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Component Search:

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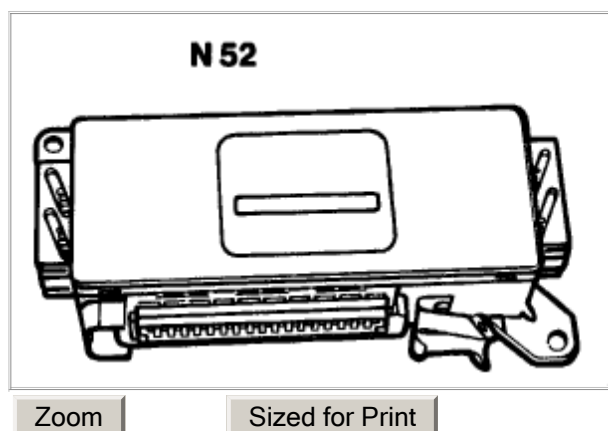
 [Conversion Calculator](#)**1992 Mercedes Benz 500SL (129.067) V8-5.0L (119.960)**[Vehicle Level](#) → [Body and Frame](#) → [Roof and Associated Components](#) → [Convertible Top](#) → [Description and Operation](#) → [Design, Function of Electrical Components](#) ←

Design, Function of Electrical Components

[Notes](#)

Design, function of electrical components

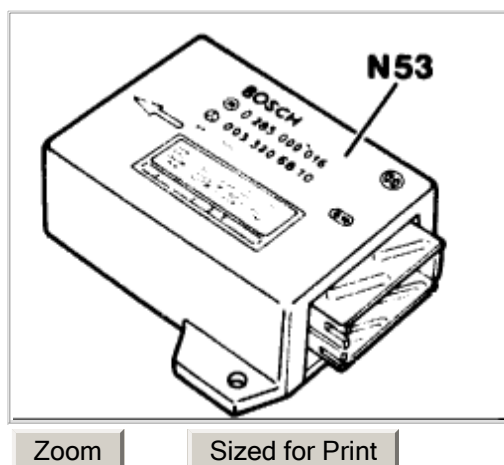
A Control unit for top actuation (N52)



The top control unit located under the right side of the baggage shelf or right occasional seat controls the following functions:

- Opening and closing the top (including lowering side windows and [roll bar](#)) after actuation of the top switch
- Locking and unlocking the coupe roof after actuating the top switch. Automatic switchover to coupe roof/top operation after attaching or removing the coupe roof
- Monitoring of safety-relevant information (speedometer function, speed signals, [roll bar](#) control unit, function of operating switches, locked state for top locks)
- Convenience operation (moving up/down) for [roll bar](#) after actuating roll bar switch.
- Lowering/raising side windows after actuating window lift switch
- Momentary contact function for automatically lowering the side windows after corresponding actuation of window lift switch
- Convenience closing of side windows via lock on driver's door
- Convenience operation for side windows (operation with door open, in spite of ignition being switched off).
- Diagnostic system with pulse display for malfunction recognition.

B Control unit for [roll bar](#) (N53)



The [roll bar](#) control unit located below the baggage shelf (center), is responsible for "crash actuation"; the top control unit for "convenience actuation" of the roll bar. Both control units are connected with one another via 2 lines. The following information is transferred to the top control unit

- Roll bar control unit okay
- [Roll bar](#) control unit defective
- Acceleration (of vehicle) greater than **0.4 g**
- Crash actuation

C Limit switches directly related to top

The total opening/closing function for the top consists of 3 subfunctions:

- Open top (deposit in top compartment) or close top (move toward windshield [frame](#))
- Open/close cloth holding brace
- Open/close top compartment cover

Each of these subfunctions have 3 positions signalled by limit switches:

- "Open", i.e. completely opened
- "Closed", i.e. locking pins inserted into locks. The locking operation can start.
- "Locked", i.e. the associated lock is locked mechanically.

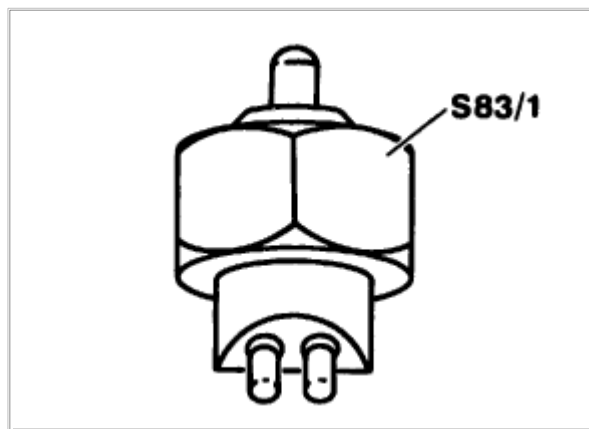
The following limit switches are required for these subfunctions:

- Cloth holding brace open/closed/locked
- Top compartment cover open/closed/locked
- Top open/locked

A limit switch for "top closed" is not required because the front locks are designed differently than the center and rear locks.

The "top up" limit switch is a special feature. After reaching this limit switch the hydraulic cylinders for the top drive are switched over to differential operation (e.g. pressure in cylinder is reduced by approx. 50 %) during the operation "close top".

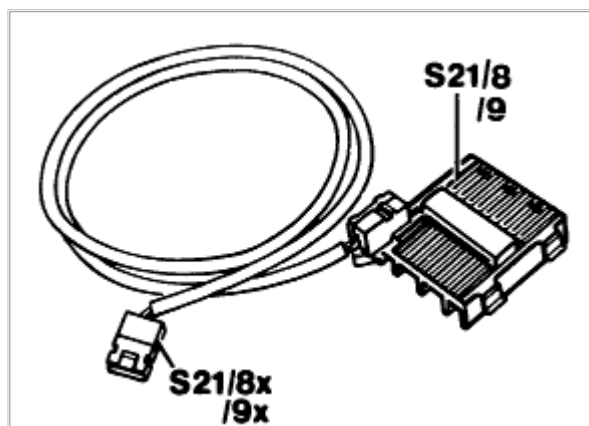
D Limit switch, [roll bar](#) down (S83/1)

[Zoom](#)[Sized for Print](#)

This limit switch indicates when the [roll bar](#) is completely down and is required for:

- Top operation blocked because top would collide with [roll bar](#) when up
- when [roll bar](#) sensor is defective. Warning light in roll bar switch flashes as long as limit switch is switched on.
- After crash actuation a special program is activated in the top control unit. This special function is cancelled when the limit switch has switched (again).

