

# Workshop manual for removing and installing rear spoiler and pump unit of a Porsche 996 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.

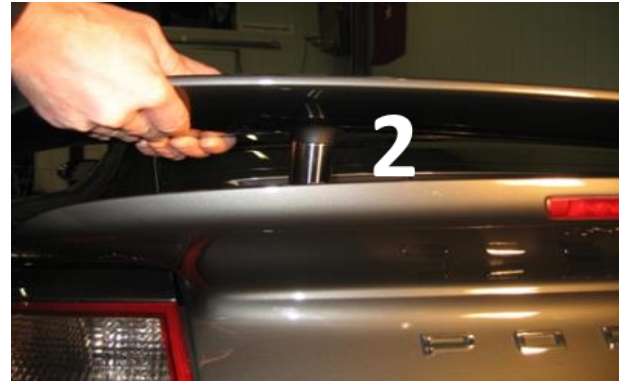


## Different tools that you need to remove the spoiler:

- Special hook wrench and the buffed key No. 12, both included with the workshop manual.
- second key No. 12.
- A few quick-release straps
- Torx bits TX8, TX 30, TX 40, holder with extension of +- 10 cm.
- Socket wrench of 10, and the ratchet wrench with extension .
- Circlip pliers( nose external type snap ring pliers)

# Removing rear spoiler

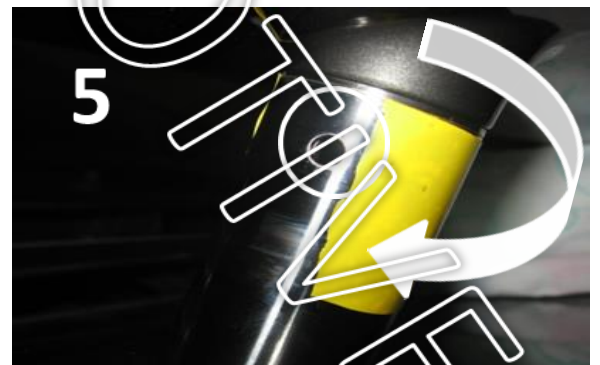
**Note:** The spoiler can only be removed easily from the rear lid if the extension elements are extended (spoiler up). If not, follow the manual on page 7.



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 of approx. 60 mm high on the right and left between the rear lid and the spoiler or towels. Note: use suitable packing material (e.g. styropore pad, cardboard) as a support pad

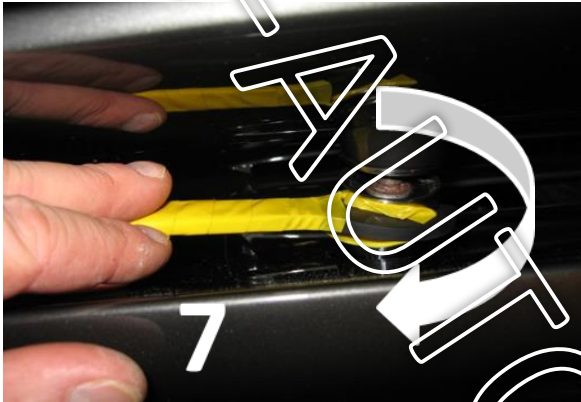


- 4 . Insert the top of the hook wrench and turn clockwise to align the bore in the external tube with the internal bore , suddenly the point of the hook wrench wil slide fully in the internal bore(5).



6. Remove the two support pads or towels.

**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



7. insert hook wrench into the bores and turn clockwise by 90°

8. Unlock left and right extension.

→ It is better in this case to follow the instructions on page 7 for easy removal of the rear lid !!!!!

