



INSTRUCTIONS

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REV. 1-1-93

Kit Number 33056-90TA

KICK STARTER KIT

General

This kit is designed for use on all 1936 and later Big Twin models equipped with 4-speed or 3-speed and reverse transmissions.

QTY	DESCRIPTION
1	Cover assembly transmission
1	Spring, starter crank
1	Washer, starter crank
1	Gasket, transmission cover assembly
1	Gasket, clutch cover
1	Gear assembly starter crank
1	Lockwasher, starter crank
1	Nut, crankshaft
1	Bumper plate
2	Screws, bumper plate
1	Spring, starter clutch
1	Starter gear
1	Oil deflector, 1936-1979
1	Oil deflector, 1980-1986
1	Starter clutch
1	Key, starter clutch
1	Lockwasher, mainshaft
1	Nut, mainshaft
1	Spring cover kit
1	Crankshaft

NOTE

The starter crank assembly is not contained in this kit and must be obtained separately.

Installation

⚠WARNING

To avoid accidental start-up of vehicle and possible personal injury, disconnect the battery cables (negative cable first) before performing any of the following procedures.

1. Remove the exhaust system and the brake pedal bracket, if applicable.
2. See Figure 1. Remove clutch cover, loosen push rod locknut and turn adjusting screw counterclockwise until clutch cable has enough slack so it can be removed from the clutch release lever.
3. See Figure 2. Place a pan under the transmission cover assembly (to catch oil) and remove the nine nuts that secure cover to transmission. Remove the cover assembly.
4. Remove the retaining ring (G) and thrust washer (F) and release finger (E) from the bottom end of release lever shaft (D). Remove the release lever shaft (D) clutch release lever (C), washer (B) and release lever nut (A) as an assembly.
5. Install clutch release lever assembly (parts A - D) on the new cover assembly. Install release finger (E), thrust washer (F) and retaining ring (G) on the bottom end of release lever shaft (D).

6. Remove the clutch push rod assembly from the mainshaft.
7. Remove the upper right screw from the bearing retaining plate on right end of transmission.
8. See Figure 3. Apply 2-3 drops of Loctite 242 onto threads of screw removed above and use this screw to mount the oil deflector (1 or 1A) to the bearing retaining plate. (See Figure 3 for oil deflector identification and model application.)

