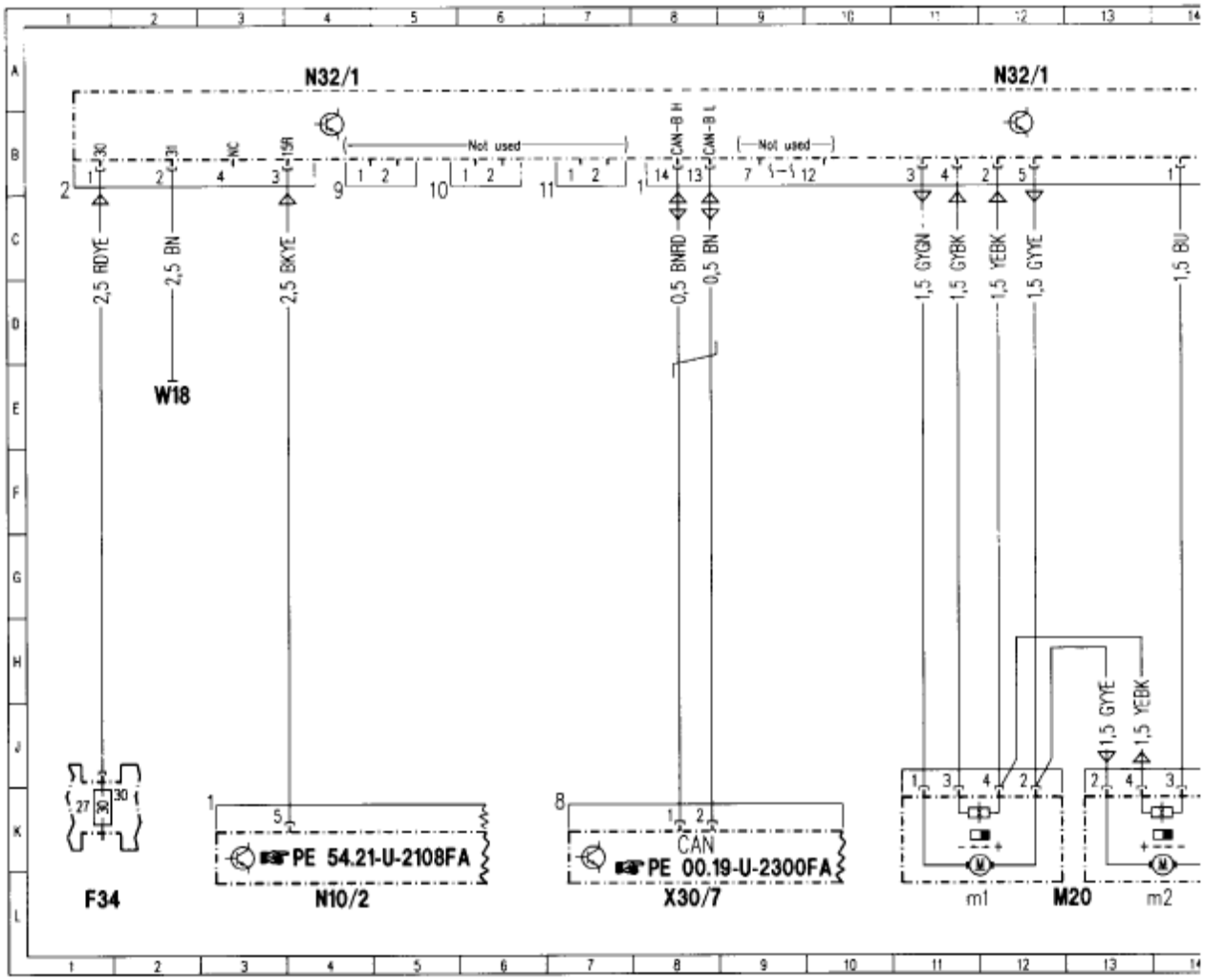
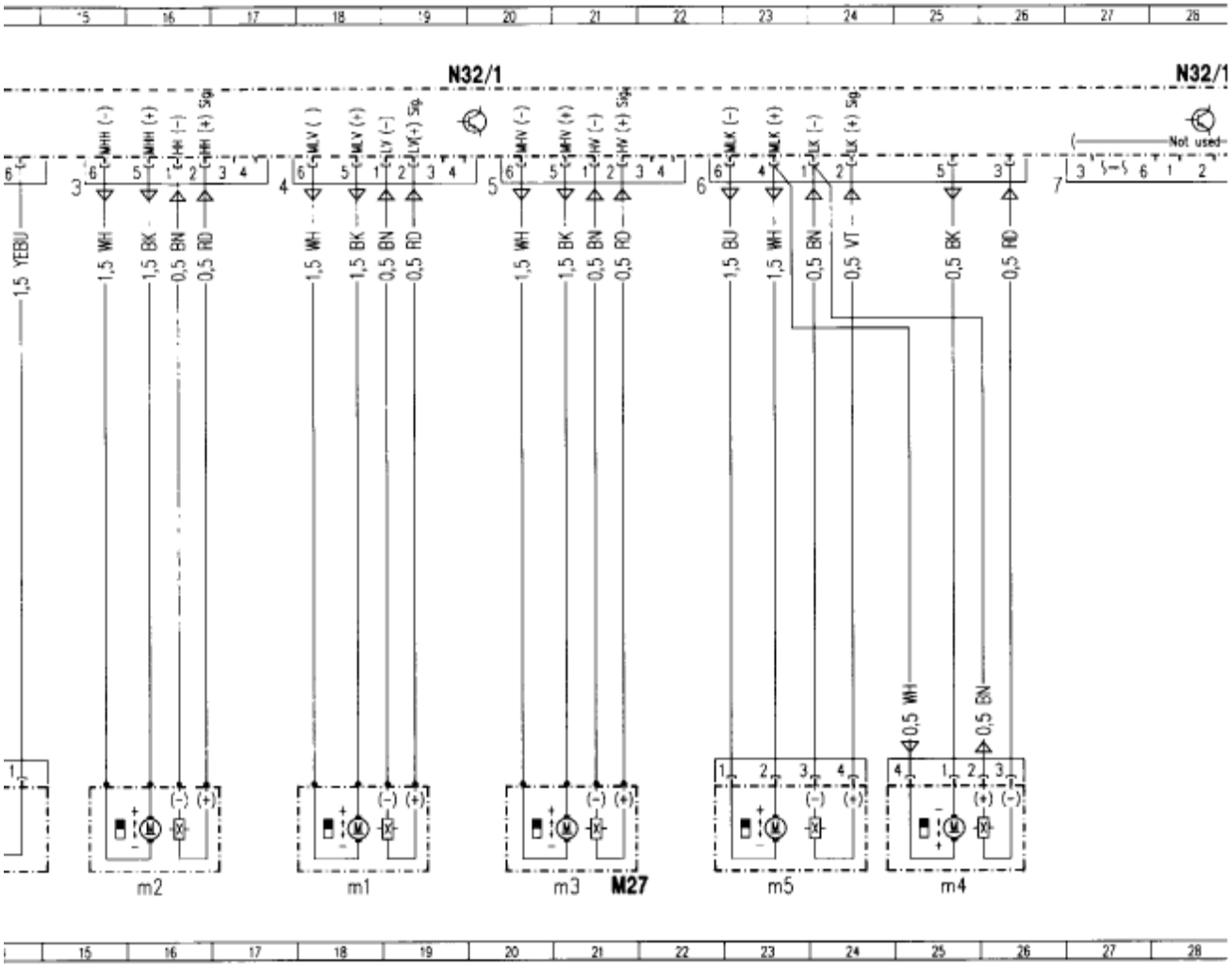
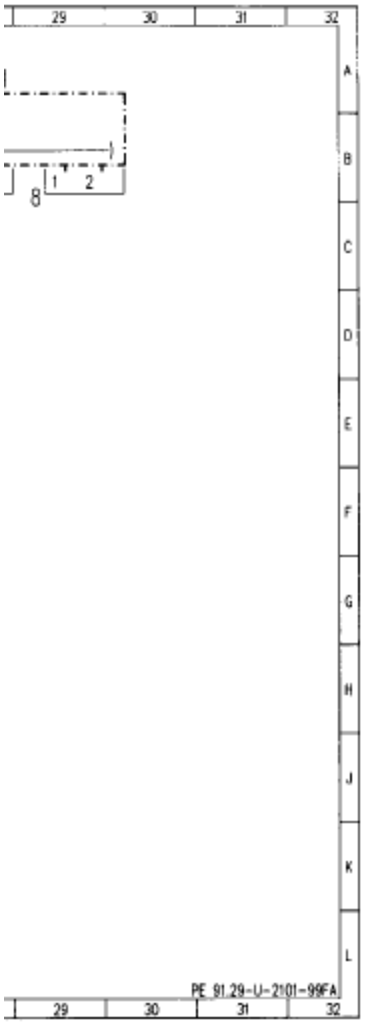


