Both the police durability and the Pikes Peak brake tests are extremely severe and prove the value of metallic linings for vehicles that must withstand abnormal braking requirements.

Field testing* of brake linings on police and taxi fleet vehicles is also a most important method of gathering important test data. Chevrolet has installed metallic linings on police vehicles in three different areas of the country. The police departments participating reported actual operational observations, including facts on wear, feel, fade noise and additional data, to Chevrolet field service engineers that confirmed company test results. As a result of their superior performance in heavy-duty operations, Chevrolet has released metallic linings as optional equipment.

CONCLUSION

The post-war trend in automobile developments has been a veritable nightmare for the brake engineer. As cars have become heavier and far more powerful, his working area has been reduced with the size of wheels. Yet his brakes, and particularly his linings, have proved equal to the test.

In comparing the overall capabilities and weaknesses of today's organic and metallic linings, it has been shown that both have their good and bad characteristics. Today's organics are more than equal to the demands of average daily driving. The metallics are equal to the demands of the "heat-problem" braking of police cars, sports cars, and other vehicles subjected to high speed, prolonged decelerations.

However, in striving for the perfect brake friction material, engineers are not completely satisfied with either the organic or metallic linings. In defense of the metallics it should be kept in mind that they have undergone intensive development work only in the last 3-1/2 years, and great progress has been made in that short period in improving their objectionable characteristics. On the other hand, organics have been under intensive development for over 30 years and, although further deficiency improvement may be obtained, they have possibly reached their peak of perfection with the ingredients to which they are now restricted. The competition between the organic and metallic friction materials is a healthy condition that points to rapid progress in the attainment of the versatile, highly effective brake lining of the future.

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*- SAE paper Dragnet For Defects - Field Testing, 1958, by Edward Gray described Chevrolet's field testing activities.