

OPERATION INSTRUCTIONS
FOR
CHANGING WHEEL HUBS AND WHEEL BEARINGS

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THANK YOU

You have decided in favour of a quality product from the house of PASCHKE PROFITEC. We thank you for your trust and are at your disposal for further questions at (almost) any time.

Please check the delivery according to the delivery order and for damage due to transport straight after receipt.

Read all instructions thoroughly before use to avoid injuries and damage during the operation of the system. PASCHKE PROFITEC Ltd. will not be made liable for any damage or injuries caused by improper use, poor servicing and/or false operation.

If a vehicle is not clearly listed, please consult the procedure for a similar vehicle (uniformity check of diameter of bearing and size of axle body absolutely necessary).

In the following the hydraulic working method is described, but the mechanical application is basically the same. In case of extremely awkward, rusty or stuck wheel bearings, we advise you to always bring the hydraulic tool to use, but the later conversion is also possible without any problems.

PROFITEC-tools are constantly up-dated . If you wish to add to your tools, we are glad to advise you individually.

Just contact us.

Safety instructions for the Hydraulic System

▲ WATCH OUT! DANGER! THE NOMINAL LOAD OF THE SYSTEM IS NOT TO BE EXCEEDED.

- Do not, in any case, try to lift a load which exceeds the nominal load of the hydraulic cylinder. Overloading can cause damage to the system and injuries.
- These cylinders are designed for a pressure as high as up to 700 bar. They should definitely not be connected under a higher pressure without a pump.



▲ WATCH OUT! DANGER! MAKE SURE THAT THE SYSTEM IS STABLE, BEFORE A LOAD IS TO BE LIFTED.

- The cylinder should sit on an even surface, which is solid enough to support the load. If possible, use a cylinder foot to increase stability. Neither welding nor any other alterations should be made to the cylinder to attach a cylinder foot or other support.



- Avoid situations in which the load is not directly above the piston of the cylinder. Laterally moved loads will cause a considerable strain to the cylinders and the pistons. Furthermore the load could slip or fall, which can lead to an extremely dangerous situation.



- Distribute the load evenly over the complete surface of the thrust pad.



▲ WATCH OUT! DANGER! DO NOT OPERATE ANY HOSES WHICH ARE UNDER PRESSURE.

- Oil, which squirts out under pressure can penetrate the skin and cause severe injuries. If oil should come under the skin, contact a physician immediately.



▲ WATCH OUT! DANGER! ONLY USE THE HYDRAULIC CYLINDER TOGETHER WITH A CONNECTING SYSTEM.

- Do not use the cylinder without joined couplings. If the cylinder is extremely overloaded, the locking pellet or the hydraulic oil can shoot out of the cylinder and cause severe injuries.



⚠ CAUTION! AVIOD DAMAGE TO THE HYDRAULIC HOSE.

- Avoid all sharp bends when laying hydraulic hoses. If a bent hose is use, a strong pressure builds up. Sharp bends can also cause internal damage to the hose, which will cause a premature failure.



- Do not drop any heavy objects on the hose. The impact of a sharp object can damage the internal wire strands. If a damaged hose is being put under pressure, it can burst.



- Always use the handle when carrying the pump. Do not in any case use a hydraulic hose for carrying the components of the hydraulic systems (e.g. pumps, cylinders, valves).



⚠ CAUTION! COMPONENTS OF THE HYDRAULIC SYSTEM HAVE TO BE KEPT AWAY FROM HEAT AND OPEN FIRE.

- Excessive heat can weaken the hose which can result in leakages. Furthermore the material of the hose and the package are weakened. For optimal performance do not expose the system to temperatures over 65 degrees Celsius. When welding, protect the hoses and cylinders from dashes from the soldering.



⚠ WATCH OUT! DANGER! When working with hydraulic devices, wear appropriate clothing at all times to avoid injuries.

⚠ WATCH OUT! DANGER! The pressure restriction valve must never be adjusted to a higher pressure than the given maximum pressure. A higher adjustment can cause damage and/or injuries.

⚠ CAUTION! Do not attach an extension to the handle of the pump at any time. Extensions can cause instability when the pump is being put to use.

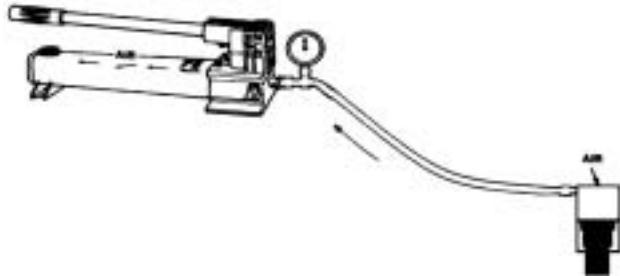
⚠ WATCH OUT! DANGER! Under certain circumstances the handle of the pump can *hit back*. Make sure that you always stand next to the pump and that your body is not within reach of the handle.

