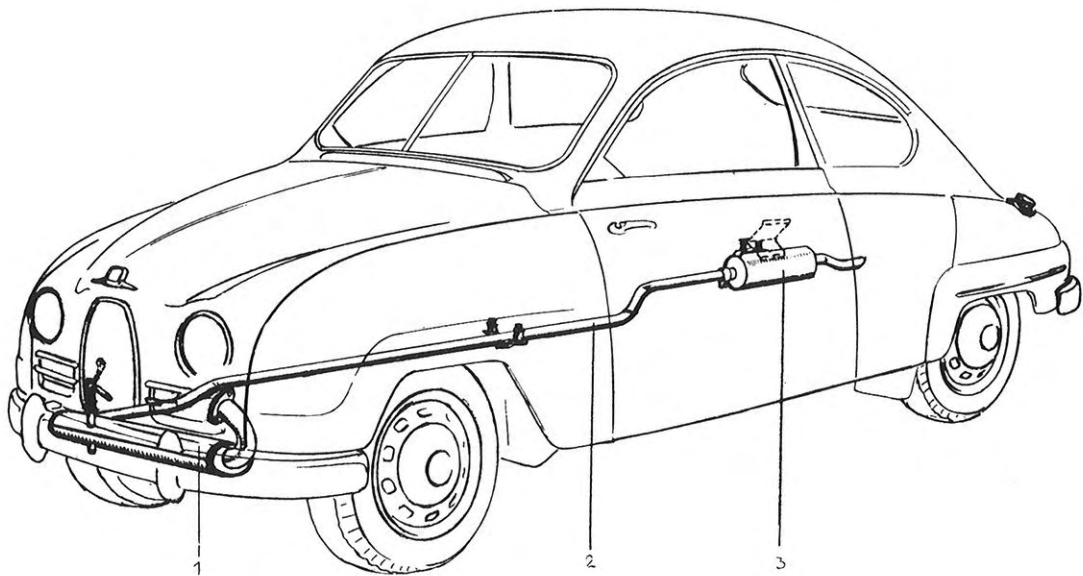


CONTENTS

	Page
1. DESCRIPTION ..	3
1.1. General ..	3
1.2. Exhaust manifold ..	3
1.3. Mufflers ..	3
1.4. Exhaust pipe ..	3
3. WORK ON CAR ..	4
3.1. Sealing joint between engine and exhaust manifold ..	4
3.2. Sealing joint between exhaust manifold and muffler inlet pipe ..	4
3.3. Sealing joint between muffler and exhaust pipe ..	4
3.4. Cracks ..	4
3.5. Replacement of flange on front muffler inlet pipe ..	4
4. INSPECTION WORK ..	5
4.1. Exhaust pipe ..	5
4.1.1. Removal ..	5
4.1.2. Burning out and repair ..	5
4.1.3. Installation ..	5
4.2. Front and rear mufflers ..	6
4.2.1. Removal of front muffler ..	6
4.2.2. Removal of rear muffler ..	6
4.2.3. Repair ..	6
4.2.4. Installation of front muffler ..	6
4.2.5. Installation of rear muffler ..	6
4.3. Rubber buffers for exhaust pipe and rear muffler ..	6
4.3.1. Removal ..	6
4.3.2. Installation ..	7



1. Front muffler 2. Exhaust pipe 3. Rear muffler

Fig. 1. Exhaust system

1. DESCRIPTION

1.1. General

The engine exhaust system consists of exhaust manifold, front and rear mufflers, and exhaust pipe.

The layout of the system is shown in Fig. 1.

1.2. Exhaust manifold

The exhaust manifold, which collects the exhaust gases from the engine cylinders, is mounted on the cylinder block. Three asbestos gaskets ensure effective sealing between the manifold and the block.

The inlet pipe to the front muffler is connected to the outlet end of the exhaust manifold by means of a flange with gasket.

1.3. Mufflers

The front muffler is located under the floor at the front of the engine compartment behind the front plate. It is fitted internally with a number of baffles

and tubes, and comprises an integral welded unit.

The rear muffler is located in the wheel housing behind the right-hand rear wheel, where it is suspended by means of rubber buffers in a bracket welded to the wheel housing wall. This muffler, too, is a welded unit, including the exhaust gas outlet pipe which ends under the rear bumper.

1.4. Exhaust pipe

The exhaust pipe, which connects the front and rear mufflers, is inserted into and clamped to the pipe connections on the two mufflers. See Figs. 2 and 3. The pipe connections are slit so as to give a tight seal when the clamps are tightened.

At one point the exhaust pipe is suspended by means of rubber buffers from the underside of the floor. The rubber buffers are intended to damp oscillations of the exhaust pipe and to prevent such vibrations from being transmitted to the body.

3. WORK ON CAR

3.1. Sealing joint between engine and exhaust manifold

If there is leakage between the exhaust manifold and the engine, the screws should be tightened. If this does not help, then the gaskets must be changed.

