

Workshop manual for removing and installing rear spoiler and pump unit Porsche 997 Turbo

3 different possibilities to remove the upper spoiler part!

-1 + 2 with drive module intact or half function + (2)emergency release . PAG. 2

-3 if the drive module is faulty. For this procedure, you will need circlip pliers(nose external type snap ring pliers) and a buffed key No. 12 with max. 4 mm thickness to remove the hydraulic lines from the rams. PAG.7

CAUTION:

Protect your cold engine with plastic or tissues!

Put tape around the hook wrench to avoid scratches on the paint of the car.



Different tools that you need to remove the spoiler:

- Special hook wrench and the buffed key off No. 12, both included with the workshop manual.
- second key off No 12.
- A few quick-release straps
- Torx bits TX10, TX 30, TX 40, holder with extension of +- 10 cm.
- Socket wrench of 10, and the ratchet wrench with extension .
- Circlips pliers(nose external type snap ring pliers)
- small screwdriver of 3 mm thickness or nail.



Removing rear spoiler

Note: The spoiler can only be removed easily from the rear lid if the extension elements are extended (spoiler up). If not, follow the manual on page 7.



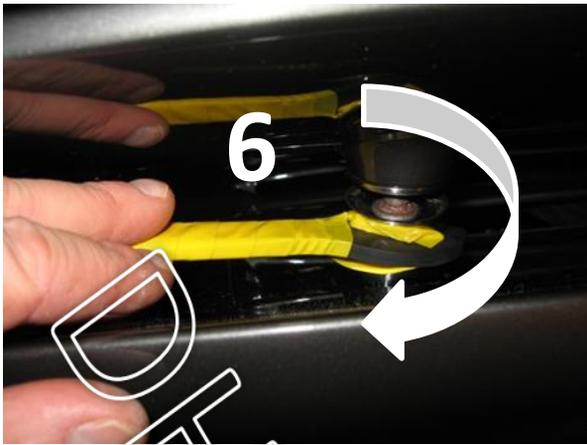
1. Extend the spoiler to its maximum with the switch in the car
2. Pull spoiler upwards with hand if **not enough** place between rear lid and spoiler -...



3. Push two support pads approx. 60 mm high on the right and left between the rear lid and the spoiler or towels .note: use suitable packaging material (e.g. styropore pad, cardboard) as a support pad.



- 4 . Insert the top of the hook wrench and turn clockwise to align the bore in the external tube with the internal bore (5).



6. Insert hook wrench into the bores and turned clockwise 3 turns around.



7. Remove the two support pads or towels .

Note: there rest about + - 3 cm between lid and spoiler to continue turned with the hook wrench in clockwise direction.

CAUTION: If not enough place between rear lid and spoiler to continue removing rear lid, you will have to insert the support pads and take the cylinders while wearing gloves during emergency release when you continue turning with the hook wrench to remove the rear lid.

The spoiler must be held tightly by an assistant. During emergency release, the extension element will suddenly retract!

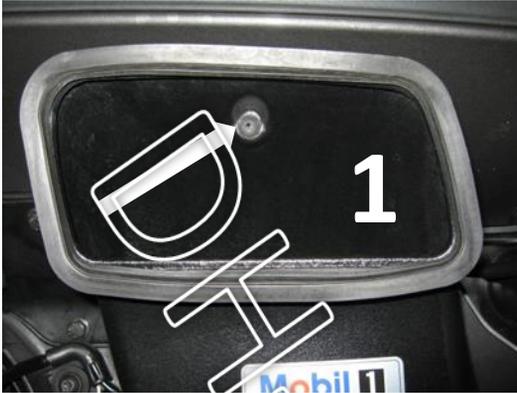
Before release, cover the painted areas of the lid near the extension elements with adhesive tape or towels

→ I prefer in this case to follow the instruction on page 6 for easy removal rear lid !!!!!



8. continue turned with the hook wrench in clockwise direction to remove the rear lid.

