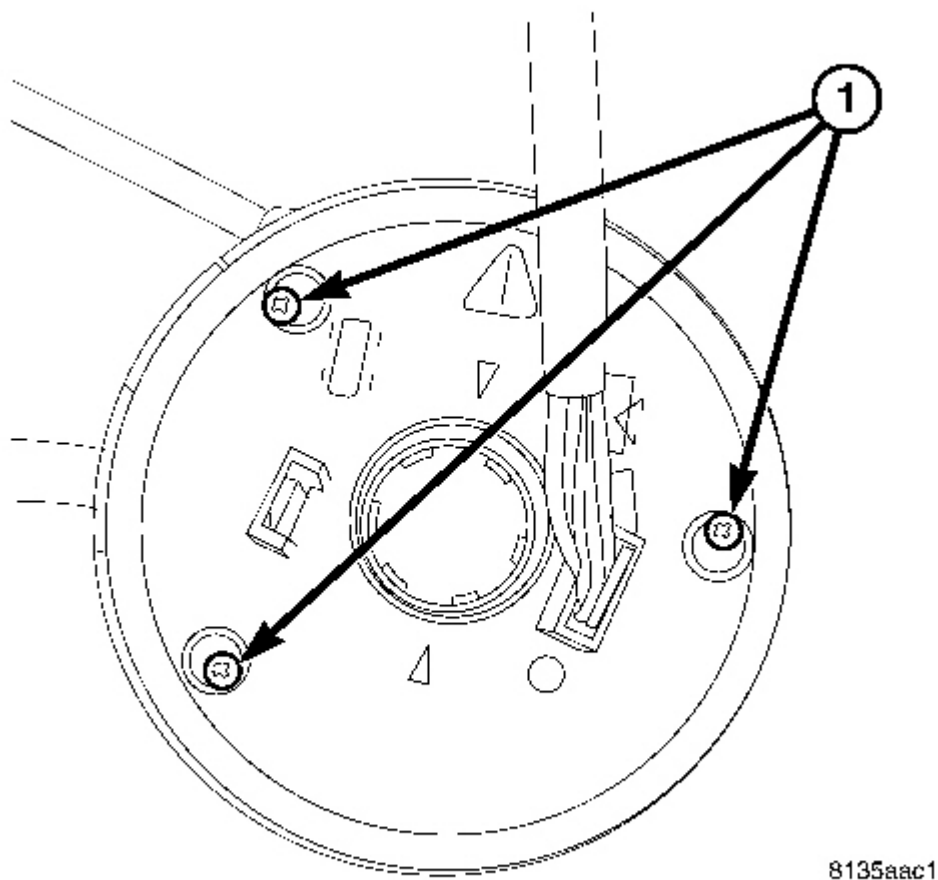


CLOCKSPRING

DESCRIPTION

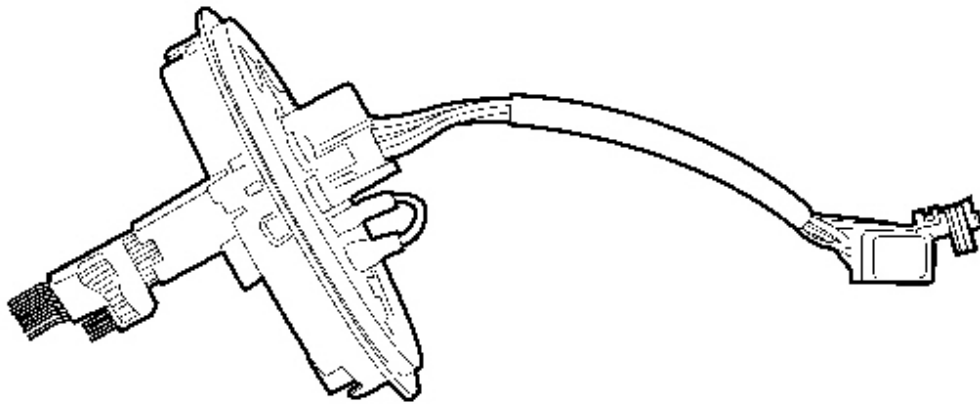


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Fig. 7: CLOCKSPRING SCREWS

Courtesy of DAIMLERCHRYSLER CORP.

