






Chapter 12

Body electrical system

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Degrees of difficulty

Easy, suitable for novice with little experience		Fairly easy, suitable for beginner with some experience		Fairly difficult, suitable for competent DIY mechanic		Difficult, suitable for experienced DIY mechanic		Very difficult, suitable for expert DIY or professional	
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Specifications

General

System type 12 volt, negative earth

Fuses - early models

Fuse	Rating (amps)	Circuit(s) protected
1	10	LH side and tail lamps
2	10	RH side and tail lamps, instrument and engine compartment illumination
3	10	LH main beam
4	10	RH main beam
5	10	LH dipped beam
6	10	RH dipped beam
7	10	Not used
8	10	Direction indicators, stop lamps and foglamp relay
9	30	Wipers and washers
10	10	Rear foglamp
11	30	Horn and radiator fan
12	20	Heater blower
13	20	Reversing lamps, cigarette lighter, carburettor pre-heating, electric mirrors and glovebox lamp
14	20	Interior lights, hazard warning flasher, clock and radio
15	20	Trailer feed (terminal 30)
16	20	Fuel injection control unit
17	20	Front foglamps
18	20	Heated rear window

Note: *Not all items fitted to all models*

Fuses - early models

Fuse	Rating (amps)	Circuit(s) protected
1	10	LH side and tail lamps, instrument and engine compartment illumination, "lights-on" warning buzzer
2	10	RH side and tail lamps, number plate lamps
3	10	LH main beam
4	10	RH main beam
5	10	LH dipped beam
6	10	RH dipped beam
7	10	Not used
8	15	Direction indicators, stop lamps and foglamp relay, ABS relay
9	30	Wipers and washers
10	10	Rear foglamp
11	30	Horn and radiator fan
12	20	Heater blower
13	20	Reversing lamps, cigarette lighter, carburettor pre-heating, electric mirrors and glovebox lamp
14	20	Trailer feed (terminal 30)
15	15	Interior lights, hazard warning flasher, clock and radio
16	20	Fuel injection control unit
17	20	Front foglamps
18	20	Heated rear window
19	20	Central locking
20	30	Electric windows

Note: Not all items fitted to all models. Fuses 19 and 20 are located on the underside of the fusebox. On Convertible models (where applicable), the fuse for the power hood system is located on the left-hand suspension strut in the engine compartment.

Bulbs

Lamp	Wattage
Headlamp	60/55
Front parking lamp	4
Front foglamp	55
Direction indicator lamp	21
Stop/tail lamp	21/5
Rear number plate lamp	10
Reversing lamp	21
Engine compartment lamp	10
Luggage compartment lamp	10
Glovebox:	
Early models	5
Later models	10
Instrument warning lamps	1.2
Cigar lighter illumination	1.2
Switch illumination	1.2
Rear foglamps	21
Ashtray lamp	1.2
Clock illumination	1.2
Selector lever index (automatic transmission)	1.2
Direction indicator side repeater lamp	5
Vehicle interior lamp	10

1 General information



Warning: Before carrying out any work on the electrical system, read through the precautions given in *Safety First!* at the beginning of this manual and Chapter 5

The electrical system is of the 12 volt negative earth type. Power for the lights and all electrical accessories is supplied by a lead/acid type battery which is charged by the alternator.

This Chapter covers repair and service procedures for the various electrical components not associated with engine.

Information on the battery, alternator and starter motor can be found in Chapter 5A.

It should be noted that prior to working on any component in the electrical system, the battery negative terminal should first be disconnected to prevent the possibility of electrical short circuits and/or fires.

2 Electrical fault finding - general information

Note: Refer to the precautions given in 'Safety first!' and in Section 1 of this Chapter before starting work. The following tests relate to testing of the main electrical circuits, and should not be used to test delicate electronic circuits (such as anti-lock braking systems),

particularly where an electronic control module is used.

General

- 1** A typical electrical circuit consists of an electrical component, any switches, relays, motors, fuses, fusible links or circuit breakers related to that component, and the wiring and connectors which link the component to both the battery and the chassis. To help to pinpoint a problem in an electrical circuit, wiring diagrams are included at the end of this Manual.
- 2** Before attempting to diagnose an electrical fault, first study the appropriate wiring diagram to obtain a complete understanding of the components included in the particular circuit concerned. The possible sources of a

fault can be narrowed down by noting if other components related to the circuit are operating properly. If several components or circuits fail at one time, the problem is likely to be related to a shared fuse or earth connection.

3 Electrical problems usually stem from simple causes, such as loose or corroded connections, a faulty earth connection, a blown fuse, a melted fusible link, or a faulty relay (refer to Section 3 for details of testing relays). Visually inspect the condition of all fuses, wires and connections in a problem circuit before testing the components. Use the wiring diagrams to determine which terminal connections will need to be checked in order to pinpoint the trouble spot.

4 The basic tools required for electrical fault-finding include a circuit tester or voltmeter (a 12-volt bulb with a set of test leads can also be used for certain tests); a self-powered test light (sometimes known as a continuity tester); an ohmmeter (to measure resistance); a battery and set of test leads; and a jumper wire, preferably with a circuit breaker or fuse incorporated, which can be used to bypass suspect wires or electrical components. Before attempting to locate a problem with test instruments, use the wiring diagram to determine where to make the connections.

5 To find the source of an intermittent wiring fault (usually due to a poor or dirty connection, or damaged wiring insulation), a 'wiggle' test can be performed on the wiring. This involves wiggling the wiring by hand to see if the fault occurs as the wiring is moved. It should be possible to narrow down the source of the fault to a particular section of wiring. This method of testing can be used in conjunction with any of the tests described in the following sub-Sections.

6 Apart from problems due to poor connections, two basic types of fault can occur in an electrical circuit - open circuit, or short circuit.

7 Open circuit faults are caused by a break somewhere in the circuit, which prevents current from flowing. An open circuit fault will prevent a component from working, but will not cause the relevant circuit fuse to blow.

8 Short circuit faults are caused by a 'short' somewhere in the circuit, which allows the current flowing in the circuit to 'escape' along an alternative route, usually to earth. Short circuit faults are normally caused by a breakdown in wiring insulation, which allows a feed wire to touch either another wire, or an earthed component such as the bodyshell. A short circuit fault will normally cause the relevant circuit fuse to blow.

Finding an open circuit

9 To check for an open circuit, connect one lead of a circuit tester or voltmeter to either the negative battery terminal or a known good earth.

10 Connect the other lead to a connector in the circuit being tested, preferably nearest to the battery or fuse.

11 Switch on the circuit, bearing in mind that some circuits are live only when the ignition switch is moved to a particular position.

12 If voltage is present (indicated either by the tester bulb lighting or a voltmeter reading, as applicable), this means that the section of the circuit between the relevant connector and the battery is problem-free.

13 Continue to check the remainder of the circuit in the same fashion.

14 When a point is reached at which no voltage is present, the problem must lie between that point and the previous test point with voltage. Most problems can be traced to a broken, corroded or loose connection.

Finding a short circuit

15 To check for a short circuit, first disconnect the load(s) from the circuit (loads are the components which draw current from a circuit, such as bulbs, motors, heating elements, etc).

16 Remove the relevant fuse from the circuit, and connect a circuit tester or voltmeter to the fuse connections.

17 Switch on the circuit, bearing in mind that some circuits are live only when the ignition switch is moved to a particular position.

18 If voltage is present (indicated either by the tester bulb lighting or a voltmeter reading, as applicable), this means that there is a short circuit.

19 If no voltage is present, but the fuse still blows with the load(s) connected, this indicates an internal fault in the load(s).

Finding an earth fault

20 The battery negative terminal is connected to 'earth' - the metal of the engine/transmission and the car body - and most systems are wired so that they only receive a positive feed, the current returning via the metal of the car body. This means that the component mounting and the body form part of that circuit. Loose or corroded mountings can therefore cause a range of electrical faults, ranging from total failure of a circuit, to a puzzling partial fault. In particular, lights may shine dimly (especially when another circuit sharing the same earth point is in operation), motors (eg. wiper motors or the radiator cooling fan motor) may run slowly, and the operation of one circuit may have an apparently unrelated effect on another. Note that on many vehicles, earth straps are used between certain components, such as the engine/transmission and the body, usually where there is no metal-to-metal contact between components due to flexible rubber mountings, etc.

21 To check whether a component is properly earthed, disconnect the battery and connect one lead of an ohmmeter to a known good earth point. Connect the other lead to the wire or earth connection being tested. The resistance reading should be zero; if not, check the connection as follows:

22 If an earth connection is thought to be

faulty, dismantle the connection and clean back to bare metal both the bodyshell and the wire terminal or the component earth connection mating surface. Be careful to remove all traces of dirt and corrosion, then use a knife to trim away any paint, so that a clean metal-to-metal joint is made. On reassembly, tighten the joint fasteners securely; if a wire terminal is being refitted, use serrated washers between the terminal and the bodyshell to ensure a clean and secure connection. When the connection is remade, prevent the onset of corrosion in the future by applying a coat of petroleum jelly or silicone-based grease or by spraying on (at regular intervals) a proprietary ignition sealer.

3 Fuses and relays - general information

1 All the car's electrical circuits are protected by fuses; most of the fuses are found in a fuse/relay box located under a cover to the right of and below the steering column (see illustration).

2 Typical fuse applications are given in the Specifications; model specific information will be found printed on the fuse/relay box lid.

3 The fuses are of the 'blade' type. Their ratings are printed on their backs and additionally they are colour-coded. A blown fuse may be recognised by its melted or missing wire link.

4 When renewing a fuse, switch off the circuit(s) concerned first. If the new fuse blows immediately when switching on, find and rectify the cause. The most usual cause of a blown fuse is a short-circuit to earth somewhere along the wire feeding the component concerned. The wire may be disconnected, trapped or frayed. Pay special attention to wire runs through grommets, under carpets etc.

5 Where a blown fuse serves more than one component, the defective circuit can be traced by switching on each component in turn until the replacement fuse blows.

6 Never attempt to bypass a fuse with silver foil or wire, nor fit a fuse of a higher rating than specified. Serious damage, or even fire, may result.



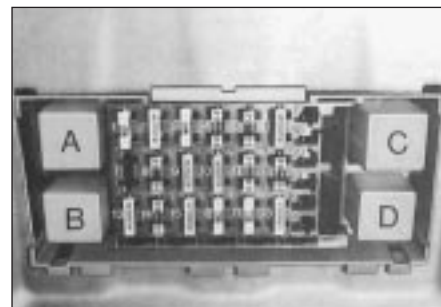
3.1 Removing the cover from the fuse/relay box



3.7a Headlamp washer relay and fuse



3.7b Removing the headlamp washer fuse



3.8a Relay identification

- A Flasher unit
- B Heated rear window relay
- C Windscreen wiper relay/delay unit
- D Front foglamp relay

7 Models with a full range of optional equipment may carry one or two fuses on the other side of the fuse/relay box. When a headlamp washer system is fitted, its fuse and relay are mounted under the bonnet on the left-hand suspension turret (see illustrations).

8 All models have some relays on the accessible side of the fuse/relay box; according to equipment level, some other relays may be found on the reverse side. Unclip the box to gain access. The relays are as shown (see illustrations).

9 A relay is essentially an electrically-operated switch. If a circuit served by a relay becomes inoperative, remember that the relay could be at fault. Test by substitution of a known good relay.

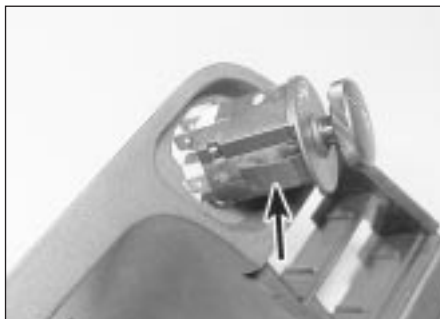
4 Switches - removal and refitting

1 Before removing a switch, disconnect the battery negative lead.

Lighting master switch

2 Release the spring clips at the side of the switch by pressing them with a bent screwdriver or similar tool. Draw the switch out of the fascia, disconnect its wiring plug and remove it (see illustration). If the switch cannot be released, remove the instrument panel surround, as described in Section 8.

3 To refit, connect the wiring plug to the switch and press the switch home until the clips snap into place.



4.2 Removing the lighting master switch - one of the spring clips is arrowed

Hazard warning switch

4 This is removed and refitted in the same way as the lighting master switch.

Foglamp switch

5 Carefully prise the switch from its location, disconnect its wires and withdraw it (see illustration).

6 Refit in the reverse order to removal.

Instrument illumination control

7 Remove the instrument panel surround, as described in Section 8.

8 Slacken the securing screw and remove the illumination control (see illustration).

9 Refit in the reverse order to removal.

Heater blower/heated rear window switch

10 This switch is released in a similar way to the lighting master switch. If the switch cannot be released, withdraw the heater control panel, as described in Chapter 3.

11 Refit in the reverse order to removal.

Steering column switches

12 Although not strictly necessary, access will be improved if the steering wheel is removed, as described in Chapter 10. Otherwise, remove the wheel centre trim.

13 Remove the upper and lower switch shrouds. These are held in place by eight screws with the fixed type steering wheel, or five screws with the adjustable wheel.

14 In theory it is now possible to unclip and



4.5 Removing a foglamp switch

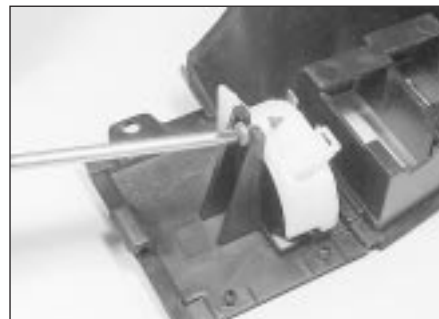


3.8b Fuse and relay identification (reverse side of fusebox)

- E Trip computer relay
- F Rear wiper relay (not GTE)
- G Day running lamp relay (not UK)
- H Headlamp cut-out (not UK)
- I "Lights-on" warning buzzer
- 19 Central locking fuse
- 20 Electric window winder fuse

withdraw either of the multi-function switches. In practice it was found necessary, when the adjustable wheel was fitted, to undo the two switch housing screws and draw the switch assembly up the column slightly. The switch in question can then be unplugged, unclipped and removed (see illustrations).

15 Refit in the reverse order to removal.



4.8 Removing the instrument illumination control



4.14a Drawing the steering column switches up the column

Ignition/starter switch

16 Refer to Chapter 5.

Stop-lamp switch

17 Remove the stop-lamp switch by turning it 90° left or right and withdrawing it from its bracket.

18 Before fitting the stop-lamp switch, pull its plunger out as far as it will go. The switch will adjust itself once it is fitted.

Handbrake warning switch

19 Proceed as described in Chapter 9, Section 19, but without disconnecting the handbrake lever from the yoke.

Electric mirror switch

20 Free the rear half of the centre console, as described in Chapter 11.

21 Disconnect and unclip the switch.

22 Refit in the reverse order to removal.

Electric window winder switch

23 Proceed as described above for the electric mirror switch.

Interior light switches

24 The main interior light is operated by door plunger switches. Similar switches control the luggage area and glovebox light, when fitted.

25 Removal is similar in every case. After displacing any trim which may be in the way, the switch is unscrewed or unclipped and withdrawn from its location (see illustrations). The electrical lead(s) can then be unplugged and the switch removed. Tape the wires if necessary to avoid losing them inside the switch hole.



4.25a Glovebox light switch unclipped from its location



4.14b Unclipping a steering column switch - assembly removed for clarity

26 Refit in the reverse order to removal. Check for correct operation before refitting any trim.

5 Horn(s) - removal and refitting

Removal

1 The horn itself is located in front of the radiator, unless an oil cooler is fitted, when it is located behind the battery. Disconnect and unbolt the horn to remove it; remove the front trim panel if necessary for access.

2 On models with twin horns, the second horn is mounted behind the front grille on the left-hand side. To gain access to it, either the front grille or the radiator must be removed.

3 If the horn does not work, check with a 12 volt test lamp that voltage is present at the horn terminals when the horn push is operated. If the horn itself is defective it must be renewed.

Refitting

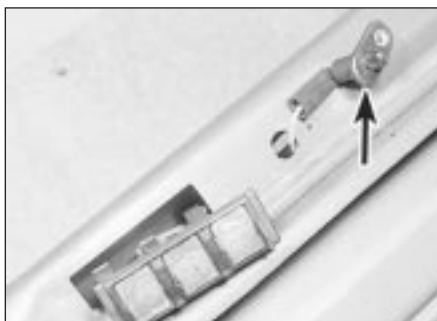
4 Refit in the reverse order to removal.

6 Clock - removal and refitting

Removal

1 Disconnect the battery earth lead.

2 Carefully pull the clock from its location. Disconnect the supply and illumination leads from the clock and remove it (see illustration).



4.25b Luggage area light switch (arrowed) next to contact plate on tailgate sill

Refitting

3 Refit in the reverse order to removal.

7 Cigarette lighter - removal and refitting

Removal

1 Disconnect the battery earth lead.

2 Extract the heater element from the lighter socket.

3 Carefully prise the lighter socket out of the illuminating ring. Unplug the socket and remove it.

Refitting

4 Refit in the reverse order to removal. When inserting the socket into the illuminating ring, make sure that the ring lugs pass over a smooth part of the socket; twist the socket clockwise when home to engage the lugs.

8 Instrument panel - removal and refitting

Removal

1 Disconnect the battery earth lead.

2 Remove the horn push from the steering wheel.

3 Remove the steering column switch upper shroud, which is secured by four screws. Unlock the steering and turn the wheel as necessary to gain access to two of the screws.

4 Remove the four screws which secure the instrument panel surround and bottom trim strip. There are two screws at the top and one in each bottom corner; they may be covered by cosmetic caps (see illustration).

5 Withdraw the instrument panel surround, disconnecting the wires from the various switches (see illustration).

6 Except on the LCD instrument panel, disconnect the speedometer cable by depressing its retaining clip and pulling it away from the speedometer.

7 Remove the single securing screw and withdraw the instrument panel (see illustrations). Disconnect the electrical leads if the panel is to be removed completely,



6.2 Removing the clock



8.4 Removing an instrument panel surround screw



8.5 Withdrawing the instrument panel surround



8.7a Removing the instrument panel securing screw

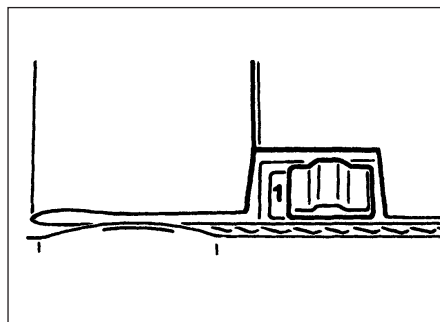
making notes if there is any possibility of confusion later. When an econometer is fitted, disconnect the vacuum hose.

Refitting

8 Refit in the reverse order of removal. On models with an LCD display, prior to refitting, ensure that the speedometer frequency code switch is set to the correct position (see illustration). On models with 175/70 R 13 or 185/60 R 14 tyres set the switch to position 1, and on all other models set the switch to position 2.



8.7b Withdrawing the instrument panel



8.8 LCD instrument frequency code switch shown in position 1

9 Instrument panel - dismantling and reassembly

1 No attempt must be made to dismantle the LCD type instrument panel: its bulbs can be renewed, but that is all. Consult a GM dealer if an instrument fault is suspected: special test equipment is required for accurate diagnosis.

2 Individual instruments can be removed from the conventional instrument panel after removing the cover, which is secured by two screws at the top and three lugs at the bottom. The instruments are secured by screws or nuts (see illustration).

3 Illumination and warning lamp bulbs can be removed by turning the combined bulb and holder anti-clockwise and withdrawing it from the rear of the panel. There is no need to remove the instrument panel completely to do

this - just withdraw it far enough to gain access to the printed circuit.

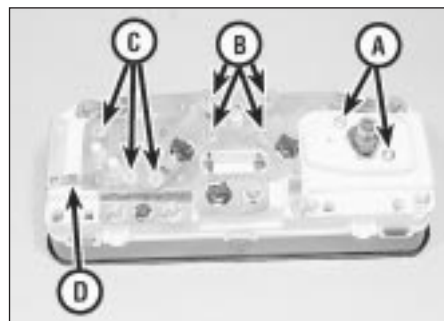
4 The printed circuit can be renewed if all the instruments etc are transferred from the old one.

10 Speedometer cable - removal and refitting

Removal

1 A mechanical cable is not used with the LCD instrument panel; the electrical sender bolts onto the gearbox in the same position as the conventional cable.

2 To renew a mechanical cable, first disconnect it from the speedometer head. If it is not possible to reach up behind the instrument panel, partly withdraw it, as described in Section 8 (see illustration).



9.2 Instrument panel rear view (typical)

- A Speedometer retaining screws
- B Fuel/temperature gauge retaining nuts
- C Tachometer retaining nuts
- D Instrument voltage stabiliser



10.2 Speedometer cable at instrument panel end

3 Working under the bonnet, free the cable grommet from the bulkhead and draw the cable into the engine bay. Recover the grommet.