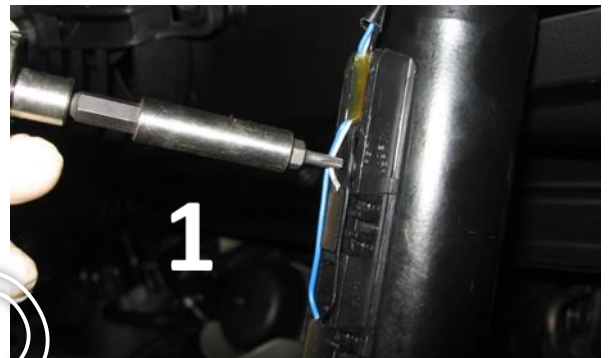


# Removing hydraulic cylinders and pump unit:



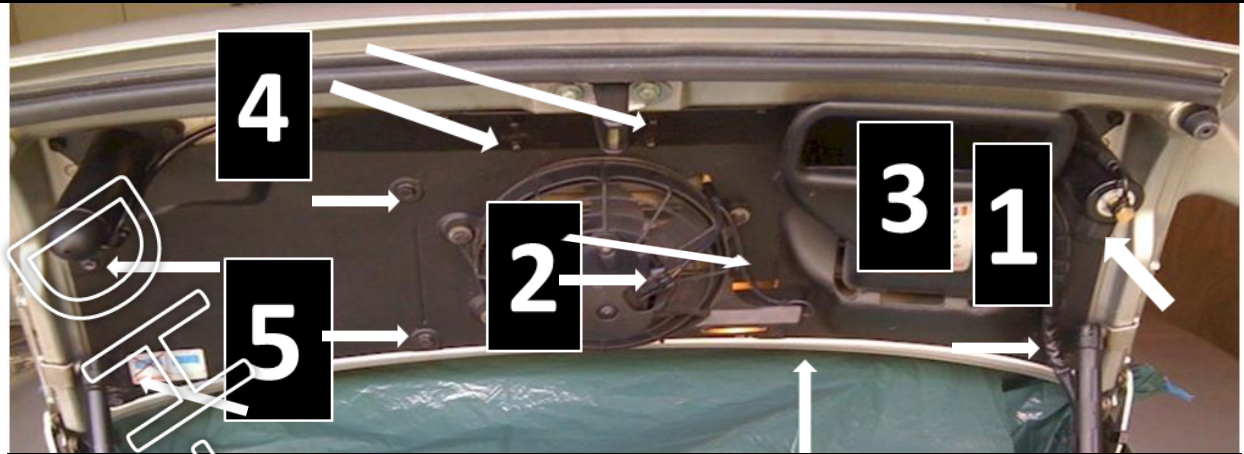
Protect engine to avoid losing screws.

1. Remove plastic cover from micro switch holder and unscrew fastening screws TORX BIT TX8 on the hydraulic cylinder.

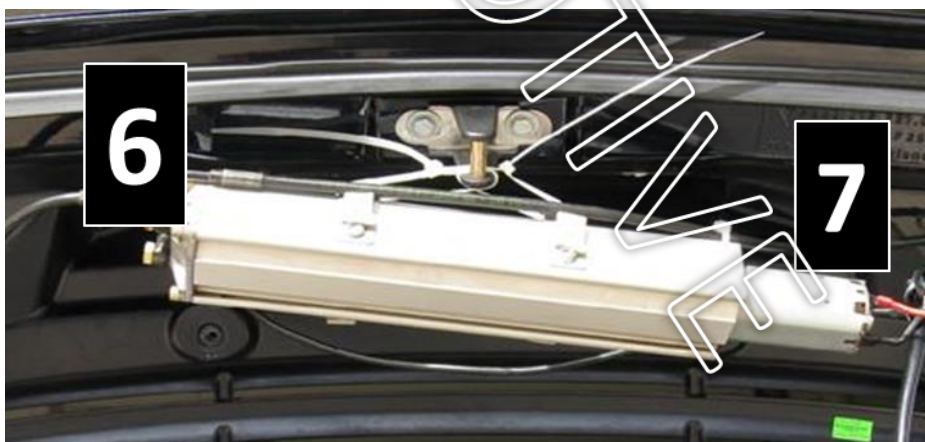


2. Remove micro switch holder careful from ram. The metal lips snaps inside the ram.

## removing instructions for the pump unit rams



1. remove wiring from holder.
2. disconnect plug connection on fan and light, unscrew fastening screws fan and remove fan.
3. unscrew fastening screws inside air guide and remove.
- 4 Unscrew the 4 screws on the pump unit with a few turns.  
Don't remove the screws
5. Unscrew the 8 screws that hold the plastic plate on the rear lid and remove ,you can now unscrew with the hand the screws from pump unit .



