

IN THE CIRCUIT COURT OF THE
11TH JUDICIAL CIRCUIT IN AND
FOR DADE COUNTY, FLORIDA

GENERAL JURISDICTION DIVISION

CASE NO.: 95-10261 CA 42

TIMOTHY TINKER and ANN TINKER,
his wife,

Plaintiffs,

-vs-

CHRYSLER CORPORATION, BEAVER
DAM PRODUCTS CORPORATION formerly
known as Chrysler Marine
Corporation, et. al.

Defendants .

**NOTICE OF SERVICE OF DEFENDANT'S, CHRYSLER
CORPORATION, RESPONSES TO MASTER
PRELIMINARY INTERROGATORIES**

Defendant, **CHRYSLER CORPORATION**, through undersigned counsel hereby
gives Notice of Service of its Responses to Master Preliminary Interrogatories dated
June 29, 1995.

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BY:

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PLAINTIFF'S EXHIBIT

CHR-285

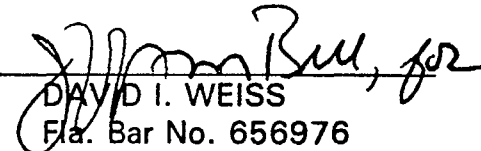
PLAINTIFF'S
EXHIBIT

CH-67

CERTIFICATE OF SERVICE

WE HEREBY CERTIFY that a true and correct copy of the foregoing was this 2nd
day of October, 1995, delivered by mail to **DAVID LIPMAN, ESQUIRE, Counsel for**
Plaintiff, 5901 S.W. 74th Street, Suite 304, Miami, Florida 33143.

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October 2, 1995

TO ALL COUNSEL:

RE: Tinker v. Chrysler Corporation et. al
Our File No.: 0303.8112

On this date Chrysler Corporation served its Responses to Master Preliminary Interrogatories and Request for Production. If you would like a copy of these responses, please telephone the offices of the undersigned in order to receive same.

Very truly yours,


DAVID I. WEISS

DIW/nr
Enclosures

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PRELIMINARY INTERROGATORIES

1. Data Sources

Please identify each person with whom you consulted or who provided information used in answering these Interrogatories on behalf of Defendant. Additionally, provide the subject matter category that each person provided information for from the following categories if appropriate:

1. Corporate History
2. Product Information
3. Warnings/Knowledge of Potential Danger/State of the Art/Testing/Medical or Scientific

Identify each person's:

- A. Address;
- B. Position with the Defendant;

Answer:

The responses to these interrogatories are provided with assistance of counsel for Chrysler Corporation. Mr. Kelly's position with Chrysler Corporation is Parts Marketing Manager. Mr. Kelly is available through Herzfeld & Rubin, 801 Brickell Avenue, Suite 1501, Miami, Florida 33131.

2. **Corporate Information**

Please state the following:

- A. This defendant's correct corporate name;

Answer:

Chrysler Corporation

- B. The state of your incorporation;

Answer:

Delaware

- C. The address of your principal place of business;

Answer:

**12000 Chrysler Drive
Highland Park, Michigan 48288**

- D. The dates and time period during which defendant held a certificate of authority to do business in the state of Florida;

Answer:

**Objection, overbroad without relation to the
facts set forth in the Complaint.**

- E. The dates and time period during which defendant regularly conducted business in Florida.

Answer:

**Objection, overbroad without relation to the
facts set forth in the Complaint.**

3. Corporate History

Describe in detail Defendant's complete corporate or business history for all associated business entities that were involved, in any manner, in the sale, manufacture, distribution, and/or mining of asbestos and/or asbestos containing products, including dates of incorporation, mergers, consolidations, reincorporations, and the like. Also provide historical information regarding all predecessors, prior names, asset purchases, acquisitions or spin-offs for all associated business entities that were involved, in any manner, in the sale, manufacture, distribution, and/or mining of asbestos and/or asbestos containing products. In addition:

- A. If defendant or any of its predecessors or subsidiaries at any time purchased or assumed any of the assets and/or liabilities of any corporation or entity which at any prior time engaged in the manufacturing or sale of asbestos-containing products, then please state the following as to each acquisition:
1. The name or description of each corporation, entity or assets acquired by Defendant, that entity's state of incorporation and principal place of business, its date of incorporation, and the name of Defendant at the time of acquisition;
 2. The manner by which each such corporation, entity or interest therein, was acquired (e.g., merger consolidation, change of name, stock sale, transfer or purchase of assets or product line);
 3. The date of each such acquisition;
 4. The state in which each such acquisition was effected;
 5. The state law governing each such acquisition if specified by contract and
 6. How the business or financial interest in that corporation or entity ended, if it ended. (e.g. dissolved the company, sold all stock, placed subsidiary in bankruptcy, etc.)
 7. List all states where entity is or was registered to do business, including the dates of registration for each state.

Answer:

Chrysler objects to this Interrogatory on the grounds that it is overbroad and not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving the foregoing objection, Chrysler states that the current legal name under which it does business is Chrysler Corporation. Chrysler Corporation was incorporated on June 6, 1925. Chrysler Corporation is authorized to do business in every state of the United States. Chrysler Corporation has had many subsidiary corporations since 1925, none of which would have any bearing to this litigation.

4. **Asbestos Mining**

Did Defendant, prior to 1980, engage in the mining, milling and/or subsequent sale of asbestos fiber? If so, please state?

Answer:

No.

A. The date such activity began;

Not applicable.

B. The years during which such activity took place;

Not applicable.

C. If such activity was terminated;

Not applicable.

D. If such activity was terminated, the reason why;

Not applicable.

E. Within in the United States was there any geographic limitation which you claim was applicable to the sales of your asbestos (Yes or No)?

Not applicable.

F. Identify the organizational unit of Defendant so engaged.

Not applicable.

G. Type of asbestos mined.

Not applicable.

H. Managers of each mine and years of service.

Not applicable.

I. Identify sales and shipment records from each mine.

Not applicable.

5. **Asbestos/Manufacture**

Has Defendant at any time, engaged in the manufacture of any asbestos containing product which generic product type has been previously identified in exposure sheets in this circuit? If so, please state:

A. The date such activity began;

Answer:

Objection. This question is unduly burdensome, vague and overbroad and harassing and is not likely to lead to admissible evidence. Notwithstanding this objection, Chrysler understands brake linings and clutch facings have contained asbestos. From 1959 to 1988 Chrysler Corporation manufactured brake linings at a Chrysler plant in addition to purchasing brake linings from other suppliers. Chrysler never manufactured clutch facings.

B. The years during which such activity took place;

Answer:

See response to Interrogatory 5(a) above.

C. If such activity was terminated;

Answer:

See response to Interrogatory 5(a) above.

D. If such activity was terminated, the reason why;

Answer:

Chrysler discontinued manufacture of brake linings in 1988 for economic reasons and shut down a plant based upon a reduction of the work force and expenses.

E. Within in the United States was there any geographic limitation which you claim was applicable to the sales of your asbestos (Yes or No)?

Answer:

Not applicable. Chrysler did not sell asbestos

If Yes state the geographical area into which you claim your asbestos containing products were sold; and

F. Identify the organizational unit of Defendant so engaged.

Answer:

Not applicable. Chrysler did not sell asbestos.

6. Asbestos/Sales

Has Defendant at any time, engaged in the marketing and/or sale of any asbestos containing product which generic product type has been previously identified in exposure sheets in this circuit? If so, please state:

A. The date such activity began;

Answer:

See response to Interrogatory 5(a) above.

B. The years during which such activity took place;

Answer:

See response to Interrogatory 5(a) above.

C. If such activity was terminated;

Answer:

See response to Interrogatory 5(a) above.

D. If such activity was terminated, the reason why;

Answer:

See response to Interrogatory 5(a) above.

E. Within in the United States was there any geographic limitation which you claim was applicable to the sales of your asbestos (Yes or No)?

Answer:

See response to Interrogatory 5(a) above.

F. Identify the organizational unit of Defendant so engaged.

Answer:

See response to Interrogatory 5(a) above.

G. Identify all sales managers and the years during which they served.

Answer:

See response to Interrogatory 5(a) above.

7. Asbestos/Distributor

Has Defendant at any time, engaged in the marketing and/or sale of any asbestos containing product, which generic product type has been previously identified in exposure sheets in this circuit, manufactured in whole or in part by an unrelated business entity? If so, please state:

Answer: A. The name and address of the unrelated business entity;
See response to Interrogatory 5(a) above.

Answer: B. The product's trade and/or brand name;
See response to Interrogatory 5(a) above.

Answer: C. The years during which such activity took place;
See response to Interrogatory 5(a) above.

Answer: D. Identify the organizational unit of Defendant, or the associated business entity so engaged.
See response to Interrogatory 5(a) above.

E. Within the United States was there any geographic limitation which you claim was applicable to each distributor and/or wholesaler (Yes or No)?
If Yes state the geographical area which you claim was applicable to each distributor and/or wholesaler; and
Answer: **See response to Interrogatory 5(a) above.**

Answer: F. Whether there was a written distributorship agreement;
See response to Interrogatory 5(a) above.

Answer: G. Whether distributorship was exclusive;
See response to Interrogatory 5(a) above.

Answer: H. Identify all documents pertaining to the distributor or wholesaler relationship and the custodian thereof;
See response to Interrogatory 5(a) above.

Answer: I. The ratio of sales to distributors compared to direct sales to consumers.
See response to Interrogatory 5(a) above.

Answer: J. List of sales records or shipments to each distributor or wholesaler.
See response to Interrogatory 5(a) above.

8. Has Defendant at any time, engaged in the rebranding of asbestos containing products, which generic product type has been previously identified in exposure sheets in this circuit, manufactured in whole or in part by an unrelated business entity? If so, please state:
- A. The name and address of the unrelated business entity;
 - B. The product's original trade and/or brand name;
 - C. Who performed the physical rebranding and where it was accomplished;
 - D. The years during which such activity took place;
 - E. Brand name and/or trade name after the product was rebranded;
 - F. User or seller of the product after rebranding;
 - G. Identify the organizational unit of Defendant so engaged.

Answer:

Objection to the Interrogatory as vague, overbroad and without reference to the allegations in the Complaint against Chrysler Corporation

Without waiving this objection, this Defendant answers as follows: Products which were manufactured by entities other than Chrysler including brake linings and clutch facing were incorporated into Chrysler vehicles. Additionally, certain parts manufactured by entities other than Chrysler, would be packaged in after-market packages for sale to authorized dealers.

9. Asbestos/Sales to Manufacturer

Has Defendant at any time, engaged in the sale of asbestos containing products, which generic type has been previously identified in exposure sheets in this circuit, to an unrelated business entity that was engaged in the manufacture of asbestos containing products? If so, please state:

- A. The name and address of the unrelated business entity;
- B. The product's trade and/or brand name that was sold;
- C. The years during which such activity took place;
- D. Identify the organizational unit of Defendant so engaged.
- E. List each sales office of your asbestos-containing products and for each please state:
 - (1) Name and address;
 - (2) Geographical areas for which each sales office was responsible;
 - (3) Identify all managers and the years during which they served;
 - (4) Identify all sales personnel and the years during which they served, and describe each person's sales jurisdiction or responsibility;
 - (5) Identify sales records or shipment records for each sales office and the custodian thereof.

Answer:

Objection, overbroad burdensome and harassing. Additionally, this Interrogatory requires Chrysler Corporation to engage in a massive review of each asbestos litigation file ever initiated in the 11th Judicial Circuit, Dade County, Florida.

10. **Asbestos/Sales to Government or Government Agencies**

Did this Defendant ever sell or cause to be sold any of its asbestos containing products, identified on exposure sheets filed in this circuit, to (1) the United States Government; (2) the United States Air Force; (3) Army Air Force; (4) United States Army; (5) United States Navy; (6) United States Marine Corps; (7) General Service Administration; (8) Department of Defense; or (9) or any other agency operated by the United States Government? If so, please provide the following:

- A. The names and last known address of the governmental agency;
- B. Whether there was a written contract or sales agreement;
- C. Identify all documents pertaining to the governmental contracts or agreements and custodian of said documents;
- D. Whether the formula used for the manufacture of the product was the same as the formula used for the manufacture, sale or distribution of the product to non-governmental customers;
- E. The extent to which sales to governmental agencies were handled through distributors or wholesalers as opposed to direct sales by Defendant;
- F. The extent to which the physical appearance of the product sold or distributed to a governmental agency differed from the physical appearance of the product sold or distributed to non-governmental customers;
- G. The extent to which the packaging and/or labeling of the product sold or distributed to a governmental agency differed from the packaging or labeling of the product sold or distributed to non-governmental customers;
- H. Identify Sales and shipment records for each governmental agency and the custodian thereof.

Answer:

Objection, overbroad without reference to allegations in Plaintiff's Complaint where Plaintiff fails to allege facts indicating Timothy Tinker ever served in the military.

11. Asbestos/Sales Through Licensees

If any of this Defendant's asbestos-containing products which generic product type has been previously identified in exposure sheets in this circuit, reached the consumer through licensees, please provide the following:

- A. The name and last known address of licensees;
- B. The years each licensee was licensed to sell, distribute or manufacture this Defendant's asbestos-containing products;
- C. Within the United States was there any geographic limitation which you claim was applicable to each licensee (Yes or No)?

If Yes state the geographical areas for which each licensee was permitted to sell, manufacture or distribute this Defendant's asbestos-containing products; and
- D. Describe the terms and conditions of each licensee agreement entered into between this Defendant and licensee insofar as manufacture, sale, and distribution of asbestos-containing products;
- E. List of products each licensee was permitted to sell or manufacture;
- F. Identify all documents pertaining to the licensee relationship and the custodian thereof;
- G. Whether or not sales to consumers in each area were made exclusively through licensee.

Answer:

Objection. This interrogatory is ambiguous, overbroad, harassing, over burdensome and unintelligible in the use of the word "licensees."

12. Asbestos/Facilities

For the period 1920 to date, or during the period that Defendant mined, manufactured, sold or distributed asbestos containing products, whichever period is less, state the following regarding each facility that was used by you as a mining, milling, manufacturing, processing, distribution or marketing facility for asbestos containing products:

- A. The name and address of the building, mine, mill or facility;
- B. The inclusive dates the facility was in operation; and,
- C. The function of the facility (e.g., manufacturing, warehousing, mine, sales office, etc.)
- D. Plant managers and years of management;
- E. Name and type of asbestos-containing products manufactured or processed at each facility;
- F. Identify shipment records for each facility and the custodian thereof;
- G. If asbestos was mined and sold to any other entity besides this Defendant, please provide list of those entities.

Answer:

Objection. This interrogatory is overbroad, harassing, burdensome and without reference to the facts alleged in the Complaint against Chrysler Corporation.

13. Answering Defendant's Asbestos Containing Products

Using the format set out below, answer the following interrogatory. The main purpose of this interrogatory is to first, obtain basic information concerning asbestos-related products, which generic product type has been previously identified in exposure sheets in this circuit with which the answering defendant and its associated business entities were involved, and second, to identify the number of "Interrogatory Response Sheets" the answering defendant must complete.

Provide the following information for each asbestos-containing product, which generic product type has been previously identified in exposure sheets in this circuit, with which this answering defendant was involved:

- A. The name of the associated business entity so involved;
- B. The Product Trade Name of the asbestos product(s) with which the entity was involved (See the definition of "Product Trade Name" at interrogatory number 14(B));
- C. The Product Trade Name of the asbestos product(s) with which the entity was involved (See the definition of "Product Trade Name" at interrogatory number 14(B));
- D. Identify the inclusive years of each type of product involvement (e.g., If the entity manufactured and distributed the product, list both types of involvement and the years that correspond to such involvement);

Use the following format. Please work through all of the asbestos-containing products with which one associated business entity was involved before working through all of the asbestos-containing products with which a different associated business entity was involved.

Answer:

Chrysler Corporation objects to the interrogatory as overbroad and burdensome. Upon information, Chrysler Corporation has never been required to serve answers to standard asbestos interrogatories in the Eleventh Judicial Circuit prior to this submission. The information sought requires Chrysler Corporation to conduct a complete product historical review of its records and files as pertains to a "generic" product list proffered by Plaintiff(s). This historical review poses great prejudice and significant burden to Chrysler Corporation, an atypical defendant party in Dade County asbestos litigation. Chrysler Corporation re-adopts the objections filed by Caterpillar, Inc.'s Motion to Strike or in the Alternative Objections to Plaintiffs' Master Preliminary Interrogatories and General Motors/Detroit Diesel's Motion to Strike Plaintiffs' Second Set of Interrogatories as pertains to be information sought by Plaintiff(s), herein.

FORMAT

(Repeat this format for each product with which each associated business entity was involved)

(a) <u>Associated</u> <u>Business Entity</u>	(b) <u>Product</u> <u>Trade Name</u>	(c) <u>Type(s)</u> <u>of Involvement</u>	(d) <u>Years of Each</u> <u>Type of Involvement</u>
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EXAMPLE

(a) <u>Associated</u> <u>Business Entity</u>	(b) <u>Product</u> <u>Trade Name</u>	(c) <u>Type(s)</u> <u>of Involvement</u>	(d) <u>Years of Each</u> <u>Type of Involvement</u>
Company Q	*Product E	Manufacturer Distributor Labeler Rebrander	1957-1973 1957-1973 1957-1973 1960-1965

(a) <u>Associated</u> <u>Business Entity</u>	(b) <u>Product</u> <u>Trade Name</u>	(c) <u>Type(s)</u> <u>of Involvement</u>	(d) <u>Years of Each</u> <u>Type of Involvement</u>
Company Q	*Product F	Rebrandee Labelee	1953-1962 1957-1973

(a) <u>Associated</u> <u>Business Entity</u>	(b) <u>Product</u> <u>Trade Name</u>	(c) <u>Type(s)</u> <u>of Involvement</u>	(d) <u>Years of Each</u> <u>Type of Involvement</u>
Company R	*Product E	Rebrandee	1960-1965

- * Note that if different entities are involved with the same asbestos-containing products the asbestos-containing product is to be addressed in the responses of each such business entity, including the answering defendant if applicable.

