

6 SPEED TRANSMISSION ASSY / CONVERT KIT No. 1/3

CODE	(MINI MOTO TRANSMISSION ASSY) 305-1418100	(CONVERT KIT) 305-1418190
COMPATIBILITY	Ape50/100 (AC16/HC07 ALL MODEL) XR MOTARD 50/100 (AD14/HD13 ALL MODEL) / NSF100	

SPECIFICATION

SPEED	6-STEP / 1-RETURN (1 ← N → 2 → 3 → 4 → 5 → 6)	
REDUCTION RATIO	1ST : 2.187 (MAIN SHAFT 16 / COUNTER SHAFT 35)	2ND : 1.777 (18/32)
	3RD : 1.450 (20/29)	4TH : 1.272 (22/28)
	5TH : 1.173 (23/27)	6TH : 1.130 (23/26)
REFERENCE	※ Gasket is sold separately. Purchase for your engine displacement.	

- Thank you for purchasing Kitaco product. Read and understand the instruction before installing.
- Exclusive tools are required for installation.
- Keep this instruction for later needs.
- ※ This instruction is not included in replacement parts.

ATTENTIONS (MUST READ)

- 6 SPEED TRANSMISSION ASSY / CONVERT KIT is performance parts by narrowing gear ratio from 5 speed to 6 speed.
- Only installing this kit does not improve, or the worse, acceleration / max speed will decrease. Extra setting such as sprocket teeth according to engine / body performance is required.
- We are not responsible for damages and accidents caused by assembling mistake and improper setting.
- Do not modify the way which is not listed or it will cause damage and trouble.
- Please ask authorized mechanic for assembling and setting.
- Ask a specialist at specialty shop if you do not understand the role of the surrounding parts.
- Refer to the manufacturer HONDA service manual when installation.
- Bolts and nuts may get loosen by engine vibration.
- Please check and make sure each part of bolts and nuts are not loose before running.
- Apply to transmission oil or engine oil you are using for sure when installing each part.
- 6 SPEED TRANSMISSION ASSY / CONVERT KIT is designed and made exclusive for Aep50/100, do not use on other models.
- Start engine with kick at TDC position. Also, rapid engine brake or using extremely bigger displacement is prohibited. Too much burden will cause transmission / engine failure to cause severe injury or death.



FLAMMABLES
Inflammable gasoline is used during operation. Using flammable things such as smoking is strictly prohibited.



As for cylinder, crankcase, exhaust pipe, etc., during engine operation and after operation are extremely hot. Do not touch carelessly.



This instruction is for person who has knowledge for motorcycle maintenance. If you do not, do not try to install, but ask for mechanic.



Do not touch spinning gears or other parts. Do not rotate tires while operation.

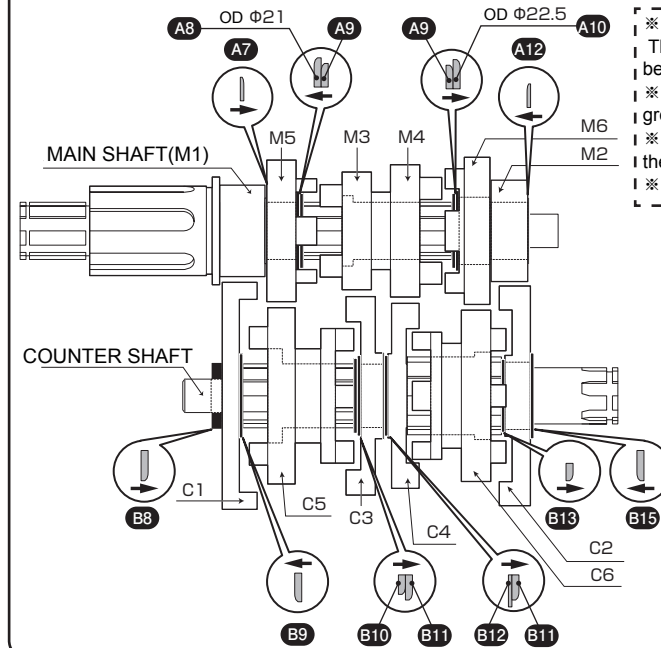
OPTION PARTS (PURCHASE THE QUANTITY YOU REQUIRE)

▼ GENERAL TOOL & SPECIAL TOOL		
KITACO SPECIAL TOOL	MOLYBDENUM DISULPHIDE GREASE	969-0500300

MUST READ WHEN INSTALLATION

WASHER / SNAP RING DIRECTION

(Already assembled when shipped. Refer to the illustration when disassembling / inspection)



- ※ Spline washer / cir clip has direction.
- The round surface (arrow in illustration) should be placed on burden side.
- Cir clip end gap is aligned with spline groove.
- Make sure that the cir clip is in the groove of the shaft.
- Do not reuse worn clip.