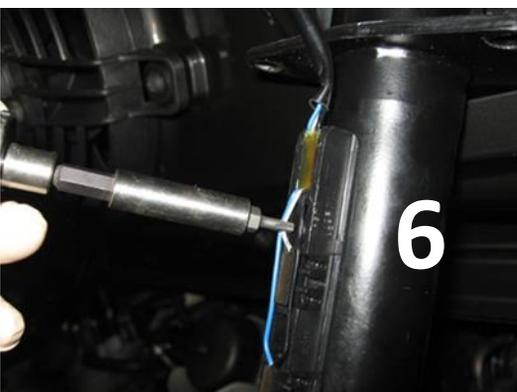
Removing hydraulic cylinders and pump unit:



1. Remove air guide : Push the inner plastic part out with the small screwdriver of 3 mm thickness or a nail and find this inner part back for further mounting



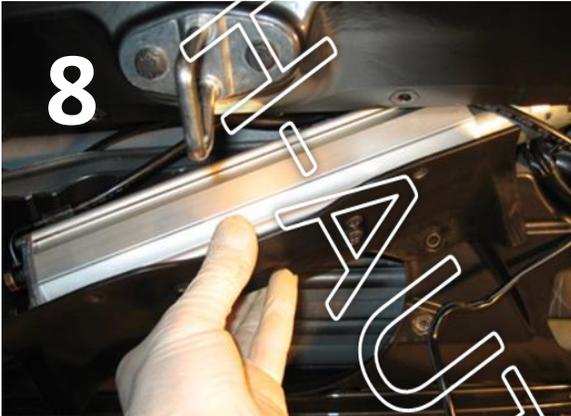
2. disconnect plug connection on fan
3. remove wiring from holder.
4. unscrew fastening screws fan and remove fan.
5. unscrew fastening screws from hydraulic cylinder with micro switch to rear lid and remove.



6. Remove plastic cover from micro switch holder and unscrew fastening screws TORX BIT TX10 on the hydraulic cylinder.



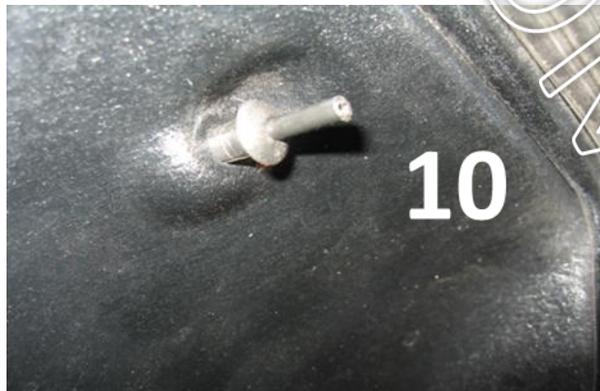
7. Remove micro switch holder from ram and then remove the left hydraulic cylinder from rear lid



8. Unscrew the 4 fastening screws from pump unit and remove pump. Disconnect plug connection on pump and protect with adhesive tape the connectors.



9. installing fan with fan housing. Attach with plastic strip the micro switch holder to fan housing.



10. Install the air guide with inner plastic part.

Now you can drive with the car until your mechanism is repaired.



For a good repair service we need complete mechanism. This allows to do a proper checkup and to fill the oil without air bubbles.

Disconnects oil lines from the pump and remove (shaking) remaining oil from the mechanism. Be careful with the lines when you package the mechanism to send us for the repair service.

Mention the content as hydraulic mechanism that needs repair. list my email and phone number on the documents for shipment

Removing instructions for the spoiler in case of malfunctions in the pump unit and when the mechanism has to be repaired.



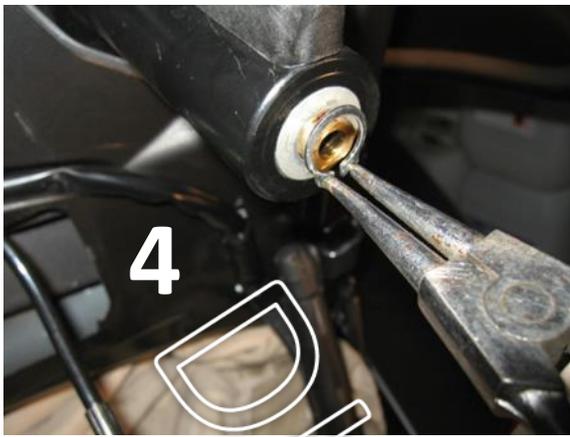
1. Bring the spoiler down manually using the rocker switch with the ignition on, if spoiler stay up: don't panic! You can continue following the instructions .

