

PACKAGE ID - 000828IB38600 PLUGBIN

KWIC TITLE - Flame Arrival Measurement By Instrumented
Spark Plug or Head Gasket

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 02/01/1994 **PUBLICATION DATE** - 02/01/1994

DESCRIPTION - PLUGBIN was developed to support Sandia technologies involving instrumented head gaskets and spark plugs for engine research and development. It acquires and processes measurements of flame arrival and pressure from a spark ignition. Flame arrival is determined from analog ionization-probe or visible-emission signals, and/or digital signals from a dedicated flame arrival measurement processor. The pressure measurements are analyzed to determine the time of peak pressure and the time to burn 10 and 90 percent of the charge. Histograms are then calculated and displayed for each measurement.

PACKAGE CONTENTS - Media Directory; Software Abstract; Author's Note;
Media Includes Source Code, Object Library, Executable Module,
Sample Problem Input;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 2 3.5 Diskettes

METHOD OF SOLUTION - Data are acquired via Data Transmission analog-to-digital conversion interface boards. Interactive threshold voltage settings are used to define the time of arrival of the flame at the probe location. Graphic displays of raw data and its statistics are used to present the analyzed results.

COMPUTER - IBM PC 386

OPERATING SYSTEMS - MS DOS Version 5.0

PROGRAMMING LANGUAGES - More than 95%in Microsoft Fortran 5.0.
Remainder is in Microsoft Macro Assembler 5.1.

SOFTWARE LIMITATIONS - Limited to 200 engine cycles, 100 measurements per cycle, 16 measurement locations

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - Only known software of its type.

OTHER PROG/OPER SYS INFO - Standard file naming conventions are used.
The Microsoft Fortran graphic font libraries are required.

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OTHER PROG/OPER SYS INFO - (CONT)

HARDWARE REQS - 640 kB memory, VGA graphics

TIME REQUIREMENTS - With interactive options off, process time for a typical data set is about one minute on a 486/33.

REFERENCES - Informal documentation

ABSTRACT STATUS - Submitted 4/13/95. Released AS-IS 6/16/95.

SUBJECT CLASS CODE - TO

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
P CODES
SPARK IGNITION ENGINES
FLAME PROPAGATION

EDB SUBJECT CATEGORIES -

990200 421000

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS