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CHAPTER Q

THE EXHAUST SYSTEM

SECTION Q1 — DESCRIPTION

On early S2 cars, Long Wheelbase S1 and all Bentley Continental S1 and S2 cars, the exhaust system is of the fully acoustic type. **On all other S1 and S2 cars**, the exhaust system is semi-acoustic.

On all cars, the exhaust gases pass from the engine through two cast-iron manifolds and two downtake pipes to enter a single pipe through a welded breeches piece. **On S1 cars**, the downtake pipes are of $1\frac{7}{8}$ in. outside diameter and **on S2 cars**, they are of 2 in. outside diameter.

On later S2 cars, and in cases of complaint of exhaust pipe 'titter' **on early S2 cars**, a twenty inch length of lagging is fitted immediately forward of the breeches piece. This lagging reduces 'titter', which is a high frequency vibration amplified and transmitted by the exhaust pipe.

The single exhaust pipe from the breeches piece to the front silencer passes along the outside of the chassis frame and is of $2\frac{1}{2}$ in. outside diameter.

On cars fitted with a semi-acoustic system, the front silencer is of the non-acoustic type. In this silencer the exhaust gases flow through three concentric perforated tubes. The gases flow along the inlet tube to the rear compartment of the silencer, back inside the intermediate tube into the front compartment, then out of the silencer through the third tube. The silencer is almost rectangular in shape and its approximate external dimensions are $23\frac{1}{2}$ in. $\times$ 8 in. $\times$ 6 in.

On cars fitted with an acoustic front silencer, the exhaust gases flow through a single perforated tube approximately $15\frac{3}{4}$ in. in length. The silencer is cylindrical in shape and is $23\frac{1}{2}$ in. long and $5\frac{7}{8}$ in. in diameter.

The underside of the floor above the front silencer and exhaust pipe is protected against heat by an aluminium–asbestos shield.

The exhaust gases leave the outlet of the front silencer and pass through an intermediate pipe into the rear silencer.

On all cars, the outer surface of the front silencer is lagged with $\frac{1}{8}$ in. thick asbestos sheet enclosed within a welded aluminium casing; this is the only lagged silencer in the system.

On all cars, the rear silencer is of the acoustic type and is cylindrical in shape; it is fitted inside the frame, forward of the rear axle.

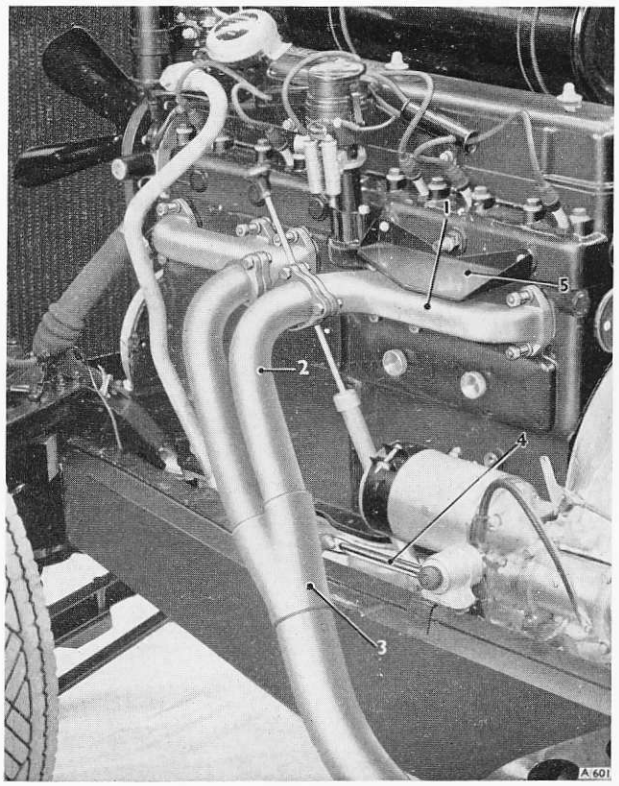

Fig. Q1 Exhaust manifolds and down pipes — S1 cars

1. MANIFOLD
2. DOWN PIPE
3. BREECHES PIECE
4. TUBULAR STAY
5. HEAT SHIELD

On S1 cars, the rear silencer is approximately 12 in. long and 8 in. in diameter.

On S2 cars, the rear silencer is approximately 22 in. long and $5\frac{1}{2}$ in. in diameter.

An aluminium–asbestos heat shield is also fitted below the floor of the rear compartment.

The exhaust gases finally pass from the rear silencer through a high frequency damper and out of the exhaust tail pipe. The damper is cylindrical in shape and is approximately $8\frac{1}{4}$ in. long and 4 in. in diameter. The damper consists of mineral wool packed around a perforated tube. **On S1 cars**, the damper contains 1 lb. 10 oz. of 'Stillite' wool and **on S2 cars,** the damper contains $7\frac{1}{2}$ oz. of 'Rocksil' wool.

The silencers and damper are 'stone clad' before assembly as a protection against condensation corrosion.