INSTALLING TRANSMISSION ASSY / SHIFT DRUM

Install transmission following right side illustration

- Install mainshaft / countershaft together.

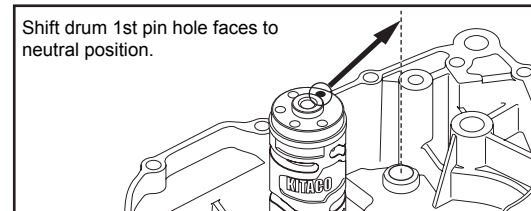
Refer to the illustration of shift fork installation

1. Install shift fork into mainshaft / countershaft gear shift fork guide.

Install pins into shift drum guide groove.

Adjust and install carefully as gear slides and shift drum turns.

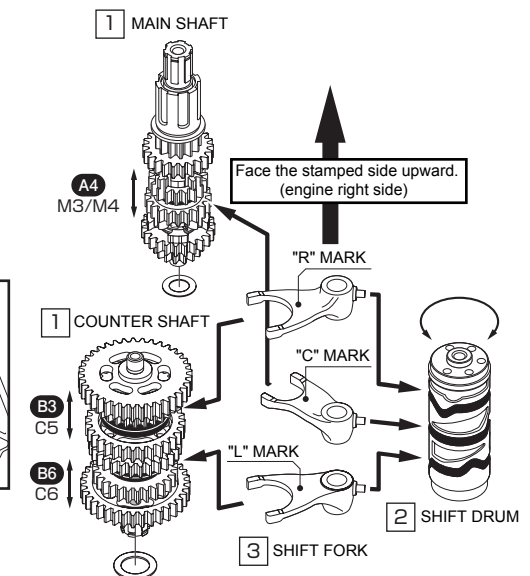
- Install L, C, R shift fork (stamp is on the surface) from the left.
- Face the stamped side upward (engine right side)
- Install in neutral position (Refer to below illustration)



2. Install the forks of shift fork in gear, holding forks, turn it and install pins of the shift fork in the drum.

Installing pins in straight groove of drum is easy installation.

- Install countershaft L / R fork from shift drum lower side.
 - Install mainshaft C fork is from shift drum upper side.
3. After installing L / C / R shift forks, align the hole position, then install shift fork shaft.



- Hold the washer / gear not to drop.
- Insert the countershaft gradually, turning slowly not to hurt crankcase oil seal.

