

As early as 1937 Caterpillar was conducting research work to identify operating characteristics of all known types of brake lining material. It is a necessity that Caterpillar provide its customers with the best performing and safest brakes possible. So far, a material superior to asbestos-type that fulfills all the requirements needed for the heavy-duty brakes required on earthmoving equipment has not been found.

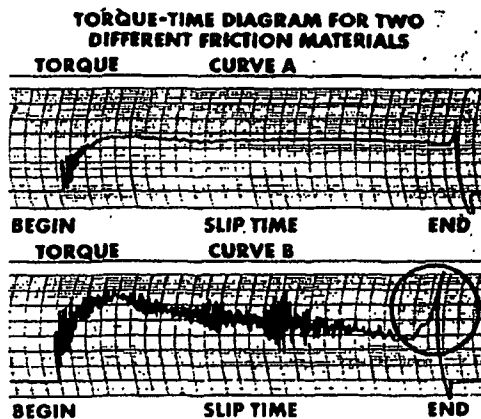


FIGURE NO. 2
TORQUE CURVES OF FRICTION MATERIALS

Figure No. 2 is a strip chart recording of the torque-time relationship for two different friction materials. These two traces illustrate the frictional behaviour throughout a brake application. In curve A, note the smooth deceleration or braking as the wheel speed is reduced to zero, from beginning to end of stop. This is one of the characteristics we expect from asbestos-type material. On the other hand, curve B of a non-asbestos friction material shows undesirable speed change conditions. The trace exhibits considerable frictional vibration. This results