4 Undo the knurled nut which secures the cable to the transmission (or trip computer speed sender, when fitted). Remove the cable.

Refitting

5 Refit in the reverse order to removal. The cable must not be kinked or made to bend sharply. If lubricant is applied to the inner cable, do not put any on the top 15 cm or so, in case it gets into the speedometer head.

11 Bulbs - renewal

General

1 Whenever a bulb is renewed, note the following points.

- a) Disconnect the battery negative lead before starting work.
- b) Remember that if the light has just been in use the bulb may be extremely hot.
- c) Always check the bulb contacts and holder, ensuring that there is clean metal-to-metal contact between the bulb and its live(s) and earth. Clean off any corrosion or dirt before fitting a new bulb.
- d) Wherever bayonet-type bulbs are fitted (see Specifications) ensure that the live contact(s) bear firmly against the bulb contact.



11.2a Disconnecting the headlamp wiring plug

e) Always ensure that the new bulb is of the correct rating and that it is completely clean before fitting it; this applies particularly to headlight/foglight bulbs.

Headlamp

2 Open the bonnet and disconnect the wiring plug from the rear of the headlamp unit. Remove the rubber cover to expose the spring clip which secures the bulb (see illustrations).

3 Release the spring clip and withdraw the bulb (see illustration). Be careful if it has just been in use, it may be very hot.

4 Do not touch the bulb glass with the fingers: traces of grease can blacken the glass and shorten bulb life. Use a clean cloth moistened with methylated spirit to clean a bulb which has been accidentally touched.

5 Fit the new bulb in the reverse order to removal. Make sure that the lugs on the bulb engage in the recesses in the bulb holder.



11.2b Rubber cover removed to expose the spring clip

Sidelamp (front parking lamp)

6 Open the bonnet and disconnect the wiring plug from the sidelamp bulb holder.

7 Remove the bulb holder by depressing it and twisting it anti-clockwise (see illustration).

8 Extract the old bulb from the holder and insert the new one. Refit and reconnect the bulb holder.

Front direction indicator

9 Open the bonnet. Remove the bulb holder by squeezing its legs together and twisting it anti-clockwise (see illustration).

10 Fit the new bulb and refit the bulb holder.

Front foglamp

11 Working under the front bumper, remove the rear cover from the lamp unit by twisting it anti-clockwise.



11.3 Removing a headlamp bulb

12 Unclip and remove the bulb, separating its electrical connector at the first junction, not at the bulb itself.

13 Do not touch the bulb glass: see paragraph 4.

14 Connect the new bulb. secure it and refit the lamp cover.

Rear lamp cluster

15 Remove the trim panel or access cover from the area of the rear lamp cluster.

16 Disconnect the wiring plug, depress the bulb holder retaining lug and withdraw the bulb holder (see illustrations).

17 The rear lamp unit itself can be removed after undoing the three retaining screws (two on Estates) (see illustrations).

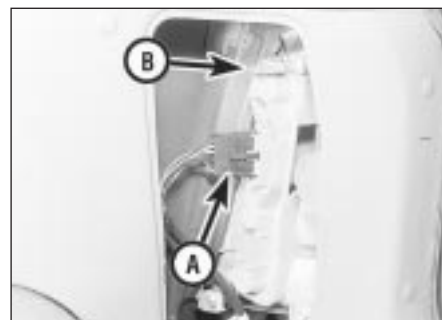
18 Refit in the reverse order to removal. If the lamp unit has been removed, make sure its retaining plates are correctly fitted before tightening the retaining screws.



11.7 Removing a sidelamp bulb and holder



11.9 Removing a direction indicator bulb and holder



11.16a Rear lamp cluster wiring plug (A) and retaining lug (B)



11.16b Rear lamp cluster bulbs and holder



11.17a Rear lamp unit retaining screws (arrowed) Hatchback



11.17b Removing a rear lamp lens



11.19 Removing a rear foglamp lens



11.22 Prising out the number plate lamp



11.23 Number plate lamp bulb holder and lens separated



11.25a Under-bonnet lamp unclipped note earth screw (arrowed)



11.25b Luggage area lamp unclipped



11.25c Removing the cover from the main interior lamp

Rear foglamp

19 Remove the lens from the foglamp by undoing its two retaining screws (see illustration).

20 Extract the bayonet fitting bulb and fit the new one.

21 Refit and secure the lens.

Number plate lamp

22 Prise the lamp unit out of the rear bumper and disconnect its wiring plug (see illustration).

23 Unclip the two halves of the lamp unit to gain access to the bulb (see illustration).

24 Refit in the reverse order to removal.

Interior lamps

25 Bulb renewal is similar for all types of interior lamp, and for the under-bonnet lamp (when fitted). Either unclip the lamp cover, or

carefully prise the lamp unit from its location (see illustrations).

26 Extract the old bulb, fit the new one and refit the lamp or cover.

Instrument illumination and warning lamps

27 Instrument panel illumination and warning lamp bulbs can be removed by turning the combined bulbholder assembly anti-clockwise and withdrawing it from the rear of the panel (see illustration). There is no need to withdraw the panel completely to do this - just withdraw it far enough to gain access to the printed circuit.

Switch illumination bulbs

28 Switches such as the lighting master switch and the heated rear window/heater blower control are illuminated by bulbs which can be renewed after removal of the switch (see illustration).

29 The pilot illumination in switches such as that controlling the foglamps is integral with the switch and cannot be renewed separately.

Check control display lamps

30 Carefully prise the check control unit from its location. The bulb holders are accessible from below.

31 Refit in the reverse order to removal.

12 Headlamp/direction indicator lens assembly - removal and refitting

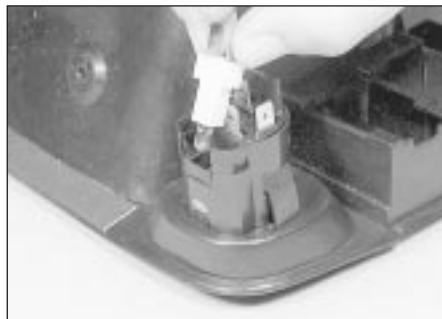
Removal

1 Remove the direction indicator, headlamp and sidelamp bulbs (Section 11).

2 Undo the securing screw and withdraw the direction indicator lens (see illustrations).



11.27 Removing an instrument panel bulb



11.28 Removing a switch illumination bulb



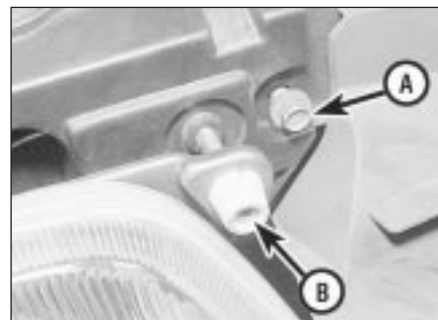
12.2a Undoing a direction indicator lens screw



12.2b Removing a direction indicator lens



12.3a Headlamp lens outboard securing screw (arrowed)



12.3b Headlamp lens inboard securing screw (A). Do not disturb alignment adjusting screw (B)



12.3c Removing a headlamp lens

3 Remove the two screws which secure the headlamp unit, free it from its clips and withdraw it (see illustrations). Do not disturb the alignment adjusting screws.

Refitting

4 Refit in the reverse order to removal. Make sure that the front panel sealing lip aligns with the headlamp; use sealing tape if necessary. If a new unit has been fitted, or if the headlamp alignment has been otherwise disturbed, have the alignment checked and adjusted (see Section 13).

13 Headlamp beam adjustment - general information

1 Accurate adjustment of the headlight beam is only possible using optical beam setting equipment and this work should therefore be carried out by a Vauxhall/Opel dealer or suitably equipped workshop.

2 For reference the headlights can be adjusted using the adjuster assemblies fitted to the top and bottom of each light unit. In an emergency, adjustments can be made on a 'trial and error' basis. The vertical adjustment screws are accessible from under the bonnet (see illustration). The lateral adjustment screws are positioned as shown in illustration 12.3b. **Note:** Adjustment of the front foglights is correct when the inclination of the beam is 20 cm over a distance of 10 m. Adjustment is made by turning the adjuster screw, on the rear of each lamp as required.

14 Headlamp dim-dip system (UK models only) - general information

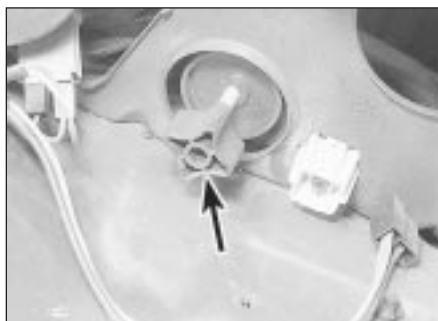
Fitted to UK models produced after October 1986, to prevent the possibility of vehicles being driven on parking lights only and to comply with new lighting legislation, all UK models produced from the above date are fitted with a dim-dip system in the headlamp circuit. The function of the system is to ensure that the car cannot be driven on parking lights only.

The system is activated by a dim-dip control unit which, when activated, reduces the voltage supply to the headlamps. This system is designed as a safeguard only and normal lighting legislation requirements still apply and must be observed.

15 Trip computer - general information and component renewal

General information

1 A trip computer is fitted to some top line models. The computer collects fuel consumption and distance data and integrates them with respect to time. In this way it can provide estimates of fuel consumption (both instantaneous and average), speed and range on fuel remaining. Normal time clock and stopwatch functions



13.2 Headlamp beam vertical adjustment screw (arrowed)

are available, and an external temperature sensor is also provided.

2 For detailed operating instructions, refer to the owner's handbook supplied with the vehicle.

3 Testing of the computer and its satellite components is beyond the scope of the average DIY mechanic, but there is no reason why defective components should not be renewed, as described in the next Section.

Component renewal

Temperature sensor

4 Separate the temperature sensor lead at the multi-plug near the left-hand headlamp.

5 Pull the temperature sensor from the front bumper, unclip its lead and remove it.

6 Refit in the reverse order to removal.

Distance sender

7 The distance sender is located on the speedometer cable take-off point on the transmission; except with LCD instruments the speedometer cable screws into the sender.

8 Separate the sender multi-plug, then unclip the sender unit from the transmission

9 Unscrew the speedometer cable (when fitted) from the sender and remove the sender.

10 Refit in the reverse order to removal.

Fuel flow meter

11 The fuel flow meter is located on the wheel housing.

12 Disconnect the battery earth lead.

13 Disconnect the fuel flow meter multi-plug.

14 Identify the fuel hoses, then disconnect and plug them. Be prepared for fuel spillage.

15 Unbolt and remove the fuel flow meter.

16 Refit in the reverse order to removal.

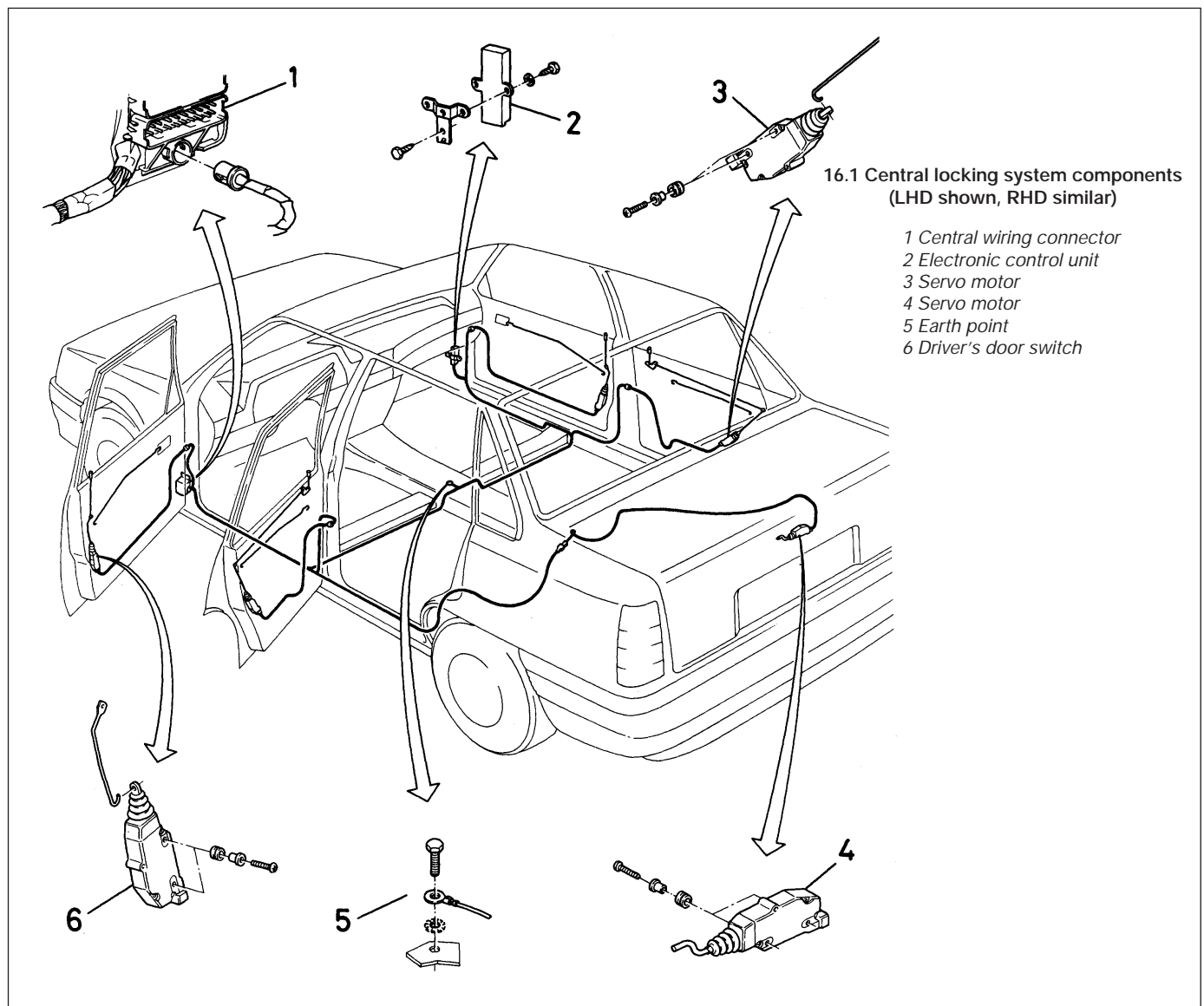
Computer unit

17 Disconnect the battery earth lead.

18 Remove the radio (Section 25).

19 Carefully press the computer out of its location. Unplug its electrical connector and remove it.

20 Refit in the reverse order to removal. A new computer will have to be calibrated on the vehicle; this should be done by a GM dealer.



Computer display lighting

- 21 Remove the computer, as just described.
- 22 Grip the bulb holder carefully with pliers and twist it to remove it. The capless bulb can then be extracted and renewed.
- 23 Refit in the reverse order to removal.

16 Central locking system - general information and component renewal

General information

1 On models so equipped, electric servo motors cause all the passenger door locks and the tailgate lock to follow the position of the driver's door lock. The major components of the system are as shown (see illustration).
2 An electronic control unit, located in the passenger footwell, generates the electrical pulses needed to operate the lock motors.

Component renewal

Driver's door switch

3 Remove the door inner trim panel, as described in Chapter 11. Peel away the waterproof sheet in the area of the switch.

4 Remove the two securing screws, disconnect the switch plug and unhook the switch from the lock actuating rod. Remove the switch.

5 Refit in the reverse order to removal: make sure that the electrical plug is connected the right way round. Renew the rubber mountings if necessary.

Passenger door and tailgate servo motors

6 Proceed as just described for the driver's door switch. Removal of the tailgate trim panel is achieved by carefully releasing its retaining clips.

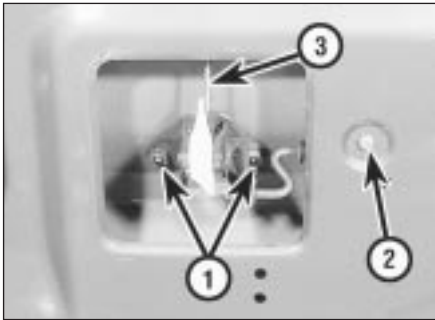
Boot lid servo motor (Saloon models)

7 Open the boot lid and remove the plastic cover (see illustration).

8 Remove the two nuts which secure the latch mechanism and the two screws which secure the servo motor (see illustration). Separate the servo motor from the latch,



16.7 On Saloon models, unclip the cover from the boot lid lock ...



16.8 . . . to gain access to the boot latch nuts (1), servo unit mounting screw (2) and the manual release control rod (3)

disconnect its wiring plug and remove it.

9 Refitting is the reverse of removal.

Control unit

10 Remove the trim panel from the passenger side footwell.

11 On fuel injection models, release and move aside the fuel injection control unit and its bracket.

12 Remove the single screw which secures the control unit bracket to the A-Pillar.

13 Extract the control unit and bracket. Disconnect the electrical plug and unscrew the unit from the bracket to remove it completely.

14 Refit in the reverse order to removal.

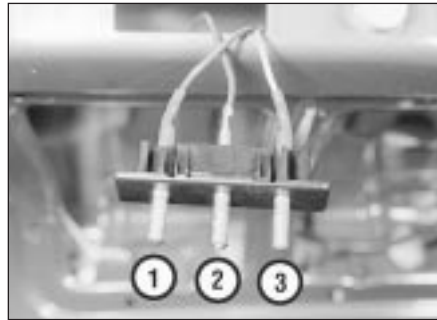
17 Heated seats - general information

1 In some territories, electric heating elements for the front seats can be specified as an option. The heating elements are controlled by facia-mounted switches, they also incorporate a thermostatic control.

2 Do not use the heating elements when the engine is not running, or the battery will quickly be discharged.

3 In the event of malfunction, first check the wiring and connectors.

4 Element renewal should be referred to a GM dealer or upholstery specialist.



18.3 Removing the tailgate contact pins

1 +ve permanent feed (wiper parking) - black/violet

2 Heater rear window - black

3 Wiper (switch) - blue

18 Tailgate contact pins and plate - removal and refitting

Removal

1 A three-pole contact unit transfers electrical power for the tailgate units (heated window, wiper motor) when the tailgate is shut. The unit consists of a contact plate in the load area sill and spring-loaded pins in the tailgate.

2 To remove the plate or the pins, first disconnect the battery earth lead.

3 Remove the tailgate trim or rear sill trim, as appropriate. Unclip the contact plate or pins from its location and disconnect the wire (see illustration).

Refitting

4 Refit in the reverse order to removal. The component mountings are inhibited to prevent incorrect fitting.

19 Wiper blades and arms - removal and refitting

Removal

1 To remove a wiper blade, lift the wiper arm away from the glass. Swivel the blade on the arm, depress the catch on the U-shaped



19.1 Removing a wiper blade from its arm

retainer and slide the blade off the arm (see illustration).

2 Before removing a wiper arm, make sure that the motor is in its parked position. Mark the position of the blade on the screen with sticky tape or wax crayon as a guide to refitting.

3 Lift up the cover and unscrew the arm retaining nut (see illustration).

4 Pull the arm off the splined shaft. If it has not been moved for a long time it will be tight: apply some penetrating fluid.

Refitting

5 Refit in the reverse order to removal.

20 Windscreen wiper motor and linkage - removal and refitting

Removal

1 Remove the windscreen wiper arms, as described in the previous Section.

2 Disconnect the battery earth lead.

3 Remove the four screws and take off both halves of the wind deflector panel See Chapter 11, Section 11.

4 Remove the clamp nuts from both wiper spindles (see illustration).

5 Free the bulkhead rubber seal, remove the single securing screw and take off the water deflector.

6 Release the retainer and disconnect the electrical multi-plug from the motor (see illustration).



19.3 Wiper arm retaining nut



20.4 Wiper spindle clamp nut (arrowed)



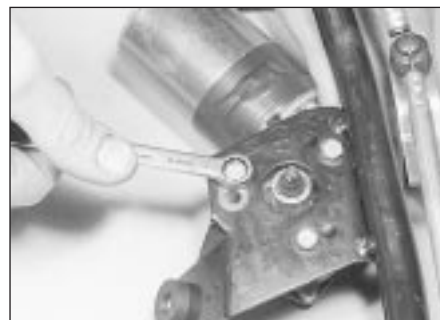
20.6 Releasing the wiper motor electrical plug



20.7 Wiper motor securing screw (arrowed)



20.8a Wiper motor spindle nut (arrowed)



20.8b Undoing the wiper motor securing



20.9 Choice of wiper motor mounting holes - RHD arrowed

7 Undo the single securing screw and remove the motor and linkage (see illustration).

8 The motor may be separated from the linkage by undoing the spindle nut. To remove



21.6 Rear wiper motor securing screws (arrowed) - tailgate-mounted motor



21.13a Undo the retaining screws and remove the mounting bracket . . .

the motor from its bracket, also remove the three securing screws (see illustrations).