⚠ CAUTION! Close the pressure restriction valve only as tight as you can with your hands. If the pressure restriction valve is shifted about with a tool, it can be damaged and can cause the failure of the pump.

▲ WATCH OUT! DANGER! Only ever add oil, if the cylinders are completely well-worn. Otherwise the system receives more oil than it can take in.

Servicing

- in the mechanical version, the tensile bolt with disk and the special nut have to be checked, cleaned and greased and if necessary exchanged, regularly.
- in the hydraulic version, the ventilation of the hydraulic pump has to be regularly checked (as in the sketch) and the setting at the button on top adjusted.



Simple working cylinders: Adjust the cylinder in a way so that the piston points downwards and that the cylinder is underneath the pump. Drive the cylinder in and flat out two or three times.

Fault detection

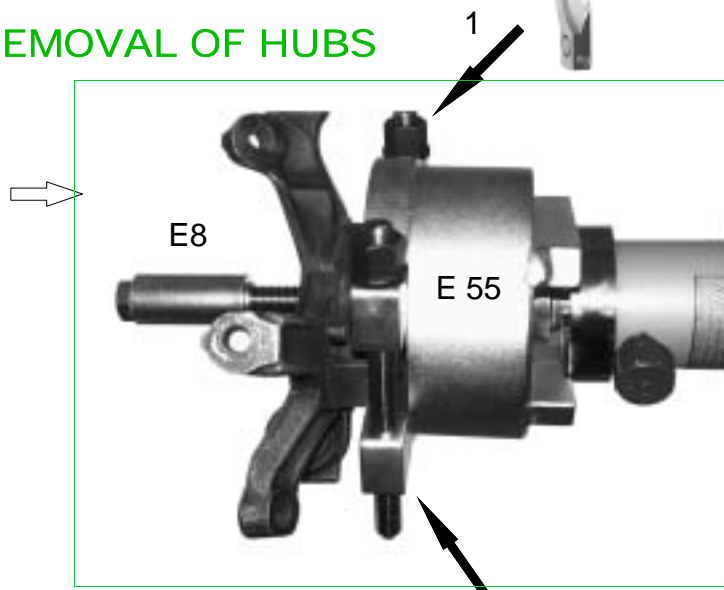
These cylinders should only be repaired by PASCHKE PROFITEC Ltd. Simple working cylinders are under spring pressure and during dismantling, certain methods are necessary to avoid injuries.

P R O B L E M	P O S S I B L E C A U S E
Cylinder does not extend.	Pump-pressure release valve open.
	Coupling is not completely tightened.
	Oil level within the pump is too low.
	Pump is damaged.
	Load is too heavy for the cylinder.
Cylinder extends only partially.	Oil level within the pump is too low.
	Coupling is not completely tightened.
	Cylinder piston is stuck.
Cylinder extends jerkily.	Air in the hydraulic system.
	Cylinder piston is stuck.
Cylinder extends slower as normally.	Leaking link.
	Coupling is not completely tightened.
	Pump is damaged
Cylinder extends, but does not stop.	Cylinder seal is leaking.
	Pump is damaged.
	Leaking link.
	System not correctly installed.
Cylinder is leaking Oil.	Worn-out or damaged seal.
	Internal damage of the cylinder.
	Lose connection.
Cylinder does not withdraw or withdraws slower than normally.	Pressure release valve of the pump is closed.
	Coupling not completely tightened.
	Collecting container of the pump is overfilled.
	Narrow pass within the hose limits the stream of oil.
	Reverse spring is damaged or too weak.
	Internal damage of the cylinder.
Leakage on the outer release valve.	Coupling not completely tightened.
	Narrow pass within the return travel pipe.

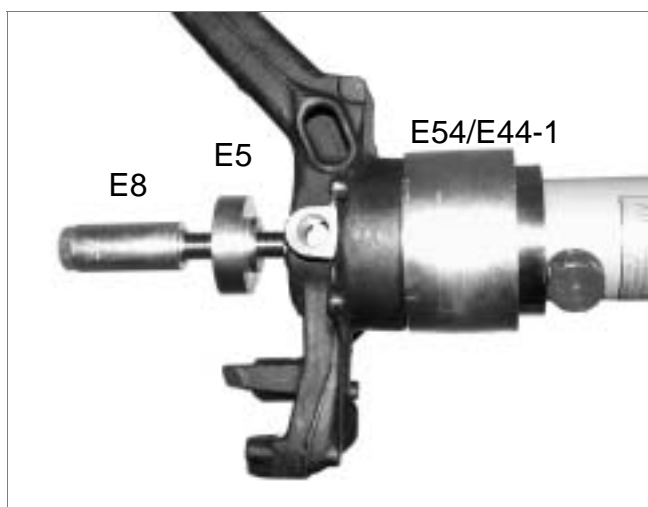
MERCEDES

REMOVAL OF HUBS

First (1) brace the cut-off device, then place the cup (E55) with hydraulic, bolt and nut (E8) in position.

