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.

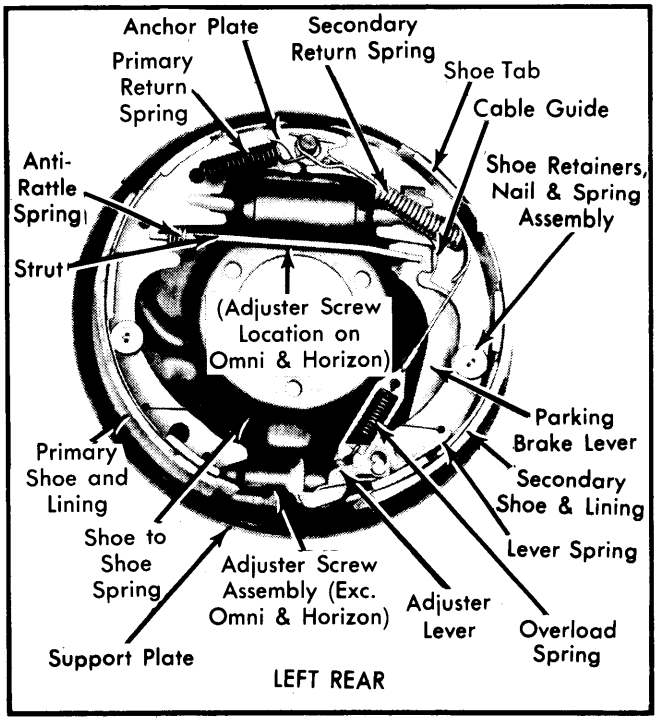

Fig. 1 Bendix Automatic Adjuster Brake Assembly (Chrysler Corp. 10" Assembly Shown, Others Similar)

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 with 1 forward brake application between each reverse stop. 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. – Adjust parking brake after service brake adjustment. Remove adjusting hole covers. Insert adjusting tool (C-3784; thin-bladed screwdriver on Omni & Horizon) into star wheel and rotate wheel until wheel turns with slight drag (locked on Omni & Horizon). Back off star wheel (releasing adjuster lever if equipped) until wheels rotate freely with no drag. Back off ten clicks on Omni and Horizon. Adjustments must be equal on both wheels.

NOTE – *On models equipped with Iso-Clamp rear suspension, bend rod to match angle of adjusting tool plus a ¾ reverse bend at contact end. See Fig. 2.*

Ford Motor Co. – **1)** On all models except Escort and Lynx with 7" brakes, use a measuring tool to determine drum diameter and proper shoe diameter. Hold automatic adjusting lever out of engagement while rotating adjusting screw and adjust brake shoes to fit gauge. Rotate gauge around shoes to be sure of proper fit.

2) On Escort and Lynx with 7" brakes, pivot adjuster quadrant until it meshes with knurled pin and is in the 3rd or 4th notch of outboard end of quadrant. On all models, install drum and wheel. On Escort and Lynx, adjust wheel bearings. See *Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.*

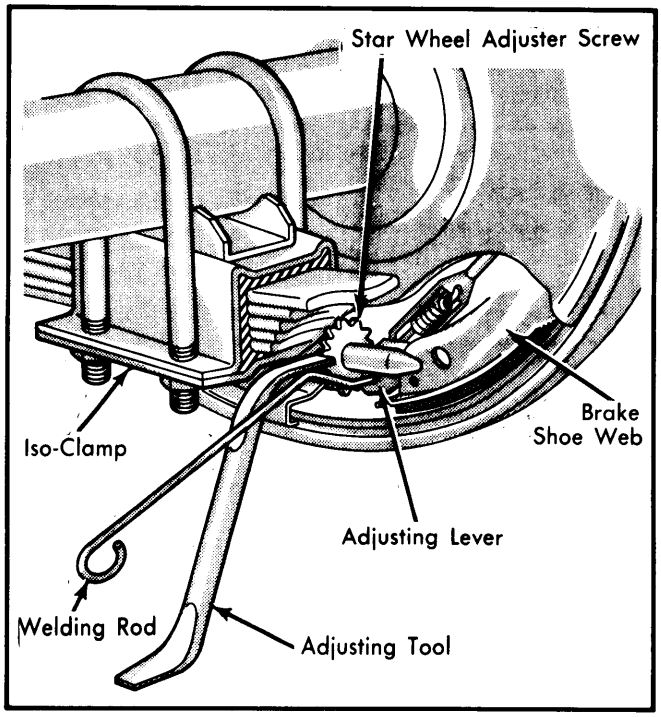

Fig. 2 Adjusting Rear Brake Shoe-to-Drum Clearance (Adjustment Shown on Models with Iso-Clamp Suspension)

BENDIX SINGLE ANCHOR AUTOMATIC ADJUSTER (Cont.)