F34	Interior fuse box	1L
F34f27	Fuse 27	1K
M20	ESC motor	12L
M20m1	Telescopic adjustment motor (in/out)	11L
M20m2	Tilt adjustment motor (up/down)	13L
M27	Left front ESA motor group (with memory)	21L
M27m1	Fore/aft motor	18L


N32/1
N32/1
Not used
1,5 YEBU
1,5 WH
1,5 BK
0,5 BN
0,5 RD
1,5 BU
0,5 VT
0,5 WH
0,5 BN
m2
m1
m3
M27
m5
m4


29
30
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32
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J
K
L
1
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PE 91.29-U-2101-99FA
29
30
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32

		19A 28A
W18	Ground (left front seat crossmember)	2E
X30/7	CAN connector	8L

PE91.29-U-2101FA

Conn./ Plug/Pin	Pin Information	Test Value	Comments
N32/1			
1.1	Steering column (up/down) Hall sensor signal input	7 - 14 VDC	
1.2	Steering column Hall sensor ground output	Approx. 0 Ohms to ground	
1.3	Steering column (in/out) motor voltage output	Key in pos. "1" 12 VDC across pins 1.3 (+) and 1.5 (-) while steering column moves in reversed polarity in out mode	
1.4	Steering column (in/out) Hall sensor signal input	7 - 14 VDC	
1.5	Steering column motors voltage output		See pins 1.3 and 1.6
1.6	Steering column (up/down) motor voltage output	Key in pos. "1" 12 VDC across pins 1.6 (+) and 1.5 (-) while steering column moves up reversed polarity in down mode	
1.7 - 12	Pins not used		
1.13	CAN Class B bus (low side). Mid speed data transfer bus input and output, exchanges data between ECMs either connected to X30/7 or X30/4	Disconnect CAN plugs from all connectors, measure across all pins 2 > 20 kOhms measure across all other pins 1 approx. 0 Ohms	**Note 1**
1.14	CAN Class B bus (high side). Mid speed data transfer bus input and output	No reliable test. Check continuity of wiring. Approx. 5 VAC when data is on bus	See pin 1.13
2.1	Circuit 30 main power input	12 VDC at all times	Feed from F34f27
2.2	Main ground to W18	Approx. 0 Ohms to ground	
2.3	Circuit 15 power input	12 VDC with key in pos. I	
2.4	Pin not used		
3.1	Rear seat adjustment (raise/lower) Hall sensor ground output	Approx. 0 Ohms to ground	
3.2	Rear seat adjustment (raise/lower) Hall sensor signal output	7 - 14 VDC	
3.3,4	Pins not used		
3.5 3.6	Rear seat adjustment (raise/lower) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 3.5 (+) and 3.6 (-) while seat lowers reversed polarity in raise mode	
4.1	Seat (fore/aft) Hall sensor ground output	Approx. 0 Ohms to ground	
4.2	Seat (fore/aft) Hall sensor signal ouput	7 - 14 VDC	
4.3,4	Pins not used		
4.5 4.6	Seat (fore/aft) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 4.5 (+) and 4.6 (-) while seat moves backards reversed polarity in forward mode	

