

BMW - electrical systems - WIRING DIAGRAM

Models covered :

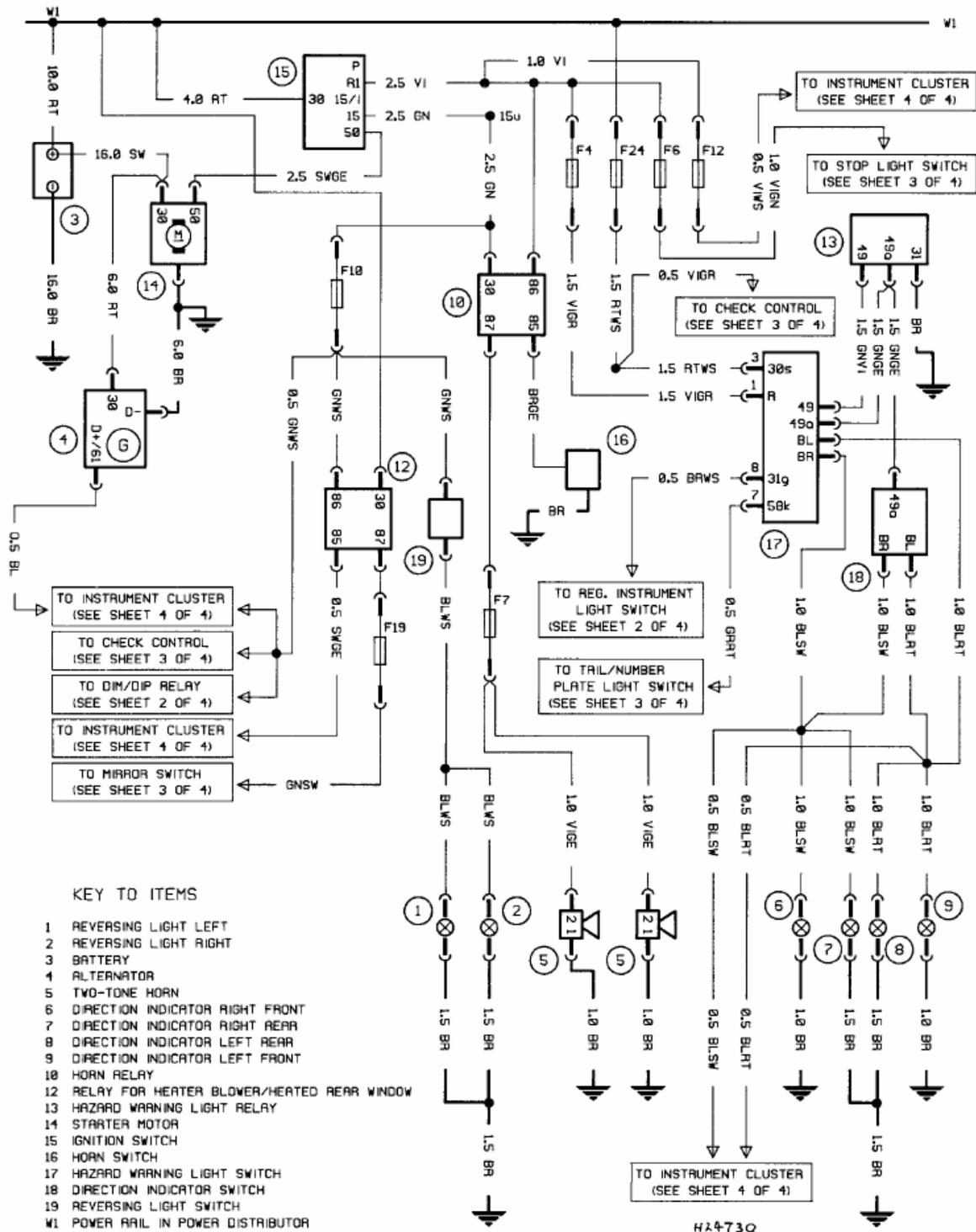
- **3-Series (E30)** 316 (83 to 88), 316i (88 to 91), 318i (83 to 91), 320i (87 to 91), 325i (87 to 91). Also Touring and Convertible versions of these models
- **5-Series (E28)** 518 (81 to 85), 518i (85 to 88), 525i (81 to 88), 528i (81 to 88), 535i (85 to 88), M535i (85 to 88)
- **5-Series (E34)** 518i (90 to 91), 520i (88 to 91), 525i (88 to 91), 530i (88 to 91), 535i (88 to 91)
- **Engines covered** 1596 cc, 1766 cc, 1795 cc, 1990 cc, 2494 cc, 2788 cc, 2986 cc & 3430 cc

Since it isn't possible to include all wiring diagrams for every model year covered, the following diagrams are those that are typical and most commonly needed.

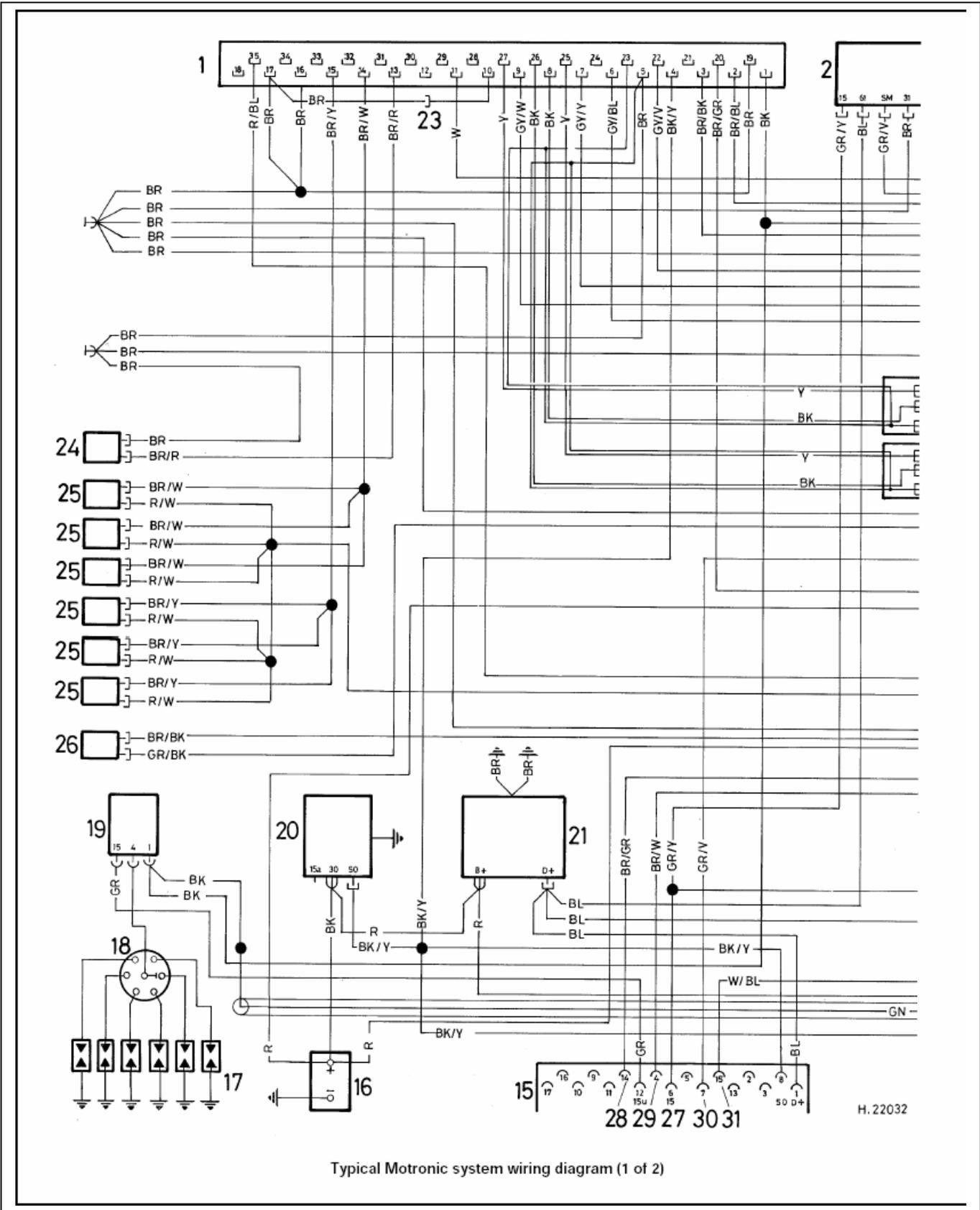
Colour codes	
BK	Black
BL	Blue
BR	Brown
GE	Yellow
GN	Green
GR	Green or Grey
GY	Grey
OR	Orange
PK	Pink
R	Red
RS	Pink
RT	Red
SW	Black
TN	Tan
V	Violet
VI	Violet
W	White
WS	White
Y	Yellow

