

**SureFly
Troubleshooting Guide
Revision IR**

Condition:					Probable Cause:		Remedy:
Unable to time ignition to engine	#1 cylinder verified @ TDC	LED timing light on (solid) but unable to find extinguished TDC marker point	4 cylinder engine	Timing gear installed upside down on ignition unit		Remove timing gear from ignition unit, rotate gear 180° axially, reinstall ignition unit	
			6 cylinder engine	Timing gear tooth skipped over engine gear		Remove ignition from engine, turn gear to find ignition LED extinguished TDC marker point, reinstall ignition unit	
			All engines	Turning ignition shaft too rapidly		Turn ignition shaft slower. Ignition LED extinguished TDC marker point has an easily missed ½° window	
	LED timing light continuously extinguished			Ignition unit grounded to engine	No power at timing terminal	Verify power (8.5 to 30VDC) connected to timing terminal	
				Ignition unit not grounded to engine	Insufficient case contact for ground or engine not grounded to airframe	Verify ignition unit is grounded through its case to unpainted surface engine. Verify engine is grounded to airframe.	
					Insufficient case contact for ground	Ground ignition unit case to unpainted surface of engine	
	Unable to verify #1 cylinder @ TDC			#1 cylinder not @ TDC		Verify location of engine #1 cylinder. Turn engine to #1 cylinder TDC, reinstall ignition unit	
Engine will not start, kicks back during start or does not run on SureFly ignition	Power measured (8.5 to 30VDC) at power terminal	P-lead terminal not grounded (open)	Ignition verified as correctly timed to engine #1 cylinder TDC	P-lead terminal grounded		Check ignition switch	
				P-lead wire is connected to ground		Check integrity of p-lead wire for chaffing to ground	
			Unable to verify ignition correctly timed to engine #1 cylinder TDC	Internal ignition fault if p-lead terminal is grounded with wire removed		Contact SureFly customer support 817-373-5161	
				Ignition harness wires connected to incorrect spark plugs		Check routing of harness wires	
			LED blinks rapidly (12 times per second)		Internal ignition fault		Contact SureFly customer support 817-373-5161
	Unable measure power (8.5 to 30VDC) at power terminal			No power to ignition unit		Verify ignition power wire is connected to power source	
	Engine runs rough	Isolate SureFly ignition causing roughness	Ignition verified as correctly timed to engine #1 cylinder TDC	Verify all spark plugs are firing using CHT	Verify ignition unit is configured correctly to engine base timing		Check routing of harness wires
					Ignition unit is not configured correctly to engine base timing		Contact SureFly customer support 817-373-5161
			Various spark plugs are not firing	Single spark plug not firing		Ignition unit not configured correctly to engine base timing	Reinstall ignition unit in accordance with installation instructions
				Pair of spark plugs not firing (1&2, 3&4, 5&6)		Bad spark plug or ignition harness	Replace spark plug or ignition harness
Unable to verify ignition correctly timed to engine #1 cylinder TDC			Internal ignition fault		Contact SureFly customer support 817-373-5161		
LED blinks rapidly (12 times per second)			Ignition not timed to engine correctly		Reinstall ignition unit in accordance with installation instructions		
Roughness caused by magneto or ignition other than SureFly			Internal ignition fault		Contact SureFly customer support 817-373-5161		
Engine runs with higher than normal cylinder head temps.		Ignition verified as correctly timed to engine #1 cylinder TDC	Verify ignition unit is configured correctly to engine base timing	Manifold pressure port connected to MP source	Verify correct engine baffling	Internal ignition fault	
					Engine baffling deficiencies	Insufficient engine cooling	
				Manifold pressure port not connected to MP source		No manifold pressure reference	
	Ignition unit is not configured correctly to engine base timing			Ignition unit not configured correctly to engine base timing		Reinstall ignition unit in accordance with installation instructions	
	LED blinks rapidly (12 times per second)			Internal ignition fault		Contact SureFly customer support 817-373-5161	
	Unable to verify ignition correctly timed to engine #1 cylinder TDC			Ignition not timed to engine correctly		Reinstall ignition unit in accordance with installation instructions	