14. Product Information

Following this page is a proposed "Interrogatory Response Sheet" and definitions, examples and instructions dealing with the completion of this question.

For each and every asbestos-containing product, which generic product type has been previously identified in exposure sheets in this circuit, with which you were involved, as previously identified in responding to the previous interrogatory, please answer the following.

A separate response is to be provided to this question for each and every asbestos-containing product with which the responding defendant was involved.

If different entities were involved with the same asbestos-containing products the asbestos-containing product is to be addressed in a response to this question for each such business entity, including the answering defendant if applicable.

*For example if pipe covering is a generic product type that has been previously identified in exposure sheets filed in this circuit, then the answering defendant is to provide information regarding all types of pipe covering manufactured, sold and/or distributed by defendant regardless of whether a specific types of pipe covering /manufactured, distributed and/or sold by defendant has been identified in exposure sheets in prior litigation in this circuit. In contrast if ironing board covers are a product that have not been identified in exposure sheets filed in this circuit then the defendant need not provide information regarding this product type.

Answer:

Chrysler Corporation objects to the interrogatory as overbroad and burdensome. Upon information, Chrysler Corporation has never been required to serve answers to standard asbestos interrogatories in the Eleventh Judicial Circuit prior to this submission. The information sought requires Chrysler Corporation to conduct a complete product historical review of its records and files as pertains to a "generic" product list proffered by Plaintiff(s). This historical review poses great prejudice and significant burden to Chrysler Corporation, an atypical defendant party in Dade County asbestos litigation. Chrysler Corporation re-adopts the objections filed by Caterpillar, Inc.'s Motion to Strike or in the Alternative Objections to Plaintiffs' Master Preliminary Interrogatories and General Motors/Detroit Diesel's Motion to Strike Plaintiffs' Second Set of Interrogatories as pertains to be information sought by Plaintiff(s), herein.

INTERROGATORY RESPONSE SHEET

- A. Associated Business Entity _____
- B. Product Trade Name _____
- C. Product Generic Name _____
- D. Generic Product Type _____
- E. Product Involvement(s) _____
- F. (1) Approximate Asbestos
Content By Weight _____ to _____
Type of Asbestos by % _____
- (2) Approximate Asbestos
Content By Volume _____ to _____
Type of Asbestos by % _____
- G. Product Years _____ | _____ _____ | _____ _____ | _____ _____ | _____
- H. Intended Uses _____
- I. Manufacturing Sites _____

- J. Sizes _____ to _____
- K. Product Color(s) _____ | _____ _____ | _____ _____ | _____
- L. Product Packaging _____

M. Geographic Limitation (Yes/No)? _____

If Yes, Shipments:

Shipments:

Northeast

MA NH ME NY VT RI CT

Mideast

OH VA WV KY

Southeast

FL NC SC TN AL GA MS

Southwest

TX CO NM UT AR AZ LA OK

Midwest

MI IL IN MO WI MN ND SD WY NB KA IA

West

CA NV OR ID WA MT HI AK

East

PA DE NJ MD DC

Other

VI GU PR

N. Product Literature _____

O. Product Picture(s) _____

P. Package Picture(s) _____

Q. Product Sample _____

R. Trademark Name(s) _____

S. Patent Number(s). _____

T. Product Alteration _____

A. **Associated Business Entity** _____

Definition:

The name of the business entity as identified in the previous Interrogatory that had any involvement (as defined in Subpart E) with the asbestos-containing product.

Example:

Associated Business Entity	<u>The Ruberiod Co.</u>
Associated Business Entity	<u>Baldwin-Hill Company</u>
Associated Business Entity	<u>None</u>

Instructions:

Complete this interrogatory with the name of an Associated Business Entity that corresponds to this product as disclosed in the previous Interrogatory. Where the answering defendant, rather than an Associated Business Entity, was involved with this asbestos-containing product, type "none" on this line.

B. Product Trade Name _____

Definition:

The full name of the asbestos-containing product by which it was marketed. Generally, this would be the name of the product as it appeared on the product, its packaging or its promotional material. Where all, or part of the product name is trademarked, the name should be included in the product trade name.

Instructions:

Where a product trade name represents more than one product, or a line of products, complete separate "interrogatory Response Sheets" for each such product to the extent reasonable and necessary so as to provide as much information as possible regarding each such product or product line. Where information concerning more than one product or a product line is condensed on one "Interrogatory Response Sheet," explain, on a separate sheet of paper why you did so.

Examples:

Product Trade Name BEH Super Powerhouse Cement
Product Trade Name Gold Bond Asbestone Economy 250
Product Trade Name K-Fac Insulation Blocks
Product Trade Name Armstrong Accobest AS-8073
Product Trade Name Armstrong Accobest AS-474

Further Instructions:

Where the product name is "generic," that is, it does not have a trade name by which it was sold, then list the product's generic name but preface the generic name with the name of the entity most closely associated with that generic. The entity most closely associated with that product would be the entity's name that would appear with the product, product package, or product promotional literature.

If no such association exists, then the name of the /manufacturer of that generic product should be used.

Further Examples:

Product Trade Name Ruberoid Asphalt Saturated Asbestos Weatherproof Jacket

Product Trade Name Amatex Asbestos Woven Tape
Product Trade Name Armstrong Perforated Asbestos Board
Product Trade Name Celotex Perforated Asbestos Board

C. **Product Generic Name** _____

Definition:

The name by which this type or species of product was routinely called. Generally, this name would be the generic name of a product (without the name of the entity most closely associated with that generic product).

Examples:

Product Trade Name Careystone Asbestos-Cement Siding
Product Generic Name Asbestos Cement Siding

Product Trade Name Gold Bond Asbestone Economy 250
Product Generic Name Corrugated Siding and Roofing

Product Trade Name K-Fac Insulation Block
Product Generic Name Insulation Block

Product Trade Name Armstrong Perforated Asbestos Board
Product Generic Name Perforated Asbestos Board

D. Generic Product Type _____

Definition:

Product Generic Name Insulating Cement

Product Category Cement

Product Generic Name Corrugated Siding and Roofing

Product Category Roofing/Siding

Product Generic Name Hi-temp Block

Product Category Block

Product Generic Name Perforated Asbestos Board

Product Category Board

Further Instructions:

To the extent reasonable, the following categories of products should be used. Where a product fits as readily in one category as another (e.g., corrugated siding and roofing), both categories can be listed as is shown above.

CATEGORIES				
Adhesives	Cement Sheets	Friction	Paper	Talc
Automotive Brake	Cement Shingles	Gaskets	Pipe Covering	Tape
Automotive Clutch	Cloth	Home Use	Plaster	Textiles
Block	Clothing	Hot tops	Refractory	Wallboard
Board	Cord	Lumber	Rollboard	Wall Covering
Boiler Cement	Cork Products	Millboard	Roofing	Wick
Cable	Electrical Products	Non Automotive Brake	Rope	Wire
Cement	Felts	Non Automotive Clutch	Siding	
Cement Board	Fiber	Packing	Spray Materials	
Cement Pipe	Floor Tile	Paint	Speckling	

If none of the above categories are appropriate, note "other" and use your own words to describe the category of product.

E. Product Involvement(s) _____

Definition:

Any involvement, association, or relationship you had with an asbestos-containing product as a miner of asbestos, manufacturer of an asbestos-containing product, seller of an asbestos-containing product, distributor of an asbestos-containing product, rebrander of an asbestos-containing product, rebrandee of an asbestos-containing product, labeler of an asbestos-containing product, labelee of an asbestos-containing product, or some other relationship.

Further Definitions:

A miner of an asbestos-containing product is any entity that takes asbestos from the earth for commercial sale or distribution.

A manufacturer of an asbestos-containing product is any entity that manufactures any product that incorporate asbestos into that product, or who in any way processes or packages asbestos or an asbestos-containing product.

A distributor of an asbestos-containing product is any entity who ships or in any way directs shipments of an asbestos-containing product.

A rebrander of an asbestos-containing product is any entity that manufacturers process, or packages asbestos or an asbestos-containing product but which places the name of another entity or the name of a product with which another entity is involved on that product or product package.

A rebrandee of an asbestos-containing product is any entity for which asbestos or an asbestos-containing product is manufactured, processed, or packaged by another entity, which other entity places the name of the rebrandee or the name of a product with which the rebrandee is involved on the product or product package.

A labeler of asbestos or an asbestos-containing product is any entity that places its business name anywhere on an asbestos-containing product or package that it manufactures, distributes, sells or rebrands for itself or any entity.

A labelee of asbestos or an asbestos-containing product is any entity for who its business name is placed anywhere on an asbestos-containing product or package that is manufactured, sold, or rebranded by any entity.

Some other association or relationship with an asbestos-containing product other than as a miner, manufacturer, distributor, rebrander, rebrandee, labeler or labellee.

Instructions:

For each asbestos-containing product with which you were in any way involved, indicate the type or types of relationships you had at any time with that product, noting on line E the code or codes for such relationship. These involvements should be the same as were listed in the previous interrogatory.

Use the following codes:

Miner (Mr)	Rebrander (Rr)	Labeler (Lr)	Distributor (Dr)
Manufacturer (Mf)	Rebrandee (Re)	Labellee (Le)	Other (To)

Examples:

Product Involvements Mf Rf Lr Dr
Product Involvements Dr

F. (1) Approximate Asbestos Content by Weight _____ to _____

Type of Asbestos by % _____

Definition:

The usual weight of the asbestos in the product divided by the total weight of the product expressed as a percent. Additionally, provide a listing of all types of asbestos, including contaminants found in the product, as supplied to end users and for each type provide the percentage by weight of each type per unit of product.

Instructions:

Where the asbestos content has varied to any significant degree over time in a particular product, indicate the range of asbestos content in the appropriate section of the answer. If little change occurred over time, write "N/A" in those sections.

In the first part of the answer, whether or not the asbestos content varied, indicate what you believe would be the usual, most representative content over time. In the second part of the answer, note the range of asbestos content over time.

When stating the percent of asbestos by weight, exclude any water added as part of the formulation and in application of the product.

Use the following two letter codes when responding to this interrogatory:?

- Cv for chrysotile
- Am for amosite
- Cr for crocidolite
- Tr for tremolite
- To for any other type of asbestos
- N/A for not applicable

Example:

Approximate Asbestos Content by weight 10% | N/A to N/A
Approximate Asbestos Content by weight 10% | 3% to 12%

Type of Asbestos by % Cv - 10%, Tr - 1%

(2) Appropriate Asbestos Content by Volume _____ to _____

Type of Asbestos by % _____

Definition:

The usual volume of the asbestos in the product divided by the total volume of

the product expressed as a percent. Additionally, provide a listing of all types of asbestos, including contaminants found in the product as supplied to end users and for each type provide the percentage by volume of each type per unit of product.

G. **Product Years** _____

Definition:

Inclusive dates of all types of involvement with the asbestos-containing product, expressed in years.

Instructions:

Indicate in the first half of the space, the year you, or the relevant associated business entity first became involved with the asbestos-containing product. On the second half of the space, indicate the last year of involvement with that asbestos-containing product.

If the involvement with the asbestos-containing product was not continuous through all years, use the additional spaces provided to represent such years of involvement.

If the involvement with an asbestos-containing product lasted for only one year or part of one year, note the same year in both halves of the space. If the involvement continues to this time, note "P" for present in the appropriate space.

Type: N/A | N/A (not applicable) on any unused spaces.

Example:

Product Years	<u>1948</u>		<u>1972</u>		<u>1975</u>		<u>1975</u>		<u>N/A</u>		<u>N/A</u>		<u>N/A</u>		<u>N/A</u>
Product Years	<u>1936</u>		<u>1953</u>		<u>1955</u>		<u>1963</u>		<u>1966</u>		<u>1970</u>		<u>1972</u>		<u>P</u>

H. **Intended Uses** _____

Definition:

Provide any limitations on the intended use of the product, including the temperature ranges for which the product was recommended.

H. **Intended Uses** _____

Definition:

Provide any limitations on the intended use of the product, including the temperature ranges for which the product was recommended.

I. Manufacturing Sites: _____

Definition:

All locations and time periods at and during which the product was manufactured during your involvement with the product.

Instructions:

On the first half of the line indicate the city and state, or city and province or the like, at which the product was manufactured.

On the second half of the line, indicate the inclusive years of manufacture.

Example:

Manufacturing Sites Norfolk, VA | 1940-1970

Manufacturing Sites Milwaukee, WI | 1962-1969
Peoria, IL | 1967-1973

Manufacturing Sites Glendale, IL | 1967-1970
Glendale, IL | 1972 1976

Manufacturing Sites Conrad, UT | 1936-1942
Ida, IL | 1942-1950
Ida, IL | 1952-1969

J. Sizes _____ to _____

Definition:

The generally produced sizes and shapes of the product as sold to the end user, noting the smallest to the largest standard sizes. Respond additionally to this interrogatory by providing information as to the packaging of the product when providing information regarding the product's size. (e.g. 25-75 lb. bags of cement, etc.)

Instructions:

In completing this information, note the smallest standard sizes or weights first, then the largest standard sizes or weights.

Use the following abbreviations as appropriate.

- | | |
|-------------------------|---------------------|
| - "C" for circumference | - "L" for length |
| - "D" for diameter | - "P" for pounds |
| - "G" for gauge | - "T" for thickness |
| - "H" for height | - "W" for width |

If the suggested abbreviations are inappropriate, type out the most useful size or weight description on the spaces provided or on a separate sheet of paper, identifying that entry as "Interrogatory Response (14)(J), Sizes" and attach that sheet to the Interrogatory Response Sheet.

Examples:

Sizes D2", L12", T1/2" to D24", L48", T2"
Sizes 10 P sacks to 100 P sacks

K. Product Color(s) _____

Definition:

The basic color(s) of the product. Where the product line had the same basic product in a variety of colors, the five most popular colors or color combinations.

Instructions:

A piece of product may be single-colored or multi-colored. Different pieces of the same product may be designed to show different colors (e.g., floor tile) or the color may have changed from time to time. The above lines are to be completed as follows:

- If the product was the one color, complete the first half of the first line only. Note: "N/A" on the second half of the lines, and N/A | N/A on all other lines.
- If the product was one color, but that color changed from time to time, complete the first half of as many lines as there were color changes (up to five). Note: "N/A" on the second half of the lines, and N/A | N/A on all other lines.
- If the product line included multi-colored pieces indicate the two most prominent colors by using both sides of the line. Up to five multi-colored products can be noted.
- If there were more than five colors or five color combinations, note the most frequently made color(s).
- Try to limit your responses by using the following colors. Use the two-letter codes provided. Generally, do not separately identify shades of the same color. If the following colors are inadequate to describe a product color, type in what you believe is the proper color name(s).

- | | | |
|--------------|---------------|---------------|
| - Gray (Gy) | - Blue (Bl) | - Brown (Br) |
| - Black (Bk) | - Violet (Vt) | - Yellow (Yw) |
| - White (Wh) | - Green (Gr) | - Orange (Or) |
| - Red (Rd) | - Pink (Pk) | - Tan (Tn) |

Example:

Product Color(s)	<u>Gy N/A</u>	<u>Bk N/A</u>	<u>Wh N/A</u>	<u>N/A N/A</u>	<u>N/A N/A</u>
Product Color(s)	<u>Gy Bk</u>	<u>Bk N/A</u>	<u>N/A N/A</u>	<u>N/A N/A</u>	<u>N/A N/A</u>
Product Color(s)	<u>Wh Rd</u>	<u>Wh Bk</u>	<u>Wh Bl</u>	<u>Wh Yw</u>	<u>Wh Or</u>

L. **Product Packaging** _____

Definition:

The most frequently used containers in which the product was packaged.

Instructions:

To the extent possible, use the following codes as set forth below in responding to this interrogatory. Where no code is applicable, type the kind of container or packaging. Provide up to five types of containers, listing where known, the most frequently used container first, second most frequently used container, next, etc. Type N/A on any unused line.

Cardboard box (CB)	Metal drum (MD)	Burlap sack (BS)
Wooden box (WB)	Cardboard drum (CD)	Cloth sack (CS)
Plastic box (PB)	Plastic drum (PD)	Paper sack (PS)
Other box (OB)	Other drum (OD)	Plastic sack (KS)
Bound bundles (BB)	Pallets (PT)	Other sack (OS)
Wooden spools (WL)	Paper spools (PL)	Plastic spools (PL)
Other spools (OL)		

Example:

Product Packaging	<u>CB</u>	<u>WB</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Product Packaging	<u>CD</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Product Packaging	<u>CS</u>	<u>KS</u>	<u>PS</u>	<u>OS</u>	<u>N/A</u> <u>N/A</u>

- M. Within the United States was there any geographic limitation which you claim was applicable to the sale of this product (Yes or No)?

Geographic Limitation (Yes/No)? _____

If Yes, state the geographical area which you claim was applicable to this product.

Shipments:

Northeast

MA NH ME NY VT RI CT

Mideast

OH VA WV KY

Southeast

FL NC SC TN AL GA MS

Southwest

TX CO NM UT AR AZ LA OK

Midwest

MI IL IN MO WI MN ND SD WY NB KA IA

West

CA NV OR ID WA MT HI AK

East

PA DE NJ MD DC

Other

VI GU PR

Definition:

Identify those states, possessions, etc. to which your product was ever shipped, was never shipped or it is unknown to you as to whether your product was ever shipped there, if you claim a geographical limitation.