2. Remove plastic caps from the hydraulic rams.



Disconnects oil lines from the rams with the buffed key No. 12 and trapping oil on .(if spoiler total out do it in several steps on left and right ram to prevent damage to hydraulic rams and spoiler fastening)



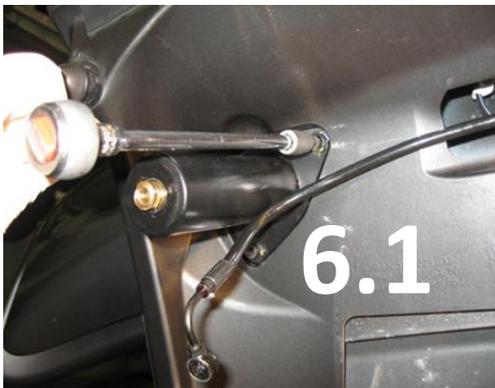


4. Remove circlip with circlips pliers left and right side (nose external type snap ring pliers) do not open the circlip to much .

5. Remove spring ring.



6. Remove air guide : Push the inner plastic part out with the small screwdriver of 3 mm thickness or nail and find this inner part back for further mounting

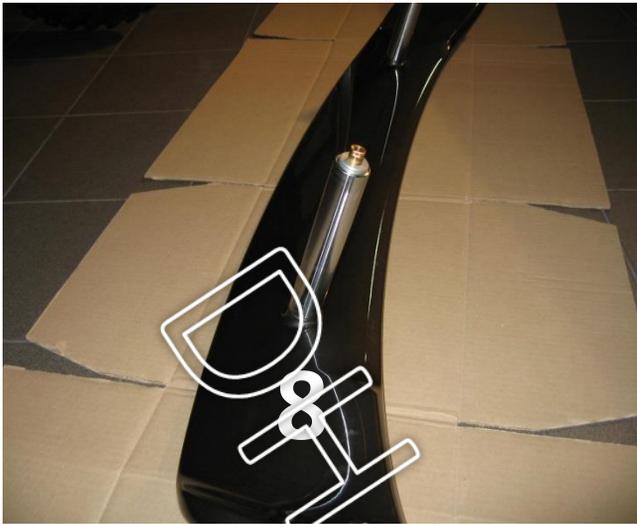


6.1 Unscrew a few turns the screws that fastening the 2 rams on the rear lid don't remove them. Close the rear lid

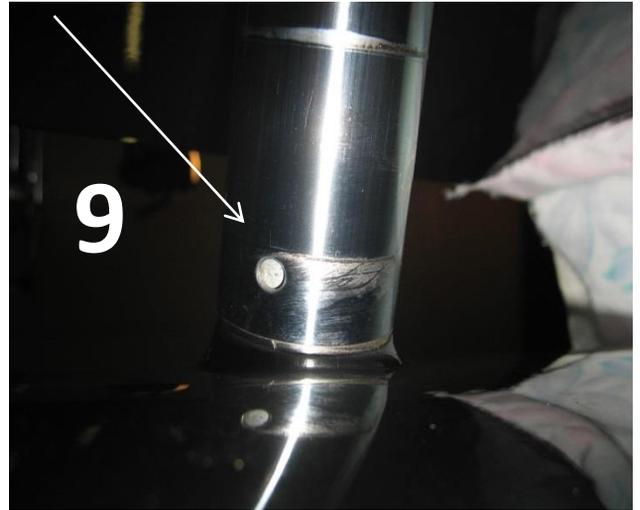
7. Pull spoiler upwards with hand, the inner parts of the hydraulic cylinder will come out with the spoiler.



