

Section K2

Fuel tank assembly

Cars other than those destined for U.S.A. and Canada

The fuel tank is situated beneath the luggage compartment floor.

Included in the main fuel tank is a small expansion tank (see Fig. K2) of approximately 3,12 litres (5.5 Imp. pt - 6.7 U.S. pints) capacity. The expansion tank inhibits complete filling of the main fuel tank and provides additional fuel expansion volume to contend with extreme temperature conditions.

When the car is being filled with fuel, the main fuel tank (without an expansion tank) could normally be completely filled, leaving only the filler neck, vent connector pipes and fuel trap assembly to accommodate the expansion of the fuel. An expansion tank is therefore situated in the upper part of the main fuel tank and as the fuel level rises above the lower part of the expansion tank it flows inside through two small holes in the base. Two additional holes in the top of the expansion tank allow air to escape.

Fuel tank - To remove

1. Carry out the necessary workshop safety precautions.
2. Disconnect the battery.
3. Either drain or siphon the fuel from the tank.
4. Remove the carpet and underlay from the luggage compartment floor to reveal the fuel tank (see Fig. K3).
5. Unscrew the four screws securing the circular metal cover over the float assembly (see Fig. K3); withdraw the cover.
6. Disconnect the three electrical leads from the float assembly (see Fig. K4); tape the loom away from the vicinity of the fuel tank.
7. Using the special pliers (RH 8090) remove the steel clip from the rubber hose situated one on either side of the fuel tank filler (see Fig. K5).
8. Unscrew the worm drive clips securing the convoluted rubber filler hose to the filler box and tank filler connections. Detach the convoluted hose from the fuel tank and blank off both open ends of the connection.
9. From under the car unscrew the adapter(s) securing the fuel pipe(s) to the fuel tank; blank off the open ends of the connection.
10. From inside the luggage compartment, unscrew the $\frac{1}{4}$ in. A/F setscrews situated around the fuel tank.

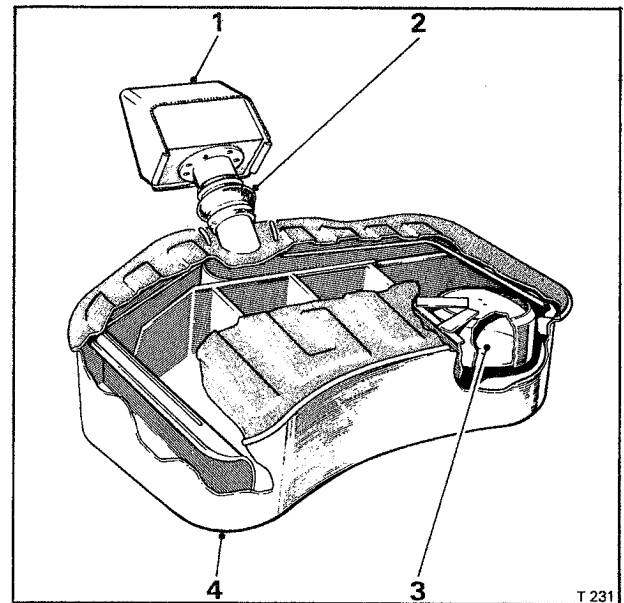


Fig. K2 Fuel tank assembly (Other than U.S.A. and Canada)

- 1 Filler box
- 2 Filler neck
- 3 Expansion tank and overfill limiter
- 4 Fuel tank

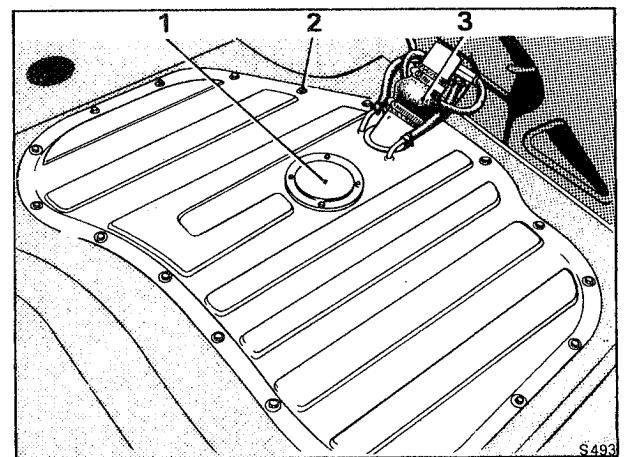


Fig. K3 Fuel tank installation

- 1 Float assembly cover
- 2 Fuel tank securing setscrews
- 3 Fuel filler assembly

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11. Carefully 'break' the seal between the fuel tank and the luggage compartment.

