FILE NAME: Ford (FD)

DATE: 1977 April

DOC#: FD072

DOCUMENT DESCRIPTION: Internal Report - Asbestos Usage with Company Asbestos Work Plan & List of Company Asbestos Components

(1)

Subject: Asbestos Usage -1

PLAINTIFF'S EXHIBIT FD-476

(1)

Background

Ford is essentially out of the asbestos product manufacturing business. A significant number of key components containing asbestos are however purchased from outside suppliers. Many suppliers are becoming increasingly alarmed at the changing OSHA regulations and have already expressed an inability to meet the proposed OSHA limit of 0.5 fibers/cc which is expected to pass by late 1977 or 78. The situation could develop into a serious supply problem for Ford.

Key Factors

- Tighter OSHA restrictions on airborne asbestos levels in production environments expected in late 1977 or 1978. Will directly affect Ford suppliers.
- Compliance with this new limit - impossible for some suppliers. Suppliers who can comply predict severe problems with any further restrictions.
- Discussions going on in Washington to further restrict limit to the lowest measurable level - estimated timing 1979, 1980.
- Driving force for these projected OSHA changes stems from various studies which indicate that there is no "safe" level of exposure.

Actions

A comprehensive company work plan has been developed (attachment 1) to assess current asbestos usage and determine the abilities of the suppliers to comply with the proposed 0.5 fiber/cc OSHA regulation. The plan includes the establishment of material contingency actions for short-lead items and cooperative development programs for long-lead substitutions.

Status-Work Plan Items

o Compile comprehensive asbestos components list	- complete except Heavy Truck	- (attachment 2)
o Conduct a supplier OSHA compliance ability survey	- in progress	- (attachment 3)
o List the cooperative develop programs required for the long lead substitution	- preliminary list completed	- (attachment 4)
o First supplier meeting scheduled with Raybestos to discuss relative positions	- scheduled for May 11, 1977	

Note: For additional background see the Chronology (attachment 5)

8001 1653

Vehicle Materials Engineering
April, 1977

ATTACH

Company Asbestos Work Plan

	Responsibility	Scheduled Completion	Curr Stat
o Monitor the Federal Register and other indicators for legislative direction.	Supply Strategy/ Industrial Hygiene	On-going	On-
o Monitor raw material availability/cost implications	Supply Strategy/ NAAO Purchasing	On-going	On-
o Initial assessment of company asbestos usage	VMD&P	2-10-77	Com
o Compilation of comprehensive asbestos components list	VMD&P	2-25-77	Com
o Survey of suppliers of all above asbestos components with respect to the proposed OSHA specifications a. component status b. material status c. raw material status	NAAO Purchasing/ VMD&P	4-15-77	In-
o Establish contingent materials and mechanisms for short lead (12 months) substitutions	PCPE/BEPE NAAO Purchasing	5-15-77	
o Initiate short-lead substitutions in which there are no major design or cost issues. Put remaining short-lead substitutions (those with design or cost issues) on hold.	PCPE/BEPE	5-30-77	
o Meet with major suppliers of the long lead substitution components who predict an OSHA compliance problem and develop: a. Projected supply implications with respect to their components, materials and raw materials.	NAAO Purchasing/ Supply Strategy/ VMD&P	6-30-77	
b. Projected cost/investment implications of asbestos substitution vs continued production of current products under increased controls.	NAAO Purchasing		
c. Cooperative development programs with timing required to accomplish a substitution (status shown as Attachment 4)	PCPE/BEPE/VMD&P		
o Meet with major raw materials suppliers. Develop cost and availibility projections.	Supply Strategy/ NAAO Purchasing/ VMD&P	6-30-77	
o Approval of required development programs for long-lead substitution. (with carline introduction targeted) a. Presentation to NAAO Management and/or Advanced Review Committee to provide funding to begin the approved programs	PCPE/BEPE VMD&P	7-15-77 7-30-77	

Vehicle Materials Engineering
April, 1977

Company Asbestos Components (for Supplier Survey)