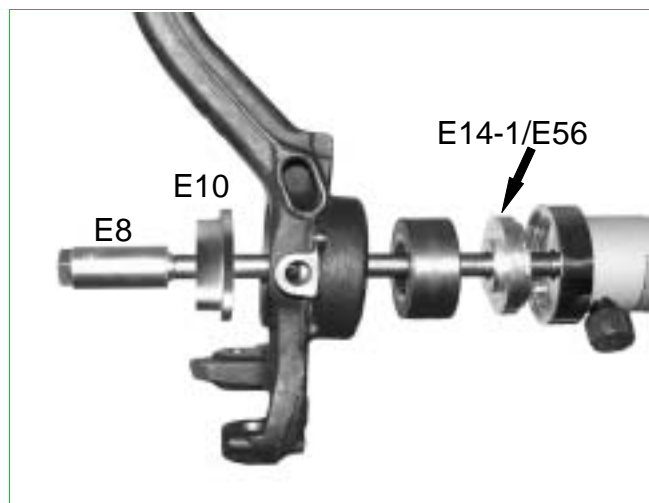


REMOVAL OF BEARINGS

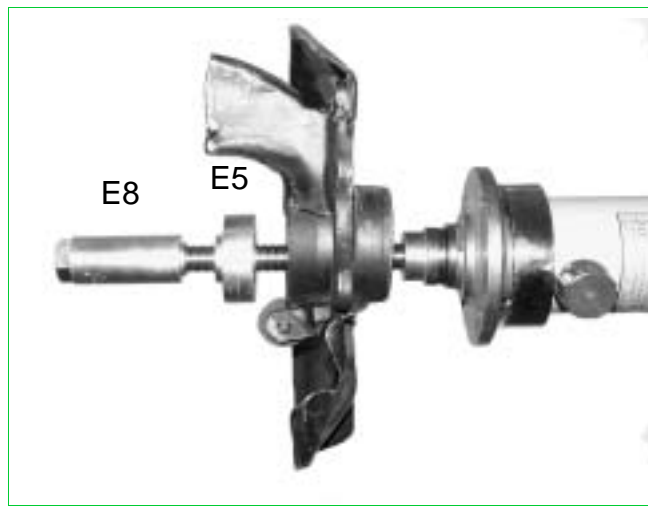


Remove outer seeger circling ring first.

FITTING OF BEARINGS



FITTING OF HUBS



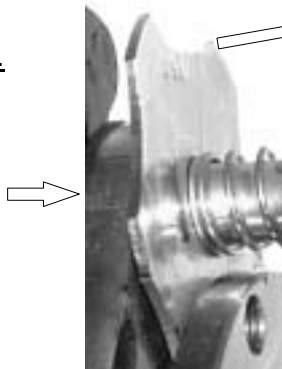
! Thrust pad has to fit tightly to the internal bearing ring.

General e. g.: VW, Audi, Opel, Honda, Skoda, Seat, Fiat

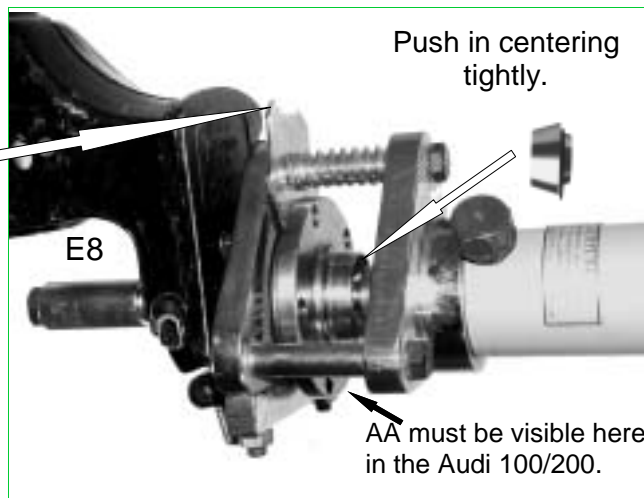
! Turn the adjustment wheel until the supporting stand is in the centre of the axle.