Instructions:

Identify those areas to which you know any product was ever shipped by marking an X on the appropriate line for that state, territory, etc.

Identify those areas to which you know any product was never shipped by marking an O on the appropriate line for that state, territory, etc.

Identify those areas about which you have no information as to whether any product was ever shipped by marking a "?" on the appropriate line for that state, territory, etc.

"Other" means any geographical area not identified by the prior abbreviations.

Example:

Shipments:

Northeast

X X X X X X X
MA NH ME NY VT RI CT

Mideast

X X X X
OH VA WV KY

Southeast

X X X X X X X
FL NC SC TN AL GA MS

Southwest

X X X X X X ? X
TX CO NM UT AR AZ LA OK

Midwest

O O O O ? ? ? ? O O O O
MI IL IN MO WI MN ND SD WY NB KA A

West

O O O O O O ? ?
CA NV OR ID WA MT HI AK

East

X X X X ?
PA DE NJ MD DC

Other

O O O X
VI GU PR OTHER

N. Product Literature _____

Definition:

Whether or not you have any product literature of any sort (e.g., promotional literature, ads, catalogue entries, books, etc.) that describes or pictures this product, yes or no.

Examples:

Product Literature Yes

Product Literature No

O. **Product Picture(s)** _____

Definition:

Whether or not you have care, custody or control over any depictions of this product, and if so, the type of depiction(s).

Instructions:

If you have no depictions of this product, answer "no" in the space provided.

If you do have depictions of this product, indicate the types of depictions you have. Use the following codes and indicate for each type of depiction whether it is a:

- | | |
|-----------------------------|------------------------------|
| - Color Picture (CP) | - Black & White Picture (BW) |
| - Color Sketch (CS) | - Photocopy (PC) |
| - Black & White Sketch (BS) | - Other (TO) |
| - Blueprint (BT) | |

Examples:

Product Picture(s) No

Product Picture(s) BT

Product Picture(s) CP BT BW PC TO

P. **Package Picture(s)** _____

Definition:

Whether or not you have any depictions of the product packaging and if so, the type of depictions.

Instructions:

If you have no depictions of this product, answer "no" in the space provided.

If you do have depictions of this product, indicate the types of depictions you have. Use the following codes and indicate for each type of depiction whether it is a:

- | | |
|-----------------------------|------------------------------|
| - Color Picture (CP) | - Black & White Picture (BW) |
| - Color Sketch (CS) | - Photocopy (PC) |
| - Black & White Sketch (BS) | - Other (TO) |
| - Blueprint (BT) | |

Examples:

Product Picture(s) No

Product Picture(s) BT

Product Picture(s) CP BT BW PC TO

Q. **Product Sample** _____

Definition:

Whether or not you have one or more samples of the asbestos-containing products, yes or no.

Example:

Product Sample Yes

Product Sample No

R. Trademark Name(s) _____

Definition:

The name of any trademark(s) in any way associated with the product, product packaging, or product literature.

Instructions:

If more than one Trademark is associated with the name of a product (e.g., Gold Bond Ripple-Tone Panels), provide the requested information for each trademark.

Type N/A on any unused lines.

Examples:

Trademark Name(s) Perf-A-Tape N/A

Trademark Name(s) Gold Bond Ripple Tone

S. Patent Number(s) _____

Definition:

The Patent Number(s) of any product or process in any way related to the product itself.

Instructions:

To the extent more than one patent is involved with the product itself, or the manufacture, sale, processing, development, etc. of the product, note the additional patent number on the additional line provided.

Type N/A on any unused lines.

Examples:

Patent Number(s) 3.660.148 N/A

Patent Number(s) 2.573.659 2.529.175

T. Product Alteration _____

Definition:

State whether the product has been altered in chemical composition since first being made. If so, please state as to each such alteration:

- i. The date of the alteration;
- ii. The nature of the alteration;
- iii. The reason for the alteration;
- iv. Identify the person(s) recommending or approving such alteration;
and
- v. Whether there are any studies, evaluations or tests made in connection with the alteration, and if so, identify each such study.

15. Asbestos Free Products

For each asbestos containing product whose trade name is listed in Answer No. 14, state:

- A. Was the product, or a substitute for that product, ever manufactured and/or sold by you without asbestos; if so, when did the sale of the product commence;
- B. Brand name of the asbestos free product;
- C. The reason product was manufactured without asbestos;
- D. Was the asbestos-containing counterpart of said product sold while the asbestos-free counterpart was being manufactured; if so, provide the time periods;

Answer:

Chrysler Corporation objects to the interrogatory as overbroad and burdensome. Upon information, Chrysler Corporation has never been required to serve answers to standard asbestos interrogatories in the Eleventh Judicial Circuit prior to this submission. The information sought requires Chrysler Corporation to conduct a complete product historical review of its records and files as pertains to a "generic" product list proffered by Plaintiff(s). This historical review poses great prejudice and significant burden to Chrysler Corporation, an atypical defendant party in Dade County asbestos litigation. Chrysler Corporation re-adopts the objections filed by Caterpillar, Inc.'s Motion to Strike or in the Alternative Objections to Plaintiffs' Master Preliminary Interrogatories and General Motors/Detroit Diesel's Motion to Strike Plaintiffs' Second Set of Interrogatories as pertains to be information sought by Plaintiff(s), herein.

16. Product Development/Design

For each asbestos product referred to in Answer No. 14, or which was sold to any other defendant, state separately:

- A. Was the product manufactured or sold to any entity prior to its being placed on the commercial market;
- B. The date and place where the product was designed and developed;
- C. The identity and last known address of the person or persons responsible for the design or development of the product;
- D. Was the product ever tested prior to its being sold for use by the consumer? If so, provide the identity and present location of all records dealing with these tests (including testing concerning use, application, durability, toxicity, etc.) and the custodian of said records.

Answer:

Chrysler Corporation objects to the interrogatory as overbroad and burdensome. Upon information, Chrysler Corporation has never been required to serve answers to standard asbestos interrogatories in the Eleventh Judicial Circuit prior to this submission. The information sought requires Chrysler Corporation to conduct a complete product historical review of its records and files as pertains to a "generic" product list proffered by Plaintiff(s). This historical review poses great prejudice and significant burden to Chrysler Corporation, an atypical defendant party in Dade County asbestos litigation. Chrysler Corporation re-adopts the objections filed by Caterpillar, Inc.'s Motion to Strike or in the Alternative Objections to Plaintiffs' Master Preliminary Interrogatories and General Motors/Detroit Diesel's Motion to Strike Plaintiffs' Second Set of Interrogatories as pertains to the information sought by Plaintiff(s), herein.

17. Sales Documents

Please state whether you have any documents of any kind indicating or reflecting past sales of one or more asbestos-containing products listed in response to interrogatory 14, including, but not limited to, invoices, orders, purchase records, sales records, confirmations, bills of lading, annual or other periodic summaries of sales or orders, accounts payable or accounts receivable records, etc. If so, describe in detail the different types of documents that you have for each such asbestos-containing product, and state the following as to each type of document:

- A. The items of information contained on it (e.g., date of sale, product, quantity, purchaser, shipment location, price, etc.);
- B. The years of sale encompassed by documents still in existence;
- C. The current location of the documents;
- D. Identify the current custodian of the documents, as well as the current employee most familiar with the codes or system used on the documents.

Answer:

Chrysler Corporation objects to the interrogatory as overbroad and burdensome. Upon information, Chrysler Corporation has never been required to serve answers to standard asbestos interrogatories in the Eleventh Judicial Circuit prior to this submission. The information sought requires Chrysler Corporation to conduct a complete product historical review of its records and files as pertains to a "generic" product list proffered by Plaintiff(s). This historical review poses great prejudice and significant burden to Chrysler Corporation, an atypical defendant party in Dade County asbestos litigation. Chrysler Corporation re-adopts the objections filed by Caterpillar, Inc.'s Motion to Strike or in the Alternative Objections to Plaintiffs' Master Preliminary Interrogatories and General Motors/Detroit Diesel's Motion to Strike Plaintiffs' Second Set of Interrogatories as pertains to be information sought by Plaintiff(s), herein.

18. Sales Office

Did you ever have any sales offices in Florida that were responsible for distribution and/or sales of asbestos and/or asbestos containing products listed in responding to interrogatory 14? If so, please state as to each such sales office;

- A. Its address and years of operation;
- B. Identify all managers from 1930 through the present and the years during which they were served;

Answer:

Objection. This interrogatory is overbroad without reference to the allegations against Chrysler Corporation. Without waiving said objections, Chrysler Corporation has submitted to the personal jurisdiction of this Court with regard to this litigation.

19. Fiber Purchases

Please state the name and address of each business entity from whom the Defendant, Defendant's predecessors, Defendant's subsidiaries have ever bought or received raw asbestos fiber.

Answer:

Chrysler did not design and/or develop all brake linings that it sold from 1959 to 1988. In addition to manufacturing brake linings, Chrysler purchased brake linings from other manufacturers. Subject to and without waiving the foregoing objections, Chrysler manufactured brake linings starting 1959. Chrysler also purchased brake linings from the following manufacturers during the years indicated:

1958 - 1961	Johns-Manville ABEX
1962	Bendix (Allied Signal Corp.) Johns-Manville
1963-1964	Bendix (Allied Signal Corp.)
1965-1968	Johns-Manville ABEX Bendix (Allied Signal Corp.)

20. Insurance

For all policies of insurance affording general liability or product liability coverage, including primary policies, excess policies, policies of reinsurance, program of self-insured retention (SIR) and/or policies in which defendant was additionally insured, applicable to injuries allegedly caused by exposure to asbestos and/or asbestos containing products state:

- A. Insurer: Specify exactly as named in the insurance policy or other evidentiary document coverage.
- B. Insured: The insured named in the policy.
- C. Policy Period: Refer to the actual period for which the insurance policy is and/or was in effect.
- D. Policy Type: Specify whether primary, excess or self-insured, etc.
- E. Per Occurrence/Accident Limits: Refer to the limit for any one occurrence or any one accident.
- F. Products Aggregate: Refer to the aggregate limit applicable to products bodily injury liability coverage. Certain insurance policies may contain combined aggregate for bodily injury, property damage and other covered perils; if so, refer to the combined limit and so indicate.
- G. Products Aggregate Consumption: The function of the Aggregate Consumption Summary is to track the consumption of total products liability aggregate limits claims. List such consumption. If applicable the date upon which the policy limits were paid out in full or exhausted.
- H. Policy Number: Specify exactly as contained on the insurance policy or other evidential document of coverage the policy number. Additionally provide the custodian of the policy and/or document.
- I. Insurer Objection: Specify the bases upon which the relevant insurer refuses to fully pay claims upon demand. If the insurer has not objected to payment or is paying, note N/A.

Answer:

Objection. The Interrogatory is overbroad and without reference to facts set forth in Plaintiff's Complaint. Without waiving its objection, Chrysler Corporation is presently self-insured and has been for years. These may however be certain concurrent coverage with Hartford Insurance Company. Chrysler has been self-insured by the Hartford Insurance Company from 1926 until 1971. There were separate policies each year. From 1972 to the present, Chrysler is largely self-insured.

21. Asbestos Consultant

Has any person ever served as a consultant (excluding experts retained during the time of litigation), full or part-time, to defendant in any manner regarding the potential medical, toxicological, or industrial hygiene aspects of asbestos or any asbestos containing product? (the term consultant is meant to include any specialist in the above areas who was at least in part retained for his expertise and opinions in other than a full-time salaried position). If so, please state the following as to each such person;

- A. Identify the person;
- B. The beginning date, ending date, and period of service for the person;
- C. The job duties and/or responsibilities for the person, as well as a summary of the work performed;
- D. The plant address, office address, or duty assignment location for the person for each part of the consultancy;
- E. The reason for retaining the person;
- F. Identify the company official responsible for retaining the person, as well as identify the company officials with whom the person met during the period of the employment of consultancy; and,
- G. State whether the documents relating to the employment or consultancy in any way, including contracts, correspondence, publications, reports, status reports, studies, etc., exist and whether or not said documents mention asbestos. Additionally if said documents exist provide the name of the records custodian of said documents.

Answer:

Objection. This Interrogatory is overbroad, burdensome and without reference to the facts set forth in Plaintiff's Complaint. Without waiving its objection, Chrysler states as follows: Chrysler has retained an industrial hygienist since the mid 1930's. The industrial hygienist was hired since Chrysler felt it was necessary to establish an industrial hygiene department. The industrial hygiene department is located in Highland Park. Presently the industrial hygiene department reports to the manager of occupational safety, health and worker's compensation.

22. **Physician/Consultant**

Please state whether or not Defendant ever employed, engaged or retaining any physician as a consultant, plant physician or otherwise (excluding experts retained during the course of litigation), in connection with asbestos-related business activities. If so, please state the following as to each such physician.

- A. Identify the physician and give complete dates and places of employment or service;
- B. State the physician's duties and responsibilities;
- C. Identify the company person to whom the physician reported;
- D. State the purpose for which the physician was employed, engaged or retained; and ,
- E. State whether documents pertaining to the physician's professional activities involving asbestos and/or individuals exposed to asbestos exist and the custodian of said documents.

Answer:

Objection. This Interrogatory is overbroad, vague and without reference to the facts set forth in Plaintiff's Complaint. The term "physician as a consultant" is not defined.

23. Safety Consultant

Please state whether or not any industrial hygienist, toxicologist, safety director, occupational medical director, physician or consultant in any of the foregoing areas previously identified (excluding experts retained during the course of litigation), ever made at any time any statements, recommendations and/or suggestions to the Defendant pertaining to or relating to asbestos or health hazards from dust or any product. If so, state the following as to each such occasion;

- A. Identify who made the recommendation and/or suggestion;
- B. State the date of the recommendation and/or suggestion;
- C. Identify all company officials who receive the recommendation and/or suggestion;
- D. State the substance of the recommendation and/or suggestion; and,
- E. State whether any documents and/or records of oral conversations embodying or pertaining to the recommendation and/or suggestion exist and if so the custodian of said records.

Answer:

Objection. This Interrogatory is overbroad, vague and without reference to the facts set forth in Plaintiff's Complaint. The term "physician as a consultant" is not defined.

24. Tests/Asbestos

Please state whether Defendant ever conducted or caused to be conducted any tests (whether laboratory or field tests) on any of their or anyone else's asbestos-containing products, including measurements of exposure levels during installation, removal and/or after installation after they had degenerated or decomposed from use, to determine potential or likely asbestos exposure levels during conditions of intended use of the product. If so, please state the following as to each such test;

- A. Identify the person who directed that the test and/or measurement be made and/or conducted;
- B. Identify the person or organization who conducted the test and/or measurement;
- C. Identify where, when and for how long the test and/or measurement was conducted, including the department of the plant or facility involved, as well as its owner and operator;
- D. State the product(s) tested and describe the conditions of the test, including the measurement methodology;
- E. Describe whatever efforts, if any, were used in the test to simulate the various conditions of possible or probable use of the product, such as in confined spaces or tunnels;
- F. State the asbestos exposure levels measured including the ranges measured, median measurement and average measurement;
- G. Identify to whom the test results were reported; and,
- H. Identify all documents pertaining to the test and the custodian thereof.

Answer:

Objection. This Interrogatory is vague, ambiguous and overbroad. Notwithstanding this objection based on available corporate records, Chrysler Corporation has not done direct testing.

25. Financial Support/Measurement/Tests

Has Defendant ever conducted, caused to be conducted or financially supported through at least a 10% contribution toward s the total cost, any asbestos-related epidemiologic, toxicologic, animal, medical, scientific tests, reviews, investigations, analysis, research or studies of any kind (hereinafter termed "studies")? If so, please state as to each such study:

- A. Identify who directed or authorized that the study be done;
- B. Identify the person or organization that conducted the study;
- C. State the dates and over what time period the study was done;
- D. Describe the study design and protocol;
- E. State the complete results of the study, including any conclusions or recommendations contained therein;
- F. Identify all company officials who received notice of the existence of the study and/or its results;
- G. Identify all documents relating to the study and the custodian thereof; and
- H. State whether the study was ever published, and if so, state the study title and citation.

Answer:

See Answer to Interrogatory Number 24.

26. Literature Review

Has Defendant ever conducted, caused to be conducted, or financed through at least a 10% contribution towards the total cost, any effort to monitor or review the professional literature regarding the clinical, epidemiologic, toxicologic, industrial hygiene, medical and/or scientific aspects of asbestos and/or products containing asbestos (excluding for the purposes of litigation)? If so, please state the following as to each effort:

- A. Identify who directed or authorized that the effort be done;
- B. Identify the person or organization that conducted the effort;
- C. State the dates and over what time period the effort was done;
- D. Describe the effort design and protocol;
- E. State the complete results of the effort, including any conclusions or recommendations contained therein;
- F. Identify all company officials who received notice of the existence of the effort and/or its results;
- G. Identify all documents relating to the effort and the custodian thereof; and,
- H. State whether the effort was ever published, and if so, state the effort title and citation.

Answer:

Objection. Objection to this Interrogatory on the ground that it is vague, irrelevant, overbroad not properly limited as to time. Subject to and without waiving the foregoing objection, Chrysler Corporation states that it has not undertaken or financed such studies.

27. Specific Studies/Participation

Did Defendant at any time in any way participate in any of Metropolitan Life Insurance Company's studies of asbestos (conducted approximately between 1929-1940), any Trudeau Foundation/Saranac Lake studies (between 1929-1960), or any Industrial Hygiene Foundation studies (between 1938-1968)? If so, identify each such study in which you were involved and state as to each:

- A. What role or action you took in regard to the study;
- B. Identify all documents related to your involvement in the study and the custodian thereof;
- C. Identify each of your facilities in which any part of the study was conducted and reference your facility to the data reported in the study; and,
- D. Identify each of your officers, supervisors, managers or employees who assisted, participated in or directed your involvement in the study.

Answer:

See Answer to Interrogatory Number 26.

28. **Asbestos Hazard/Notice**

Did Defendant at any time prior to 1980 receive, have notice of, acquire or possess any advice, publication, statement, warning, order, directive, letter, memorandum, recommendation or document, written or oral, in any way related to asbestos and health hazards, or which implicitly or explicitly refers to asbestos and health issues. If so, state the following as to each such document and oral conversation, and each such occasion prior to 1980:

- A. When any of this knowledge was first acquired, how it was acquired, identify by whom it was acquired, and state the substance of the knowledge acquired.
- B. Identify all documents pertaining to the advice, publication, statement, warning, order, directive, letter, memorandum, or recommendation and the custodian thereof;
- C. Identify all company officials and directors who received notice of the existence of the document or oral conversation. For each such oral conversation state the approximate date of said conversation and the parties to said conversation; and,
- D. What action, if any, was taken by you as a consequence of the document or oral conversation.

Answer:

Objection. Chrysler Corporation objects to this Interrogatory as overbroad, burdensome and calls for a scientific and/or medical conclusion that Chrysler is not available to provide. This interrogatory improperly assumes that there is or might be adverse health effects associated with the use of chrysotile asbestos. Consequentially, answering Defendant cannot respond to the interrogatory in its present form. Additionally, the interrogatory is designed to elicit a response that maybe used in a misleading manner at the time of trial rather than the discovery factual information. Chrysler does not acknowledge a causal relationship between exposure to brake dust or clutch facing dust and any diseased illness. Chrysler was, however, aware in the 1930's that certain types of raw asbestos could cause pulmonary disease when inhaled in large quantities. Notably, chrysotile asbestos used in friction products is a different type of asbestos than the types involved in insulation products.

29. Knowledge/Asbestosis

Please state whether Defendant obtained, prior to 1980, any knowledge concerning the association, if any, between the inhalation of asbestos fibers and a lung disease known as asbestosis, in users, consumers and/or persons exposed to asbestos and/or asbestos containing products. If so, please state:

- A. When any of this knowledge was first acquired, how it was acquired, identify by whom it was acquired, and state the substance of the knowledge acquired;
- B. As to each such occasion thereafter in which your knowledge as to asbestosis increased either relative to the types of exposures (i.e. trades and occupations, etc.) and/or types of products which became associated with the development of asbestosis state:
 - (1) when was this additional knowledge acquired;
 - (2) how was this additional knowledge acquired;
 - (3) identify by whom it was acquired;
 - (4) state the substance of the additional knowledge acquired;
- C. Identify all documents relevant to your acquisition of knowledge concerning the disease asbestosis and the custodian thereof; and,
- D. If any of the foregoing knowledge was acquired through an oral conversation, identify each such oral conversation, the approximate date of said conversation and the parties to said conversation.

Answer:

See Answer to Interrogatory Number 28.

30. Knowledge/Lung Cancer

Please state whether Defendant, prior to 1980, ever obtained any knowledge concerning the association, if any, between the inhalation of asbestos fibers and lung cancer, in users, consumers and/or persons exposed to asbestos and/or asbestos containing products. If so, please state:

- A. When any of this knowledge was first acquired, how it was acquired, identify by whom it was acquired, and state the substance of the knowledge acquired.
- B. As to each such occasion thereafter in which your knowledge as to lung cancer increased either relative to the types of exposures (i.e. trades and occupations, etc.) and /or types of products which became associated with the development of lung cancer state:
 - (1) when was this additional knowledge acquired;
 - (2) how was this additional knowledge acquired;
 - (3) identify by whom it was acquired;
 - (4) state the substance of the additional knowledge acquired;
- C. Identify all documents relevant to your acquisition of knowledge concerning lung cancer and the custodian thereof; and,
- D. If any of the foregoing knowledge was acquired through an oral conversation, identify each such oral conversation, the approximate date of said conversation and the parties to said conversation.

Answer:

See Answer to Interrogatory Number 28.

31. Knowledge/Mesothelioma

Please state whether Defendant, prior to 1980, ever obtained any knowledge concerning the association, if any, between the inhalation of asbestos fibers and mesothelioma, in users, consumers and/or persons exposed to asbestos and/or asbestos containing products. If so, please state:

- A. When any of this knowledge was first acquired, how it was acquired, identify by whom it was acquired, and state the substance of the knowledge acquired.
- B. As to each such occasion thereafter in which your knowledge as to mesothelioma increased either relative to the types of exposures (i.e. trades and occupations, etc.) and/or types of products which became associated with the development of mesothelioma state:
 - (1) when was this additional knowledge acquired;
 - (2) how was this additional knowledge acquired;
 - (3) identify by whom it was acquired;
 - (4) state the substance of the additional knowledge acquired;
- C. Identify all documents relevant to your acquisition of knowledge concerning mesothelioma and the custodian thereof; and,
- D. If any of the foregoing knowledge was acquired through an oral conversation, identify each such oral conversation, the approximate date of said conversation and the parties to said conversation.

Answer:

See Answer to Interrogatory Number 28.

32. Knowledge/Cancer of the Gastrointestinal Tract

Please state whether Defendant ever obtained any knowledge concerning the association, if any, between the inhalation of asbestos fibers and cancer of the gastrointestinal tract (i.e. colon, stomach, etc.), in users, consumers and/or persons exposed to asbestos and/or asbestos containing products. If so, please state:

- A. When any of this knowledge was first acquired, how it was acquired, identify by whom it was acquired, and state the substance of the knowledge acquired.
- B. As to each such occasion thereafter in which your knowledge as to cancer of the gastrointestinal tract increased either relative to the types of exposures (i.e. trades and occupations, etc.) and/or types of products which became associated with the development of cancer of the gastrointestinal tract state:
 - (1) when was this additional knowledge acquired;
 - (2) how was this additional knowledge acquired;
 - (3) identify by whom it was acquired;
 - (4) state the substance of the additional knowledge acquired;
- C. Identify all documents relevant to your acquisition of knowledge concerning cancer of the gastrointestinal tract and the custodian thereof; and,
- D. If any of the foregoing knowledge was acquired through an oral conversation, identify each such oral conversation, the approximate date of said conversation and the parties to said conversation.

Answer:

See Answer to Interrogatory Number 28.

33. Warning/Description

Please provide the following information as to each caution, warning or hazard statement or explanation involving asbestos alleged to have been placed on the products or packaging or asbestos containing products by you?

- A. What was its precise wording;
- B. Where was it located on the product or packaging, and what was the size and color of the lettering;
- C. Has the wording or its presentation ever been altered, and if so, how and when;
- D. The years during which each version of a caution, warning or hazard statement appeared on each individual product identified in responding to interrogatory 14;
- E. Identify all company officers and/or committees who participated in the decision to affix each version of the caution, warning or hazard statement to a product or its packaging, and in particular, identify the prime decision-maker, if any; and
- F. Identify all documents related in any way to each caution, warning or hazard statement and the custodian thereof.

Answer:

Objection. This interrogatory is not specific as to a time period, it is irrelevant, overbroad and burdensome. Furthermore, Chrysler has sold motor vehicles with brakes and clutch parts allegedly installed in these automobile vehicles and are generally not shipped in packages with respect to after-market products. They are shipped in cardboard cartons of various sizes. These products may also have been distributed as components incorporated into motor vehicles of various sizes and descriptions. However, notwithstanding these objections, for purposes of discovery, the Chrysler service manual contained warnings (See attached 1973 and 1984 Service Manual regarding warnings). Warnings have been incorporated in Service Manuals consistently since 1984.

34. Warning/Insert

Has Defendant ever placed any form of package insert or informative brochure in a container of an asbestos-containing product, listed in response to interrogatory 14, explaining the hazards of asbestos? If so, state as to each such insert or brochure:

- A. When was it first placed in containers and for what years thereafter?
- B. What products had the insert or brochure included;
- C. Describe the size, shape, color and text of the insert or brochure;
- D. Identify all persons involved in the decision to include the insert or brochure; and
- E. Identify all company officers and/or committees who participated in the decision to include an insert or brochure, and in particular, identify the prime decision-maker, if any; and
- F. Identify the insert and/or brochure itself and the custodian thereof.

Answer:

See Answer to Interrogatory Number 33.

35. **Warning/Customer**

State whether you published and/or otherwise provided any of your distributors and/or customers with any instructions in regard to the asbestos hazards, if any, presented by use of Defendant's asbestos-containing products, other than inserts or labels (i.e. promotional pamphlets, product manuals, specification sheets, sales brochures, etc.) If so, please state:

- A. When such instruction were first given;
- B. By whom and when were these instructions made;
- C. State the specific instructions provided; and
- D. Identify all oral communications and documents related to these instructions. If oral identify the approximate date of said communication and the parties involved, if written provide the custodian of said documents.

Answer:

Objection. This Interrogatory is burdensome and overbroad. Without waiving this objection, the repair manuals were available from Chrysler Corporation with respect to repairs on Chrysler motor vehicles. Repair manuals have been in existence for decades. Notwithstanding this objection, warnings have been placed in the service repair manual continually since 1984 and have been on all new asbestos containing after market brake or clutch products since 1983. (See attached 1973 and 1984 Service Manual regarding Warnings).

36. **Warning/Mask**

Has Defendant ever placed any form of disposable face mask or respiratory in a container of an asbestos-containing product for later use by persons who would handle and/or be exposed to the product? If so, please state:

- A. The products covered by the practice;
- B. The year this practice began in the years it was implemented;
- C. Describe the type of face mask or respirator included in the container; and
- D. Identify all oral communications and documents related to this practice. If oral identify the approximate date of said communication and the parties involved, if written provide the custodian of said documents.

Answer:

Objection. This Interrogatory is vague, ambiguous and not likely to lead to the discovery of relevant evidence.

37. Sales Material

Has Defendant at any time, published and/or distributed any sales brochures, promotional pamphlets, product manuals, specification sheets or other written sales materials or documents of any kind or character? If so, please:

- A. Identify each such document and the custodian thereof;
- B. State for what period of time you published and/or distributed sales brochures, promotional pamphlets, product manuals, specification sheets, or other written sales material or documents without any form of warnings, cautions, hazard statements or explanations concerning asbestos.

Answer:

See Answer to Interrogatory Number 33.

38. Advertisement

If you advertised any of your asbestos-containing products, listed in your response to interrogatory 14, in newspapers, magazines, or other publications at any time from 1930 to the present, please state for each such advertisement that contained a warning regarding your products:

- A. The name of the publication in which it appeared, including the date and page number;
- B. A complete transcript of the advertisement and a description of any pictures accompanying it;
- C. The name and address of the person or agency that was responsible for approving each such advertisement;
- D. The name and address of whoever has current custody of the above-described advertising literature; and
- E. Identify all documents relating to such advertisements and the custodian thereof.

Answer:

See Objection to Interrogatory Number 14 incorporated herein.

39. Product Usage/Documents

Has any written material of any kind or character been prepared by Defendant or its agents indicating how your asbestos-containing products should be used and/or maintained (other than information in regards to the hazards, if any, presented by use of the defendant's asbestos containing products)? If so, please state as follows:

- A. Identify all such material and the custodian thereof;
- B. The name, address and job classification of each person who prepared same; and;
- C. The dates and manner in which said material was distributed to purchasers of Defendant's products.

Answer:

See Answer to Interrogatory Number 33.

40. **Notice/Asbestos Injury**

Did Defendant receive notice, prior to 1975, that any person was claiming injury as a result of using asbestos-containing products mined, manufactured, sold and/or used by you? If so, please state as to each such claim.

- A. The name of the claimant;
- B. The date of notice of the claim;
- C. A description of the claim including the type of exposure experienced by the claimant (e.g., mining, milling, manufacturing, insulating, etc.);
- D. The type of injuries allegedly sustained;
- E. The caption and court, address of the court or workers' compensation file number of the claim;
- F. Identify all documents relating to the claim and the custodian thereof.

Answer:

Objection. Chrysler objects to this Interrogatory on the grounds that it is irrelevant, overbroad, not properly limited as to time and unduly burdensome.

41. Please state whether the Defendant has ever been a member of the following business groups (or group with similar name), and if so, answer the following as to each group;

- (1) The address of the group;
- (2) The years during which you were a member;
- (3) Identify all documents in your possession relating in any way to the group, including documents before, during and after the period of your membership and the custodian thereof.

- A. Industrial Health Foundation (or one of its predecessors);
- B. Asbestos Textile Institute;
- C. Asbestos Information Association of North America;
- D. National Mineral Wool Producers Association;
- E. Asbestos Cement Pipe Producers Association;
- F. Magnesite Insulation Manufacturers Association;
- G. American Industrial Hygiene Association;
- H. Brake Lining Manufacturers Association;
- I. Friction Materials Standards Institute, Inc.;
- J. Asbestos Brake Lining Manufacturers Institute;
- K. Quebec Asbestos Mining Association;
- L. Institute of Occupational and Environmental Health of Quebec Asbestos Mining Association;
- M. American Society for Testing and Materials;
- N. Grinding Wheel Institute;
- O. Trudeau Foundation;
- P. National Safety Council;
- Q. National Insulation Manufacturers Association; and
- R. The Refractories Institute;

Answer:

Objection. Chrysler objects to this Interrogatory on the grounds that it is overbroad, unduly burdensome and not properly limited as to time. Answering this Interrogatory would require making inquiry of thousands of Chrysler employees, past and present, which would be unduly burdensome. Without waiving these objections, Chrysler or Chrysler employees, or both, have had memberships in the American Industrial Hygienist Association, The Friction Material Safety Institute, The Industrial Hygiene Foundation, The American Academy of Industrial Hygienist, National Safety Council, The Motor Vehicle Manufacturers Association, The Battery Council International, The Society of Automobile Engineers, and The Engineering Society of Detroit. It is also known that Chrysler in the past, has belonged to The Friction Materials Safety Institute and The Motor Vehicle Manufacturers Association.

42. **Library**

Please state whether Defendant ever maintained any form of library or collection of books and publications. If so, state the following as to each such library;

- A. The original location of the library, including the building in which it was located;
- B. The years during which the library was in operation;
- C. The offices, plant facilities, departments or other organizational units serviced by the library;
- D. Identify each custodian of the library or librarian as well as the years of his service as librarian

Answer:

Objection. Chrysler objects to this Interrogatory on the ground that it is irrelevant, overbroad, unduly burdensome, not properly limited as to time and not reasonably calculated to lead to the discovery of admissible evidence. Notwithstanding and without waiving these objections, the Industrial Hygiene Department and Medical Department at Chrysler maintains reference libraries.

STATE OF MICHIGAN)
) ss:
COUNTY OF)

BEFORE ME, the undersigned authority, PAUL KELL Y, duly sworn, deposes and says that he is the Parts Marketing Manager for CHRYSLER CORPORATION, in the matter of *Tinker v. Chrysler Corporation, et. al.*, who is to me personally known and who did take an oath; that he has read the foregoing Responses to Plaintiffs' First Set of Interrogatories; that the foregoing Responses of CHRYSLER CORPORATION, is based on information communicated to him by personnel of CHRYSLER CORPORATION, and information obtained from books and records of CHRYSLER CORPORATION, and he believes the foregoing Responses to be true and correct to the best of his knowledge, information and belief.

PAUL KELL Y
Parts Marketing Manager
CHRYSLER CORPORATION

SWORN TO AND SUBSCRIBED before me this 29th day of SEPTEMBER,
1995.

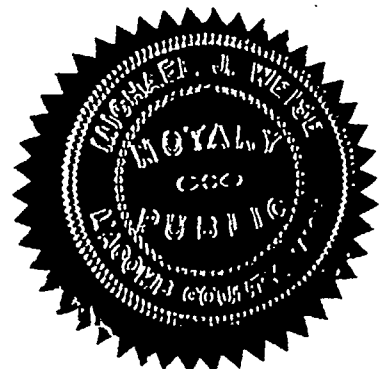
NOTARY PUBLIC

MICHAEL J. WEISE

Notary's Printed Name

My Commission Expires:

MICHAEL J. WEISE
NOTARY PUBLIC - MACOMB COUNTY, MICH.
MY COMMISSION EXPIRES 2-11-97



DRUM BRAKES

INDEX

	Page
Brake Drum Removal	12
Brake Shoe Removal	12
Brake Drum Installation	15
Brake Shoe Installation	14
Cleaning and Inspection	12
Drum Refacing Recommendations	13

	Page
General Information	12
Installing Brake Supports	15
Removing Brake Supports	15
Service Diagnosis	7
Special Tools	39

GENERAL INFORMATION

All drum brake applications are two shoe, internal expanding brakes with application adjusters. The lower ends of the brake shoes are connected by a tubular star wheel adjusting screw (Figs. 1 and 2).

CAUTION: When servicing brake assemblies or components, do not create dust by sanding, grinding or by

cleaning brake parts with a dry brush or with compressed air. A water dampened cloth should be used. Many brake components contain asbestos fibers which can become airborne if dust is created during service operations. Breathing dust which contains asbestos fibers can cause serious bodily harm.

SERVICE PROCEDURES

BRAKE DRUM REMOVAL

(1) Remove rear plug from brake adjusting access hole.

(2) Insert a thin screwdriver into brake adjusting hole and hold adjusting lever away from notches of adjusting screw.