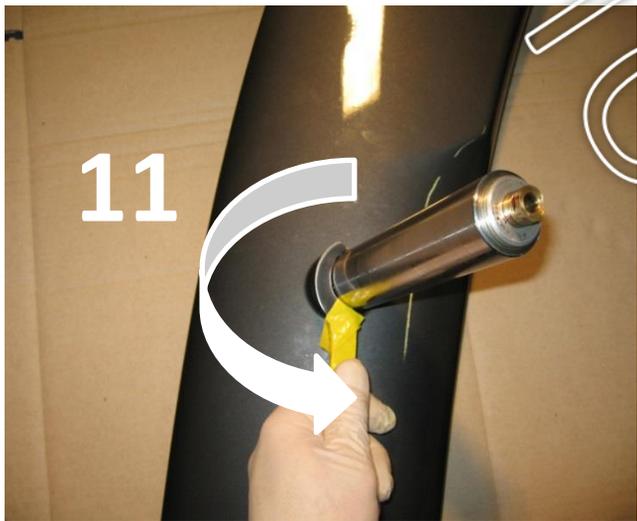
7.



8. Place the spoiler upside down on cardboard or bath towel.



9. Insert the top off the hook wrench and turned anti-clockwise to align the bore in the extern tube together with intern bore(10).

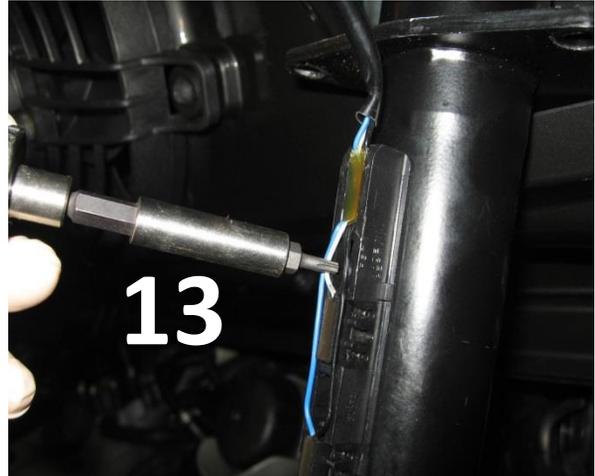


11. Insert hook wrench into the bores and turned anti-clockwise until the cylinder is unscrews.

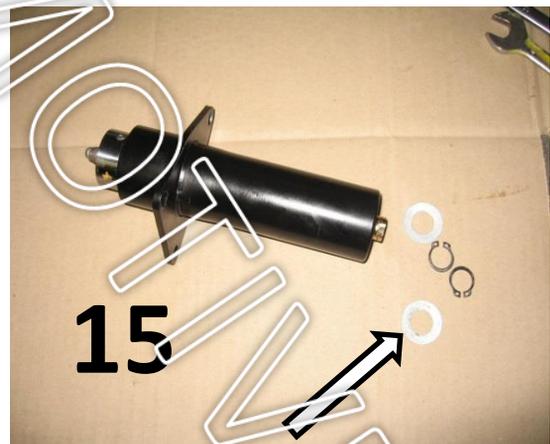


12. unscrew fastening screws from hydraulic cylinder with micro switch to rear lid and remove. Remove plastic cover from micro switch holder.

13. unscrew fastening screws TORX BIT TX10 on the hydraulic cylinder



14. Remove micro switch holder from ram and then remove the left hydraulic cylinder from rear lid



15. Assembling the inner parts from the hydraulic rams with the external part. Don't lose any parts.

CAUTION!!! : don't remove this circlips on the top off the hydraulic cylinders, there is a big spring inside with many pressure!!



