



Electrical Troubleshooting 23, 25, 28hp Air-Cooled Kaw

- 1) Check for fully charged battery.
- 2) Check that fuses are not blown.
- 3) Check starter relay:
 - A) Unplug yellow wire from prong on relay.
 - B) Ground prong to negative post on battery.
 - 1) If starter turns over (cranks), then relay is functional (problem in harness).
 - 2) If no crank, then relay not functioning.
- 4) If starter relay is good, but starter will not turn over, then starter relay is not getting ground.

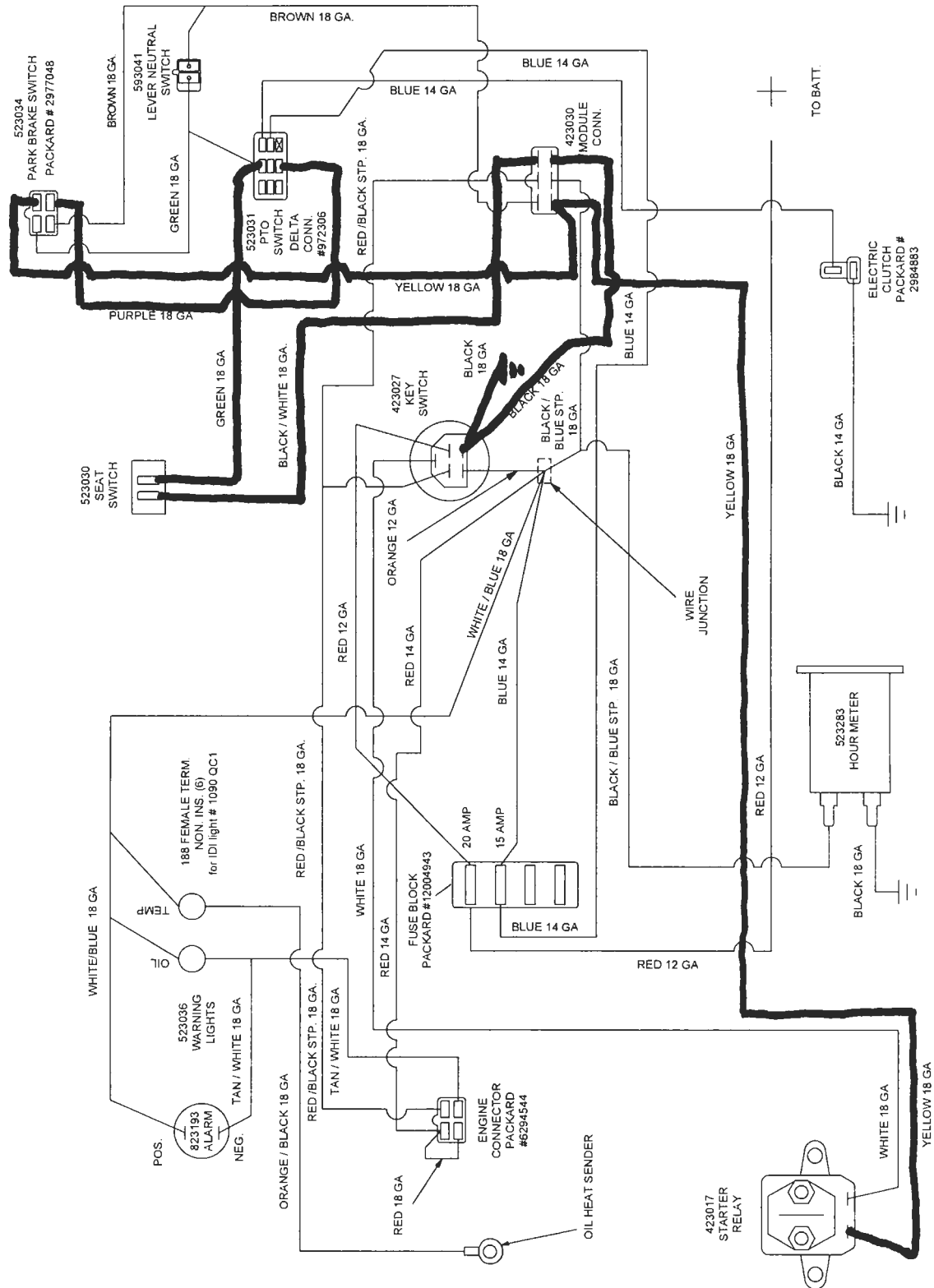
** Relay gets its ground from yellow wire. Must find reason why ground not getting to the yellow wire. Trace circuit to find break in continuity.

** The ground begins at the ground post on the battery. It travels through the ignition switch and on to the safety module. At the safety module, it crosses over to the black w/ white wire and travels to the seat switch. It crosses the seat switch to the green wire and travels to the PTO switch. It crosses the PTO switch to the purple wire and travels to the brake switch. It crosses the brake switch to the yellow wire and travels to the safety module where it junctions with another yellow wire and travels to the starter relay.

Diagram on following page will illustrate how ground gets to yellow wire at the starter relay.

- 5) If starter is turning over, but not getting fire . . .
 - A) Unplug Red w/ Black engine kill wire to isolate problem to engine or safety circuit.
 - B) If engine kill wire unplugged and still no fire at spark plug, then engine problem.

ENCORE PART #: 593050
 WIRE HARNESS FOR 52K23A ; 23 HP KAWASAKI
 WIRE HARNESS FOR 52K25A ; 25 HP KAWASAKI
 WIRE HARNESS FOR 61K25A ; 25 HP KAWASAKI



Z-Rider , Front-Cut w/Safety Module , And Mid-cut w/Safety Module (Serial Number Above 41004) Safety Circuit Functions

SWITCH FUNCTIONS:

Seat Switch	----	On Seat.....	Closed	
		Off Seat	Open	
Control Lever	----	In Neutral (Swung-Out).....	Closed	
		Out of Neutral (Swung-In).....	Open	
Park Switch	-----	Park Brake On	Neutral Side..... Open	
			Module Side	Closed
		Park Brake Off	Neutral Side..... Closed	
			Module Side	Open
Blade Switch	----	Blade Off	Clutch Circuit..... Open	
			Module Circuit	Closed
		Blade On	Clutch Circuit..... Closed	
			Module Circuit	Open

MODULE FUNCTION

The module has control of two circuits

1. The engine kill (does this by connecting the mag to ground)
2. The engine start solenoid (it controls this by switching the ground to the solenoid)

The module senses the status of the safety switches and decides how to switch these two circuits.

TO START ENGINE:

The module will *unground* the mag and *ground* the solenoid when it senses:

- The seat switch closed
- The blade switch off
- The park brake on
- * The control lever in neutral

To Operate the Mower (The Engine Will Run):

The module will keep the engine mag *ungrounded* as long as it senses the *seat switch* closed and as long as the control lever is *in neutral* when the park brake is applied.

* The control lever out of neutral will allow the engine to turn-over, but the mag will still be grounded.