



6-Speed Transmission Kit for Ape50 Instruction Manual

Item No. : 0 2 - 0 4 - 0 1 0 4
Fit : Ape50
Frame No. : AC16-1000001 ~ 1020604

- Thank you for purchasing one of our products. Please strictly follow the following instructions in installing and using the products.
- Before fitting the products, please be sure to check the contents of the kit. Should you have any questions about the products, please kindly contact your dealer.

Please note that, in some cases, the illustrations and photos may vary from the actual hardware.

Read all instructions first before starting the installation.

- Please note that this kit is designed for exclusive use in the Ape50 and that it cannot be mounted on any other models.
- Installation of this kit requires engine removal / mounting and crankcase splitting. At some stages of the installation, some special tools are required. Besides, this instruction manual, as well as a HONDA's service manual, is prepared for those who have acquired basic skill and knowledge. Therefore, those who are not skilled or do not have sufficient knowledge may not be able to install the kit correctly.
- This instruction manual covers the installation work only after the stages of the engine removal from the body, and removal and disassembly of a cylinder head, cylinder, piston, left side crankcase cover, flywheel, right side crankcase cover, clutch assembly, and oil pump. For instructions regarding these previous stages, please refer to the relative HONDA's service manual for Ape so you can work properly.
- Please always replace gaskets, O-rings, and packings with the new ones at every disassembly. Since this kit does not include gaskets, O-rings, or packings, which are necessary for engine disassembly, please purchase these Honda's genuine parts separately.
- The installation of this kit changes the free play at the clutch. Therefore, please readjust the clutch's free play after the connection of the clutch cable.
- Please be informed beforehand that the product specifications and the instruction manual are subject to change, without prior notice, due to product improvement.
- This manual should be retained for future reference.



CAUTION

The following show the envisioned possibility of injuries to human bodies and property damage as a result of disregarding the following cautions.

- Before starting the installation, make sure the engine and muffler are cool at below 35 degrees Celsius. (Otherwise, you will burn you.)
- Do the installation with right tools. (Otherwise, breakage of parts or injuries to you may take place.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque. (Otherwise, these parts may get damaged or fall off, resulting in accidents.)
- Do not use other parts than those included in the kit or specified parts. Otherwise, the breakage of parts is highly likely to follow.
- The installation of this kit will change the gear-change pattern to the return system of 1-down-5-up. Change gear only when you have completely disengaged the clutch. The gear and other parts will be damaged if you change gear forcibly or without disengaging the clutch.
- Before riding, check every hardware like screws and nuts for slack and for abnormal sound. When you notice something abnormal with your motorcycle while riding down a road, immediately stop riding and check what went wrong with the motorcycle.

Please be informed that, mainly because of improvement in performance, design changes, and cost increase, the product specifications and prices are subject to change without prior notice.

We shall be held free from any kind of warranty whatsoever of products other than this product if the glitch takes place on the other products than this one after the installation and use of this product.