(3) Insert Tool C-3784 into brake adjusting hole and engage notches of brake adjusting screw. Release brake by prying down with adjusting tool.

(4) Remove rear wheel and clips from wheel studs that holds drum on axle. Discard clips. Remove drums.

(5) Inspect brake lining for wear, shoe alignment, or contamination from grease or brake fluid.

(7) Remove parking brake lever from secondary shoes. Remove shoes.

(8) Disengage parking brake lever from parking brake cable.

CLEANING AND INSPECTION

Wipe or brush clean (dry) the metal portions of

BRAKE SHOE REMOVAL

(1) Remove rear wheel, and drum retaining clips. Remove drum.

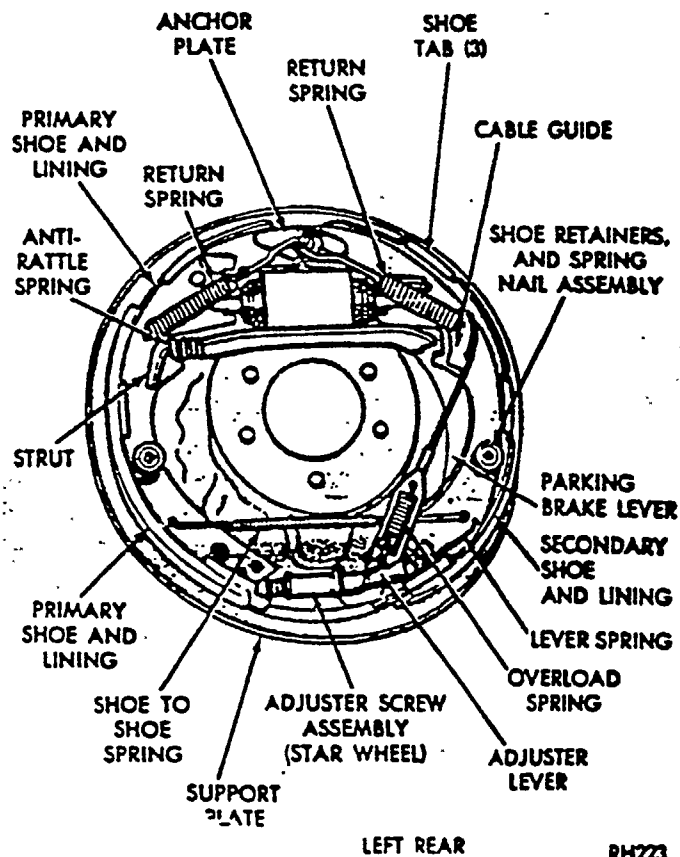
(2) Using Tool C-3785, remove brake shoe return springs (Fig. 3). (Note how secondary shoe return spring overlaps primary shoe return spring) (Figs 1 or 2).

(3) Slide eye of automatic adjuster cable off anchor and then unhook from adjusting lever. Remove cable, overload spring, cable guide and anchor plate.

(4) Disengage adjusting lever from spring by sliding forward to clear pivot, then working out from under spring. Remove spring from pivot. Remove shoe to shoe spring from secondary shoe web and disengage from primary shoe web. Remove spring.

(5) Disengage primary and secondary shoes and remove adjusting star wheel assembly from shoes.

(6) Remove brake shoe retainers, springs and nails using Tool C-4070. (Fig. 4), and remove from support.



LEFT REAR

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Fig. 1—Ten Inch Brake Assembly

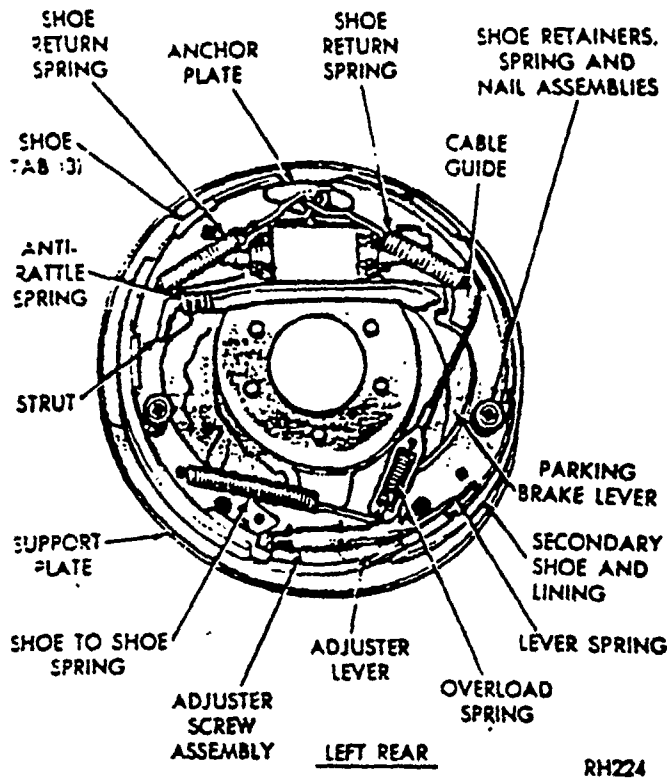


Fig. 2—Eleven Inch Brake Assembly

the brake shoes. Examine the lining contact pattern to determine if the shoes are bent. The lining should show contact across the entire width, extending from heel to toe. Shoes showing contact only on one side should be replaced. Shoes having sufficient lining but lack of contact at toe and heel may be improperly ground.

Clean the support, using a suitable solvent, then inspect for rough or rusted shoe contact areas. Clean and inspect the adjusting screws for damaged threads, then apply a thin film of lubricant to the threads.

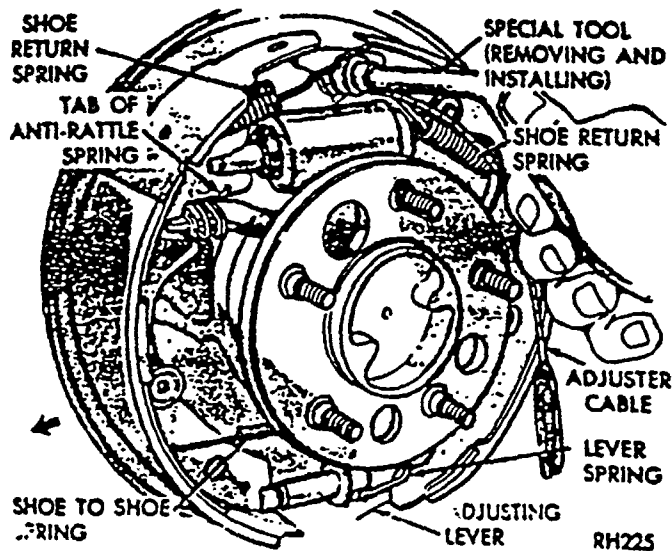


Fig. 3—Removing Shoe Return Springs

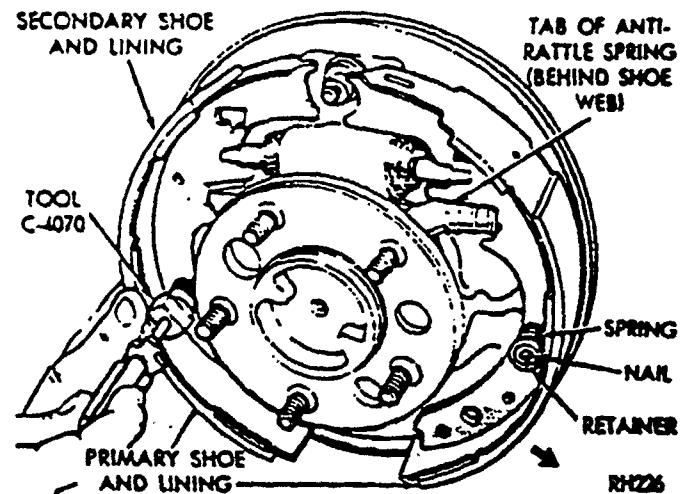


Fig. 4—Removing or Installing Shoe Retainers, Springs and Nails

socket and washer (Fig. 5). Replace adjuster screw assembly if corrosion of any part inhibits very free operation.

Install new brake shoe return springs and hold down springs where the old springs have been subjected to overheating or if their strength is questionable. Spring paint discoloration or distorted end coils indicate a spring that had been overheated.

DRUM REFACING RECOMMENDATIONS

Drum Refacing—Measure the drum runout and diameter with an accurate gauge. There should be no variation in the drum diameter greater than .002 inch. Drum runout should not exceed .006 inch out of round. If the drum runout or diameter variation exceed these values the drum should be refaced. For best results in eliminating the irregularities that cause brake roughness and surge, the amount of material removed during a single cut should be limited to .005 inch. When the entire braking surface has been cleaned a final cut of .001 inch will assure a good drum surface providing the equipment used is capable of giving the precision required for resurfacing brake drums. Deeper cuts are permissible for the sole purpose of removing deep score marks. Do not reface more than .060 inch over the standard drum diameter.

All drums will show markings of maximum allow-

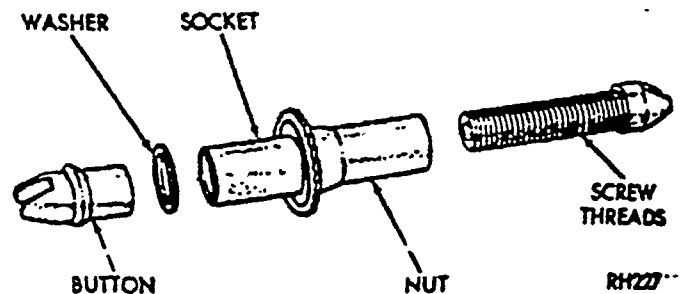
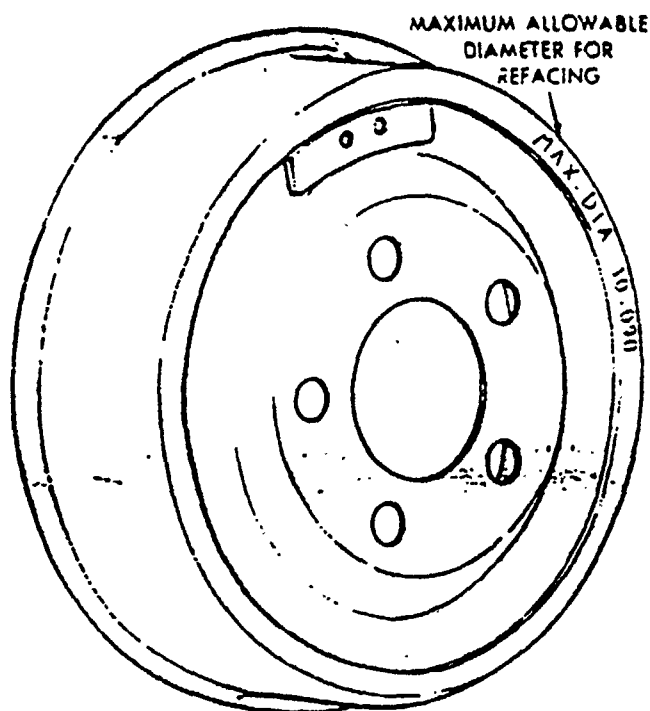


Fig. 5—Adjuster Screw Assembly



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Fig. 6—Ten Inch Drum-Maximum Diameter Identification

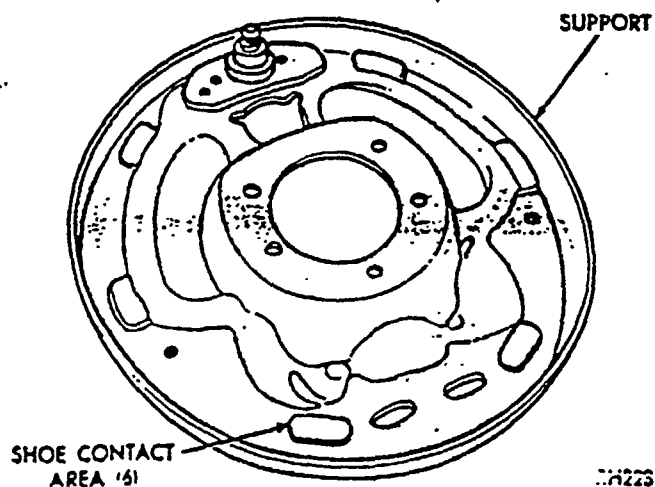
able diameter (Fig. 6). For example, a ten inch drum will have a marking of MAX. DIA. 10.090 inch. This marking includes .030 inch for allowable drum wear beyond the recommended .060 inch of drum refacing.

BRAKE SHOE INSTALLATION

Lubricate the six shoe tab contact pads on support plate with a thin film of MOPAR Multi-Purpose Lubricant. Part number 2932524 or equivalent (Fig. 7).

(1) Engage parking brake lever with cable. Install parking brake lever into rectangular hole of secondary brake shoe.

(2) Slide secondary shoe against support plate, at



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Fig. 7—Shoe Contact Pads on Support

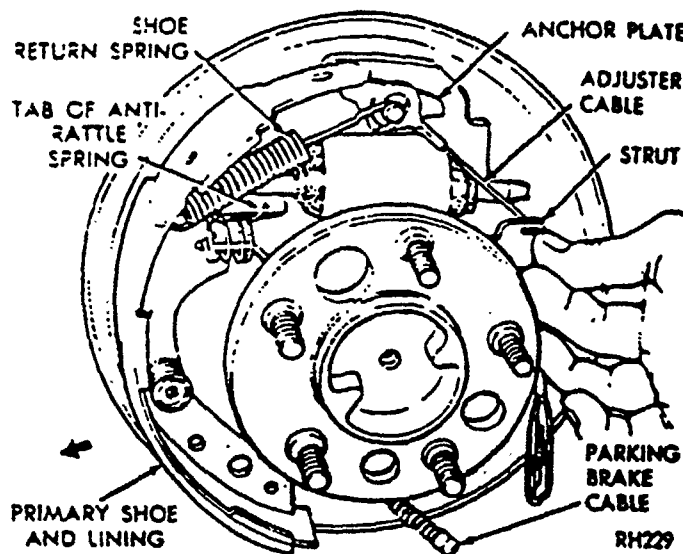


Fig. 8—Removing or Installing Parking Brake Strut and Spring

the same time engage shoe web with push rod and against anchor.

(3) Slide parking brake strut behind axle flange and into slot in parking brake lever. Slide anti-rattle spring over free end of strut (Fig. 8). On ten inch brakes, be sure spring tab is pointing rearward and up on outside of shoe web (Left Brake), and pointing frontward and down behind shoe web (Right Brake).

(4) Slide primary shoe into position and engage with push rod (if so equipped) and free end of strut. Install anchor plate over anchor, then install eye of adjuster cable over anchor (Fig. 9).

(5) Engage primary shoe return spring in web of shoe and install free end over anchor, using Tool C-378⁵.

(6) Insert protruding hole rim of cable guide into hole in secondary shoe web. Holding guide in position, engage secondary shoe return spring through

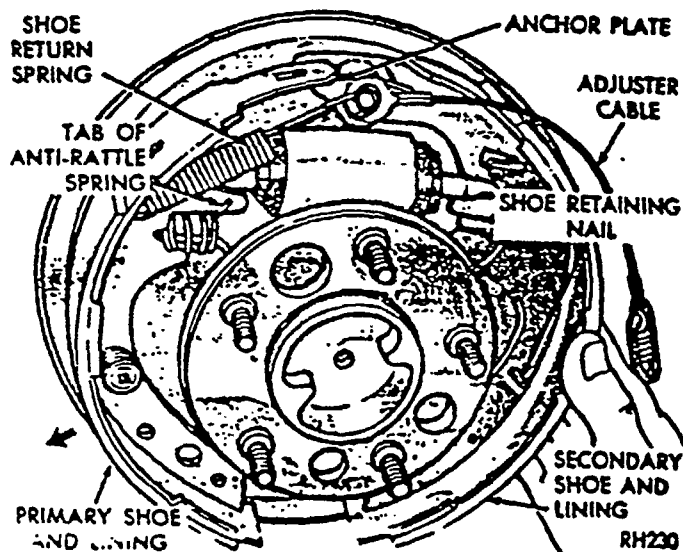


Fig. 9—Installing Brake Shoes

both hole in guide, and hole in web. Using Tool C-3785, install spring over anchor. (Be sure cable guide remains flat against shoe web and that secondary spring overlaps primary) (Fig. 1). Using pliers, squeeze ends of spring loops (around anchor) until parallel.

(7) Install adjusting star wheel assembly between primary and secondary shoes, with star wheel next to secondary shoe (Fig. 1). The left star wheel adjusting stud end is stamped "L" (indicating its position on the vehicle) and the star wheel is cadmium plated. The right star wheel is black and the adjusting stud end is stamped "R". Install shoe to shoe spring between shoes (Figs. 1 and 2). (Engage primary shoe first). (Eleven inch brakes, install shoe to shoe spring with coil forward, opposite adjuster lever, Fig. 2).

(8) Install adjusting lever spring over pivot pin on shoe web. Install adjusting lever under spring and over pivot pin. Slide lever slightly rearward to lock in position.

(9) Using Tool C-4070, install shoe retaining nails, retainers and springs (Fig. 4).

(10) Thread adjuster cable over guide and hook end of overload spring in lever (Fig. 1). (Be sure eye of cable is pulled tight against anchor and in a straight line with guide).

BRAKE DRUM INSTALLATION

(1) Install brake drum. Reinstallation of retaining clips is not necessary. Install wheel and tire assembly as described under "Wheel Stud Nut Tightening".

(2) Adjust brakes as described under "Service Adjustments" at front of this Group.

REMOVING BRAKE SUPPORT

(1) With wheel and brake drum removed, remove brake shoe assemblies and disconnect brake cable.

