CONSUMER

ENGINE OILS SHELL HELIX
MOTORCYCLE OILS SHELL ADVANCE
SHELL MULTI-VEHICLE MARINE PRODUCTS
SHELL NAUTILUS ANCILLARIES
SHELL 4T, SHELL 2T AND
SHELL BRAKE AND CLUTCH FLUID
These characteristics are typical of current production. While future production will conform to Shell's specification, variations in these characteristics may occur.
SHELL HELIX ULTRA RACING
10W-60 FULLY SYNTHETIC MOTOR OIL
SHELL’S UNIQUE FORMULATION FOR RACING AND MODIFIED ENGINES

DESIGNED TO MEET CHALLENGES

Founded on Shell technology and Formula 1 racetrack experience over many years, Shell Helix Ultra Racing 10W-60 has been tried, tested and proven even under the most extreme driving conditions. Shell Helix Ultra Racing has been formulated with a higher viscosity, which provides better bearing protection under extreme performance and racing conditions to a conventional mineral oil.

APPLICATIONS
- Suitable for fuel-injected petrol engines with emissions control technology and catalytic converters operating in all driving conditions.
- Also suitable for turbo-charged and inter-cooled direct injection high performance diesel engines fitted with exhaust gas recirculation.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS
- API: SN/CF

MEETS THE REQUIREMENTS OF:
- Ferrari approved
- VW: 501.1 505.00
- Mercedes-Benz: 229.1

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or OEM Approvals website.

PERFORMANCE FEATURES

SPECIALLY DESIGNED FOR RACING AND MODIFIED VEHICLES
- Greater bearing and wear protection under extreme performance and racing conditions.

SHELL’S ULTIMATE ACTIVE CLEANSING TECHNOLOGY
- Up to five times as effective at removing sludge from dirty engines than a normal mineral oil.

LONG-TERM OXIDATION STABILITY
- Up to 37% more protection than other fully synthetic leading products tested.

LOW VISCOSITY, RAPID OIL FLOW AND LOW FRICTION
- Improved fuel efficiency.

HIGH SHEER STABILITY
- To maintain viscosity and stay in grade throughout the oil drain period.

SPECIALY SELECTED SYNTHETIC BASE OILS
- Reduces oil volatility and therefore oil consumption. The need for oil top-up is reduced.

MINIMISES VIBRATION AND ENGINE NOISE
- Smoother, quieter drive.

EXTREMELY LOW CHLORINE CONTENT
- Meets environmental requirements.

HIGH SHEAR STABILITY
- To maintain viscosity and stay in grade.

CATALYST AND TURBO
- Exceeds industry standards.

BASED ON FORMULA 1 TECHNOLOGY
- Proved at racetracks throughout the world.

APPLICATIONS
- Suitable for fuel-injected petrol engines with emissions control technology and catalytic converters operating in all driving conditions.
- Also suitable for turbo-charged and inter-cooled direct injection high performance diesel engines fitted with exhaust gas recirculation.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS
- API: SN/CF

MEETS THE REQUIREMENTS OF:
- Ferrari approved
- VW: 501.1 505.00
- Mercedes-Benz: 229.1

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or OEM Approvals website.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>10W-60</th>
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<tbody>
<tr>
<td>Kinematic Viscosity (ASTM D 445) @ 40°C mm²/s</td>
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<td>Flash Point °C (PMCC) (ASTM D 93)</td>
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<tr>
<td>HTHS Viscosity @ 150°C (ASTM D 4741)</td>
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</table>
Shell Helix Ultra Extra 5W-30 is a premium-grade, fully synthetic engine oil scientifically formulated to give you Shell’s maximum engine clean up properties using special cleansing agents that actively help to continuously lock away harmful dirt and deposits for the respective vehicle specifications outlined below. Shell Helix Ultra Extra is a fully synthetic lubricant giving Shell’s ultimate engine and exhaust after treatment protection including diesel particulate filters for performance motoring and is approved by leading car manufacturers such as Mercedes-Benz, VW, Porsche and BMW in support of increased oil change intervals and exhaust after treatment device protection.

**PERFORMANCE FEATURES**

**LOW SAPS OIL FOR EMISSION SYSTEM PROTECTION**
- Provides long life for exhaust after treatment devices.

**SHELL’S ULTIMATE ACTIVE CLEANSING TECHNOLOGY**
- Up to five times as effective at removing sludge from dirty engines than a normal mineral oil.

**LONG-TERM OXIDATION STABILITY**
- Up to 37% more protection than other fully synthetic leading brands tested.

**LOW VISCOSITY, RAPID OIL FLOW AND LOW FRICTION**
- Improved fuel efficiency and easier cold starting.

**HIGH SHEAR STABILITY**
- To maintain viscosity and stay in grade throughout the oil drain period.

**SPECIALY SELECTED SYNTHETIC BASE OILS**
- Reduces oil volatility and therefore oil consumption. The need for oil top-up is therefore reduced.

**MINIMISES VIBRATION AND ENGINE NOISE**
- Smoother, quieter drive.

**APPLICATIONS**
- Suitable for fuel-injected petrol engines fitted with emissions control technology and catalytic converters.
- Also suitable for turbo-charged and inter-cooled direct injection high performance diesel engines fitted with exhaust gas recirculation and particulate filters.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**

Shell Helix Ultra Extra 5W-30 exceeds the requirements of most major car manufacturers and the following industry standards:
- BMW: LongLife-04
- Mercedes-Benz: 229.51
- VW: 504.00/507.00
- Chrysler: MS-1106
- Porsche: C30
- Meets engine test performance requirements:

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or OEM Approvals website.

**MEETS THE REQUIREMENTS OF:**
- Fiat: 9.55535 S1
- PSA: B71 2290.

**TYPICAL PHYSICAL CHARACTERISTICS**

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<td>Flash Point °C (COC) (ASTM D 4502)</td>
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<td>Pour Point °C (ASTM D 97)</td>
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<td>HTHS Viscosity @ 150°C</td>
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These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL HELIX ULTRA
5W-40 FULLY SYNTHETIC MOTOR OIL
Cleans and Protects for Maximum Performance

DESIGNED TO MEET CHALLENGES

Shell Helix Ultra is Shell’s premium, fully synthetic motor oil scientifically formulated with Shell’s ultimate active cleansing technology. It works harder to protect than conventional motor oils by continuously helping to prevent dirt and sludge from building up. For better responsiveness and improved performance, enabling your engine to operate at its full potential right up to the next scheduled oil change. Shell Helix Ultra helps to minimise engine noise, and conditions and protects engines from the extra stresses of driving in modern start-stop traffic conditions. Shell Helix Ultra is for performance motoring, and it rejuvenates and refreshes your engine. Shell Helix Ultra is the only motor oil recommended by Ferrari.

