

1969 CAR SHOP MANUAL

VOLUME ONE CHASSIS

WHEELS and TIRES, SUSPENSION, STEERING, BRAKES
CLUTCH and TRANSMISSION, REAR AXLE

FALCON

FAIRLANE

MUSTANG

FORD

THUNDERBIRD

MONTEGO

COUGAR

METEOR

MERCURY

LINCOLN
CONTINENTAL

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MARK III



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VOLUME ONE CHASSIS

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CLUTCH and TRANSMISSION, REAR AXLE



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GROUP INDEX

VEHICLE IDENTIFICATION	1
BRAKES	2
SUSPENSION, STEERING, WHEELS AND TIRES	3
REAR AXLE	4
DRIVE SHAFT AND CLUTCH	5
MANUAL SHIFT TRANSMISSION	6
AUTOMATIC TRANSMISSION	7
ENGINE	8
IGNITION SYSTEM	9
FUEL SYSTEM	10
COOLING SYSTEM	11
EXHAUST SYSTEM	12
STARTING SYSTEM	13
CHARGING SYSTEM	14
LIGHTS, INSTRUMENTS AND CONVENIENCE DEVICES	15
VENTILATING, HEATING AND ACCESSORIES	16
BODY, DOORS AND WINDOWS	17
SEATS AND CONVERTIBLE TOP	18
MAINTENANCE	19
SPECIFICATIONS AND SPECIAL SERVICE TOOLS AT END OF EACH GROUP	

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FOREWORD

The five volumes of this shop manual provide the Service Technician with complete information for the proper servicing of all the 1969 line of Ford Passenger Cars.

The information is grouped according to the type of work being performed, such as frequently performed adjustments and repairs, in-vehicle adjustments, major repair, etc. Specifications, maintenance information and recommended special tools are included.

The descriptions and specifications in this manual were in effect at the time this manual was approved for printing. Ford Motor Company reserves the right to discontinue models at any time, or change specifications or design, without notice and without incurring obligation.



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GENERAL INFORMATION

Individual carline shop manuals have been combined in one Car Shop Manual divided into five volumes for 1969.

The 1969 Car Shop Manual has been organized into general Groups as in previous shop manuals. All Groups are listed in the Group index on the first page of each Volume. Groups not contained in a given Volume are listed with a solid gray background.

To locate the beginning page of any particular Group, first select the Volume containing that Group. Bend the manual until the black mark on the first page of the Group can be seen in line with the Group title on the first page of the Volume.

The first page of each Group lists the material contained in the Group under Part headings and also lists the beginning page of each Part.

On the beginning page of each Part, there is a Part index which lists in detail all information appearing in the Part, the page where the information is given, and the vehicles to which the information applies.

All pages carry a six-digit number which indicates the Group, Part and Page number.

For Example: Page 03-02-01 indicates
Group 3, Part 2, Page 1

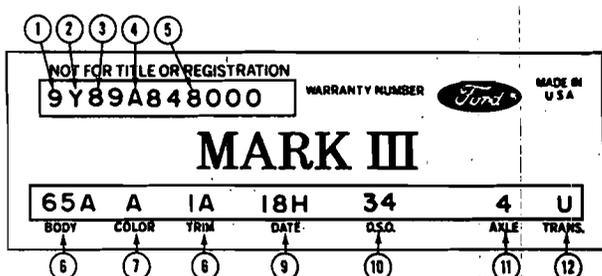
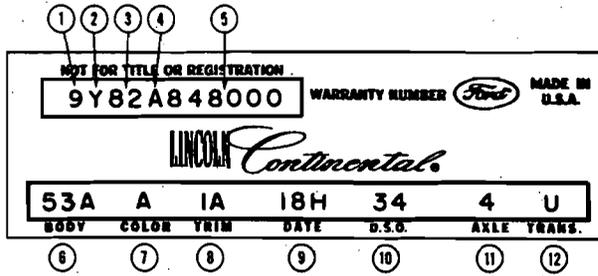
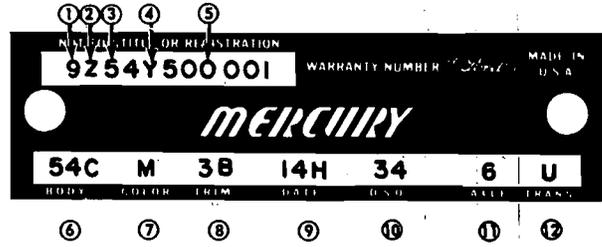
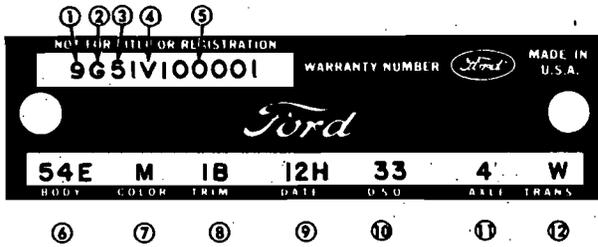
Part Indexes will use only the Part and Page reference numbers.
For Example: Page 03-02-01 will appear in the Part Index as 02-01.

Each Part will start with Page 01.



Vehicle Identification

GROUP
1



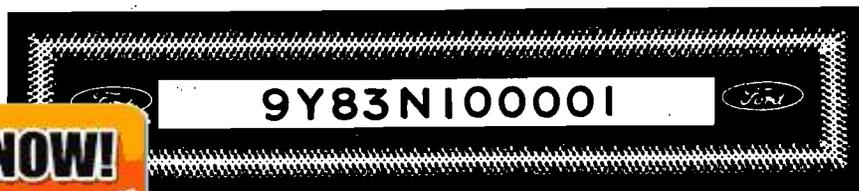
- ① MODEL YEAR CODE
- ② ASSEMBLY PLANT CODE
- ③ BODY SERIAL CODE
- ④ ENGINE CODE
- ⑤ CONSECUTIVE UNIT NO.
- ⑥ BODY TYPE CODE
- ⑦ COLOR CODE
- ⑧ TRIM CODE
- ⑨ DATE CODE
- ⑩ DISTRICT-SPEC. EQUIP. CODE
- ⑪ REAR AXLE CODE
- ⑫ TRANSMISSION CODE

W1001-A

Fig. 1—Warranty Plates—Passenger Cars

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al Vehicle Identification Number (VIN) Tab

W 1002-A

VEHICLE WARRANTY NUMBER

The vehicle warranty number is the first line of numbers and letters appearing on the Warranty Plates (Fig. 1). The Warranty Plate is riveted to the left front door lock face panel. The first number indicates the model year. The letter following the model year number indicates the manufacturing assembly plant. The next two numbers designate the Body Serial Code followed by a letter expressing the Engine Code. The group of six digits remaining on the first line indicate the Consecutive Unit Number.

VEHICLE DATA

The vehicle data appears on the second or lower line on the Warranty Plate. The first two numbers and a letter identify the Body Style. A letter or a number appears next indicating the Exterior Paint Color followed by a number-letter combination designating the Interior Trim. To the right of this code appears the Date Code indicating the date the car was manufactured. A two-digit number next designates the district in which the car was ordered and may appear in conjunction with a Domestic Special Order or Foreign Special Order number when applicable. The final two spaces indicate the Rear Axle Ratio (numbers for regular axles, letters for locking-types) and the Transmission type (numbers for manual, letters for automatic).

OFFICIAL VEHICLE IDENTIFICATION NUMBER

The official Vehicle Identification Number (VIN) for title and registration purposes is stamped on an aluminum tab that is riveted to the instrument panel close to the windshield on the driver's side of the car and is visible from outside (Fig. 2).

MODEL YEAR CODE

The number 9 designates 1969.

ASSEMBLY PLANT CODES

Code Letter	Code Letter
A.....Atlanta	L.....Michigan Truck
B.....Oakville (Canada)	N.....Norfolk
C.....Ontario Truck	P.....Twin Cities
D.....Dallas	R.....San Jose
E.....Mahwah	S.....(Pilot) Allen Park
F.....Dearborn	T.....Metuchen
G.....Chicago	U.....Louisville
H.....Lorain	W.....Wayne
J.....Los Angeles	X.....St. Thomas
K.....Kansas City	Y.....Wixom
	Z.....St. Louis

BODY SERIAL AND STYLE CODES

The two-digit numeral which follows the assembly plant code identifies the body series. This two-digit number is used in conjunction with the Body Style Code, in the Vehicle Data, which consists of a two-digit number with a letter suffix. The following chart lists the Body Serial Codes, Body Style Codes and the model.

LINCOLN CONTINENTAL

Body Serial Code	Body Style Code	Body Type
82	53A	4-Door Sedan
80	65A	2-Door Hardtop

COUGAR

Body Serial Code	Body Style Code	Body Type	Model
91	65A	2-Door HardtopⓄ	Standard
92	76A	ConvertibleⓄ	
93	65B	2-Door HardtopⓄ	XR-7 Luxury
94	76B	ConvertibleⓄ	
91	65C	2-Door HardtopⓄ	Standard

Ⓞ Bench Seat Ⓞ Split Bench Ⓞ Bucket Seats

MERCURY

Body Serial Code	Body Style Code	Body Type	Model
44	54A	4-Door SedanⓄ	Monterey
46	65A	2-Door Hardtop-FormalⓄ	
48	57A	4-Door HardtopⓄ	
45	76A	ConvertibleⓄ	
CANADA ONLY			
40	53M	4-Door Hardtop SedanⓄ	Marquis
41	65M	2-Door Hardtop-FormalⓄ	
42	57M	4-Door HardtopⓄ	
54	54C	4-Door SedanⓄ	Monterey-Custom
56	65B	2-Door Hardtop-FormalⓄ	
58	57B	4-Door HardtopⓄ	
63	53F	4-Door Hardtop SedanⓄⓄ	Marquis
66	65F	2-Door Hardtop-FormalⓄⓄ	
68	57F	4-Door HardtopⓄⓄ	
65	76F	ConvertibleⓄⓄ	
63	53C	4-Door Hardtop SedanⓄ	Brougham (Option)
66	65C	2-Door Hardtop-FormalⓄ	
68	57C	4-Door HardtopⓄ	
60	63G	2-Door Hardtop (Tunnel Roof)ⓄⓄⓄ	Marauder
61	63H	2-Door Hardtop (Tunnel Roof)ⓄⓄⓄ	
72	71B	4-Door 2 SeatⓄ	Monterey Wagon
72	71C	4-Door 3 Seat (Side Facing)Ⓞ	
74	71F	4-Door 2 SeatⓄ	Monterey-Custom Wagon
74	71G	4-Door 3 Seat (Side Facing)Ⓞ	
76	71E	4-Door 2-SeatⓄⓄ	Marquis Colony Park
76	71A	4-Door 3 Seat (Side Facing)ⓄⓄ	

Ⓞ Bench Seat Ⓞ Split Bench Ⓞ Bucket Seats

METEOR (CANADA)

Body Serial Code	Body Style Code	Body Type	Model
20	54A	4-Door SedanⓄ	Rideau
21	54B	4-Door SedanⓄ	Rideau 500
23	65B	2-Door Hardtop-FormalⓄ	
30	54C	4-Door SedanⓄ	Montcalm
35	65C	2-Door Hardtop-FormalⓄ	
35	65E	2-Door Hardtop-Formal(5-33)ⓄⓄ	
33	57C	4-Door HardtopⓄ	
34	76C	ConvertibleⓄ	
34	76E	Convertible (S-33)ⓄⓄ	
24	65F	2-Door Hardtop-FormalⓄⓄ	LeMoyné
27	57F	4-Door HardtopⓄⓄ	
28	71B	Rideau 500-6 PassengerⓄ	Station Wagons
29	71C	Rideau 500-Dual Face RearⓄ	
38	71E	Montcalm-6 PassengerⓄ	
39	71A	Montcalm-Dual Face RearⓄ	
39	71A	Montcalm-Dual Face RearⓄ	

Ⓞ Bench Seat Ⓞ Split Bench Ⓞ Bucket Seats

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BODY SERIAL AND STYLE CODES—(continued)

MONTEGO

Body Serial Code	Body Style Code	Body Type	Model
01	65A	2-Door Hardtop—Formal (Sports Coupe)Ⓞ	Comet
02	54A	4-Door Sedan (Sports)Ⓞ	
06	54B	4-Door SedanⓄ	Montego
07	65B	2-Door Hardtop—FormalⓄ	
10	54D	4-Door SedanⓄ	Montego MX
11	65D	2-Door Hardtop—FormalⓄ	
12	76D	ConvertibleⓄ	
11	65E	2-Door Hardtop—FormalⓄ	Montego MX
12	76B	ConvertibleⓄ	
10	54C	4-Door SedanⓄ	Montego MX Brougham
11	65C	2-Door Hardtop—FormalⓄ	
15	63A	2-Door Hardtop FastbackⓄ (GT Appearance Opt.Ⓞ)	Cyclone
15	63C	2-Door Hardtop FastbackⓄ	
16	63H	2-Door Hardtop FastbackⓄ (Sports Appearance Opt.Ⓞ)	Cyclone CJ
03	71B	MontegoⓄ	Station Wagons—4 Door
08	71C	Montego MXⓄ	
08	71A	Montego MX (Woodgrain)Ⓞ	

ⓄBench Seat ⓄSplit Bench ⓄBucket Seats

THUNDERBIRD

Body Serial Code	Body Style Code	Body Type	Model
83	65A	2-Door HardtopⓄ	
83	65C	2-Door HardtopⓄ	
84	65B	2-Door Landau ⓄⓄ	
84	65D	2-Door Landau ⓄⓄ	
87	57B	4-Door Landau Ⓞ	
87	57C	4-Door Landau Ⓞ	

ⓄBench Seat ⓄSplit Bench ⓄBucket Seats ⓄBlind Quarter Roof

FALCON

Body Serial Code	Body Style Code	Body Type	Model
10	62A	2-Door SedanⓄ	Standard
11	54A	4-Door SedanⓄ	
0	62B	2-Door SedanⓄ	Futura
			Station Wagons—4 Door
			Seat

MUSTANG

Body Serial Code	Body Style Code	Body Type	Model
01	65A	2-Door HardtopⓄⓄ	Standard
02	63A	2-Door FastbackⓄⓄ	
03	76A	ConvertibleⓄⓄ	
01	65B	2-Door HardtopⓄⓄ	Luxury
02	63B	2-Door FastbackⓄⓄ	
03	76B	ConvertibleⓄⓄ	
01	65C	2-Door HardtopⓄ	Standard
01	65D	2-Door HardtopⓄ	Luxury
01	65E	2-Door HardtopⓄ	Grand
02	63C	2-Door FastbackⓄ	Mach 1

ⓄBench Seat ⓄSplit Bench ⓄBucket Seats ⓄHi-Back Bucket

FORD

Body Serial Code	Body Style Code	Body Type	Model
50	62E	2-Door SedanⓄ	Custom
51	54E	4-Door SedanⓄ	
52	62B	2-Door SedanⓄ	Custom 500
53	54B	4-Door SedanⓄ	
54	54A	4-Door SedanⓄ	Galaxie 500
55	63B	2-Door Hardtop—FastbackⓄ	
58	65C	2-Door Hardtop—FormalⓄ	
56	57B	4-Door HardtopⓄ	
57	76A	ConvertibleⓄ	
60	63C	2-Door Hardtop—FastbackⓄⓄ	Ford XL
61	76B	ConvertibleⓄⓄ	
64	54C	4-Door SedanⓄⓄ	Ford LTD
62	65A	2-Door Hardtop—FormalⓄⓄ	
66	57F	4-Door HardtopⓄⓄ	
70	71D	Ranchwagon—6 PassengerⓄ	Station Wagons—4 Door
71	71H	Custom 500 Ranchwagon—6 PassengerⓄ	
72	71J	Custom 500 Ranchwagon—Dual Face RearⓄ	
73	71B	Country Sedan—6 PassengerⓄ	
74	71C	Country Sedan—Dual Face RearⓄ	
75	71E	Country Squire—6 PassengerⓄ	
76	71A	Country Squire—Dual Face RearⓄ	

ⓄBench Seat ⓄSplit Bench ⓄBucket Seats



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BODY SERIAL AND STYLE CODES—(continued)

FAIRLANE

Body Serial Code	Body Style Code	Body Type	Model
30	65A	2-Door Hardtop—Formalⓐ	Fairlane
31	54A	4-Door Sedanⓐ	Fairlane
34	54B	4-Door Sedanⓐ	Fairlane 500
35	63B	2-Door Hardtop—Fastbackⓐ	Fairlane 500
33	65B	2-Door Hardtop—Formalⓐ	Fairlane 500
36	76B	Convertibleⓐ	Fairlane 500
35	63E	2-Door Hardtop—Fastbackⓐ	Fairlane 500
33	65E	2-Door Hardtop—Formalⓐ	Fairlane 500
36	76E	Convertibleⓐ	Fairlane 500
40	65C	2-Door Hardtop—Formalⓐ	Torino
41	54C	4-Door Sedanⓐ	Torino
42	63F	2-Door Hardtop—Fastbackⓐ	Torino GT
44	65F	2-Door Hardtop—Formalⓐ	Torino GT
43	76F	Convertibleⓐ	Torino GT
42	63D	2-Door Hardtop—Fastbackⓐ	Torino GT
44	65D	2-Door Hardtop—Formalⓐ	Torino GT
43	76D	Convertibleⓐ	Torino GT
46	63B	2-Door Hardtop—Fastbackⓐ	Cobra
46	63E	2-Door Hardtop—Fastbackⓐ	Cobra
45	65A	2-Door Hardtop—Formalⓐ	Cobra
45	65E	2-Door Hardtop—Formalⓐ	Cobra
32	71D	Fairlaneⓐ	Station Wagons—4 Door
37	71B	Fairlane 500ⓐ	Station Wagons—4 Door
38	71E	Fairlane Torino Squireⓐ	Station Wagons—4 Door
47	66A	Rancheroⓐ	Ranchero
48	66B	Ranchero 500ⓐ	Ranchero
48	66B	Ranchero 500ⓐ (Opt.)	Ranchero
49	66C	Rancheroⓐ	Ranchero GT
49	66D	Rancheroⓐ	Ranchero GT

ⓐ Bench Seat ⓑ Split Bench ⓒ Bucket Seats

REAR AXLE RATIO CODES

Conventional	Limited-Slip	Ratio
1	J	2.50:1
2	K	2.75:1
3	L	2.79:1
4	M	2.80:1
5	N	2.83:1
6	O	3.00:1
7	P	3.10:1
8	Q	3.20:1
9	R	3.25:1
A	S	3.50:1
B	T	3.07:1
C	U	3.08:1
D	V	3.91:1
E	W	4.30:1

TRANSMISSION CODES

Code	Type
1	3-Speed Manual
	4-Speed Manual—wide ratio (2.78 1st Gear)
	4-Speed Manual—close ratio (2.32 1st Gear)

ENGINE CODES

Code	Type
U	6 Cyl. 170 Cu. In. (1V)
T	6 Cyl. 200 Cu. In. (1V)
2	6 Cyl.ⓐ 200 Cu. In. (1V)
L	6 Cyl. 250 Cu. In. (1V)
3	6 Cyl.ⓐ 250 Cu. In. (1V)
V	6 Cyl. 240 Cu. In. (1V)
5	6 Cyl.ⓐ 240 Cu. In. (1V)
B	6 Cyl. 240 Cu. In. (1V) Police
E	6 Cyl. 240 Cu. In. (1V) Taxi
F	8 Cyl. 302 Cu. In. (2V)
6	8 Cyl.ⓐ 302 Cu. In. (2V)
D	8 Cyl. 302 Cu. In. (2V) Police & Taxi
H	8 Cyl. 351 Cu. In. (2V)
M	8 Cyl. 351 Cu. In. (4V)
Y	8 Cyl. 390 Cu. In. (2V)
X	8 Cyl.ⓐ 390 Cu. In. (2V)
S	8 Cyl.ⓐ 390 Cu. In. (4V)
P	8 Cyl.ⓐ 428 Cu. In. (4V) Police Interceptor
Q	8 Cyl. 428 Cu. In. (4V) CJ
R	8 Cyl.ⓐ 428 Cu. In. (4V) CJ
K	8 Cyl. 429 Cu. In. (2V)
N	8 Cyl. 429 Cu. In. (4V)
A	8 Cyl. 460 Cu. In. (4V)

ⓐ Low Compression ⓑ Premium Fuel ⓒ Improved Performance
 ⓓ High Performance ⓔ Ram Air Induction

CONSECUTIVE UNIT NUMBER

Starting Serial Numbers—1969 Passenger Cars
 100,001—Ford, Fairlane, Falcon, Mustang, Thunderbird
 500,001—Mercury, Montego, Cougar, Meteor
 848,000—Lincoln Continental & Continental Mark III

EXTERIOR PAINT COLOR CODES

Code	Reference Number	Color
A	1724-A	Black
B	3059-A	Maroon
C	3197-A	Dk. Ivy Green Met.
D	3303-A	Pastel Gray
E	3191-A	Lt. Aqua
F	3065-A	Dk. Aqua Met. (Brt.)
G	3203-A	Med. Orchid Met.
H	2067-A	Lt. Green
I	2041-A	Med. Lime Met.
J	3080-A	Dk. Aqua Met.
K	3204-A	Dk. Orchid Met.
L	3060-A	Lt. Gray Met.
M	1619-A	White
N	921-A	Platinum
P	3064-A	Med. Blue Met.
Q	1624-A	Med. Blue Met.
R	3198-A	Lt. Gold
S	3199-A	Med. Gold Met.
T	2008-A	Red
U	1070-A	Med. Aqua Met.
V	3201-A	Lt. Aurora Copper Met.
W	3120-A	Yellow
X	3061-A	Dk. Blue Met.
Y	3202-A	Burnt Orange Met.
Z	2044-A	Dk. Grey Met.
2	3071-A	Lt. Ivy Yellow
3	1730-A	Calypto Coral
4	3230-A	Med. Emerald Met.
6	3077-A	Med. Blue Met. (Brt.)
7	3193-A	Lt. Emerald Green Met.
8	3190-A	Lt. Blue
9	M6J-49B	Red Primer
9	M6J-50B	Grey Primer



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INTERIOR TRIM CODES

Code	Trim Schemes
1A	Black Vinyl (Cougar, Falcon)
1A	Black Cloth & Vinyl
1B	Med. Blue Cloth/Lt. Blue Vinyl
1B	Med. or Lt. Blue Vinyl
1B	Dk. Blue Cloth & Vinyl (Lincoln, T-Bird, Mark III, Mercury)
1B	Lt. Blue Cloth & Vinyl (Ford, Montego, Meteor)
1D	Dk. Red Cloth and Vinyl
1F	Med. Saddle Vinyl (Cougar)
1G	Dk. Ivy Gold Cloth & Vinyl
1G	Lt. Ivy Gold Vinyl (Cougar)
1K	Lt. Aqua Cloth and/or Vinyl
1P	Med. Grey Cloth & Vinyl (Mark III)
1Y	Lt. Nugget Gold Vinyl (Cougar-Falcon)
1Y	Lt. Nugget Gold Cloth & Vinyl
2A	Black Vinyl
2A	Black Leather & Vinyl (Lincoln)
2A	Black Leather (Mark III)
2B	Dk. or Lt. Blue Vinyl
2B	Dk. Blue Leather & Vinyl (Lincoln)
2B	Dk. Blue Leather (Mark III)
2D	Dk. Red Vinyl
2D	Dk. Red Leather & Vinyl (Lincoln)
2D	Dk. Red Leather (Mark III)
2F	Med. Saddle Vinyl (Cougar)
2F	Med. Saddle Leather & Vinyl (Lincoln)
2F	Med. Saddle Leather (Mark III)
2G	Lt. or Dk. Ivy Gold Vinyl
2G	Dk. Ivy Gold Leather & Vinyl (Lincoln)
2G	Dk. Ivy Gold Leather (Mark III)
2K	Lt. Aqua Vinyl
2K	Lt. Aqua Leather & Vinyl (Lincoln)
2K	Lt. Aqua Leather (Mark III)
2P	Med. Grey Leather (Mark III)
2U	Pastel Parchment w/Black Leather (Mark III)
2W	White w/Black Vinyl
2W	White w/Black Leather & Vinyl (Lincoln)
2W	White w/Black Leather (Mark III)
2Y	Lt. Nugget Gold Vinyl
2Y	Lt. Nugget Gold Leather & Vinyl (Lincoln)
2Y	Lt. Nugget Gold Leather (Mark III)
3A	Black w/Red Knit and/or Vinyl (Mustang, Montego)
3A	Black Knit and/or Vinyl
3A	Black Cloth & Vinyl
3A	Black Leather & Vinyl (Lincoln)
3B	Lt. Blue Knit and/or Vinyl
3B	Lt. or Dk. Blue Cloth & Lt. Blue Vinyl
3B	Lt. Blue Cloth & Vinyl (Fairlane, Ford, Montego, Meteor)
3B	Med. Blue Cloth & Lt. Blue Vinyl
3B	Dk. Blue Cloth & Vinyl (T-Bird, Mercury)
3B	Dk. Blue Leather & Vinyl (Lincoln)
3D	Dk. Red Cloth & Vinyl
3D	Dk. Red Knit and/or Vinyl
3G	Dk. Ivy Gold Cloth & Vinyl
3G	Dk. Ivy Gold Leather & Vinyl (Lincoln)
3K	Lt. Aqua Cloth & Vinyl
3W	White w/Black Knit and/or Vinyl
3W	White w/Black Leather & Vinyl (Lincoln)
3Y	Lt. Nugget Gold Cloth & Vinyl
3Y	Lt. Nugget Gold Knit and/or Vinyl (T-Bird)
4A	Black Cloth & Vinyl
4A	Black Knit and/or Vinyl
4B	Dk. Blue Vinyl
4B	Dk. or Lt. Blue Vinyl
4D	Dk. Red Vinyl
4G	Dk. Ivy Gold Cloth & Vinyl
4G	Dk. Ivy Gold Vinyl
4K	Lt. Aqua Vinyl
4W	White w/Black Vinyl
4Y	Lt. Nugget Gold Knit and/or Vinyl
5D	Dk. Red Knit and/or Vinyl
5D	Dk. Red Leather & Vinyl (Lincoln)
5F	Med. Saddle Leather & Vinyl (Lincoln)
5G	Dk. Ivy Gold Knit and/or Vinyl
5G	Dk. Ivy Gold Cloth & Vinyl
5G	Dk. Ivy Gold Leather & Vinyl (Lincoln)
5K	Lt. Aqua Cloth & Vinyl (Montego)
5K	Lt. Aqua Vinyl
5K	Lt. Aqua Leather & Vinyl (Lincoln)
5W	White w/Black Knit and/or Vinyl
5W	White w/Black Leather & Vinyl (Lincoln)
5Y	Lt. Nugget Gold Cloth & Vinyl
5Y	Lt. Nugget Gold Knit and/or Vinyl (Mustang, Fairlane)
5Y	Lt. Nugget Gold Leather & Vinyl (Lincoln)
6A	Black Knit and/or Vinyl
6A	Black Cloth & Vinyl (Lincoln)
6A	Black Leather & Vinyl (Cougar)
6B	Dk. or Lt. Blue Vinyl
6B	Dk. Blue Leather & Vinyl (Cougar)
6D	Dk. Red Knit and/or Vinyl
6D	Dk. Red Leather & Vinyl (Cougar)
6F	Med. Saddle Leather & Vinyl
6G	Dk. Ivy Gold Vinyl
6G	Dk. Ivy Gold Leather & Vinyl (Cougar)
6K	Lt. Aqua Vinyl
6K	Lt. Aqua Leather & Vinyl (Cougar)
6W	White w/Black Vinyl
6Y	Lt. Nugget Gold Vinyl
6Y	Lt. Nugget Gold Leather & Vinyl (Cougar)
7A	Black Vinyl
7A	Black Cloth & Vinyl (Fairlane)
7A	Black Leather & Vinyl (Lincoln)
7B	Lt. Blue Vinyl (Cougar, Montego, Ford)
7B	Dk. Blue Cloth & Vinyl
7B	Dk. Blue Leather & Vinyl (Lincoln)
7D	Dk. Red Vinyl (Mustang)
7D	Dk. Red Cloth & Vinyl
7G	Dk. Ivy Gold Cloth and/or Vinyl
7G	Dk. Ivy Gold Leather & Vinyl (Lincoln)
7K	Lt. Aqua Cloth & Vinyl
7W	White w/Black Vinyl
7W	White Leather & Vinyl (Lincoln)
7Y	Lt. Nugget Gold Cloth & Vinyl
7Y	Lt. Nugget Gold Vinyl (Ford, Meteor, Mustang)
8A	Black Knit and/or Vinyl
8A	Black Leather & Vinyl (T-Bird)
8B	Dk. or Lt. Blue Knit and/or Vinyl
8D	Dk. Red Knit and/or Vinyl
8F	Med. Saddle Knit and/or Vinyl
8G	Dk. Ivy Gold Knit and/or Vinyl
8K	Lt. Aqua Knit and/or Vinyl
8W	White w/Black and/or Vinyl
8W	White w/Black Leather & Vinyl (T-Bird)
8Y	Lt. Nugget Gold Knit and/or Vinyl
9A	Black Knit and/or Vinyl
9A	Black Cloth & Vinyl (Ford, Meteor)
9B	Lt. Blue Knit and/or Vinyl
9B	Dk. Blue Cloth & Vinyl (Ford, Meteor)
9D	Dk. Red Knit and/or Vinyl
9D	Dk. Red Cloth & Vinyl (Ford-Meteor)
9G	Dk. Ivy Gold Cloth & Vinyl
9K	Lt. Aqua Cloth & Vinyl
9Y	Lt. Nugget Gold Cloth and/or Vinyl
9Y	Lt. Nugget Gold Knit and/or Vinyl
AA(1W)	White Vinyl With Black (Cougar)
AA	Black Cloth & Vinyl (Lincoln)
AB(1W)	White Vinyl With Blue (Cougar)
AB	Lt. Blue Cloth & Vinyl (Lincoln)
AD(1W)	White Vinyl With Red (Cougar)
AG(1W)	White Vinyl With Ivy Gold (Cougar)
AG	Lt. Ivy Gold Cloth & Vinyl (Lincoln)
AK (1W)	White Vinyl With Aqua (Cougar)
AK	Lt. Aqua Cloth & Vinyl (Lincoln)
AL	Lt. Silver Cloth & Vinyl (Lincoln)
AY	Lt. Nugget Gold Cloth & Vinyl (Lincoln)
AY(1W)	White Vinyl With Nugget Gold (Cougar)
BA(2W)	White Vinyl With Black (Cougar)
BA	Black Vinyl (Fairlane)
BB(2W)	White Vinyl With Blue (Cougar)

INTERIOR TRIM CODES—(continued)

Code	Trim Schemes
5D	Dk. Red Knit and/or Vinyl
5D	Dk. Red Leather & Vinyl (Lincoln)
5F	Med. Saddle Leather & Vinyl (Lincoln)
5G	Dk. Ivy Gold Knit and/or Vinyl
5G	Dk. Ivy Gold Cloth & Vinyl
5G	Dk. Ivy Gold Leather & Vinyl (Lincoln)
5K	Lt. Aqua Cloth & Vinyl (Montego)
5K	Lt. Aqua Vinyl
5K	Lt. Aqua Leather & Vinyl (Lincoln)
5W	White w/Black Knit and/or Vinyl
5W	White w/Black Leather & Vinyl (Lincoln)
5Y	Lt. Nugget Gold Cloth & Vinyl
5Y	Lt. Nugget Gold Knit and/or Vinyl (Mustang, Fairlane)
5Y	Lt. Nugget Gold Leather & Vinyl (Lincoln)
6A	Black Knit and/or Vinyl
6A	Black Cloth & Vinyl (Lincoln)
6A	Black Leather & Vinyl (Cougar)
6B	Dk. or Lt. Blue Vinyl
6B	Dk. Blue Leather & Vinyl (Cougar)
6D	Dk. Red Knit and/or Vinyl
6D	Dk. Red Leather & Vinyl (Cougar)
6F	Med. Saddle Leather & Vinyl
6G	Dk. Ivy Gold Vinyl
6G	Dk. Ivy Gold Leather & Vinyl (Cougar)
6K	Lt. Aqua Vinyl
6K	Lt. Aqua Leather & Vinyl (Cougar)
6W	White w/Black Vinyl
6Y	Lt. Nugget Gold Vinyl
6Y	Lt. Nugget Gold Leather & Vinyl (Cougar)
7A	Black Vinyl
7A	Black Cloth & Vinyl (Fairlane)
7A	Black Leather & Vinyl (Lincoln)
7B	Lt. Blue Vinyl (Cougar, Montego, Ford)
7B	Dk. Blue Cloth & Vinyl
7B	Dk. Blue Leather & Vinyl (Lincoln)
7D	Dk. Red Vinyl (Mustang)
7D	Dk. Red Cloth & Vinyl
7G	Dk. Ivy Gold Cloth and/or Vinyl
7G	Dk. Ivy Gold Leather & Vinyl (Lincoln)
7K	Lt. Aqua Cloth & Vinyl
7W	White w/Black Vinyl
7W	White Leather & Vinyl (Lincoln)
7Y	Lt. Nugget Gold Cloth & Vinyl
7Y	Lt. Nugget Gold Vinyl (Ford, Meteor, Mustang)
8A	Black Knit and/or Vinyl
8A	Black Leather & Vinyl (T-Bird)
8B	Dk. or Lt. Blue Knit and/or Vinyl
8D	Dk. Red Knit and/or Vinyl
8F	Med. Saddle Knit and/or Vinyl
8G	Dk. Ivy Gold Knit and/or Vinyl
8K	Lt. Aqua Knit and/or Vinyl
8W	White w/Black and/or Vinyl
8W	White w/Black Leather & Vinyl (T-Bird)
8Y	Lt. Nugget Gold Knit and/or Vinyl
9A	Black Knit and/or Vinyl
9A	Black Cloth & Vinyl (Ford, Meteor)
9B	Lt. Blue Knit and/or Vinyl
9B	Dk. Blue Cloth & Vinyl (Ford, Meteor)
9D	Dk. Red Knit and/or Vinyl
9D	Dk. Red Cloth & Vinyl (Ford-Meteor)
9G	Dk. Ivy Gold Cloth & Vinyl
9K	Lt. Aqua Cloth & Vinyl
9Y	Lt. Nugget Gold Cloth and/or Vinyl
9Y	Lt. Nugget Gold Knit and/or Vinyl
AA(1W)	White Vinyl With Black (Cougar)
AA	Black Cloth & Vinyl (Lincoln)
AB(1W)	White Vinyl With Blue (Cougar)
AB	Lt. Blue Cloth & Vinyl (Lincoln)
AD(1W)	White Vinyl With Red (Cougar)
AG(1W)	White Vinyl With Ivy Gold (Cougar)
AG	Lt. Ivy Gold Cloth & Vinyl (Lincoln)
AK (1W)	White Vinyl With Aqua (Cougar)
AK	Lt. Aqua Cloth & Vinyl (Lincoln)
AL	Lt. Silver Cloth & Vinyl (Lincoln)
AY	Lt. Nugget Gold Cloth & Vinyl (Lincoln)
AY(1W)	White Vinyl With Nugget Gold (Cougar)
BA(2W)	White Vinyl With Black (Cougar)
BA	Black Vinyl (Fairlane)
BB(2W)	White Vinyl With Blue (Cougar)



