
swit • Con	nector D-48 at hardtop and hard tonneau control ich disconnected. nector F-124 at ECU disconnected. ng a Digital Volt/Ohm Meter (DVOM) set to ohm	Yes	•	Repair circuit GC 51. Restore vehicle. Retest system.
scal • Con • Rea	e, connect negative lead to known good ground. nect positive lead to pin 16 at ECU connector F-124. d ohmmeter.	No	>	Go to M-7 .
• Is th	nere continuity?			
M-7	CHECK CIRCUIT GC 51 FOR OPEN			
swit	nector D-48 at hardtop and hard tonneau control	Yes	>	Go to M-8 .
• Usir to p coni • Con	nector F-124 at ECU disconnected. ng a DVOM set to ohm scale connect negative lead in 7 at hardtop and hard tonneau control switch nector. nect positive lead to pin 16 at ECU connector F-124. d ohmmeter.	No		Repair circuit GC 51. Restore vehicle. Retest system.
• Is th	nere 3 ohms or less?			
M-8	CHECK LEDs IN SWITCH			
• Con cont • Ope	nect connector F-124 at ECU. nect a known good hardtop and hard tonneau trol switch. rate system. the LEDs operate properly?	Yes	•	Replace hardtop and hard tonneau control switch. Restore vehicle. Retest system.
• 50 (me Erns oberate bioberist	No	>	Replace ECU. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST N PASSENGER WINDOW INOPERATIVE WITH PASSENGER WINDOW SWITCH

N-1 CHECK CIRCUIT GW 43 FOR VOLTAGE AT ECU Access connector F-124 at ECU. Using a Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 1 at ECU connector F-124. Turn ignition to ON position. Press passenger window switch to UP position. Read voltmeter. Is system voltage present? N-2 CHECK CIRCUIT GW 44 FOR VOLTAGE AT ECU Access connector F-124 at ECU. Using a DVOM set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 2 at ECU connector F-124. Turn ignition to ON position. Press passenger window switch to DOWN position. Read voltmeter. Is system voltage present? N-3 CHECK CIRCUIT GW 43 FOR VOLTAGE AT PASSENGER DOOR SWITCH Access passenger window switch connector E-06. Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 5 at passenger window switch connector F-06. Turn ignition to ON position. Operate the passenger window switch to UP position. Read voltmeter. Press passenger window switch connector F-06. Service Manual.
 Using a Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 1 at ECU connector F-124. Turn ignifion to ON position. Press passenger window switch to UP position. Read voltmeter. Is system voltage present? Access connector F-124 at ECU. Using a DVOM set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 2 at ECU connector F-124. Turn ignition to ON position. Press passenger window switch to DOWN position. Read voltmeter. Is system voltage present? No CHECK CIRCUIT GW 43 FOR VOLTAGE AT PASSENGER DOOR SWITCH Access passenger window switch connector E-06. Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 5 at passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON position. Press passenger window switch connector E-06. Turn ignition to ON posit
 Access connector F-124 at ECU. Using a DVOM set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 2 at ECU connector F-124. Turn ignition to ON position. Press passenger window switch to DOWN position. Read voltmeter. Is system voltage present? Access passenger window switch connector E-06. Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 5 at passenger window switch connector E-06. Turn ignition to ON position. Operate the passenger window switch to UP position.
 Using a DVOM set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 2 at ECU connector F-124. Turn ignition to ON position. Press passenger window switch to DOWN position. Read voltmeter. Is system voltage present? Access passenger window switch connector E-06. Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 5 at passenger window switch connector E-06. Turn ignition to ON position. Operate the passenger window switch to UP position.
N-3 CHECK CIRCUIT GW 43 FOR VOLTAGE AT PASSENGER DOOR SWITCH • Access passenger window switch connector E-06. • Using a DVOM set to DC volt, connected negative lead to a known good ground. • Back probe and connect positive lead to pin 5 at passenger window switch connector E-06. • Turn ignition to ON position. • Operate the passenger window switch to UP position.
 Access passenger window switch connector E-06. Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 5 at passenger window switch connector E-06. Turn ignition to ON position. Operate the passenger window switch to UP position.
 Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 5 at passenger window switch connector E-06. Turn ignition to ON position. Operate the passenger window switch to UP position. Restore vehicle. Retest system. No Service Manual.
nead volunteer.
· Is system voltage present?
N-4 CHECK CIRCUIT GW 44 FOR VOLTAGE AT PASSENGER DOOR SWITCH
 Access passenger window switch connector E-06. Using a DVOM set to DC volt, connected negative lead to a known good ground. Back probe and connect positive lead to pin 3 at passenger window switch connector E-06. Turn ignition to ON position. Operate the passenger window switch to DOWN position. Read voltmeter. Yes Repair circuit GW 44. Restore vehicle. Retest system. No Refer to Vol. 1 of Service Manual.
• Is system voltage present?

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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TEST N (CONTINUED) PASSENGER WINDOW INOPERATIVE WITH PASSENGER WINDOW SWITCH

	TEST STEP	RES	ULT 🕨	ACTION TO TAKE
N-5	CHECK CIRCUIT GW 53 FOR VOLTAGE			
• Usir con • Bac con • Turr • Mor pos • Rea	ess connector F-123 at ECU. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt, nected negative lead to known good ground. k probe and connect positive lead to pin 13 at ECU nector F-123. n ignition to ON position. mentarily operate passenger window switch to UP ition. d voltmeter. ystem voltage present?	Yes No	>	Go to N-6 . Replace ECU. Restore vehicle. Retest system.
N-6	CHECK CIRCUIT GW 54 FOR VOLTAGE			
• Usir to a • Bac con • Turr • Mor DO\ • Rea	ess connector F-123 at ECU. Ing a DVOM set to DC volt, connected negative lead known good ground. It is k probe and connect positive lead to pin 14 at ECU nector F-123. In ignition to ON position. In mentarily operate passenger window switch to WN position. It is discovered to the connected at ECU. It is a connected negative lead to pin 14 at ECU. It is a connected negative lead to pin 14 at ECU. It is a connected negative lead to pin 14 at ECU. It is a connected negative lead It i	Yes No	>	Go to N-7 . Replace ECU. Restore vehicle. Retest system.
• Is sy	ystem voltage present?			
• Usir to p • Con	CHECK PASSENGER WINDOW MOTOR CIRCUITS FOR OPEN connect connector F-123 at ECU. ng a DVOM set to ohm scale connect negative lead in 13 at ECU connector F-123. nect the positive lead to pin 14 at ECU connector F-	Yes	>	Replace passenger window motor. Restore vehicle. Retest system.
123.	d ohmmeter.	No	•	Go to N-8 .
∙ Is th	nere 10 ohms or less?		,,,,	
N-8	CHECK CIRCUIT GW 53 FOR OPEN			
• Acce coni • Usin to pi • Con wind • Read	nector F-123 at ECU disconnected. ess and disconnect passenger window motor nector E-08. ng a DVOM set to ohm scale, connect positive lead in 13 at ECU connector F-123. nect the negative lead to pin 2 at passenger dow motor harness connector E-08. d ohmmeter.	Yes No	•	Go to N-9 . Repair circuit GW 53. Restore vehicle. Retest system.
- 15 (11	iere 2 Oninia OI 1622;			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST N (CONTINUED) PASSENGER WINDOW INOPERATIVE WITH PASSENGER WINDOW SWITCH

	TEST STEP		RESULT		ACTION TO TAKE
N-9	CHECK CIRCUIT GW 54 FOR OPEN				
• Pas • Usi to p	nnector F-123 at ECU disconnected. ssenger window motor disconnected connector E-08. ng a DVOM set to ohm scale, connect positive lead bin 14 at ECU connector F-123.	Yes		>	Replace passenger window motor. Restore vehicle. Retest system.
wir • Rea	nnect the negative lead to pin 1 at passenger adow motor harness connector E-08. ad ohmmeter. here 3 ohms or less?	No		•	Repair circuit GW 54. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

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PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST P PC WILL NOT COMMUNICATE WITH ECU

	TEST STEP	RESULT	>	ACTION TO TAKE
P-1	CHECK CIRCUIT GC 70 FOR VOLTAGE AT DLC			
• Acc • Usil con • Cor • Turl • Rea	ess Data Link Connector (DLC) connector C-91. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. nect positive lead to pin 1 at DLC connector C-91. n ignition to ON position. d voltmeter. ystem voltage present?	Yes No	>	Go to P-2 . Repair circuit GC 70. Restore vehicle. Retest system.
P-2	CHECK CIRCUIT GC 71 FOR GROUND AT DLC			
• Usir pin • Con • Turr	ess DLC connector C-91. In a DVOM set to DC volt, connect negative lead to 3 at DLC connector C-91. In a DLC connector C-91. In a DLC connector C-91. In ignition to ON position. In d voltmeter.	Yes No	>	Go to P-3 . Repair circuit GC 71. Restore vehicle. Retest system.
· Is sy	ystem voltage present?			
• Acce • Usir pin • Con F-12 • Rea	CHECK CIRCUIT GC 9 FOR OPEN ess and disconnect connector F-124 at ECU. ess DLC connector C-91. ng a DVOM set to ohm scale, connect one lead to 2 at DLC connector C-91. nect the second lead to pin 10 at ECU connector 14. d ohmmeter. eere 3 ohms or less?	Yes No	•	Go to P-4 . Repair circuit GC 9. Restore vehicle. Retest system.
P-4	VERIFY PC AND CONVERTER OPERATION			
• Refe	fy PC, Converter and cable operation. er to PC Users Manual. st equipment operational?	Yes	>	Replace ECU. Restore vehicle. Retest system.
		No	•	Service as required. Retest system.

PINPOINT TESTS REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 02-06

	TEST STEP	RESULT		ACTION TO TAKE
2-1 CH	ECK CIRCUIT GC 20 FOR SHORT TO GROUND			
• Using a [scale, co	nd disconnect connector F-124 at ECU. Digital Volt/Ohm Meter (DVOM) set to ohm nnect negative lead to a known good ground. the positive lead to pin 22 at ECU connector mmeter.	Yes No	* *	Go to 2-4 . Go to 2-2 .
• Is there o	continuity?			
2-2 CH	ECK CIRCUIT GC 22 FOR SHORT TO GROUND			
• Using a [to known		Yes No	>	Go to 2-4 . Go to 2-3 .
2-3 CHI	ECK CIRCUIT GC 20 AND GC 22 FOR SHORT			
• Using a E pin 22 at • Connect t F-124. • Read ohr	or F-124 at ECU disconnected. DVOM set to ohm scale, connect one lead to ECU connector F-124. the second lead to pin 23 at ECU connector mmeter. 6 ohms or less?	Yes No	>	Go to 2-4 . Replace ECU. Restore vehicle. Retest system.
2-4 CHI	ECK ROOF HARNESS FOR SHORT			
Using a Entert. Access are connectored. Read ohr	or F-124 at ECU disconnected. DVOM set on ohm scale, connect as previous and disconnect roof harness to rear harness or E-122 (8 way) at LH rear roof area. mmeter. still present?	Yes No	>	Go to 2-5 . Repair roof harness as necessary. Restore vehicle. Retest system.
	ECK HEADER HARNESS FOR SHORT		\dashv	
Connector Using a Entest. Access and 10 way conector Read ohn	or F-124 at ECU disconnected. DVOM set on ohm scale, connect as previous and disconnect header harness to body harness connector E-46 at LH A-pillar area.	Yes No	>	Go to 2-6 . Repair header harness as necessary. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 02-06 (CONTINUED)

	TEST STEP	RESULT	>	ACTION TO TAKE
2-6	CHECK REAR HARNESS FOR SHORT			
• Usi tes • Acc cor • Rea	nnector F-124 at ECU disconnected. ing a DVOM set on ohm scale, connect as previous t. cess and disconnect rear harness to body harness nnector F-48 behind LH quarter trim panel area. ad ohmmeter. short still present?	Yes	>	Repair rear harness as necessary. Restore vehicle. Retest system. Repair body harness as necessary. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
engi • Usir scal • Rea	CHECK 60 AMP FUSE ess and remove Number 8 60A fusible link in ine compartment fuse panel. ng a Digital Volt/Ohm Meter (DVOM) set to ohm e, connect one lead to each terminal of fuse. d ohmmeter.	Yes No	* *	Go to 7-2 . Go to 7-5 .
con • Con cavi • Rea	CHECK BATTERY SUPPLY TO FUSE ng a DVOM set to DC volt, with fuse removed, nect negative lead to a known good ground. nect the positive lead to the battery terminal in fuse ity. nd voltmeter. ystem voltage present?	Yes No	>	Go to 7-3. Repair circuit to fuse panel. Restore vehicle. Retest system.
• Acc • Using a kr • Cor F-12 • Rea	CHECK CIRCUIT GW 1 FOR SYSTEM VOLTAGE AT ECU tall 60 amp fuse. teess and disconnect connector F-125 at ECU. In ga DVOM set to DC volt, connect negative lead to nown good ground. Innect the positive lead to pin 13 at ECU connector 25. Indicate the voltage present?	Yes No	>	Go to 7-4 . Repair circuit GW 1. Restore vehicle. Retest system.
• Usi a kr • Cor F-1: • Rea	CHECK CIRCUIT GC 1 FOR SYSTEM VOLTAGE nnector F-125 at ECU disconnected. ng a DVOM set to DC volt, connect negative lead to nown good ground. nnect the positive lead to pin 20 at ECU connector 25. ad voltmeter. system voltage present?	Yes No	>	Replace ECU. Restore vehicle. Retest system. Repair circuit GC 1. Restore vehicle. Retest system.
• Fus • Usi to a • Cor • Rea	CHECK CIRCUIT GC 1 FOR SHORT TO GROUND cess and disconnect connector F-125 at ECU. se still removed. ing a DVOM set to ohm scale, connect negative lead a known good ground. Innect positive lead to pin 20 at ECU connector F-125. and ohmmeter.	Yes No	>	Repair circuit GC 1. Restore vehicle. Retest system. Go to 7-6.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 07 (CONTINUED)

	TEST STEP	RESULT	<u> </u>	ACTION TO TAKE
7-6	CHECK CIRCUIT GW 1 FOR SHORT TO GROUND			
• Fus • Using to k • Con F-12 • Rea	nnector F-125 at ECU disconnected. e removed. ng a DVOM set on ohm scale, connect negative lead nown good ground. nnect the positive lead to pin 13 at ECU connector 25. Id ohmmeter. here continuity?	Yes No	>	Repair circuit GW 1. Restore vehicle. Retest system. Replace ECU. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
8-1	CHECK BATTERY VOLTAGE ENGINE OFF			
• Usir con • Con • Rea	ess battery. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect positive lead to battery positive terminal. inect the negative lead to battery negative terminal. d voltmeter. attery voltage between 10 and 16 volts?	Yes No	>	Go to 8-2 . Refer to Vol. 2 of the Service Manual.
8-2	CHECK BATTERY VOLTAGE ENGINE RUNNING			
 Access battery. Using a DVOM set to DC volt connect positive lead to battery positive terminal. Connect the negative lead to battery negative terminal. 		Yes	•	Replace ECU. Restore vehicle. Retest system.
Start engine.Read voltmeter.		No	•	Refer to Vol. 2 of the Service Manual.
- IS B	attery voltage between 10 and 16 volts?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 09-11

	TEST STEP	RESULT	▶	ACTION TO TAKE
9-1	CHECK HARDTOP POTENTIOMETER AT ECU			
con • Acc • Usi sca F-12 • Cor F-12 • Rea	nnect the second lead to pin 29 at ECU connector	Yes No	>	Go to 9-2 . Go to 9-3 .
9-2	CHECK CIRCUIT GC 16 FROM POTENTIOMETER			
	nnector F-114 at hard tonneau potentiometer	Yes	>	Replace ECU.
• Cor • Usi pin • Cor F-1	connected. Innector F-124 at ECU disconnected. Ing a DVOM set to ohm scale, connect one lead to 15 at ECU connector F-124. Innect the second lead to pin 30 at ECU connector 24. Ind ohmmeter.	No	•	Restore vehicle. Retest system. Go to 9-6 .
• Is t	here 1000 to 6500 ohms?			
9-3	CHECK HARDTOP POTENTIOMETER	-		
disc • Cor • Usi con con • Bac har • Rea	nnector F-114 at hard tonneau potentiometer connected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innector F-10 at hardtop potentiometer innector F-110. It probe and connect the second lead to pin C at dtop potentiometer connector F-110. It probe and connect the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop potentiometer connector F-110. Indicate the second lead to pin C at dtop pin C at	Yes No	>	Go to 9-4 . Replace hardtop potentiometer. Restore vehicle. Retest system.
9-4	CHECK CIRCUIT GC 18 FOR OPEN			
• Cor disc • Cor • Disc • Usi pin • Cor pot • Rea	nnector F-114 at hard tonneau potentiometer connected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnector F-110. Ing a DVOM set to ohm scale, connect one lead to 15 at ECU connector F-124. Innect the second lead to pin A at hardtop entiometer connector F-110. Ind ohmmeter. Index Circle 16 FON OPEN	Yes No	>	Go to 9-5 . Repair circuit GC 18. Restore vehicle. Retest system.