Diagrams index

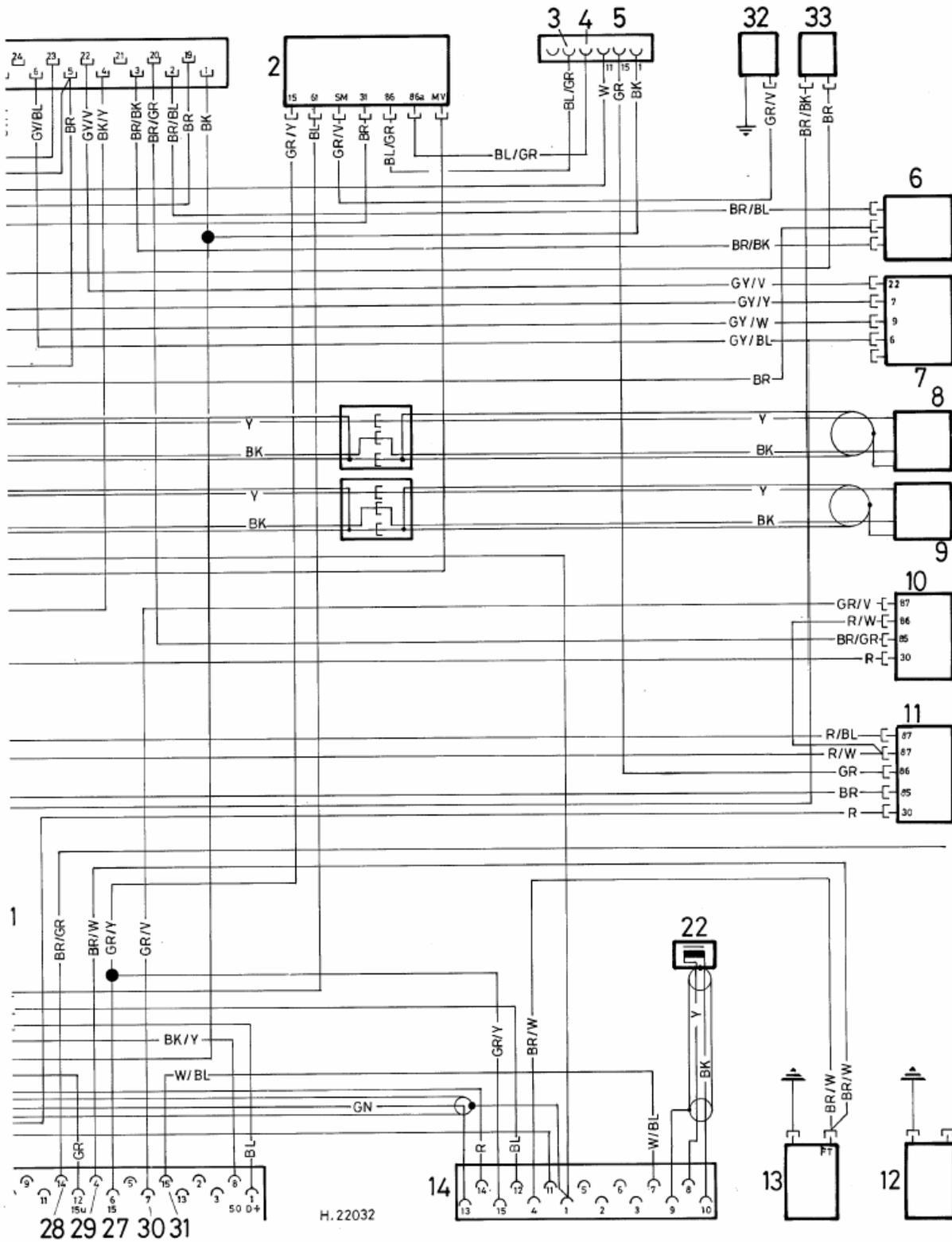
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Typical starting, charging, horn, hazard flasher and direction indicators (1 of 4)



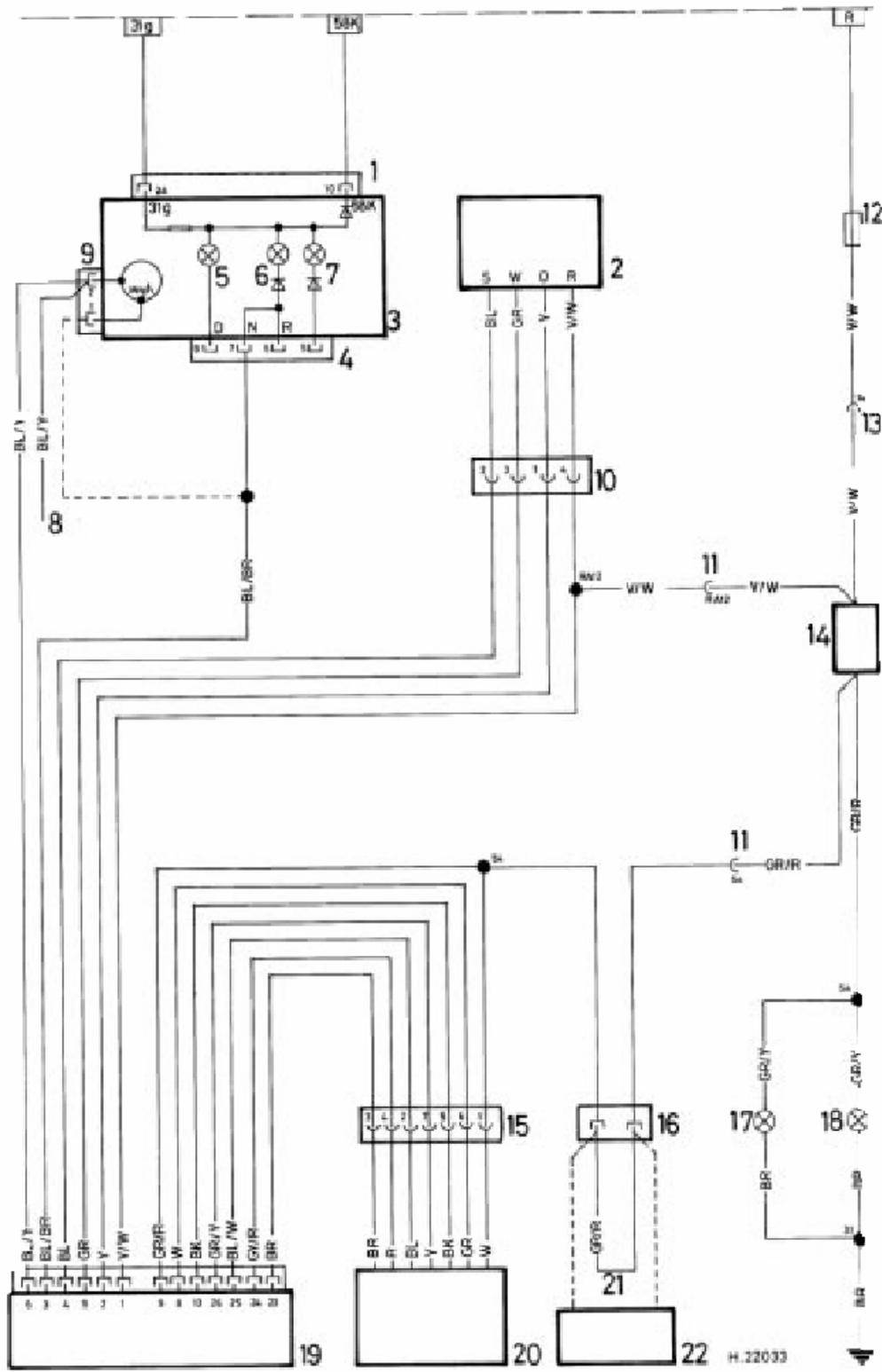
Typical Motronic system wiring diagram (1 of 2)