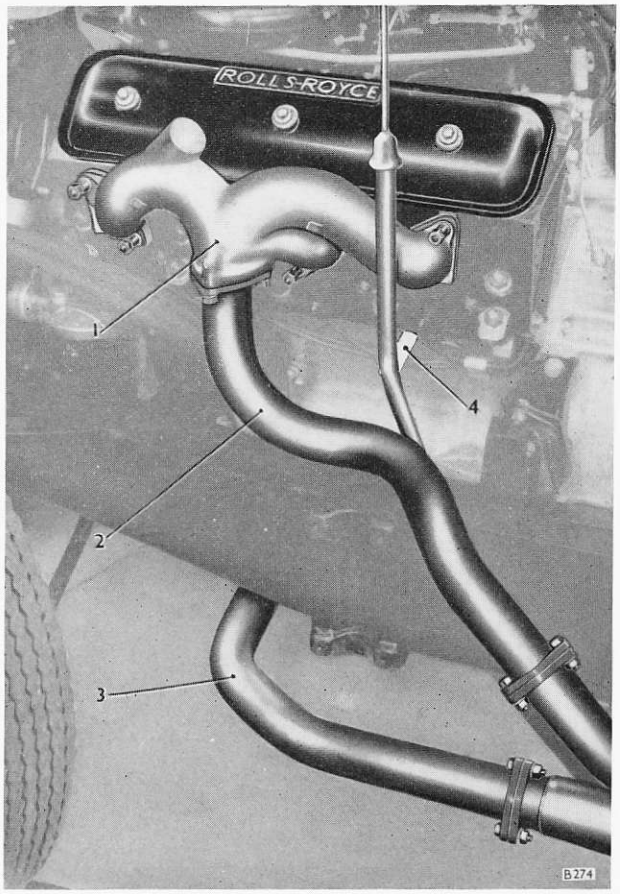

Fig. Q2 Exhaust manifold and down pipes — S2 cars

1. MANIFOLD
2. LEFT-HAND DOWN PIPE
3. RIGHT-HAND DOWN PIPE
4. DIPSTICK TUBE SUPPORT BRACKET

On all cars, the exhaust system is secured to the chassis in four places by moulded strips of rubberised material.

On the S1 exhaust system, a tubular strut $9\frac{3}{4}$ in. long (see Fig. Q1) is attached between a lug on the breeches piece and a lug on the crankcase. This strut reduces bending loads on the joints between the exhaust manifolds and breeches piece.

On the S2 exhaust system, the down pipe from the 'A' bank exhaust manifold, positioned on the right-hand side of the car, sweeps under the engine and is fastened to the rear engine mounting before joining the breeches piece on the outside of the chassis frame (see Fig. Q4).

On S1 cars, copper–asbestos joints are fitted between the exhaust manifolds and cylinder block and **on S2 cars**, between the exhaust manifolds and cylinder heads. The exhaust manifolds are secured by $\frac{5}{16}$ in. diameter extension nuts.

On all cars, cupro–nickel joints are fitted between all other joint faces in the exhaust system.

Earlier Phantom V cars are fitted with an exhaust system similar to the one fitted to S2 cars. The difference between the systems is in the greater length of the intermediate exhaust pipe which connects the front and rear silencers of Phantom V cars.

On later Phantom V cars and in cases of complaint of excessive heating of the floor of the rear compartments of earlier Phantom V cars, a modified exhaust system is fitted as shown in Figure Q5. The front silencer has a flanged outlet pipe. The intermediate pipe is a separate flanged pipe which passes through the chassis frame, i.e. through the rear left-hand cruciform member and side member, and connects the front and rear silencers. The inlet pipe of the rear silencer enters the front of the silencer, whereas on earlier Phantom V cars the pipe enters the silencer at a point along its side. In the modified system, the exhaust pipe No. 2 mounting bracket is positioned at the point where the intermediate pipe leaves the rear cruciform member (see Fig. Q5).

The modified exhaust system increases the clearance between the top of the rear silencer and the car body floor, thus reducing the floor temperature.

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SECTION Q2 — TO REMOVE AND FIT

Joints — Exhaust Manifolds to Exhaust Ports — to renew

S1 cars

Remove and retain the special bolt and aluminium washer holding the breather pipe to the rocker cover and slacken the clip pinch bolt. Move aside the breather pipe to facilitate access to the extension nuts on the front manifold.

Remove the oil level dipstick and cover the dipstick entry hole with adhesive tape to ensure that no small parts or foreign matter can drop into the sump during work on the manifold.

Disconnect the down pipe flanges from the exhaust manifold by removing three nuts, bolts and plain steel washers from each flange.

Remove the nut, bolt and washer securing the tubular stay to the breeches piece (see Fig. Q1).

Withdraw the down pipes from the exhaust manifold.

The cupro–nickel joints fitted between the flanges should be discarded.

Remove the two 2 BA nuts retaining the heat shield to the cylinder head, above the rear manifold. This shield is positioned so as to deflect the heat from the rear manifold away from the rubber hose leading to the underwing heat exchanger (see Fig. Q1).

Remove the twelve extension nuts from the exhaust manifolds and withdraw the manifolds from the studs.

The copper–asbestos joints between the manifolds and the exhaust port faces should be discarded. All traces of carbon should be removed from the exhaust port faces of both the manifolds and the cylinder block.

Each of the two manifolds has two flanges which have slotted holes $\frac{1}{2}$ in. in length. The other two flanges have clearance holes to accept the steel studs positioned in the cylinder block. The slotted holes permit the flanges to expand and contract without causing distortion. The slots are 0·325 in. wide and the drilled holes are 0·325 in. in diameter.