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INTERIOR TRIM CODES—(continued)

Code	Trim Schemes
BB	Lt. Blue Vinyl (Fairlane)
BB	Lt. Blue Leather & Vinyl (Lincoln)
BD(2W)	White Vinyl With Red (Cougar)
BG(2W)	White Vinyl With Ivy Gold (Cougar)
BG	Lt. Ivy Gold Leather & Vinyl (Lincoln)
BK(2W)	White Vinyl With Aqua (Cougar)
BY(2W)	White Vinyl With Lt. Nugget Gold (Cougar)
BY	Lt. Nugget Gold Vinyl (Fairlane)
CA	Black Cloth & Vinyl
CA	Black Vinyl (Montego)
CB	Dk. Blue Cloth & Vinyl
CB	Lt. Blue Vinyl (Montego)
CD	Dk. Red Cloth & Vinyl
CD	Dk. Red Vinyl
CG	Dk. Ivy Gold Cloth & Vinyl
CG	Lt. Ivy Gold Leather & Vinyl (Lincoln)
CK	Lt. Aqua Cloth & Vinyl
CY	Lt. Nugget Gold Cloth & Vinyl
CY	Lt. Nugget Gold Vinyl (Montego)
DA	Black Cloth & Vinyl
DA(4W)	White Vinyl With Black (Cougar)
DA	Black Knit and/or Vinyl
DB	Dk. Blue Cloth & Vinyl
DB	Dk. Blue Vinyl (Mercury)
DB(4W)	White Vinyl With Blue (Cougar)
DD(4W)	White Vinyl With Red (Cougar)
DD	Dk. Red Knit and/or Vinyl
DD	Dk. Red Cloth & Vinyl
DG	Dk. Ivy Gold Vinyl
DG	Dk. Ivy Gold Cloth & Vinyl
DK	Lt. Aqua Cloth & Vinyl
DW	White w/Black Knit and/or Vinyl
DY	Lt. Nugget Gold Cloth & Vinyl
DY	Lt. Nugget Gold Vinyl (Mercury)
EA	Black Knit and/or Vinyl
EA	Black Cloth & Vinyl
EB	Dk. Blue Cloth & Vinyl
ED	Dk. Red Cloth & Vinyl
EG	Dk. Ivy Gold Cloth & Vinyl
EK	Lt. Aqua Cloth & Vinyl
EW	White w/Black Knit and/or Vinyl
EY	Lt. Nugget Gold Cloth & Vinyl
FA	Black Knit and/or Vinyl
FA(6W)	White Vinyl With Black (Cougar)
FB	Lt. or Dk. Blue Vinyl
FB(6W)	White Vinyl With Blue (Cougar)
FD	Dk. Red Knit and/or Vinyl
FD(6W)	White Vinyl With Red (Cougar)
FG	Dk. Ivy Gold Vinyl
FG(6W)	White Vinyl With Ivy Gold (Cougar)
FK(6W)	White Vinyl With Lt. Aqua (Cougar)
FW	White w/Black Knit and/or Vinyl
FY	Lt. Nugget Gold Vinyl
FY(6W)	White Vinyl With Nugget Gold (Cougar)
GA	Black Vinyl
GB	Lt. Blue Vinyl
GD	Dk. Red Vinyl
GG	Dk. Ivy Gold Vinyl
GY	Lt. Nugget Gold Vinyl
HA	Black Knit and/or Vinyl
HA(8W)	White Vinyl With Black (Cougar)
HA	Black Leather & Vinyl (Mercury)
HB	Lt. Blue Vinyl
HB (8W)	White Vinyl With Blue (Cougar)
HD	Dk. Red Vinyl
HD	Dk. Red Leather & Vinyl (Mercury)
HD(8W)	White Vinyl With Dk. Red (Cougar)
HG	Dk. Ivy Gold Vinyl
HG(8W)	White Vinyl With Ivy Gold (Cougar)
HK	Lt. Aqua Vinyl
HK(8W)	White Vinyl With Lt. Aqua (Cougar)
	White w/Black Leather & Vinyl (Mercury)
	White w/Black Vinyl (Fairlane)

INTERIOR TRIM CODES—(continued)

Code	Trim Schemes
HY(8W)	White Vinyl With Nugget Gold (Cougar)
HY	Lt. Nugget Gold Knit and/or Vinyl
JA	Black Knit and/or Vinyl
JB	Lt. Blue Cloth & Vinyl (Lincoln)
JG	Lt. Ivy Gold Cloth & Vinyl
JW	White w/Black Knit and/or Vinyl
JY	Lt. Nugget Gold Knit and/or Vinyl
JY	Lt. Nugget Gold Cloth & Vinyl (Lincoln)
KA	Black Knit and/or Vinyl
KA	Black Cloth & Vinyl (Ford-Mercury-Meteor)
KA	Black Leather & Vinyl (Lincoln)
KB	Dk. Blue Cloth & Vinyl
KB	Med. Blue Cloth & Lt. Blue Vinyl (Ford-Montego)
KB	Dk. Blue Leather & Vinyl (Lincoln)
KD	Dk. Red Cloth & Vinyl
KG	Dk. Ivy Gold Leather & Vinyl (Lincoln)
KG	Dk. Ivy Gold Cloth & Vinyl
KL	Lt. Silver Leather & Vinyl (Lincoln)
KW	White w/Black Leather & Vinyl (Lincoln)
KY	Lt. Nugget Gold Knit and/or Vinyl
KY	Lt. Nugget Gold Cloth & Vinyl
LA	Black Knit and/or Vinyl
LA	Black Leather & Vinyl (Lincoln)
LB	Lt. Blue Knit and/or Vinyl
LB	Dk. Blue Leather & Vinyl (Lincoln)
LD	Dk. Red Knit and/or Vinyl
LE	Lt. & Med. Beige Vinyl
LG	Dk. Ivy Gold Leather & Vinyl (Lincoln)
LW	White w/Black Knit and/or Vinyl
LW	White w/Black Leather & Vinyl (Lincoln)
LY	Lt. Nugget Gold Knit and/or Vinyl
MA	Black Vinyl
MB	Lt. Blue Vinyl
MD	Dk. Red Vinyl
MW	White w/Black Vinyl
NA	Black Knit and/or Vinyl
NB	Lt. Blue Vinyl
NY	Lt. Nugget Gold Knit and/or Vinyl
PA	Black Vinyl
PB	Lt. Blue Vinyl
PY	Lt. Nugget Gold Vinyl
QA	Black Knit and/or Vinyl
QB	Lt. Blue Vinyl
QW	White Knit and/or Vinyl
OY	Lt. Nugget Gold Vinyl
RA	Black Knit and/or Vinyl
RA	Black Leather & Vinyl
RB	Lt. Blue Knit and/or Vinyl
RD	Dk. Red Knit and/or Vinyl
RD	Dk. Red Leather & Vinyl
RW	White w/Black Leather & Vinyl
RW	White w/Black Knit and/or Vinyl
RY	Lt. Nugget Gold Knit and/or Vinyl
SB	Lt. Blue Leather & Vinyl (Lincoln)
SG	Lt. Ivy Gold Leather & Vinyl (Lincoln)
TG	Lt. Ivy Gold Leather & Vinyl (Lincoln)
VA	Black Knit and/or Vinyl
VB	Dk. Blue Vinyl
VG	Dk. Ivy Gold Vinyl
VW	White w/Black Knit and/or Vinyl
VY	Lt. Nugget Gold Vinyl
WA	Black Knit and/or Vinyl
WW	White w/Black Knit and/or Vinyl
WY	Lt. Nugget Gold Knit and/or Vinyl
YA	Black Cloth & Vinyl
YB	Dk. Blue Cloth & Vinyl
YD	Dk. Red Cloth & Vinyl
YG	Dk. Ivy Gold Cloth & Vinyl
YK	Lt. Aqua Cloth & Vinyl
YY	Lt. Nugget Gold Cloth & Vinyl
ZA	Black Cloth & Vinyl
ZB	Dk. Blue Cloth & Vinyl
ZG	Dk. Ivy Gold Cloth & Vinyl



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DATE CODES

A number signifying the date precedes the month code letter. A second-year code letter will be used if the model exceeds 12 months.

Month	Code First Year	Code Second Year
January	A	N
February	B	P
March	C	Q
April	D	R
May	E	S
June	F	T
July	G	U
August	H	V
September	J	W
October	K	X
November	L	Y
December	M	Z

DISTRICT CODES (DSO)

Units built on a Domestic Special Order, Foreign Special Order, or other special orders will have the complete order number in this space. Also to appear in this space is the two-digit code number of the District which ordered the unit. If the unit is a regular production unit, only the District code number will appear.

FORD

Code	District	Code	District
11	Boston	51	Denver
13	New York	53	Kansas City
15	Newark	54	Omaha
16	Philadelphia	55	St. Louis
17	Washington	56	Davenport
21	Atlanta	61	Dallas
22	Charlotte	62	Houston
24	Jacksonville	63	Memphis
25	Richmond	64	New Orleans
28	Louisville	65	Oklahoma City
32	Cleveland	71	Los Angeles
33	Detroit	72	San Jose
35	Lansing	73	Salt Lake City
37	Buffalo	74	Seattle
38	Pittsburgh	75	Phoenix
41	Chicago	83	Government
43	Milwaukee	84	Home Office Reserve
44	Twin Cities	85	American Red Cross
46	Indianapolis	89	Transportation Services
47	Cincinnati	90's	Export

LINCOLN-MERCURY

Code	District	Code	District
11	Boston	34	Detroit
15	New York	41	Chicago
16	Philadelphia	42	St. Louis
17	Washington	46	Twin Cities
21	Atlanta	51	Denver
22	Dallas	52	Los Angeles
23	Jacksonville	53	Oakland
26	Memphis	54	Seattle
31	Buffalo	84	Home Office Reserve
32	Cincinnati		
33	Cleveland	90's	Export

FORD OF CANADA

Code	District	Code	District
B1	Central	B4	Midwestern
B2	Eastern	B6	Western
B3	Atlantic	B7	Pacific
11 thru 17	Export		

Note: Canadian Lincoln-Mercury units use prefix "A" in place of "B".

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Brakes

GROUP
2

PART 2-1	PAGE	PART 2-3	PAGE
General Brake Service	02-01-01	Specifications	02-03-01
PART 2-2			
Brake System	02-02-01		

Part 2-1 General Brake Service

COMPONENT INDEX	MODEL APPLICATION											
	All Models	Ford	Mercury	Meteor	Cougar	Fairlane	Falcon	Montego	Mustang	Lincoln-Continental	Thunderbird	Continental-Mark III
ANTI SKID CONTROL SYSTEM												
Tests		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01-03	01-03
BRAKE BOOSTER												
Adjustments	01-04											
Cleaning and Inspection	01-07											
Tests	01-02											
BRAKE PEDAL												
Free Height Test	01-01											
Total Travel Test	01-01											
DISC BRAKES												
Cleaning and Inspection	01-07											
Service Precautions	01-07											
DRUM BRAKES												
Cleaning and Inspection	01-08											
HYDRAULIC SYSTEM BLEEDING	01-05											
PARKING BRAKE CONTROL												
Vacuum Release Test		01-03	01-03	01-03	N/A	N/A	N/A	N/A	N/A	01-03	01-03	01-03
PARKING BRAKE LINKAGE												
Adjustment		01-03	01-03	01-03	01-03	01-03	01-03	01-03	01-03	01-04	01-04	01-04
PRESSURE DIFFERENTIAL VALVE												
Adjustment (Centralize)	01-07											

A page number indicates that the item is for the vehicle listed at the head of the column.
N/A indicates that the item is not applicable to the vehicle listed.

1 BRAKE SYSTEM TESTS

Always check the fluid level in the master cylinder before performing the test procedures. If the fluid level is not within 1/4 inch of the top of the master cylinder reservoirs, add Ford Brake Fluid — Extra Heavy Duty — Part Number C6AZ-19542-A (ESAM6C25-A) or equivalent for all brake applications. The extra heavy duty brake fluid is colored blue for identification purposes. Do not mix low temperature brake fluids with the speci-

BRAKE PEDAL FREE HEIGHT AND TRAVEL MEASUREMENTS

With the engine running for full power brake operation, measure the brake pedal free height, and check the brake pedal travel with the use of the Brake Pedal Pressure Gauge, Tool WRE-500-50 as follows:

BRAKE PEDAL FREE HEIGHT MEASUREMENT

1. Insert a slender, sharp pointed prod through the carpet and sound deadener to the dash panel metal and measure the distance to the brake pedal (Fig. 1).

2. If the position of the pedal is not within specification, check the brake

pedal linkage for missing, worn, or damaged bushings, or loose attaching bolts and replace them, if required.

3. If the pedal free height is still out of specification, check the brake pedal booster or master cylinder to be sure the correct parts are installed. Replace the worn or damaged parts as necessary.

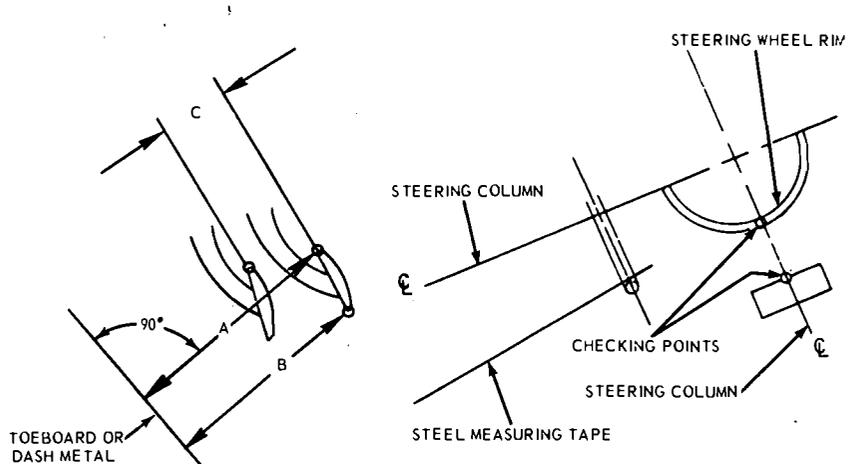
BRAKE PEDAL TRAVEL MEASUREMENT

1. Install a Brake Pedal Effort Gauge on the brake pedal pad (Fig. 2).

2. Hook a steel measuring tape to the brake pedal as shown in Fig. 1. Measure and record the distance from the brake pedal free height position to the reference point, which is at the six

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VEHICLE	TYPE	PEDAL FREE HEIGHT - A	PEDAL FREE HEIGHT - B	PEDAL TRAVEL - C
FORD, MERCURY AND METEOR	NON-POWER DRUM	8.09 - 7.17		3.10
FORD, MERCURY AND METEOR	POWER DRUM & DISC	6.18 - 5.99		3.27
FORD, MERCURY AND METEOR	NON-POWER DISC	8.65 - 7.82		2.18
FORD, MERCURY AND METEOR	POLICE POWER DISC	7.58 - 6.72		3.27
FAIRLANE, MONTEGO AND FALCON	NON-POWER DRUM	8.13 - 6.91		2.90
FAIRLANE, MONTEGO AND FALCON	POWER DISC	7.25 - 5.71		2.35
MUSTANG AND COUGAR	NON-POWER DRUM	7.49 - 6.43		2.58
MUSTANG AND COUGAR	POWER DISC	6.25 - 5.56		1.75
THUNDERBIRD	POWER DISC		5.96 - 5.04	3.00
CONTINENTAL MARK III	POWER DISC		5.96 - 5.04	3.00
LINCOLN CONTINENTAL	POWER DISC		6.50 - 5.50	2.25

NOTE: A & B DIMENSION TO BE MEASURED TO SHEET METAL

C DIMENSION TO BE MEASURED PARALLEL TO THE VERTICAL CENTERLINE OF THE STEERING COLUMN WITH A 50 POUND LOAD APPLIED TO THE CENTERLINE OF THE BRAKE PEDAL PAD. (CHECKS ON POWER BRAKE VEHICLES MADE WITH ENGINE RUNNING)

H1630-A

FIG. 1 — Brake Pedal Height and Travel Measurements

Tool - WRE-500-50



o'clock position on the steering wheel rim.

3. With the steel tape still hooked to the brake pedal depress the brake pedal by pressing downward on the brake pedal effort gauge. Apply a 50 pound load to the center of the pedal by observing the pressure gauge, and measure the distance from the brake pedal to the fixed reference point on the steering wheel rim parallel to the centerline of the steering column.

4. The difference between the brake pedal free height and the depressed pedal measurement under a 50 pound load should be within the specified maximum pedal travel service specification B in Fig. 1.

5. If the pedal travel is more than the specified maximum shown in Fig. 1, dimension C, make several sharp reverse stops (equivalent to 50 pounds pedal pressure) with a forward stop before each. Move the vehicle in reverse and forward for a distance of approximately ten feet; then, apply the brakes sharply and hold the brake pedal down until the vehicle is completely stopped. This will actuate the brake self-adjusters. If these stops do not bring the brake pedal travel within specification, make several additional forward and reverse stops as outlined above.

6. If the second series of stops do not bring the brake pedal travel within specification, remove the brake drums and check the brake adjusters to make sure they are functioning. Check the brake linings for wear or damage. Repair or replace all worn or damaged parts and non-functioning adjusters. Adjust the brake lining outside diameter to the approximate inside diameter of the brake drum with Rotunda Tool HRE-8650 (Fig. 12, Part 2-2).

7. If all the brake adjusters, brake drums and linings are functional and the brake travel is not within specifications, check the pedal linkage for missing or worn bushings, or loose attachments. Bleed the brakes and centralize the differential valve.

POWER BRAKE FUNCTIONAL TEST

1. Check the hydraulic brake system for leaks or insufficient fluid.

2. With the transmission in neutral, stop the engine and apply the parking brake. Depress the brake pedal several times to exhaust all vacuum in the system.

3. With the engine shut off and all vacuum in the system exhausted, depress the pedal, and hold it in the applied position. Start the engine. If the

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vacuum system is operating, the pedal will tend to fall away under foot pressure and less pressure will be required to hold the pedal in the applied position. If no action is felt, the vacuum booster system is not functioning.

If the brake pedal movement feels spongy, bleed the hydraulic system to remove air from the system. Refer to Hydraulic System Bleeding, Part 1, Section 2.

VACUUM TESTS—VACUUM RELEASE PARKING BRAKES

Visually check the operation of the brake linkage as the brake pedal is depressed. Then, check the operation of the brake linkage when the manual release lever is activated. These checks should indicate whether the manual parking brake control linkage is operating properly or requires repair or adjustment due to inability of the parking brake to hold against moderate vehicle movement. Perform tests of the parking brake system and controls after making certain the linkage and manual controls operate properly.

When testing a parking brake vacuum release system, a minimum of 10 inches of vacuum (Hg.) should be available at all points where vacuum is applied. This can be checked with a Rotunda Fuel Pump Tester Gauge (ARE345) and two Distributor Tester hose adapters (Marked Q) connected together with a coupling. This allows the Fuel Pump Tester Gauge hose to

be adapted to any other vacuum hose or rubber connector in the vacuum systems.

Failure to maintain 10 inches of vacuum (Hg.) during vacuum system tests could be caused by a loose hose connection, resulting in a vacuum leak. When checking for vacuum between two points, trace the hose along the entire routing to be sure it is not crossed with another hose and connected to the wrong connection.

All of the vacuum parking brake control checks are to be performed with the engine running at idle speed.

Leaks in the parking brake hoses or a disconnected or improperly connected hose can usually be found by listening for a hissing sound along the hose routings. **Under no circumstances should air pressure be applied to the vacuum system as the actuator diaphragm in the parking brake vacuum motor may be damaged.**

1. Start the engine and run it at idle speed. With the transmission shift control in neutral, depress the parking brake pedal to apply the parking brake. Move the transmission shift control to D range and observe the parking brake pedal to see that the pedal moves upward and the parking brake releases. If the parking brake releases, the parking brake vacuum control is working properly.

2. If the parking brake does not release, test for vacuum at the steering column neutral switch port in the junction block, vacuum lines and the parking brake release vacuum motor. Use the Rotunda Vacuum and Fuel

Pump Tester 345. This can be accomplished by removing the hose from each component and attaching it to the vacuum gauge. Connect two distributor tester vacuum hose adapters together with a coupling as a connector to attach the gauge. A minimum of ten inches of vacuum is required to actuate the parking brake vacuum motor. **Do not remove any of the vacuum hoses from the junction block unless the junction block is being replaced, as the plastic nipples are thin and very brittle and damage may result.** If a minimum reading is not present when checking each of the aforementioned components, they must be replaced.

ROAD TEST

A road test should be conducted only when the operator is sure the brakes will stop the vehicle.

If the road test reveals one or more problem conditions, correct all malfunctions of the vacuum system, brake booster and hydraulic system prior to removing brake drums, brake calipers, brake shoes and linings or backing plates.

ANTI-SKID CONTROL SYSTEM TESTS

No adjustments or repairs are to be performed on the skid control system. Damaged or worn parts are to be replaced.

Refer to Ford Car and Truck Diagnosis Manual for Testing procedures.

2 COMMON ADJUSTMENTS AND REPAIRS

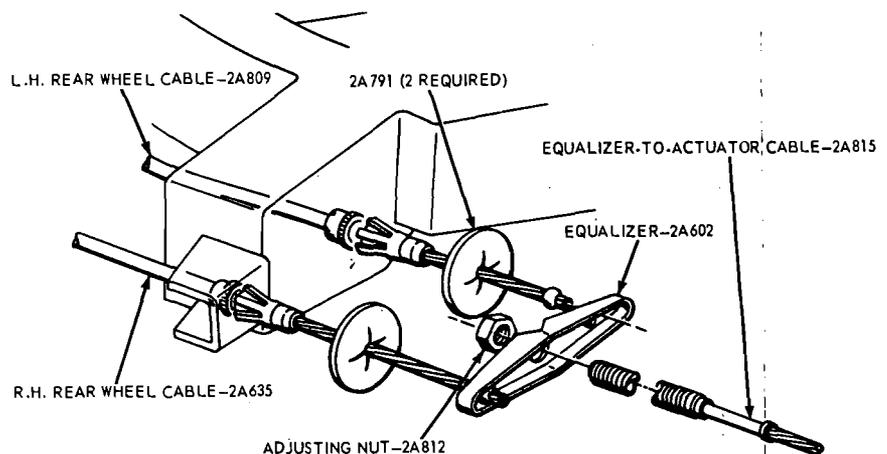
PARKING BRAKE LINKAGE ADJUSTMENT

FORD, MERCURY, METEOR, FAIRLANE, MONTEGO, FALCON, MUSTANG AND COUGAR

Check the parking brake cables when the brakes are fully released. If the cables are loose, adjust them as follows:

1. Fully release the parking brake pedal by pulling the release lever.

2. Depress the parking brake pedal until it is engaged in the first notch of



H 1537-C

FIG. 3—Parking Brake Adjustment—Ford, Mercury, Meteor, Thunderbird and Continental Mark III

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ft-lb breakaway torque. The breakaway torque is the torque required to turn the rear wheels the direction of forward rotation with a torque wrench and tool shown in Fig. 5. **The torque measurement must be made relative to the center line of the wheel.**

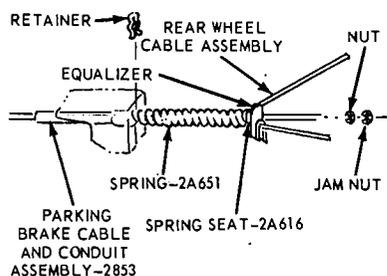
4. Release the parking brake, and check to make sure that the brake shoes return to the fully released position.

5. Depress the parking brake pedal to the third notch. Under normal conditions, this will hold the vehicle satisfactorily.

6. Release the parking brake again, and check as in step 4.

7. If the rear brakes do not fully release, check the cables for kinks or binds. Free the cables as required.

8. Lower the vehicle. Remove the torque wrench and tool. Install the wheel attaching nuts and torque them to specification. Install the wheel cover.



H1631-A

FIG. 4—Parking Brake Linkage Adjustment—Fairlane, Montego, Falcon, Mustang and Cougar

**THUNDERBIRD,
CONTINENTAL MARK III,
AND LINCOLN
CONTINENTAL**

Check the parking brake cables when the brakes are fully released. If the cables are loose, adjust them as follows:

1. Fully release the parking brake pedal by pushing down the manual release lever.

2. Depress the parking brake pedal 1 1/4 inch from its normal released position.

3. Raise the vehicle with the transmission in neutral.

4. Loosen the lock nut and turn the adjusting nut forward against the equalizer (Figs. 3 and 6) until there is 100 ft-lbs breakaway torque. The breakaway torque is the torque required to turn the rear wheels the direction of forward rotation with a torque wrench and tool shown in Fig. 5. **The torque measurement must be made relative to the centerline of the wheel.** Tighten the lock nut.

5. Release the parking brake, and check to make sure that the brake shoes return to the fully released position.

6. Depress the parking brake pedal until it is fully engaged.

7. Release the parking brake again, and check as in step 5.

8. Depress the pedal 1/2 inch. The brakes should not drag.

9. If the rear brakes do not fully release, check the cables for kinks or binds. Free the cables as required.

10. Lower the vehicle. Remove the torque wrench and tool. Install the wheel attaching nuts and torque them to specification. Install the wheel cover.

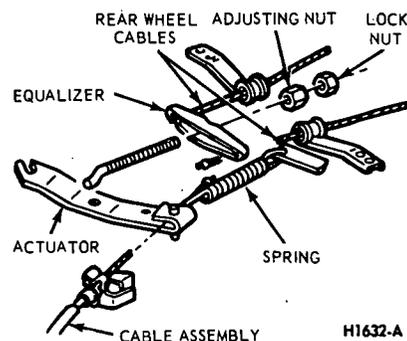
**POWER BRAKE MASTER
CYLINDER PUSH ROD
ADJUSTMENT**

The push rod is provided with an adjustment screw to maintain the correct relationship between the booster control valve plunger and the master cylinder. If the plunger is too long it will prevent the master cylinder piston from completely releasing hydraulic pressure and can cause the brakes to drag. If the plunger is too short it will result in excess pedal travel and an undesirable clunk in the booster area.

The adjustment screw is set to the correct height at the time of original assembly of the power unit. **Under normal service the adjustment screw does not require any further attention providing the original push rod assembly remains in the original unit.**

If a check of the push rod adjustment is necessary, the push rod length may be verified with a push rod length gauge and measured with the engine running to apply vacuum to the booster (Fig. 7).

The push rod length verification and adjustment of Midland-Ross power brake booster assemblies must be done according to the following procedure:



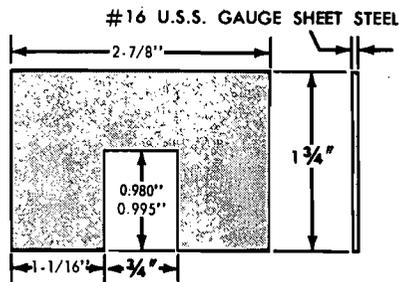
H1632-A

FIG. 6—Parking Brake Linkage Adjustment—Lincoln Continental



Tool—T59L 4204-A,
T65K 4204-A,
T66L-4204-A,
OR
Tool-44211-A

E1897-A



H1087-E

FIG. 7—Push Rod Gauge Dimensions

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way Torque

1. Disconnect the master cylinder from the booster assembly and secure away from the booster without disconnecting the brake tubes.

2. Reinstall the air filter assembly on the booster if it was removed with the master cylinder (Fig. 8).

3. Install and tighten the master cylinder retaining nuts to retain the air filter assembly securely against the booster body and to seal the booster bellows against air leaks.

4. Place the gauge against the master cylinder mounting surface of the air filter assembly.

5. Adjust the push rod screw to provide a slight tension against the inner edge of the adjustment gauge slot. (Approximately 5 pounds of tension against the push rod is required to assure that the push rod is firmly seated in the booster assembly.)

6. Remove the retaining nuts from the booster master cylinder mounting studs.

7. Install the master cylinder on the brake booster and tighten the retaining nuts to the specified torque.

The push rod length verification of the Bendix power brake booster assemblies is accomplished as follows:

1. Disconnect the master cylinder from the booster assembly and secure away from the booster without disconnecting the brake tubes.

2. Adjust the push rod screw to provide a slight tension against the inner edge of the adjustment gauge slot. (Approximately 5 pounds of ten-

sion against the push rod is required to assure that the push rod is firmly seated in the booster assembly.) See Figure 8.

3. Install the master cylinder on the brake booster and tighten the retaining nuts to the specified torque.

Do not set up side forces on the push rod as it may break the valve plunger.

This is an approximate adjustment only. To verify the adjustment, look through the make-up (rear) port of the master cylinder when installing the master cylinder to the booster. The master cylinder piston should not move more than 0.015 inch as it contacts the push rod. No movement (exact contact) is ideal.

HYDRAULIC SYSTEM BLEEDING AND CENTRALIZING OF THE DIFFERENTIAL VALVE

When any part of the hydraulic system has been disconnected for repair or replacement, air may enter the system and cause spongy pedal action. Bleed the hydraulic system after it has been properly connected, to be sure that all air is expelled.

MANUAL BLEEDING

The Lincoln Continental hydraulic brake system is to be bled only with pressure bleeding equipment.

The primary and secondary (front

and rear) hydraulic brake systems are individual systems and are bled separately. Bleed the longest line first on the individual system being serviced. During the complete bleeding operation, **DO NOT allow the reservoir to run dry.** Keep the master cylinder reservoirs filled with Ford Fluid—Extra Heavy Duty — Part Number C6AZ-19542-A (ESA-M6C 25-A). The extra heavy duty brake fluid is colored blue for identification purposes. Do not mix low temperature brake fluids with the specified fluid during the bleeding operations. Never re-use brake fluid which has been drained from the hydraulic systems.

1. If the master cylinder is equipped with a bleed screw, loosen the bleed screw. Push the brake pedal down slowly through its full travel. Close the bleeder fitting and return the pedal to the fully released position. Repeat this operation until fluid is free of air bubbles, then tighten the bleeder screw. **Do not use the secondary piston stop screw, located on the bottom of the master cylinder to bleed the brake system. Loosening or removing this screw could result in damage to the secondary piston or stop screw.**

2. To bleed the secondary (rear) brake system, position a suitable 3/8 inch box wrench (Fig. 9) on the bleeder fitting on the brake wheel cylinder. Attach a rubber drain tube to the bleeder fitting. The end of the tube should fit snugly around the bleeder fitting.

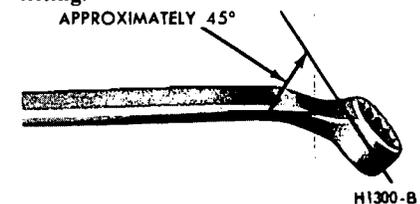


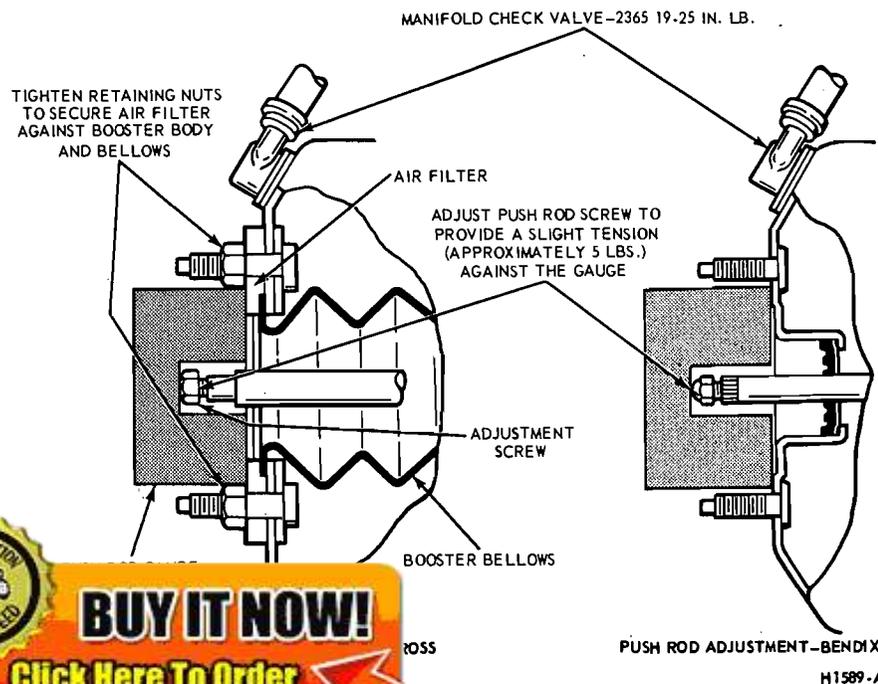
FIG. 9—Wrench for Bleeding Brake Hydraulic System

3. Submerge the free end of the tube in a container partially filled with clean brake fluid, and loosen the bleeder fitting approximately 3/4 turn.

4. Push the brake pedal down slowly through its full travel. Close the bleeder fitting, then return the pedal to the full-released position. Repeat this operation until air bubbles cease to appear at the submerged end of the bleeder tube.

5. When the fluid is completely free of air bubbles, close the bleeder fitting and remove the bleeder tube.

6. Repeat this procedure at the brake wheel cylinder on the opposite



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side. Refill the master cylinder reservoir after each wheel cylinder is bled and install the master cylinder cover and gasket. **Be sure the diaphragm type gasket is properly positioned in the master cylinder cover. When the bleeding operation is completed, the fluid level should be filled to within 1/4 inch of the top of the reservoirs.**

7. If the primary (front brake) system is to be bled. Repeat steps 2 through 6 at the right front brake caliper or cylinder and ending at the left front brake caliper or cylinder.

8. On disc brake equipped models be sure that the front brake pistons are returned to their normal positions and that the shoe and lining assemblies are properly seated by depressing the brake pedal several times until normal pedal travel is established.