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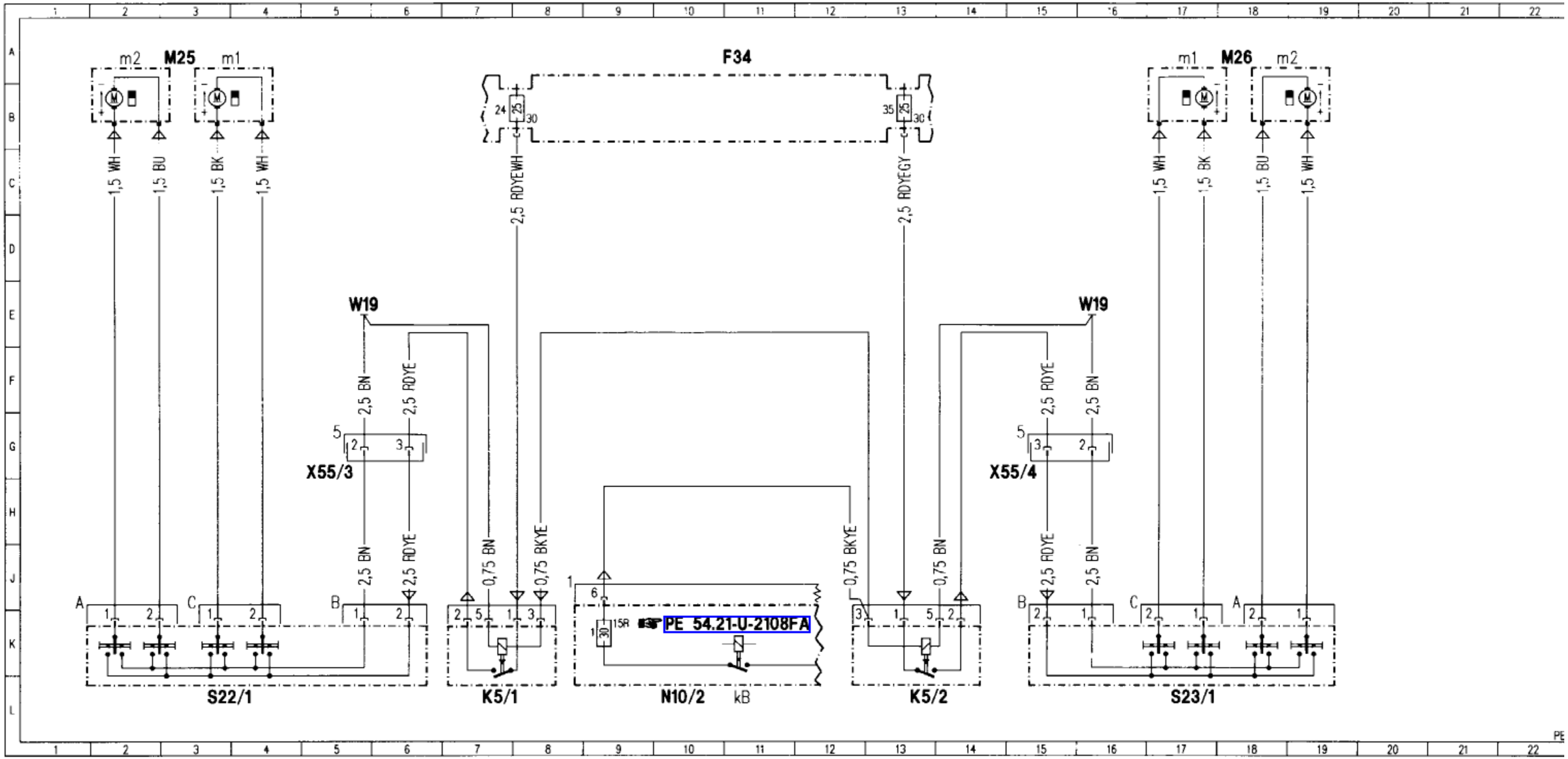
Conn./ Plug/Pin	Pin Information	Test Value	Comments
5.1	Front seat adjustment (raise/lower) Hall sensor ground output	Approx. 0 Ohms to ground	
5.2	Front seat adjustment (raise/lower) Hall sensor signal ouput	7 - 14 VDC	
5.3,4	Pins not used		
5.5 5.6	Front seat adjustment (raise/lower) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 5.5 (+) and 5.6 (-) while seat raises reversed polarity in lower mode	
6.4	Backrest and head restraint motors voltage output		See pins 6.5 and 6.6
6.1	Backrest and head restraint Hall sensor ground output	Approx. 0 Ohms to ground	
6.2	Backrest (fore/aft) Hall sensor signal output	7 - 14 VDC	
6.3	Head restraint (raise/lower) Hall sensor signal input	7 - 14 VDC	
6.5	Head restraint (raise/lower) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 6.4 (+) and 6.5 (-) while head restraint raises reversed polarity in lower mode	
6.6	Backrest (fore/aft) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 6.6 (+) and 6.4 (-) while backrest moves backwards reversed polarity in forward mode	
Note 1	N73 is gateway for data exchange between CAN Class B and Class C bus. Refer to PE00.19-U-2200FA for CAN Class C bus		



F34	Interior fuse box	11A
F34f24	Fuse 24	7B
F34f35	Fuse 35	13B
K5/1	Driver seat adjustment relay	7L
K5/2	Front passenger seat adjustment relay	13L

X55/3	Driver seat connector block	5H
X55/4	Passenger seat connector block	15H

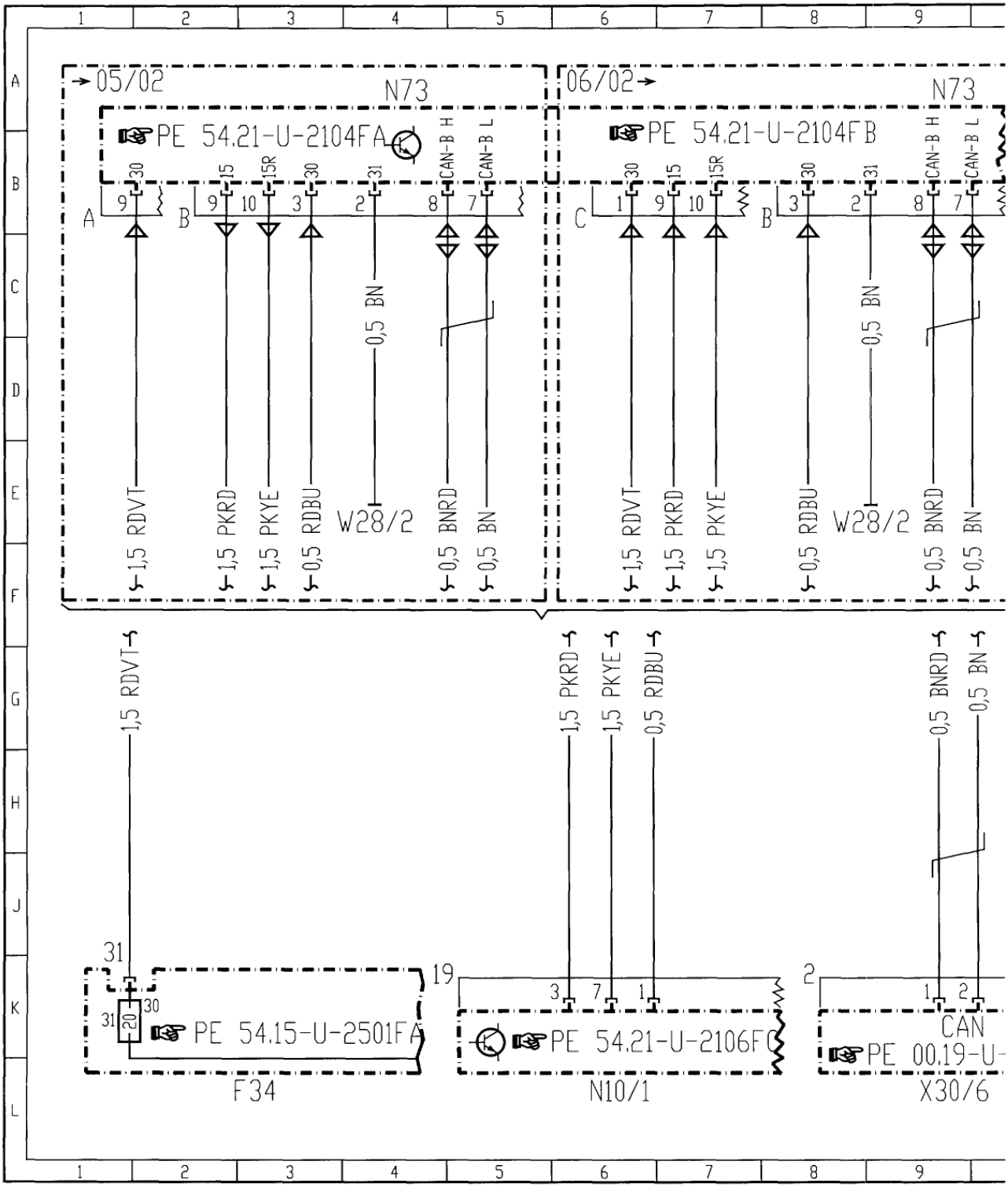
F34	Interior fuse box	11A
F34f24	Fuse 24	7B
F34f35	Fuse 35	13B
K5/1	Driver seat adjustment relay	7L
K5/2	Front passenger seat adjustment relay	13L
M25	Left front ESA motor group	3A
M25m1	Fore/aft motor	3A
M25m2	Rear raise/lower motor	2A
M26	Right front ESA motor group	18A
M26m1	Fore/aft motor	17A
M26m2	Rear raise/lower motor	18A
N10/2	Rear SAM control module with fuse and relay module	10L
N10/2f1	Fuse 1	9K
N10/2kB	Relay 2, circuit 15R	11L
S22/1	Driver partially-electric seat adjustment switch	3L
S23/1	Front passenger partially-electric seat adjustment switch	17L
W19	Ground (right front seat crossmember)	5E 16E

