periodic QC surveillance testing, than for routine production batch testing. General Motors and others also have developed specialized testing procedures for evaluating brake lining materials on the FMTM.

Based on the SAE J661a procedure, a brake lining friction rating specification has been required by some states for many years. However, this brake lining rating system has been shown to be clearly inadequate for meaningful comparative testing with different types of classes of friction materials. The SAE recommended practice J866 (revised in March 1985), includes this caution against such uses:

> Note: It is emphasized that this recommended practice does not establish friction requirements for brake linings, nor does it designate significant characteristics of brake linings which must be considered in overall brake performance. Due to other factors that include brake system design and operating environment, the friction coefficients obtained from this recommended practice cannot be reliably used to predict brake system performance."

Technical papers have pointed out that laboratory specimen tests, such as those which use the FMTM, do not provide acceptable correlation with actual vehicle or brake dynamometer service when non-asbestos or asbestos linings are evaluated. Different classes of non-asbestos brake linings, such as non-asbestos organic (NAO) and semimetallic (semimet), provide conflicting trends as well as different absolute values of friction on the Chase Machine[5].

3.3.3 Girling Scale Dynamometer

The Girling Scale Dynamometer is an apparatus which employs scaled-down brake components. A small brake disc is mounted on the end of a rotating shaft which carries inertia discs sized to ensure that the scaled disc pad will absorb the same amount of energy per unit area as a full-sized brake disc pad. The friction sample is pneumatically loaded against the rotating disc and a torque control system is used to produce a repetitive, constant deceleration drag.

Some brake characteristics scale by geometry and others are governed by absolute physical size. Consequently, experience is required