

## 4. SPECIFICATION FOR MAJOR COMPONENTS

### 1) ENGINE

| Item                                | Specification                      |
|-------------------------------------|------------------------------------|
| Model                               | Cummins QSB5.9-C                   |
| Type                                | 4-cycle turbocharged diesel engine |
| Cooling method                      | Water cooling                      |
| Number of cylinders and arrangement | 6 cylinders, in-line               |
| Firing order                        | 1-5-3-6-2-4                        |
| Combustion chamber type             | Direct injection type              |
| Cylinder bore x stroke              | 102 x 120mm(4.02" x 4.72")         |
| Piston displacement                 | 5880cc(359cu in)                   |
| Compression ratio                   | 18.1 : 1                           |
| Rated gross horse power             | 140hp at 2200rpm                   |
| Maximum gross torque at 1500rpm     | 60kgf · m(434lb · ft)              |
| Engine oil quantity                 | 16.4 (4.3 U.S. gal)                |
| Dry weight                          | 432kg(952lb)                       |
| High idling speed                   | 2330 ± 50rpm                       |
| Low idling speed                    | 950 ± 50rpm                        |
| Rated fuel consumption              | 226g/kw · hr                       |
| Starting motor                      | Nippondenso 228000-7902 (24V)      |
| Alternator                          | Delco Remy 22SI(24V-70Amp)         |
| Battery                             | 2 x 12V x 100Ah                    |

## 2) MAIN PUMP

| Item                       | Specification                               |
|----------------------------|---|
| Type                       | Fixed displacement tandem helical gear pump |
| Capacity                   | 46+36cc/rev                                 |
| Maximum operating pressure | 220kgf/cm <sup>2</sup> (3129psi)            |
| Rated operating speed      | 2200rpm                                     |
| Rated output flow          | 177 /min(46.8U.S.gpm)                       |

## 3) FAN AND BRAKE PUMP

| Item                       | Specification                               |                     |
|----------------------------|---|---------------------|
|                            | Fan   | Brake               |
| Type                       | Fixed displacement tandem helical gear pump |                     |
| Capacity                   | 16.8cc/rev                                  | 8.2cc/rev           |
| Maximum operating pressure | 150kgf/cm <sup>2</sup> (2130psi)            |                     |
| Rated operating speed      | 2200rpm                                     |                     |
| Rated output flow          | 35 /min(9.2U.S.gpm)                         | 17 /min(4.5U.S.gpm) |

## 4) MAIN CONTROL VALVE

| Item                               | Specification                    |
|------------------------------------|----------------------------------|
| Type                               | 2 spool(sectional block)         |
| Operating method                   | Hydraulic pilot assist           |
| Main relief valve set pressure     | 220kgf/cm <sup>2</sup> (3129psi) |
| Overload relief valve set pressure | 240kgf/cm <sup>2</sup> (3414psi) |

## 5) REMOTE CONTROL VALVE

| Item             | Specification               |                                  |
|------------------|-----------------------------|----------------------------------|
| Type             | Joystick(or with aux lever) |                                  |
| Control pressure | Minimum                     | 3.7kgf/cm <sup>2</sup> (52.6psi) |
|                  | Maximum                     | 30kgf/cm <sup>2</sup> (427psi)   |

## 6) CYLINDER

| Item              | Specification                                       |
|-------------------|---|
| Boom cylinder     | Bore dia × Rod dia × Stroke<br>Ø 120 × Ø 70 × 738mm |
| Bucket cylinder   | Bore dia × Rod dia × Stroke<br>Ø 140 × Ø 75 × 505mm |
| Steering cylinder | Bore dia × Rod dia × Stroke<br>Ø 65 × Ø 40 × 429mm  |

## 7) DYNAMIC POWER TRANSMISSION DEVICES

| Item             |                | Specification  |
|------------------|----------------|--|
| Torque converter | Model          | ZF 4WG160  |
|                  | Type           | Single-stage, single-phase                             |
| Transmission     | Type           | Full-automatic power shift                             |
|                  | Gear shift     | Forward fourth gear, reverse third gear                |
|                  | Adjustment     | Electrical single lever type, kick-down system         |
| Axle             | Drive devices  | 4-wheel drive  |
|                  | Front          | Front fixed location                                   |
|                  | Rear           | Oscillation $\pm 12^\circ$ of center pin-loaded        |
| Wheels           | Tires          | 20.5-25, 16PR(L3)                                      |
| Brakes           | Travel         | Four-wheel, wet-disc type, full hydraulic              |
|                  | Parking        | Spring applied, hydraulic released brake on front axle |
| Steering         | Type           | Full hydraulic, articulated                            |
|                  | Steering angle | 40° to both right and left angle, respectively         |