D. FLYWHEEL BRAKE SYSTEM

Tecumseh's Flywheel Brake System provides consumer safety by shutting down the engine and lawnmower blade within seconds after the operator releases the engine/blade control at the handle of the lawnmower. The Brake Starter Mechanism may be used with either of two options for starting:

1. Manual Rope Start
2. 12 Volt Starter System

Each system requires the operator to start unit behind mower handle in operator zone area. The electric start system also provides a charging system for battery recharge when engine is running.

- TO STOP ENGINE (Fig 1). In the stop position the brake pad (A) is applied to the inside edge of the flywheel; at the same time the ignition system is grounded out (B).
- TO START THE ENGINE (Fig 2). In order to restart the engine, the brake control must be applied. This action pulls the brake pad (A) away from the inside edge of the flywheel and opens the ignition ground switch (B). On electric start systems the starter is energized to start the engine. On non-electric start systems, recoil starter rope must be pulled to start engine.

WIRING DIAGRAMS (Electric Start Systems) (Fig 3).
All wiring beyond the connectors on the engine are supplied by the equipment manufacturer. Check all terminals and connectors for corrosion and adequate contact, and all wiring for damage and proper size.

BATTERY
Check battery following the manufacturer's recommendations. The charging system on the engine maintains the battery during normal use.

CAUTION:
- Disconnect battery from engine before servicing.
- Before removing flywheel, remove brake pressure from flywheel to make removal of flywheel easier.
- Compress spring by moving lever toward spark plug and when hole in lever (A) aligns with hole in bracket (B), secure lever in this position with alignment tool 670298 (Fig 4). Remove flywheel per normal service procedure as outlined under IGNITION section of this manual.
Do not damage brake pad or brake mechanism.
FLYWHEEL REASSEMBLY (Fig 5)

1. Brake lever compressed with alignment pin in place. Inspect brake pad (A) to be free of dirt, oil or grease. If pad is contaminated, or less than 1.5 mm (.060") at narrowest point, replace.
2. Determine if grounding clip is in correct position (B).
3. Install flywheel. Be certain that ground wire to grounding clip does not touch flywheel.
4. Torque flywheel nut to 50Nm (35 foot pounds).

BRAKE MECHANISM INSTALLATION (Fig 6)

If the brake assembly is removed during service to the engine, reassemble the brake mechanism in the lowest position on the mounting holes (A). Re-torque screws to 10Nm (90 inch pounds).

CONTROL CABLE CONDUIT CLAMP SCREW (Fig 8,A).

If not using a service part screw, be certain the screw length does not extend to prevent free travel of lever.

CONTROL SWITCH (Fig 7,A)

The brake lever must close the switch before the starter can be engaged.

- DISCONNECT BATTERY FROM CIRCUIT BEFORE MAKING CHECK.
- To perform a continuity check of the switch, use a continuity light or meter. Remove starter wire from starter terminal of switch. With one of the continuity unit’s probes inserted in the brake start mechanism’s terminal red wire connector and the other lead to the starter terminal (on switch), press the switch button; the light or meter should indicate continuity. If not, replace switch. If continuity exists without pressing switch button, replace switch.

To replace switch (Fig 9).

Carefully grind off the heads of rivets, remove the rivets from the backside of brake bracket. Use the self-tapping screw to make threads in the bracket, install the switch to the brake bracket in the proper position and secure the switch to the bracket with the machine screws.

- Be careful, over-tightening of the screws could break the switch.
- For electric starter maintenance see Starter Section, Chapter C.