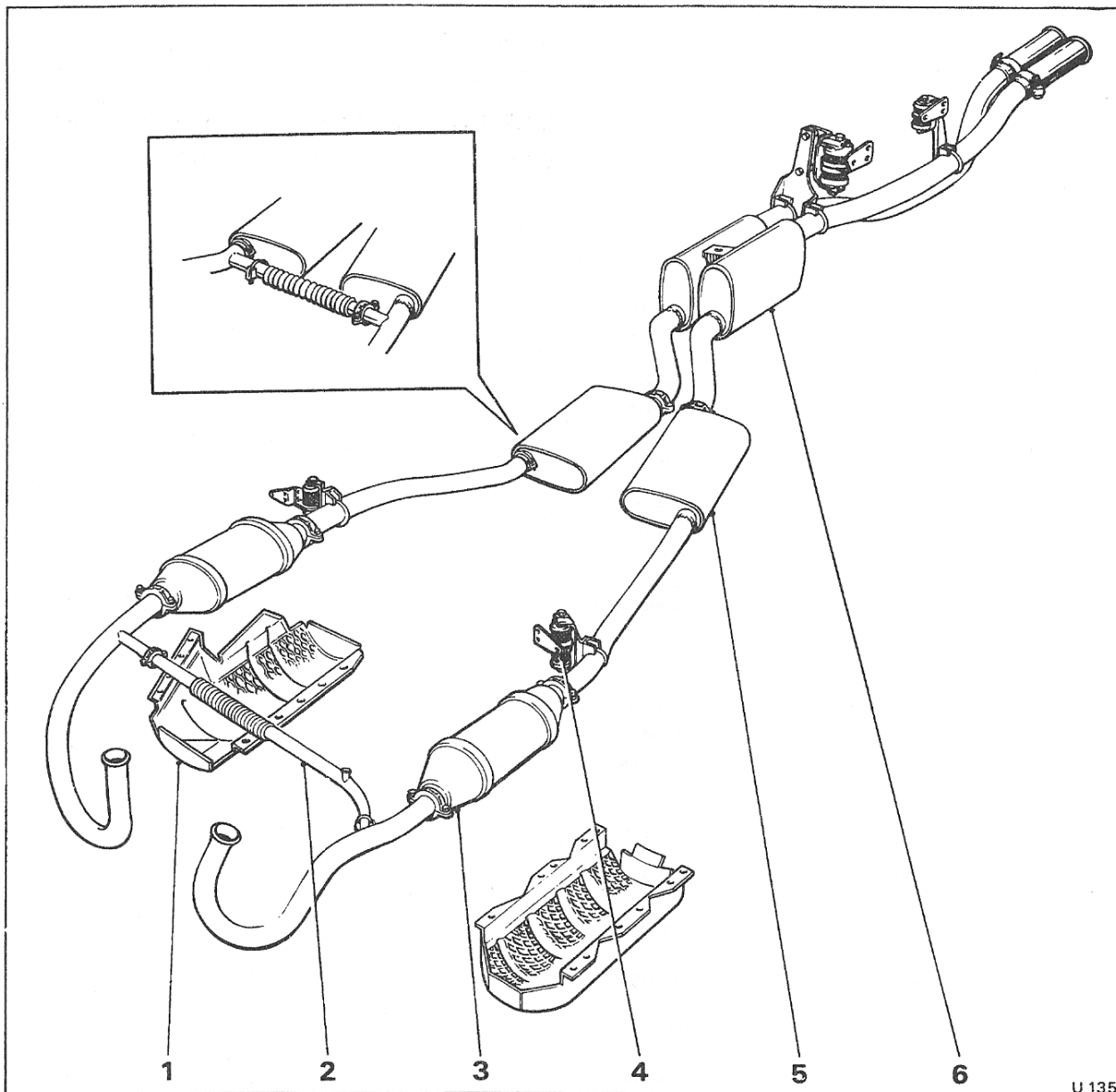


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**Fig. Q7 Exhaust system and grass-fire shields**  
(cars destined for U.S.A. and Canada)

- 1 Grass-fire shield
- 2 EGR balance pipe
- 3 'B' bank catalytic converter
- 4 Vibrashock mount

