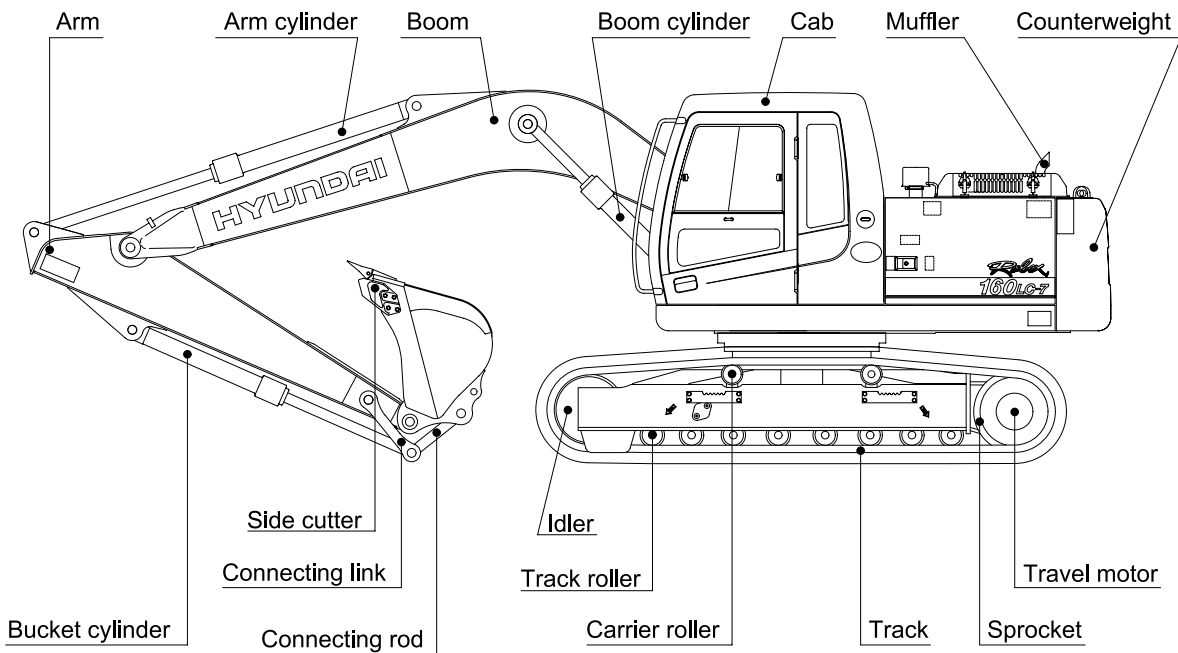
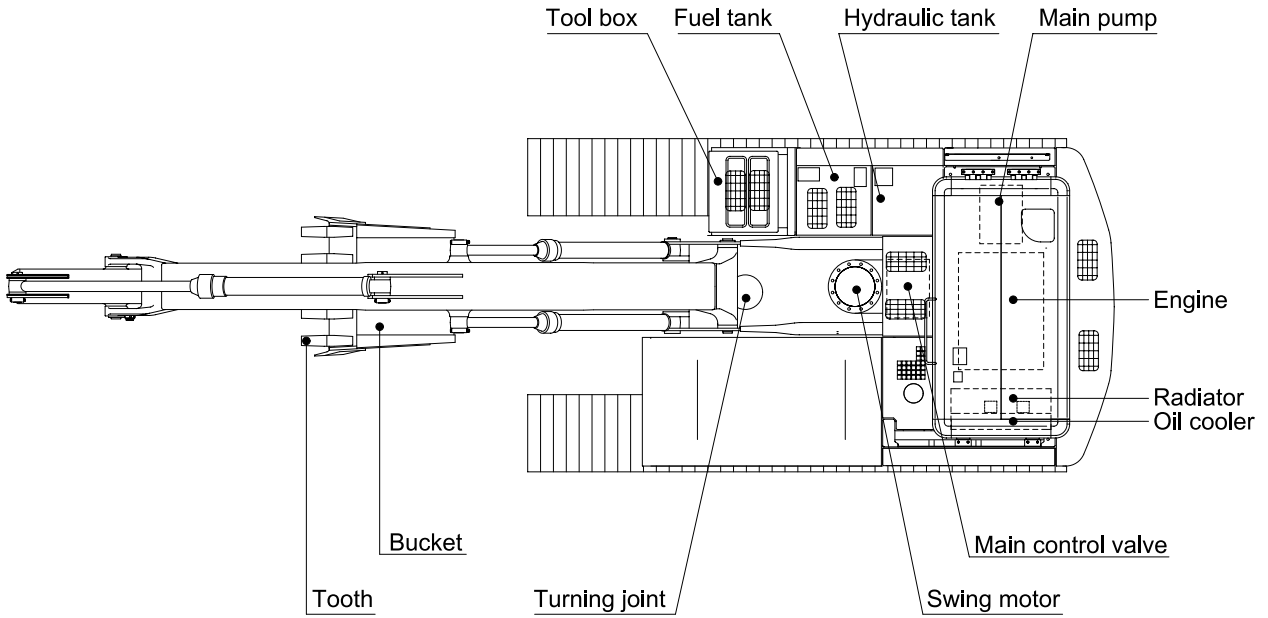