3) On all models, complete adjustment by applying brakes several times while backing vehicle, with forward movement after each application. Use a minimum of 50 lbs. pressure on non-power brakes and 25 lbs. on power brakes.

NOTE – *Do not allow lubricant to contact linings.*

PARKING BRAKE ADJUSTMENT

American Motors – 1) Ensure service brakes are properly adjusted. Support vehicle by axle contact. Fully apply and release parking brake 10 times. Apply brake to first notch from released position. Install an INCH lb. torque wrench on adjusting gauge (J-23462). Center gauge on front parking brake cable between cable housing ferrule and equalizer.

2) 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 satisfactory reading. While performing adjustment, front parking brake cable screw end must be held to prevent cable from turning. Release parking brake and check for brake drag.

Chrysler Corp. – 1) Ensure service brakes are properly adjusted. Back off parking brake cable and allow slack in cable. Clean and lubricate cable threads. Using adjusting tool (C-3784) and a thin screwdriver inserted in brake adjusting hole to disengage adjusting lever, rotate star wheel to obtain light contact between brake shoe and drum.

2) Back off star wheel until no drag is 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.

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.

VACUUM PARKING BRAKE RELEASE

Ford Motor Co. (Vacuum Parking Brake Release) – 1) Visually check operation of brake linkage as pedal is depressed and when manual release lever is activated.

CAUTION – *Air pressure should never be applied to vacuum system as diaphragm in vacuum motor may be damaged.*

2) Ensure a minimum of 10 in. of vacuum is available at all points where vacuum is applied. Start engine and let 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 and replace components as necessary.

SERVICING

SHOE & LINING REPLACEMENT

American Motors – 1) Remove drums, releasing brake adjustment if necessary. Install clamp over wheel cylinder pistons. Remove and discard clip from parking brake lever pivot pin.

2) Remove return springs (from anchor pins only on 10" brakes). Remove retainers, hold-down springs, retaining pins, adjuster cable and guide plate. Remove brake shoes and remove return springs, cable guide and adjuster from shoes. Remove parking brake lever strut and spring.

3) Lubricate all brake shoe contact points, adjusting assembly, parking brake lever and lever pivot pin. Remove retaining clamp from wheel cylinder. Install parking brake lever on back of secondary shoe, position shoe on backing plate and install retaining pin, retainers and hold-down spring.

4) Install washer and new clip on parking brake lever pivot pin and crimp ends of clip. Install spring on parking brake lever strut and position strut in lever. Position primary shoe on backing plate and install retaining pin, retainers and hold-down spring. Parking brake lever strut must engage notches in lever and shoe.

NOTE – *The two brake systems use different types of hold-down springs. Retainer flanges on 10" brake retainers are notched.*

5) On 10" brakes, install guide plate and adjuster cable eyelet on anchor pin. Install primary return spring. Install cable guide on secondary shoe and install secondary return spring.

NOTE – *Brake shoe-to-wheel cylinder interconnecting links must be seated in shoes and pistons before installation of return springs.*

6) On 9" brakes, install primary return spring, then install adjuster cable eyelet on anchor pin. Install secondary return spring. Install cable guide on secondary shoe and install secondary return spring.

NOTE – *Brake shoe tangs must be seated in wheel cylinder pistons before installing return springs.*

7) Install adjusting screw assembly. Install adjusting spring with small hook in large hole of primary shoe and large end in adjuster lever. Insert hooked end of adjuster cable in adjuster lever and install cable. Install adjuster lever tang in large hole at bottom of secondary shoe. Install drums, adjust and bleed brakes. Check for proper brake operation before moving vehicle.

