

## PRECAUTIONS

1. Care must be taken to replace each part properly as it could affect the performance of the brake system and result in a driving hazard. Replace the parts with parts of the same part number or equivalent.
2. It is very important to keep parts and the area clean when repairing the brake system.

## TROUBLESHOOTING

Problem	Possible cause	Remedy	Page
Low or spongy pedal	Linings worn Brake pads worn Leak in brake system Master cylinder faulty Air in brake system Wheel cylinder faulty Brake cylinder faulty Piston seals worn or damaged Rear brake automatic adjuster faulty	Replace brake shoes Replace pads Repair leak Repair or replace master cylinder Bleed brake system Repair wheel cylinder Repair cylinder Repair brake cylinder Repair or replace adjuster	BR-40, 47 55 BR-18, 26 33 BR-10 BR-8 BR-40, 47 55 BR-18, 26 33 BR-18, 26 33 BR-40, 47 55
Brakes drag	Parking brake out of adjustment Binding parking brake wire Booster push rod out of adjustment Tension or return spring faulty Brake line restricted Lining cracked or distorted Pad cracked or distorted Wheel cylinder or caliper piston sticking Adjuster broken Master cylinder faulty	Adjust parking brake Repair as necessary Adjust push rod Replace spring Repair as necessary Replace shoe Replace pad Repair as necessary Replace adjuster Repair or replace master cylinder	BR-9 BR-17 BR-40, 47 55 BR-40, 47 55 BR-18, 26 33 BR-18, 26 33 BR-10
Brakes pull	Tires improperly inflated Oil or grease on shoes or pads Brake shoes distorted, linings worn or glazed Brake pads distorted, worn or glazed Drum or disc out of round  Tension or return spring faulty Wheel cylinder faulty Brake cylinder faulty Piston frozen in brake cylinder Brake pad sticking	Inflate tires to proper pressure Check for cause. Replace shoes or pads Replace brake shoes Replace pads Replace drum or disc  Replace spring Repair wheel cylinder Repair cylinder Repair cylinder Replace pads	BR-40, 47 55 BR-18, 26 33 BR-18, 26 33,40 47, 55 BR-40, 47 55 BR-18, 26 33 BR-18, 26 33 BR-18, 26 33

## TROUBLESHOOTING (Cont'd)

Problem	Possible cause	Remedy	Page
Hard pedal but brakes inefficient	Oil or grease on shoes or pads  Brake shoes distorted, linings worn or glazed, drums worn Brake pads distorted, worn or glazed  Piston frozen in brake cylinder  Brake booster faulty Vacuum leaks Brake line restricted	Check for cause. Replace shoes or pads Replace brake shoes Replace pads  Repair cylinder  Repair booster Repair as necessary Repair as necessary	BR-40, 47 55 BR-18, 26 33 BR-18, 26 33 BR-16
Snapping or clicking noise when brakes are applied	(Drum brake) Brake shoes binding at backing plate ledges Backing plate ledges worn  Loose or missing shoe hold-down spring  Loose set bolt at backing plate  (Disc brake) Loose or missing pad support plate  Loose installation bolt	Lubricate  Replace and lubricate ledges  Replace shoe hold-down spring  Tighten  Replace pad support plate  Tighten	BR-40, 47 55 BR-40, 47 55 BR-40, 47 55 BR-40, 47 55  BR-18, 26 33 BR-18, 26 33
Scraping or grinding noise when brakes are applied	Worn brake linings or pads  Caliper to wheel or rotor interference  Dust cover to rotor or backing plate to drum interference  Other brake system components faulty Tires rubbing against chassis and/or body	Replace or refinish drums or rotors if heavily scored  Replace as required  Correct or replace  Repair or replace as necessary Repair as necessary	BR-18, 26 33,40 47, 55 BR-18, 26 33 BR-18, 26 33,40 47, 55