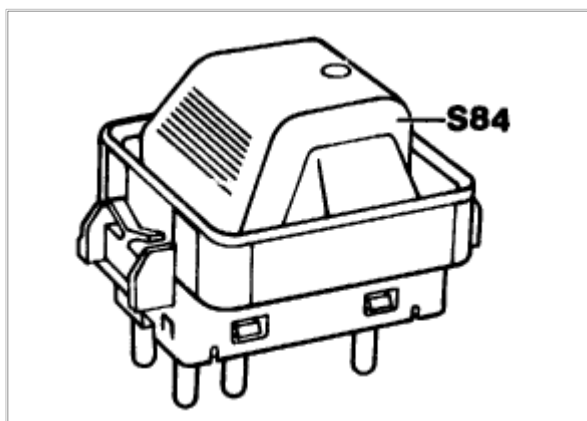
E Limit switches, side windows down (S21/8, S21/9)

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These limit switches indicate when the side windows are all the way down and are required for:

- Top operation blocked, because top would collide with side windows when up
- Momentary contact function for stopping function

F Top actuation switch (S84)



Zoom

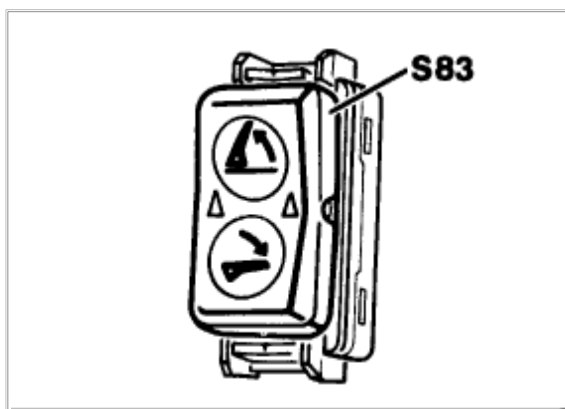
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The top actuation switch represents a small top. Pushing the switch toward the front means: close top or lock coupe roof

Pushing switch toward rear means: open top or remove coupe roof.

A function control light in the top actuation switch illuminates as soon as the top is actuated and extinguishes only when all of the locks are locked properly.

G [Roll bar](#) actuation switch (S83)



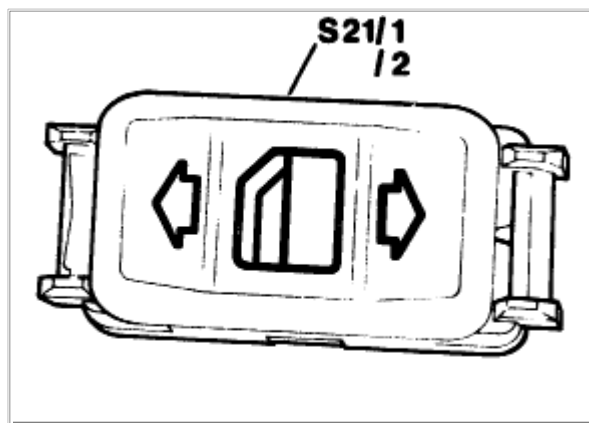
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The [roll bar](#) can be moved up and down with the roll bar actuation switch. After crash

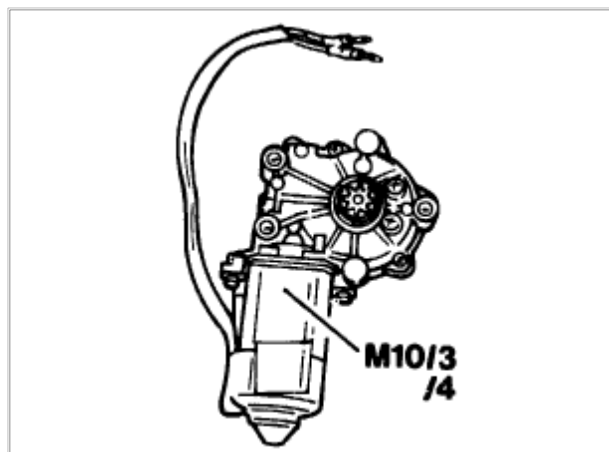
actuation the roll bar can be moved down with the control switch. To do this the control switch must first be pressed in the direction "up" (approx. **6 - 10 s**), until a soft click is heard. Then the roll bar can be moved down by actuating the switch.

H Window lift switches (S21/1, S21/2)

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The window lift switches have 2 different functions: rolling the side window up and down as previously. Completely lowering the side windows by overpressing the switch while lowering.

J Window lift motors (M10/3, M10/4)

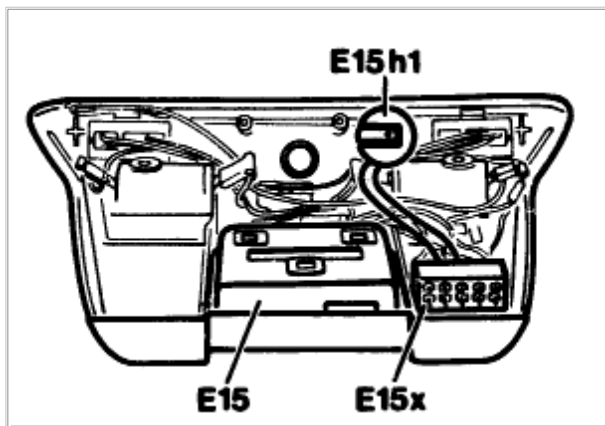
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The window lift motors are controlled via the top control unit.