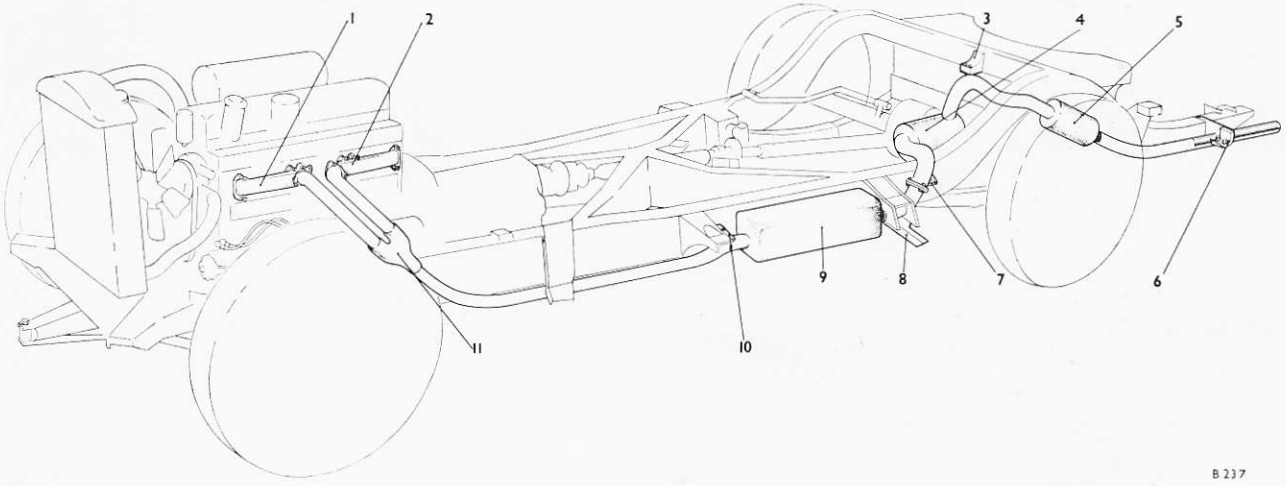

Fig. Q3 Exhaust system — S1 cars

1. FRONT EXHAUST MANIFOLD
2. REAR EXHAUST MANIFOLD
3. No. 3 MOUNTING BRACKET
4. REAR SILENCER
5. DAMPER BOX
6. No. 4 MOUNTING BRACKET
7. No. 2 MOUNTING BRACKET
8. JACKING BRACKET
9. FRONT SILENCER
10. No. 1 MOUNTING BRACKET
11. BREECHES PIECE ASSEMBLY

The exhaust manifolds should be checked for distortion by applying a straight edge across the joint faces. If any small irregularities are evident a surface grinding machine should be used for re-facing the manifolds. If such a machine is not available, any scale which is found on the faces of the manifold should be removed with a medium cut file prior to re-surfacing. The manifold may be re-faced by passing the manifold joint face back and forth across a sheet of medium grade emery cloth laid on a flat surface.

The importance of the manifold faces being flat and square cannot be over-emphasised.

Assembly

A new copper–asbestos joint should be fitted. No jointing compound should be used but the nuts should be oiled to ensure that no binding of the threads occurs.

To avoid straining the tubular stay, the bolt securing the stay to the lug on the crankcase should be slackened before the bolt securing the stay to the breeches piece is re-fitted.

The remaining assembly procedure is the reverse of the procedure described above for removing the manifolds.

S2 cars

Remove the oil level dipstick, then remove the bolt from the dipstick tube support bracket, together with the two setscrews and washers securing the dipstick tube to the engine sump; remove the dipstick tube. This procedure prevents accidental damage to the dipstick and tube and improves access to the exhaust manifolds.

Cover all entries to the engine sump with adhesive tape to prevent small parts and foreign matter dropping into the sump during work on the exhaust manifold.

Remove the two union nuts attaching the choke stove pipes to the right-hand side exhaust manifold (see Fig. Q4).

Disconnect the down pipe flanges from the exhaust manifold by removing the three nuts and washers from each flange.

Remove the nut, bolt and washer from the 'A' bank down pipe mounting which is positioned on the left-hand side of the engine sump. Access to this mounting is facilitated by raising the car on a ramp.

Withdraw the down pipes from the exhaust manifolds.