# GROUP 2 SPECIFICATIONS

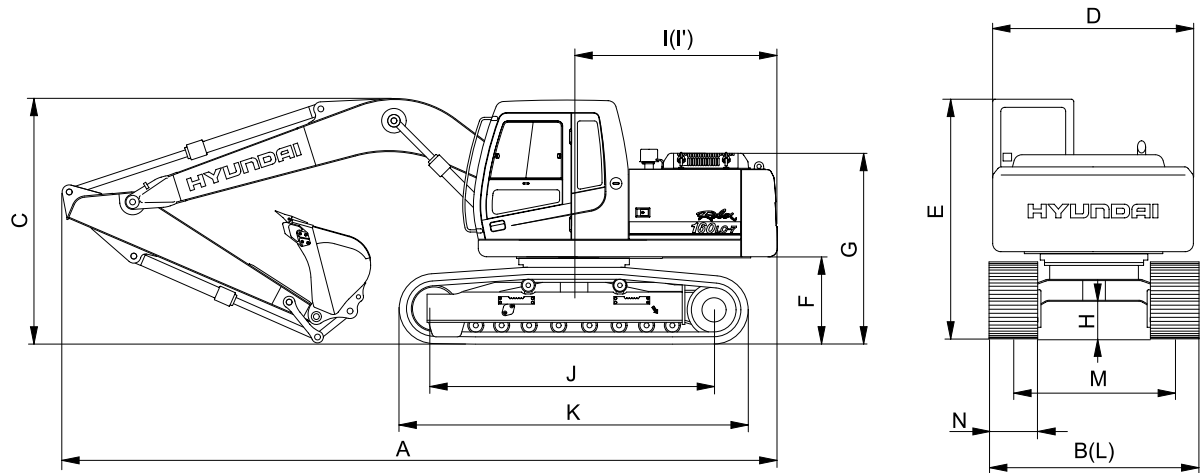
## 1. MAJOR COMPONENT



16072SP01

## 2. SPECIFICATIONS

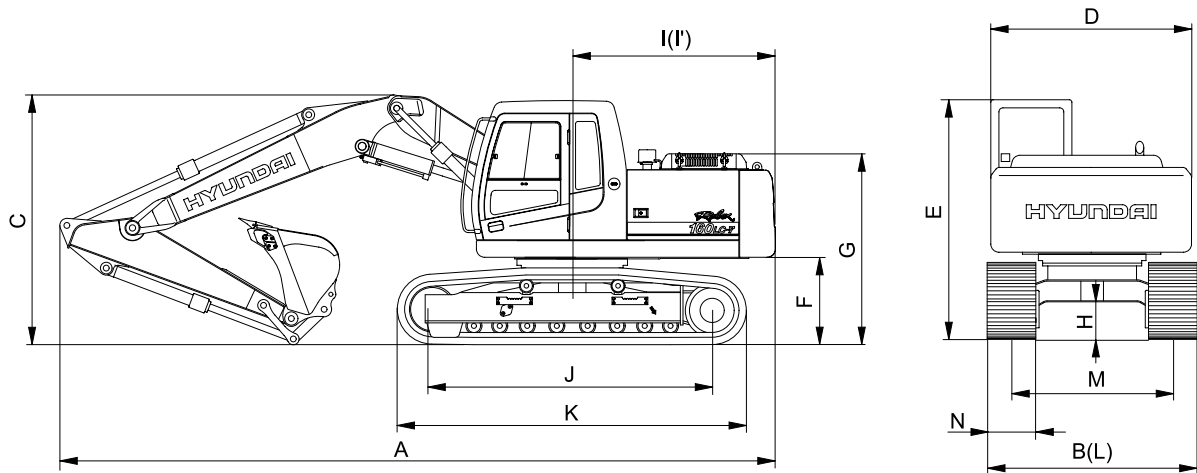
### 1) 5.1m(16' 9") MONO BOOM, 2.6m(8' 6") ARM



16072SP02

| Description                           | Unit                              | Specification    |
|---------------------------------------|-----------------------------------|------------------|
| Operating weight                      | kg(lb)                            | 17400(38360)     |
| Bucket capacity(SAE heaped), standard | m <sup>3</sup> (yd <sup>3</sup> ) | 0.70(0.92)       |
| Overall length                        | A                                 | 8600(28' 3")     |
| Overall width, with 600mm shoe        | B                                 | 2590( 8' 6")     |
| Overall height                        | C                                 | 3050(10' 0")     |
| Superstructure width                  | D                                 | 2475( 8' 1")     |
| Overall height of cab                 | E                                 | 2915( 9' 7")     |
| Ground clearance of counterweight     | F                                 | 1035( 3' 5")     |
| Engine cover height                   | G                                 | 2295( 7' 6")     |
| Minimum ground clearance              | H                                 | 460( 1' 6")      |
| Rear-end distance                     | I                                 | 2530( 8' 4")     |
| Rear-end swing radius                 | I'                                | 2480( 8' 2")     |
| Distance between tumbler              | J                                 | 3190(10' 6")     |
| Undercarriage length                  | K                                 | 3980(13' 1")     |
| Undercarriage width                   | L                                 | 2590( 8' 6")     |
| Track gauge                           | M                                 | 1990( 6' 6")     |
| Track shoe width, standard            | N                                 | 600(24")         |
| Travel speed(Low/high)                | km/hr(mph)                        | 3.7/5.6(2.3/3.5) |
| Swing speed                           | rpm                               | 12.1             |
| Gradeability                          | Degree(%)                         | 30(58)           |
| Ground pressure(600mm shoe)           | kgf/cm <sup>2</sup> (psi)         | 0.42(5.97)       |