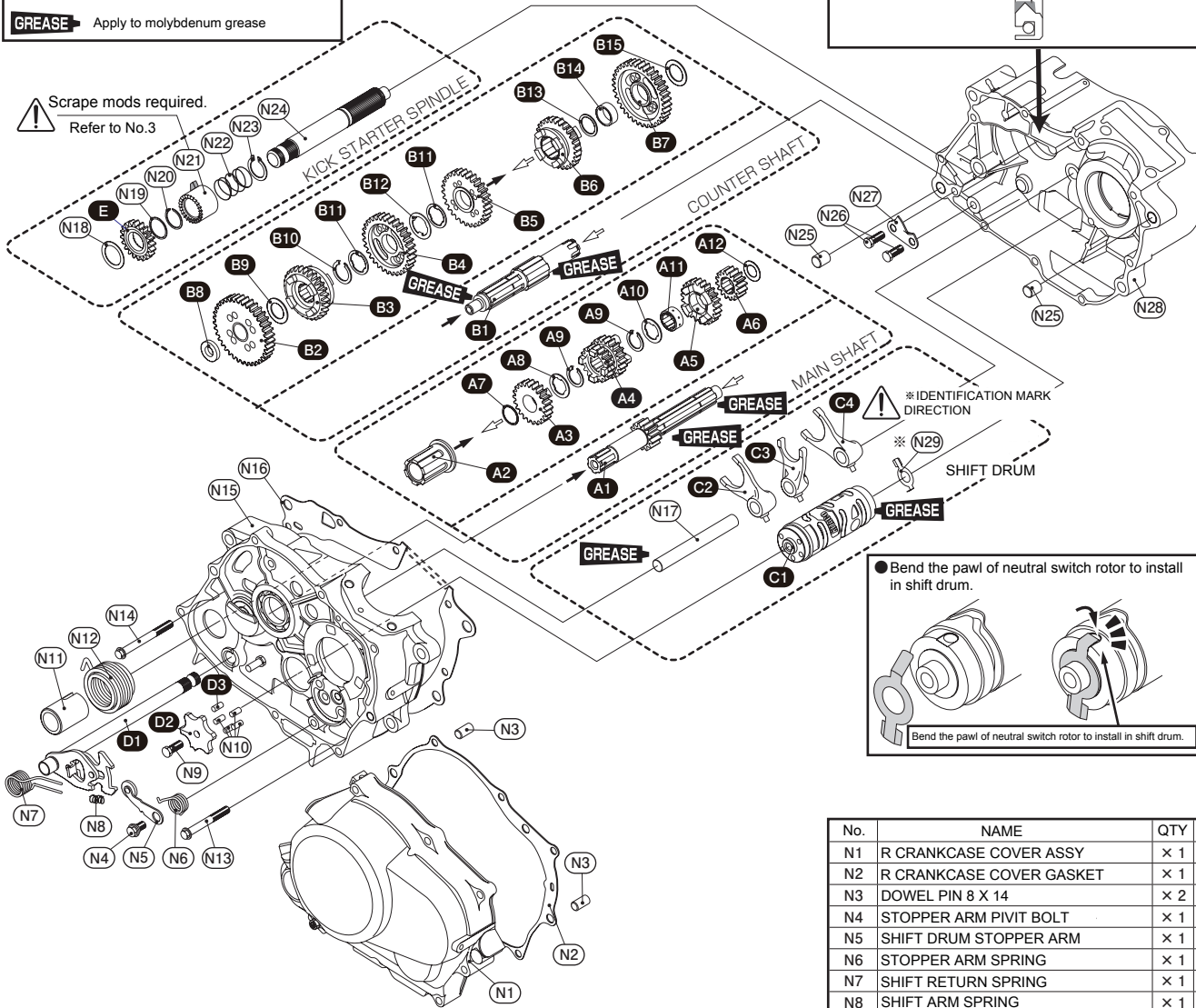
6 SPEED TRANSMISSION ASSY / CONVERT KIT No. 2/3

This illustration shows minimoto close transmission assy and related Honda OEM parts.

Refer to "reference" in the table.

GREASE Apply to molybdenum grease

Scrape mods required.
Refer to No.3



• Apply to grease inside the oil seal of left side crankcase countershaft.

Apply rubber grease

* IDENTIFICATION MARK DIRECTION

• Bend the pawl of neutral switch rotor to install in shift drum.

Bend the pawl of neutral switch rotor to install in shift drum.

ATTENTION FOR INSTALLATION

- Exchange to new parts if "reuse" parts have scratches, blem and wear.
- Apply to engine oil and molybdenum grease on each gear for gears to rotate smoothly. Make sure that the gears are engaged correctly and smoothly.
- If it does not rotate correctly, the gears are not engaged correctly or shift fork distortion. Check gears again.