Chrysler Corp. (Rear Wheel Drive) – 1) Remove brake drums, releasing brake adjustment if necessary. Remove return springs, adjuster cable, overload spring, cable guide and anchor plate. Disengage adjusting lever from spring and remove by working it out from under spring. Remove spring from pivot. Remove shoe-to-shoe spring.

2) Disengage shoes from push rods (if equipped) and remove adjusting wheel assembly. Remove parking brake strut and anti-rattle spring. Remove brake shoe retainers, springs and nails. Remove parking brake cable and lever. Remove brake shoes.

3) Lubricate all brake shoe contact points and pivot end of parking brake lever. Insert brake lever into hole of secondary shoe from inner side of shoe web. Connect brake lever to cable. Slide secondary shoe against backing plate and anchor pin, while engaging shoe web with push rod (if equipped).

BENDIX SINGLE ANCHOR AUTOMATIC ADJUSTER (Cont.)

4) Slide parking brake strut behind hub and into lever slot. Install anti-rattle spring on strut. Spring tab must point up, rearward and on outside of shoe web on 10" left brake and point down, forward and inside of shoe web on 10" right brake and both brakes of 11" system.

5) Slide primary shoe into position, engaging shoe with push rod (if equipped) and strut. Install anchor plate and adjuster cable. Install primary shoe return spring. While holding cable guide in position on secondary shoe, install return spring through guide and into web. Place other end over anchor pin. Squeeze spring ends around anchor pin with pliers until parallel.

NOTE – *Cable guide must remain flat and secondary spring must overlap primary spring.*

6) Install adjusting assembly between shoes with star wheel next to secondary shoe. Install shoe-to-shoe spring; coil must be forward and opposite adjuster lever on 11" brakes.

NOTE – *Left star wheel is cadmium plated and stamped "L" on stud end; right star is black and is NOT stamped. Assemblies must be installed as indicated.*

7) Install adjusting lever spring. Install adjusting lever under spring and over pivot pin. Lock in position by sliding it lightly rearward. Install shoe retaining nails, retainers and springs. Thread adjuster cable over guide and hook end of overload spring in lever. Install drums. Adjust and bleed brakes. Check for proper brake operation before moving vehicle.

NOTE – *Cable eye must be tight against anchor and in a straight line with guide.*

Chrysler Corp. (Front Wheel Drive) – 1) Release brake adjustment. Remove grease cap, cotter pin, lock nut and washer. Remove brake drum and bearings. Remove parking brake cable, shoe anchor springs and hold-down springs. Spread shoes and remove adjuster assembly.

2) Remove brake shoes by raising parking brake lever, then pulling shoe away from support to remove spring tension and disengaging spring from support. Remove springs from brake shoes.

3) Install primary shoe return spring. Install primary shoe while engaging return spring end in support and shoe end under anchor plate. Install secondary shoe and spring in same manner. Spread shoes and install adjuster assembly with forked end in shoe and leading curved tines DOWN.

4) Install hold-down pins and springs and anchor springs. Compress parking brake cable housing spring to expose cable, then slide cable into parking brake lever. On Aries and Reliant, position washer between parking brake cable housing spring and parking brake lever.

5) On all models, install drum, bearing, washer, nut, cotter pin and grease cap. Adjust wheel bearing and bleed brakes. See *Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.* Check for proper brake operation before moving vehicle.

Ford Motor Co. (Except Escort & Lynx) – 1) Remove drum, releasing brake adjustment if necessary. Install clamp over wheel cylinder pistons. Remove shoe-to-anchor springs and unhook cable eye from anchor pin. Remove anchor pin plate.

2) Remove hold-down springs, shoes, adjusting screw, pivot nut, socket and automatic adjuster. Remove parking brake link spring and retainer. Disconnect parking brake cable from lever. After removing secondary shoe, disassemble parking brake lever from shoe by removing retaining clip and spring washer.

3) Assemble parking brake lever to secondary shoe and secure with spring washer and retaining clip. Lubricate brake shoe contact points. Position shoes on backing plate and install hold-down springs. Install parking brake link, spring and retainer. Back off parking brake adjustment and connect cable to brake lever. Install anchor pin plate. Place cable eye over anchor pin with crimped side toward drum.

