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	Replace brake shoes	BR-62, 76
	Leak in brake system	Repair leak	93
	Master cylinder faulty	Repair or replace master cylinder	BR-10
	Air in brake system	Bleed brake system	BR-7
	Wheel cylinder faulty	Repair wheel cylinder	BR-62, 76
	Piston seals worn or damaged	Repair brake cylinder	BR-69, 86
	Rear brake automatic adjuster faulty	Repair or replace adjuster	BR-62, 76 93
Brakes drag	Parking brake out of adjustment	Adjust parking brake	BR-9
	Binding parking brake wire	Repair as necessary	
	Booster push rod out of adjustment	Adjust push rod	BR-47
	Tension or return spring faulty	Replace spring	BR-62, 76 93
	Brake line restricted	Repair as necessary	
	Lining cracked or distorted	Replace shoe	BR-69, 86
	Wheel cylinder or caliper piston sticking	Repair as necessary	BR-69, 86
	Adjuster broken	Replace adjuster	BR-62, 76 93
	Master cylinder faulty	Repair or replace master cylinder	BR-11
Brakes pull	Tires improperly inflated	Inflate tires to proper pressure	
	Oil or grease on shoes or pads	Check for cause. Replace shoes or pads	BR-69, 86
	Brake shoes distorted, linings worn or glazed	Replace brake shoes	BR-69, 86
	Brake pads distorted, worn or glazed	Replace pads	BR-69, 86
	Drum or disc out of round	Replace drum or disc	BR-62, 76
	Tension or return spring faulty	Replace spring	BR-69, 86
	Wheel cylinder faulty	Repair wheel cylinder	BR-69, 86
	Piston frozen in brake cylinder	Repair cylinder	BR-62, 76
	Brake pad sticking	Replace pads	BR-62, 76

TROUBLESHOOTING (Cont'd)

Problem	Possible cause	Remedy	Page
Hard pedal but brakes inefficient	Oil or grease on linings	Check for cause. Replace shoes or pads	BR-62, 76 93
	Brake shoes distorted, linings worn or glazed, drums worn	Replace brake shoes	BR-69, 86
	Brake pads distorted, worn or glazed	Replace pads	BR-69, 86
	Piston frozen in brake cylinder	Repair cylinder	BR-69, 86
	Brake booster faulty	Repair booster	BR-17
	Vacuum leaks	Repair as necessary	
	Vacuum pump faulty	Repair or replace vacuum pump	BR-49
	Brake line restricted	Repair as necessary	
Snapping or clicking noise when brakes are applied	(Drum brake)		
	Brake shoes binding at backing plate ledges	Lubricate	BR-62, 76 93
	Backing plate ledges worn	Replace and lubricate ledges	BR-62, 76 93
	Loose or missing shoe hold-down spring	Replace shoe hold-down spring	BR-62, 76 93
	Loose set bolt at backing plate	Tighten	BR-62, 76 93
	(Disk brake)		
	Loose or missing pad support plate	Replace pad support plate	BR-69, 86
	Loose installation bolt	Tighten	BR-69, 86
	Wear on slide bushing	Replace slide bushing	BR-69, 86
Scraping or grinding noise when brakes are applied	Worn brake linings or pads	Replace or refinish drums or rotors if heavily scored	BR-62, 76
	Caliper to wheel or rotor interference	Replace as required	BR-69, 86
	Dust cover to rotor or backing plate to drum interference	Correct or replace	BR-62, 76
	Other brake system components faulty	Repair or replace as necessary	
	Tires rubbing against chassis and/or body	Repair as necessary	

TROUBLESHOOTING (Cont'd)

Problem	Possible cause	Remedy	Page
Squeaking, squealing groaning or chattering noise when brakes are applied 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	Brake drums and linings, rotors and pads worn or scored	Inspect, repair or replace	BR-62, 76
	Dirty, greased, contaminated or glazed linings or pads	Clean or replace	
	Improper linings or pads using	Inspect for correct usage or replace	
	Maladjustment of brake pedal or booster push rod	Inspect and adjust	BR-6, 47
	(Disc brake)		
	Missing or damaged brake pad anti-squeal shim	Replace	BR-69, 86
	Pad wear and pad wear indicator making contact with the rotor	Replace	BR-69, 86
	Burred or rusted calipers	Clean or deburr	BR-69, 86
	(Drum brake)		
	Weak damaged or incorrect shoe hold-down springs, loose or damaged shoe hold-down spring pins and springs and grooved backing plate ledges	Inspect, repair or replace	BR-62, 76 93
Squealing and squeaking noise when brakes are not applied	Maladjustment of brake pedal or booster push rod	Inspect and adjust	BR-6, 47
	Poor return of brake booster or master cylinder or wheel cylinder	Inspect, repair or replace	BR-10, 17
	(Disc brake)		
	Rusted or stuck piston	Inspect and lubricate as necessary	BR-69, 86
	Improper positioning of pad in caliper	Reinstall correctly	BR-69, 86
	Rotor rubbing against caliper housing	Inspect and replace	BR-69, 86
	Improper installation of disc brake pad support plate	Reinstall correctly	BR-69, 86
	Pad wear and pad wear indicator making contact with the rotor	Replace	BR-69, 86
	(Drum brake)		
	Weak, damaged or incorrect shoe hold-down springs	Replace	BR-62, 76 93
	Grooved backing plate ledges	Replace	BR-62, 76 93
	Bent or warped backing plate causing interference with drum	Repair or replace	
	Improper machining of drum causing interference with backing plate or shoe	Replace drum	BR-62, 76 93
	Other brake system components: Loose or extra parts in brakes Rear drum adjustment too tight causing lining to glaze Worn, damaged or insufficiently lubricated wheel bearings	Inspect, repair or replace as necessary	BR-62, 76 93

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	Remove foreign material	
	Loose wheel nuts	Tighten to correct torque	
		Replace if stud holes are elongated	
	Maladjustment of brake pedal or booster push rod	Inspect and adjust	BR-6, 47
	Worn, damaged or dry wheel bearings	Inspect and lubricate or replace	
	(Disc brake)		
	Loose or missing anti-rattle spring or pad support plate or crimping on outer pad	Inspect, repair or replace	BR-69, 86
	Failure of shim	Inspect, replace if necessary	BR-69, 86
	Wear on slide bushing	Inspect, replace if necessary	BR-69, 86
	Loose installation bolt	Inspect, tighten if necessary	BR-69, 86
	Poor return of piston	Inspect, repair or replace	BR-69, 86
	(Drum brake)		
	Loose or extra parts	Inspect and repair	BR-62, 76 93