12. Withdraw the fuel tank by lifting it out through the luggage compartment.

Fuel tank - To fit

Fit the fuel tank assembly by reversing the procedure given for removal, noting the following points.

1. Apply a sealant such as Glasticon to the luggage compartment floor around the area of the fuel tank securing setscrew holes (this area is used for seating the lip of the fuel tank).

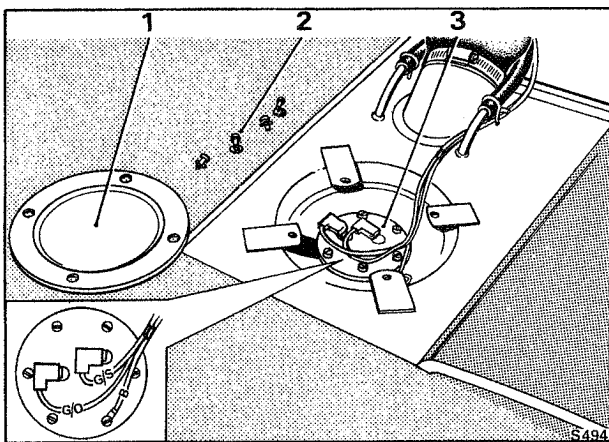


Fig. K4 Float assembly

- 1 Cover
- 2 Cover securing screws
- 3 Float assembly

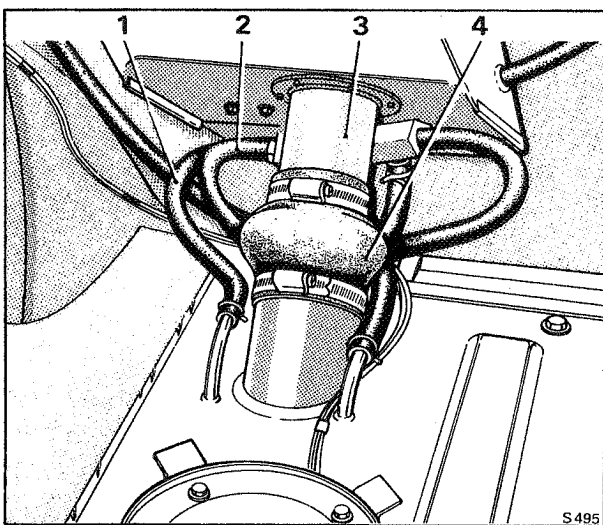


Fig. K5 Fuel filler assembly

- 1 Vent - tank to junction block
- 2 Vent - filler to junction block
- 3 Metal filler pipe
- 4 Convoluted filler hose

2. Ensure that all rubber hoses are in a good condition.

3. Always fit new steel clips to retain the various vent hoses.

4. After fitting the fuel tank, ensure that the adapter(s) securing the fuel pipe(s) does not leak when the fuel pumps are operating.

Fuel filler - To remove

1. Disconnect the battery and ensure that the necessary workshop safety precautions are carried out.

2. Remove the carpet and underlay in the luggage compartment.

3. Remove the tool kit.

4. Remove the fuel filler door release ring.

5. Unscrew the five Phillips headed screws from the side carpet; four secure the brackets retaining the tool kit and the fifth is positioned at the front of the side carpet.

6. Release the Tenax clip situated adjacent to the rear lamps access point.

7. Remove the side carpet and the carpet covering the fuel filler neck. The carpet panel covering the filler neck is retained by a setscrew at the top (accessible from within the fuel filler box) and a small screw at the rear (screws into the luggage compartment floor).

8. Using special pliers (RH 8090) remove the steel clips from the rubber hoses. Withdraw the hoses from their respective pipes.