6. Fasten the pump with quick-release straps .
7. Disconnect wiring on pump and protect them with insulating tape.



8. unscrew the screws that fasten the rams on the rear lid and remove them.

Remove the mechanism and rams.



9. . Attach the wiring from the pump with plastic strip to avoid that it turns in the fan.

Reinstall plastic plate, air guide and fan.

Know that you can't drive with the car until the mechanism is repaired.

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.

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



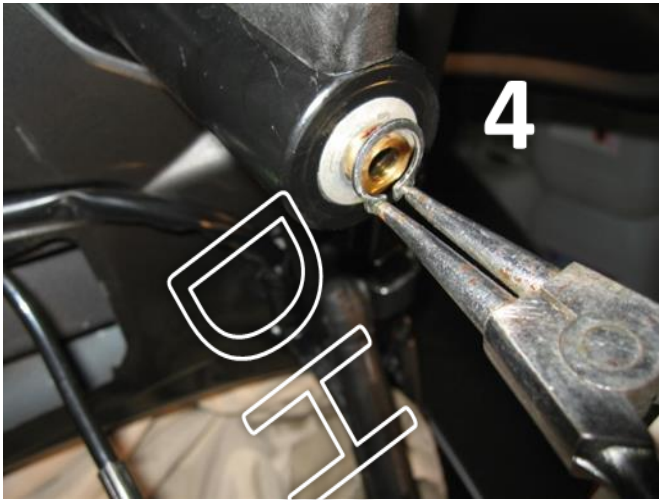
Bring the spoiler down manually using the rocker switch with the ignition on, if the spoiler stays up: don't panic! You can continue following the instructions.

2. Remove plastic caps from the hydraulic rams.



Disconnect 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.



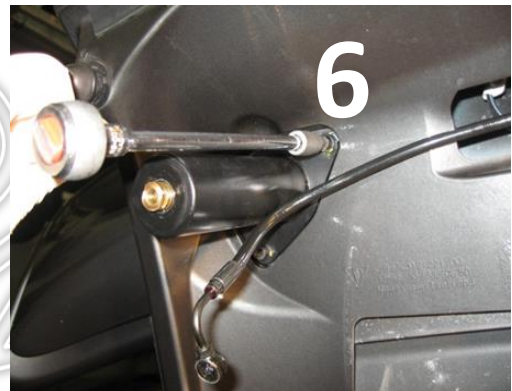


4. Remove circlip with circlip pliers left and right side (nose external type snap ring pliers), do not open the circlip to much

5. Remove spring ring. Do this both sides.



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



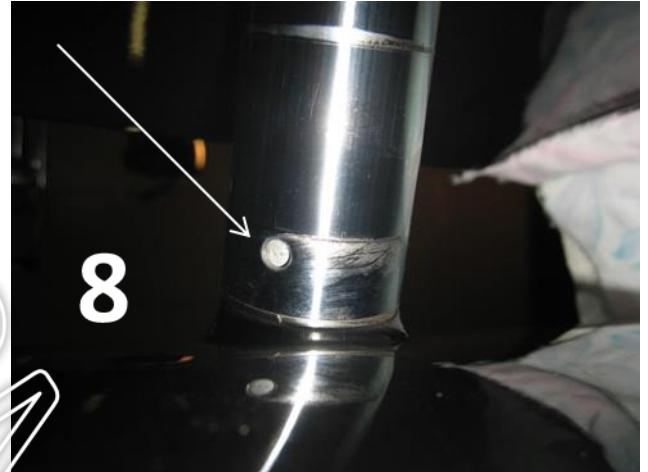
6.1 . Pull spoiler upwards with hand, the inner parts of the hyrdaulic cylinder will come out with the spoiler.





7. 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 external(8) tube together with internal bore(9).



Suddenly the point of the hook wrench will slide fully in the internal bore



10. Continue to turn anti-clockwise by 90° to unlock left and right chrome cylinder



## Remove instructions for the pump unit and rams .

Remove plastic cover from micro switch holder and unscrew 4 fastening screws TORX BIT TX8 on the hydraulic cylinder.