(2) Using a suitable tool such as an aircraft type hose clamp compress the flared legs of cable retainer

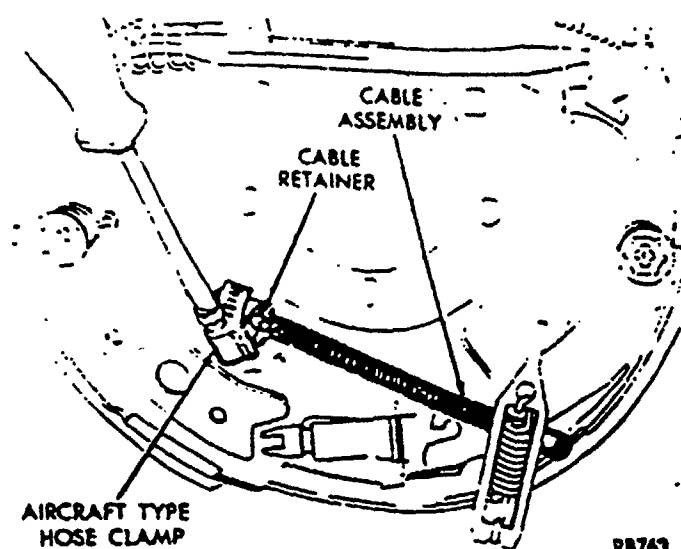


Fig. 10—Removing Brake Cable From Support Plate

and pull brake cable out of support plate (Fig. 10).

(3) Disconnect hydraulic brake tube from wheel cylinder.

(4) Remove support to wheel cylinder attaching nuts and washers.

(5) Remove rear axle shaft and retainer. Refer to "Rear Axle," Group 3.

(6) Remove brake support from rear axle housing.

INSTALLING BRAKE SUPPORT

(1) Install support plate onto rear axle housing.

(2) Insert rear axle shaft and retainer into housing and install axle retainer nuts and washers. Refer to "Rear Axle," Group 3.

(3) Install wheel cylinder and attach hydraulic brake tube.

(4) Insert parking brake cable into support plate and attach cable to parking brake lever.

(5) Install brake shoes on support plate.

(6) Install brake drum and wheel. Adjust and bleed brakes.

MASTER CYLINDER

INDEX

Bleeding Master Cylinder	Page 17
General Information	15
Installing Master Cylinder	17

Master Cylinder Removal	Page 16
Reservoir Replacement	16
Special Tools	39

GENERAL INFORMATION

The body of the two piece master cylinder (Fig. 1), is made of aluminum and the reservoir is made of nylon.

The two compartments of the reservoir are inter-

connected to permit equalization of the fluid level.

However, a sufficient quantity of fluid is retained in the reservoir of the unaffected system to permit operation of that half of the master cylinder even if

Asbestos Warning Label : 1983 - 1987

CAUTION

THIS PRODUCT CONTAINS ASBESTOS.
AVOID CREATING DUST. BREATHING
ASBESTOS MAY RESULT IN SERIOUS
BODILY HARM.

Asbestos Warning Label 1987 - Present

DANGER

CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE
HAZARD

Service & Parts Operations
Chrysler Motors

May 12, 1988

PACKAGE ENGINEERING DEPARTMENT

SERVICE PARTS PROCESSING & PACKAGING SPECIFICATION

700787	PART NAME SHOE KGC 1.1 INING .AT WHL DISC BRK	PART NO 04.503500
NO	QTY QTY OF UNPACKAGED MATERIAL PER 1-20 STD. REQUIRED	VENDOR NO NO 3TK C
FIG		PART TYPE CODE 05-003 003

SECTION OF ALL CONTAINERS PER 1-20 STANDARD

CONTAINER NO	VENDOR	DESCRIPTION OF CONTAINER
CONTAINER SIZE		CLOSURE: SEE NOTE 1

IAPS

CONTAINER NO	DESCRIPTION OF CONTAINER
CONTAINER SIZE	CLOSURE: SEE NOTE 1

CONTAINER NO	DESCRIPTION OF CONTAINER
CONTAINER SIZE	CLOSURE: SEE NOTE 1

PALLET LOAD HEIGHT - 42" INCLUDING PALLET STD. PALLET SIZE 42" x 48" UNLESS DEVIATION AUTHORIZED

PALLET NO:	PALLET DESCRIPTION:
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OS WARNING LABEL REQ'D	MACHINE CODE:
------------------------	---------------

ISSUED BY: SPEIGHT

MATERIAL(S) AND/OR PROCESSES MUST BE IN COMPLIANCE WITH LATEST DATE OF ISSUE. THIS CONTINGENCY IS THE SUPPLIER RESPONSIBILITY

NOTE 1: ALL CORRUGATED CARTON CLOSURES TO BE IN ACCORDANCE WITH RULE 41 OF THE UNIFORM FREIGHT CLASSIFICATION. METHOD IS OPTIONAL UNLESS OTHERWISE SPECIFIED.

10-2-67
FORM 10-2-67
10-2-67

PACKAGE ENGINEERING DEPARTMENT
SERVICE PARTS PROCESSING & PACKAGING SPECIFICATION

00/25	PART NAME SHOE LIN RT MIL DICC	PART NO R002178C
Q.	IDENT OF UNPACKAGED MATERIAL PER 1-20 STD.	VENDOR NO 3/A 3683
FIG		PART TYPE CODE 05-003-003

CONTAINERS PER 1-20 STANDARD

CONTAINER NO	DESCRIPTION OF CONTAINER
CONTAINER SIZE	CLOSURE. SEE NOTE 1

MAPS

DATE STY	CONTAINER NO	DESCRIPTION OF CONTAINER
	CONTAINER SIZE	CLOSURE. SEE NOTE 1

STY	CONTAINER NO	DESCRIPTION OF CONTAINER
	CONTAINER SIZE	CLOSURE. SEE NOTE 1

MAX PALLET LOAD HEIGHT - 42" INCLUDING PALLET. STD. PALLET SIZE 42" x 48" UNLESS DEVIATION AUTHORIZED

STY 560	PALLET NO	PALLET DESCRIPTION
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ING CARTON	5.25" X 1.5" X 7.75"	MACHINE CODE:
CTN 15.75" X 5.5" X 8.5" RSC		
STDS WARNING LABEL REQUIRED.		

(04-23-87) ISSUED BY: J R POWELL

PACKAGING MATERIALS, AND/OR PROCESSES MUST BE IN COMPLIANCE WITH LATEST DATE OF ISSUE. THIS CONTINGENCY IS THE SUPPLIER RESPONSIBILITY

NOTE 1: ALL CORRUGATED CARTON CLOSURES TO BE IN ACCORDANCE WITH RULE 41 OF THE UNIFORM FREIGHT CLASSIFICATION METHOD IS OPTIONAL UNLESS OTHERWISE SPECIFIED.

(3) Place proper spacer gauge on pedal blade or push rod.

(4) Slide switch assembly toward pedal blade or push rod until switch plunger is fully depressed against spacer gauge on heavy duty or stop light/

speed control switches. depress plunger until switch body contacts spacer gauge).

(5) Re-tighten switch bracket screw to 95 inch pounds.

(6) Remove spacer.

DRUM BRAKES

INDEX

	Page		Page
Brake Drum Removal	7	Brake Shoe Installation	10
Front Brake Drums	7	Front Brake Shoes	10
Rear Brake Drums	7	Rear Brake Shoes	11
Brake Shoe Removal	7	Cleaning and Inspection	8
Front Brake Shoes	7	Drum Brake—Special Tools	88
Rear Brake Shoes	8	General Information	5
Brake Drum Installation	12	Grinding and Refacing Recommendations	9
Front Brake Drums	12	Service Diagnosis	5
Rear Brake Drums	12	Tool Identification Picture	88

GENERAL INFORMATION

Front drum brakes are used on certain V-L models only. All drum brake applications are two shoe, internal expanding brakes with application adjusters.

The lower ends of the brake shoes are connected by a tubular star wheel adjusting screw (Figs. 1, 4 and 5).

DRUM BRAKES

SERVICE DIAGNOSIS

Condition	Possible Cause	Correction
PEDAL GOES TO FLOOR	(a) Fluid low in reservoir.	(a) Fill and bleed master cylinder.
	(b) Air in hydraulic brake system.	(b) Fill and bleed hydraulic brake system.
	(c) Improperly adjusted brake.	(c) Repair or replace self-adjuster as required.
	(d) Leaking wheel cylinders.	(d) Recondition or replace wheel cylinder and replace both brake shoes.
	(e) Loose or broken brake lines.	(e) Tighten all brake fittings or replace brake line.
	(f) Leaking or worn master cylinder.	(f) Recondition or replace master cylinder and bleed hydraulic system.
	(g) Excessively worn brake lining.	(g) Reline and adjust brakes.
SPONGY BRAKE PEDAL	(a) Air in hydraulic system.	(a) Fill master cylinder and bleed hydraulic system.
	(b) Improper brake fluid (low boiling point).	(b) Drain, flush and refill with brake fluid.
	(c) Excessively worn or cracked brake drums.	(c) Replace all faulty brake drums.
	(d) Broken pedal pivot bushing.	(d) Replace nylon pivot bushing.
BRAKES PULLING	(a) Contaminated lining.	(a) Replace contaminated brake lining.
	(b) Front end out of alignment.	(b) Align front end.
	(c) Incorrect brake adjustment.	(c) Adjust brakes and check fluid.
	(d) Unmatched brake lining.	(d) Match primary, secondary with same type of lining on all wheels.
	(e) Brake shoes distorted.	(e) Replace faulty brake shoes.
	(f) Restricted brake hose or line.	(f) Replace plugged hose or brake line.
	(g) Broken rear spring.	(g) Replace broken spring.
SQUEALING BRAKES	(a) Glazed brake lining.	(a) Cam grind or replace brake lining.
	(b) Saturated brake lining.	(b) Replace saturated lining.

5-6 DRUM BRAKES

Condition	Possible Cause	Correction
	(c) Weak or broken brake shoe retaining spring.	(c) Replace retaining spring.
	(d) Broken or weak brake shoe return spring.	(d) Replace return spring.
	(e) Incorrect brake lining.	(e) Install matched brake lining.
	(f) Distorted brake shoes.	(f) Replace brake shoes.
	(g) Bent support plate.	(g) Replace support plate.
	(h) Dust in brakes or scored brake drums.	(h) Blow out brake assembly with compressed air and reface brake drums.
CHIRPING BRAKES	(a) Out of round drum or eccentric axle flange pilot.	(a) Repair as necessary, and lubricate support plate contact areas (6 places).
DRAGGING BRAKES	(a) Incorrect wheel or parking brake adjustment.	(a) Adjust brakes and check fluid.
	(b) Parking brakes engaged.	(b) Release parking brakes.
	(c) Weak or broken brake shoe return spring.	(c) Replace brake shoe return spring.
	(d) Brake pedal binding.	(d) Free up and lubricate brake pedal and linkage.
	(e) Master cylinder cup sticking.	(e) Recondition master cylinder.
	(f) Obstructed master cylinder relief port.	(f) Use compressed air and blow out relief port.
	(g) Saturated brake lining.	(g) Replace brake lining.
	(h) Bent or out of round brake drum.	(h) Reface or replace faulty brake drum.
	(i) Incorrect stop light switch adjustment.	(i) Adjust stop light switch.
HARD PEDAL	(a) Brake booster inoperative.	(a) Replace brake booster.
	(b) Incorrect brake lining.	(b) Install matched brake lining.
	(c) Restricted brake line or hose.	(c) Clean out or replace brake line or hose.
	(d) Frozen brake pedal linkage.	(d) Free up and lubricate brake linkage.
WHEEL LOCKS	(a) Contaminated brake lining.	(a) Reline both front or rears of all four brakes.
	(b) Loose or torn brake lining.	(b) Replace brake lining.
	(c) Wheel cylinder cups sticking.	(c) Recondition or replace wheel cylinder.
	(d) Incorrect wheel bearing adjustment.	(d) Clean, pack and adjust wheel bearings.
BRAKES FADE (HIGH SPEED)	(a) Incorrect lining.	(a) Replace lining.
	(b) Overheated brake drums.	(b) Inspect for dragging brakes.
	(c) Incorrect brake fluid (low boiling temperature).	(c) Drain flush, refill and bleed hydraulic brake system.
	(d) Saturated brake lining.	(d) Reline both front or rear or all four brakes.
SURGE Below 15 MPH	(a) Bent or out of round rear brake drum.	(a) Reface or replace brake drum.
CHATTER 80 to 40 MPH	(a) Bent or out of round front brake drum.	(a) Reface or replace brake drum.
SHOE KNOCK	(a) Machine grooves in contact face of brake drum.	(a) Sand, reface or replace brake drum.
	(b) Weak hold down springs.	(b) Replace hold down springs.
BRAKES DO NOT SELF ADJUST	(a) Adjuster screw frozen in thread.	(a) Clean and free-up all thread areas.
	(b) Adjuster screw corroded at thrust washer.	(b) Clean threads and replace thrust washer if necessary.
	(c) Adjuster lever does not engage star wheel.	(c) Repair, free up or replace adjuster as required.
	(d) Adjuster installed on wrong wheel.	(d) Install correct adjuster parts.

SERVICE PROCEDURES

The eleven inch brakes used on taxi vehicles. (Fig. 6) are equipped with manual adjusters. The service procedures covering these brakes are identical to the passenger car, with the exception of reference to application adjusters. Illustrations of the various service procedures will not always show any one specific brake.

BRAKE DRUM REMOVAL

Removing Front Brake Drums—(Nine inch brake only)

To aid in brake drum removal loosen brake star adjusting wheel.

- (1) Remove rear plug from brake adjusting access hole.
- (2) Insert a thin screwdriver into brake adjusting hole and push adjusting lever away from star adjusting wheel. Care should be taken not to bend adjusting lever.
- (3) Insert Tool C-3784 into brake adjusting hole and engage notches of brake adjusting star wheel. Release brake adjustment by prying down with adjusting tool.
- (4) Remove wheel cover, grease cap, cotter pin,

lock, adjusting nut, outer wheel bearing and remove wheel and drum assembly from spindle to expose brake linings (Fig. 1).

- (5) Inspect brake lining for wear, shoe alignment, or contamination from grease or brake fluid.

Removing Rear Brake Drums

- (1) Remove rear plug from brake adjusting access hole.
- (2) Insert a thin screwdriver into brake adjusting hole and hold adjusting lever away from notches of adjusting screw.
- (3) Insert Tool C-3784 into brake adjusting hole and engage notches of brake adjusting screw. Release brake by prying down with adjusting tool.
- (4) Remove rear wheel and clips from wheel studs that holds drum on axle. Discard clips. Remove drums.
- (5) Inspect brake lining for wear, shoe alignment or contamination from grease or brake fluid.

BRAKE SHOE REMOVAL

Removing Front Brake Shoes

- (1) Using Tool C-3785 remove brake shoe return

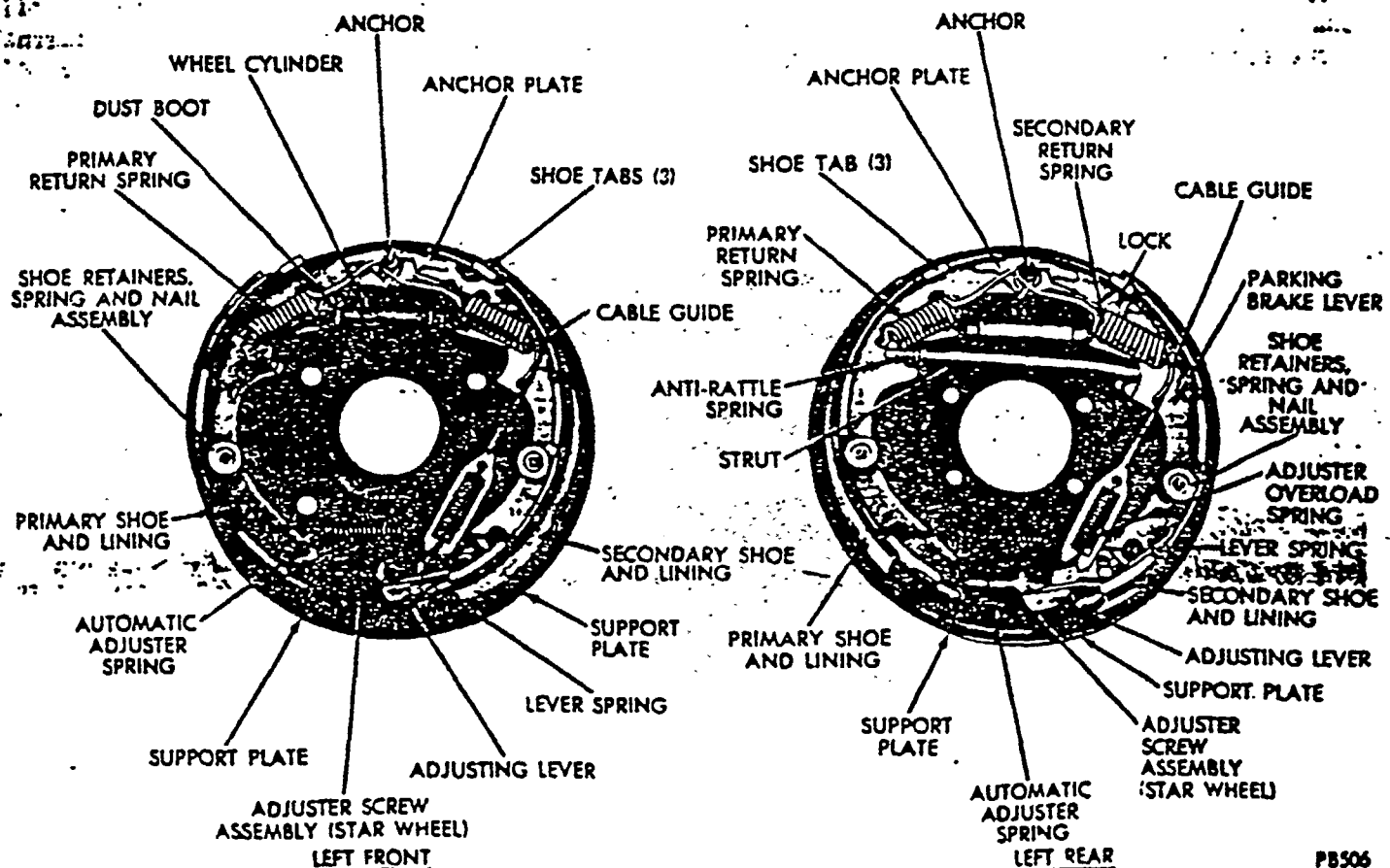


Fig. 1—Nine Inch Brake Assemblies

springs (Fig. 2). (Note how secondary spring overlaps primary spring), (Fig. 1).

