

Dual Magneto Timer:

Features:

- * Computer controlled
- * LEDs and audio
- * Auto turnoff
- * Low battery indication
- * Indicates three states to reduce chance of errors.

Open points: Lights and tone on (detects inductance)

Closed points: Lights and tone off (detects short)

Unknown state: Lights blinking and tone pulsing (detects neither inductance or short)

The unknown state, normally means magneto timer is disconnected from magneto.
Can also mean coil of magneto is missing or failure of magneto or magneto timer.
Device must detect inductance before indicating points open.

Device turns off after about 10 minutes of inactivity.
When battery is low device plays "taps" then shuts off.

Directions for timing magnetos:

Warning- Disable engine by disconnecting ignition wires from spark plugs or removing spark plugs.

1. Disconnect the negative terminal of the battery.
2. (Warning) Disconnect ignition wires from spark plugs or remove spark plugs to disable engine.
3. Locate timing marks or install protractor.
4. Position piston at TDC on cylinder #1 on the compression stroke.
5. Turn propeller backwards past the timing position for running.
6. Turn the magneto switch to the "both" position.
7. Connect the ground lead (black wire) of the mag timer to the case of a magneto or the engine.
8. Connect the other leads (red or green) of the mag timer to the primary leads (the ones going to the mag switch). In order to connect timer lead to magneto it may be necessary to disconnect the primary leads from the magnetos. Some magnetos have a safety grounding spring inside the mag which grounds the mag if the primary leads are disconnected. This must be defeated while timing mag.
9. Turn the prop in the direction of running. The lights should go from off to on (but not blinking) when the timing marks are reached. If not, adjust magnetos, repeat step #5 and check again.
10. Be sure that primary leads are connected to the mag switch and the mag switch is in the off position before returning aircraft to service.

Warning:

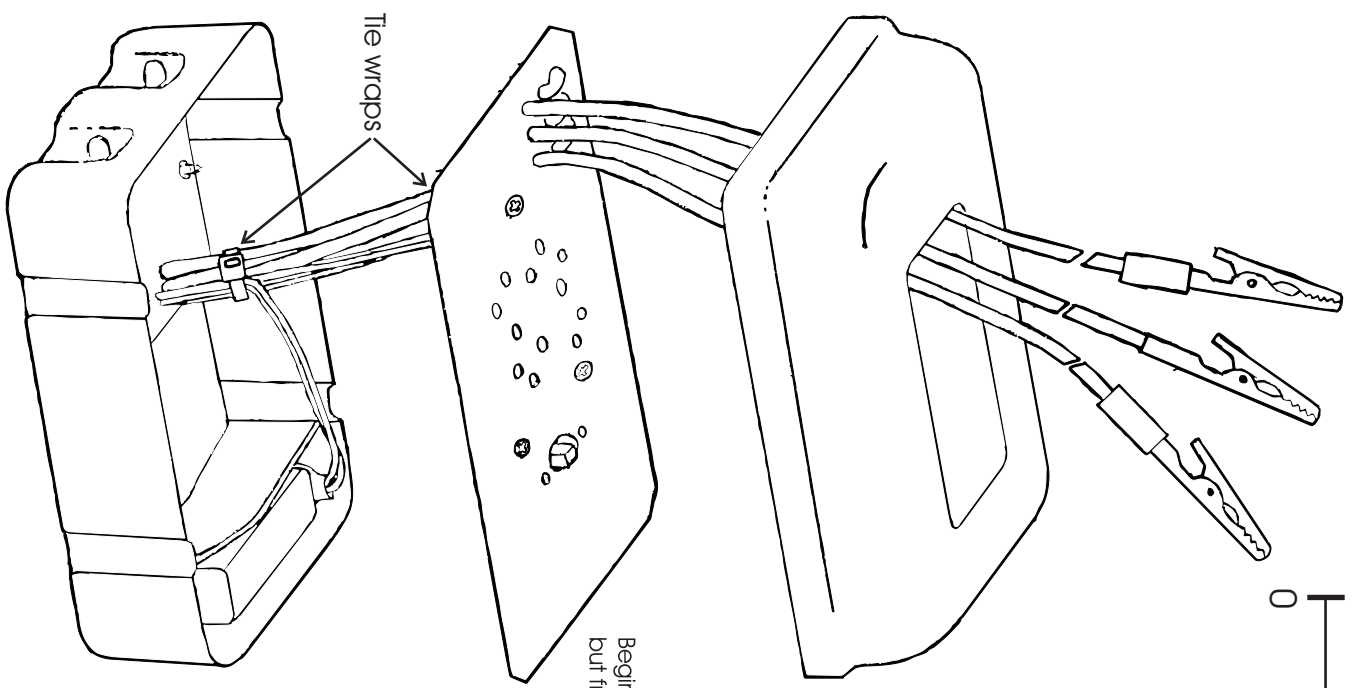
Disable engine by removing spark plugs or wires from engine before using timing light.

