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HYDRAULIC SHOCK ABSORBERS FLUIDS FOR HOUDAILLE

By Ed Francis, Michigan Region

When asked about Houdaille shock absorber fluids most Model "A" enthusiasts will say that it was glycerine. However, this is not entirely true. A check of the company records shows that no less than 8 different fluids were recommended for use from 1928 to 1953, when Ford stopped supplying hydraulic fluids for Houdaille shocks. These fluids varied from mineral oil to castor oil and to glycerine with alcohol. Some were released for use on the production line and others for use by service departments at the Ford dealers. Why were so many released?

Before we try to answer this question, let us briefly outline some of the requirements of an "ideal" shock absorber fluid. First, it should maintain a constant viscosity reading over a wide range of temperature changes. However, most fluids do not behave this way. They will get stiffer when the temperature drops. The next important characteristic is the stability of the fluid, in that it should not oxidize or break down, chemically, due to time and usage. Finally, the fluid should have lubricating properties and should give the parts a good degree of corrosion protection.

At the time of the Model "A" production no single fluid contained all of these properties in the proper proportion and, therefore, some form of compromise had to be made. Even carefully prepared mixtures were far from ideal. However, as time passed, later technology resulted in better and better fluids, so that after 12 years eight different fluids had been released, each based on good engineering evaluation for the time. In fact, it became so confusing for the service department that in June, 1940, Ford Motor Company obsoleted all previously released hydraulic shock absorber fluids and retained only one, M-4633-B, Shock Absorber Oil.

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Note: We are fortunate in having Edward Francis on the staff of the Model "A" News. Ed is Materials Engineer at Ford's Engineering Staff. This material could only be organized and presented by someone who is thoroughly experienced in Ford's materials specifications and applications such as Ed.