

STARTING SYSTEM/ POWER TRANSMISSION SYSTEM

The motorcycle is not equipped with a transmission. Starting is accomplished by a foot pedal located at the left side of the motorcycle. The entire starting system consists mainly of the foot pedal, starter spring, starter drive and driven sprockets and starter chain. These are bathed in oil in a sealed case.

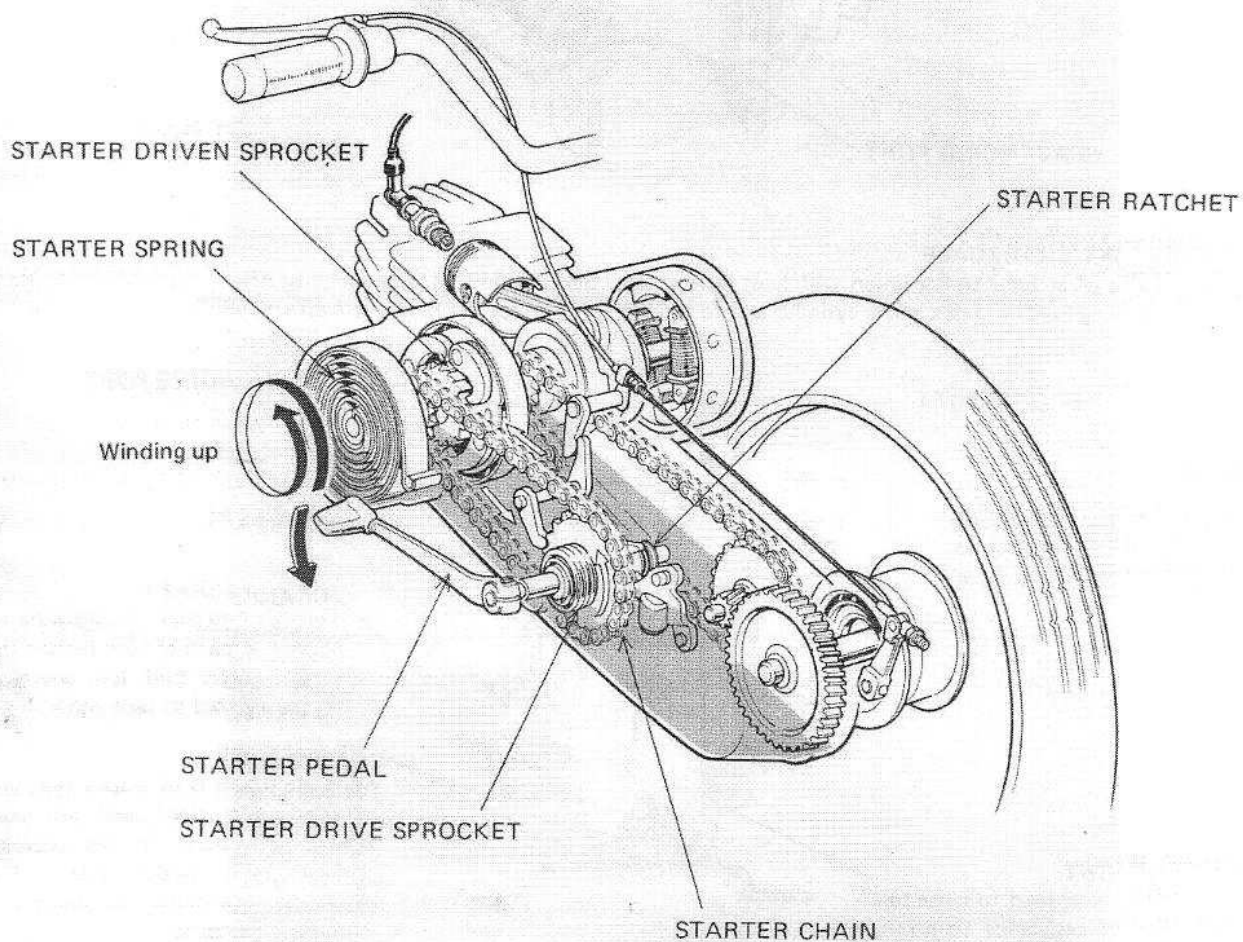
(BEFORE STARTING)