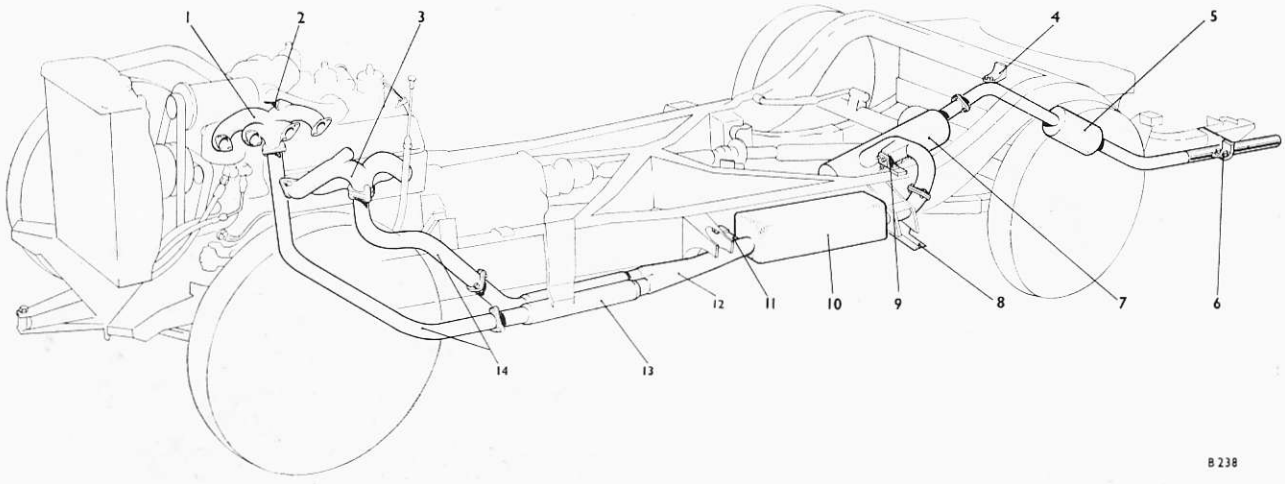

Fig. Q4 Exhaust system — S2 cars (except later Phantom V)

1. RIGHT-HAND MANIFOLD
2. CHOKE STOVE PIPES
3. LEFT-HAND MANIFOLD
4. No. 3 MOUNTING BRACKET
5. DAMPER BOX
6. No. 4 MOUNTING BRACKET
7. REAR SILENCER
8. JACKING BRACKET
9. No. 2 MOUNTING BRACKET
10. FRONT SILENCER
11. No. 1 MOUNTING BRACKET
12. BREECHES PIECE ASSEMBLY
13. EXHAUST PIPE LAGGING
14. DOWN PIPES

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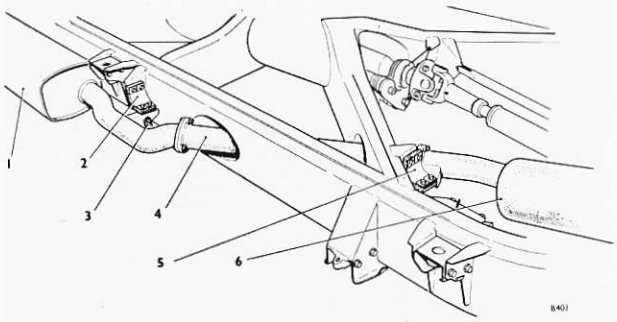

Fig. Q5 'Through the frame' exhaust system (later Phantom V cars)

1. FRONT SILENCER
2. SUSPENSION STRIP
3. EARTHING STRIP
4. INTERMEDIATE PIPE
5. SUSPENSION STRIP
6. REAR SILENCER

Remove the sixteen extension nuts from the exhaust manifolds, and lift the manifolds from the studs (see Fig. Q2).

The manifolds have slotted holes on Nos. 1, 2 and 4 exhaust ports, counting from the front of the engine. The slotted holes allow normal expansion and contraction without distortion of the manifolds. The slots are 0·325 in. wide and the drilled holes are 0·325 in. in diameter.

The exhaust manifold joint faces should be checked for distortion and re-faced if necessary, using the method described for S1 exhaust manifolds.

Assembly

No jointing compound should be used on any of the joints but the extension nuts should be oiled to ensure that no binding of the threads occurs during re-assembly.

Assembly is the reverse of removal but it should be remembered that the re-connecting of the right-hand side down pipe support should be carried out last.

All cars

Remove all adhesive tape masking from the sump before fitting the oil level dipstick and tube.

All nuts and bolts should be evenly tightened.

After the engine has run sufficiently to reach its normal operating temperature, the nuts and bolts should again be evenly tightened.

Silencer or Exhaust Pipe — to renew

S1 cars

The front silencer and exhaust pipe is renewed as an assembly including the down pipes and breeches piece (see Fig. Q3).

Removal of the front silencer assembly is a comparatively simple operation and should be carried out as follows:

Remove the down pipes from the exhaust manifolds as previously described.

Remove the five screws retaining the engine access plate on the valance panel. With this plate removed, the aperture is large enough to permit easy withdrawal of the down pipes without removing the valance.

Disconnect the front silencer outlet pipe by removing the three nuts, bolts and washers from the outlet pipe flange.

Remove the six nuts, bolts and washers retaining the jacking bracket to the body support bracket to allow the silencer assembly to be lowered, guiding the down pipes through the aperture in the valance.

Assembly

A flexible tinned copper earthing strip is fitted at all suspension points of the exhaust system. When renewing any exhaust system component, care must be taken to ensure that these strips are fitted directly between two metal points and never between the bolts and fabric suspension strips.

The fabric suspension strips should be examined and renewed if they are torn or perished.