Typical Motronic system wiring diagram (2 of 2)

Key to Motronic engine control system wiring diagram (picture 1/1 - 1/2)

- | | |
|----------------------------------|--|
| 1. Electronic Control Unit (ECU) | 18. Distributor |
| 2. Speed control relay | 19. Ignition coil |
| 3. Temperature switch | 20. Starter |
| 4. Air conditioner | 21. Alternator |
| 5. Car wire harness connection | 22. Position transmitter |
| 6. Throttle switch | 23. Plug disconnected for automatic transmission |
| 7. Airflow sensor | 24. Coolant temperature sensor |
| 8. Speed sensor | 25. Fuel injector |
| 9. Reference mark sensor | 26. Solenoid |
| 10. Relay 1 | 27. Electric power distributor |
| 11. Relay 2 | 28. Oil pressure |
| 12. Oil pressure switch | 29. Temperature gauge |
| 13. Temperature transmitter | 30. Electric fuel pump |
| 14. Diagnosis connection | 31. Service indicator |
| 15. Engine plug | 32. Drive motor |
| 16. Battery | 33. Temperature switch |
| 17. Spark plugs | |

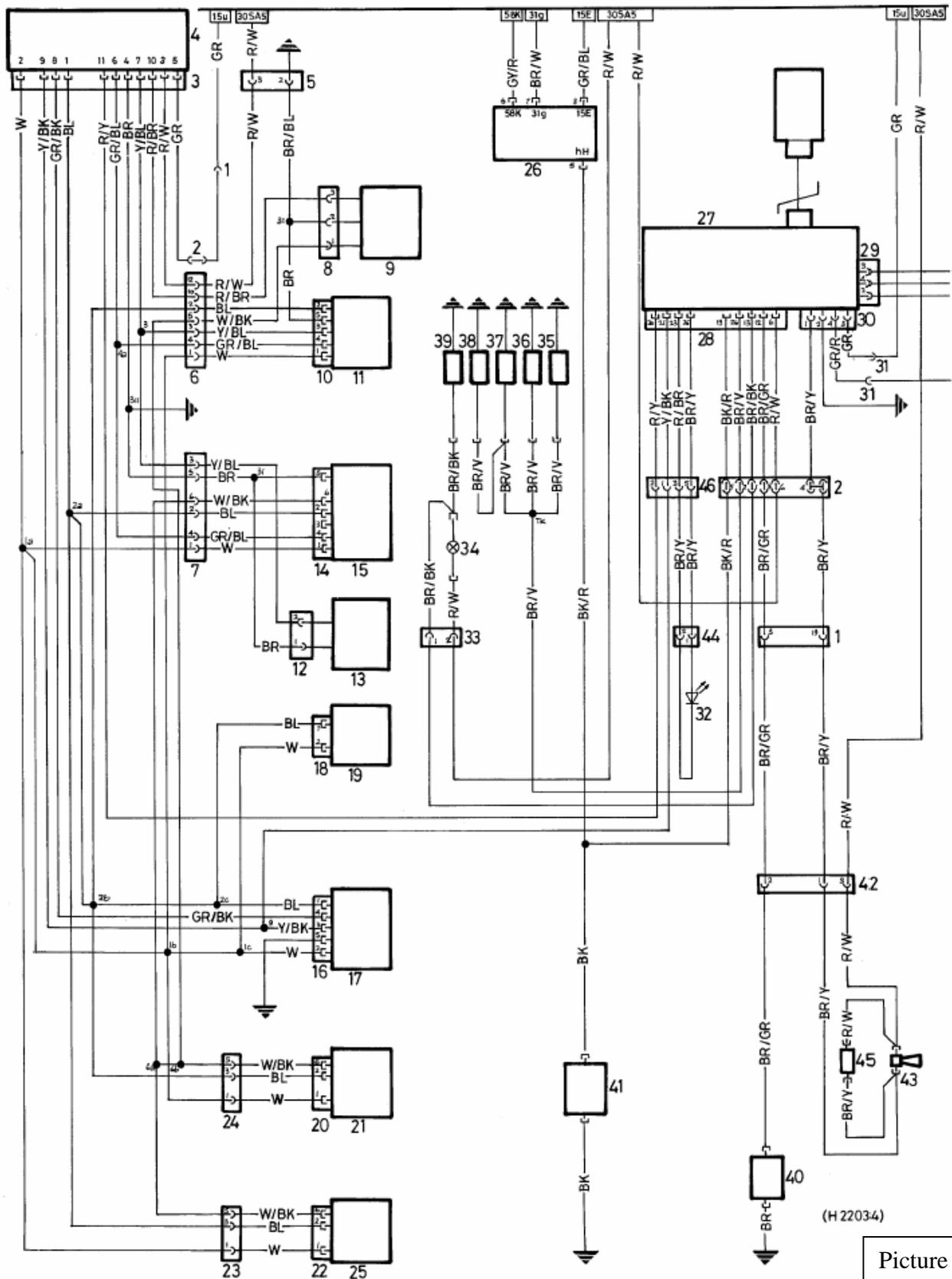


Typical cruise control system wiring diagram

Picture 2

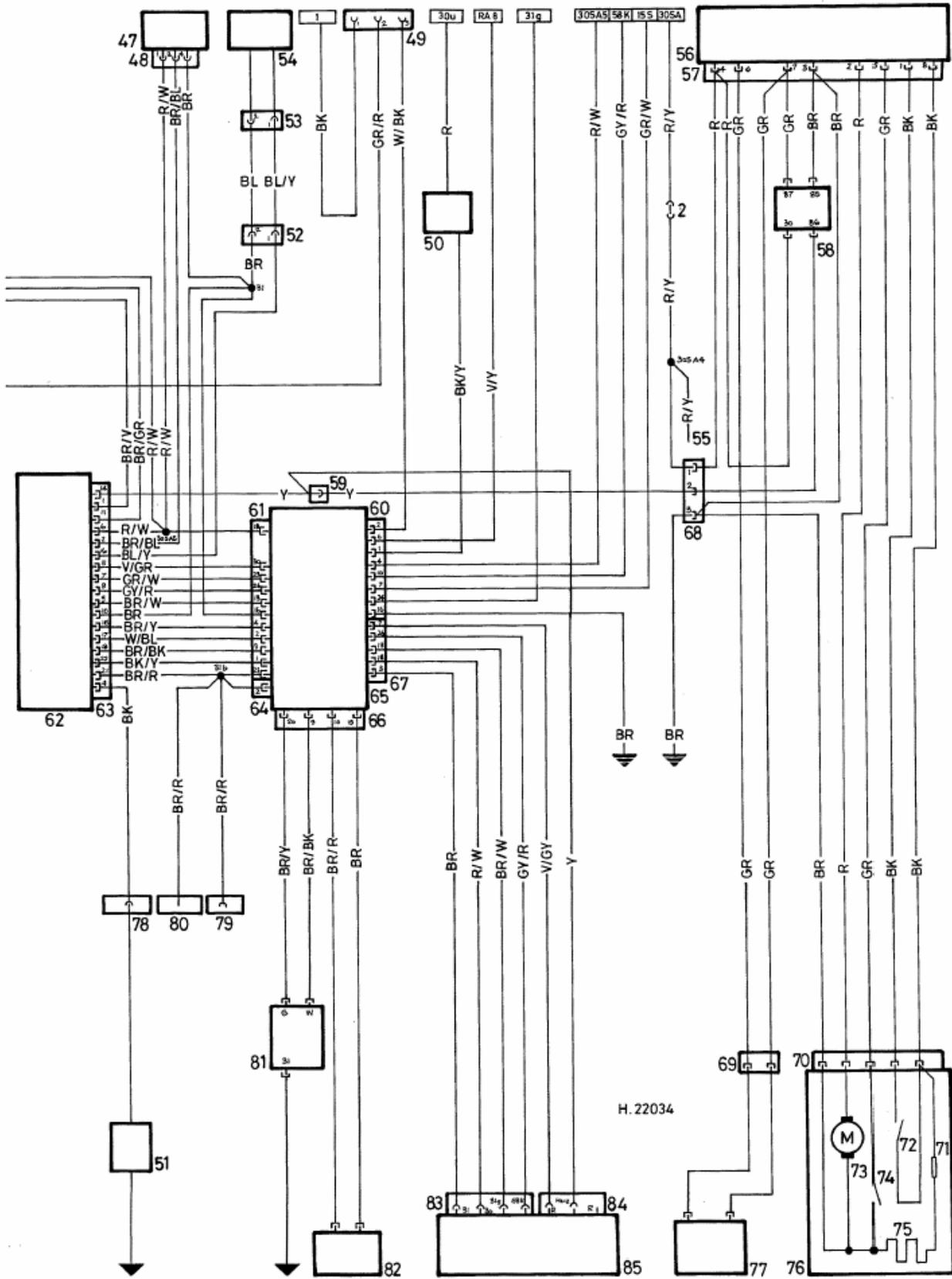
Key to cruise control system wiring diagram (picture 2)

- | | |
|--|---|
| 1. Plug connection - centre section to instrument cluster (26-pin) | 12. Steering column switch |
| 2. Steering column switch | 13. Plug connection rear section to centre section (29-pin) |
| 3. Instrument cluster | 14. Stoplight switch |
| 4. Plug connection range indicator | 15. Plug connection-drive motor |
| 5. Range indicator D | 16. Connection - clutch swlch to bridge |
| 6. Range indicator N | 17. Stoplight left |
| 7. Range indicator R | 18. Stoplight right |
| 8. Plug connoction - speedometer outlet | 19. Electronic control - cruise control |
| 9. Connection - instrument cluster (2-pin) | 20. Drive motor- cruise control |
| 10. Plug connection - steering column switch | 21. Bridge (only for automalic transmission) |
| 11. Plug connection - special equipment | 22. Clutch switch |



Picture 3/1

Typical wiring diagram for the central locking, burglar alarm, on-board computer, additional heater and digital clock (1 of 2)



Typical wiring diagram for the central locking, burglar alarm, on-board computer, additional heater and digital clock (2 of 2)

Picture 3/2

Key to wiring diagram for the central locking, burglar alarm, on-board computer, additional heater and digital clock (picture 3/1 - 3/2)