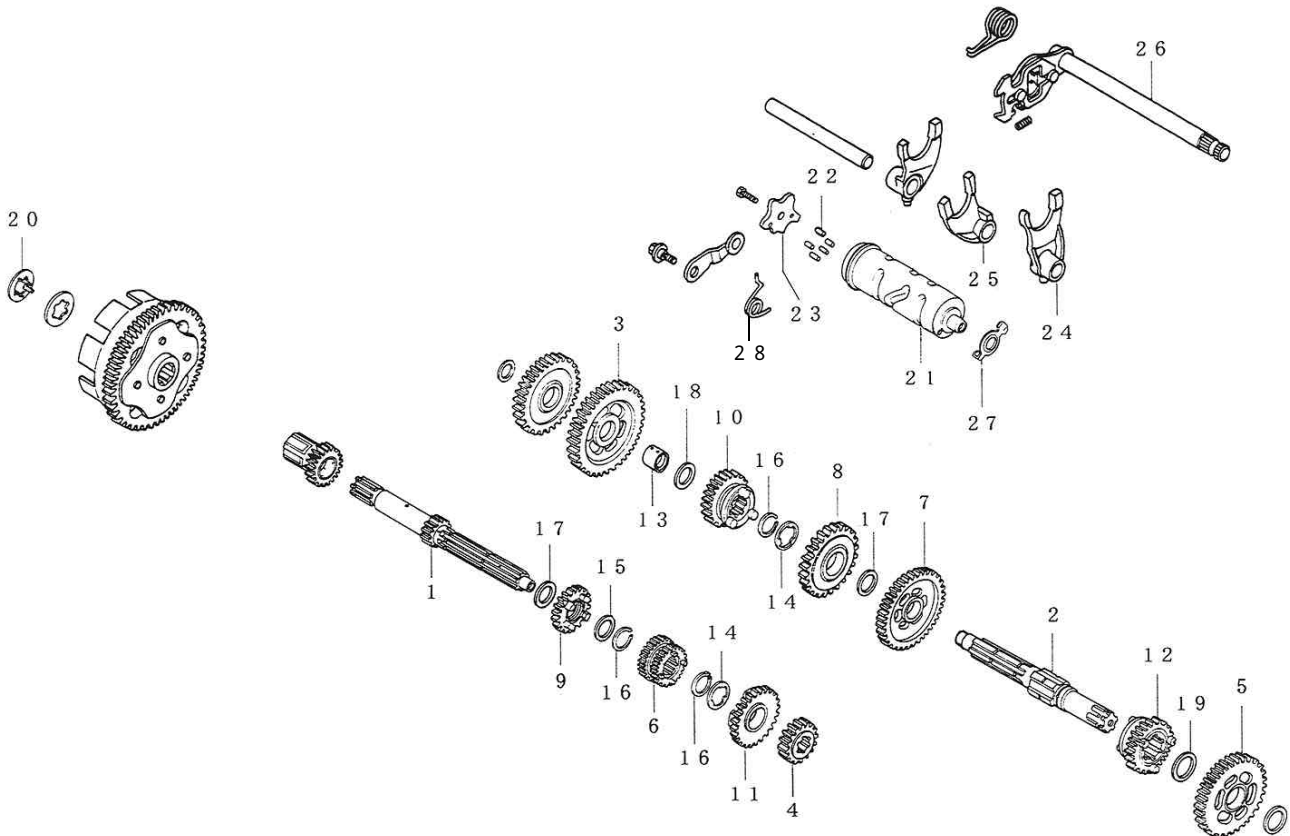
This manual should be retained for future reference.

Features

This is a 6-speed transmission designed with a gear ratio for sports driving as compared with the standard 5-speed transmission. A wide range of settings will become available when used in combination with a final gear.

	Ape standard		Takegawa's original	
1st gear	3.083	(12/37)	2.642	(14/37)
2nd gear	1.882	(17/32)	2.000	(17/34)
3rd gear	1.400	(20/28)	1.631	(19/31)
4th gear	1.130	(23/26)	1.380	(21/29)
5th gear	0.960	(25/24)	1.173	(23/27)
6th gear	—————		1.040	(25/26)

Kit includes:



No.	Part Name	Qty	Repair Part Item No.	In packs of
1	Mainshaft, 14T	1	23211-GCR-T00	1
2	Countershaft COMP	1	23220-GCR-T01	1
3	Countershaft 1st speed gear, 37T	1	23420-GCR-T00	1
4	Mainshaft 2nd speed gear, 17T	1	23441-GCR-T00	1
5	Counter shaft 2nd speed gear, 34T	1	23450-GCR-T00	1
6	Mainshaft 3rd and 4th speed gear, 19T/21T	1	23461-GCR-T00	1
7	Countershaft 3rd speed gear, 31T	1	23471-GCR-T00	1
8	Countershaft 4th speed gear, 29T	1	23481-GCR-T00	1
9	Mainshaft 5th speed gear, 23T	1	23491-GCR-T00	1
10	Countershaft 5th speed gear, 27T	1	23501-GCR-T01	1
11	Mainshaft 6th speed gear, 25T	1	23511-GCR-T00	1
12	Countershaft 6th speed gear, 26T	1	23521-GCR-T00	1
13	Collar, 17 mm	1	00-02-0125	1
14	Spline washer, 17 mm	2	00-02-0023	5
15	Special spline washer, 17 mm	1	00-02-0024	2
16	External circlip, 17 mm	3	00-02-0005	5
17	Thrust washer B, 17 mm	2	00-02-0056	1
18	Thrust washer, 13.5 mm	1	00-02-0126	1
19	Thrust washer	1	00-02-0127	1
20	Set ring	1	00-02-0128	1
21	Gearshift drum	1	24301-149-T10	1
22	Gearshift drum pin	1	00-02-0051	1
23	Gearshift drum stopper plate	1	24435-GCR-T01	1
24	Left gearshift fork	1	00-02-0129	1
25	Central gearshift fork	1	00-02-0134	1
26	Gear spindle COMP.	1	00-02-0094	1
27	Neutral switch rotor	1	00-02-0131	1
28	Shift drum stopper spring	1	24436-149-T00	1

Please order repair parts with the Repair Part Item No. Without the repair part item No., we may not be able to provide the correct parts. Some parts are only available as a set. Please order them with the set number.

~ Installation Instructions ~

Disassembly

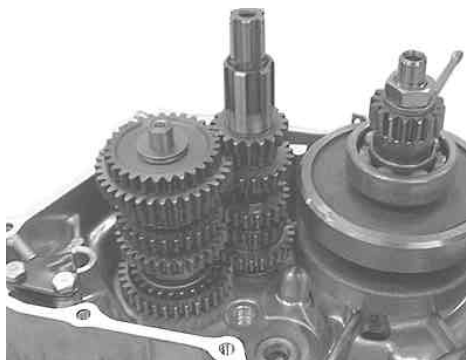
- Prepare a suitable work stand, on which please set a crankcase with its left-side case downside. Unscrew pivot bolts on a stopper arm, and remove the stopper arm and a return spring.
- Unscrew a shift-drum stopper-plate bolt to remove the stopper plate.
- Remove a gear shift spindle.
- Unfasten a return-spring hook on the kick-starter spindle to remove the spring and spring collar.
- Unscrew two bolts on the crankcase, and split the right-side crankcase, hitting the crankcase lightly with a plastic hammer.
(Do not press the screw driver into the mating surfaces of the crankcase.)
- Remove two dowel pins and gasket.
- Detach a kick starter spindle.
- Pull out a shift-fork shaft to remove three shift forks from the gear.
- Detach a shift drum.
- Remove the mainshaft assembly and countershaft assembly at the same time from the crankcase.
- Remove a primary starter gear from the mainshaft, and also a 17.2mm thrust washer, a 12mm washer, and a starter idle gear from the countershaft.
(A washer on the countershaft is often left behind on the bearings in the crankcase side, which please take note.)

Assembly

- Apply engine oil to the inside of the standard primary starter gear, which please install to a provided mainshaft. Then apply engine oil to the inside of a standard starter idle gear, which please install to the countershaft.
Install a 12mm standard washer and a 17.2mm thrust washer to the countershaft.
(Slightly apply grease to the 17.2mm thrust washer, being careful not to drop it. Also, be careful of the directions of each washer.)



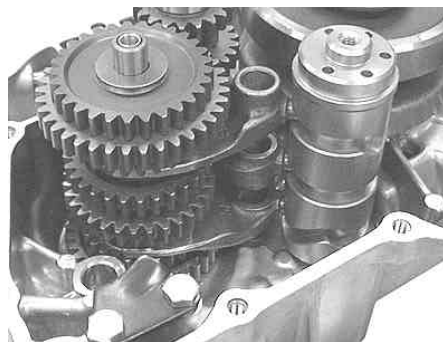
- Apply engine oil to a gear and frictional part each on the mainshaft and the countershaft, both of which please fix, as a unit, to the left-side crankcase.



