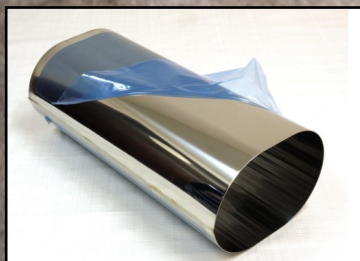


Custom exhaust system
with parts from

simons.se



BACKGROUND

Engine sound often evokes strong emotions among car enthusiasts. In this project, we focus on enhancing the sound and flow of a 2019 Porsche Panamera GTS, a car that OEM offers a distinctive engine tone from the factory.

Our goal is to further amplify this sound by building a custom exhaust system, using components available from www.simons.se product range, giving the car a truly unique character.

Through this project, we aim to inspire and share our experience to provide a comprehensive guide on how to build a custom exhaust system.

PREPARATION

Before we start, we make a plan for the project. The car has a dual exhaust system with one rear silencer at each side and electronically controlled valves.

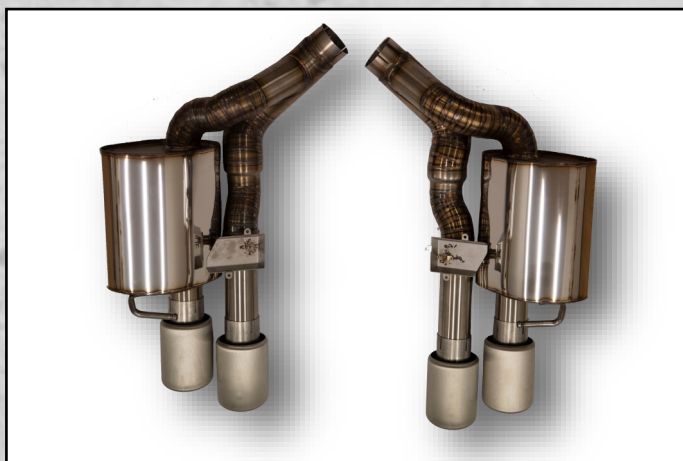
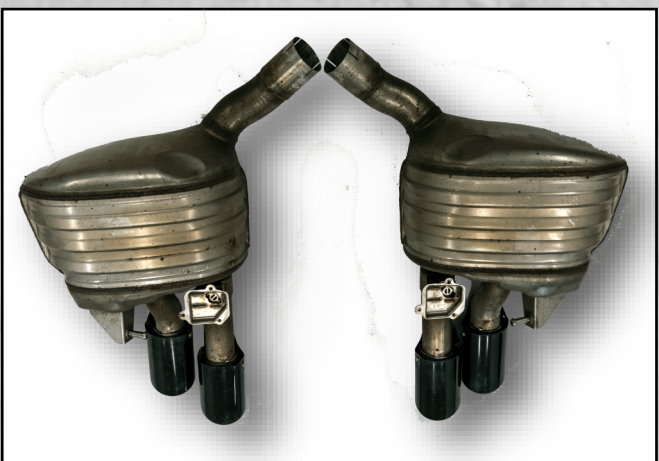
Since the original system is well-balanced, we'll keep the front sections and focus on the rear parts. The stock silencers will be replaced with full-flow silencers and bypass pipes operated by the original valve controls, improving flow and sound.

We'll also replace the black tailpipes with brushed stainless steel pipes that provide better contrast against the black diffuser.

BEFORE



AFTER



WHAT YOU NEED

A TIG welder and standard garage tools.

Various exhaust components from our own stock and available at www.simons.se.

