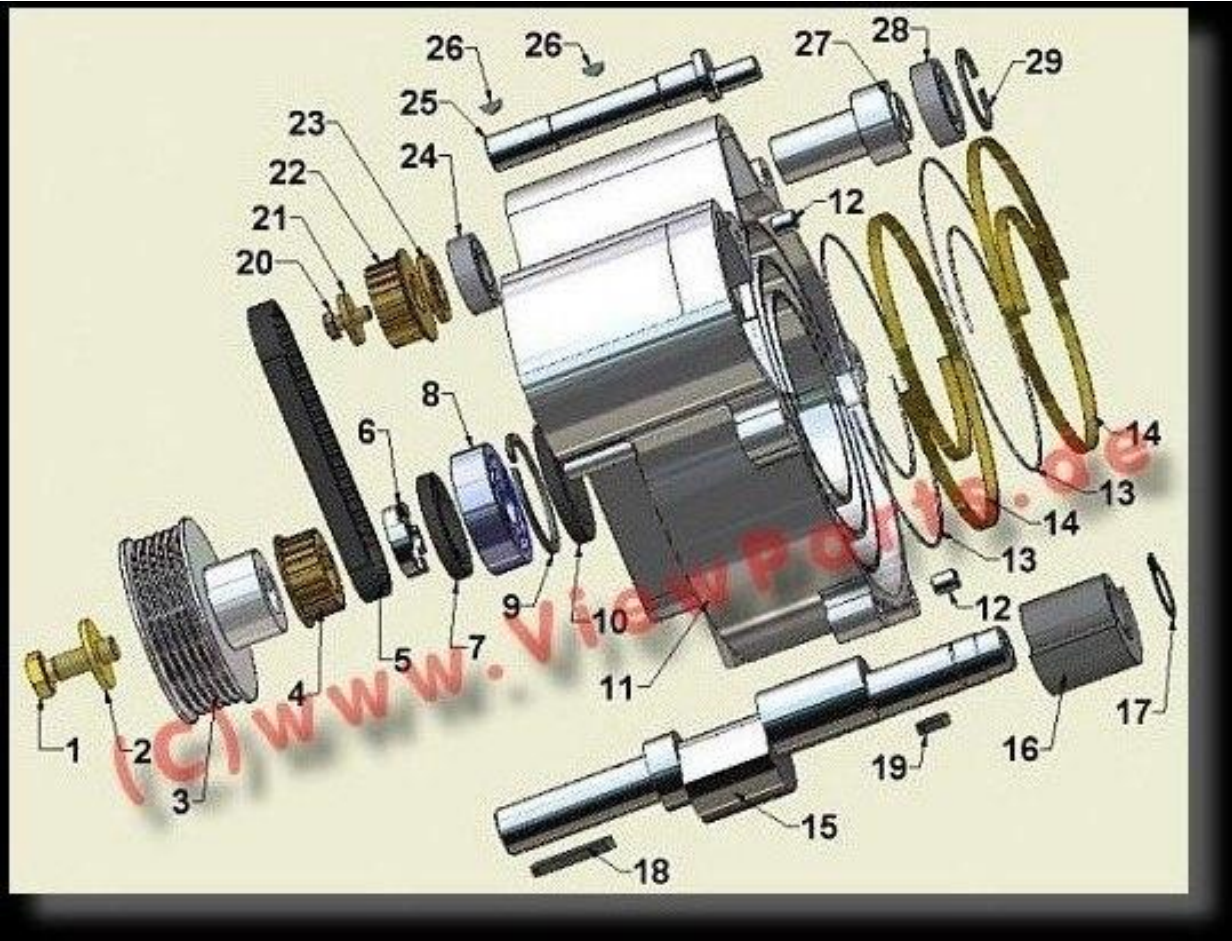


G60 SCHEME



There is a small mistake... Number 4 should be installed inversely

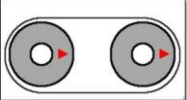
THIS IS DAMAGED DISPLACER, WHICH YOU CAN'T EASY REPAIR