The clockspring assembly is secured with three screws (1) onto the top of the Steering Column Control Module (SCCM) (**Refer to STEERING/COLUMN/STEERING COLUMN CONTROL MODULE - DESCRIPTION**) near the top of the steering column behind the steering wheel.



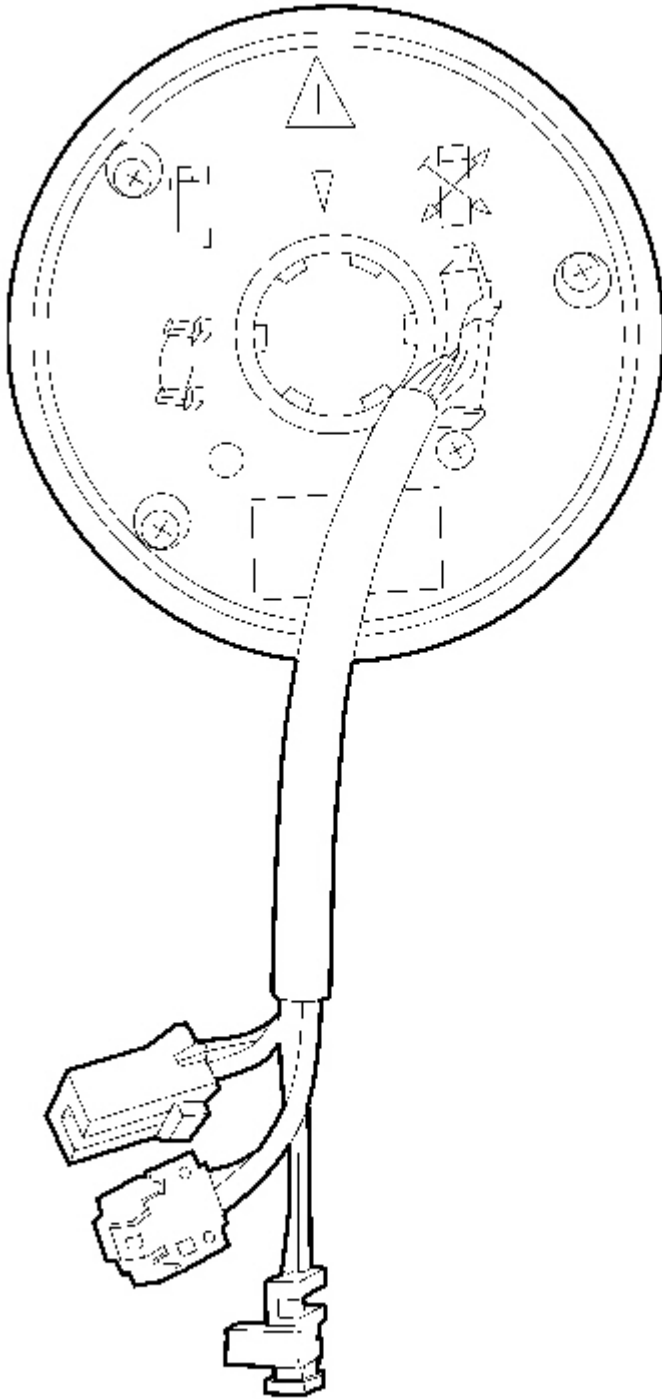
8135ado7

Fig. 8: Clockspring**Courtesy of DAIMLERCHRYSLER CORP.**

The clockspring consists of a flat, round molded plastic case. Within the plastic case is a spool-like molded plastic rotor with a hub. The surface of the rotor hub has a large center hole. Within the plastic case and wound around the rotor spool is a long ribbon-like tape that consists of several thin copper wire leads sandwiched between two thin plastic membranes. The outer end of the tape terminates at the connector terminals that align themselves into the SCCM self-docking connector that faces the instrument panel, while the inner end of the tape terminates at the pigtail wires and connector receptacles on the hub of the clockspring rotor that face the steering wheel.