- 5 Intermediate silencer
- 6 Rear silencer

Inset Intermediate balance pipe fitted prior to 1979 model year cars

**Note**

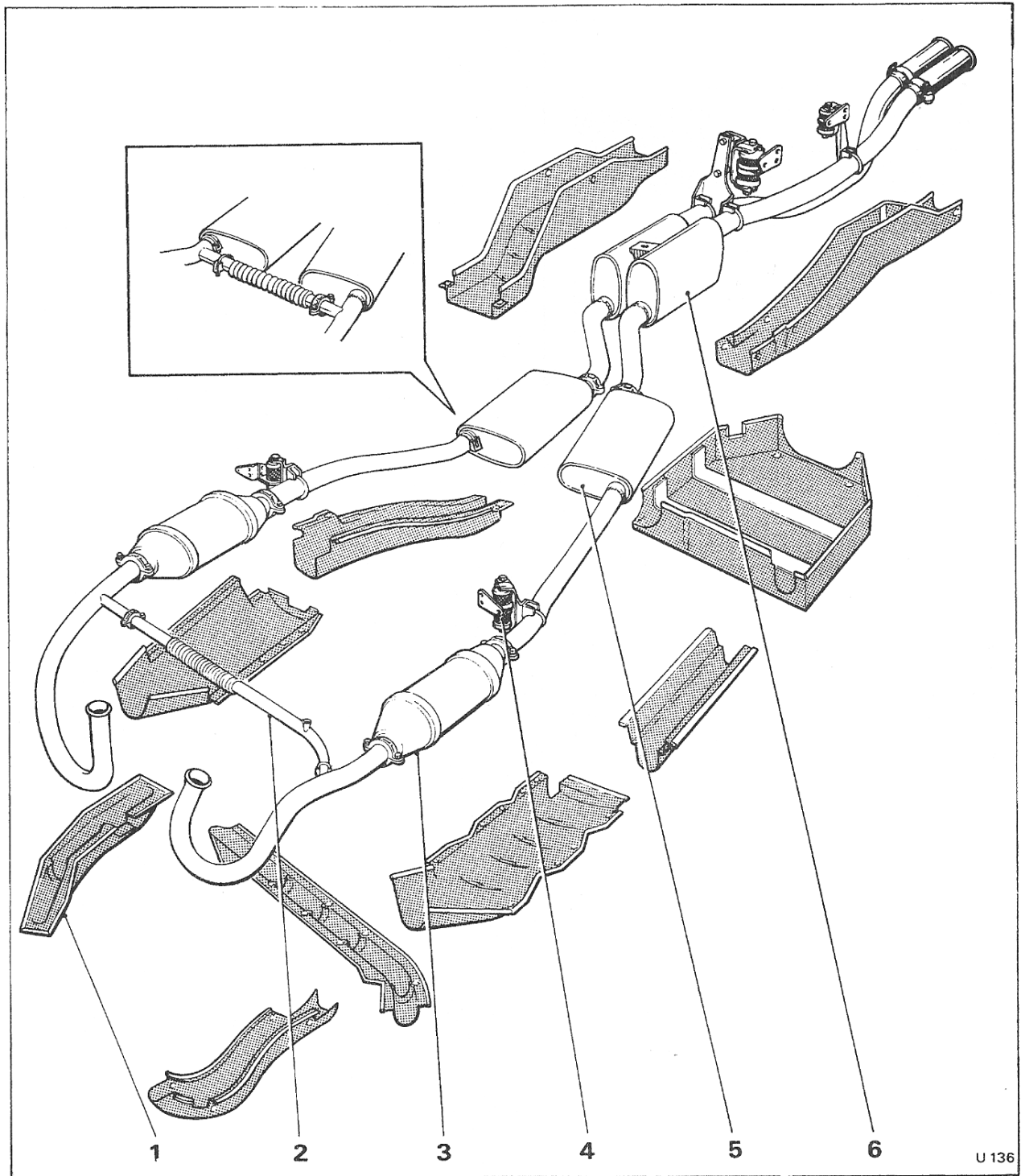
Do not overtighten the 'U' clamps across the sliding joints as this could 'crimp' the inner and outer tubes together, causing difficulty when dismantling.

7. When fitting the chrome plated tailpipe finishers, ensure the end faces of the outlets are in line and level.
8. Figure Q9 gives the nominal distance from the end of the tailpipes to the outer edge of the rear bumper rubber.

9. The resilient metal exhaust mounts must be set approximately 6,35 mm. (0.25 in.) forward before tightening the 'U' clamp around the exhaust pipe (see Fig. Q6). This offset is to allow for expansion of the system.