9. Centralize the pressure differential valve. Refer to the Centralizing the Pressure Differential Valve procedures which follow.

PRESSURE BLEEDING

The Lincoln Continental hydraulic brake system is to be bled only with pressure bleeding equipment.

Bleed the longest lines first. The bleeder tank should contain enough new Ford Brake Fluid to complete the bleeding operation. Use Ford Brake Fluid — Extra Heavy Duty — Part Number C6AZ-19542-A (ESAM6C25-A) or equivalent for all brake applications. The brake fluid is colored blue for identification purposes. Do not mix low temperature brake fluid with the specified brake fluid during the bleeding operations. Never re-use brake fluid that has been drained from the hydraulic system. The tank should be charged with approximately 10 to 30 pounds of air pressure. Never exceed 50 pounds pressure.

1. Clean all dirt from the master cylinder reservoir cover.

2. Remove the master cylinder reservoir cover and rubber gasket, and fill the master cylinder reservoir with the specified brake fluid. Install the pressure bleeder adapter tool to the master cylinder, and attach the bleeder tank hose to the fitting on the adapter.

Master cylinder pressure bleeder tools can be obtained from

the bleed screw and bleed the master cylinder until the fluid is free of air bubbles; then, tighten the bleed screw. **Do not use the secondary piston stop screw, located on the bottom of the master cylinder, to bleed the master cylinder.**

4. If the rear wheel cylinders, the secondary brake system, are to be bled, position a 3/8 inch box wrench (Fig. 9) on the bleeder fitting on the right rear brake wheel cylinder. Attach a bleeder tube to the bleeder fitting. **The end of the tube should fit snugly around the bleeder fitting.**

5. Open the valve on the bleeder tank to admit pressurized brake fluid to the master cylinder reservoir.

6. Submerge the free end of the tube in a container partially filled with clean brake fluid, and loosen the bleeder fitting.

7. When air bubbles cease to appear in the fluid at the submerged end of the bleeder tube, close the bleeder fitting and remove the tube.

8. Repeat steps 3 through 7 at the left rear wheel cylinder.

9. **If the vehicle is equipped with disc brakes, repeat steps 4 through 7, starting at the right front disc caliper and ending at the left front disc caliper.**

On Lincoln Continental models the front wheel and tire assemblies must

be removed to gain access to the bleeder fittings on the calipers. Also on Lincoln Continental models the metering valve release rod must be pulled outward and held a minimum of 1/16 inch (Fig. 10) while bleeding the primary brake system.

10. If the vehicle contains drum-type front brakes and the primary (front) brake system is to be bled, repeat steps 4 through 7, starting at the right front wheel cylinder ending at the left front wheel cylinder.

11. When the bleeding operation is completed, close the bleeder tank valve and remove the tank hose from the adapter fitting.

12. On disc brake equipped vehicles, be sure that the front brake pistons are returned to their normal positions and that the shoe and lining assemblies are properly seated by depressing the brake pedal several times until normal pedal travel is established.

13. Remove the Pressure Bleeder Adapter Tool. Fill the master cylinder reservoirs to within 1/4 inch of the top. Install the master cylinder cover and gasket. **Be sure the Diaphragm type gasket is properly positioned in the master cylinder cover.**

14. Centralize the pressure differential valve as follows.

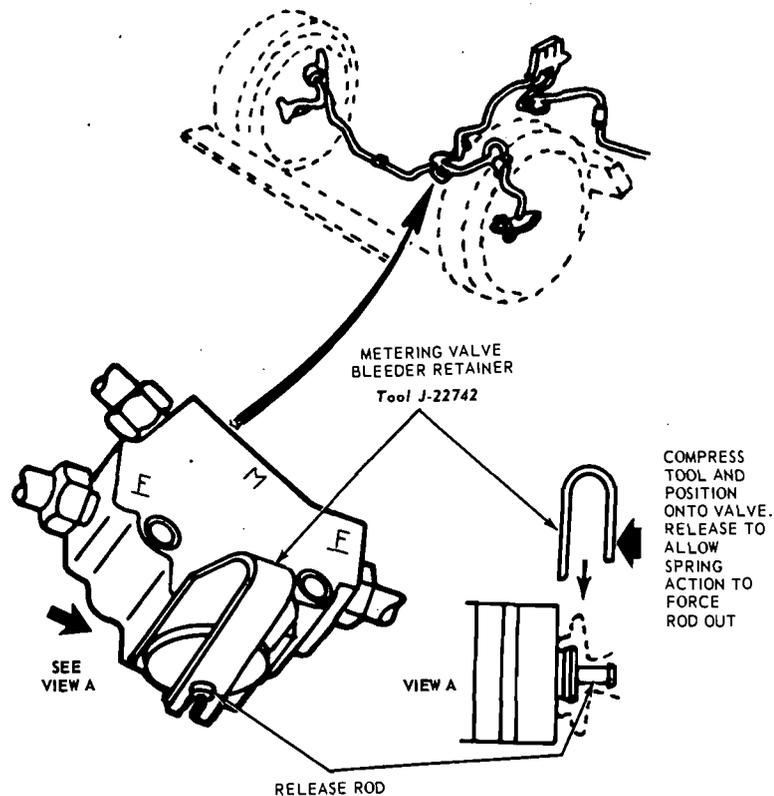


FIG. 10—Disc Brake Metering Valve—Lincoln Continental

H1644-A

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CENTRALIZING THE PRESSURE DIFFERENTIAL VALVE

After a failure of the primary (front brake) or secondary (rear brake) system has been repaired and bled, the dual-brake warning light will usually continue to be illuminated due to the pressure differential valve remaining in the off-center position.

To centralize the pressure differential valve and turn off the warning

light after a repair operation, a pressure differential or unbalance condition must be created in the **opposite brake system from the one that was repaired or bled last.**

1. Turn the ignition switch to the ACC or ON position. Loosen the differential valve assembly brake tube nut at the outlet port on the opposite side of the brake system that was wheel balanced, repaired and/or bled last. Depress the brake pedal slowly to build line pressure until the pressure

differential valve is moved to a centralized position and the brake warning light goes out; then, immediately tighten the outlet port tube nut.

2. Check the fluid level in the master cylinder reservoirs and fill them to within 1/4 inch of the top with the specified brake fluid, if necessary.

3. Turn the ignition switch to the OFF position.

4. Before driving the vehicle, check the operation of the brakes and be sure that a firm pedal is obtained.

3 CLEANING AND INSPECTION

DISC BRAKES

1. Remove the wheel and tire and the shoe and lining assemblies as outlined in Part 2-2, Section 2.

2. On all models except Lincoln Continental, make thickness measurements with a micrometer across the thinnest section of the shoe and lining. If the assembly has worn to a thickness of 0.230-inch (shoe and lining together) or 0.030-inch (lining material only) at any one of three measuring locations or if there is more than 0.125 taper from end to end or if lining shows evidence of brake fluid contamination, replace all (4) shoe and lining assemblies on both front wheels.

On Lincoln Continental brakes make three thickness measurements with a micrometer across the middle section of the shoe and lining. Take one reading at each side and one in the center. If the assembly has worn to a thickness of 0.231 inch (shoe and lining together) or 0.066 inch (lining material only) at any one of the three measuring locations, replace all (4) shoe and lining assemblies on both front wheels.

3. Check the caliper to spindle attaching bolts torque. Torque them to specification, if required.

4. To check rotor runout, first eliminate the wheel bearing end play by tightening the adjusting nut. After tightening the nut, check to see that the rotor can still be rotated.

5. Clamp a dial indicator to the caliper housing so that the stylus contact the rotor at a point approximately 1 inch from the outer edge. Rotate

Rotunda Disc Brake Attachment FRE-2249-2 is the **only approved** tool to be used to refinish the disc brake rotors. The step-by-step resurfacing procedure provided with the tool must be adhered to.

The finished braking surface of the rotor must be flat and parallel within 0.0007 inch; lateral runout must not exceed 0.003 inch total indicator reading, braking surface are to be 80/15 microinches.

On all models except Lincoln Continental the minimum limiting dimension from the inboard bearing cup to the inboard rotor face and the minimum rotor thickness dimension, must be observed when removing material from the rotor braking surfaces. A ball and gage bar (Rotunda Kit FRE 70160) is to be used when checking minimum dimensions (Fig. 11).

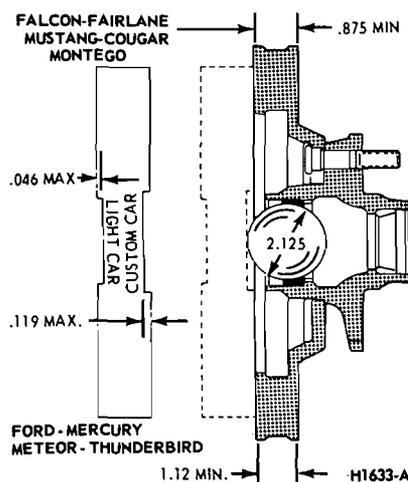


FIG. 11—Disc Brake Rotor Service Limits—All Models Except Lincoln Continental

On Lincoln Continental models the minimum limiting dimension (Fig. 12) from the inboard bearing cup to the

inboard rotor face (dimension B) and the outboard rotor surface and the inboard bearing cup (dimension A), must be observed when removing material from the rotor braking surfaces.

When the runout check is finished be sure to adjust the bearings as outlined in Group 3, in order to prevent bearing failure.

6. Check the rotor for scoring. Minor scores can be removed with a fine emery cloth. If the rotor is excessively scored, refinish it as outlined in step 5 or replace the rotor, if required.

7. Visually check the caliper. If the caliper housing is leaking it should be replaced. If a seal is leaking the caliper must be disassembled and new seals installed. If a piston is seized in the bore a new caliper housing is required.

On Lincoln Continental models the two halves of the caliper assembly should never be separated. Damage or failure of one requires replacement of both as a unit.

Check the brake hoses for signs of cracking, leaks or abrasion. Replace them if necessary.

DISC BRAKE SERVICE PRECAUTIONS

1. Grease or any other foreign material must be kept off the caliper assembly, surfaces of the rotor and external surfaces of the hub during service operations. Handling of the rotor and caliper assemblies should be done in a way to avoid deformation of the brake rotor and nicking or scratching of brake linings.

2. If a caliper piston is removed for any reason, the piston seal must be replaced.

3. During removal and installation of a wheel assembly, exercise care not to interfere with and damage the cali-

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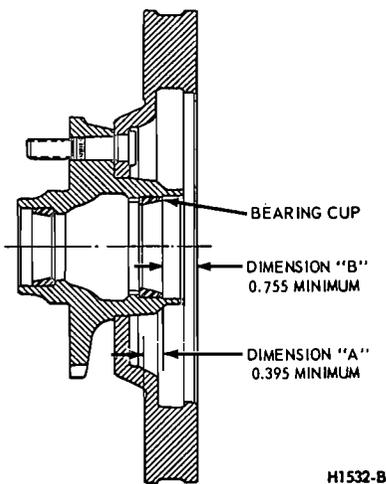


FIG. 12—Disc Brake Rotor Service Limits—Lincoln Continental

per splash shield or the bleeder screw fitting.

4. Front wheel bearing end play is critical and must be within specifications.

5. Be sure the vehicle is centered on the hoist before servicing any front end components, to avoid bending or damaging the rotor splash shield on full right or left wheel turns.

6. The proportioning valve should not be disassembled or adjustments attempted on it.

7. Riding of the brake pedal (common on left foot applications) should be avoided during vehicle operation.

8. The wheel and tire must be removed separately from the brake rotor, unlike drum brakes where the

wheel, tire and drum are removed as a unit.

9. On floating caliper type disc brakes whenever the caliper is removed the caliper locating pins should be inspected for wear or damage.

10. On floating caliper type disc brakes, the caliper assembly must be removed from the spindle prior to removal of the shoe and lining assemblies.

11. On floating caliper type disc brakes the calipers must not be interchanged from one side to the other. When the caliper is installed on its proper anchor plate and spindle, the bleeder screw will point to the rear of the vehicle (Fig. 22). If a caliper is installed on the wrong side of the vehicle, it is not possible to bleed the system properly.

12. Do not attempt to clean or restore oil or grease soaked brake linings. When contaminated linings are found, brake linings must be replaced in complete axle sets.

DRUM BRAKES

1. Remove the wheel from the drum, and remove the drum as outlined in Part 2-2, Section 2.

2. Brush all dust from the backing plates and interior of the brake drums.

3. Inspect the brake shoes for excessive lining wear or shoe damage. If the lining is worn within 1/32 inch of the rivet heads or if the shoes are damaged, they must be replaced. Replace any lining that had been contaminated with oil, grease or brake

fluid. Replace lining in axle sets. Prior to replacement of lining, the drum diameter should be checked to determine if oversize linings must be installed.

4. Check the condition of brake shoes, retracting springs, hold-down springs, and drum for signs of overheating. If the shoes have a slight blue coloring, indicating overheating, replacement of the retracting and hold-down springs is strongly recommended. **Overheated springs lose their pull and could cause the new lining to wear prematurely, if they are not replaced.**

5. If the vehicle has 30,000 or more miles of operation on the brake linings or signs of overheating are present when relining brakes, the wheel cylinders should be disassembled and inspected for wear and entrance of dirt into the cylinder. The cylinder cups should be replaced, thus avoiding future problems.

6. Inspect all other brake parts and replace any that are worn or damaged.

7. Inspect the brake drum and, if necessary, refinish. Refer to Part 2-2, Section 4 for refinishing.

BRAKE BOOSTER

Check the booster operation as noted in Part 2-1, Section 1, Power Brake Functional Test. If the brake booster is damaged or defective, replace it with a new booster. **The brake booster is serviced only as an assembly.**

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Part 2-2 Brake System

COMPONENT INDEX	MODEL APPLICATION											
	All Models	Ford	Mercury	Meteor	Cougar	Fairlane	Falcon	Montego	Mustang	Lincoln-Continental	Thunderbird	Continental-Mark III
ANTI SKID CONTROL SYSTEM Description		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	02-07	02-07
ANTI SKID CONTROL ACTUATOR Removal and Installation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	02-36	02-36
ANTI SKID CONTROL MODULE Removal and Installation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	02-38	02-38
ANTI SKID CONTROL SENSOR Removal and Installation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	02-38	02-38
BRAKE BACKING PLATE (DRUM) Removal and Installation	02-16											
BRAKE BOOSTER Cleaning and Inspection - See Part 2-1												
Description	02-06											
Removal and Installation	02-24											
BRAKE DRUM Cleaning and Inspection - See Part 2-1												
Refinishing	02-39											
Removal and Installation (Front)	02-09	02-09	02-09	02-09	02-09	02-09	02-09	02-09	02-09	N/A	N/A	N/A
Removal and Installation (Rear)	02-09											
BRAKE PEDAL Removal and Installation		02-25	02-25	02-25	02-25	02-25	02-25	02-25	02-25	02-27	02-26	02-26
BRAKE SHOES (DRUM) Adjustments	02-07											
Relining	02-39											
Removal and Installation	02-09											
DISC BRAKE Description	02-03											
DISC BRAKE CALIPER Cleaning and Inspection		02-41	02-41	02-41	02-41	02-41	02-41	02-41	02-41	02-42	04-41	02-41
Disassembly and Overhaul		02-41	02-41	02-41	02-41	02-41	02-41	02-41	02-41	02-41	02-41	02-41
Removal and Installation		02-16	02-16	02-16	02-16	02-16	02-16	02-16	02-16	02-17	02-16	02-16
DISC BRAKE ROTOR AND HUB Cleaning and Inspection — See Part 2-1												
Refinishing	02-39											
Removal and Installation	02-19											
DISC BRAKE ROTOR SPLASH SHIELD Removal and Installation	02-19											
DISC BRAKE SERVICE PRECAUTIONS — See Part 2-1												

A page number indicates that the item is for the vehicle listed at the head of the column.
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COMPONENT INDEX	MODEL APPLICATION											
	All Models	Ford	Mercury	Meteor	Cougar	Fairlane	Falcon	Montego	Mustang	Lincoln-Continental	Thunderbird	Continental-Mark III
DISC BRAKE SHOE AND LINING Cleaning and Inspection - See Part 2-1												
Removal and Installation		02-18	02-18	02-18	02-18	02-18	02-18	02-18	02-18	02-18	02-18	02-18
DRUM BRAKE Description	02-05											
DUAL BRAKE SYSTEM Description	02-03											
HYDRAULIC LINES Removal and Installation (Hose)	02-08											
Removal and Installation (Tube)	02-08											
MASTER CYLINDER Cleaning and Inspection	02-40											
Disassembly and Overhaul	02-39											
Removal and Installation - Non-Power		02-19	02-19	02-19	02-20	02-20	02-20	02-20	02-20	N/A	N/A	N/A
Removal and Installation - Power	02-21											
PARKING BRAKE Description	02-06											
PARKING BRAKE ACTUATOR TO CONTROL CABLE Removal and Installation		02-34	02-34	02-34	N/A	N/A	N/A	N/A	N/A	N/A	02-34	02-34
PARKING BRAKE ACTUATOR TO EQUALIZER CABLE Removal and Installation		02-35	02-35	02-35	N/A	N/A	N/A	N/A	N/A	N/A	02-35	02-35
PARKING BRAKE CONTROL Removal and Installation		02-27	02-27	02-27	02-30	02-27	02-27	02-27	02-30	02-30	02-30	02-30
PARKING BRAKE EQUALIZER TO CONTROL CABLE Removal and Installation		N/A	N/A	N/A	02-34	02-34	02-34	02-34	02-34	02-35	N/A	N/A
PARKING BRAKE EQUALIZER TO REAR WHEEL CABLE Removal and Installation		02-35	02-35	02-35	02-36	02-36	02-36	02-36	02-36	02-36	02-35	02-35
PRESSURE DIFFERENTIAL VALVE Removal and Installation	02-22											
PRESSURE METERING VALVE Removal and Installation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	02-24	N/A	N/A
PROPORTIONING VALVE Removal and Installation		02-23	02-23	02-23	02-23	02-23	02-23	02-23	02-23	02-24	02-24	02-24
WHEEL CYLINDER Cleaning and Inspection	02-08											
Disassembly and Overhaul	02-07											
Removal and Installation	02-10											

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1 DESCRIPTION

Disc brakes are available as optional equipment for the front wheels on Ford, Mercury, Meteor, Fairlane, Montego, Falcon, Mustang and Cougar models and are standard on Thunderbird, Continental Mark III, and Lincoln Continental models. The dual-master cylinder equipped hydraulic brake system employs single anchor, internal expanding and self-adjusting drum brake assemblies on the rear wheels of vehicles with disc brakes, and on the front and rear wheels of all others.

A vacuum booster is used with the power disc brake system.

DUAL MASTER CYLINDER BRAKE SYSTEM

The dual-master cylinder brake system has been incorporated in all models to provide increased safety. The system consists of a dual-master cylinder (Fig. 1), pressure differential valve assembly and a switch (Fig. 2). The switch on the differential valve activates a dual-brake warning light, located on the instrument panel.

DISC BRAKE

The disc brake consists of a ventilated rotor and caliper assembly. The caliper used on all models except Lincoln Continental is a single piston floating caliper (Fig. 3). The caliper used on Lincoln Continental models is a four piston fixed caliper (Fig. 4).

A proportioning valve in the rear hydraulic circuit provides balanced braking action between front and rear brakes.

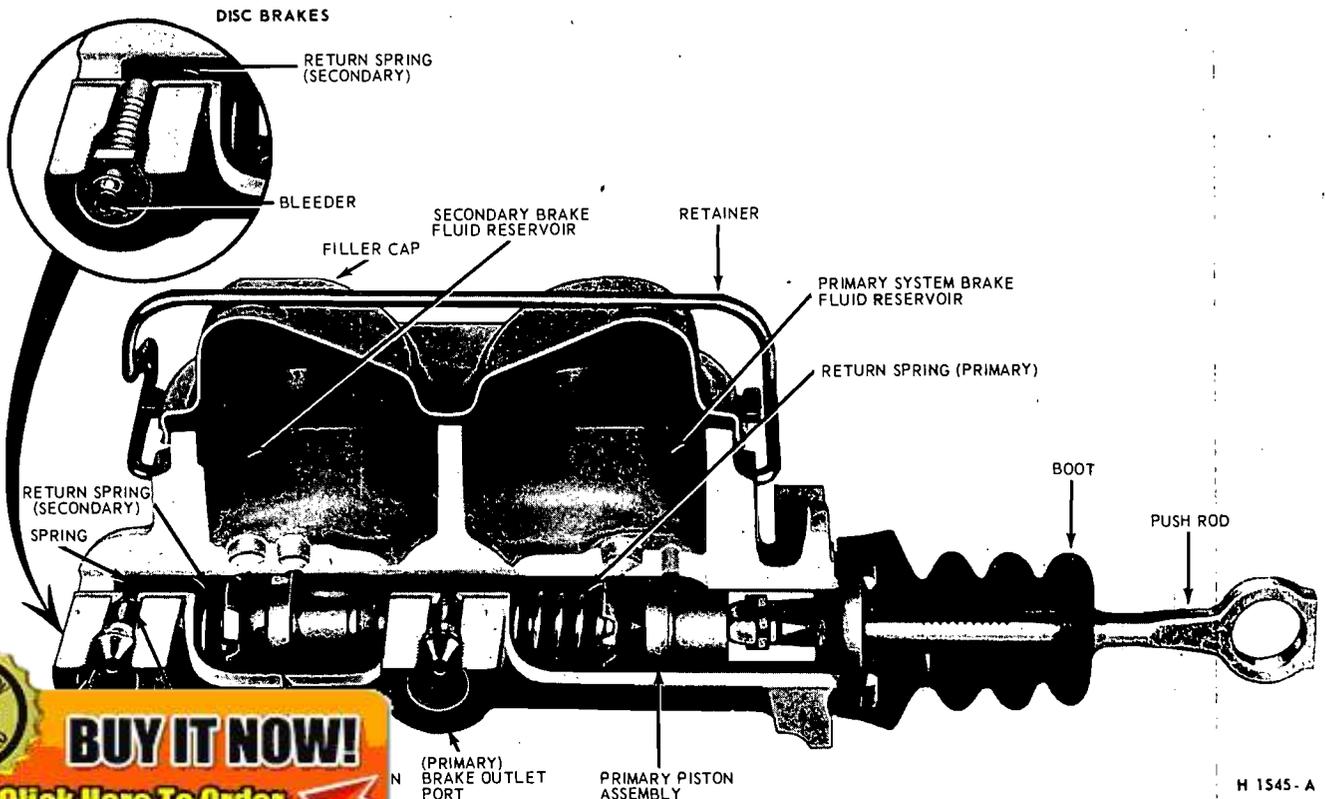
On all models except Lincoln a pressure impulse valve located at the primary inlet of the pressure differential valve prevents brake fluid surge back to the master cylinder reservoir.

On Lincoln Continental models a metering valve, in the hydraulic line between the differential valve and the front wheel disc brakes, prevents the front brakes from applying until approximately 125 psi is obtained in the system (Fig. 21). This delaying action is required to prevent the front brakes from performing all the braking action on low speed stops and thereby increasing the rate of lining wear.

FLOATING CALIPER— ALL MODELS EXCEPT LINCOLN CONTINENTAL

The caliper assembly is made up of a floating caliper housing assembly and an anchor plate. The anchor plate is bolted to the wheel spindle arm by two bolts. The floating caliper is attached to the anchor plate by steel stabilizers on Ford, Mercury, Meteor, Thunderbird and Continental Mark III models and by one stabilizer on Fairlane, Montego, Falcon, Mustang and Cougar models. The floating caliper slides on two locating pins which also attach to the stabilizers. The floating caliper contains the single cylinder and piston assembly. The cylinder bore contains a piston with a molded rubber dust boot to seal the cylinder bore from contamination (Fig. 5). A square section rubber piston seal is positioned in a groove in the cylinder bore and is used to provide sealing between the cylinder and piston (Fig. 7).

The outer brake shoe and lining assembly is longer than the inner assembly, and the shoe and lining assembly



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typical

piston seals are positioned in grooves in the cylinder bores and are used to provide hydraulic sealing between the cylinders and pistons (Fig. 7).

The cylinders are connected hydraulically by means of internal passages in the caliper housings and an external transfer tube between the two halves of the caliper assembly. One bleeder screw and fluid inlet fitting is provided on each caliper assembly.

The shoe and lining assemblies are located in between parallel machined abutments within the caliper, and are supported radially by tabs on the outer ends of the shoe assemblies (Fig. 46). The shoes slide axially in the caliper abutments by means of the tabs which ride on machined ledges (bridges) when hydraulic pressure is applied to the piston (Fig. 6). A shoe and lining assembly consists of friction material riveted to a metal plate called the shoe. It is replaced as a unit. Clips are attached to the top of the caliper to retain the shoe and lining assemblies. The caliper assembly is mounted on the front wheel spindle to the rear of the wheel vertical centerline.

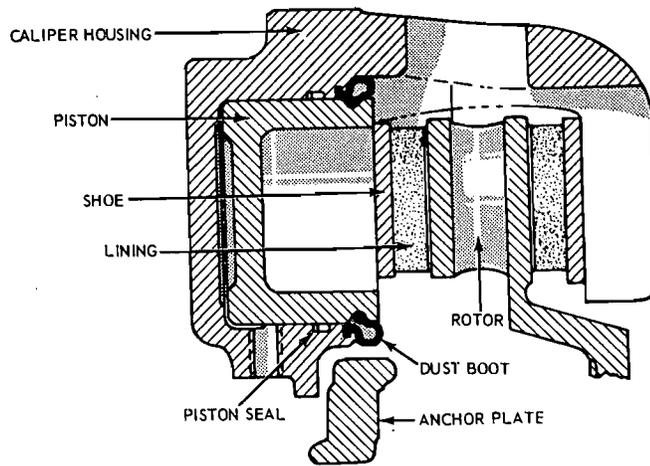
ROTOR

The cast iron disc is of the ventilated rotor-type incorporating forty fins and is attached to, and rotates with the wheel hub. A splash shield bolted to the spindle is used primarily to prevent road contaminants from contacting the inboard rotor and lining surfaces. The wheel provides protection for the outboard surface of the rotor.

DRUM BRAKE

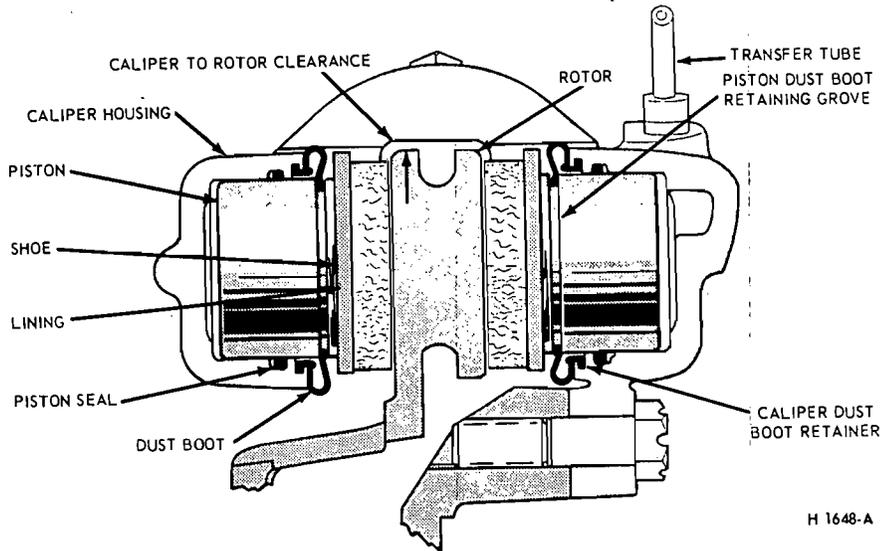
The drum brake system employs single anchor, internal expanding and self adjusting brake assemblies.

The self-adjusting brake mechanism consists of a cable, cable guide, adjusting lever, adjusting screw assembly, and adjuster spring (Fig. 8). The cable is hooked over the anchor pin at the top and is connected to the lever at the bottom. The cable is routed along the web of the secondary brake shoe by means of the cable guide. The adjuster spring is hooked to the primary brake shoe and to the lever.



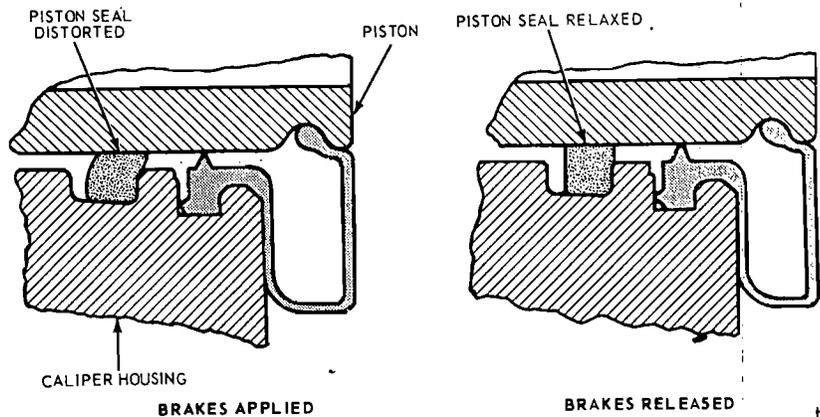
H 1568-B

FIG. 5—Floating Caliper Assembly—Sectional View



H 1648-A

FIG. 6—Fixed Caliper Assembly—Sectional View



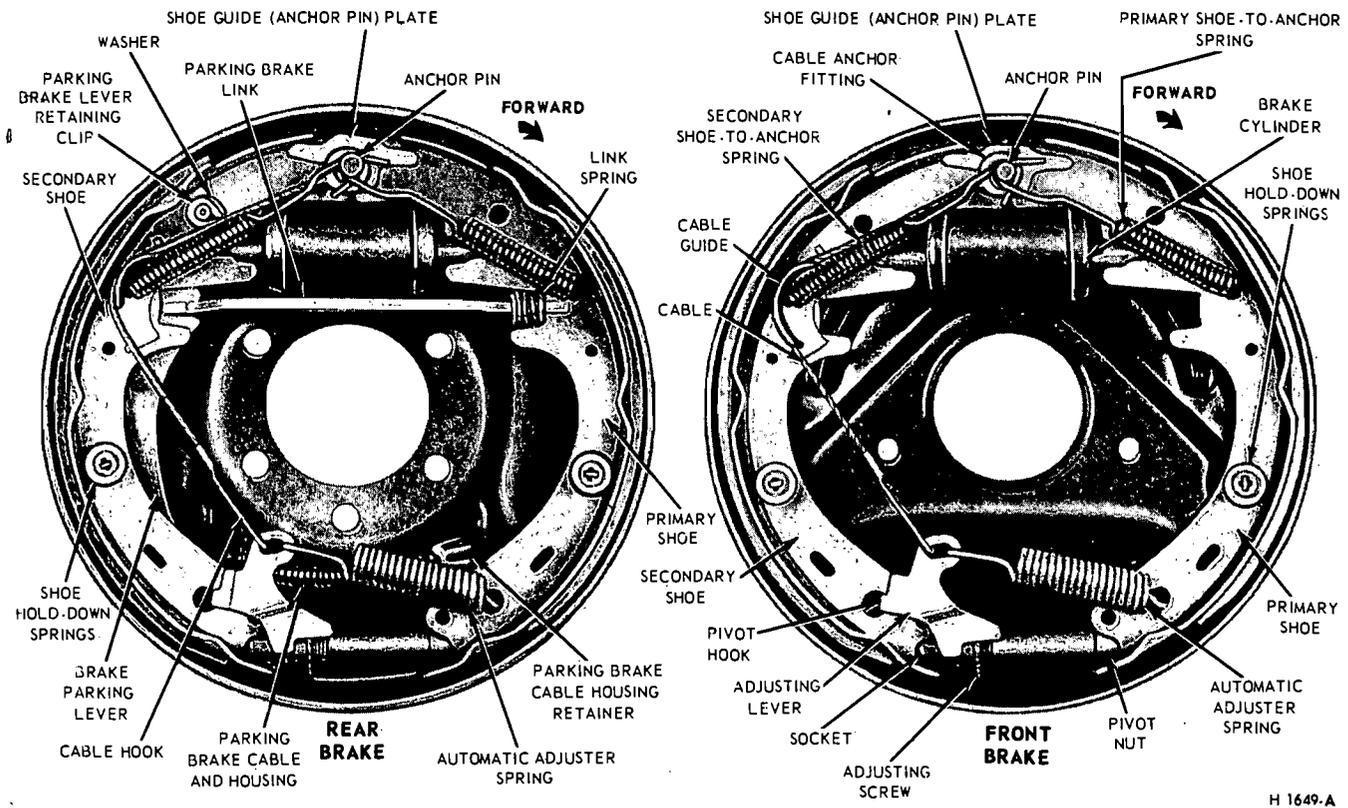
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FIG. 7—Function of Piston Seal

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FIG. 8—Self-Adjusting Brake Assemblies—Typical

BRAKE BOOSTER SYSTEM

This diaphragm-type brake booster is a self-contained vacuum-hydraulic braking unit mounted on the engine side of the dash panel.

The brake booster is of the vacuum suspended-type which utilizes engine intake manifold vacuum and atmospheric pressure for its power.

Adjustment of the push rod and replacement of the check valve and grommet are the only services permitted on the brake booster. The booster unit is to be exchanged when it is inspected, checked and found to be defective.

PARKING BRAKE

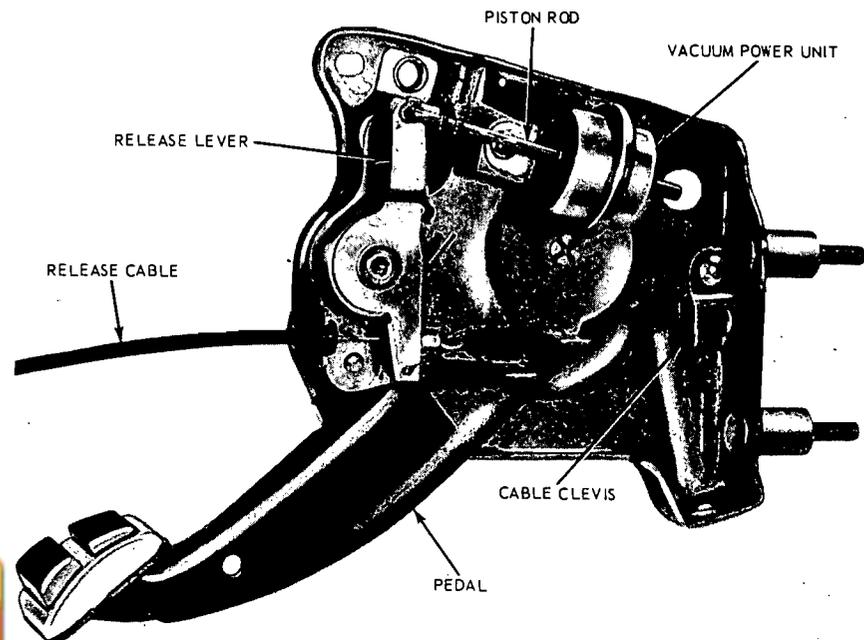
An independent foot-operated parking brake control actuates the rear wheel brake shoes through a cable linkage. On all models except Ford, Mercury, Meteor, Thunderbird and Continental Mark III, the operating cable is routed from the parking brake

nects the actuator to the equalizer. The rear brake cables connect the equalizer assembly to the parking brake lever at each rear secondary shoe (Fig. 8).