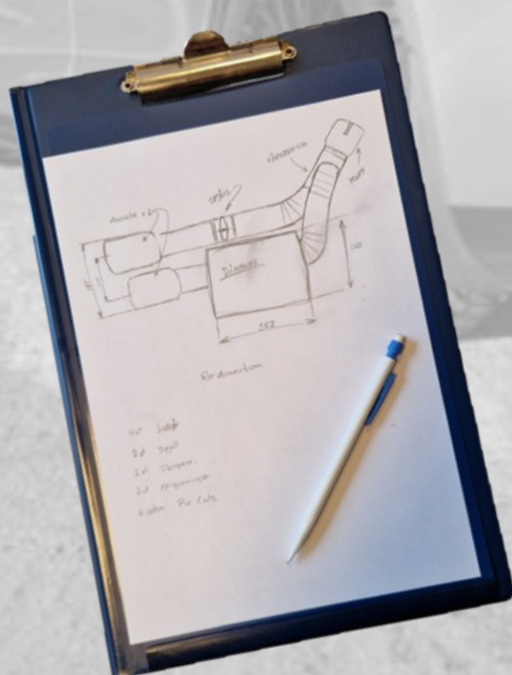
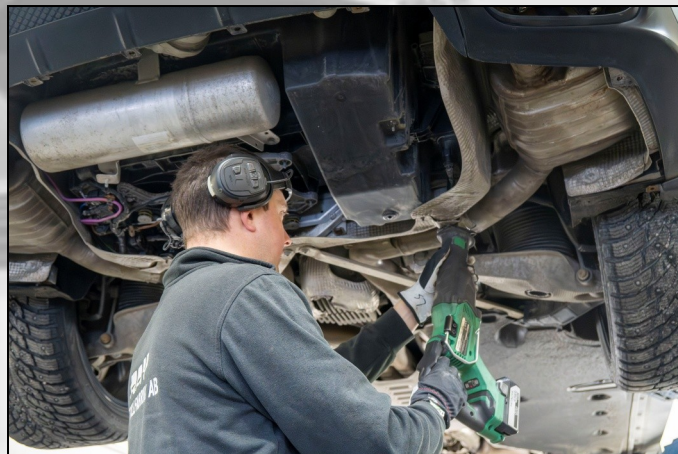
Ideally, a car lift to access the underside of the vehicle — always remember to lift safely!

SIMONS®

REMOVAL

We start by identifying a suitable point to cut the original exhaust system. A rough estimate is made to ensure there's enough space for the joint sleeve, Y-pipe and bends before the new silencers.

The valves are carefully disconnected, the pipes are cut, and the rear silencers are removed from the car.



PLANNING

We begin measuring the available space to determine the size of silencers and how the pipes should be routed. Proper measurements help ensure a clean and functional layout.

We make a sketch and select the parts needed. Pipes and silencers are built only of parts from **www.simons.se**, so we use the webpage as a planning tool to find the right combinations.

We start the construction by assembling the silencers. These are then held in position under the car using stands or supports to ensure they align correctly with the vehicle and with each other.

The pipe routing is planned with enough clearance at tight spots. It's important that the pipes have room to move slightly, both from vehicle motion and when the system heats up and expands during driving.



SILENCERS

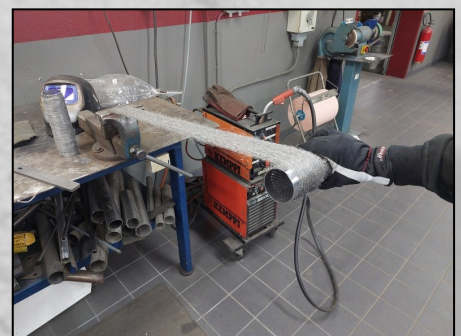
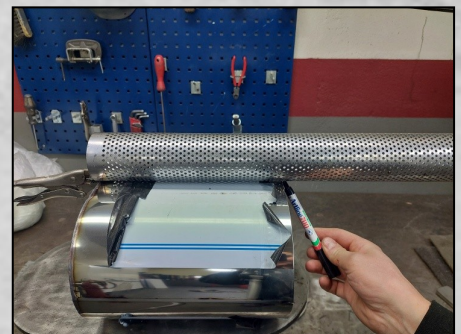
We are building full-flow silencers using silencer components from **simons.se**. Each silencer consists of the following parts, also shown in detail on page 5:

- Mantle, oval 170/240mm
- End plates with 63.5mm offset hole
- Perforated 63.5mm insert pipe
- Stainless steel wool wrapped around the perforated pipe
- E-glass wool as the main sound-absorbing material

The product range offers silencer components in various profiles. For this project, the 170/240 mm oval profile is a good fit. The mantle is delivered in 500 mm length and is cut in half to create two 250 mm long silencers. We estimate this volume will give a well balanced sound level. In general, a larger silencer volume gives lower sound level. It can be useful to compare the original silencer volume with the planned volume to estimate what sound level that can be expected of the new system.

We start by fitting one of the end plates by tapping it into place so it ends up edge to edge with the mantle and TIG-weld it the way around. We've chosen a end plate with offset hole, which aligns well with our pipe layout. There are about 20 types of 170/240mm end plates with different offsets and hole diameters in the product range.