3.2. Sealing joint between exhaust manifold and muffler inlet pipe

If there is leakage between the exhaust manifold and the front muffler intake pipe, proceed as follows:

1. Loosen the suspension screw which holds the muffler to the engine, see Fig. 2.
2. Tighten the nuts on the flange screws which hold the exhaust manifold and muffler inlet pipe together.

Use only moderate force in tightening the bolts so as not to crack the flange of the exhaust manifold (casting).

3. If the leakage cannot be sealed this way, then the gasket must be changed.

Check also that there are no cracks in the connecting flange of the muffler pipe.

4. Tighten the suspension screw.

NOTE. It is important that the muffler suspension screw should be loosened when this work is being done. Otherwise the flange on the muffler inlet pipe may be damaged when the nuts are tightened on the screws that hold the pipe and exhaust manifold together.

3.3. Sealing joint between muffler and exhaust pipe

If a leak should occur at the joint between the exhaust pipe and the outlet pipe from the front muffler or the inlet pipe to the rear muffler, proceed as follows:

1. Loosen clamp, see Figs. 2 and 3.
2. Push the exhaust pipe into the pipe connection on the muffler.
3. Check that the exhaust pipe is not lying at an angle so that stresses are produced.
4. Tighten the clamp with its screw and nut. If these measures are not sufficient, the pipes should be inspected and, if necessary, straightened.

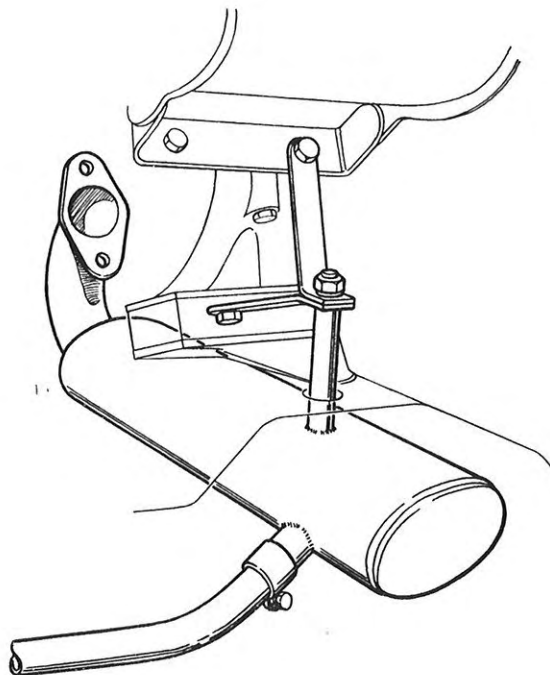


Fig. 2. Front muffler

3.4. Cracks

If there are cracks in the exhaust pipe or mufflers, they must be welded.

Make quite certain that there are no stresses or deformations in the pipes after welding.

3.5. Replacement of flange on front muffler inlet pipe

If the flange on the front muffler inlet pipe is damaged it is best to fit a joint flange, which is available as a spare part, see Fig. 4. It is fitted as follows:

1. Loosen joint flange and cut inlet pipe to suitable length.
2. Attach the new flange with a few tack welds.
3. Check that the pipe can be fitted to the exhaust manifold without producing stresses. Adjust the pipe so that it fits properly.
4. Remove the muffler, see 4.2.1., and complete the welding. Make sure that no large lumps of weld are left inside the pipe.
5. Re-install the muffler as described in 4.2.4.

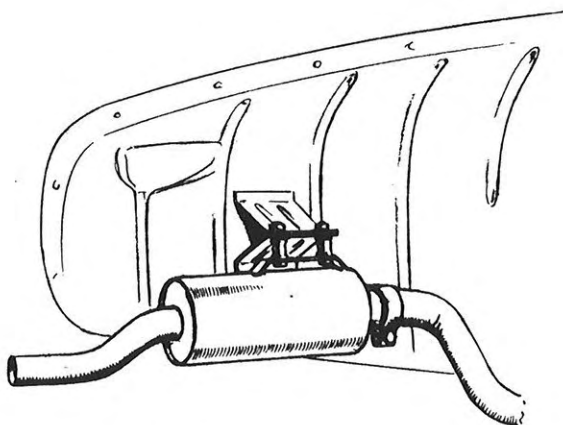


Fig. 3. Rear muffler

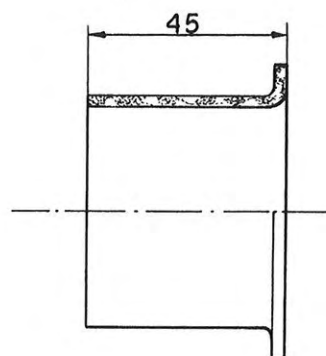


Fig. 4. Joint flange for muffler inlet pipe

4. INSPECTION WORK

4.1. Exhaust pipe

4.1.1. Removal

For this work it is best to jack up the right-hand side of the car.