Refitting

9 Refit in the reverse order to removal. Note that two sets of motor mounting holes are provided, to provide for different sweep and parking requirements for RHD and LHD cars (see illustration).

21 Rear window wiper motor - removal and refitting

Removal

Tailgate-mounted motor

1 Disconnect the battery earth lead.

2 Remove the wiper arm, as described in Section 19.

3 Remove the clamp nut from the wiper spindle.

4 Remove the tailgate inner trim panel.

5 Remove the contact pin nut (Section 18) and disconnect the wiper motor wire from it. (On Estate models, simply disconnect the motor from the tailgate harness.)

6 Remove the two securing screws and carefully withdraw the motor and its wiring (see illustration).

Window-mounted motor

7 Disconnect the battery earth lead.

8 Remove the rear wiper arm and withdraw the rubber cover from the spindle (see illustration).



21.13b . . . then undo the retaining screws . . .

9 Undo the retaining nut, withdraw the motor from its location a little way and support it (see illustration).

10 Remove the tailgate inner trim panel by prising free the plastic retainers.

11 Remove the tailgate contact pins as described in Section 18.

12 Detach the motor wiring from the retainer inside the tailgate. Remove the motor with its wiring and bracket.

13 To inspect the motor and control circuitry, remove the two screws which secure the bracket to the cover and the four screws which secure the cover to the motor. Remove the cover (see illustrations).

Refitting

14 Refit in the reverse order to removal, but check for correct operation before refitting the trim panel.



21.9 Removing the window-mounted motor



21.13c . . . and remove the motor cover to gain access to the motor wiring

22 Windscreen/rear window washer system - general information

1 All models are fitted with an electrically-operated windscreen washer. The reservoir is mounted on the left-hand side of the engine bay; the pump is a push fit into a grommet in the base of the reservoir.

2 When a rear window washer is fitted, this uses a second pump which shares the same reservoir. A small bore tube carries the water through the car to the tailgate.

3 To renew a pump, first drain the reservoir (if necessary). Disconnect the electrical plug from the pump and rock the pump out of its grommet. Cut the tube off as close as possible to the pump outlet stub.

4 Use a new grommet when fitting a new pump. A short length of rubber hose should be used to connect the tube to the pump, as the tube is too stiff to pass over the outlet stub easily.

5 Washer jet aim can be adjusted by inserting a pin and carefully moving the jet.

23 Headlamp washer system - general information

1 When fitted, the headlamp washer system has its own reservoir and high pressure pump. The reservoir is located in the engine bay, except on models with fuel injection and/or a trip computer, when it is located under the left-hand wheel arch.

2 A relay controls the headlamp washer pump so that it operates when the windscreen washer is in use and the headlamps are on.

3 The washer jets are located in the bumper overriders. They can only be renewed as an assembly; the front trim panel must be removed first (Chapter 11).

4 Pump renewal is similar to that of the windscreen and rear window washer pumps (Section 22). To remove the wheel arch protective panelling, press the centres out of the plastic rivets; use new rivets or clips on reassembly. The reservoir can be removed from under the wing after unscrewing its filler neck and removing the securing screw.

24 Check control system - general information

1 Fitted to some higher specifications models, the check control system monitors important fluid levels, brake pad wear and bulb failure. A bank of six or seven warning lights to the left of the instrument panel conveys the information to the driver.

2 All the warning lights should come on for a few seconds when the ignition is first switched on; they should then all go out, except for the stop-lamp warning light, which will go out once the brake pedal is operated. If



25.2a Inserting the special clips for radio removal

any warning light stays on, or comes on during operation, the components or system indicated should be checked.

3 The main bulb failure indicator light monitors dipped headlights and tail lights; the stop-lamp indicator light monitors the stop-lamps and stop-lamp switch.

4 The bulb failure monitor unit is located under the fascia panel on the passenger side. It is secured by two screws which are accessible after removing the trim and opening the glovebox.

5 The oil level warning light receives information from a sender on the engine. Obviously a correct reading will only be obtained if the car is parked on level ground. On early models the sender is incorporated in a dipstick and on later models it is bolted onto the side of the sump.

6 The brake fluid level warning light is controlled by a float switch in the master cylinder reservoir.

7 Brake pad wear is detected by wear sensors incorporated into the pads. This warning light will illuminate during braking if attention is required.

8 Screen washer fluid level is monitored by a float switch in the reservoir. On later models the coolant level in the expansion tank is also monitored by a similar float switch.

9 Renewal of the check control warning light bulbs is covered in Section 4.

10 Note that fitting bulbs of incorrect wattage may cause the bulb failure unit to give false alarms. For the same reason, the advice of a GM dealer should be sought if it is proposed to wire in a trailer socket.



25.4 Removing the radio surround



25.2b Removing the radio from its aperture

25 Radio/cassette unit - removal and refitting



Removal

1 All models are fitted with at least a radio, and most leave the factory with a combined radio/cassette player. This Section outlines removal and refitting procedures for the standard fitment equipment.

Early models

2 Radio/cassette units are to the latest DIN standard; they are released by inserting two special clips into the holes on each side of the unit. The clips are pressed in until they snap into place, then used to pull the radio out of its aperture. The various plugs can then be removed from the rear of the radio (see illustrations).

3 The special clips used to release the radio should have been supplied with the car; if not, they can be obtained from a car entertainment specialist.

4 With the radio removed, its surround can be removed if necessary by unclipping it (see illustration).

5 To refit the radio, reconnect its plugs and push it home until the retaining springs click into place.

Later (1989 onwards) models

6 For the 1989 model year, various anti-theft measures were introduced on the factory-fitted radio/cassette players. These are as follows:

- a) Blanking screws in removal holes.
- b) Serial number embossed in housing.
- c) Electronic coding of most units.

7 The blanking screws must be removed with an Allen key before the unit can be removed (see illustration). Removal is then carried out by inserting two special clips as described in paragraph 2.

8 The wiring connections on later units are made automatically by special connectors which engage as the unit is pushed home. Adapters are available to enable later units to be fitted to earlier models, and vice versa.

9 Units with electronic coding will not function after an interruption of the power supply until a 3-figure security code,



25.7 On later models it will be necessary to remove the blanking screws to be able to insert the removal tools

determined by the original owner of the unit, is keyed in. Only 8 attempts at coding are allowed, after this the unit will be mute and will have to be returned to the manufacturer for decoding. More details of this procedure are contained in the operating instructions supplied with the unit.

26 Loudspeakers - removal and refitting



Removal

1 Loudspeakers are positioned one at each end of the fascia panel, and (on some models) one at each end of the parcel shelf or in the tailgate. Removal and refitting are self-explanatory once the appropriate trim has been removed (see Chapter 11).



26.2a On Saloon models, unclip the plastic covers to gain access to the underside of the rear speakers . . .

2 On Saloon models the rear loudspeakers are mounted in the rear parcel shelf. Access to them is gained from the boot area. Unclip the plastic cover from the base of the speaker and disconnect the electrical leads then return to the inside of the car, undo the retaining screws and lift out the speaker (see illustrations).

Refitting

3 Refitting is the reverse of removal.

27 Radio aerial - removal and refitting



Removal

1 The radio aerial is mounted on the right-hand front wing. To remove it, first



26.2b . . . the speakers are retained by four screws

remove the wheel arch protective panelling by pressing out the centres of the plastic rivets. The aerial can then be released from its bracket and the top mounting nut be undone.

2 If the aerial cable (and motor cables, when applicable) cannot be disconnected at the aerial end, they will have to be disconnected at the radio and fed back through the inner wing. Removal of some fascia trim may be necessary to gain adequate access.

Refitting

3 When refitting the aerial, make sure that a good earth connection is made at the mounting bracket.

Key to Diagram 1 - all models to 1986 (Not all items are fitted to all models)

No	Description	Track	No	Description	Track
E1	RH sidelamp	235	K15	Fuel injection control module	173 to 1 83
E2	RH tail lamp	237, 440	K20	Ignition module (electronic ignition)	118, 119
E3	Number plate lamp	238, 451	K25	Preheater relay (Diesel)	195 to 198
E4	LH sidelamp	231	K28	Day running light relay (not UK)	421, 422
E5	LH tail lamp	232, 438	K30	Rear window wiper relay	319 to 321
E6	Engine bay lamp	240	K31	Fuel pump relay (fuel injection)	169 to 171
E7	RH main beam	246	K35	Mirror heating timer	397, 399
E8	LH main beam	245	K36	Computer relay	360 to 362
E9	RH dipped beam	249, 444	K37	Central locking relay	402 to 408
E10	LH dipped beam	248, 442	K39	Dashpot relay (not UK)	160, 162
E11	Instrument illumination	242	K45	Preheater relay (not UK)	164 to 166
E12	Auto transmission selector lamp	346	K46	Ignition timing control (not UK)	145 to 150
E13	Luggage area lamp	285	K52	Ignition module (not UK)	142, 143
E14	Interior lamp	291	K53	Ignition timing control (not UK)	134 to 139
E15	Glovebox lamp	339	L1	Ignition coil (contact breaker system)	109
E16	Cigarette lighter lamp	338	L2	Ignition coil (electronic system)	117, 126, 143
E17	RH reversing lamp	336	L3	Ignition coil (not UK)	136
E18	LH reversing lamp	335	M1	Starter motor	105 to 107
E19	Heated rear window	202	M2	Windscreen wiper motor	303 to 306
E20	LH front foglamp	257	M5	Heater blower motor	205 to 207
E21	RH front foglamp	258	M4	Radiator cooling fan	210
E24	Rear foglamp	253	M3	Windscreen washer pump	302
E25	LH seat heater	368	M8	Rear window wiper motor (not GTE)	317 to 319
E30	RH seat heater	372	M9	Rear window washer pump	322, 330
E32	Clock illumination	297	M12	Starter motor (Diesel)	193, 194
E33	Ashtray lamp	347	M14	LH front window motor	411
E34	Heater control lamp	242	M15	RH front window motor	417
E38	Computer illumination	355	M16	LH rear window motor	413
E39	Rear foglamp	254	M17	RH rear window motor	415
E40	Number plate lamp (Estate)	239, 452	M18	Front passenger door lock actuator	404, 407
E41	Interior lamp with delay unit	287, 289	M19	LH rear door lock actuator	404, 407
E42	Radio illumination	431, 433	M20	RH rear door lock actuator	404, 407
F1 to F2	Fuses	Various	M21	Fuel pump (fuel injection)	169
F22	Fuse (mixture preheating)	164	M24	Headlamp washer pump	314
F25	Instrument voltage stabiliser	213	M26	Radio aerial motor	433, 434
G1	Battery	101	M30	LH electric mirror	368 to 381, 387 to 390
G2	Alternator	113	M31	RH electric mirror	394 to 397
H1	Radio	429, 431	M36	Rear window wiper motor (GTE only)	327 to 330
H2	Horn	211	M37	Tailgate lock actuator	404, 407
H3	Direction indicator repeater	279	P1	Fuel gauge	214
H4	Oil pressure warning lamp	221	P2	Temperature gauge	206
H5	Brake fluid level warning lamp	219	P3	Clock	296
H6	Hazard warning repeater	276	P4	Fuel gauge sender	214, 471
H7	No charge warning lamp	113	P5	Temperature gauge sender	216, 481
H8	Main beam pilot lamp	247	P7	Tachometer	225
H9	RH stop-lamp	269, 448	P10	Oil pressure sensor	488
H10	LH stop-lamp	268, 446	P11	Airflow meter (fuel injection)	188 to 190
H11	RH front direction indicator	281	P12	Temperature sensor (fuel injection)	188 to 190
H12	RH rear direction indicator	282	P13	Temperature sensor (ambient air)	360
H13	LH front direction indicator	277	P14	Distance recorder	133, 134, 156, 157, 351, 352, 492, 493
H14	LH rear direction indicator	278	P15	Fuel flow meter	353, 354
H16	Glow plug light (Diesel)	195	P23	Vacuum sensor (not UK)	135 to 137
H17	Trailer direction indicator repeater	273	P24	Temperature sensor (not UK)	138, 139
H19	Buzzer (headlamps on)	293	P25	Bulb failure sensor	438 to 448
H20	Choke warning lamp	340	P26	Engine oil level sensor	457, 458
H21	Handbrake warning lamp	218	P27	LH brake pad wear sensor	460
H23	Radio receiver (with automatic aerial)	432, 433	P28	RH brake pad wear sensor	461
H25	Mirror heating pilot light	383, 392	R1	Ballast resistor (points ignition)	109
K1	Heated rear window relay	201, 202	R2	Carburettor heater	341
K2	Flasher unit	274	R3	Cigarette lighter	337
K5	Front foglamp relay	258, 259	R5	Glow plugs (Diesel)	188 to 190
K8	Wiper delay relay	305 to 308	R7	Mixture preheating	164
K9	Headlamp washer relay	312 to 314	R11	Instrument illumination rheostat	475
K10	Trailer flasher unit	273, 274			

Key to Diagram 1 - all models to 1986 (Not all items are fitted to all models) (continued)

No	Description	Track	No	Description	Track
R12	Automatic choke heater	343	U5.1	Bulb failure warning lamp	454
S1	Ignition/starter switch	106, 107	U5.2	Stop-lamp failure warning lamp	456
S2.1	Main lighting switch	239, 240, 439, 440	U5.3	Oil level warning lamp	457
S2.2	Interior light switch	289	U5.4	Brake fluid level warning lamp	458
S3	Heater blower/ heated rear window switch	203 to 207	U5.5	Brake pad wear warning lamp	460
S5.2	Dipswitch	247, 248, 444	U5.6	Washer fluid level warning lamp	461
S5.3	Direction indicator switch	280, 281	U6	LCD instrument panel	469 to 492
S5.5	Horn switch	211	U6.1	No charge warning symbol	469
S6	Distributor (contact breaker type)	109, 111	U6.2	Voltmeter	470 to 472
S7	Reversing lamp switch	335	U6.3	Fuel gauge	471
S8	Stop-lamp switch	268, 446	U6.4	Oil pressure warning symbol	486
S9.2	Windscreen wiper switch	302 to 306	U6.5	Oil pressure gauge	488
S9.3	Rear window wiper switch (not GTE)	320, 321	U6.6	Temperature gauge	481
S9.4	Rear window wiper switch (GTE)	329, 330	U6.7	Running lights pilot lamp	478
S10	Starter inhibitor switch (automatic)	107	U6.8	Speedometer	491, 492
S11	Brake fluid level switch	219	U6.9	Main beam pilot lamp	482
S13	Handbrake switch	218, 484	U6.10	Direction indicator repeater (LH)	486
S14	Oil pressure switch	221, 486	U6.11	Direction indicator repeater (RH)	488
S15	Luggage area light switch	285	U6.13	Handbrake warning lamp	484
S16	RH door switch	290	U6.14	Tachometer	484
S17	LH door switch	291	U6.15	Trailer direction indicator repeater	480
S18	Glovebox lamp switch	339	U6.21	Relay (display lighting)	474 to 476
S21	Front foglamp switch	260, 262	U6.22	Display lighting	475, 476
S22	Rear foglamp switch	253, 255	U6.23	Speedometer illumination	491
S29	Radiator fan thermoswitch	210	U6.24	Miles/km changeover switch	493
S30	LH seat heating switch	368, 370	U6.25	Calibration switch	478
S37	Window switches	410 to 418	V4	Blocking diode (rear foglamps)	253
S41	Central locking switch	402, 403	V5	Blocking diode (rear foglamps)	257
S44	Throttle valve switch (fuel injection)	188 to 190	V6	Blocking diode (park lights, not UK)	240
S47	Door switch (with headlamp buzzer)	292, 293	X1	Trailer socket	Various
S50	Choke warning switch	340	X2	Auxiliary connectors	Various
S52	Hazard warning switch	274 to 278	X5	Engine wiring harness connector	Various
S55	RH seat heating switch	372 to 374	X6	Rear wiring harness connector	Various
S60	Clutch pedal switch (not UK)	159	X7	Front wiring harness connector	Various
S66	Vacuum switch (not UK)	148	X8	LCD instrument connector (26-way)	469 to 492
S68.1	Mirror adjustment switch	377 to 380, 385 to 389	X9	LCD instrument connector (16-way)	476 to 490
S68.2	Mirror heating switch	383, 392	X10	Ignition timing connector (not UK)	138 to 140
S68.3	Mirror changeover switch	386 to 390	Y5	Solenoid valve (Diesel)	199
S73	Mixture preheating switch	165	Y6	Auxiliary air valve (fuel injectors)	188 to 190
S74	Engine temperature switch (not UK)	151	Y7	Fuel injectors	188 to 190
S75	Oil temperature switch (not UK)	151	Y10	Distributor (with Hall sensor)	122
S77	Distance switch (not UK)	153 to 156	Y11	Hall sensor	108, 109, 145 to 147
S81	Brake fluid level switch	459	Y14	Inductive sensor (not UK)	135 to 137
S82	Washer fluid level switch	462	Y15	Inductive sensor with ignition module	125, 126
U1	Day running light transformer (not UK)	422 to 426	Y17	Idle cut-off solenoid	342
U3	Computer board	352 to 361	Y18	Dashpot solenoid (not U K)	159
U3.1	Clock priority switch	359	Y22	Distributor (not UK)	147
U3.2	Function select switch	359	Y23	Distributor (with inductive sensor)	129
U3.3	Reset/adjust switch	359	Y24	Distributor (not UK)	139
U5	Check control display	454 to 462			

Colour codes

BL	Blue
BR	Brown
GE	Yellow
GN	Green
GR	Grey
HBL	Light blue
LI	Lilac
RT	Red
SW	Black
VI	Violet
WS	White

