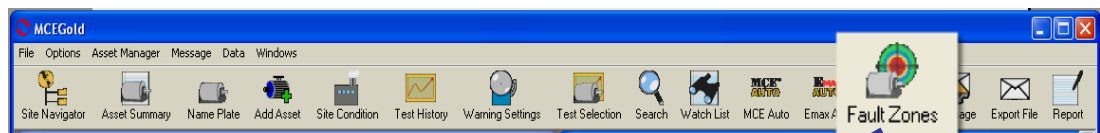
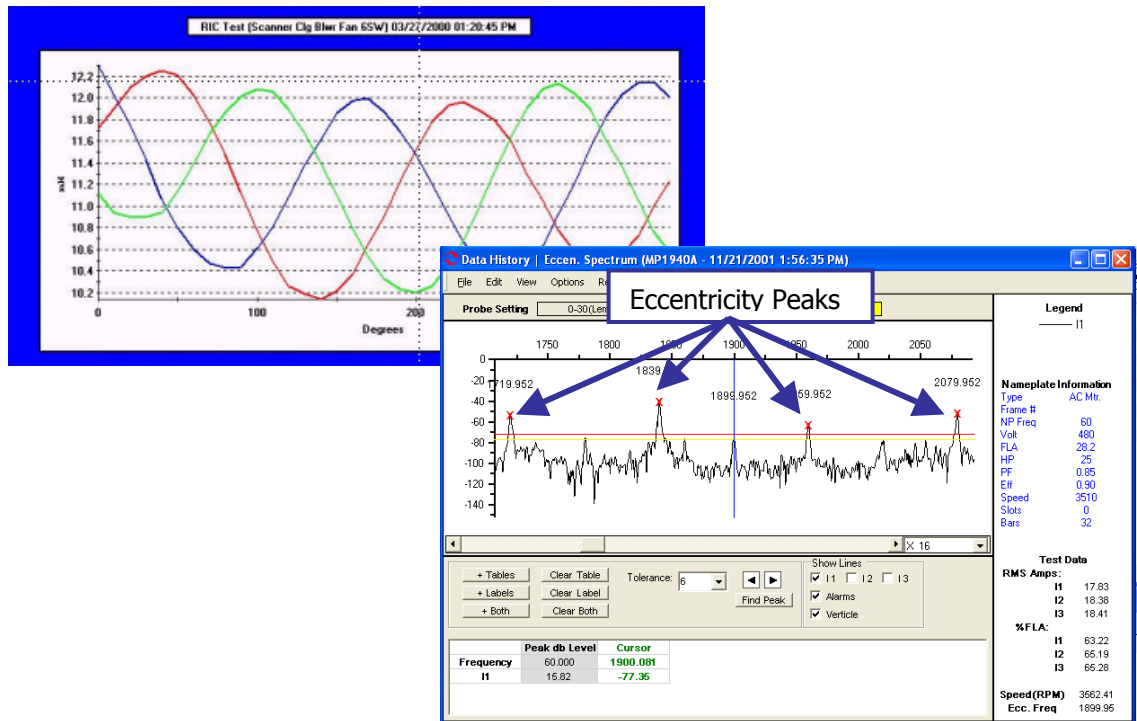




# Fault Zone – Air Gap

The Air Gap fault zone describes the measurable distance between the rotor and stator within the motor. If this distance is not equal throughout the entire circumference air gap eccentricity occurs. The varying magnetic flux within the air gap creates imbalances in the current flow, which can be identified in the current spectrum.

Eccentricity analysis using the MCE Rotor Influence Check (RIC) test is most successfully applied in troubleshooting if pre-existing data is available so that trends can be observed. Eccentricity analysis using EMAX technology is performed through a high frequency spectrum of the current signal. If the number of rotor bars and the speed are known, the MCEGold™ software automatically places an (X) at the four peak locations which identify eccentricity.



The screenshot shows the "Fault Zone Report" for MP1940A. The report is a table with columns for Fault Zone, Test Type, Date, and Condition Code. The report is divided into sections for Power Circuit, Power Quality, Insulation, Stator, Rotor, and Air Gap.

Fault Zone	Test Type	Date	Condition Code
Power Circuit	Voltage Imbalance (%)	0.05 7/21/2003 8:07:59 AM	Good
	Resistive Imbalance (%)	0.28 7/21/2003 12:07:35 PM	Good
	Voltage THD Ph-Ph (%)	0.41 7/21/2003 8:07:59 AM	Good
Power Quality	Current THD (%)	1.30 7/21/2003 8:07:59 AM	Good
	WPF (%)	0.00 7/21/2003 8:07:59 AM	Good
Insulation	RTG (Meg)	508.00 7/21/2003 12:07:35 PM	Severe
	PI	1.68 7/21/2003 12:30:22 PM	Severe
	CTG (pF)	31500.00 7/21/2003 12:07:35 PM	Severe
Stator	Imp. Imbalance (%)	1.80 7/21/2003 8:07:59 AM	Good
	Inductive Imbalance (%)	0.37 7/21/2003 12:07:35 PM	Good
Rotor	Fe Amplitude (Delta dB)	95.35 7/21/2003 8:16:32 AM	Severe
	Eccentricity		
Air Gap	Peak One (Delta dB)	20.40 7/21/2003 8:19:28 AM	Caution
	Peak Two (Delta dB)	1.49 7/21/2003 8:19:28 AM	Caution
	Peak Three (Delta dB)	19.14 7/21/2003 8:19:28 AM	Caution
	Peak Four (Delta dB)	36.28 7/21/2003 8:19:28 AM	Caution
RIC (Eccentricity)	False	7/21/2003 12:11:31 PM	Good

The MCEMAX powered by MCEGold™ provides a Fault Zone Report, which is a one-page summary of the test results relevant to the six fault zones. The Fault Zone Report may be reached directly through the Fault Zones icon on the toolbar.