Two types of brake pedal control are used. The automatic (vacuum) re-

lease type (Fig. 9) is used on the Mercury, Ford LTD, Meteor LeMoyné, Thunderbird, Continental Mark III and Lincoln Continental models. All other models use the manual release-type (Fig. 10).

On the automatic-type, the vacuum



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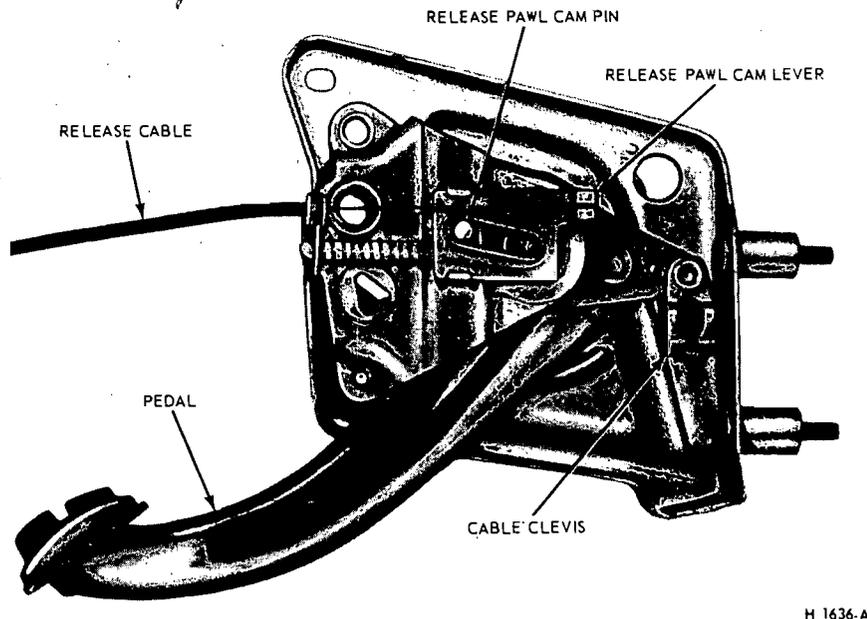
FIG. 9—Parking Brake Control Assembly with Automatic Release—Typical

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assembly. An intermediate cable con-



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FIG. 10—Parking Brake Control Assembly With Manual Release—Typical

power unit with mounting bracket is riveted to the control assembly. The vacuum actuated piston within the unit is connected by a rod to the upper end of the release lever (Fig. 9). The lower end of the release lever extends out for alternate manual release

in the event of vacuum power failure or for optional manual release at any time.

Hoses connect the power unit and the engine manifold to a vacuum release valve in the transmission neutral safety switch.

ANTI-SKID CONTROL SYSTEM

The anti-skid control system consists of three major components (Fig. 39). Mechanically driven electromagnetic sensors at each rear wheel; an electronic control module mounted under the glove box; a vacuum powered actuator attached to a bracket on the inside of the right front frame rail under the toe board.

The sensors consist of steel rings having teeth on their outer diameters, pressed on each axle shaft just out-board of the wheel bearing. The teeth rotate past corresponding teeth on the inside diameter of stationary steel rings mounted in the bearing retainers. Also mounted in the retainers, are ring-shaped permanent magnets and coils of wire. Two wires from each sensor connect the sensors to the control module.

The control module consists of solid state electronic components sealed in a container. It is connected to the sensors and to a solenoid on the actuator.

The actuator is similar to a vacuum brake booster and consists of three parts. A chamber divided by a vacuum suspended diaphragm; a hydraulic cylinder connected to the diaphragm; and a solenoid connected electrically to the control module.

2 IN-VEHICLE ADJUSTMENTS AND REPAIRS

After any brake service work, obtain a firm brake pedal before moving the vehicle. Riding the brake pedal (common on left foot application) should be avoided when driving the vehicle.

BRAKE SHOE ADJUSTMENTS— DRUM BRAKES

The hydraulic drum brakes are self-adjusting and require a manual adjustment only after the brake shoes have been relined, replaced, or when the length of the adjusting screw has been changed while performing some other service operation. The manual adjustment is performed with the

To adjust the brake shoes:

1. Use Rotunda Tool HRE 8650, (Fig. 11) to determine the inside diameter of the drum braking surface.
2. Reverse the tool as shown in Fig. 11 and adjust the brake shoe diameter to fit the gauge. Hold the automatic adjusting lever out of engagement while rotating the adjusting screw, to prevent burring the screw slots. Make sure the adjusting screw rotates freely. If necessary, lubricate the adjusting screw threads with a thin, uniform coating of MIC-100-A.
3. Rotate Tool HRE 8650 around the brake shoes to be sure of the setting.
4. Apply a small quantity of high temperature grease to the points where the shoes contact the backing plate, being careful not to get the lubricant on the linings.
5. Install the drums. Install Tinnerman nuts and tighten securely.
6. Install the wheels on the drums

and tighten the nuts to specification.

7. Complete the adjustment by applying the brakes several times with a minimum of 50 lbs pressure on the pedal while backing the vehicle. After each stop the vehicle must be moved forward.

8. After the brake shoes have been properly adjusted, check the operation of the brakes by making several stops while operating in a forward direction.

WHEEL CYLINDER REPAIR— DRUM BRAKE

Wheel cylinders should not be disassembled unless they are leaking or unless new cups and boots are to be installed. It is not necessary to remove the brake cylinder from the backing plate to disassemble, inspect, or hone and overhaul the cylinder. Removal is necessary only when the cylinder is damaged or scored beyond repair.

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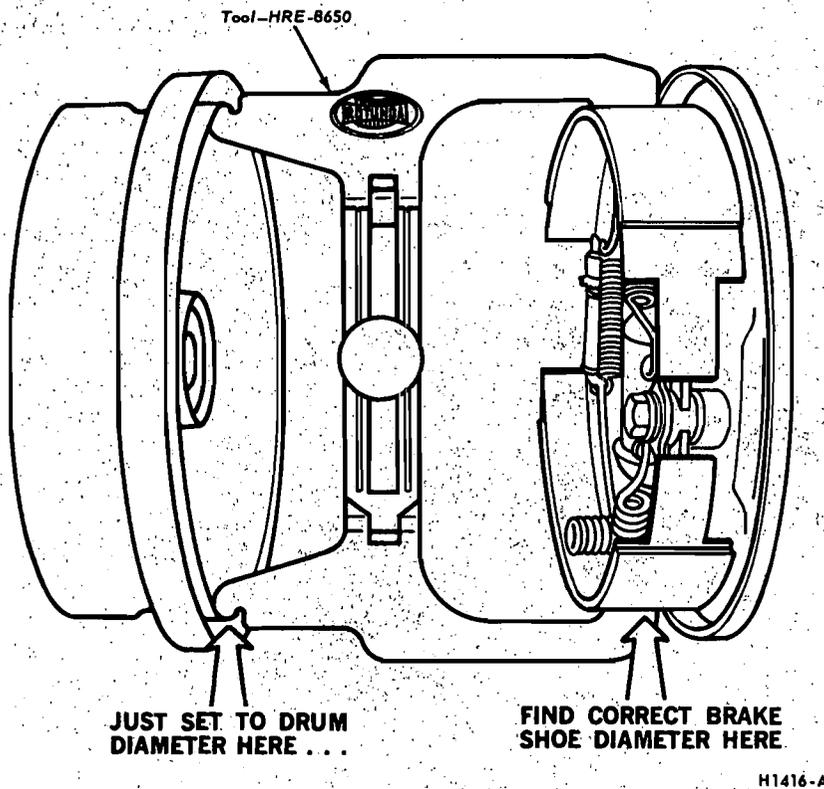


FIG. 11—Adjusting Brake Shoes Using Tool HRE-8650

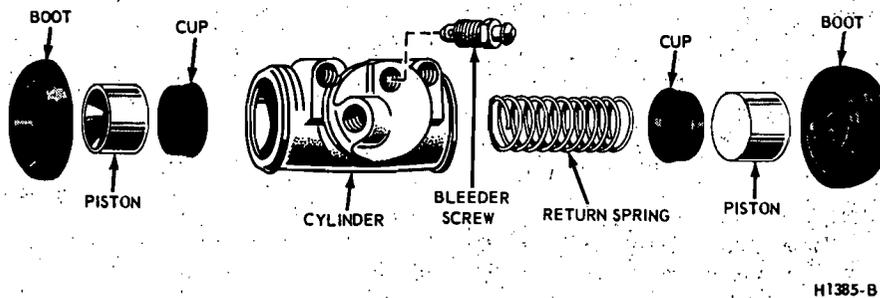


FIG. 12—Brake Wheel Cylinder—Typical

DISASSEMBLY

1. Remove the links and the rubber boots from the ends of the brake cylinder. Remove the pistons, cups, and return spring from the cylinder bore (Fig. 12).
2. Remove the bleeder screw from the cylinder.

3. Inspect the cylinder bore for score marks or rust. If either condition is present the cylinder bore must be honed. However, the cylinder should not be honed more than 0.003 inch beyond its original diameter.

4. Check the bleeder hole to be sure that it is open.

ASSEMBLY

1. Apply a light coating of heavy-duty brake fluid to all internal parts.
2. Thread the bleeder screw into the cylinder and tighten securely.
3. Insert the return spring, cups, and pistons into their respective positions in the cylinder bore (Fig. 12).

Place a boot over each end of the cylinder. Bleed the brake system.

HYDRAULIC LINE REPAIR

Steel tubing is used throughout the brake system with the exception of the flexible hoses at the front wheels and at the rear axle housing brake tube connection (Figs. 17 thru 21).

Always bleed the applicable primary or secondary brake system after primary or secondary brake system hose or line replacement. Centralize the pressure differential valve after bleeding the system.

BRAKE TUBE REPLACEMENT

If a section of the brake tubing becomes damaged, the entire section should be replaced with tubing of the same type, size, shape and length. Copper tubing should not be used in a hydraulic system. When bending brake tubing to fit underbody or rear axle contours, be careful not to kink or crack the tube.

All brake tubing should be double flared properly to provide good leak-proof connections. Clean the brake tubing by flushing with clean brake fluid before installation.

When connecting a tube to a hose, tube connector, or brake cylinder, tighten the tube fitting nut to specified torque with Milbar tool 1112-144 or equivalent.

BRAKE HOSE REPLACEMENT

A flexible brake hose should be replaced if it shows signs of softening, cracking, or other damage.

When installing a new front brake hose, position the hose to avoid contact with other chassis parts. Place a new copper gasket over the hose fitting and thread the hose assembly into the front wheel cylinder. Engage the opposite end of the hose to the bracket on the frame. Install the horseshoe-type retaining clip, and connect the tube to the hose with the tube fitting nut (Figs. 17 thru 21).

A rear brake hose should be installed so that it does not touch the muffler outlet pipe or shock absorber. Thread the hose into the rear brake tube connector. Engage the front end of the hose to the bracket on the frame. Install the horseshoe-type retaining clip, and connect the tube to the hose with the tube fitting nut.

SECTION

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3 REMOVAL AND INSTALLATION

FRONT BRAKE DRUM

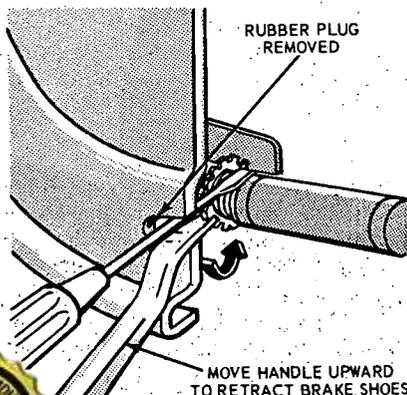
REMOVAL

1. Raise the vehicle until the wheel and tire clear the floor. Remove the wheel cover or hub cap, and remove the wheel and tire from the drum.
2. Remove the grease cap from the hub. Remove the cotter pin, nut lock, adjusting nut, and flat washer from the spindle. Remove the outer bearing cone and roller assembly.
3. Pull the drum off the wheel spindle.

4. If the drum will not come off, pry the rubber cover from the brake backing plate. Insert a narrow screwdriver through the slot and disengage the adjusting lever from the adjusting screw. While holding the adjusting lever away from the screw, back off the adjusting screw with the brake adjusting tool (Fig. 13). **Be very careful not to burr, chip, or damage the notches in the adjusting screw; otherwise the self-adjusting mechanism will not function properly.**

INSTALLATION

1. If the drum is being replaced, remove the protective coating from the new drum with carburetor degreaser. Then, use sandpaper to insure that no residue remains. Wipe the drum with a cloth soaked with denatured alcohol. Install new bearings and grease seal. Pack the wheel bearings, install the inner bearing cone and roller assembly



in the inner cup, and install the new grease seal see Part 3-5, Section 4.

If the original drum is being installed, make sure that the grease in the hub is clean and adequate.

2. Adjust the brakes and install the drum assembly as outlined under Brake Shoe Adjustments in this section.

3. Install the outer wheel bearing, washer and adjusting nut.

4. Adjust the wheel bearing as outlined in Part 3-7, Section 2, then install the grease cap. Install the wheel and hub cap.

REAR BRAKE DRUM

REMOVAL

1. Raise the vehicle so that the tire is clear of the floor.

2. Remove the hub cap and wheel. Remove the three Tinnerman nuts and remove the brake drum. If the drum will not come off, pry the rubber cover from the backing plate. Insert a narrow screwdriver through the hole in the backing plate, and disengage the adjusting lever from the adjusting screw. While holding the adjusting lever away from the adjusting screw, back off the adjusting screw with the brake adjusting tool (Fig. 13). **Be very careful not to burr, chip, or damage the notches in the adjusting screw; otherwise, the self-adjusting mechanism will not function properly.**

INSTALLATION

1. Remove the protective coating from a new drum with carburetor degreaser; then sand lightly and wipe with a cloth soaked with denatured alcohol.

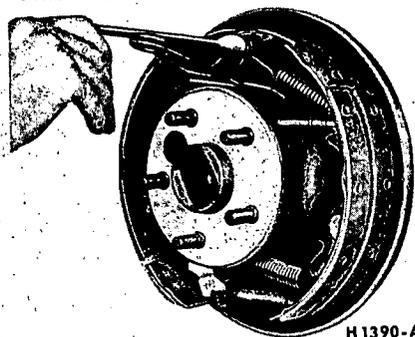


FIG. 14—Retracting Spring Removal

2. Adjust the brakes as outlined under Brake Shoe Adjustments in this section. Place the drum over the brake assembly and into position.

3. Install the three Tinnerman nuts and tighten securely. Install the wheel on the axle shaft flange studs against the drum, and tighten the attaching nuts to specifications.

BRAKE SHOES AND ADJUSTING SCREW—DRUM BRAKES

REMOVAL

1. With the wheel and drum removed install a clamp over the ends of the brake cylinder as shown in Fig. 14.

2. Remove the secondary shoe to anchor spring with the tool shown in Fig. 14. With the same tool remove the primary shoe to anchor spring and unhook the cable eye from the anchor pin.

3. On Ford, Mercury, Meteor, Thunderbird, Continental Mark III and Lincoln Continental models, remove the shoe guide (anchor pin) plate (Fig. 8).

4. Remove the shoe hold-down springs, shoes, adjusting screw, pivot nut, socket and automatic adjustment parts.

5. On rear brakes, remove the parking brake link and spring. Disconnect the parking brake cable from the parking brake lever.

6. After removing the rear brake secondary shoe, disassemble the parking brake lever from the shoe by removing the retaining clip and spring washer (Fig. 8).

INSTALLATION

1. Before installing the rear brake shoes, assemble the parking brake lever to the secondary shoe and secure with the spring washer and retaining clip.

2. Apply a light coating of high-temperature grease at the points where the brake shoes contact the backing plate.

3. Position the brake shoes on the backing plate and secure the assembly with the hold down springs. On the rear brake, install the parking brake link and spring, back off the parking

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brake adjustment then connect the parking brake cable to the parking brake lever (Fig. 8).

4. Install the shoe guide (anchor pin) plate on the anchor pin when so equipped.

5. Place the cable eye over the anchor pin with the crimped side toward the backing plate.

6. Install the primary shoe to anchor spring (Fig. 15).

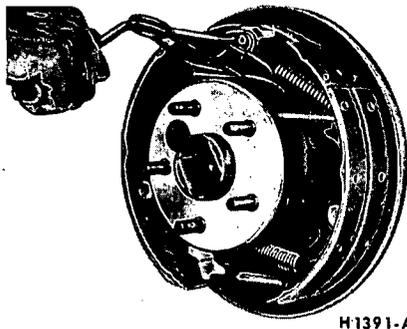


FIG. 15—Retracting Spring Installation

7. Install the cable guide on the secondary shoe web with the flanged hole fitted into the hole in the secondary shoe web. Thread the cable around the cable guide groove (Fig. 8).

It is imperative that the cable be positioned in this groove and not between the guide and the shoe web.

8. Install the secondary shoe to anchor spring with the tool shown in Fig. 15.

Be certain that the cable eye is not cocked or binding on the anchor pin when installed. All parts should be flat on the anchor pin. Remove the brake cylinder clamp.

9. Apply high-temperature grease (MIC-100-A) to the threads and the socket end of the adjusting screw. Turn the adjusting screw into the adjusting pivot nut to the limit of the threads and then back off 1/2 turn.

Interchanging the brake shoe adjusting screw assemblies from one side of the vehicle to the other would cause the brake shoes to retract rather than expand each time the automatic adjusting mechanism operated. To prevent installation on the wrong side of the vehicle, the socket end of the ad-

10. Place the adjusting socket on the screw and install this assembly between the shoe ends with the adjusting screw toothed wheel nearest the secondary shoe.

11. Hook the cable hook into the hole in the adjusting lever. The adjusting levers are stamped with an R or L to indicate their installation on right or left brake assembly (Fig. 16).

12. Position the hooked end of the

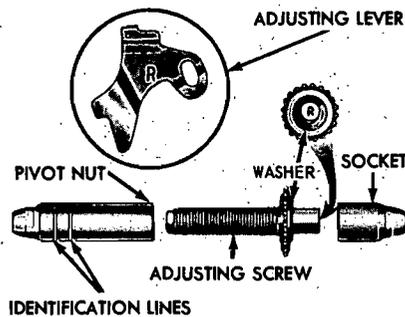


FIG. 16—Adjusting Screw and Lever Identification

adjuster spring completely into the large hole in the primary shoe web. The last coil of the spring should be at the edge of the hole. Connect the loop end of the spring to the adjuster lever hole.

13. Pull the adjuster lever, cable and automatic adjuster spring down and toward the rear to engage the pivot hook in the large hole in the secondary shoe web (Fig. 8).

14. After installation, check the action of the adjuster by pulling the section of the cable between the cable guide and the anchor pin toward the secondary shoe web far enough to lift the lever past a tooth on the adjusting screw wheel. The lever should snap into position behind the next tooth, and release of the cable should cause the adjuster spring to return the lever to its original position. This return action of the lever will turn the adjusting screw one tooth.

If pulling the cable does not produce the action described, or if the lever action is sluggish instead of positive and sharp, check the position of the lever on the adjusting screw toothed wheel. With the brake in a vertical position (anchor at the top), the lever should contact the adjusting wheel 3/16 inch (plus or minus 1/32 inch) above the centerline of the screw. If the contact point is below this centerline, the lever will not lock on the teeth in the adjusting screw wheel, and the screw will not be turned

as the lever is actuated by the cable.

To determine the cause of this condition:

a. Check the cable end fittings. The cable should completely fill or extend slightly beyond the crimped section of the fittings. If it does not meet this specification, possible damage is indicated and the cable assembly should be replaced.

b. Check the cable length. On Ford, Mercury, Meteor, Thunderbird, Continental Mark III, and Lincoln Continental models, the cable should measure 11 1/8 inches (plus or minus 1/64 inch) from the end of the cable anchor to the end of the cable hook. On Fairlane, Montego, Falcon, Mustang, and Cougar models the cable should measure 8 13/32 inches on 9 inch brakes or 9 3/4 inches on 10 inch brakes from the end of the cable anchor to the end of the cable hook.

c. Check the cable guide for damage. The cable groove should be parallel to the shoe web, and the body of the guide should lie flat against the web. Replace the guide if it shows damage.

d. Check the pivot hook on the lever. The hook surfaces should be square with the body of the lever for proper pivoting. Replace the lever if the hook shows damage.

e. See that the adjusting screw socket is properly seated in the notch in the shoe web.

WHEEL CYLINDER DRUM BRAKE

REMOVAL

1. Remove the wheel and the drum.
2. Remove the brake shoe assemblies, following procedures outlined in this section.

3. Disconnect the brake line from the brake cylinder Figs. 17 thru 21. On a vehicle with a vacuum brake booster, be sure the engine is stopped and there is no vacuum in the booster system before disconnecting the hydraulic lines.

To disconnect the hose at a front cylinder, loosen the tube fitting that connects the opposite end of the hose to the brake tube at a bracket on the frame. Remove the horseshoe-type retaining clip from the hose and bracket, disengage the hose from the bracket, then unscrew the entire hose assembly from the front wheel cylinder.

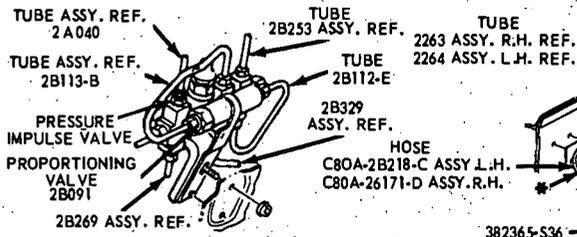
At a rear cylinder, unscrew the tube

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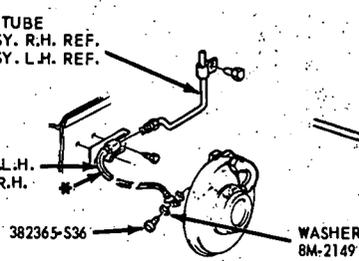
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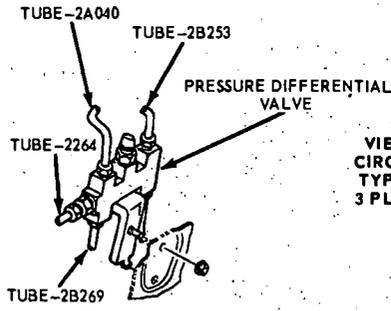
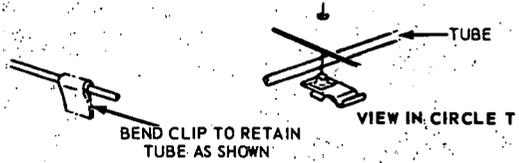
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VIEW Z
INSTALLATION-DISC BRAKE ONLY



INSTALLATION-DISC BRAKES SAME AS DRUM BRAKES AND MAIN VIEW EXCEPT AS SHOWN



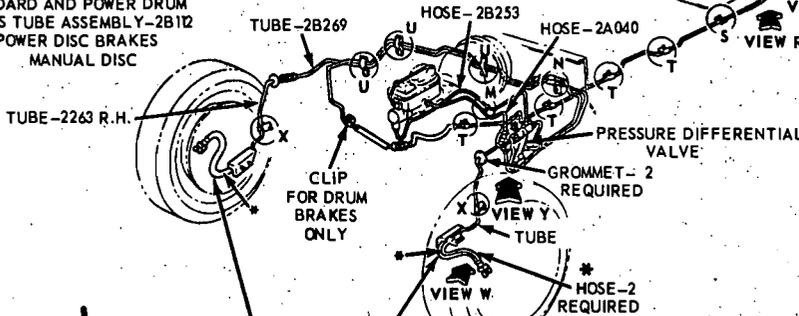
VIEW Y



CLIP-3 REQUIRED
BOLT-3 REQUIRED

CHECK BRAKE HOSE CLEARANCE TO ALL COMPONENTS IN METAL/METAL JOUCE AND METAL/METAL REBOUND

TUBE ASSEMBLY-2265 STANDARD AND POWER DRUM BRAKES
TUBE ASSEMBLY-2B12 POWER DISC BRAKES
MANUAL DISC



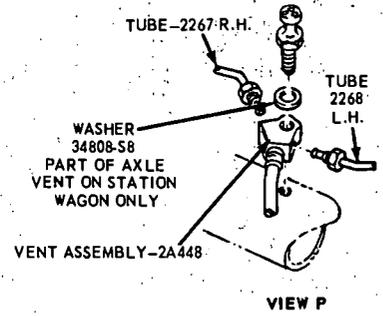
ROUTING FOR STATION WAGON ONLY

VIEW IN CIRCLE Y
TYPICAL 2 PLACES

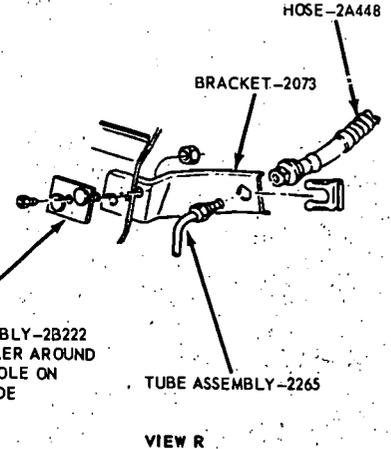
VIEW X
TYPICAL 2 PLACES
DRUM BRAKES
TUBE-2263 R.H.
2264 L.H.

* HOSE-2078
GASKET-2149 2 REQUIRED
VIEW IN CIRCLE W
TYPICAL 2 PLACES
DRUM BRAKES

SECTION A-A
CLIP
TUBE TUBE
VIEW IN CIRCLE M
POWER DISC BRAKES



VIEW IN CIRCLE U
TYPICAL 4 PLACES



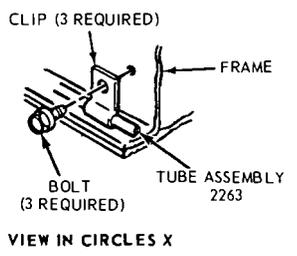
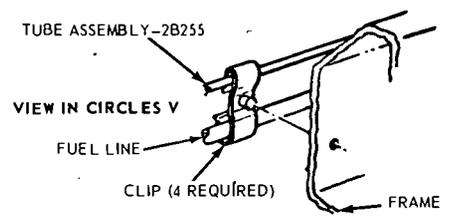
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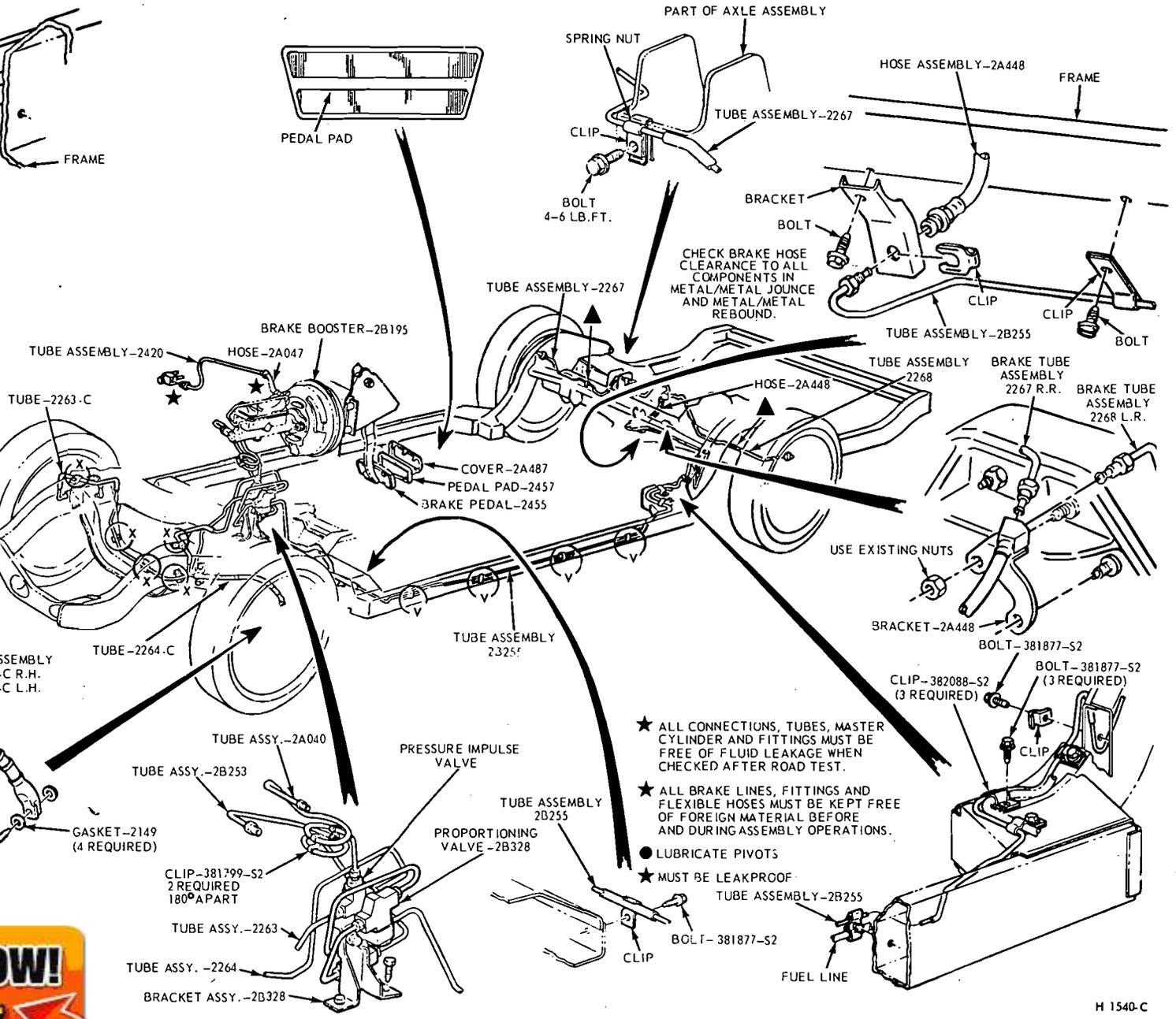
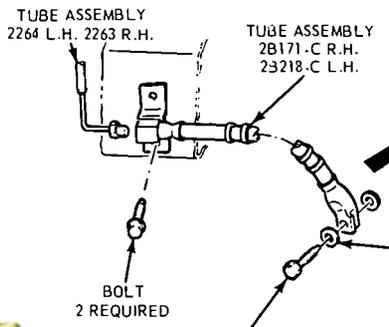
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...ne, Montego and Falcon



CHECK BRAKE HOSE CLEARANCE TO ALL COMPONENTS IN METAL/METAL JOUCE AND FULL INSIDE AND OUTSIDE TURNS.



★ ALL CONNECTIONS, TUBES, MASTER CYLINDER AND FITTINGS MUST BE FREE OF FLUID LEAKAGE WHEN CHECKED AFTER ROAD TEST.

★ ALL BRAKE LINES, FITTINGS AND FLEXIBLE HOSES MUST BE KEPT FREE OF FOREIGN MATERIAL BEFORE AND DURING ASSEMBLY OPERATIONS.

● LUBRICATE PIVOTS

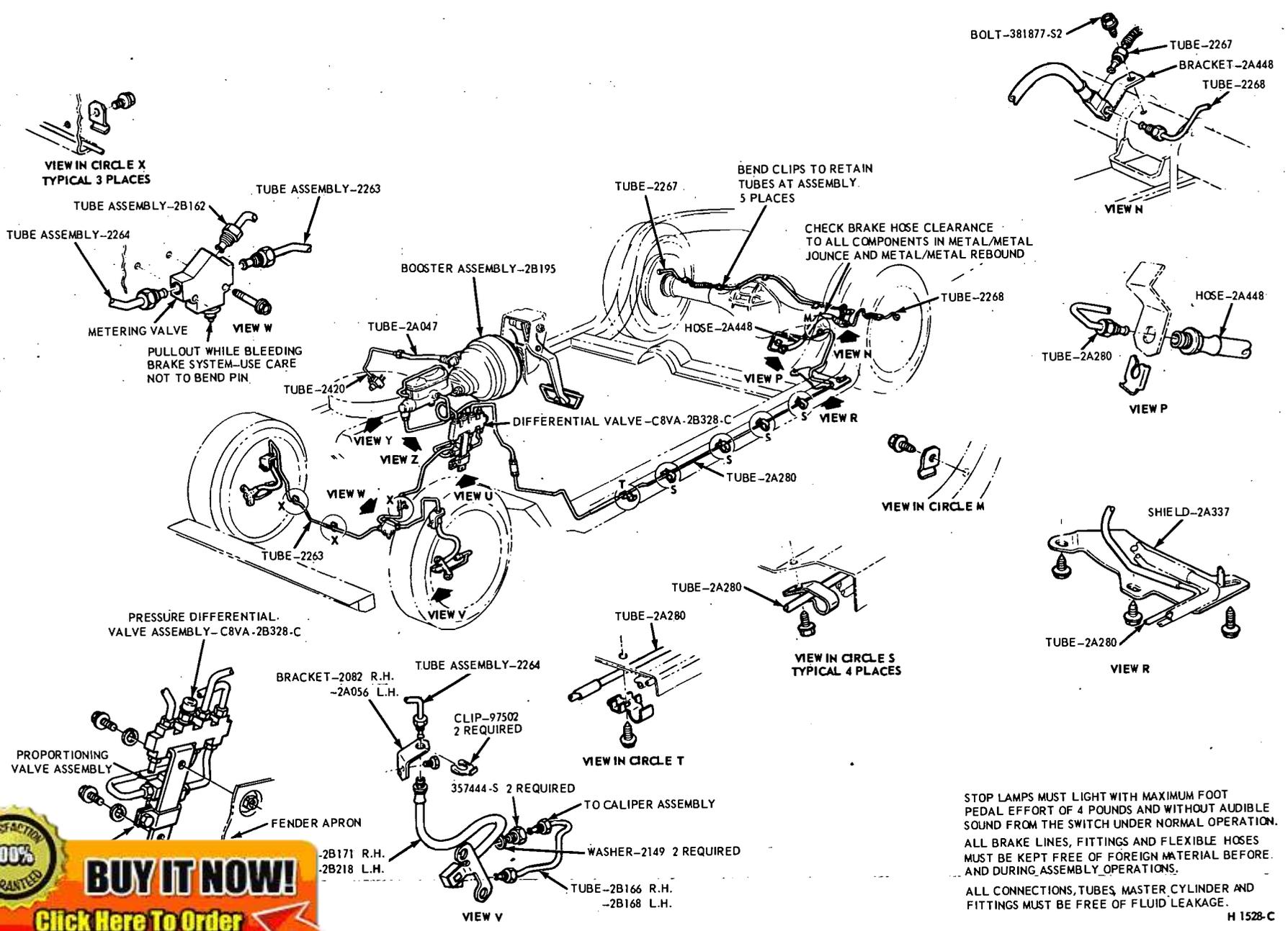
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derbird, Continental Mark III



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fitting that connects the tube to the cylinder. **Do not pull the metal tube away from the cylinder. Pulling the tube out of the cylinder connection will bend the metal tube and make installation difficult.** The tube will separate from the cylinder when the cylinder is removed from the backing plate.