PEO	Part Name	Part Number a/
Chassis	Hydraulic Brake Booster Assembly (LTE)	Basic 2005
	Front Disc Brake Outer Shoe & Lining	2018
	Front Disc Brake Inner Shoe & Lining	2019
	Rear Drum Brake Lining (LTE)	2209
	Rear Drum Brake Lining (LTE)	2210
	Rear Disc Brake Outer Shoe & Lining	2218
	Rear Disc Brake Inner Shoe & Lining	2219
	Rear Drum Brake Primary Lining	2284
	Rear Drum Brake Secondary Lining	2285
	Insul - Parking Brake Control, Heat	D5ZA-2B608-AA
	Gasket Assembly-Rson Inlet Pipe	D5AA-5B266-AA
	Gasket Assembly-Rson Inlet Pipe	D5OA-5B266-AA
	Insul - Frt. Wheel Brk	D2OA-2B321-BA
	Insul - Frt. Wheel Brk - Inner	D2OA-2B525-BA
	Insul - RR Wheel Brk - Outer	D5MA-2B586-AA
	Insul - RR Wheel Brk - Inner	D5MA-2B587-AA
	Gasket - Frt. Susp. Lower Arm Ball Joint	D12A-3A472-AA
	Gasket - Front Susp. Lower Arm Ball Joint	C2OA-3A472-C
	Gasket - Front Susp. Upper Arm Ball Joint	DOOA-3A273-A
	Muffler Wrap Inside Muffler Assembly	Numerous Basic Nos. b/
Transmission & Axle	Converter Reactors (Phenolic)	Basic 7934
	Thrust Washers (Phenolic)	7937
	Clutch Plates (Forward & Reverse)	7B164
	Clutch Plates (Forward & Reverse)	7E311
	Clutch Plates (Forward & Reverse)	7E312
	Transmission Bands	7D034
	Transmission Bands	7D095
	Transmission Bands	7A612
	Transmission Bands	7A176
	Gasket - Servo Cover	C7AP- 7D026-A
	Gasket - Servo Cover	C3AP- 7D026-AA
	Gasket - P.T.O. (LTE)	Basic 7086
	Gasket - Front Pump	C6AP-7A136-B
	Clutch Driven Members (LTE)	Basic 7550
	Gasket - Housing to Carrier	C2OW-4035-A
	Gasket - Housing to Carrier	C6AW-4035-A
	Gasket - Housing to Differential Carrier	DOAW-4036-B
	Gasket - Housing to Differential Carrier	D1AW-4036-B
	Gasket - Housing to Differential Carrier	D12W-4036-C
	Gasket - Housing to Differential Carrier	D12W-4036-F
	Limited Slip Differential Disc	C9OW-4797-B
	Limited Slip Differential Disc	C9OW-4A325-B
Engine	Seal - Catalytic Converter End	Basic 5E245
	Gasket - Front Cover, Timing Chain	6020
	Gasket - Cylinder Head	6051
	Seal - Crankshaft Rear Oil	6701
	Gasket - Oil Level Indicator Boss	6753
	Gasket - Crankcase Oil Cooler	6839

FEO	Part Name	Part Number a/
Engine (cont)	Gasket - Water Outlet Connection Gasket	8255
	Gasket - Water Pump	8607
	Gasket - Water Pump Cover	8513
	Gasket - Fuel Pump Mounting	9417
	Gasket - Int. Man - Cylinder Head	9439
	Gasket - Carb. Intake Manifold	9447
	Gasket - Exhaust Manifold	9448
	Gasket - Carb. Throttle Body	9516
	Gasket - Exhaust Air Supply Tube Assembly	9C435
	Gasket - Exhaust Air Supply Tube Assembly	9C436
	Gasket - Carb. Intake Manifold Spacer	9C477
	Gasket - Intake Manifold Opening Cover	9C484
	Gasket - Intake Manifold Opening Cover	9D440
	Gasket - EGR Valve	9D476
	Gasket - EGR Cooler Outlet Tube	9D478
	Gasket - Intake Manifold Cover	9E436
	Gasket - EGR Valve Adapter	9E464
	Gasket - Exhaust Control Valve	9E486
	Gasket - Carb. Ht Shield Spacer	9E795
	Gasket - EGR Cooler Tube Outlet	9F470
	Gasket - EGR Cooler Tube Outlet	9F478
EED	Gasket - Water Temp. Switch	10914
	Commutator - Starter	11015
	Gasket - Horn	13817
	Motor - Seat	14547
	Motor - Power Window	14553
	Motor & Tube Assembly-Antenna	18850
	Gasket - Window Regulator Motor	14A427
	Motor - Sun Roof	15B689
	Gasket - W/Wpr Gear Cover	17A529
	Commutator - W/S Washer Motor	17B616
	Gasket - W/Wpr Motor Seal	17C430
	Commutator - Heater, A/C, W/S	18B374
	Motor & Tube Assy - Antenna (1977)	18P800
	Motor & Tube Assy - Antenna (1978)	18E801
	Locks, Power Door	218A42
BEPE	Mastic Sound Deadener-Spray on	ESB-M5G25-A
	Mastic Sound Deadener-Sheet	Numerous Part Nos.
Heavy Truck	TBD	
CCD	None	

a/ When basic part number only is given, usage is across all carlines with the possible exception of some Engine parts.

b/ All cars have the asbestos wrap but part numbers are not given because of the large number.