Before welding the second end plate, we assembly the perforated pipe, wrap it with stainless steel wool to protect the glass wool from overheating, and then fill the silencer body with E-glass wool. Finally, the second end plate is installed and welded.



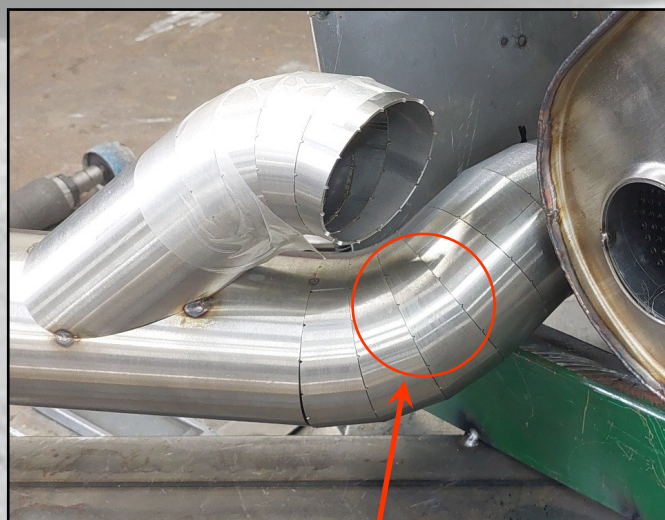
PIPE ROUTING

It's time to start with the pipe work. We build a simple fixture using the original silencers and their pipe connections to locate the fixpoints of inlet pipe, hangers and outlet pipes.

Alternatively, you can place the silencers under the car using temporary supports and tack-weld the pipes section by section.

Even though much of our work is done in the fixture, we regularly check fitment under the car to ensure everything lines up properly.

In this project we use the OEM electric valve controls to operate the by-pass valves. The valves are currently the only component that is not available in simons.se product range, so we bought them from an external supplier.