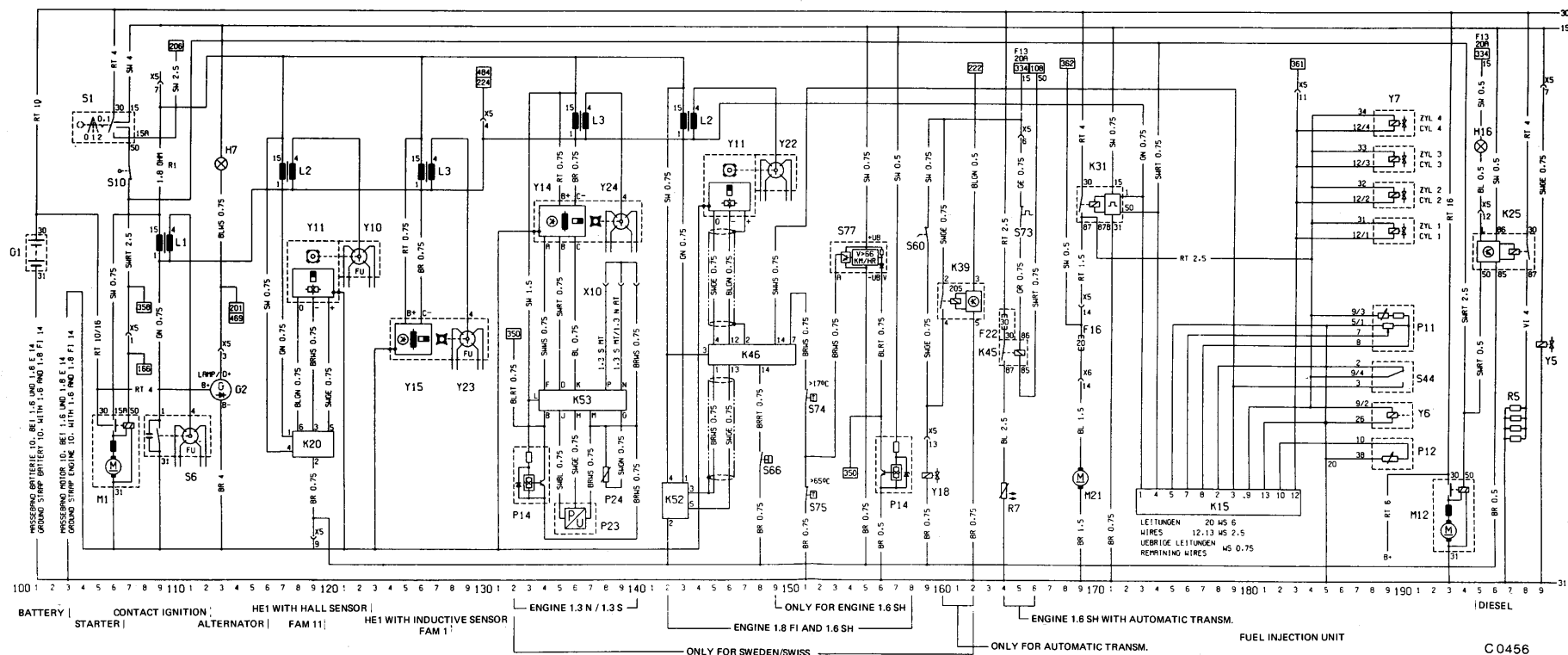
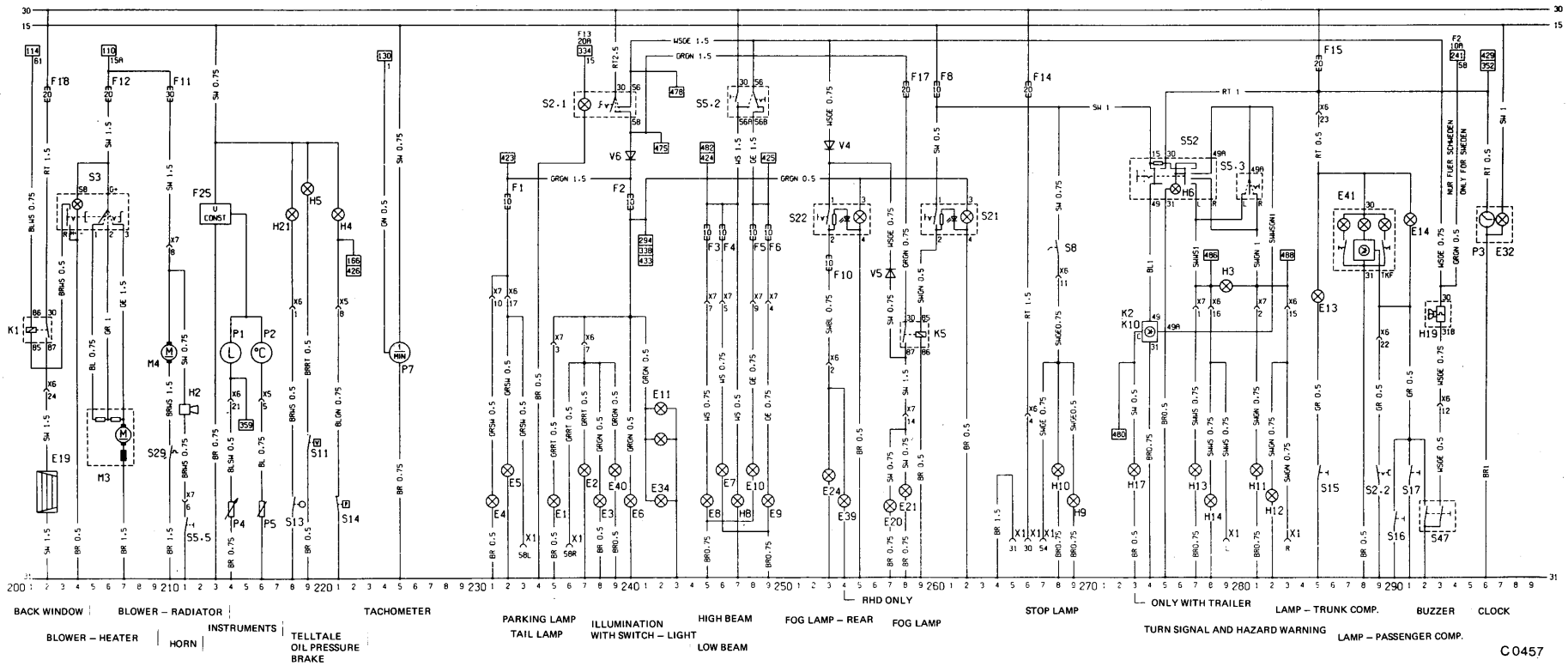


Diagram 1 - all models to 1986



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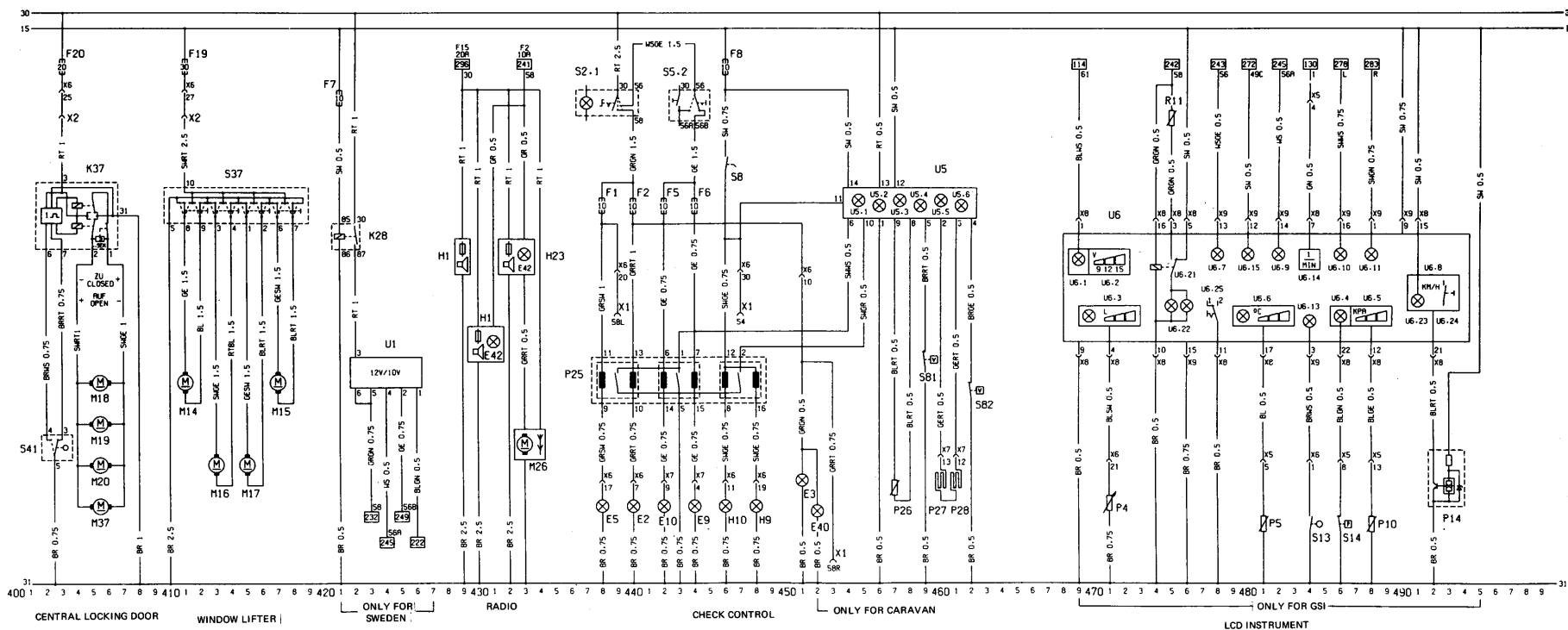


Diagram 1 - all models to 1986 (continued)

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Key to diagram 2 - all 1987 models

Not all items are fitted to all models; not all engines or systems are found in UK models

No	Description	Track	No	Description	Track
E1	Parking lamp left	328	H30	Engine systems warning lamp	151, 209
E2	Tail lamp left	329, 528	H33	Direction indicator repeater- left	376
E3	Number plate lamp	551	H34	Direction indicator repeater right	380
E4	Parking lamp right	332	K1	Relay heated rear window	301, 302
E5	Tail lamp right	334, 540	K2	Flasher unit	374
E6	Lamp engine compartment	337	K5	Foglamp relay	358, 359
E7	High beam left	341	K8	Relay windscreen wiper delay	405, 408
E8	High beam right	342	K9	Relay headlamp washer	412, 414
E9	Low beam left	344, 542	K10	Trailer flasher unit	373, 374
E10	Low beam right	345, 544	K15	Control unit (injection) (L3 Jetronic)	284, 291
E11	Lamps instrument	339	K30	Relay - rear wiper delay	419, 421
E12	Selector lever lamp (automatic transmission)	446	K35	Relay - heated mirror	497, 499
E13	Luggage area lamp	385	K36	Relay - trip computer	460, 462
E14	Interior lamp	391	K37	Relay - central locking	502, 508
E15	Glovebox lamp	439	K45	Relay - manifold heater	186, 187, 263, 264
E16	Cigarette lighter lamp	438	K53	Control unit EZ61 ignition	272 to 281
E17	Reversing lamp left	435	K57	Control unit TBI (not UK)	145, 164
E18	Reversing lamp right	436	K58	Relay - fuel pump, TBI	165, 166
E19	Heated rear window	302	K61	Control unit Motronic	204, 228
E20	Front foglamp - left	357	K62	Control unit dim-dip system	347, 351
E21	Front foglamp - right	358	K63	Relay twin horns	173, 174
E24	Rear foglamp left	353	K68	Relay fuel injection	229, 232, 295 to 299
E25	Seat heating mat front left	468	K73	Ignition module EZ 61	269, 270
E26	Light switch lamp	334	K74	Control unit ignition system (MZV)	177, 185
E30	Seat heating mat front right	472	K75	Relay idle control (not UK)	131, 132
E32	Clock lamp	397	L1	Ignition coil (points system)	109, 110
E33	Ashtray lamp	447	L3	Ignition coil (electronic system)	Various
E34	Heater control lamp	339	L4	Ignition coil (EZ 61)	270, 271
E38	Trip computer lamp	455	M1	Starter motor	105, 107
E39	Rear foglamp - right	354	M2	Windscreen wiper motor	403, 406
E40	Number plate lamp	336, 552	M3	Heater blower motor	305, 307
E41	Interior lamp (with delay)	386, 389	M4	Radiator fan motor	171
E42	Radio lamp	531, 533	M5	Windscreen washer pump	402
F1 to 18	Fuses in fusebox	Various	M8	Rear wiper motor (except GSi)	417, 419
F19	Fuse window lift motors	511	M9	Rear screen washer pump	422, 430
F20	Fuse central locking	503	M14	Window lift motor front left	511, 512
F21	Fuse headlamp washer	414	M15	Window lift motor - front right	517, 518
F22	Fuse manifold heater	186, 264	M16	Window lift motor, rear left	513, 514
F25	Voltage stabiliser	313	M17	Window lift motor, rear right	515, 516
F27	Fuse twin horns	174	M19	Door lock actuator, rear left	504, 507
F31	Fuse electronic carburettor	238	M20	Door lock actuator, rear right	504, 507
G1	Battery	101	M21	Fuel pump	166, 230, 295
G2	Alternator	113	M24	Headlamp washer pump	414
H1	Radio	529, 531	M26	Electric aerial motor	533, 534
H2	Horn	172, 173	M30	Electric mirror left	478, 481, 487, 490
H3	Direction indicator repeater	378	M31	Electric mirror right	494, 497
H4	Oil pressure warning lamp	321	M32	Door lock actuator passenger door	504, 507
H5	Brake fluid warning lamp	319	M33	Idle speed actuator (Motronic)	216, 217
H6	Hazard warning repeater	376	M36	Rear wiper motor (GSi only)	427, 429
H7	Charging system warning lamp	323	M37	Tailgate lock actuator	504, 507
H8	High beam warning lamp	343	P1	Fuel gauge	314
H9	Stop-lamp left	368, 546	P2	Temperature gauge	316
H10	Stop-lamp right	369, 548	P3	Clock	396
H11	Direction indicator lamp front left	377	P4	Fuel gauge sender	314, 571
H12	Direction indicator lamp - rear left	378	P5	Coolant temperature sensor (gauge)	316, 581
H13	Direction indicator lamp front(right)	381	P7	Tachometer	325
H14	Direction indicator lamp - rear right	382	P10	Oil pressure sensor	588
H18	Second horn	174	P11	Airflow meter	216, 221
H19	'Headlamps on' warning buzzer	393, 394	P12	Coolant temperature sensor (L3 Jetronic)	211, 289
H20	Choke warning lamp	133	P13	Air temperature sensor (trip)	460, 461
H21	Handbrake warning lamp	318	P14	Distance sensor (Motronic/ trip computer)	144, 202, 451
H23	Radio with electric aerial	532, 533	P15	Fuel flow meter (trip computer)	453, 454
H25	Mirror heating warning lamp	483, 492			

Key to diagram 2 - all 1987 models (continued)

No	Description	Track	No	Description	Track
P23	Manifold vacuum sensor	125, 127, 158, 160, 177, 179	U3.1	Clock switch	459
P24	Oil temperature sensor	128, 129, 182, 183, 276, 277	U3.2	Function select switch	459
P25	Bulb failure sensor	537, 550	U3.3	Reset/clock adjustment switch	459
P26	Oil level sensor	557, 558	U5	Check control display unit	554, 563
P27	Brake pad wear sensor front left	560	U5.1	Bulb failure warning (running lights)	554
P28	Brake pad wear sensor front right	561	U5.2	Bulb failure warning (stop-lamps)	556
P29	Manifold temperature sensor	245, 246	U5.3	Oil level warning	557
P30	Coolant temperature sensor (not UK)	156, 157, 248, 249	U5.4	Brake fluid level warning	558
P31	Throttle potentiometer (not UK)	248, 250	U5.5	Brake pad wear warning	560
P32	Oxygen (Lambda) sensor	226, 227	U5.6	Washer fluid level warning	561
P34	Throttle position sensor (not UK)	161, 163	U5.7	Coolant level warning	563
P35	Inductive sensor (crankshaft)	222, 224, 257, 259, 273, 275	U6	LCD instrument panel	569 to 593
R1	Ballast resistor cable	109	U6.1	Charging system warning lamp	569
R2	Carburettor heater	196, 262	U6.2	Voltmeter	570, 572
R3	Cigarette lighter	437	U6.3	Fuel gauge	571
R5	Glow plugs (Diesel)	193, 194	U6.4	Oil pressure warning lamp	586
R7	Manifold heater	186, 264	U6.5	Oil pressure gauge	588
R11	Instrument illumination rheostat	575	U6.6	Temperature gauge	581
R15	Octane coding plug	162, 180, 181, 212, 278, 279	U6.7	'Lights on' indicator	578
S1	Ignition/starter switch	106, 107	U6.8	Speedometer	592, 593
S2.1	Main lighting switch	334, 337, 539, 540	U6.9	High beam indicator	582
S2.2	Interior lamp switch	389	U6.10	Direction indicator repeater left	586
S3	Heater blower/heated rear window switch	303, 307	U6.11	Direction indicator repeater right	588
S5.2	Dipswitch	343, 344, 544	U6.13	Handbrake 'on' warning lamp	584
S5.3	Direction indicator switch	380, 381	U6.14	Tachometer	584
S6	Distributor (contact breaker type)	111	U6.15	Trailer direction indicator repeater	580
S7	Reversing lamp switch (manual)	435	U6.21	Panel lighting relay	574, 576
S8	Stop-lamp switch	368, 546	U6.22	Panel lamp bulbs	575, 576
S9.2	Windscreen wiper switch	402, 406	U6.23	Speedometer illumination	592
S9.3	Rear wiper switch (except GSi)	420, 421	U6.24	Miles/km changeover switch	593
S9.4	Rear wiper switch (GSi)	429, 430	U6.25	Changeover switch	578
S10.1	Starter Inhibitor switch (automatic)	107	U6.27	Engine malfunction warning lamp	590
S10.2	Reversing lamp switch (automatic)	434	V1	Diode (brake fluid warning bulb test)	320
S10.3	Park/neutral switch (not UK)	156	X1	Trailer socket	Various
S11	Brake fluid warning level switch	319	X2	Auxiliary connector	Various
S13	Handbrake 'on' warning switch	318, 584	X5	Engine wiring harness connector	Various
S14	Oil pressure warning switch	321, 586	X6	Body wiring harness connector	Various
S15	Luggage area lamp switch	385	X7	Front wiring harness connector	Various
S16	Door switch left	390	X8	LCD instrument 26-pin connector	569 to 592
S17	Door switch right	391	X9	LCD instrument 16-pin connector	576 to 590
S18	Glovebox lamp switch	439	X10	Ignition timing basic coding plug	129, 130, 184, 184
S21	Front foglamp switch	360, 362	X11	Harness connector (not UK)	147 to 169
S22	Rear foglamp switch	353, 355	X13	Test connector	Various
S29	Radiator fan thermoswitch	171	X15A	Fuel injection harness connector (Motronic)	204 to 230
S30	Seat heating switch front left	468, 470	X15B	Fuel injection harness connector (L3 Jetronic)	283, 291, 293
S37	Window lift switch	510, 518	X16	Ignition harness connector	238, 245, 255, 257, 262
S41	Central locking driver's door switch	502, 503	Y5	Fuel shut-off valve (Diesel)	195
S44	Throttle valve switch	206, 207, 285, 286	Y6	Auxiliary air valve (L3 Jetronic)	292, 293
S47	Contact switch headlamps on warning	392, 393	Y7	Fuel injectors	219 to 226, 279 to 286
S50	Choke warning switch	133	Y14	Inductive sensor (MZV ignition system)	176 to 179
S52	Hazard warning	374, 378	Y15	Inductive sensor (1.3 models, electronic ignition)	116, 117
S55	Seat heating switch front right	472, 474	Y17	Idle cut-off solenoid	197
S60	Clutch pedal switch (not UK)	131	Y23	Ignition distributor (1.3 models, electronic ignition)	119, 120
S64	Horn switch	172	Y24	Ignition distributor (MZV ignition)	182
S68.1	Mirror adjustment switch	477, 480, 485, 489	Y26	Throttle valve positioner (not UK)	238 to 244
S68.2	Mirror heating switch	483, 492	Y27	Pre-throttle valve (not UK)	252, 253
S68.3	Mirror left/right switch	486, 490	Y32	Injection valve (not UK)	146
S73	Manifold heater switch (not UK)	187	Y33	Ignition distributor (fuel injection)	207, 260, 273
S81	Blake fluid check control switch	559	Y44	Idle control solenoid (not UK)	131
S82	Washer fluid check control switch	562			
S91	Oil pressure switch (not UK)	168, 169			
S93	Coolant check control switch	563			
U3	Trip computer assembly	452 to 461			

Refer to page 12•16 for colour codes

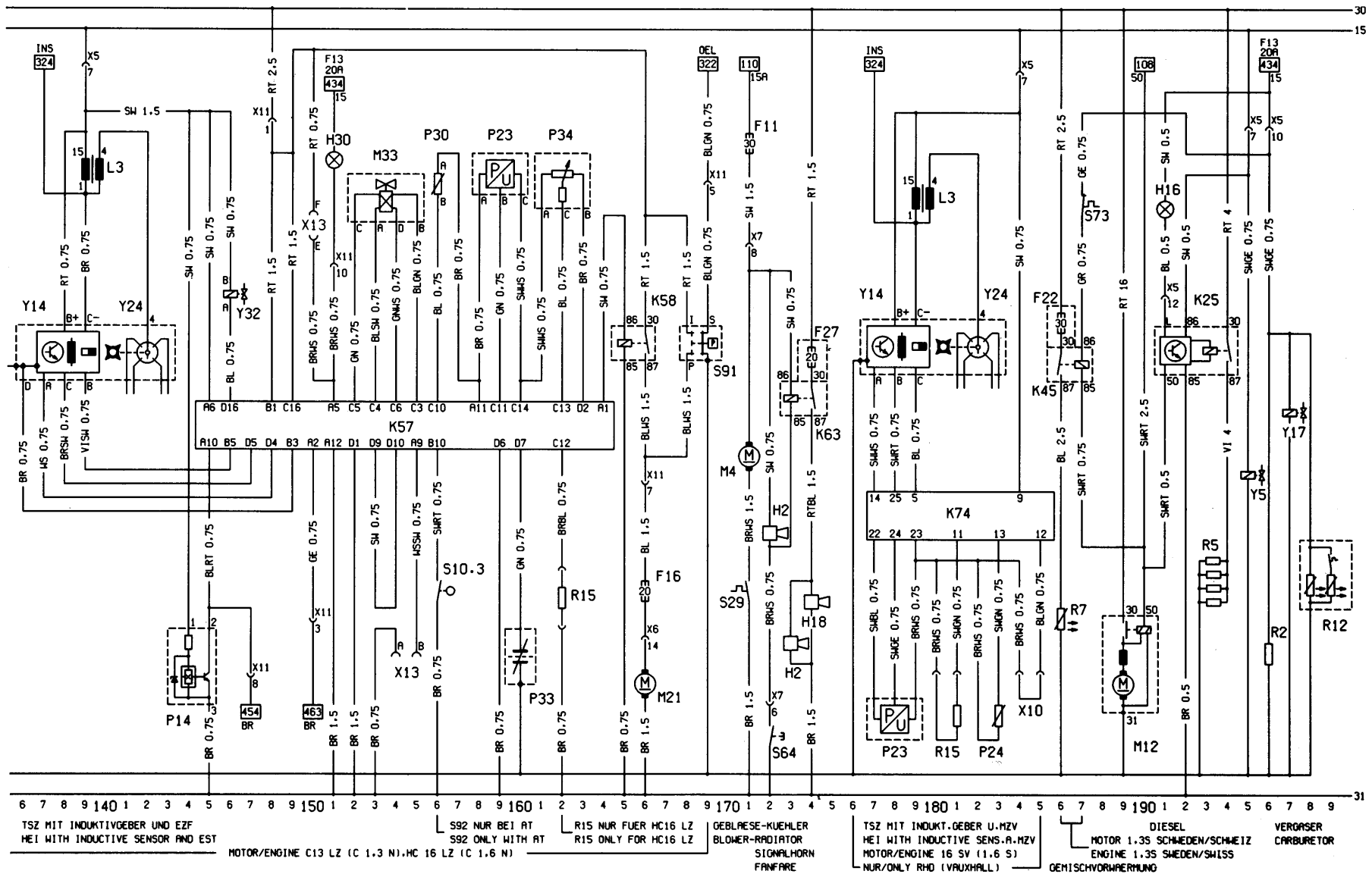


Diagram 2 - 1987 models (continued)