Example of models: _____ **Nr.**

Polo, Derby, Audi 50	1
Golf II, Scirocco, Jetta, Kadett	2
Audi 80/90, Passat	3
Passat 88, Audi 100/200	4
Golf III, Ascona, Seat, Honda	4
Audi 100/200	5

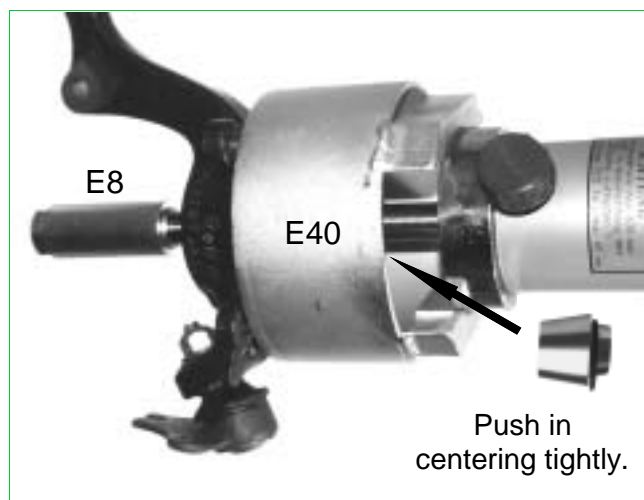


REMOVAL OF HUBS



REMOVAL OF HUBS

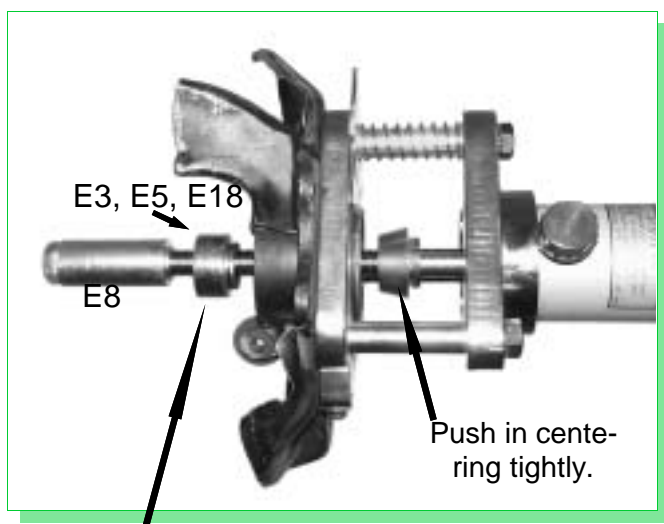
Hubs with ABS-disk, which sends an impulse to check if the wheel is still in motion, e.g. Golf, Polo...



!Centre the device well!

! Only to be supported by the screws of the air-conduction sine.

REMOVAL OF BEARINGS



Remove outer seeger circling ring first.

! Thrust pad must be smaller than the axial drill-hole/seeger circling ring.

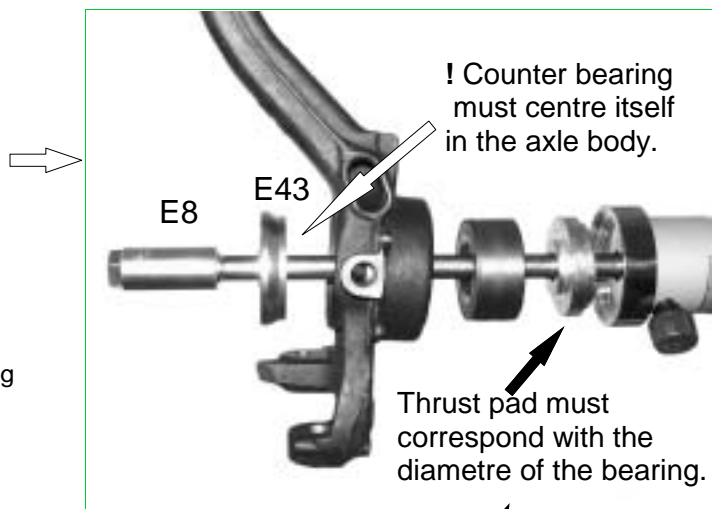
FITTING OF BEARINGS

Axle body with band on the inner side.

\varnothing	Counter bearing	Example of models:
92	E-10	Audi 100
70	E-17	Polo 95, 96
72	E-13-1	Vectra E
82	E-14-1	Vento

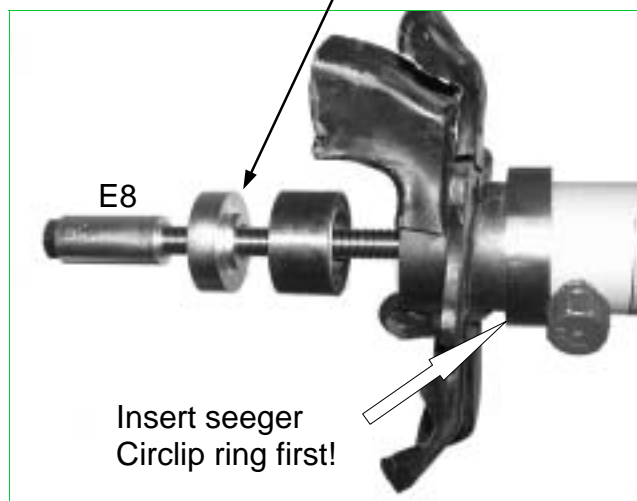
Thrust pad must correspond with the diametre of the bearing