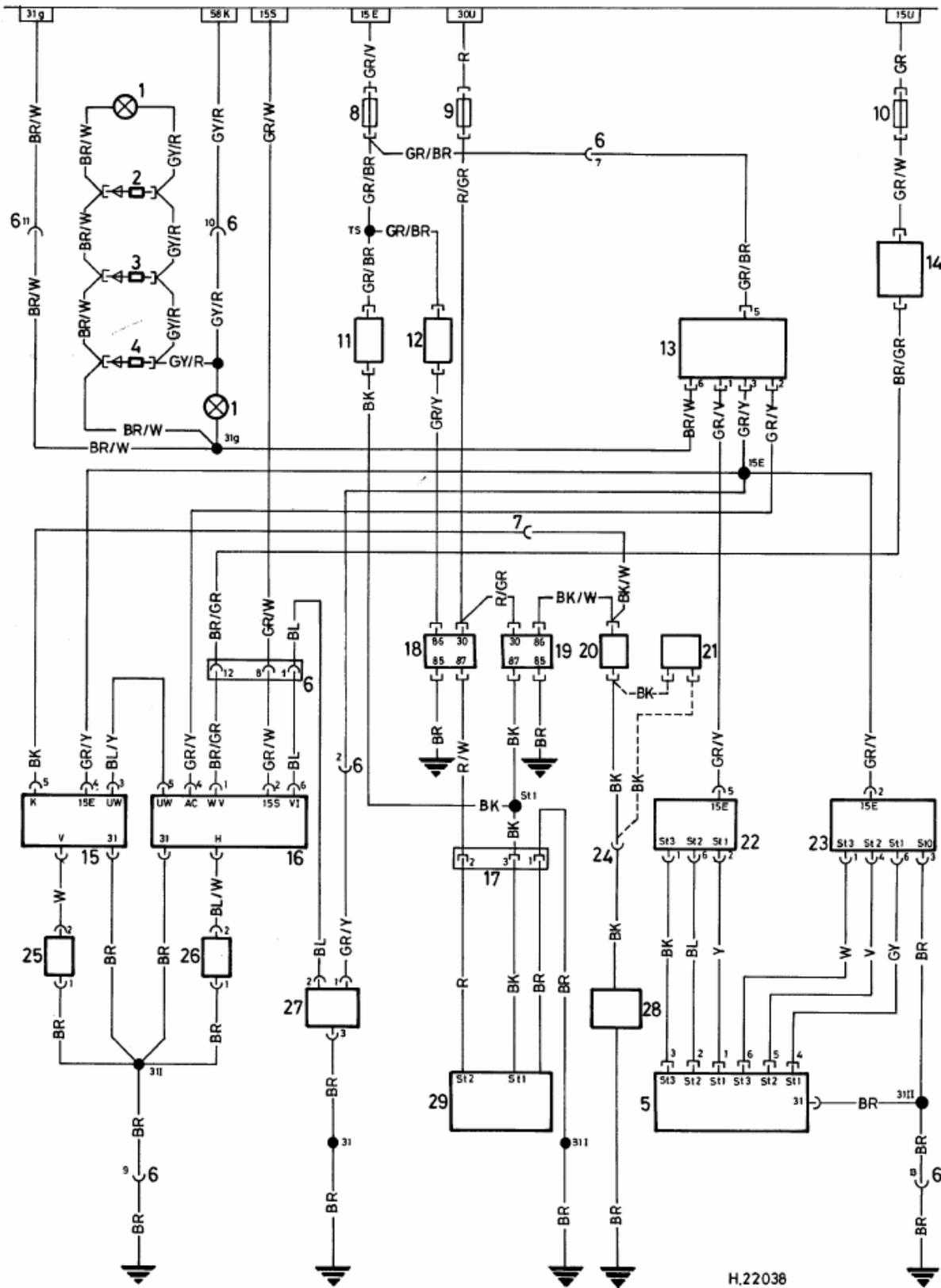
- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Plug - rear section to centre section 2. Connection for special equipmenl plug 3. Connaction for central loçk control unit 4. Central lock electronic control unit (A pillar end plate) 5. Plug - driver's door wire to rear section
 6. Plug - central lock connecting wire to driver's door wire 50(13-pin) 7. Plug - central lock connecting wire to passenger's door wire 8. Plug driver's door central lock wire to swilch 9. Central lock switch/unblocking arrest (driver's door,on lock)
 10. Connection for centralloçk motor to driver's door (6-pin) 11. Central lock motor - driver's door 12. Plug-passenger's door wire to microswitch 13. Microswitch (passenger's door,on lock) 14. Central lock motor-passenger's door 15. Central lock motor-pàssenger's door 16. Connection for central lock motor to boot lid(6-pin) 17. Central lock motor - bool lid 18. Connection for central lock motor to fuel filler flap (6-pin) 19. Central lock motor-fuel filler flap 20. Connection for central lock motor to left rear door(6-pin) 21. Central lock molor - left rear door 22. Connection for central lock motor to right door(6-pin) 23. Plug - central lock connecting wire to right rear door (7-pin) 24. Plug - cantral lock connecting wire lo left rear door 17-pin) 25. Central lock motor- right rear door 26. Rear window heater switch 27. Burglar alarm electronic control unit (left of steering column) 28. Connection for burglar alarm electronic control unit I (26-pin) 29. Connection for relay box (4-pin) 30. Connection for burglar alarm electronic conlroi unii II (4-pin) 31. Plug 150 (in main wire harness) 32. Light diode for burglar alarm 33. Plug for boot light 34. Boot lighl 35. Door contact switch front left 36. Door contact switch tront right 37. Door contact switch rear left 38. Door contact switch rear right 39. Boot lid contact 40. Bonnet contact 41. Rear window heater 42. Plug - centre section to wire for on board computer/burgiar alarm 43. Horn | <ol style="list-style-type: none"> 44. Plug for light diode 45. Diode 46. Plug - burglar alarm wire to central lock connecting wire 47. Chime (left of steering column) 48. Connection for chime 49. Plug - centre section to LE-Jetronic wire harness 50. Ignition switch 51. Remote control switch for on-board computer 52. Plug on-board computer to outside temperature sensor wire 53. Plug - outside temperature sensor wire to outside temperature sensor 54. Outside temperature sensor (lower front panel) 55. Plug - extra heater wire to automatic aerial 56. Parked car heating electronic control unit (on parked car heater underneath right seat) 57. Connection for electronic control unit 58. Relay for parked car heater (on heater) 59. Plug - on-board computer wire to extra heater wire 60. Plug - centre section to instrument cluster 61. Connection for instrument cluster 62. On-board computer electronic contol unit (right of instrument cluster) 63. Connection for on-board computer 64. Connection for instrument cluster II 65. Instrument cluster 66. Plug- rear section to instrument cluster 67. Plug - digital clock wire to instrument cluster 68. Plug-extra wire to heater wire 69. Plug-heater wire to fuel pump wire 70. Connection for heater 71. Ballast resistor in heater 72. Thermoswitch (parked car heater) 73. Heater motor 74. Overheating switch (parked car heater) 75. Heater plug for parked car heater 76. Heater 77. Fuel pump 78. Plug - on-board computer to remote control 79. Plug - speed dependent loudness control 80. Plug-wire for cruise control 81. Fuel level trensmmitter 82. Speed transmitter 83. Plug - digital clock wire to digital clock (4-pin) 84. Plug digital clock wire to digital clock (2-pin) 85. Digital clock |
|--|---|

Key to headlight washer system wiring diagram (picture 4)

1. Control unit for headlight cleaners (on fluid reservoir)
2. Fuse- overnight, tail and parking lights
3. Fuse - horns, wash/wipe control unit and headlight cleaners
4. Motor - windscreen wipers
5. Wiper switch
6. Pump - headlight cleaning system
7. Pump- intensive cleaning fluid
8. Pump - windscreen washing system
9. Plug - headlight cleaner wire to front section I (washer fluid pump)
10. Plug - Headlight cleaner wire to front section II {plug for headlight cleaners)
11. Plug - centre section to front section (7-pin)
12. Plug for wiper motor
13. Plug-centre section to wiper switch
14. Motor-windscreen wipers
15. Motor - left headlight wiper
16. Wash/wipe interval control unit

Key to electric window system wiring diagram (picture 5)

1. Plug for rear section to driver's door (5-pin)
2. Plug for rear section to center section (27 -pin)
3. Plug for window control and central lock wire to driver's door(13-pin)
4. Plug for window control and central lock wire to special equipment plug
5. Window switch rear left
6. Window switch rear left
7. Window switch rear right
8. Plug for left rear door wire to window motor rear left
9. Plug for right door wire to window motor rear right
10. Window motor rear left
11. Window motor rear right
12. Plug for window control and central lock wire to left rear door
13. Plug for window control and central lock wire to right rear door(7-pin)
14. Power safety switch
15. Child safety switch
16. Window motor front left
17. Window motor front right
18. Plug for driver's door wire to window motor front left
19. Plug for passenger's door wire to window motor of passenger's door
20. Relay
21. Plug for window control and central lock wire to passenger's door (13-pin)
22. Window switch front left
23. Window switch rear right
24. Window switch front right

