

Confidential !

Not to be released
without appropriate
authorization

LABORATORY REPORT



Sears Laboratories

D/817

TO: F. ANDELBRAT

LAB. NO. 82 AO 2369.0

DEPARTMENT: 628

FILE: AUTOMOTIVE PARTS

DATE: 8/9/82

PROBLEM:

Trip report of a Source visit to review test data and procedures for Sears brakes.

SAMPLE IDENTIFICATION:

Semi-Metallic Disc Brake Pads (35-35)

SOURCE: Nuturn Corp.
Smithville, TN.

LOCATION VISITED AND DATES:

Nuturn Corp.
Smithville, Tn. and Nashville, Tn.
July 26-28, 1982

ATTENDEES:

R. Armer - Nuturn
M. McDonough - Nuturn
F. Skelton - Nuturn
E. Koss - Nuturn
C. Burkhead - Maremont
C. Hunter - Maremont
F. Andelbrat - D/628
E. Steffan - D/817

CONCLUSIONS:

Tests on Nuturn's newly formulated semi-metallic disc pad material, 3401N8, are considered, in D/817's opinion, complete and satisfactory. This 3401 N8 material has a reasonable life expectancy and should not cause any undue rotor wear.

MAR

002711

RECOMMENDATIONS:

1. Include in the future testing of new friction material formulations, the dynamometer duty cycle designated "DW5". A
2. Include in the "DW5" duty cycle at least one (1) additional brake application from an initial simulated vehicle speed of 60 MPH to zero (0), at a deceleration rate of 15 ft/sec/sec.
3. As work progresses on new friction material formulations, due in the near future, keep D/817 informed of test progress.
4. Continue the pursuit of a suitable vehicle fleet for long term field testing under actual service conditions.

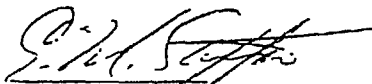
DISCUSSION:

Nuturn has completed additional tests on their 340 1 N8 formulation as previously recommended by D/817. Tests included dynamometer endurance employing a GM, X-body brake assembly, durability schedules on the dynamometer with increased severity, a review of GM X-body brake wear data and an engineering comparison of the Ford Escort brake VS the GM X-body.

Results of tests conducted under the more severe testing programs indicate satisfactory pad life, comparable to General Motors OE material, and only minor rotor wear. Rotor wear is substantially less than experienced with OE materials under the same test conditions.

Nuturn's DW5 dynamometer test sequence is based on a Ford durability schedule. This sequence differs from their previous program, DW4, because brake temperatures are now maintained at a level approximately 100 F hotter. However, as suggested during our discussions, this DW5 test sequence should also include at least one (1) panic or severe braking stop. Nuturn has agreed to add this additional stop to the test sequence.

Although Nuturn is continuing to use their local, rural telephone company vans for fleet tests, they are investigating the potential for use of other fleets in an urban area. An urban passenger car fleet is considered desirable and this endeavor should be pursued.


E. M. Steffen
AO GROUP

EMS/fw

cc: F. Andelbrat, D/628 (2)
J. A. Sackheim, D/628
C. Harrison, D/817
F. S. Hartley, D/733
L. Kraft, D/731A

MAR

002712