\varnothing_a	\varnothing_i	Thrust pad	Example of models:
74	37	E-91	Vectra
72	39	E-9	Opel
62	34	E-3	Polo, Audi 50, Derby
64	34	E-4	Golf I, Jetta I, Scirocco
68	39	E-5	Passat >87, Audi 80
75	42	E-6-1	Audi 100/200
66	35	E-7	Golf II
75	39	E-12	Audi 80/90 87-95
72	40	E-13-1	Corado, Passat 88, Golf III, Vento
82	45	E-14-1	Audi 100/200
60	30	E-21	Fiat
69	35	E-19	Skoda
66	35	E-16	Polo 95, 96

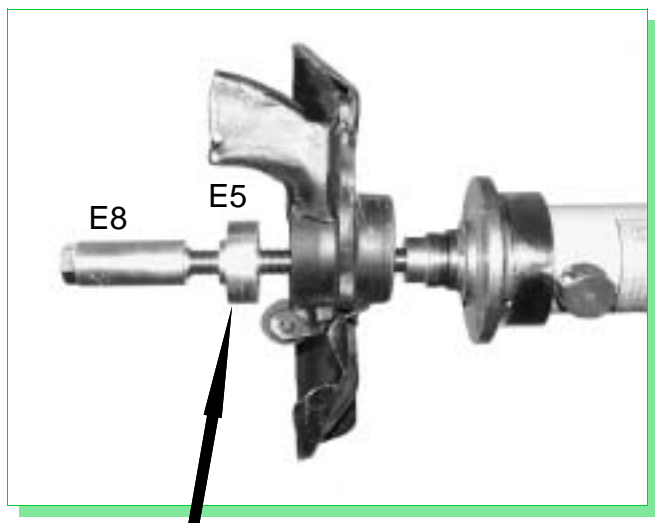


FITTING OF BEARINGS

With two seeger circlip rings.



FITTING OF HUBS



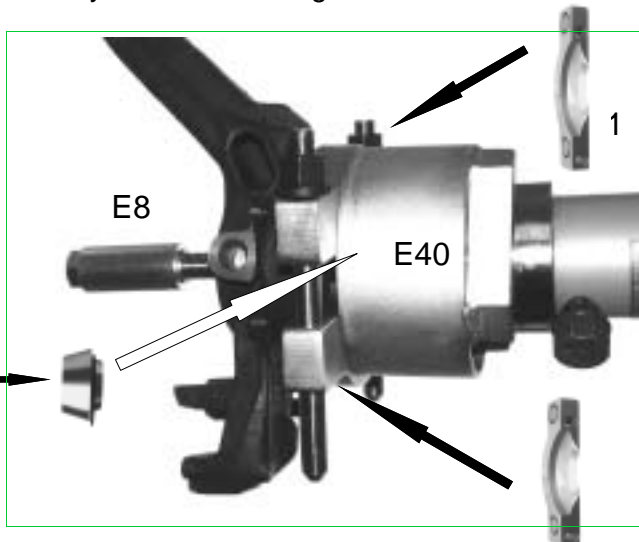
! Thrust pad must fit tightly to the internal bearing ring, insert seeger circlip ring after hub has been fitted!

Audi: A3, A4, A6, A8 / VW: T4, (Passat at '97, Golf IV, Sharan, Ford Galaxy, Seat Alhambra)

REMOVAL OF HUBS

Mainly for tetra-steering axle.

First (1) brace the cut-off device, then place the cup (E40) with hydraulic cylinder bolt and nut (E8) in position.

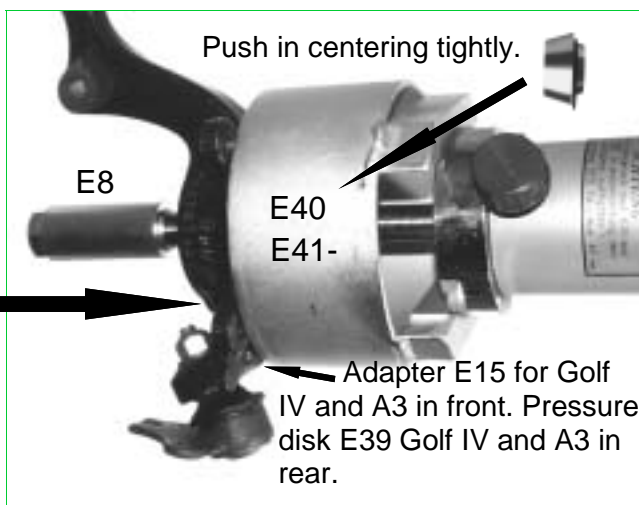


Push in centering tightly.

!Centre the device well!

REMOVAL OF HUBS

Hubs with ABS-disk, which sends an impulse to check, if the wheel is still in motion, e.g. Golf IV...

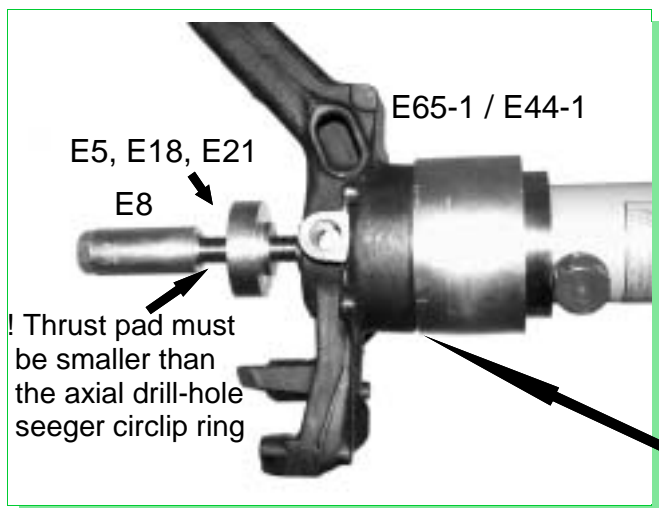


Push in centering tightly.

! Cup has to rest on the screws of the Air-conduction line.

Adapter E15 for Golf IV and A3 in front. Pressure disk E39 Golf IV and A3 in rear.

REMOVAL OF BEARINGS



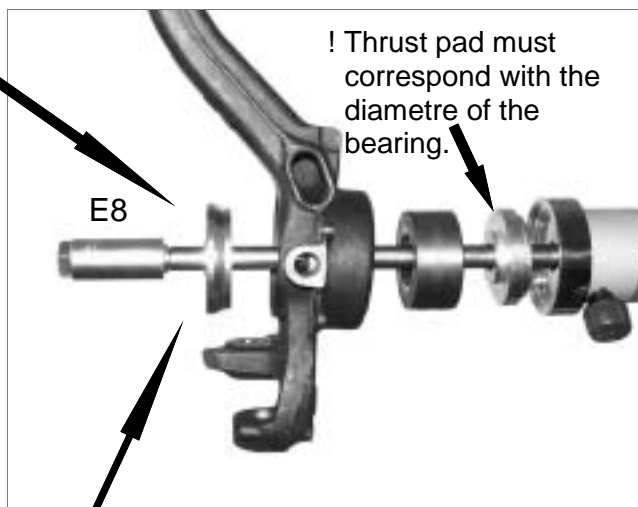
! Thrust pad must be smaller than the axial drill-hole seeger circlip ring

Remove seeger circling ring first.

! Pressure case must centre itself on the axle body securely.

FITTING OF BEARINGS

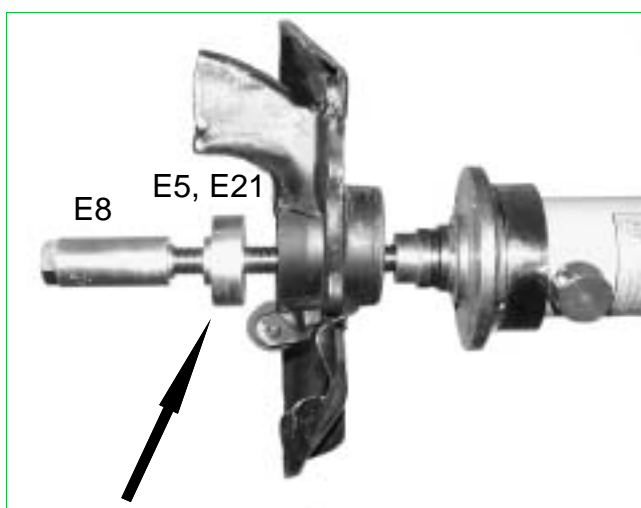
! Counter bearing must centre itself on the axle body securely.



$\varnothing a$	$\varnothing i$	Thrust pad	Example of models:
72 (74)	40	E-13-1	Golf IV, A3
75	41	E-45	A4, A6,
79	42	E-63	Sharan, BMW
80	45	E-51	T4
82	45	E-14-1	Passat 97, A4, A6, A8
85	45	E-42	A6, A8