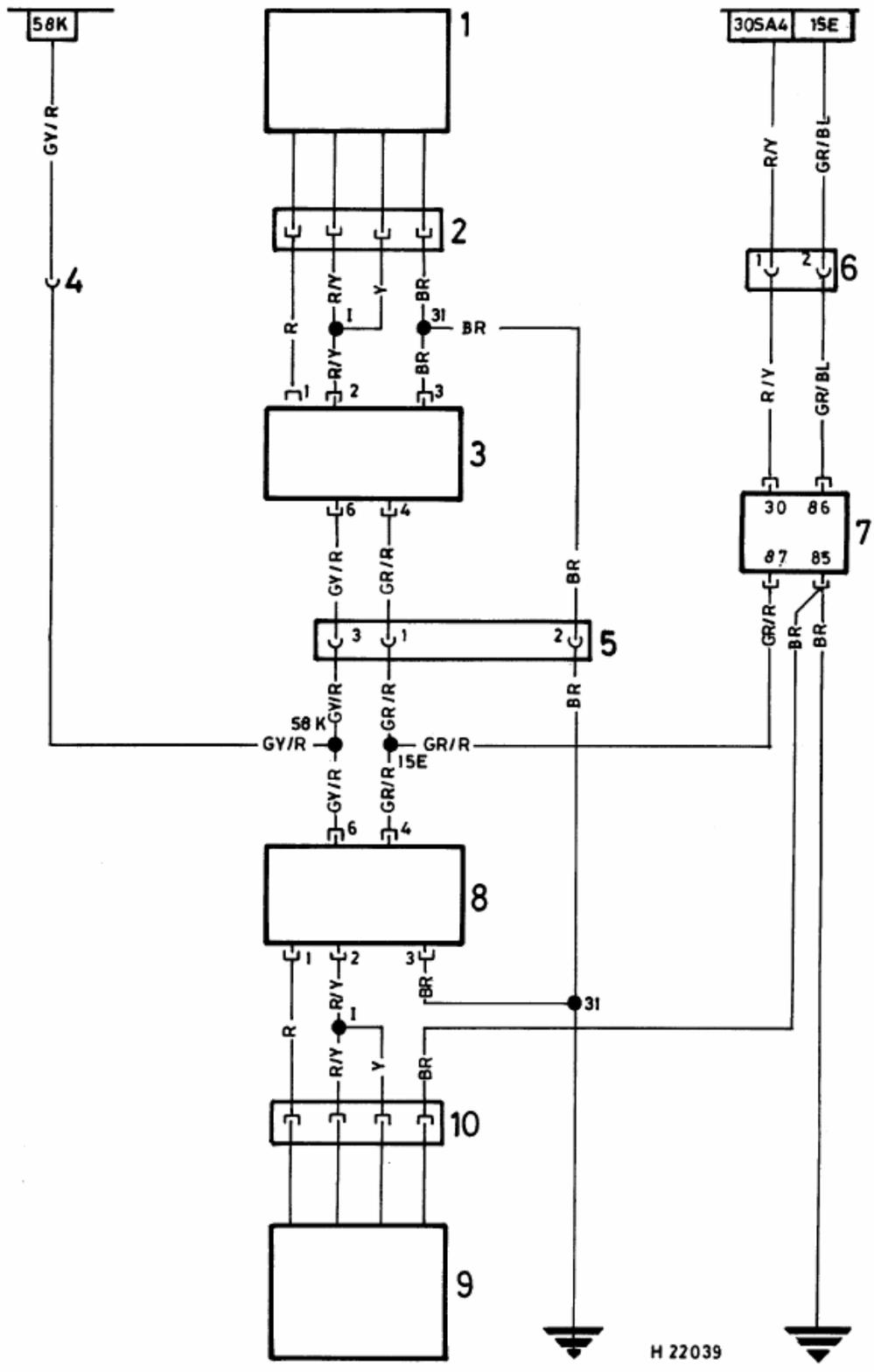


Typical heating and air conditioning system wiring diagram

Picture 6

Key to air conditioning system wiring diagram (picture 6)

1. Light for heater controls
2. Light diode III
3. Light diode II
4. Light diode I
5. Switch - heater/evaporator blower
6. Plug heater control wire harness to centre wire harness (13-pin)
7. Plug - front wire harness section to heater controls
8. Fuse - heater blower
9. Fuse - extra fan stage II
10. Fuse - ind.lamp, reversing lights, tachometer and mirrors (power distributor)
11. Temperature switch 91°C - stage I
12. Temperature switch 99°C - stage II
13. Switch-airconditioner
14. Water valve
15. Evaporator temperature regulator
16. Air conditioner control unit (heater controls)
17. Plug - extra fan motor (on extra fan motor I)
18. Relay - extra fan stage II (on power distributorI
19. Relay - extra fan stage I (on power distributori
20. Switch - high pressure pressostat (drier)
21. Switch temperature 110°C(only for 524td)
22. Motor-heater blower
23. Motor - evaporator blower
24. Plug - high pressure pressostat to electromagnetic coupling
25. Evaporator temperature sensor (in evaporator)
26. Heater temperature sensor (in heater)
27. Inside temperature sensor(lower trim panel left)
28. Electromagnetic coupling far compressor
29. Motor - extra fan

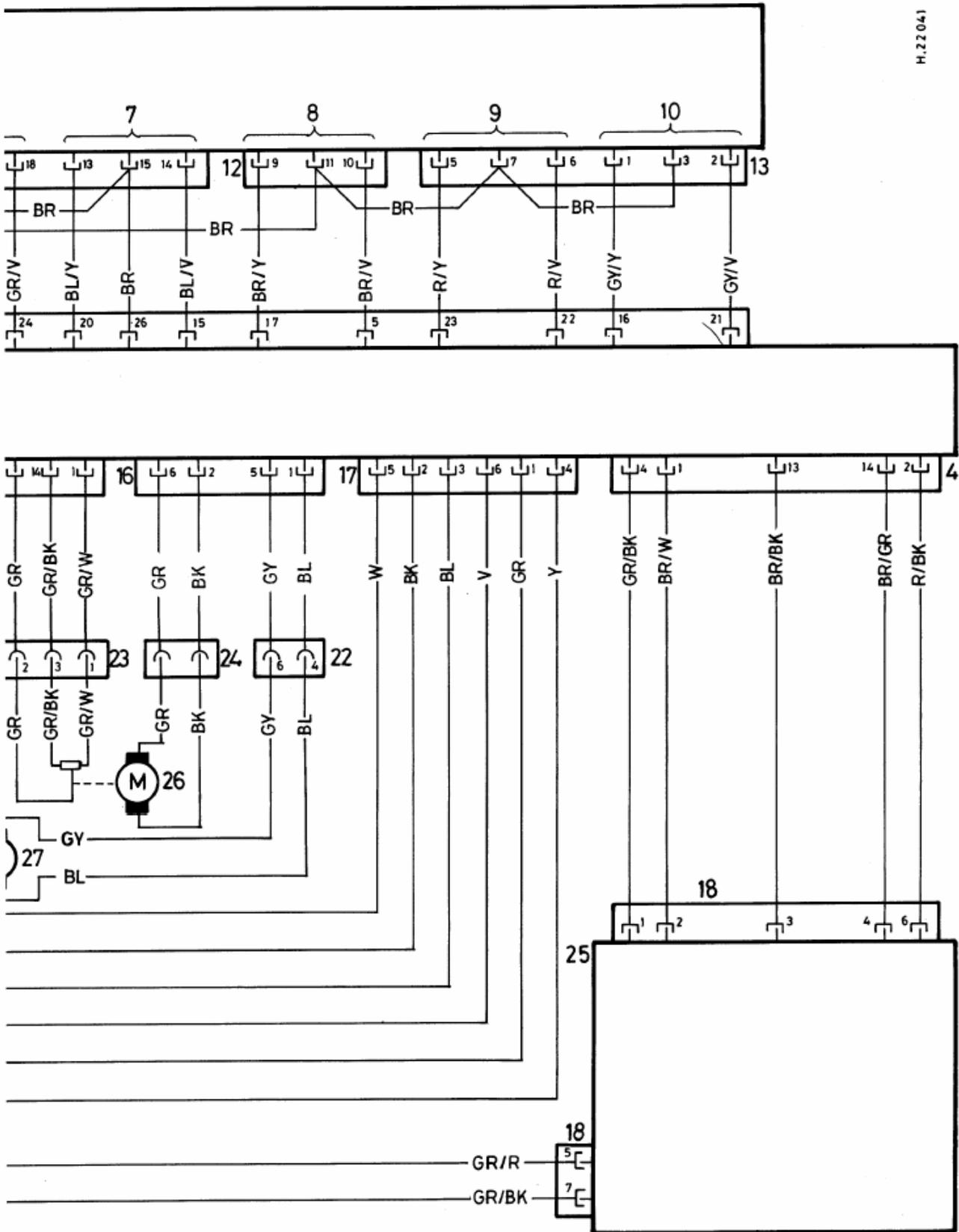


Typical heated seats wiring diagram

Picture 7

Key to wiring diagram for heated seats (picture 7)

