

PENNZOIL[®] AXLE SAE 80W-90

High Performance, Wide Temperature Use Gear Oil

TECHNICAL DATA SHEET



PENNZOIL[®] AXLE SAE 80W-90, combines a premium performance gear oil additive package with a high quality mineral oil base stock. The result is a gear oil that provides good low temperature fluidity for safe lubrication during cold temperature axle, differential, transmission or gearbox startup, and also maintains a thick protective oil film during extremely hot operating conditions.

PENNZOIL[®] AXLE SAE 80W-90 is formulated with all the performance additives necessary for protection of gears and bearings. It contains extreme pressure agents which protect against shock loading and wear. Foam inhibitors protect against oil aeration, which can rupture the lubricant film and cause wear due to lack of lubrication. Special rust inhibitors are incorporated into PENNZOIL[®] AXLE SAE 80W-90 to protect against corrosion that can result from condensation or water entry. Oxidation inhibitors are included to further enhance the oil's inherent oxidation stability, resulting in a lubricant with long service life and resistance to deposit and sludge formation during high temperature operation. Limited slip friction modifier is included for control of clutch slippage where required.

PERFORMANCE, FEATURES & BENEFITS

- Maintains fluidity at low temperatures
- Does not thin out at high temperatures
- Long service life
- Prevents rust
- Resists oxidation
- Withstands shock loads

MAIN APPLICATIONS

PENNZOIL[®] AXLE SAE 80W-90 is designed primarily for the lubrication of axle, differentials, gear boxes and manual transmissions requiring an API GL-5 gear lubricant. It can be used in passenger cars, light trucks, sport utility vehicle, vans and gear applications calling for API GL-5 including requirements needing limited slip performance.

It continues to flow at very low temperatures, providing especially good protection of gears and bearings in extreme cold weather.

It also provides excellent service in hot climates by not thinning at high temperatures, thereby maintaining a full film of protective lubricant on gear teeth. In hot running gear boxes, it allows long service due to the excellent stability of the synthetic base stocks used in it. It may be used where an SAE SAE 90 is used unless synthetic oils are required.

Passenger car or truck manual transmissions experiencing difficult shifting during cold weather while using conventional mineral based, SAE 90 or higher viscosity GL-5 oils, will typically improve oil flow characteristics when using PENNZOIL[®] AXLE SAE 80W-90.

SPECIFICATIONS, APPROVALS & RECOMMENDATIONS

PENNZOIL[®] AXLE SAE 80W-90 meets all the requirements of API Service Classification GL-5.

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For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Help Desk.

To find the right Pennzoil[®] product for your vehicles and equipment, please consult www.pennzoil.com to look up the right motor oil recommendation using our oil selector.

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TYPICAL PHYSICAL CHARACTERISTICS

| Properties | | Method | PENNZOIL [®] AXLE SAE 80W-90 |
|----------------------|------------|-------------------|---------------------------------------|
| Gravity, Specific | @60°F | ASTM D1298 | 0.8698 |
| Flash Point | °C(°F) | ASTM D92 | 204(400) |
| Pour Point | °C(°F) | ASTM D97 | -26(-15) |
| Kinematic Viscosity | @40°C cSt | ASTM D445 | 150 |
| Kinematic Viscosity | @100°C cSt | ASTM D445 | 14.5 |
| Kinematic Viscosity | @100°F SUS | ASTM D445 & D2161 | 700 |
| Kinematic Viscosity | @210°F SUS | ASTM D445 & D2161 | 76 |
| Viscosity Index | | ASTM D2270 | 95 |
| Brookfield Viscosity | @-26°C cP | ASTM D2983 | <130 000 |

These characteristics are typical of current production. While future production will conform to Pennzoil's[®] specification, variations in these characteristics may occur.

HEALTH, SAFETY & ENVIRONMENT

Health and Safety

PENNZOIL[®] AXLE SAE 80W-90 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet (MSDS), which can be obtained from www.epc.shell.com

Protect the Environment

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

ADDITIONAL INFORMATION

Advice

Advice on applications not covered here may be obtained from your Shell Lubricants distributor representative or Shell Technical Help Desk.