(2) Slide eye of automatic adjuster cable off anchor and unhook from adjusting lever. Remove cable, overload spring, cable guide and anchor plate.

(3) Disengage adjusting lever from spring by sliding forward to clear pivot, then working out from under spring. Remove spring from pivot. Remove automatic adjuster spring from secondary shoe web and disengage from primary shoe web. Remove spring.

(4) Remove brake shoe retainers, springs and nails, using Tool C-4070, (Fig. 3).

(5) Remove primary and secondary shoes from support. Remove adjusting star wheel screw assembly from shoes.

Removing Rear Brake Shoes

(1) Remove rear wheel, and drum retaining clips. Remove drum.

(2) Using Tool C-3785, remove brake shoe return springs (Fig. 7). (Note how secondary spring overlaps primary spring) (Figs. 1, 4, 5 or 6).

(3) Slide eye of automatic adjuster cable off anchor and then unhook from adjusting lever. Remove cable, overload spring, cable guide and anchor plate.

(4) Disengage adjusting lever from spring by sliding forward to clear pivot, then working out from under spring. Remove spring from pivot. Remove automatic adjuster spring from secondary shoe web and disengage from primary shoe web. Remove spring.

(5) Disengage primary and secondary shoes from push rods (if so equipped) and remove adjusting star wheel assembly from shoes.

(6) Spread anchor ends of primary and secondary shoes and remove parking brake lever strut and anti-rattle spring (Fig. 13).

(7) Remove brake shoe retainers, springs and nails. Using Tool C-4070, (Fig. 8), and remove from

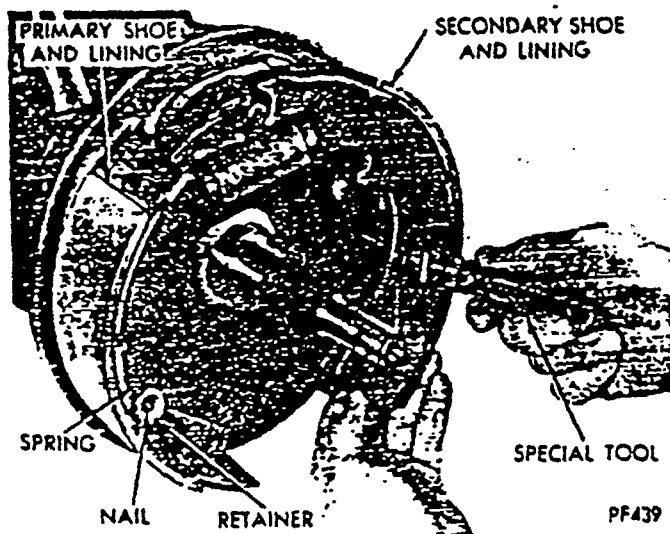


Fig. 2—Removing Shoe Return Springs (Left Front)

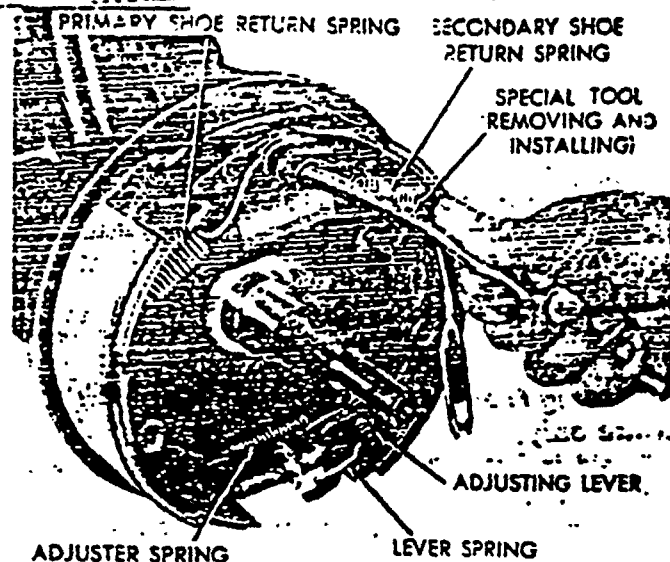


Fig. 3—Removing or Installing Shoe Retainers, Spring and Nails (Right Front)

support.

(8) Disengage parking brake cable from parking brake lever.

CLEANING AND INSPECTION

Wipe or brush clean (dry) the metal portions of the brake shoes. Examine the lining contact pattern to determine if the shoes are bent. The lining should

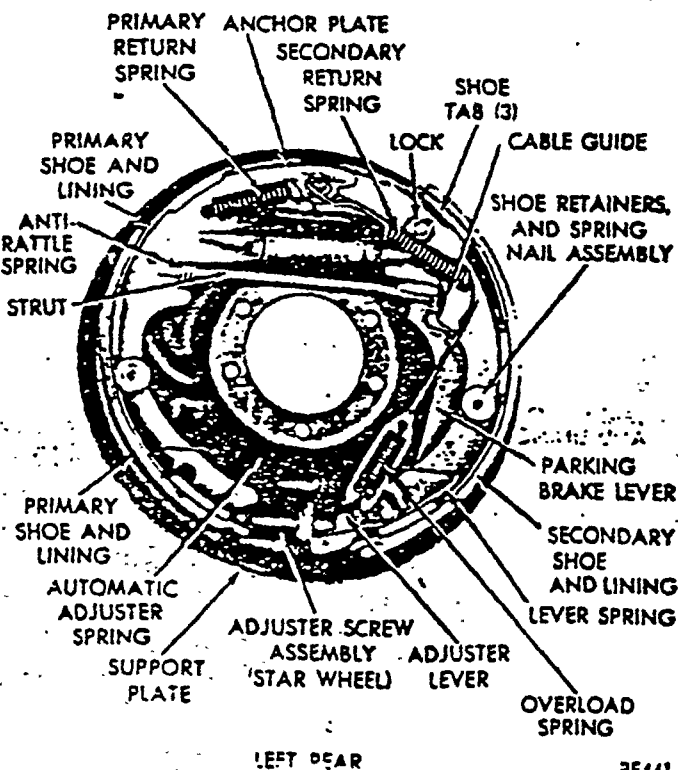


Fig. 4—Ten Inch Brake Assembly—(Rear)

5-9 DRUM BRAKES

springs (Fig. 2). (Note how secondary spring overlaps primary spring), (Fig. 1).

(2) Slide eye of automatic adjuster cable off anchor and unhook from adjusting lever. Remove cable, overload spring, cable guide and anchor plate.

(3) Disengage adjusting lever from spring by sliding forward to clear pivot, then working out from under spring. Remove spring from pivot. Remove automatic adjuster spring from secondary shoe web and disengage from primary shoe web. Remove spring.

(4) Remove brake shoe retainers, springs and nails, using Tool C-4070, (Fig. 3).

(5) Remove primary and secondary shoes from support. Remove adjusting star wheel screw assembly from shoes.

Removing Rear Brake Shoes

(1) Remove rear wheel, and drum retaining clips. Remove drum.

(2) Using Tool C-3785, remove brake shoe return springs (Fig. 7). (Note how secondary spring overlaps primary spring) (Figs. 1, 4, 5 or 6).

(3) Slide eye of automatic adjuster cable off anchor and then unhook from adjusting lever. Remove cable, overload spring, cable guide and anchor plate.

(4) Disengage adjusting lever from spring by sliding forward to clear pivot, then working out from under spring. Remove spring from pivot. Remove automatic adjuster spring from secondary shoe web and disengage from primary shoe web. Remove spring.

(5) Disengage primary and secondary shoes from push rods (if so equipped) and remove adjusting star wheel assembly from shoes.

(6) Spread anchor ends of primary and secondary shoes and remove parking brake lever strut and anti-rattle spring (Fig. 13).

(7) Remove brake shoe retainers, springs and nails. Using Tool C-4070, (Fig. 8), and remove from

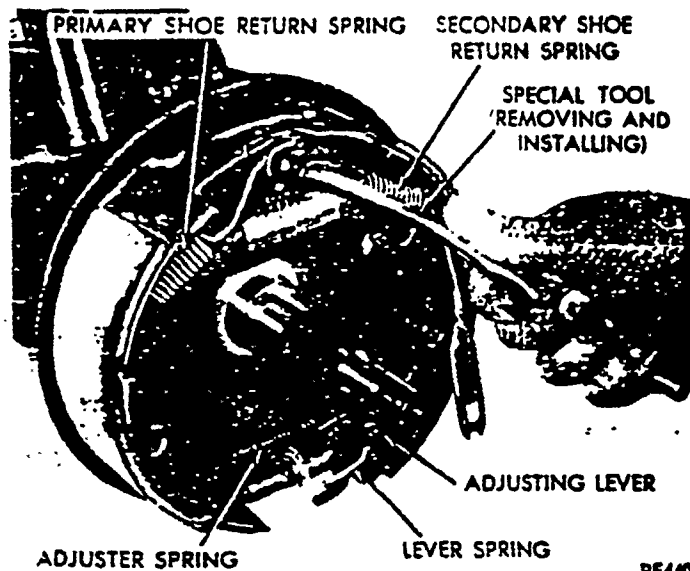


Fig. 3—Removing or Installing Shoe Retainers, Spring and Nails (Right Front)

support.

(8) Disengage parking brake cable from parking brake lever.

CLEANING AND INSPECTION

Wipe or brush clean (dry) the metal portions of the brake shoes. Examine the lining contact pattern to determine if the shoes are bent. The lining should

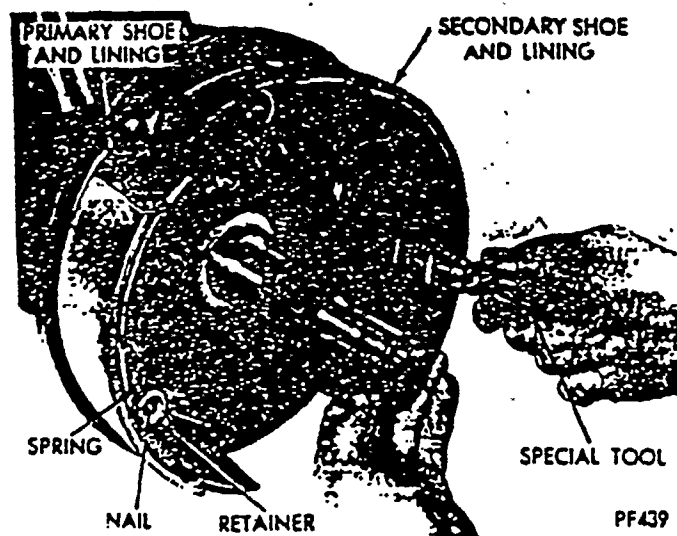


Fig. 2—Removing Shoe Return Spring (Left Front)

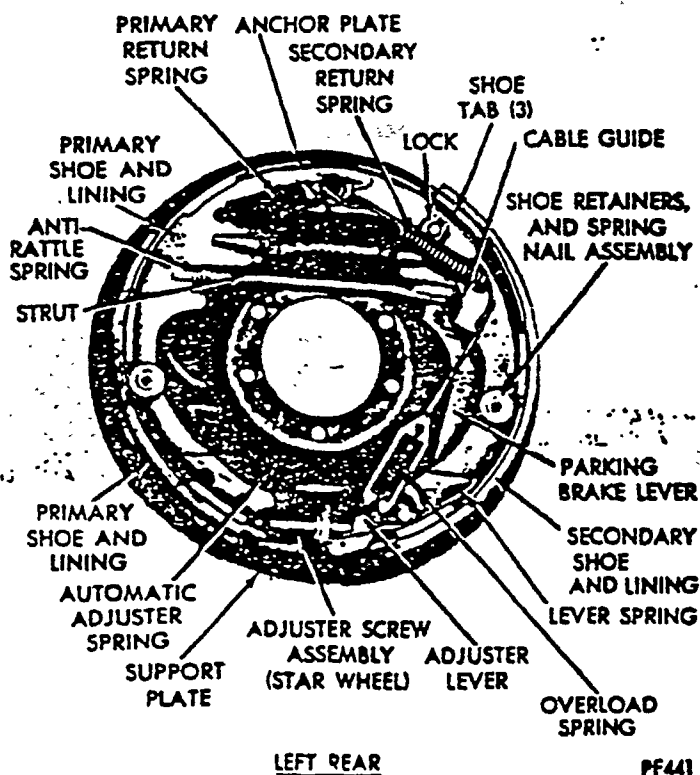


Fig. 4—Ten Inch Brake Assembly—(Rear)

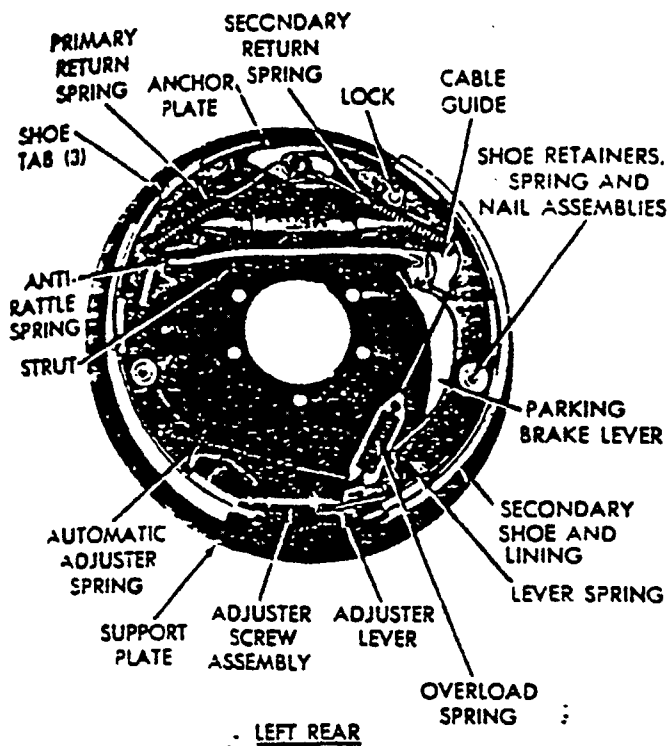


Fig. 5—Eleven Inch Brake Assembly—(Rear)

show contact across the entire width, extending from heel to toe. Shoes showing contact only on one side should be replaced. Shoes having sufficient lining but lack of contact at toe and heel should be measured for proper grind.

Clean the support, using a suitable solvent, then

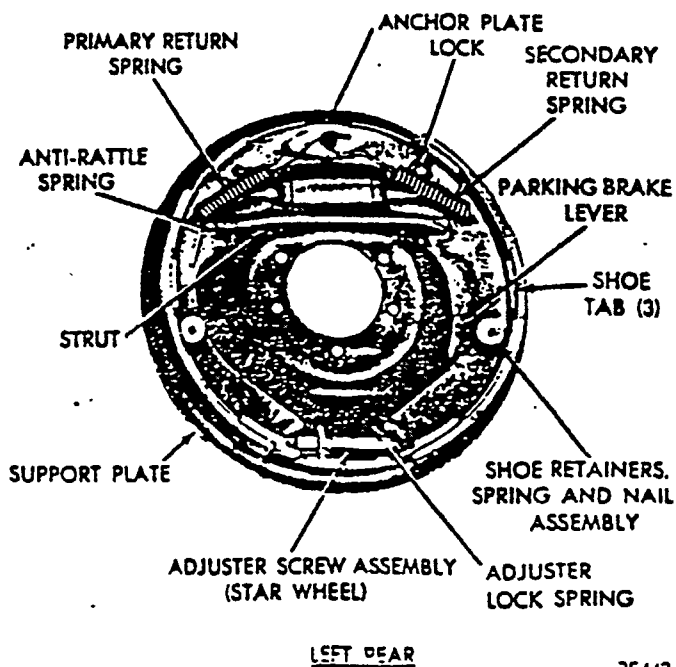


Fig. 6—Eleven Inch Brake Assembly—(Without Automatic Adjusters)—(Rear)

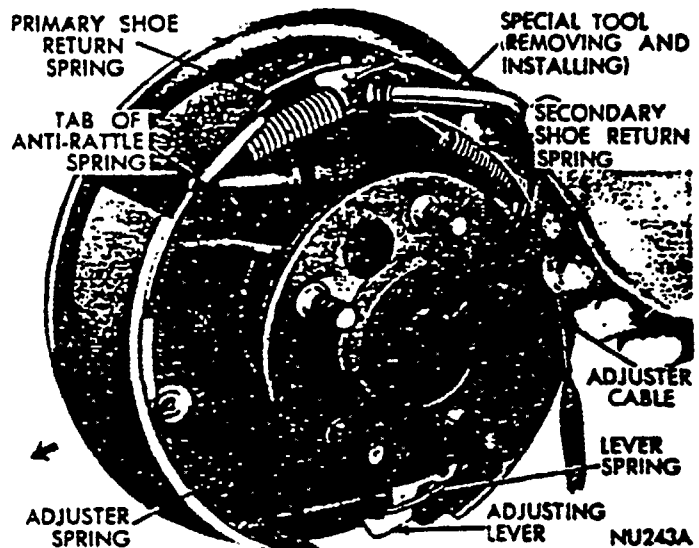


Fig. 7—Removing Shoe Return Springs—(Left Rear)

inspect for burrs. Remove if necessary. Clean and inspect the adjusting screws for pulled or stripped threads, then apply a thin film of lubricant to the threads, socket and washer (Fig. 9). Replace adjuster screw if corrosion of any part inhibits very free operation.