PERFORMANCE FEATURES
SHELL’S ULTIMATE ACTIVE CLEANSING TECHNOLOGY
- Provides Shell’s best engine protection by continuously helping to remove deposits from dirty engines.

LONG-TERM OXIDATION STABILITY
- Up to 37% more protection than other fully synthetic leading products tested.

LOW VISCOSITY, RAPID OIL FLOW AND LOW FRICITION
- Improved fuel efficiency and easier cold starting.

HIGH SHEAR STABILITY
- To maintain viscosity and stay in grade throughout the oil drain period.

SPECIALY SELECTED SYNTHETIC BASE OILS
- Helps reduce oil volatility and therefore oil consumption. The need for oil top-up is reduced.

MINIMISES VIBRATION AND ENGINE NOISE
- Smoother, quieter drive.

APPLICATIONS
- Shell Helix Ultra is suitable for fuel-injected petrol engines fitted with emissions control technology and catalytic converters operating in all driving conditions.
- Also suitable for turbo-charged and inter-cooled direct injection high performance diesel engines fitted with blow-by recirculation and exhaust gas recirculation.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS
- API Service Classification: SH/CF
- ACEA: A3/B3/B4
- VW: 502.00, 505.00
- Mercedes-Benz: 229.5
- BMW: LL-01
- Fiat: 9.55535 Z2, RN 0700 and 0710
- Other approvals: Porsche and Ferrari.

TYPICAL PHYSICAL CHARACTERISTICS

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<td>@ 100°C mm²/s</td>
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<td>Density @ 15°C kg/m³ (ASTM D 4052)</td>
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<tr>
<td>Flash Point °C (ISO 3016)</td>
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<td>Pour Point °C</td>
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</table>
SHELL HELIX ULTRA AF
5W-30 FULLY SYNTHETIC MOTOR OIL. MAXIMISING ENGINE PERFORMANCE RIGHT UP TO THE NEXT OIL CHANGE

DESIGNED TO MEET CHALLENGES

Shell Helix Ultra AF is the latest generation fully synthetic engine oil designed specifically to meet the needs of all Ford petrol and diesel engines. Maximising engine performance right up to the next oil change.

PERFORMANCE FEATURES

SPECIAL ACTIVE CLEANSING TECHNOLOGY
- Up to five times as effective at removing sludge from dirty engines than a mineral oil.

ENHANCED OXIDATION STABILITY
- Up to 19% more protection than other leading synthetic technology brands tested.

FUEL ECONOMY PERFORMANCE
- Low viscosity, rapid oil flow in starting condition and low friction, effectively contribute towards reducing fuel consumption. Fuel economy performances have been proven in engine tests.

HIGH SHEAR STABILITY
- To maintain viscosity and stay in grade throughout the oil drain period.

LOW VOLATILITY
- The use of selected synthetic base oil reduces oil volatility therefore reducing oil consumption. The need for top-up is therefore reduced.
- Minimises vibration and engine noise. Smoother, quieter drive.

APPLICATIONS
- All naturally aspirated, fuel injected, turbo-charged and multi-valve Ford passenger car engines that admit the use of fuel economy oils having a low viscosity in high temperature high shear rate conditions.
- Oils meeting WSS-M2C 913C have a mandatory recommendation for all Ford 2009 vehicles including those fitted with particulate filters. The oil is fully backward compatible with all older Ford models.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

MEETS THE REQUIREMENTS OF:
- Ford: WSS-M2C913-C
- ACEA: A5/B5.

TYPICAL PHYSICAL CHARACTERISTICS

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<tr>
<td>Kinematic Viscosity (ASTM D 445)</td>
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<td>@ 40°C mm²/s</td>
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<td>Flash Point °C (COC) (ASTM D 93)</td>
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<tr>
<td>Pour Point °C (ASTM D 97)</td>
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These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
**SHELL HELIX HX8 AG**
FULLY SYNTHETIC PASSENGER CAR MOTOR OIL THAT Cleans AND PROTECTS FOR MAXIMUM PERFORMANCE

**DESIGNED TO MEET CHALLENGES**

Shell Helix HX8 AG is the latest generation fully synthetic engine oil meeting the GM dexos1™ specification. Shell Helix HX8 AG contains Shell’s superior active cleansing technology. It works harder to protect than conventional motor oils by continuously helping to prevent dirt and sludge build-up.

For vehicles requiring performance specifications API SN, ILSAC GF-5, GM dexos1™. GM dexos1™ is designed for use with GM petrol engines and replaces GM-LL-A-025, GM6094M and GM4718M.

**PERFORMANCE FEATURES**

**SPECIFICALLY DESIGNED FOR GM PETROL VEHICLES**
- Meets GM dexos1™.

**LONG TERM OXIDATION STABILITY**
- High levels of antioxidant help give excellent oxidation protection.

**SHELL’S SUPERIOR ACTIVE CLEANSING TECHNOLOGY**
- Continually helps prevent deposits building up on engine surfaces.

**PROTECTION AGAINST WEAR**
- Enriched with long life additives and protective agents to provide a prolonged protection against costly engine wear, even in the toughest driving conditions and harshest climates.

**EASY START-UP**
- Even in cold conditions rapid oil flow assures any easy start and contributes to engine protection.

**APPLICATIONS**
- Suitable for fuel-injected petrol engines fitted with ‘blow-by’ recirculation and catalytic converters operating in extreme driving conditions.
- GM dexos1™ is designed for use with GM petrol engines and replaces GM-LL-A-025, GM6094M and GM4718M.
- GM dexos1™ is fully backward-compatible and can be used in older vehicles.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**
- GM dexos1™ - license GB1C0417014
- API: SN
- ILSAC: GF-5.