4. On all except the front wheels on Ford, Mercury, and Meteor models, remove the wheel cylinder attaching bolts and lock washers and remove the cylinder. On the front wheel of Ford, Mercury and Meteor models, remove the nut and washer that attaches the cylinder to the anchor pin. Remove the cylinder from the anchor pin.

INSTALLATION

Wipe the end(s) of the hydraulic line to remove any foreign matter before making connections.

1. On all models except Ford, Mercury and Meteor, to install a front wheel cylinder, position the cylinder to the backing plate. Install the two lock washers and attaching bolts. Torque them to specifications.

On Ford, Mercury and Meteor models, to install a front wheel cylinder, position the cylinder on the anchor pin against the backing plate. Install the washer and cylinder attaching nut on the anchor pin, and torque it to specification. Lock the washer retainer securely.

2. Install a new copper gasket over the hose fitting. Thread the hose into the cylinder and tighten it to specified torque.

3. Engage the opposite end of the hose to the bracket on the frame. Install the horseshoe-type retaining clip, and connect the brake tube to the hose with the tube fitting nut. Tighten the nut to specification with tool 1112-144.

4. To install a rear wheel cylinder, place the rear wheel cylinder into position. Enter the tubing into the cylinder, and start the tube fitting nut into the threads of the cylinder.

5. Secure the cylinder to the backing plate by installing the attaching bolts and lock washers.

6. Tighten the tube fitting nut to specification with tool 1112-144.

7. Install the links in the ends of the wheel cylinder, install the shoes

BRAKE BACKING PLATE— DRUM BRAKE

REMOVAL

1. Remove the wheel and brake drum. Disconnect the brake line from the brake cylinder.

2. Remove the brake shoe and adjuster assemblies and the wheel cylinder as outlined in this section. On the rear wheels, disconnect the parking brake lever from the cable.

3. If the rear backing plate is being replaced, remove the axle shaft from the applicable rear axle as outlined in Group 4, Part 4-2—Rear Axle, Section 2, disengage parking brake cable retainer from backing plate. Remove the backing plate and gasket.

If the front backing plate is being replaced, remove the bolts and nuts that secure the backing plate to the front wheel spindle and remove the plate and gasket.

INSTALLATION

If a rear backing plate is to be replaced, position a new rear backing plate and gasket on the attaching bolts in the axle housing flange. Insert parking brake cable into backing plate and secure retaining fingers. Install the rear axle shaft for applicable rear axle. Refer to Group 4, Part 4-2—Rear Axle, Section 2 for the proper installation procedure.

1. If the front brake backing plate is to be replaced, position a new front backing plate and gasket to the wheel spindle and install the attaching bolts and nuts.

2. Install the wheel cylinder and connect the brake line as outlined in this section.

3. Install the brake shoe and adjuster assemblies as outlined in this section. On a rear brake, connect the parking brake cable to the lever.

4. Adjust the brake shoes (Section 2), and install the brake drums and wheels. Bleed the brake system and centralize the differential valve as outlined in Part 2-1, Section 2.

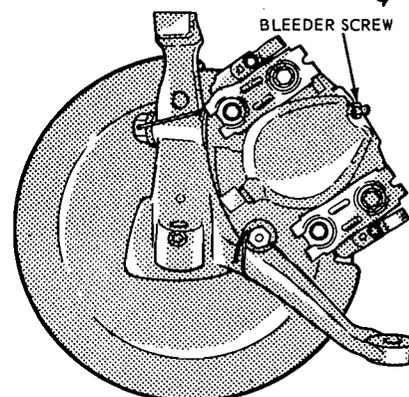
DISC BRAKE CALIPER ASSEMBLY

ALL MODELS EXCEPT
LINCOLN CONTINENTAL

Removal

Refer to Figs. 22 and 23.

BLEEDER SCREW FACING THIS DIRECTION



H 1641-A

FIG. 22—Floating Caliper.
Installed

1. Remove the front wheel cover. Remove the wheel and tire assembly from the hub and rotor assembly. **Be careful to avoid damage or interference with the caliper splash shield or bleeder screw fitting.**

2. Disconnect the brake line from the caliper. Cap the hose to prevent the brake fluid from leaking from the master cylinder.

3. Remove the safety wire and the two bolts that attach the caliper assembly to the spindle.

4. Lift the caliper assembly off the rotor and place it on the bench.

Installation

1. Position the caliper assembly on the rotor, and mate the mounting bolt holes in the caliper with those in the spindle. It may be necessary to push the caliper piston into the cylinder bore to obtain clearance between the shoe and lining assembly and the rotor.

2. Install the caliper to spindle attaching bolts and torque them to specification. **The upper bolt must be tightened first.** Install the safety wire on the bolts and twist the wire ends at least five turns. Push the wire ends against the spindle to avoid interference with the brake hose and the steering stop. Check to insure that the rotor runs squarely and centrally between the two brake shoes.

3. Position the brake hose fitting with a new copper washer on each side of the fitting on the caliper assembly. Install the bolts and torque to specification.

4. Bleed the brake system and centralize the differential valve as outlined in Part 2-1. Check the master

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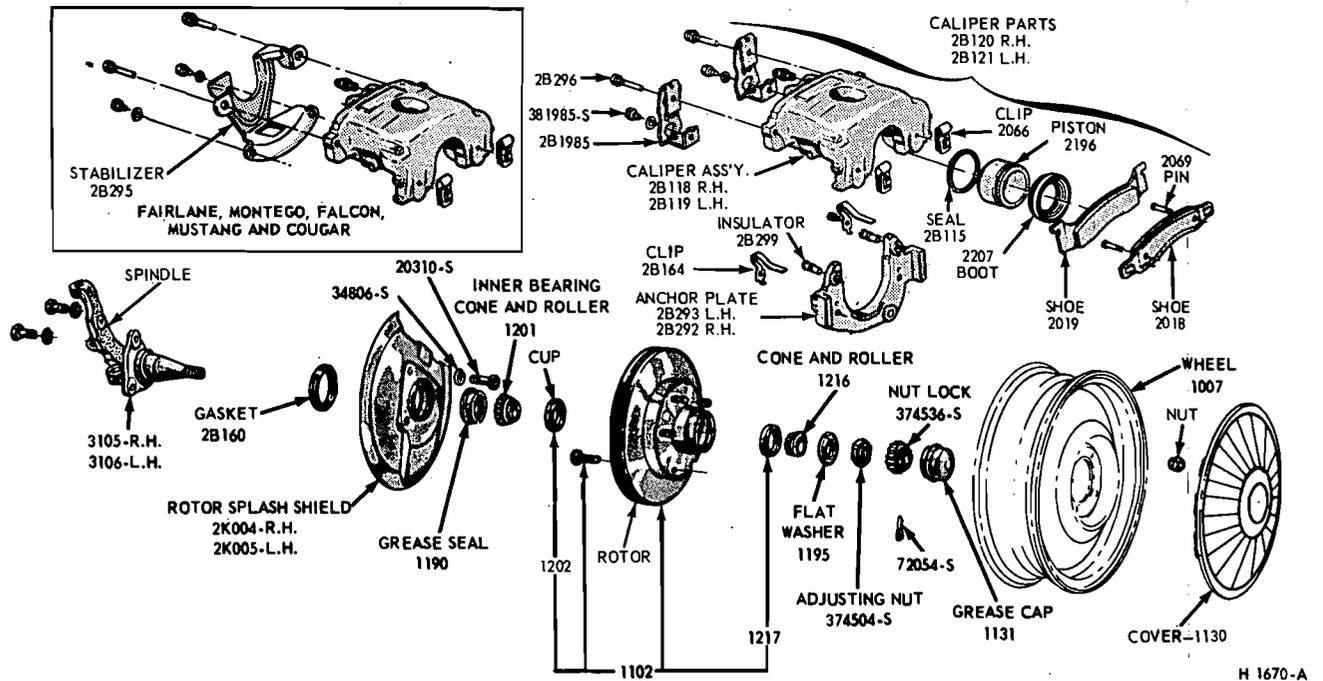


FIG. 23—Disc Brake—Disassembled—All Models Except Lincoln

H 1670-A

cylinder fluid level and add the specified fluid, as required. Pump the brake pedal several times to actuate the piston seals and to position the shoe and lining assemblies.

5. Install the wheel and tire assembly and the wheel cover.

6. Road test the vehicle.

LINCOLN CONTINENTAL

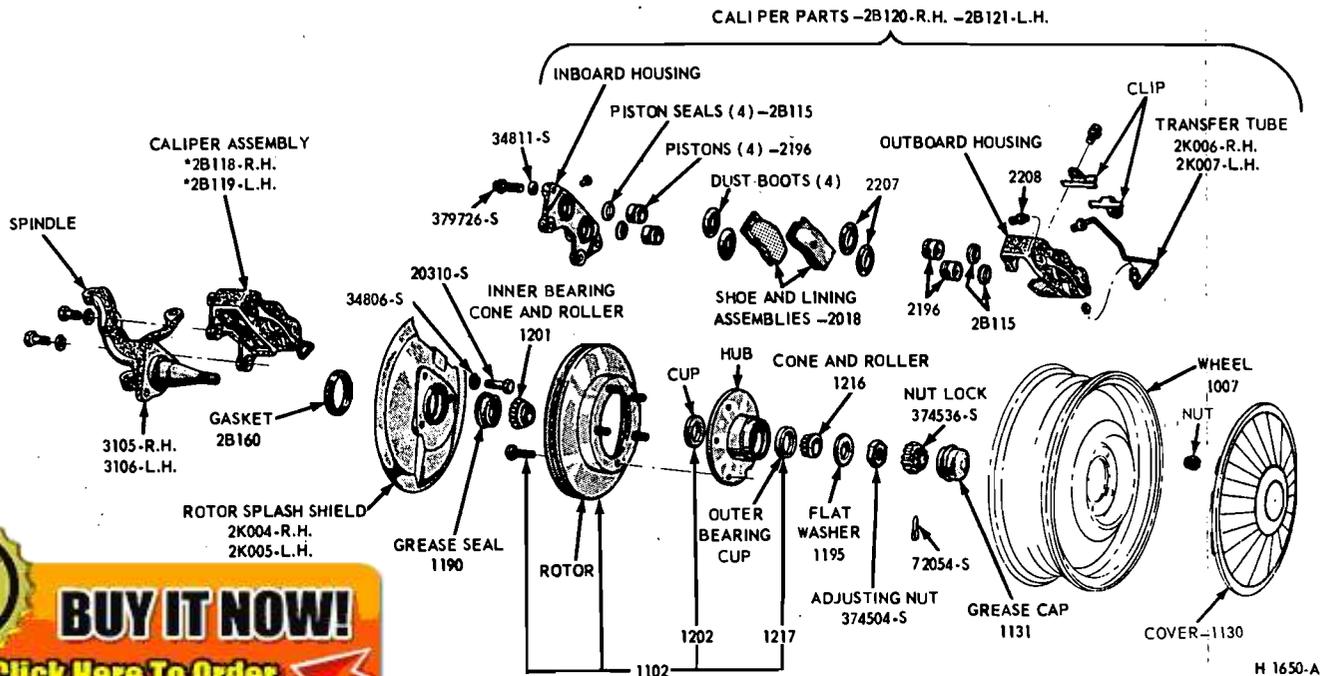
Removal

Refer to Fig. 24.

1. Remove the front wheel cover.

Remove the wheel and tire assembly from the hub and rotor assembly. Be careful to avoid damage or interference with the caliper splash shield, bleeder screw fitting or transfer tube.

2. Disconnect the steel brake line transfer tube from the caliper (Fig. 21). Leave the steel tube connected to



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—Lincoln Continental

the brake hose connector and bracket assembly.

3. Remove the two bolts retaining the brake hose bracket and caliper assembly to the spindle. **Take care to avoid loosening the bridge bolts that hold the two halves of the caliper together.**

4. Lift the caliper assembly off the rotor and place it on the bench.

Installation

1. If the caliper assembly is to be replaced, transfer the steel tubing and the bleeder screw to the new caliper.

2. Position the caliper assembly on the rotor, and mate the mounting bolt holes in the caliper with those in the spindle. It may be necessary to push the caliper pistons into the cylinder bores to obtain clearance between the shoe and lining assembly and the rotor. The shoe and lining assemblies should be seated properly on the bridges.

3. Install the caliper to spindle retaining bolts and torque them to specification. Check to insure that the rotor runs squarely and centrally between the two halves of the caliper. These should be approximately 0.090-0.120 inch clearance between the caliper and the rotor outside diameter (Fig. 6).

4. Position the steel transfer tube brake hose bracket and caliper assembly to the spindle. Install the retaining bolts then torque them to specification.

5. Connect the front wheel steel transfer tube from the caliper to the front brake hose connector. Check the hose for proper installation (Fig. 21).

6. Bleed the brake system and centralize the differential valve as outlined in Part 2-1. Check the master cylinder fluid level and add the specified fluid, as required. **Pump the brake pedal several times to actuate the piston seals and to position the shoe and lining assemblies.**

7. Install the wheel and tire assembly and the wheel cover.

8. Road test the vehicle.

DISC BRAKE SHOE AND LINING

ALL MODELS EXCEPT
LINCOLN CONTINENTAL

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the hub and rotor assembly.

2. Remove the caliper from the vehicle following the procedures outlined under Disc Brake Caliper Assembly.

3. To facilitate removal of the caliper assemblies, the piston may have to be pushed into its bore. Apply a steady inward pressure against the inner shoe and lining assembly. Maintain the pressure for at least a minute.

4. Slide the two outer shoe retaining clips off the retaining pins (Fig. 23).

5. Remove the two retaining pins from the outer shoe, then remove the shoe from the stationary caliper.

6. Slide the inner brake shoe outward until it is free of the hold-down springs, then remove the brake shoe.

7. Remove the caliper locating pins and stabilizer attaching bolts, then remove and discard the stabilizer or stabilizers.

8. Remove the locating pin insulators from the anchor plate.

Installation

When installing new shoes and linings it will be necessary to force the piston to the bottom of its bore. Apply sufficient pressure to overcome the grip of the piston seal on the piston.

1. Install new caliper locating pin insulators in the anchor plate.

2. Position the caliper assembly in the anchor plate.

3. Position the new stabilizer or stabilizers and install the caliper locating pins to engage approximately four threads.

If the caliper locating pins are rusted or corroded they should be replaced.

Apply water or isopropyl alcohol to the caliper locating pins before installation. **Oil or grease must not be used on the locating pins.**

4. Position the outer brake shoe on the caliper and install the two retaining pins and clips.

5. Install the inner brake shoe so that the ears of shoe are on top of the anchor plate bosses and under the shoe hold-down springs.

6. Position the shoe and lining assemblies so that the caliper assembly can be placed over the rotor. Rotate a hammer handle between the linings to reset the stabilizers.

7. Install the caliper assembly over the rotor and on the spindle. Install the two caliper attaching bolts, and torque them to specifications. **The upper bolt must be tightened first.** Install the safety wire and twist the ends

at least five turns. Push the wire ends against the spindle to avoid interference with the brake hose and the steering stop.

8. With moderate pressure applied to the brake pedal, torque the stabilizer attaching screws and caliper locating pins to specification.

LINCOLN CONTINENTAL

Removal

1. Remove the wheel and tire assembly from the hub and rotor assembly. **Be careful to avoid damage or interference with the caliper splash shield, bleeder screw fitting or transfer tube.**

2. Remove the two bolts that retain the caliper splash shield, and remove the shield (Fig. 4).

3. To facilitate removal and installation of the shoe and lining assemblies, the pistons must be pushed into their bores. Apply a steady inward pressure against each shoe and lining assembly toward its respective caliper housing on each side of the rotor (Fig. 6). Maintain the pressure for at least a minute. If the pistons will not go in easily, force them in with water pump pliers.

4. Grasp the metal flange on the outer end of the shoe with two pairs of pliers and pull the shoe out of the caliper (Fig. 25).

Installation

1. Position a new shoe and lining assembly on each side of the rotor so that the lining faces the rotor. Be sure

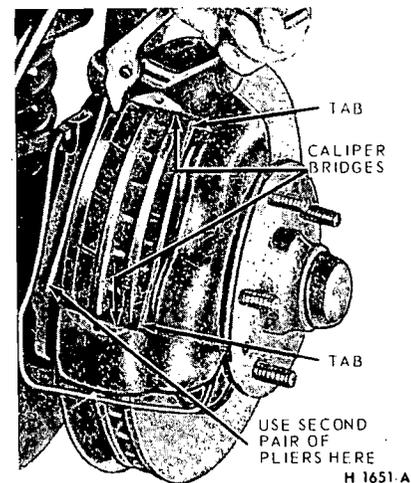


FIG. 25—Removing Disc Brake Shoe and Lining Assembly—Lincoln Continental

that the tabs on the shoe flanges seat fully against the caliper bridges (Fig. 25).

2. Install the caliper splash shield and secure the shield to the caliper with two retaining bolts (Fig. 4).

3. Pump the brake pedal several times until a firm pedal is obtained and the shoe and lining assemblies are properly seated.

4. Install the wheel and tire assembly on the hub and rotor assembly.

5. Check and refill the master cylinder reservoir with specified brake fluid as required.

6. Road test the car.

It should not be necessary to bleed the system after a shoe and lining replacement.

FRONT WHEEL HUB AND ROTOR ASSEMBLY— DISC BRAKES

REMOVAL

1. Remove the wheel and tire from the hub (Figs. 23 and 24). Be careful to avoid damage or interference with the bleeder screw fitting. On Lincoln Continental models be careful to avoid damage to the caliper splash shield or transfer tube.

2. Remove the caliper assembly from the spindle and the rotor. If the caliper does not require servicing, it is not necessary to disconnect the brake hose or remove the caliper from the vehicle. Position the caliper out of the way, and support it with a wire to avoid damaging the caliper or stretching the hose. Insert a clean cardboard spacer between the linings to prevent the piston from coming out of the cylinder bore while the caliper is removed.

Handle the rotor and caliper assemblies in such a way as to avoid deformation of the rotor and nicking, scratching or contamination of the brake linings.

3. Remove the grease cap from the hub. Remove the cotter pin, nut lock, adjusting nut, and flat washer from the spindle. Remove the outer bearing cone and roller assembly.

4. Remove the hub and rotor assembly from the spindle.

fied grease (M-1C75B), and install the inner bearing cone and roller assembly in the inner cup. Pack grease lightly between the lips of a new grease seal and install the seal (Figs. 23 and 24).

If the original rotor is being installed, make sure that the grease in the hub is clean and adequate, that the inner bearing and grease seal are lubricated and in good condition, and that the rotor braking surfaces are clean.

2. Install the hub and rotor assembly on the spindle.

3. Lubricate and install the outer wheel bearing, washer and adjusting nut.

4. Adjust the wheel bearings to specification, and then install the nut lock, cotter pin, and grease cap. The wheel bearing adjustment is especially important with disc brakes.

5. Mount the caliper assembly on the spindle following the Disc Brake Caliper Assembly Installation procedure in this section.

DISC BRAKE ROTOR SPASH SHIELD

REMOVAL

1. Remove the caliper and the hub and rotor assembly as outlined under

Removal in the foregoing procedure (it is not necessary to disconnect hydraulic connections).

2. Remove the three bolts that attach the splash shield to the spindle, and remove the shield (Figs. 23 and 24).

3. Remove and discard the splash shield to spindle gasket.

INSTALLATION

1. Install a new splash shield to spindle gasket.

2. If the shield is bent, straighten it out before installation. Position the shield to the mounting bracket, install the attaching bolts, nuts and torque them to specification.

3. Install the hub and rotor assembly and the caliper as outlined under Installation in the foregoing procedure.

DUAL MASTER CYLINDER— NON POWER BRAKES

FORD, MERCURY AND METEOR

Removal

Refer to Fig. 26.

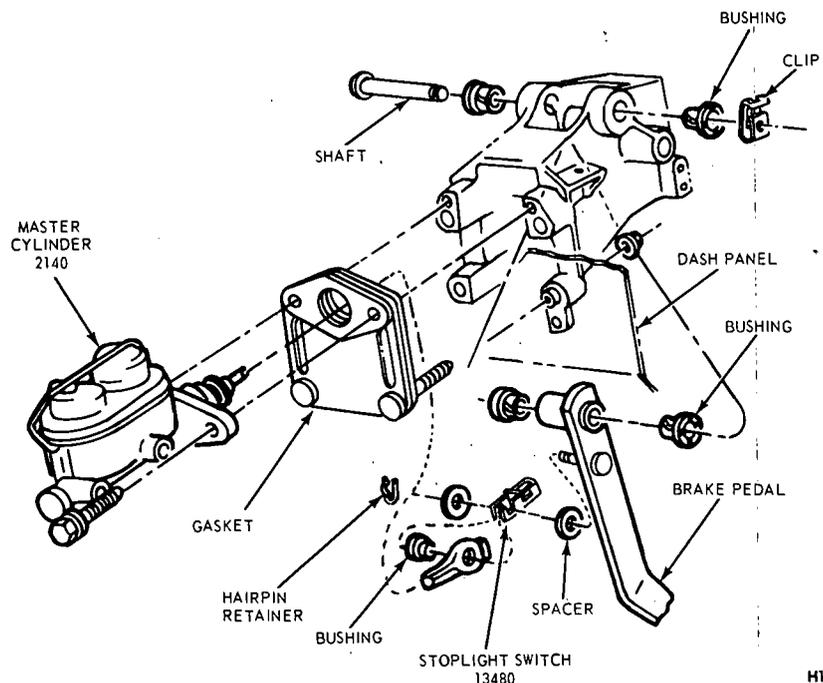


FIG. 26—Dual Master Cylinder Installation— Non Power Brakes Ford, Mercury, and Meteor

H1637-A

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1. Disconnect the stoplight switch wires at the connector. Remove the spring retainer. Slide the stop light switch off the brake pedal pin just far enough to clear the end of the pin, then lift the switch straight upward from the pin. **Use care to avoid switch damage during removal.**

2. Slide the master cylinder push rod and the nylon washers and bushings off the brake pedal pin.

3. Remove the brake tube from the primary and secondary outlet ports of the master cylinder.

4. Remove the cap screws and lockwashers that secure the master cylinder to the dash panel and lift the cylinder forward and upward from the vehicle.

Installation

1. Position the boot on the push rod and secure the boot to the master cylinder. Carefully insert the master cylinder push rod and boot through the dash panel opening and position the master cylinder on the panel.

2. Install the cap screws at the dash panel and torque them to specification.

3. Coat the nylon bushings with SAE 10W oil. Install the nylon washer and bushing on the brake pedal pin.

4. Position the stop light switch on the brake pedal pin, install the nylon bushing and washer and secure them in position with the spring retainer.

5. Connect the wires at the stop light switch connector.

6. Connect the brake lines to the master cylinder leaving the brake line fittings loose.

7. Fill the master cylinder with the specified brake fluid to within 1/4 inch of the top of the dual reservoirs. Use Ford Brake Fluid—Extra Heavy Duty—Part Number C6AZ-19542-A (ESA-M6C25-A) or equivalent for all drum brake applications. **The extra heavy duty brake system fluid is colored blue for identification. Do not mix low temperature brake fluids with the specified fluid for the power disc brake system.**

8. Bleed the dual-master cylinder and the primary and secondary brake lines. Centralize the pressure differential valve. Refer to Hydraulic

FAIRLANE, MONTEGO, FALCON, MUSTANG AND COUGAR

Removal

Refer to Figs. 27 and 28.

1. Working from inside the vehicle below the instrument panel, disconnect the master cylinder push rod from the brake pedal assembly. **The push rod cannot be removed from the master cylinder.**

2. Disconnect the stoplight switch wires at the connector. Remove the hairpin retainer. Slide the stop light switch off the brake pedal pin just far enough to clear the end of the pin, then lift the switch straight upward from the pin. **Use care to avoid switch damage during removal.**

3. Slide the master cylinder push rod and the nylon washers and bushings off the brake pedal pin.

4. Remove the brake tubes from the primary and secondary outlet ports of the master cylinder.

5. Remove the lock nuts or cap screw and lockwashers that secure the master cylinder to the dash panel and lift the cylinder forward and upward from the car.

Installation

Refer to Figs. 27 and 28.

1. Position the boot on the push rod and secure the boot to the master cylinder. Carefully insert the master cylinder push rod and boot through the dash panel opening.

2. On Fairlane, Falcon or Montego models, position the gasket and master cylinder on the mounting studs on the dash panel. Install the lock nuts on the studs at the dash panel and torque them to specification.

3. On Mustang or Cougar models, position the gasket and master cylinder on the dash panel. Install the retaining screws and torque them to specification. Coat the nylon bushings with SAE 10W oil. Install the nylon washer and bushing on the brake pedal pin.

4. Position the stop light switch on the brake pedal pin, install the nylon bushing and washer and secure them in position with the spring retainer.

5. Connect the wires at the stop light switch connector.

6. Connect the brake lines to the master cylinder and tighten to specified torque.

7. Fill the master cylinder with the specified brake fluid to within 1/4

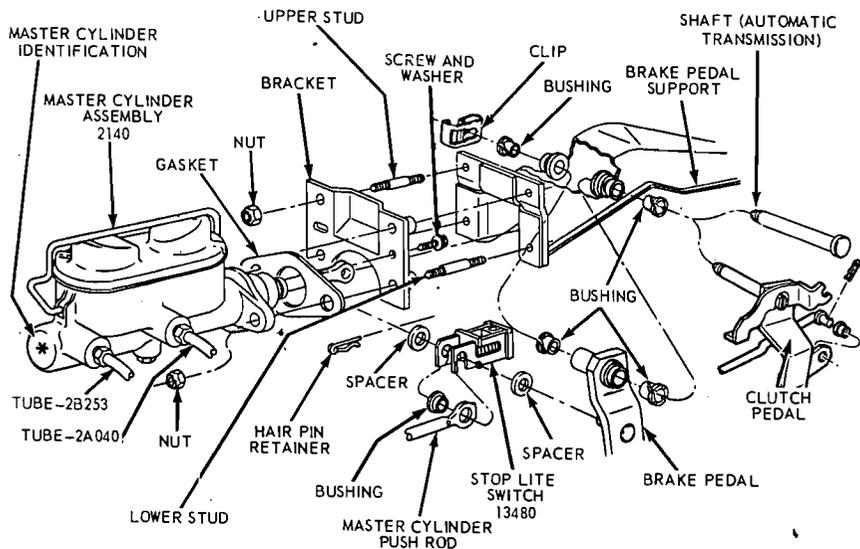


FIG. 27—Dual Master Cylinder Installation—Non Power Brake Fairlane, Montego, and Falcon

H 1556-C

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INSTALLATION

1. Before installing the master cylinder, check the distance from the outer end of the booster assembly push rod to the master cylinder mounting surface. Turn the push rod adjusting screw in or out as required to obtain the specified length. Refer to Part 2-1, Section 2, Power Brake Master Cylinder Push Rod Adjustment for the proper procedure.

2. Position the master cylinder assembly over the booster push rod and onto the two studs on the booster assembly (Figs. 29 thru 33).

3. Install the attaching nuts and lock washers and torque them to specifications.

4. Install the front and rear brake tubes to the master cylinder outlet fittings.

5. Fill the master cylinder with the specified brake fluid to within 1/4 inch of the top of the dual reservoirs. Use Ford Brake Fluid—Extra Heavy Duty—Part Number C6AZ-19542-A (ESA-M6C25-A) for all brake applications. **The extra heavy duty brake fluid is colored blue for identification. Do not mix low temperature brake fluids with the specified fluids for the disc brake system.**

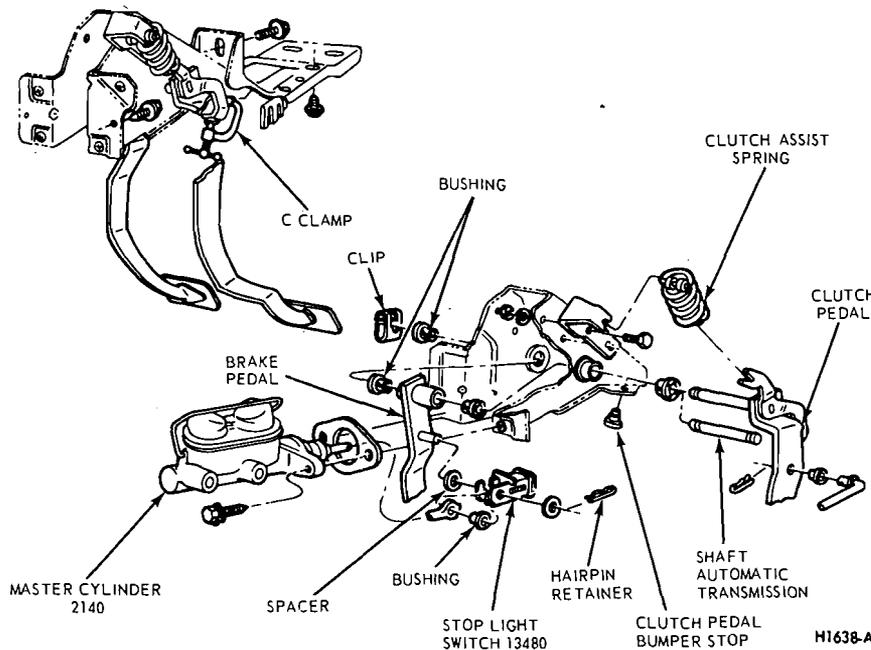


FIG. 28—Dual Master Cylinder Installation—Non Power Brake—Mustang and Cougar

inch of the top of the dual reservoirs. Use Ford Brake Fluid—Extra Heavy Duty—Part Number C6AZ-19542-A for all brake applications. **The brake fluid is colored blue for identification. Do not mix low temperature brake fluids with the specified fluid for the brake system.**

8. Bleed the dual-master cylinder and the primary and secondary brake systems. Centralize the pressure differential valve. Refer to Hydraulic System Bleeding and Centralizing of the Differential Valve, Part 2-1, Section 2 for the proper procedure.

9. Operate the brakes several times, then check for external hydraulic leaks.

DUAL MASTER CYLINDER—POWER BRAKES

REMOVAL

1. Remove the brake tubes from the primary and secondary outlet ports of the master cylinder (Figs. 29

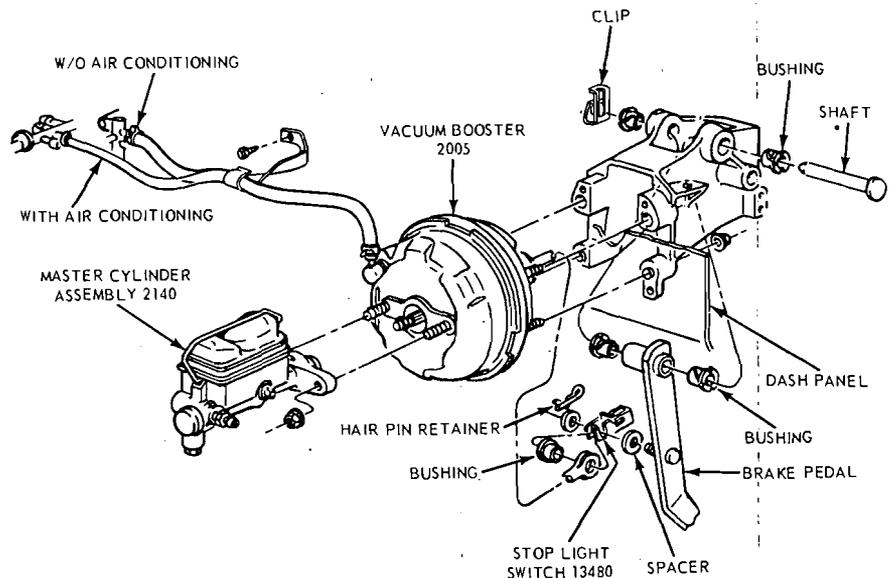


FIG. 29—Master Cylinder Installation—Power Brake—Ford, Mercury and Meteor

H 1642-A

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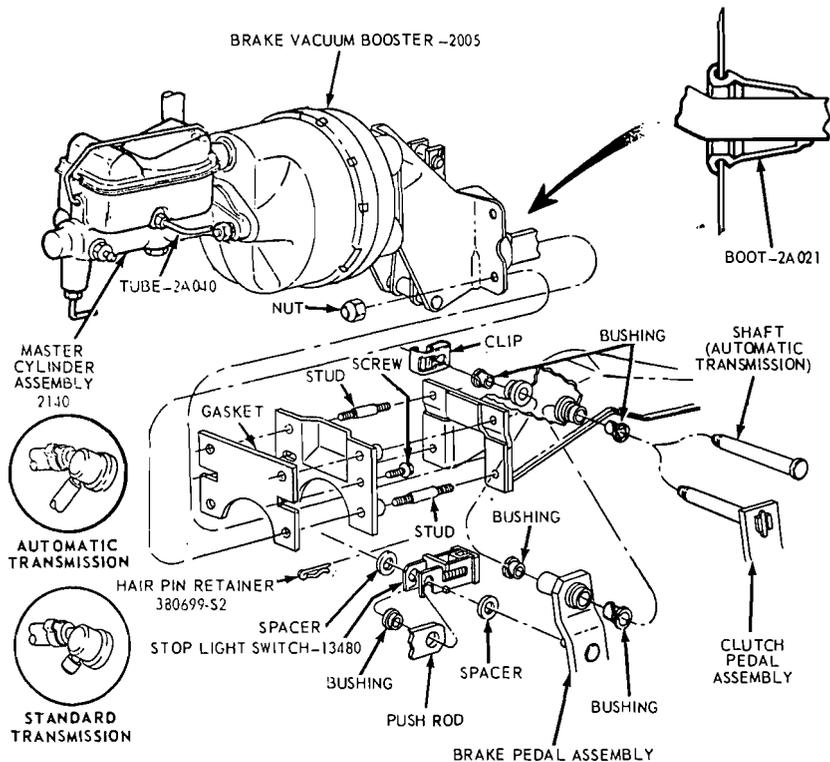
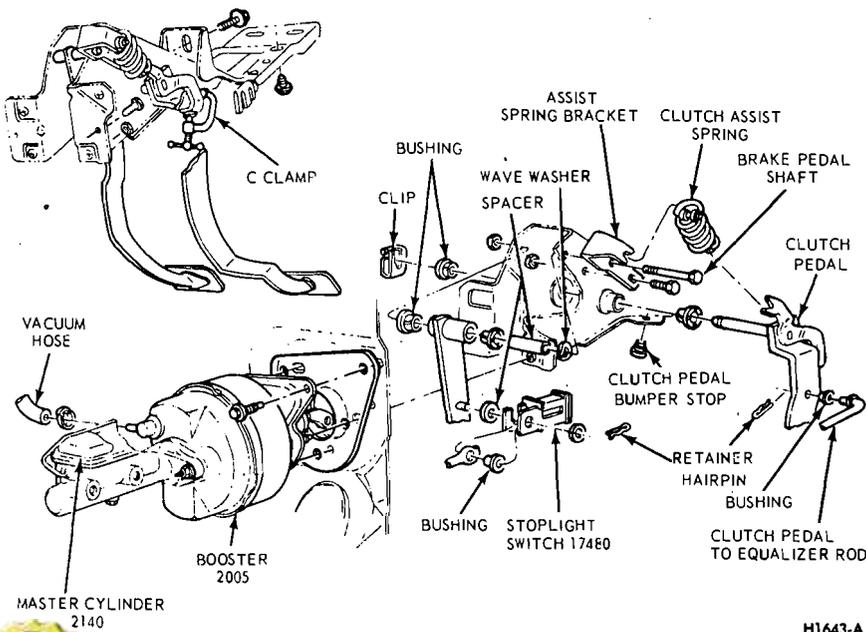


FIG. 30—Master Cylinder Installation—Power Brake—Fairlane, Montego and Falcon



6. Bleed the dual-master cylinder and the primary and secondary brake systems. Centralize the pressure differential valve. Refer to Hydraulic System Bleeding and Centralizing of the Differential Valve, Part 2-1, Section 2 for the proper procedure.

