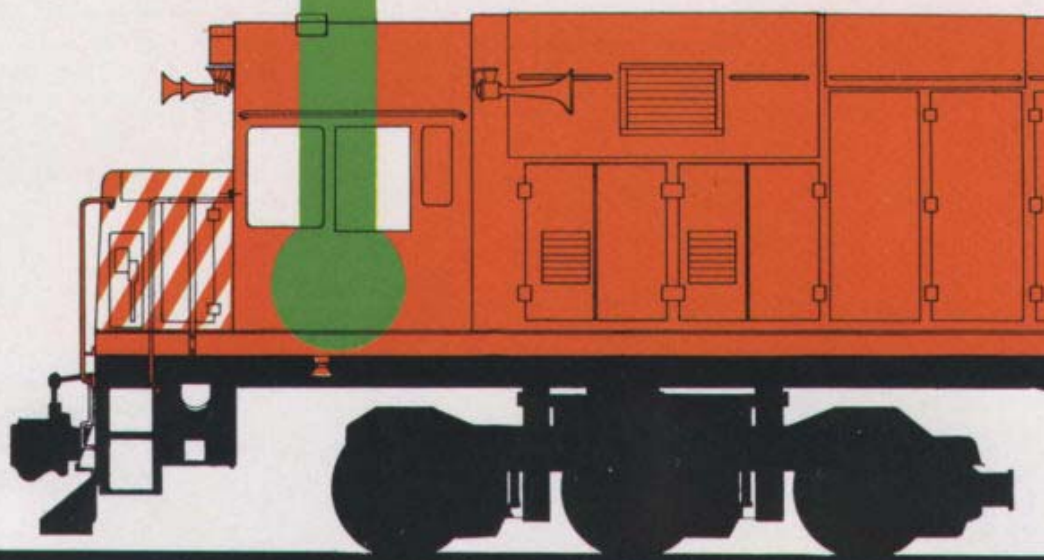


The Guardian

LOGOLOG

THE COMPLETE RAILWAY
FLEET INFORMATION SYSTEM



The Guardian

SPEED LOG
— provides train
journey data

LOCOLOG RECORDER

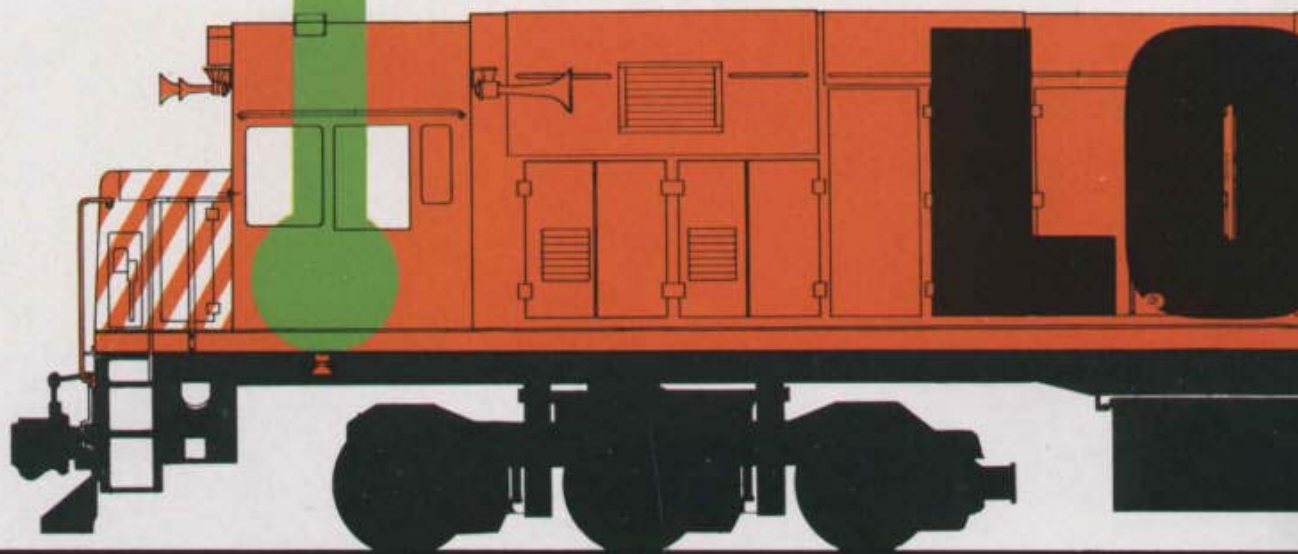


**HEART OF THE LOCOLOG
FLEET INFORMATION SYSTEM**



LOCOLOG

provides Railway Management with the vital information needed to reduce fuel costs, to reduce maintenance costs and to improve locomotive efficiency and utilisation. The locomotive mounted **LOCOLOG** Recorder continuously stores a wide range of data in permanent electronic memory, and the **LOCOLOG** system converts this data into meaningful, up-to-date reports. These highlight important facts relating to fleet operation such as :



VIGILANCE

