Shell Spirax ST

High performance, heavy duty, gear oils

Spirax ST are blended for use in a wide variety of automotive axle units subjected to heavy duty conditions. The use of high performance additive systems and selected base oils allows extended oil drain capability in some applications. In addition, Spirax ST may be used in non-synchronised heavy duty gearboxes and certain synchronised heavy duty gearboxes where oils meeting API GL-5 or MT-1 are specified.

Applications

- ***Automotive transmissions***
  Spirax ST are suitable for most modern heavy duty axles utilising hypoid gears and offers extended oil drain potential in specific equipment.

  Spirax ST are also recognised by certain manufacturers* as being suitable for use in heavy duty manual gearboxes. Spirax ST may be suitable for other automotive transmission units operating under high speed/shock load, high speed/low torque and low speed/high torque conditions.

**Warning: As with other lubricants meeting API GL-5 - do not use in manual transmissions where GL-4 oils are specified*

Performance Features and Benefits

- ***Comprehensive components***
  Specially selected additives impart very good anti-wear, anti-rust characteristics and oxidation stability.
- ***Improved oxidation stability***
  Spirax ST exceed the enhanced oxidation stability requirements of the latest API gear oil specifications.
- ***Enhanced spalling resistance***
- **Improved filterability**
  Spirax ST have been especially developed for use in axles fitted with oil filtration units. The special formulation ensures optimum flow through the filter throughout the oil drain interval.

Specification and Approvals

API Service Classification	GL-5, MT-1
US Military *	MIL-L-2105D
ZF TE-ML**	05A-07A-16C-17B
Scania	STO 1:0 (extended drain)
RVI **	recommended for the latest heavy duty axle P1370 applications
Mack *	GO-H

* only for the SAE 80W-90 grade
** only for the SAE 80W-140 grade

Advice

Advice on applications not covered in this leaflet may be obtained from your Shell Representative.

Health and Safety

Guidance on Health and Safety are available on the appropriate Material Safety Data Sheet which can be obtained from your Shell representative.

Protect the environment

Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

Typical Physical Characteristics

SAE Viscosity grade		SAE J 306 (Sept. 1991)	80W-90	80W-140	85W-140
Kinematic Viscosity		ISO 3104			
at 40°C	mm^2/s		154.0	237.0	409
at 100°C	mm^2/s		16.0	24.8	28,9
Viscosity Index		ISO 2909	108	132	100
Density at 15°C	kg/m^3	ISO 12185	900	904	913
Flash Point COC	°C	ISO 2592	180	185	222

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.