**TYPICAL PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
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<tbody>
<tr>
<td>Kinematic Viscosity (ASTM D 445) @ 40°C mm²/s</td>
<td>68.9</td>
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<tr>
<td>@ 100°C mm²/s</td>
<td>11.7</td>
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<td>Density @ 15 kg/m³ (ASTM D 4052)</td>
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<td>Flash Point °C (COC) (ISO 2592)</td>
<td>230</td>
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<tr>
<td>Pour Point °C (ISO 3016)</td>
<td>−39</td>
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</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
Shell Helix HX7 has been formulated with special active cleansing technology. It works harder to protect than conventional motor oils by continuously helping to prevent dirt and sludge from building up. In addition to offering superior engine protection, Shell Helix HX7 helps to clean and protect for more responsiveness.

**PERFORMANCE FEATURES**

**SPECIAL ACTIVE CLEANSING TECHNOLOGY**
- Works harder to protect than conventional mineral oils by continuously helping to remove deposits from dirty engines.
- It is twice as effective as normal mineral oil at removing sludge from dirty engines.

**ENHANCED OXIDATION STABILITY**
- Up to 19% more protection than other synthetic technology leading brands tested.

**LOW VISCOSITY, RAPID OIL FLOW AND LOW FRICTION**
- Improved fuel efficiency and easier cold starting.

**HIGH SHEAR STABILITY**
- To maintain viscosity and stay in grade throughout the oil drain period.

**SPECIALLY SELECTED SYNTHETIC BASE OILS**
- Helps reduce oil volatility and therefore oil consumption. The need for oil top-up is reduced.

**MINIMISES VIBRATION AND ENGINE NOISE**
- Smoother, quieter drive.

**APPLICATIONS**
- Suitable for fuel-injected petrol engines fitted with catalytic converters.
- Also suitable for turbo-charged and intercooled direct injection diesel engines.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**

Shell Helix HX7 is suitable for use where the following specifications are called for:
- API: SN/CF
- ACEA: A3/B3/B4
- JASO: SG+
- Mercedes-Benz: 229.3
- VW: 502.00/505.00
- Fiat: 9.55535 G2
- Renault: RN 0700.

**TYPICAL PHYSICAL CHARACTERISTICS**

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<tr>
<th>CHARACTERISTICS</th>
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<tr>
<td>Kinematic Viscosity (IP 71) @ 40°C mm²/s</td>
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<td>@ 100°C mm²/s</td>
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<tr>
<td>Density @ 15 °C kg/m³ (IP 365)</td>
<td>880</td>
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<tr>
<td>Flash Point °C (PMCC) (IP 34)</td>
<td>220</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>–39</td>
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</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell's specification, variations in these characteristics may occur.
SHELL HELIX HX7 K
15W-50 SYNTHETIC TECHNOLOGY MOTOR OIL
EXTRA PROTECTION FOR ENGINES WITH MORE THAN 100,000KM

DESIGNED TO MEET CHALLENGES

Shell Helix HX7 K is thicker than ordinary oils and contains extra anti-wear agents. These help to reduce oil leaks and slow down engine wear to help protect and prolong the life of the engine.

PERFORMANCE FEATURES

THICKER OIL THAT CONTAINS EXTRA ANTI-WEAR AGENTS
- Helps to reduce wear and oil consumption, and maintain cylinder compression.

SPECIAL ACTIVE CLEANSING TECHNOLOGY
- Twice as effective at removing sludge from dirty engines than a normal mineral oil.

ENHANCED OXIDATION STABILITY
- Up to 19% more protection than other synthetic technology leading brands tested.

LOW VISCOSITY, RAPID OIL FLOW AND LOW FRICTION
- Improved fuel efficiency.

HIGH SHEAR STABILITY
- To maintain viscosity and stay in grade throughout the oil drain period.

SPECIALY SELECTED SYNTHETIC BASE OILS
- Helps reduce the oil volatility and therefore the oil consumption. The need for oil top-up is reduced.

MINIMISES VIBRATION AND ENGINE NOISE
- Smoother, quieter drive.

APPLICATIONS
- Suitable for fuel-injected petrol engines with emissions control technology and catalytic converters.
- Also suitable for turbo-charged and inter-cooled direct injection diesel engines.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

Shell Helix HX7 K exceeds the requirements of the following industry standards:
- API: SL/CF
- ACEA: A3/B4
- JASO: SG+

TYPICAL PHYSICAL CHARACTERISTICS

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<th>CHARACTERISTICS</th>
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<td>@ 100°C mm²/s</td>
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<td>Density @ 15 kg/m³ (IP 365)</td>
<td>880</td>
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<td>Flash Point °C (PMCC) (IP 34)</td>
<td>220</td>
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<tr>
<td>Pour Point °C (IP 15)</td>
<td>–27</td>
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</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
**SHELL HELIX HX7 AJ**
10W-30 SYNTHETIC TECHNOLOGY MOTOR OIL

**DESIGNED TO MEET CHALLENGES**

Shell Helix HX7 AJ is the latest generation synthetic technology engine oil. Specifically designed to help provide better engine responsiveness, enabling it to operate at its full potential right up to the next scheduled oil change.

**PERFORMANCE FEATURES**

**ENHANCED OXIDATION STABILITY**
- Up to 19% more protection than other synthetic technology leading brands tested.

**LOW VISCOSITY, RAPID OIL FLOW AND LOW FRICTION**
- Improved fuel efficiency.

**SPECIAL ACTIVE CLEANSING TECHNOLOGY**
- Twice as effective at removing sludge from dirty engines than a normal mineral oil.

**HIGH SHEAR STABILITY**
- To maintain viscosity and stay in grade throughout the oil drain period.

**SPECIALY SELECTED SYNTHETIC BASE OILS**
- Reduces the oil volatility and therefore the oil consumption. The need for oil top-up is reduced.

**MINIMISES VIBRATION AND ENGINE NOISE**
- Smoother, quieter drive.

**APPLICATIONS**
- Synthetic technology oil that is suitable for use in fuel-injected petrol engines with catalytic converters.
- Also suitable for turbo-charged and inter-cooled direct injection diesel engines fitted with catalytic converters.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**

Shell Helix HX7 AJ is suitable for use where the following specifications are called for:
- API: SM/CF
- ILSAC: GF-4.