**Exhaust pipes and silencers — To inspect**

Inspection should include an investigation to ensure that misalignment has not caused the exhaust system to foul on the sub-frames, suspension, body, transmission or



**Fig. Q8 Exhaust system and grass-fire shields**  
(cars destined for Japan)

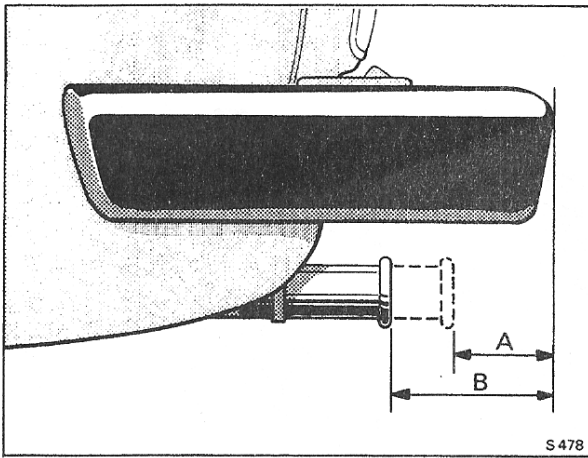
- 1 Grass-fire shield
- 2 EGR balance pipe
- 3 'B' bank catalytic converter
- 4 Vibrashock mount

- 5 Intermediate silencer
- 6 Rear silencer

**Inset** Intermediate balance pipe fitted prior to 1979 model year cars

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**Fig. Q9 Tailpipes – nominal setting**  
(cars destined for U.S.A. and Canada)  
A Rolls-Royce Camargue 65mm. (2.7in.)  
B All other models 98mm. (4.0in.)  
  
(cars destined for Japan)  
A Rolls-Royce Camargue 30mm. (1.2in.)  
B All other models 63mm. (2.5in.)

engine components with resultant damage to any of these parts.

Inspect each resilient metal mount assembly to ensure that the spring mounts are working efficiently, with the fixing brackets rigidly attached to the underneath of the car body.

## Section Q4

## Exhaust pipes, silencers and grass-fire shields

Corniche and Camargue cars from car serial number 50001

### Introduction

The pipes and silencers form a six box twin exhaust system, with a separate tailpipe protruding from the rear of the car on each side (see Fig. Q10).

Cars conforming to the North American emission control regulations have grass-fire shields fitted beneath the catalytic converters only.

Cars produced to the Japanese emission control regulations are fitted with grass-fire shields fitted beneath all exhaust pipework.

### Grass-fire shields — To remove and fit

1. On cars destined for Japan, detach the rear shields, the shields covering the intermediate silencers and the shields covering the catalytic converters.
2. Remove the remaining shields, detaching those covering the downtake pipes before the EGR balance pipe shield.
3. On cars destined for U.S.A. and Canada, remove the shields fitted beneath the catalytic converters.
4. Check that the shields are in good condition and no breaks or cracks have occurred in the mesh.