K Speed signals

The top control unit requires input signals to establish whether the vehicle is standing still. For safety reasons 2 speed signals are input: electric speedometer, wheel speed sensor front left.

L Acoustic warning (E15h1)



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A high frequency gong sounds when the vehicle is driven without the top/coupe roof being locked properly. This gong is located in the dome light.

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Conversion Calculator

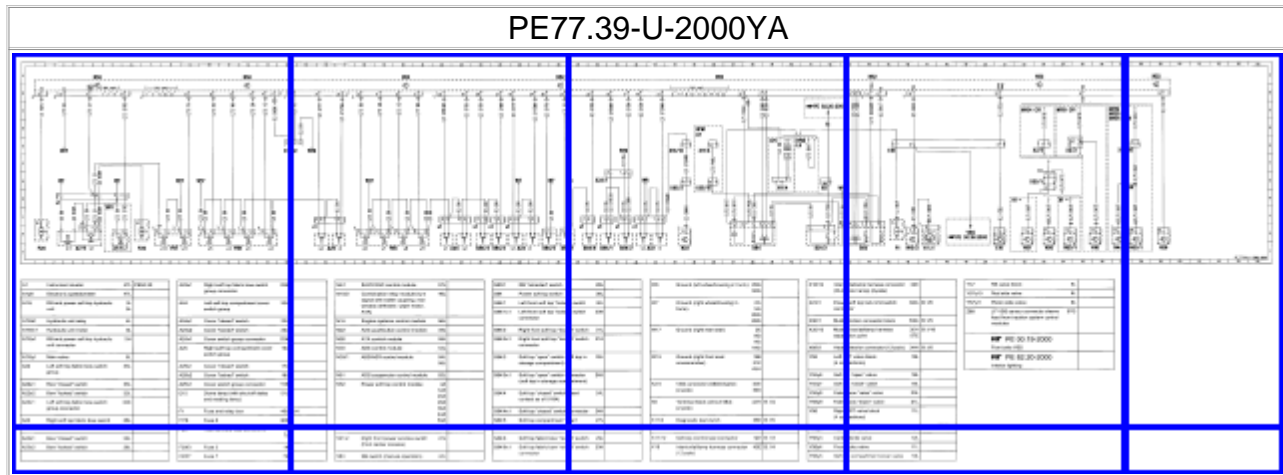
1992 Mercedes Benz 500SL (129.067) V8-5.0L (119.960)

[Vehicle Level](#) → [Diagrams](#) → [Electrical Diagrams](#) → [Convertible Top](#) ←

Convertible Top

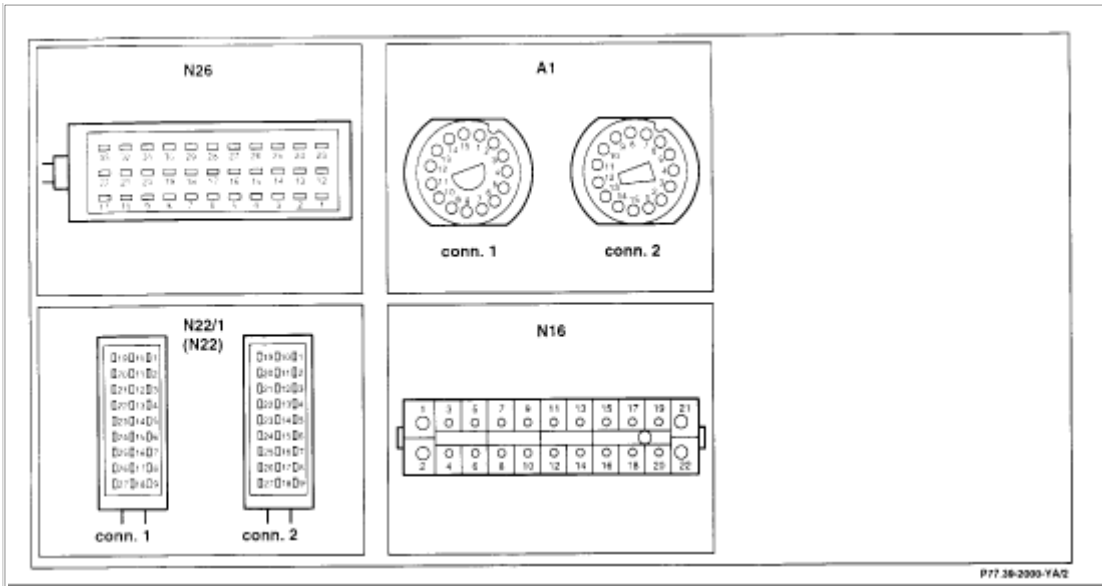
[Notes](#)