**2) 5.1m(16' 9") HYDRAULIC ADJUSTABLE BOOM, 2.6m(8' 6") ARM**

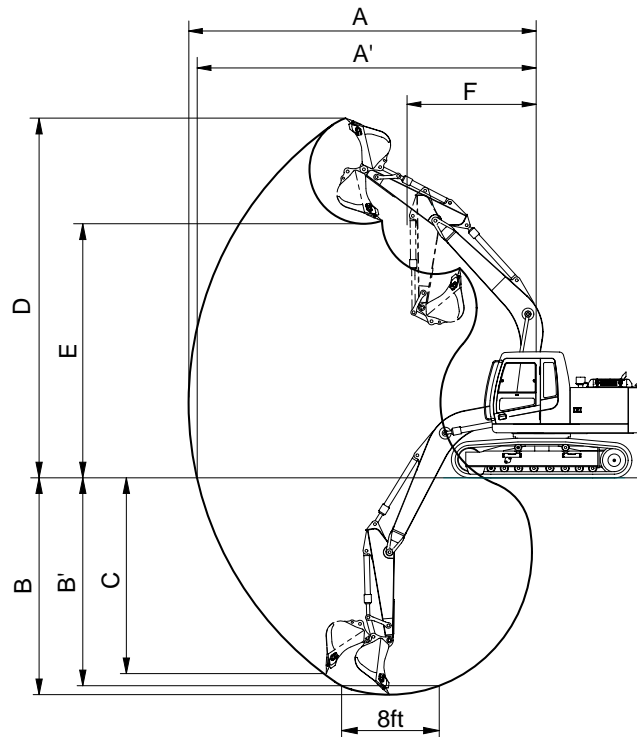


16072SP03

| Description                           |    | Unit                              | Specification    |
|---------------------------------------|----|-----------------------------------|------------------|
| Operating weight                      |    | kg(lb)                            | 17400(38360)     |
| Bucket capacity(SAE heaped), standard |    | m <sup>3</sup> (yd <sup>3</sup> ) | 0.70(0.92)       |
| Overall length                        | A  | mm(ft-in)                         | 8570(28' 1")     |
| Overall width, with 600mm shoe        | B  |                                   | 2590( 8' 6")     |
| Overall height                        | C  |                                   | 2820( 9' 3")     |
| Superstructure width                  | D  |                                   | 2475( 8' 1")     |
| Overall height of cab                 | E  |                                   | 2915( 9' 7")     |
| Ground clearance of counterweight     | F  |                                   | 1035( 3' 5")     |
| Engine cover height                   | G  |                                   | 2295( 7' 6")     |
| Minimum ground clearance              | H  |                                   | 460( 1' 6")      |
| Rear-end distance                     | I  |                                   | 2530( 8' 4")     |
| Rear-end swing radius                 | I' |                                   | 2480( 8' 2")     |
| Distance between tumbler              | J  |                                   | 3190(10' 6")     |
| Undercarriage length                  | K  |                                   | 3980(13' 1")     |
| Undercarriage width                   | L  |                                   | 2590( 8' 6")     |
| Track gauge                           | M  |                                   | 1990( 6' 6")     |
| Track shoe width, standard            | N  |                                   | 600(24")         |
| Travel speed(Low/high)                |    | km/hr(mph)                        | 3.7/5.6(2.3/3.5) |
| Swing speed                           |    | rpm                               | 12.1             |
| Gradeability                          |    | Degree(%)                         | 30(58)           |
| Ground pressure(600mm shoe)           |    | kgf/cm <sup>2</sup> (psi)         | 0.42(5.97)       |

