

# TROUBLE TRACER — HYDRAULICS

## REGULATORS BRAKE HOSES



**APPEARANCE** Leakage, wet spots

**CAUSE** Brake hose worn

**EFFECT** • Loss of brake force  
• Extended brake pedal travel

**REMEDY** Replace brake hose



**APPEARANCE** Leakage, wet spots

**CAUSE** Brake line rusted

**EFFECT** • Loss of brake force  
• Extended brake pedal travel

**REMEDY** Replace brake line



**APPEARANCE** Bulge on brake hose

**CAUSE** Brake hose harness damaged, brake hose clamped between moving parts.

**EFFECT** Brake pedal sinks deeper than normal, spongy feel

**REMEDY** Replace all brake hoses

## CLUTCH CABLES



**APPEARANCE** Clutch pedal slowly returns to engaged position after release

**CAUSE** Clutch cable does not move freely in the outer cable

**EFFECT** The clutch slips, excessive wear of the clutch plate

**REMEDY** Replace the clutch inner and outer cable



**APPEARANCE** Clutch pedal remains on the floor

**CAUSE** Clutch cable broken

**EFFECT** The clutch can not disengage and the gears cannot be shifted

**REMEDY** Replace clutch cable

## WHEEL CYLINDERS



**APPEARANCE** Rust around brake cylinder pins

**CAUSE** Limited usage of brakes, improper lubrication during assembly

**EFFECT** No brake force, vehicle tends to pull to one side during braking

**REMEDY** Replace or overhaul brake cylinder



**APPEARANCE** Wet spots at brake drum

**CAUSE** Brake cylinder leakage

**EFFECT** Mushy brake pedal, brake pedal sinks to the floor, limited brake performance. Due to brake fluid on the brake lining the vehicle may tend to pull to one side during braking

**REMEDY** Replace brake cylinder



**APPEARANCE** Smoke from the drum brake

**CAUSE** Brake lining drags against the brake drum due to stuck pistons in the wheel cylinder

**EFFECT** Brake lining overheats, excessive wear

**REMEDY** Replace wheel cylinder and brake lining, drum when needed.

## BRAKE CALIPERS



**APPEARANCE** Rust around brake caliper piston

**CAUSE** Dirt and moisture have entered the brake caliper, dust cap broken

**EFFECT** Limited brake performance, vehicle tends to pull to one side during braking.

**REMEDY** Replace overhaul brake caliper

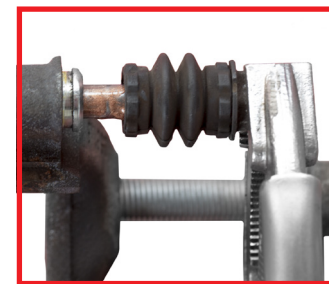


**APPEARANCE** Wet spots around brake caliper

**CAUSE** Leakage of brake caliper piston seal.

**EFFECT** Mushy brake pedal, brake pedal sinks to the floor, limited brake performance. Due to brake fluid on the brake pads the vehicle may tend to pull to one side during braking

**REMEDY** Replace or overhaul the brake caliper



**APPEARANCE** Uneven wear of brake pads on one brake caliper

**CAUSE** Brake caliper sliding mechanism stuck

**EFFECT** One brake pad needs to brake the wheel. The vehicle may tend to pull to one side during braking. Excessive brake pad wear.

**REMEDY** Clean and lubricate the caliper sliding mechanism

## HANDBRAKE CABLES

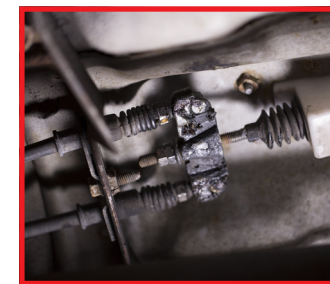


**APPEARANCE** Handbrake travel is too long

**CAUSE** brake lining is worn while the brake lining adjustment does not work automatically

**EFFECT** The parking brake cannot be applied with enough force to hold the vehicle on a slope

**REMEDY** Adjust the parking brake lining, adjust the parking brake cable or replace the brake lining



**APPEARANCE** The vehicle seems to drag while driving

**CAUSE** The parking brake cable won't release due to rust in the inner cable

**EFFECT** The parking brake continuously brakes causing the brakes to overheat

**REMEDY** Replace the parking brake cable



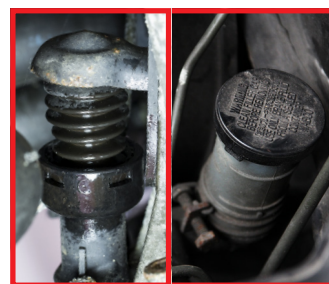
**APPEARANCE** The vehicle won't remain at its position on a slope with the parking brake applied. The parking brake lever travel is at its maximum without any effort

**CAUSE** Parking brake cable broken

**EFFECT** The parking brake cannot be applied

**REMEDY** Replace the parking brake cable

## HYDRAULIC CLUTCH



**APPEARANCE** None or leakage/wet spots at master or slave cylinder

**CAUSE** • Leaking master cylinder  
• Leaking slave cylinder

**EFFECT** Soft clutch pedal

**REMEDY** • Overhaul or replace master cylinder  
• Overhaul or replace slave cylinder

## BRAKE MASTER CYLINDERS



**APPEARANCE** Abnormal brake pedal behaviour  
Brown contaminated brake fluid

**CAUSE** Worn seals

**EFFECT** • Mushy, spongy feel in the pedal  
• Pedal sinks slowly to the floor

**REMEDY** Overhaul or replace the master cylinder

## PRESSURE REGULATOR VALVES



**APPEARANCE** Flat spots on rear tires

**CAUSE** The pressure regulator valve does not work

**EFFECT** The rear brakes tend to lock up, especially when the vehicle is empty or the road surface is slippery

**REMEDY** Check and replace the pressure regulator valve.