2005 Dodge Magnum SE

2005 RESTRAINTS Restraints - Service Information - 300 & Magnum



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Fig. 9: Clockspring**Courtesy of DAIMLERCHRYSLER CORP.**

Service replacement clocksprings are shipped pre-centered and with the screws backed out and holding the clockspring into place. If reusing a clockspring or installing a new one that you are unsure if it is centered or not, **(Refer to ELECTRICAL/RESTRAINTS/CLOCKSPRING - STANDARD PROCEDURE - CLOCKSPRING CENTERING).**

The clockspring cannot be repaired. If the clockspring is faulty, damaged, or if the driver airbag has been deployed, the clockspring must be replaced.

OPERATION

The clockspring is a mechanical electrical circuit component that is used to provide continuous electrical continuity between the fixed instrument panel wire harness and the electrical components mounted on or in the rotating steering wheel. On this model the rotating electrical components include the:

- Driver Airbag
- Horn Switch
- Steering Wheel Switches (if the vehicle is so equipped)

The clockspring case is positioned and secured to Steering Column Control Module (SCCM) mounting housing near the top of the steering column. The connector terminals on the tail of the fixed clockspring case connect the clockspring to the vehicle electrical system through the self-docking connector in the instrument panel wire harness.

The clockspring rotor is movable and is keyed to the steering column shaft that is molded onto the rotor hub. The lobe on the turn signal cancel cam on the lower surface of the clockspring rotor hub contact a turn signal cancel actuator of the multi-function switch to provide automatic turn signal cancellation.

Two short, yellow-sleeved pigtail wires on the upper surface of the clockspring rotor connect the clockspring to the multistage driver airbag, while a steering wheel wire harness connects the two connector receptacles on the upper surface of the clockspring rotor to the horn switch feed pigtail wire connector and, if the vehicle is so equipped, to the optional steering wheel switches on the steering wheel.

Like the clockspring in a timepiece, the clockspring tape has travel limits and can be damaged by being wound too tightly during full stop-to-stop steering wheel rotation. To prevent this from occurring, the clockspring is centered when it is installed on the steering column. Centering the clockspring indexes the clockspring tape to the movable steering components so that the tape can operate within its designed travel limits. However, if the clockspring is removed from the steering column or if the steering shaft is disconnected from the steering gear, the clockspring spool can change position relative to the movable steering components. The clockspring must be re-centered following completion of this service or the tape may be damaged.

Service replacement clocksprings are shipped pre-centered. The screws that retain the clockspring to the SCCM should not be removed until the clockspring has been installed on the SCCM. If the screws have been removed before the clockspring is installed on the SCCM, the clockspring centering procedure must be performed **(Refer to ELECTRICAL/RESTRAINTS/CLOCKSPRING - STANDARD PROCEDURE - CLOCKSPRING**

CENTERING).

The clockspring is located within the SCCM. If the clockspring has to be replaced (**Refer to STEERING/COLUMN/STEERING COLUMN CONTROL MODULE - DISASSEMBLY**).