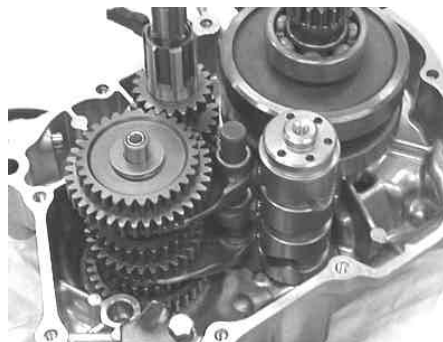
- Affix a provided shift fork on the main shaft with the identifying mark "C" facing upward. Align the convex portion on the shift fork with the center groove in the provided shift drum, and install the shift drum to the crankcase.



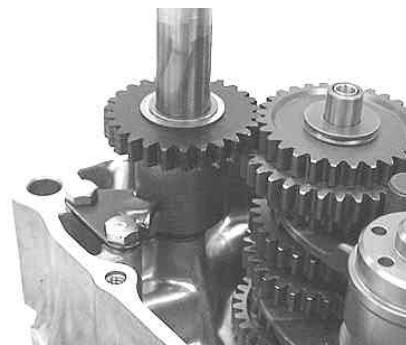
- Attach a provided shift fork "L" on the downside of the countershaft, and the standard shift fork "R" on the top side with the mark facing upward, and install shift fork onto the groove on the shift drum.



- After applying engine oil to the shift-fork shaft, install it to the crankcase.
(Do not install the fork shaft forcibly.)

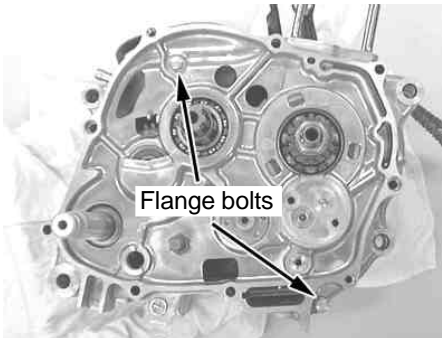
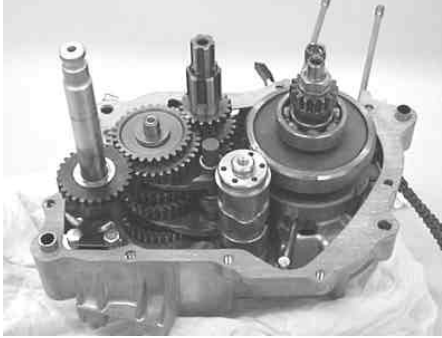


- Install the kick-starter spindle to the case, and hook the claw of the starter ratchet on the hook of the guide plate.



○ Degrease the mating surfaces of the crankcase, and install two dowel pins, a new crankcase gasket, and then a right-side crankcase.
Then, install the flange bolts into two locations in the crankcase, and tighten these bolts alternately in a few steps to the specified torque.

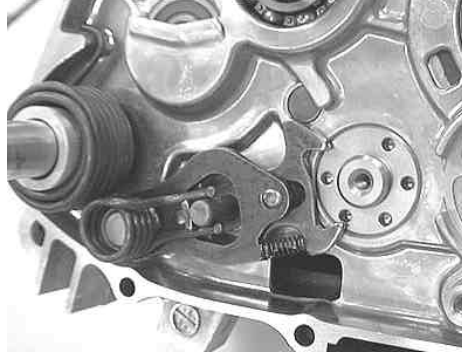
⚠ Caution: Apply the specified torque.
Torque: 12 N · m (1.2 kgf · m)



○ Attach a return spring to the kickstarter spindle. Insert the end, inside of the spring, into a hole in the spindle, and fix a spring collar. (Attach the spring collar, aligning the notch on the spring collar with the spring end.)

