

DEVELOPMENT OF FUEL EFFICIENT MULTIGRADE OILS FOR BR TRACTION USES

British Rail uses over 700 million litres of gas oil per annum for our fleets of diesel traction engines. Successive oil crises gave impetus to the development of multigrade oils which would achieve fuel economies in our diesel engines. Since no data was available on the possible benefits of multigrade oils in larger medium speed diesel engines, it was necessary for BR to pioneer developments in this application which imposes special constraints on their formulations.

Three products were subject to service trials, having first satisfied laboratory test requirements. In the service trials, data was generated which allowed certain properties of the oils to be defined more accurately. Also, several unforeseen problems occurred, the resolution of which had significance for multigrade formulations for general use. Nonetheless, it was demonstrated that a saving in fuel is achieved in diesel engines in BR service by using SAE 15W/40 multigrade oils rather than SAE 30 monograde oils, to give a financial saving of the order of £2 million to £4 million per annum.