PINPOINT TESTS REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 09-11 (CONTINUED)

	TEST STEP	RESULT		ACTION TO TAKE
9-5	CHECK CIRCUIT GC 19 FOR OPEN			
tonr Con Usir scal Con	nnectors F-110 and F-114 at hardtop and hard neau potentiometers disconnected. Interest of the properties of the propert	Yes No	>	Circuits okay. Restore vehicle. Retest system. Repair circuit GC 19. Restore vehicle. Retest system.
• Is th	nere 3 ohms or less?			
9-6	CHECK CIRCUIT GC 16 AT HARDTOP POTENTIOMETER			***************************************
• Con	nector F-114 at hard tonneau potentiometer	Yes	•	Go to 9-7 .
• Con • Usir con con • Bacl hard	onnected. nector F-124 at ECU disconnected. ng a DVOM set to ohm scale, back probe and nect one lead to pin A at hardtop potentiometer nector F-110. k probe and connect the second lead to pin B at dtop potentiometer connector F-110. d ohmmeter.	No	•	Replace hardtop potentiometer. Restore vehicle. Retest system.
• Is t	here 1000 to 6500 ohms?			
9-7	CHECK CIRCUIT GC 16 FOR OPEN			
disc • Acce	nector F-114 at hard tonneau potentiometer onnected. ess and disconnect hardtop potentiometer nector F-110.	Yes	•	Circuits okay. Restore vehicle. Retest system.
• Con • Usin pin 3 • Con pote	nector F-124 at ECU disconnected. ng a DVOM set to ohm scale, connect one lead to 30 at ECU connector F-124. nect the second lead to pin B at hardtop entiometer connector F-110. d ohmmeter.	No	>	Repair circuit GC 16. Restore vehicle. Retest system.
• Is th	ere 3 ohms or less?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 12-14

	TEST STEP	RESULT	▶	ACTION TO TAKE
12-1	CHECK HARD TONNEAU POTENTIOMETER AT ECU		!	
con • Acc • Usii scal F-12 • Cor F-12 • Rea	nect the second lead to pin 29 at ECU connector	Yes No	•	Go to 12-2 . Go to 12-3 .
12-2	CHECK CIRCUIT GC 17 FROM POTENTIOMETER			
disc • Cor	nnector F-110 at hardtop potentiometer connected. Intercept of the connected of the connected of the connected of the connected of the connect one lead to	Yes	•	Replace ECU. Restore vehicle. Retest system.
pin • Cor F-12	15 at ECU connector F-124, nect the second lead to pin 32 at ECU connector	No	•	Go to 12-6 .
• Is tl	nere 1000 to 6500 ohms?			
12-3	CHECK HARD TONNEAU POTENTIOMETER			
disc • Cor • Usi con pot • Bac hare	nnector F-110 at hardtop potentiometer connected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innector Bead to ohm scale, back probe and nect one lead to pin A at hard tonneau entiometer connector F-114. In probe and connect the second lead to pin C at donneau potentiometer connector F-114. In probe and connect the second lead to pin C at donneau potentiometer connector F-114. In probe and connector Bead to pin C at donneau potentiometer connector F-114.	Yes No	•	Go to 12-4 . Replace hard tonneau potentiometer. Restore vehicle. Retest system.
· is ti	nere 4500 to 5500 ohms?			
12-4	CHECK CIRCUIT GC 18 FOR OPEN			
disc • Cor • Acc con • Usi pin • Cor pote • Rea	nnector F-110 at hardtop potentiometer connected. Innector F-124 at ECU disconnected. Less and disconnect hard tonneau potentiometer nector F-114. Less and DVOM set to ohm scale, connect one lead to 15 at ECU connector F-124. Less and disconnector F-124. Less and disconnector F-114. Less are connector F	Yes No	*	Go to 12-5 . Repair circuit GC 18. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, **NOTES AND DEFINITIONS OF TERMS.**

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 12 (CONTINUED)

	TEST STEP	RESULT		ACTION TO TAKE
12-5	CHECK CIRCUIT GC 19 FOR OPEN			
toni Cor Usii scal Cor pote	nnectors F-110 and F-114 at hardtop and hard neau potentiometers disconnected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innector F-124 at ECU disconnected. Innect one lead to pin 29 at ECU connector F-124. Innect the second lead to pin C at hard tonneau entiometer connector F-114. Ind ohmmeter. Innere 3 ohms or less?	Yes No	>	Circuits okay. Restore vehicle. Retest system. Repair circuit GC 19. Restore vehicle. Retest system.
12-6	CHECK CIRCUIT GC 17 AT HARD TONNEAU POTENTIOMETER			
disc • Con • Usir con pote • Bac hard • Rea	nector F-110 at hardtop potentiometer connected. nector F-124 at ECU disconnected. ng a DVOM set to ohm scale, back probe and nect one lead to pin A at hard tonneau entiometer connector F-114. k probe and connect the second lead to pin B at d tonneau potentiometer connector F-114. d ohmmeter. nere 1000 to 6500 ohms?	Yes No	>	Go to 12-7 . Replace hard tonneau potentiometer. Restore vehicle. Retest system.
12-7 • Con	CHECK CIRCUIT GC 17 FOR OPEN nector F-110 at hardtop potentiometer onnected.	Yes	•	Circuits okay. Restore vehicle.
• Accorpote • Con • Usir pin • Con pote • Rea	ess and disconnect connector F-114 at hard tonneau entiometer. nector F-124 at ECU disconnected. ng a DVOM set to ohm scale, connect one lead to 32 at ECU connector F-124. nect the second lead to pin B at hard tonneau entiometer connector F-114. d ohmmeter. nere 3 ohms or less?	No	•	Retest system. Repair circuit GC 17. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	▶	ACTION TO TAKE
15-1	CHECK FOR CODE 15 WITH HARDTOP POTENTIOMETER DISCONNECTED			
con • Clea • Turr • Che	ess and disconnect hardtop potentiometer nector F-110. ar DTCs from ECU memory. n ignition to ON position. ack for DTC 15. DTC 15 reoccur?	Yes	>	Replace hard tonneau potentiometer. Restore vehicle. Retest system. Replace hardtop potentiometer. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT >	ACTION TO TAKE
16-1	CHECK CIRCUIT GC 18 FOR VOLTAGE AT ECU		
• Usir con • Bac con • Turr • Rea	ess connector F-124 at ECU. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. k probe and connect positive lead to pin 15 at ECU nector F-124. n ignition to ON position. d voltmeter. 5 or more volts present?	Yes ▶ No ▶	Go to 16-2 . Replace ECU. Restore vehicle. Retest system.
16-2	CHECK ECU VOLTAGE TO CIRCUIT GC 18		
• Usir a kr NOTE ECU. • Con • Turr • Rea	connect connector F-124 at ECU. Ing a DVOM set to DC volt, connect negative lead to nown good ground. E: BE CAREFUL WHILE CONNECTING DVOM TO Innect the positive lead to pin 15 on ECU. In ignition to ON position. Id voltmeter. 5 to 5.5 volts present?	Yes No	Go to 16-3 . Replace ECU. Restore vehicle. Retest system.
• Usir know • Con F-12 • Turr • Rea	check circuit GC 18 FOR SHORT TO VOLTAGE inector F-124 at ECU disconnected. Ing a DVOM set to DC volt, connect negative lead to wn good ground. Inect the positive lead to pin 15 at ECU connector 24. In ignition to ON position. In disconnected. In ignition to ON position.	Yes No	Go to 16-4 . Replace ECU. Restore vehicle. Retest system.
 Disc Usir a kn Con F-12 Turr Rea 	CHECK CIRCUIT GC 18 FOR VOLTAGE WITH HARD TONNEAU POTENTIOMETER DISCONNECTED Innector F-124 at ECU disconnected. Innector hard tonneau potentiometer connector F-114. Ing a DVOM set to DC volt, connect negative lead to lown good ground. Innect the positive lead to pin 15 at ECU connector 14. In ignition to ON position. Individual of the voltage present?	Yes · No	Go to 16-5 . Repair circuit GC 17. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 16 (CONTINUED)

	TEST STEP	RESULT	▶	ACTION TO TAKE
16-5	CHECK CIRCUIT GC 18 FOR VOLTAGE WITH HARDTOP POTENTIOMETER DISCONNECTED			
• Disc • Usii a kr • Cor F-12 • Turi • Rea	nnector F-124 at ECU disconnected. connect hardtop potentiometer connector F-110. ng a DVOM set to DC volt, connect negative lead to nown good ground. unect the positive lead to pin 15 at ECU connector 24. n ignition to ON position. d voltmeter. here voltage present?	Yes No	*	Repair circuit GC 18. Restore vehicle. Retest system. Repair circuit GC 16. Restore vehicle. Retest system.

PINPOINT TESTS REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
17-1	CHECK CIRCUIT GC 18 FOR VOLTAGE AT ECU			
• Usir con • Bac con • Turr	ess connector F-124 at ECU. Ing a Digital Volt/Ohm Meter (DVOM) set to DC volt, Inect negative lead to known good ground. It is probe and connect positive lead to pin 15 at ECU Inector F-124. In ignition to ON position. It is a voltmeter.	Yes No	•	Replace ECU. Restore vehicle. Retest system. Go to 17-2.
• Is 4.	5 to 5.5 volts present?			
17-2	CHECK CIRCUIT GC 18 AND GC 19 FOR SHORT			
• Disc and • Usir	connect connector F-124 at ECU. connect connectors F-114 and F-110 at hard tonneau hardtop potentiometers. ng a DVOM set to ohm scale, connect one lead to 15 at ECU connector F-124.	Yes	•	Repair circuits GC 18 and GC 19. Restore vehicle. Retest system.
• Con F-12	nect the second lead to pin 29 at ECU connector	No	•	Go to 17-3 .
• Is th	nere continuity?			
17-3	CHECK CIRCUIT GC 18 FOR SHORT TO GROUND			
and Con Usin to k Con F-12	nectors F-114 and F-110 disconnected at hardtop hard tonneau potentiometers. Inector F-124 at ECU disconnected. Ing a DVOM set to ohm scale, connect negative lead nown good ground. Inect the positive lead to pin 15 at ECU connector 24.	Yes No	>	Repair circuit GC 18. Restore vehicle. Retest system. Go to 17-4 .
• Is th	nere continuity?			
17-4	CHECK HARDTOP POTENTIOMETER			
• Usir pin	nect hardtop potentiometer connector F-110. ng a DVOM set to ohm scale, connect one lead to 15 at ECU connector F-124.	Yes	•	Go to 17-5 .
F-12 • Rea	nect the second lead to pin 29 at ECU connector 4. d ohmmeter. nere 4500 to 6200 ohms?	No		Replace hardtop potentiometer. Restore vehicle. Retest system.
17-5	CHECK HARD TONNEAU POTENTIOMETER			
 Disconnect hardtop potentiometer connector F-110. Connect hard tonneau potentiometer connector F-114. Using a DVOM set to ohm scale, connect one lead to pin 15 at ECU connector F-124. 		Yes	•	Circuits okay. Restore vehicle. Retest system.
• Con F-12 • Read	nect the second lead to pin 29 at ECU connector	No		Replace hard tonneau potentiometer. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	▶	ACTION TO TAKE
18-1 C	HECK HEADER LATCH OPERATION			
 Press h 	nition to ON position. ardtop control switch to OPEN position until ble quarter windows open.	Yes No	>	Go to 18-2 . Go to 18-4 .
Note: Re	fer to DTC 30 if retractable quarter windows did ct properly.			
• Press u area.	pward on hardtop from inside vehicle at header			
• Did hea	der latches unlatch properly?	1		
	HECK CIRCUIT GC 21 FOR LOW REFERENCE OLTAGE AT ECU			
 Using E 	connector F-124 at ECU. Digital Volt/Ohm Meter (DVOM) set to DC volt, t negative lead to known good ground.	Yes	>	Replace ECU. Restore vehicle. Retest system.
 Back pr connect 	obe and connect positive lead to pin 38 at ECU tor F-124. nition to ON position.	No	>	Go to 18-3 .
• Is 0.7 vo	olt present?			
18-3 CI	HECK CIRCUIT GC 21 FOR HIGH REFERENCE OLTAGE AT ECU			
 Using D known Back proconnect 	connector F-124 at ECU. DVOM set to DC volt, connect negative lead to good ground. obe and connect positive lead to pin 38 at ECU tor F-124.	Yes	•	Replace LH header latch limit switch. Restore vehicle. Retest system.
• Read vo	nition to ON position. pltmeter. volts present?	No	•	Refer to other DTC's that may have occurred.
18-4 CI	HECK CIRCUIT GC 34 FOR VOLTAGE AT ECU			
 Using D connect 	connector F-125 at ECU. Digital Volt/Ohm Meter (DVOM) set to DC volt, negative lead to known good ground.	Yes No	>	Go to 18-5 . Replace ECU.
ConnectTurn igrPress has	t positive lead to pin 15 at ECU connector F-125. nition to ON position. ardtop control switch to OPEN position (make arter windows are retracted).		-	Restore vehicle. Retest system.
• Is syste	m voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 18 (CONTINUED)

	TEST STEP	RESULT	▶	ACTION TO TAKE
18-5	CHECK CIRCUIT GC 33 FOR VOLTAGE AT ECU			
• Usir con • Con • Turr • Pres • Rea	ess connector F-125 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. Inect positive lead to pin 6 at ECU connector F-125. In ignition to ON position. Is hardtop control switch to CLOSE position. It does not not see that the connector for the control switch to CLOSE position. It was a series of the connector for the conne	Yes No	A	Go to 18-6 . Replace ECU. Restore vehicle. Retest system.
18-6	CHECK VOLTAGE AT HEADER LATCH MOTOR			
E-11 Usir pin Con coni Turr Pres sure	ess and disconnect header latch motor connector 17. Ing DVOM set to DC volt, connect negative lead to B at header latch motor connector E-117. In nect positive lead to pin A at header latch motor nector E-117. In ignition to ON position. It is hardtop control switch to OPEN position (make equarter windows are retracted). It is disconnected to the control switch to OPEN position (make equarter windows are retracted). It is started to the control switch to OPEN position (make equarter windows are retracted). It is started to the control switch to OPEN position (make equarter windows are retracted).	Yes No		Replace header latch motor. Restore vehicle. Retest system. Go to 18-7.
18-7	CHECK CIRCUITS GC 33 AND GC 34			· ***
• Usin know • Cond cond • Turn • Pres • Read	nector E-117 at header latch motor disconnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin B at header latch motor nector E-117. i ignition to ON position. s hardtop control switch to OPEN position. d voltmeter. estem voltage present?	Yes No		Repair circuit GC 34. Restore vehicle. Retest system. Repair circuit GC 33. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, **NOTES AND DEFINITIONS OF TERMS.**

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST STEP	RESULT •	ACTION TO TAKE
19-1 CHECK CIRCUIT GC 21 FOR SHORT TO GROUND		
Access and disconnect connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect negative lead to a known good ground. Connect the positive lead to pin 38 at ECU connector F-124. Read ohmmeter.	Yes ▶ No ▶	Go to 19-2 . Replace ECU. Restore vehicle. Retest system.
• Is there continuity?		
 19-2 CHECK CIRCUIT GC 20 FOR VOLTAGE Connect connector F-124 at ECU. Access and disconnect header latch limit switch connector E-115. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect positive lead to pin A at header latch limit switch connector E-115. Turn ignition to ON position. Read voltmeter. Is 2.1 volts present? 	Yes ▶ No ▶	Go to 19-3 . Repair circuit GC 20 for open. Repair circuit GC 21 for short to ground. Restore vehicle. Retest system.
19-3 CHECK CIRCUIT GC 22 FOR VOLTAGE		
 Connector E-115 at LH header latch limit switch disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect the positive lead to pin C at LH header latch limit switch connector E-115. Turn ignition to ON position. Read voltmeter. 	Yes ▶ No ▶	Go to 19-4. Repair circuit GC 22 for open. Repair circuit GC 21 for short to ground. Restore vehicle. Retest system.
• Is 0.7 volt present?		
 19-4 CHECK HEADER LATCH LIMIT SWITCH Connector E-115 at LH header latch limit switch disconnected. Using DVOM set on ohm scale, connect one lead to pin A of LH header latch limit switch. Connect second lead to pin B of LH header latch limit switch. 	Yes	Repair circuit GC 21 for open and short to ground. Restore vehicle. Retest system.
 Check for continuity. Connect one lead to pin B of LH header latch limit switch. Connect second lead to pin C of LH header latch limit switch. Check for continuity. Switch pressed = continuity between A and B. Switch open = continuity between B and C. Does switch operate properly? 	No •	Replace LH header latch limit switch. Repair circuit GC 21 for short to ground. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.
PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.
PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
20-1	CHECK CIRCUIT GC 21 AT ECU FOR VOLTAGE			
• Usir con e Back ECU e Turr e Turr syst e Rea	ess connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. It k probe and connect the positive lead to pin 38 at U connector F-124. In ignition to ON position. In on all accessories and lights and operate hardtop tem. It d voltmeter. In over 3.0 volts or more?	Yes No	A A	Go to 20-2 . Replace ECU. Restore vehicle. Retest system.
20-2	CHECK CIRCUIT GC 20 AT LH HEADER LATCH LIMIT SWITCH FOR VOLTAGE			
coni • Usir • Knov • Con • Swit • Turr • Turr • Read	ess and disconnect LH header latch limit switch nector E-115. Ing DVOM set to DC volt, connect negative lead to a wn good ground. In nect positive lead to pin A at LH header latch limit such connector E-115. In ignition to ON position. In on all accessories and lights. Individual discontinuation of the content of the c	Yes	>	Repair circuit GC 20. Restore vehicle. Retest system. Go to 20-3 .
20-3	CHECK CIRCUIT GC 22 AT LH HEADER LATCH LIMIT SWITCH FOR VOLTAGE			
disc Usir knov Con swit Turn Turn hard	nector E-115 at LH header latch limit switch onnected. Ing DVOM set to DC volt, connect negative lead to a wn good ground. In nect positive lead to pin C at LH header latch limit ch connector E-115. In ignition to ON position. In on all accessories and lights on and operate ditop system. Individual over 0.7 volts?	Yes	>	Repair circuit GC 22. Restore vehicle. Retest system. Repair circuit GC 21. Restore vehicle. Retest system.
• IS VO	oltage over 0.7 volts?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP		RESULT -	ACTION TO TAKE
21-1	CHECK CIRCUIT GC 21 FOR VOLTAGE AT ECU			
• Acc	 Unlatch header latches. Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. 		•	Replace ECU. Restore vehicle. Retest system.
• Bac ECU • Turi • Rea	k probe and connect the positive lead to pin 38 at J connector F-124. In ignition to ON position. It does not be a second or content of the c	No	•	Go to 21-2 .
21-2	CHECK CIRCUIT GC 21 FOR VOLTAGE AT LH HEADER LATCH LIMIT SWITCH			
• Usir kno	ess LH header latch limit switch connector E-115. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	•	Repair circuit GC 21. Restore vehicle. Retest system.
nea • Turr	k probe and connect positive lead to pin B at LH der latch limit switch connector E-115. n ignition to ON position. d voltmeter.	No	•	Go to 21-3 .
• Is 0.	7 or 2.1 volts present?			
21-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
• Disc E-11	onnect LH header latch limit switch connector 5.	Yes	>	Go to 21-4 .
knov • Con limi • Turr	ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin A at LH header latch t switch connector E-115. n ignition to ON position. d voltmeter.	No	•	Repair circuit GC 20. Restore vehicle. Retest system.
• ls 2.	1 volts present?			
21-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
disc • Usir knov • Con	nector E-115 at LH header latch limit switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin C at LH header latch limit ch connector E-115.	Yes	•	Replace LH header latch position switch. Restore vehicle. Retest system.
• Turn • Read	i ignition to ON position. d voltmeter. 7 volts present?	No	>	Repair circuit GC 22. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
22-1	CHECK HEADER LATCH OPERATION			
• Turi	n ignition to ON position.	Yes	•	Go to 22-2 .
• Pres	ss hardtop control switch to CLOSE position. ss upward on hardtop from inside vehicle at header a.	No	•	Go to 22-4.
	header latches latch properly?			
22-2	CHECK CIRCUIT GC 23 FOR HIGH REFERENCE VOLTAGE AT ECU			
• Usii con • Bac con • Turi	ess connector F-124 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. k probe and connect positive lead to pin 24 at ECU nector F-124. n ignition to ON position. d voltmeter.	Yes No	A	Replace ECU. Restore vehicle. Retest system. Go to 22-3.
• Is 2	.1 volts present?			
22-3	CHECK CIRCUIT GC 23 FOR LOW REFERENCE VOLTAGE AT ECU			
• Usir kno • Bac	ess connector F-124 at ECU. ng DVOM set to DC volt, connect negative lead to wn good ground. k probe and connect positive lead to pin 24 at ECU nector F-124.	Yes		Replace RH header unlatch limit switch. Restore vehicle. Retest system.
• Rea	n ignition to ON position. d voltmeter. 0.7 volts present?	No		Refer to other DTCs that may have occurred.
22-4	CHECK CIRCUIT GC 34 FOR VOLTAGE AT ECU			
• Mar	nually latch header latches.	Yes I	▶	Go to 22-5 .
• Usir con • Con • Turr • Pres	ess connector F-125 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. nect positive lead to pin 15 at ECU connector F-125. n ignition to ON position. ss hardtop control switch to OPEN position. d voltmeter.	No J		Replace ECU. Restore vehicle. Retest system.
· Is sy	ystem voltage present?			
22-5	CHECK CIRCUIT GC 33 FOR VOLTAGE AT ECU			
• Usir	ng Digital Volt/Ohm Meter (DVOM)) set to DC volt, nect negative lead to known good ground. nect positive lead to pin 6 at ECU connector F-125.	Yes I	>	Go to 22-6 . Replace ECU. Restore vehicle.
• Turr • Pres	n ignition to ON position. ss hardtop control switch to CLOSE position. d voltmeter.			Retest system.
• Is sy	ystem voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 22 (CONTINUED)