4) Install primary shoe anchor spring. Install cable guide on secondary shoe web with flanged hole fitted into hole in shoe web. Thread cable around anchor guide groove; NOT between guide and shoe web. Install secondary anchor spring. All parts should be flat on anchor pin.

5) Lubricate threads of adjusting screw and turn screw into pivot nut to limit of threads. Back off ½ turn and place socket on screw end. Install assembly between shoe ends with adjusting screw toothed wheel nearest secondary shoe.

6) Install cable hook in adjusting lever. Position hooked end of adjuster spring completely into large hole of primary shoe web. Connect loop end of spring to adjuster lever hole. Pull adjuster lever, cable and adjuster spring down and rearward, engaging pivot hook in large hole of secondary shoe web.

7) Ensure shoes are seated and centered on backing plate and that automatic adjuster is operating. Install drums, adjust and bleed brakes. Check for proper brake operation before moving vehicle.

Ford Motor Co. (Escort & Lynx) – 1) Remove grease cap from hub, then remove and discard hub nut. Remove flat washer and outer bearing. Remove wheel, drum and hub assembly as a unit, being careful not to drag seal across spindle threads.

CAUTION – *Hub nut is a prevailing torque design and must not be reused.*

2) Remove hold-down spring and pins. Lift brake shoe and adjuster assembly off backing plate. Remove parking brake cable from parking brake lever. On 7" brakes remove lower retracting spring, then remove lower primary shoe retracting spring by rotating shoe over adjusting quadrant and disconnecting spring.

NOTE – *If drum will not come off, insert a screwdriver through adjustment hole and apply side pressure to adjuster assembly pivot to release brake adjustment. On 8" brakes it will be necessary to remove brake line-to-axle retention bracket to gain access to adjuster hole.*

BENDIX SINGLE ANCHOR AUTOMATIC ADJUSTER (Cont.)

3) On 7" brakes remove secondary shoe-to-parking brake strut retracting spring by pivoting strut downward until it disengages from secondary shoe. On 8" brakes, remove retracting springs from lower brake shoe attachment and upper shoe-to-adjusting lever attachment points.

4) On 7" brakes, disassemble adjuster by pulling quadrant away from knurled pin and rotating. Remove spring and slide quadrant out of slot. On all models, remove parking brake lever horseshoe retaining clip and spring washer. Lift lever off pin on brake shoe.

5) Apply a light coating of high temperature grease to contact points of brake shoes and backing plate and adjusting screw threads. On 7" brakes, install adjuster quadrant pin into slot in strut and install adjuster spring. Pivot quadrant until it meshes with knurled pin in 3rd or 4th notch of outboard end of quadrant.

6) On 8" brakes, install stainless steel washer over socket end of adjusting screw and install socket. Turn adjusting screw into adjusting pivot nut to limit of threads and back off ½ turn. On all models, assemble parking brake lever to secondary shoe. Install spring washer and new horseshoe clip. Crimp clip until lever is securely fastened.

7) On 8" brakes, install parking brake cable to parking brake lever. On 7" brakes, install secondary shoe to parking brake strut retracting spring by attaching to slots in each part and pivoting strut to tension spring. Ensure spring end with hook parallel to centerline of coils is installed in hole in shoe web. Installed spring should be flat against shoe and parallel to strut.

8) On all models, attach lower shoe retracting spring to brake shoes. On 7" brakes, install primary shoe to adjuster strut retracting spring. On all models, expand shoe assembly and install over anchor plate and wheel cylinder. On 7" brakes, install parking brake cable to parking brake lever. On all models, install hold-down pins and spring assembly.

9) On 8" brakes, install adjuster screw between primary shoe slot and slot in secondary shoe and parking brake lever with socket end of screw assembly in secondary shoe. Ensure letter on socket faces up. Assemble adjusting lever in groove located in parking brake lever pin.

10) On 8" brakes, attach upper retracting spring to leading shoe slot. Stretch other end of spring into notch on adjuster lever. Adjuster lever should contact star wheel after installing spring. On all models, install drum, wheel, outer bearing, keyed washer and NEW hub nut. Adjust wheel bearing. *See Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.*

CAUTION — *Hub nut must be replaced if it is removed.*

BLEEDING SYSTEM

See Hydraulic Brake Bleeding in this Section.

