BRAKE SYSTEM TROUBLE SHOOTING

NOTE — *This is a general trouble shooting guide. Not all steps will apply to all brake systems. When using this guide, locate condition in column one that corresponds to your problem and determine the possible cause in column two. Match the number of the possible cause with the same number in column three.*

CONDITION	POSSIBLE CAUSE	CORRECTION
► Pull when brake applied	1) Incorrect tire pressure	1) Inflate tire evenly to pressure indicated in owner's manual
	2) Front end out of line	2) Check and align front end
	3) Unmatched tires	3) Make sure all tires have approximately equal amounts of thread and pressure
	4) Restricted brake lines or hoses	4) Inspect for soft hoses or damaged lines. Replace with new hoses or brake tubing
	5) Malfunctioning caliper	5) Check for stuck or sluggish pistons, improper fluid, repair as necessary
	6) Bent shoe or oily linings	6) Install new shoe and lining in complete axle sets
	7) Malfunctioning rear brakes	7) Check auto adjuster and wheel cylinders, repair as necessary
	8) Loose suspension parts	8) Check and repair as necessary
	9) Loose calipers	9) Check and repair as necessary
► Squeal or squeak without brakes applied	1) Front linings worn out	1) Replace linings
	2) Dust or oil on drums or rotors	2) Remove drum or rotor and clean
► Brake rough, chatters or pulsates	1) Excessive lateral runout	1) Check and repair as necessary
	2) Parallelism not to specifications	2) Check and repair as necessary
	3) Wheel bearings not adjusted	3) Check and adjust to specifications
	4) Rear drums out-of-round	4) Check and repair or replace as necessary
	5) Disc pad reversed, steel against rotor	5) Replace disc pad and machine rotor as necessary
► Excessive pedal effort	1) Malfunctioning power unit	1) Check and repair as necessary
	2) Partial system failure	2) Check front and rear brake system, repair as necessary
	3) Worn disc pad or lining	3) Replace as necessary
	4) Piston in caliper or cylinder stuck or sluggish	4) Remove caliper or cylinder and repair as necessary
	5) Fading brakes due to incorrect pads or linings	5) Remove and replace with correct pads or linings
	6) Lining or pads glazed	6) Sand lining and rotors or drums
	7) Worn drums	7) Repair or replace
► Excessive pedal travel	1) Partial brake system travel	1) Check front and rear system for failure and repair
	2) Insufficient fluid in master cylinder	2) Fill master cylinder with correct fluid, check system for leaks, repair as necessary
	3) Air trapped in system	3) Bleed system
	4) Rear brake not adjusted	4) Adjust rear brake and check auto adjuster for damage
	5) Bent shoe and lining	5) Replace shoes in complete sets
	6) Plugged master cylinder cap	6) Clean cap vents, bleed system
	7) Improper brake fluid	7) Flush system, replace all rubber parts, refill with correct brake fluid

BRAKE SYSTEM TROUBLESHOOTING (Cont.)

CONDITION	POSSIBLE CAUSE	CORRECTION
► Pedal travel decreasing	1) Compensating port plugged 2) Swollen cup in master cylinder 3) Master cylinder piston not returning 4) Weak shoe retracting springs 5) Wheel cylinder pistons sticking	1) Open port with air or wire 2) Replace rubber parts 3) Overhaul master cylinder 4) Replace springs 5) Overhaul wheel cylinders
► Dragging Brakes	1) Master cylinder pistons not returning correctly 2) Restricted brake lines or hoses 3) Incorrect parking brake adjustment on rear brakes 4) Parking brake cables frozen 5) Check valve installed in outlet to front disc brakes 6) Incorrect installation of inboard disc pad 7) Power booster output rod too long 8) Brake pedal not returning freely	1) Check master cylinder and repair as necessary 2) Check for soft hoses or damaged lines. Replace with new hoses or brake tubing 3) Check and readjust to correct specifications 4) Repair as necessary 5) Check master cylinder outlet and remove check valve if present 6) Remove and install shoe correctly 7) Replace with correct length 8) Stop light switch not adjusted correctly. Pedal pivot not lubricated. Wiring interference
► Brakes grab or uneven braking action	1) All conditions under "Brake Pulls" 2) Malfunction of combination valve 3) Malfunction of power brake unit 4) Binding brake pedal	1) All corrections listed under "Brake Pulls" 2) Replace valve and bleed system 3) Check and repair as necessary 4) Check and repair or lubricate as necessary
► Pulsation or roughness felt during normal brake application	1) Uneven pad wear caused by caliper not sliding due to improper clearance or dirt 2) Uneven rotor wear causing a thickness variation between the two braking surfaces 3) Drums out-of-round	1) Remove caliper and repair as necessary 2) Machine rotors to specifications 3) Machine or replace drums
► Squeal or squeak with brakes applied	1) Insulator on outboard shoe damaged 2) Incorrect pads or linings	1) Replace insulator 2) Replace with correct linings