

Installation RE[V]PACK®/Maintenance Absorption Silencers



SP-Schalldämmtechnologie GmbH & Co. KG

Ritzbruch 41
D-41334 Nettetal

Phone +49 (0) 21 53/71 96 97
Fax +49 (0) 21 53/71 96 98

Email: silentsport@t-online.de

www.silentsport.com



RE[V]PACK®-units were developed with the aim of delivering high performance silencer packages to our customers, which enable uncomplicated, professional and functionally reliable repair of absorption silencers. An integrated assembly aid (cardboard tube) makes installation easy. Silencer packages are designed as a Wrapping-RE[V]PACK® (without assembly aid) for silencers with an oval perforated pipe.

The silencer packing material fulfills three tasks: • noise insulation • heat insulation • protection against vibration fracture of the internal perforated core of the silencer. RE[V]PACK®-units are available for many brands and types of silencers. The characteristics of the silencer packages are adapted exactly to the relevant silencer and its intended purpose. Strict controls ensure a constant quality of RE[V]PACK®-units.

Reliability

- ❑ A RE[V]PACK® can be assembled by anyone who has the necessary manual skills, such as e.g. for operating an upright drilling machine. Lack of manual skill can lead to injury and assembly faults. If your knowledge and capabilities are not suffice, we recommend that you get professionals to carry out the assembly.
- ❑ Make sure that when using RE[V]PACK®-units, you use the exact one for the relevant silencer type, and then its function is also guaranteed. Only then can the best silencing properties be achieved, and the silencer is also protected against damage from hot exhaust fumes and vibrations.
- ❑ When using a RE[V]PACK® in silencers approved for use on public road note that the permit prerequisites are fulfilled by using the correct RE[V]PACK® and by adhering to the maintenance intervals.
- ❑ Note that when using a RE[V]PACK® in a sport's silencer, in particular with single cylinder four-stroke engines running constantly with full throttle, the exhaust temperatures can rise to over 700 °C. The silencer material of the RE[V]PACK® can only withstand these strains for a short period of time.
- ❑ The maintenance interval for use in motor racing applications is 10 operating hours (our recommendation). For silencers, which are used on public roads, the details issued by the silencer manufacturer are to be observed.
- ❑ No moisture is allowed to penetrate the silencer when washing your motorbike. Damp or wet noise insulation materials drastically increase the noise level of the motorbike.
- ❑ The work described in this instruction manual is exemplary for each silencer type. However, the explanations are generally applicable for absorption silencers, so if you install the RE[V]PACK® in a silencer from another manufacturer the procedures can be carried out in the same way. In this case, the constructive special features e.g. riveted or screwed joints are to be taken into consideration.



Tools and Auxiliary Equipment

- 1 Blind rivet pliers (for riveted inlet and end caps)
- 2 Blind rivets made of steel or stainless steel – pay attention to the correct diameter and use a drill with the same diameter.
- Attention!** Blind rivets made of aluminium do not withstand the strain and can result in damage to the silencer.
- 3 Rubber hammer
- 4 Spanner (for screwed inlet and end caps)
- 5 Stanley knife (for Wrapping-RE[V]PACK®)
- 6 WD40 penetrant



Preparations

- Check whether the RE[V]PACK®-unit (1) is suitable for the silencer. For conical perforated pipes a Wrapping-RE[V]PACK® is normally used.
- To insert the new RE[V]PACK® into the silencer, end cap (2) and inlet cap (3) must be dismantled.

Tip! Mark the end cap and the inlet cap before dismantling so that parts can be installed in their correct position during assembly.



Dismantle end and inlet caps

- In the case of riveted end and inlet caps, drill out the blind rivets with an upright drilling machine.



Danger from hot and sharp-edged drilling chips. Severe damage to eyes possible. Wear protective goggles!

- Unscrew fastening screws on screwed end and inlet caps.



Tip! Before dismantling the inlet cap, spray some penetrating oil into the gap between casing and inlet cap.

- Hold the silencer with one hand and knock around the silencer casing near the end cap with the rubber hammer, until the end cap comes loose.
- Pull out the end cap and, if necessary, remove any residues of insulating material.

- Repeat this procedure and knock with a rubber hammer on the seat of the inlet cap until the cap comes loose.



Remove old silencer packing

- Pull inlet cap (2) out of silencer casing (1).
- Remove old silencer packing (3) from the perforated pipe. Completely remove any residues of insulating material from silencer casing and perforated pipe.
- Thoroughly clean all parts, in particular the holes in the perforated pipe.

Attention! Check the perforated pipe for cracks! During the next operating interval, cracks could lead to the complete destruction of the silencer. Replace a defective perforated pipe or have it repaired by professionals.