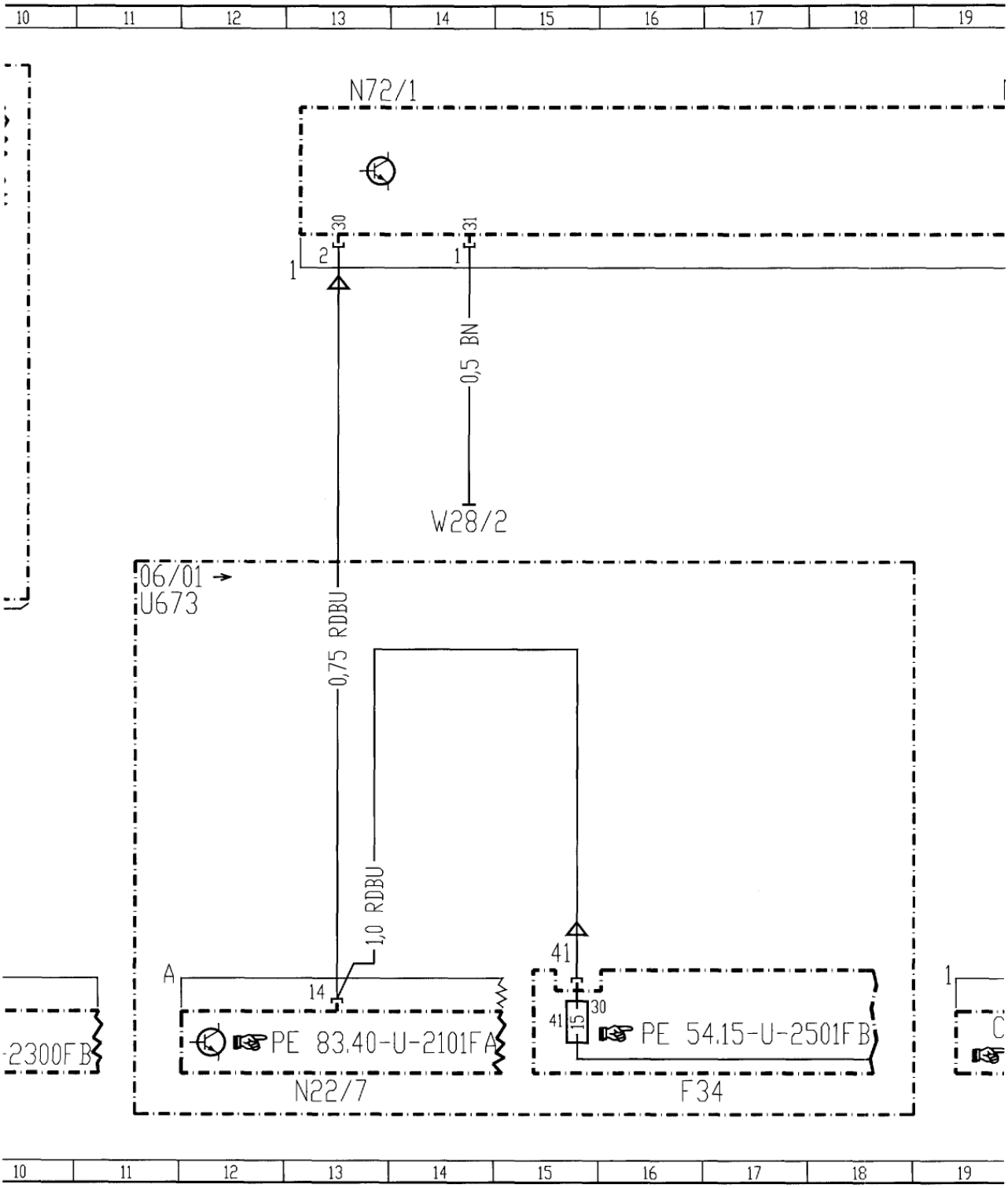
X55/3	Driver seat connector block	5H
X55/4	Passenger seat connector block	15H