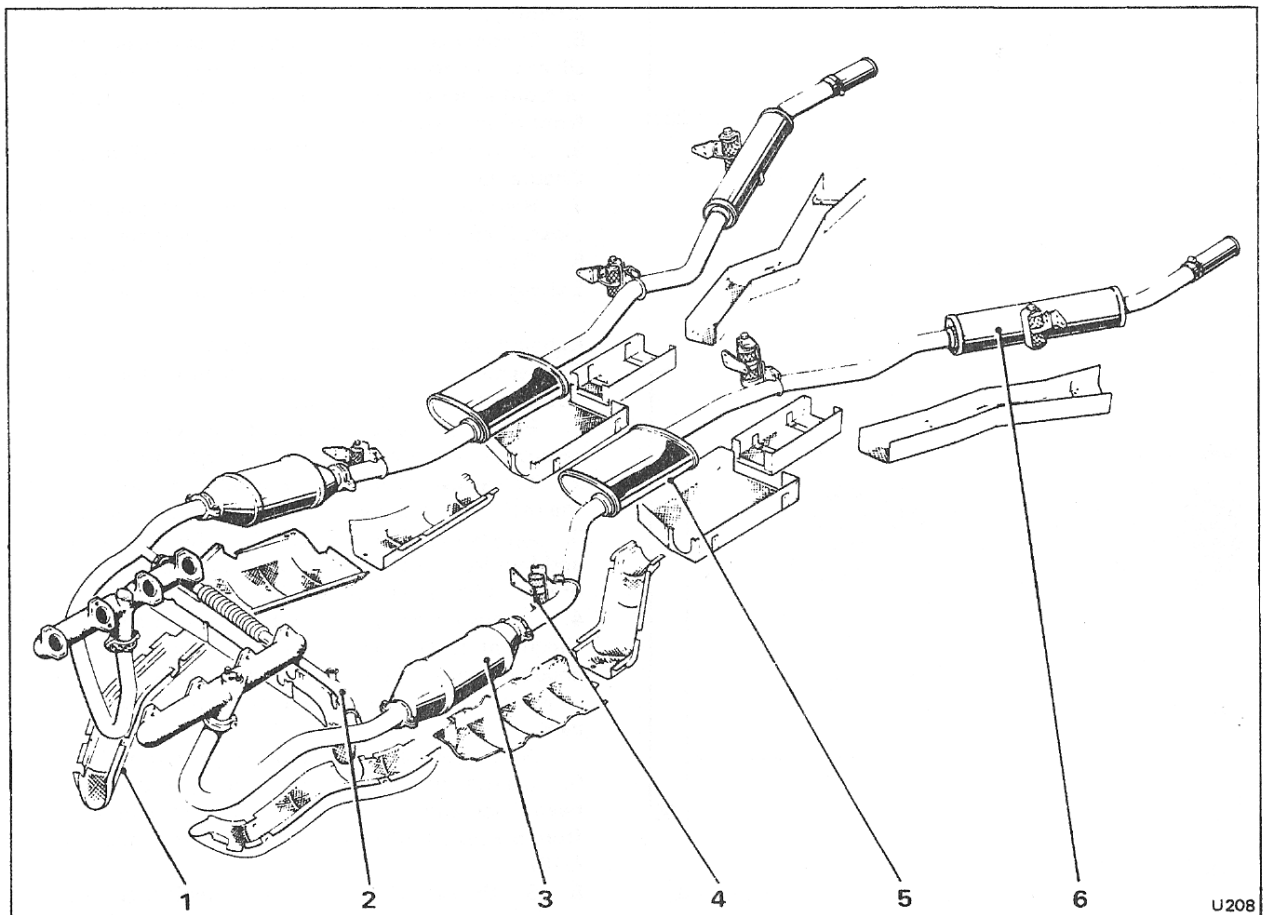


Fig. Q10 Exhaust system and grass-fire shields

(Corniche and Camargue cars from car serial number 50001)

- |                                      |                         |
|--------------------------------------|-------------------------|
| 1 Grass-fire shield                  | 4 Vibrashock mount      |
| 2 Front balance/EGR balance pipe     | 5 Intermediate silencer |
| 3 Front silencer/Catalytic converter | 6 Rear silencer         |

## Q4 - 2

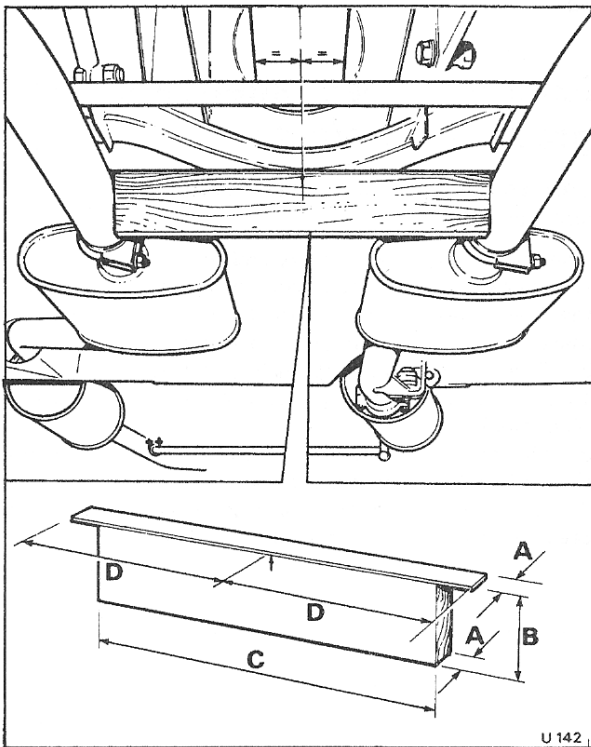


Fig. Q11 Intermediate silencers setting template

- A 13mm. (0.5in.)
- B 76mm. (3.0in.)
- C 346mm. (13.6in.)
- D 215mm. (8.45in.)

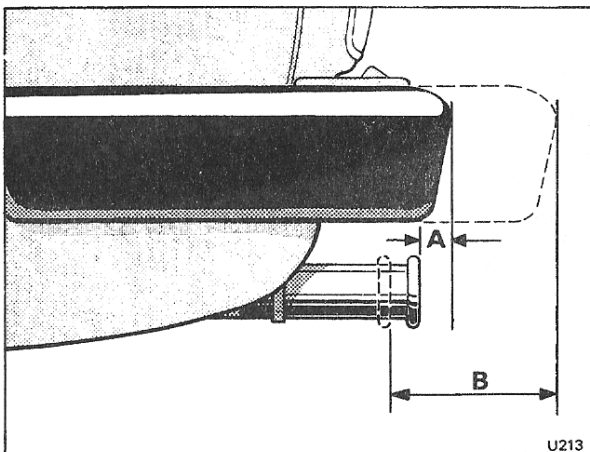


Fig. Q12 Tailpipe — nominal setting

(cars destined for countries other than U.S.A. and Canada)

- A Corniche 15mm. (0.6in.)
- Camargue 11mm. (0.5in.)

