

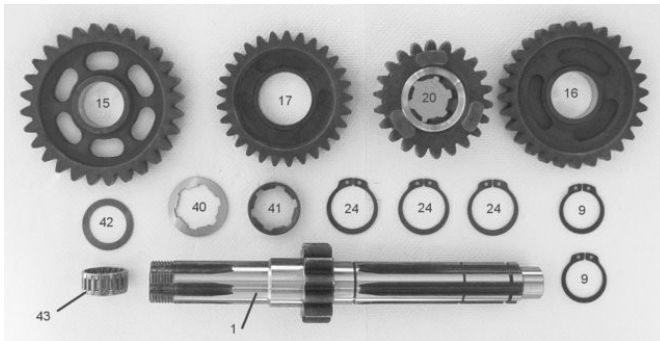
RG 500 Gamma Reinforced Transmission Kit

Installation Manual

KIT-RG5-TLG: RG 500 Stronger Transmission Kit

Congratulations for purchasing the RG 500 reinforced transmission kit. This kit improves the reliability of your RG 500 transmission gearbox and provides better functionality at the same time.

1 Package content



The kit includes:

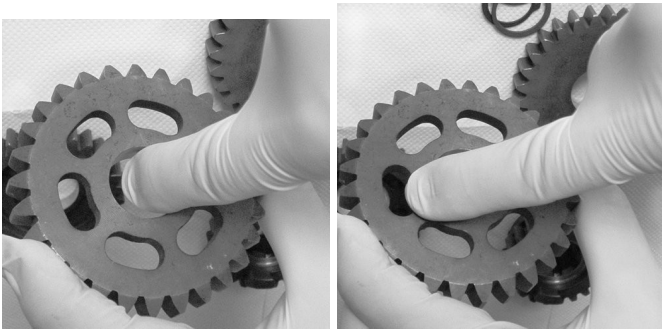
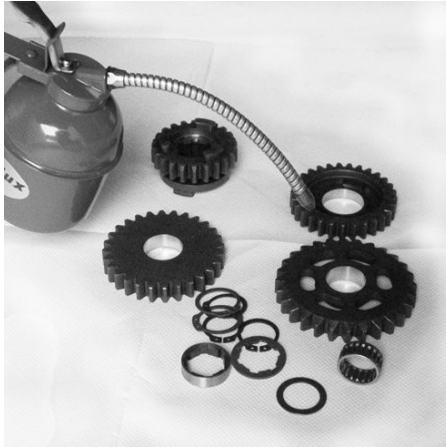
- 1 Z12 input shaft (1)
- 1 Z28 1st driven gear (15)
- 1 stronger 2nd driven gear (16)
- 1 stronger 6th driven gear (20)
- 1 stronger 3rd driven gear(17)
- 1 additional 1st gear thrust washer (42)
- 1 special 1st gear needle bearing (43)
- 1 special 3rd gear splined thrust washer (40)
- 1 special 3rd gear splined bush (41)
- 2 input shaft Seeger rings (9) (the smaller ones)
- 3 output shaft Seeger rings (24) (the bigger ones)

2 Preparing for installation

2.1 Prepare the parts

Parts must be installed free from dust, debris, sand or other contamination. The parts are normally shipped already cleaned, in sealed bags, ready to use; it is

however good practice to check parts before installation and if needed, to clean them accurately.



After cleaning, lubricate all parts preferably using the same oil you are going to pour in the gearbox.

Parts must not be installed dry. Spread oil all over the gear hub holes and their sides. The shafts, the additional hardware, washers, bushes, the special needle bearing and the parts you are going to reuse from the original transmission must be lubed too.

3 Input shaft assembly

The input shaft assembly procedure is exactly the same as stock one. Just remove all gears, washers, etc. from your old input shaft and install them on the new input shaft (1) using the Seeger rings (9) provided with the kit. Please refer to the RG 500 workshop manual for details.

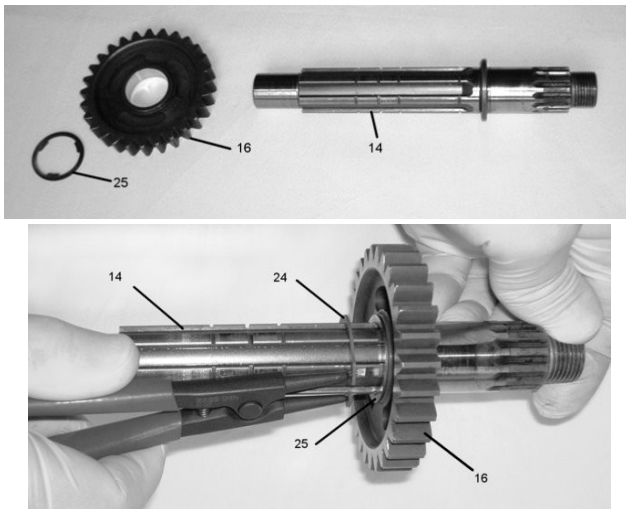
4 Output shaft assembly

The output shaft is assembled partly from the parts supplied with the kit and partly with parts from the original transmission. In order to prevent any possible mistake regarding what part goes where and which parts to keep and which parts to replace, here follows how to build the output shaft in a few easy steps.

