KOBELCO

# SERVICE MANUAL

# YANMAR DIESEL ENGINE

2TN66E
3TN66E
3TN75E
3TN82E
4TN82E
3TN84E
4TN84E
3TNC78E
3TNA72E
3TNC78E
3TN82TE
4TN82TE
3TN84TE
4TN84TE

Applicable Models: SK007-2, SK013, SK015, SK025, SK030, SK035

AOC1752-8905-KAI-00 03/04

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# SPECIFICATIONS FOR KOBELCO HYDRAULIC EXCAVATOR APPLICATIONS

| Model | | SK007-2 |
|---|---|---|
| Serial Number | | FT01100~ |
| **Engine** | | |
| Model | | Yanmar 2TN66L-UTBA |
| Type | | 4-Cycle Water Cooled Diesel w/Overhead valve |
| No. of Cylinders-Bore × Stroke | (mm) | 2-66×64.2 |
| Total Displacement | (cc) | 439 |
| Compression Ratio | | 23.0 |
| Dry Weight | (kg) | 64 |
| **Performance** | | |
| Rated Output | (PS/rpm) | 5/2,550 |
| Maximum Torque | (kgfm/rpm) | 2.5/2,100 ±100 |
| Maximum No-load R.P.M. | (rpm) | 2,725 ±50 |
| Minimum No-load R.P.M. | (rpm) | 1,000 ±50 |
| Specific Fuel Consumption | (g/PS-h) | 215 |
| Starter | (V-kW) | 12-0.8 |
| Generator | (V-A) | 12-9 |
| Battery | (V-A-h) | 12-28 |

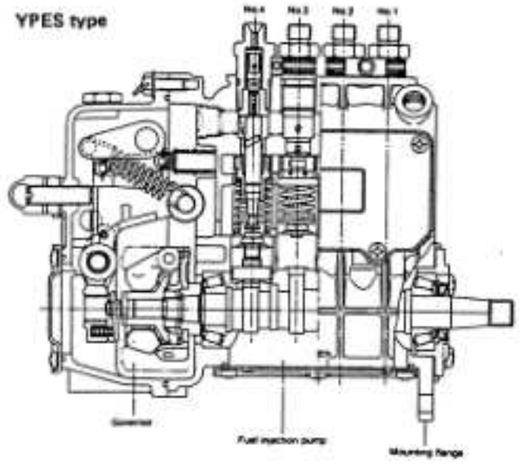
| Model | SK013 | SK015 |
|---|---|---|
| Serial Number | PN00001~ | PU02001~ |
| **Engine** | | |
| Model | Yanmar 3TN66L-UTBA | Yanmar 3TNA72L-UTBB |
| Type | 4-Cycle Water Cooled Diesel w/Overhead Valve | 4-Cycle Water Cooled Diesel w/Overhead Valve |
| No. of Cylinders-Bore × Stroke (mm) | 3-66×64.2 | 3-72×72 |
| Total Displacement (cc) | 658 | 879 |
| Compression Ratio | 23.0 | 22.3 |
| Dry Weight (kg) | 78 | 97 |
| **Performance** | | |
| Rated Output (PS/rpm) | 12.5/2600 | 16/2550 |
| Maximum Torque (kgfm/rpm) | 3.86/2200 | 5.2/2000 |
| Maximum No-load R.P.M. (rpm) | 2775 | 2725 |
| Minimum No-load R.P.M. (rpm) | 1000 | 1000 |
| Specific Fuel Consumption (g/PS-h) | 210 | 200 |
| Starter (V-kW) | 12-0.8 | 12-1.0 |
| Generator (V-A) | 12-20 | 12-20 |
| Battery (V-A-h) | 12-35(20HR) | 12-46 (20HR) |