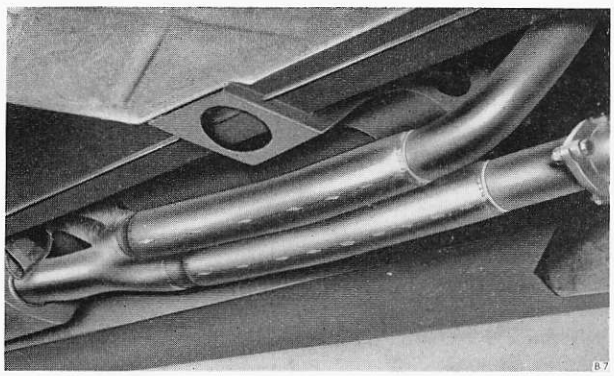

Fig. Q6 Position of exhaust pipe lagging

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Whenever flanges on the exhaust system are separated, the cupro–nickel joints must be renewed in order to prevent leakage of exhaust gases.

The procedure for re-fitting the front silencer and exhaust pipe assembly is the reverse of the removal procedure, care being taken to ensure that the assembly is in its correct position before tightening any nuts.

S2 cars

On S2 cars, the front silencer and exhaust pipe is renewed as one assembly, including the breeches piece but not the down pipes (see Fig. Q4). Remove the assembly as follows:

Remove the down pipes from the breeches piece by removing three nuts, bolts and washers from each of the two flanges.

Disconnect the front silencer outlet pipe by removing the three nuts, bolts and washers from the outlet pipe flange.

Remove the six nuts, bolts and washers retaining the jacking bracket to the body support bracket to allow the silencer assembly to be lowered.

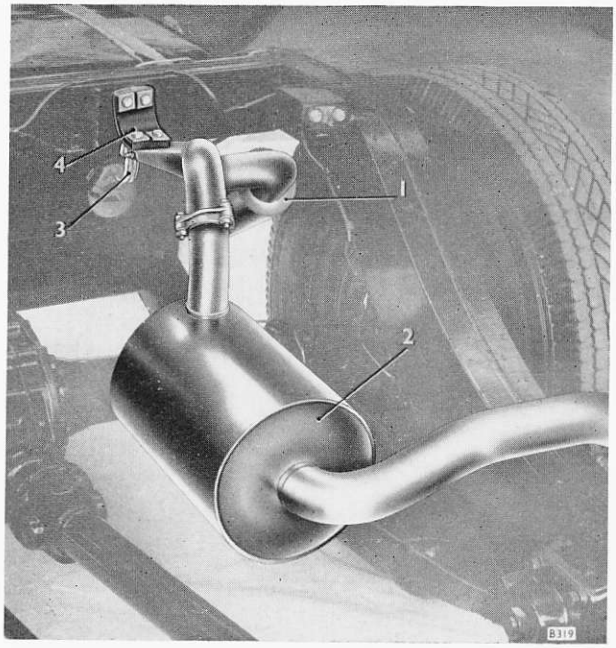

Fig. Q7 Rear silencer and damper box — S1 cars

1. DAMPER BOX
2. REAR SILENCER
3. EARTHING STRIP
4. SUSPENSION STRIP

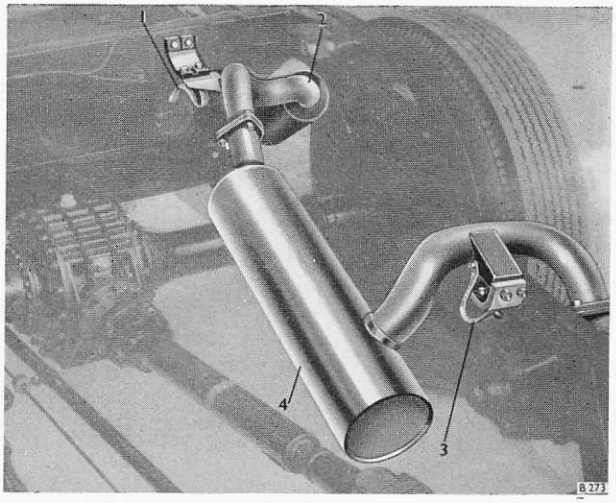

Fig. Q8 Rear silencer and damper box — S2 cars

1. EARTHING STRIP
2. DAMPER BOX
3. EARTHING STRIP
4. REAR SILENCER

Remove the nut and bolt attaching the earthing strip to the silencer front mounting.

Support the silencer while removing the two nuts, bolts and washers connecting the moulded, rubberised fabric strip to the exhaust pipe. Lower and remove the silencer assembly.

The flexible tinned copper earthing strips are connected to each of the suspension points by a nut and bolt.

On S2 cars, a modification has been introduced to reduce exhaust pipe 'titter' and should be fitted whenever it is necessary.

The modification consists of lagging the two down pipes for a distance of approximately 20 in. immediately forward of the breeches piece (see Fig. Q6).

Dampen the asbestos lagging and wrap it around the exhaust pipes. Fit the aluminium covers over the lagging and secure them in position with worm drive clips. The longitudinal joints should then be tack-welded at intervals of 2 in. while held in position.

The clips should then be removed and the ends of the covers sealed by crimping. On completion the covers should be painted with heat resisting paint.

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Rear Silencer — to renew

Disconnect the flanges in front of and behind the silencer by removing the six retaining nuts, bolts and washers (see Figs. Q7 and Q8).

Remove the two nuts, bolts and washers from the supporting bracket at the front end of the rear silencer (**on S2 cars,** remove the additional nut and bolt securing the earthing strip). Remove the silencer.

The method of installing the rear silencer is the reverse of the removal procedure except that new cupro–nickel flange joints must be fitted.