1. Remove the right-hand rear wheel and loosen the clamp at the connection of the exhaust pipe to the rear muffler.
2. Remove the upper nuts with which the rear muffler is secured and withdraw the muffler from the exhaust pipe, see Fig. 3.
3. Loosen the clamp at the connection of the exhaust pipe to the front muffler, see Fig. 2.
4. Remove the nuts with which the exhaust pipe is suspended under the floor, see Fig. 1.
5. Pull the pipe free from the front muffler.

4.1.2. Burning out and repair

After 20000 - 25000 km (12500 - 15000 miles) of driving, the exhaust pipe is usually blocked to such

an extent that an appreciable amount of power is required to eject the exhaust gases. The pipe must then be cleaned.

The exhaust pipe can be cleaned in various ways, but the principle should be that the soot is caused to burn at the same time as it is blown out with compressed air. Burning of the soot will heat up the exhaust pipe to some extent, and care must be taken that the pipe is not deformed.

It is also important that the exhaust pipe should not change shape during repair work on it. Cracks and the like should be welded over, but the weld should not penetrate the crack to such an extent that lumps occur inside the exhaust pipe.

4.1.3. Installation

To install the exhaust pipe, reverse the above procedure for its removal.

Make sure that the exhaust pipe is pushed well into its connections on the mufflers so that a good seal is obtained when the clamps are tightened.

5 EXHAUST SYSTEM

4.2. Front and rear mufflers

The front or rear end of the car should be raised before starting work.

4.2.1. Removal of front muffler

1. Loosen clamp for exhaust pipe connection, see Fig. 2.
2. Loosen and remove the screws which hold the muffler inlet pipe to the exhaust manifold and remove the gasket.
3. Loosen and remove the muffler suspension screw, see Fig. 2, and lower the muffler so that it comes below the front plate.
4. Remove the exhaust pipe from the muffler outlet.
5. Turn the freed end of muffler forwards - upwards and remove the muffler.

4.2.2. Removal of rear muffler

1. Remove the right-hand rear wheel and loosen the clamp at the exhaust pipe connection to the rear muffler inlet, see Fig. 3.
2. Unscrew the two upper nuts, holding the muffler.
3. Detach the muffler from exhaust pipe and remove it.

4.2.3. Repair

The front muffler does not usually get blocked by soot or other impurities. This is a result of its location in the immediate vicinity of the engine, so that the temperature in the muffler is relatively high.

On the other hand, the rear muffler may, under certain conditions, become blocked by soot. The rate of deposit is greatest during the winter and when the car is run with excess fuel, that is, at low speed in high gear. Like the exhaust pipe, the muffler should therefore be burned out as described in 4.1.2., though at shorter intervals.

Any cracks or the like in the mufflers should be repaired by welding

4.2.4. Installation of front muffler

1. Slide the muffler inlet pipe with connecting flange in through the hole in the engine compart-

ment floor.

2. Slide the muffler outlet pipe onto the exhaust pipe. Don't forget the clamp.
3. Insert the retaining screw and fit the muffler loosely.
4. Fit a new gasket between the muffler inlet pipe and the exhaust manifold, and tighten the connection.
5. Tighten the suspension screw finally. Check that the muffler lies parallel to the front plate, so that the distance between plate and muffler is equal all along the muffler. Also check the distance between the muffler and the floor of the engine compartment.
6. Tighten the clamp for the exhaust pipe connection to the muffler.
7. Start the engine and check for leaks.

4.2.5. Installation of rear muffler

1. Slide the muffler onto the exhaust pipe. Don't forget the clamp.
2. Attach the muffler to the bracket on the wheel housing wall.
3. Tighten the clamp at the connection of the exhaust pipe to the muffler.
4. Start the engine and check for leaks.
5. Fit the rear wheel.

4.3. Rubber buffers for exhaust pipe and rear muffler

The following work can be more easily done if the right-hand side of the car is raised and the right-hand rear wheel removed.

4.3.1. Removal

1. Detach the exhaust pipe rubber buffers from the floor. The two nuts are accessible inside the car if the rear carpet is folded aside, see Fig. 1.
2. Loosen and remove the nuts which hold the rubber buffers to the exhaust pipe.
3. Loosen and remove the upper nuts which hold the rear muffler rubber buffers to the bracket on the wheel housing wall, see Fig. 3.
4. Loosen and remove the nuts which hold the rubber buffers to the muffler. It may be necessary to remove the muffler.

4.3.2. *Installation*

1. Attach the rubber buffers for the exhaust pipe to the floor.
2. Attach the rubber buffers to the rear muffler.
3. Attach the muffler with rubber buffers to the bracket on the wheel housing wall.
4. Attach the exhaust pipe to the rubber buffers under the floor.