PACKING LIST APE MINIMOTO SPEED TRANSMISSION ASSY

No.	NAME	CODE	305-1418100	305-1418190	OUTER DIAMETER
A1	MAIN SHAFT (M-1) 16T	305-1418101	× 1	× 1	
A2	CLUTCE OUTER GUIDE	305-1122118	× 1	× 1	
A3	GEAR (M-5) 23T	305-1418104	× 1	× 1	
A4	GEAR (M-3/M-4) 20T/22T	305-1418103	× 1	× 1	
A5	GEAR (M-6) 23T	305-1418105	× 1	× 1	
A6	GEAR (M-2) 18T	305-1418102	× 1	× 1	
A7	THRUST WASHER B17mm	305-1122125	× 1	× 1	OD Φ 24 T0.5
A8	SPLINE WASHER B17mm	305-1122127	× 1	× 1	OD Φ 21
A9	CIR CLIP 17mm	305-1122131	× 2	× 2	
A10	SPLINE WASHER A17mm	305-1122126	× 1	× 1	OD Φ 22.5
A11	SPLINE COLLER	305-1122119	× 1	× 1	
A12	THRUST WASHER 12mm	305-1122121	× 1	× 1	OD Φ 20 T1.0
B1	COUNTER SHAFT	305-1418106	× 1	× 1	
B2	GEAR COMP (C-1) 35T	305-1418107	× 1	× 1	
B3	GEAR (C-5) 27T	305-1418111	× 1	× 1	
B4	GEAR (C-3) 29T	305-1418109	× 1	× 1	
B5	GEAR (C-4) 28T	305-1418110	× 1	× 1	
B6	GEAR (C-6) 26T	305-1418134	× 1	× 1	
B7	GEAR (C-2) 32T	305-1418108	× 1	× 1	
B8	THRUST WASHER 12.2mm	305-1122123	× 1	× 1	OD Φ 24 T3.5
B9	THRUST WASHER 16.5mm	305-1122124	× 1	× 1	OD Φ 24 T1.0
B10	CIR CLIP 19mm	305-1122132	× 1	× 1	
B11	SPLINE WASHER 19mm	305-1122128	× 2	× 2	
B12	LOCK WASHER 19mm	305-1122129	× 1	× 1	
B13	THRUST WASHER A17mm	305-1122130	× 1	× 1	OD Φ 23 T0.5
B14	BUSH 17mm	305-1122120	× 1	× 1	
B15	THRUST WASHER 17.2mm	305-1122122	× 1	× 1	OD Φ 26 T1.0
C1	SHIFT DRUM	305-1122115	× 1	-	
C2	GEAR SHIFT FORK (R)	305-1122112	× 1	-	
C3	GEAR SHIFT FORK (C)	305-1122114	× 1	-	
C4	GEAR SHIFT FORK (L)	305-1122113	× 1	-	
D1	SHIFT SPINDLE COMP	305-1122117	× 1	-	
D2	SHIFT CAM	305-1122116	× 1	-	
D3	SHIFT DRUM PIN	305-1123023	× 1	-	
E	KICK GEAR 23T	305-1418113	× 1	× 1	

No.	NAME	QTY	TIGHTENING TORQUE	No.	NAME	QTY	TIGHTENING TORQUE
N1	R CRANKCASE COVER ASSY	× 1		N16	CRANKCASE GASKET	× 1	
N2	R CRANKCASE COVER GASKET	× 1		N17	SHIFT FORK GUIDE SHAFT	× 1	
N3	DOWEL PIN 8 X 14	× 2		N18	THRUST WASHER 18mm	× 1	
N4	STOPPER ARM PIVIT BOLT	× 1	13N · m (1.3kgf · m)	N19	FLAT WASHER 18mm	× 1	
N5	SHIFT DRUM STOPPER ARM	× 1		N20	CIR CLIP 18mm	× 1	
N6	STOPPER ARM SPRING	× 1		N21	STARTER DRIVR RATCHET	× 1	Cutting required
N7	SHIFT RETURN SPRING	× 1		N22	RATCHET SPRING	× 1	
N8	SHIFT ARM SPRING	× 1		N23	EXTERNAL CIR CLIP 18mm	× 1	
N9	M6 × 22 BOLT	× 1	12N · m (1.2kgf · m)	N24	KICK STARTER SPINDLE	× 1	
N10	SHIFT DRUM PIN	× 4		N25	DOWEL PIN 12 X 20mm	× 2	
N11	SPRING COLLAR	× 1		N26	M6 × 16 BOLT	× 2	
N12	KICK RETURN SPRING	× 1		N27	RATCHET GUIDE PLATE	× 1	
N13	M6 × 45 BOLT	× 1	12N · m (1.2kgf · m)	N28	L CRANKCASE	× 1	Apply oil to the inside of the oil seal
N14	M6 × 55 BOLT	× 1	12N · m (1.2kgf · m)	N29	NEUTRAL SWITCH ROTOR	× 1	Bending processre required
N15	R CRANKCASE	× 1					

(N21) STARTER DRIVE RATCHET MODS

ATTENTIONS !

Make sure that the ratchet engages correctly before turning the crankshaft until TDC.

Then, get the kick pedal back to the place it used to be and kick to reduce the risk of the gear get broken.

※ Do not open the throttle during kicking the down, which causes the gear broken with back fire and so on.

RATCHET

Scrape mods required.

Scrape this area so there is 0.5 - 0.8mm gap.

※ Do not scrape too much.

Align the ratchet with starter spindle notch.