(cars destined for U.S.A. and Canada)

- B Corniche 80mm. (3.2in.)
- Camargue 75mm. (3.0in.)

If damage has occurred, the shield must be discarded and a new shield fitted.

5. Replace the shields by reversing the procedure for removal.
6. On cars built to the Japanese specification ensure a minimum of 5 mm. (0.20 in.) is maintained between the grass-fire shields and the exhaust system.

**Exhaust pipes and silencers — To remove**

1. Drive the car onto a ramp, chock the rear wheels and remove the gear range selector thermal cut-out.
2. Raise the ramp.
3. Detach each rear silencer and pipework at the sliding joint situated behind the intermediate silencer and the resilient metal mounts attached to the body under-frame (see Fig. Q10). Twist the pipe at the joint to break the seal and withdraw the rear section of the exhaust system.
4. To detach an intermediate silencer, release the spherical joint at the rear of the catalytic converter/front silencer. Support the weight of the intermediate silencer assembly and detach the bracket supporting the pipework at the crossmember. Withdraw the silencer and pipework assembly.
5. Support the weight of catalytic converter/front silencer. Remove the catalytic converter (see Chapter U) or front silencer (detach the spherical joint situated in front of the assembly).
6. Detach the vertical EGR pipe (if fitted) refer to Chapter U.
7. Remove the balance pipe fitted across the downtake pipes. Collect the sealing ring from the spherical joint.
8. Remove the downtake pipes, refer to Section Q1, Exhaust manifolds — To remove, Operations 1 and 2.

**Exhaust pipes and silencers — To fit**

To assemble, reverse the procedure given for removal, noting the following points.

1. Ensure that all sliding joints are a good fit in their respective stub pipes to allow for adjustment.
2. The arrow stamped on each silencer must point to the rear when the box is assembled into the system.
3. All sealing rings and pipes must be thoroughly clean and free from scale. If necessary, these can be lightly dressed with fine emery cloth.
4. To ensure free movement of the joints for correct alignment of the components when assembling, the angular faces of the sealing rings and grooves in the spherical clamps should be smeared with a graphite lubricant.

All threads should be oiled to prevent binding.

5. Do not fully tighten any joints until the system has been fitted and manoeuvred to obtain the best run (free from possible fouls) with good joint alignment (see Fig. Q10).
  6. Set the pipes behind the intermediate silencers equidistant about the centre line of the car. Use a wooden block (see Fig. Q11) fitted between the stub pipes of the intermediate silencers. Align a central mark on the block to the mid-point of the transmission tunnel.
- Ensure that the tailpipe finishers lie in the centre of each rear body moulding.
7. When the pipe runs are satisfactory, apply a sealant

such as Holts Firegum, into the ends of all straight tube joints especially covering the slits down the sides of the silencer stub pipes.

8. The resilient metal mounts must be set approximately 6,35 mm. (0.250 in.) forward before tightening the 'U' clamp around the exhaust pipe. This offset is to allow for expansion of the system.

9. Finally, set the tailpipe finishers referring to Figure Q12 for the nominal distance from the end of the finishers to the outer edge of the rear bumper.

#### **Exhaust pipes and silencers — To inspect**

Inspection should include an investigation to ensure that misalignment has not caused the exhaust system to foul on the sub-frame, suspension, body, transmission or engine components with resultant damage to any of these parts.

Inspect each resilient metal mount assembly to ensure that the spring mounts are working efficiently and are rigidly attached to the underneath of the body.

## Section Q5

## Exhaust pipes, silencers and grass-fire shield

Cars built to the Californian 1980 Model year specification (Fuel injection system)

### Introduction

The exhaust system is basically a dual pipe system that utilises a single three-way catalytic converter (see Fig. Q13).

Exhaust gases are discharged into an exhaust manifold fitted one on either side of the engine. From the central take-off on each manifold the exhaust gases pass downwards via the downtake pipes.

'A' bank down-take pipe passes under the engine to combine with the 'B' bank down-take pipe just prior to the catalytic converter. After the catalytic converter the exhaust system reverts back to a dual system with twin intermediate and rear silencers.

