

LEAD INDUSTRIES ASSOCIATION

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NEW YORK 17, N. Y.

USE OF LEAD IN BEARINGS

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I want to take a few minutes of your time to acquaint you with the large volume market for lead that constitutes the railway car journal bearing industry — and to touch upon a competitive problem that we believe has considerable significance to lead producers and processors as well.

The railroads and private car companies in the United States own and operate upwards of 2,000,000 freight cars. Each of these cars is supported by eight brass-backed, babbitt-lined journal bearings, weighing an average of 28 pounds per bearing. About 30% of the total weight of these bearings is lead — 87% of the babbitt lining and 18%, approximately, of the brass back. Because this bearing, as designed, is a low-cost wearing surface to protect the relatively more costly rotating journal from its stationary supports, the annual tonnage of lead for maintenance requirements is also considerable. In 1951, according to conservative estimates we have made, the lead content of journal bearings purchased or manufactured by the railroads exceeded 27,000 tons — from both primary and secondary sources. The importance of this large market to the lead industry is clearly undeniable.

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This babbitted brass bearing, which we call a solid-type bearing, is the standard for interchange rolling stock. It is manufactured to specifications established by the Association of American Railroads, and except for a handful of experimental installations of roller-type and other bearings, it will be found on all the 2,000,000 freight cars that operate in interchange -- the severest kind of railroad service. Its performance, under these conditions, is excellent. So-called "hot-boxes" resulting in bearing failures still occur, but the incidence of failure, in relation to the large number of bearings in daily service, is very low indeed. Significantly, it has yet to be proved that any other type of bearing can improve on the enviable record of solid-type bearings whose daily operating efficiency exceeds 99.99%.

There are other factors, too, which in our opinion, shared by many railroad officials, make for superior adaptability of solid journal bearings to rail freight service. They are simply and easily maintained, universally interchangeable; they save an average of over 50 tons excess dead weight for each 100 cars in movement; they offer the lowest frictional resistance to acceleration and motion; they are capable of efficient operation under loads in excess of axle capacity; and because of free lateral movement on the car journal, they give a smoother ride for the lading of the car than is obtainable with any alternate type car journal bearing assembly yet developed.

The solid-type bearing has economic advantages, too, which are very important from the standpoint of rail freight operation. Low first cost and low replacement cost are significant advantages that can be cited, but there is also the fact that maintenance requires simpler facilities, can be performed in the open, on the line of road if necessary, by unskilled labor, and in less time than would be required for any other type of bearing.

In spite of all the foregoing, strong efforts are now being made to supplant the brass-back babbitted bearing on freight cars -- particularly by the

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roller bearing interests. This is the competitive problem to which I referred earlier — and which is one of some concern to the entire lead industry.

What are the bearing manufacturers doing to meet this situation? First, through paid space advertising in railway business papers they are reminding railroad officers of the many advantages of solid-type bearings — both operational and economic. Second, they have published pamphlets and bulletins which give detailed, factual data regarding solid bearing performance that refute many of the extravagant claims for roller-type bearings. These pamphlets and bulletins have been distributed widely among executive, financial, mechanical and purchasing officers of the railroads. Third, through both paid space advertising and personal representation they are calling attention to improper maintenance practices that affect adversely the service performance of solid-type bearings. One manufacturer is actually conducting periodic surveys of the shops and repair tracks of the railroads served and making detailed reports of the discrepancies noted to the Chief Mechanical Officer. Fourth, wherever possible, arrangements have and are being made to furnish speakers before various railroad club and association groups so that the case for solid bearings may be presented to the widest possible railroad audience. And fifth, bearing manufacturers have undertaken to acquaint all other industries having an interest in this particular problem with the facts of the situation. And that, of course, is why I am speaking to you on this occasion of the 24th annual meeting of the Lead Industries Association.

Because of the importance of the railroad market for bearing metals to the entire lead industries group, I should like to suggest that the producers of lead and lead base alloys give consideration to supporting the bearing manufacturers in this campaign through whatever means are available to them. In this connection our Company, the Magnus Metal Corporation will be glad to furnish all such literature as we have published and to attempt to answer fully in writing any specific questions you might have. We have also made available to the office of the Secretary of

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Lead Industries Association a number of items of literature which I am sure will be forwarded to you promptly on request. Perhaps your advertising and public relations officers particularly could be acquainted with the possibilities open to them for effective counter measures to roller bearing propaganda. Those companies which conduct institutional advertising and public relations campaigns in the general business magazines and newspapers will find here an excellent opportunity for telling a story of the merits of lead base products and the public benefits derived therefrom.