

Brake Systems

BENDIX SINGLE ANCHOR AUTOMATIC ADJUSTER

American Motors
Chrysler Corp.
Ford Motor Co.

DESCRIPTION

Unit consists of support plate, two brake shoes, return springs, self-adjusting components, and wheel cylinder. Automatic adjuster consists of a cable (with hook and anchor fitting), cable guide, adjusting lever, adjusting screw (star), pivot nut, socket, and spring.

AUTOMATIC ADJUSTER

Chrysler Corp. — Adjuster screw thread is opposite that of other models; therefore, adjuster moves upward when brakes are applied. A cage and spring on adjuster cable absorbs secondary shoe movement, except when wear results in enough movement to cause adjuster to rotate. This feature reduces possibility of over-adjustment.

Except Chrysler Corp. — Adjuster uses movement of rear (secondary) shoe during reverse brake application to turn brake adjusting screw a small amount and maintain proper lining-to-drum clearance.

ADJUSTMENT

BRAKE SHOE ADJUSTMENT

This adjustment is made only after brake lining replacement or if brake applications are insufficient to actuate automatic adjuster.

American Motors — After wheel brake units have been disassembled for any reason, an initial adjustment must be made before drum installation. A suitable clearance gauge tool (J-21177-01) must be used to pre-set the shoe-to-drum clearance. With brake assemblies reassembled, drive car in reverse, making 10-15 "hard" stops. Ensure pedal travel is adequate before road testing. To adjust brakes without removing drums, remove access hole cover from backing plate, insert adjusting tool and turn star until wheel is locked. Insert a thin rod into same hole and push adjusting lever off star. Mark star and back-off one complete revolution. Replace cover plug.

Chrysler Corp. — **NOTE** — Adjust parking brake *AFTER* wheel brake adjustment. Remove adjusting hole covers from backing plates. Insert an adjusting wrench (C-3784) into star wheel and tighten brake by moving handle of tool upward until wheel turns with a slight drag. Push adjusting lever away from star wheel (insert rod through access hole) and back off star wheel to ensure free wheel rotation with no brake shoe drag. **NOTE** — On models with Iso-Clamp rear suspension, bend rod to match angle of adjusting tool, plus a $\frac{3}{4}$ reverse bend at contact end (see Fig. 2). Adjustments should be equal on all wheels.

Ford Motor Co. — Using suitable measuring tool (Rotunda No. 11-0001), determine drum diameter and proper shoe diameter. Hold automatic adjusting lever out of engagement while rotating adjusting screw. Ensure screw rotates freely.

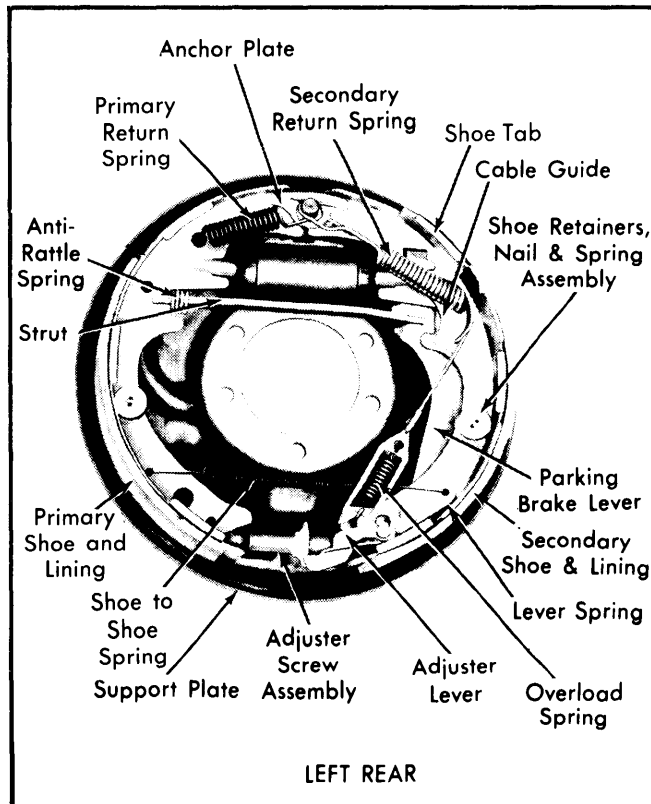


Fig. 1 Bendix Automatic Adjuster Brake Assembly (Chrysler Corp. 10" Assembly Shown, Others Similar)