7. Operate the brakes several times, then check for external hydraulic leaks.

PRESSURE DIFFERENTIAL VALVE AND PROPORTIONING VALVE ASSEMBLY

REMOVAL

1. Disconnect the brake warning light wire from the pressure differential valve assembly switch (Figs. 17 thru 21). To prevent damage to the brake warning switch wire connector, expand the plastic lugs to allow removal of the shellwire connector from the switch body.

2. Loosen the tube nuts connecting the primary and secondary inlet and outlet tubes at the pressure differential valve assembly and remove the tubes.

3. Remove the screw or screws retaining the pressure differential valve assembly to the chassis and remove the valve assembly.

4. On disc brake equipped vehicles, place the pressure differential valve assembly and mounting bracket in a vise. Loosen the proportioning valve tube nuts at the differential valve and at the proportioning valve. Remove the proportioning valve from the mounting bracket.

5. If the differential valve is to be replaced, remove the brake warning lamp switch and install the switch in the new differential valve. The pressure differential valve assembly, the brake warning lamp switch, and the proportioning valve are separate units and each is serviced as a separate assembly only.

INSTALLATION

1. On disc brake equipped vehicles, connect the proportioning valve inlet and outlet tubes to the proportioning valve and differential valve bodies. Tighten the tube nuts to specification.

2. Mount the pressure differential valve assembly on the chassis and install the attaching screw or screws.

3. Connect the primary and secondary inlet and outlet tubes to the pressure differential valve assembly and tighten the tube nuts to specifications.

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POWER BRAKE—MUSTANG, FORD, OLDSMOBILE

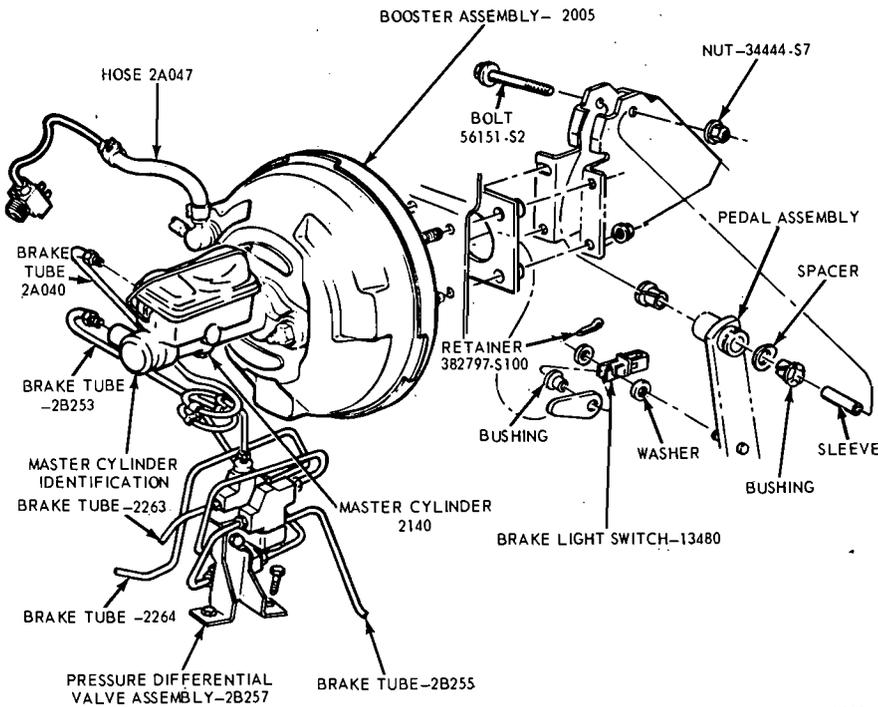
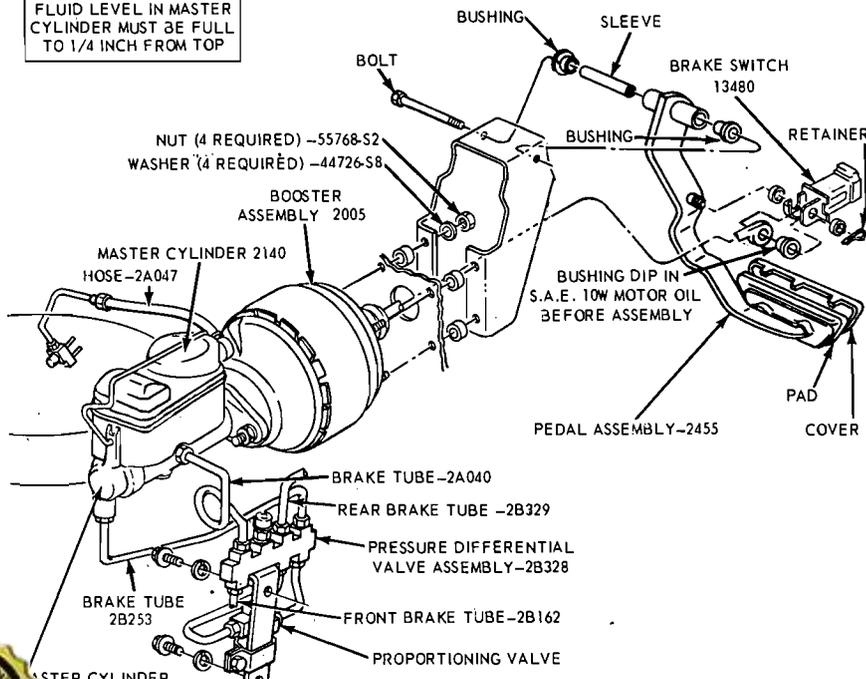


FIG. 32—Master Cylinder Installation—Thunderbird and Continental Mark III

H 1583-B

FLUID LEVEL IN MASTER CYLINDER MUST BE FULL TO 1/4 INCH FROM TOP



H 1530-C

4. Connect the shell-wire connector to the brake warning lamp switch. Make sure the plastic lugs on the connector hold the connector securely to the switch.

5. Bleed the brakes and centralize the pressure differential valve.

PROPORTIONING VALVE

FORD, MERCURY AND METEOR

On Ford, Mercury and Meteor models, the proportioning valve must be removed with the pressure differential valve. Use the procedure shown above for replacement of the proportioning valve.

FAIRLANE, MONTEGO AND FALCON

Removal

Refer to Fig. 18.

1. Disconnect the two brake lines at the proportioning valve.

2. Remove the bolt retaining the pressure differential valve bracket to the fender apron.

3. Lift the proportioning valve bracket from behind the pressure differential valve bracket and remove the proportioning valve from the vehicle.

Installation

1. Position the proportioning valve and bracket to the fender apron with the proportioning valve bracket between the pressure differential valve bracket and the fender apron.

2. Connect the two brake lines at the proportioning valve. Do not tighten.

3. Install the bolt retaining the two valve brackets to the fender apron.

4. Tighten the two brake line tube nuts at the proportioning valve to specifications.

5. Bleed the brakes and centralize the pressure differential valve.

MUSTANG AND COUGAR

Removal

Refer to Fig. 19.

1. Disconnect the two brake lines at the proportioning valve.

2. Remove the bolt retaining the

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proportioning valve to the fender apron and remove the proportioning valve.

Installation

1. Position the proportioning valve to the fender apron.
2. Connect the two brake lines at the proportioning valve. Do not tighten.
3. Install the bolt retaining the proportioning valve to the fender apron.
4. Tighten the brake line tube nuts at the proportioning valve to specifications.
5. Bleed the brakes and centralize pressure differential valve.

THUNDERBIRD AND CONTINENTAL MARK III

Removal

Refer to Fig. 20.

1. Disconnect the two hydraulic brake lines at the master cylinder.
2. Remove the two nuts retaining the master cylinder to the booster and remove the master cylinder for clearance.
3. Disconnect the two brake lines at the proportioning valve.
4. Remove the bolt and nut retaining the proportioning valve to the pressure differential valve bracket and remove the proportioning valve assembly.

Installation

1. Transfer the bracket to the new proportioning valve.
2. Position the proportioning valve assembly to the pressure differential valve bracket.
3. Connect the two brake lines to the proportioning valve. Do not tighten.
4. Install the bolt and nut retaining the proportioning valve to the pressure differential valve bracket.
5. Tighten the two brake line tube nuts at the proportioning valve to specifications.

Position the master cylinder to the booster and install the nuts retaining the master cylinder to the booster.

LINCOLN CONTINENTAL

Removal

Refer to Fig. 21.

1. Disconnect the two brake lines at the proportioning valve.
2. Loosen the bolt and nut on the bracket retaining the proportioning valve to the chassis.
3. Remove the proportioning valve from the bracket.

Installation

1. Position the proportioning valve in the bracket and connect the two brake lines. Do not tighten.
2. Tighten the bolt and nut on the bracket.
3. Tighten the tube nuts on the brake lines at the proportioning valve to specifications.
4. Bleed the brakes and centralize the pressure differential valve.

PRESSURE METERING VALVE—LINCOLN CONTINENTAL

REMOVAL

Refer to Fig. 21.

1. Loosen the tube nuts connecting the inlet and outlet tubes at the metering valve, and remove the tubes.
2. Remove the two screws retaining the metering valve to the frame crossmember, and remove the metering valve. **The metering valve is serviced as an assembly only.**

INSTALLATION

1. Position the metering valve to the frame crossmember, and install the retaining screws.
2. Connect the inlet and outlet tubes to the metering valve, and tighten the tube nuts to specification.

BRAKE BOOSTER

REMOVAL

1. Working from inside the vehicle below the instrument panel, disconnect the booster push rod from the brake pedal assembly. To do this, proceed as follows:

Disconnect the stop light switch wires at the connector. Remove the airpin retainer. Slide the stop light

switch off from the brake pedal pin just far enough for the switch outer hole to clear the pin, and then remove the switch from the pin and booster push rod. Be careful not to damage the switch during removal. Slide the booster push rod and the nylon washers and bushing off the brake pedal pin (Figs. 29 thru 33).

2. Open the hood and remove the master cylinder from the booster. Secure it to one side without disturbing the hydraulic lines. **It is not necessary to disconnect the brake lines, but care should be taken that the brake lines are not deformed. Permanent deformation of brake lines can lead to tube failure.**

3. Disconnect the manifold vacuum hose or hoses from the booster unit.

4. Remove the booster-to-dash panel attaching nuts or bolts (Figs. 29 thru 33). Remove the booster and bracket assembly from the dash panel, sliding the push rod link out from the engine side of the dash panel.

5. On Fairlane, Montego, and Falcon models, remove the push rod link boot from the dash panel.

INSTALLATION

1. On Fairlane, Montego and Falcon models, install the push rod link boot in the hole in the dash panel as shown in Fig. 23. Install the four spacers on the mounting studs.

2. Mount the booster and bracket assembly to the dash panel by inserting the push rod or push rod link in through the hole and boot in the dash panel. Install the bracket-to-dash panel attaching lock nuts or bolts (Figs. 29 thru 33).

3. Connect the manifold vacuum hose or hoses to the booster.

4. Before installing the master cylinder, check the distance from the outer end of the booster assembly push rod to master cylinder surface. Turn the screw in or out to obtain the specified length. Refer to Part 2-1, Section 2, Power Brake Master Cylinder Push Rod Adjustment. Install the master cylinder and torque the attaching nuts to specifications.

5. Working from inside the vehicle below the instrument panel, connect the booster push rod link to the brake pedal assembly. To do this, proceed as follows:

Install the inner nylon washer, the booster push rod, and the bushing on the brake pedal pin. Position the switch so that it straddles the push rod with the switch slot on the pedal pin and the switch outer hole just

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clearing the pin. Slide the switch completely onto the pin, and install the nylon washer as shown in Figs. 29 thru 33. **Be careful not to bend or deform the switch.** Secure these parts to the pin with the hairpin retainer. Connect the stop light switch wires to the connector, and install the wires in the retaining clip.

BRAKE PEDAL

FORD, MERCURY AND METEOR

Removal

1. Disconnect the stop light switch wires at the connector.
2. Remove the hairpin retainer. Slide the stop light switch off the brake pedal pin **just far enough for the switch outer hole to clear the pin**, and then lift the switch straight upward from the pin. **Be careful not to damage the switch during removal.** Slide the master cylinder or booster push rod and the nylon washers and bushing off the brake pedal pin (Figs. 26 and 29).
3. Remove the hairpin type retainer and washer from the brake pedal shaft, then remove the shaft, the brake pedal and the bushings from the pedal support bracket.

Installation

1. Apply a coating of SAE 10 Engine oil to the bushings and locate bushings in their proper places on the pedal assembly and pedal support bracket (Figs. 26 and 29).
2. Position the brake pedal assembly to the support bracket, then install the pedal shaft through the support bracket and brake pedal assembly. Install the retainer.
3. Install the inner nylon washer, the master cylinder or booster push rod, and the bushing on the brake pedal pin. Position the switch so that it straddles the push rod with the switch slot on the pedal pin and the switch outer hole just clearing the pin. Slide the switch completely onto the pin, and install the nylon washer as shown in Figs. 29 thru 33. **Be careful not to bend or deform the switch.** Secure these parts to the pin with the hairpin retainer. Connect the stop light switch wires to the connector, and install the wires in the retaining clip.

5. Check the Brake Pedal Free Height and Travel Measurements, Part 2-1, Section 1.

FAIRLANE, MONTEGO AND FALCON—MANUAL-SHIFT TRANSMISSION

Removal

1. Remove the clutch pedal assist spring.
2. Disconnect the clutch pedal-to-equalizer rod at the clutch pedal by removing the retainer and bushing.
3. Disconnect the stop light switch wires at the connector.
4. Remove the switch retainer, and slide the stop light switch off the brake pedal pin **just far enough for the switch outer hole to clear the pin. Then lower the switch away from the pin.**
5. Slide the master cylinder or booster push rod and the nylon washers and bushing off from the brake pedal pin (Figs. 27 and 30).
6. Remove the self-locking pin and washer from the clutch and brake pedal shaft, then remove the clutch pedal and shaft assembly, the brake pedal assembly, and the bushings from the pedal support bracket (Figs. 27 and 30).

Installation

1. Apply a coating of SAE 10 engine oil to the bushings and locate all bushings in their proper places on the clutch and brake pedal assemblies.
2. Position the brake pedal to the support bracket, then install the clutch pedal and shaft assembly through the support bracket and brake pedal assembly. Install the spring clip (Figs. 27 and 30).
3. Install the clutch pedal assist spring.
4. Connect the clutch pedal-to-equalizer rod to the clutch pedal assembly with the bushing and the spring clip retainer. Apply SAE 10 engine oil to the bushing.
5. Install the inner nylon washer, the master cylinder or booster push rod, and the bushing on the brake pedal pin. Position the switch so that it straddles the push rod with the switch slot on the pedal pin and the switch outer hole just clearing the pin. Slide the switch completely onto the pin, and install the outer nylon washer as shown in Figs. 27 and 30. Secure these parts to the pin with the self-locking pin.

6. Connect the stop light switch wires to the connector, and install the wires to the retaining clip.

7. Adjust the clutch pedal free play (Group 5) to specification, if required.
8. Check the Brake Pedal Free Height and Travel Measurements (Part 2-1, Section 1).

MUSTANG AND COUGAR— MANUAL-SHIFT TRANSMISSION

Removal

1. Disconnect the battery ground cable from the battery.
2. Remove the steering column. Refer to Part 3-4, Section 2 for procedure.
3. On non-power brakes, remove the two cap screws retaining the master cylinder to the dash panel and remove the two cap screws retaining the brake pedal support bracket to the dash panel. On power brakes remove the two cap screws retaining the booster to the dash panel.
4. Working inside the vehicle, secure the clutch pedal against the bumper stop with a small C-clamp as shown in Figs. 28 and 31.
5. Disconnect the clutch pedal-to-equalizer rod at the clutch pedal by removing the retainer and bushing.
6. Disconnect the stop light switch wires at the connector.
7. Remove the switch retainer and slide the stop light switch off the brake pedal pin **just far enough for the switch outer hole to clear the pin. Then lower the switch away from the pin.** Remove the master cylinder or booster push rod, bushing and nylon washer from the brake pedal pin.
8. Remove the screw retaining the pedal support bracket to the top inner cowl bracket (Figs. 28 and 31).
9. Remove the two sheet metal screws retaining the pedal support bracket to the dash panel. On power brakes remove the nuts from the brake booster studs.
10. Remove the two screws retaining the pedal support bracket to the upper cowl brace and lower the pedal support bracket away from the steering column studs.
11. Remove the pedal support bracket assembly from the vehicle.
12. Position the pedal and support bracket assembly in a vise.
13. Remove the C-clamp to release the clutch pedal from its bumper stop and pivot the pedal away from the bumper.

14. Remove the clutch pedal assist spring.

15. On non-power brakes, remove the retainer clip from the clutch and brake pedal shaft, then remove the clutch pedal and shaft assembly, the brake pedal assembly, and the bushings from the pedal support bracket. On power brakes, remove the retainer nut from the brake pedal shaft then remove the pedal shaft, the brake pedal assembly and the bushings from the pedal support bracket.

Installation

1. Apply a coating of SAE 10 engine oil to the bushings and locate all bushings in their proper places on the clutch and brake pedal assemblies.

2. On non-power brakes, position the brake pedal to the pedal support bracket, then install the clutch pedal and shaft assembly through the support bracket and brake pedal assembly. On power brakes position the brake pedal to the pedal support bracket, then install the pedal shaft and nut.

3. Install the clutch pedal assist spring and pivot the clutch pedal against its bumper stop. Secure the pedal to the stop with a small C-clamp as shown in Figs. 28 and 31.

4. Position the pedal support bracket assembly to the dash panel, and to the steering column retainer studs.

5. Align the pedal support bracket holes with the holes in the dash panel and install the two attaching sheet metal screws. On power brakes install the nuts on the brake booster studs.

6. Install the two cap screws attaching the pedal support bracket to the upper cowl bracket.

7. Install the cap screw attaching the pedal support bracket to the top inner cowl bracket (Figs. 28 and 31).

8. Install the inner nylon washer, the master cylinder push rod, and the bushing on the brake pedal pin. Position the stop light switch so that it straddles the push rod with the switch slot on the pedal pin and the switch outer hole just clearing the pin. Slide the switch completely onto the pin, and install the outer nylon washer as shown in Figs. 28 and 31. Secure

parts to the pin with the self-

engine oil to the bushing. Remove the C-clamp from the clutch pedal.

11. Working from the engine side of the dash panel, on non-power brakes, install the two cap screws attaching the pedal support bracket to the dash panel. Then install the two screws attaching the master cylinder to the dash panel. On power brakes install the cap screws retaining the brake booster to the dash panel.

12. Install the steering column. Refer to Part 3-4, Section 2 for procedure.

13. Adjust the clutch pedal free play (Group 5) to specification, if required.

14. Check the Brake Pedal Free Height and Travel Measurements (Part 2-1, Section 1).

15. Connect the ground cable to the battery.

FAIRLANE, MONTEGO, FALCON, MUSTANG AND COUGAR— AUTOMATIC TRANSMISSION

Removal

1. Disconnect the stop light switch wires at the connector.

2. Remove the self-locking pin and slide the stop light switch off the brake pedal pin **just far enough for the switch outer hole to clear the pin**. Then lower the switch away from the pin. Slide the master cylinder or booster push rod and the nylon washers and bushing off from the brake pedal pin (Figs. 27, 28, 30 and 31).

3. On all vehicles except Mustang and Cougar with power brakes, remove the self-locking pin and washer from the brake pedal shaft, then remove the shaft, the brake pedal assembly and the bushings from the pedal support bracket. On Mustang and Cougar vehicles with power brakes, remove the locknut and bolt from the pedal. Remove the pedal assembly from the support bracket (Fig. 3).

Installation

1. Apply a coating of SAE 10 engine oil to the bushings and locate all the bushings in their proper places on the pedal assembly and pedal support bracket (Figs. 27, 28, 30 and 31).

2. Position the brake pedal assembly to the support bracket, then install the pedal shaft or bolt through the support bracket and brake pedal assembly. Install the retainer or locknut,

3. Install the inner nylon washer, the master cylinder or booster push rod, and the bushing on the brake pedal pin. Position the switch so that it straddles the push rod with the switch slot on the pedal pin, and the switch outer hole just clearing the pin. Slide the switch completely onto the pin, and install the outer nylon washer as shown in Figs. 27, 28, 30 and 31. Secure these parts to the pin with the self-locking pin.

4. Connect the stop light switch wires to the connector, and install the wires in the retaining clip.

Check the Brake Pedal Free Height and Travel Measurements, Part 2, Section 1.

THUNDERBIRD AND CONTINENTAL MARK III

Removal

1. Loosen the booster mounting nuts.

2. Disconnect the stop light switch wires at the connector.

3. Remove the hairpin retainer. Slide the stop light switch off from the brake pedal pin **just far enough for the switch outer hole to clear the pin**, and then lift the switch straight upward from the pin. Slide the master cylinder push rod and the nylon washers and bushing off from the brake pedal pin (Fig. 32).

4. Remove the pivot bolt and nut that holds the pedal to the pedal support bracket. Remove the brake pedal assembly from the pedal support bracket, and remove the bushings.

Installation

1. Apply a coating of SAE 10 engine oil to the bushings and locate all the bushings in their proper places on the pedal assembly (Fig. 32).

2. Install the brake pedal assembly and bushings to the support bracket, and then install the pivot bolt through the support bracket and brake pedal assembly. Install the pivot bolt nut and torque to specifications.

3. Install the inner nylon washer, the master cylinder push rod, and the bushing on the brake pedal pin. Position the switch so that it straddles the push rod with the switch slot on the pedal pin and the switch outer hole just clearing the pin. Slide the switch completely onto the pin, install the outer nylon washer as shown in Fig. 32. Secure these parts to the pin with the hairpin retainer.

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4. Connect the stop light switch wires to the connector, and install the wires in the retaining clip.

5. Torque the booster mounting nuts to specifications.

LINCOLN CONTINENTAL

Removal

1. Disconnect the battery ground cable from the battery.

2. It is necessary to obtain clearance to remove vacuum hoses and the electrical connector to the temperature heat control box. Remove the two screws retaining the relay to the fender and push the relay aside. Disconnect the vacuum hoses and connector at the heat control box.

3. Working under the instrument panel, disconnect the vacuum hoses, wires and retaining clip from the temperature heat control box. Remove the two screws securing the temperature control box to the dash panel.

4. Remove the lower control housing retaining screws (6). Disconnect the wire harnesses at the lower control panel and place the panel aside. Remove the wire harness shield. Remove the wire harness clip. Position the wire harness aside. Remove the temperature control box and position it aside.

5. Remove the hair-pin type retainer. Slide the stop light switch off the brake pedal pin just far enough for the switch outer hole to clear the pin. Lift the switch upward from the pin. Slide the master cylinder push rod, nylon washers and bushing off the brake pedal pin.

6. Remove the pivot bolt and nut that holds the pedal to the pedal support bracket. Remove the brake pedal assembly from the support bracket and remove the bushings.

7. If required, remove the brake pedal pad retaining nuts and remove the brake pedal pad.

Installation

1. If the brake pedal pad was removed, position the pad on the pedal. Install the pad retaining nuts and torque them to specification.

Apply SAE 10 engine oil to the

the support bracket and pedal assembly. Install the pivot bolt nut and torque it to specification.

4. Install the inner nylon washer, the master cylinder push rod link, and the bushing on the brake pedal pin. Position the switch so that it straddles the push rod link with the switch slot on the pedal and the switch outer hole just clearing the pin. Install the outer nylon washer as shown in Fig. 33. Install the hair-pin type retainer on the brake pedal pin.

5. Connect the stop light switch wires to the connector, and install the wires in the retaining clip.

6. Position the wire harness and clip on the temperature control box and install the retaining screw. Position the temperature control box to the dash panel and install the two retaining bolts.

7. Connect the vacuum lines and the electrical connector to the control box. Position the wire harness to the control box and install the retaining clip.

8. Position the wire harness shield and install two retaining bolts.

9. Connect the wire harnesses to the lower control panel and install the retaining screws.

10. Working within the engine compartment, connect the wire connector to the temperature heat control box.

11. Position the relay to the fender apron and install the retaining bolts.

12. Connect the ground cable to the battery.

13. Check the brakes and light switch for proper operation. Close the hood.

PARKING BRAKE CONTROL ASSEMBLY

FORD, MERCURY AND METEOR

Removal

Refer to Fig. 34.

1. Make sure the parking brake is fully released.

2. Remove all tension from the rear cables by backing off the adjusting nut from the equalizer.

3. Remove the roll pin that secures the release knob to the cable and remove the knob.

4. Remove the nut that secures the release cable to the instrument panel

and remove the cable from the rear of the instrument panel.

5. Remove the two nuts attaching the control assembly to the dash panel.

6. Remove the cap screw attaching the control assembly to the cowl side bracket.

7. Disconnect the hose to the parking brake vacuum unit, if so equipped.

8. Remove the front cable assembly retainer clip from the cable assembly and disconnect the cable ball from the control clevis.

9. Remove the control assembly from the vehicle.

Installation

1. Position the control assembly in the vehicle.

2. Fit the cable assembly through its mounting hole and install the retaining clip. Connect the cable ball to the control clevis.

3. Connect the vacuum hose to the parking brake unit, if so equipped.

4. Install the attaching cap screw to the cowl side bracket. Do not tighten.

5. Install the two control assembly-to-dash panel nuts. Tighten the nuts and the cap screw to specifications.

6. Insert the release cable into the instrument panel and install the retaining nut.

7. Install the release knob on the cable with the roll pin.

8. Check the operation of the parking brake. Adjust the parking brake as required.

FAIRLANE, MONTEGO AND FALCON

Removal

Refer to Fig. 35.

1. Make sure the parking brake is completely released.

2. Remove all tension from the rear cables by backing off the jam nut and adjusting nut from the equalizer.

3. Working inside the vehicle, remove the four bolts and one nut retaining the left air vent and cable assembly to the dash and instrument panels. Remove the vent assembly.

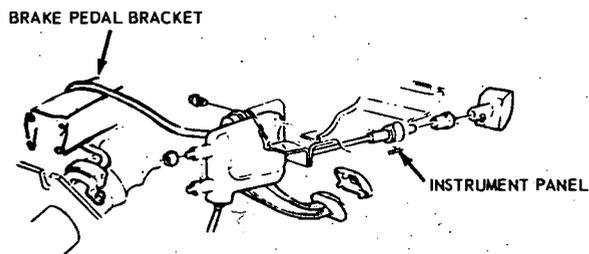
4. Remove the parking brake front cable ball retaining clip from the clevis.

5. Disconnect the cable ball from the notch in the brake clevis.

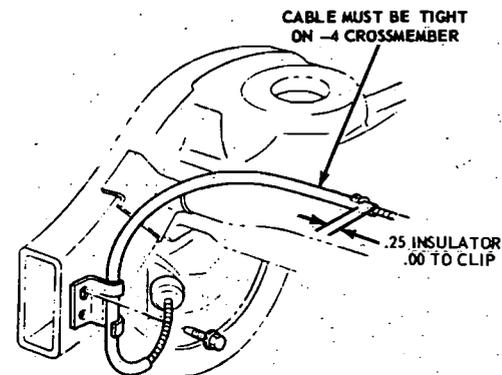
6. Remove the three screws that attach the control assembly to the left cowl inner side panel.

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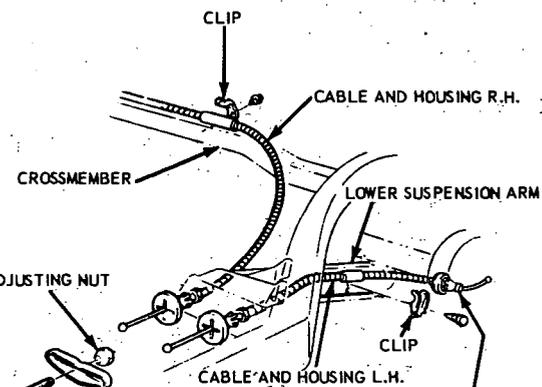
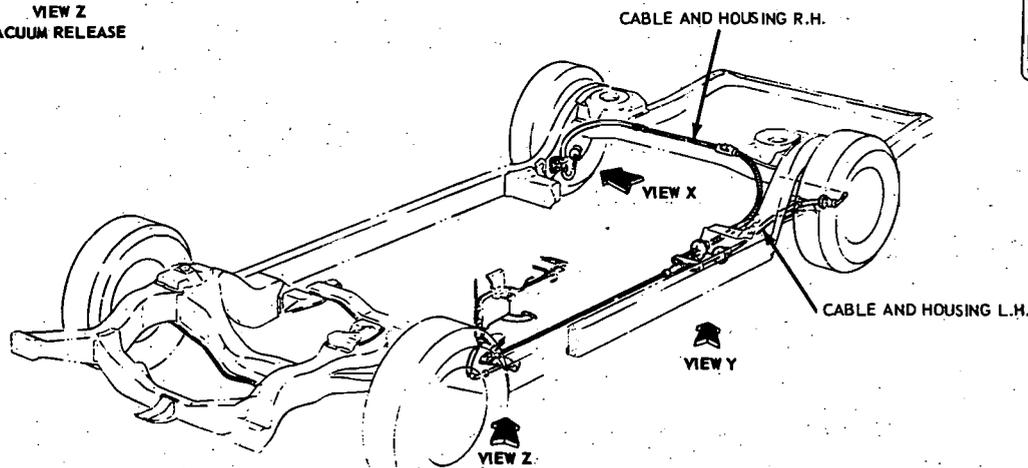
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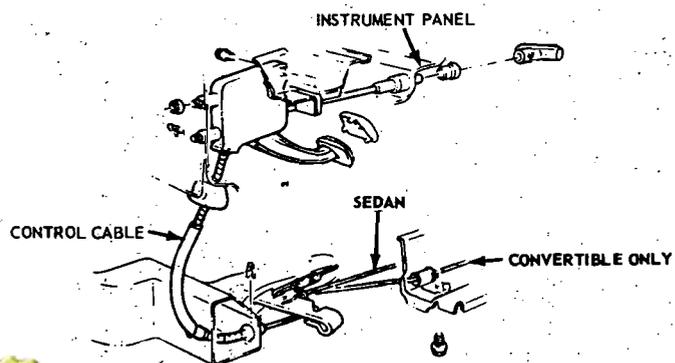


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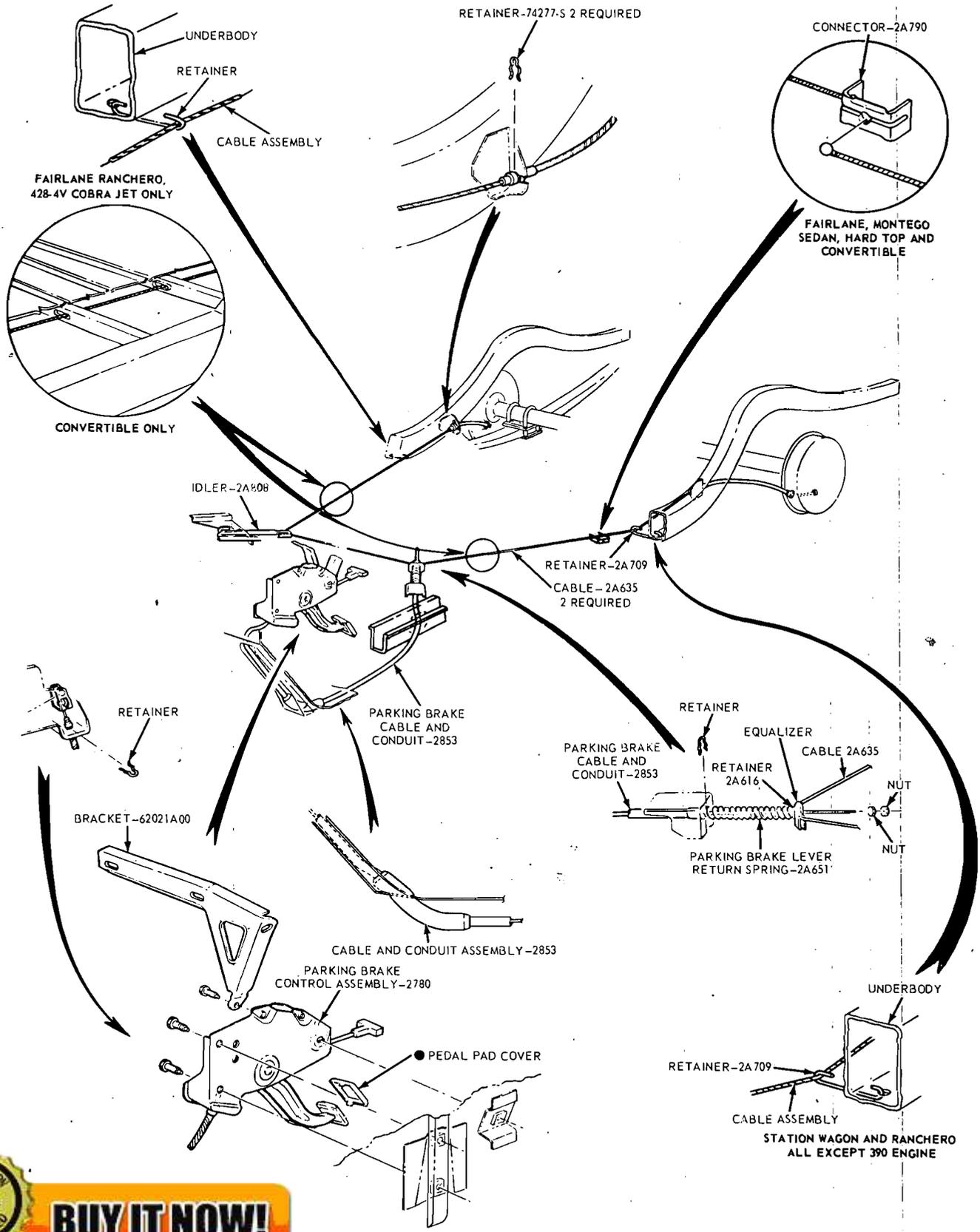
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Fairlane, Montego and Falcon

7. Disconnect the wire lead at the parking brake warning light switch and remove the control assembly.

Installation

1. Connect the wire lead to the parking brake warning light switch.

2. Position the control assembly to the cowl inner side panel and install the three attaching screws.

3. Connect the ball-end of the parking brake front cable assembly to the control assembly, and install the hair-pin retainer.