Wiring Diagram



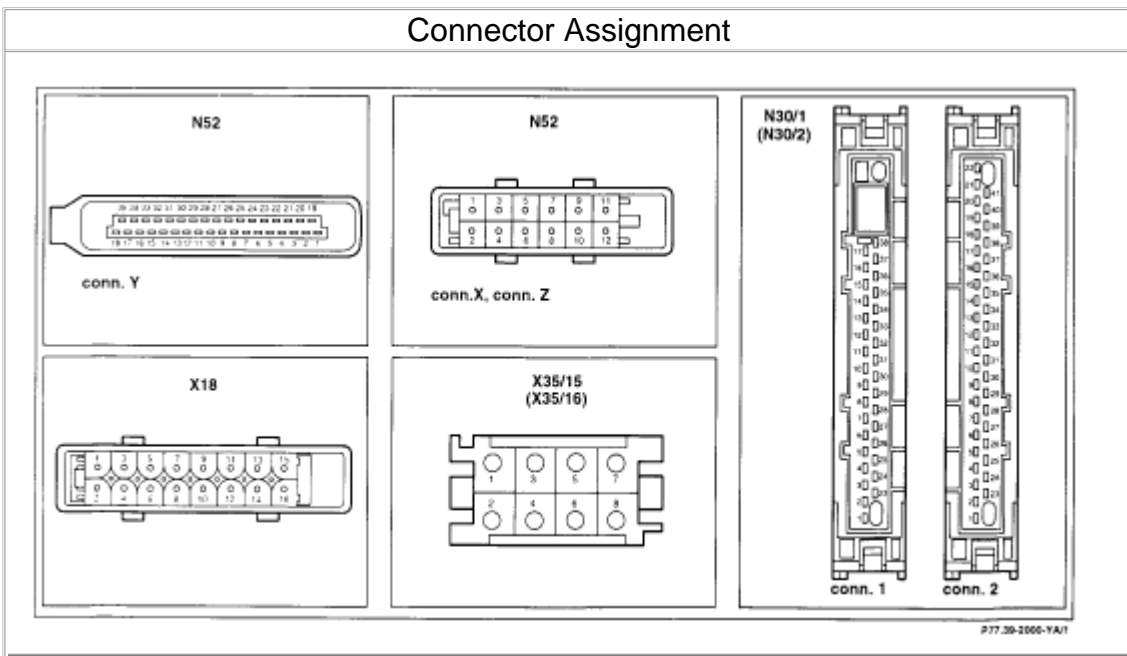
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Connector Views



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Zoom

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Pin Information

Pin Information, Part 1

Conn./ Plug/Pin	Pin Information	Test Value	Comments
N52			
X 1-2	pins not used		
X 3	Soft top open valve solenoid activation signal output	Open soft top 12 VDC	coil resistance 5 - 15 Ohms
X 4	Soft top close valve solenoid activation signal output	Close soft top 12 VDC	coil resistance 5 - 15 Ohms
X 5	Fabric bow raise valve solenoid activation signal output	Raise fabric bow 12 VDC	coil resistance 5 - 15 Ohms
X 6	Fabric bow lower valve solenoid activation signal output	Lower fabric bow 12 VDC	coil resistance 5 - 15 Ohms
X 7	Hydraulic relay activation signal output, also activates RB rod side valve	12 VDC with soft top open/close activated	
X 8	Main valve solenoid activation signal output	12 VDC with soft top open/close activated	
X 9	pin not used		
X 10	Main ground to W17	Approx. 0 Ohms to ground	
X 11	RB status indicator signal output	Ignition on 12 VDC	
X 12	Circuit 15 power input	Ignition on 12 VDC	Feed from F1f6
Y 1	Soft top close signal switched ground input, initializes process to close soft top	Push 584 back: Approx. 12 VDC	
Y 2	Soft top open signal switched ground input, initializes process to open soft top	Push 584 forward: Approx. 12 VDC	
Y 3	RB switch raise signal input	Ignition on 5 VDC, raise RB < 1 VDC	
Y 4	RB switch lower signal input	Ignition on 5 VDC, lower RB < 1 VDC	
Y 5-8	pins not used		
Y 9	Wheel speed signal input	same as pin Y 35	
Y 10-12	pins not used		
Y 13	Doors and trunk lid actuator signal input	Lock via central locking system < 10 Ohms	
Y 14-15	pins not used		
Y 16	Left front soft top locked switch signal input	Soft top front: locked < 1 VDC, open 12 VDC	
Y 17	Right front soft top locked switch signal input	Soft top front: locked < 1 VDC, open 12 VDC	
Y 18	Left bow locked switch signal input	Fabric bow locked < 1VDC, unlocked 12 VDC	
Y 19	Right bow locked switch signal input	Fabric bow locked < 1VDC, unlocked 12 VDC	
Y 20	Soft top compartment left cover "locked" recognition, switched ground signal input	Compartment cover: locked < 1 VDC unlocked 12 VDC	
Y 21	Soft top compartment right cover "locked" recognition, switched ground signal input	Compartment cover: locked < 1 VDC unlocked 12 VDC	
Y 22	pin not used		
Y 23	Left bow closed switch signal input	Fabric bow closed < 1VDC, open 12 VDC	
Y 24	Right bow closed switch signal input	Fabric bow closed < 1VDC, open 12 VDC	

Zoom

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Pin Information, Part 2

Conn./ Plug/Pin	Pin Information	Test Value	Comments
Y.25	Soft top compartment left cover "closed" recognition, switched ground signal input	Compartment cover: closed < 1 VDC open 12 VDC	
Y.26	Soft top compartment right cover "closed" recognition, switched ground signal input	Compartment cover: closed < 1 VDC open 12 VDC	
Y.27	Soft top open switch signal input	Soft top up 12 VDC	
Y.28	Soft top overhead switch signal input	Soft top up < 1 VDC	
Y.29	Soft top fabric bow raised	Fabric bow raised < 1 VDC, lowered 12 VDC	
Y.30	Soft top compart. open switch signal input	Comp. cover: open < 1 VDC, closed 12 VDC	
Y.31	RB retracted switch signal input	RB lowered < 1VDC, raised 12 VDC	
Y.32	Malfunction/warning signal output	No reliable test. Signal will be audible when malfunction occurs	
Y.33	Hardtop warning and functional status indicator lamp signal output	0 VDC with warning light constantly lit	
Y.34	"Diagnostic port" for DTC readout and diagnostic purpose	Ignition on 12 VDC	To be tested with ICST
Y.35	Vehicle speed signal input, used for hardtop unlock recognition during driving mode	Ignition on, lift front of vehicle, turn left wheel > 1 rev/sec by hand > 3 VAC or with vehicle moving 20 mph = 200 Hz measure square wave 35 mph = 330 Hz	
Z.1-2	pins not used		
Z.3	Front locks valve solenoid activation signal output	Measure to circuit 15, pin X.12 front hardtop: unlocked 12 VDC; locked 0 VDC	coil resistance 5 - 15 Ohms
Z.4	Rear locks valve solenoid activation signal output	Measure to circuit 15, pin X.12 rear hardtop: unlocked 12 VDC; locked 0 VDC	coil resistance 5 - 15 Ohms
Z.5	Center locks valve solenoid activation signal output	Measure to circuit 15, pin X.12. Soft top comp. cover: open 12 VDC; closed 0 VDC	coil resistance 5 - 15 Ohms
Z.6	Soft top compartment valve solenoid activation signal output	Measure to circuit 15, pin X.12. Soft top comp. cover: open 12 VDC; closed 0 VDC	coil resistance 5 - 15 Ohms
Z.7	"Diagnostic port" for DTC readout and diagnostic purpose	Ignition on 12 VDC	To be tested with ICST
Z.8	RB piston side valve solenoid activation signal input	12 VDC with soft top open/close activated	
Z.9-10	pins not used		
Z.11	Circuit 30 main power input	12 VDC at all times	Feed from fuse F20f3
Z.12	pin not used		
Notes	Also refer to DM Body and Access. Vol 3a section 11.2	See matrix in section 11.2 / 24 for test values of switch positions related to hardtop/RB status	
	For hydraulic test refer to section 11.2 / 31		

