

Fix 4L60 series sun gear shell problems
with **BRAINS**, not just brawn.

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PERFORMANCE

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SMARTSHELL™ Heavy Duty Reaction Shell Kit



Stripped or cracked shells in **GM 4L60 series units** are a common problem, but strengthening the shell alone does nothing to prevent damage to the rear planetary assembly.

The Sonnax SmartShell is the first and only upgrade that protects the planetary assembly and also provides a reinforced shell.

Save the Planet!

In the OE sun gear shell, the thrust load passes from the shell through the sun gear, then overloads the small captured planetary bearing. To protect this bearing, Sonnax added a custom bearing assembly and roller clutch race to the SmartShell. This re-routes the thrust load directly to the carrier, completely bypassing the delicate bearing.



Residual Planetary Damage



Damage to the Small Captured Bearing

Stop Sun Gear Shell Breakage

The SmartShell avoids the weight found in traditional, heavy-duty aftermarket shells.

- The shell is slightly thicker than OE.
- The hub area is reinforced with an electron-beam welded collar and undergoes a final machining process for precision alignment.
- The shell splines and lugs are heat-treated.



Shell Breakage



Stripped Splines

Check out the SmartShell video online at www.sonnax.com



Scan code with your smartphone.



The SmartShell kit includes:

- An improved, strengthened shell
- A large bearing designed to withstand maximum thrust loads
- A custom roller clutch race

PART NUMBER **77749-02K**
Patent No. 8,377,365

WWW.SONNAX.COM

Contact an authorized Sonnax parts distributor to purchase.

SMARTSHELL™

HEAVY DUTY REACTION SHELL KIT

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Patent No. 8,377,365

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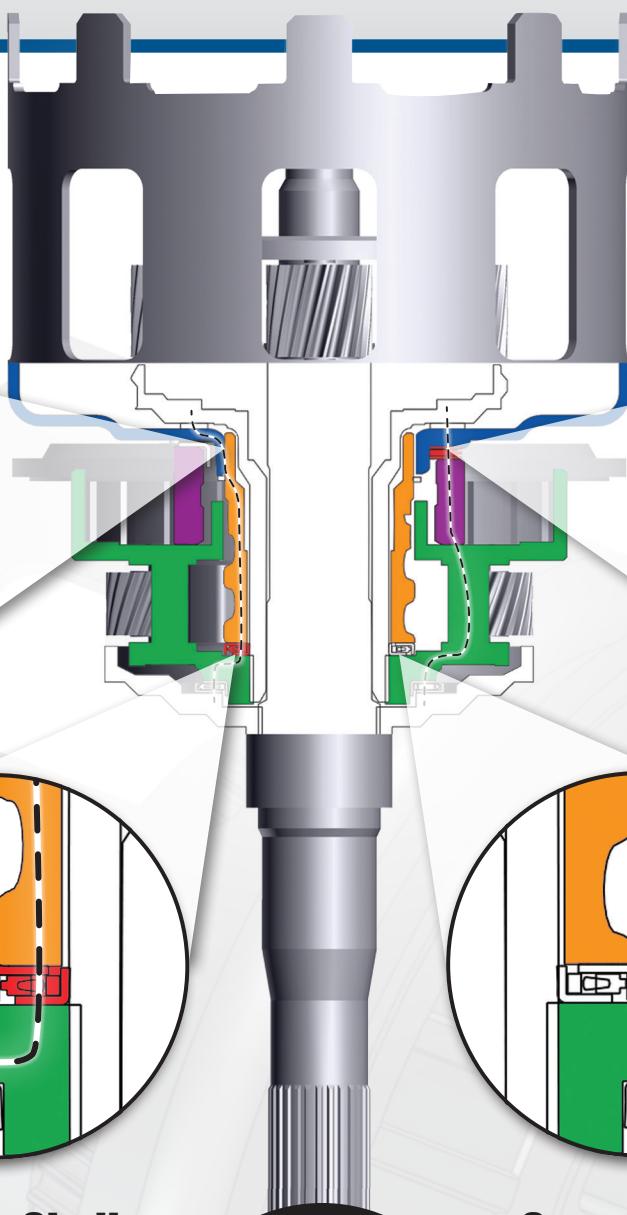
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OE Sun Shell

In addition to torque load damage, thrust load flexes & breaks shell at the bend.



OE Sun Shell
Thrust load passes from shell through sun gear, then overloads the small captured planetary bearing.

Color Key

Shell	Carrier
Race	Key
Sun Gear	Bearings
Thrust Load Path	

SmartShell

Reinforced shell withstands torque load. Large bearing supports shell to withstand thrust load.



SmartShell

Thrust load passes directly to the carrier from the shell through the large bearing & race, bypassing the small captured planetary bearing.