	TEST STEP	RESULT	▶	ACTION TO TAKE
22-6	CHECK VOLTAGE AT HEADER LATCH MOTOR			
E-11 • Usir pin • Con coni • Turr • Pres	ess and disconnect header latch motor connector 17. ng DVOM set to DC volt, connect negative lead to B at header latch motor connector E-117. nect positive lead to pin A at header latch motor nector E-117. n ignition to ON position. ss hardtop control switch to OPEN position. d voltmeter.	Yes No	▲	Replace header latch motor. Restore vehicle. Retest system. Go to 22-7 .
22-7	CHECK CIRCUITS GC 33 AND GC 34			
Connector E-117 at header latch motor disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect positive lead to pin B at header latch motor connector E-117. Turn ignition to ON position. Press hardtop control switch to OPEN position. Read voltmeter.		Yes No	▲	Repair circuit GC 34. Restore vehicle. Retest system. Repair circuit GC 33. Restore vehicle. Retest system.
∙ Is sy	rstem voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.
PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.
PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST STEP	RESULT	ACTION TO TAKE
23-1 CHECK CIRCUIT GC 23 FOR SHORT TO GROUND		
 Access and disconnect connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect negative lead to a known good ground. Connect the positive lead to pin 24 at ECU connector F-124. Read ohmmeter. Is there continuity? 	Yes No	Go to 23-2. Replace ECU. Restore vehicle. Retest system.
23-2 CHECK CIRCUIT GC 20 FOR VOLTAGE		
Connect connector F-124 at ECU. Access and disconnect header unlatch limit switch connector E-113. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect positive lead to pin A at header unlatch limit switch connector E-113. Turn ignition to ON position. Read voltmeter.	Yes No	Go to 23-3. Repair circuit GC 20 for open. Repair circuit GC 23 for short to ground. Restore vehicle. Retest system.
• Is 2.1 volts present?		
 CHECK CIRCUIT GC 22 FOR VOLTAGE Connector E-113 at header unlatch limit switch disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect the positive lead to pin C at header unlatch limit switch connector E-113. Turn ignition to ON position. Read voltmeter. Is 0.7 volt present? 	Yes No	Go to 23-4. Repair circuit GC 22 for open. Repair circuit GC 23 for short to ground. Restore vehicle. Retest system.
23-4 CHECK HEADER UNLATCH LIMIT SWITCH		
 Connector E-115 at header unlatch limit switch disconnected. Using DVOM set on ohm scale, connect one lead to pin A of header unlatch limit switch. Connect second lead to pin B of header unlatch limit switch. 	Yes	Repair circuit GC 23 for open and short to ground. Restore vehicle. Retest system.
 Check for continuity. Connect one lead to pin B of header unlatch limit switch. Connect second lead to pin C of header unlatch limit switch. Check for continuity. Switch pressed = continuity between A and B. 	No	Replace header unlatch limit switch. Repair circuit GC 23 for short to ground. Restore vehicle. Retest system.
 Switch open = continuity between A and C. Does switch operate properly? 		

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
24-1	CHECK CIRCUIT GC 23 AT ECU FOR VOLTAGE		
• Usir coni • Bacl • Turr • Turr syst • Rea	ess connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Indect negative lead to a known good ground. It is probe and connect the positive lead to pin 24 at it is connector F-124. In ignition to ON position. In on all accessories and lights and operate hardtop em. It is did voltmeter. In our set of the connector F-124 at it is connector F-124. It is provided the connector F-124 at it is connector F-124. It is provided the connector F-124 at it is connector F-124. It is provided to DC volt. It is pr	Yes No	 Go to 24-2. Replace ECU. Restore vehicle. Retest system.
	ore die verte er mere.		
24-2	CHECK CIRCUIT GC 20 AT RH HEADER UNLATCH LIMIT SWITCH FOR VOLTAGE		
coni • Usir	ess and disconnect RH header unlatch limit switch nector E-113. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	Repair circuit GC 20. Restore vehicle. Retest system.
• Con limit • Turr • Turr syst	nect positive lead to pin A at RH header unlatch t switch connector E-113. n ignition to ON position. n on all accessories and lights and operate hardtop	No I	► Go to 24-3 .
• Is vo	oltage over 2.1 volts?		
24-3	CHECK CIRCUIT GC 22 AT RH HEADER UNLATCH LIMIT SWITCH FOR VOLTAGE		
disc • Usir	nector E-113 at RH header unlatch limit switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	Repair circuit GC 22. Restore vehicle. Retest system.
• Con limit • Turr • Turr syst	nect positive lead to pin C at RH header unlatch t switch connector E-113. n ignition to ON position. n on all accessories and lights and operate hardtop	No I	Repair circuit GC 23. Restore vehicle. Retest system.
• Is vo	oltage over 0.7 volts?		

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
25-1	CHECK CIRCUIT GC 23 FOR VOLTAGE AT ECU		
• Acce • Usir coni • Back coni • Turr • Read	atch header latches. ess connector F-124 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. c probe and connect positive lead to pin 24 at ECU nector F-124. n ignition to ON position. d voltmeter. 7 or 2.1 volts present?	Yes No	Replace ECU. Restore vehicle. Retest system. Go to 25-2 .
25-2	CHECK CIRCUIT GC 23 FOR VOLTAGE AT RH HEADER UNLATCH LIMIT SWITCH		
• Usir	ess RH header unlatch limit switch. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	Repair circuit GC 23. Restore vehicle. Retest system.
head • Turr	k probe and connect positive lead to pin B at RH der unlatch limit switch connector E-113. n ignition to ON position. d voltmeter.	No	Go to 25-3 .
• Is 0.	7 or 2.1 volts present?		
25-3	CHECK CIRCUIT GC 20 FOR VOLTAGE		
Disconnect header unlatch limit switch connector E-113. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect the positive lead to pin A at RH header unlatch limit switch connector E-113. Turn ignition to ON position. Read voltmeter.		Yes No	Go to 25-4. Repair circuit GC 20. Restore vehicle. Retest system.
• Is 2.	1 volts present?		
25-4	CHECK CIRCUIT GC 22 FOR VOLTAGE		
disc • Usir knov • Con limit	nector E-113 at RH header unlatch limit switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin C at RH header unlatch t switch connector E-113.	Yes	Replace RH header unlatch limit switch. Restore vehicle. Retest system.
• Rea	n ignition to ON position. d voltmeter. 7 volts present?	No	Repair circuit GC 22. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 26

TEST STEP	RESULT	ACTION TO TAKE
26-1 CHECK RETRACTABLE QUARTER WINDOW OPERATION		
Turn ignition to ON position. Press hardtop control switch to CLOSE position.	Yes ▶	Go to 26-2 .
Observe retractable quarter window operation.	No •	Go to 26-5 .
NOTE: Tonneau must latch before quarter windows will extend.		
Did retractable quarter windows extend properly?		
26-2 CHECK CIRCUIT GC 57 FOR LOW REFERENCE VOLTAGE AT ECU		
 Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. 	Yes	Replace ECU. Restore vehicle. Retest system.
 Back probe and connect positive lead to pin 41 at ECU connector F-124. Turn ignition to ON position. Read voltmeter. 	No	Go to 26-3 .
• Is 0.7 volt present?		
26-3 CHECK CIRCUIT GC 57 FOR HIGH REFERENCE VOLTAGE AT ECU		
 Access connector F-124 at ECU. Using DVOM set to DC volt, connect negative lead to 	Yes ▶	Go to 26-4 .
known good ground. Back probe and connect positive lead to pin 41 at ECU connector F-124. Turn ignition to ON position. Read voltmeter.	No •	Refer to other DTCs that may have occurred.
• Are 2.1 volts present?		
26-4 CHECK RETRACTABLE WINDOW EXTEND LIMIT SWITCH ADJUSTMENT		
 Access retractable quarter window extend limit switch. Check retractable quarter window extend limit switch adjustment. Is retractable quarter window extend limit switch 	Yes ▶	Replace retractable quarter window extend switch. Restore vehicle. Retest system.
adjusted properly?	No 🕨	Adjust retractable
		quarter window extend switch as necessary. Restore vehicle. Retest system.
26-5 CHECK CIRCUIT GC 37 FOR VOLTAGE AT ECU		
Access connector F-123 at ECU.	Yes ▶	Go to 26-6 .
 Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Connect positive lead to pin 12 at ECU connector F-123. Turn ignition to ON position. Press hardtop control switch to OPEN position. Read voltmeter. 	No ▶	Replace ECU. Restore vehicle. Retest system.
Is system voltage present?		

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REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 26 (CONTINUED)

	TEST STEP	RESULT	•	ACTION TO TAKE
26-6	CHECK CIRCUIT GC 36 FOR VOLTAGE AT ECU			
• Usi con • Cor • Tur • Pre • Rea	cess connector F-123 at ECU. ling Digital Volt/Ohm Meter (DVOM) set to DC volt, nnect negative lead to known good ground. nnect positive lead to pin 11 at ECU connector F-123. In ignition to ON position. less hardtop control switch to CLOSE position. ad voltmeter. system voltage present?	Yes No	•	Go to 26-7 . Replace ECU. Restore vehicle. Retest system.
mo Usi pin E-1 Cor wir Tur	nnect positive lead to pin B at retractable quarter ndow motor connector E-124. In ignition to ON position.	Yes	•	Replace retractable quarter window motor. Restore vehicle. Retest system. Go to 26-8 .
• Rea	ess hardtop control switch to OPEN position. ad voltmeter. system voltage present?			
dise • Usi kno • Cor wir • Tur • Pre • Rea	check circuits GC 36 AND GC 37 nnector E-124 at retractable quarter window motor connected. ing DVOM set to DC volt, connect negative lead to a own good ground. nnect positive lead to pin B at retractable quarter ndow motor connector E-124. In ignition to ON position. less hardtop control switch to OPEN position. ad voltmeter. system voltage present?	Yes	•	Repair circuit GC 36. Restore vehicle. Retest system. Repair circuit GC 37. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST STEP	R	ESULT -	ACTION TO TAKE
27-1 CHECK CIRCUIT GC 57 FOR SHORT TO G	ROUND		
 Access and disconnect connector F-124 at ECU Using Digital Volt/Ohm Meter (DVOM) set to of connect negative lead to a known good ground Connect the positive lead to pin 41 at ECU con F-124. Read ohmmeter. Is there continuity? 	nm scale, d. No	>	Go to 27-2 . Replace ECU. Restore vehicle. Retest system.
27-2 CHECK CIRCUIT GC 20 FOR VOLTAGE		············	
Connect connector F-124 at ECU. Access and disconnect retractable quarter wind extend limit switch connector E-123. Using DVOM set to DC volt, connect negative I known good ground. Connect positive lead to pin C at retractable que window extend limit switch connector E-123. Turn ignition to ON position. Read voltmeter. Is 2.1 volts present?	ead to a	*	Go to 27-3 . Repair circuit GC 20 for open. Repair circuit GC 57 for short to ground. Restore vehicle. Retest system.
27-3 CHECK CIRCUIT GC 22 FOR VOLTAGE			
 Connector E-123 at retractable quarter window switch disconnected. Using DVOM set to DC volt, connect negative I known good ground. Connect the positive lead to pin A at retractable window extend limit switch connector E-123. Read voltmeter. Is 0.7 volt present? 	ead to a No	>	Go to 27-4. Repair circuit GC 22 for open. Repair circuit GC 57 for short to ground. Restore vehicle. Retest system.
27-4 CHECK RETRACTABLE QUARTER WINDO	ow		
 Connector E-123 at retractable quarter window limit switch disconnected. Using DVOM set on ohm scale, connect one lead of retractable quarter window extend limit switch. Connect the second lead to pin B of retractable window extend limit switch. Check for continuity. Connect one lead to pin B of retractable quarte window extend limit switch. Connect second lead to pin C of retractable quarte window extend limit switch. Check for open. 	ad to pin vitch. quarter No	▶	Repair circuit GC 57 for open and short to ground. Restore vehicle. Retest system. Replace retractable quarter window extend limit switch. Repair circuit GC 57 for short to ground. Restore vehicle.
NOTE: Readings are with quarter windows retracted switch in proper position. If windows are retracted readings will be opposite. • Does switch operate properly?	cted and ed,		Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT -	ACTION TO TAKE
• Usin conrect conference confere	CHECK CIRCUIT GC 57 AT ECU FOR VOLTAGE ess connector F-124 at ECU. eg a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. k probe and connect the positive lead to pin 41 at connector F-124. n ignition to ON position. n on all accessories and lights and operate hardtop	Yes No	Go to 28-2 . Replace ECU. Restore vehicle. Retest system.
exte • Usir kno • Con win • Turr • Turr syst • Rea	CHECK CIRCUIT GC 20 AT RETRACTABLE QUARTER WINDOW EXTEND LIMIT SWITCH FOR VOLTAGE ess and disconnect retractable quarter window end limit switch connector E-123. Ing DVOM set to DC volt, connect negative lead to a wing good ground. In each positive lead to pin C at retractable quarter dow extend limit switch connector E-123. In ignition to ON position. In on all accessories and lights and operate hardtop tem. Id voltmeter. In oltage over 2.1 volts?	Yes ► No ►	Repair circuit GC 20. Restore vehicle. Retest system. Go to 28-3.
swit • Usit kno • Cor win • Turt • Turt sys • Rea	CHECK CIRCUIT GC 22 AT RETRACTABLE QUARTER WINDOW EXTEND LIMIT SWITCH FOR VOLTAGE innector E-123 at retractable quarter window limit to disconnected. In governous betto DC volt, connect negative lead to a lown good ground. In each positive lead to pin A at retractable quarter dow extend limit switch connector E-123. In ignition to ON position. In on all accessories and lights and operate hardtop tem. Individual voltmeter.	Yes •	Repair circuit GC 22. Restore vehicle. Retest system. Repair circuit GC 57. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

-	TEST STEP	RESULT	▶	ACTION TO TAKE
29-1	CHECK CIRCUIT GC 57 FOR VOLTAGE AT ECU			
• Usii	ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. k probe and connect the positive lead to pin 41 at	Yes	•	Replace ECU. Restore vehicle. Retest system.
ECU • Turi	J connector F-124. n ignition to ON position. d voltmeter.	No	•	Go to 29-2 .
• is 0	.7 or 2.1 volts present?			
29-2	CHECK CIRCUIT GC 57 FOR VOLTAGE AT RETRACTABLE QUARTER WINDOW EXTEND LIMIT SWITCH	Yes		Papair sireuit CC 57
• Usir	ess retractable quarter window extend limit switch. ng DVOM set to DC volt, connect negative lead to a wn good ground.	- res		Repair circuit GC 57. Restore vehicle. Retest system.
• Back retra cont • Turr	k probe and connect positive lead to pin B at actable quarter window extend limit switch nector E-123. In ignition to ON position. Id voltmeter.	No	•	Go to 29-3 .
• Is 0.	7 or 2.1 volts present?			
29-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
• Disc	connect retractable quarter window extend limit sch connector E-123.	Yes	>	Go to 29-4 .
Usir	ng DVOM set to DC volt, connect negative lead to a wing good ground.	No	•	Repair circuit GC 20. Restore vehicle.
• Con wind • Turr	nect the positive lead to pin C at retractable quarter downward extend limit switch connector E-123. In ignition to ON position. It is a voltmeter.			Retest system.
• Is 2.	1 volts present?			
29-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
limit • Usir knov • Con wind	nector E-123 at retractable quarter window extend t switch disconnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin A at retractable quarter dow extend limit switch connector E-123. n ignition to ON position.	Yes	•	Replace retractable quarter window extend switch. Restore vehicle. Retest system.
• Read	7 volts present?	No	•	Repair circuit GC 22. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	•	ACTION TO TAKE
30-1	CHECK RETRACTABLE QUARTER WINDOW OPERATION			
 Pres 	n ignition to ON position. ss hardtop control switch to OPEN position. erve retractable quarter window operation.	Yes No	•	Go to 30-2 . Go to 30-5 .
must to op	E: Quarter windows and/or quarter window switches be in a position that will allow the quarter windows erate to the open position, if the quarter windows lready retracted, the ECU will not try to retract them in.			
• Did	retractable quarter windows retract properly?			
30-2	CHECK CIRCUIT GC 56 FOR HIGH REFERENCE VOLTAGE AT ECU			
• Usir	ness connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Indeed to known good ground.	Yes	•	Replace ECU. Restore vehicle. Retest system.
• Bac con • Turr	k probe and connect positive lead to pin 27 at ECU nector F-124. n ignition to ON position. d voltmeter.	No	•	Go to 30-3 .
• is 2	1 volt present?			
30-3	CHECK CIRCUIT GC 56 FOR LOW REFERENCE VOLTAGE AT ECU			
Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 27 at ECU connector F-124. Turn ignition to ON position. Read voltmeter.		Yes No	>	Go to 30-4 . Refer to other DTCs that may have occurred.
∙is 0	.7 volts present?			
30-4	CHECK RETRACTABLE WINDOW RETRACT LIMIT SWITCH ADJUSTMENT		•	
Access retractable window retract limit switch. Check retractable window retract limit switch adjustment. Is retractable window retract limit switch adjusted		Yes	•	Replace retractable window retract limit switch. Restore vehicle. Retest system.
	perly?	No	>	Adjust retractable window retract limit switch as necessary. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 30 (CONTINUED)

	TEST STEP	RESU	LT 🕨	ACTION TO TAKE
30-5	CHECK CIRCUIT GC 37 FOR VOLTAGE AT ECU			
• Acce • Usin grou • Con • Turn NOTE must to ope are al again to obs • Pres • Reac	est A 12 volt test light will be needed for this test. est light is used ONLY for testing of the motor its. DO NOT attempt to test other circuits with a test. ess connector F-123 at ECU. egg 12 volt test light connect one lead to known good and. nect second lead to pin 12 at ECU connector F-123. i ignition to ON position. E: Quarter windows and/or quarter window switches be in a position that will allow the quarter windows erate to the open position, if the quarter windows ready retracted, the ECU will not try to retract them. It may be necessary to cycle the hardtop in order serve the test light. s hardtop control switch to OPEN position.	Yes No	>	Go to 30-6 . Replace ECU. Restore vehicle. Retest system.
30-6	CHECK CIRCUIT GC 36 FOR VOLTAGE AT ECU			
• Usin conn conn • Conr • Turn NOTE must I to ope are all them corder NOTE windo • Press • Read	ess connector F-123 at ECU. g a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. nect positive lead to pin 11 at ECU connector F-123. ignition to ON position. : Quarter windows and/or quarter window switches be in a position that will allow the quarter windows erate to the extend position, if the quarter windows ready extended, the ECU will not try to extend again. It may be necessary to cycle the hardtop in to observe the test light. : Hard tonneau must latch before the quarter was will extend. s hardtop control switch to CLOSE position.	Yes No	•	Go to 30-7 . Replace ECU. Restore vehicle. Retest system.
• Is sy	stem voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 30 (CONTINUED)

30-7 CHECK VOLTAGE AT RETRACTABLE QUARTER WINDOW MOTOR • Access and disconnect retractable quarter window motor connector E-124. • Using DVOM set to DC volt, connect negative lead to motor.	otractable
motor connector E-124. quarter wi	atractable
 Using DVOM set to DC volt, connect negative lead to pin A at retractable quarter window motor connector E-124. Connect positive lead to pin B at retractable quarter window motor connector E-124. Turn ignition to ON position. NOTE: Quarter windows and/or quarter window switches must be in a position that will allow the quarter windows to operate to the open position, if the quarter windows are already retracted, the ECU will not try to retract them again. It may be necessary to cycle the hardtop in order to observe the test light. Press hardtop control switch to OPEN position. Read voltmeter. Is system voltage present? 	indow ehicle. etem.
30-8 CHECK CIRCUITS GC 36 AND GC 37	
disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Restore verification in the set of the set	stem. cuit GC 37.
Turn ignition to ON position. NOTE: Quarter windows and/or quarter window switches	
must be in a position that will allow the quarter windows to operate to the open position, if the quarter windows are already retracted, the ECU will not try to retract them again. It may be necessary to cycle the hardtop in order to observe the test light.	
Press hardtop control switch to OPEN position. Read voltmeter.	
· Is system voltage present?	

