


 U.S. Department
of Transportation

 National Highway
Traffic Safety
Administration

**DOT Auto Safety Hotline
Vehicle Owner's Questionnaire**
TO REPORT VEHICLE SAFETY DEFECTS
1-888-DASH-2-DOT
(1-888-327-4236)
INTERNET: www.nhtsa.dot.gov/hotline

FOR AGENCY USE ONLY

Date Received

2003 SEP -2 3 4 17 32

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up_ltr

Reference No.

10030169

OWNER INFORMATION (Type or Print)

Name

Street No.

Apt. No.

City

State

Daytime Telephone Number

 Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES NO
 In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.

Signature of Owner

Date 08/22/03

PRODUCT INFORMATION

Vehicle Identification No. (VIN.)
(17 Digits)(Located at bottom of
windshield on driver's side)

Make

Lincoln

Model SIGNATURE

Town CAR

Year

1996

1 2 N L M B 2 W 2 T Y 7 1 8 4 9 1

Purchased Date

12/19/95

Dealer's Name

SUSSMAN ORG

Engine Size
(CID/CC/L) Turbo Diesel Gas Fuel Injection New Used

Dealer's City

JENKINTOWN, PA

State PA

Zip Code

19046

No. Cylinders

E

Manufacture Date
(on driver's door or pillar)

5/17/96

Transmission Type

 Manual Automatic

Restraint System

 Driverside Air Bag Motorbelt Passengerside Air Bag 2-Point Belt 3-Point Belt

Cruise Control

 Yes No

Drivetrain

 Front Rear 4-Wheel

Vehicle Type

 Car Sport Utility Van Truck Minivan Motorcycle Other

Body Style

 2-Door 4-Door Stationwagon Pick Up Truck Other

FAILED COMPONENT(S)/PART(S) INFORMATION

Part Name(s) BRAKE LINE TUBING
CORROSION

Location

 Left Front Right Rear

Failed Part(s)

 Original Replacement

Handicap Adaptive Equip

 Yes No

TO BE COMPLETED WHEN REPORTING A TIRE FAILURE

Tire Brand

Tire Name

Complete Tire Size

DOT No.

No. of Failures

Date(s) of Failure(s)

Mileage at Failure(s)

Vehicle Speed at Failure(s)

Failed Part(s)
Available? Yes NoNHTSA Previously
Contacted? Yes No

APPLICABLE INCIDENT INFORMATION

(Please describe in detail the incident(s), Failure(s), Crash(es), and Injury(ies). Attach photos if available.)

Crash

 Yes No

Fire

 Yes No

Number of Persons Injured

- e -

Number of Fatalities

- 0 -

Reported to Manufacturer

SEVERAL LETTERS TO MR FORD, Ms. Timed

 Yes No

Narrative Description of Incident(s), Failure(s), Crash(es), and Injury(ies).

SUDDEN BRAKE FAILURE DUE TO SIGNIFICANT CORROSION OF THE BRAKE LINE ACROSS THE REAR. I HAD TO GET A NEW LINE. I STILL HAVE THE CORRODED LINE IN MY POSSESSION. I WROTE TO SEVERAL PEOPLE INCLUDING WIM FORD, CEO AND ALL THEY KEPT REPLYING WAS THAT IT WAS NOT COVERED UNDER MY EXTENDED WARRANTY. THE SAFETY FACTOR WAS IGNORED. MY RESEARCH ON THE INTERNET REVEALED THAT THIS WAS IN FACT A MATTER OF GREAT CONCERN IN THE AUTOMOTIVE INDUSTRY - (OVER)

The Privacy Act of 1974 - Public Law 93-579 This information is requested pursuant to 49 U.S.C. Chapter 301. You are under no obligation to respond to this questionnaire. Your response may be used to assist NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect. If NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.

Narrative Description of Incident(s), Failure(s), Crash(es), and Injury(ies)

I HAVE ENCLOSED COPIES OF SOME PERTINENT INFORMATION.

08/22/03

ATTACH ADDITIONAL SHEETS IF NECESSARY

U.S. Department of Transportation

National Highway Traffic Safety Administration

400 Seventh St., S.W. Washington, D.C. 20590

Official Business Penalty for Private Use \$300



NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO 73173 WASHINGTON, D.C.

POSTAGE WILL BE PAID BY NATL. HWY. TRAFFIC SAFETY ADMIN.



U.S. Department of Transportation
National Highway Traffic Safety Administration
Office of Defects Investigation, NSA-10.01
400 7th Street, SW
Washington, DC 20590

Complete and return or place in your car manual for future use



VEHICLE OWNER'S QUESTIONNAIRE (VOQ)

DOT AUTO SAFETY HOTLINE

TO REPORT VEHICLE SAFETY DEFECTS
COMPLETE THIS FORM
OR

DASH 2 DOT

and dial toll free at

1-888-DASH-2-DOT

1-888-327-4236

DOT Auto Safety Hotline
(DASH) 2 DOT



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AUTOMOTIVE

Automotive Hydraulic Brake Tube: The Case For 90-10 Copper-Nickel Tubing

Abstract • Introduction • Trailer Corrosion Tests
Test Results • Summary and Conclusions

Abstract

For many years the tubing in automotive brake systems has been manufactured from low-carbon steel. One or more superficial coatings are applied after brazing to protect the steel substrate from corrosion, because steel has no inherent corrosion resistance to the road environment. Although coating composition has changed since the original hot-dip lead-tin coatings were used, coating flaws remain a problem. The addition of zinc-rich paints did little to improve the protection of the tube. Current aluminum-zinc coatings and added polyvinylfluoride coatings are still inadequate to totally protect the steel tube.

In a recent series of tests, 90-10 copper-nickel tube (UNS C70600) was fabricated into typical brake system "shapes" which were then attached to a test trailer and conveyed through various corrosive and mechanically abusive test track environments. The tests included holding the tubes in a high humidity chamber for a portion of each 24-hour test cycle. After 40 cycles and at each 10 cycles thereafter, the individual tubes were required to pass a 20,684 kPa (3,000 psi) pressure test. Candidate tube materials had to complete 60 cycles to satisfy the minimum requirement.

Current production steel tubes passed the 60-cycle requirement but failed well before 120 cycles. The 90-10 copper-nickel tubes completed 200 cycles with essentially no reduction of their original burst strength.

Introduction

Brake tubes are located in a high-corrosion area. Although many other automotive components operate in the same hostile environment, few are less forgiving.