9. From inside the luggage compartment unscrew and remove the metal connection for the vent hose situated half-way up the metal filler pipe.

10. Unscrew the worm drive clips securing the convoluted rubber hose.

11. From inside the filler box remove the screws securing the filler assembly to the body.

12. Withdraw the metal filler assembly.

Fuel filler - To fit

Fit the fuel filler by reversing the procedure given for removal, noting the following.

1. Fit new gaskets if necessary.

Cars destined for the U.S.A. and Canada

The fuel tank is fitted at the forward end of the luggage compartment behind the carpet covered sealing panel (see Fig. K6).

A small expansion tank of approximately 3,12 litres (5.5 Imp. pt. - 6.7 U.S. pints) capacity is situated within the main fuel tank to inhibit complete filling and thereby, provide fuel expansion volume to cope with extreme temperature conditions.

When the car is being filled with fuel, the main fuel tank (without an expansion tank) could normally be completely filled, leaving only the filler neck and vent connector pipes to accommodate the expansion of the fuel. An expansion tank is therefore situated in the upper part of the main fuel tank and as the fuel level rises above the lower part of the

expansion tank it flows inside through two small holes in the base. Two additional holes in the top of the expansion tank allow air to escape.

Fuel tank - To remove

1. Disconnect the battery.
 2. Either drain or siphon the fuel from the tank.
 3. Unscrew the four Pozidriv screws situated across the carpet covered sealing panel. Remove the screws and collect the washers.
 4. Withdraw the panel to reveal the fuel tank assembly.
 5. Unscrew the worm drive clip securing the rollover valve assembly to the crossmember. Detach the rollover valve from the crossmember.
 6. Remove the crossmember (see Figs. K7 and K8); this is secured by a $\frac{7}{16}$ in. A/F nut, bolt and washer to the bottom of each luggage compartment lid hinge assembly.
 7. Disconnect the three electrical cables from the fuel tank level gauge (see Fig. K8).
 8. Remove the tape from the electrical loom by peeling it back from the fuel tank. Tape the electrical loom away from the vicinity of the fuel tank.
 9. Unscrew the worm drive clips securing the three rubber vent hoses to their respective connections on the fuel tank (see Fig. K9); withdraw the hoses.
 10. Unscrew the worm drive clip securing the rubber filler neck hose to the fuel tank (see Fig. K8); withdraw the hose.
- Blank off the fuel tank connection.
11. From beneath the car, unscrew and detach the fuel pipes. Each connection is an olive and threaded union. Label the pipes to facilitate assembly.

Blank off the fuel tank connections.

12. Unlock and unscrew the half-nut from each of the two tank retaining strap bolts (see Fig. K9).
13. Unscrew the full nut from each of the two tank retaining strap bolts (see Fig. K9).
14. Withdraw the bolts, and collect the four bridge pieces from the ends of the straps.
15. Unscrew and remove the two floor mounted fuel tank straps.
16. Carefully withdraw the fuel tank assembly. If difficulties are encountered, proceed as follows.
17. Suitably position four wooden wedges along the base of the fuel tank.
18. Drive the wedges between the bottom of the fuel tank and the luggage compartment floor. Ensure that the wedges do not exert too much force otherwise damage to the fuel tank may result.

The fuel tank may not become free instantaneously as separation may be a gradual process. Therefore, the wedges should be left in position for a period of time.

19. After a while carry out an examination and check if the fuel tank can be withdrawn. If not, check if the wedges have become loose and if so, drive them in again to maintain the separating force.

Leave the wedges in position for a further period

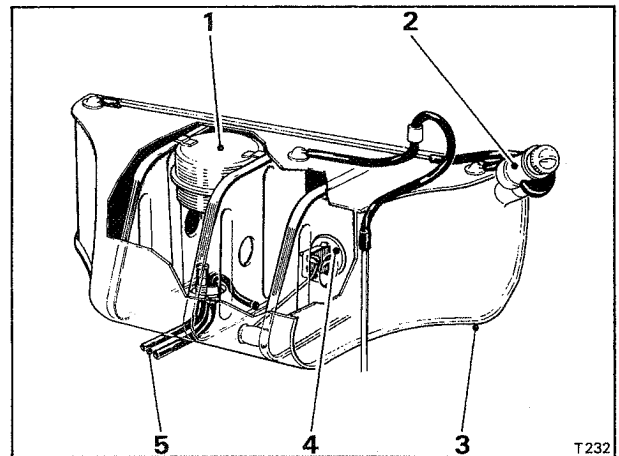


Fig. K6 Fuel tank assembly (U.S.A. and Canada)