Removing pump unit :



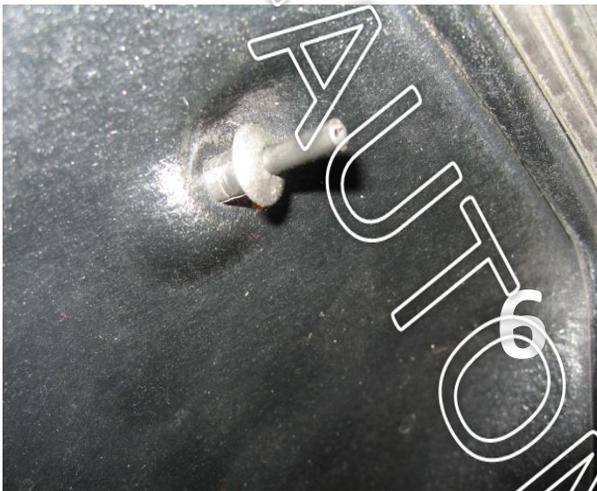
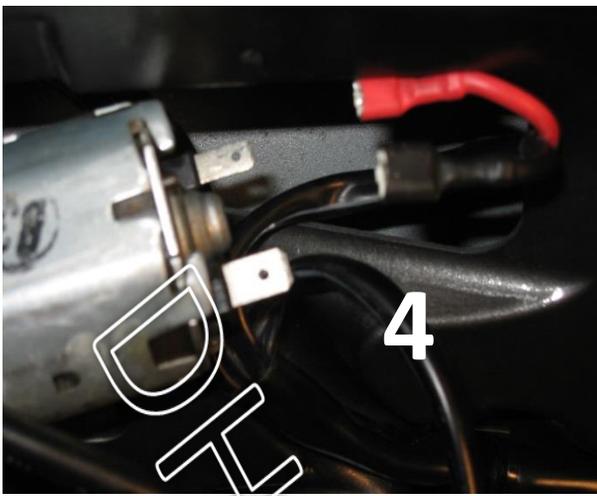
1. disconnect plug connection on fan

2. remove wiring from holder

3. unscrew fastening screws fan and remove fan.

4. Unscrew the 4 fastening screws from pump unit and remove pump. Disconnect plug connection on pump and protect with adhesive tape the connectors.





5. installing fan with fan housing. Attach with plastic strip the micro switch holder to fan housing.

6. Install the air guide with inner plastic part. No you can drive with the car until your mechanism is repair.

For a good repair service, we need all the mechanism. This allows to do a proper checkup and to fill the oil without air bubbles.

Disconnect oil lines from the pump and remove(shaking) remaining oil from the mechanism

When you send us the mechanism for the repair service, be careful while packing the lines.

Mention the content as 'hydraulic mechanism that needs repair'.

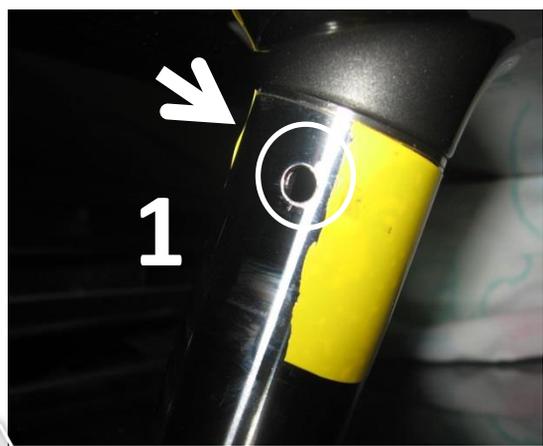
List my email and phone number on the documents for shipment.



Installing rear spoiler:

After the repair service the rams are extended for a easy installing.

Caution: Don't unscrew hydraulic lines from the mechanism, oil will leaking and your mechanism will be out of balance



1. Check the bores on both extension elements.

2. install the pump and the rams on the rear lid but do not fully tighten the 3 ram screws on the rear lid, just let them pretty lose.



3. Put spoiler on rams,

4..Insert hook wrenches, then turn anticlockwise until spoiler is tighten on both sides

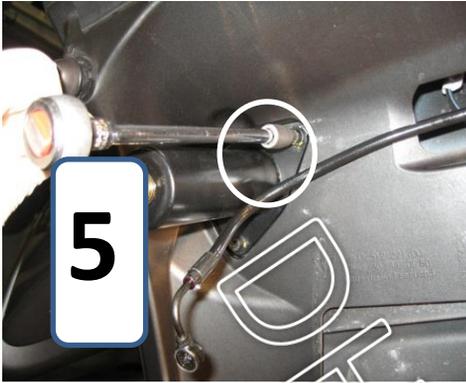
After you have locked the spoiler on the rams you can add some washer(2) from M4 on the top of your hook wrench and continue to turn in same direction +- 1 cm like you have locked the spoiler on the rams.



