FRICION COMPONENTS

1. Crankshaft friction
   Main bearings, front and rear main bearing oil seals.

2. Reciprocating friction
   Connecting rod bearings, pistons, piston rings.

3. Valvetrain friction
   Camshaft(s), cam followers, valve actuation mechanisms.

4. Auxiliary component friction
   Oil pump, water pump, alternator, fuel pump (diesel).

5. Pumping losses
   Flow through intake system, port(s) and valve(s); exhaust valve(s), port(s), system.