



Inter Office

Ford Parts and Service Division

March 74, 1981

Ms. W. Jones

Subject: Product Litigation Information Request

Enclosed is our response to your request for information regarding asbestos vacuums and brake washers. Answers to your individual questions are under the appropriate tabs.

If there is any further information I can provide, do not hesitate to contact me.

B. C. Merrill
B. C. Merrill

attachments

8002 1370

SCF-FORD-3063

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ASBESTOS
BACKGROUND FILE

8002 1331

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1. Asbestos use, regulation and proposed policy
 2. Memo to file-asbestos
 3. Automotive related exposure studies
 4. Asbestos Information Association-News and Notes
 5. VMD&P involvement with asbestos

8002 1372

PRODUCED BY FORD

ASSESSMENT OF ASBESTOS USE AND IMPENDING REGULATIONS

Vehicle Materials Development and Planning
August, 1979

8002 1373

PRODUCED BY FORD

Purpose

to review and update the engineering asbestos plan.

Background

The 1975 OSHA proposed standard remains dormant. If promulgated it will lower the permissible occupational exposure limit for asbestos from the current 2 fibers per cubic centimeter to 0.5 fiber/cc. Formal hearings that normally precede issuance of a final standard have been delayed for several reasons:

- . A standard for the construction industry has not been prepared.
- . An economic impact study has not been released, although it has been in draft form for six months.
- . Continued attack on the proposed standard by asbestos and mining interests as being too restrictive.

Contrary to this apparent inactivity, NIOSH has recommended documentation of the "life cycle" of asbestos from mining to disposal and elimination of all non-essential uses. A working group in EPA's Office of Toxic Substance is currently performing a "life cycle" analysis of asbestos. First priorities for regulation are paper products (gaskets) and friction materials (brakes).

Assessment

A study of the current regulatory situation indicates a high probability that tighter environmental restrictions on asbestos will be promulgated within the next two years. The fact no firm evidence exists that the current standard is inadequate only means there will be no emergency standard of a disruptive nature. Evaluation of the current standard could take 30 or 40 years and still not surface concrete evidence supporting either the government or industry position. The burden is clearly on industry to "prove" the current standard is adequate. Since this is not possible and the government agencies were created to regulate the use of materials, we must proceed on the assumption there will be further regulation of asbestos.

The previous scenario for a staged tightening remains a possibility. This would mean a reduction of the current standard to 1 fiber/cc by mid-1980 and 0.5 fiber/cc by early 1983. However, this timing is unlikely because most industry currently meets 1 fiber/cc and the proposed standard has been "on-the-books" for nearly four years with no action.

If, as expected, during the next two years the proposed OSHA standard is promulgated, and/or regulation by EPA of asbestos emissions from brake wear occurs, then the following results can be expected:

- A. A drastic reduction in the use of asbestos containing friction materials over the next 3 to 5 years. Comments:

- . Court challenges will delay implementation of standards for at least 1 year.
- . Transmission and Axle programs will be accelerated for non-asbestos substitution. (Attachment I)
- . Costly "crash programs" for brake drum substitutions.
- * Attachment II shows the company usage of asbestos containing friction materials.

* General list being compiled by VMD&P- additional input required

B. The use of asbestos containing gasket, insulating and sealer materials will remain cost-effective for most applications. Comments:

- . Raw asbestos comes from Canada.
- . Process areas meet 0.5 fiber/cc by encapsulation.
- . No emission problem because of encapsulation (with the possible exception of disposal).
- *. Attachment III shows the company usage of asbestos containing gasket, insulating and sealer materials.

It is less likely that we will see a standard of 0.1 fiber/cc. Streets in major cities have been measured at levels higher than 0.1 fiber/cc and citing this level as dangerous could result in "public panic".

Competition

Several years ago, GM reportedly considered a policy to get asbestos out of the brake linings because of the toxic concerns. They decided that the effort to find a substitute for asbestos would be better spent to improve the performance and durability of the lining material and opted for a development program with semi-mets by '81-'82 and all linings (disc and drum) by '85. The asbestos issue has helped keep the semi-met programs going over the years. There is no "official" GM company policy to remove asbestos from other component areas. However, because of toxic concerns and company awareness of asbestos, gaskets and heat insulators are slowly being replaced with asbestos free materials. Asbestos insulation reportedly has been removed from manufacturing plants and the facilities that manufacture brake linings meet the present standard of 2 fiber/cc. It appears obvious, regardless of company policy, that GM intends to eliminate the use of asbestos. Their approach of "no formal policy" is a result of uncertainties associated with cost and timing for substitutions, and a general awareness that issues must be dealt with before they become problems.

Chrysler also has no formal program for asbestos removal. However, in the case of sealers and gaskets, they attempt to use non-asbestos materials wherever possible and in most cases, are now introducing the substitute materials. In the area of brakes, front wheel discs are being converted to semi-mets as new programs permit, but no plan exists for rear brake drum substitution.

Summary

It is unlikely that crash programs on some friction materials can be avoided when tighter standards are promulgated for the following reasons:

- . Reportedly there are no asbestos free substitute materials for drum brake linings available for evaluation at this time.
- . Despite the lead body solder fiasco, the engineering attitude (with the exception of Transmission and Axle) remains "wait until the standard is promulgated". (Questions have been raised by various PEO's regarding a policy or position for the use of asbestos. In the absence of other direction, VMD&P makes recommendations later in this paper for a specific asbestos policy.)
- . The automotive industry has not shown sufficient interest in non-asbestos materials to warrant accelerated R&D efforts by suppliers.