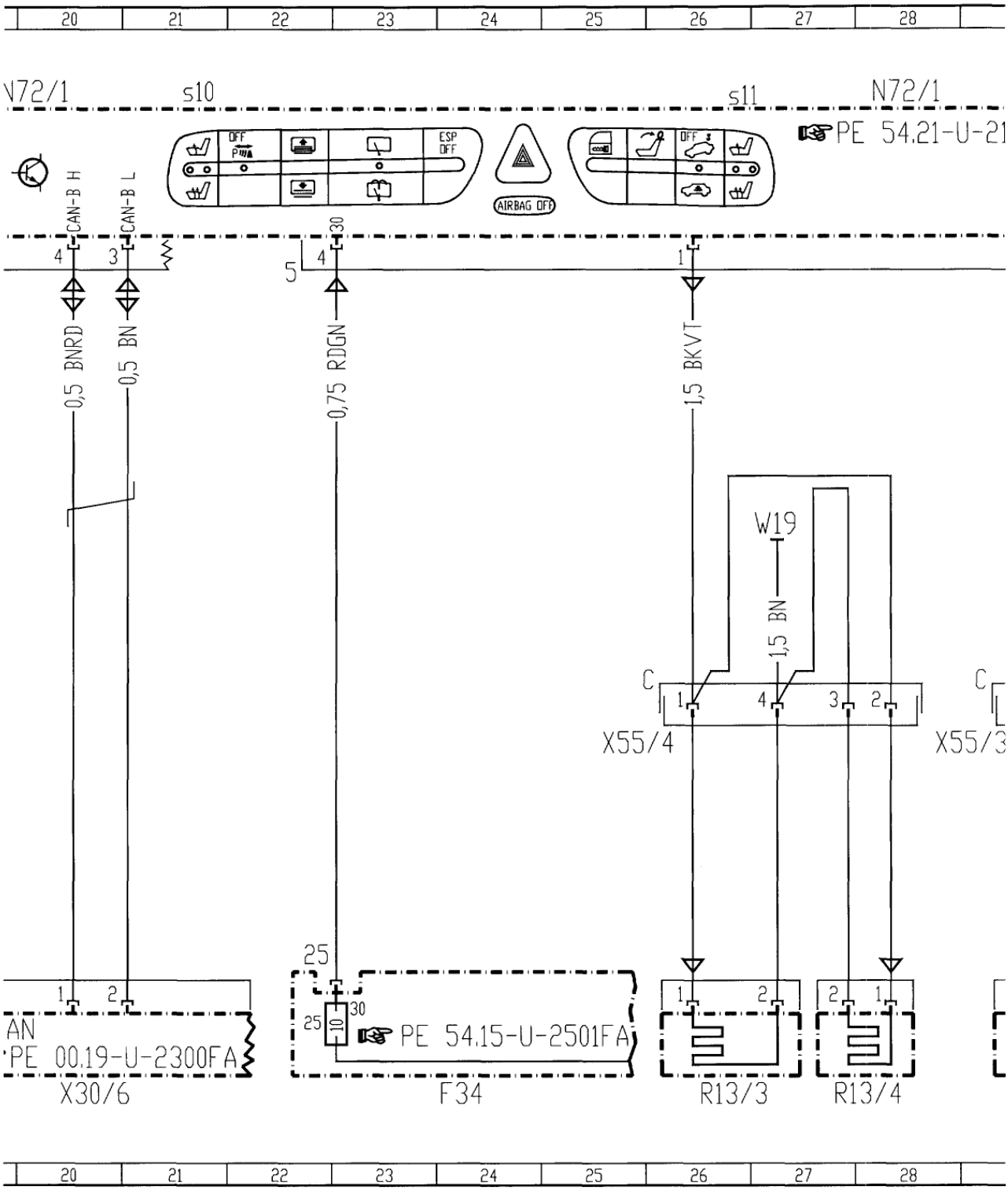
PE91.29-U-2000FA

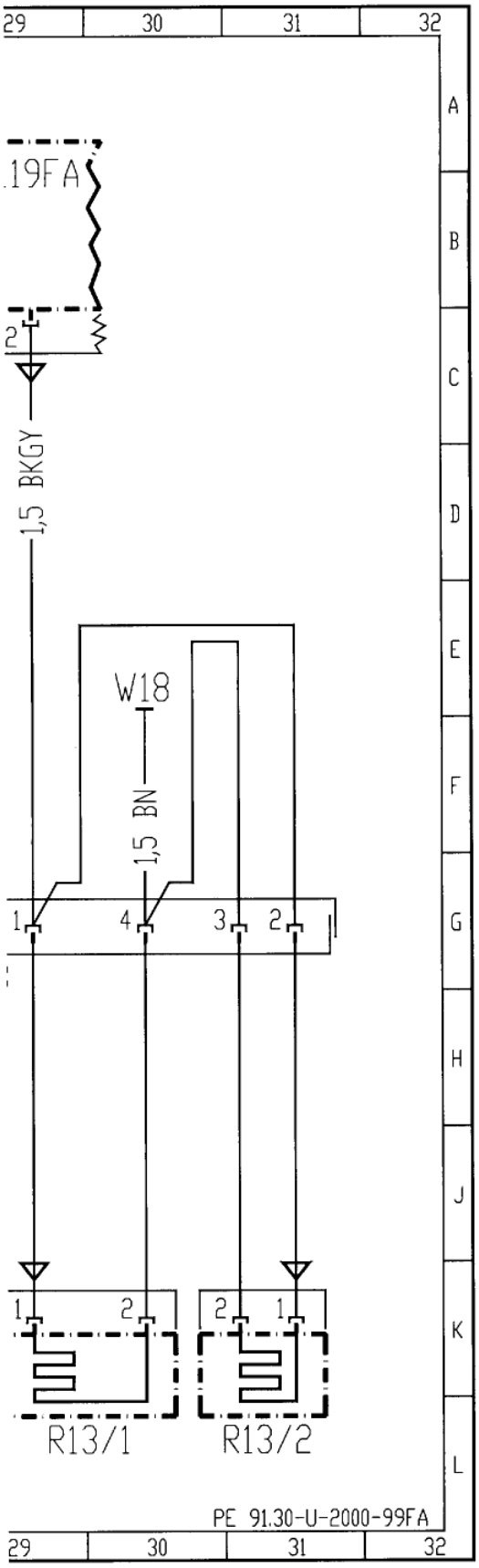
All values measured to ground unless otherwise noted

Conn./ Plug/Pin	Pin Information	Test Value	Comments
K5/1			
1	Circuit 30 power input	12 VDC at all times	Feed from F34f24
2	Power output to seat adjustment switch	12 VDC with key in pos. I	
3	Relay solenoid activation power input	12 VDC with key in pos. I	Feed from N10/2kB via N10/2f1
4	Pin not used		
5	Relay solenoid ground to W19	Approx. 0 Ohms to ground	
K5/2			
1	Circuit 30 power input	12 VDC at all times	Feed from F34f35
2-5	same as K5/1		
S23/1			
A.1 A.2	Seat cushion raise/lower adjustment output	Ignition on: measure across pin 1& 2 move switch to up position: 12 VDC move switch to down position: -12 VDC	Activates left front seat adjustment motor M25m2
B.1	Ground input to switch unit from W19	Approx. 0 Ohms to ground	
B.2	Circuit 30 switched power input	12 VDC with key in pos. I	
C.1 C.2	Backrest fore/aft adjustment output	Ignition on: measure across pin 1& 2 move switch to front position: 12 VDC move switch to back position: -12 VDC	Activates right front seat adjustment motor M25m1
S23/2			
A.1 A.2	Seat cushion raise/lower adjustment output	Ignition on: measure across pin 1& 2 move switch to up position: 12 VDC move switch to down position: -12 VDC	Activates right front seat adjustment motor M26m2
A.2			
B.1	Ground input to switch unit from W19	Approx. 0 Ohms to ground	
B.2	Circuit 30 switched power input	12 VDC with key in pos. I	
C.1 C.2	Backrest fore/aft adjustment output	Ignition on: measure across pin 1& 2 move switch to front position: 12 VDC move switch to back position: -12 VDC	Activates right front seat adjustment motor M26m1


05/02
N73
PE 54.21-U-2104FA
06/02
N73
PE 54.21-U-2104FB
CAN-B H
CAN-B L
30
15
15R
31
1,5 RDVT
1,5 PKRD
1,5 PKYE
0,5 RDBU
0,5 BN
0,5 BNRD
W28/2
PE 54.15-U-2501FA
F34
PE 54.21-U-2106FC
N10/1
CAN
PE 00.19-U-
X30/6


10
11
12
13
14
15
16
17
18
19
N72/1
30
31
2
1
1
0,5 BN
W28/2
06/01
U673
0,75 RDBU
1,0 RDBU
A
14
41
41
15
30
PE 83.40-U-2101FA
PE 54.15-U-2501FB
N22/7
F34
-2300FB
1
C


20 21 22 23 24 25 26 27 28
N72/1
s10
s11
N72/1
PE 54.21-U-21
CAN-B H
CAN-B L
ESP OFF
AIRBAG OFF
0,5 BNRD
0,5 BN
0,75 RDGN
1,5 BKVT
W19
1,5 BN
X55/4
X55/3
AN
PE 00.19-U-2300FA
X30/6
PE 54.15-U-2501FA
F34
R13/3
R13/4
20 21 22 23 24 25 26 27 28


