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## REF: Tools - 169

### Timing Light

A dialback timing light uses the TDC mark (the light delays the flash by the number of crankshaft degrees selected on the dial). <sup>1)</sup>

The dialback lights don't work well on dual fire Harleys, because they see twice as many sparks as there really are.

And therefore the light's calculation of rpm and how long to delay the flash are wrong. You have to select 56 degrees to get an actual delay of 28 degrees.

However, even setting the thing to double is no guarantee it's going to work right, because Harley engines don't fire evenly.

The firings occur at 315° and 405° intervals. So if the light sees two firings 315° apart, but assumes they're 360°.

It thinks the motor is running faster than it actually is.

And conversely, it may see a 405° interval, think it's 360 degrees, and assume the motor is running slower than it is.

The bottom line is that many dialback timing lights can't make sense of it, for the purposes of determining rpm, and you get a wrong answer.

Really the only reliable way to make it work on dual fires is to set the light's dial to 0 and look for the advance mark.

Dialback timing light. <sup>2)</sup>

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<sup>1)</sup>

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-electrical/sportster-motorcycle-electrical-and-ignition/132853-timing-question-on-a-1250-conversion/page2?t=1423947&page=2>  
2)

photo by Ryan M of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-motor-engine/sportster-motorcycle-engine-conversions/112805-883-to-1250-ignition-timing-confused/page3?t=1069628&page=3>

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