Combustion Analyzer Troubleshooting Guide

EGT Symptom		Probable Cause	Recommended Action
	75°-100° rise for one cylinder.	SPARK PLUG NOT FIRING due to fouling, faulty plug, lead, or distributor.	1. Enrich mixture to return EGT to normal for cylinder with highest EGT. 2. Go to single mag operation. When mag firing bad plug is selected, EGT will drop suddenly, defining plug is not firing.
	75°-100° rise for ALL cylinders.	One magneto not operating.	Enrich mixture to return EGT to normal.
	Increase or decrease, especially after ignition system maintenance.	Improper timing—Increase in EGT means retarded ignition. Decrease means advanced ignition.	Check EGT rise for each mag to determine any uneven timing.
	Loss of peak EGT.	Poor ignition or vapor in fuel injection system.	Have magneto tested.
	Decrease in EGT for ALL cylinders.	Decrease in total airflow—carburetor ice or induction ice.	Check for change in manifold pressure.
	Decrease in EGT for one cylinder.	1. Intake valve not opening fully—faulty valve lifter. 2. Scored cylinder or broken ring to cause low compression (EGT may increase due to plug fouling from oil consumption).	1. Have valve lift checked. 2. Go to single mag operation to check for plug fouling. 3. Have compression checked.
	Slow rise in EGT.	Burned exhaust valve.	Have compression checked.
	Decrease in peak and flat.	Detonation—usually the result of 80 octane fuel in 100 octane engine.	Enrich mixture, reduce power, and relean mixture. Repeat to find power setting where normal peak is obtained or run rich.
	Sudden off scale rise for any cylinder.	PREIGNITION.	During take-off—Abort if possible. Go to full rich and reduce power if excess power is available. During Cruise—Cut throttle back quickly and re-open until EGT returns to normal. If it does not, reduce power to eliminate preignition.
	Any EGT decrease.	If none of the above causes is evident, suspect a low reading probe or faulty connection.	Have calibration checked with ALCAL System Tester.
	Any increase in EGT.	TROUBLE—because any malfunction of probe, lead, or meter will cause a decrease.	