Starter pedal → Starter ratchet → Starter drive sprocket → Starter chain → Starter driven sprocket → Starter spring → Energy stored in starter spring (motorcycle is ready for starting)

(STARTING)

Rear brake lever → Brake cable → Starter lever → Starter arm → Starter spring (releasing stored energy) → Starter driven sprocket → Drive plate → Engine crankshaft → Start

— BEFORE STARTING —

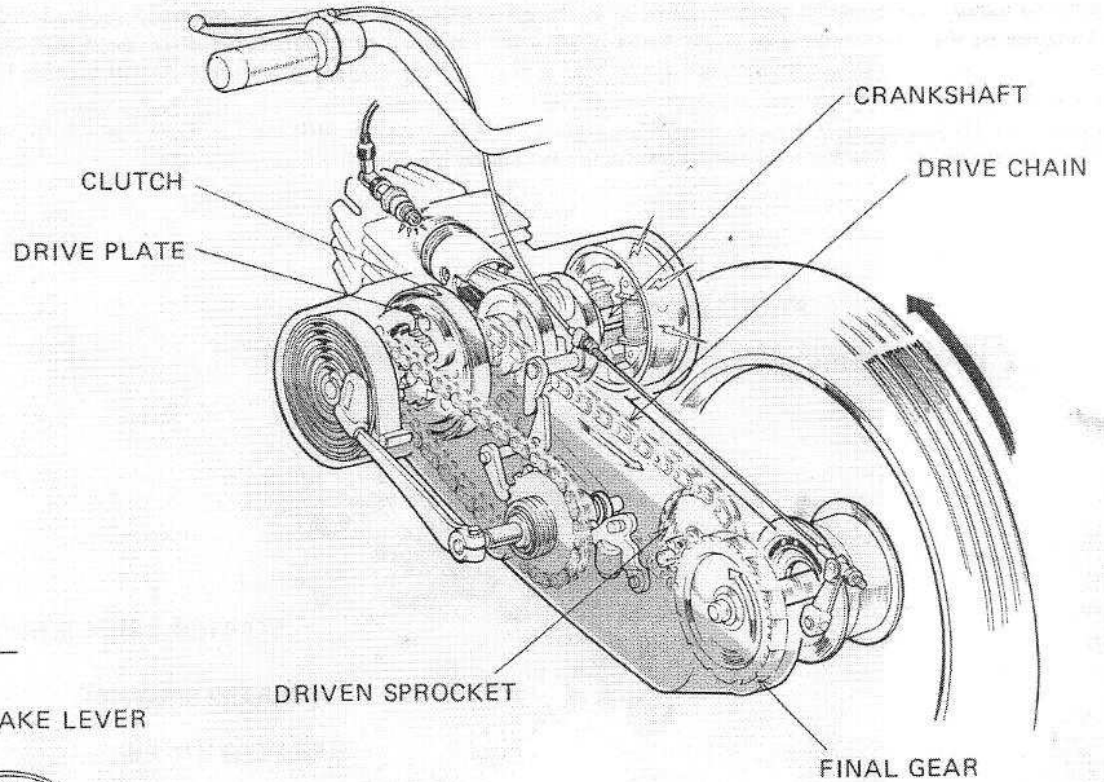




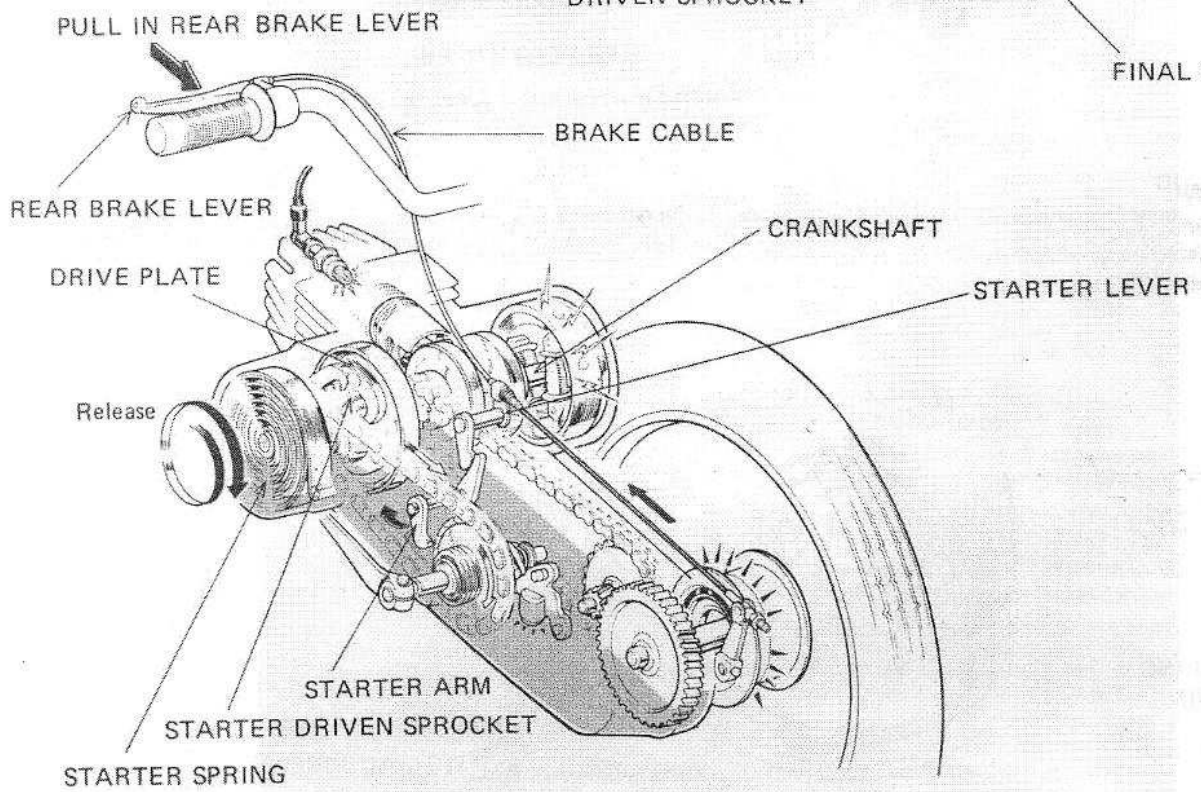
(POWER TRANSMITTING SYSTEM)

Crankshaft → Drive plate → Clutch → Drive chain → Driven sprocket → Final Gear → Rear wheel