Damper Box — to renew

Remove the nuts, bolts and washers from the flange behind the rear silencer.

Support the damper box and release the two suspension strips by removing the securing nuts, bolts and washers.

The damper box can then be removed and a replacement fitted.

The method of fitting the damper box to the exhaust system is the reverse of the removal procedure, care being taken to ensure that the earthing strips are correctly located. New cupro–nickel flange joints must be used.

Intermediate Pipe — Phantom V Cars — to renew

On Phantom V cars fitted with the 'through the frame' exhaust system, the removal procedure is as follows:

Disconnect the front flange of the rear silencer from the intermediate pipe by removing the three nuts, bolts and washers.

Remove the rear silencer and damper box assembly after disconnecting the assembly from the two suspension strips.

Lower the assembly from the chassis.

Disconnect the forward end of the intermediate pipe by removing the three nuts, bolts and washers from the flange.

Withdraw the intermediate pipe from the tunnels in the chassis frame.

The method of assembly of the new pipe and the fitting of the rear silencer and damper box assembly is the reverse of the removal procedure. Fit the new cupro–nickel flange joints and ensure that the earthing strips are correctly located.

The route of the exhaust system should be such that there is no possibility of the intermediate pipe touching the sides of the tunnels through which it passes.

Down Pipes of S2 Cars — to renew

Remove the right-hand down pipe as follows:

Remove the three nuts and washers securing the down pipe to the exhaust manifold flange.

Remove the three nuts, bolts and washers securing the down pipe to the breeches piece flange (see Fig. Q2).

Support the down pipe and remove the nut, bolt and washer securing the pipe to the rear engine mounting. Withdraw the down pipe from the manifold flange studs; the pipe may then be removed and a replacement fitted.

The procedure for the removal of the left-hand side down pipe is similar to that described above, a difference being that no supporting stay is fitted to the left-hand pipe.

Assembly is the reverse of removal but new cupro–nickel flange joints must be fitted.

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CHAPTER Q

EXHAUST SYSTEM

SECTION Q1 DESCRIPTION

(Page Q1 in Workshop Manual)

S3 cars

The information in this Section which applies to S2 cars is also applicable to S3 cars with the following Chassis Nos.

Rolls-Royce Silver Cloud III From SAZ1 to SAZ61 inclusive.

Bentley S3 From B2AV to B26AV inclusive.

On all other S3 cars the exhaust system is of the acoustic type.

The exhaust gases pass from the engine through two cast-iron manifolds and down two downtake pipes to enter a single pipe through a welded breeches piece.

The two downtake pipes are of 2 in. outside diameter.

The single exhaust pipe from the breeches piece to the front silencer passes along the outside of the chassis frame and is of 2½ in. outside diameter.

The exhaust gases flow through the front silencer along two perforated tubes, one being the inlet and one being the outlet. The tubes are set at an angle inside the silencer shell and are supported by a centrally situated plate which also acts as a stiffener for the silencer shell.

The silencer is almost rectangular in shape and its approximate external dimensions are 16 in. × 8½ in. × 8 in.

The underside of the car floor, above the front silencer and exhaust pipe is protected against heat by aluminium-asbestos shields.

The exhaust gases on leaving the front silencer flow through a single exhaust pipe, which passes through the chassis frame side member, through the rear left-hand cruciform member and into the rear silencer.

The rear silencer is cylindrical in shape and is approximately 21½ in. long and 5½ in. in diameter.

The underside of the car floor above the rear silencer is protected against heat by an aluminium-asbestos shield.

The exhaust gases finally pass from the rear silencer through a high frequency damper and out through the exhaust tail pipe.

The damper is cylindrical in shape and is approximately 8 in. long and 4 in. in diameter. It consists of a perforated tube, around which is packed 7½ oz. of 'Rocksil' wool.

The outer surface of the front silencer is lagged with ⅛ in. thick asbestos sheet enclosed within a welded aluminium casing; this is the only lagged silencer in the system.

The silencers and the damper are manufactured from stainless steel as a protection against condensation corrosion.

The exhaust system is secured to the chassis frame in four places by 'Vibrashock' mountings.

The down pipe from the 'A' bank exhaust manifold, positioned on the right-hand side of the car, sweeps under the engine and is secured to a bracket on the left-hand side of the engine mounting, before joining the breeches piece on the outside of the chassis frame.

Copper-asbestos joints are fitted between the exhaust manifolds and the cylinder heads, the exhaust manifolds being secured to the cylinder heads by ⅜ in. diameter extension nuts.

Cupro-nickel joints are fitted between the exhaust downtake pipes and the exhaust manifolds.

All the other exhaust pipe joints are fitted with steel spherical sealing rings which are held in position by bridge type clamps.

SECTION Q2—TO REMOVE AND FIT

Exhaust manifolds — To renew

S3 cars only

Remove the oil level dipstick from the engine, then remove the bolt from the dipstick tube support bracket, together with the two setscrews and washers securing the dipstick tube to the engine sump; remove the dipstick tube. This procedure prevents accidental damage to the dipstick and tube and improves access to the exhaust manifold. Mask the dipstick hole in the sump to prevent the entry of foreign matter.

Remove the two union nuts attaching the choke stove pipes to the right-hand side exhaust manifold (see Fig. Q1 (S) of this Supplement).

