**EBD (ELECTRONIC BRAKE FORCE DISTRIBUTION) SYSTEM**

**System Description**

As an add-on logic to the ABS base algorithm, EBD works in a range in which the intervention thresholds for ABS control are not reached yet.

EBD ensures that the rear wheels are sensitively monitored for slip with respect to the front axle. If slip is detected, the inlet valves for the rear wheels are switched to pressure hold to prevent a further increase in pressure at the rear-wheel brakes, thus electronically reproducing a pressure-reduction function at the rear-wheel brakes.

ABS features an enhanced algorithm which includes control of the brake force distribution between the front and rear axles. This is called Electronic Brake Distribution. In an unloading car condition the brake efficiency is comparable to the conventional system but for a fully loaded vehicle the efficiency of the EBD system is higher due to the better use of rear axle braking capability.

**The Benefits of EBD**

- Elimination of conventional proportioning valve EBD utilizes the existing rear axle wheel speed sensor to monitor rear wheel slip.
- Based on many variables in algorithm a pressure hold, increase and/or decrease pulsetrain may be triggered at the rear wheels insuring vehicle stability.
- Vehicle approaches the ideal brake force distribution (front to rear).
- Constant brake force distribution during vehicle lifetime.
- EBD function is monitored via ABS safety logic (conventional proportioning valves are not monitorable).
- “Keep alive” function.

**Service Precautions**

Observe the following general precautions during any ABS/TCS service. Failure to adhere to these precautions may result in ABS/TCS system damage.

1. Disconnect the EBCM harness connector before performing the electric welding procedures.
2. Carefully note the routing of the ABS/TCS wiring and wiring components during removal. The ABS/TCS components are extremely sensitive to EMI (electromagnetic interference). Proper mounting is critical during component service.
3. Disconnect the EBCM connector with the ignition OFF.
4. Do not hang the suspension components from the wheel speed sensor cables. The cables may be damaged.
5. Do not use petroleum based fluids in the master cylinder. Do not use any containers previously used for petroleum based fluids. Petroleum causes swelling and distortion of the rubber components in the hydraulic brake system, resulting in water entering the system and lowering the fluid boiling point.
Hydraulic Fluid Flow Diagrams

For normal brake mode, during non-antilock braking, pressure is applied through the brake pedal and fluid comes from the master cylinder into the hydraulic unit. The normally open isolation cartridge and normally closed dump cartridge would remain in these positions to allow fluid pressure to the calipers and the wheel cylinders. And each wheel begins locking.