TIGHTENING SPECIFICATIONS

WHEEL LUG NUTS

Application	Ft. Lbs.
American Motors	75
Chrysler Corp.	
Omni & Horizon	80
All Others	85
Ford Motor Co.	80-105

BRAKE SYSTEM SPECIFICATIONS

Application	Drum Diam.	Wheel Cylinder Diameter		Master Cylinder Diameter
		Front	Rear	
American Motors				
All Models	9.0"①	2.6"②	.940"	.945"
Chrysler Corp.				
Aries & Reliant	7.87"	2.13"②	.625"	.875"
Horizon & Omni	7.87"	1.89"②	.628"	.875"
Police & Taxi	11.0"	2.75"②	.938"	1.03"
All Other Models	10.0"	2.75"②	.938"	1.03"
Ford Motor Co.				
Capri & Mustang	9.0"	2.36"②	.750"	.875"③
Cougar & Granada	9.0"	2.36"②	.813"	.875"
Escort & Lynx				
3 Door	7.0"	2.13"②	.810"	.827"
4 Door	8.0"	2.13"②	.810"	.827"
Fairmont & Zephyr				
Sedans	9.0"	2.36"②	.813"	.875"
Station Wagons	10.0"	2.36"②	.813"	.875"
Ford & Mercury				
Station Wagons	11.0"	2.88"②	.938"	1.00"
Lincoln & Mark VI	10.0"	2.88"②	.938"	1.00"
Thunderbird & XR7	9.0"	2.36"②	.813"	.875"

① — Eagle and Concord 6-cylinder station wagon uses 10.0" brake drums.
② — Equipped with front disc brakes.
③ — With power brakes .750".

BENDIX SINGLE ANCHOR AUTOMATIC ADJUSTER (Cont.)

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter	Original Diameter	Maximum Refinish Diameter	Discard Diameter
American Motors				
All Models	9.0″	9.00″	9.060″	①
	10.0″	10.00″	10.060	①
Chrysler Corp.				
Omni & Horizon	7.87″	7.87″	7.920″	①
All Other 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″	①
	10.0″	10.00″	10.060″	①
	11.0″	11.030″	11.090″	①

① — More than Maximum Refinish Diameter.

BRAKE LINING SPECIFICATIONS

Application	Drum Dia.	Width		Length		Thickness	
		Front	Rear	Primary	Secondary	Primary	Secondary
American Motors							
Concord & Spirit①	9.0″	②	2.0″	7.66″	9.82″	.170″	.230″
Eagle	10.0″	②	1.75″	8.46″	11.06″	.180″	.236″
Chrysler Corp.							
Aries, Horizon, Omni & Reliant	7.78″	②	1.18″	7.92″	7.92″	.190″	.190″
Taxi & Police	11.0″	②	2.50″	9.25″	12.13″	.190″	.250″
All Others	10.0″	②	2.50″	8.5″	11.00″	.190″	.250″
Ford Motor Co.							
Capri & Mustang	9.0″	②	1.75″	6.12″	8.63″	.187″	.245″
Cougar & Granada							
2.3 & 3.3L Engine	9.0″	②	1.75″	6.12″	8.63″	.187″	.245″
4.2L Engine	10.0″	②	1.75″	8.55″	10.45″	.187″	.242″
Escort & Lynx							
3 Door	7.0″	②	1.30″	7.20″	7.20″	.210″	.210″
4 Door	8.0″	②	1.34″	7.7″	7.7″	.210″	.210″
Fairmont & Zephyr							
Sedans	9.0″	②	1.75″	6.12″	8.63″	.187″	.245″
Wagons	10.0″	②	1.75″	8.55″	10.45″	.187″	.242″
Ford & Mercury							
Station Wagons	11.0″	②	2.25″	9.38″	12.12″	.227″	.302″
Lincoln & Mark VI	10.0″	②	2.50″	8.55″	10.45″	.187″	.242″
Thunderbird & XR7	9.0″	②	1.75″	6.12″	8.63″	.187″	.245″

① — Concord 6-cylinder station wagon same specifications as Eagle.
② — Equipped with front disc brakes.