## TROUBLESHOOTING (Cont'd)

Problem	Possible cause	Remedy	Page
<p>Squeaking, squealing, groaning or chattering noise when brakes are applied</p> <p>HINT: Brake friction materials inherently generate noise and heat in order to dissipate energy. As a result, occasional squeal is normal and is aggravated by severe environmental conditions such as cold, heat, wetness, snow, salt, mud, etc. This occasional squeal is not a functional problem and does not indicate any loss of brake effectiveness</p>	<p>Brake drums and linings, rotors and pads worn or scored</p> <p>Dirty, greased, contaminated or glazed linings or pads</p> <p>Improper linings or pads using</p> <p>Maladjustment of brake pedal or booster push rod</p> <p>(Disc brake)</p> <p>Missing or damaged brake pad anti-squeal shim</p> <p>Pad wear and pad wear indicator making contact with the rotor</p> <p>Burred or rusted calipers</p> <p>(Drum brake)</p> <p>Weak damaged or incorrect shoe hold-down springs, loose or damaged shoe hold-down spring pins and springs and grooved backing plate ledges</p>	<p>Inspect, repair or replace</p> <p>Clean or replace</p> <p>Inspect for correct usage or replace</p> <p>Inspect and adjust</p> <p>Replace</p> <p>Replace</p> <p>Clean or deburr</p> <p>Inspect, repair or replace</p>	<p>BR-18, 26 33,40 47, 55 BR-18, 26 33,40 47, 55</p> <p>BR-6, 17</p> <p>BR-1 8, 26 33 BR-18, 26 33 BR-18, 26</p> <p>33 BR-40, 47 55</p>
<p>Squealing and squeaking noise when brakes are not applied</p>	<p>Mal-adjustment of brake pedal or booster push rod</p> <p>Poor return of brake booster or master cylinder or brake cylinder</p> <p>(Disc brake)</p> <p>Rusted or stuck piston</p> <p>Improper positioning of pad in caliper</p> <p>Rotor rubbing against caliper housing</p> <p>Improper installation of disc brake pad support plate</p> <p>Pad wear and pad wear indicator making contact with the rotor</p> <p>(Drum brake)</p> <p>Weak, damaged or incorrect shoe hold-down springs</p> <p>Grooved backing plate ledges</p> <p>Bent or warped backing plate causing interference with drum</p> <p>Improper machining of drum causing interference with backing plate or shoe</p> <p>Other brake system components:</p> <p>Loose or extra parts in brakes</p> <p>Rear drum adjustment too tight causing lining to glaze</p> <p>Worn, damaged or insufficiently lubricated wheel bearings</p>	<p>Inspect and adjust</p> <p>Inspect, repair or replace</p> <p>Inspect and lubricate as necessary</p> <p>Reinstall correctly</p> <p>Inspect and replace</p> <p>Reinstall correctly</p> <p>Replace</p> <p>Replace</p> <p>Repair or replace</p> <p>Repair or replace</p> <p>Replace drum</p> <p>Inspect, repair or replace as necessary</p>	<p>BR-6, 17 BR-10, 16 18,26 33,40 47, 55</p> <p>BR-18, 26 33</p> <p>BR-18, 2 33 BR-18, 26 33</p> <p>BR-40, 47 55 BR-40, 47 55 BR-40, 47 55</p> <p>BR-40, 47 55</p> <p>BR-40, 47 55</p>

## TROUBLESHOOTING (Cont'd)

Problem	Possible cause	Remedy	Page
Groaning, clicking or rattling noise when brakes are not applied	Stones or foreign material trapped inside wheel covers Loose wheel nuts	Remove foreign material  Tighten to correct torque Replace if stud holes are elongated Inspect and adjust	
	Mal-adjustment of brake pedal or booster push rod		BR-6, 17
	Worn, damaged or dry wheel bearings (Disc brake)	Inspect and lubricate or replace	
	Loose or missing anti-rattle spring or pad support plate or crimping on outer pad	Inspect, repair or replace	BR-18, 26
	Failure of shim	Inspect, replace if necessary	33
		Inspect, replace if necessary	BR-18, 26
		Inspect, replace if necessary	33
	Wear on slide bushing	Inspect, replace if necessary	33
	Loose installation bolt	Inspect, tighten if necessary	BR-18, 26
			33
Poor return of piston	Inspect, repair or replace	BR-18, 26	
		33	
(Drum brake)			
Loose or extra parts	Inspect and repair	BR-40, 47 55	