Remove micro switch holder careful from ram. The metal lips are very easy brittle.



1. . remove wiring from holder.

2. disconnect plug connection on fan and light, unscrew fastening screws fan and remove fan.

3. unscrew fastening screws inside air guide and remove.

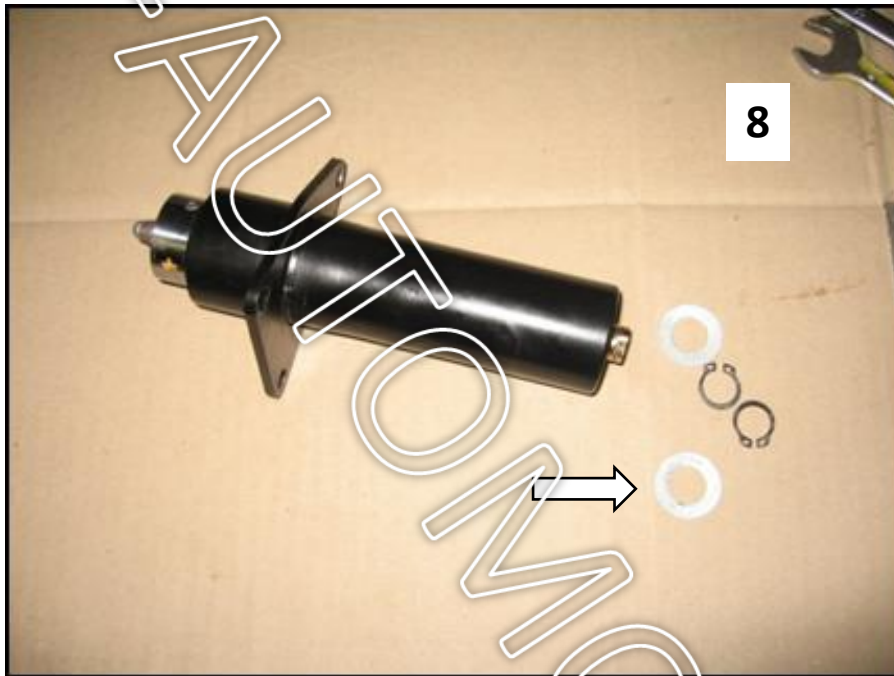
4 . Unscrew a few turns the 4 screws on pump unit don't remove the screws .

5 Unscrew the 8 screws that hold the plastic plate on the rear lid and remove ,you can now unscrew with the hand the screws from pump unit .

6.Disconnect wiring on pump and protect them with insulating tape.



7. Unscrew the screws that fastening the rams on the rear lid and remove them..  
Remove the mechanism and rams.



8. Assembling the inner parts from the hydraulic rams with the extern 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!!



9. Attach with plastic strip the wiring from the pump to avoid that is turn in the fan. install plastic plate , air guide and fan back .  
No you can drive with the car until your mechanism is repair.

For a good repair service we need all the mechanism for a checkup and filling the oil without air bubbles.

Disconnects oil lines from the pump and remove remaining oil from the mechanism.

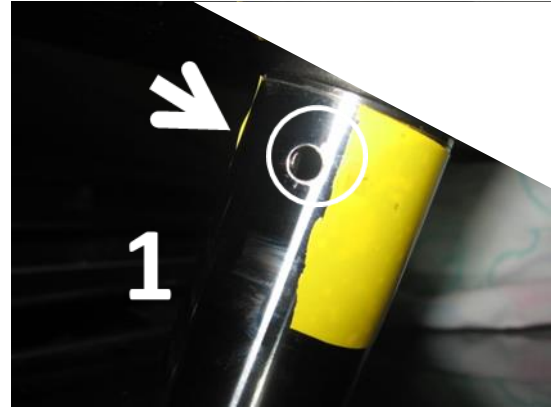
Be careful with the lines when you package the mechanism to send us for the repair service.

Mention the content as hydraulic mechanism that need to repair.  
listed 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 90° anticlockwise and lock spoiler 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 holes 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.

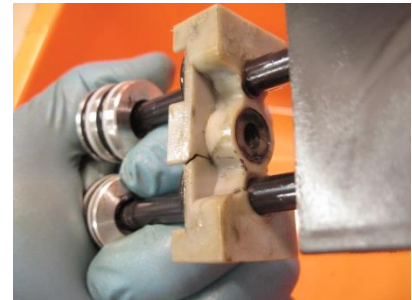
Send me an e-mail and I will send the manual for free in pdf.

**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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Info how remove the hydraulic lines from the rams if you don't have a key from nr 12 with thickness off 4mm to hold the brass connections during the unscrewing.

NEVER use a pliers on the brass connections, avoid damage on the connections!



If you don't have the key off nr 12 with thickness of 4 mm you can use the nr 14 on the hydraulic lines banjo's to unscrew them.



**nr 12 with thickness  
of 4 mm on the brass  
connections**



**nr 14 on the hydraulic lines  
banjo's**

## NEXT

Removing the chrome cylinders from the spoiler without the hook wrench on a 996 Turbo explained on page 7 from our manual:  
Remove instructions for the spoiler in case of malfunctions in the pump unit.

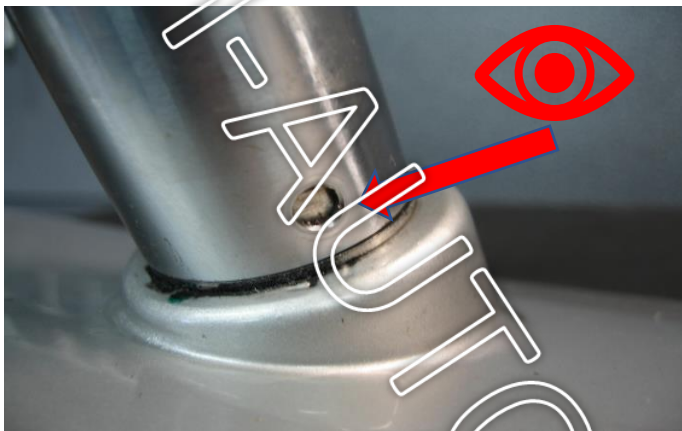


Once you remove the spoiler explained as in the manual on page 7, the chrome cylinders are still fixed on the spoiler but it is possible to remove them without the hook wrench.

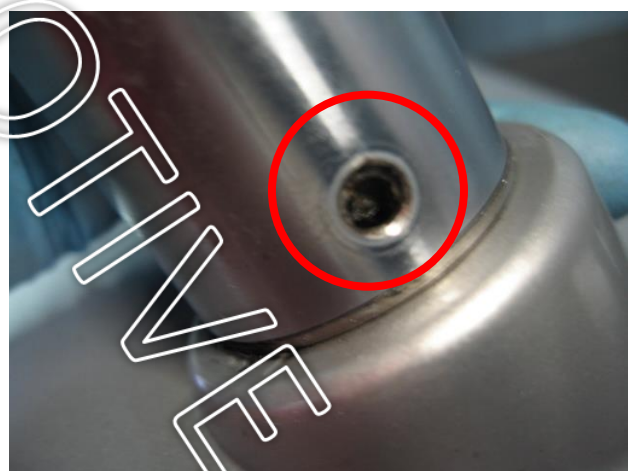
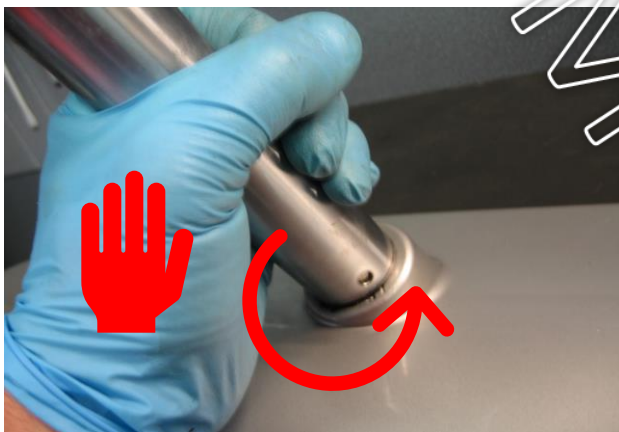


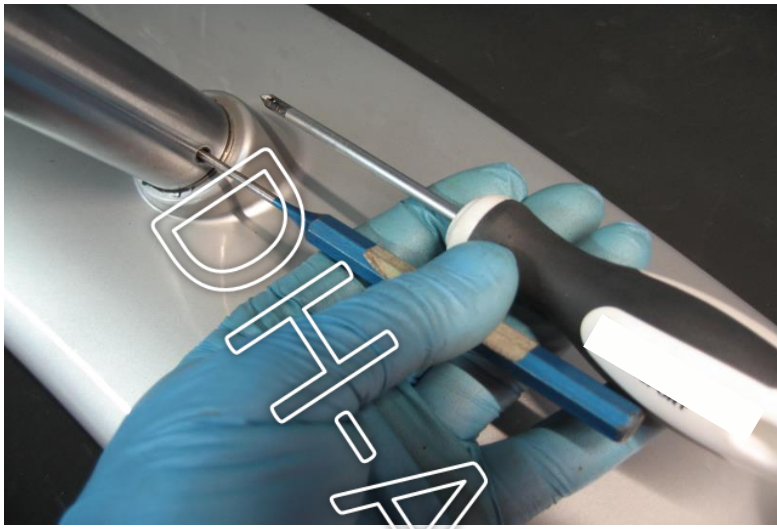
( **never** use a pliers on the cylinders)

Look for a small hole just below the wing connection in the chrome cylinder. This cylinder is actually made of nested parts. The outer cylinder rotates independently of the fitting that clips into the wing.



**Turn by hand** anti clockwise to align the bore in the external tube with the internal bore





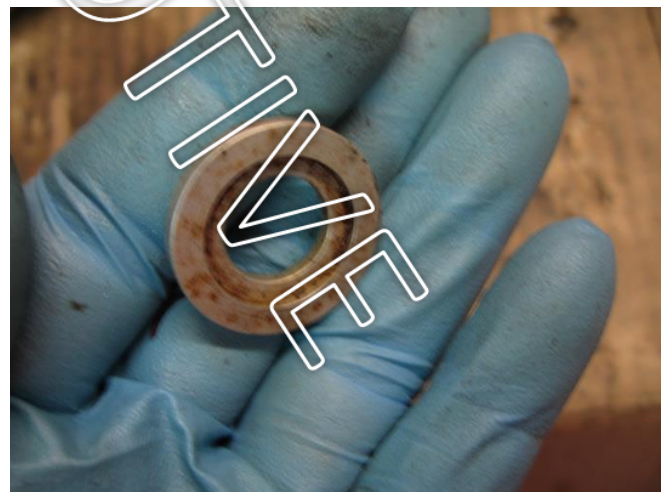
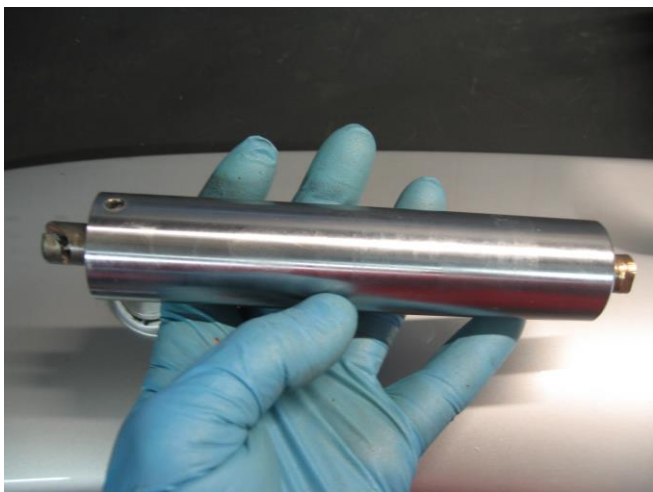
In case you don't have the special hook wrench with round pin.



You can also insert a pin off 4mm or a screwdriver in the bore and turn by hand On the cylinders.



Once the pin or screwdriver is inserted in the bore, turn by hand  $\pm 90^\circ$  anti clockwise to unclip the cylinders from the spoiler



Don't lose any parts and don't forget to send us the aluminum mechanic stops from inside!!

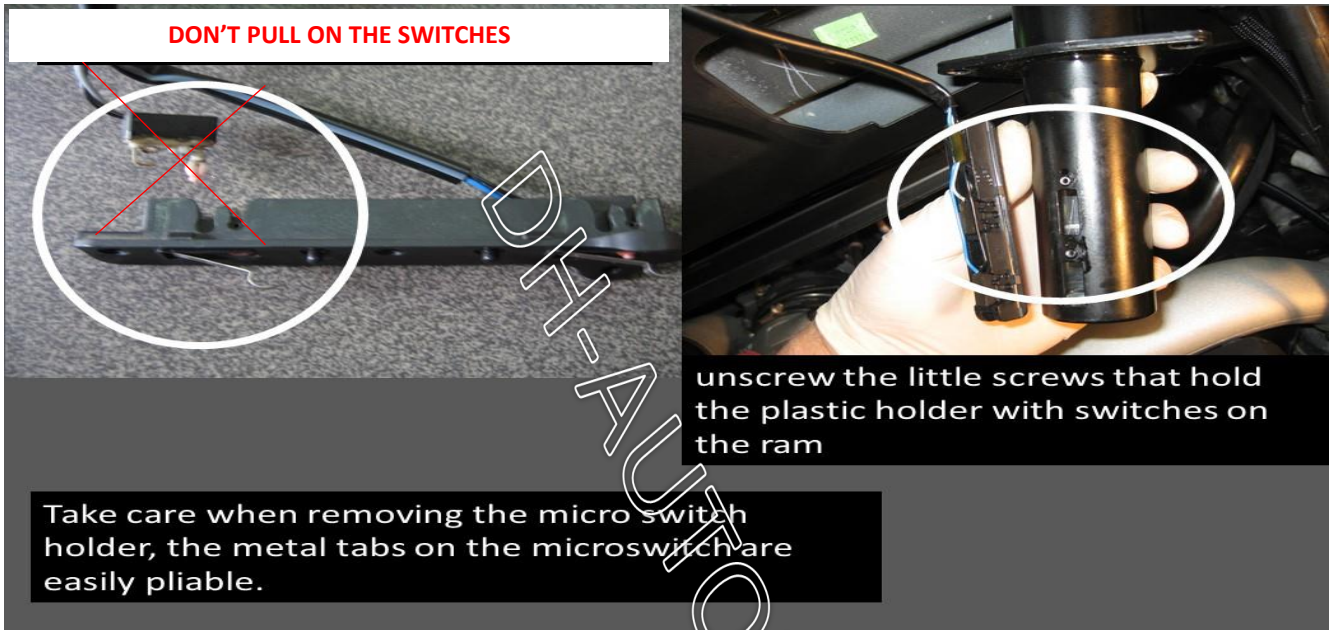
For more info contact us at: [dh.automotive@telenet.be](mailto:dh.automotive@telenet.be)

Avoid pinching in the hydraulic lines during disassembly.