**TYPICAL PHYSICAL CHARACTERISTICS**

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<td>Density @ 15 kg/m³ (IP 365)</td>
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<td>Flash Point °C (PMCC) (IP 34)</td>
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<tr>
<td>Pour Point °C (IP 15)</td>
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These characteristics are typical of current production. While future production will conform to Shell's specification, variations in these characteristics may occur.
SHELL HELIX DIESEL HX5
15W-40 PREMIUM MULTI-GRADE MOTOR OIL
CLEANS AND PROTECTS FOR REDUCED ENGINE NOISE AND VIBRATION

DESIGNED TO MEET CHALLENGES

Shell Helix Diesel HX5 has been formulated with cleansing technology. It uses special active cleansing technology to help engines operate effectively for a smoother and quieter drive.

PERFORMANCE FEATURES
FORMULATED WITH CLEANSING TECHNOLOGY
- Works harder to protect than ordinary motor oils by continuously helping to prevent soot deposits from building up on engine surfaces.

GOOD OXIDATION STABILITY
- Resists oil degradation throughout the oil drain interval.

HIGH QUALITY BASE OILS
- Helps reduce the oil volatility and therefore the oil consumption.

MINIMISES VIBRATION AND ENGINE NOISE
- Smoother, quieter drive.

APPLICATION
DIESEL ENGINES
- Suitable for naturally aspirated or turbo-charged indirect injection diesel engines. These engines produce more power than older engines and therefore run hotter. Hotter engines can produce more dirt and sludge.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS
Shell Helix Diesel HX5 is suitable for use where the following specifications are called for:
- API: CF

TYPICAL PHYSICAL CHARACTERISTICS

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<td>Density @ 15 kg/m³ (IP 365)</td>
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<td>Flash Point °C (IP 34)</td>
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<td>Pour Point °C (IP 15)</td>
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These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
Shell Helix HX5 K is a premium multi-grade engine oil. Specifically designed to help reduce engine noise, and enables the engine to operate at its full potential. It works harder to protect than ordinary motor oils by continuously helping to prevent dirt and sludge from building up. Shell Helix HX5 K is thicker than ordinary oils and contains extra anti-wear agents. These help to reduce oil leaks and slow down engine wear to help protect and prolong the life of the engine.

**PERFORMANCE FEATURES**

**THICKER OIL THAT CONTAINS EXTRA ANTI-WEAR AGENTS**
- Helps to reduce wear and oil consumption, and maintain cylinder compression.

**FORMULATED WITH CLEANSING TECHNOLOGY**
- Up to 23% more effective at removing sludge from dirty engines than a normal mineral oil.

**GOOD OXIDATION STABILITY**
- Resists oil degradation throughout the recommended oil drain interval.

**HIGH QUALITY BASE OILS**
- Helps reduce the oil volatility and therefore the oil consumption.

**MINIMISES VIBRATION AND ENGINE NOISE**
- Smoother, quieter drive.

**APPLICATION**

**PETROL ENGINES**
- Fuel-injected vehicles. Also suitable for naturally aspirated or turbo-charged indirect injection diesel engines.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**

Shell Helix HX5 K is suitable for use where the following specifications are called for:
- API Service Classification: SL/CF

**TYPICAL PHYSICAL CHARACTERISTICS**

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<tr>
<td>@ 100°C mm²/s</td>
<td>22.5</td>
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<tr>
<td>Viscosity Index (IP 226)</td>
<td>137</td>
</tr>
<tr>
<td>Density @ 15 kg/m³ (IP 36.5)</td>
<td>888</td>
</tr>
<tr>
<td>Flash Point °C (PMCC) (IP 34)</td>
<td>250</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>−15</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL HELIX HX5
15W-40 PREMIUM MULTI-GRADE MOTOR OIL
CLEANS AND PROTECTS, HELPING TO REDUCE ENGINE NOISE

DESIGNED TO MEET CHALLENGES

Shell Helix HX5 has been formulated with cleansing technology. It works harder to help protect than ordinary motor oils by continuously helping to prevent dirt and sludge from building up and helping to reduce engine noise.

PERFORMANCE FEATURES
FORMULATED WITH CLEANSING AGENT TECHNOLOGY
- Up to 23% more effective at removing deposits from dirty engines than a normal mineral oil.

GOOD OXIDATION STABILITY
- Resists oil degradation throughout the oil drain period.

HIGH QUALITY BASE OILS
- Helps reduce the oil volatility and therefore the oil consumption.

MINIMISES VIBRATION AND ENGINE NOISE
- Smoother, quieter drive.

APPLICATIONS
PETROL AND DIESEL ENGINES
- Shell Helix HX5 is suitable for fuel-injected petrol engines.
- Also suitable for naturally aspirated or turbo-charged indirect injection diesel engines.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS
Shell Helix HX5 is suitable for use where the following specifications are called for:
- API: SL/CF
- ACEA: A2

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>15W-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (IP 71) @ 40°C</td>
<td>105.4</td>
</tr>
<tr>
<td>mm²/s</td>
<td>13.9</td>
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<tr>
<td>@ 100°C mm²/s</td>
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</tr>
<tr>
<td>Viscosity Index (IP 226)</td>
<td>132</td>
</tr>
<tr>
<td>Density @ 15 kg/m³ (IP 365)</td>
<td>885</td>
</tr>
<tr>
<td>Flash Point °C (PMCC) (IP 34)</td>
<td>220</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>–30</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
Shell Helix HX5 G has been formulated with cleansing technology. It works harder to help protect than ordinary motor oils by continuously helping to prevent deposits from building up on engine surfaces and helping to reduce engine noise.

**PERFORMANCE FEATURES**

- **FORMULATED WITH CLEANSING TECHNOLOGY**
  - Up to 23% more effective at removing deposits from dirty engines than a normal mineral oil.

- **GOOD OXIDATION STABILITY**
  - Resists oil degradation throughout the oil drain interval.

- **HIGH QUALITY BASE OILS**
  - Helps reduce the oil volatility and therefore the oil consumption.

- **MINIMISES VIBRATION AND ENGINE NOISE**
  - Smoother, quieter drive.

- **APPLICATIONS**
  - **DUAL FUEL PETROL AND GAS**
    - Shell Helix HX5 G has been formulated with cleansing technology. It works harder to protect than ordinary motor oils by continuously helping to prevent deposits from building up on engine surfaces.
    - Suitable for dual-fuelled petrol and LPG engines.

- **SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**
  - Shell Helix HX5 G is suitable for use where the following specifications are called for:
    - API: SL/CF
    - ACEA: A2.