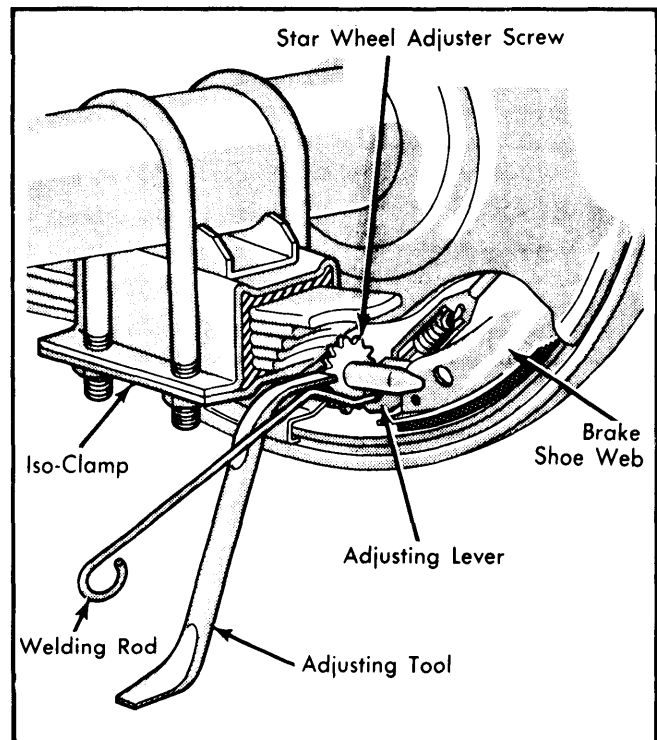


Fig. 2 Adjusting Rear Brake Shoe-to-Drum Clearance (Adjustment Shown on Models with Iso-Clamp Suspension)

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Apply a small amount of lubricant at shoe-to-backing plate contact points. **CAUTION** — Do not allow lubricant to contact linings. Install drum and wheel, torquing to specifications. Complete adjustment by applying brakes several times while backing vehicle. Use minimum of 50 lbs. pressure on non-power brakes, or 25 lbs. pressure on power brakes. **NOTE** — After each stop, vehicle must be moved forward.

PARKING BRAKE ADJUSTMENT

American Motors (Exc. Pacer) — Prior to adjusting parking brake, service brakes must be correctly adjusted as previously outlined. To assure correct cable adjustment, support vehicle by axle contact. Fully apply and release parking brake approximately 10 times. Apply brake to first notch from released position. Install an INCH lb. torque wrench on a suitable adjusting gauge (J-23462). Place cable adjustment gauge on front parking brake cable, centered between cable housing ferrule and cable equalizer. Apply 50 INCH lbs. of torque and note indication on gauge scale. Indicator must fall within "green" band (first band from neutral position). Adjust cable at equalizer to obtain a satisfactory reading. While performing adjustment, the front parking brake cable screw end must be held to prevent cable from turning. Release parking brake and check for brake drag.

American Motors (Pacer) — Prior to adjusting parking brake, service brakes must be correctly adjusted as previously outlined. Apply and release parking brake several times. Position parking brake lever in first notch from full released position. Position transmission in neutral. Raise vehicle and support on axle. Loosen cable adjuster locknut. Tighten cable adjuster until rear brake cables tighten and a heavy drag is created at rear wheels. Loosen adjuster until heavy drag is just eliminated. Tighten locknut and lower vehicle.

Chrysler Corp. — Prior to adjusting parking brake, back-off parking brake cable and allow slack. Clean threads on cable with a wire brush and lubricate with grease. Using a suitable adjusting tool (C-3784) and a thin screw-driver inserted in brake adjusting hole to disengage adjusting lever, rotate star wheel to obtain a light contact between brake shoe and drum. Now back-off star wheel until there is no drag felt. Adjust parking brake cable adjuster nut until a slight drag is felt while rotating rear wheels. Now loosen adjusting nut until wheels just turn free, then back-off nut two full turns. Apply and release parking brake several times to make sure rear wheels do not drag.

Chrysler Corp. Parking Brake Vacuum Valve — Place transmission in "D" with engine off. Remove vacuum hoses from unit. Detach vacuum unit from steering column jacket. Move actuating arm on valve against spring to extreme position, or until locating holes line up. Insert a No.42 drill in hole to position valve for installation. Move transmission selector to "P". Place valve in position on column jacket and install, but do not tighten, attaching screws. Rotate valve clockwise (as viewed from driver's position) until actuating arm contacts tab inside steering column jacket. Tighten retaining screws and remove drill. Install vacuum hoses (with hose from engine manifold on valve center fitting). Start engine and check that

parking brake can be set in "N" and "P", and will release in "R" and "D".

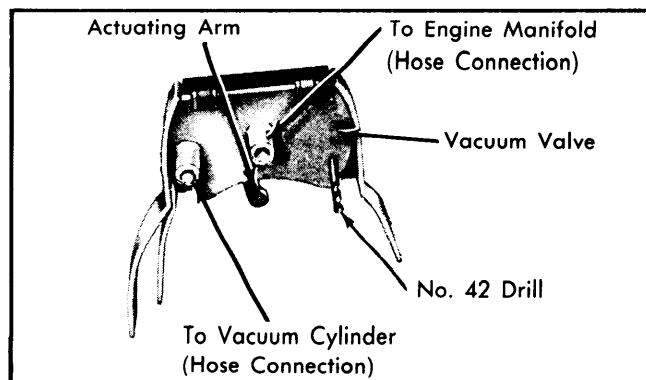


Fig. 3 Parking Brake Vacuum Valve
(Chrysler Corp. Shown, Ford Similar)

Ford Motor Co. — Release parking brake fully. Place transmission in "N" and raise vehicle on axle type hoist. Tighten adjusting nut against cable equalizer or cable adjusting rod until rear brakes drag. Loosen adjusting nut until brakes turn freely, without drag. Tighten locknut to 7-10 ft. lbs. (if equipped). Lower vehicle and check brake operation.

