

## Airbag Rotary Connector Lubricants



Automotive steering wheels for passenger cars and light to medium trucks typically have crash triggered inflatable air bag devices as part of their occupant safety systems. To assure a reliable path for an electrical signal to reach the air bag inflation firing unit, a solid wire connection is used. Because the steering wheel rotates relative to the instrument panel, a device looking much like the main spring on a mechanical watch is used for this function from which the name “Clock Spring” or rotary connector has evolved.

This conductor or tape often contains additional discrete parallel electrical conductors for cruise control, radio, and HVAC system steering wheel controls. The winding and unwinding of the multiconductor tape (clock spring) typically generates noises and sounds considered objectionable in today’s very quiet vehicle interiors. The sliding of the tape on the housings and other rotating hub interfaces generate wear issues.

Lubricant selection parameters include: high/low operating temperature range, absolute torque/force specifications, component materials, and lubricant oil separation and migration qualities.

The following table lists the more popular Syn-Tech Ltd. lubricants in use on long tape and short tape design clock springs.

Product	Damping	Temp. Range C°	PTFE Size	Silicone Elastomer Compatibility
<b>NS-9388-G</b>	Medium	-50 to 125	None	No
<b>NS-410-G</b>	Light	-50 to 125	Small + Large	No
<b>NS-8201-G</b>	Medium	-40 to 150	Small	No
<b>NS-11501-G</b>	Light	-40 to 130	Small	Yes
<b>NS-40018-GL2</b>	Light	-65 to 125	Small	No

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**Our Expertise** Syn-Tech Ltd.’s product line has evolved products that satisfy applications of many types. Experience and in-house testing facilities have generated the knowledge to create and modify new and existing products to perform under rigorous demands. Contact our offices for assistance in lubricant selection.