

# Activation Analysis May Aid In Measuring Engine Wear

In the future, when precise measurements of wear of engine parts are needed, researchers may employ radioisotopes using nuclear activation analysis facilities.

Two Texas A&M students recently completed wear investigation on connecting rod bearings in a special engine using activation analysis. They are Frank M. Tovey and Kenneth W. Oates of Houston, both mechanical engineering students.

Robert H. Fletcher, associate professor of mechanical engineering, said the students' test procedure points the way to many more uses of isotopes to measure and control engineering variables more accurately.

Tovey and Oates performed the research under guidance of Fletcher and N. B. Poulsen, an instructor in the Nuclear Engineering Department.

Although the new method of measuring very small amounts of wear is more expensive than the old method, it produces continuous results of high accuracy. The old method involved dismantling the engine and weighing each part after each test. However, it was impossible to determine the amount of wear at specific times.

Tovey and Oates found it was possible to find the amount of wear at any time through the use of their method. For instance, they learned the greatest amount of wear occurred immediately following the start up of the engine, and that a definite increase in wear for a full load was evidenced over comparison with a half load.

In the test, the students first used activation analysis to determine the composition of the bearing material, then chose the necessary activation time and other highly technical information. They installed radiated connecting rod bearings in the engine and ran the engine for a specified period of time. Then they pumped the oil from the engine and used technical instruments to determine wear as reflected by radioactive particles from the bearings.

## Chemistry Prof Lectures Monday

Dr. Frederick R. Duke, Welch Professor of Chemistry, will speak at 8 p.m. Monday in a Summer Sciences Lecture on the Texas A&M campus. The free, public lecture will be held in Room 113, Biological Sciences Building.

"Why Aren't You Driving an Electric Automobile?" is Dr. Duke's topic. He will tell of his continuing research on batteries or fuel cells.

Amelia Tucker is the daughter of Mr. W. C. Tucker and Mrs. Martha Tucker. She graduated from Stephen F. Austin High School before enrolling at Mc-Kenzie-Baldwin Business College for the Secretarial course. She successfully completed this course and received her diploma before accepting a position as stenographer with the F.B.I. in Washington, D. C.



Carol Russel is the daughter of Mrs. R. B. Russel of Bryan and the late Mr. Russel. She graduated from Bryan High School where she was prominent in FHA work. She enrolled for the General Office Course at Mc-Kenzie-Baldwin Business College. She is employed as stenographer for the Federal Bureau of Investigation in Washington, D. C.



Tana Gregory is the daughter of Col. and Mrs. John Gregory of Victorville, California, and the granddaughter of Mrs. Nella Wyatt of Bryan. Tana graduated from Victorville High School in California before enrolling for the Secretarial course at Mc-Kenzie-Baldwin Business College. She passed the examination and is now employed with the Federal Bureau of Investigation in Washington D. C. Adv.



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