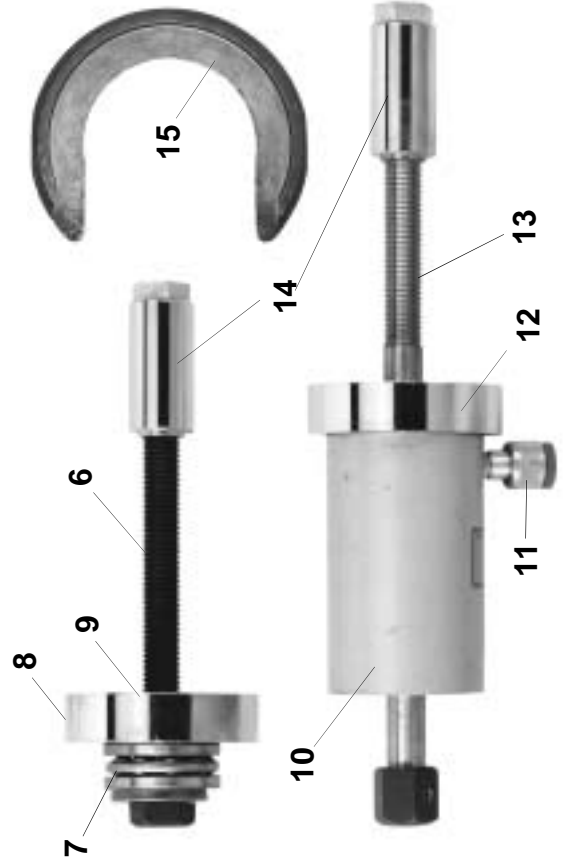
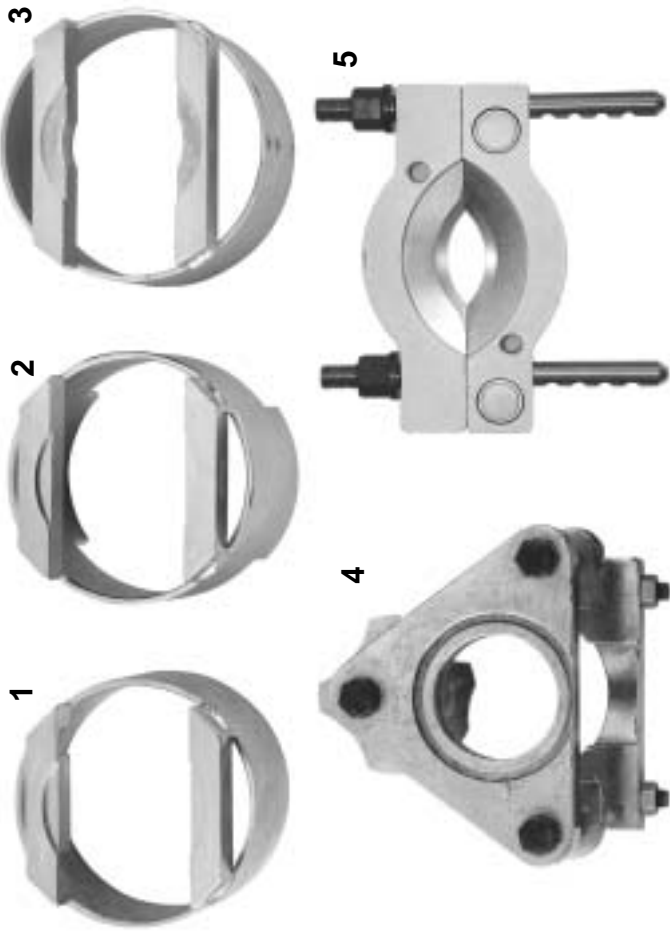
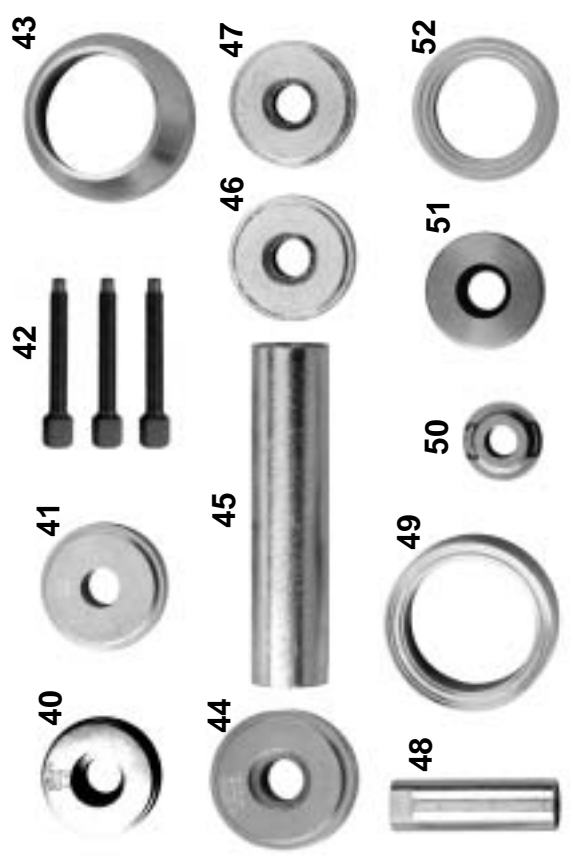
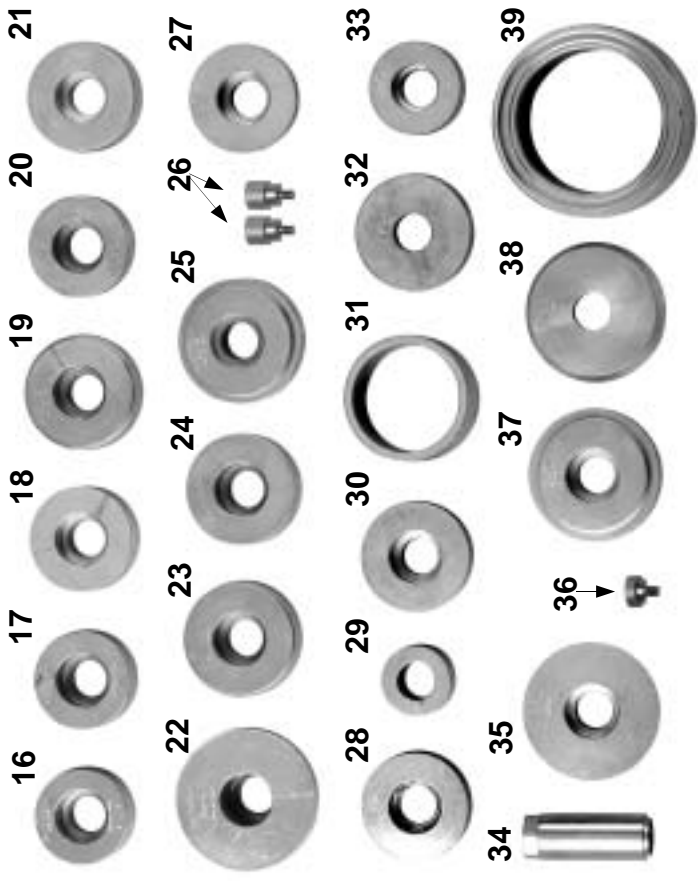
\varnothing	Counter b.	Example of models:
77/80	E-31	T4
82	E-43	Sharan vorne, A4, A6, A8, Passat
90	E-43	Sharan hinten
92	E-10	Golf IV, A3, A4, A6, A8, Passat

