

D1146 G-DRIVE

◎ POWER RATING

| Engine Speed rev/min | Type of Operation | Engine Power | |
|-------------------------|-------------------|--------------|-----|
| | | kWm | Ps |
| 1800 | Continuous Power | 87 | 118 |
| | Prime Power | 96 | 130 |
| | Standby Power | 105 | 143 |
| 1500 | Continuous Power | 70 | 95 |
| | Prime Power | 77 | 105 |
| | Standby Power | 85 | 116 |



Note : -. The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271.

-. Ratings are based on ISO 8528.

→ Prime power available at variable load. The permissible average power out put (during 24h period) shall not exceed 70% of the prime power rating.

→ Standby power available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

| | |
|------------------------|--|
| ○ Engine Model | D1146 |
| ○ Engine Type | In-line 4 cycle, water cooled Naturally aspirated |
| ○ Combustion type | Direct injection |
| ○ Cylinder Type | Replaceable dry liner |
| ○ Number of cylinders | 6 |
| ○ Bore x stroke | 111(4.37) x 139(5.47) mm(in.) |
| ○ Displacement | 8.071(492.49) lit.(in ³) |
| ○ Compression ratio | 17.5 : 1 |
| ○ Firing order | 1-5-3-6-2-4 |
| ○ Injection timing | 15° BTDC |
| ○ Compression pressure | Above 28 kg/cm ² (398 psi) at 200rpm |
| ○ Dry weight | Approx. 720 kg (1,587 lb) |
| ○ Dimension (LxWxH) | 1,224 x 727 x 973 mm (48.2 x 28.6 x 38.3 in.) |
| ○ Rotation | Counter clockwise viewed from Flywheel |
| ○ Fly wheel housing | SAE NO.2 |
| ○ Fly wheel | Clutch NO.11 1/2 |

◎ FUEL CONSUMPTION

| | | |
|-------------------------|------------------|------------------|
| ○ Prime Power (lit/hr) | 1,500 rpm | 1,800 rpm |
| 25% | 7.5 | 8.9 |
| 50% | 11.3 | 13.6 |
| 75% | 15.9 | 19.0 |
| 100% | 20.6 | 24.7 |
| ○ Standby Power (lit/h) | 1,500 rpm | 1,800 rpm |
| 25% | 7.7 | 9.2 |
| 50% | 11.6 | 14.9 |
| 75% | 16.1 | 20.8 |
| 100% | 20.8 | 26.6 |

◎ FUEL SYSTEM

| | |
|--------------------|------------------------------------|
| ○ Injection pump | Zexel in-line "AD" type |
| ○ Governor | RSV type (all speed control) |
| ○ Feed pump | Mechanical type |
| ○ Injection nozzle | Multi hole type |
| ○ Opening pressure | 214 kg/cm ² (3,044 psi) |
| ○ Fuel filter | Full flow, cartridge type |
| ○ Used fuel | Diesel fuel oil |

◎ MECHANISM

| | |
|------------------------|---|
| ○ Type | Over head valve |
| ○ Number of valve | Intake 1, exhaust 1 per cylinder |
| ○ Valve lashes at cold | Intake 0.30mm (0.0118 in.) Exhaust 0.30mm (0.0118 in.) |

◎ VALVE TIMING

| | Opening | Close |
|-----------------|--------------|--------------|
| ○ Intake valve | 16 deg. BTDC | 36 deg. ABDC |
| ○ Exhaust valve | 46 deg. BBDC | 14 deg. ATDC |

◎ LUBRICATION SYSTEM

| | |
|--------------------|---|
| ○ Lub. Method | Fully forced pressure feed type |
| ○ Oil pump | Gear type driven by crankshaft |
| ○ Oil filter | Full flow, cartridge type |
| ○ Oil pan capacity | High level 15.5 liters (4.09 gal.) Low level 12 liters (3.17 gal.) |
| ○ Angularity limit | Front down 25 deg. Front up 25 deg. Side to side 25 deg. |
| ○ Lub. Oil | Refer to Operation Manual |

◎ COOLING SYSTEM

- Cooling method Fresh water forced circulation
- Water capacity 14 liters (3.70 gal.)
(engine only)
- Pressure system Max. 0.9 kg/cm² (12.8 psi)
- Water pump Centrifugal type driven by belt
- Water pump Capacity 150 liters (39.6 gal.)/min
at 1,800 rpm (engine)
- Thermostat Wax – pellet type
Opening temp. 71°C
Full open temp. 85°C
- Cooling fan Blower type, steel
590 mm diameter, 6 blade

◎ ELECTRICAL SYSTEM

- Charging generator 24V x 45A [or 12V x 26A] Aalternator
- Voltage regulator Built-in type IC regulator
- Starting motor 24V x 4.5kW [or 12V x 2.5kW]
- Battery Voltage 24V [or 12V]
- Battery Capacity 100 AH [or 150 AH] (recommended)
- Starting aid (Option) Block heater

◎ ENGINEERING DATA

- Water flow 130 liters/min @1,500 rpm
150 liters/min @1,800 rpm
- Heat rejection to coolant 16.5 kcal/sec @1,800 rpm
- Air flow 5.8 m³/min @1,500 rpm
6.9 m³/min @1,800 rpm
- Exhaust gas flow 18.8 m³/min @1,800 rpm
- Exhaust gas temp. 620 °C @1,800 rpm
- Max. permissible restrictions
 - .Intake system 220 mmH₂O initial
635 mmH₂O final
 - .Exhaust system 1,000 mmH₂O max.

◆ CONVERSION TABLE

- in. = mm x 0.0394
- PS = kW x 1.3596
- psi = kg/cm² x 14.2233
- in³ = lit. x 61.02
- hp = PS x 0.98635
- lb = kg x 2.20462
- lb/ft = N.m x 0.737
- U.S. gal = lit. x 0.264
- kW = 0.2388 kcal/s
- lb/PS.h = g/kW.h x 0.00162
- cfm = m³/min x 35.336