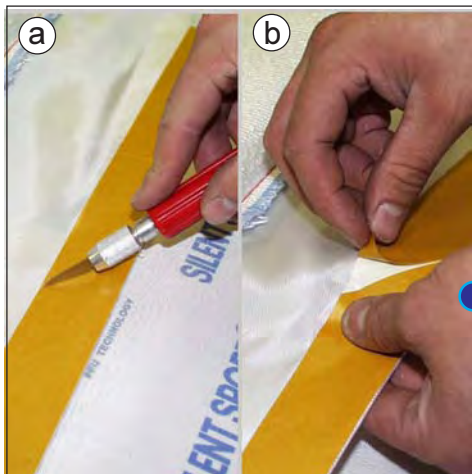


Insert the new silencer packing

- Push the perforated pipe (1) into the assembly aid (cardboard tube, 2) of the RE[V]PACK®.

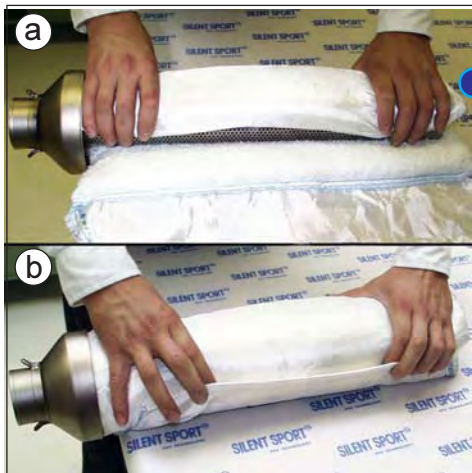
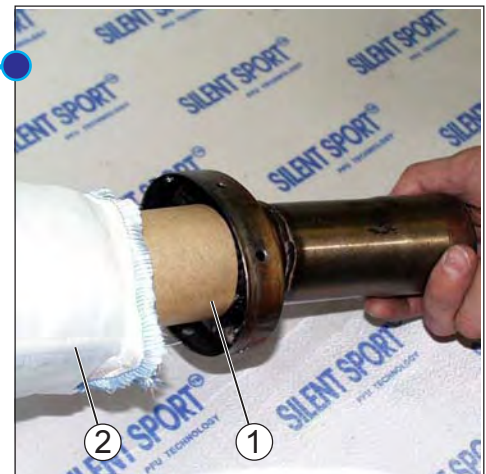
Attention! Observe the installation position. The coloured reference thread (3) must be at the end of the silencer. Wrong installation can result in considerable reduction of the service life of the RE[V]PACK® and thereby lead to damage to the silencer.

- When using a Wrapping-RE[V]PACK®, lay the perforated pipe in such a way on the packing material at the edge of the table that the inlet cap butts up against the edge of the table.



- Push the assembly aid (1) into the inlet cap and subsequently push the RE[V]PACK® (2) on to the assembly aid until the damper packing also sits in the inlet cap.

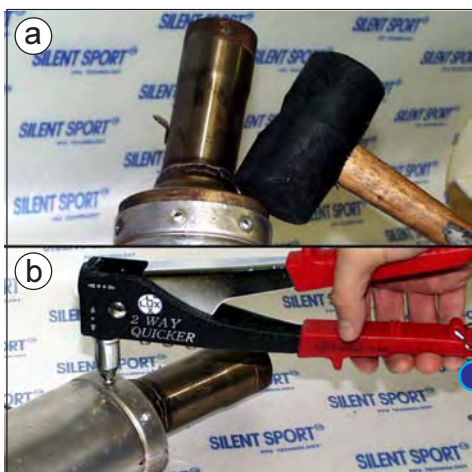
- When using a Wrapping-RE[V]PACK®, remove the protective foil from the adhesive strips. In addition to this, make a slanted cut in the middle of the protective foil using the Stanley knife (a). Now, bend the adhesive strip upwards until the protective foil comes up at the end (b). Both parts of the protective foil can now be pulled off easily.



- Wind the Wrapping-RE[V]PACK® tightly around the perforated pipe (a) and fix it with the adhesive strip (b).

- Push the end of the RE[V]PACK®-unit into the inlet cap until the cap is completely filled. The RE[V]PACK®-unit should not stick out over the edge of the inlet cap and should not have any excessive creases, as otherwise the subsequent assembly of the silencer casing will be impeded.

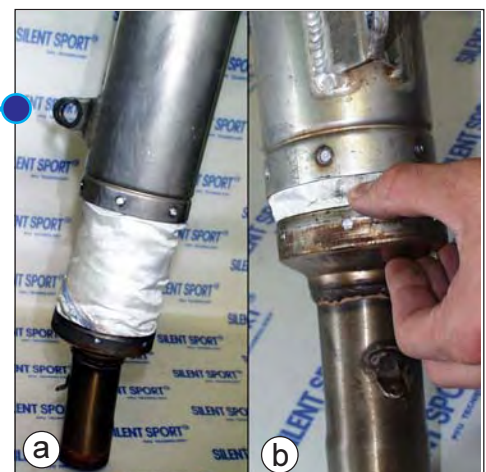
Tip! To seal the gaps between inlet or end cap and silencer casing against moisture, the connecting surfaces (1) can be coated on both sides with a heat-resistant silicon sealant.