4.1 Install 2nd driven gear on the output shaft

For this step you need:

- the output shaft (14) (from your old transmission)
- the new 2nd driven gear (16) (supplied with the kit)
- the 2nd driven gear washer (25) (from your old transmission)
- one output shaft Seeger ring (24) (supplied with the kit)



Installation consists in the following actions:

- slip the 2nd driven gear (16), orientated as shown, on the shaft (14) until it stops against the collar
- slip the washer (25) on the output shaft (14) till it stops against the gear (16)
- using a snapping pliers, install the Seeger ring (24) in the groove that is closer to the gear (16)

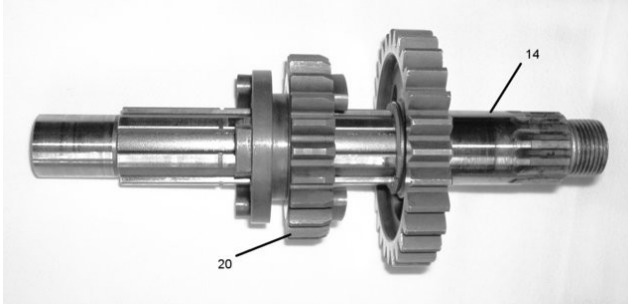


Failing to properly install the Seeger rings may lead to possible expensive damage to the engine while running, injury or even death of the driver. We take no responsibility for any consequence caused by improper installation of this product.

4.2 Install 6th driven gear on the output shaft

For this step you need:

- the 6th driven gear (20) (supplied with the kit)



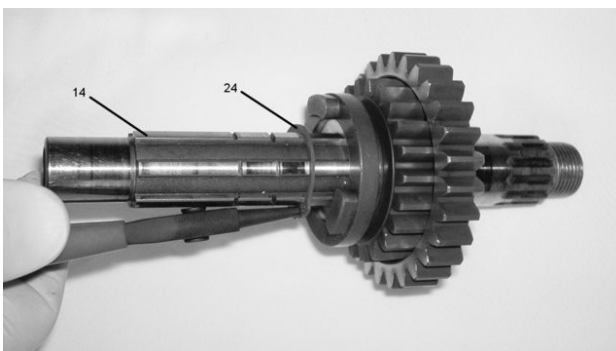
Installation consists in the following actions:

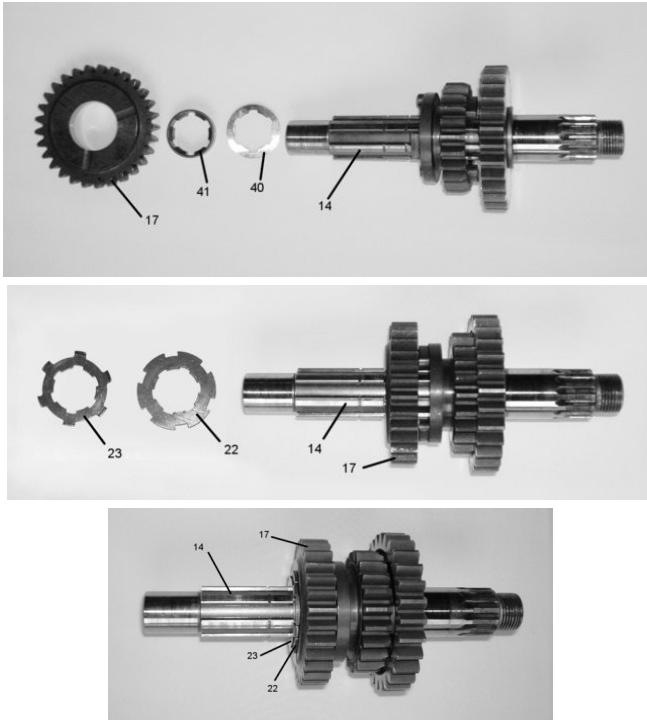
- slip the 6th driven gear (20), orientated as shown, on the shaft (14)