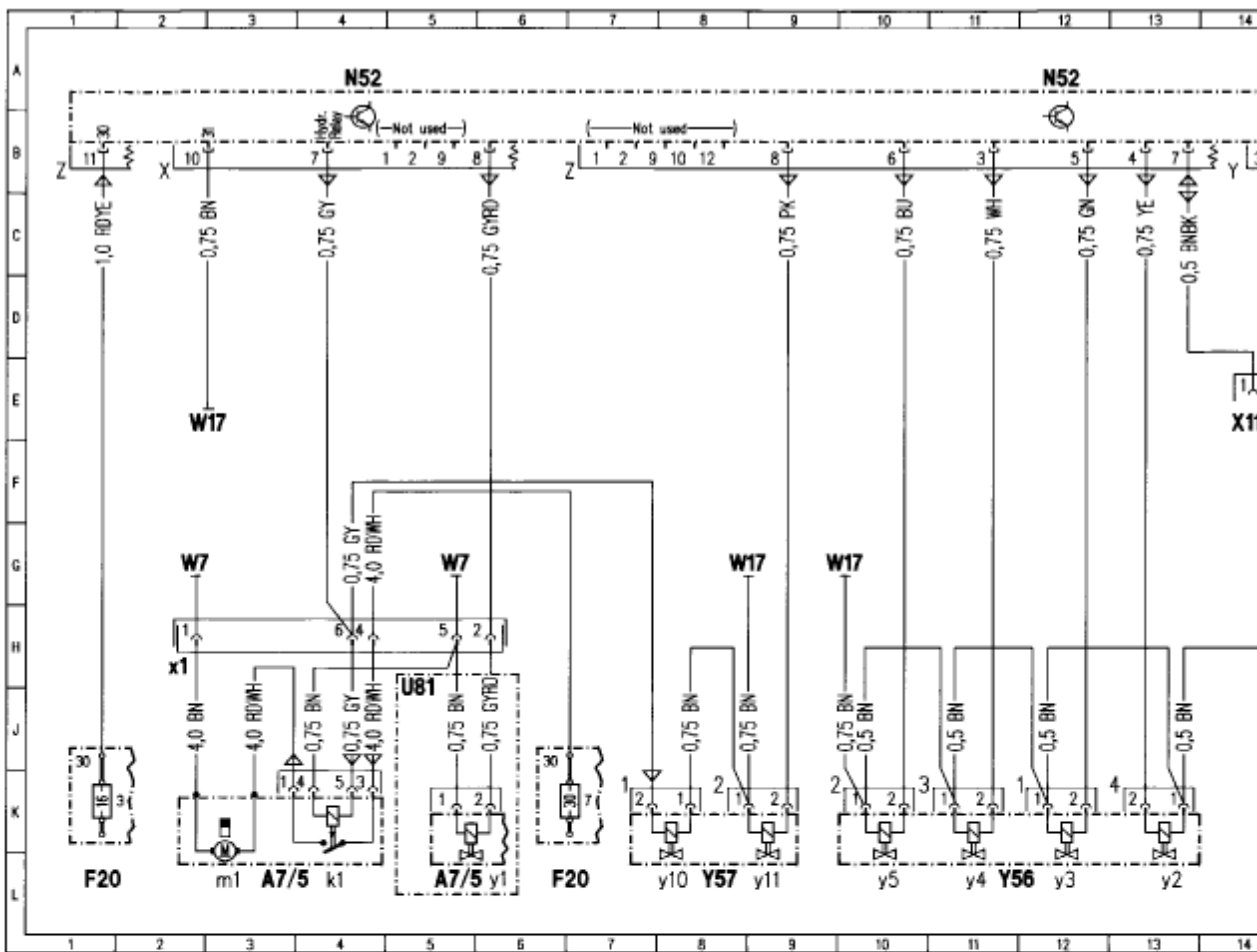
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All values measure to ground unless otherwise noted