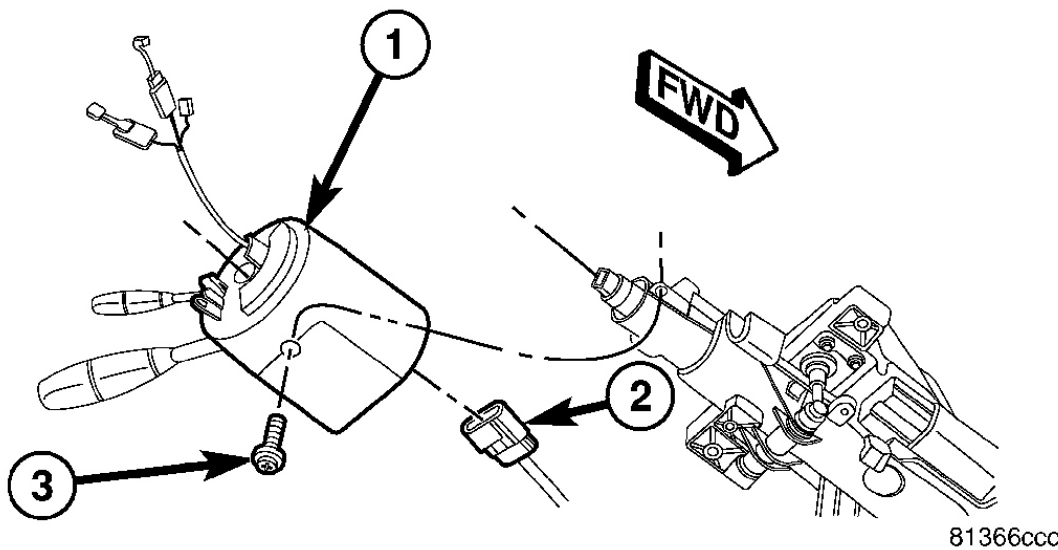
STANDARD PROCEDURE**CLOCKSPRING CENTERING**

Fig. 10: SCCM R/I
Courtesy of DAIMLERCHRYSLER CORP.

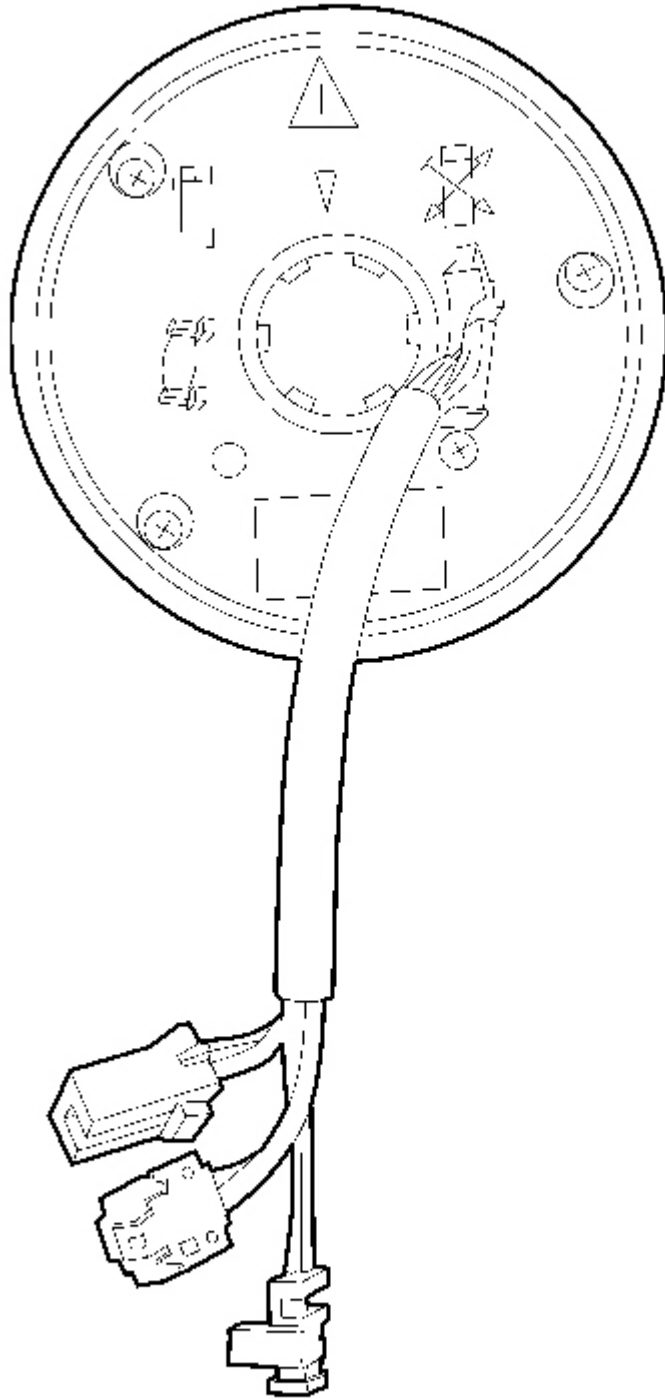
If the rotating tape (wire coil) in the clockspring is not positioned properly with the steering wheel and the front wheels, the clockspring may fail. The following procedure **MUST BE USED** to center the clockspring if it is not known to be properly positioned, or if the front wheels were moved from the straight ahead position.