29
30
31
32
A
B
C
D
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F
G
H
J
K
L
19FA
1,5 BKGY
W18
1,5 BN
1
4
3
2
1
2
2
1
R13/1
R13/2
PE 91.30-U-2000-99FA
29
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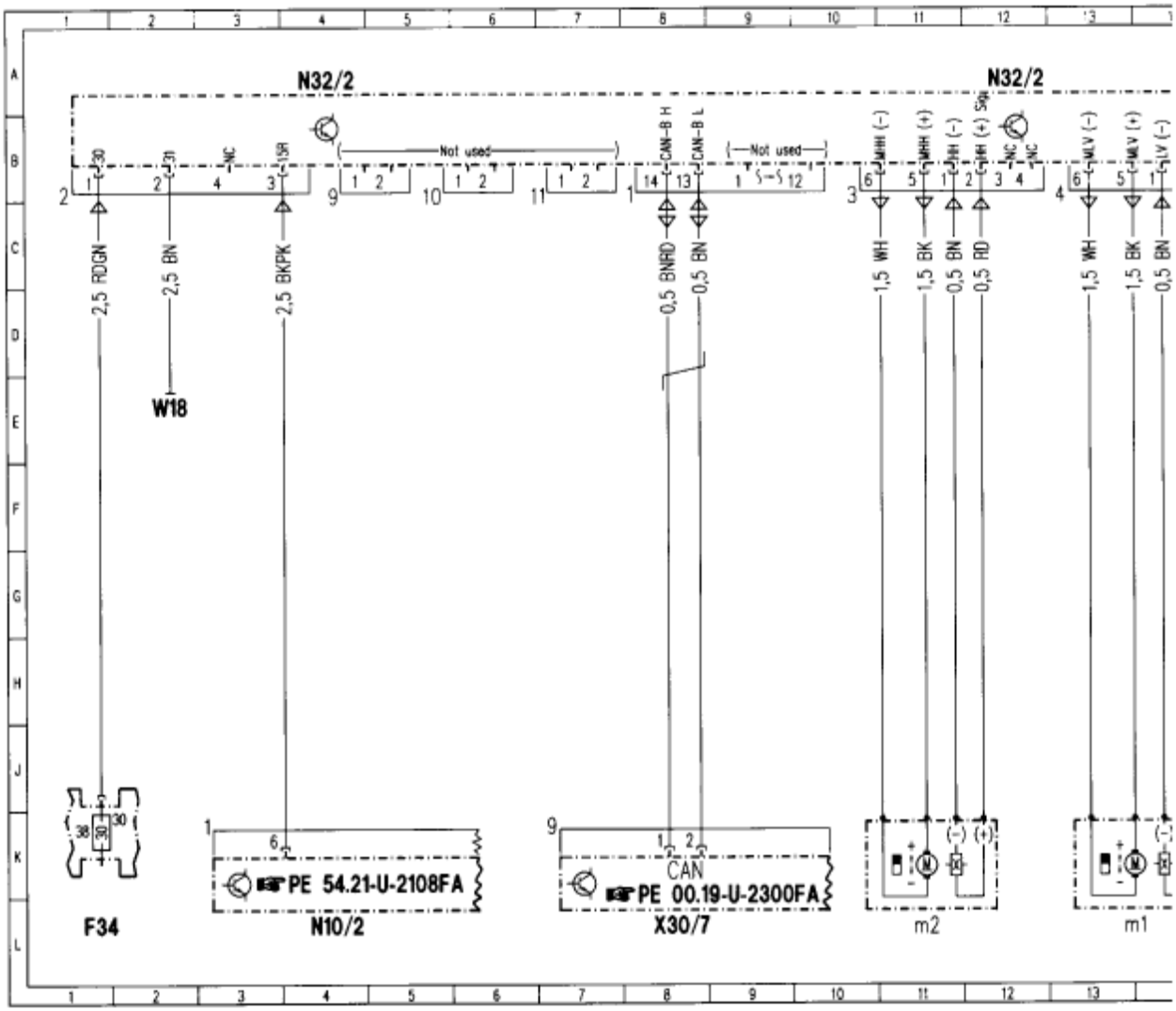
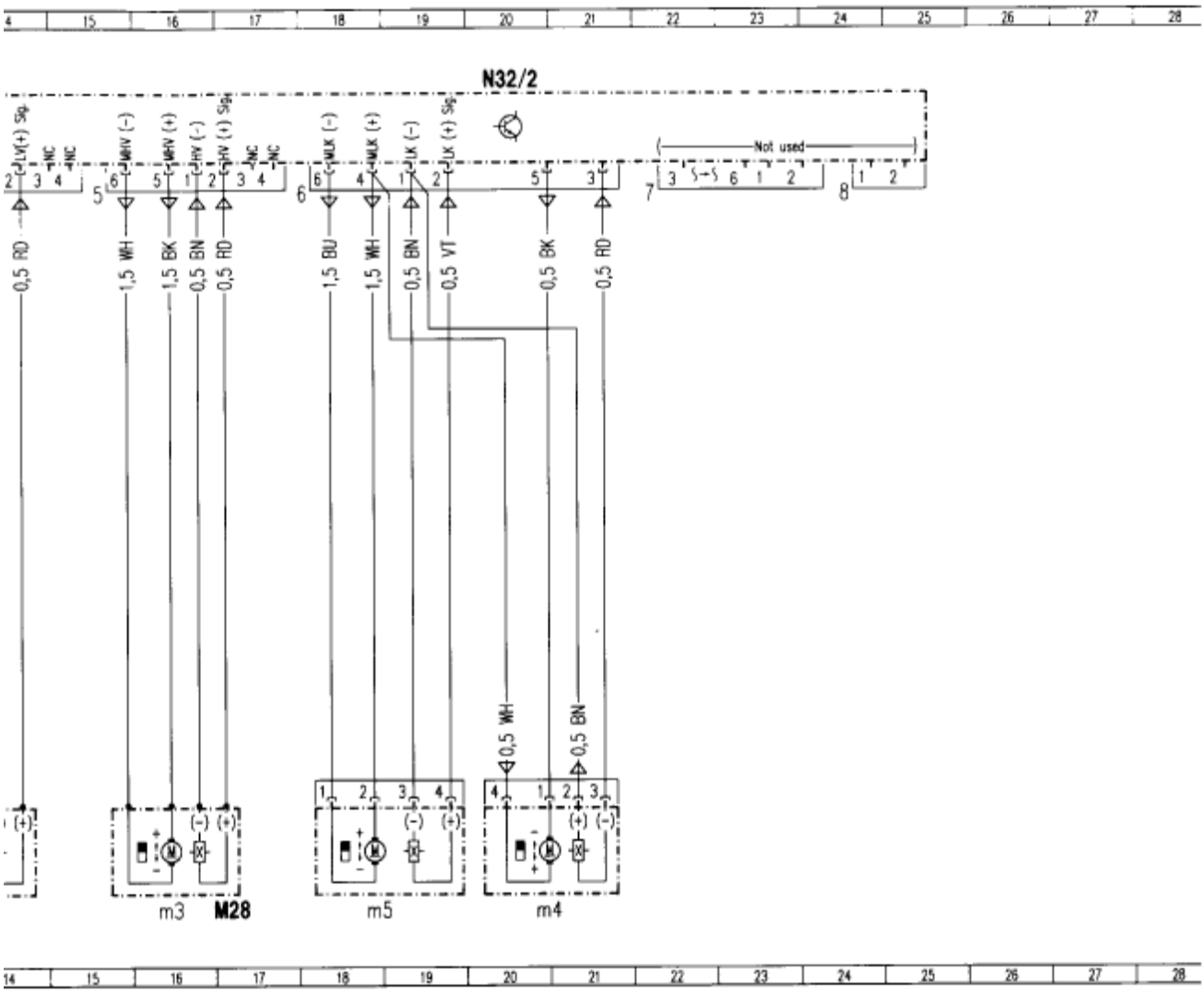
32