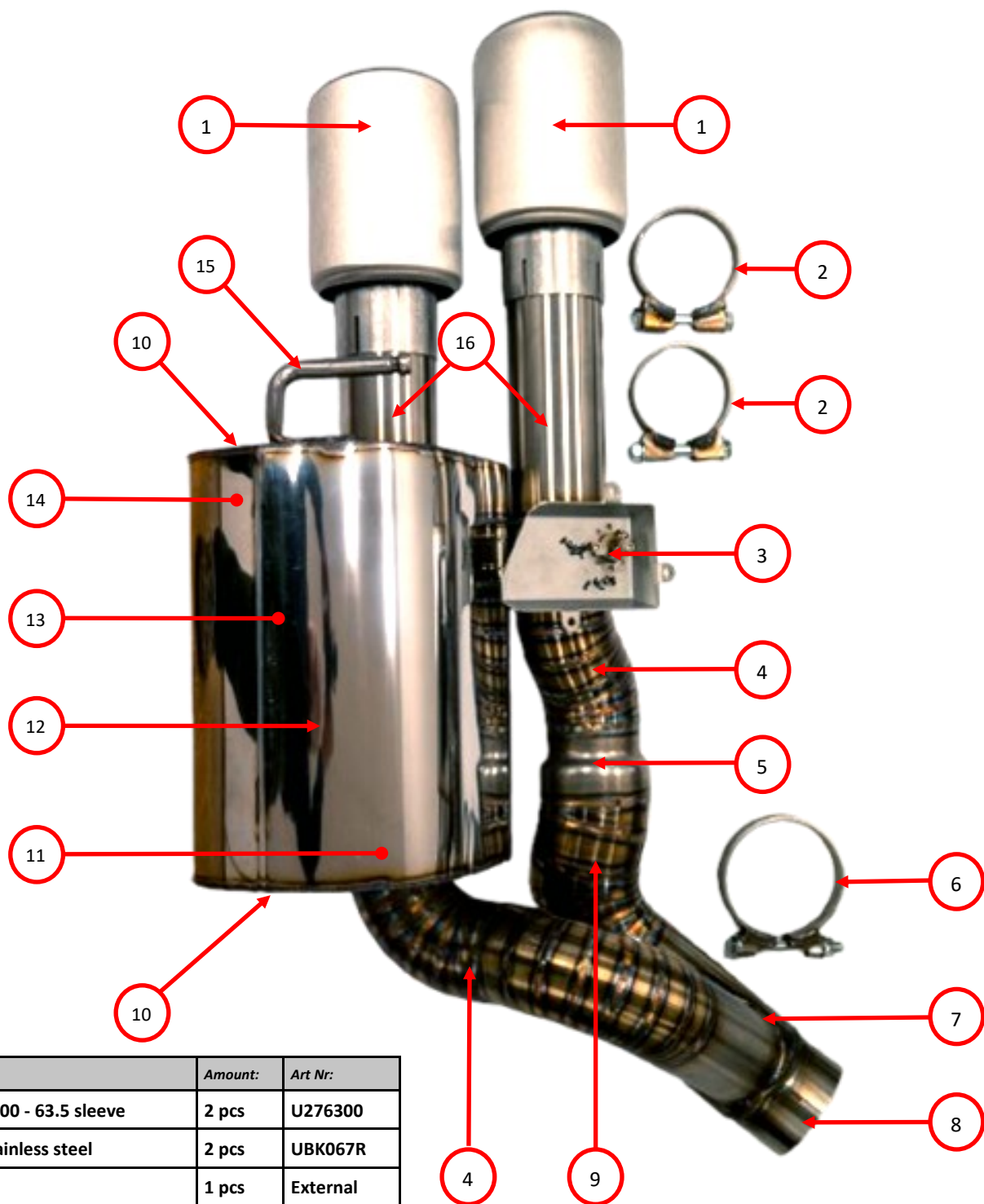


PIE CUTS

For the pipe work, we use our PIE CUTS to create the bends we need. Each pie cut is a 15° angled segment with tabs and notches that locks the pieces aligned, making it easy to hold multiple sections together without slipping.

Each segments can be rotated in 22.5° increments, allowing you to form a twisted bend radius — ideal when space is limited and a more complex pipe shape is required.

Our pie cuts are available in 15 different diameters and are sold in packs of 6 pcs. Full technical specifications can be found at www.simons.se under the section **Laser Cut Components**.



Parts from
www.simons.se

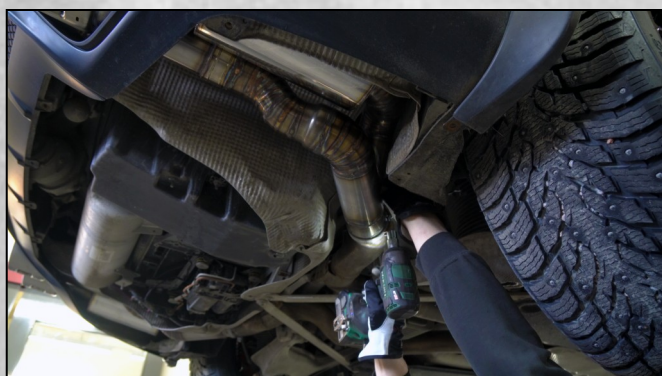
Nr:	Article:	Amount:	Art Nr:
1	Tail pipe round 100 - 63.5 sleeve	2 pcs	U276300
2	Clamp 67 mm stainless steel	2 pcs	UBK067R
3	Valve	1 pcs	External
4	Pie cut 63.5-15 R64	4 set	UWP6315R
5	Step sleeve 76-63	1 pcs	URM7663R
6	Clamp 73 mm stainless steel	1 pcs	UBK073R
7	Cutout 45 76.0-63.5	1 set	UWY7663R
8	Sleeve slotted 70	1 pcs	URMS70AR
9	Pie cut 76.0-15 R76	1,5 set	UWP7615R
10	End plate 170/240-63as	2 pcs	GO17063HR
11	Perf. pipe 63.5-625	1 pcs	IR63625K
12	Mantle 170/240-500	0,5 pcs	SO17050R
13	Wool stainless steel 1.0kg	0,1 pcs	U4SSW01
14	Wool E-glas Advantex 150g	7 pcs	U4G150A
15	12mm pipe bracket	1 pcs	U831212R
16	Pipe 63.5*490 stainless steel	1 pcs	U016350R

NOTE!

This parts list covers only
one side of the vehicle.
Since the build is sym-
metrical, the total materi-
al requirement is double

INSTALLATION

The final step is assembly. Mounting brackets are welded to the silencers, and the parts are aligned and fitted to the car. We choose 100mm brushed tailpipes to create a nice contrast against the diffuser. All clamps are tightened, and we ensure that every hanger is secure and properly positioned.



RESULT

All that's left is the test drive — and the satisfaction of letting the V8 roar.

You can experience the full project in both sound and visuals on our YouTube channel.

You Tube Porsche Panamera Project