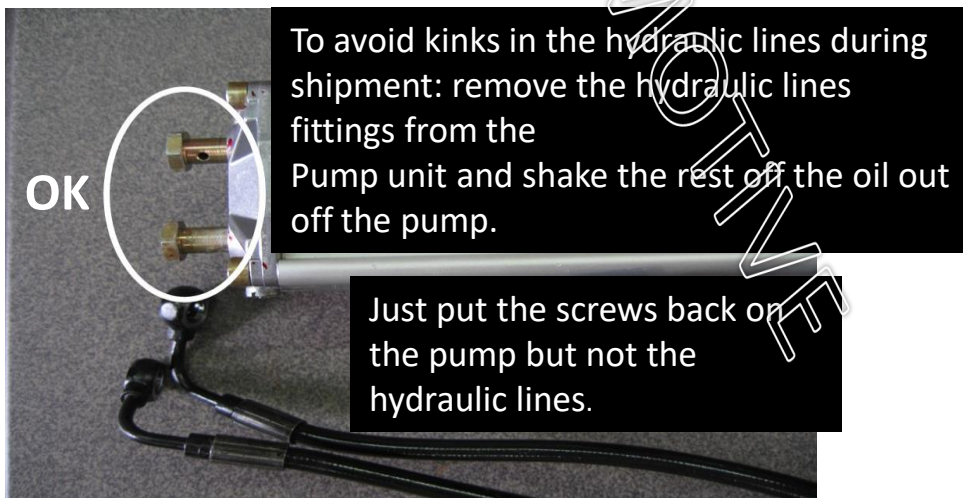
**Do not pull on the microswitches** but remove the plastic holder with the micro switches. there are **4** small screws that hold the bracket with the microswitches on the external black part off the right hand side ram. **1 screw is hidden in the middle of the bracket.**

Beware there are small metal lugs 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.



### Additional info to avoid damage during the shipment.



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

**Pack it well so that the mechanism don't move in its packaging.**

Don't forget to send us parts (bolts off hydraulic lines and possible **parts that you have disassembled on the aluminum case of the pump** .

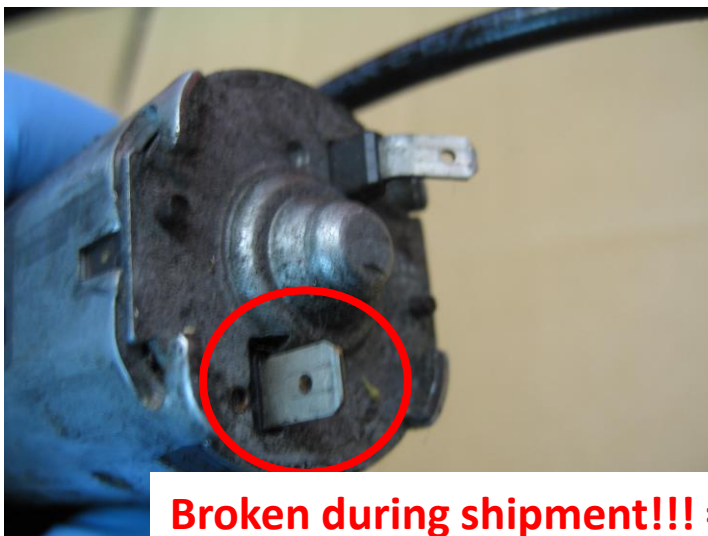
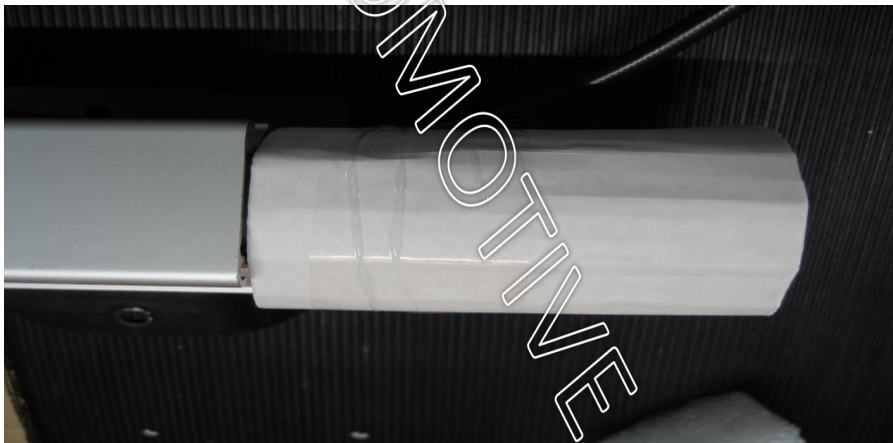
You can drive with the car while waiting for the overhaul, just be careful to protect the micro switches

Make a good packaged and protect al the parts to avoid damage during shipment.

Protect with bubble follies or other protective material.



Protect the wiring connections on the pump, they are fragile if they have a shock during the shipment.



**Broken during shipment!!! = new electric engine**