- increases safety standards

COLLISION LOG

- reveals pre-collision events

OPERATING STATISTICS AND SAFETY DEVICE OPERATION LOGS

- powerful tools for fleet maintenance and fuel cost reduction programmes



The **LOCOLOG** collision log provides a clear picture of the operation of the locomotive in the final minutes before a crash, and enables the cause to be quickly identified. This significantly reduces the cost and time involved for all parties in the subsequent accident investigation.

LOCOLOG's flexibility has enabled vigilance to be combined with the data recording functions, thereby significantly increasing safety standards.

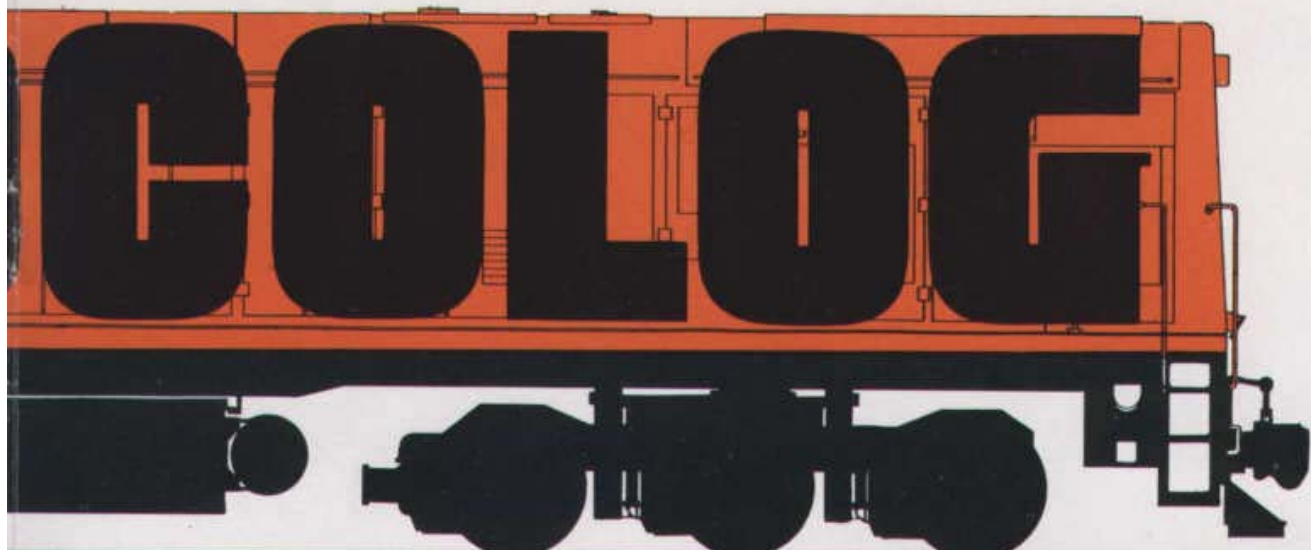
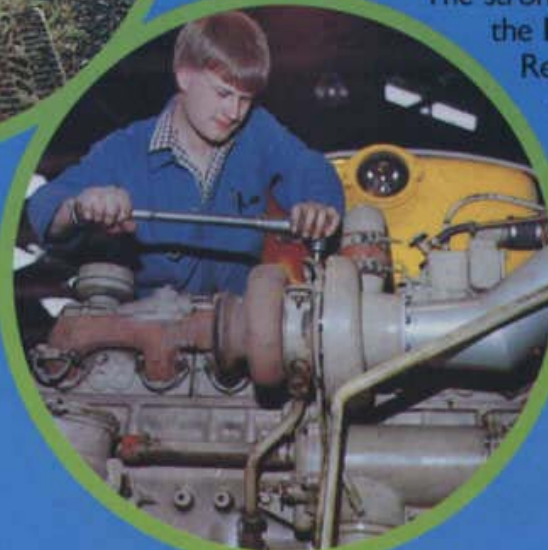
The strong construction of the **LOCOLOG**