ATTACHMENT 3

Asbestos [illegible] (Component, Material, or Material) a/

Component Part Number	Component Name	End Item b/	End Item c/	Fabricator b/	Fabricator c/	Raw Material b/	Raw Material c/	Comments	Supplier Follow-up Yes	Supplier Follow-up No
D5ZA-7550-AA	Clutch Disc	yes	TBD	yes	TBD				X	
2018/9	Shoe & Lining-Front	yes	no	yes	no				X	
2218/9	Shoe & Lining-Rear	yes	no	yes	no				X	
5E245	Seal-Catalytic Converter	yes	yes	yes	yes	yes	yes			X
5230	Muffler Assembly	yes	yes	yes	yes	yes	yes			X
D5OA-63037-AA	Heat Shield Assembly	yes	yes	yes	yes	yes	yes			X
D5ZA-28608-AA	Gasket	yes	no	yes	no	yes	no		X	
D5AA-58266-AA	Gasket	yes	no	yes	no	yes	no		X	
D5OA-58266-AA	Gasket	yes	no	yes	no	yes	no		X	
E5B-[illegible]-A	Sound Deadener	yes	yes			yes	?			
E5B-[illegible]141-A	Sound Deadener	yes	yes			yes	?		X	
E5B-[illegible]140-A	Sound Deadener	yes	yes			yes	?		X	
E5B-[illegible]132-A	Sound Deadener	yes	yes			yes	?		X	
D7EB-[illegible]122-AA	Insulator, Seat Belt									
D7DB-[illegible]122-A	Insulator, Seat Belt									
(Numerous Part Numbers)	Sound Deadener - Heat Bondable	yes	yes	yes	yes				X	

a/ results to date; [illegible] items to be completed
b/ meets current OSHA specifications
c/ can meet proposed OSHA specification

Vehicle Materials Engineering
April, 1977

ATTACHMENT

Components Requiring Development Programs for Substitution

Component	Alternate	Projected Timing (months) (Start to Production	Variable Cost Effect
Transmission Gaskets	Nitrile Cellulose	6-9	TBD
Axle and Driveshaft Gaskets	Nitrile Cellulose	6-9	TBD
Muffler Wrap	Glass-Paper	8 (on-going) a/	Expected Cost Wash
Transmission Converter Thrust Washer	Glass & Clay/Phenolic	8	TBD
Transmission Converter Reactor (Re-Engineer)	Aluminum	12	Cost Increase
Catalytic Converter Seal	Possible use of Grafoil	12	TBD
Engine Gaskets (high temperature)	Possible use of Grafoil	12-36	TBD
Transmission Band Linings	Possible use of Impregnated Papers	12-36	TBD
Limited Slip Differential Discs	Materials similar to brakes	12-36	TBD
Brake Linings	Semi-Metallic; Glass/Resin Organic/Resin	36	Expected 50% material cost increase
Transmission Clutch Plate Facings	TBD	12-36	TBD

a/ On-going development - Expected to be ready for incorporation by 10/77
b/ Heavy truck - TBD

Vehicle Materials Engineering
April, 1977

Chronology of Events in Strategy Development

1/77-3/77	VMD&P investigation of company PEO's, Materials Groups, Industrial Hygene, Purchasing and Supply Strategy experiences with the total asbestos situation.
2/2/77	E&RS Materials letter requesting a company position on asbestos usage; letter also states that several suppliers can meet the proposed .5 fibers/cc limit.
2/10/77	VMD&P assessment of current company asbestos situation. Request for PEO input to company asbestos plan.
2/23/77	Chassis response sited increasing government regulation on asbestos limits; stated that significant action is necessary to d evelop asbestos-free friction materiasl for brake and clutch components; recommended that required development programs be funded.
2/23/77	Transmission and Axle response requested a Corporate position including a contingency plan for substitutes be established. Provided substitutional development timing for major items. Recommended evaluation of each component on an individual basis.
2/25/77	VMD&P letter to NAAO Purchasing presented initial comprehensive asbestos component listing to be used for buyer/supplier survey by component. Letter also requested corrections by all company material activities.
3/9/77	NAAO Purchasing letter requesting all affected buyers to survey asbestos component sources on three levels: end item; material fabricator and raw material supply; component list and work sheets were supplied.
3/24/77	Body and Assembly Purchasing initial survey responce.
4/6/77	VMD&P Key Issue Report: Asbestos Usage
4/11/77	Supply Strategy scheduled meeting with Raybestos - a major asbestos supplier.

Vehicle Materials Engineering
April, 1977

8001 1659 PQ