- **TYPICAL PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>15W-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (IP 71)</td>
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<tr>
<td>@ 40°C mm²/s</td>
<td>105.4</td>
</tr>
<tr>
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</tr>
<tr>
<td>Viscosity Index (IP 226)</td>
<td>132</td>
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<tr>
<td>Density @ 15 kg/m³ (IP 365)</td>
<td>885</td>
</tr>
<tr>
<td>Flash Point °C (IP 34)</td>
<td>220</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>−30</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL HELIX HX3
20W-50 MULTI-GRADE MOTOR OIL
CLEANS AND PROTECTS OLDER ENGINES

DESIGNED TO MEET CHALLENGES

Shell Helix HX3 has been formulated with cleansing technology to help stop dirt and sludge building up and therefore help protect and prolong the life of the engine.

PERFORMANCE FEATURES

FORMULATED TO REMOVE ENGINE DEPOSITS
- Helps to protect and prolong the life of the engine.

OXIDATION RESISTANCE
- Resists oil degradation throughout the oil drain interval.

MULTI-GRADE VISCOSITY
- Easier cold starting compared with mono-grade oils.
- Helps reduce oil consumption.

APPLICATIONS

PETROL AND DIESEL ENGINES
- Shell Helix HX3 is suitable for petrol engines fitted with conventional carburettors.
- Also suitable for naturally aspirated or turbo-charged indirect diesel engines.
- Formulated with cleansing technology to help stop dirt and sludge building up.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

Shell Helix HX3 is suitable for use where the following specifications are called for:
- API: SJ/CF.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>20W-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (IP 71) @ 40°C mm²/s</td>
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</tr>
<tr>
<td>@ 100°C mm²/s</td>
<td>19.0</td>
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<tr>
<td>Viscosity Index (IP 226)</td>
<td>137</td>
</tr>
<tr>
<td>Density @ 15 kg/m³ (IP 365)</td>
<td>888</td>
</tr>
<tr>
<td>Flash Point °C (PMCC) (IP 34)</td>
<td>215</td>
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<tr>
<td>Pour Point °C (IP 15)</td>
<td>−27</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL ADVANCE SX 2
MOTORCYCLE 2-STROKE ENGINE OIL

RECOMMENDED REPLACEMENT FOR SHELL ADVANCE 2T

DESIGNED TO MEET CHALLENGES

Shell Advance SX 2 is a premium quality lubricant for 2-stroke motorcycle engines. It is formulated for very good engine protection and cleanliness, reliable control against exhaust system blocking and helps to reduce exhaust smoke. Shell Advance SX 2 is suitable both for all oil-injection and premix systems and meets the requirements of leading manufacturers.

PERFORMANCE FEATURES

VERY GOOD ENGINE PROTECTION AND CLEANLINESS
- The formulation has been specifically tested in 2-stroke engines in order to help prevent scuffing, ring sticking and deposit formation.

RELIABLE CONTROL AGAINST EXHAUST SYSTEM BLOCKING
- The formulation is designed to limit exhaust system deposits, helping to keep engine performance at the original level.

REDUCED EXHAUST SMOKE
- The inclusion in the formulation of polyisobutlenes as carefully balanced components is designed to reduce exhaust smoke, helping to limit the environment impact.

VERY GOOD SELF MIXING PROPERTIES
- Shell Advance SX 2 contains a hydrocarbon diluent and it can therefore be used both in oil injection systems fitted to modern 2-stroke motorcycles and in premix systems.

DYED RED FOR EASIER RECOGNITION
- 2-stroke motorcycle engines with oil injection or premix system.
- Shell Advance SX 2 should not be used in outboard engines. The appropriate Shell Nautilus Oil is recommended for this application.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

Shell Advance SX 2 exceeds the following international specifications:
- API: TC
- JASO: FB
- ISO-L-EGB.

MEETS THE REQUIREMENTS OF:
- Leading motorcycle manufacturers.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>SX 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (ASTM D 445)</td>
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<tr>
<td>@ 40°C mm²/s</td>
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<tr>
<td>Density @ 15 kg/m³ (ASTM D 4052)</td>
<td>872</td>
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<tr>
<td>Flash Point °C (COC) (ISO 2592)</td>
<td>122</td>
</tr>
<tr>
<td>Pour Point °C (ISO 3016)</td>
<td>-20</td>
</tr>
</tbody>
</table>
**SHELL ADVANCE 4T AX5**

**PREMIUM 4-STROKE MOTORCYCLE ENGINE OIL**

**RECOMMENDED REPLACEMENT FOR SHELL ADVANCE SX 4 AND SHELL ADVANCE ST SPORT 4T**

**DESIGNED TO MEET CHALLENGES**

Shell Advance 4T AX5 with R.C.E.* Technology is an ideal premium mineral lubricant ideal for standard or mid-sized engine motorbikes. These mid-size engines require reliable engine oil performance under a range of conditions during stop-start commuter journeys.

Shell Advance’s R.C.E.* Technology helps your bike perform to its peak potential, making it responsive to your slightest touch.

**PERFORMANCE FEATURES**

**OIL PERFORMANCE RELIABILITY**
- Premium technology lubricant.
- Special oil formulation to keep oil viscosity in-grade for longer.

**ENHANCED WEAR PROTECTION**
- Enhanced protection actions valve train wear.

**ENHANCED CLEANLINESS**
- Helps to remove sludge and engine deposits.

**ADVANCED CONTROL**
- Smooth clutch and superior gearbox operation.
- Optimised viscometrics for smoother clutch engagement and gear changes.

**ENJOYABLE RIDE**
- Reduced vibration and engine noise.
- Selected viscometrics to help dampen vibration and reduce noise.

**APPLICATIONS**
- High-performance air and water-cooled four-stroke motorcycle engines, including those with integral gearboxes and wet clutches.
- Motorcycle gearboxes that must be lubricated by engine oils, including some gearboxes present in two-stroke bikes and scooters.
- Offers enhanced performance for smaller motorbikes, underbones and mopeds.

*R.C.E. Technology is designed to deliver:
1. Increase oil-performance Reliability by helping to remove deposits and maintain oil viscosity to give superior engine protection.
2. Advanced Control by smoothing clutch engagement and preventing slippage.
3. Enjoyable ride by reducing vibration and damping engine noise.