— POWER TRANSMITTING SYSTEM —



— STARTING —





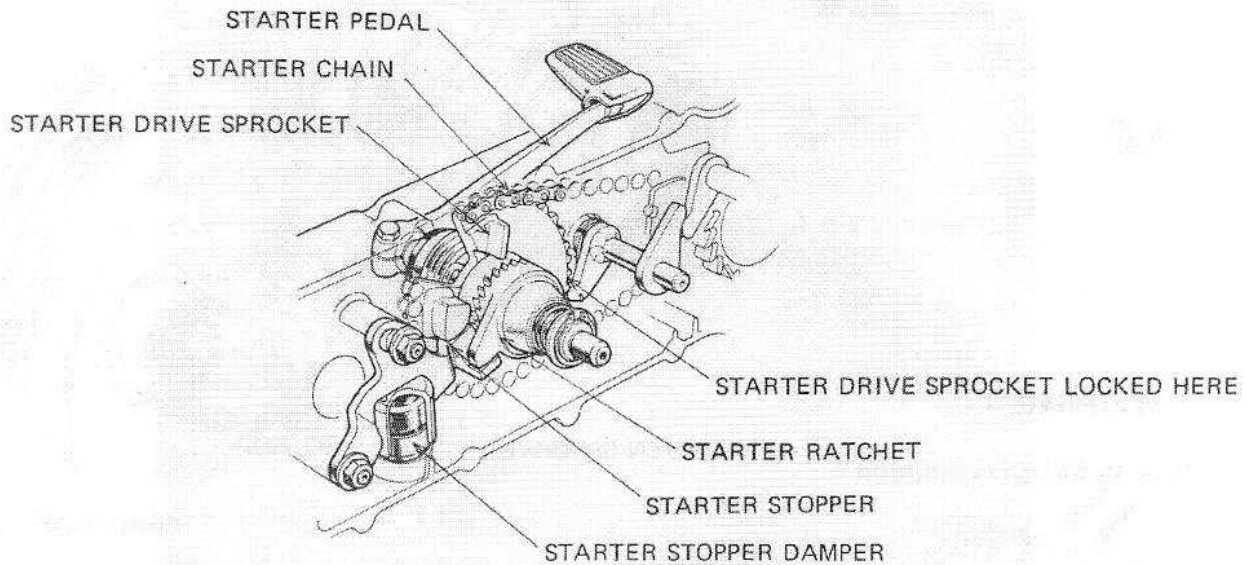
1. STARTER DRIVE SPROCKET

The starter drive sprocket transmits energy to the starter spring through the starter chain. It also keeps the spring compressed until the rear brake lever is pulled in for starting.

(OPERATION)

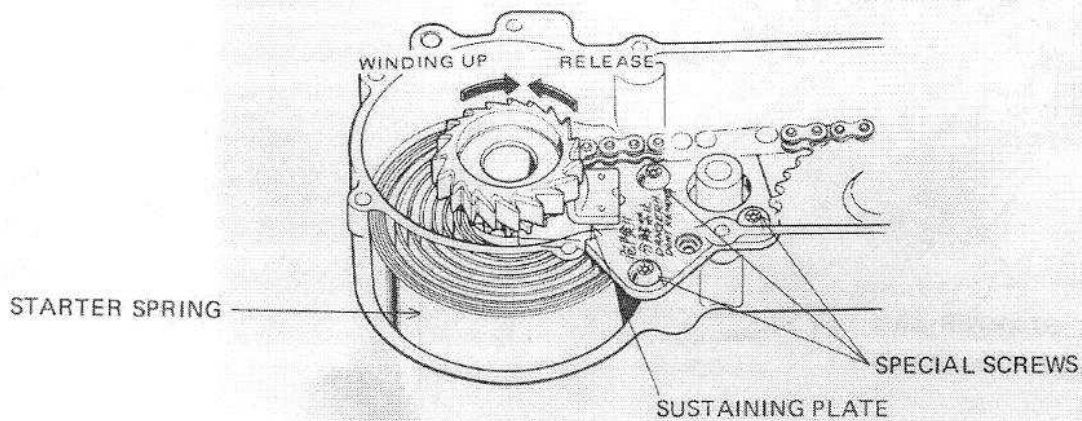
Effort exerted on the starter pedal is transmitted to the starter drive sprocket as described above. The starter ratchet then holds the spring compressed even if the pedal is released. The purpose of the starter drive sprocket is twofold; 1) To transmit energy to the starter spring through the ratchet, and 2) to keep the spring compressed until the rear brake lever is pulled in.

As the starter spring is released, it causes the starter drive sprocket to turn until it bears against the stopper. The starter stopper damper absorbs shock on the stopper when the spring is released.



2. STARTER SPRING

On the NC50, the engine is cranked by releasing energy stored in the starter spring. The spring is held in place with a sustaining plate and special screws and cannot be disassembled in the field. Notice that the spring will pop out in a dangerous manner when disassembled.





3. CLUTCH

A wet, centrifugal clutch with drive plate couples and uncouples the engine to and from the power train. The drive plate incorporates a set of ratchet pawls and clutch weights to which the shoes are attached.

(OPERATION)

To start the engine, the starter pedal should first be depressed several times. Thus, when the rear brake lever is pulled in, this action releases energy stored in the starter spring, causing the driven sprocket to rotate.