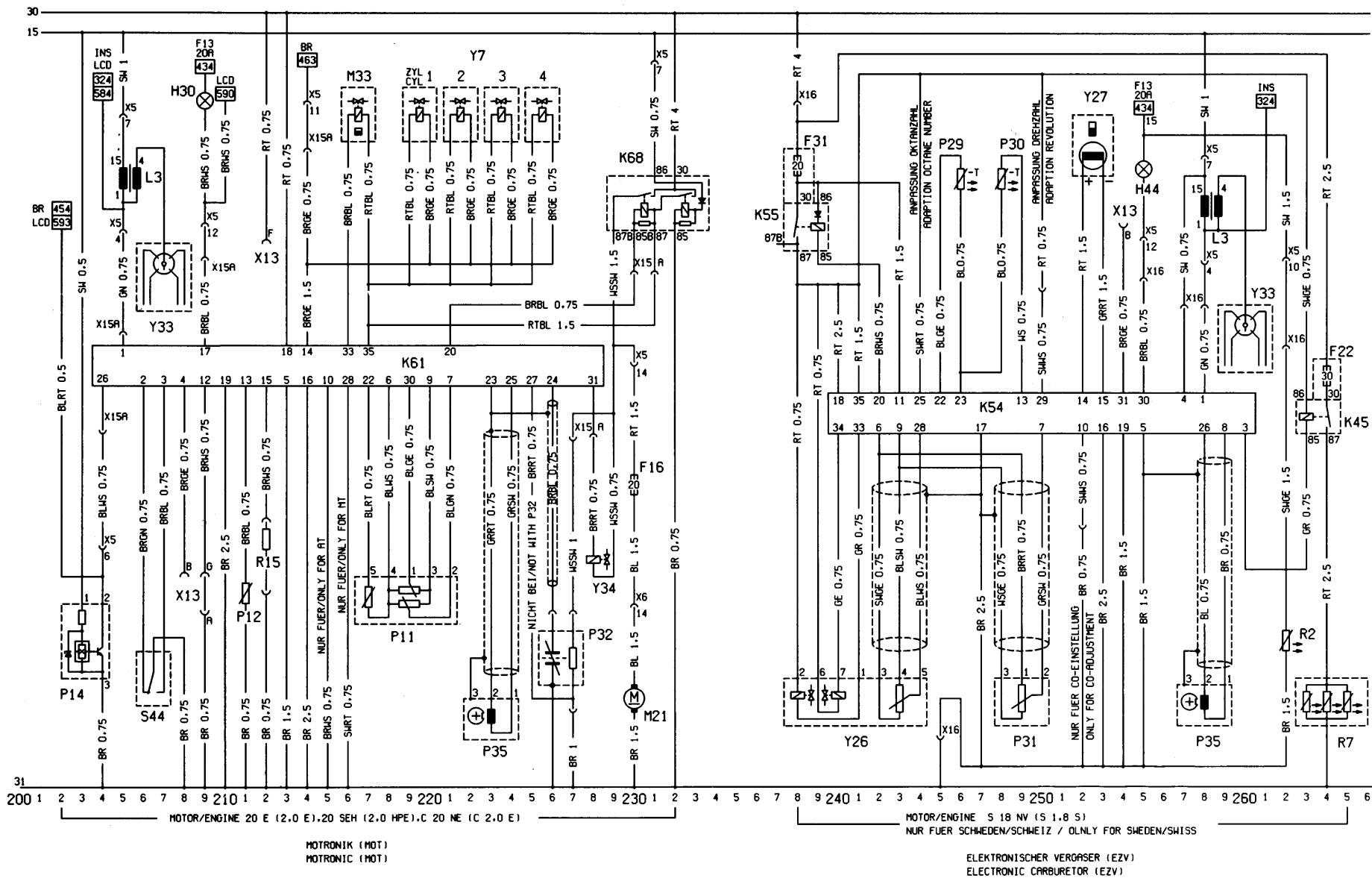


Diagram 2 - 1987 models (continued)

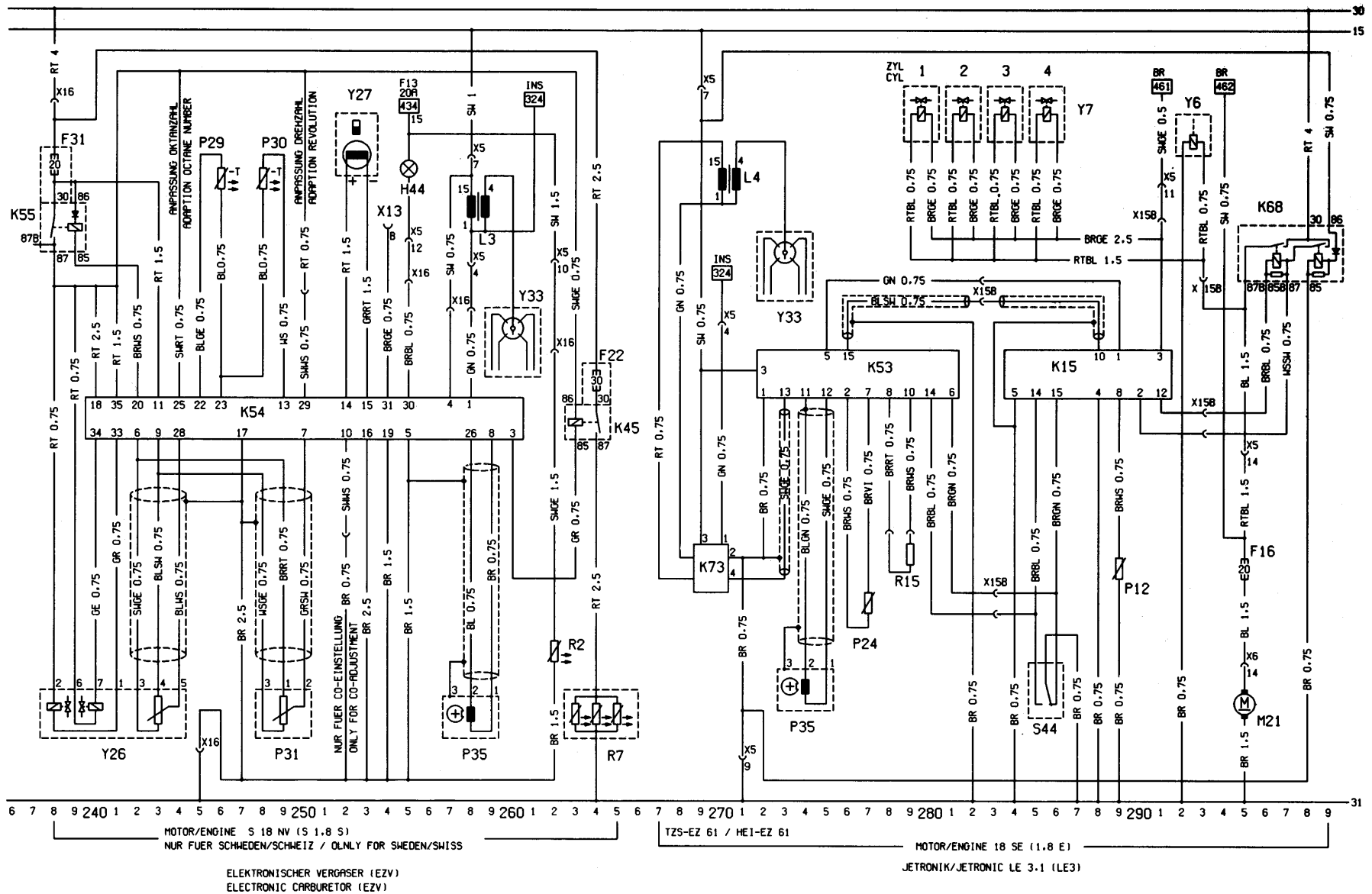
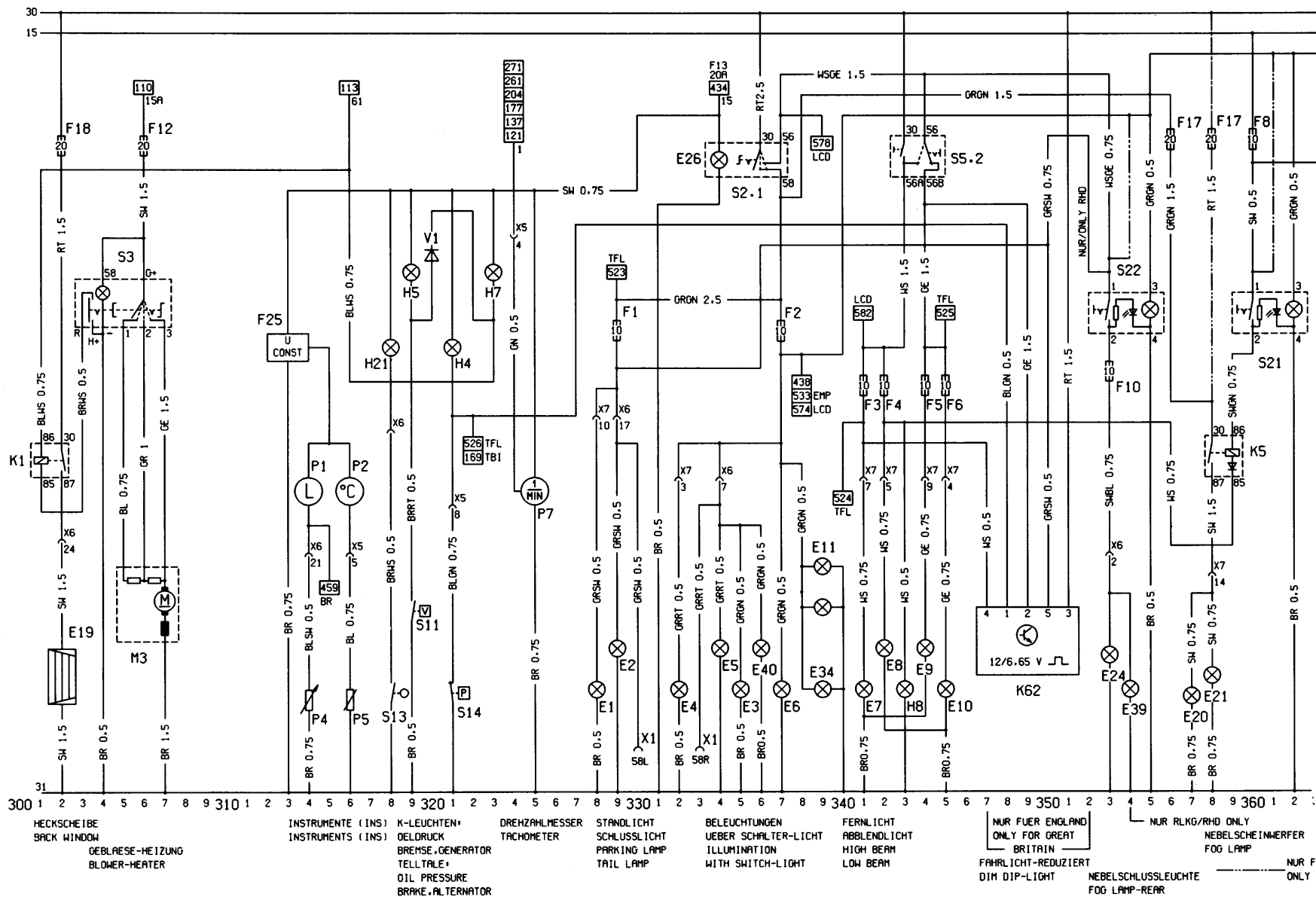


Diagram 2 - 1987 models (continued)



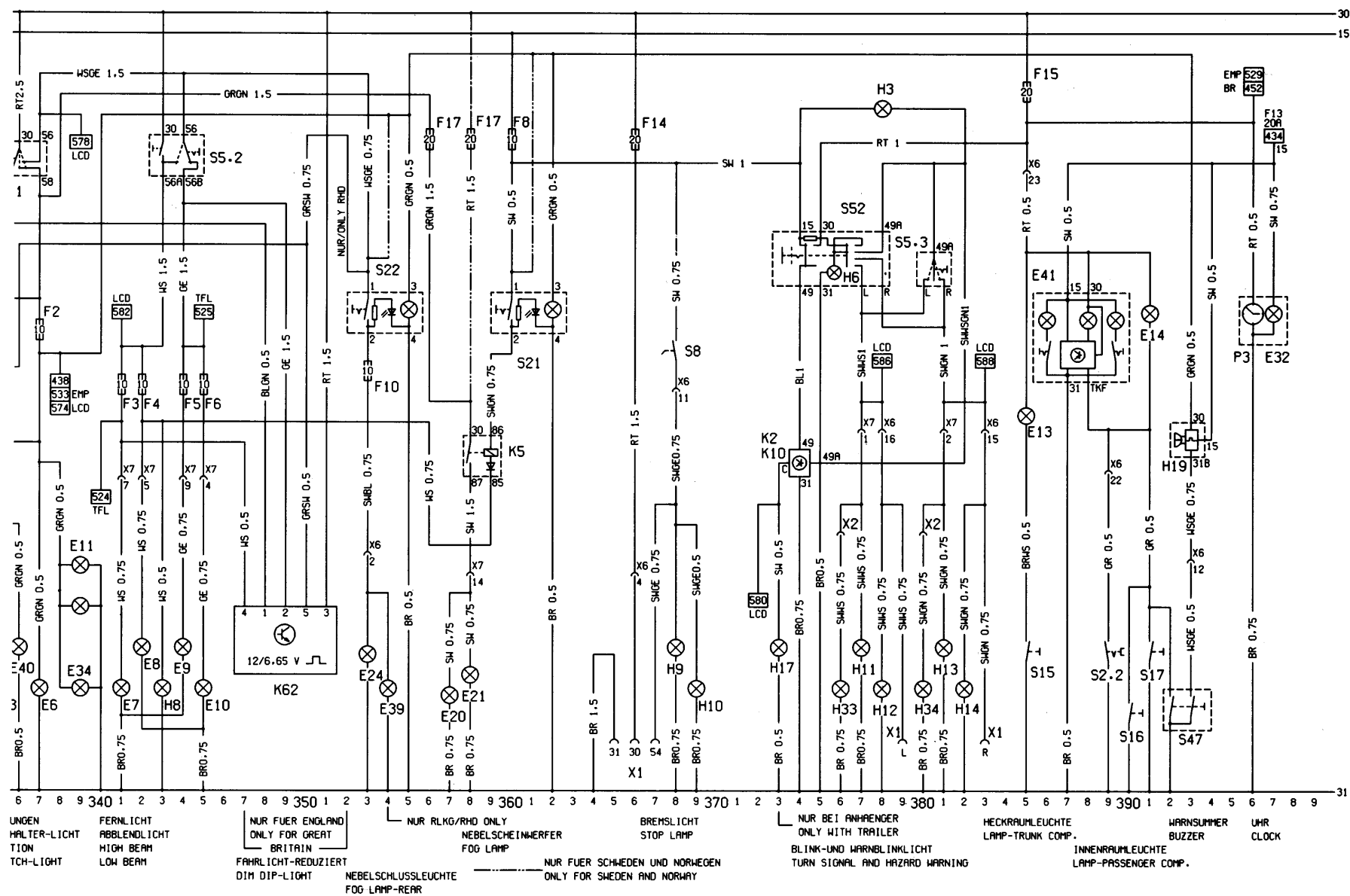
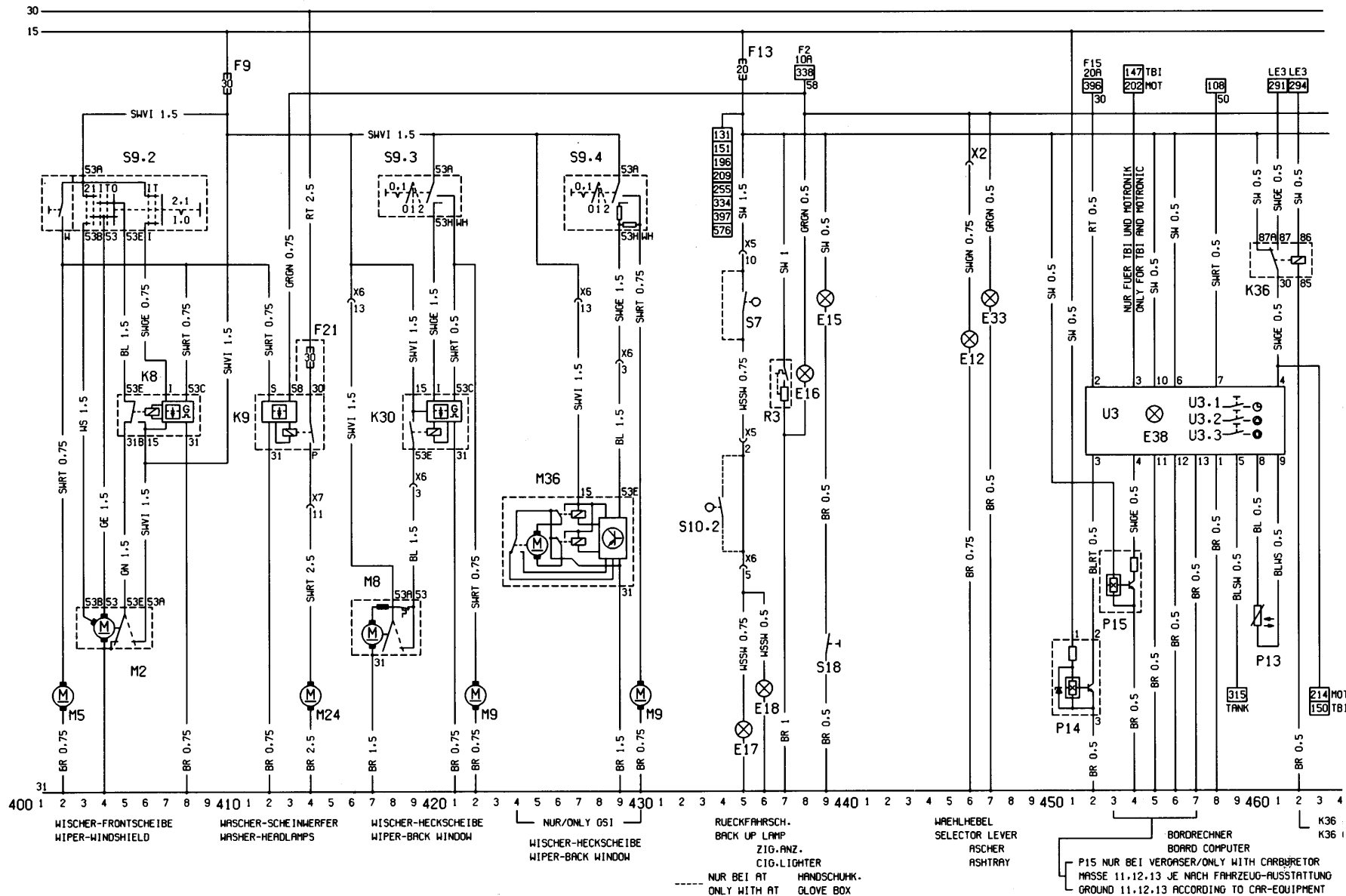


Diagram 2 - 1987 models (continued)