1. Heating - passenger's seat
2. Seat heating connection - passenger's side
3. Seat heating switch - passenger's side
4. Plug for heated seat wire (driver's side) to special equipment plug (58K)
5. Plug for heated seat wire (driver's side) to passenger's side
6. Plug for heated seat wire (driver's side) to special equipment plug (15E and 30SA4)
7. Seat heating relay
8. Seat heating switch - driver's side
9. Heating- driver's side
10. Seat heating connection - driver's side

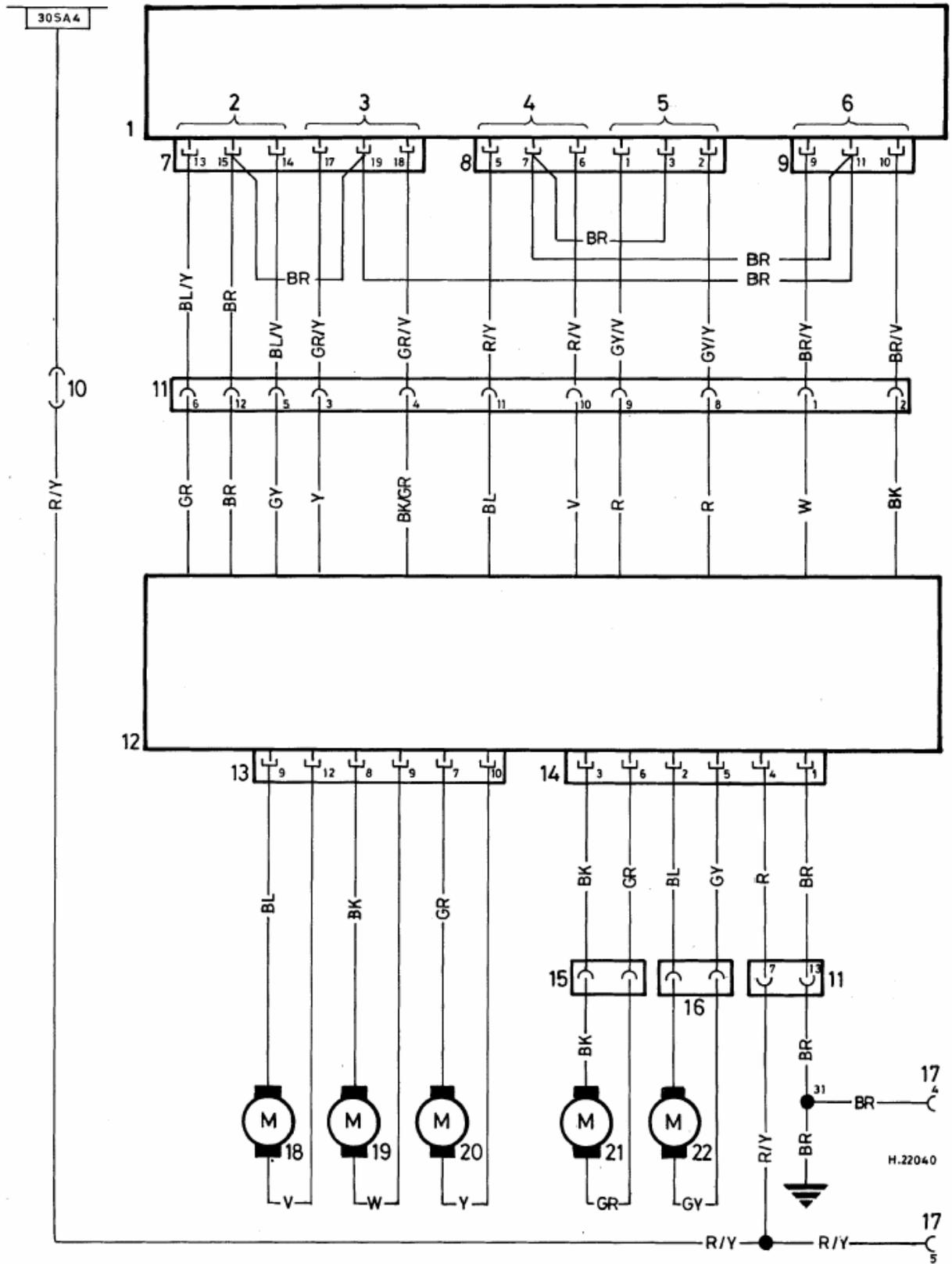


Typical wiring diagram for power seats with memory (2 of 2)

Picture 8/2

Key to wiring diagram for memory power seats (picture 8/1 8/2)

1. Plug connection far special equipment plug
2. Plug connection of wire for passenger's seat
3. Plug connection of wire for seat control with memory
4. Connection of wire for seat control with memory
5. Seat control switch
6. Backrest
7. Slide
8. Headrest
9. Height front
10. Height rear
11. Plug connection for seat backrast/slide control
12. Plug connection for seat headrest control
13. Plug connection for seat height control
14. Electronic control unit (underneath seat)
15. Plug connection of wire for seat control with memory
16. Plug connection of wire for seat with memory
17. Plug connection for seat control drive
18. Plug connection for memory switch
19. Plug connection for slide potentiometer
20. Plug connection for front height potentiometer
21. Plug connection for rear height potentiometer
22. Plug connection for headrest motor
23. Plug connection for backrest potentiometer
24. Plug connection for backrest motor
25. Memory switch
26. Motor-seat backrest control
27. Motor headrest control
28. Motor-height control rear
29. Motor-height control front
30. Motor-slide