IF YOU CAN'T SEE SOMETHING, YOU CAN ENLARGE ALL PICTURES



(the supercharger without timing belt) Before doing anything you must check if small timing marks on the cog belt pulleys exist. **If not, you must make marks yourself before disassembly old timing belt!!!** This belt is very important, due belt's damage - supercharger will die. This belt is like timing belt in the engine. The marks must be in one line, like in the picture



This fotostory shows the oldest generation of g60. G60 has got three generations (the oldest one has got the most difficult construction), if you have 2nd or 3rd generation (without this parts from pictures), simply go to the next steps.



the casing halves screwing bolts you should undo maximal up to 5 mm (they should still hold our casing halves together), because when you open the halves fast, you can cause damage of the fragile displacer. So undo the bolts maximal for 5 mm and don't open supercharger now (in next steps)



and time to disassembly a timing belt



now a woodruff key and first small belt's pulley



Now second small belt's pulley and time to open halves ☺ Usually G60

should be opened without any problems with hand pulling, but sometimes opening operation is very hard. Then you should try to hit gently the supercharger using rubber mallet (or at least ordinary hammer) to the key point on body (in the picture) You can help yourself with screwdriver, but be careful and don't touch displacer (it's very close to). **This activity you must do very careful, opening the G gradually, a sudden move can damage your displacer.** Yupi and now it's open. First of all you see displacer.



now it's time to disassembly circlip, remember how was circlip assembled

before



circlip needs special pincers



and time to shaft balancer, rotate it left



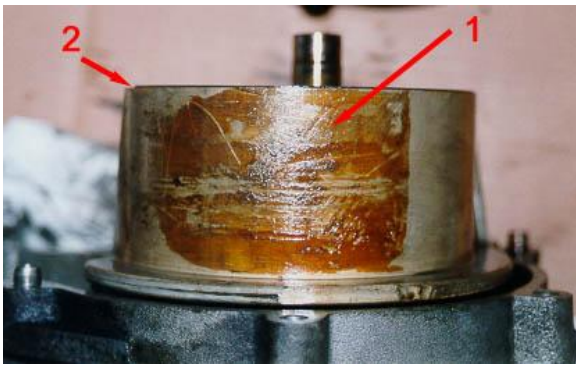
and another woodruff key



another protection



this is the clean displacer, don't lubricated by Klueber Nosol. You need to prepare one time gloves, because you will touch displacer. Displacers in G are often different. The difference in the: colour (from bright grey to black) and alloy (more magnesium or more aluminium). Please don't touch displacer by naked hands, it doesn't like fat, left by your hands.



This is the displacer, which was lubricated using Klueber Nosol in the past. This old grease you must gently remove, because displacer should be pure, before applying new grease. Remember that displacer is very fragile. You can use degreaser and fine steel wool for example.



and you remove displacer very carefully



This is opened G. Two halves and the displacer. When the supercharger works only the displacer moves.



There are control points (in 1st G generation). About everything you must remember when you assembly again your G.



and the same key points (on the displacer) show how to install Torrington bearing and seal well to avoid problems with oil ways in G



Sometimes somebody makes performance modification during G rebuild. If you rebore and polish these channels, more air will fly through supercharger and you will gain more horsepower finally. It's difficult modification. Often named 'RS modification'.



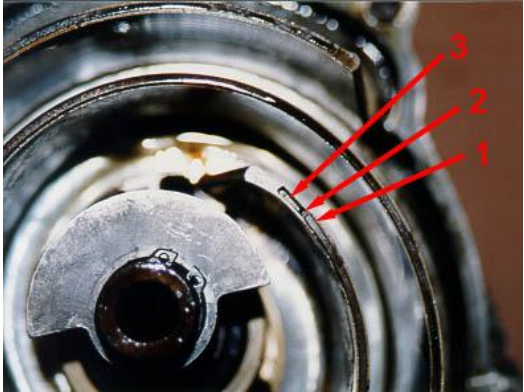
bearings you can remove with this nice device. This is some dangerous way, especially dangerous for displacer.



The best way to install bearings is simple. Preheat the bearing seat well (using for example heating gun) and don't forget put your bearing to the freezer for 30 minutes before installation. Bearings can be installed with a press too, but if the bearings are out-of-alignment, damage is almost certain to occur to both the bearing and charger. The circlips are reinstalled to hold the bearings in place taking great care that they are aligned so as not to block the oil ways that feed the bearings with oil. The oil seals are pushed into place and care is taken to ensure that the external seal on the main shaft is not pressed flush with the casing as fitting them to sit flush will obstruct the oil way that feeds the bearing. Bearing shouldn't fit to the end, unless circlip, which holds bearing move that to not cover the oil hole.



Now it's time to clean displacer. Better to do it with DEGREASER or fluid for brake plate refresh. **You can't use nothing oily or aggressive!** After cleaning you must desiccate displacer. Certinaly with gloves help. .



in the grooves you can see small balls or stamens, this is the balance in old superchargers. Sometimes you can see the long springs too – they clamp the apex strips. If you don't know where they should be, simple move them (not applicable springs) to the beginning of the grooves and later install the apex strips.

Important! You have to cure the apex strips before installation. Put the strips into the oven and set the temp on 3rd level (if you have four temp levels). Let them cure for 10-15 minutes.



the displacer needs 4 short apex strips, and casing halves 4 long. Strips you can install easy using your fingers. Be careful, don't break strips or fragile groove. After strip installation you can lubricate whole displacer **(but only displacer! And only the vertical surfaces of the displacer, when it stands like in the picture under this text)** You must lubricate thinly and smoothly, not thickly. Use small brush. This is the most laborious activity during g60 rebuild.



Under you can see the pattern how to lubricate displacer.



The red surfaces (horizontal) mean that these surfaces you don't lubricate!



during disassembly other bearings you should see where are circlips installed or where the other rings sit, because they all are essential. **They must be installed on the same place as before, have the bearings well supplied with oil.** G60 has got permanent oil ways.

Very important!!! Some older bearing models - you must note that some bearings are different at one side and another side (you can recognize with bearing symbols, designators) and please install them like the old bearings were installed



another circlip



and you need another pincers



disassembly the circlip



and undo here



and time to go inside and exchange small bearings, remember what I wrote about bearings before.



and another woodruff key



time to install springs (if you have them) and later - long apex strips inside the halves



before installation the displacer check once again if apex strips are installed correct, then gently install displacer.



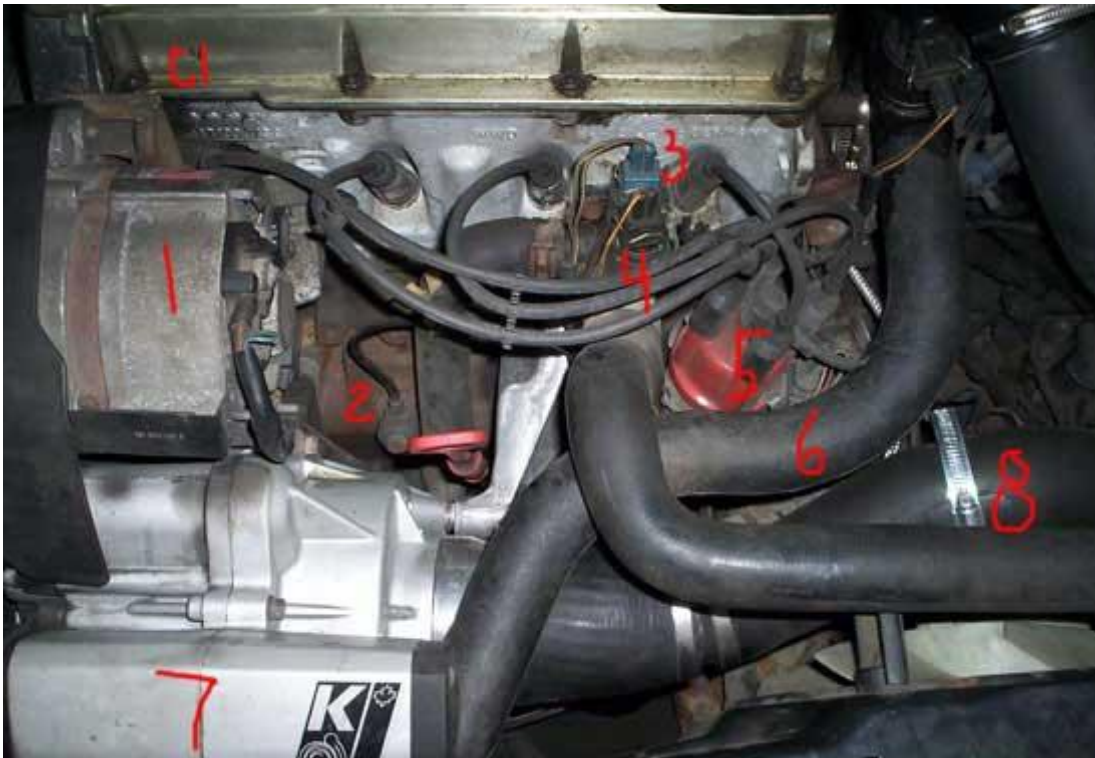
places where the both halves have contact, you can lubricate using special sealing high temp silicone