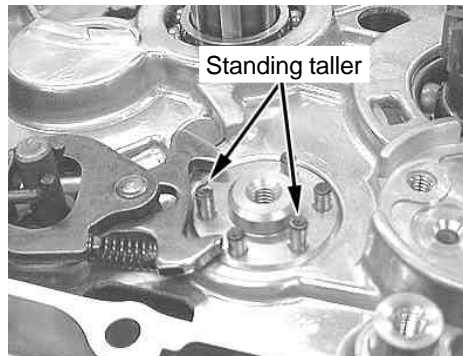


○ Remove a return spring and shift-arm spring from the standard gear-shift spindle, and install them to a provided shift spindle.
(Please use care when removing a return spring because the spring pressure is too strong.)
Apply engine oil to all the sliding parts of the shift spindle and install it to the crankcase.
(Fix the shift spindle, aligning the return-spring end with the stopper-pin on the crankcase.)



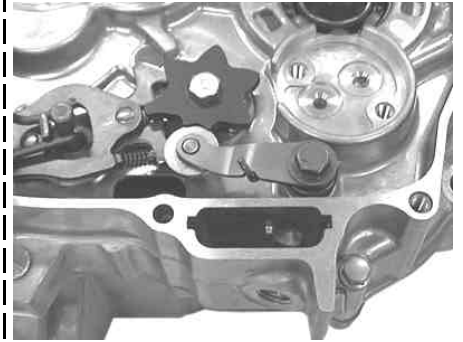
○ Remove four shift drum pins from the standard shift drum. Then install a provided shift drum pin and four standard drum pins to the shift drum. Attach a shift drum stopper plate to the shift drum, and apply screw locking agent to the standard hex bolt and tighten it to the specified torque. (Two of the shift drum pins stand taller than others when fixed. Fix a stopper plate by fitting the holes into these two taller pins.)

⚠ Caution: Apply the specified torque.
Torque: 13 N · m (1.3 kgf · m)



○ Attach the supplied shift-drum stopper spring and shift-drum stopper to the crankcase with a pivot bolt.

⚠ Caution: Apply the specified torque.
Torque: 13 N · m (1.3 kgf · m)



○ While rotating the mainshaft by hand, rotate the hex bolt, which is fixing the shift stopper plate, in order to check the operation in each gear.

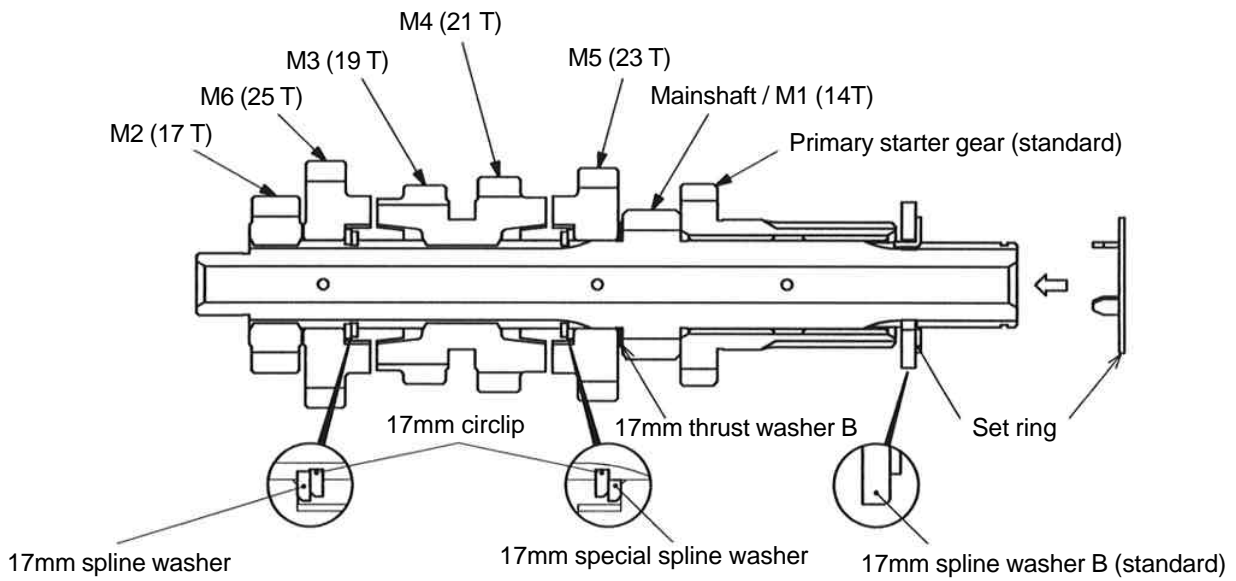
○ Install the clutch outer COMP. to the mainshaft. Install a stock spline washer B to the mainshaft, being careful about the direction, and rotate the spline washer 30 degrees. Fix a supplied 17mm set ring to the mainshaft, and fasten the spline washer.