Shell Advance 4T AX5 offers high oil performance reliability to help protect and clean your engine and help prolong your engine life.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**

**EXCEEDS THE INTERNATIONAL SPECIFICATIONS OF:**
- API: SL
- JASO: MA.

**EXCEEDS THE REQUIREMENTS OF:**
- All Japanese, European, Indian and Chinese motorcycle manufacturers.

**TYPICAL PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>15W-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity [ASTM D 445] @ 40°C mm²/s</td>
<td>132.2</td>
</tr>
<tr>
<td>@ 100°C mm²/s</td>
<td>19.1</td>
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<tr>
<td>Density @ 15°C kg/m³ (ASTM D 4052)</td>
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</tr>
<tr>
<td>Flash Point °C [COC] (ISO 2592)</td>
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<tr>
<td>Pour Point °C (ISO 3016)</td>
<td>–30</td>
</tr>
<tr>
<td>Viscosity Index (ISO 2909)</td>
<td>150</td>
</tr>
</tbody>
</table>
**Shel Advance 4T AX7**

**Synthetic Technology 4-stroke Motorcycle Engine Oil**

**Recommended Replacement for Shell Advance VSX 4**

**Designed to Meet Challenges**

Shell Advance 4T AX7 with R.C.E.* Technology is a unique, synthetic technology lubricant ideal for high performance motorbikes. Demanding engines deliver high power and torque and require oil performance reliability under these stressful conditions. Their riders expect the enjoyment and excitement of advanced ride comfort.

Shell Advance’s R.C.E.* Technology helps your bike perform to its peak potential, making it responsive to your slightest touch.

**Performance Features**

**Oil Performance Reliability**
- Premium technology lubricant.
- Special oil formulation to keep oil viscosity in grade for longer.

**Enhanced Wear Protection**
- Enhanced protection against valve train wear.

**Enhanced Cleanliness**
- Helps to remove sludge and engine deposits.

**Advanced Control**
- Increased friction control.
- Optimised friction control for smoother clutch engagement and gear changes.

**Enjoyable Ride**
- Reduced vibration and engine noise.
- Enhanced shear stability for a quieter and smoother ride.
- R.C.E. Technology is designed to deliver:
  1. Increased oil-performance reliability by helping to remove deposits and maintain oil viscosity to give superior engine protection.
  2. Advanced control by smoothing clutch engagement and preventing slippage.
  3. Enjoyable ride by reducing vibration and damping engine noise.

Shell Advance 4T AX7 offers excellent oil performance reliability that helps protect and clean the engine and helps prolong your engine life. It provides advanced control through smoother gear changes and enhanced ride comfort by reduced noise and vibration.

**Applications**
- High-performance air and water-cooled four-stroke motorcycle engines, including those with integral gearboxes and wet clutches.
- Motorcycle gearboxes that must be lubricated by engine oils, including some gearboxes present in two-stroke bikes and scooters.
- Offers enhanced performance for smaller motorbikes, underbones and mopeds.

**Specifications, Approvals and Recommendations**

The product is available in two different viscosity grades:
- SAE J 300 10W-40 and 15W-50.

Exceeds the international specifications of:
- API SL

Meets the requirements of:
- All Japanese, European, Indian and Chinese motorcycle manufacturers.

**Typical Physical Characteristics**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>10W-40</th>
<th>15W-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (ASTM D 445) @ 40°C mm²/s</td>
<td>98.6</td>
<td>132.2</td>
</tr>
<tr>
<td>Kinematic Viscosity (ASTM D 445) @ 100°C mm²/s</td>
<td>15.8</td>
<td>19.1</td>
</tr>
<tr>
<td>Density @ 15°C kg/m³ (ASTM D 4052)</td>
<td>172</td>
<td>184</td>
</tr>
<tr>
<td>Flash Point °C (COC) (ISO 2592)</td>
<td>230</td>
<td>867</td>
</tr>
<tr>
<td>Pour Point °C (ISO 3016)</td>
<td>–36</td>
<td>–30</td>
</tr>
<tr>
<td>Viscosity Index (ISO 2909)</td>
<td>172</td>
<td>184</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL ADVANCE 4T ULTRA
FULLY SYNTHETIC MOTORCYCLE 4-STROKE ENGINE OIL

RECOMMENDED REPLACEMENT FOR SHELL ADVANCE ULTRA 4

DESIGNED TO MEET CHALLENGES

Shell Advance 4T Ultra with R.C.E.* Technology is a unique, fully synthetic lubricant designed to provide Shell’s ultimate engine protection and performance for all kinds of modern bikes. The latest generation of motorcycle engines require premium synthetic oils to maintain the highest standards of protection and performance, whatever the engine size.

Shell Advance’s R.C.E.* Technology helps your bike perform to its peak potential, making it responsive to your slightest touch.

PERFORMANCE FEATURES

OIL PERFORMANCE RELIABILITY
- Fully synthetic lubricant.
- Fully synthetic technology designed to offer ultimate protection and oil-performance reliability.
- Enhanced cleanliness control.
- Helps to prevent and remove sludge and engine deposits.
- Ultimate wear protection.
- Shell’s ultimate protection against valve train wear.

ENHANCED CONTROL
- Increased friction control for smoother clutch engagement and gear changes.

ENJOYABLE RIDE
- Reduced vibration and engine noise.
- Enhanced shear stability for a quieter and smoother ride.
- *R.C.E. Technology is designed to deliver:
  1. Increase oil performance reliability by helping to remove deposits and maintain oil viscosity to give superior engine protection.
  2. Advanced Control by smoothing clutch engagement and preventing slippage.
  3. Enjoyable ride by reducing vibration and damping engine noise.

The technology has been race proven and endorsed by leading motorcycle manufacturers. The product exceeds the requirements of most major motorcycle manufacturers.

APPLICATIONS
- High-performance air and water-cooled four-stroke motorcycle engines, including race-tuned and ones with integral gearboxes and wet clutches.
- Motorcycle gearboxes that must be lubricated by engine oils, including some gearboxes present in two-stroke bikes and scooters.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

EXCEEDS THE INTERNATIONAL SPECIFICATIONS OF:
- API SM

EXCEEDS THE REQUIREMENTS OF:
- All Japanese, European, Indian and Chinese motorcycle manufacturers.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>10W-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (ASTM D 445) @ 40°C mm²/s</td>
<td>98.6</td>
</tr>
<tr>
<td>@ 100°C mm²/s</td>
<td>15.8</td>
</tr>
<tr>
<td>Density @ 15°C kg/m³ (ASTM D 4052)</td>
<td>858</td>
</tr>
<tr>
<td>Flash Point °C (COC) (ISO 2592)</td>
<td>230</td>
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<tr>
<td>Pour Point °C (ISO 3016)</td>
<td>–36</td>
</tr>
<tr>
<td>Viscosity Index (ISO 2909)</td>
<td>172</td>
</tr>
</tbody>
</table>
Shell Nautilus Premium Outboard Oil is a high performance lubricant for the superior protection of all 2-stroke petrol outboard motors.

