# 3. FUEL, COOLANT AND LUBRICANTS

## 1) NEW MACHINE

New machine used and filled with following lubricants.

| Description | Specification |
|---|---|
| Engine oil | SAE 15W-40 (API CH-4) |
| Hydraulic oil | Hyundai genuine long life hydraulic oil (ISO VG46, VG68 only)<br>Conventional hydraulic oil (ISO VG32) |
| Swing reduction gear oil | SAE 85W-140 (API GL-5) |
| Transmission oil | SAE 10W-30 (API CF-4) |
| Axle oil | SAE 85W-90 LSD (API GL-5) |
| Grease | Lithium base grease NLGI No. 2 |
| Fuel | ASTM D975-No. 2 |
| Coolant | Mixture of 50% ethylene glycol base antifreeze and 50% water. |

**SAE** : Society of Automotive Engineers
**API** : American Petroleum Institute
**ISO** : International Organization for Standardization
**NLGI** : National Lubricating Grease Institute
**ASTM** : American Society of Testing and Material

## 2) RECOMMENDED OILS

**Use only oils listed below or equivalent.**
**Do not mix different brand oil.**

| Service point | Kind of fluid | Capacity ℓ (U.S. gal) | Ambient temperature °C ( °F)<br>-20 (-4) / -10 (14) / 0 (32) / 10 (50) / 20 (68) / 30 (86) / 40 (104) |
|---|---|---|---|
| Engine oil pan | Engine oil | 24 (6.3) | SAE 30<br>SAE 10W |
| Transmission case | | 2.5 (0.66) | SAE 10W-30<br>SAE 15W-40 |
| Swing drive | Gear oil | 5.0 (1.3) | SAE 85W-140 |
| | Grease | 1.2 (0.3) | NLGI NO.1<br>NLGI NO.2 |
| Front axle | Gear oil | Center : 9.6 (2.5)<br>Hub : 2.5×2 (0.7×2) | SAE 85W-90 LSD |
| Rear axle | | Center : 13.1(3.5)<br>Hub : 2.5×2 (0.7×2) | |
| Hydraulic tank | Hydraulic oil | Tank: 165 (43.6)<br>System: 340 (89.8) | ISO VG 32<br>ISO VG 46<br>ISO VG 68 |
| Fuel tank | Diesel fuel | 310 (81.9) | ASTM D975 NO.1<br>ASTM D975 NO.2 |
| Fitting (Grease nipple) | Grease | As required | NLGI NO.1<br>NLGI NO.2 |
| Radiator (Reservoir tank) | Mixture of antifreeze and water 50 : 50 | 35 (9.2) | Ethylene glycol base permanent type |

**SAE** : Society of Automotive Engineers
**API** : American Petroleum Institute
**ISO** : International Organization for Standardization
**NLGI** : National Lubricating Grease Institute
**ASTM** : American Society of Testing and Material