The front half of the exhaust system is identical on all models produced to this specification, however, minor changes are incorporated in the rear half to allow for the different suspension fitted to coach-built cars.

A proportion of the exhaust gas is taken from a connection on the top of 'B' bank exhaust manifold and recirculated through a vacuum operated metering valve into the plenum chamber for induction into the engine.

For details of the exhaust gas recirculation system and the catalytic converter, refer to the appropriate section of Chapter U, Emission control systems.

### Exhaust pipes, silencers and grass-fire shield - To remove (see Fig. Q13)

The exhaust system comprises a number of individual sections. The sections can be removed and replaced without the necessity of having to disturb the complete system on each occasion.

1. Drive the car onto a ramp.
2. Ensure that the normal workshop safety precautions are carried out.
3. Raise the ramp.

#### Tailpipe finisher

4. Unscrew the clamp bolt securing the tailpipe finisher and withdraw the finisher. Repeat the operation to the other tailpipe finisher. **On Corniche and Camargue cars** the finisher is retained by a worm drive clip.

#### Rear silencer assembly

5. Locate the exhaust system joint situated at the rear of the intermediate silencer assembly.
6. Unscrew the nuts from the pipe clamp and free the clamp.

7. Unscrew the two worm drive clips situated around the rear silencer and lift the clips out of the saddle brackets. **On Corniche and Camargue cars** unscrew the two setscrews retaining the rear silencer assembly to the mounting bracket.
8. Support the weight of the intermediate silencers.
9. Temporarily support the weight of the rear silencer assembly.
10. Locate the exhaust system mounting bracket adjacent to the road wheel drive-shaft. Unscrew the nut securing the exhaust to the mounting bracket, collect the washer and withdraw the bolt. Collect the washer fitted under the head of the bolt.
11. Twist the pipe to 'break' the joint seal and withdraw the rear silencer assembly. Collect the clamp bracket from the joint behind the intermediate silencer.
12. Repeat Operations 5 to 11 inclusive to the other rear silencer assembly.

#### Grass-fire shield

13. Remove the screws situated around the edge of the grass-fire shield and carefully withdraw the shield (the edges may be sharp therefore handle with caution to avoid possible injury).

#### Intermediate silencers assembly

14. Support the weight of the catalytic converter.
15. Unscrew the setscrew from the bottom of the exhaust mounting situated forward of the exhaust system junction.
16. Unscrew the two nuts and collect the washers from the spherical clamp situated at the rear of the catalytic converter. Free the joint and collect the two halves of the clamp together with the bolts.
17. Withdraw the intermediate silencers assembly and collect the sealing ring from the joint at the rear of the catalytic converter.

Label the sealing ring for identification purposes.

#### Catalytic converter

Full details for removing the catalytic converter are given in the appropriate section of Chapter U. However, if the complete exhaust system is to be removed the converter should be withdrawn at this stage of the procedure after dismantling the joint in front of the assembly as follows.

18. Unscrew the three nuts situated around the exhaust joint in front of the catalytic converter. Collect the washers and withdraw the three bolts.
19. Free the joint, withdraw the catalytic converter and collect the sealing ring.