4. Position the cable ball in the notch in the brake clevis.

5. Position the left air vent assembly to the dash and instrument panels. Install the four bolts and one nut retaining the air vent to the panels.

6. Check the operation of the parking brake. Adjust the parking brake.

MUSTANG AND COUGAR

Removal

Refer to Fig. 36.

1. Make sure the parking brake is completely released.

2. Remove all tension from the rear cables by backing off the jam nut and adjusting nut from the equalizer.

3. Disconnect the wire lead at the parking brake warning light switch (if so equipped).

4. Remove the parking brake front cable ball retaining clip from the clevis.

5. Remove the parking brake warning light switch and attaching screw (if so equipped).

6. Disconnect the cable ball from the notch in the brake clevis.

7. Remove the three screws that attach the control assembly to the left cowl inner side panel.

8. Pull the control away from the cowl panel. Remove the hair-pin retainer securing the front cable assembly to the control assembly. Remove the control assembly.

Installation

Connect the ball-end of the park-

3. Position the parking brake warning light switch and install the attaching screw. Connect the parking brake warning light switch wire lead (if vehicle is so equipped).

4. Position the cable ball in the notch in the brake clevis.

5. Check the operation of the parking brake. Adjust the parking brake.

THUNDERBIRD AND CONTINENTAL MARK III

Removal

Refer to Fig. 37.

1. Remove the two nuts retaining the control to the dash panel.

2. Remove two screws from the left scuff plate.

3. Remove one screw retaining the left cowl trim panel and remove the panel.

4. Remove the two screws retaining the left air duct and remove the air duct.

5. Remove the two screws retaining the dimmer switch and position the switch out of the way.

6. Remove the clip retaining the cable assembly to the control.

7. Disconnect the cable ball from the control clevis.

8. Disconnect the vacuum hose at the brake release.

9. Remove the bolt retaining the control to the cowl side bracket and remove the control.

Installation

1. Position the parking brake control in the vehicle.

2. Install the cable assembly in the control and connect the cable ball to the control clevis.

3. Install the clip retaining the cable to the control.

4. Install the bolt retaining the control to the cowl side bracket.

5. Connect the vacuum hose to the parking brake release vacuum motor.

6. Position the dimmer switch and install the retaining screws.

7. Position the air duct and install the retaining screws.

8. Position the cowl trim panel and install the retaining screw.

9. Install the two scuff plate screws.

10. Install the two nuts retaining the control to the dash panel.

11. Adjust the parking brake.

LINCOLN CONTINENTAL

Removal

Refer to Fig. 38.

1. Raise the vehicle on a hoist.

2. Loosen the parking brake cable adjusting nut, remove the return spring and remove the cable ball end from the equalizer.

3. Lower the vehicle.

4. Disconnect the battery.

5. Disconnect the wire harness connector and two vacuum hoses at the Automatic Temperature Control box.

6. Working inside the vehicle, remove the windshield wiper control knob and bezel from the lower control panel.

7. Remove the screws retaining the lower control panel. Lower the control panel and disconnect wire harnesses and vacuum hoses. Position the control panel aside.

8. Remove the screw retaining the plastic wire cover and place the cover aside.

9. Disconnect three vacuum hoses and the wiring harness at the Automatic Temperature Control box.

10. Remove the two screws retaining the Automatic Temperature Control box to the dash panel and remove the box for clearance.

11. Disconnect the ball end of the cable from the control clevis.

12. Remove the four bolts retaining the control to the dash panel and lower instrument panel flange.

13. Disconnect the vacuum release hose from the control and remove the control assembly from the vehicle.

Installation

1. Position the control assembly to the dash panel and instrument panel flange and install the four retaining screws.

2. Connect the vacuum release hose to the control assembly.

3. Connect the cable ball to the control clevis.

4. Position the Automatic Temperature Control box to the dash panel and install the retaining screws.

5. Connect the wiring harness and vacuum hoses to the Automatic Temperature Control box.

6. Position the plastic wire cover and install the retaining screw.

7. Connect the wire harnesses and vacuum lines to the lower control panel and position the panel to the in-

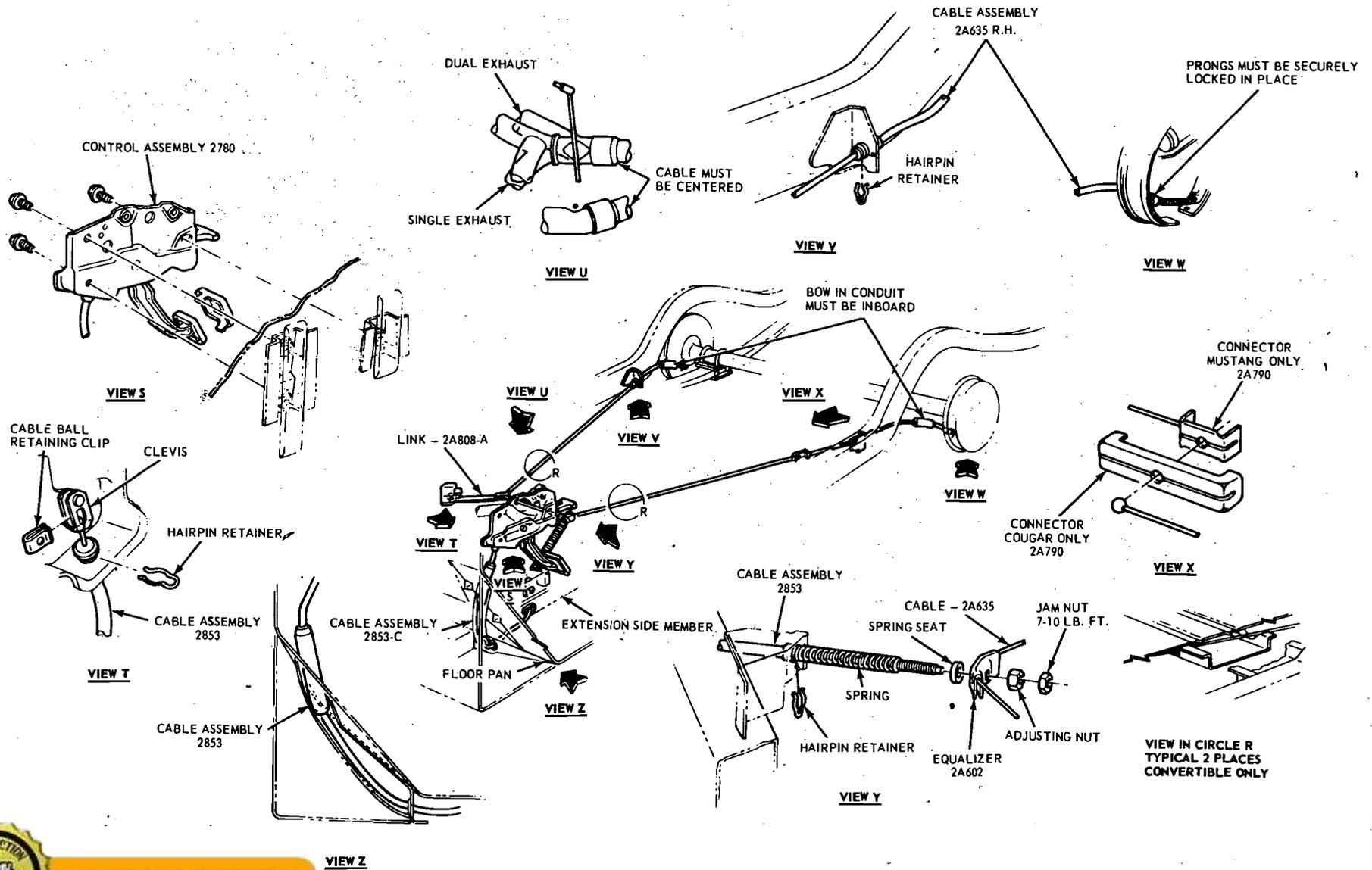
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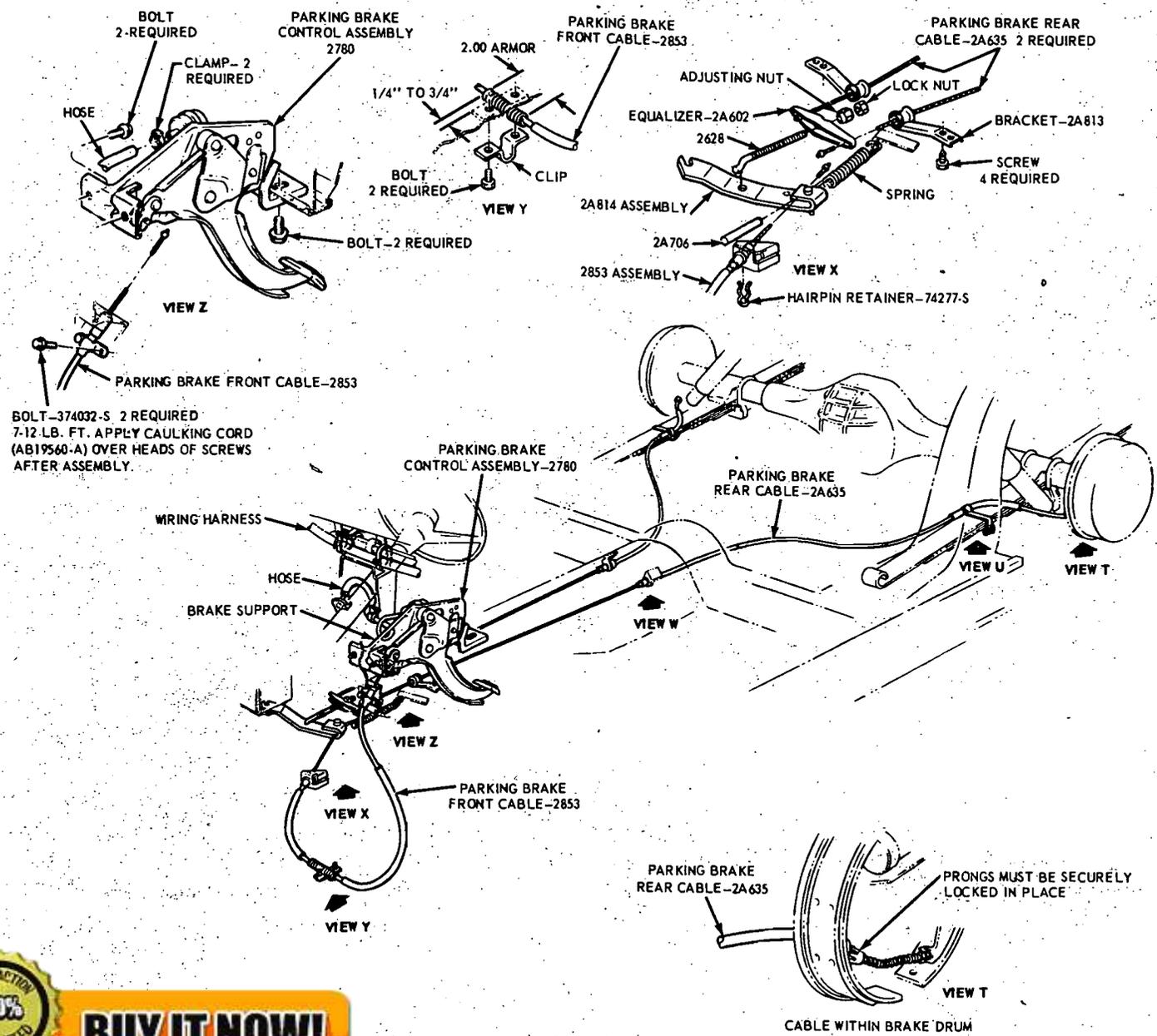
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strument panel. Install the lower control panel retaining screws.

8. Install the windshield wiper control bezel and knob.

9. Working in the engine compartment connect the wire harness and vacuum hoses to the Automatic Temperature Control box.

10. Connect the battery cable.

11. Raise the vehicle on a hoist.

12. Connect the cable ball to the equalizer and install the equalizer lever return spring.

13. Adjust the parking brake cable tension.

14. Lower the vehicle.

PARKING BRAKE ACTUATOR— TO CONTROL CABLE

FORD, MERCURY AND METEOR

Removal

1. Raise the vehicle on a hoist.
2. Loosen the actuator lever to equalizer cable adjusting nut at the equalizer (Fig. 34).

3. Disconnect the cable ball from the clevis on the actuator lever.

4. Remove spring clip that retains the cable to the frame.

5. From inside of passenger compartment, remove spring clip that retains the cable to the parking brake control. Disconnect the cable ball from the control assembly.

6. Remove the cable assembly from the vehicle.

Installation

1. Position the cable through the provided openings and in the approximate final installation position.

2. Install the hairpin retainer on the cable at the frame crossmember.

3. Connect the ball end of the cable to the parking brake control. Install the cable-to-control hairpin retaining clip.

4. Position the cable seal at the panel, and slide the retaining clip

THUNDERBIRD AND CONTINENTAL MARK III

Removal

Refer to Fig. 37.

1. Partially raise the vehicle.

2. Back off the adjusting nut at the equalizer to relieve the tension on the cable.

3. Remove the spring at the actuator lever and disconnect the control cable from the clevis on the lever.

4. Remove the clip retaining the control cable assembly to the frame bracket.

5. Attach a length of wire to the control cable.

6. Working inside the vehicle remove two screws retaining the left scuff plate.

7. Remove one screw and remove the left cowl side trim panel.

8. Remove the two screws retaining the left air duct to the inner panel and remove the air duct.

9. Remove the two screws retaining the dimmer switch and position the dimmer switch back out of the way.

10. Remove the clip retaining the cable assembly to the control and remove the cable ball from the control clevis.

11. Pull the cable up through the opening in the dash panel and remove the cable from the length of wire.

Installation

1. Attach the cable to the length of wire and pull the cable down through the opening in the dash panel.

2. Position the upper end of the control cable to the control. Connect the cable ball to the control clevis and install the clip retaining the cable housing to the control.

3. Remove the length of wire from the cable assembly and position the cable in the frame bracket. Install the retainer.

4. Connect the cable ball to the clevis on the actuator lever and install the actuator lever spring.

5. Adjust the parking brake.

6. Reposition the dimmer switch and install the retaining screws.

7. Position the air duct to the inner panel and install the retaining screws.

8. Position the cowl side trim panel and install the retaining screw.

9. Install the two screws in the scuff plate.

PARKING BRAKE EQUALIZER TO CONTROL CABLE

FAIRLANE, MONTEGO AND FALCON

Removal

Refer to Fig. 35.

1. Make certain the parking brake is fully released.

2. Raise the vehicle on a hoist. Remove the two nuts that attach the cable to the equalizer. Remove the equalizer, spring seat and spring.

3. Remove the hairpin retainer holding the cable assembly to the body bracket and remove the cable from the slot in the bracket.

4. Lower the vehicle partially.

5. Remove the hairpin retainer which retains the cable assembly to the control.

6. Remove the cable bolt retaining clip from the control clevis and disconnect the cable ball from the clevis.

7. Pull the cable down through the opening in the floor pan and frame side rail.

Installation

1. Route the new cable through the frame side rail and up through the opening in the floor pan. Pull the cable up into position.

2. Connect the cable ball in the control clevis.

3. Insert the cable housing into the control and install the hairpin retainer.

4. Raise the vehicle.

5. Position the cable in the body bracket and install the hairpin retainer.

6. Position the spring, spring retainer and equalizer on the cable and install the two nuts.

7. Adjust the parking brake.

MUSTANG AND COUGAR

Removal

Refer to Fig. 36.

1. Make certain the parking brake is fully released.

2. Raise the vehicle on a hoist. Remove the two nuts that attach the cable to the equalizer. Remove the equalizer spring seat and spring.

3. Remove the hairpin retainer holding the cable assembly to the body bracket and pull the cable out of the side rail access holes.

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4. Attach a wire to the end of the cable to assist in routing new cable.
5. Lower the vehicle.
6. Remove the parking brake front cable ball retaining clip from the clevis.
7. Disconnect the cable ball from the notch in the brake clevis.
8. Remove the hairpin retainer and remove the cable assembly from the brake control assembly.
9. Pull the cable assembly up through the opening in the floor and remove the wire from the end of the cable.

Installation

Refer to Fig. 36.

1. Connect the wire to the end of the cable assembly and pull the cable down through the opening in the floor. Remove the wire.
2. Connect the cable assembly to the brake control assembly and install the hairpin retainer.
3. Position the ball end of the cable in the notch of the brake clevis.
4. Raise the vehicle on a hoist.
5. Pull the cable grommet into position and route the cable through the access holes in the side rail and under the fuel line.
6. Insert the cable into the body bracket and install the hairpin retainer.
7. Position the spring, spring seat, and equalizer on the cable and install the two nuts.
8. Adjust the parking brake.

LINCOLN CONTINENTAL

Removal

1. Raise the car on a hoist. Disconnect the parking brake cable from the equalizer lever underneath the car (Fig. 38).
2. Remove the retaining clip at the cable bracket, and disengage the cable from the bracket (Fig. 38).
3. Remove the supporting clip retaining bolts and remove the support plate from the underbody.
4. Lower the car on a hoist.
5. With the parking brake in the fully released position, disconnect the cable at the control assembly.
6. Raise the vehicle on a hoist. Re-

Installation

1. Route the parking brake control to equalizer cable to the control assembly and the equalizer, and install the two bolts that retain the cable to the dash panel (Fig. 38).
2. Install the left front fender apron splash shield and the six attaching bolts.
3. Lower the vehicle.
4. Connect the control cable to the clevis on the control assembly.
5. Raise the car on a hoist.
6. Position the supporting clip and cable on the vehicle and install the retaining bolts. **Do not tighten the bolts.** Position the cable armor approximately 1/2 inch to the right of the clip (looking toward the rear of the car) and tighten the retaining bolts.
7. Position the equalizer control cable to the support bracket and install the retaining hairpin clip.
8. Connect the ball end of the control cable to the equalizer lever.
9. Adjust the parking brake linkage (Part 2-1, Section 2).
10. Check the operation of the automatic release mechanism.

PARKING BRAKE ACTUATOR-TO-EQUALIZER CABLE

FORD, MERCURY,
METEOR, THUNDERBIRD
AND CONTINENTAL
MARK III

Removal

Refer to Figs. 34 and 37.

1. Raise the vehicle on a hoist.
2. Remove the lock and adjusting nut which retains the cable to the equalizer.
3. Remove the cable end from the equalizer.
4. Unhook the cable from the actuator, and remove from the vehicle.

Installation

1. Insert new cable end into actuator.
2. Insert cable end into equalizer and tighten the adjusting nut snug. Install the lock nut.
3. Adjust the parking brake cable tension and check operation as outlined in Part 2-1, Section 2.
4. Lower the vehicle.

PARKING BRAKE EQUALIZER TO REAR WHEEL CABLE

FORD, MERCURY,
METEOR, THUNDERBIRD
AND CONTINENTAL
MARK III

Removal

1. Raise the vehicle and loosen the parking brake equalizer rod adjusting nut. Disconnect the equalizer from the rear cables (Figs. 34 and 37).
2. Compress the prongs on the left cable-to-frame side member retainer so the prong can pass through the side-member. Remove the clip that attaches the left cable to the left lower arm. Pull the cable thru the frame left side member.
3. Compress the prongs on the right cable-to-frame side member retainer bracket so the prong can pass through the bracket. Remove the clips retaining the right cable to the frame crossmember.
4. Remove the rear wheel cover and wheel. Remove the three Tinnerman nuts that hold the brake drum in place and remove the drum.
5. Working on the wheel side of the rear brake, remove the automatic brake adjuster spring. Compress the prongs on the parking brake cable retainer so that they can pass through the hole in the brake backing plate. Draw the cable retainer through the hole.
6. With the spring tension off the parking brake lever, lift the cable out of the slot in the lever and remove the cable through the backing plate hole.

Installation

1. Pull enough of the parking brake cable through the housing so that the end of the cable may be inserted over the slot in the parking brake lever on the rear brake shoe.
2. Pull the excess slack from the cable, and insert the cable housing into the brake backing plate access hole so that the retainer prongs expand. **The prongs must be securely locked in place.** Install the automatic brake adjuster spring.
3. Position the right hand cable and the two retaining clips and screws on the rear crossmember. Compress the prongs on the right cable and position the cable in the retaining bracket on the frame side member. Be sure the

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locating stripe on the cable is midway between the retaining clips and tighten all retaining clip screws.

4. Position the left cable, retaining clip and screw on the left lower suspension arm. Compress the prongs on the left cable and position the cable through the frame side-member. The prongs must be securely locked in place.

5. Insert the ball ends of the cables into the equalizer assembly.

6. Install the rear drum(s) and tighten the three Tinnerman nuts and secure the drum. Install the wheel and tire and the wheel cover.

7. Adjust the parking brake linkage as outlined in Part 2-1, Section 2. Adjust the rear brakes, as required (Part 2-1, Section 2).

FAIRLANE, MONTEGO, MUSTANG AND COUGAR— EXCEPT STATION WAGON

Removal

1. Remove the equalizer lock nut and adjusting nut, equalizer, spring and spring seat.

2. With the cables slack, disconnect the ball-ends from the connector (Figs. 35 and 36).

3. Remove the cable from the retainer hooks (station wagon models) and the underbody guide (convertible models) if required.

4. Remove the hairpin lock retaining the cable housing to the side rail bracket.

5. Remove the wheel cover, wheel and tire and the rear brake drum as outlined in Section 2.

6. Remove self-adjuster springs to allow clearance to remove cable retainer from the backing plate. Disconnect the rear end of the cable from the parking brake lever on the brake shoe. Disengage the cable housing retaining grommet or steel-pronged Hi-Hat from the backing plate and withdraw the cable and housing from the in-board side of the backing plate.

7. Slide the cable and housing out of the side rail bracket.

Installation

Insert the rear end of the cable

brake lever on the brake shoe and install the cable housing retaining grommet or steel-pronged Hi-Hat in the backing plate.

4. Install the self-adjuster springs. Position the cable housing in the side rail bracket and install the hairpin type retainer.

5. Install rear hub and drum assembly, wheel and tire assemblies and wheel cover as outlined in Section 2.

6. Position the cable retainer hooks (station wagon models) in the underbody guide (convertible models) and install the connector, thus hooking the two cables together.

7. Insert the cable into the equalizer and install the equalizer, spring seat, spring, adjusting nut and lock nut to the front, parking brake control cable.

8. Adjust the parking brake as directed in Part 2-1, Section 2.

FAIRLANE AND MONTEGO STATION WAGONS AND FALCON PASSENGER MODELS

Removal and Installation

Refer to Fig. 35.

Generally follow the procedure given above, omitting separation of the cables, since the parking brake rear cable assemblies supplied for these models is in one piece. Removal and installation of both rear wheels, tires and drums will also be required.

LINCOLN CONTINENTAL

Removal

1. Raise the car. Remove the rear wheel cover. Remove the wheel and tire as an assembly.

2. Remove the three Tinnerman nuts that hold the brake drum in place, and remove the drum.

3. Remove the brake shoe retracting springs.

4. Loosen the equalizer rod adjusting nut and disconnect the cable from the equalizer (Fig. 38).

5. Remove the hairpin-type retainer clip that secures the cable housing to the body bracket, and pull the cable and housing out of the bracket (Fig. 38).

6. Remove the cable to underbody clamp attaching nuts and the clamp. Disengage the cable housing from the hook-type retainer at the spring U-bolt.

7. Working on the wheel side of the backing plate (Fig. 38), compress the prongs on the cable retainer so that it can pass through the hole in the backing plate. Draw the cable retainer out of the hole.

8. With the spring tension off the parking brake lever, lift the cable out of the slot in the lever and remove it through the backing plate hole.

Installation

1. Pull enough of the cable through the cable housing so that the end of the cable may be inserted through the backing plate hole from the inner side and engage the cable end with the slot in the parking brake lever.

2. Pull the excess slack from the cable and insert the cable housing into the backing plate access hole (Fig. 38). The prongs must be securely locked in place.

3. Install the brake shoe retracting springs.

4. Position the cable to the underbody and install the retaining clamp so that the cable conduit armor extends forward of the clamp as shown in Fig. 38. Install the clamp retaining nuts.

5. Hook the cable housing to the retainer at the spring U-bolt.

6. Engage the forward end of the cable housing with the frame bracket and secure it with the hairpin-type clip.

7. Insert the ball end of the cable into the equalizer.

8. Make a preliminary brake adjustment with the use of Tool HRA-8650 (Fig. 11).

9. Install the rear drum. Tighten the three Tinnerman nuts that secure the drum. Install the wheel and wheel cover.

10. Adjust the parking brake linkage.

11. Lower the vehicle.

ANTI-SKID CONTROL ACTUATOR

REMOVAL

Refer to Fig. 39.

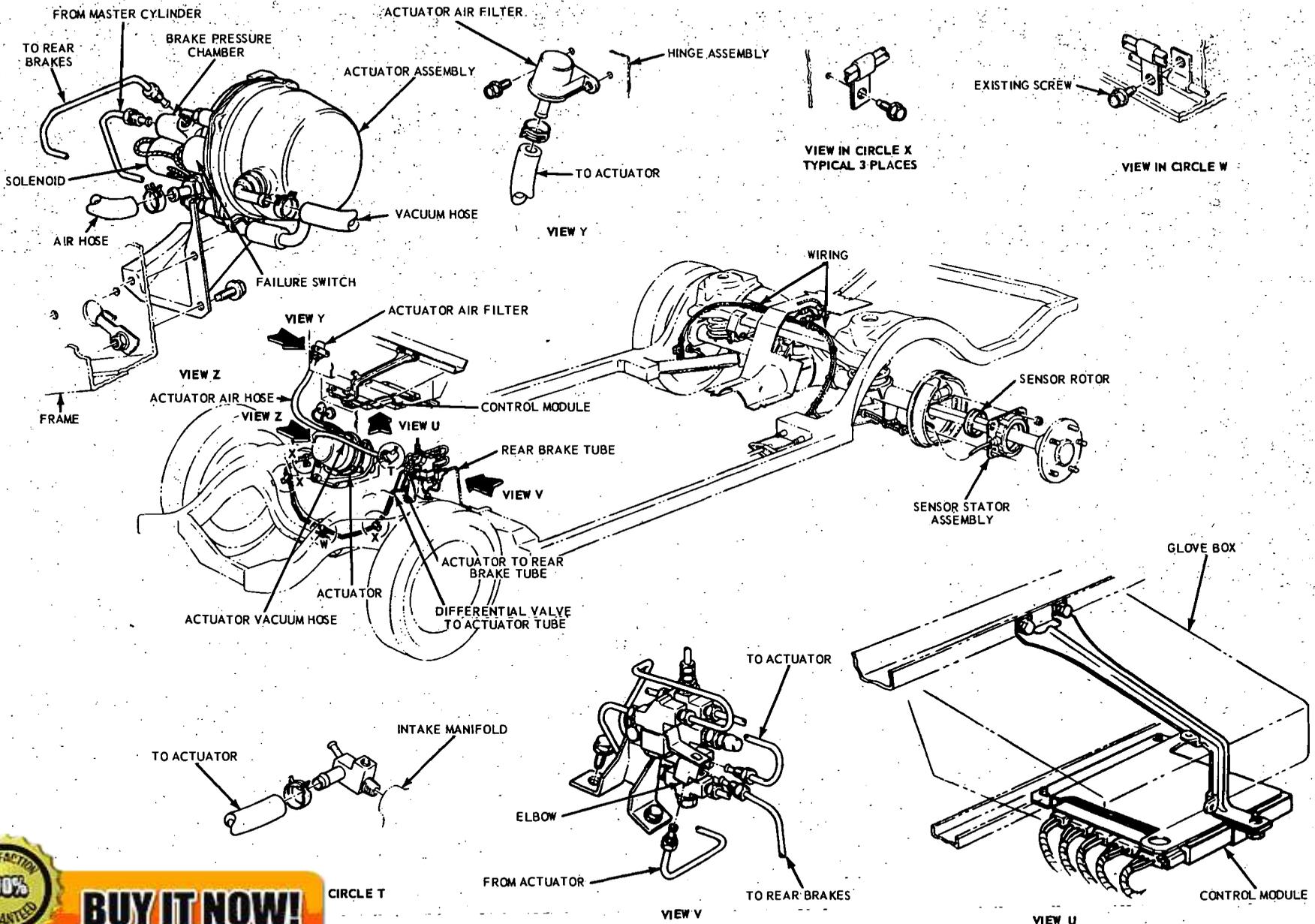
1. Working in the passenger compartment, under the glove box, remove the screw that attaches the forward end of the control module retainer to the support assembly. Lower the forward end of the control module retainer and remove the module assembly.

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CLASS 37 - AIR-OPERATED CONTROL SYSTEM

H1653-A

2. Disconnect the actuator solenoid and warning switch harness connectors from the control module.

3. Remove the two wiring harness grommets from the dash panel and push the wiring harness and connectors through the openings in the dash panel.

4. Working in the engine compartment loosen the hose clamp and remove the air hose from the air filter.

5. Remove the engine air cleaner. Loosen the hose clamp and remove the vacuum hose from the vacuum manifold fitting.

6. Raise the vehicle on a hoist.

7. Disconnect the exhaust pipes from the exhaust manifold and support with wire to provide access to the actuator assembly.

8. Remove the bolt retaining the actuator ground wire to the rear outer corner of the engine right bank.

9. Loosen the tube nuts and disconnect the brake system hydraulic tubes from the hydraulic valve housing.

10. Remove the three nuts retaining the actuator assembly to the actuator support bracket.

11. Remove the three bolts that retain the actuator mounting bracket to the side rail and remove the mounting bracket.

12. Remove the actuator assembly from the vehicle and place it on a bench.

13. Remove the air and vacuum hoses from the actuator.

INSTALLATION

1. Install the air and vacuum hoses on the new actuator.

2. Place the actuator assembly into position under the vehicle, routing the air and vacuum hoses up between the engine and fender apron and inserting the solenoid leads through the holes in the firewall.

3. Position the ground wire to the rear of the engine block and install retaining bolt.

4. Position the actuator mounting bracket to the frame side rail and install the three retaining bolts.

5. Position the actuator assembly to the mounting bracket and install the three retaining nuts.

6. Connect the hydraulic tubes to hydraulic valve assembly and the tube nuts to specifications.

through the two holes in the dash panel from inside the car. Seat the wiring harness grommets in the dash panel.

10. Connect the actuator solenoid and brake warning switch wiring harness connectors to the control modules.

11. Position the control module in the bracket under the glove box and install the retaining screw.

12. In the engine compartment connect the air hose to the air filter and position the hose clamp.

13. Connect the vacuum hose to the engine vacuum manifold fitting. Install the engine air cleaner.

14. Bleed the rear brake system and centralize the pressure differential valve.

15. Raise the rear wheels. Apply the brakes with the rear wheels turning to verify proper operation of the anti-skid control system.

ANTI-SKID CONTROL MODULE

REMOVAL

Refer to Fig. 39.

1. Remove the retaining strap holding the harnesses.

2. Remove the screw that attaches the forward end of the control module retainer to the support assembly.

3. Lower the forward end of the control module and retainer from the support assembly; move the module and retainer forward slightly until the flange clears the slot in the support assembly.

4. Disconnect the five wiring harness plugs from the control module.

5. Remove the control module from the vehicle.

INSTALLATION

1. Connect the five wiring harness plugs to the control module. Only one arrangement is possible.

2. Position the control module in the retainer, orienting the module per the markings on it, and insert the retainer flange into the slot at the rear of the support assembly.

3. Pivot the retainer and control module upward and align the screw hole in the forward end of the retainer with the hole in the support bracket assembly. Install the retaining screw.

4. Test the vehicle on the hoist to verify correct operation of the skid control system.

5. Secure the wiring to the module support extension with the retaining strap.

ANTI-SKID CONTROL SENSOR

REMOVAL

Refer to Fig. 39.