F34	Interior fuse box	1L
F34f38	Fuse 38	1K
M28	Right front ESA motor group (with memory)	17L
M28m1	Fore/aft motor	13L
M28m2	Rear raise/lower motor	11L
M28m3	Front raise/lower motor	16L
M28m4	Head restraint raise/lower motor	20L
M28m5	Backrest fore/aft motor	18L
N10/2	Rear SAM control module with fuse and relay module	4L
N32/2	Passenger front ESA control module (with memory)	4A 12A 20A


N32/2
Not used
0,5 RD
1,5 WH
1,5 BK
0,5 BN
0,5 RD
1,5 BU
1,5 WH
0,5 BN
0,5 VT
0,5 WH
0,5 BK
0,5 BN
0,5 RD
m3
M28
m5
m4

W18	Ground (left front seat crossmember)	2E
X30/7	CAN connector	8L

PE91.29-U-2102FA

Conn./ Plug/Pin	Pin Information	Test Value	Comments
N32/2			
1.1 - 12	Pins not used		
1.13	CAN Class B bus (low side). Mid speed data transfer bus input and output, exchanges data between ECMs either connected to X30/7 or X30/4	Disconnect CAN plugs from all connectors, measure across all high side pins > 20 kOhms measure across all low side pins approx. 0 Ohms	Note
1.14	CAN Class B bus (high side). Mid speed data transfer bus input and output	No reliable test. Check continuity of wiring. Approx. 5 VAC when data is on bus	See pin C.1
2.1	Circuit 30 main power input	12 VDC at all times	Feed from F34f38
2.2	Main ground to W18	Approx. 0 Ohms to ground	
2.3	Circuit 15 power input	12 VDC with key in pos. I	
2.4	Pin not used		
3.1	Rear seat adjustment (raise/lower) Hall sensor ground output	Approx. 0 Ohms to ground	
3.2	Rear seat adjustment (raise/lower) Hall sensor signal output	7 - 14 VDC	
3.3,4	Pins not used		
3.5 3.6	Rear seat adjustment (raise/lower) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 3.5 (+) and 3.6 (-) while seat lowers reversed polarity in raise mode	
4.1	Seat (fore/aft) Hall sensor ground output	Approx. 0 Ohms to ground	
4.2	Seat (fore/aft) Hall sensor signal ouput	7 - 14 VDC	
4.3,4	Pins not used		
4.5 4.6	Seat (fore/aft) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 4.5 (+) and 4.6 (-) while seat moves backards reversed polarity in forward mode	
5.1	Front seat adjustment (raise/lower) Hall sensor ground output	Approx. 0 Ohms to ground	
5.2	Front seat adjustment (raise/lower) Hall sensor signal ouput	7 - 14 VDC	
5.3,4	Pins not used		
5.5 5.6	Front seat adjustment (raise/lower) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 5.5 (+) and 5.6 (-) while seat raises reversed polarity in lower mode	
6.1	Backrest and head restraint Hall sensor ground output	Approx. 0 Ohms to ground	
6.2	Backrest (fore/aft) Hall sensor signal output	7 - 14 VDC	
6.3	Head restraint (raise/lower) Hall sensor signal input	7 - 14 VDC	

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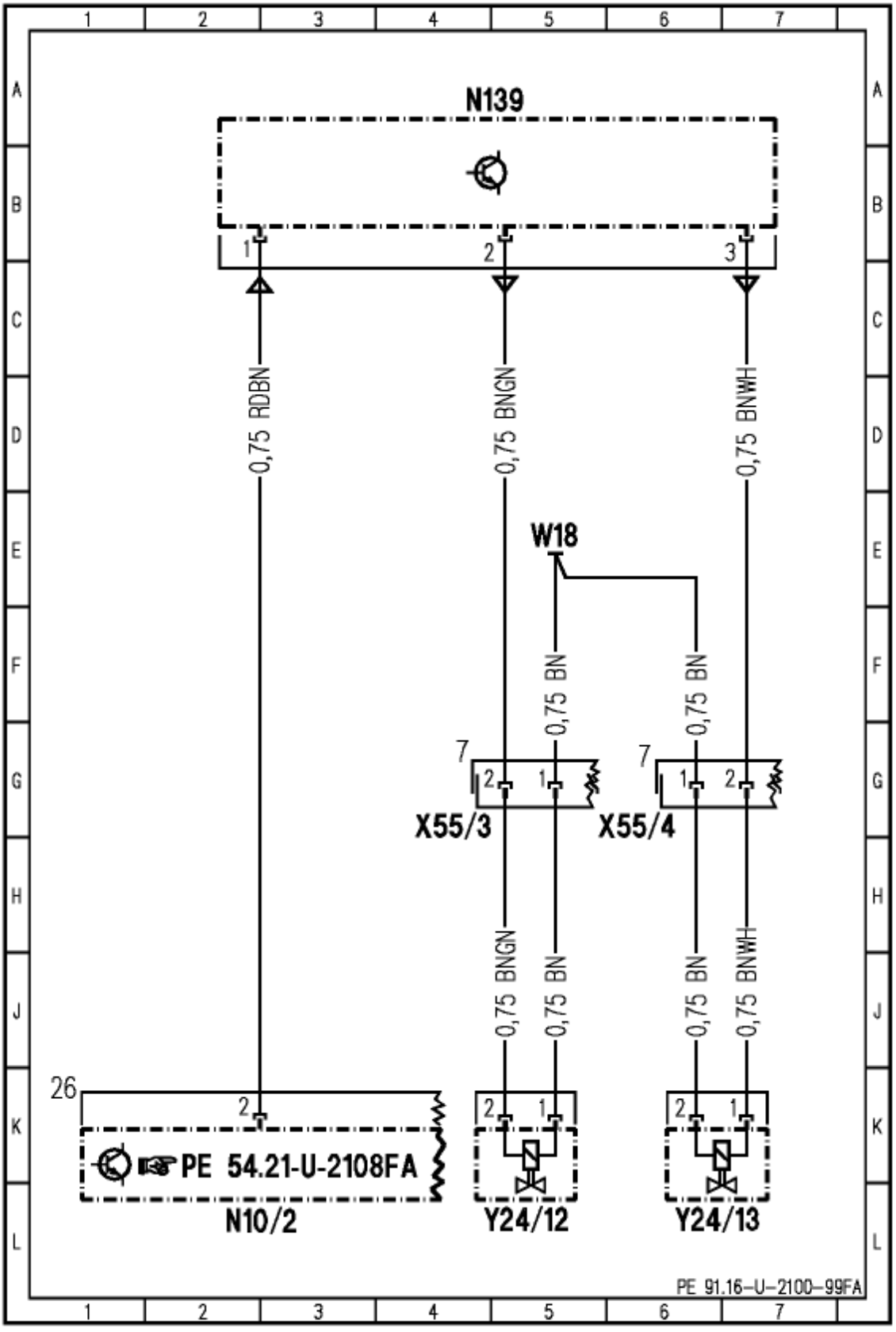
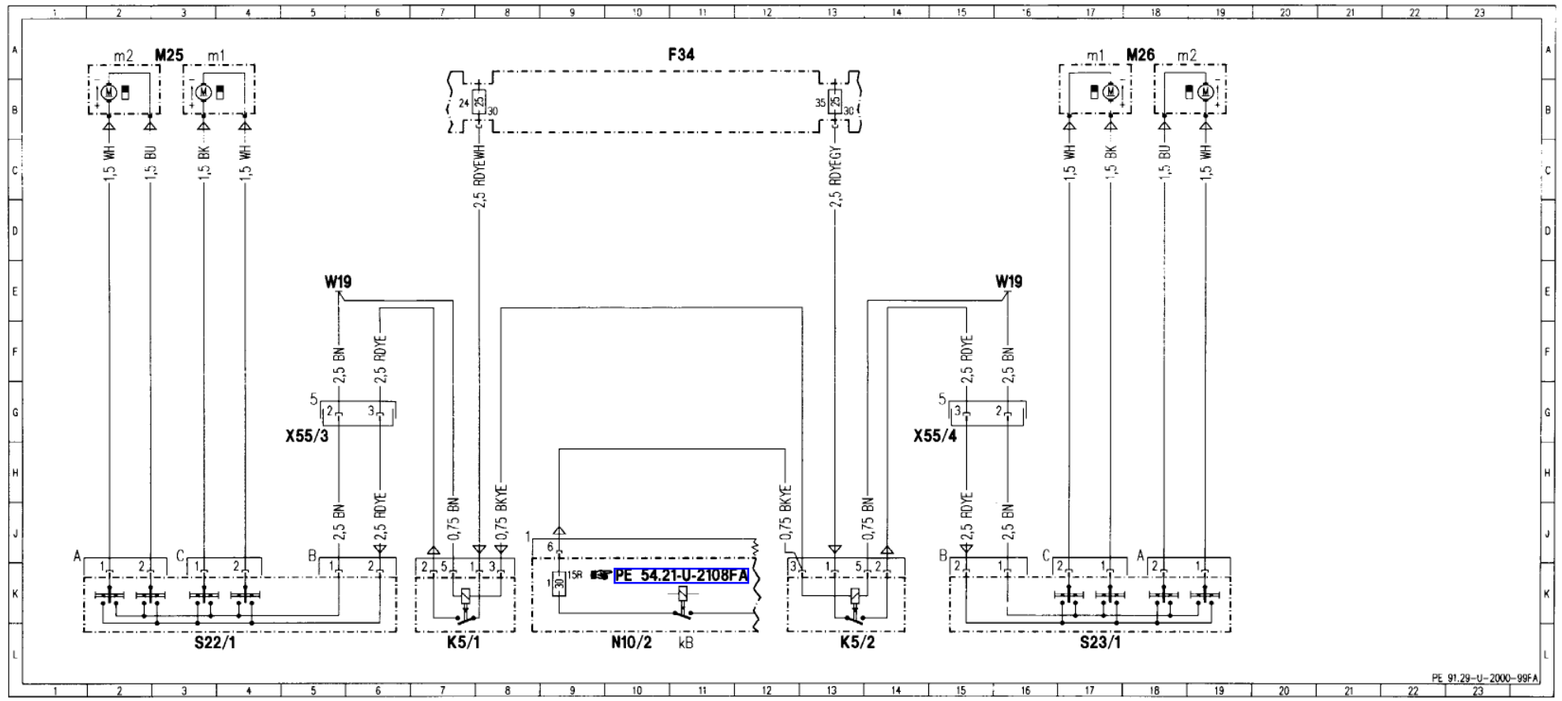
Conn./ Plug/Pin	Pin Information	Test Value	Comments
6.4	Backrest and head restraint motors voltage output		See pins 6.5 and 6.6
6.5	Head restraint (raise/lower) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 6.4 (+) and 6.5 (-) while head restraint raises reversed polarity in lower mode	
6.6	Backrest (fore/aft) motor voltage output	Key in pos. "1" or left front door open 12 VDC across pins 6.6 (+) and 6.4 (-) while backrest moves backwards reversed polarity in forward mode	