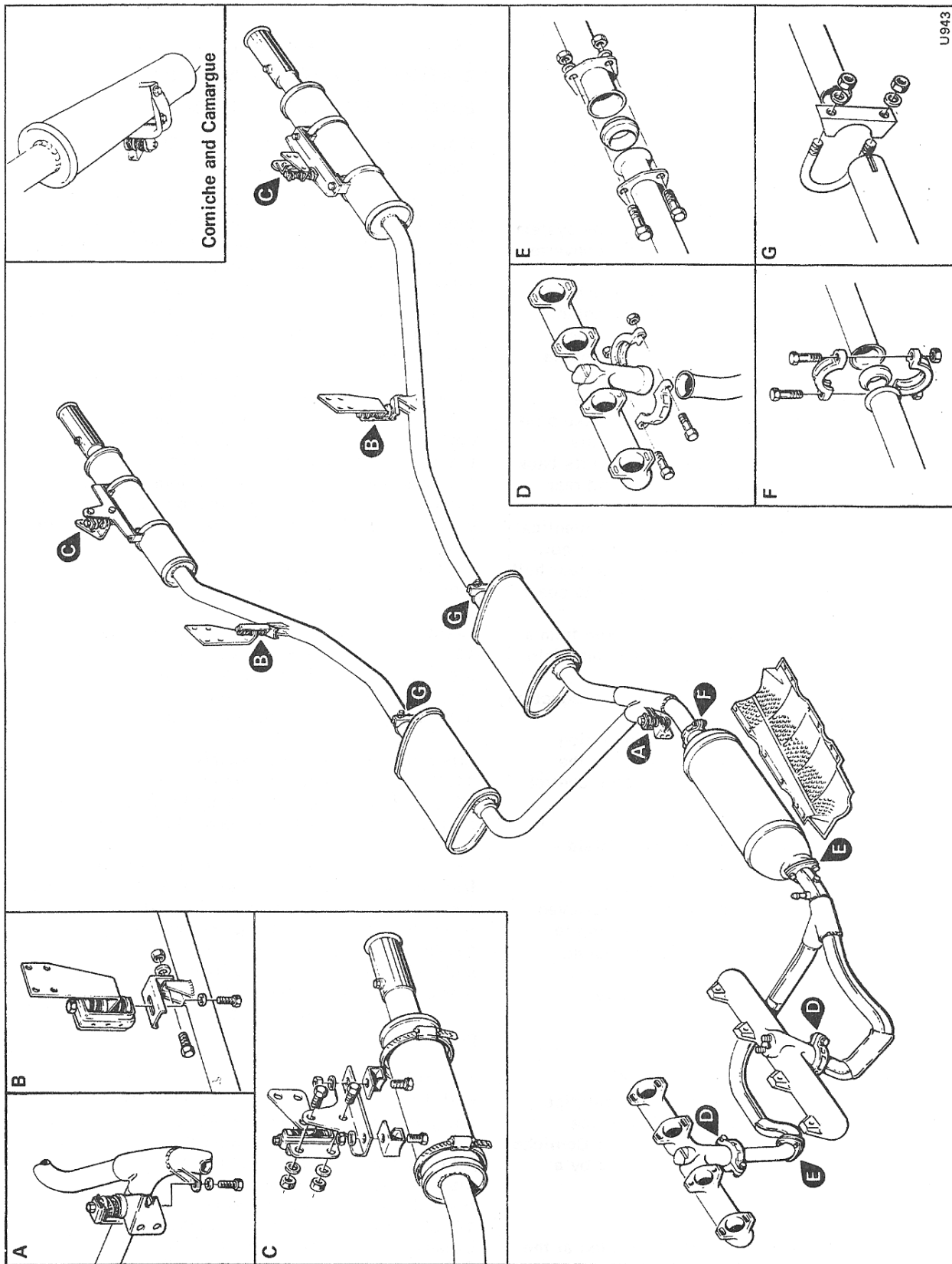


Fig. Q13 Exhaust pipes, silencers and grass-fire shield

Label the sealing ring for identification purposes.

#### 'Lagged' downtake pipes assembly

20. Support the weight of the downtake pipes assembly.

21. Locate the lower downtake pipe joint on 'A' bank side of the engine (adjacent to the oil level indicator fitted into the side of the sump).

22. Unscrew the three nuts situated around the joint. Collect the washers and withdraw the three bolts. Free the joint.

23. Locate the spherical clamp at the downtake pipe to exhaust manifold joint on 'B' bank side of the engine.

24. Unscrew the two nuts and collect the washers from the spherical clamp, free the joint and collect the two halves of the clamp.

25. Withdraw the 'lagged' downtake pipes assembly and collect the sealing ring from the lower joint on 'A' bank side.

Label the sealing ring for identification purposes.

26. Unscrew the two nuts from the spherical joint connecting the short downtake pipe on 'A' bank side of engine to the exhaust manifold. Collect the washers and withdraw the bolts. Free the joint and withdraw the short downtake pipe.

27. Remove the exhaust manifolds as described in Section Q1, Exhaust manifold, noting that the choke stove pipes mentioned in Operation 3, are replaced by the EGR feed pipe.