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
31-1	CHECK CIRCUIT GC 56 FOR SHORT TO GROUND		
 Access and disconnect connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect negative lead to a known good ground. Connect the positive lead to pin 27 at ECU connector F-124. Read ohmmeter. 		Yes No	Go to 31-2 . Replace ECU. Restore vehicle. Retest system.
	nere continuity?		
Acc retra Usir kno Con win Turr Rea	check circuit GC 20 FOR VOLTAGE inect connector F-124 at ECU. ess and disconnect retractable quarter window act limit switch connector E-119. ng DVOM set to DC volt, connect negative lead to a wn good ground. inect positive lead to pin C at retractable quarter dow retract limit switch connector E-119. n ignition to ON position. d voltmeter. 1 volts present?	Yes No	
31-3	CHECK CIRCUIT GC 22 FOR VOLTAGE		
limi • Usir knov • Con wind • Rea	nector E-119 at retractable quarter window retract t switch disconnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin A at retractable quarter dow retract limit switch connector E-119. d voltmeter. 7 volt present?	Yes ▶ No ▶	Go to 31-4 . Repair circuit GC 22 for open. Repair circuit GC 56 for short to ground. Restore vehicle. Retest system.
31-4	CHECK RETRACTABLE QUARTER WINDOW RETRACT LIMIT SWITCH		
• Usir A of • Con wind • Ched • Con wind • Con wind • Ched	nector E-119 at retractable quarter window retract t switch disconnected. In DVOM set on ohm scale, connect one lead to pin in retractable quarter window retract limit switch. In nect the second lead to pin B of retractable quarter dow retract limit switch. In the second lead to pin B of retractable quarter dow retract limit switch. In the second lead to pin B of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch. In the second lead to pin C of retractable quarter dow retract limit switch.	Yes No	Repair circuit GC 56 for open and short to ground. Restore vehicle. Retest system. Replace retractable quarter window retract limit switch. Repair circuit GC 56 for short to ground. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT >	ACTION TO TAKE
32-1	CHECK CIRCUIT GC 56 AT ECU FOR VOLTAGE		
• Usir con end of the con end of the con end of the content of the	ess connector F-124 at ECU. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. k probe and connect the positive lead to pin 27 at J connector F-124. n ignition to ON position. n on all accessories and lights and operate hardtop tem. d voltmeter. nere 3.0 volts or more?	Yes No	Go to 32-2 . Replace ECU. Restore vehicle. Retest system.
32-2	CHECK CIRCUIT GC 20 AT RETRACTABLE QUARTER WINDOW RETRACT LIMIT SWITCH FOR VOLTAGE		
retra Usir kno Con win Turr Turr syst	ess and disconnect retractable quarter window act limit switch E-119. Ing DVOM set to DC volt, connect negative lead to a wn good ground. Inect positive lead to pin C at retractable quarter dow retract limit switch connector E-119. In ignition to ON position. In on all accessories and lights and operate hardtop tem. Id voltmeter. In oltage over 2.1 volts?	Yes ▶ No ▶	Repair circuit GC 20. Restore vehicle. Retest system. Go to 32-3 .
- 15 V	oltage over 2.1 volts?		
32-3	CHECK CIRCUIT GC 22 AT RETRACTABLE QUARTER WINDOW RETRACT LIMIT SWITCH FOR VOLTAGE		
swith	inector E-119 at RH retractable quarter window limit tch disconnected. Ing DVOM set to DC volt, connect negative lead to a wn good ground. Inect positive lead to pin A at retractable quarter dow retract limit switch connector E-119. In ignition to ON position. In on all accessories and lights and operate hardtop tem. Indicate the down of th	Yes No	Repair circuit GC 22. Restore vehicle. Retest system. Repair circuit GC 56. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
33-1	CHECK CIRCUIT GC 56 FOR VOLTAGE AT ECU			
• Usir con • Bacl ECU • Turr	ess connector F-124 at ECU. ng a Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. k probe and connect the positive lead to pin 27 at J connector F-124. n ignition to ON position. d voltmeter.	Yes No	>	Replace ECU. Restore vehicle. Retest system. Go to 33-2 .
• ls 0.	7 or 2.1 volts present?			
33-2	CHECK CIRCUIT GC 56 FOR VOLTAGE AT RETRACTABLE QUARTER WINDOW RETRACT LIMIT SWITCH	Yes	,	Repair circuit GC 56.
• Acc	ess retractable quarter window retract limit switch nector E-119.	103		Restore vehicle. Retest system.
• Usir knov • Back retra con • Turr	ng DVOM set to DC volt, connect negative lead to a wn good ground. k probe and connect positive lead to pin B at actable quarter window retract limit switch nector E-119. n ignition to ON position.	No	•	Go to 33-3 .
	d voltmeter.			
• ls 0.	7 or 2.1 volts present?			
33-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
swit	connect retractable quarter window retract limit ch connector E-119.	Yes	•	Go to 33-4 .
 Using DVOM set to DC volt, connect negative lead to a known good ground. Connect the positive lead to pin C at retractable quarter window retract limit switch connector E-119. Turn ignition to ON position. Read voltmeter. 		No		Repair circuit GC 20. Restore vehicle. Retest system.
• Is 2.	1 volts present?			
33-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
limit • Usir knov • Con wind	nector E-119 at retractable quarter window retract t switch disconnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin A at retractable quarter dow retract limit switch connector E-119.	Yes		Replace retractable quarter window retract limit switch. Restore vehicle. Retest system.
• Rea	n ignition to ON position. d voltmeter. 7 volts present?	No	•	Repair circuit GC 22. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST STEP	RESULT •	ACTION TO TAKE
34-1 CHECK CIRCUIT GC 44 FOR LOW REFERENCE VOLTAGE AT ECU		
 Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 25 at ECU connector F-124. Turn ignition to ON position. Read voltmeter. 	Yes No	Replace ECU. Restore vehicle. Retest system. Go to 34-2.
• Is 0.7 volt present?		
34-2 CHECK CIRCUIT GC 44 FOR HIGH REFERENCE VOLTAGE AT ECU		
 Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 25 at ECU connector F-124. Turn ignition to ON position. Read voltmeter. Are 2.1 volts present? 	Yes No	Replace LH header position switch. Restore vehicle. Retest system. Refer to other DTCs that may have occurred.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

TEST STEP	RESULT	ACTION TO TAKE
35-1 CHECK CIRCUIT GC 44 FOR SHORT TO GROUND		
 Disconnect connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect negative lead to a known good ground. Connect the positive lead to pin 25 at ECU connector F-124. Read ohmmeter. Is there continuity? 	Yes No	Go to 35-2 . Replace ECU. Restore vehicle. Retest system.
35-2 CHECK CIRCUIT GC 20 FOR VOLTAGE		
 Connect connector F-124 at ECU. Access and disconnect LH header position limit switch connector E-114. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect positive lead to pin C at LH header position limit switch connector E-114. Turn ignition to ON position. Read voltmeter. 	Yes ▶ No ▶	Go to 35-3 . Repair circuit GC 20 for open. Repair circuit GC 44 for short to ground. Restore vehicle. Retest system.
• Is 2.1 present?		
35-3 CHECK CIRCUIT GC 22 FOR VOLTAGE		
 Connector E-114 at LH header position limit switch disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect the positive lead to pin A at LH header position limit switch connector E-114. Read voltmeter. Is 0.7 volt present? 	Yes No	Go to 35-4 . Repair circuit GC 22 for open. Repair circuit GC 44 for short to ground. Restore vehicle. Retest system.
35-4 CHECK LH HEADER POSITION LIMIT SWITCH		
 Connector E-114 at LH header latch position limit switch disconnected. Using DVOM set on ohm scale, connect one lead to pin A of LH header position limit switch. Connect the second lead to pin B of LH header position limit switch. 	Yes ▶	Repair circuit GC 44 for open and short to ground. Restore vehicle. Retest system.
 Check for continuity. Connect one lead to pin B of LH header position limit switch. Connect second lead to pin C of LH header position limit switch. Check for continuity. 	No •	Replace LH header position limit switch. Repair circuit GC 44 for short to ground. Restore vehicle. Retest system.
 Switch pressed = continuity A and B. Switch open = continuity B and C. Does switch operate properly? 		

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.
PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	\	ACTION TO TAKE
36-1	CHECK CIRCUIT GC 44 AT ECU FOR VOLTAGE			
• Usir conformation conformatio	ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. k probe and connect the positive lead to pin 25 at J connector F-124. In ignition to ON position. In on all accessories and lights and operate hardtop tem. In the control of the contro	Yes No	▲ ▲	Go to 36-2 . Replace ECU. Restore vehicle. Retest system.
36-2	CHECK CIRCUIT GC 22 AT LH HEADER LATCH POSITION SWITCH FOR VOLTAGE			
cond Usir know Con posi Turr Turr	ess and disconnect LH header latch position switch nector E-114. Ing DVOM set to DC volt, connect negative lead to a wn good ground. In nect positive lead to pin A at LH header latch ition switch connector E-114. In ignition to ON position. In on all accessories and lights and operate hardtop em. Id voltmeter.	Yes No	▲	Repair circuit GC 22. Restore vehicle. Retest system. Go to 36-3 .
• Is vo	oltage over 0.7 volts?			
36-3	CHECK CIRCUIT GC 20 AT LH HEADER LATCH POSITION SWITCH FOR VOLTAGE			
disc Usir knov Con posi Turr Turr syst	nector E-114 at LH header latch position switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin C at LH header latch tion switch connector E-114. n ignition to ON position. n on all accessories and lights and operate hardtop em. d voltmeter. lotage over 2.1 volts?	Yes No	>	Repair circuit GC 20. Restore vehicle. Retest system. Repair circuit GC 44. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	▶	ACTION TO TAKE
37-1	CHECK CIRCUIT GC 44 FOR VOLTAGE AT ECU			
• Usir con • Bac ECU • Turr	ess connector F-124 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. or probe and connect the positive lead to pin 25 at l connector F-124. n ignition to ON position. d voltmeter.	Yes No	>	Replace ECU. Restore vehicle. Retest system. Go to 37-2 .
• ls 0.	7 or 2.1 volts present?			
37-2	CHECK CIRCUIT GC 44 FOR VOLTAGE AT LH HEADER LATCH POSITION SWITCH			
E-11 • Usir	ess LH header latch position switch connector 4. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	•	Repair circuit GC 44. Restore vehicle. Retest system.
• Bacl head • Turr	k probe and connect positive lead to pin B at LH der latch position switch connector E-114. In ignition to ON position. Id voltmeter.	No	•	Go to 37-3 .
• Is 0.	7 or 2.1 volts present?			
37-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
• Disc E-11	onnect LH header latch position switch connector	Yes	▶	Go to 37-4 .
Usira knConposiTurr	og a DVOM set to DC volt, connect negative lead to own good ground. nect the positive lead to pin C at LH header latch tion switch connector E-114. i ignition to ON position. d voltmeter.	No	•	Repair circuit GC 20. Restore vehicle. Retest system.
• ls 2.	1 volts present?			
37-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
disc • Usir knov • Con	nector E-114 at LH header latch position switch onnected. Ig DVOM set to DC volt, connect negative lead to a wn good ground. In proceedings of the content	Yes		Replace LH header latch position switch. Restore vehicle. Retest system.
• Turr • Read	ignition to ON position. d voltmeter. 7 volts present?	No	•	Repair circuit GC 22. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
38-1	CHECK CIRCUIT GC 45 FOR LOW REFERENCE VOLTAGE AT ECU			
Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 39 at ECU connector F-124. Turn ignition to ON position. Read voltmeter.		Yes No	*	Replace ECU. Restore vehicle. Retest system. Go to 38-2 .
• ls 0	.7 volt present?			
38-2	CHECK CIRCUIT GC 45 FOR HIGH REFERENCE VOLTAGE AT ECU			
Access connector F-124 at ECU. Using DVOM set to DC volt, connect negative lead to known good ground. Back probe and connect positive lead to pin 39 at ECU connector F-124. Turn ignition to ON position. Read voltmeter. Are 2.1 volts present?		Yes No	•	Replace RH header position switch. Restore vehicle. Retest system. Refer to other DTCs that may have occurred.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

## Property of State	
 Using Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect one lead to a known good ground. Connect the second lead to pin 39 at ECU connector F-124. Read ohmmeter. Is there continuity? Connect connector F-124 at ECU. Access and disconnect RH header position limit switch connector E-111. Using DVOM set to DC volt, connect one lead to a known good ground. Connect second lead to pin C at RH header position limit switch connector E-111. Turn ignition to ON position. Read voltmeter. Is 2.1 volts present? Check CIRCUIT GC 22 FOR VOLTAGE Connect second lead to pin A at RH header position limit switch disconnected. Using DVOM set to DC volt, connect one lead to a known good ground. Connect the second lead to pin A at RH header position limit switch connector E-111. Repair circuit GC of for short to ground. Connect the second lead to pin A at RH header position limit switch connector E-111. 	
39-2 CHECK CIRCUIT GC 20 FOR VOLTAGE • Connect connector F-124 at ECU. • Access and disconnect RH header position limit switch connector E-111. • Using DVOM set to DC volt, connect one lead to a known good ground. • Connect second lead to pin C at RH header position limit switch connector E-111. • Turn ignition to ON position. • Read voltmeter. • Is 2.1 volts present? 39-3 CHECK CIRCUIT GC 22 FOR VOLTAGE • Connector E-111 at RH header position limit switch disconnected. • Using DVOM set to DC volt, connect one lead to a known good ground. • Connect the second lead to pin A at RH header position limit switch connect the second lead to pin A at RH header position limit switch connect was connected. • Repair circuit GC 4 for open.	
 Connect connector F-124 at ECU. Access and disconnect RH header position limit switch connector E-111. Using DVOM set to DC volt, connect one lead to a known good ground. Connect second lead to pin C at RH header position limit switch connector E-111. Turn ignition to ON position. Read voltmeter. Is 2.1 volts present? Connector E-111 at RH header position limit switch disconnected. Using DVOM set to DC volt, connect one lead to a known good ground. Connect the second lead to pin A at RH header position limit switch connector E-111. Read voltmeter. 	
 Access and disconnect RH header position limit switch connector E-111. Using DVOM set to DC volt, connect one lead to a known good ground. Connect second lead to pin C at RH header position limit switch connector E-111. Turn ignition to ON position. Read voltmeter. Is 2.1 volts present? Connector E-111 at RH header position limit switch disconnected. Using DVOM set to DC volt, connect one lead to a known good ground. Connect the second lead to pin A at RH header position limit switch connector E-111. Read voltmeter. 	i
 Connector E-111 at RH header position limit switch disconnected. Using DVOM set to DC volt, connect one lead to a known good ground. Connect the second lead to pin A at RH header position limit switch connector E-111. Read voltmeter. Yes No Repair circuit GC 2 for open. Repair circuit GC 2 for short to ground. Restore vehicle. 	45
disconnected. • Using DVOM set to DC volt, connect one lead to a known good ground. • Connect the second lead to pin A at RH header position limit switch connector E-111. • Read voltmeter. No Repair circuit GC 2 for open. Repair circuit GC 4 for short to ground Restore vehicle.	
• Is 0.7 volt present?	15
39-4 CHECK RH HEADER POSITION LIMIT SWITCH	
 Connector E-111 at RH header latch position limit switch disconnected. Using DVOM set on ohm scale, connect one lead to pin A of RH header position limit switch. Connect the second lead to pin B of RH header position limit switch. Check for continuity. Connect one lead to pin B of RH header position limit switch. Connect second lead to pin C of RH header position limit switch. 	t to r ch. !5
 Check for continuity. Switch pressed = continuity A and B. Switch open = continuity B and C. Does switch operate properly? 	

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
• Usir coni • Bacl • ECU • Turr • Turr syst • Read	CHECK CIRCUIT GC 45 AT ECU FOR VOLTAGE ess connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to a known good ground. It k probe and connect the positive lead to pin 39 at I connector F-124. In ignition to ON position. In on all accessories and lights and operate hardtop mem. Id voltmeter.	Yes No	* *	Go to 40-2 . Replace ECU. Restore vehicle. Retest system.
coni • Usir knov • Con posi • Turr • Turr syst • Rea	CHECK CIRCUIT GC 20 AT RH HEADER LATCH POSITION SWITCH FOR VOLTAGE ess and disconnect RH header latch position switch nector E-111. ng DVOM set to DC volt, connect negative lead to a wn good ground. nnect positive lead to pin C at RH header latch ition switch connector E-111. n ignition to ON position. n on all accessories and lights and operate hardtop tem. d voltmeter. oltage over 2.1 volts?	Yes No	>	Repair circuit GC 20. Restore vehicle. Retest system. Go to 40-3.
disc Usir knov Con posi Turr Turr syst	CHECK CIRCUIT GC 22 AT RH HEADER LATCH POSITION SWITCH FOR VOLTAGE Innector E-111 at RH header latch position switch connected. Ing DVOM set to DC volt, connect negative lead to a wn good ground. Innect positive lead to pin A at RH header latch ition switch connector E-111. In ignition to ON position. In on all accessories and lights and operate hardtop tem. Individual of the voltage over 0.7 volts?	Yes No	>	Repair circuit GC 22. Restore vehicle. Retest system. Repair circuit GC 45. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, **NOTES AND DEFINITIONS OF TERMS.**

