2. Passenger Car Rear Wheel Bearings

Our research program to investigate thermally treated tubing inner rings has been temporarily set aside in order to assist the Chassis Division by testing a half-sample of 208-size bearings having Hoover balls. The Chassis Division will test the other half-sample. Hoover is being investigated as a possible ball source for the Puerto Rico bearing plant. The Hoover ball will also be evaluated on the ball tester after it has been ordered and installed.

PLAINTIFF'S EXHIBIT
FD-724

Personnel: Carey, Janotik

Wear (R-110 R)

1. FT Truck Engine Cylinder Bore Wear

Computations of oil film separation loci for the piston top ring having flat and barrelled face profiles have been completed. Results show that the commercial barrelled face ring has too much curvature. Although it develops a large oil film at mid-stroke of the piston, the film falls very rapidly near the ends of the stroke. The flat ring, which represents a new production ring, does not achieve a very large oil film at mid-stroke, but the oil film decrease at the end of the stroke is not as severe. The optimum ring face profile, which maximizes the oil film thickness, is expected to exist somewhere between these two cases. Further analytical work is in progress to determine the optimum ring face profile.

Personnel: Ting

Friction Materials (R-120 R)

1. 1975 Disc Brake Lining Development

Work has begun on tailoring our organic linings to meet the 1974 Federal brake requirements. Program timing has been established within SRS for providing sample linings to Car Engineering for 4-wheel disc brake

Pinto and Lincoln vehicle tests. Lining compositions are being prepared and dynamometer tests have begun on the Lincoln brake with SRS linings and vendor baseline linings. Fixtures for Pinto brake dynamometer tests are being prepared. Selection of the composition for the vehicle tests will be made based on the dynamometer results as well as laboratory bench tests. We expect to furnish the sample car sets to Car Engineering by the end of this year, assuming the compositions presently under consideration will be satisfactory.

Personnel: Anderson
Weintraub (Chemical Engineering Department)

2. Ford of Europe Brake Assistance

In line with our commitment to assist Ford of Europe in improving their brake research and development capabilities, two members of our staff are spending at least half of this month visiting FOE. The purpose of this present trip is to help with specific equipment needs for brake system evaluation and brake material characterization, to visit FOE brake lining vendors, and to review FOE brake problems including the brake pull problem. Accomplishments during this visit will be reported after our staff members return.

Personnel: Anderson
Weintraub (Chemical Engineering Department)

Presentations

H. Wu "An Analysis of the Engagement of Wet Clutch Plates", International Symposium on Gearing and Transmissions, San Francisco, California, October 11-13, 1972.

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Publications

H. Wu "An Analysis of the Engagement of Wet Clutch Plates", ASME Paper No. 72-PTG-19, October, 1972.

Reports

SR-72-100 S. C. Tang, Elasto-Plastic Analysis of Stress in a Gas Turbine Wheel - Phase II.

SR-72-111 H. Wu, S. C. Tang, and R. C. Petrof, The Interaction Dynamics of an Inflating Air Bag and a Standing Child.

John E. Mayer Jr.
John E. Mayer, Jr., Manager
Mechanical Research Department

JEM:nrm

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