4.3 Install 3rd driven gear on the output shaft

For this step you need:

- one output shaft Seeger ring (24) (supplied with the kit)
- the special splined thrust washer (40) (supplied with the kit)
- the special splined bush (41) (supplied with the kit)
- the 3rd driven gear (17) (supplied with the kit)
- the washer (22) (from your old transmission)
- the washer (23) (from your old transmission)





Installation consists in the following actions:

- using a snapping pliers, install the Seeger ring (24) in the same groove as shown in picture
- slip the splined washer (40) on the shaft (14) until it stops against the Seeger (24)
- slip the splined bush (41) on the shaft (14) until it stops against the washer (40)
- slip the 3rd gear(17) on the bush (41), orientated as shown, until it stops against the washer (40)
- slip the washer (22) on the shaft (14) until it stops against the gear (17) and rotate it by 30 degrees
- slip the washer (23) on the shaft (14) until it stops against the washer (22)

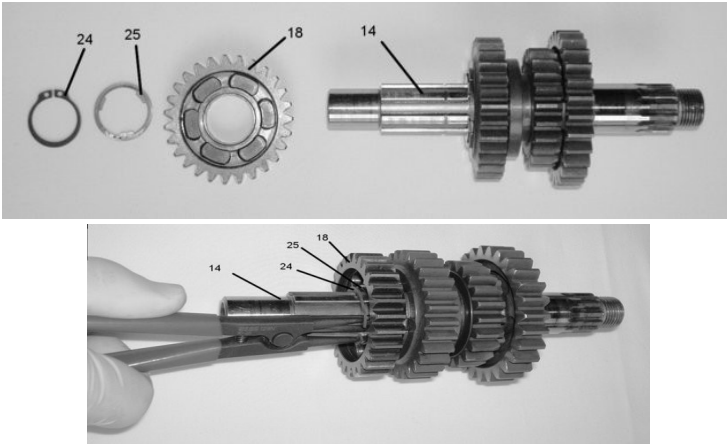


Failing to properly install the Seeger rings may lead to possible expensive damage to the engine while running, injury or even death of the driver. We take no responsibility for any consequence caused by improper installation of this product.

4.4 Install 4th driven gear on the output shaft

For this step you need:

- the 4th driven gear (18) (from your old transmission)
- the 4th driven gear washer (25) (from your old transmission)
- one output shaft Seeger ring (24) (supplied with the kit)



Installation consists in the following actions:

- slip the 4th gear (18), orientated as shown, on the shaft (14) until it stops against the washer (23)
- slip the washer (25) on the output shaft (14) until it stops against the gear (18)
- using a snapping pliers, install the Seeger ring (24) in the groove



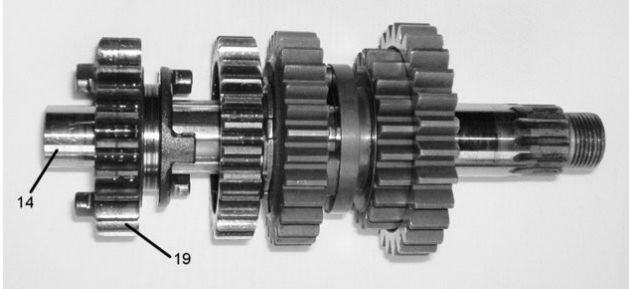
Failing to properly install the Seeger rings may lead to possible expensive damage to the engine while running, injury or even death of the driver. We take no responsibility for any consequence caused by improper installation of this product.

Pay attention: there exist different versions of the 4th driven gear (18). If you have the Suzuki updated gears then you may have a 4th driven gear different than gear (18), a washer different than washer (25) and a splined bush similar to bush (41), hence installation is slightly different than depicted above. Whatever version you have of the 4th driven gear, just reassemble it on the output shaft in the same exact way it was before disassembly including any washer or bush you'll find associated with it.