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	>	ACTION TO TAKE
41-1	CHECK CIRCUIT GC 45 FOR VOLTAGE AT ECU			
• Usir con	ess connector F-124 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead to known good ground. k probe and connect the positive lead to pin 39 at	Yes	>	Replace ECU. Restore vehicle. Retest system.
ECU • Turr	connector F-124. i gnition to ON position. d voltmeter.	No	•	Go to 41-2 .
• ls 0.	7 or 2.1 volts present?			
41-2	CHECK CIRCUIT GC 45 FOR VOLTAGE AT RH HEADER LATCH POSITION SWITCH		,	
• Usir	ess RH header latch position switch connector E-111. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	•	Repair circuit GC 45. Restore vehicle. Retest system.
head • Turr	k probe and connect positive lead to pin B at RH der latch position switch connector E-111. I ignition to ON position. Id voltmeter.	No	>	Go to 41-3 .
• Is 0.	7 or 2.1 volts present?			
41-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
• Disc E-11	onnect RH header latch position switch connector	Yes	>	Go to 41-4 .
knov • Con posi • Turr	ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin C at RH header latch tion switch connector E-111. i ignition to ON position. d voltmeter.	No	•	Repair circuit GC 20. Restore vehicle. Retest system.
• Is 2.	1 volts present?			
41-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
disc • Usin knov	nector E-111 at RH header latch position switch onnected. g DVOM set to DC volt, connect negative lead to a vn good ground. nect positive lead to pin A at RH header latch	Yes	•	Replace RH header latch position switch. Restore vehicle. Retest system.
posi • Turn	ignition to ON position. If you have the connector in A at NT header later in the	No	•	Repair circuit GC 22. Restore vehicle. Retest system.
• Is 0.	7 volts present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
• Usir con • Bac tonr • Turr NOTE • Rea	CHECK CIRCUIT GC 20 FOR VOLTAGE AT LH TONNEAU LATCH LIMIT SWITCH ess LH tonneau latch limit switch. ng Digital Volt/Ohm Meter (DVOM) set on DC volt, nect negative lead to a known good ground. k probe and connect the positive lead to pin C at LH neau limit switch connector F-119. n ignition to ON position. E: Tonneau latch switch must be open. d voltmeter. 1 volts present?	Yes No	Go to 42-2. Repair circuit GC 20. Restore vehicle. Retest system.
• Usir con • Bac toni • Turr	CHECK CIRCUIT GC 22 FOR VOLTAGE AT LH TONNEAU LATCH LIMIT SWITCH ess LH tonneau latch limit switch. ng Digital Volt/Ohm Meter (DVOM) set on DC volt, nect negative lead to a known good ground. k probe and connect the positive lead to pin A at LH neau limit switch connector F-119. n ignition to ON position. d voltmeter. 7 volts present?	Yes No	 ▶ Go to 42-3. ▶ Repair circuit GC 22. Restore vehicle. Retest system.
• Usir knov • Back tonr • Turr NOTE • Rea	CHECK CIRCUIT GC 24 FOR VOLTAGE AT LH TONNEAU LATCH LIMIT SWITCH ess LH tonneau latch limit switch connector F-119. In a pood ground. It is probe and connect the positive lead to pin B at LH in the switch connector F-119. In ignition to ON position. E: 2.1 volts with switch open. In our of the switch closed. It is witch closed. It is proper voltage present?	Yes No	 ▶ Go to 42-4. ▶ Replace LH tonneau latch limit switch. Restore vehicle. Retest system.
• Usir kno • Bac ECU • Turr • Rea	ess connector F-124 at ECU. Ing DVOM set on DC volt, connect negative lead to a wn good ground. It probe and connect the positive lead to pin 26 at J connector F-124. In ignition to ON position. It volts with switch open. It is a volt of the positive lead to pin 26 at J connector F-124. It is ignition to ON position. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124. It is a volt of the positive lead to pin 26 at J connector F-124.	Yes No	Replace ECU. Restore vehicle. Retest system. Repair circuit GC 24. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
43-1	CHECK CIRCUIT GC 24 FOR SHORT TO GROUND		
• Usir con • Con F-12 • Rea	connect connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to ohm scale, nect negative lead to a known good ground. Inect the positive lead to pin 26 at ECU connector 24. Indicate the continuity?	Yes No	Go to 43-2 . Replace ECU. Restore vehicle. Retest system.
43-2	CHECK CIRCUIT GC 20 FOR VOLTAGE		
 Accord Usir kno Con swit Turr Rea 	nect connector F-124 at ECU. less and disconnect LH tonneau latch limit switch nector E-119. Ing DVOM set to DC volt, connect negative lead to a win good ground. Inect positive lead to pin C at LH tonneau latch limit lich connector F-119. In ignition to ON position. Indicate the connector of th	Yes No	
• Is 2.	1 volts present?		
43-3	CHECK CIRCUIT GC 22 FOR VOLTAGE		
disc • Usir knov • Con limir • Rea	nector F-119 at LH tonneau latch limit switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin A at LH tonneau latch t switch connector F-119. d voltmeter. 7 volt present?	Yes •	Go to 43-4. Repair circuit GC 22 for open. Repair circuit GC 24 for short to ground. Restore vehicle. Retest system.
	-		
disc • Usir A of • Con limit	nector F-119 at LH tonneau latch limit switch onnected. ng DVOM set on ohm scale, connect one lead to pin LH tonneau latch limit switch. nect the second lead to pin B of LH tonneau latch to switch.	Yes	Repair circuit GC 24 for open and short to ground. Restore vehicle. Retest system.
Con switCon switCheSwitSwit	nect second lead to pin C of LH tonneau latch limit ch. ck for continuity. tch pressed = continuity A and B. tch open = continuity B and C.	No	Replace LH tonneau latch limit switch. Repair circuit GC 24 for short to ground. Restore vehicle. Retest system.
· Doe	s switch operate properly?		

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT >	ACTION TO TAKE
44-1	CHECK CIRCUIT GC 24 AT ECU FOR VOLTAGE		
• Usir con con ECU Turr Turr syst	ess connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Inect negative lead to a known good ground. It k probe and connect the positive lead to pin 26 at IJ connector F-124. In ignition to ON position. In on all accessories and lights and operate hardtop tem. It do not not not on the content of the	Yes ▶ No ▶	Go to 44-2 . Replace ECU. Restore vehicle. Retest system.
44-2	CHECK CIRCUIT GC 20 AT LH TONNEAU LATCH LIMIT SWITCH FOR VOLTAGE		
con • Usir kno • Con swit • Turr • Turr syst • Rea	ess and disconnect LH tonneau latch limit switch nector F-119. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin C at LH tonneau latch limit to connector F-119. n ignition to ON position. n on all accessories and lights and operate hardtop tem. d voltmeter.	Yes No	Repair circuit GC 20. Restore vehicle. Retest system. Go to 44-3 .
• Is v	oltage over 2.1 volts?		
44-3	CHECK CIRCUIT GC 22 AT LH TONNEAU LATCH LIMIT SWITCH FOR VOLTAGE		
disc • Usir kno • Con swit • Turr • Turr syst • Rea	inector F-119 at LH tonneau latch limit switch connected. Ing DVOM set to DC volt, connect negative lead to a wn good ground. Inect positive lead to pin A at LH tonneau latch limit toth harness connector F-119. In ignition to ON position. In on all accessories and lights and operate hardtop tem. Id voltmeter. In oltage over 0.7 volts?	Yes No	Repair circuit GC 22. Restore vehicle. Retest system. Repair circuit GC 23. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE,

NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP		RESULT >	ACTION TO TAKE
45-1	CHECK CIRCUIT GC 24 FOR VOLTAGE AT ECU			
• Usir con • Bac	ness connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Indeed need to known good ground. It is probe and connect the positive lead to pin 26 at I	Yes	•	Replace ECU. Restore vehicle. Retest system.
• Turr	n ignition to ON position. d voltmeter.	No	>	Go to 45-2 .
• Is 0.	7 or 2.1 volts present?			
45-2	CHECK CIRCUIT GC 24 FOR VOLTAGE AT LH TONNEAU LATCH LIMIT SWITCH			
• Usir kno	ess LH tonneau latch position switch connector F-119. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	•	Repair circuit GC 24. Restore vehicle. Retest system.
toni • Turi	k probe and connect positive lead to pin B at LH neau latch limit switch connector F-119. n ignition to ON position. d voltmeter.	No	>	Go to 45-3 .
• Is 0.	7 or 2.1 volts present?			
45-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
F-77		Yes		Go to 45-4 .
knov • Con limit • Turr	ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin C at LH tonneau latch to switch connector F-119. In ignition to ON position. It is a voltmeter.	No	•	Repair circuit GC 20. Restore vehicle. Retest system.
• Is 2.	1 volts present?			
45-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
• Usir knov • Con swit • Turr • Read	nector F-119 at LH tonneau latch position switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin A at LH tonneau latch limit ch connector F-119. n ignition to ON position. d voltmeter.	Yes	▶	Replace LH tonneau latch limit switch. Restore vehicle. Retest system. Repair circuit GC 22. Restore vehicle. Retest system.
• IS 0.	7 volts present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
46-1	CHECK CIRCUIT GC 20 FOR VOLTAGE AT RH TONNEAU LATCH LIMIT SWITCH			
 Usin cont Back tonn Turn NOTE Read 	ess RH tonneau latch limit switch. In g Digital Volt/Ohm Meter (DVOM) set on DC volt, In ect negative lead to a known good ground. In probe and connect the positive lead to pin C at RH In itematical section is recommended. Itematical is recommended in the section is recommended. Itematical is recomm	Yes No	A	Go to 46-2 . Repair circuit GC 20. Restore vehicle. Retest system.
46-2	CHECK CIRCUIT GC 22 FOR VOLTAGE AT RH TONNEAU LATCH LIMIT SWITCH			
• Usir con • Bacl tonr	ess RH tonneau latch limit switch. ng Digital Volt/Ohm Meter (DVOM) set on DC volt, nect negative lead to a known good ground. k probe and connect the positive lead to pin A at RH neau limit switch connector F-111. n ignition to ON position.	Yes No	*	Go to 46-3 . Repair circuit GC 22. Restore vehicle. Retest system.
• Rea	d voltmeter.			
• Is 0.	7 volts present?			
46-3	CHECK CIRCUIT GC 25 FOR VOLTAGE AT LH TONNEAU LATCH LIMIT SWITCH			
 Access LH tonneau latch limit switch connector F-111. Using DVOM set on DC volt, connect negative lead to a known good ground. Back probe and connect the positive lead to pin B at RH tonneau limit switch connector F-111. Turn ignition to ON position. 		Yes No	>	Go to 46-4 . Replace RH tonneau latch limit switch. Restore vehicle. Retest system.
NOTE	2.1 volts with switch open. 0.7 volts with switch closed.			
• Read	d voltmeter.			
• Is pr	oper voltage present?			
46-4	CHECK CIRCUIT GC 25 AT ECU			
 Access connector F-124 at ECU. Using DVOM set on DC volt, connect negative lead to a known good ground. Back probe and connect the positive lead to pin 40 at 		Yes	•	Replace ECU. Restore vehicle. Retest system.
ECU connector F-124. • Turn ignition to ON position. • Read voltmeter.		No		Repair circuit GC 25. Restore vehicle. Retest system.
NOTE	2.1 volts with switch open. 0.7 volts with switch closed.			
• Is pr	oper voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.
PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.
PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
47-1	CHECK CIRCUIT GC 25 FOR SHORT TO GROUND		
• Usi con • Cor F-12 • Rea	connect connector F-124 at ECU. ng Digital Volt/Ohm Meter (DVOM) set to ohm scale, nect negative lead to a known good ground. nect the positive lead to pin 40 at ECU connector 24. Id ohmmeter. here continuity?	Yes No	Go to 47-2. Replace ECU. Restore vehicle. Retest system.
47-2	CHECK CIRCUIT GC 20 FOR VOLTAGE		
• Acc con • Usin kno • Con swin • Turn • Rea	enect connector F-124 at ECU. ess and disconnect RH tonneau latch limit switch nector F-111. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect positive lead to pin C at RH tonneau latch limit tch connector F-111. n ignition to ON position. d voltmeter. 1 volts present?	Yes No	Go to 47-3. Repair circuit GC 20 for open. Repair circuit GC 25 for short to ground. Restore vehicle. Retest system.
	-		
disc • Usir kno • Con limi • Rea	check circuit GC 22 FOR Voltage nector F-111 at RH tonneau latch limit switch onnected. ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin A at RH tonneau latch t switch connector F-111. d voltmeter. 7 volt present?	Yes No	Go to 47-4. Repair circuit GC 22 for open. Repair circuit GC 25 for short to ground. Restore vehicle. Retest system.
47-4	CHECK RH TONNEAU LATCH LIMIT SWITCH		
disc • Usir A of • Con	nector F-111 at RH tonneau latch limit switch onnected. ng DVOM set on ohm scale, connect one lead to pin RH tonneau latch limit switch. nect the second lead to pin B of RH tonneau latch switch.	Yes	Repair circuit GC 25 for open and short to ground. Restore vehicle. Retest system.
CheeCon switCon switChee	ck for continuity. nect one lead to pin B of RH tonneau latch limit ch. nect second lead to pin C of RH tonneau latch limit ch. ck for continuity.	No ▶	Replace RH tonneau latch limit switch. Repair circuit GC 25 for short to ground. Restore vehicle. Retest system.
• Swit	ch pressed = continuity A and B. ch open = continuity B and C.		
• Doe:	s switch operate properly?		

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	•	ACTION TO TAKE
48-1 CHE	ECK CIRCUIT GC 25 AT ECU FOR VOLTAGE			
 Access connector F-124 at ECU. Using Digital Volt/Ohm Meter (DVOM) set to DC volt, connect negative lead to a known good ground. Back probe and connect the positive lead to pin 40 at ECU connector F-124. Turn ignition to ON position. Turn on all accessories and lights and operate hardtop system. Read voltmeter. Is there 3.0 volts or more? 		Yes No	* *	Go to 48-2 . Replace ECU. Restore vehicle. Retest system.
48-2 CHE	ECK CIRCUIT GC 20 AT RH TONNEAU LATCH IT SWITCH FOR VOLTAGE			
connector Using DV known go Connect p switch ha Turn ignit Turn on a system. Read volt	OM set to DC volt, connect negative lead to a good ground. Dositive lead to pin C at RH tonneau latch limit rness connector F-111. Dion to ON position. Il accessories and lights and operate hardtop	Yes No	•	Repair circuit GC 20. Restore vehicle. Retest system. Go to 48-3 .
48-3 CHE	ECK CIRCUIT GC 22 AT RH TONNEAU LATCH IT SWITCH FOR VOLTAGE			
 Connector F-111 at RH tonneau latch limit switch disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect positive lead to pin A at RH tonneau latch limit switch harness connector F-111. Turn ignition to ON position. Turn on all accessories and lights and operate hardtop system. Read voltmeter. 		Yes	>	Repair circuit GC 22. Restore vehicle. Retest system. Repair circuit GC 25. Restore vehicle. Retest system.
• Is voltage	over 0.7 volts?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT		ACTION TO TAKE
49-1	CHECK CIRCUIT GC 25 FOR VOLTAGE AT ECU			,
• Usir coni • Bacl ECU • Turr	ess connector F-124 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Indect negative lead to known good ground. Indect probe and connect the positive lead to pin 40 at lead to pin 40 at lead to pin 40 at lead to Din 40	Yes No	•	Replace ECU. Restore vehicle. Retest system. Go to 49-2 .
• Is 0.	7 or 2.1 volts present?			
49-2	CHECK CIRCUIT GC 25 FOR VOLTAGE AT RH TONNEAU LATCH LIMIT SWITCH			
• Usir knov	ess RH tonneau latch limit switch connector F-111. ng DVOM set to DC volt, connect negative lead to a wn good ground.	Yes	•	Repair circuit GC 25. Restore vehicle. Retest system.
tonr • Turr	c probe and connect positive lead to pin B at RH neau latch limit switch connector F-111. n ignition to ON position. d voltmeter.	No	•	Go to 49-3 .
• Is 0.	7 or 2.1 volts present?			
49-3	CHECK CIRCUIT GC 20 FOR VOLTAGE			
• Disc F-11	connect RH tonneau latch position switch, connector	Yes	•	Go to 49-4 .
• Usir kno • Con limi • Turr	ng DVOM set to DC volt, connect negative lead to a wn good ground. nect the positive lead to pin C at RH tonneau latch t switch connector F-111. n ignition to ON position. d voltmeter.	No	•	Repair circuit GC 20. Restore vehicle. Retest system.
• Is 2.	1 volts present?			
49-4	CHECK CIRCUIT GC 22 FOR VOLTAGE			
 Connector F-111 at RH tonneau latch position switch disconnected. Using DVOM set to DC volt, connect negative lead to a known good ground. Connect positive lead to pin A at RH tonneau latch limit switch connector F-111. 		Yes	•	Replace RH tonneau latch limit switch. Restore vehicle. Retest system.
• Turr • Rea	n ignition to ON position. d voltmeter. 7 volts present?	No	>	Repair circuit GC 22. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
50-1	CHECK HARDTOP MANUAL OPERATION		
• Opera • Acc pos • Turr • Pres rele • Turr • Mar pos	E: A second person will be needed for this ation. en hard tonneau. ess and turn hardtop bypass valve to MANUAL ition. ition. in ignition to the ON position. ess hardtop control switch to the OPEN position to ase header latches. Release hardtop control switch. in ignition to OFF position. inually operate hardtop to full open and full closed itions. es hardtop operate without binding?	Yes No	Go to 50-2 . Check for binding of mechanical and/or hydraulic components. Service as required. Restore vehicle. Retest system.
50-2	CHECK HARDTOP PUMP OPERATION WHILE IN BYPASS		
• Hard • Turr • Pres • Che	DTCs from ECUs memory. dtop bypass valve in MANUAL position. n ignition to ON position. ss hardtop control switch to OPEN position. ck for DTCs. DTC 50 return?	Yes No	Go to 50-3. Replace hardtop pump assembly. Restore vehicle. Retest system.
50-3	CHECK CIRCUIT GC 29 FOR SHORT TO GROUND		
• Disc • Usir con • Con mot	connect connector F-125 at ECU. connect hardtop drive motor connector F-120. ng Digital Volt/Ohm Meter (DVOM) set to ohm scale, nect negative lead to a known good ground. nect the positive lead to pin B at hardtop drive for connector F-120. d ohmmeter.	Yes No	Repair circuit GC 29. Restore vehicle. Retest system. Go to 50-4.
• Is th	nere continuity?		
50-4	CHECK CIRCUIT GC 30 FOR SHORT TO GROUND		
• Con • Usir a kn • Con mot • Rea	nector F-125 at ECU disconnected. nector F-120 at hardtop drive motor disconnected. ng DVOM set to ohm scale, connect negative lead to nown good ground. nect the positive lead to pin A at hardtop drive for connector F-120. d ohmmeter. nere continuity?	Yes No	Repair circuit GC 30. Restore vehicle. Retest system. Go to 50-5.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 50 (CONTINUED)

