

Inner and outer part of the clutch basket have markings, which must be aligned.



Figure 6-54: Insert bearings and thrust washer



Figure 6-55: Insert bearings and thrust washer



Figure 6-56: Thrust washers load



Figure 6-57: Inner part of the coupling used



Figure 6-58: Interior part mounting



Figure 6-59: Washers and nuts



Figure 6-60: Something to hold the inner clutch basket



Figure 6-61: Central nut (80 Nm) auxiliary tool to keep up with



Figure 6-62: Inner and outer part of the clutch



Figure 6-63: Clutch plates, rounded side out



Figure 6-64: Insert the clutch plates



Figure 6-65: Clutch plates inserted

The screws must evenly and are attracted by the cross - by pressure with the Screwdriver, one overcomes the spring tension, the pressure during the first Threads is maintained - the threads pull out otherwise.



Figure 6-66: Pressure of the clutch push rod fungus



Figure 6-67: Pressure of the clutch push rod fungus



Figure 6-68: Pressure plate



Figure 6-69: Compression springs installed



Figure 6-70: Compression springs installed



Figure 6-71: Clutch mounted

## 6.4 Mounting HOUSING COVER OF RIGHTS

The right side engine cover is the oil pump from the engine oil the oil sump in the lower-Motorgehäuse teilsucks, with one in the direction of Oil flow downstream from the oil pump arrangement. netem oil filters made of brass mesh, so-Like the engine, the tachometer. The drive of the oil pump via a cylindrical gear from the crankshaft, while the Drehzahlmesseran-driven by a worm drive of the oil pump is.

the right side engine cover, is Here is a paper seal design provided with a thickness of 0.5 mm.

Since the friction from the right Engine side covers cover coupling ment are wearing parts, which, without who-changed-consuming disassembly the can should be the right motor-side tendeckel easily - without tearing the paper seals - dismantling be. When changing the friction of



Figure 6-72: Right side engine cover on

Due to the intervention of the front wheels and clutch, the engine oil in the engine guided by the sealing surface of the oil channel is an exact positioning of the right side engine cover necessary ensured by the fitting sleeves is.

Since the engine oil - unlike the Sealing surface between the upper and lower rem motor housing part - even with stand-the motor constantly on the sealing surface

Clutch, the engine oil in the engine that remain when the motorcycle an inclined position to the left brings. If the engine oil remain in the engine, However, in no case may the remains of a possibly torn seal of the Sealing surfaces must be scraped off, get into the oil.

You can prevent tearing of the Seal with a "Dichtungsverbesserer" e.g. the blue Hylomar, with However - if this is not true is applied - runs the risk that oil clogged channels.

Before sealing the buffed surfaces with Hylomar should definitely be first check if the housing halves without Force close - if not the case, you have the proper fit Check all the parts again.

Properly applied, the sealant by the sealing surfaces with Bremsenreibe be thoroughly cleaned niger. Then the sealing means with the Fingerkuppe brushed thinly and evenly and distributed.

On the inside of the excess must be Sealant before assembly of the motor-side tendeckels be carefully removed.

Once you have verified that the engine side cover without tension fits-all screws evenly dressed regularly and crosswise. In the original international workshop manual is on this one Specified torque of 20 Nm, when the "tightening by feel" with an Allen NEM exceeded slightly is, the thread in the upper and lower engine housing section on motors, repaired on which was often already are damaged.

A repair of a damaged Ge- especially when the wind is threaded de-at the lower engine housing section half of the kick starter shaft difficult.

With enough undamaged sealing surfaces for sealing a pressure which is reach with Phillips screws can be completely out. Not only those who Lays emphasis on originality should perhaps an earlier-often vorgenommen "improvement" - the retooling on Allen - undoing- . Chen

Damaged sealing surfaces using al- lerdings a higher pressure to Do not seal off. Here a just Reworking of the sealing surfaces with suitable suitable means such as grinding or Appropriate use of sealants, the fill minor irregularities.

The sealant must under any circumstances - particularly in the vicinity of the oil passages -  
to be applied thicker than seen in the pictures.



Figure 6-73: Liquid seal



Figure 6-74: Liquid seal



Figure 6-75: Right side engine cover on



Figure 6-76: Right side engine cover on

Caution: Do not forget passport sleeves!

## 6.5 Mounting the clutch push rod AND THE DRIVE PINION

The clutch push rod transmits a pushing motion of a stationary component - the Kupplungsschnecke - to the pressure plate when rotating component. There are one-and two-piece clutch pressure rods, which is at the two-part time dealing with the original spare parts. If one uses the two-part coupling ment push rod, then first an

Ball (diameter 8 mm) by the seal of the Clutch push rod (arrow mark on image 6-77) pushed. Then the longer part of the two-part coupling push rod and then nachgeschoben again a sphere. Comes as the last shorter part of the clutch push rod.

The mounting of the drive pinion required hundred some care. The pinion has to as far as the teeth of the gear-



Figure 6-77: Clutch push rod insert



Figure 6-78: Sprocket mount



Figure 6-79: Sprocket mount



Figure 6-80: Locking plate used

output shaft can slide that  
Teeth protrude a bit, as  
to see in the picture 6-79.