NOTE: Before starting this procedure, be certain to turn the steering wheel until the front wheels are in the straight-ahead position.

1. Position steering wheel and front wheels straight ahead.
2. Remove the Steering Column Control Module (SCCM) (**Refer to STEERING/COLUMN/STEERING COLUMN CONTROL MODULE - REMOVAL**).

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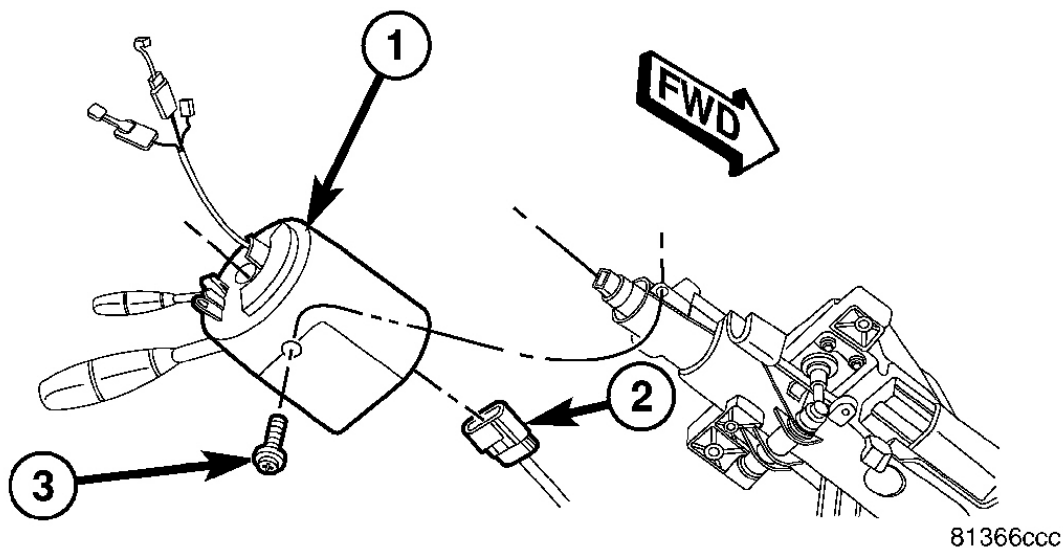


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Fig. 11: Clockspring

Courtesy of DAIMLERCHRYSLER CORP.

3. Remove the clockspring (**Refer to STEERING/COLUMN/STEERING COLUMN CONTROL MODULE - DISASSEMBLY**).
4. The clockspring can rotate approximately 5 3/4 turns from lock to lock. To be properly centered, rotate the clockspring rotor clockwise until the rotor stops. Do not apply excessive force.
5. From the end of travel, rotate the rotor counterclockwise two turns and then keep going a little more until the wires end up on the right side of the column shaft (at the 3 o'clock position).

**Fig. 12: SCCM R/I**

Courtesy of DAIMLERCHRYSLER CORP.

6. Install the SCCM (**Refer to STEERING/COLUMN/STEERING COLUMN CONTROL MODULE - INSTALLATION**)

WARNING: Do not connect the battery negative cable (**Refer to ELECTRICAL DIAGNOSTICS - 300 & MAGNUM**). Personal injury or death may result if the system test is not performed properly.