Ford Motor Co. (Vacuum Parking Brake Release) — Visually check operation of brake linkage as pedal is depressed. Now check operation of brake linkage when manual release lever is activated. During the following check, ensure a minimum of 10 in. of vacuum is available at all points where vacuum is applied. **CAUTION** — Under no circumstances should air pressure be applied to vacuum system as diaphragm in vacuum motor may be damaged. Perform check with engine at idle. Place transmission in "N" and observe that lever moves upward and parking brake releases. If it does not release, check for proper vacuum in system. Replace components as necessary.

SERVICING

BLEEDING SYSTEM

See Hydraulic Brake Bleeding in this Section.

SHOE & LINING REPLACEMENT

Install brake shoes on backing plate with hold down spring pin, springs, and cups. Install parking brake link and spring. Connect parking brake cable. Install shoe guide plate on anchor pin. Place cable anchor over anchor pin, with crimped side toward backing plate. Install primary and secondary shoe to anchor springs. **CAUTION** — Be sure that cable end is not cocked or binding on anchor pin. Install cable guide on secondary shoe web with flanged hole fitted in hole in web. Thread cable through guide groove, NOT between guide and shoe web. **CAUTION** — Adjusting screws are marked "L" and "R" and must be installed as marked. Install adjusting socket on

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screw, place assembly between shoe ends with adjusting screw nearest secondary shoe. Place cable hook into hole in adjusting lever from backing plate side. Place pivot hook into large hole in secondary shoe web. Place hooked end of adjuster spring into large hole in primary shoe web and loop end of spring to adjuster lever. **NOTE** — On Chrysler Corp. vehicles, install adjuster spring in primary shoe and hook other end in web of secondary shoe. Cable guide groove should be flat against web. Pivot hook surfaces should be square with body of lever. Adjusting screw must be seated in shoe web.

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
Wheel Attaching Nuts	
American Motors	75
Chrysler Corp.	85
Ford Motor Co.	70-115

BRAKE LINING SPECIFICATIONS							
Application	Drum Dia.	Width		Length		Thickness	
		Front	Rear	Primary	Secondary	Primary	Secondary
American Motors 4 Cyl. Spirit All Other Models	9.0"	Disc	2.00"	.....	.....	.....	.....
	10.0"	Disc	1.75"	.....	.....	.....	.....
Chrysler Corp. Taxi, Police & Models W/9 ¹ / ₄ " Axle All Other Models	11.0"	Disc	2.50"	9.25"	12.125"	.19"	.25"
	10.0"	Disc	2.50"	8.50"	11.00"	.19"	.25"
Ford Motor Co. Pinto, Bobcat, Mustang, Capri Fairmont, Zephyr Exc. Sta. Wgn. Sta. Wgn. Granada, Monarch LTD II, Cougar, Thunderbird, Police & Taxi Ford, Mercury, Lincoln	9.0"	Disc	1.75"	6.12"	8.63"	.....	.....
	9.0"	Disc	1.75"	6.12"	8.63"	.....	.....
	10.0"	Disc	2.00"	8.55"	10.45"	.....	.....
	10.0"	Disc	2.00"	8.55"	10.45"	.....	.....
	11.0"	Disc	2.25"	9.38"	12.12"	.....	.....
11.0"	Disc	2.50"	9.38"	12.12"	.....	.....

BRAKE DRUM SPECIFICATIONS				
Application	Drum Diameter	Original Diameter	Maximum Refinish Diameter	Discard Diameter
American Motors Spirit 4 Cyl. All Other Models	9.0"	9.00"	.....	9.060"
	10.0"	10.00"	.....	10.060"
Chrysler Corp. All Models	10.0"	10.00"	10.060"	10.090"
	11.0"	11.00"	11.060"	11.090"
Ford Motor Co. All Models	9.0"	9.00"	9.060"
	10.0"	10.00"	10.060"
	11.0"	11.030"	11.090"

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Application	Drum Diam.	Wheel Cylinder Diameter		Master Cylinder
		Front	Rear	Diameter
American Motors 4 Cyl. Spirit All Other Models	9.0" 10.0"	2.6"⓪ 3.1"⓪	.940" .875"	.945" 1.125"
Chrysler Corp. Chrysler, Taxi & Police All Other Models	11.0" 10.0"	2.75"⓪ 2.75"⓪	.938" .938"	1.031" 1.031"
Ford Motor Co. Pinto, Bobcat, Mustang, Capri Fairmont, Zephyr Exc. Sta. Wgn. Sta. Wgn. Granada, Monarch LTD II, Cougar, T-Bird Exc. Police & Taxi Police & Taxi Ford, Mercury, Lincoln	9.0" 9.0" 10.0" 10.0" 11.0" 11.0" 11.0"	⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪	.875" .8125" .8125" .938" .938" 1.00" 1.00" 1.00"	.938" .875" .875" .938" 1.00" 1.00" 1.00"

⓪ — Front brakes are disc.