Even when mounting the backup  
plate must be on the right seat  
eighth (Figure 6-80).

Is 6-81 and 6-82 in the pictures shown  
is how the mother is mounted so,  
that their union over the teeth of the  
Gearbox output shaft engages. For Ge-

genhalten when tightening the courage-  
ter (100 - 120 Nm) using a one  
Tool, as described in "tools"  
described (Figure 6-83). By no means  
one should, as in some manuals  
Described to block the pinion, in-  
this one it means the chain with the  
Clutch pushrod stuck.

Finally the locking plate, as  
to see in the picture 6-84, bent over.

The locking plate can not move when tightening the nut.



Figure 6-81: Pinion nut



Figure 6-82: Pinion nut installed properly



Figure 6-83: Pinion nut



Figure 6-84: Locking plate bend

## 6.6 Mounting the alternator

The generator consists of two Parts, the rotor on the left Crankshaft stub with a washer benfeder twist and with a Nut with fine thread attached axially and is the stator with the Gehousing is screwed. First, the disc spring into the groove of the crank-wave blunt inserted (pictures 6-85 and 6-86).

Then the rotor is placed, followed of a lock washer and nut (Figures 6-87 and 6-88). Before the mother assembled, there is some liquid Threadlocker to the threads the crankshaft stump (Figure 6-89).

Since one of the rotor when tightening the Mother can hold bad, different- it turns to tighten the nut at best an impact wrench, as to see in the picture 6-91.

If the rotor is mounted, the stator put on. Here, care is taken that a Passtift in the motor housing in a designated gap of the Statorgehäuses intervenes (Figures 6-92 and 6-93).

Then the pipe is laid, how to to see the pictures 6-94 to 6-96, with the last slide of Sekundärkette is installed (Figure 6-96).



Figure 6-85: Rotor for disc spring into the groove in left crankshaft stump use



Figure 6-86: Rotor with groove set up to Woodruff



Figure 6-87: Rotor with groove set up on a stretcher



Figure 6-88: Rotor with spring washer and nut



Figure 6-89: Apply liquid gasket



Figure 6-90: Mother begin



Figure 6-91: Tighten the nut



Figure 6-92: Put stator



Figure 6-93: Ensure dowel pin



Figure 6-94: Grommet



Figure 6-95: Route cable properly



Figure 6-96: Kettengleitschiene mount

## 6.7 INSTALLING THE PISTON AND CYLINDER

The assembly of pistons and cylinders is much easier if the This engine - such as the following To see pictures - turn the page can.

To assemble the piston and cylinder No special tools like a Piston ring pliers, a piston ring tension band is necessary. With some skill, read-mon-sen, the piston rings by hand pets and the piston in the cylinder liners

. introduce The thrust of the piston rings to be offset with respect to approximately  $120^\circ$ .

The pistons are far in the run-jacks inserted, the hole for the piston pin free (still images 6-99 to 6-101). Before the cylinder bank with the already partially in the run-jacks pushed the piston to the Motor housing is mounted, you put nor the bottom seal on (Picture 6-98) and assembled, the seals of liners



Figure 6-97: Motor to turn the page



Figure 6-98: Secure chain, hang Cylinder

(6-100 and 6-101 images). The sealing rings before placing the cylinder blocks pressed into the groove (Figure 6-100 and 6-101).

Then the motor on the side of GE turns and the first cylinder bank on the studs delayed (Fig. 6-104). The timing chain is it with a wire and secured by the Timing chain shaft of the cylinder bank drawn.

The connecting rod with the bore holes conditions for the piston pin to cover made and carried out the piston pin postponed. For this purpose, it may be necessary to heat the flask, so that increasing, and the Kolbenbolzen can easily insert.

If the piston pin is fully-deferred, to the outsider th the piston located Sicherungsring-GE installed.

If possible, this new Sicherungsringe be used.

Even when mounting the backup rings, it is advantageous if the engine located on the page because the Sicherungsring-GE will not fall into the crankcase can.

If the cylinder bank on the up-Fußdich device is lowered, the front clamping rail aligned. The long end of the Clamping rail is down. The Pistons are in the OT position closed applied (Figs. 6-109 and 6-110). and Ends of the control chain to the front and and laid back - for example with wire - gesichertes.

Now the cylinder head mounted be.

If possible, a new snap ring are related



Figure 6-99: Piston liners in use, at arrow (front) eighth



Figure 6-100: Sealing rings raise, Insert the piston pin from the outside

Sealing rings prior to installation of the cylinder block press in the groove.



Figure 6-101: Timing chain tensioning rail mount, Align the timing chain assembly after



Figure 6-102: rear timing chain tensioning rail mount



Figure 6-103: front timing chain tensioning rail mount



Figure 6-104: Slide cylinder on studs



Figure 6-105: Piston connecting rod insert in



Figure 6-106: Piston pin and introduce secure

Align the front clamping rail and mounted chain tensioning before mounting the cylinder head cover and check again. The long end of the clamping rail is down.