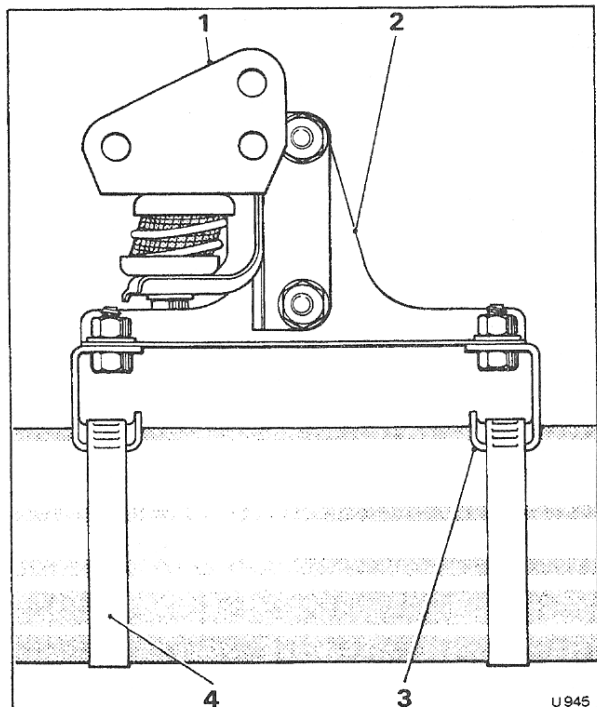


Fig. Q14 Rear silencer mounting bracket

- 1 Mount bracket
- 2 Hanger bracket
- 3 Saddle bracket
- 4 Worm drive clip

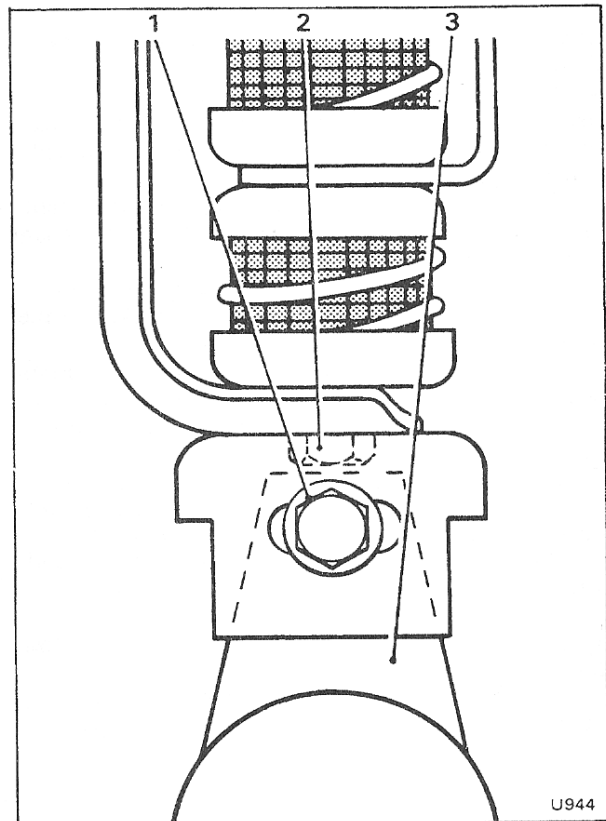


Fig. Q15 Intermediate mount

- 1 Nut
- 2 Setscrew
- 3 Triangular bracket

**Exhaust pipes, silencers and grass-fire shield - To fit**  
To assemble, reverse the procedure given for removal, noting the following points.

1. Ensure that the sliding joints are a good fit in their respective stub pipes to allow for adjustment.
2. All sealing rings and pipes must be thoroughly clean and free from scale. If necessary, these can be lightly dressed with fine emery cloth.
3. To ensure free movement of the joints for correct alignment of the components when assembling, the sealing rings, pipe flares and grooves in the spherical joint clamps should be lightly smeared with either graphite lubricant or 'Neverseez' assembly compound.

**Do not allow the assembly compound to enter the exhaust system, particularly upstream (in front) of the catalytic converter, otherwise damage to the converter assembly will result.**

4. Apply 'Neverseez' compound to the clamp bolt threads before assembly.
5. The parts should be loosely assembled and then manoeuvred to give the best alignment (free from possible fouls), before the joints are tightened.
6. When the pipe runs are satisfactory, apply a sealant such as Holts Firegum, into the ends of all

## Q5 - 4

straight tube joints especially covering the slits down the sides of the silencer stub pipes.

**7. On Silver Shadow II, Silver Wraith II and Bentley T2 cars** assemble each rear silencer bracket as shown in Figure Q14. Fit the rear silencers and exhaust pipes.

Tighten the setscrew on the intermediate mount (see Fig. Q15) but leave the nut fastening the mount to the exhaust, finger tight.

Tighten the worm drive clips around the rear silencer, ensuring that the triangular bracket on the intermediate mount remains vertical.

Pre-load the intermediate resilient metal mounts and tighten the nut fastening the mount to the exhaust. Ensure that the triangle bracket remains vertical.

Ensure that there is at least 13 mm.(0.512 in.) clearance between the rear silencer and the spare wheel carrier (left-hand side) and the cubby box (right-hand side). Also ensure that the tailpipe and silencers do not foul the rear skirt of the body.

**8.** The resilient metal mounts must be set approximately 6,35 mm. (0.250 in.) forward to allow for expansion of the system.

**9.** Finally, set the tailpipe finishers 8,63 cm. (3.400 in.) in from the outer edge of the bumper.