N139
1
2
3
0,75 RDBN
0,75 BNGN
0,75 BNWH
W18
0,75 BN
0,75 BN
7
7
X55/3
X55/4
0,75 BNGN
0,75 BN
0,75 BN
0,75 BNWH
26
PE 54.21-U-2108FA
N10/2
Y24/12
Y24/13
PE 91.16-U-2100-99FA

Item	Designation	Coordinates
N10/2	Rear SAM control module with fuse and relay module	2L
N139	NECK-PRO head restraint triggering device	4A
W18	Ground (left front seat crossmember)	5E
X55/3	Driver seat contacting strip	4H
X55/4	Front passenger seat contacting strip	5H
Y24/12	Driver NECK-PRO head restraint solenoid	4L
Y24/13	Front passenger NECK-PRO head restraint solenoid	6L



F34	Interior fuse box	11A
F34f24	Fuse 24	7B
F34f35	Fuse 35	13B
K5/1	Driver seat adjustment relay	7L
K5/2	Front passenger seat adjustment relay	13L
M25	Left front ESA motor group	3A
M25m1	Fore/aft motor	3A
M25m2	Rear raise/lower motor	2A
M26	Right front ESA motor group	18A
M26m1	Fore/aft motor	17A
M26m2	Rear raise/lower motor	18A
N10/2	Rear SAM control module with fuse and relay module	10L
N10/2f1	Fuse 1	9K
N10/2kB	Relay 2, circuit 15R	11L
S22/1	Driver partially-electric seat adjustment switch	3L
S23/1	Front passenger partially-electric seat adjustment switch	17L
W19	Ground (right front seat crossmember)	5E 16E

X55/3	Driver seat connector block	5H
X55/4	Passenger seat connector block	15H

PE91.29-U-2000FA All values measured to ground unless otherwise noted

Conn./ Plug/Pin	Pin Information	Test Value	Comments
K5/1			
1	Circuit 30 power input	12 VDC at all times	Feed from F34f24
2	Power output to seat adjustment switch	12 VDC with key in pos. I	
3	Relay solenoid activation power input	12 VDC with key in pos. I	Feed from N10/2kB via N10/2f1
4	Pin not used		
5	Relay solenoid ground to W19	Approx. 0 Ohms to ground	
K5/2			
1	Circuit 30 power input	12 VDC at all times	Feed from F34f35
2-5	same as K5/1		
S23/1			
A.1 A.2	Seat cushion raise/lower adjustment output	Ignition on: measure across pin 1& 2 move switch to up position: 12 VDC move switch to down position: -12 VDC	Activates left front seat adjustment motor M25m2
B.1	Ground input to switch unit from W19	Approx. 0 Ohms to ground	
B.2	Circuit 30 switched power input	12 VDC with key in pos. I	
C.1 C.2	Backrest fore/aft adjustment output	Ignition on: measure across pin 1& 2 move switch to front position: 12 VDC move switch to back position: -12 VDC	Activates right front seat adjustment motor M25m1
S23/2			
A.1 A.2	Seat cushion raise/lower adjustment output	Ignition on: measure across pin 1& 2 move switch to up position: 12 VDC move switch to down position: -12 VDC	Activates right front seat adjustment motor M26m2
A.2			
B.1	Ground input to switch unit from W19	Approx. 0 Ohms to ground	
B.2	Circuit 30 switched power input	12 VDC with key in pos. I	
C.1 C.2	Backrest fore/aft adjustment output	Ignition on: measure across pin 1& 2 move switch to front position: 12 VDC move switch to back position: -12 VDC	Activates right front seat adjustment motor M26m1