Recorder and its ability to withstand impact, fire and water, introduces aircraft "black box" standards of protection to locomotive data recorders.



- the conditions prevailing when hot engine shut-downs or ground relay operations occur

- the percentage of time selected groups of locomotives spend in "idle"



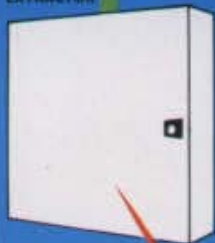


THE LOCOLOG FLEET INFORMATION SYSTEM INTRODUCES AUTOMATED DATA COLLECTION AND ANALYSIS

The state-of-the-art **LOGOLOG RECORDER** is mounted in the locomotive, and stores and updates locomotive data instantaneously in permanent electronic memory — no tapes to change or transport!

The data stored in the **LOGOLOG RECORDER** is extracted by the **LOGOLOG DATA EXTRACTOR** during refuelling stops and at maintenance depots.

LOGOLOG DATA EXTRACTOR



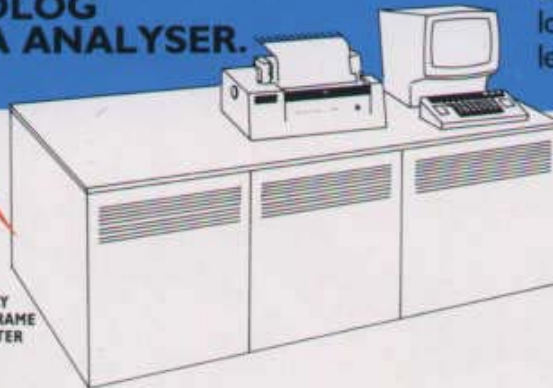
The **LOGOLOG DATA ANALYSER** produces informative fleet-wide locomotive class or individual locomotive reports using information transmitted from the **LOGOLOG DATA EXTRACTOR**.

Locomotive information stored in the Railway mainframe computer can be updated from the **LOGOLOG DATA ANALYSER**.

LOGOLOG DATA ANALYSER



RAILWAY MAIN FRAME COMPUTER



PORTABLE DATA EXTRACTOR

COLLISION LOG EXTRACTION

After a crash, the data stored in the **LOGOLOG RECORDER** is transferred to a light-weight, portable **LOGOLOG DATA EXTRACTOR** making available the vital facts about the operation of the locomotive in the final minutes leading up to the crash.

For information on LOGOLOG contact:-

The Guardian LOGOLOG

Designed and Manufactured by
Production Engineering Company Limited,
P.O. Box 308 Marton, New Zealand. Telex NZ 31468 (EMPEC)
Telephone International 64 652 8189