please push the ring and woodruff key jumps ☺



now remember about marks and install timing belt correct. And it's good to clean rubber oil hose and air hoses before the final supercharger installation. Before this, move the main shaft, then small shaft should move light without problems. It will make good conditions to the first start g60 supercharger after your rebuild.



Now you can check what happens inside the intercooler, sometimes it can accumulate a lot of unnecessary oil (moved from your supercharger). Remove the oil and degrease the intercooler.

Before the engine starts first time, it is important to prepare the charger by turning the engine over for 10 seconds or so on the starter motor only (Simply disconnect the hall sender to prevent the engine from firing, number five inside the red cover). It will fill the charger with oil well, so when the engine runs first time, the charger bearings are not dry. Allow the engine to get up to temperature and check for oil leaks from the charger, oil feed and return-lines as well as boost leaks from the intake pipework. Assuming everything is OK, the engine can be stopped and the radiator cover, alternator cover, headlamp and grill can be refitted

And now very important! After rebuild G60 must be break in (like the new engine)! Usually during maximal 300 miles (500 km). It's important and to keep low revolutions up to 4000 **for standard 78 mm main pulley and for 68-65 mm pulley- maximal revs 3200 U/min.** But better keep the revs below 3000. Don't drive whole breaking in distance during one day. Better ride for 15 minutes, gently bit of right foot. Avoid very short distances (below 2,3 miles)...

With this easy tip you can check how much air blows your G... **but after rebuild,** I don't remember well but you must go in computer service mode....



- switch MFA to '1'
- turn on ignition (you don't have to start engine)
- push and hold a for a few seconds MFA button
- turn off ignition (still hold MFA button) and turn on ignition once again
- release MFA button

And move MFA switch to the '2' and later to the '1' position (not '0') it's vacuum in air intake. Run the engine and find long road without bends. Press maximally gas pedal and choose 3rd gear. Look at computer now...

If you see numbers between 0-2200 then you have got mbars units. If you see numbers from 0 to 250 then you have got VDO units and you should use my table.

VDO*	MOTOMETER	PRESSURE (bar)
15	200	0
55	400	0
90	600	0
127	800	0
148	1000	0
172	1200	0,2
192	1400	0,4
211	1600	0,6
228	1800	0,8
242	2000	1,0
255	2200	1,2

Not always you can see reliable indication, but better to know something like nothing. I advise to buy good turbo pressure gauge, it's more reliable than the computer ...

How often g60 needs rebuild ?

- apex strips 25000 miles (40000 km)
- bearings 53000 miles (85000 km)
- seals 53000 miles (85000 km)
- timing belt 12000 miles (20000 km)
- Klueber it's not essential but 12000 miles (20000 km)

**AT THE END I WISH YOU BIG KICK FROM
YOUR POWERFUL G, LONG RIDING WITHOUT
PROBLEMS AND MANY, MANY HIGH REV
RIOTS!!!**