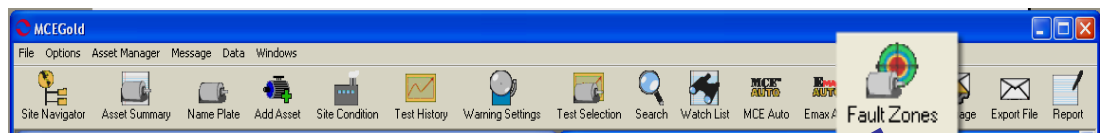
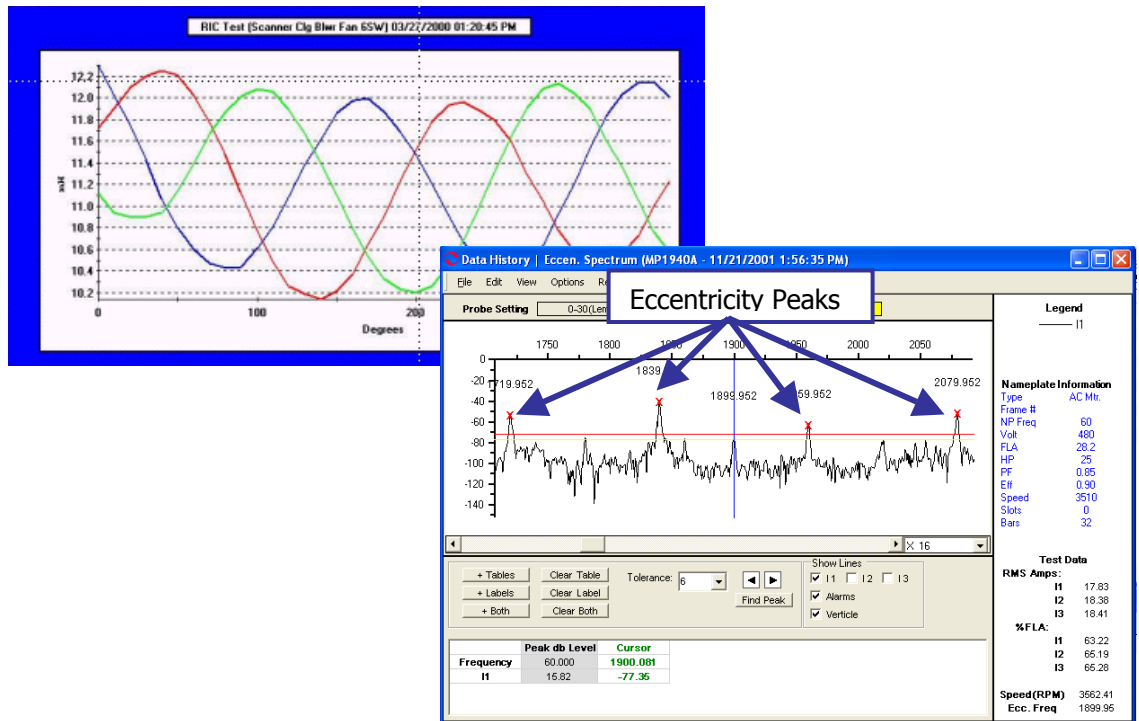


# Fault Zone – Air Gap

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" window for MP1940A. The report is a table with columns for "Fault Zone", "Test Type", "Date", and "Condition Code". The "Air Gap" fault zone is highlighted in yellow, indicating a "Caution" condition. The table contains the following data:

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
Power Quality	Voltage THD Ph-Ph (%)	0.41 7/21/2003 8:07:59 AM	Good
	Current THD (%)	1.30 7/21/2003 8:07:59 AM	Good
Insulation	WVF (%)	0.00 7/21/2003 8:07:59 AM	Good
	Station		
Stator	RIC (Mag)	508.00 7/21/2003 12:07:35 PM	Severe
	PI	1.68 7/21/2003 12:30:22 PM	Severe
Rotor	CTG (pF)	31500.00 7/21/2003 12:07:35 PM	Good
	Imp. Imbalance (%)	1.80 7/21/2003 8:07:59 AM	Good
Air Gap	Inductive Imbalance (%)	0.37 7/21/2003 12:07:35 PM	Good
	Ec Amplitude (Delta dB)	95.15 7/21/2003 8:16:32 AM	Severe
Air Gap	Eccentricity		
	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.