···	TEST STEP	RESULT		ACTION TO TAKE
50-5	CHECK CIRCUIT GC 29 AND GC 30 FOR SHORT CIRCUIT			
• Cor • Usi	nnector F-125 at ECU disconnected. Innector F-120 at hardtop drive motor disconnected. Innector F-120 at hardtop drive motor disconnected. In DVOM set to ohm scale, connect one lead to pin thardtop drive motor connector F-120. Innect the second lead to pin A at hardtop drive	Yes	•	Repair circuits GC 29 and GC 30. Restore vehicle. Retest system.
motor connector F-120. • Read ohmmeter. • Is there continuity?		No	>	Replace hardtop drive motor. Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
51-1	CHECK HARD TONNEAU MANUAL OPERATION		
• Acc MA • Mai clos	ease hard tonneau latches. less and turn hard tonneau bypass valve to NUAL position. nually operate hard tonneau to full open and full lesed positions. les hard tonneau operate without binding?	Yes No	Go to 51-2. Check for binding of mechanical and/or hydraulic components. Service as required. Restore vehicle. Retest system.
• Har • Turi • Pre:	CHECK HARD TONNEAU PUMP OPERATION WHILE IN BYPASS ar DTCs from ECUs memory. d tonneau bypass valve in MANUAL position. n ignition to ON position. ss hard tonneau control switch to OPEN position. eck for DTCs.	Yes No	Replace hard tonneau pump assembly. Restore vehicle.
• Did	DTC 51 return?		Retest system.
• Disc • Usin con • Con driv	CHECK CIRCUIT GC 31 FOR SHORT TO GROUND connect connector F-125 at ECU. connect hard tonneau drive motor connector F-113. ng Digital Volt/Ohm Meter (DVOM) set to ohm scale, nect negative lead to a known good ground. Indect the positive lead to pin A at hard tonneau we motor connector F-113.	Yes •	Repair circuit GC 31. Restore vehicle. Retest system. Go to 51-4.
• Is ti	here continuity?		
• Con disc • Usii a kr • Con pun	CHECK CIRCUIT GC 32 FOR SHORT TO GROUND innector F-125 at ECU disconnected. Innector F-113 at hard tonneau drive motor connected. In go DVOM set to ohm scale, connect negative lead to nown good ground. Innect the positive lead to pin B at hard tonneau inp connector F-113. In do ohmmeter.	Yes •	Repair circuit GC 32. Restore vehicle. Retest system. Go to 51-5.
• Is th	nere continuity?		
51-5	CHECK CIRCUIT GC 31 AND GC 32 FOR SHORT CIRCUIT		
• Con • Usir A at • Con pun • Rea	nnector F-125 at ECU disconnected. Innector F-113 at hard tonneau pump disconnected. Ing DVOM set to ohm scale, connect one lead to pin the third tonneau pump connector F-113. Innect the second lead to pin B at hard tonneau inp connector F-113. Ind ohmmeter.	Yes No	pump assembly.
• Is th	nere continuity?		Restore vehicle. Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP		RESULT >	ACTION TO TAKE
52-1	CHECK CIRCUIT GW 52 FOR VOLTAGE AT ECU			
• Usin back conr • Back conr • Turn • Pres NOTE	ess connector F-123 at ECU. In Digital Volt/Ohm Meter (DVOM) set to DC volt, is probe and connect negative lead to pin 19 at ECU nector F-123. In probe and connect positive lead to pin 18 at ECU nector F-123. In ignition to ON position. Is hardtop control switch to CLOSED position. It Tonneau and header must latch. It voltmeter. It stem voltage present?	Yes No	>	Go to 52-2 . Replace ECU. Restore vehicle. Retest system.
52-2	CHECK CIRCUIT GW 51 FOR VOLTAGE AT ECU			
• Usir nega • Bacl coni • Turr • Pres	ess connector F-123 at ECU. ng DVOM set to DC volt, back probe and connect ative lead to pin 18 at ECU connector F-123. to probe and connect positive lead to pin 19 at ECU nector F-123. n ignition to ON position. ss hardtop control switch to OPEN position. d voltmeter.	Yes No	>	Go to 52-3 . Replace ECU. Restore vehicle. Retest system.
· Is sy	ystem voltage present?			
• Usir pin • Con con • Turr • Ope • Rea	CHECK CIRCUIT GW 51 AND 52 FOR VOLTAGE AT DRIVER DOOR RELAY ess and disconnect driver window relay controller nector E-126. ng DVOM set to DC volt, connect negative lead to 1 at driver window relay controller connector E-126. nect positive lead to pin 2 at driver window relay troller connector E-126. nignition to ON position. erate hardtop control switch to OPEN position. d voltmeter. E: Quarter windows must be extended. eystem voltage present?	Yes No	>	Go to 52-6 . Go to 52-4 .
52-4	CHECK CIRCUIT GW 51 FOR OPEN		-	
• Con • Usir pin • Con • Rea	connect connector F-123 at ECU. Inector E-126 at driver window relay disconnected. In DVOM set to ohm scale, connect negative lead to 1 at window relay controller connector E-126. In ect positive lead to pin 18 at ECU connector F-123. In ohm sor less?	Yes No	▶	Go to 52-5. Repair circuit GW 51. Restore vehicle. Retest system.
· Is th	nere 3 ohms or less?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS. PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 52 (CONTINUED)

	TEST STEP	RESULT		ACTION TO TAKE
52-5	CHECK CIRCUIT GW 52 FOR OPEN			
• Con • Usir pin • Con • Rea	connect connector F-123 at ECU. Innector E-126 at driver window relay disconnected. Ing DVOM set to ohm scale, connect negative lead to 2 at window relay controller connector E-126. Innect positive lead to pin 19 at ECU connector F-123. Ind ohmmeter. Inhere 3 ohms or less?	Yes No	 	Circuits check okay. Restore vehicle. Retest system. Repair circuit GW 52. Restore vehicle. Retest system.
52-6	CHECK VOLTAGE TO DRIVER WINDOW MOTOR			'
• Disc con • Usir con to p con • Con win	nnect driver relay controller connector E-126. connect driver window relay window motor nector E-125. ng Digital Volt/Ohm Meter (DVOM) set to DC volt, nect negative lead in 2 at driver window relay window motor nector. nnector positive lead to pin 1 at driver window relay dow motor connector E-125. n ignition to ON position.	Yes No		Replace driver window motor. Restore vehicle. Retest system. Replace driver window relay assembly.
NOTE	E: Quarter windows must be extended.			
	erate hardtop control switch to OPEN position. d voltmeter.			
· Is s	ystem voltage present?			

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT	ACTION TO TAKE
53-1	CHECK CIRCUIT GW 53 FOR VOLTAGE		
• Usi cor • Bad cor • Tur NOT	ress connector F-123 at ECU. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Innect negative lead to a known good ground. Ick probe and connect positive lead to pin 13 at ECU Innector F-123. In ignition to ON position.	Yes No	Go to 53-2 . Replace ECU. Restore vehicle. Retest system.
	ition. d voltmeter.		
· Is s	ystem voltage present?		
53-2	CHECK CIRCUIT GW 54 FOR VOLTAGE		
• Acc	ess connector F-123 at ECU.	Yes	Go to 53-3 .
kno Bac con	ng DVOM set to DC volt, connect negative lead to a wn good ground. k probe and connect positive lead to pin 14 at ECU nector F-123. n ignition to ON position.	No •	Replace ECU. Restore vehicle. Retest system.
NOT	E: Quarter windows must be extended.		
pos	mentarily operate hardtop control switch to OPEN ition. d voltmeter.		
· Is s	ystem voltage present?		
53-3	CHECK PASSENGER WINDOW MOTOR CIRCUITS FOR OPEN		
• Usin pin • Con 123		Yes ▶	Replace passenger window motor. Restore vehicle. Retest system.
• Rea	d ohmmeter.	No	Go to 53-4 .
• Is th	nere 10 ohms or less?		
53-4	CHECK CIRCUIT GW 53 FOR OPEN		
 Acce Using pinger Congression Reader 	nector F-123 at ECU disconnected. ess and disconnect passenger window motor E-08. ng DVOM set to ohm scale, connect positive lead to 13 at ECU connector F-123. nect the negative lead to pin 2 at passenger dow motor connector E-08. d ohmmeter.	Yes No	Go to 53-5 . Repair circuit GW 53. Restore vehicle. Retest system.
· Is th	ere 3 ohms or less?		

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 53 (CONTINUED)

	TEST STEP	RESULT	>	ACTION TO TAKE
53-5	CHECK CIRCUIT GW 54 FOR OPEN			
• Cor disc • Usii pin • Con win	inector F-123 at ECU disconnected. Inector E-08 at passenger window motor Inector E-08 at passenger window motor Inector E-08 at passenger window motor Inector E-123. Inect the negative lead to pin 1 at passenger Inect the negative lead to pin 1 at passenger Inector E-08. In the negative lead to pin 1 at passenger Inector E-08. In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger In the negative lead to pin 1 at passenger	Yes	*	Replace passenger window motor. Restore vehicle. Retest system. Repair circuit GW 54. Restore vehicle.
	nere 3 ohms or less?			Retest system.

REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS.

PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

	TEST STEP	RESULT ▶	ACTION TO TAKE
56-1	CHECK VOLTAGE AT CIRCUIT GC 47		
• Usir con • Con • Turr	connect object-in-trunk sensor connector F-115. Ing Digital Volt/Ohm Meter (DVOM) set to DC volt, Inect negative lead to a known good ground. Inect the positive lead to pin 2 of connector F-115. In ignition to ON position. Induction of the connector of the provided in the positive lead to pin 2 of connector of the positive lead to pin 2 of connector of the provided in the provid	Yes ▶ No ▶	Go to 56-2 . Go to 56-5 .
• Is sy	ystem voltage present?		
56-2	CHECK CIRCUIT GC 48 FOR GROUND THROUGH ECU		
• Usir a kn • Con • Rea	nector F-115 at object-in-trunk sensor disconnected. ng DVOM set to ohm scale connect negative lead to lown good ground. nect the positive lead to pin 1 of connector F-115. d ohmmeter. eading between 265 and 396 ohms?	Yes No	Go to 56-3 . Go to 56-4 .
1316	rading between 200 and 550 onns:		
56-3	CHECK CIRCUIT GC 49 FOR GROUND THROUGH ECU		
• Usir a kn • Con	nector F-115 at object-in-trunk sensor disconnected. ng DVOM set to ohm scale, connect negative lead to lown good ground. nect the positive lead to pin 3 of connector F-115. d ohmmeter.	Yes ▶	Replace object-in- trunk sensor. Restore vehicle. Retest system.
· Is re	eading between 265 and 396 ohms?	No >	Go to 56-6 .
56-4	CHECK CIRCUIT GC 48 FOR SHORT TO GROUND		
• Con • Usir	connect connector F-124 at ECU. nector F-115 at object-in-trunk sensor disconnected. ng DVOM set to ohm scale, connect negative lead to lown good ground.	Yes ▶	Repair circuit GC 48. Restore vehicle. Retest system.
• Con F-12	nect the positive lead to pin 3 at ECU connector	No	Go to 56-7 .
• Is th	nere continuity?		
56-5	CHECK CIRCUIT GC 47 FOR SHORT TO GROUND		
• Con • Usir a kn • Con F-12 • Rea	d ohmmeter.	Yes No	Repair circuit GC 49. Restore vehicle. Retest system. Go to 56-8 .
• Is th	nere continuity?		

PINPOINT TESTS

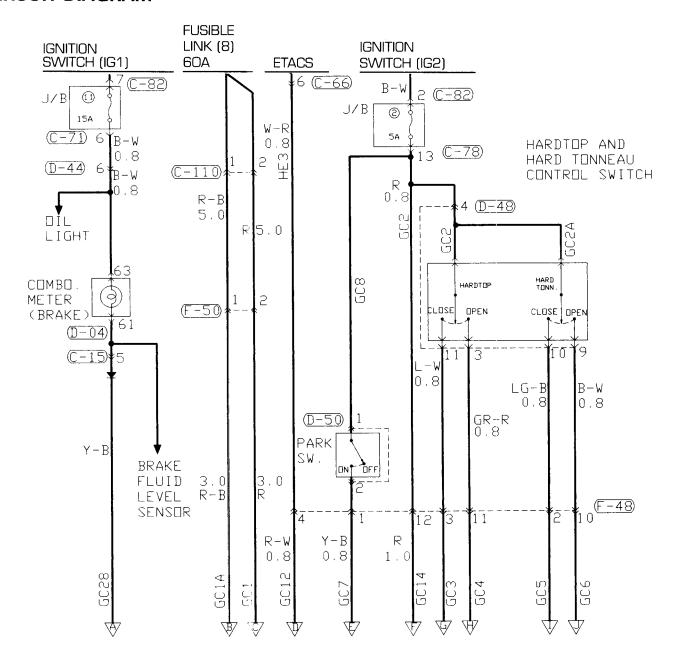
REFER TO: PAGES 42-15 THROUGH 42-17 FOR PRECAUTIONS BEFORE SERVICE, NOTES AND DEFINITIONS OF TERMS. PAGES 42-33 THROUGH 42-40 FOR SYMPTOM CHARTS.

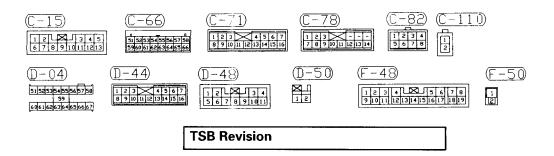
PAGES 42-41 THROUGH 42-46 FOR TROUBLESHOOTING HINTS.

DTC 56 (CONTINUED)

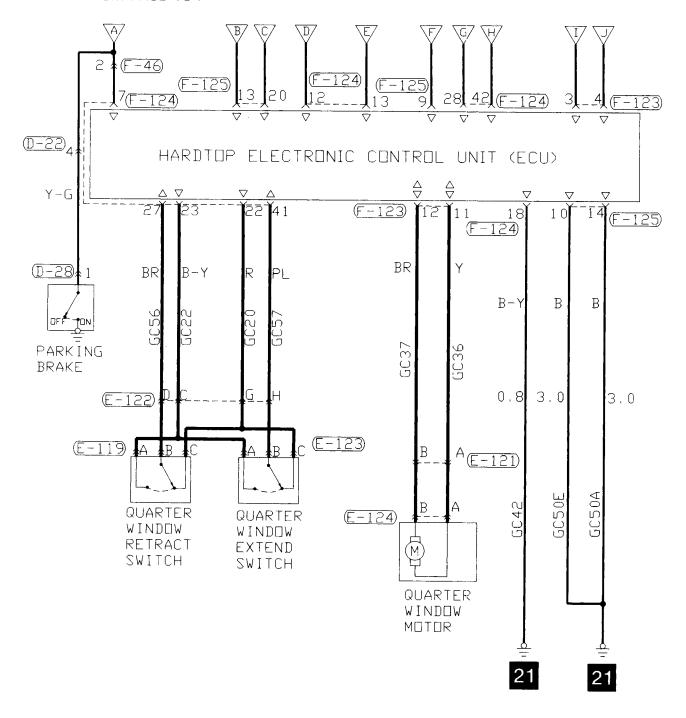
TEST STEP		RESULT >	ACTION TO TAKE
56-6	CHECK CIRCUIT GC 49 FOR SHORT TO GROUND		
Disconnect connector F-124 at ECU. Connector F-115 at object-in-trunk sensor disconnected. Using Digital Volt/Ohm Meter (DVOM) set to ohm scale, connect negative lead to a known good ground.		Yes	Repair circuit GC 47. Restore vehicle. Retest system.
Connect the positive lead to a known good ground. Connect the positive lead to pin 4 at ECU connector F-124. Read ohmmeter.		No >	Go to 56-9 .
• Is there continuity?			
56-7	CHECK CIRCUIT GC 48 FOR OPEN		
 Connector F-115 at object-in-trunk sensor disconnected. Connector F-124 at ECU disconnected. Using DVOM set to ohm scale, connect one lead to pin 3 at ECU connector F-124. 		Yes	Replace ECU. Restore vehicle. Retest system.
Connect the second lead to pin 1 at object-in-trunk sensor connector F-115. Read ohmmeter.		No •	Repair circuit GC 48. Restore vehicle. Retest system.
• Is there 3 ohms or less?			
56-8	CHECK CIRCUIT GC 47 FOR OPEN		
 Connector F-115 at object-in-trunk sensor disconnected. Connector F-124 at ECU disconnected. Using DVOM set to ohm scale, connect one lead to pin 37 at ECU connector F-124. 		Yes ▶	Replace ECU. Restore vehicle. Retest system.
Connect the second lead to pin 2 at object-in-trunk sensor connector F-115. Read ohmmeter.		No >	Repair circuit GC 47. Restore vehicle. Retest system.
• Is there 3 ohms or less?			
56-9	CHECK CIRCUIT GC 49 FOR OPEN		
 Connector F-115 at object-in-trunk sensor disconnected. Connector F-124 at ECU disconnected. Using DVOM set to ohm scale, connect one lead to pin 4 at ECU connector F-124. Connect the second lead to pin 3 at object-in-trunk sensor connector F-115. Read ohmmeter. 		Yes •	Replace ECU. Restore vehicle. Retest system. Repair circuit GC 49. Restore vehicle. Retest system.
• Is there 3 ohms or less?			

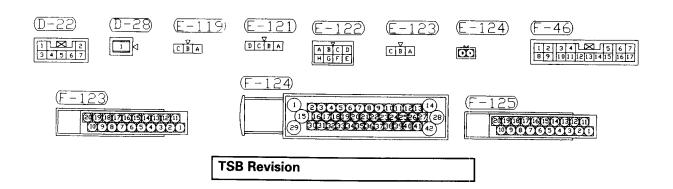
RETRACTABLE HARDTOP ELECTRONIC CONTROL UNIT, (ECU) POWER DISTRIBUTION CIRCUIT DIAGRAM