1. Raise the vehicle on a hoist.

2. Remove the rear wheel and tire assembly.

3. Remove the three Tinnerman nuts (3) and remove the brake drum.

4. Disconnect the sensor lead from the rear wiring harness.

5. Unseat the sensor lead grommet pushing it to the inside of the brake assembly.

6. Remove the four nuts that retain the sensor to the backing plate and pull the axle shaft, sensor assembly and wheel bearing assembly from the axle housing.

7. Press the wheel bearing retainer and wheel bearing off the axle shaft (Refer to Part 4-2).

8. Remove the sensor assembly and press the rotor off the shaft with tool T69P-2B384-A Detail 2 and TOOL 1225-DA.

INSTALLATION

1. Press a new rotor onto the axle shaft. Install a new sensor assembly on the shaft with tool T69P-2B384-A Detail 1 and TOOL 1225-DA, and press the bearing and bearing retainer onto the shaft (Refer to Part 4-2).

2. Insert the axle shaft assembly in the rear axle housing onto the four backing plate retaining bolts, feeding the sensor lead through the hole in the backing plate.

3. Seat the sensor lead grommet in the backing plate.

4. Install the four nuts on the retaining bolts and tighten to specifications.

5. Connect the sensor lead to the rear wiring harness and install two retaining straps.

6. Install the rear brake drum and retain with the Tinnerman drum retaining nuts.

7. Install the rear wheel and tire assembly and tighten the wheel nuts to specifications.

8. Test the vehicle on the hoist to verify proper operation of the skid control system.

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4 MAJOR REPAIR OPERATIONS

BRAKE DRUM REFINISHING

Minor scores on a brake drum can be removed with sandpaper. A drum that is excessively scored or shows a total indicator runout of over 0.007 inch should be turned down. Remove only enough stock to eliminate the scores and true up the drum. The refinished diameter must not exceed 0.060 inch oversize.

Check the inside diameter of the brake drum with a brake drum micrometer (Tool FRE-1431).

If the drum diameter is less than 0.030 inch oversize after refinishing, standard lining may be installed. If the drum diameter is 0.030—0.060 inch oversize after refinishing, oversize lining must be installed.

After a drum is turned down, wipe the refinished surface with a cloth soaked in clean denatured alcohol. If one drum is turned down, the opposite drum on the same axle should also be cut down to the same size.

ROTOR REFINISHING

Rotunda Disc Brake Attachment, FRE-2249-2, is the only recommended tool to refinish the disc brake rotors. The step-by-step resurfacing procedure provided with the tool must be adhered to.

The finished braking surfaces of the rotor must be flat and parallel within 0.0007 inch; lateral runout must not exceed 0.003 inch total indicator reading, and the surface finish of the braking surfaces are to be 80/15 micro inches. The minimum limiting dimensions (Figs. 11 and 12, Part 2-1) from the inboard bearing cup to the outboard rotor face and from the inboard bearing cup to the inboard rotor face must be observed when removing material from the rotor braking surfaces. On all models except Lincoln Continental, the limiting dimensions are to be measured with a ball and gage bar (Rotunda Kit FRE-70160).

BRAKE SHOE RELINING

is necessary to replace linings, they must also be replaced on the wheel on the opposite side of the vehicle.

Inspect brake shoes for distortion, cracks, or looseness. If this condition exists, the shoe must be discarded. **Do not attempt to repair a defective brake shoe.**

1. Wash the brake shoes thoroughly in a clean solvent. Remove all burrs or rough spots from the shoes.

2. Check the inside diameter of the brake drum with a brake drum micrometer (tool FRE-1431). If the diameter is less than 0.030 inches oversize, standard lining may be installed. If the diameter is 0.030—0.060 inches oversize, oversize lining should be installed.

3. Position the new lining on the shoe. Starting in the center, insert and secure the rivets, working alternately towards each end. **Replacement linings are ground and no further grinding is required.**

4. Check the clearance between the shoe and lining. The lining must seat tightly against the shoe with not more than 0.008 inch clearance between any two rivets.

DUAL MASTER CYLINDER

DISASSEMBLY

1. Clean the outside of the master cylinder and remove the filler cover and diaphragm. Pour out any brake fluid that remains in the cylinder. Discard the old brake fluid.

2. Remove the secondary piston stop bolt from the bottom of the cylinder (Figs. 40 and 41).

3. Remove the bleed screw, if required.

4. Depress the primary piston and remove the snap ring from the retaining groove at the rear of the master cylinder bore (Fig. 42). Remove the push rod and the primary piston assembly from the master cylinder bore. **Do not remove the screw that retains the primary return spring retainer, return spring, primary cup and protector on the primary piston. This assembly is factory pre-adjusted and should not be disassembled.**

5. Remove the secondary piston assembly. **Do not remove the outlet tube seats, outlet check valves and outlet**

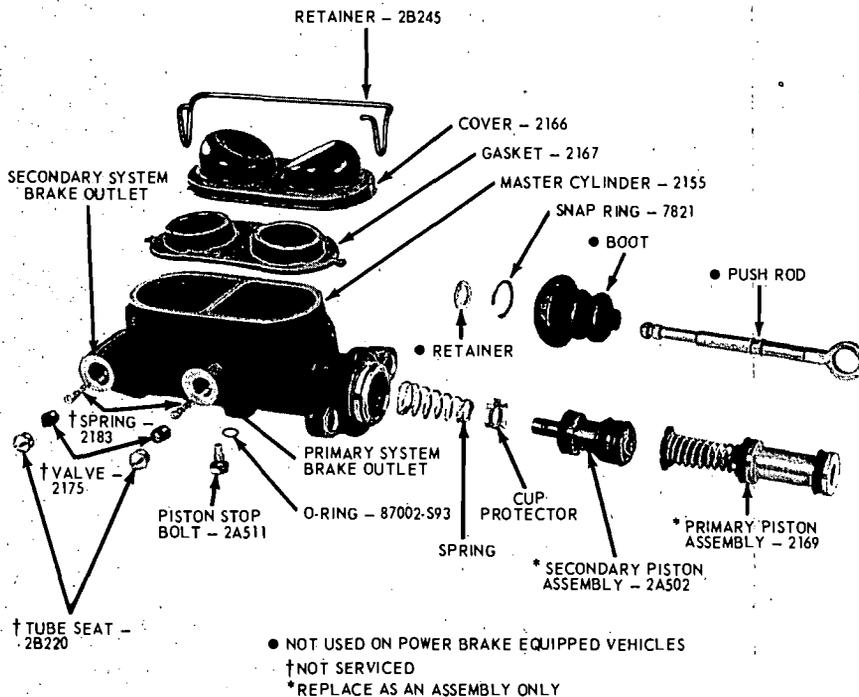


FIG. 40—Dual Master Cylinder Disassembled—Except Disc Brakes

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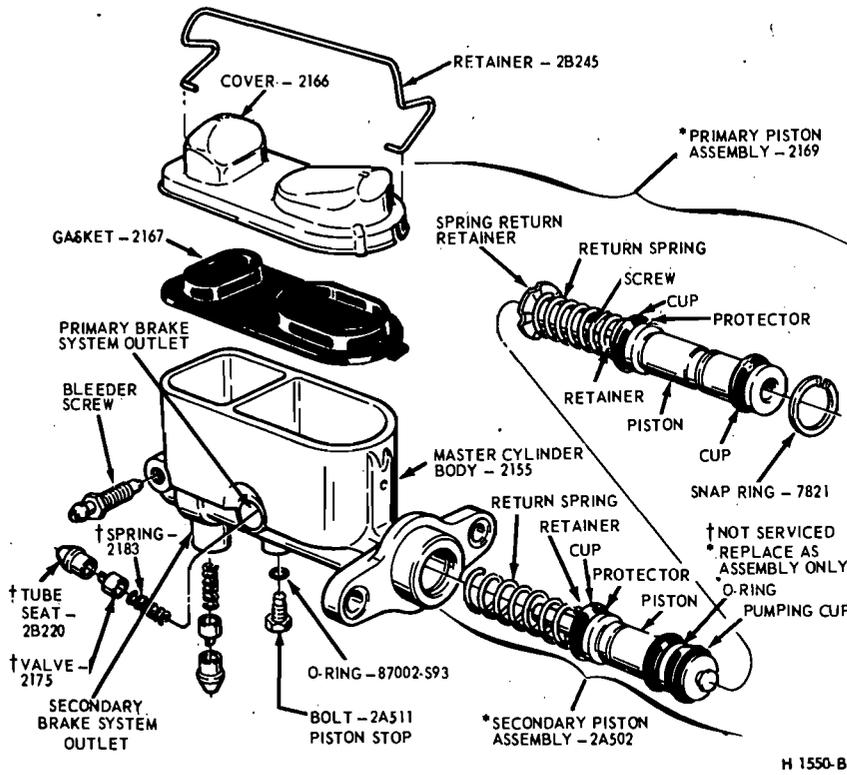


FIG. 41—Dual Master Cylinder Disassembled—Disc Brakes

check valve springs from the master cylinder body.

INSPECTION AND REPAIR

1. Clean all parts in clean isopropyl alcohol, and inspect the parts for chipping, excessive wear or damage. When using a master cylinder repair kit, install all the parts supplied.
2. Check all recesses, openings and internal passages to be sure they are

open and free of foreign matter. Use an air hose to blow out dirt and cleaning solvent. Place all parts on a clean pan or paper.

3. Inspect the master cylinder bore for signs of etching, pitting, scoring or rust. If it is necessary to hone the master cylinder bore to repair damage, do not exceed allowable hone specifications.

ASSEMBLY

1. Dip all parts except the master cylinder body in clean Rotunda Extra Heavy Duty Brake Fluid.
2. Carefully insert the complete secondary piston and return spring assembly in the master cylinder bore.
3. Install the primary piston assembly in the master cylinder bore.
4. Depress the primary piston and install the snap ring in the cylinder bore groove.
5. Install the push rod, boot and retainer on the push rod, if so equipped. Install the push rod assembly into the primary piston. **Make sure the retainer is properly seated and holding the push rod securely.**
6. Position the inner end of the push rod boot (if so equipped) in the master cylinder body retaining groove.
7. Install the secondary piston stop

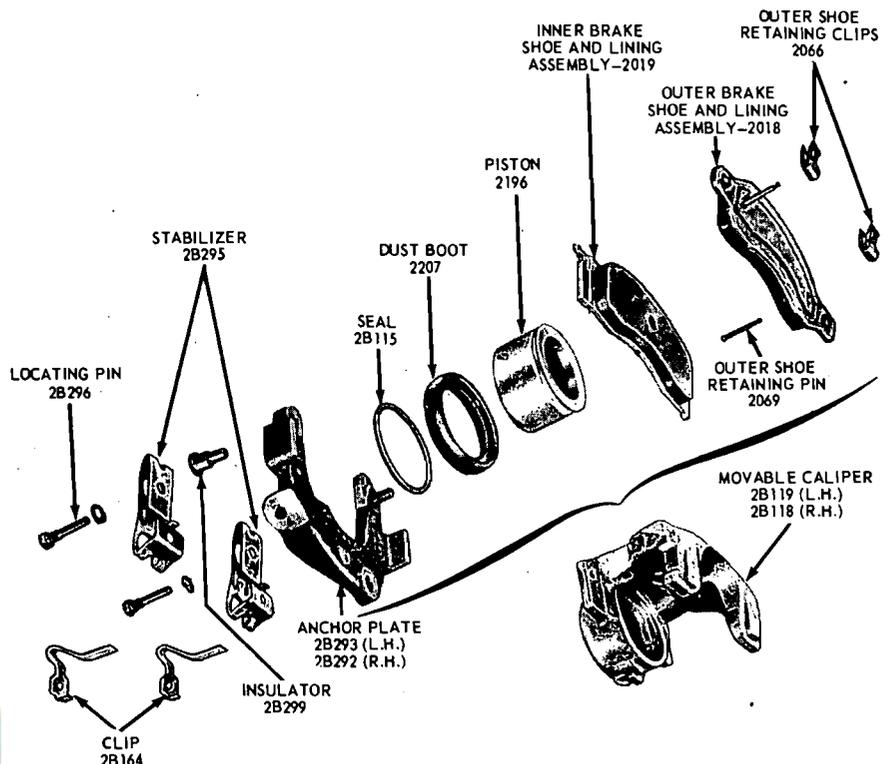
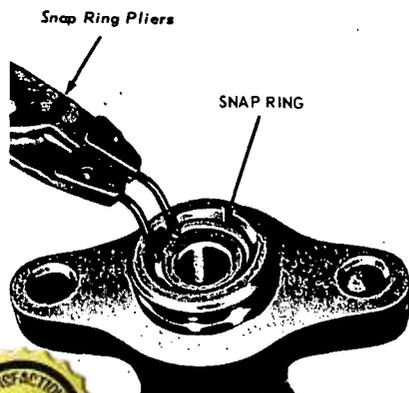


FIG. 43—Caliper Assembly—Disassembled—All Models Except Lincoln Continental

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bolt and O-ring in the bottom of the master cylinder.

8. Install the bleed screw (if so equipped). Install the gasket (diaphragm) in the master cylinder filler cover. Position the gasket as shown in Figs. 40 and 41. **Make sure the gasket is securely seated.**

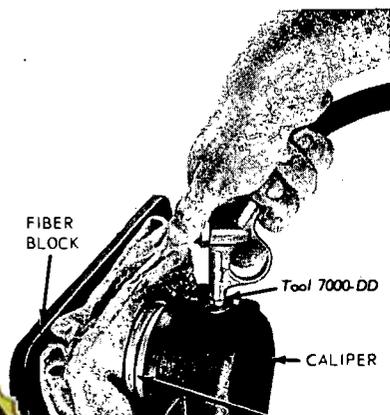
9. Install the cover and gasket on the master cylinder and secure the cover into position with the retainer.

DISC BRAKE CALIPER

ALL MODELS EXCEPT LINCOLN CONTINENTAL

Disassembly

1. Remove the caliper assembly from the vehicle as outlined in Section 2.
2. Remove the caliper locating pins from the caliper assembly and lift the anchor plate from the caliper.
3. Slide the two outer shoe retaining clips off the retaining pins (Fig. 43).
4. Remove the two retaining pins, then remove the outer brake shoe from the caliper.
5. Slide the inner brake shoe outward until it is free of the hold-down springs, then remove the brake shoe.
6. Apply air pressure to the fluid port in the caliper with a rubber tipped nozzle (Tool 7000-DD) as shown in Fig. 44 to remove the piston. Place a cloth over the piston before applying air pressure to prevent damage to the piston. If the piston is seized and cannot be forced from the



caliper, tap lightly around the piston while applying air pressure. **Care should be taken because the piston can develop considerable force due to pressure build-up.**

7. Remove the dust boot from the caliper assembly.

8. Remove the rubber piston seal from the cylinder and discard it.

Cleaning and Inspection

Clean all metal parts with isopropyl alcohol or a suitable solvent. Use clean, dry, compressed air to clean out and dry the grooves and passage ways. Be sure that the caliper bore and component parts are completely free of any foreign material.

Check the cylinder bore and piston for damage or excessive wear. Replace the piston if it is pitted, scored, or the chrome plating is worn off.

Assembly

1. Apply a film of clean brake fluid to the new caliper piston seal and install it in the cylinder bore. Be sure the seal does not become twisted and that it is seated fully in the groove.
2. Install a new dust boot by setting the flange squarely in the outer groove of the caliper bore.
3. Coat the piston with the specified fluid and install the piston in the cylinder bore. Spread the dust boot over the piston as it is installed. Seat the dust boot in the piston groove.
4. Position the inner brake shoe so that the ears of the shoe rests on the top of the anchor plate bosses and beneath the hold-down springs.
5. Install new caliper locating pin insulators in the anchor plate.
6. Position the caliper on the anchor plate.
7. Apply water or isopropyl alcohol to the caliper locating pins and install them loosely in the anchor plate. **Be sure the guide pins are free of oil, grease or dirt.**
8. Install the caliper on the spindle as outlined under Disc Brake Caliper Assembly.

LINCOLN CONTINENTAL

Disassembly

Do not remove the bridge bolts that hold the two halves of the caliper together. The two caliper housings are shown separated in Fig. 46 for illustration purposes only.

1. Remove the caliper assembly from the car as outlined in Section 2.

2. Remove the two attaching bolts and the caliper splash shield (Fig. 46).

3. Remove the two shoe and lining assemblies.

4. Remove the flexible brake hose from the caliper.

5. Remove the external transfer tube.

6. Remove the four dust boots from the caliper housings and piston grooves.

7. Clamp the caliper in a vise and secure it by the mounting flanges on the inboard housing (Fig. 45).

8. Remove the four pistons from the cylinder bores with the special tool shown in Fig. 45. To prevent cocking with consequent damage to the piston or bore, rotate the piston with the tool while pulling it outward at the same time. **Be careful to avoid scratching or damaging the outside diameter surface or dust boot retaining groove of the piston. Such damage causes poor sealing.**

If a piston is so completely seized in the cylinder bore that it can not be removed with the special tool, the caliper housing must be replaced, by positioning two screwdrivers in the piston dust boot retaining groove and prying outward. To prevent cocking, tap the end of the piston lightly around the circumference with a hammer, while the prying force is being applied. Be careful to avoid damaging the dust boot retainer in the caliper housing (Fig. 46). If this method of removal is used, the pistons must be replaced.

If the caliper dust boot retainer or retaining groove is damaged or scratched, pry the retainer out of the caliper housing with screwdrivers.

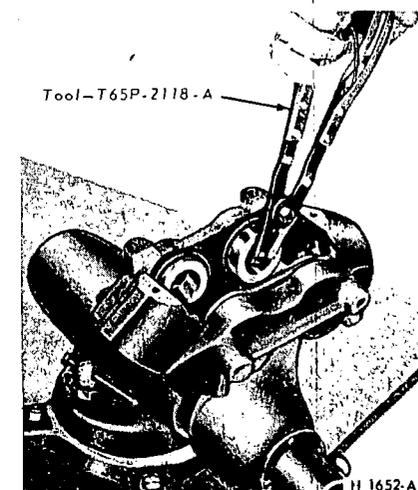


FIG. 45—Removing or Installing Pistons—Lincoln Continental

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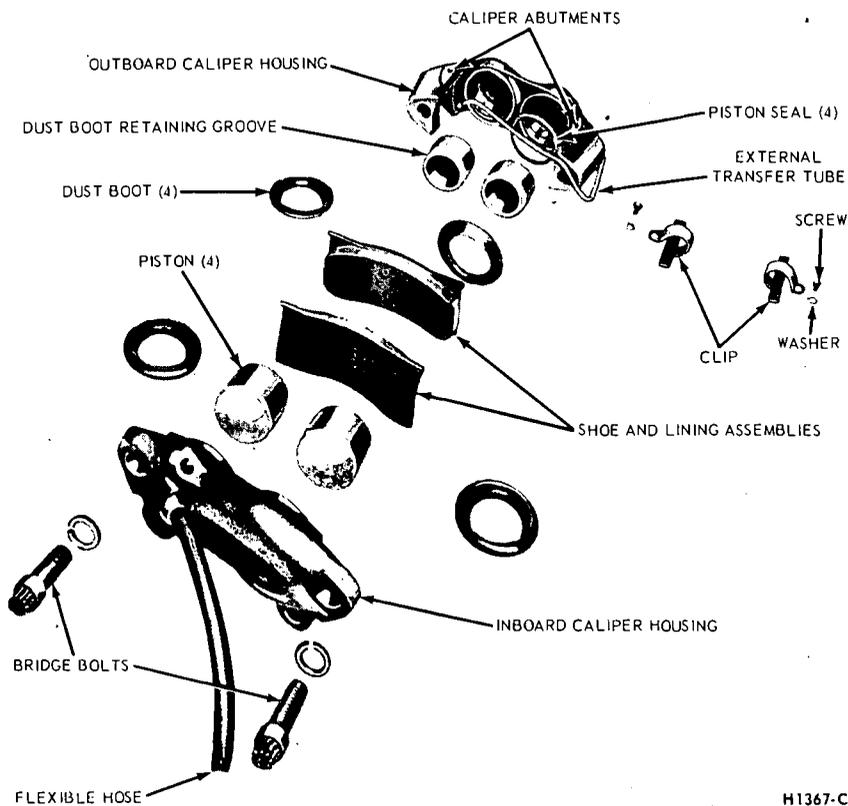


FIG. 46—Caliper Assembly—Disassembled—Lincoln Continental

9. Remove the rubber piston seals from the grooves in the cylinder bores by carefully inserting the point of a small knife or other pointed instrument under the seal and raising the seal up far enough to be pulled out with the fingers.

Cleaning and Inspection

Clean all metal parts with isopropyl alcohol or a suitable solvent (Fig. 46). Use clean, dry, compressed air to clean out and dry the grooves and passage ways. Be sure that the caliper

bore and component parts are completely free of any foreign material.

Check the cylinder bores and pistons for damage or excessive wear. Replace the piston if it is pitted, scored, or the chrome plating is worn off. Check the caliper dust boot retainer for wear or damage.

Assembly

1. Clamp the caliper in a vise and secure it by the mounting flange on the inboard housing.
2. Apply a film of clean brake fluid

to new caliper piston seals and install them in the grooves of the cylinder bore. The seal should be positioned at one area in the groove and gently worked around. **Do not use the original seals.**

3. Install the new dust boots by setting the flanges squarely in the outer grooves of the caliper bores.

4. Coat the pistons with the specified fluid and install the pistons in the cylinder bores. Spread the dust boots over the pistons as they are installed. Seat the dust boots in the piston grooves.

5. Coat the outside diameter of the pistons with brake fluid and install them in the cylinder bores so that the open end of the piston and the boot retaining groove face out of the bore. To avoid cocking, locate the piston squarely in the bore and apply a slow steady pressure. If a piston will not easily go all the way into the bore, remove it and thoroughly inspect the cylinder bore, the piston seal and the installation of the seal. If the piston still will not go in with bore in good condition and the piston seal properly installed, use the tool shown in Fig. 45. Rotate the piston with the tool while pushing it inward at the same time.

6. Carefully install four new dust boots on the caliper housings and pistons. Be sure that each boot is fully seated in the groove of its respective caliper housing and piston (Fig. 46). **Do not use the original dust boots.**

7. Install the external transfer tube.

8. Install the flexible brake hose to the caliper.

9. Install the caliper assembly on the spindle, and install the shoe and lining assemblies and the splash shield as outlined in Section 2. Check the caliper for fluid leaks under maximum pedal pressures. **Do not move the car until a firm brake pedal is obtained.**

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PART 2-3. Specifications

LINING DIMENSIONS – DRUM BRAKES – INCHES

Vehicle	Position	Front	Rear
FORD, MERCURY, METEOR Ford, Meteor Passenger (Riveted Lining) Except 390, 429 CID Galaxie 500XL, Ford LTD, LeMoyné.	Primary	2.50 x 9.34	2.25 x 9.34
	Secondary	2.50 x 12.12	2.25 x 12.12
Ford, Mercury, Meteor with Disc Brakes.	Primary	N/A	2.25 x 9.34
	Secondary	N/A	2.25 x 12.12
Mercury Passenger, Sta. Wag. and Conv. Ford Meteor Station Wagon and Convertible. 390, 429 CID Galaxie 500 XL, Ford LTD, LeMoyné.	Primary	3.00 x 9.34	2.25 x 9.34
	Secondary	3.00 x 12.12	2.25 x 12.12
Ford, Meteor 240, 302 CID Taxi Only (Bonded Lining) Max. Wear Resistance.	Primary	3.00 x 9.34	2.50 x 9.34
	Secondary	3.00 x 12.12	2.50 x 12.12
MONTEGO, FAIRLANE Passenger 250, 302 CID Except Convertible	Primary	2.25 x 8.43	2.00 x 8.43
	Secondary	2.25 x 10.82	2.00 x 10.82
Station Wagon, Rancho and Convertible 250, 302 CID. Passenger and Convertible 351, 390, 428 CID.	Primary	2.50 x 8.43	2.00 x 8.43
	Secondary	2.50 x 10.82	2.00 x 10.82
Station Wagon and Rancho 351, 390, 428 CID.	Primary	2.50 x 8.43	2.50 x 8.43
	Secondary	2.50 x 10.82	2.50 x 10.82
FALCON Sedan 6-Cylinder.	Primary	2.25 x 7.62	1.50 x 7.62
	Secondary	2.25 x 9.77	1.50 x 9.77
Station Wagon 6-Cylinder.	Primary	2.50 x 8.43	2.00 x 8.43
	Secondary	2.50 x 10.82	2.00 x 10.82
Sedan 8-Cylinder.	Primary	2.25 x 8.43	2.00 x 8.43
	Secondary	2.25 x 10.82	2.00 x 10.82
Station Wagon 8-Cylinder.	Primary	2.50 x 8.43	2.00 x 8.43
	Secondary	2.50 x 10.82	2.00 x 10.75
MUSTANG, COUGAR 200 CID Engine.	Primary	2.25 x 7.62	1.50 x 7.62
	Secondary	2.25 x 9.77	1.50 x 9.77
250, 302 CID Engines.	Primary	2.25 x 8.43	1.75 x 8.43
	Secondary	2.25 x 10.82	1.75 x 10.82
351, 390, 428 CID Engines.	Primary	2.50 x 8.43	2.00 x 8.43
	Secondary	2.50 x 10.82	2.00 x 10.82
THUNDERBIRD, CONTINENTAL MARK III	Primary	N/A	2.25 x 9.34
	Secondary	N/A	2.25 x 12.12
LINCOLN CONTINENTAL	Primary	N/A	3.00 x 9.39
	Secondary	N/A	3.00 x 12.21

Wear Limits Riveted: 1/32 inch from top of rivets.
Bonded: 0.030 inch total lining thickness.



BORE DIAMETERS—BRAKE DRUM, WHEEL CYLINDER AND MASTER CYLINDER

Models	Brake Drum		Wheel Cylinder Bore Dia.		Master Cylinder Bore Dia.		
	Inside Diameter	Boring Limit (Max.) ⓐ	Front ⓑ	Rear ⓑ	With Power Brake ⓑ	Less Power Brake ⓑ	
Ford, Mercury and Meteor	Taxi and Station Wagon	11.030	11.090	1.094	0.938	1.000	1.000
	Other	11.030	11.090	1.125	0.938	1.000	1.000
Montego and Fairlane	Pass. except Conv. 250, 302 CID Engines	10.000	10.060	1.125	0.875	0.9375	1.000
	Pass. and Conv. 351, 390, 428 CID Eng.	10.000	10.060	1.094	0.875	0.9375	1.000
	Convertible 250, 302 CID Engines	10.000	10.060	1.094	0.875	0.9375	1.000
	Station and Ranchero	10.000	10.060	1.094	0.938	0.9375	1.000
Falcon	9 Inch Brake - Passenger Car	9.000	9.060	1.062 ⓑ	0.844 ⓑ	0.9375	1.000
	10 Inch Brake - Station Wagon	10.000	10.060	1.094	0.938	0.9375	1.000
	10 Inch Brake - Passenger Car	10.000	10.060	1.125	0.875	0.9375	1.000
Mustang and Cougar	200 CID Engine	9.000	9.060	1.062 ⓑ	0.844 ⓑ	1.000	1.000
	351, 390, 428 CID Engine	10.000	10.060	1.094	0.875	1.000	1.000
	250, 302, CID Engine	10.000	10.060	1.125	0.875	1.000	1.000
Thunderbird		11.030	11.090	N/A	0.938	1.000	N/A
Continental Mark III		11.030	11.090	N/A	0.938	1.000	N/A
Lincoln Continental		11.090	11.130	N/A	0.938	1.000	N/A

ⓐ Max. Runout 0.007

ⓑ Front Wheel Cylinder cannot be honed on Falcon or Mustang with 9 inch Brakes.

ⓐ Max. Allowable Hone 0.003

ⓐ 2.755 For Ford, Mercury, Meteor with Disc Brakes.

2.381 For Fairlane, Montego, Falcon, Mustang, Cougar with Disc Brakes.

SHOE AND LINING DIMENSIONS—DISC BRAKES—INCHES

	Ford, Mercury, Meteor, Thunderbird, Continental Mark III	Fairlane, Montego, Falcon, Mustang, Cougar
Lining Material	Bonded	Bonded
Lining Size	7.38 x 2.27 Outer 5.36 x 2.03 Inner	6.82 x 1.80 Outer 4.90 x 1.84 Inner
Lining Area - Square Inches per Segment	12.25 Outer 8.44 Inner	11.30 Outer 8.80 Inner
Lining Thickness - Nominal	0.394	0.333 Outer 0.362 Inner
Lining Wear Limit (Front Surface of Shoe) - Max.	0.030	0.030
Lining Taper - Max.	0.125	0.125
Lining to Rotor Clearance (Brakes Released)	0.000 - 0.010	0.000 - 0.010

	Lincoln Continental
Lining Material	Riveted Fomoco
Lining Size	5.36 x 1.90
Lining Area	10.03 Sq. In/segment
Shoe and Lining Thickness	0.600 nominal
Lining Thickness	0.436 nominal
Shoe and Lining Maximum Wear Limit	0.231
Lining Maximum Wear Limit (from front surface of shoe)	0.066
Lining to Rotor Clearance (brakes released)	0.000-0.010

CALIPER CYLINDER BORE DIAMETER — INCHES

Ford, Mercury, Meteor, Thunderbird, Continental Mark III	2.755
Mustang, Cougar, Falcon, Fairlane and Montego	2.381
Lincoln Continental	1.938

TORQUE LIMITS — HUB TO SPINDLE

Description	Ft-Lbs
Hub and Drum or Rotor Assembly to Front Wheel Spindle	Rotate hub while torquing to 17-25 ft-lbs. Back off the adjusting nut 1/2 turn and retighten to 10-15 inch pounds while rotating wheel. Selectively position nut retainer on adjusting nut so that a set of slots are in line with cotter pin hole. Adjusting nut should not be rotated in this operation. Lock adjusting nut and nut retainer with cotter pin so that the cotter pin end does not interfere with seating of wheel static collector in spindle hole.

ROTOR DIMENSIONS

Nom.	Diameter	
	Outside	Inside
11.72	7.785	
11.72	7.785	
11.29	7.355	
11.960	7.785	

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ROTOR REFINISH

The following requirements must be met when resurfacing disc brake rotors:

Rotunda Disc Brake Attachment FRE-2249-2 is the only approved tool to be used to refinish the disc brake rotors. The step-by-step resurfacing procedure provided with the tool must be adhered to.

The finished braking surfaces of the rotor must be flat and parallel within 0.0007 inch; lateral runout must not exceed 0.003 inch total indicator reading, and the surface finish of the braking surfaces are to be 15-80 micro inches.

On all models except Lincoln Continental the limiting dimension from the inner bearing cup to the inner rotor face must be measured with a ball and gage bar (Rotunda FRE-70160).

On Lincoln Continental models the limiting dimension from the inboard bearing cup to the inboard rotor face of 0.755 inch minimum and from the inboard bearing cup to the outboard rotor face of 0.395 inch minimum must be observed.

TORQUE LIMITS - GENERAL - FT.-LBS.

	Ford-Mercury Meteor	Fairlane-Montego-Falcon	Mustang-Cougar	Thunderbird Continental Mark III	Lincoln Continental
Parking Brake Control Assembly Mounting Nuts and Bolts	Cap Screw 12-19	12-25	12-25	12-18	Dash Panel 10-20
	Nuts 7-11				Inst. Panel 7-12
Master Cylinder to Dash Panel Screw	13-20	13-20	13-20		
Master Cylinder to Booster	13-20	13-20	13-20	13-20	13-20
Booster to Dash Panel	13-20	13-20	13-20	13-20	13-20
Disc Brake Caliper to Spindle Bolts	Upper ① 110-140	Upper ① 100-140	Upper ① 100-140	Upper ① 110-140	100-140
	Lower 90-120	Lower 55-75	Lower 55-75	Lower 90-120	
Disc Brake Rotor Splash Shield to Spindle	9-14	9-14	9-14	9-14	9-14
Brake Hose to Caliper Connection Bolt	17-25	17-25	17-25	17-25	
Caliper Locating Pins	25-35	25-35	25-35	25-35	
Caliper Stabilizer to Anchor Plate Bolt	8-11	8-11	8-11	8-11	
Caliper Brake Shoe Clips	6-10	6-10	6-10	6-10	7-9
Caliper Bleeder Screws	6-15	6-15	6-15	6-15	6-15
Wheel Cylinder to Backing Plate Screws	10-20	10 in. Brake 10-20	10 in. Brake 10-20	10-20	10-20
		9 in. Brake 5-7	9 in. Brake 5-7		
Wheel Cylinder & Backing Plate Anchor Pin Nut	20-30				
Rear Brake Backing Plate to Axle Housing:	Removable Carrier 50-70	50-70	50-70	50-70	30-35
	Integral Type 20-40	20-40	20-40		
Front Brake Backing Plate to Spindle	25-40	28-35	28-35		
Wheel Cylinder Bleeder Screw	6-15	32-65 ② Inch-lb.	32-65 ② Inch-lb.	6-15	6-15
Brake Hose Connection to Front Wheel Cylinder	12-20	12-20	12-20		
Brake Line Connection to Rear Axle Housing:	Removable Carrier 30-40	12-19	12-19	30-40	
	Integral Type 25-35	12-19	12-19		
Hydraulic Tube Connections ③	3/8 x 24 10-15	10-15	10-15	10-15	10-15
	7/16 x 24 10-15	10-15	10-15	10-15	10-15
	1/2 x 20 10-17	10-17	10-17	10-17	10-17
	9/16 x 18 10-17	10-17	10-17	10-17	10-17
70-115	70-115	4 lug 55-85	4 lug 55-85	70-115	70-115
		5 lug 70-115	5 lug 70-115		

specified torque value and be free of fluid leakage.



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Ford Tool No.	Former No.	Description
Rotunda HRE 8650		Brake Adjusting Gage
	LM 119	Brake Cylinder Retaining Clamp
	2018-A	Brake Adjusting Tool
	2162	Adapter Cap
	2035N	Brake Shoe R & R Spring
Tool 7000-00		Rubber Tipped Air Nozzle
Rotunda 70160		Ball and Gage Bar
Tool 33621	33621	Internal Snap Ring Pliers
	Milbar 1112-144	Inch Pound Torque Wrench
Tool 4235-C	4235-C	Axle Shaft Remover
Rotunda FRE 1431		Brake Drum Micrometer
	J 22742 (Kent Moore)	Bleeder Valve Clip Spring
Rotunda FRE 22492		Disc Brake Rotor Attachment



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