4.5 Install 5th driven gear on the output shaft

For this step you need:

- the 5th driven gear (19) (from your old transmission)



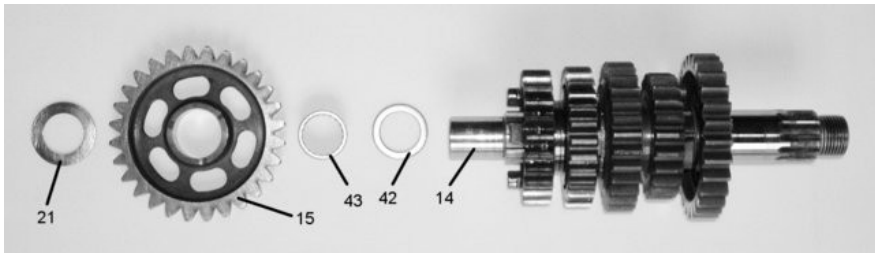
Installation consists in the following actions:

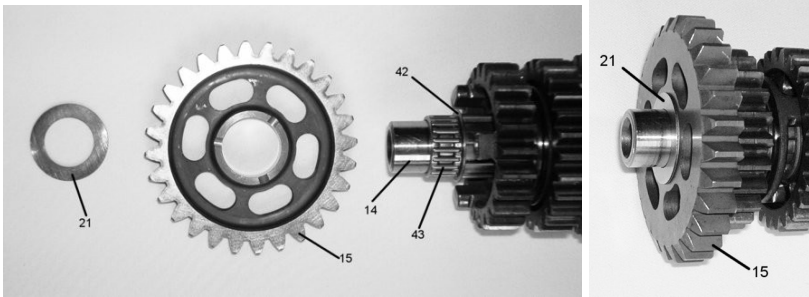
- slip the 5th driven gear (19), orientated as shown, on the shaft (14)

4.6 Install 1st driven gear on the output shaft

For this step you need:

- the Z28 1st driven gear (15) (supplied with the kit)
- the additional (smaller) 1st gear thrust washer (42) (supplied with the kit)
- the stock (bigger) 1st gear thrust washer (21) (from your old transmission)
- the special 1st gear needle bearing (43) (supplied with the kit)



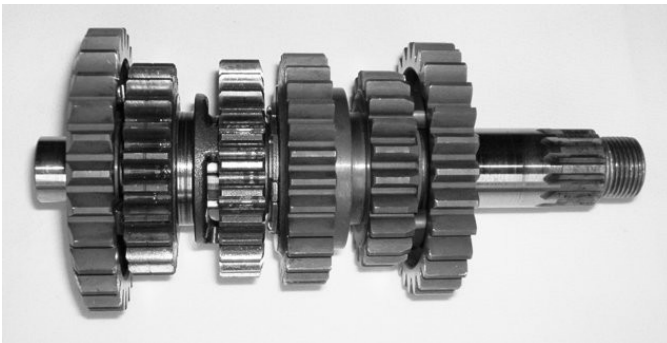


Installation consists in the following actions:

- slip the washer (42) on the output shaft (14) until it stops against the shaft shoulder
- slip the needle bearing (43) on the output shaft (14) until it stops against the washer (42)
- make sure the needle bearing is well oiled
- slip the 1st driven gear (15), orientated as shown, on the needle bearing (43) until it stops against the washer (42)
- slip the washer (21) on the output shaft (14) until it stops against the gear (15)

4.7 The output shaft is ready

The assembly of the output shaft is now completed.



5 Gearbox installation

5.1 Engine reassembly

You can proceed to reinstall the completely assembled input and output shafts into the engine according to the RG 500 workshop manual, chapter 3, "Engine Reassembly" section (actual page may vary depending on exact version of the workshop manual). The procedure is the same.

5.2 Verifying installation

After the cassette gearbox is bolted in place, before assembling also the clutch and completing the installation it is recommended that gearbox functionality is double-checked. While spinning the input shaft with one hand, operate the shifter mechanism with the other hand and gently upshift and downshift to and from all the gears including neutral several times and make sure that everything works as expected.

Once the test is passed you can complete the engine reassembly.



Remember to refill the gearbox with gearbox oil before firing the engine.

6 Breaking in

It is recommended an initial breaking-in period. The new gears supplied with the kit, and the old, worn gears reused from your old transmission won't initially be a perfect match and will need some time to adapt to each other.

The first 30 miles (50 Km) drive the bike gently (low RPM, low speed, partial throttle opening) and shift gears frequently. Breaking-in is needed by both 1st, 2nd, 3rd and 6th gears. After this short initial period you should feel the transmission operate smoother; you can then gradually increase engine load and speed up to normal operating conditions.

After 300 miles (500 Km) replace the gearbox oil with fresh one.



Never reuse a circlip after it has been removed from a shaft. Always use a new circlip.



When installing a new circlip, care must be taken not to expand the end gap larger than required to slip the circlip over the shaft. After installing a circlip always make sure that it is completely seated in its groove and securely fitted.



When mounting a circlip, pay attention to the direction of the circlip. Fit it with the flat side in the direction of the thrust and the rounded side against the gear surface. Please refer to the RG 500 workshop manual for more information.

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