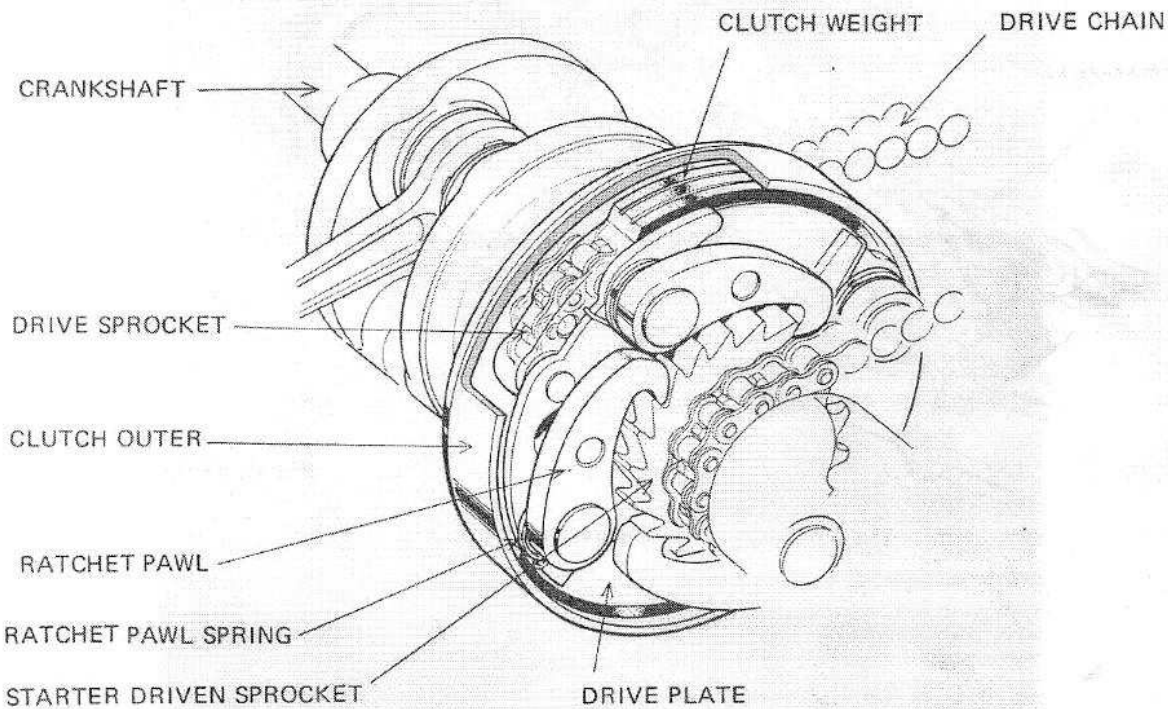
When the driven sprocket turns, the ratchet pawls engage the sprocket teeth. Since the drive plate is a tight taper fit to the stub end of the crankshaft, the crankshaft is rotated as the pawls engage the sprocket teeth; that is, the engine is started.

As the engine starts, centrifugal force on the ratchet pawls causes them to fly outward away from the drive sprocket. An equilibrium between the centrifugal force and the spring force is reached when the engine rotates at about 600 rpm, keeping the clutch off even at idle speed.

On the other hand, as the crankshaft rotates, the clutch weights are also flung radially outward and come into contact with the clutch outer. Power from the starter spring is then transmitted to the drive chain via the drive sprocket.

PERFORMANCE	IN	2,700 rpm
	LOCK	3,400 – 3,600 rpm
	OFF	2,500 rpm

* IDLE SPEED 1,800 rpm



4. The drive and final gears are of helical design for smoother, quieter operation over the entire range of speeds and loads of the engine (Reduction ratio: 73/11). The gears are bathed in oil stored in the L-crankcase to require least attention. The case also serves as a rear fork that is integrated with the engine and is capable of swinging up and down to absorb shocks or vibrations when the rear wheel encounters bumps or irregularities in the road.