Its advanced formulation, which exceeds all outboard motor manufacturers’ standards, is a guarantee of long and reliable engine life.

**PERFORMANCE FEATURES**

Shell Nautilus Premium Outboard Oil exceeds the requirements of all major outboard motor manufacturers and all industry specifications.

- Certified by NMMA (National Maritime Manufacturers Association) for service TC-W3 at the manufacturer’s recommended fuel/oil ratio (up to 100:1).

**APPLICATION**

All 2-stroke petrol outboard motors with or without separate oil tanks.

**SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS**

Certified by NMMA for service TC-W3 at the manufacturer’s recommended fuel/oil ratio (up to 100:1).

### TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
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</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (IP 71)</td>
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<tr>
<td>@ 40°C mm²/s</td>
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<tr>
<td>@ 100°C mm²/s</td>
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<tr>
<td>Sulphated Ash % wt (IP 163)</td>
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<tr>
<td>Density @ 15°C kg/m³ (IP 365)</td>
<td>871</td>
</tr>
<tr>
<td>Flash Point °C (PMCC) (IP 34)</td>
<td>70</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>−35</td>
</tr>
</tbody>
</table>
SHELL NAUTILUS PREMIUM 4-STROKE
PREMIUM PROTECTION FOR ALL 4-STROKE PETROL AND DIESEL MARINE IN BOARD ENGINES

DESIGNED TO MEET CHALLENGES

Shell Nautilus Premium 4-Stroke is formulated with high quality base oils and synthetic, performance enhancing additives, giving excellent performance in both petrol and diesel engines used in marine application (inboard and outboard).

PERFORMANCE FEATURES

LONG OIL LIFE
- High thermal stability for long oil life particularly in turbo charged engines.

ENGINE CLEANLINESS AND LOW COMBUSTION RESIDUES
- Maintains cleaner pistons and resists ring sticking for consistent performance and oil control.

SUPERIOR VISCOSITY RETENTION
- High “VI” (Viscosity Index) ensures adequate oil film strength at all operating temperatures.

CORROSION PROTECTION
- Inhibits internal rust and corrosion.

APPLICATIONS

4-STROKE MARINE ENGINES
Shell Nautilus Premium 4-stroke helps to provide premium protection for all 4-stroke outboard engines as well as 4-stroke petrol and diesel marine inboard engines. It is suitable for petrol engines running on leaded and unleaded fuel and for all 4-stroke high speed marine diesel engines (but not Detroit) including turbo charged units.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

MEETS THE SPECIFICATIONS OF:
- API Service Classification SL/CF.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
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<tbody>
<tr>
<td>Kinematic Viscosity (IP 71) @ 100°C mm²/s</td>
<td>14.5</td>
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<tr>
<td>Viscosity Index (IP 226)</td>
<td>140</td>
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<tr>
<td>Density @ 15°C kg/m³</td>
<td>880</td>
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<tr>
<td>Flash Point °C (IP 36)</td>
<td>210</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>-33</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL 4T
4-STROKE ENGINE OIL

DESIGNED TO MEET CHALLENGES

Shell 4T is a quality engine oil recommended for small 4-stroke garden machines: lawnmowers, bar mowers and cultivators.

PERFORMANCE FEATURES
Shell 4T is formulated from highly refined high viscosity index base oils. It contains additives carefully selected to promote excellent piston and piston ring cleanliness, at the same time controlling oxidation and the harmful by-products of combustion.

SHELL 4T IS FORMULATED TO PROVIDE THE FOLLOWING BENEFITS:
- Reduce engine deposits.
- Resistance to oil oxidation.
- Protection of components against wear.
- Resistance to rust and corrosion.
- Good gearbox performance without clutch slippage.

APPLICATIONS
- Small 4-stroke motorcycle engines, such as lawnmowers, garden trimmers, edgers, bar mowers and cultivators.
- Gearbox/transmission systems of 2-stroke and 4-stroke motorcycles.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS
MEETS THE REQUIREMENTS OF:
- API: SF.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
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</thead>
<tbody>
<tr>
<td>Kinematic Viscosity @ 40°C mm²/s</td>
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<tr>
<td>@ 100°C mm²/s</td>
<td>10.84</td>
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<tr>
<td>Viscosity Index</td>
<td>102</td>
</tr>
<tr>
<td>Density @ 15 kg/m³</td>
<td>892</td>
</tr>
<tr>
<td>Flash Point °C</td>
<td>222</td>
</tr>
<tr>
<td>Pour Point °C</td>
<td>–9</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL 2T

2-STROKE ENGINE OIL

DESIGNED TO MEET CHALLENGES

Shell 2T is a quality oil specifically blended for all standard 2-stroke petrol engines, including lawnmowers, chainsaws and mopeds.

Based on a high viscosity index mineral oil, it contains carefully selected additives to help provide long and trouble-free performance.

PERFORMANCE FEATURES
- Reliable and consistent performance.
- Self-mixing with leaded and unleaded petrol.

APPLICATION
- Standard 2-stroke engines with oil injection or premix systems.
- For use in many standard 2-stroke small engine applications including various types of lawnmowers, chainsaws, garden equipment, small generators and small inboard engines.
- Shell 2T should not be used in outboard engines. The appropriate Shell Nautilus Oil is recommended for this application.
- Mineral based NON DILUTED.
- Not suitable for oil injection systems (e.g. in scooters or sport motorcycles).

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

‘PETROIL’ MIXTURE SYSTEMS
- In engines lubricated by ‘petroil’ mixture systems, the engine manufacturers’ recommended fuel/oil ratios should be strictly observed.

MEETS THE REQUIREMENTS OF:
- JASO FA (obsolete).

