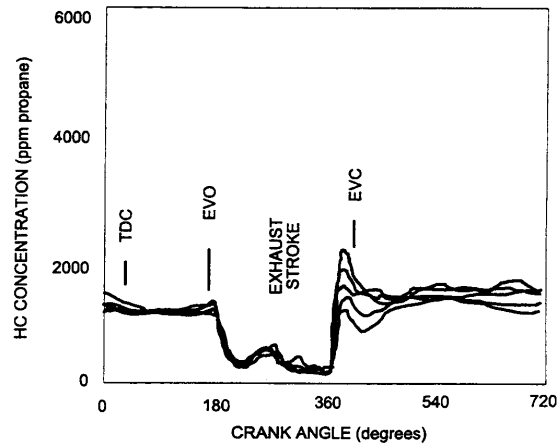
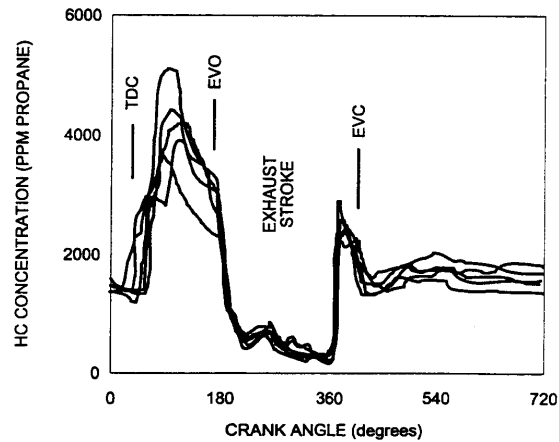


## Detection of exhaust valve leakage using Fast FID sampling at the exhaust valve (from SAE paper 971638)



**Figure 3.** Normal HC trace versus crank angle for five engine cycles, showing change in HC concentration during the valve-open period versus the valve closed period. From reference (1).



**Figure 4.** HC trace for five engine cycles with valve seat leakage, showing HC spike between TDC and EVO. From reference (1).