Disconnect the down pipe flanges from the exhaust manifold by removing the three nuts and washers from each flange.

Remove the nut, bolt and washer from the 'A' bank down pipe mounting which is positioned on the left-hand side of the engine sump. Access to this mounting is facilitated by raising the car on a ramp.

Withdraw the down pipes from the exhaust manifolds.

Remove the sixteen extension nuts from the exhaust manifolds, then lift the manifolds from the studs (see Fig. Q2 (S) of this Supplement).

The manifolds have slotted holes in Nos. 1, 2 and 4 exhaust port flanges, counting from the front of the engine. The slotted holes allow for normal expansion and contraction without distortion of the manifolds. The slots are 0·325 in. wide and the drilled holes are 0·325 in. in diameter.

The exhaust manifolds should be checked for distortion using a straight edge across the joint faces; if necessary, the joint face should be re-faced.

The importance of the manifold faces being flat and square cannot be over-emphasised.

Assemble the exhaust manifolds by reversing the procedure given for their removal noting the following points.

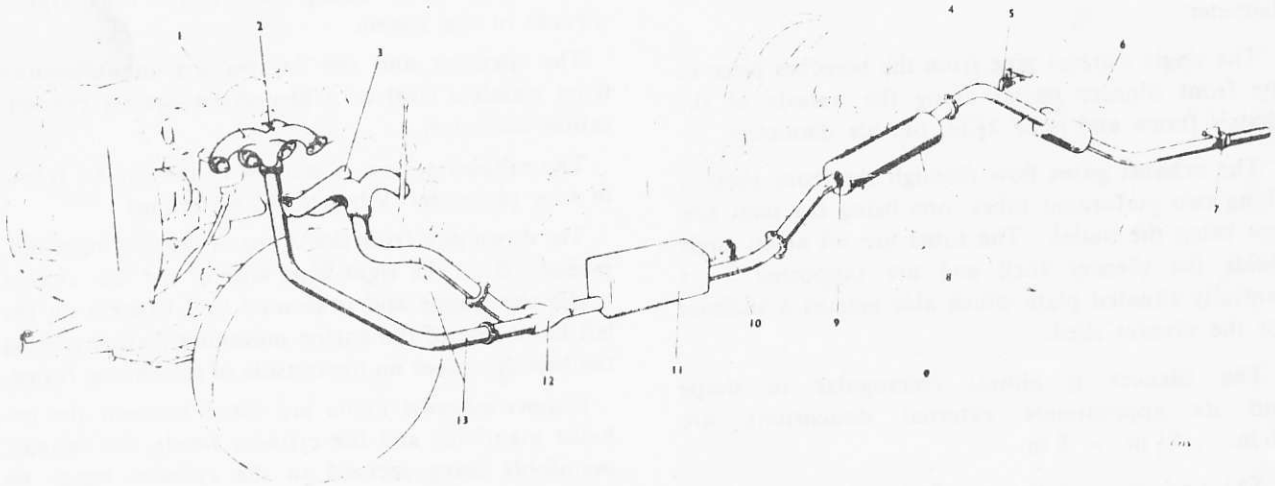

Fig. Q1 (S) Exhaust system — S3 cars (except Phantom V)

1 RIGHT-HAND MANIFOLD
2 CHOKE STOVE PIPES
3 LEFT-HAND MANIFOLD
4 BRIDGE CLAMP
5 DAMPER MOUNTING BRACKET
6 DAMPER
7 TAILPIPE MOUNTING BRACKET
8 REAR SILENCER
9 REAR SILENCER MOUNTING BRACKET
10 FRONT SILENCER MOUNTING BRACKET
11 FRONT SILENCER
12 BREECHES PIECE
13 DOWN PIPES

Fit new copper-asbestos joints between the exhaust manifolds and the cylinder heads and fit new cupro-nickel joints between the exhaust manifolds and the exhaust down pipes.

No jointing compound should be used on any of the joints but the extension nuts should be lubricated to ensure that no binding of the threads occurs during re-assembly.

The re-connecting of the right-hand side down pipe support should be carried out last.

Remove all adhesive tape masking from the sump and refit the oil level dipstick and tube.

All nuts and bolts should be evenly tightened.

After the engine has run sufficiently to reach its normal operating temperature, the nuts and bolts should again be evenly tightened.

