# **ADJUSTMENTS (Continued)**

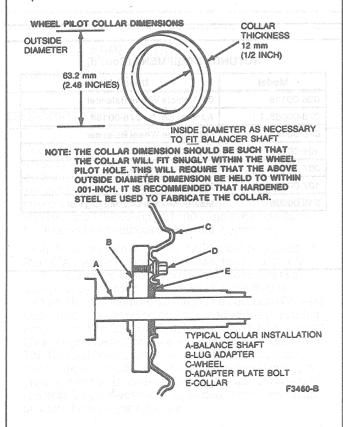
- Spin the tire and wheel assembly on the machine in accordance with the balance equipment manufacturer's instructions.
- 10. Any tire and wheel assembly that shows a machine reading of 0.50 ounces or less in the DYNAMIC mode cannot be considered outside of factory specifications when checked on field accurate balance equipment.
- 11. If DYNAMIC correction is required, remove and discard the factory balance weights. Re-spin the tire and wheel assembly and add new correction weights in accordance with balance equipment manufacturer's instructions. Never add more than 85g (3 oz) to either rim flange. Always recheck balance after weight is added.

NOTE: Tire and wheel rebalancing should not be required when rotating tires.

- 12. Remove the tire and wheel assembly from the machine and mount on the vehicle.
- Lower the vehicle to the ground. Tighten the wheel lug nuts to 115-142 N⋅m (85-105 lb-ft).

## Optional Lug Adapter

For a more consistent wheel balance, optional lug adapters and wheel pilot collars should be used. This additional equipment ensures proper wheel position on the balance equipment. This equipment is available for all Rotunda off-vehicle wheel balancers. Refer to Specifications.



## On-Vehicle Balancing

CAUTION: The suspension should not be allowed to hang free. When the constant velocity joint is run at a very high angle, extra vibrations can occur as well as damage to seals and joints.

The lower control arm should be supported as far outboard as possible.

If the above method cannot be used, an off-vehicle balancer should be used.

WARNING: ON FRONT-WHEEL DRIVE VEHICLES, FRONT WHEELS SHOULD BE SPUN WITH THE ENGINE. DRIVE WHEEL SPIN SHOULD BE LIMITED TO 56 KM/H (35 MPH) AS INDICATED ON THE SPEEDOMETER. THIS LIMIT IS NECESSARY BECAUSE THE SPEEDOMETER INDICATES ONLY ONE-HALF OF THE ACTUAL WHEEL SPEED WHEN ONE DRIVE WHEEL IS SPINNING AND THE OTHER DRIVE WHEEL IS STOPPED. UNLESS CARE IS TAKEN IN LIMITING DRIVE WHEEL SPIN, THE SPINNING WHEEL CAN REACH EXCESSIVE SPEEDS. THIS CAN RESULT IN POSSIBLE TIRE DISINTEGRATION OR DIFFERENTIAL FAILURE, WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR EXTENSIVE VEHICLE DAMAGE.

#### Vibration

NOTE: Do not align vehicle for vibration concerns. Vibration cannot be improved or eliminated by alignment.

If vehicle vibration persists after the wheels have been balanced, it may be caused by either tire or wheel runout. The vibration may also be caused by damage to the tire tread or sidewall, worn or bent halfshafts, engine vibration or worn engine mounts, frozen (seized) shock absorbers or unindexed tires/wheels.

# Tire and Wheel Runout

## Tools Required:

Rotunda Radial Run-Out Gauge 007-00014

Excessive radial and lateral runout of a wheel and tire assembly can cause roughness, vibration, wheel tramp, and steering wheel nibble (tremor).

To avoid false readings caused by temporary flat spots in the tires, check runout only after the vehicle has been driven. Visually inspect the tire carcass for abnormal bulges or distortions.

Runout should be measured with a Radial Run-Out Gauge 007-00014 or equivalent. All measurements should be made on the vehicle with the tires inflated to recommended load inflation pressures and with the wheel bearings adjusted to specification.

For service and adjustment, refer to Section 00-04.