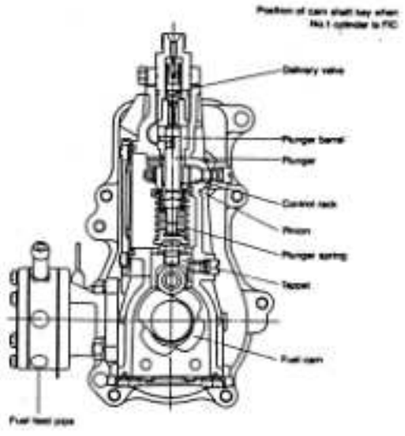
| Model | | SK025 | SK030 | SK035 |
|---|---|---|---|---|
| Serial Number | | PV04301~ | PW03001~ | PX01201~ |
| **Engine** | | | | |
| Model | | 3TNC78L-RTBA | 3TN84L-RTBB | 3TN84L-RTBC |
| Type | | 4-Cycle, Water Cooled, In-line Diesel | ← | ← |
| Number of Cylinders-Bore × Stroke (mm) | | 3-78×80 | 3-78×86 | ← |
| Total Displacement | (cc) | 1146 | 1429 | ← |
| Compression Ratio | | 17.84 | 18.0 | ← |
| Dry Weight | (kg) | 140 | 157 | ← |
| **Performance** | | | | |
| Rated Output | (PS/rpm) | 21/2500 | 24/2300 | 27.5/2560 |
| Maximum Torque | (kgfm/rpm) | 7/1800 | 8.8/1900 | ← |
| Maximum No-load R.P.M. | (rpm) | 2700±25 | 2480±25 | 2760±25 |
| Minimum No-load R.P.M. | (rpm) | 1075±25 | ← | ← |
| Specific Fuel Consumption | (g/PS-h) | 180 | ← | 185 |
| Starter | (V-kW) | 12-1.4 | 12-2.0 | ← |
| Generator | (V-A) | 12-40 | ← | ← |
| Battery | (V-A-h) | 12-65 (20HR) | ← | ← |

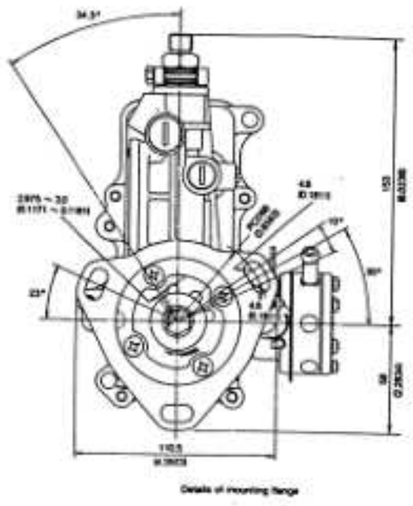
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### 1-1 Fuel Injection Pump Construction

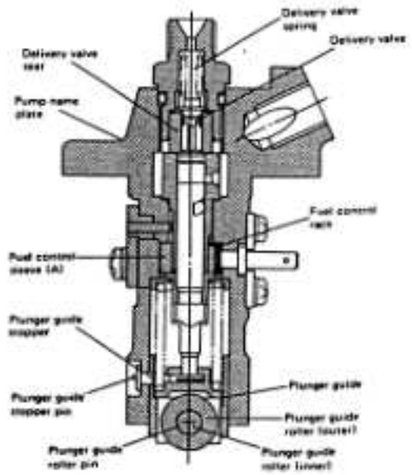
YPES type

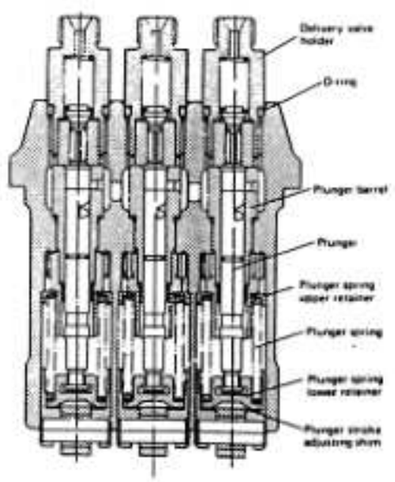



YPFR type






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