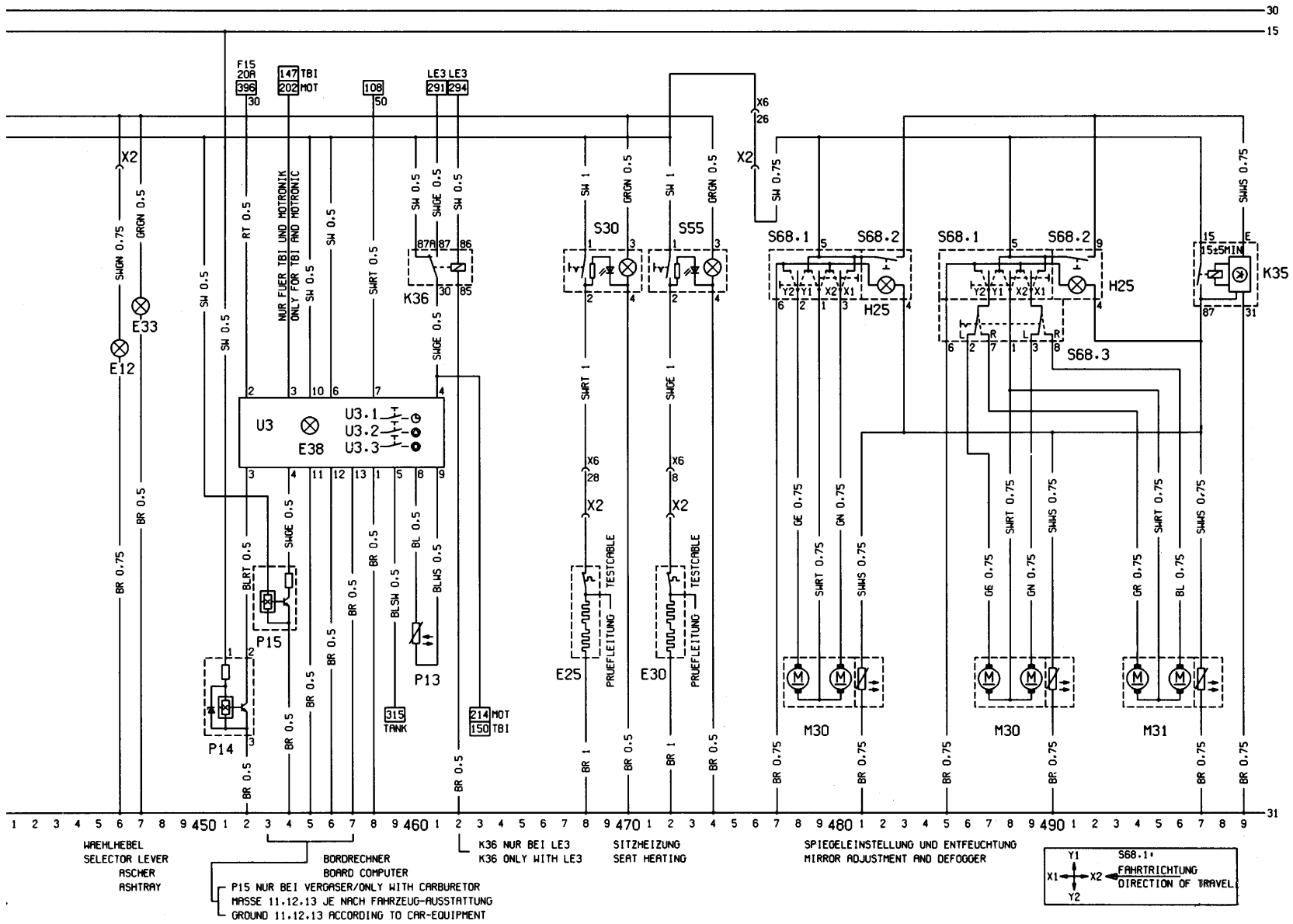


Diagram 2 - 1987 models (continued)

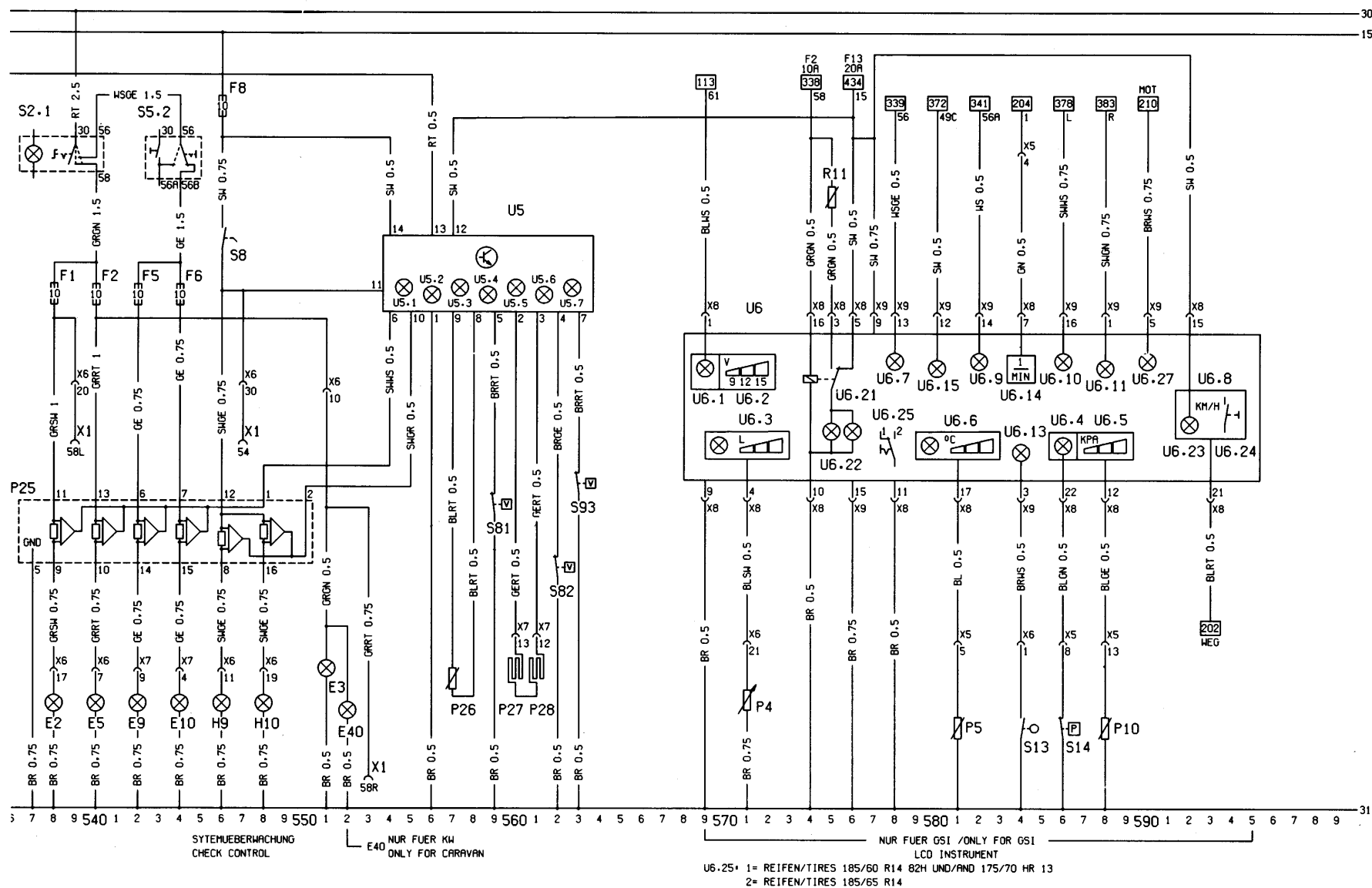


Diagram 2 - 1987 models (continued)

Key to diagram 3 - all models from 1990 on

Not all items are fitted to all models; not all engines or systems are found in UK models

No	Description	Track	No	Description	Track
E1	Parking lamp left	328	K9	Relay headlamp washer	411, 413
E2	Tail lamp left	329, 550	K15	L3 Jetronic control unit	284 to 291, 749 to 761
E3	Number plate lamp	335	K20	Ignition module	Various
E4	Parking lamp right	332	K30	Relay rear wiper delay	417 to 419
E5	Tail lamp right	334, 552	K32	Relay rear wiper delay (Estate)	431 to 433
E6	Engine compartment lamp	337	K35	Relay heated mirror	497, 499
E7	High beam left	341	K37	Relay central locking	502, 508
E8	High beam right	342	K47	ABS surge protection relay	702, 703
E9	Low beam left	344, 554	K50	ABS control unit	702 to 721
E10	Low beam right	345, 556	K53	Ignition advance control unit	123 to 129, 272 to 281
E11	Lamps instrument	339	K57	TBI control unit (C/E 16 NZ)	145 to 164
E12	Selector lever lamp (automatic)	446	K58	Fuel pump relay (TBI)	165, 166, 262
E13	Luggage area lamp	385	K61	Control unit - Motronic	606 to 636
E14	Interior lamp	391	K62	Control unit dim-dip system	347, 351
E15	Glovebox lamp	443	K63	Horn relay	173, 174
E16	Cigarette lighter lamp	442	K68	Fuel injection relay	Various
E17	Reversing lamp left	439	K75	Idle control relay (not UK)	131, 132
E18	Reversing lamp right	440	K84	Ignition control unit (EZ Plus)	187 to 198, 733 to 746
E19	Heated rear window (except Estate)	302	K86	Control unit check control	539 to 560
E20	Front foglamp left	357	K91	Motronic control unit	202 to 226
E21	Front foglamp right	358	K100	TBI control unit (C 14 NZ)	240 to 259
E24	Rear foglamp left	353	L1	Ignition coil	Various
E25	Seat heating mat front left	468	M1	Starter motor	105 to 107
E26	Light switch lamp	334	M2	Windscreen wiper motor	403, 406
E30	Seat heating mat front right	472	M3	Heater blower motor	307 to 309
E32	Clock lamp	397	M4	Radiator fan	171, 699
E33	Ashtray lamp	447	M5	Windscreen washer pump	400
E34	Heater control lamp	339	M8	Rear wiper motor (except GSi)	415 to 417
E38	Trip computer lamp	455	M14	Window lift motor front left	511, 512
E39	Rear foglamp right	354	M15	Window lift motor front right	517, 518
E40	Number plate lamp (Estate)	336	M16	Window lift motor rear left	513, 514
E41	Interior lamp (with delay)	386, 389	M17	Window lift motor rear right	515, 516
E42	Radio lamp	531, 533	M19	Door lock actuator rear left	504, 507
E60	Heated rear window (Estate)	304	M20	Door lock actuator - rear right	504, 507
F1 - 20	Fuses in fuse box	Various	M21	Fuel pump	166, 229, 262, 295, 639, 764
F21	Fuse headlamp washer	413	M24	Headlamp washer pump	413
F25	Voltage stabiliser	313	M25	Rear screen washer pump	429 to 431
F27	Fuse twin horns	174	M26	Electric aerial motor	533, 534
G1	Battery	101	M30	Electric mirror left	478, 481, 487, 490
G2	Alternator	113	M31	Electric mirror - right	494, 497
H1	Radio	529, 531	M32	Door lock actuator passenger door	504, 507
H2	Horn (single)	172	M33	Idle adjuster	Various
H3	Direction indicator repeater	378	M36	Rear wiper motor (GSi only)	421, 426
H4	Oil pressure warning lamp	321	M37	Tailgate lock actuator	504, 507
H5	Brake fluid warning lamp	319	M39	Headlamp levelling motor	774 to 776
H6	Hazard warning repeater	376	M40	Headlamp levelling motor	778 to 780
H7	Charging system warning lamp	323	M55	Front & rear screen washer pump	420, 427, 434
H8	High beam warning lamp	343	M56	Rear wiper motor (Estate)	433 to 435
H9	Stop-lamp left	368, 558	P1	Fuel gauge	314
H10	Stop-lamp right	369, 560	P2	Temperature gauge	316
H11	Direction indicator lamp front left	377	P3	Clock	396
H12	Direction indicator lamp rear left	378	P4	Fuel gauge sender	314, 571
H13	Direction indicator lamp front right	381	P5	Coolant temperature sensor (gauge)	316, 583
H14	Direction indicator lamp rear right	382	P7	Tachometer	325
H17	Direction indicator repeater (trailer)	373	P10	Oil pressure sensor	589
H18	Horn (twin)	174	P11	Airflow meter	217 to 221
H19	'Headlamps on' warning buzzer	393, 394	P12	Coolant temperature sensor	214, 289, 613, 759
H20	Choke warning lamp	133	P13	Air temperature sensor	460, 461
H21	Handbrake warning lamp	318	P14	Distance sensor	451, 680, 681
H23	Radio with electric aerial	532, 533	P17	ABS wheel speed sensor - front left	707
H25	Mirror heating warning lamp	483, 492	P18	ABS wheel speed sensor - front right	709
H26	ABS warning lamp	722	P19	ABS wheel speed sensor - rear left	711
H30	Engine malfunction warning lamp	Various	P20	ABS wheel speed sensor - rear right	713
H33	Direction indicator repeater left	376	P23	Manifold vacuum sensor	Various
H34	Direction indicator repeater right	380	P24	Oil temperature sensor	128, 129, 192, 276, 277, 737
H48	Horn (twin)	173	P27	Brake pad wear sensor - front left	544
K1	Heated rear window relay	301, 302	P28	Brake pad wear sensor front right	544
K2	Flasher unit	373, 374	P30	Coolant temperature sensor	155, 156, 251
K5	Foglamp relay	358, 359	P32	Oxygen (Lambda) sensor (Motronic)	226, 227, 630, 631
K8	Relay windscreen wiper delay	405, 408	P33	Oxygen (Lambda) sensor (TBI)	161, 254

Key to diagram 3 - all models from 1990 on (continued)					
No	Description	Track	No	Description	Track
P34	Throttle position sensor	160 to 162, 212/3, 256 to 258	U5.1	Brake pad wear warning	539
P35	Inductive sensor (crankshaft)	221 to 223, 273 to 275, 619	U5.2	Brake fluid level warning	540
P44	Air mass meter	633 to 637	U5.3	Oil level warning	541
P46	Knock control sensor	623, 624	U5.4	Coolant level warning	542
P47	Hall sensor (Motronic M 2.5)	625 to 627	U5.5	Washer fluid level warning	543
R1	Ballast resistor cable	109	U5.6	Bulb failure warning (running lights)	544
R2	Carburettor heater	177	U5.7	Bulb failure warning (stop-lamps)	545
R3	Cigarette lighter	441	U6	LCD instrument panel	569 to 594
R11	Instrument illumination rheostat	575	U6.1	Charging system warning lamp	569
R12	Automatic choke	179	U6.2	Voltmeter	570, 572
R15	CO adjustment potentiometer	163, 164	U6.3	Fuel gauge	571
S1	Ignition/starter switch	106, 107, 648, 649, 670, 671	U6.4	Oil pressure warning lamp	587
S2.1	Main lighting switch	334, 337	U6.5	Oil pressure gauge	589
S2.2	Interior lamp switch	389	U6.6	Temperature gauge	583
S3	Heater blower/heated rear window switch	305 to 309	U6.7	'Lights on' indicator	581
S5.2	Dipswitch	343, 344	U6.8	Speedometer	579
S5.3	Direction indicator switch	380, 381	U6.9	High beam indicator	583
S6	Distributor (contact breaker type)	111	U6.10	Direction indicator repeater left	585
S7	Reversing lamp switch (manual)	439	U6.11	Direction indicator repeater right	587
S8	Stop-lamp switch	368, 562	U6.13	Handbrake 'on' warning lamp	594
S9.2	Windscreen wiper switch	403 to 406	U6.14	Tachometer	579
S9.5	Rear wipe/wash switch (except GSi)	418 to 420, 432 to 434	U6.15	Trailer direction indicator repeater	589
S9.6	Rear wipe/wash switch (GSi)	426 to 428	U6.18	ABS warning lamp	591
S9.7	Windscreen washer switch	400, 401	U6.21	Panel lighting relay	574, 576
S10.1	Starter inhibitor switch (automatic)	107	U6.22	Panel lamp bulbs	575, 576
S10.2	Reversing lamp switch (automatic)	438	U6.23	Speedometer illumination	578
S10.3	Park/neutral switch (auto with TBI)	159, 256	U6.24	Miles/km changeover switch	580
S11	Brake fluid warning level switch	319	U6.25	Changeover switch	592
S13	Handbrake 'on' warning switch	318, 594	U6.27	Engine malfunction warning lamp	593
S14	Oil pressure warning switch	321, 587	U11.1	Fuel deceleration cut-off valve	197
S15	Luggage area lamp switch	385	U11.2	Throttle valve switch	198
S16	Door switch left	390	V1	Diode (brake fluid warning bulb test)	320
S17	Door switch right	391	X1	Trailer socket	Various
S18	Glovebox lamp switch	443	X2	Auxiliary connector	Various
S21	Front foglamp switch	360, 362	X3	Connector, alternator	674 to 676
S22	Rear foglamp switch	353, 355	X4	Connector, glow plug timer	672 to 695
S29	Coolant temperature switch	171	X5	Connector, engine and instruments	Various
S30	Seat heating switch front left	468, 470	X6	Connector, body and instruments	Various
S37	Window lift switch	510, 518	X7	Connector, Jetronic and engine	283, 293
S41	Central locking driver's door switch	502, 503	X8	LCD instrument 26-pin connector	569 to 589
S44	Throttle valve switch	285, 286, 618, 619, 756, 757	X9	LCD instrument 16-pin connector	581 to 594
S47	Switch 'headlamps on' warning	392, 393	X10	Ignition timing basic coding plug	129, 130
S50	Choke warning lamp switch	133	X11	Connector, TBI	147, 150, 156, 166, 247 to 261
S52	Hazard warning switch	374, 378	X12	Connector, L3 Jetronic/E 16 SE	749 to 766
S55	Seat heating switch front right	472, 474	X13	Connector, diagnostic link	Various
S60	Clutch pedal switch (not UK)	131	X14	Connector, Motronic and instruments	202, 203, 212, 214
S61	Pressure switch (power steering)	299	X15	Octane rating plug	Various
S64	Horn switch	172	X16	Connector, TBI	236, 237, 245, 256
S68.1	Mirror adjustment switch	477, 480, 485, 489	X17	Connector, instruments	314 to 330, 343, 374, 382
S68.2	Mirror heating switch	483, 492	X18	Connector, Motronic M 1.5	206 to 229
S68.3	Mirror left/right switch	486, 490	X19	Connector, Motronic M 2.5	602 to 639
S81	Brake fluid check control switch	539	X20	Connector, check control unit	549 to 560
S82	Washer fluid check control switch	540	X21	Connector, check control unit	539 to 549
S93	Coolant check control switch	541	X22	Connector, check control display	539 to 546
S95	Oil level check control switch	542	X23	Coding plug, Motronic M 2.5	611, 612
S98	Headlamp levelling switch	773 to 775	Y5	Fuel cut-off valve (Diesel)	657, 692
U3	Trip computer assembly	452 to 461	Y6	Auxiliary air valve	292, 762
U3.1	Clock switch	459	Y7	Fuel injectors	Various
U3.2	Function select switch	459	Y10	Distributor (with Hall sensor)	Various
U3.3	Reset/clock adjustment switch	459	Y17	Idle cut-off solenoid	178
U4	ABS hydraulic unit	705 to 718	Y23	Distributor (electronic ignition, 1.3/1.4 models)	116 to 120
U4.1	ABS pump relay	706 to 709	Y24	Distributor (not UK)	124 to 129, 136 to 142
U4.2	ABS solenoid valve relay	714 to 718	Y25	Idle up valve (power steering)	299
U4.3	ABS hydraulic pump	705	Y30	Idle up valve (Diesel)	660
U4.5	ABS solenoid valve - front left	710	Y32	Injection valve (TBI)	146, 246
U4.6	ABS solenoid valve front right	711	Y33	Distributor (Motronic/Jetronic)	202, 273, 600 to 602
U4.7	ABS solenoid valve - rear	712	Y34	Fuel tank vent valve	220, 631
U5	Check control display unit	539 to 546	Y41	Idle control valve (not UK)	131

