

## 8. SPECIFICATIONS FOR MAJOR COMPONENTS

### 1) ENGINE

| Item                                | Specification                              |
|-------------------------------------|--------------------------------------------|
| Model                               | Cummins QSM 11                             |
| 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 × stroke              | 125 × 147.1mm(4.92" × 5.79")               |
| Piston displacement                 | 10800cc(659cu in)                          |
| Compression ratio                   | 16.3 : 1                                   |
| Rated gross horse power(SAE J1349)  | 325ps at 1900rpm(320Hp / 239kw at 1900rpm) |
| Maximum torque                      | 182.5kgf · m(1320lbf · ft) at 1300rpm      |
| Engine oil quantity                 | 37.85 l (10U.S. gal)                       |
| Dry weight                          | 942kg(2077lb)                              |
| High idling speed                   | 1950 ± 50rpm                               |
| Low idling speed                    | 950 ± 50rpm                                |
| Rated fuel consumption              | 144g/Hp · hr at 1900rpm                    |
| Starting motor                      | Delco remy 42MT (24V-7.2kW)                |
| Alternator                          | Delco Remy 24V-50A                         |
| Battery                             | 2 × 12V × 160Ah                            |

### 2) MAIN PUMP

| Item             | Specification                                                      |
|------------------|--------------------------------------------------------------------|
| Type             | Variable displacement tandem axis piston pumps                     |
| Capacity         | 2 × 200cc/rev                                                      |
| Maximum pressure | 330kgf/cm <sup>2</sup> (4690psi)[360kgf/cm <sup>2</sup> (5120psi)] |
| Rated oil flow   | 2 × 380 l /min (100.4U.S. gpm/83.6U.K. gpm)                        |
| Rated speed      | 1900rpm                                                            |

[ ]: Power boost

### 3) GEAR PUMP

| Item             | Specification                             |
|------------------|-------------------------------------------|
| Type             | Fixed displacement gear pump single stage |
| Capacity         | 15cc/rev                                  |
| Maximum pressure | 35kgf/cm <sup>2</sup> (498psi)            |
| Rated oil flow   | 28.5 l /min(7.5U.S. gpm/6.3U.K. gpm)      |

### 4) MAIN CONTROL VALVE

| Item                           | Specification                                                       |
|--------------------------------|---------------------------------------------------------------------|
| Type                           | 9 spools                                                            |
| Operating method               | Hydraulic pilot system                                              |
| Main relief valve pressure     | 330kgf/cm <sup>2</sup> (4550psi) [360kgf/cm <sup>2</sup> (4980psi)] |
| Overload relief valve pressure | 380kgf/cm <sup>2</sup> (5400psi)                                    |

[ ]: Power boost

### 5) SWING MOTOR

| Item                   | Specification                                |
|------------------------|----------------------------------------------|
| Type                   | Fixed displacement axial piston motor        |
| Capacity               | 148.5cc/rev                                  |
| Relief pressure        | 285kgf/cm <sup>2</sup> (4050psi)             |
| Braking system         | Automatic, spring applied hydraulic released |
| Braking torque         | 63kgf · m(456lbf · ft)                       |
| Brake release pressure | 23~50kgf/cm <sup>2</sup> (327~711psi)        |
| Reduction gear type    | 2 - stage planetary                          |
| Swing speed            | 10.3rpm                                      |

### 6) TRAVEL MOTOR

| Item                   | Specification                                |
|------------------------|----------------------------------------------|
| Type                   | Variable displacement axial piston motor     |
| Relief pressure        | 345kgf/cm <sup>2</sup> (4910psi)             |
| Capacity(max / min)    | 160/100cc/rev                                |
| Reduction gear type    | 3-stage planetary                            |
| Braking system         | Automatic, spring applied hydraulic released |
| Brake release pressure | 17~50kgf/cm <sup>2</sup> (242~711psi)        |
| Braking torque         | 103kgf · m(745lbf · ft)                      |

## 7) REMOTE CONTROL VALVE

| Item                    |         | Specification                  |
|-------------------------|---------|--------------------------------|
| Type                    |         | Pressure reducing type         |
| Operating pressure      | Minimum | 6.5kgf/cm <sup>2</sup> (92psi) |
|                         | Maximum | 26kgf/cm <sup>2</sup> (370psi) |
| Single operation stroke | Lever   | 61mm(2.4in)                    |
|                         | Pedal   | 123mm(4.84in)                  |

## 8) CYLINDER

| Item            |                             | Specification          |
|-----------------|-----------------------------|------------------------|
| Boom cylinder   | Bore dia × Rod dia × Stroke | ø 170 × ø 120 × 1570mm |
|                 | Cushion                     | Extend only            |
| Arm cylinder    | Bore dia × Rod dia × Stroke | ø 185 × ø 125 × 1820mm |
|                 | Cushion                     | Extend and retract     |
| Bucket cylinder | Bore dia × Rod dia × Stroke | ø 160 × ø 110 × 1370mm |
|                 | Cushion                     | Extend only            |

※ Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.

※ Discoloration does not cause any harmful effect on the cylinder performance.

## 9) SHOE

| Item     |          | Width      | Ground pressure                    | Link quantity | Overall width   |
|----------|----------|------------|------------------------------------|---------------|-----------------|
| R450LC-7 | Standard | 600mm(24") | 0.78kgf/cm <sup>2</sup> (11.09psi) | 53            | 3340mm(10' 11") |
|          | Option   | 700mm(28") | 0.67kgf/cm <sup>2</sup> ( 9.53psi) | 53            | 3440mm(11' 3")  |
|          |          | 750mm(30") | 0.63kgf/cm <sup>2</sup> ( 8.96psi) | 53            | 3490mm(11' 5")  |
|          |          | 800mm(32") | 0.60kgf/cm <sup>2</sup> ( 8.53psi) | 53            | 3540mm(11' 7")  |
|          |          | 900mm(36") | 0.54kgf/cm <sup>2</sup> ( 7.68psi) | 53            | 3640mm(11' 11") |

## 10) BUCKET

| Item     |          | Capacity         |                 | Tooth quantity | Width               |                  |
|----------|----------|------------------|-----------------|----------------|---------------------|------------------|
|          |          | PCSA heaped      | CECE heaped     |                | Without side cutter | With side cutter |
| R450LC-7 | Standard | 2.15m³(2.81yd³)  | 1.85m³(2.40yd³) | 5              | 1610mm(63.4")       | 1760mm(69.3")    |
|          | Option   | 1.38m³(1.80yd³)  | 1.20m³(1.57yd³) | 4              | 1100mm(43.3")       | 1250mm(49.2")    |
|          |          | 1.84m³(2.41yd³)  | 1.60m³(2.09yd³) | 5              | 1420mm(55.9")       | 1570mm(61.8")    |
|          |          | ◆2.20m³(2.88yd³) | 1.80m³(2.35yd³) | 5              | 1810mm(71.3")       | -                |
|          |          | 2.20m³(2.88yd³)  | 1.80m³(2.35yd³) | 5              | 1810mm(71.3")       | -                |
|          |          | 2.56m³(3.35yd³)  | 2.20m³(2.90yd³) | 6              | 1870mm(73.6")       | 2020mm(79.5")    |
|          |          | 2.79m³(3.65yd³)  | 2.40m³(3.14yd³) | 7              | 2020mm(79.5")       | 2170mm(85.4")    |
|          |          | 3.03m³(3.96yd³)  | 2.60m³(3.40yd³) | 7              | 2170mm(85.4")       | 2320mm(91.3")    |

◆ : Heavy duty bucket

    : Rock bucket(ESCO type)