

Technical Service Bulletin



Of Interest ☐ General Manager ☐ Sales Manager ☐ Service Manager ☐ Parts Manager ☐ Service Technicians

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This bulletin is issued to assist dealers in diagnosing and correcting SURE-GRIP lock up, slipping or noise.

The use of special additives in SURE-GRIP differentials is not recommended. These additives will significantly reduce the effectiveness of the unit. The effect of these additives is characteristically short-lived, with the result that the original condition will recur, usually at a more objectionable level.

AXLE, REAR

The following three categories should cover all conditions related to SURE-GRIP operation. As indicated in the procedures for each category, the SURE-GRIP unit should not be replaced to correct the condition, except as the last resort.

SURE-GRIP
Diagnosis

I. Condition: SURE-GRIP LOCKS UP

Procedure

- A. Have customer demonstrate or describe the driving conditions he objects to. If the condition includes a right turn under power that produces tire squeal or tire "shuffle", it will be necessary to explain to the customer that these conditions are not unusual with SURE-GRIP equipped cars, and that these effects can be avoided by using less throttle through the turn.
- B. In the customer's presence, raise the car so that the rear wheels are free, at about shoulder height. Automatic transmissions must be in "park", manual transmissions in reverse gear. The brakes must be off. Have one mechanic at each of the rear tires, with each gripping the tire tread area at front and back. While one applies a forward turning force, the other applies a rearward turning force. If the SURE-GRIP is normal, the mechanics will be able to make the tires turn smoothly (through 90° or so at a time) with a coordinated effort.
- C. Invite the customer to participate in the demonstration, and explain that the smooth, resistive motion he is witnessing shows that the SURE-GRIP will function correctly during vehicle operation.

MODELS: All
Equipped with
8 3/4 Cone
Type SURE-
Grip
Differential

P-1882-C

(Over)

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Dodge



COLT/CHALLENGER/CHARGER/CORONET/DART/MONACO/POLARA

- D. If the demonstration produces rough or noisy motion, use Service Manual procedure for flushing the axle. (Be sure to use only the recommended lubricant. Use only Part No. 2933565.)
- E. If rough or noisy motion persists after flushing and 100 miles of driving, or if motion cannot be produced in (B) above by a coordinated effort of two mechanics, the SURE-GRIP unit (differential partial) should be replaced.

II. Condition: SURE-GRIP SLIPS, OR IS INEFFECTIVE

Procedure

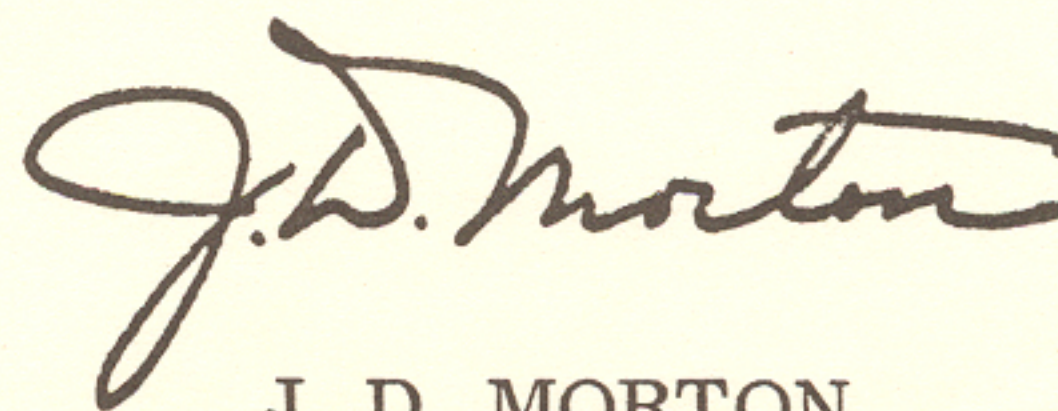
- A. Have customer demonstrate or describe the driving condition he objects to. If the condition consists of having one of the rear tires on a lower friction surface than the other and producing "differential action", it will be necessary to explain to the customer that this condition does not indicate improper operation. SURE-GRIP is not a locking differential. It is a limited-slip differential with a controlled amount of effectiveness.
- B. In the customer's presence, raise the car so that the rear wheels are free, at about shoulder height. Automatic transmissions must be in park, manual transmissions in reverse gear. The brakes must be off. Attempt to rotate one of the wheels by applying a rotating force with hands gripping the tire tread area. (See SURE-GRIP section of Service Manual.) If the SURE-GRIP is normal, it will be extremely difficult or impossible to rotate the wheel.
- C. Invite the customer to participate in the demonstration, and explain that the resistance to rotation shows that the SURE-GRIP has adequate effectiveness.
- D. If the wheel turns easily during the demonstration, the SURE-GRIP unit (differential partial) should be replaced.

III. Condition: SURE-GRIP IS NOISY, OR IS CAUSING NOISY OPERATION

Procedure

- A. Have customer demonstrate or describe the driving condition he objects to. SURE-GRIP noise conditions are most evident when the axle lubricant is hot. Keep in mind that the SURE-GRIP differential will not produce noises unless the rear wheels are rotating at different speeds, as when the car is in a turn. Types of noise conditions are:

1. Chatter - An objectional vibration, caused by the differential clutch elements sticking and slipping, (instead of moving smoothly), that may occur while driving slowly or coasting in a turn. The vibration may cause other vehicle parts to produce noise. The vibration may produce a "moaning" sound. This condition will invariably be corrected by flushing the axle as described in Paragraph I-D. If the condition persists after flushing and 100 miles of driving, the SURE-GRIP unit (differential partial) must be replaced.
2. Tire Shuffle - Effects similar to chatter, caused by the right rear tire sticking and slipping on the pavement, that may occur when making a right turn under power. Tire shuffle can be distinguished from chatter because it will not occur while driving slowly or coasting in a turn, and it is not likely to occur during a left turn under power. Procedure for this condition is covered in Paragraph I-A.
3. Suspension Snap - A loud snap that may be heard (and possibly felt) at intervals, while driving slowly or coasting in a tight turn. The interval can be 1/6 or 1/2 of a full circle turn of the car. This condition indicates that the SURE-GRIP differential is locking up, and can possibly be corrected by flushing the axle as described in Paragraph I-D. If condition persists after flushing and 300 miles of driving, the SURE-GRIP unit (differential partial) must be replaced.
4. Clatter - A loud, intermittent knocking sound that may be heard while coasting in a turn with no load on the driveline. The "no load on driveline" is produced by shifting to neutral, or by disengaging the clutch. The noise is the "rattling" of the drive gear teeth, resulting from oscillating vibration of the propeller shaft that is induced by otherwise-unfelt stick-slip motion of the SURE-GRIP clutch elements. This condition is not considered a reasonable complaint in cars with automatic transmissions, and will be no more than a moderate annoyance in cars with manual transmissions. The condition will probably be eliminated or at least moderated by the flushing procedure as described in Paragraph I-D. Do not replace the SURE-GRIP unit for this condition.



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