Refer to page 12•16 for colour codes

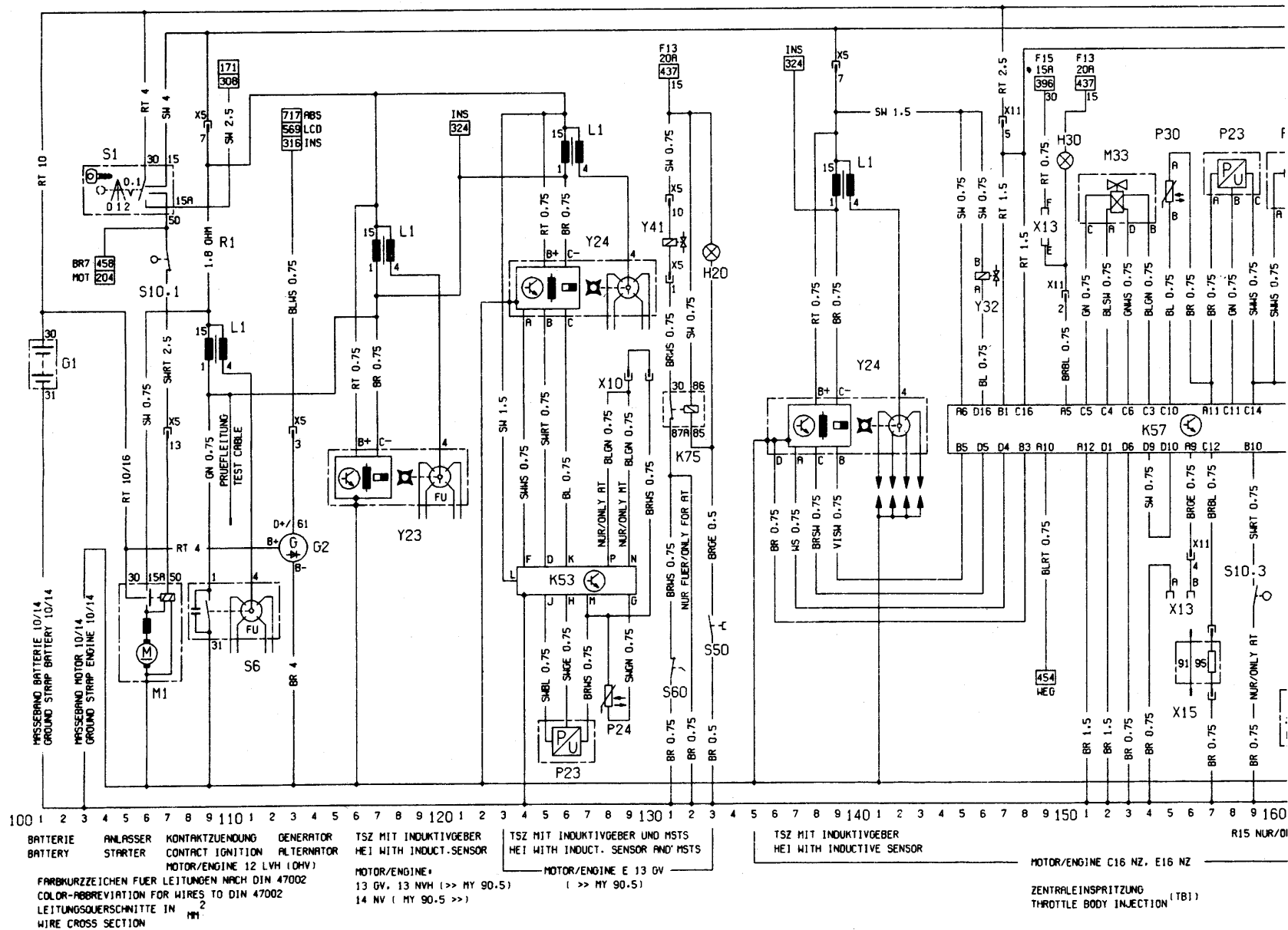


Diagram 3 - all models from 1990 on

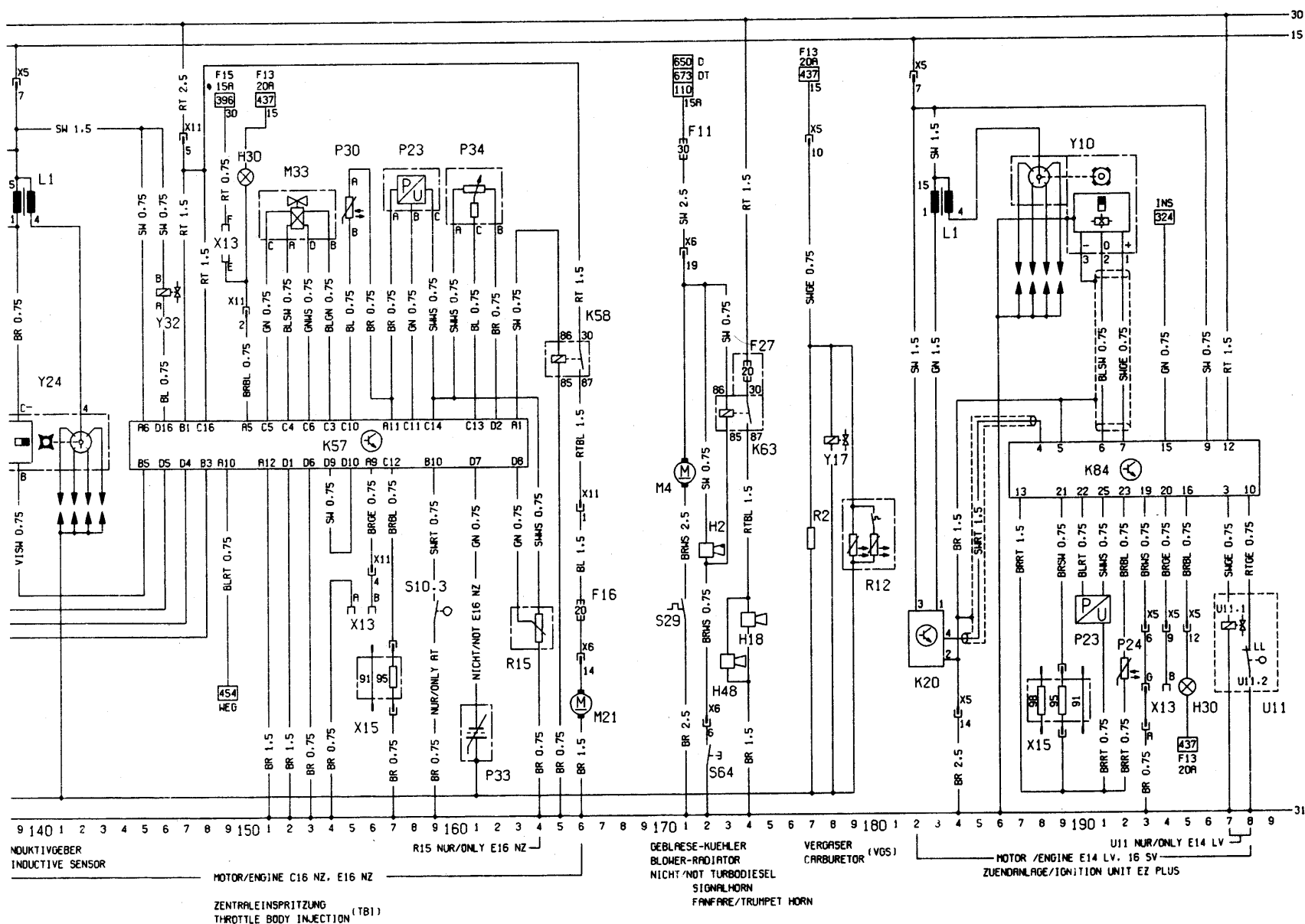
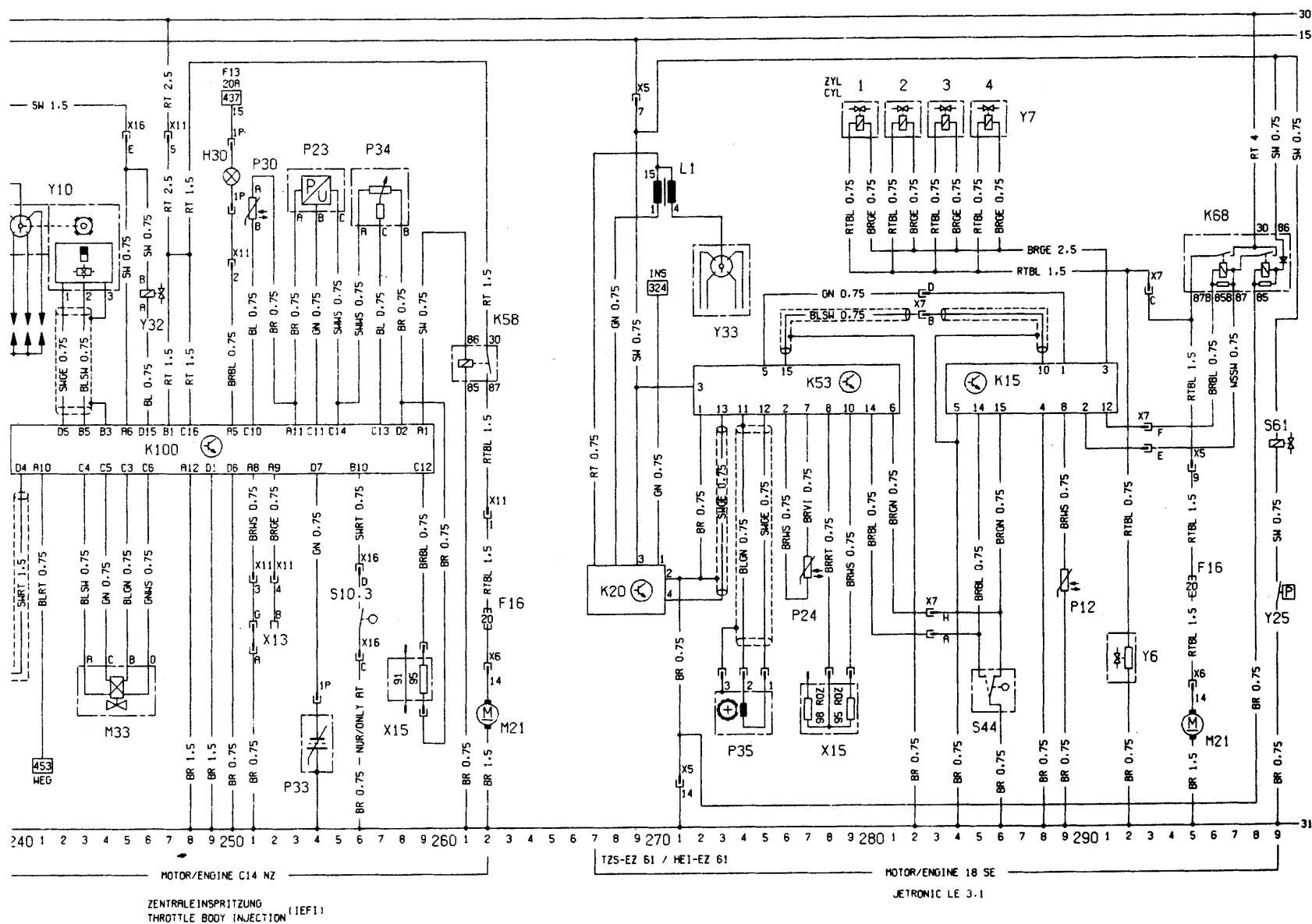
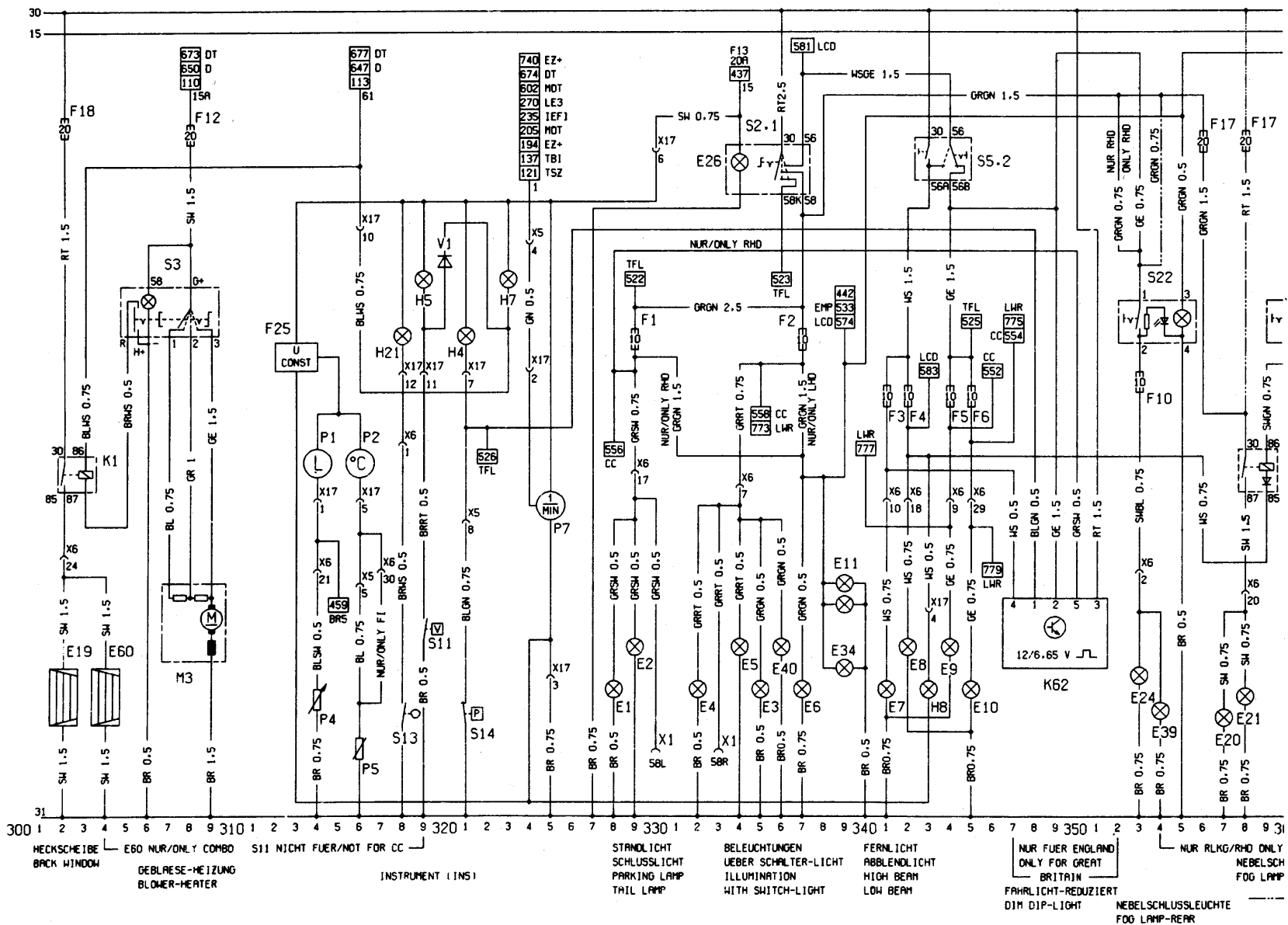


Diagram 3 - all models from 1990 on
(continued)

Diagram 3 - all models from 1990 on
(continued)



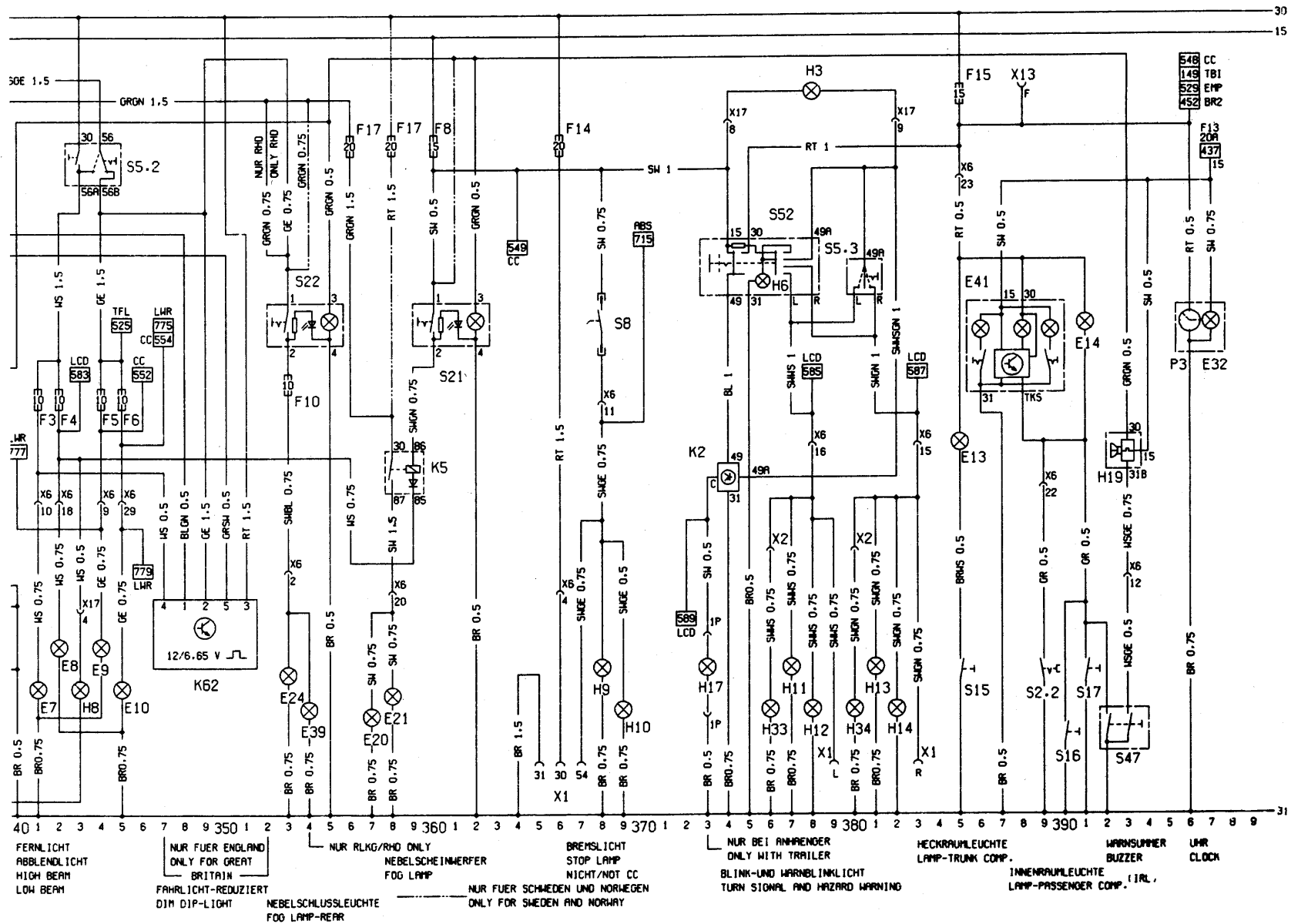
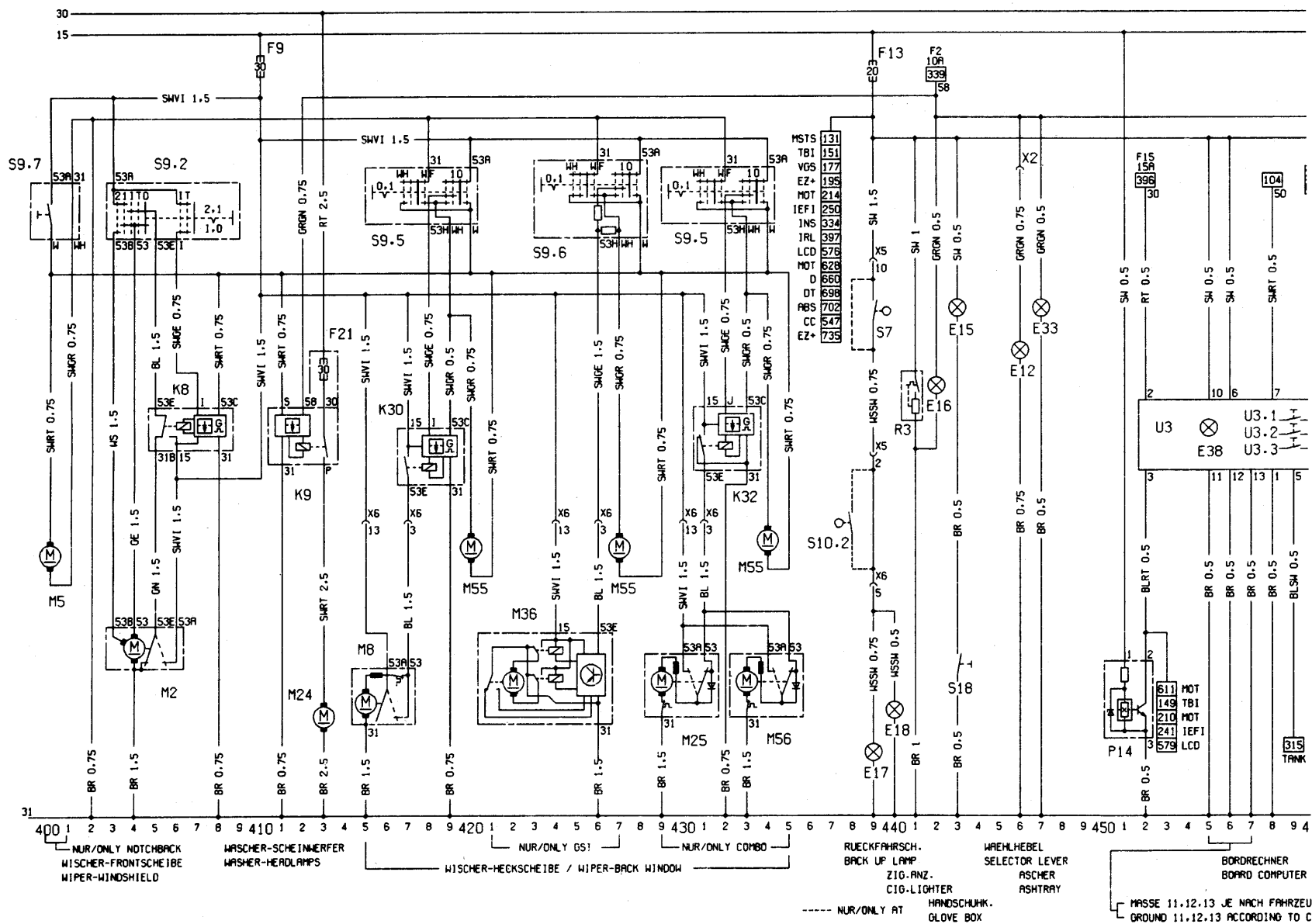
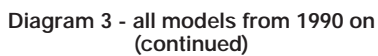
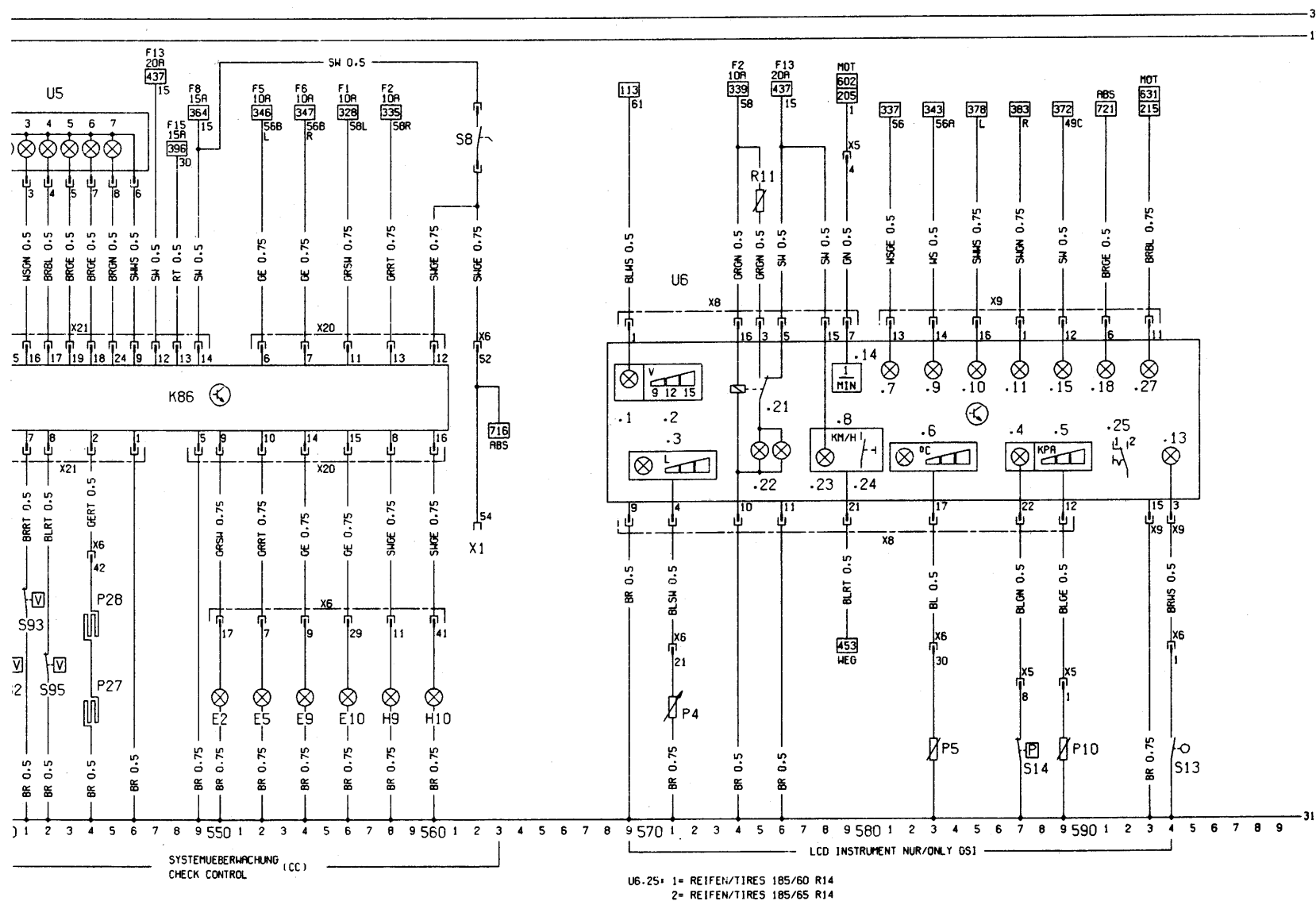
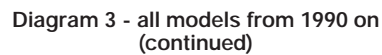