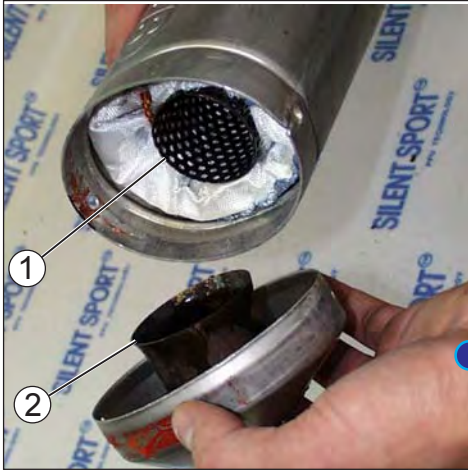


Assembling the inlet cap

- Push the silencer casing onto the RE[V]PACK®-unit (a). While pushing the silencer casing onto the inlet cap press the RE[V]PACK®-unit into the casing (b), so that the insulating material is not pinched.

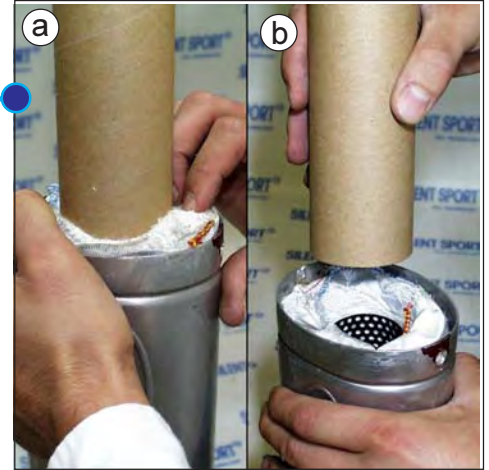
- Knock the inlet cap with a rubber hammer into the silencer casing until the fastening bores are in line with each other (a).
- Fasten the inlet cap to the silencer casing (b) with only two opposite blind rivets or screws, so that the position can be corrected during further assembly.





Assembling the end cap

- Press the protruding end of the RE[V]PACK®-unit into the silencer (a). Then pull out the assembly aid (b).



- Attach the end cap to the silencer casing. Make sure that the perforated pipe (1) is free so that the socket (2) of the end cap can be pushed over the perforated pipe.



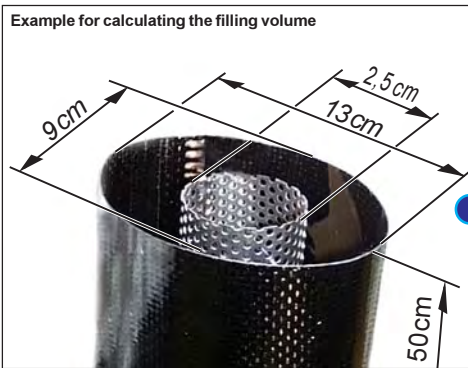
- Knock the end cap with a rubber hammer into the silencer casing until the fastening holes are in line with each other.

- Fasten the end cap to the silencer casing with a blind rivet (1) or screw and use the remaining blind rivet (2) at the inlet cap.

- The silencer can now be assembled to the motorbike again in accordance with the specifications issued by the manufacturer.



Refilling with loose insulation material



Silencers, for which no RE[V]PACK®-unit is available, can be filled with loose insulation material. Split packs can likewise be supplemented.

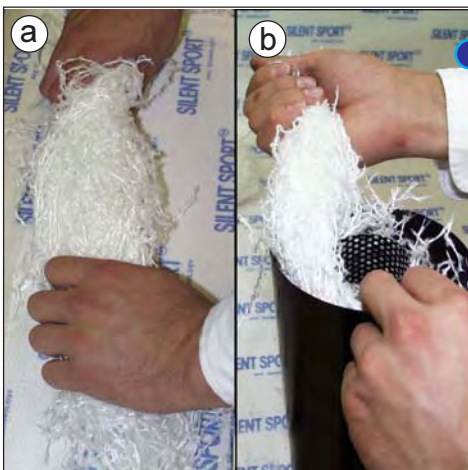
Attention! You must exactly comply with the filling density, i.e. the filling weight/filling volumes.

Filling density:
 200 g/litre with 4-stroke engines (SP Premium)
 160 g/litre with 2-stroke engines (SP Standard)

Example (Note: 1 Litre = 1000 ccm)

• Calculation of filling volume
 $V_{\text{casing}} = 0.785 \cdot 13 \text{ cm} \cdot 9 \text{ cm} \cdot 50 \text{ cm} = 4592.25 \text{ ccm}$
 $V_{\text{perf.pipe}} = 0.785 \cdot 2.5 \text{ cm} \cdot 2.5 \text{ cm} \cdot 50 \text{ cm} = 245.32 \text{ ccm}$
 Filling volume 4246.93 ccm

• Requisite material quantities
 $200 \text{ g/litre} \cdot 4.24693 \text{ litres} = 850 \text{ g} \pm 5 \text{ g}$



- To supplement a split RE[V]PACK® push the packing up to the inlet cap to eliminate any air voids.
- Weigh the insulation material and divide into strips (a). Place the material strips evenly around the filter pipe (b). Make sure that no air voids remain.

- Push the insulation material with a suitable tool.

Attention! Do not wind too tightly and do not press down too firmly.