- 1 Expansion tank and overfill limiter
- 2 Filler neck
- 3 Fuel tank
- 4 Float assembly
- 5 Fuel lines

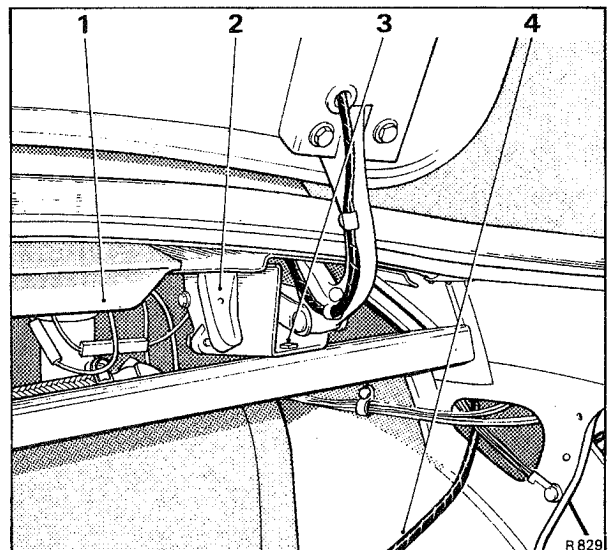


Fig. K7 Luggage compartment lid hinge assembly

- 1 Interior ventilation duct
- 2 Hinge assembly
- 3 Crossmember retaining bolt
- 4 Gauge unit loom

of time.

20. Continue to repeat the exercise until separation takes place and the fuel tank can be withdrawn.
21. A shaped wooden block with a Compriband strip attached lies behind the tank and may be attached when the tank is removed; ensure that this block and Compriband are replaced behind the rear seat panel.

Fuel tank - To fit

1. Clean the forward end of the luggage compartment.

If blanking plugs, nuts, washers etc., remain in

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this area when the fuel tank is fitted, they could become the cause of noise which may prove difficult to eradicate once the fuel tank is in position.

Also, ensure that the battery is disconnected and the necessary standard workshop precautions carried out.

2. Ensure that the self-tapping screws that secure the pipe retaining clips beneath the car do not protrude too far into the luggage compartment. Extra long screws could puncture the fuel tank.
3. Position the strips of Compriband in position.

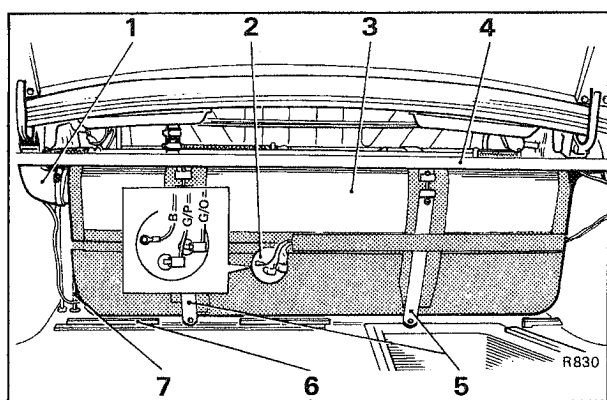


Fig. K8 Fuel tank fittings

- 1 Fuel filler hose
- 2 Gauge unit
- 3 Soundproofing panel
- 4 Crossmember
- 5 Securing straps
- 6 Carpet runner slots
- 7 Metal pipe (to evaporative loss control canister)