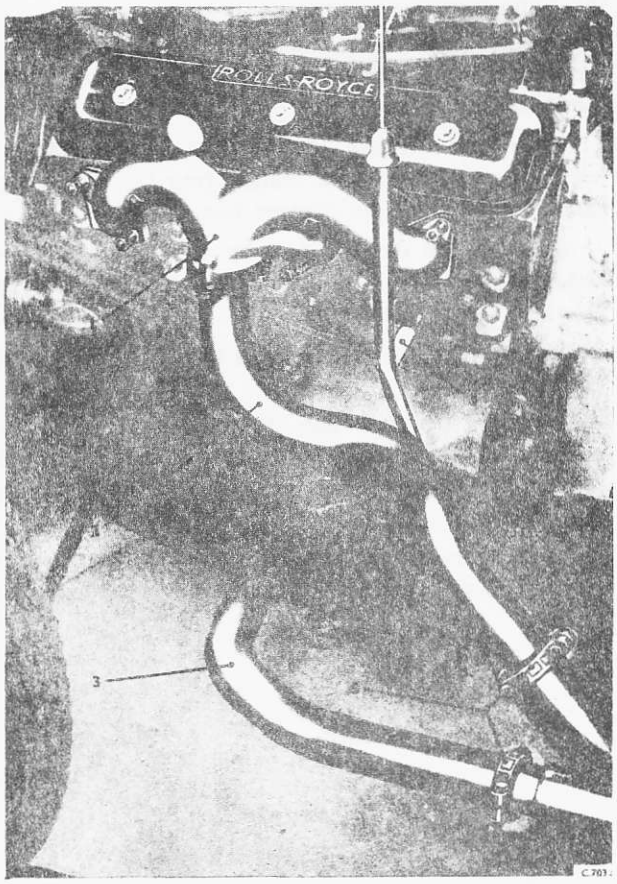

Fig. Q2 (S) Exhaust manifold and down pipes — S3 cars

1 MANIFOLD
2 LEFT-HAND DOWN PIPE
3 RIGHT-HAND DOWN PIPE
4 DIPSTICK TUBE SUPPORT BRACKET
5 CLAMPS

Exhaust down pipes — To renew

S3 cars only

Remove the right-hand down pipes as follows

Remove the three nuts and washers securing the down pipe to the exhaust manifold flange.

Remove the two nuts, bolts and bridge clamps securing the down pipe to the breeches piece (see Fig. Q2 (S) of this Supplement).

Support the down pipe and remove the nut, bolt and washer securing the pipe to the engine mounting.

Withdraw the down pipe from the manifold flange studs; the pipe may then be removed and the spherical steel sealing ring retained for use when a replacement down pipe is fitted.

The procedure for the removal of the left-hand side down pipe is similar to that described above, a difference being that no supporting bracket is fitted to the left-hand pipe.

Assemble the exhaust down pipes by reversing the procedure given for their removal noting the following points.

New cupro-nickel flange joints must be fitted between the exhaust manifold flanges and the down take pipe flanges.

The spherical steel sealing rings should be clean and free from scale.

Smear the spherical faces of the sealing rings and the grooves in the clamps with a suitable graphite lubricant to ensure correct alignment of pieces on re-assembly.

All the nuts should be lubricated to ensure that no binding of the threads occurs during re-assembly.

Front silencer — To renew

S3 cars only

Remove the nuts, bolts and bridge clamps securing the down pipes to the breeches piece (see Fig. Q2 (S) of this Supplement).

Remove the bridge clamps from the outlet pipe of the front silencer (see Fig. Q1 (S) of this Supplement).

Remove the 2 BA nut, bolt and washer securing the flexible earthing strip to the front silencer mounting bracket.

Support the silencer while removing the setscrew securing the outlet pipe bracket to the 'Vibrashock' mounting.

Lower and remove the silencer assembly. Retain the spherical steel sealing rings for use when fitting the replacement silencer.

Assemble the front silencer by reversing the procedure given for its removal noting the following points.

Do not tighten any one bridge clamp securing the down pipes to the breeches piece until both bridge clamps are in position on the pipes.

The spherical steel sealing rings should be clean and free from scale.

Smear the spherical faces of the sealing rings and the grooves in the clamps with a suitable graphited lubricant to ensure correct alignment of the pieces on re-assembly.

All the nuts should be lubricated to ensure that no binding of the threads occurs during re-assembly.

Rear silencer — To renew

S3 cars only

Remove the nuts, bolts and bridge clamps from the rear silencer inlet and outlet pipes, then remove the 2 BA nut, bolt and washer securing the flexible earthing strip to the rear silencer mounting bracket.

Support the rear silencer while removing the setscrew securing the silencer bracket to the 'Vibrashock' mounting (see Fig. Q1 (S) of this Supplement).

Lower and remove the silencer; retain the spherical steel sealing rings for use when fitting the replacement silencer.

Assemble the rear silencer by reversing the procedure given for its removal noting the following points.

The spherical steel sealing rings should be clean and free from scale.

Smear the spherical faces of the sealing rings and the grooves in the clamps with a suitable graphited lubricant to ensure correct alignment of the pieces on re-assembly.

All the nuts should be lubricated to ensure that no binding of the threads occurs during re-assembly.

Damper box — To renew

S3 cars only

Remove the nuts, bolts and bridge clamps from the damper box inlet pipe, then remove the 2 BA nuts, bolts and washers securing the flexible earthing strips to the damper box and the tailpipe mounting bracket.

Remove the setscrew securing the tailpipe bracket to the 'Vibrashock' mounting (see Fig. Q1 (S) of this Supplement).

Support the damper box while removing the setscrew securing the damper box mounting bracket to the 'Vibrashock' mounting.

Lower and remove the damper box assembly; retain the spherical steel sealing ring for use when fitting the replacement damper box.

Assemble the damper box by reversing the procedure given for its removal noting the following points.

The spherical steel sealing ring should be clean and free from scale.

Smear the spherical faces of the sealing ring and the grooves in the clamps with a suitable graphited lubricant to ensure correct alignment of the pieces on re-assembly.

All the nuts should be lubricated to ensure that no binding of the threads occurs during re-assembly.