Diagram 3 - all models from 1990 on
(continued)





Diagram 3 - all models from 1990 on
(continued)



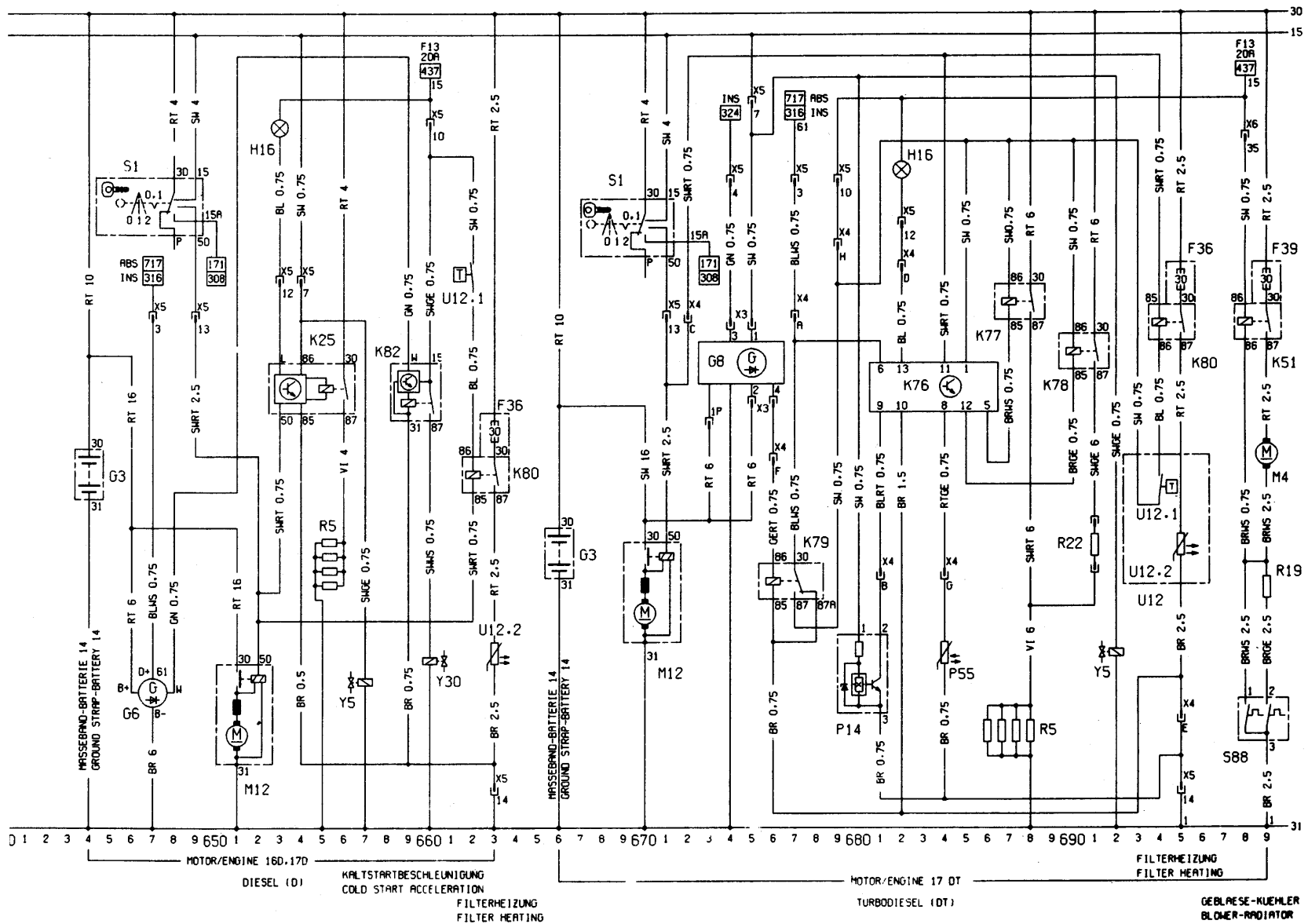


Diagram 3 - all models from 1990 on
(continued)

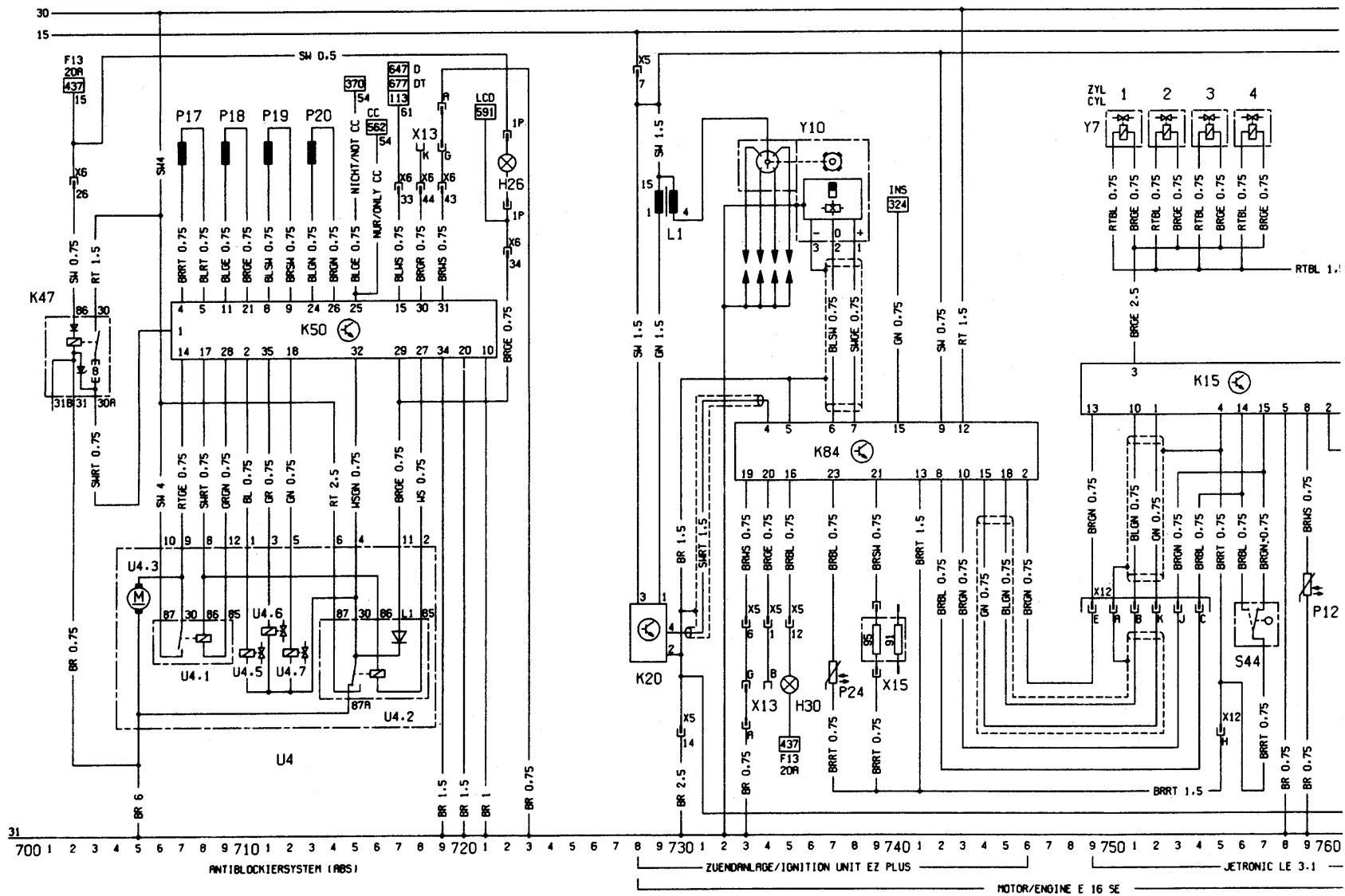


Diagram 3 - all models from 1990 on
(continued)

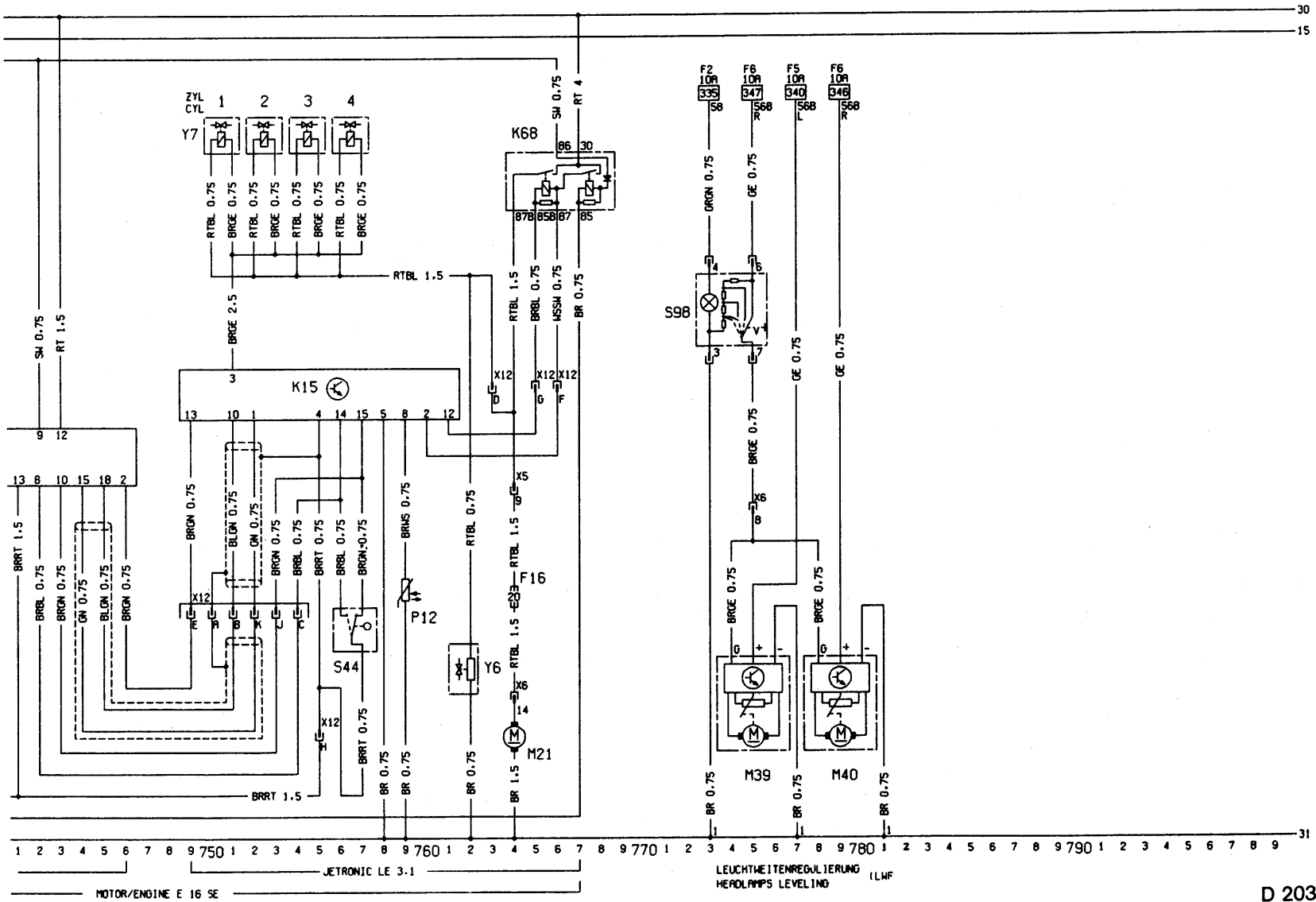
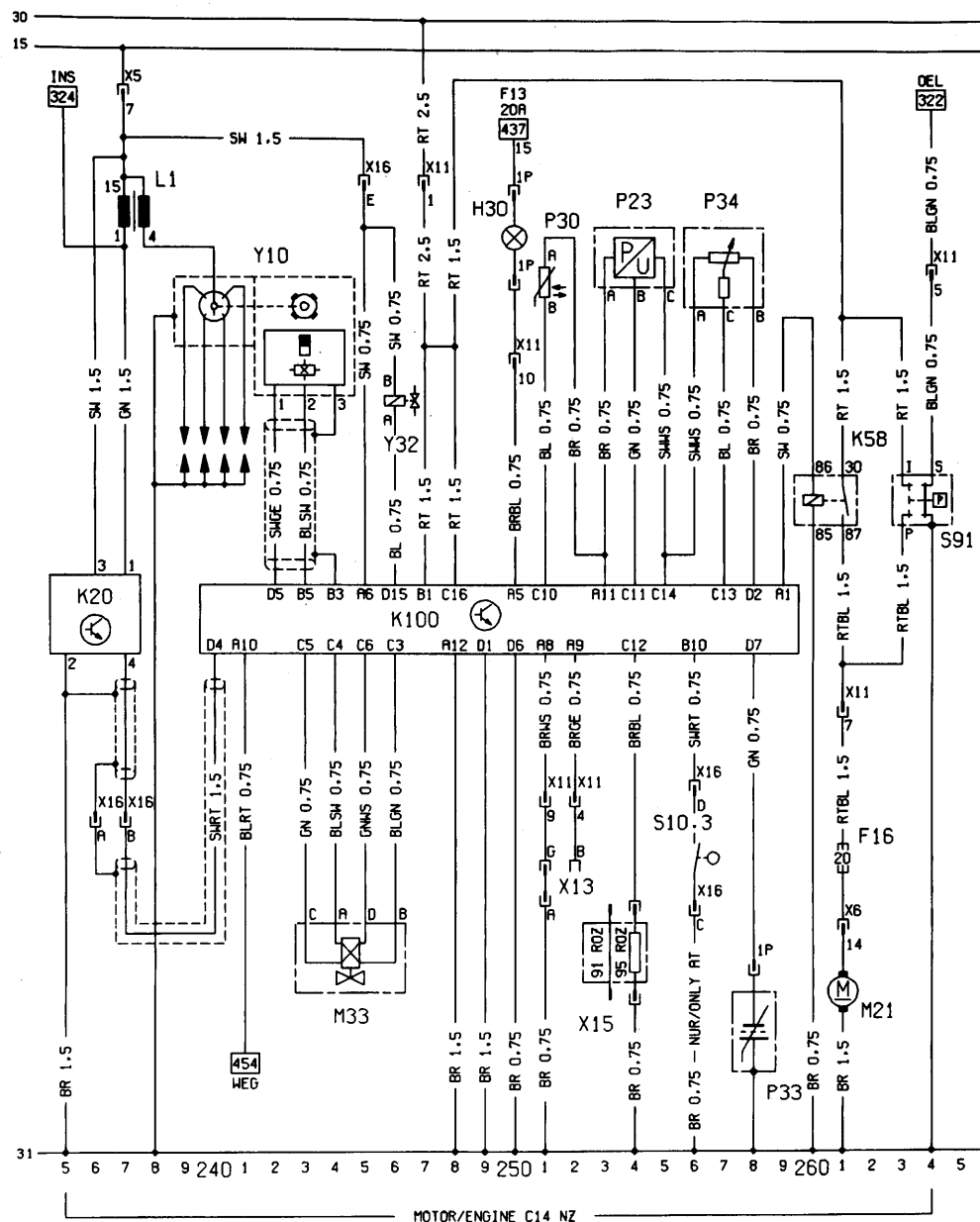


Diagram 3 - all models from 1990 on
(continued)

D 2032

Key to wiring diagram for the MULTEC Central Fuel injection system fitted to later C 14 NZ engines

No	Description	Track
F18	Fuse (in fuse box)	261
H30	Engine telltale (in instrument)	250
K20	Ignition coil ignition module	235 to 237
K58	Fuel pump relay	260, 261
K100	IEFI control unit	240, 259
L1	Ignition coil	236, 237
M21	Fuel pump	261
M33	Idle air control stepper motor	243 to 246
P23	Absolute pressure sensor	253 to 255
P30	Coolant temperature sensor	251
P33	Oxygen sensor	258
P34	Throttle valve potentiometer	256 to 258
S91	Oil pressure switch	236 to 264
S10.3	Park/Neutral switch	256
Y10	Ignition distributor Hall sensor	238 to 244
Y32	Injection valve	246
X5	Instrument panel and engine 14p	237
X6	Instrument panel and body 30p	261
X11	Instrument panel and TBI 14p	247 to 264
X13	ALDL Plug 10p	249 to 251
X15	Octane number plug 3p	253 to 254
X16	Engine and TBI 5p (basis 3p)	237 to 238



Wiring diagram for the MULTEC Central Fuel injection system fitted to later C 14 NZ engines