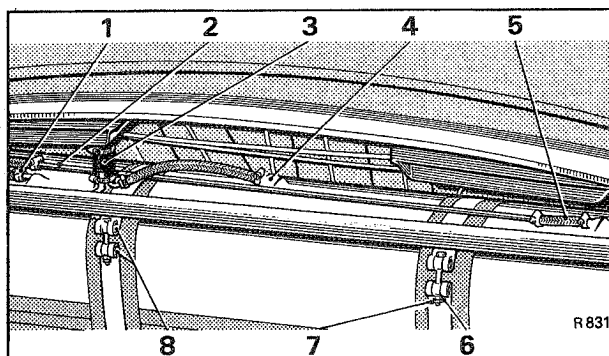


Fig. K9 Fuel tank vent connections

- 1 Vent - filler neck
- 2 Fuel tank vent metal pipe
- 3 Rollover valve
- 4 Vent - rollover valve
- 5 Vent - filler neck
- 6 Full nut
- 7 Half-nut (lock-nut)
- 8 Bridge pieces

Also fit the Compriband pad around the hole in the luggage compartment floor.

The Compriband and the two rubber blocks should be secured in position using an appropriate adhesive such as Dunlop S81. The two rubber blocks fit approximately 5,08 cm. (2.0 in.) above the luggage compartment floor on the panel dividing the compartment from the car interior.

The position of all mounting strips are shown in Figure K10.

4. Fit the four fuel tank securing straps to the body (see Fig. K10). The two upper mountings are similar and are shown in Figure K10 - Inset A. The two lower mountings are different, the left-hand mounting is shown in Figure K10 - Inset B, where the bolt passes through the body and is retained by a nut. The right-hand mount is shown in Figure K10 - Inset C, where the bolt has a distance piece (if fitted) and screws directly into a threaded bush attached to the body.

5. Fit the 4,8 mm. ($\frac{3}{16}$ in.) internal diameter rubber hose to the metal pipe situated on the left-hand side of the luggage compartment. This pipe is situated adjacent to the panel dividing the luggage compartment from the car interior (see Fig. K8).

Temporarily attach the open end of the rubber hose high in the luggage compartment so that it will be above the fuel tank.

6. Fit the sound proofing panel to the fuel tank and secure in position with tape (see Fig. K8). In addition, fit two pieces of tape around the fuel tank so that the securing straps will sit on the tape when the tank is secured in position (see Fig. K8).

7. Bend the securing straps to enable the fuel tank to be fitted.

8. Fit the fuel tank into position, ensuring that the boss on the base of the tank fits into the hole in the luggage compartment floor.

9. Secure the fuel tank in position as follows (see Fig. K8).

10. Fit a bridge piece to the end of each securing strap and secure the fuel tank in position by fitting a long $\frac{1}{8}$ in. A/F bolt, downwards, through the upper and lower securing strap bridge pieces. Screw a full nut on to the bolt.

11. Repeat Operation 10 to the second set of securing straps.

12. Tighten the full nut of each set of securing straps and lock in position by fitting an additional half-nut to each of the two bolts.

13. From beneath the car fit the fuel pipes to the fuel tank, each connection is provided by an olive and a threaded union.

14. Fit the rubber intake pipe to the fuel tank neck and secure the end of the hose with a worm drive clip.

15. Fit the two 8,0 mm. ($\frac{5}{16}$ in.) internal diameter rubber hoses of the fuel intake assembly to the fuel tank vents. One hose connects directly to the vent; the second hose connects to the vent on the other side of the fuel tank via a metal pipe which is fitted across the top of the tank (see Fig. K9).

Secure the ends of the hoses with worm drive clips.

16. Fit the open end of the 4,8 mm. ($\frac{3}{16}$ in.) diameter hose referred to in Operation 5 to the top of the rollover valve assembly. Fit an 8,0 mm. ($\frac{5}{16}$ in.) internal diameter hose between the centre vent in the top of the fuel tank and the bottom connection of the rollover valve (see Fig. K9).

Secure the ends of the hose with worm drive clips.

17. Fit the crossmember (see Fig. K8), attaching it to the bottom bracket of each of the two luggage compartment lid hinge assemblies with a $\frac{7}{16}$ in. A/F bolt, washer and nut (see Fig. K7).

18. Locate the fuel gauge sender unit electrical loom situated above the right-hand rear wheel arch. There are three cables in the loom and these are coloured black, green/orange and green/purple.

Tap the cables across the fuel tank until they are adjacent to the fuel gauge sender unit, as shown in Figure K8.