Do not assume that points are open if lights are blinking.

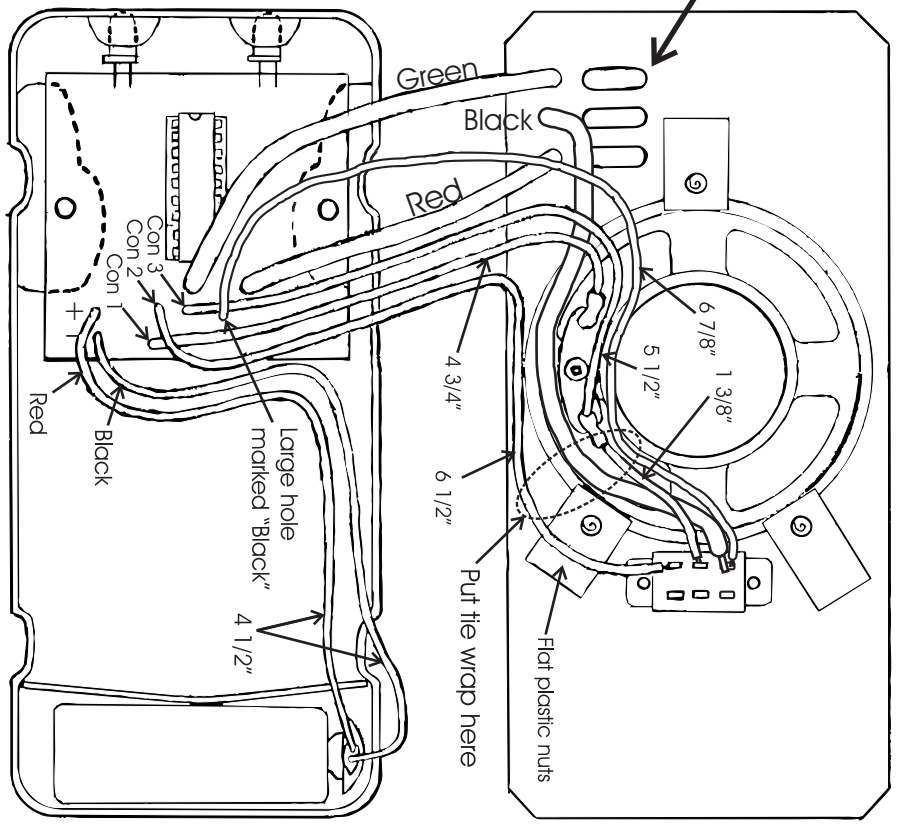


Steps:

- 1: Cut the small wire into these lengths 1 3/8, 4 3/4, 5 1/2, 6 1/2 and 6 7/8. Cut battery leads to 4.5".
- 2: Insert the test lead wires (larger wires), by holding wires (4 3/8 for red and green, and 4 5/8 for black) from the end and insert into the divider from the top. Then weave the wire through the other two holes. See drawing below.
- 3: Mount the speaker and switch on the center divider.
- 4: Solder wires as shown in drawing.



Begin weaving wire here, but from other side.



Warning: Disable engine by removing spark plugs or wires from engine before using timing light.