### 3. WORKING RANGE

#### 1) 5.1m(16' 9") MONO BOOM

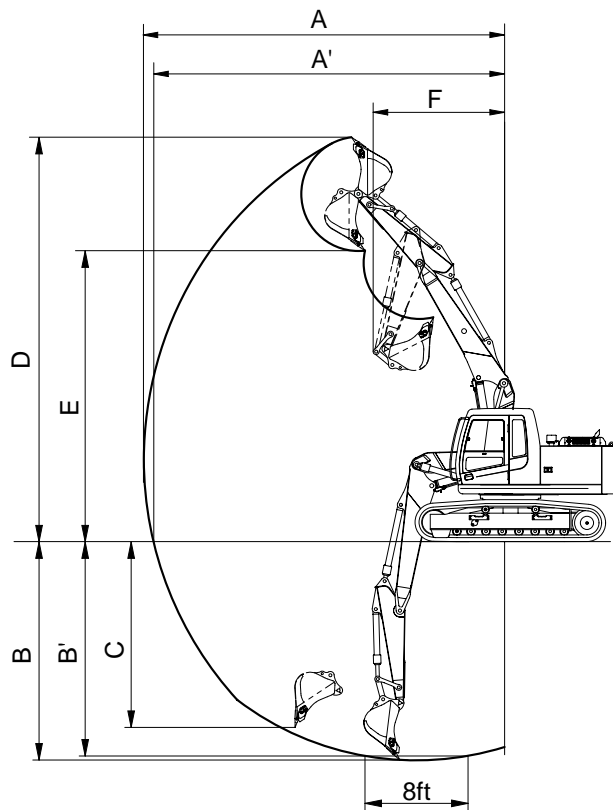


18072SP03

| Description                     |     | 2.2m(7' 3") Arm  | 2.6m(8' 6") Arm   | 3.1m(10' 2") Arm  |
|---------------------------------|-----|------------------|-------------------|-------------------|
| Max digging reach               | A   | 8690mm (28' 6")  | 9030mm (29' 8")   | 9450mm (31' 0")   |
| Max digging reach on ground     | A'  | 8530mm (27'12")  | 8870mm (29' 1")   | 9300mm (30' 6")   |
| Max digging depth               | B   | 5660mm (18' 7")  | 6060mm (19'11")   | 6560mm (21' 6")   |
| Max digging depth (8ft level)   | B'  | 5440mm (17'10")  | 5860mm (19' 3")   | 6370mm (20'11")   |
| Max vertical wall digging depth | C   | 5140mm (16'10")  | 5440mm (17'10")   | 5730mm (18'10")   |
| Max digging height              | D   | 8740mm (28' 8")  | 8870mm (29' 1")   | 8970mm (29' 5")   |
| Max dumping height              | E   | 6100mm (20' 0")  | 6240mm (20' 6")   | 6380mm (20'11")   |
| Min swing radius                | F   | 3180mm (10' 5")  | 3170mm (10' 5")   | 3180mm (10' 5")   |
| Bucket digging force            | SAE | 108.6 [118.4]kN  | 108.6 [118.4] kN  | 108.6 [118.4] kN  |
|                                 |     | 11070 [12080]kgf | 11070 [12080] kgf | 11070 [12080] kgf |
|                                 |     | 24410 [26630]lbf | 24410 [26630] lbf | 24410 [26630] lbf |
|                                 | ISO | 124.5 [135.9]kN  | 124.5 [135.9] kN  | 124.5 [135.9] kN  |
|                                 |     | 12700 [13850]kgf | 12700 [13850] kgf | 12700 [13850] kgf |
|                                 |     | 28000 [30550]lbf | 28000 [30550] lbf | 28000 [30550] lbf |
| Arm digging force               | SAE | 85.2 [93.0]kN    | 75.0 [81.8] kN    | 67.4 [73.5] kN    |
|                                 |     | 8690 [9480]kgf   | 7650 [8350] kgf   | 6870 [7490] kgf   |
|                                 |     | 19160 [20900]lbf | 16870 [18400] lbf | 15150 [16530] lbf |
|                                 | ISO | 89.0 [97.1]kN    | 77.6 [84.6] kN    | 69.4 [75.7] kN    |
|                                 |     | 9080 [9910]kgf   | 7910 [8630] kgf   | 7080 [7720] kgf   |
|                                 |     | 20020 [21840]lbf | 17440 [19030] lbf | 15610 [17030] lbf |