FITTING OF HUBS



! Insert seeger circling ring after hub has been fitted!

! Thrust pad must fit tightly to the internal bearing ring.



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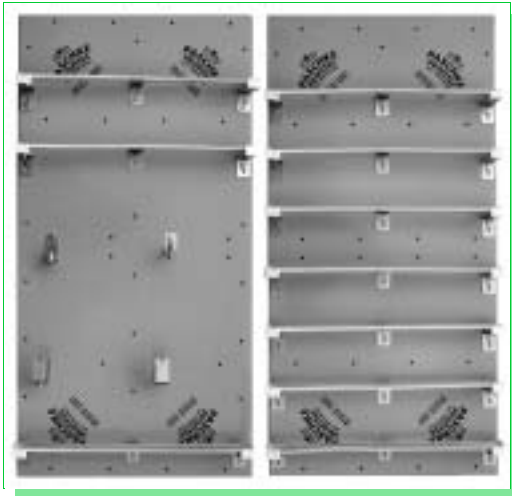
IMPORTANT AIDS FOR THE WORK AT WHEEL HUBS AND BEARINGS:



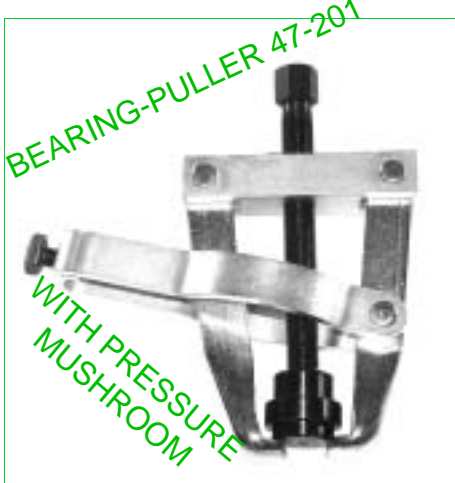
PRESS-OUT AWI FOR
RING OF WHEEL BEARINGS



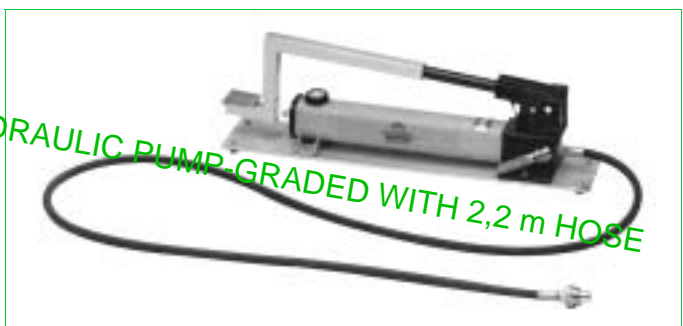
SEEGER CIRCLIP PINCERS | 3- 182-45 und | 4- 182-45
45° - DEGREE POINT



SPECIAL AWI FOR GREASE COVERS



BEARING-PULLER 47-201
WITH PRESSURE
MUSHROOM



HYDRAULIC PUMP-GRADED WITH 2,2 m HOSE