New brake shoe return springs and hold down springs should be installed where the old springs have been subjected to overheating or if their strength is questionable. Spring paint discoloration or distorted end coils would indicate an overheated spring.

GRINDING AND REFACING RECOMMENDATIONS

Brake Shoe Lining—New lining should be measured and ground .060 in. to .080 in. (maximum under the drum diameter). When replacing brake shoe and lining assemblies, always check them in the drum

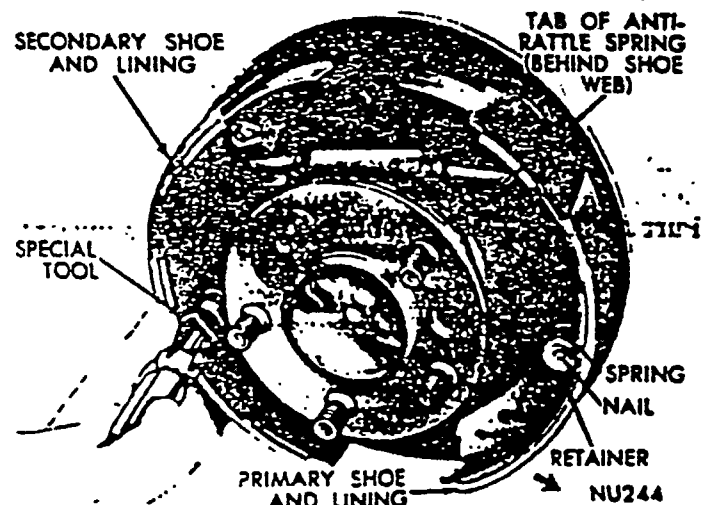


Fig. 8—Removing or Installing Shoe Retainers, Springs, or Nails—(Right Rear)

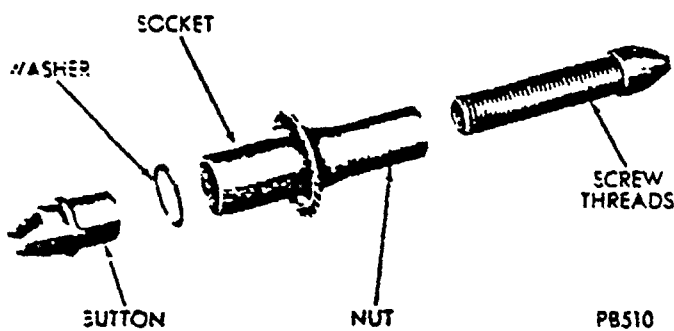


Fig. 9—Adjuster Screw Assembly

they are to be used with to insure that they have the recommended radius grind. This grind, which should provide at least .004 inch heel and toe clearance, is necessary for proper lining to drum contact during brake application.

CAUTION: When resurfacing or refacing brake shoes follow manufacturing recommendations for proper use of their equipment. Whatever equipment is used, ensure that proper ventilation is provided to remove asbestos dust, which can be detrimental to health.

Drum Refacing—Measure the drum runout and diameter with an accurate gauge. There should be no variation in the drum diameter greater than .002 inch. Drum runout should not exceed .006 inch out of round. If the drum runout or diameter variation exceed these values the drum should be refaced. Remove only as much material as is necessary to clean up the drum. It is recommended the front drums be refaced with the wheel and tire mounted. Do not reface more than .060 inch over the standard drum diameter.

NOTE: All drums will show markings of maximum allowable diameter (Fig. 10). For example, a nine inch drum will have a marking of MAX. DIA. 9.090". This marking includes .030" for allowable drum wear beyond the recommended .060" of drum refacing.

BRAKE SHOE INSTALLATION

Installing Front Brake Shoes

Lubricate with a thin film the shoe tab contact area (6 places) on support plate with Chrysler Parts Multi-Purpose Grease, Part number 2932524 or equivalent (Fig. 11).

(1) Match a primary with a secondary brake shoe and place them in their relative position on a work bench.

(2) Install adjusting star wheel assembly between primary and secondary shoes, with a star wheel next to secondary shoe (Fig. 1).

The left star wheel adjusting stud end is stamped "L" indicating its position on the vehicle and is also cadmium plated. The right star wheel is black, and the

MAXIMUM DIAMETER
MARKING

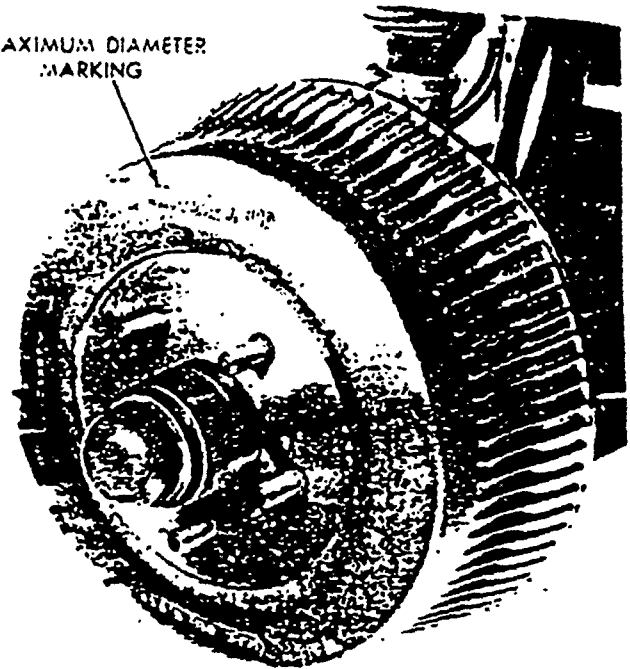


Fig. 10—Nine Inch Drum—Maximum Diameter Identification

adjusting stud end is not stamped.

(3) Install adjuster spring in primary shoe and hook other end in web of secondary. Install adjusting lever spring over pivot pin on shoe web. Install adjusting lever under spring and over pivot pin. Slide lever slightly rearward to lock in position (Fig. 1).

(4) Spread anchor ends of brake shoe to hold star adjusting wheel assembly in position.

(5) Holding brake shoes firmly, place assembly on support plate, and at the same time engage shoe webs with wheel cylinder pistons (Fig. 12).

(6) Using Tool C-4070, install shoe retaining nails, springs and retainers. (Fig. 6).

(7) Install anchor plate over anchor.

PISTON STOP

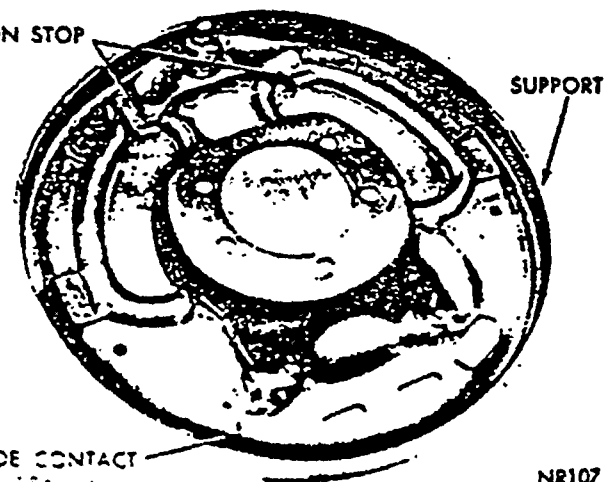


Fig. 11—Shoe Contact Area on Support

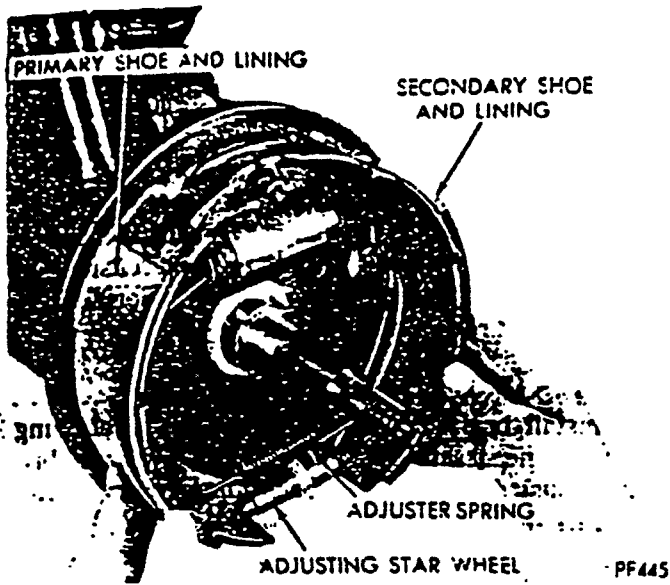


Fig. 12—Installing Brake Shoes—(Left Front)

(8) Slide "eye" of adjusting cable over anchor and against anchor plate. Engage end of primary shoe return spring in shoe web and install other end over anchor, using Tool C-3785.

(9) Install cable guide in secondary shoe web. Holding guide in position, engage secondary shoe return spring through guide and into web. Install other end over anchor, using Tool C-3785. (Be sure cable guide remains flat against shoe web, and that secondary spring overlaps primary) (Fig. 1). Using pliers, squeeze ends of spring loops (around anchor) until parallel.

(10) Thread adjuster cable over guide and hook end of overload spring in lever (Fig. 1). (Be sure "eye" of cable is pulled tight against anchor and in a straight line with guide).

Installing Rear Brake Shoes

Lubricate with a thin film the shoe tab contact area (6 places) on support plate with Chrysler Parts Multi-Purpose Grease, Part number 2932524 or equivalent (Fig. 11).

(1) Install parking brake lever on inner side of secondary shoe web after lubricating pivot with support plate lubricant. Secure with wave washer and horseshoe clip.

(2) Engage parking brake lever with cable, then slide secondary shoe against support plate, and at the same time engage shoe web with push rod, (if so equipped) and against anchor.

(3) Slide parking brake strut behind hub and into slot in parking brake lever. Slide anti-rattle spring over free end of strut (Fig. 13). On ten inch brakes, be sure spring tab is pointing rearward and up on outside of shoe web (Left Brake), and pointing forward and down behind shoe web (Right Brake) (Fig.

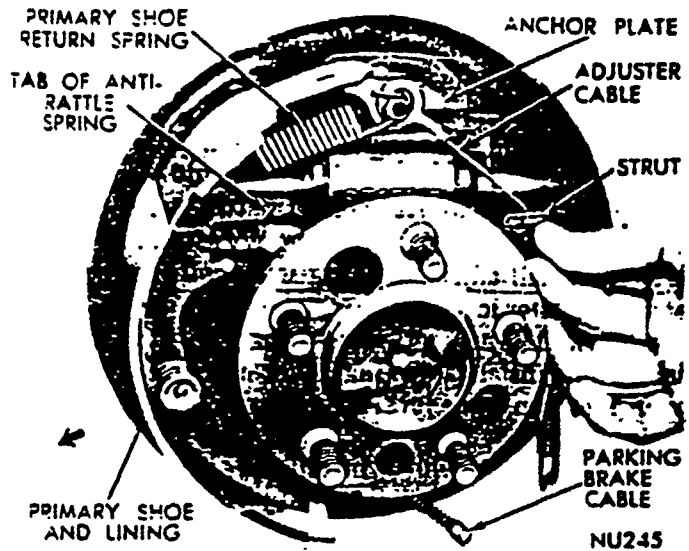


Fig. 13—Removing or Installing Parking Brake Strut and Spring—(Left Rear)

13). On eleven inch brakes, be sure spring tab is pointing forward, down and inside of shoe web (both Left and Right Brake) (Fig. 5).

(4) Slide primary shoe into position and engage with push rod (if so equipped) and free end of strut. Install anchor plate over anchor, then install eye of adjuster cable over anchor (Fig. 14).

(5) Engage primary shoe return spring in web of shoe and install free end over anchor, using Tool C-3785. (Fig. 7).

(6) Install cable guide in secondary shoe web. Holding in position, engage secondary shoe return spring through guide and into web. Install other end over anchor, using Tool C-3785. (Be sure cable guide remains flat against shoe web and that secondary spring overlaps primary) (Fig. 1). Using pliers, squeeze ends of spring loops (around anchor) until parallel.

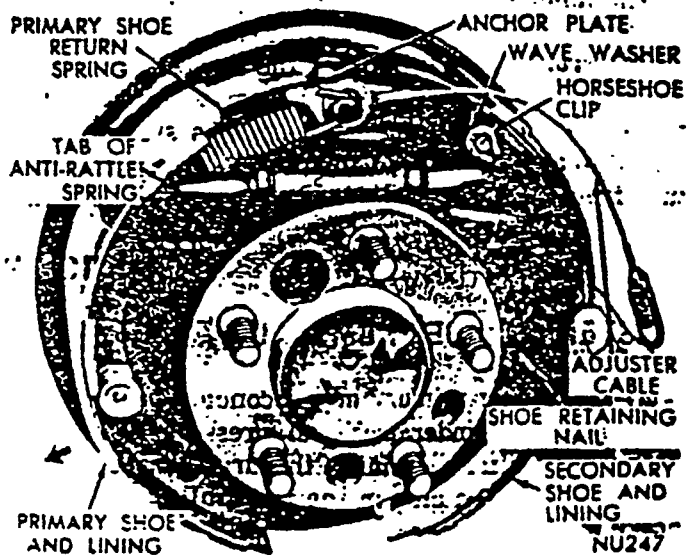


Fig. 14—Installing Brake Shoes—(Left Rear)

5-12 MASTER CYLINDER

(7) Install adjusting star wheel assembly between primary and secondary shoes, with star wheel next to secondary shoe (Fig. 1). The left star wheel adjusting stud end is stamped "L" (indicating its position on the vehicle) and is also cadmium plated. The right star wheel is black, and the adjusting stud end is not stamped. Install adjuster spring between shoes (Figs. 1, 4 and 5). (Engage primary shoe first). (Eleven inch brakes, install adjuster spring with coil forward, opposite adjuster lever, Fig. 5).

(8) Install adjusting lever spring over pivot pin on shoe web. Install adjusting lever under spring and over pivot pin. Slide lever slightly rearward to lock in position.

(9) Using Tool C-4070, install shoe retaining nails, retainers and springs (Fig. 8).

(10) Thread adjuster cable over guide and hook

end of overload spring in lever (Fig. 1). (Be sure eye of cable is pulled tight against anchor and in a straight line with guide).

BRAKE DRUM INSTALLATION

Installing Front Brake Drums

(1) Lubricate wheel bearings and install brake drum and adjust wheel bearing to proper preload.

(2) Adjust brakes as described under "Service Adjustments" at front of this Group.

Installing Rear Brake Drums

(1) Install brake drum. Reinstallation of retaining clips is not necessary. Install wheel and tire assembly.

(2) Adjust brakes as described under "Service Adjustments" at front of this Group.

MASTER CYLINDER

INDEX

	Page
Bleeding Master Cylinder	15
Cleaning and Inspection	14
Disassembling Master Cylinder	12
General Information	12
Installing Master Cylinder	15
Master Cylinder Identification Chart	13

	Page
Master Cylinder Removal	12
Master Cylinder—Special Tools	89
Reassembling Master Cylinder	14
Testing Master Cylinder	15
Tool Identification Picture	89

GENERAL INFORMATION

The vehicle identification number on the instrument panel starts with a capital letter which indicates the carline or sales name of vehicle (see Introduction of this manual). These code letters are also used to indicate the vehicle to which the service information applies.

The tandem master cylinder (Fig. 1) is of the compensating type with the reservoirs cast integrally.

The front outlet tube from the master cylinder is connected to the hydraulic system warning switch tee and then to the rear brakes. This system is referred to as **SECONDARY** (marked R). The rear outlet tube from the master cylinder is also connected to the

warning switch tee and the front brakes. This system is referred to as **PRIMARY** (marked F). The master cylinder used on a vehicle not equipped with a power brake unit is serviced in the same manner as the master cylinder with a power brake unit, with one exception, the master cylinder for power brakes does not include the pushrod.

The disc brake master cylinder is different from the drum brake master cylinder in reservoir, cover, bail, and gasket size, and only **THE SECONDARY OUTLET HAS RESIDUAL PRESSURE VALVE AND SPRING** (Fig. 1).

SERVICE PROCEDURES

MASTER CYLINDER REMOVAL

(1) Disconnect primary and secondary brake tubes from master cylinder (residual pressure valves will keep cylinder from draining the drum brake master cylinder). Install a plug in the rear outlet of the disc brake master cylinder.

(2) Remove nuts that attach master cylinder to cowl panel and/or power brake unit (if so equipped).

(3) Disconnect pedal push rod (manual brakes) from brake pedal.

(4) Slide master cylinder straight out from cowl panel and/or power brake unit (if so equipped).

DISASSEMBLING MASTER CYLINDER

To disassemble the master cylinder, (Fig. 1) clean outside of master cylinder thoroughly.