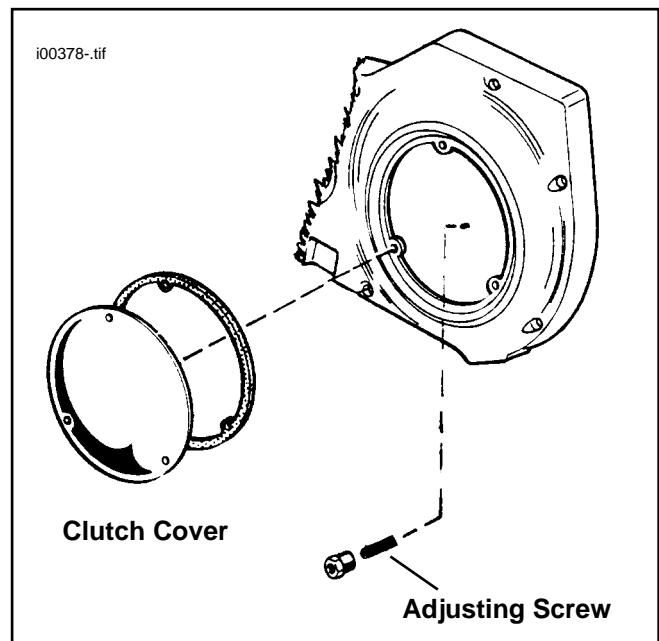


Figure 1. Chain Guard Cover

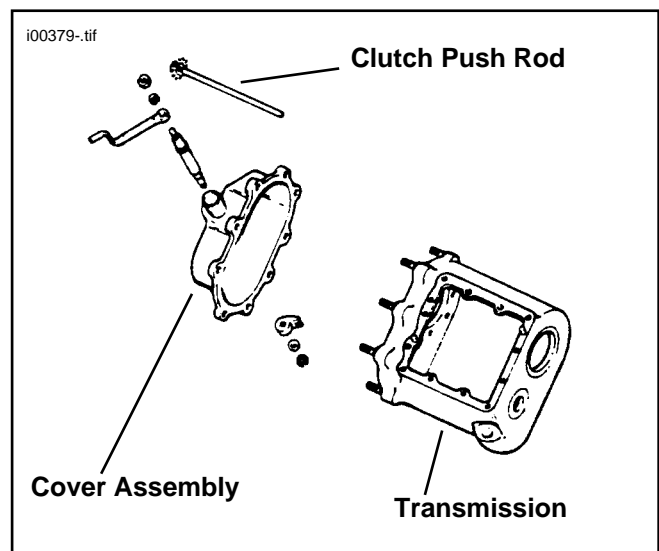


Figure 2. Parts Required From Stock Cover

9. Make sure deflector is tilted upward about 3-5 degrees. Tighten screw to 8-10 ft-lbs.
10. Apply a light coating of engine oil to the right end of the mainshaft and position spring (2) and starter gear (3) on the shaft.
11. The starter gear must be loose enough on the mainshaft to slide under the force of spring (2). If necessary, ream the gear bushing to obtain a free fit.
12. Install key (4) in keyway of mainshaft and install starter clutch (5) on mainshaft so its keyway engages key (4).
13. Install lockwasher (6) and nut (7) on mainshaft and tighten nut to 40-45 ft-lbs. Bend tabs of lockwasher against flats on nut.
14. Install starter crank bumper plate (8) to two tapped holes located in transmission below countershaft using the 1/4-24 x 5/8 in. screws (9) contained in this kit. Tighten screws to 8-10 ft-lbs.
15. Apply a light film of engine oil to crankshaft (10). Place thrust washer (11) on crankshaft (10) with chamfered side facing toward spring (12). Slide crankshaft through bore of cover assembly.