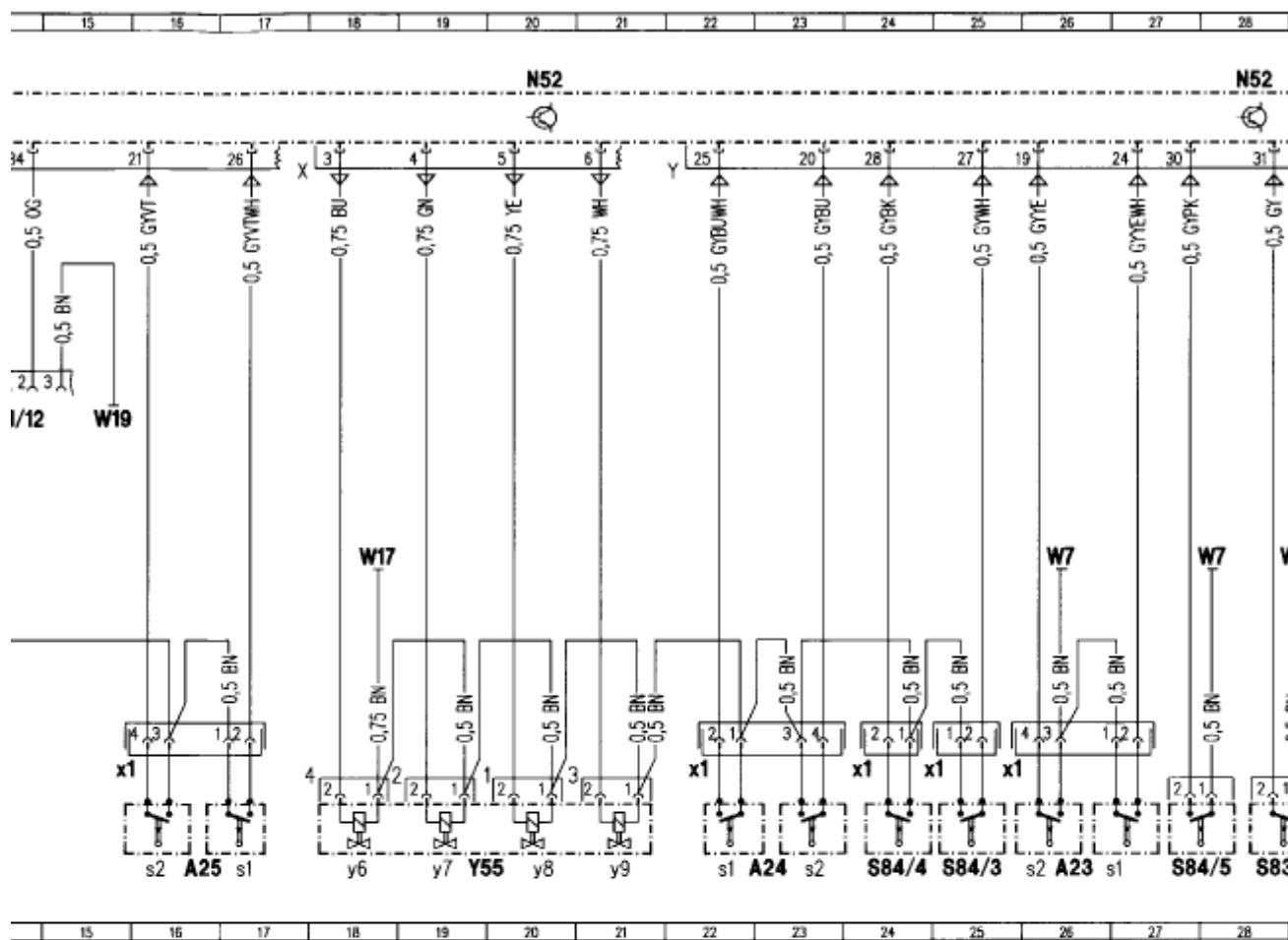
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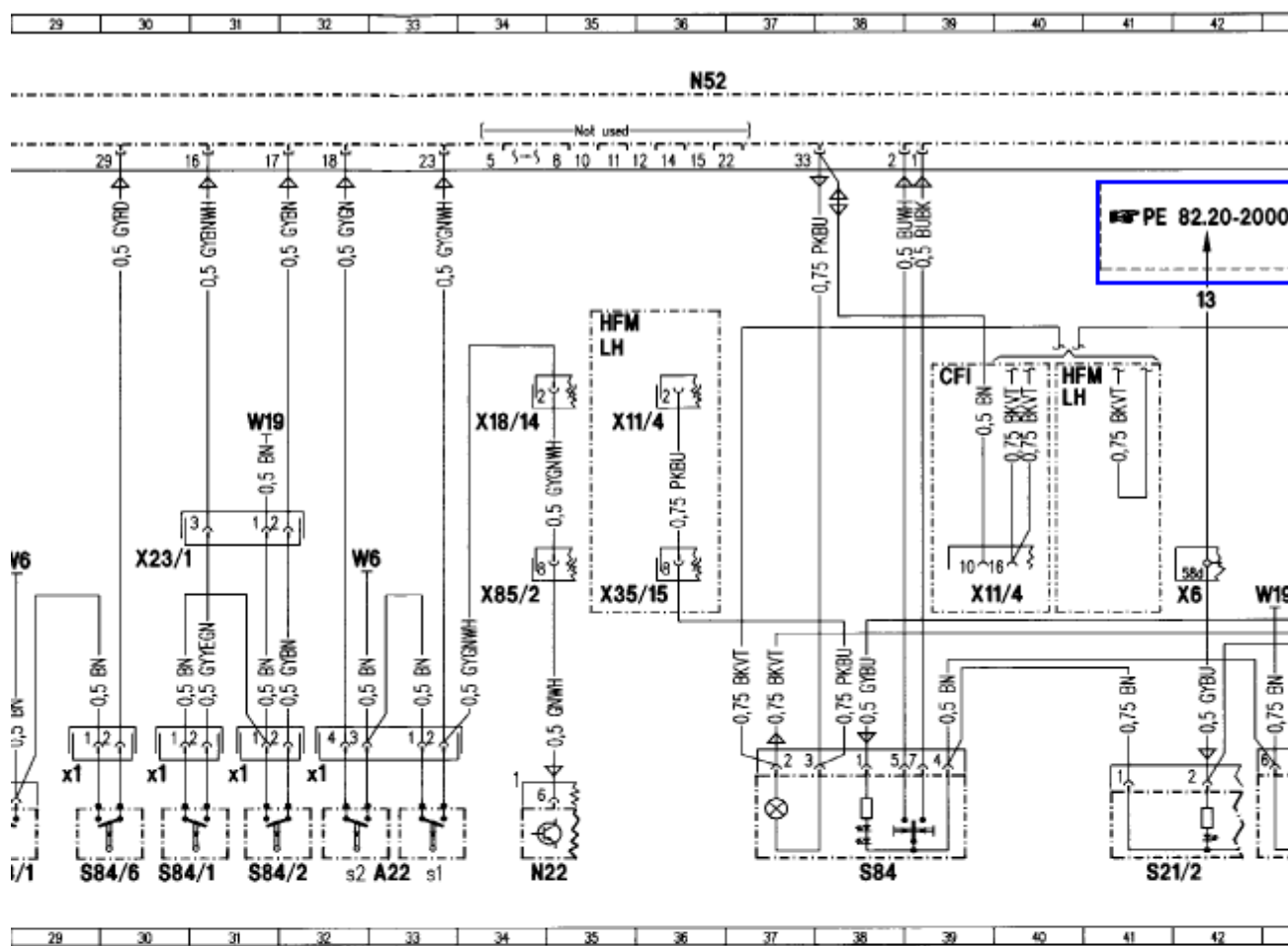
A1	Instrument cluster	47L	PE54.30
A1p8	Electronic speedometer	47L	
A7/5	RB and power soft top hydraulic unit	3L 5L	
A7/5k1	Hydraulic unit relay	4L	
A7/5m1	Hydraulic unit motor	3L	
A7/5x1	RB and power soft top hydraulic unit connector	2H	
A7/5y1	Main valve	6L	
A22	Left soft top fabric bow switch group	33L	
A22s1	Bow "closed" switch	33L	
A22s2	Bow "locked" switch	32L	
A22x1	Left soft top fabric bow switch group connector	32K	
A23	Right soft top fabric bow switch group	26L	