Now you have just turned the outside of the tube and the hols were you insert the hook wrench are closed , this is important otherwise water and dust are coming inside .

Beware:

Be careful when you fix the micro switch holder back on the ram the under switch clips behind in the ram inside



When everything is connected (micro switch , pump, spoiler) let the spoiler come down with the switch on the dashboard.

5. Once the spoiler is down you can tighten the 3 screws from the rams to the rear lid , this is necessary to have a good alignment spoiler – rams - rear lid.



6. During the installment, you can twist the connectors on the bottom of the rams with hand to bring hydraulic lines in a good position.

For install plastic plate , air guide and fan back please look in pages before.

We fix almost every fail on the Porsche 996-997 turbo spoiler mechanism.

We are not responsible for damage on the car or fiscal accidents when following our manual for dismantling the rear spoiler.

Do not hesitate to contact me for online support.

Workshop manual for removing and installing rear spoiler and pump unit Porsche 996-997 Turbo is available in different languages.

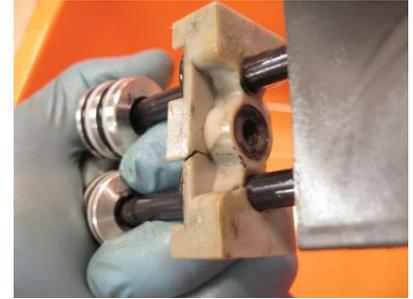
Send me an e-mail and I will send the manual for free in pdf.

Caution :. when you receive the mechanism, do not unscrew hydraulic lines from the mechanism. Oil will leak causing your mechanism to be out of balance.

Specialized in repair the spoiler hydraulic mechanism from a Porsche 996- 997 turbo with min. 5 years warranty.

We have redesigned the inner parts together with one off the biggest industrial service of the world and world leader in Sealing technology.

We guaranty you better than original parts with longer lifetime.



We change broken parts with better manufactured as genuine.

Every mechanism is controlled on pressure before return for good function.

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Tva : BE 668.282.389



Additional info how dismantle the mechanism from the car and advises to avoid damage during the shipment.

If you send us the mechanism to perform the repair and your spoiler don't raise up any more, we advise you to follow the instructions from page 6 or 7 in our manual depend 996 our 997, this to avoid possible damage to the paintwork of the bodywork during emergency release, the extension element gone retracts suddenly and this can bring damaged on the car.

To perform the disassemble from page 6 you need a circlip pliers (the nose of the pliers open when in the action with the hand, spreader pliers)

The hole to insert the hook wrench into the chrome cylinder is normally closed, insert the point of the hook wrench into the hole and continue to turn in the unscrew direction. (**do not use pliers on the ram** , use only adapted tool " **hook wrench**"!!!!)

Suddenly the point of the hook wrench will be completely inserted in the cylinder, this because it clips into an opening inside the cylinder.

Now you can continue to turn in the unscrew direction (996 spoiler is clip on 1/2 turn) to detach the spoiler on the cylinder. (Be careful to turning in the right direction , you are upside down if you dismantle the spoiler when it is install on the car (direction indication in the manual)

Turn tape around the key to avoid damage on the cylinder.

Avoid pinching in the hydraulic lines during disassembly.

Do not pull on the microswitches but unscrew (997 there are 2 small screws) (on the 996 there are 4 small screws) that hold the bracket with the microswitches on the extern black part off the right hand side ram.

Beware there are small metal laps on the microswitches that snap into the cylinder (do not abruptly detach the support with microswitches)

Cover the engine so that you do not lose any of the screws between the engine.

Unscrew the hydraulic lines on the pump head and do not connect them again, it is to avoid that it clamps on the shipment.

Empty the rest of the oil by shaking the pump upside down.

Back it well so that the mechanism don't move in its packaging