General list being compiled by VMD&P - additional input required from PEO's for completion

THE ABOVE COMPETITIVE INFORMATION IS BASED ON GENERALLY
AVAILABLE INDUSTRY DATA. TRADE RELEASES- OR DATA OBTAINED FROM

Summary (continued)

Asbestos containing gasket, insulating and sealer materials will remain cost-effective this time around. However, the ultimate goal of NIOSH is to ban the use of asbestos, which means regulatory pressures will continue for many years to come. If we do not begin a serious effort to develop non-asbestos substitutes, additional "crash programs" can be expected.

Recommendations

The above assessments raise questions about company response to impending government regulations for environmental exposure to asbestos. In order to minimize the economic and timing impacts of these regulations, the Company must increase response in the following areas:

1. Initiate Advanced Engineering projects in the PEO's to develop alternate materials for friction, gasket, insulating and sealer components that contain asbestos. The October 7, 1978 Transmission and Axle Engineering Non-asbestos Material Program (Attachment I) is an excellent example. The suppliers must be made aware that we are seriously interested in alternate materials so that they will expend the necessary R&D efforts. Additional manpower will be necessary to assist the already over burdened PEO's.
Responsibility: PEO's (Advanced Engineering)
2. It will be necessary to increase the capability of the Friction Materials Study Group within Research Staff to provide parallel support for engineering projects. Responsibility: E&RS
3. A firm company policy must be adopted for asbestos usage. Attached is a Car Engineering Practice Letter signed by the Vice President, Car Engineering (Attachment IV). Responsibility: VMD&P
4. Because of the lack of a formal mechanism to follow progress in this area, periodic reports must be made to management via the Engineering and Research Subcommittee. Responsibility: PEO's (Advanced Engineering)

Vehicle Materials Development and Planning

August, 1979

8002 1376

TRANSMISSION AND AXLE ENGINEERING
NON-ASBESTOS MATERIAL PROGRAM

Objective: To develop non-asbestos material components to replace those items currently released which contain asbestos.

Motivation: Manufacturing controls necessitated by anticipated OSHA standards to control carcinogenic materials will virtually eliminate asbestos usage in the automotive industry.

Program: For automatic transmissions, the initial development effort to evaluate non-asbestos friction materials is being conducted with the C6 transmission; initial production incorporation is scheduled for Job 1, 1980. As final material selections are made for individual friction elements, the other automatic transmission groups will determine their requirements based on the C6 experience.

The asbestos reinforced phenolic reactors will commence phasing out in 1980 and be completely phased out by Job 1, 1981.

Due to limited production capability by the prime supplier Raybestos-Manhattan, manual transmission will concentrate initial clutch development on the 4-1/2" diameter size for Job 1, 1980 and phase the 6" diameter in by Job 1, 1981.

Asbestos usage in axle and driveline components will be eliminated by Job 1, 1981. Since the 6" axle will be phased out in 1980, no asbestos will be used in that product. The new 1980 6" axle will utilize a metal friction disc. After Job 1, 1981, asbestos will be used only in truck applications.

At Job 1, 1981, asbestos usage in parking is planned to be eliminated. Asbestos will be phased out in both the carrier and the locker friction plates on the 7" axle. After Job 1, 1981, there will be no asbestos used in any axle or driveline components.

The above program is the proposed R&D program for eliminating asbestos usage.

Transmission and Axle Engineering
October 7, 1978

R002 1377 PQ

**TRANSMISSION AND AXLE ENGINEERING
NON-ASBESTOS MATERIALS PROGRAM**

10/1/78

	C5	C6	PMI	C3	JATCO	P100	ATI	P100 II	MANUAL	ATP
Direct Clutch	S-7018-X10 Incorporation Job #1, 1981 Part of C4 Engagement Improvement Prog.	S-7018-X10 Incorporation Job #1, 1980 Limited Models	Out in 1981 No Action Planned	Design Trans- mittal going to EAO stating this to be Job #1, 1982 Program	Out in 1981 No action Planned	S-7049-X28 Prime SD-714-41B Alternate Running Change 1981	S-7049-X13 Job #1, 1981	Programmed 100% for Non-Asbestos selection of material to be based on results obtained by produc- tion transmission which by Job #1, 1983 will have 3 years experience		
Forward Clutch	S-7049-X13 SD-715-41B Incorporation Job #1, 1980 (Same as above) Limited Models	S-7049-X13 Incorporation Job #1, 1980 Limited Models				SD-715-41B Running Change 1981	S-7049-X13 Job #1, 1981			
Intermediate Clutch										
Reverse Clutch		SD-715-41B Incorporation Job #1, 1980 Limited Models				S-7049-X13 Prime SD-715-41B alt. Running Change 1981	S-7049-X13 Job #1, 1981			
Intermediate Band	SD-1473 Incorporation Job #1, 1982	SD-1473 Incorporation Job #1, 1980 Limited Models				SD-714-41B Running Change 1981	S-7049-X13 Job #1, 1981			
w/D Band							SD-1181 Job #1, 1981			
Reverse Band	Material determination not complete Incorporation planned for Job #1, 1982					SD-1473 Running Change 1981				
Planetary Reducer	Planned out Job #1, 1980 Asbestos Reinforced will be phased out as running change 1340	Planned out Job #1, 1981	Planned out Job #1, 1980			S-7049-X10 Prime SD-1797 Alt. Running Change 1981				
Planetary Reducer										
Base						Material TSD Job #1, 1981	Material TSD Job #1, 1981			
1/N Couv. Shaft/ Dasher	Material being determined for Job #1, 1982 Release									
Clutch Disc										
Control and Lifter Plates										

9-1/16" Dia. Job #1, 1980
81" Dia. by Job #1, 1981

Material friction disc
for B-3 in '60, and
7.5" in '61. Non-
asbestos material.
TSD on 3" shaft by
1/71.

8002 #378