A23x1	Right soft top fabric bow switch group connector	25K
A24	Left soft top compartment cover switch group	23L
A24s1	Cover "closed" switch	22L
A24s2	Cover "locked" switch	23L
A24x1	Cover switch group connector	22K
A25	Right soft top compartment cover switch group	16L
A25s1	Cover "closed" switch	17L
A25s2	Cover "locked" switch	16L
A25x1	Cover switch group connector	15K
E15	Dome lamp (with shut-off delay and reading lamp)	51L
F1	Fuse and relay box	45L
F1f6	Fuse 6	46K



	N4/1	EA/CC/ISC control module	57L
	N10/2	Combination relay module (turn signal with trailer coupling, rear window defroster, wiper motor, ATA)	46L
	N16	Engine systems control module	56L
	N22	AAC pushbutton control module	34L
	N26	ATA control module	59L
	N30	ABS control module	53L
	N30/1	ABS/ASR control module	54L 58L
	N51	ADS suspension control module	52L
	N52	Power soft top control module	4A 12A 20A 28A 36A 44A 53A 59A
B.4			

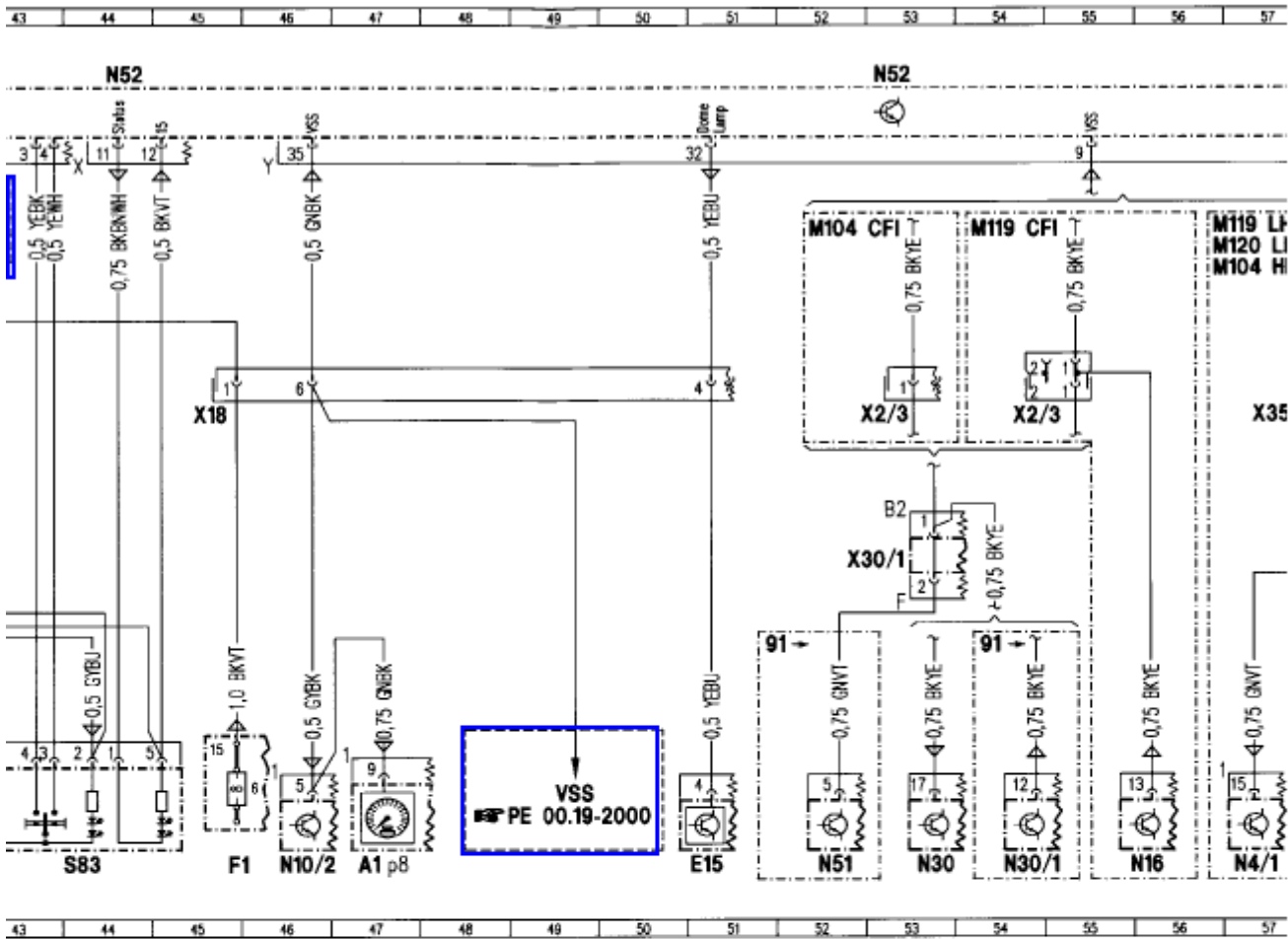
S83/1	RB "retracted" switch
S84	Power soft top switch
S84/1	Left front soft top "locker"
S84/1x1	Left front soft top "locker" connector
S84/2	Right front soft top "lock"
S84/2x1	Right front soft top "lock" connector
S84/3	Soft top "open" switch (s storage compartment)
S84/3x1	Soft top "open" switch cc (soft top in storage comp)
S84/4	Soft top "closed" switch contact as of 01/94)
S84/4x1	Soft top "closed" switch
S84/5	Soft top compartment "o switch