19. Connect the cables to the fuel gauge sender unit as shown in the inset of Figure K8.

20. Locate the base of the carpet covered panel into the wooden runner slots (see Fig. K8) and secure the top of the panel with four Pozidriv screws and washers to the crossmember.

21. Connect the battery.

Fuel filler - To remove (All cars except Corniche Convertible)

1. Disconnect the battery.
2. Unscrew and remove the four Pozidriv screws situated across the carpet covered sealing panel at the forward end of the luggage compartment.
3. Withdraw the carpet covered sealing panel to reveal the fuel tank assembly.
4. Unscrew the worm drive clips securing the two 8,0 mm. ($\frac{5}{16}$ in.) internal diameter rubber hoses to the two outer vents on the top of the fuel tank and withdraw the hoses. One hose fits directly on to a vent while the other fits to a metal pipe which extends across the width of the fuel tank.
5. Unscrew the worm drive clip securing the fuel inlet hose to the fuel tank; withdraw the hose and blank off the fuel tank inlet.
6. From inside the car remove the trim panel that covers the filler assembly, this is situated adjacent to the rear window.

On all cars except the Silver Wraith fitted with a small rear window unscrew the two screws from the wooden finisher fitted around the rear window. Carefully withdraw the trim panel to reveal the upper connection for the fuel filler.

7. Unscrew the worm drive clip securing the fuel filler hose to the fuel filler head. Withdraw the fuel filler neck assembly downwards into the luggage compartment.
8. Open the fuel filler flap. Unscrew and remove the fuel filler cap.
9. Using a screwdriver, unscrew and remove the six screws securing the fuel filler head to the body,

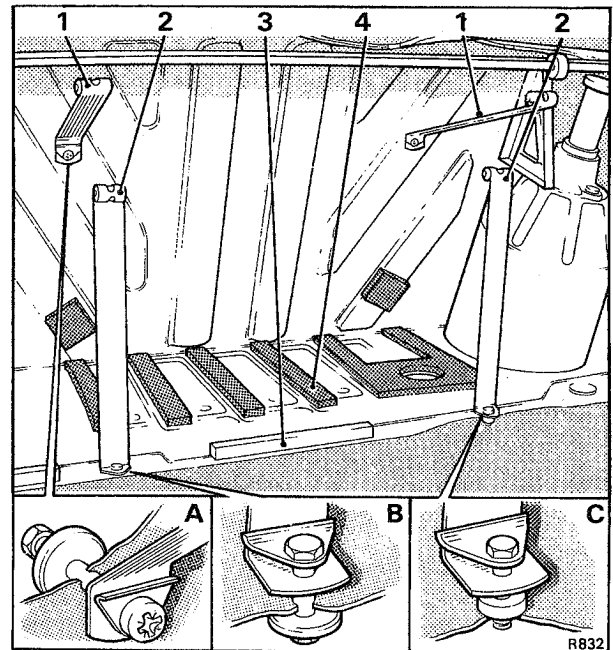


Fig. K10 Luggage compartment - Fuel tank fittings

- 1 Upper securing straps
- 2 Lower securing straps
- 3 Carpet runner slots
- 4 Compriband rubber

collect the washers from the retaining screws and withdraw the fuel filler head assembly.

Fuel filler - To fit (All cars except Corniche Convertible)

Fit the fuel filler assembly by reversing the procedure given for removal, noting the following.

1. When fitting the fuel filler head to the body ensure that the restrictor is in its lowest position.

Fuel filler - To remove (Corniche Convertible)

1. Remove the carpet covered sealing panel from the forward end of the luggage compartment.
2. Disconnect the two rubber hoses from the outer vents on top of the fuel tank.
3. Unscrew the upper and lower worm drive clips from the fuel filler neck assembly, withdraw the assembly and blank off the fuel tank.
4. Open the fuel filler flap. Unscrew and remove the fuel filler cap.
5. Using a screwdriver, unscrew and remove the six screws securing the fuel filler head to the body, collect the washers from beneath the heads of the screws. Withdraw the assembly.

Fuel filler - To fit (Corniche Convertible)

Fit the fuel filler assembly by reversing the procedure given for removal.