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R4 15

Red LED

R3 430

R2 69.8

R1 69.8

Green LED

R9 24

C1 39pf

T1 2N4124

R10 10k

R6 4.87K

R7 5.1K

R7 5.1K

R11 1K

R11 1K

R11 1K

R11 1k

R11 1k

T2 2907A

T2 2907A

R6 4.87k

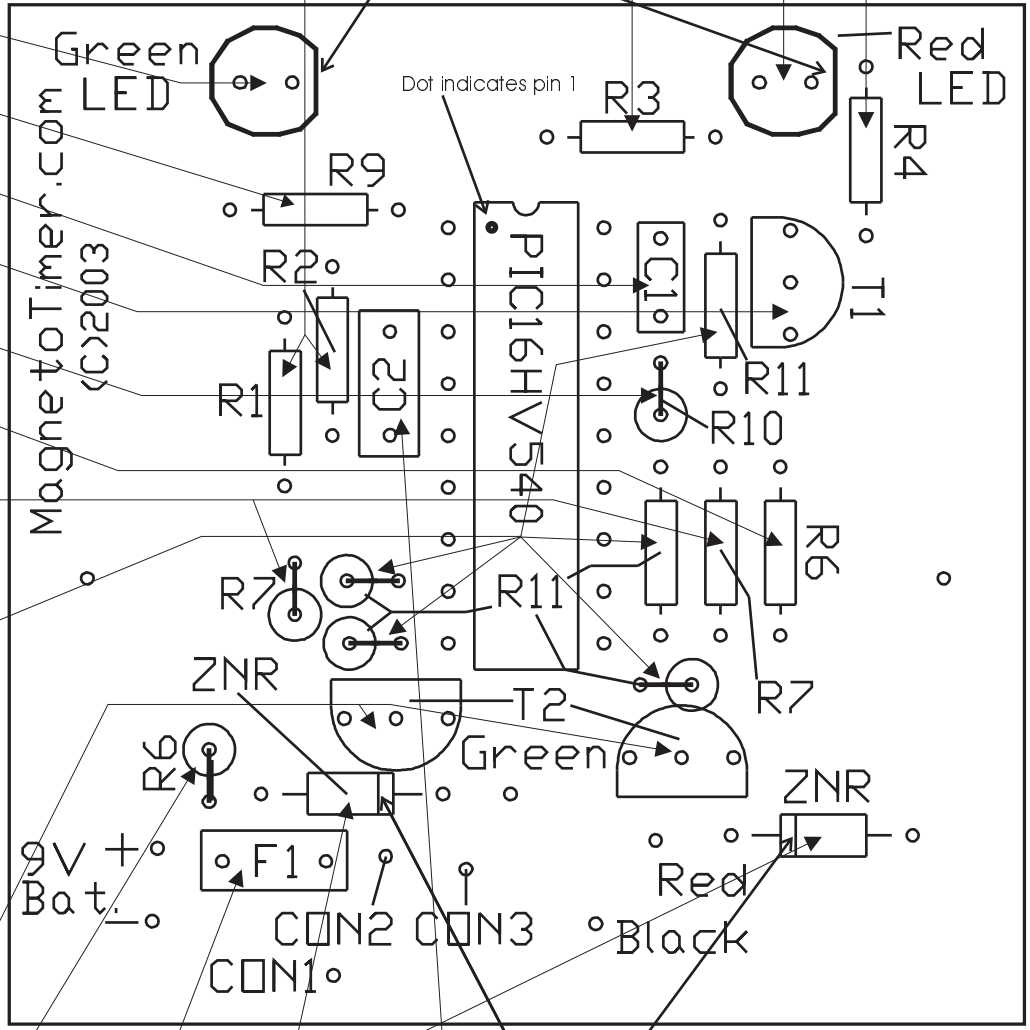
ZNR 1N4738A

ZNR 1N4738A

F1 R020 Resettable fuse

C2 .33uf

T



Leave 5/8" lead on LEDs so they can be bent forwards.
 Note: flat sides.

Dot indicates pin 1

Note: bands

Magne to Timer.com
(C)2003

9V +
Bat.

F1

CON2 CON3

CON1

Green
Red
Black

Red LED
R4

Green LED

PIC16HV540

T1

T2

ZNR

ZNR

ZNR

R6

R6

R6

R6

R6

R6

R6

R6

R6

R6

R6