28L
38L
3rd switch
30L
3rd switch
30K
4th switch
31L
4th switch
31K
Right top in
25L
Connector
(left part)
24K
(reed)
24L
connector
24K
pen
27L

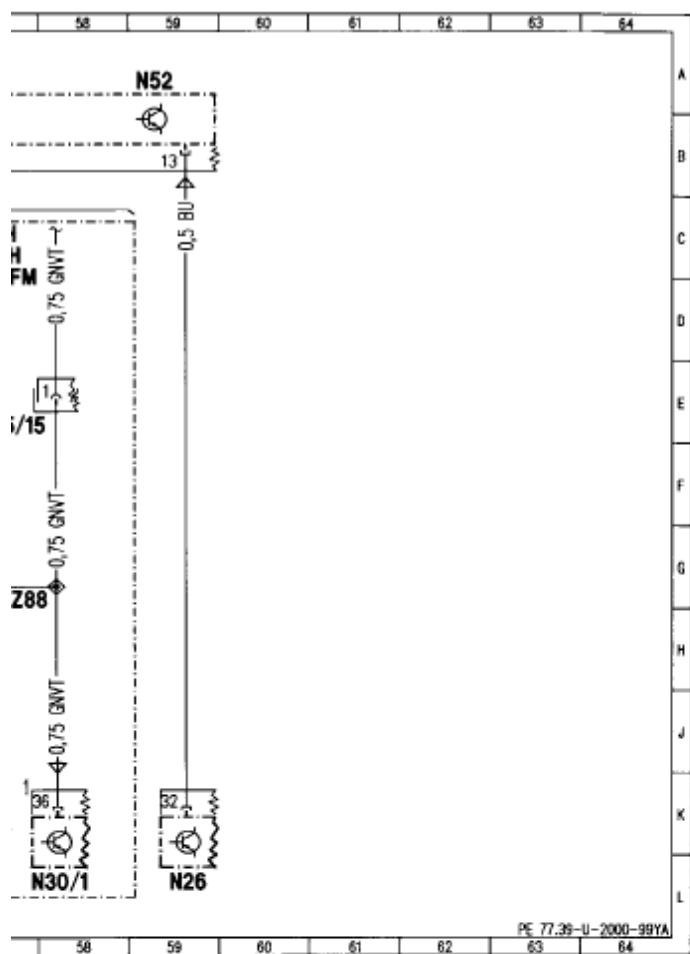
W6	Ground (left wheelhousing in trunk)	28G 32G	
W7	Ground (right wheelhousing in trunk)	2G 5G 26G 28G	
W17	Ground (right rear seat)	2E 8G 9G 18G	
W19	Ground (right front seat crossmember)	15E 31E 43H	
X2/3	VSS connector (ABS/engine) (2-pole)	53E 54E	
X6	Terminal block (circuit 58d) (2-pole)	42H	B.1/4
X11/4	Diagnostic test clutch	36E 40H	B.1/5 B.1/15

X18/14	Interior (CL/int)
X23/1	Power connection
X30/1	Multi-f
X35/15	Module separate
X85/2	Heater
Y55	Left R: (4 con)
Y55y6	Soft to
Y55y7	Soft to
Y55y8	Fabric
Y55y9	Fabric
Y56	Right L (4 con)



r/taillamp harness connector (erior lamp) (2-pole)	34E	
soft top lock limit switch ctor	30G	B.1/6
unction connector block	53G	B.1/5
e box/taillamp harness ation point	35H 57E	B.1/18
r/interior connector (12-pole)	34H	B.1/5
ST valve block (nections)	19L	
p "open" valve	18L	
p "close" valve	19L	
bow "raise" valve	20L	
bow "lower" valve	21L	
RST valve block (nections)	11L	

Y57	RB valve block	8L
Y57y10	Rod side valve	8L
Y57y11	Piston side valve	9L
Z88	LF VSS sensor connector sleeve feed from traction system control modules	57G
	PE 00.19-2000 Front axle VSS	
	PE 82.20-2000 Interior lighting	



group		
A23s1	Bow "closed" switch	26L
A23s2	Bow "locked" switch	26L

F20	Rear auxiliary fuse box (trunk)	1L 7L
F20f3	Fuse 3	1K
F20f7	Fuse 7	7K

	S21/2	Right front power window switch (front center console)	41L		S84/6	Soft top fabric bow *rais
					S84/6x1	Soft top fabric bow *rais connector
	S83	RB switch (manual operation)	44L			

ad" switch	29L	
ad" switch	29K	

X11/12	Soft top control test connector	14E	B.1/3
X18	Interior/taillamp harness connector (12-pole)	45E	B.1/4

Y56y2	Rear l
Y56y3	Center
Y56y4	Front l
Y56y5	Soft to

ocks valve	13L	
r locks valve	12L	
ocks valve	11L	
p compartment cover valve	10L	