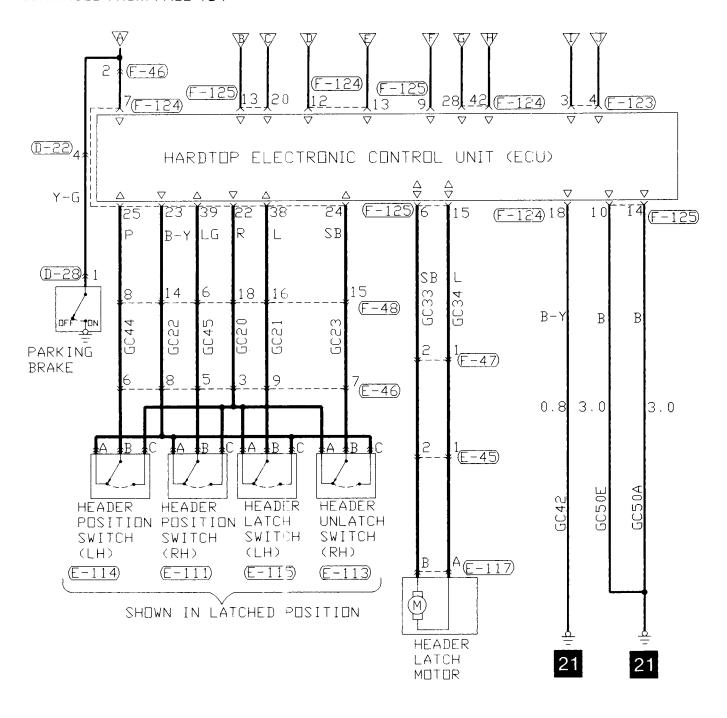
POWER QUARTER WINDOW CIRCUIT DIAGRAM

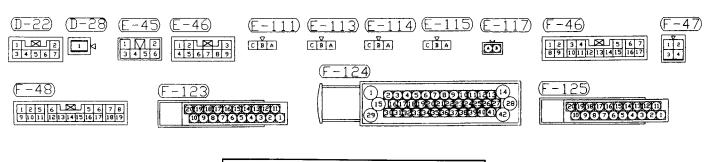




HEADER LATCH SYSTEM CIRCUIT DIAGRAM

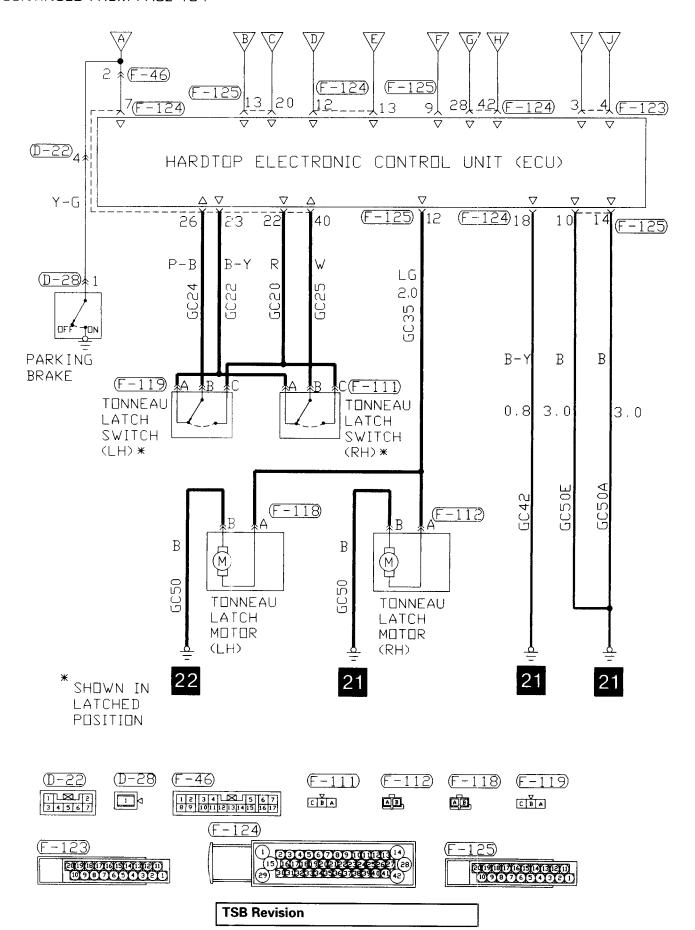
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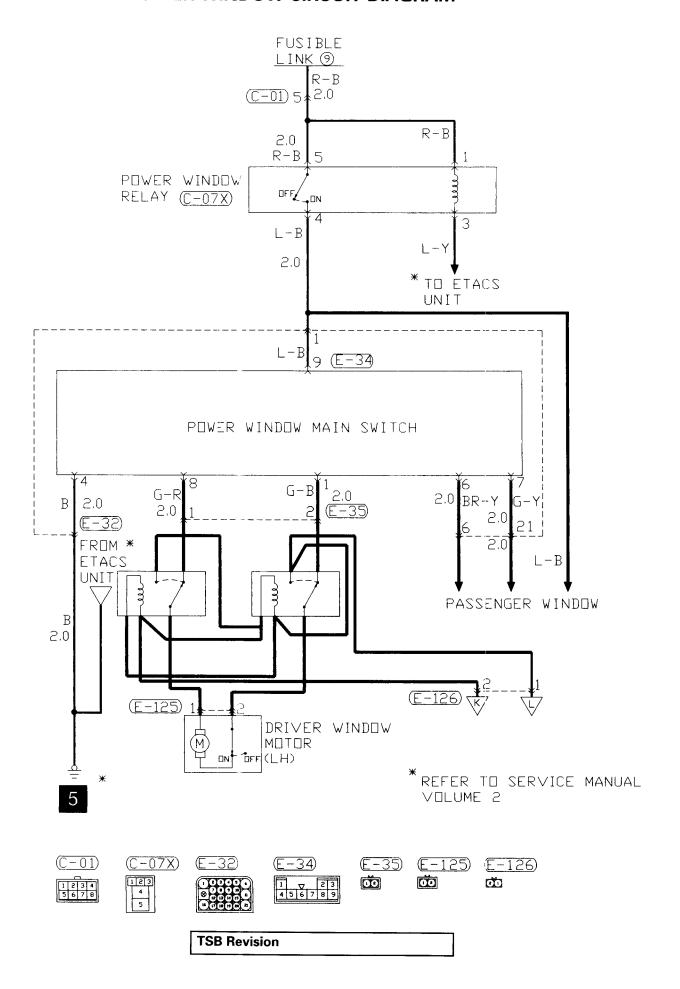


TSB Revision

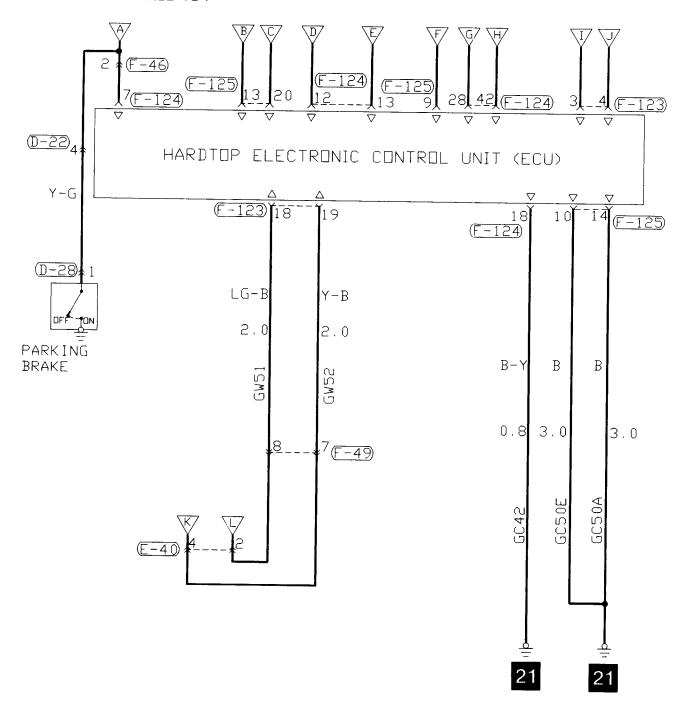
HARD TONNEAU LATCH SYSTEM CIRCUIT DIAGRAM

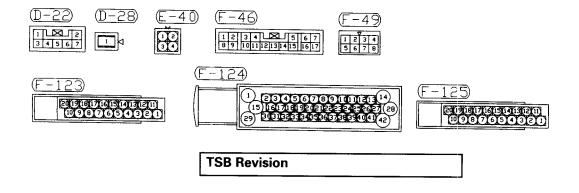


DRIVER'S DOOR POWER WINDOW CIRCUIT DIAGRAM

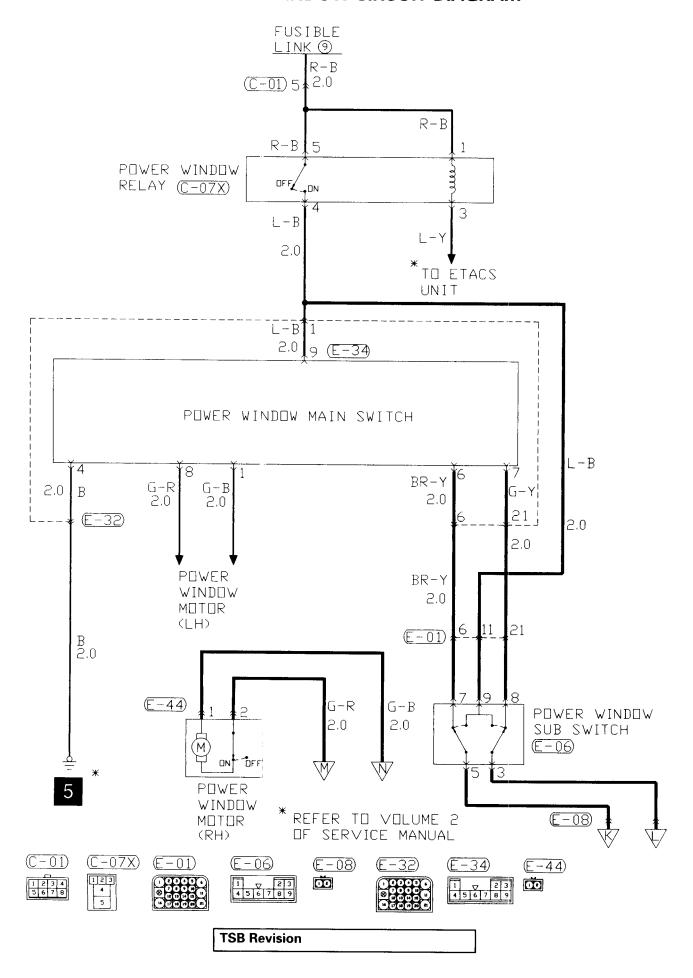


DRIVER'S DOOR POWER WINDOW CIRCUIT DIAGRAM (CONTINUED)

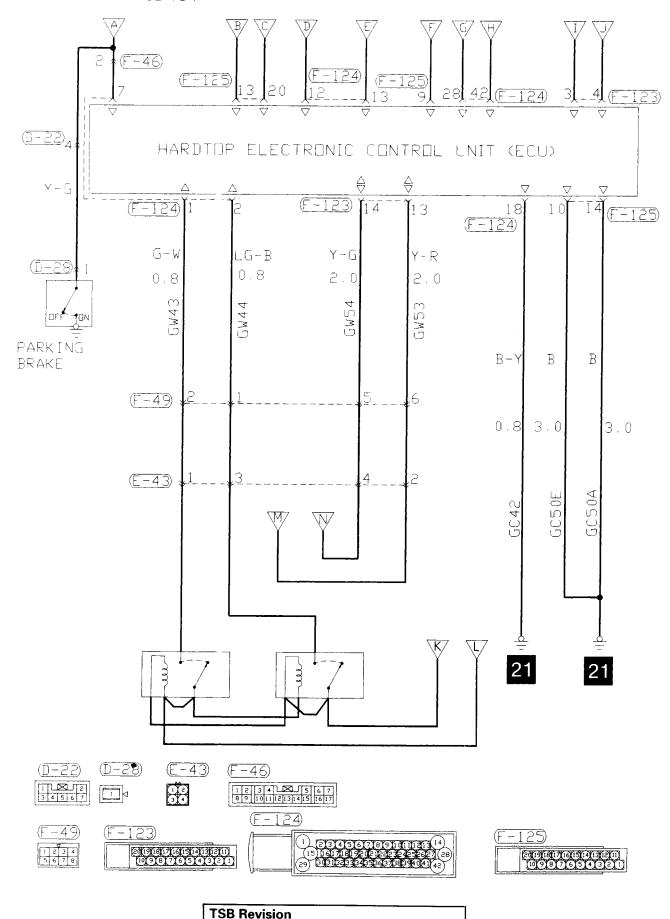




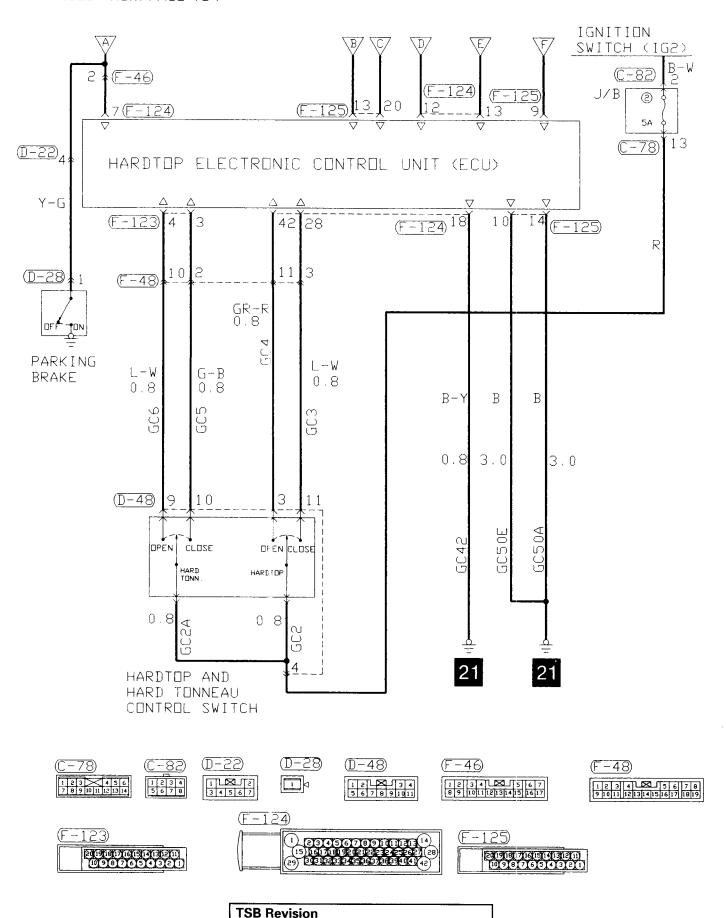
PASSENGER'S DOOR POWER WINDOW CIRCUIT DIAGRAM



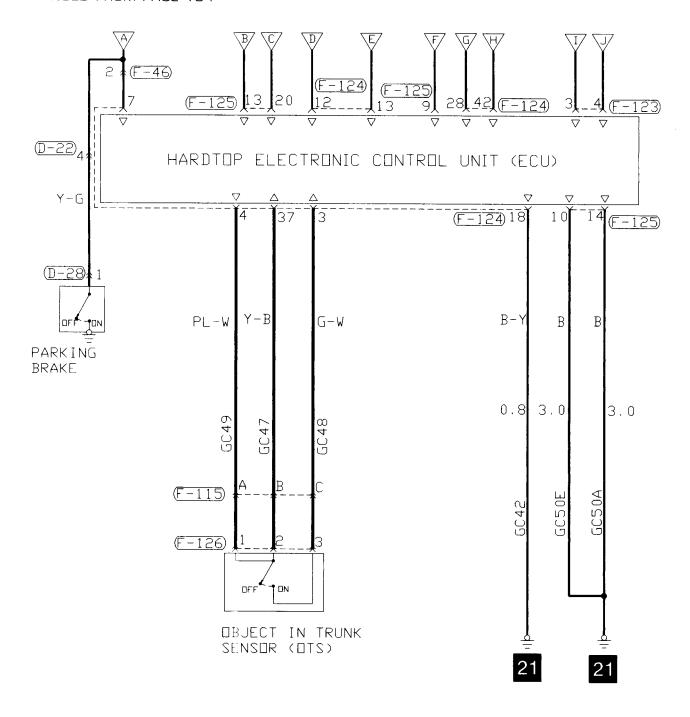
PASSENGER'S DOOR POWER WINDOW CIRCUIT DIAGRAM (CONTINUED)

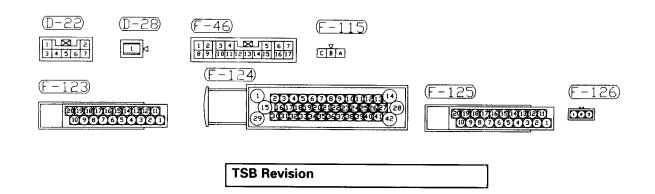


HARDTOP AND HARD TONNEAU CONTROL SWITCH CIRCUIT DIAGRAM

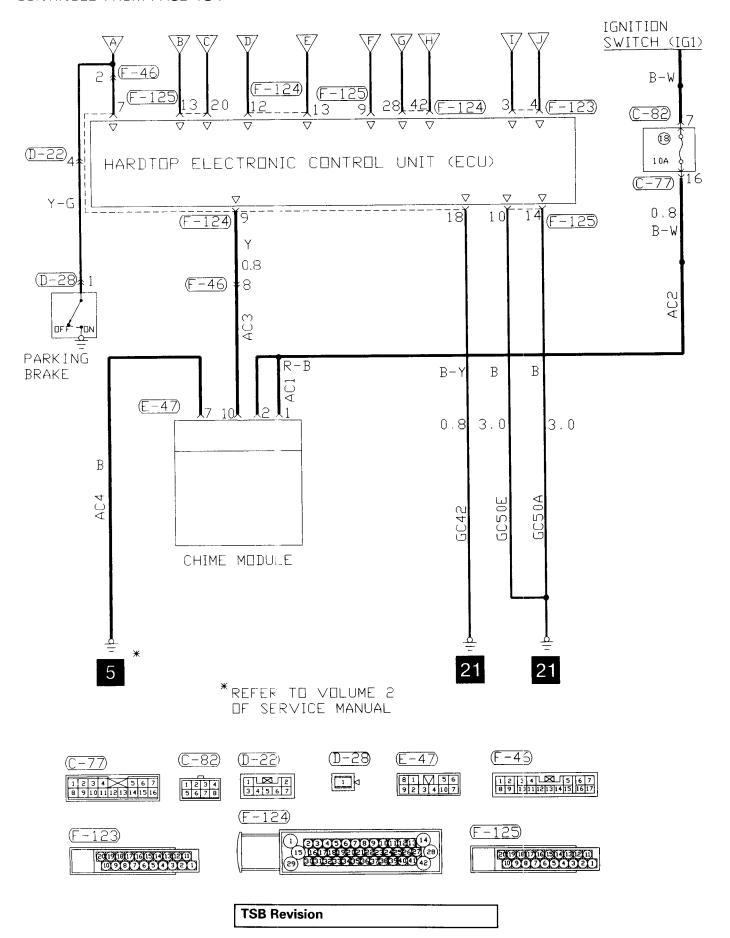


OBJECT-IN-TRUNK SENSOR CIRCUIT DIAGRAM



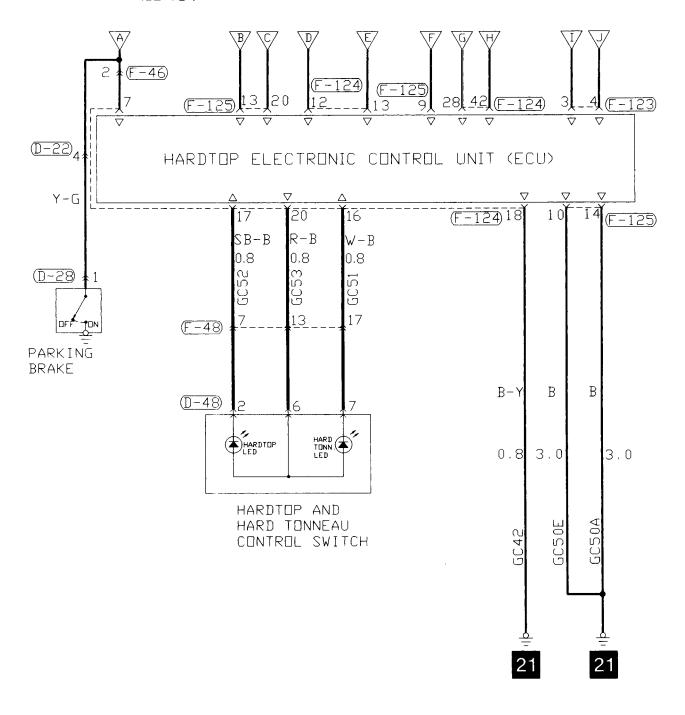


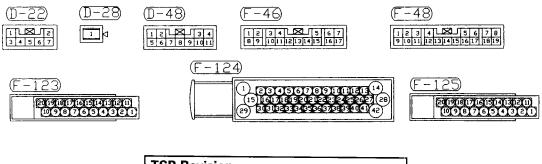
CHIME MODULE CIRCUIT DIAGRAM



LED's CIRCUIT DIAGRAM

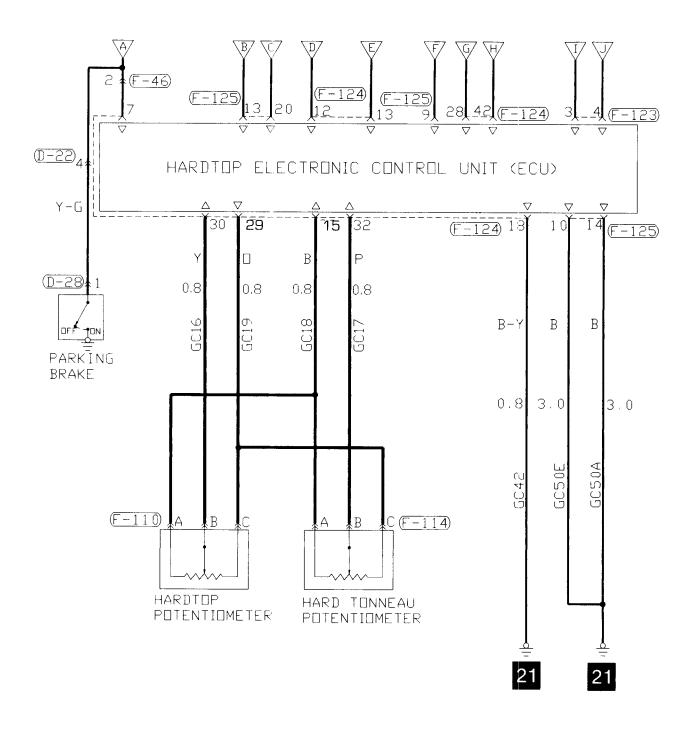
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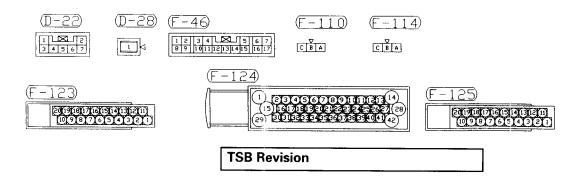