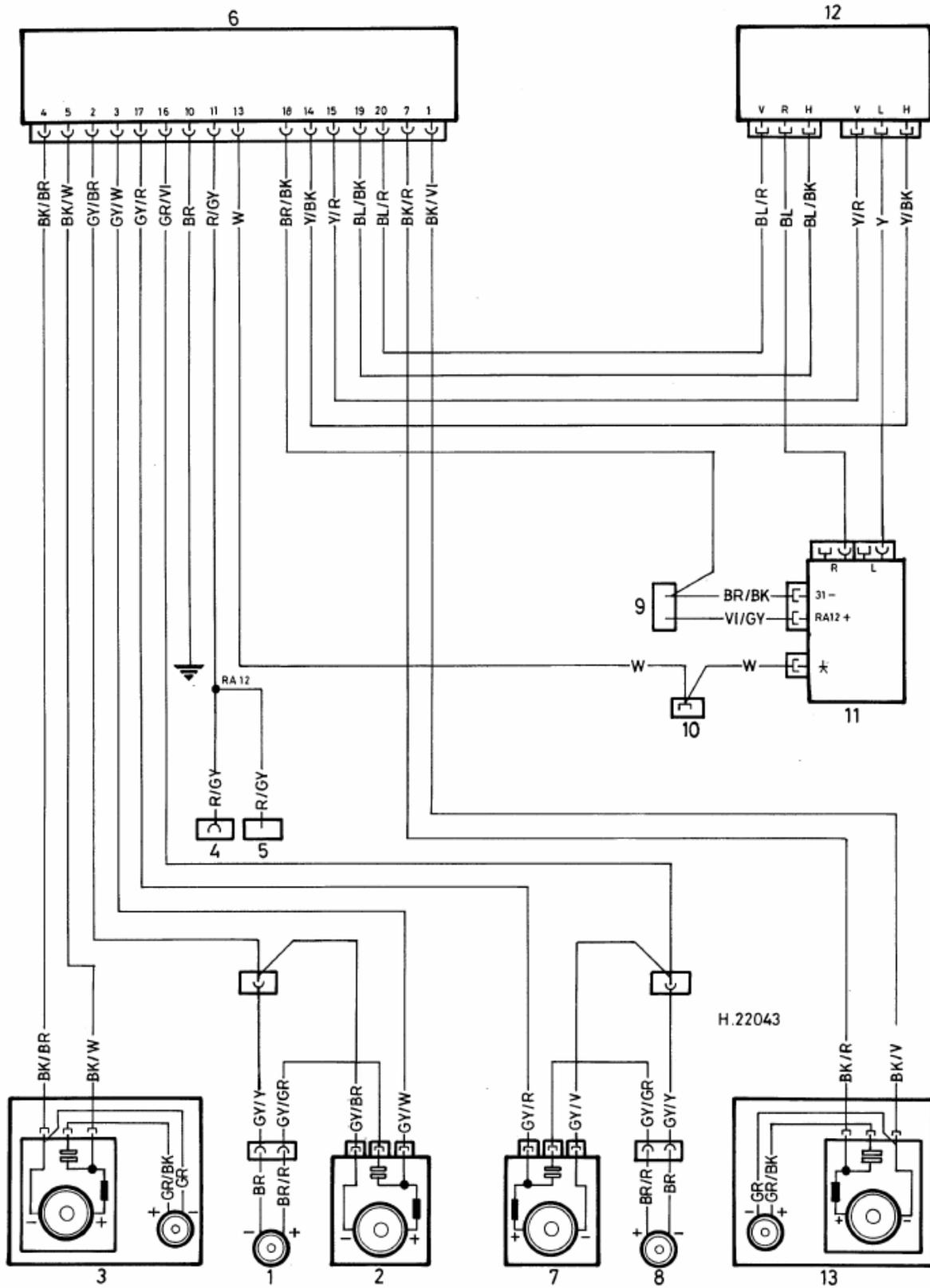


Typical wiring diagram for power seats without memory

Picture 9

Key to wiring diagram for power seats without memory (picture 9)

1. Plug connection for special equipment plug
2. Backrest
3. Seat forward/backward
4. Headrest
5. Seat up/down front
6. Seat up/down rear
7. Plug switch for backrest/seat control
8. Plug switch for headrest control
9. Plug switch for front/rear seat up/down control
10. Switch for power seats
11. Plug - power seat wire to power seat electronic control unit
12. Electronic control unit for power seats (below seats)
13. Plug - power seat drive to power seat electronic control unit
14. Plug - power backrest and headrest wire to power seat electronic control unit
15. Plug - power backrest and headrest wire to backrest motor
16. Plug - power backrest and headrest wire to the headrest motor
17. Plug - power seat wire on driver's side to wire on passenger's side
18. Motor-seat up/down front
19. Motor-seat up/down rear
20. Motor - seat forward/backward
21. Motor - backrest
22. Motor - headrest

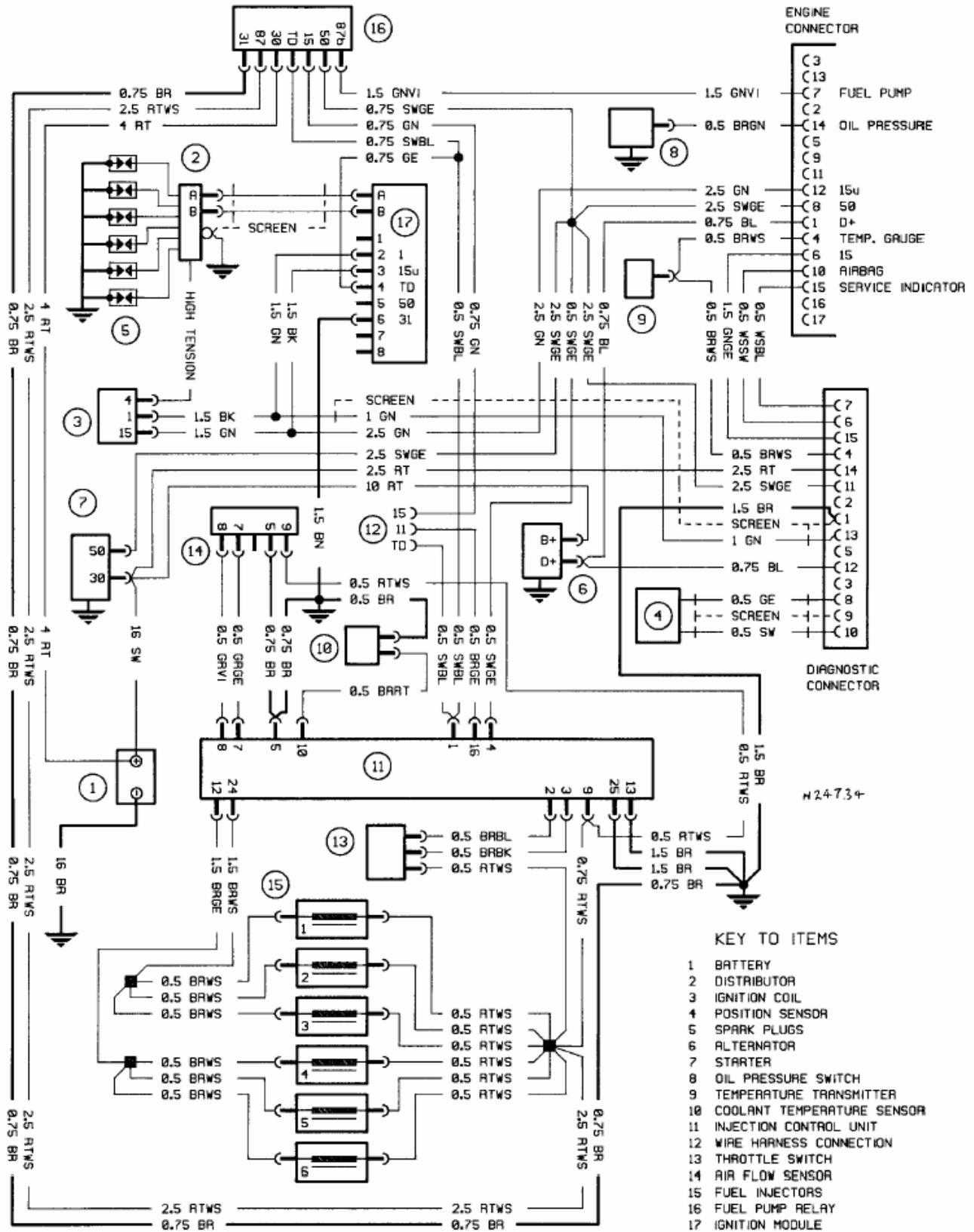


Typical radio wiring diagram - early models shown

Picture 10

Key to radio wiring diagram (picture 10)

- 1 Speaker door right
- 2 Speaker front right
- 3 Speaker rear right
- 4 Special equipment plug RA12
- 5 Connection for power windows
- 6 Amplifier
- 7 Speaker front left
- 8 Speaker door left
- 9 Connection for power supply lead
- 10 Connection for power aerial
- 11 Radio
- 12 Speaker balance control
- 13 Speaker rear left



Typical L-Jetronic system wiring diagram