Figure 6-107: Piston pin and introduce secure (detail)



Figure 6-108: Timing chain by chain drag chute



Figure 6-109: Timing chain by chain drag chute and secure



Figure 6-110: Push down the cylinder

## 6.8 Mounting the cylinder head AND THE CAMSHAFT

To assemble the cylinder head and  
The camshaft is directed to the engine  
back on. The cylinder head was de-  
installed, you need to mount the  
Valves, a commercially available valve spring  
presse (6-119 to 6-121 pictures), how to  
them as spare parts and accessories dealers  
buy for 50 € or a  
friendly garage rent  
can.

If required, the Ventilführun-  
new valve stem seals on gene-  
set (Figure 6-117). This is recommended  
always looking for a longer maturity,  
after the removal of oil or coal  
even a not-grinding of the valves  
was necessary. The valve stem seals  
can only be with removed engine  
. change

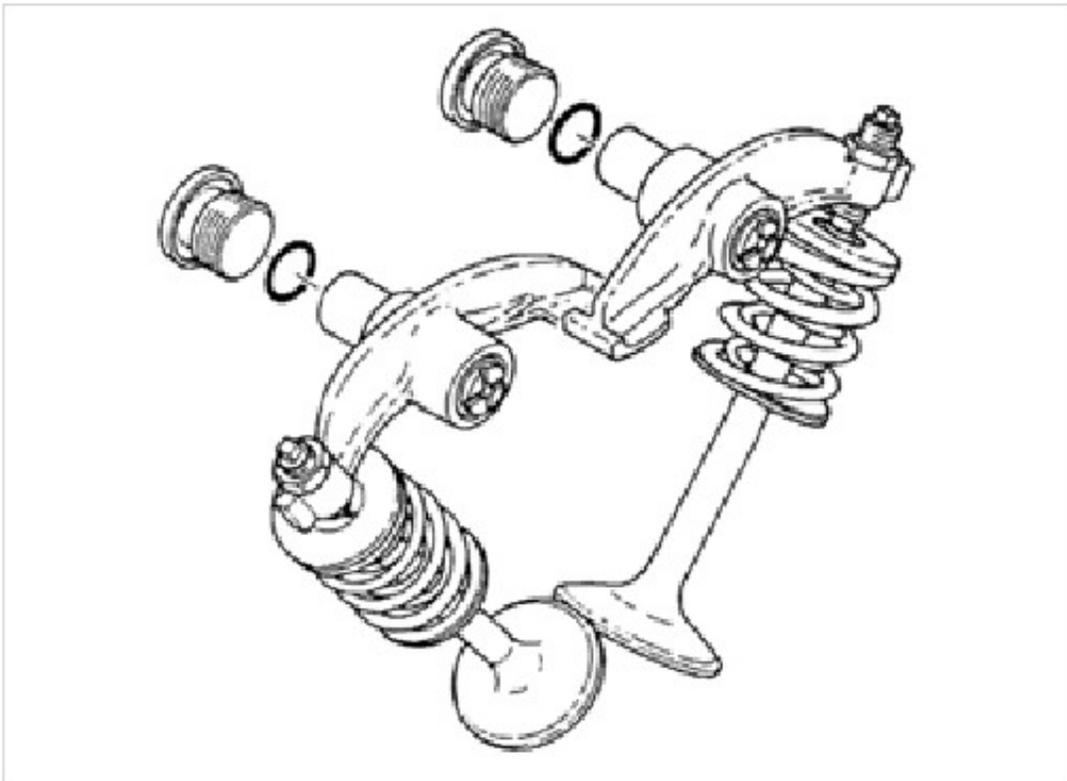


Figure 6-111: Install valves, opposite orientation of the valve springs



Figure 6-112: Orientation of the valve springs



Figure 6-113: Timing chain secure



Figure 6-114: Crankshaft in TDC position to bring



Figure 6-115: Cylinder head gasket



Figure 6-116: Cylinder head preparation



Figure 6-117: Put valve stem seal



Figure 6-118: Valves used



Figure 6-119: Mount valve wedges



Figure 6-120: Mount valve wedges



Figure 6-121: Mount valve wedges



Figure 6-122: Valves assembled



Figure 6-123: Assembled valve



Figure 6-124: Cylinder head ready to installation of camshaft



Figure 6-125: Install spark plugs, so nothing in the combustion chambers is



Figure 6-126: Replace camshaft



Figure 6-127: Replace camshaft



Figure 6-128: Cylinder block harness, the timing chain is usually too short to close it

## 6.9 riveting the TIMING CHAIN

Basically, there are already different-riveted in front timing chain and the insertion gene of the crankshaft to the gear and put together with the crankshaft mount.

The camshaft must be before the Chain tensioners are fitted. It is the camshaft under the lifted-surrounded timing chain through it.



Figure 6-129: TDC mark of the camshaft must perpendicular stand



Figure 6-130: Chain lock



Figure 6-131: Chain lock - left rivet riveted already



Figure 6-132: Chain lock - left rivet riveted already



Figure 6-133: Timing chain rivet



Figure 6-134: Timing chain rivet