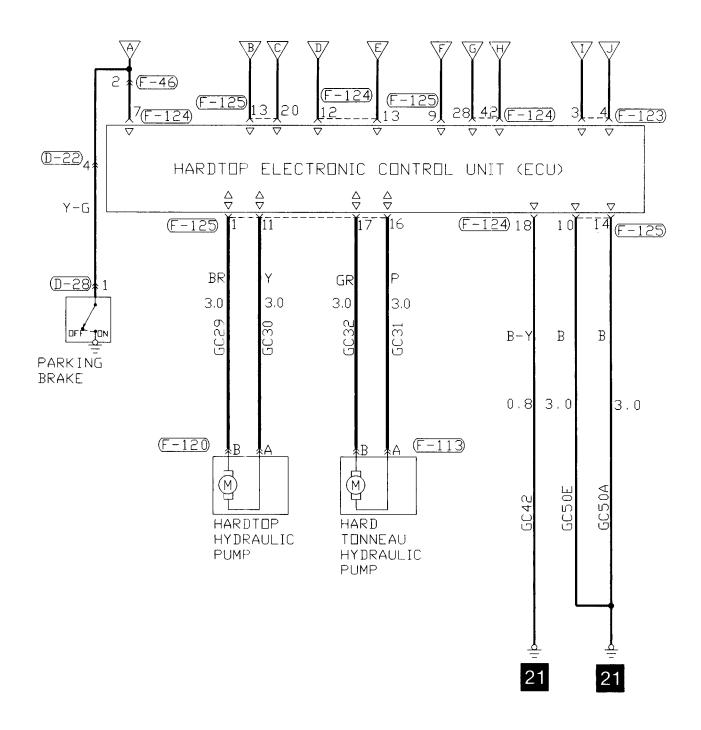
TSB Revision

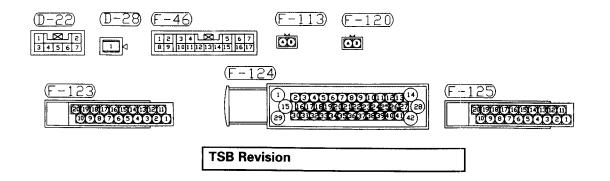
POTENTIOMETERS CIRCUIT DIAGRAM



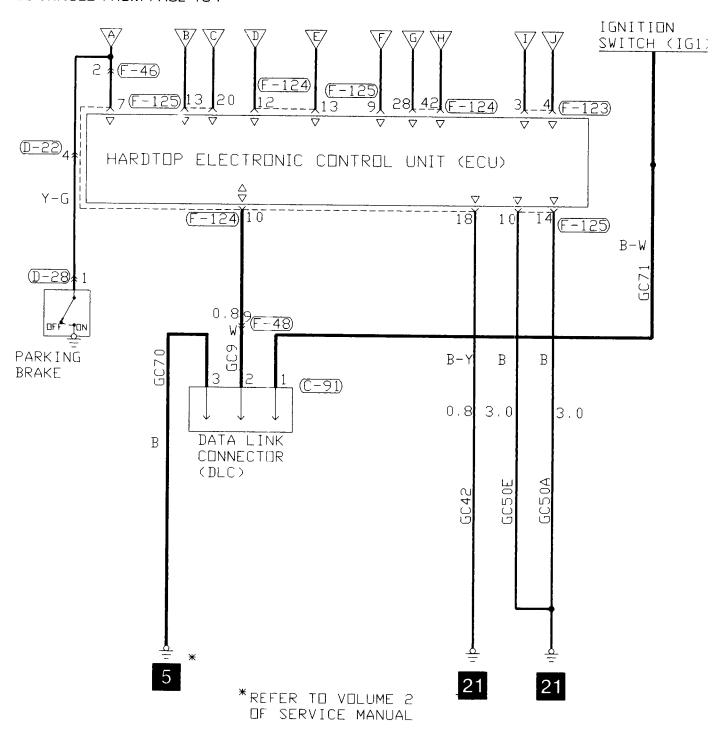


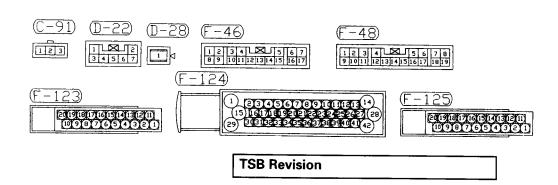
HARDTOP AND HARD TONNEAU HYDRAULIC PUMPS CIRCUIT DIAGRAM





DATA LINK CONNECTOR (DLC) CIRCUIT DIAGRAM





SERVICE ADJUSTMENT PROCEDURES RETRACTABLE HARDTOP ASSEMBLY

The topics below are addressed individually, but they MUST be considered as one when adjusting the hardtop.

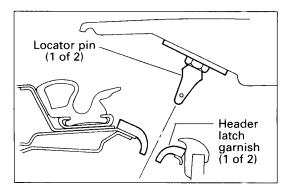
- ROOF PANELS
- UP-STOPS
- DOWN STOPS
- ROOF CENTER AND REAR HINGES
- LOCATOR PINS AND STRIKERS
- HEADER LATCH GARNISHES
- MAIN PIVOT BRACKETS
- BALANCE LINKS

Description

The hardtop is attached to the vehicle by two main pivot brackets attached to the Spyder-unique body structure over the rear wheels. Locating pins (roll pins) precisely locate the main pivots to the body structure. Service part main pivot brackets are pre-drilled to accept the roll pins. This facilitates overall hardtop-to-vehicle alignment with minimal adjustment.

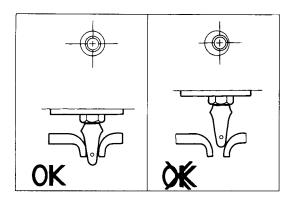
Caution

- 1. The location of the main pivot brackets to the body structure is extremely critical for the hardtop system to operate properly and consistently.
- 2. Using the roll pins to align the main pivots to the body structure should only be used on a vehicle that has been proven to be dimensionally at factory specifications, i.e. you must determine by measuring that the vehicle body (regular coupe body structure, and the Spyder-unique body structure) has not sustained structural damage, or had structural parts replaced or repaired. In cases where the vehicle has sustained damage or had structural parts replaced not to specification, DO NOT attempt to use shims between the hardtop and the rear hinge assembly.
- 3. The only recommended way to use a vehicle that has been damaged or had structural parts replaced, is to rebuild the affected area, or parts, to bring it back into specification.



The front of the hardtop locates to the windshield header latch garnishes by tapered locator pins. The parts next to the pins are strikers for the latches. The strikers are not adjustable.

The locator pins can only be adjusted up and down for flushness of the hardtop roof to the windshield header. No side-to-side or front-to-back adjustment is available at the header.



Since the windshield header-to-hardtop location is not adjustable, and the main pivot brackets should not be adjusted, they are the foundation for all hardtop-to-body and tonneau-to-body adjustments.

The interaction between the locator pins and latch garnishes is designed to be smooth and concentric. A binding action or misalignment of the pin to the hole indicates improper adjustment of one or more components of the hardtop system, particularly the balance links. In some cases, binding locator pins may be an indication of damaged body structure at the header or other area of the vehicle.

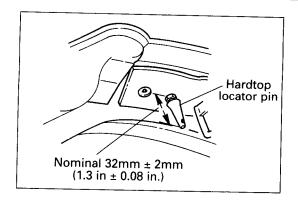
Caution

Mechanical adjustment to, or replacement of, the retractable hardtop system components will require that the hardtop ECU be run through "auto-configuration" using the ASC INCORPORATED computerized diagnostic system. DO NOT perform any adjustment or replacement without having the latest version of the ASC INCORPORATED diagnostic system.

When adjusting one component or area of the hardtop, all components relating to hardtop operation should be checked, and readjusted, if necessary. Adjustments or difference in weatherstrip compression or hardness, can affect inputs to the ECU. This ultimately affects the overall performance of the hardtop system.

When the hardtop is not adjusted properly nearly all areas of the hardtop are affected. Assuming that the body structure, main pivots, locator pins, and hinges are to specification and properly adjusted, typically adjustment problems can be attributed to the balance links and their adjustment to the center roof hinges. Problems that can be balance link-related can be the following:

- hardtop side rail weatherstrip sealing to the door window glass;
- header latch latching and unlatching;
- lock-up of hardtop roof panels before closing;
- hardtop locator pin alignment to the header latch garnishes;
- over-crowning of the hardtop panels (as seen from the side of the vehicle);
- power quarter window system operation and adjustment;
- rear hardtop roof section to front section sealing and the gap between the two roof sections.



ADJUSTMENT OF THE RETRACTABLE HARDTOP SYSTEM

INSPECT

1. HARDTOP LOCATOR PINS

- (1) Using the hardtop "OPEN" switch, open the hardtop halfway.
- (2) Inspect both hardtop locator pins for damage.
 - If the pins are in good condition, go to Step 2.
 - If the pins are damaged, replace them using the following procedure.
 - 1. Loosen the locator pin's jam-nut and remove the locator pin.
 - 2. Install the pin with the jam-nut to the bracket. Attain 32 mm 2 \pm mm (1.3 in. \pm 0.08 in.) as shown in the illustration.
 - 3. Tighten jam-nut.

Standard value: 22 - 34 Nm (17 - 25 ft.lb.)

Check for roof to header flushness. Adjust as necessary. Refer to Step 5.

2. HEADER LATCH GARNISHES

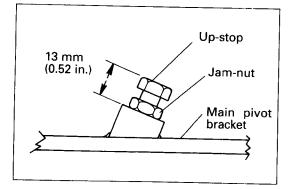
Inspect both header latch garnishes for wear or damage.

- Replace them if they are worn or damaged. To remove them, remove the attaching bolts and remove the adhesive tape securing the weatherstrip to it.
- If the garnishes are in good condition, go to Step 3.

Standard value: LH tapered hole should be round, and both the RH slot and LH hole should show no sign of galling.

3. ALL HARDTOP RELATED WEATHERSTRIPS

Inspect all hardtop related weatherstrips. Replace them if necessary. Refer to WEATHERSTRIPS, in this section for removal and installation instructions. Go to Step 4.



4. HARDTOP UP-STOPS

NOTE

Although these are referred to as up-stops, more accurately they perform the function of down-limiters for the hardtop cylinders. They do not control the "up" position of the hardtop.

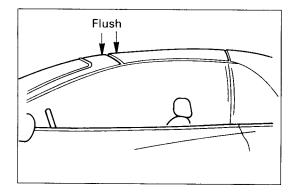
Inspect that the left and right up-stops are at the correct height as shown in the illustration. Adjust as necessary using the following procedure.

- (1) Open the hardtop halfway.
- (2) Loosen the jam-nut.
- (3) Adjust the up-stop to the Standard value.

Standard value: 13 mm (0.52 in.)

(4) Tighten the jam-nut.

Standard value: 22 - 34 Nm (17 - 25 ft.lb.)



5. HARDTOP FLUSHNESS TO WINDSHIELD HEADER

(1) Close the hardtop.

NOTE

If you are not sure the header latches are adjusted properly, remove the header garnish and latch the hardtop using manual operation (refer to MANUAL OPERATION - HEADER LATCHES in Group 00).

(2) Check for flushness of the hardtop to the windshield header skin.

NOTE

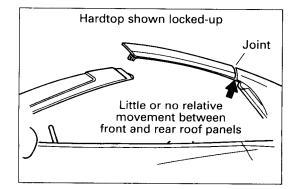
The front roof panel may be flush to 3 mm (0.12 in.) below header.

Standard Value: -2 mm +2 mm -1 mm (-0.08 in. +0.08 in. -0.04 in.)

NOTE

Flushness is a function of the pull force of the header latches combined with the height of the hardtop locator pins to the header latch garnishes. Both systems MUST be working together in order to achieve proper flushness with proper latching effort.

- If the flushness is not acceptable, the header latch system may not be correctly adjusted (refer to HEADER LATCH SYSTEM adjustment, in this section), and/or the hardtop locator pins may need adjustment (refer to HARDTOP LOCATOR PINS in this section).
- · If the flushness is OK go to next step.



6. HARDTOP ROOF LOCK-UP BEFORE CLOSING

Open, then close, the hardtop several times using the switch. While closing the hardtop observe the front roof panel to be sure it locks-up with the rear roof panel according to the Standard value.

NOTE

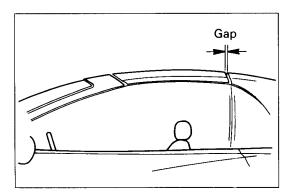
The hardtop MUST lock-up in order for the hardtop locator pins to properly drop into the header latch garnishes. Otherwise, galling of the latch garnishes will

occur, or the locator pins may not align with the garnishes.

Standard value: Hardtop locks-up approximately 51.4 - 102.8 mm (2 - 4 in.) before it completely closes.

NOTE

If hardtop lock-up is not at the Standard value, most likely the balance links require adjustment. Go to Steps 7. 8, 9.



7. 8. 9. GAP BETWEEN FRONT AND REAR ROOF PANELS / FLUSHNESS OF FRONT ROOF PANEL-TO-REAR ROOF PANEL / SIDE-TO-SIDE ALIGNMENT OF FRONT ROOF PANEL TO REAR ROOF PANEL

NOTE

When the alignment and/or gap is not correct, this may be attributed to several components such as the balance links are not adjusted properly, the center roof hinges may require shims added or removed, or the center roof hinges are not adjusted or set properly.

Caution

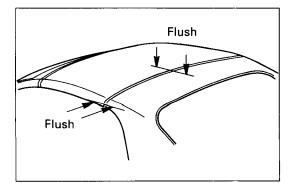
In this particular area of the hardtop, the roof center hinges, balance links, and even the hardtop weather-strip play a major role in achieving proper hardtop alignment and flushness.

Be aware that if either the balance link or a hinge is loosened at any time, for even the slightest adjustment, that could misalign that area.

(1) Check the gap between the front and rear roof panels at the left and right corners and in the center as shown in the illustration.

Standard value: 6 mm \pm 1.0 mm (0.24 in. \pm 0.04 in.) gap

- If the gap is within the Standard value, go to Step 2 of this Step.
- If the gap is not OK, go to Step 10.



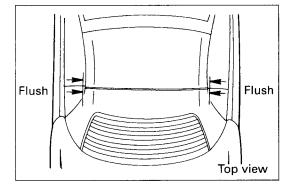
(2) Check the flushness along the gap between the roof panels as shown in the illustration.

NOTE

The rear roof panel may be flush to 2 mm (0.08 in.) lower than front panel.

Standard value: Flush at the sides and top 0 - 2 mm (0 in. - 0.08 in.)

- If the roof panels are within the Standard Value, continue.
- If the roof panel alignment is not within the Standard Value, go to Step 11.



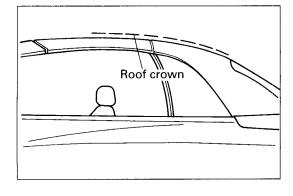
(3) Check the alignment side-to-side of the roof panels to each other along the gap.

NOTE

The rear roof panel may be flush to 2 mm (0.08 in.) inward from front panel.

Standard value: Flush at the sides and top 0 - 2 mm (0 in. - 0.08 in.)

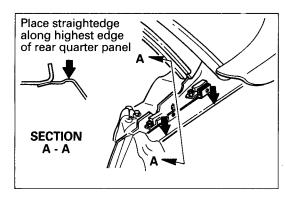
- If the alignment is within the Standard Value, go to Step 10.
- If the alignment is not within the Standard Value, go to Step 11.

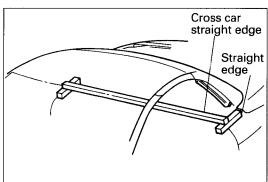


10. HARDTOP ROOF CROWN (AS SEEN FROM THE SIDE OF THE VEHICLE)

NOTE

- If the hardtop is improperly crowned it will cause misalignment of the hardtop locator pins to the header latch garnishes, improper sealing of the door windows to the side rail weatherstrips, improper or inconsistent quarter window operation and sealing.
- 2. An over-crowned roof may be caused by an improperly adjusted balance link and/or center roof hinge.
- (1) Remove the LH and RH quarter trim panels.
- (2) Remove the left and right quarter window moldings (see GROUP 51, in this Manual).
- (3) Open the vehicle doors, and close and latch the hardtop. Remove rear roof headlining and using a 5mm Allen wrench retract the quarter windows by turning the motor clockwise.



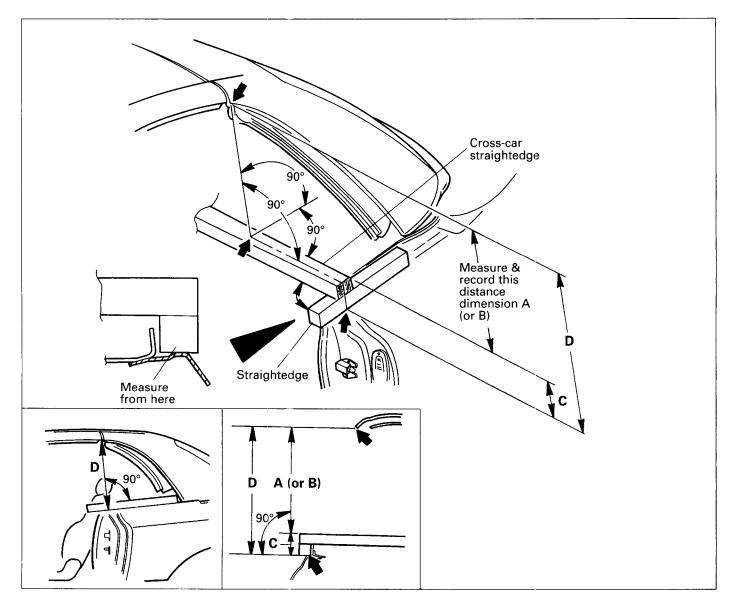


(4) Place a straightedge along the highest point of LH and RH rear fenders as shown in the illustration. The vehicle doors must be open. The straightedge must extend forward past the B-pillar a minimum of 50 mm (2 in.)

NOTE

Seek assistance and/or use clamps, adhesive tape, or similar holding devices to hold the straightedges in place.

(5) Place another straight edge across the two straight edges as shown in the illustration.



NOTE

Set the measuring instrument perpendicular (90°) to the bottom edge of the straight edges resting on the body.

- (6) As shown in the illustration, measure down from the front corner of the rear roof section to the top of the cross-car straight edge (Dimension A), record measurement. Repeat for other side (Dimension B).
- (7) Measure the height of both straight edges, (Dimension C), add Dimension C to Dimension A and then B (Dimension D).

Standard value: 308.43 mm + 2 mm - 1 mm (12.14 in. + 0.08 in. - 0.04 in.)

- If A + C and B + C dimensions are within the Standard value (Dimension D), the hardtop does not require adjustment.
- If A + C and B + C dimensions are not within the Standard value (Dimension D), go to Step 11.