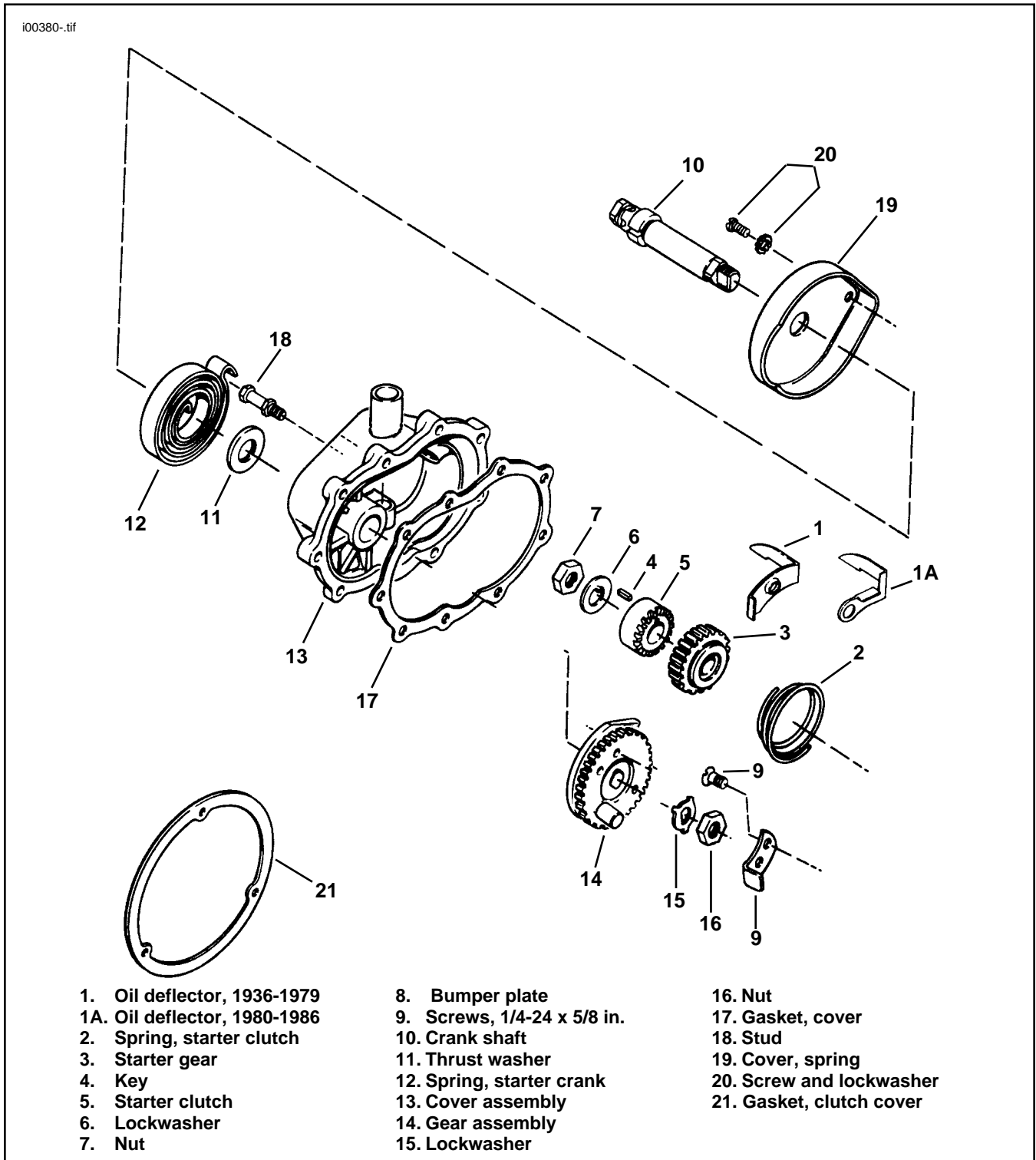


Figure 3. Kick Starter Assembly

16. See Figure 4. Install the starter crank gear assembly (14) on crankshaft (10). The gear must be installed so that the flat on the crankshaft is in the 12 o'clock position and the dowel pin in the 7 o'clock position.
 17. See Figure 3. Install lockwasher (15) and nut (16) on the crankshaft (10) and tighten to 30-40 ft-lbs.
 18. Bend the lockwasher tabs against the nut flats.
 19. Place side cover gasket (17) over studs on transmission case.
 20. See Figure 2. Insert clutch push rod assembly into cover assembly. Make sure that the release finger (E) is positioned behind the push rod.
 21. Insert the clutch push rod into the mainshaft and using the push rod as a guide, install the new cover on the transmission. Make sure dowel pin on starter gear clears the front of the start bumper plate (8).
 22. Tighten the cover nuts to 13-16 ft-lbs torque.
 23. Install stud (18) in threaded hole near crankshaft (10) and place starter crank spring (12) on crankshaft (10) making sure tang on spring engages slot in crankshaft.
27. Apply a light coating of gasket sealer to the new clutch cover gasket supplied with this kit and position the gasket on the chain housing. Install clutch cover using original screws and tighten screws to 8-10 ft-lbs torque.

NOTE

Clutch cover must be air tight to maintain the correct chain case vacuum. If vacuum is not correct, lubrication or oil consumption problems may occur. See the applicable Service Manual for information on the lubrication system and chain case vacuum checking procedure.

CAUTION

Press starter pedal down slowly and check that starter crank does not touch exhaust system and scratch finish. Realign exhaust system to provide clearance if necessary.

Operating Instructions

WARNING

To avoid personal injury and/or possible damage to the starter mechanism, operate the kick starter as follows:

1. Straddle motorcycle, with cycle on jiffy stand, making sure transmission is in neutral.
2. Close choke if engine is cold, leave throttle in closed position and leave ignition switch "OFF".

NOTE

To start a warm or hot engine, turn throttle 1/4 open, turn ignition switch on and perform Steps 3 - 5. DO NOT CLOSE CHOKE.

3. **IMPORTANT.** Place right foot on starter pedal and operate lightly until resistance is felt at top of stroke. (One piston must be on compression stroke and the starter clutch or ratchet must be engaged.)
4. Grasp handlebar grips firmly, ensure ratchet is engaged, then place all your weight on the starter pedal to crank engine.
5. Keep right foot on pedal at bottom of stroke and allow the spring to return pedal to "up" position. **DO NOT** let pedal snap up as spring breakage may result.
6. Repeat Steps 3 - 5 in cold (50° F or below) weather.
7. Turn ignition switch "ON", leave choke closed in cold weather, or open choke halfway if temperature is above 50° F.
8. Repeat Steps 3 - 5. As soon as engine starts, open throttle adjust choke to keep engine running smoothly.

WARNING

The next step requires winding the starter spring. Wear heavy leather gloves and safety glasses while performing the next step. Accidental spring release could cause personal injury.

24. Insert a heavy Phillips screwdriver blade into the hook on the outer spring coil and wind spring clockwise one turn and place hook on stud (18).
25. Install starter spring cover (19) over start spring and secure with screw and washer (20).
26. See Figure 2. Install clutch cable on clutch release lever (C). Refer to the Service Manual that covers the motorcycle being worked on and adjust the clutch following the instructions given.

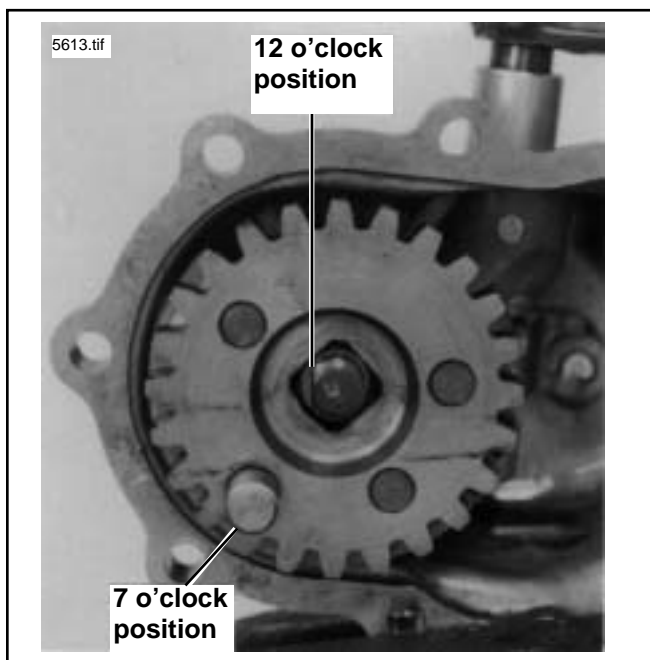


Figure 4. Installing Starter Crank Gear