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
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<th>DILUTED</th>
</tr>
</thead>
<tbody>
<tr>
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<td>26.0</td>
</tr>
<tr>
<td>@ 100°C mm²/s</td>
<td>11.0</td>
<td>4.4</td>
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<tr>
<td>Viscosity Index (IP 226)</td>
<td>102</td>
<td>–</td>
</tr>
<tr>
<td>Density @ 15 kg/m³</td>
<td>892</td>
<td>872</td>
</tr>
<tr>
<td>Flash Point °C (COC) (IP 36)</td>
<td>246</td>
<td>98</td>
</tr>
<tr>
<td>Pour Point °C (IP 15)</td>
<td>–9</td>
<td>–27</td>
</tr>
<tr>
<td>Total Base Number mg KOH/g (IP 276)</td>
<td>2.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Sulphated Ash % wt (IP 163)</td>
<td>0.27</td>
<td>0.23</td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL BRAKE AND CLUTCH FLUID, DOT 4 SUPER
HIGH BOILING POINT, HIGH PERFORMANCE DOT 4 BRAKE FLUID

DESIGNED TO MEET CHALLENGES

Shell Brake and Clutch Fluid, DOT 4 Super is a high performance glycol ether brake fluid designed to meet the performance requirements of Ford and Holden as well as other manufacturers requiring a high performance DOT 4 fluid. It offers superior dry and wet boiling points and maintains viscosity in cold and hot environments.

PROPERTIES

- Shell Brake and Clutch Fluid, DOT 4 Super has superior Dry and Wet Equilibrium Reflux Boiling Points (ERBP) to meet the requirements of Ford and Holden in Australia and New Zealand. The product contains borate esters to scavenge water and maintain ERBP as the fluid ages.

MISCIBILITY

- Though miscible with other brake fluids meeting Aust/NZ 1960.1, intermixing of brake fluids of different grades is not recommended. Always consult the vehicle manufacturer’s recommendations before adding fluid. Intermixing may impact braking performance of some brake systems.
- This product is not miscible with silicone based brake fluids including those meeting Aust/NZ 1960.2. Mixing will result in an emulsion within the brake system and may cause seal failure.
- This product is not compatible with any mineral or synthetic oil based fluids. Use or contamination at even ppm levels of brake systems in most vehicles will result in seal failure, leakage, and subsequent loss in brake performance.

STORAGE STABILITY

Shell Brake and Clutch Fluid, DOT 4 Super is suitable for sale and use up to two years after packaging in sealed, individual containers. Storage time is up to three years in sealed, metal, bulk containers. Protection should be provided to prevent any moisture contamination. Moisture contamination will result in a 5–10°C boiling point drop for each 0.1% of water absorbed.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

- Aust/NZ 1960.1, Class 2
- USA: FMVSS, No. 116, DOT 4
- SAE: J1704
- ISO 4925 Class 4
- J15 K 2233 Class 4
- Suitable to use wherever a DOT 4 fluid is required.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity @ 40°C mm²/s</td>
<td>1200</td>
</tr>
<tr>
<td>@ 100°C mm²/s</td>
<td>2.6</td>
</tr>
<tr>
<td>Dry ERBP (FMVSS No. 116) S.11</td>
<td>265°C min.</td>
</tr>
<tr>
<td>Wet ERBP (FMVSS No. 116) S.12</td>
<td>170°C min.</td>
</tr>
<tr>
<td>pH (FMVSS No. 116) S.14</td>
<td>7.2</td>
</tr>
<tr>
<td>Reserve Alkalinity 0.1 N HCl/10ml</td>
<td>58ml</td>
</tr>
<tr>
<td>Boron</td>
<td>1.30 mass %</td>
</tr>
<tr>
<td>Water (ASTM D 1364)</td>
<td>&lt; 0.2%</td>
</tr>
<tr>
<td>Appearance Undyed: Colourless to amber, free of foreign matter</td>
<td></td>
</tr>
<tr>
<td>Appearance dyed: Green (alternative colours can be made available)</td>
<td></td>
</tr>
</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.
SHELL POWER STEERING FLUID
ADVANCED AUTOMATIC POWER STEERING FLUID

DESIGNED TO MEET CHALLENGES

Shell Power Steering Fluid is a premium quality fluid designed to provide high performance in power steering systems. It has been formulated to reduce power steering pump squeal even under severe conditions. Shell Power Steering Fluid offers high performance for virtually all power steering systems (see Applications) including those specifying the use of automatic transmission fluids.

Shell Power Steering Fluid helps prolong the life of power steering units. ATF is often used as Power Steering Fluid. Recommended for complete fluid replacement or top-off in most passenger cars and light duty trucks.

PERFORMANCE FEATURES
- Helps protect power steering unit components against wear.
- Helps prevent rust and corrosion.
- Helps to protect against seal and hose deterioration.

APPLICATIONS
Shell Power Steering Fluid is a premium quality fluid designed to provide high performance in power steering systems. It has been formulated to reduce power steering pump squeal even under severe conditions.

Shell Power Steering Fluid offers high performance for virtually all power steering systems (see Specifications, Approvals and Recommendations) including those specifying the use of automatic transmission fluids.

Shell Power Steering Fluid helps to prolong the life of power steering units. ATF is often used as Power Steering Fluid. Recommended for complete fluid replacement or top-off in most passenger cars and light duty trucks.

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

MEETS THE SERVICE REQUIREMENTS OF:
- Daimler Chrysler: MS5931
- Ford: ESW-M2C128-C and D
- GM: 9985010
- VW: TL-VW-570-26
- Navistar: TMS6810.

SUITABLE FOR USE IN:
- Mazda
- Mercedes-Benz
- Subaru
- Volvo.

TYPICAL PHYSICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic Viscosity (ISO 3104)</td>
<td></td>
</tr>
<tr>
<td>@ 40°C mm²/s</td>
<td>39.5</td>
</tr>
<tr>
<td>@ 100°C mm²/s</td>
<td>7.9</td>
</tr>
<tr>
<td>Viscosity Index</td>
<td>177</td>
</tr>
<tr>
<td>API Gravity @ 15.6°C</td>
<td>29.5</td>
</tr>
<tr>
<td>Flash Point °C (COC)</td>
<td>178</td>
</tr>
<tr>
<td>Pour Point °C</td>
<td>–42</td>
</tr>
</tbody>
</table>

Note: Do not use in power steering systems which require Honda Part No. 08208-99961. The owner’s service manual specifications should be followed for all applications. These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.