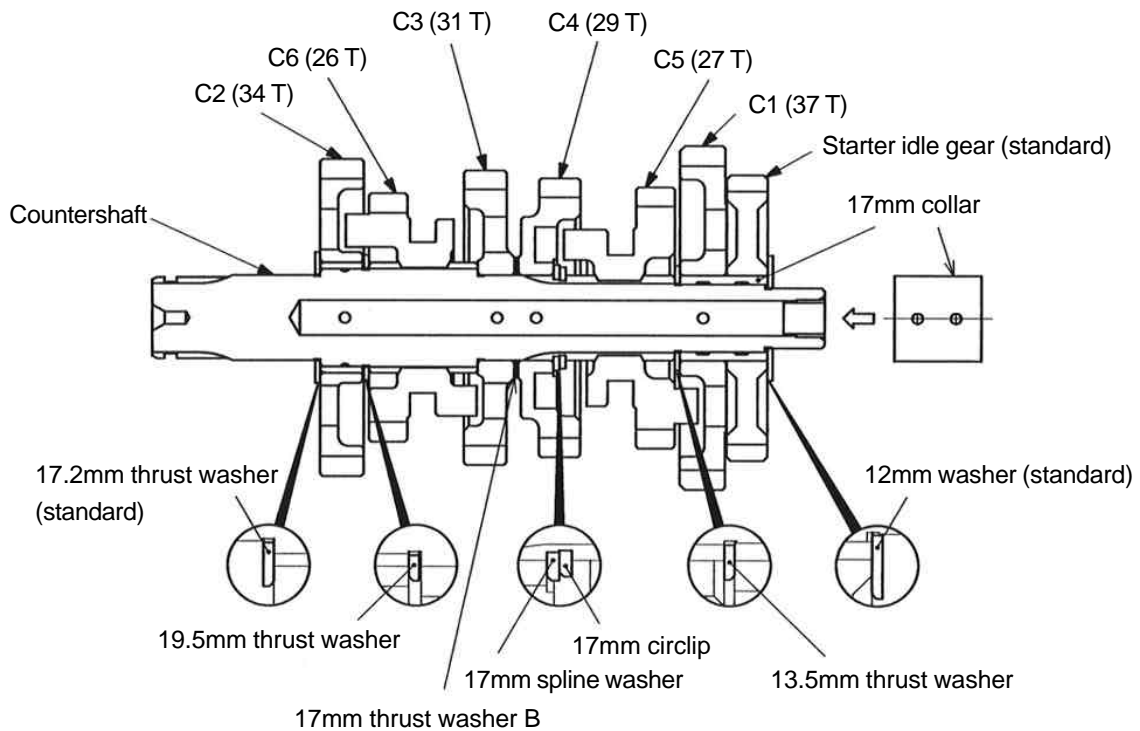
Please do all the installation after above steps in the reverse order of splitting.

~ Assembly Drawing ~

Mainshaft Assembly



Countershaft Assembly



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