[ ] : Power boost

## 2) 5.1m(16' 9") HYDRAULIC ADJUSTABLE BOOM



18072SP04

| Description                     |     | 2.2m(7' 3") Arm  | 2.6m(8' 6") Arm   |
|---------------------------------|-----|------------------|-------------------|
| Max digging reach               | A   | 8750mm (28' 8")  | 9110mm (29'11")   |
| Max digging reach on ground     | A'  | 8600mm (28' 3")  | 8960mm (29' 5")   |
| Max digging depth               | B   | 5460mm (17'11")  | 5830mm (19' 2")   |
| Max digging depth (8ft level)   | B'  | 5350mm (17' 7")  | 5750mm (18'10")   |
| Max vertical wall digging depth | C   | 4670mm (15' 4")  | 5030mm (16' 6")   |
| Max digging height              | D   | 9390mm (30'10")  | 9600mm (31' 6")   |
| Max dumping height              | E   | 6680mm (21'11")  | 6900mm (22' 8")   |
| Min swing radius                | F   | 3130mm (10' 3")  | 2970mm ( 9' 9")   |
| Bucket digging force            | SAE | 108.6 [118.4]kN  | 108.6 [118.4] kN  |
|                                 |     | 11070 [12080]kgf | 11070 [12080] kgf |
|                                 |     | 24410 [26630]lbf | 24410 [26630] lbf |
|                                 | ISO | 124.5 [135.9]kN  | 124.5 [135.9] kN  |
|                                 |     | 12700 [13850]kgf | 12700 [13850] kgf |
|                                 |     | 28000 [30550]lbf | 28000 [30550] lbf |
| Arm digging force               | SAE | 85.2 [93.0]kN    | 75.0 [81.8] kN    |
|                                 |     | 8690 [9480]kgf   | 7650 [8350] kgf   |
|                                 |     | 19160 [20900]lbf | 16870 [18400] lbf |
|                                 | ISO | 89.0 [97.1]kN    | 77.6 [84.6] kN    |
|                                 |     | 9080 [9910]kgf   | 7910 [8630] kgf   |
|                                 |     | 20020 [21840]lbf | 17440 [19030] lbf |

[ ] : Power boost

#### 4. WEIGHT

| Item  | kg   | lb    |
|---|------|-------|
| Upperstructure assembly   | 7480 | 16490 |
| Main frame weld assembly  | 1400 | 3090  |
| Engine assembly   | 350  | 770   |
| Main pump assembly  | 90   | 200   |
| Main control valve assembly   | 80   | 180   |
| Swing motor assembly  | 250  | 550   |
| Hydraulic oil tank assembly   | 180  | 400   |
| Fuel tank assembly  | 140  | 310   |
| Counterweight   | 2950 | 6500  |
| Cab assembly  | 310  | 680   |
| Lower chassis assembly  | 6900 | 15210 |
| Track frame weld assembly   | 2030 | 4480  |
| Swing bearing   | 260  | 570   |
| Travel motor assembly   | 240  | 530   |
| Turning joint   | 50   | 120   |
| Track recoil spring   | 140  | 600   |
| Idler   | 160  | 370   |
| Carrier roller  | 20   | 45    |
| Track roller  | 50   | 120   |
| Track-chain assembly(600mm standard triple grouser shoe)                            | 1180 | 2600  |
| Front attachment assembly(5.1m boom, 2.6m arm, 0.7m <sup>3</sup> SAE heaped bucket) | 3020 | 6660  |
| 5.1m boom assembly  | 1250 | 2760  |
| 2.6m arm assembly   | 800  | 1760  |
| 0.7m <sup>3</sup> SAE heaped bucket   | 540  | 1190  |
| Boom cylinder assembly  | 160  | 350   |
| Arm cylinder assembly   | 180  | 400   |
| Bucket cylinder assembly  | 140  | 310   |
| Bucket control link assembly  | 120  | 265   |











## 5. LIFTING CAPACITIES

### 1) R160LC-7

(1) 5.1m(16' 9") boom, 2.2m(7' 3") arm equipped with 0.7m<sup>3</sup>(SAE heaped) bucket and 600mm(24") triple grouser shoe.













•  : Rating over-front

•  : Rating over-side or 360 degree













| Load point height |          | Load radius   |   |   |   |   |   |   |   | At max. reach   |   |                |
|-------------------|----------|---|---|---|---|---|---|---|---|---|---|----------------|
|                   |          | 1.5m(5ft)   |   | 3.0m(10ft)  |   | 4.5m(15ft)  |   | 6.0m(20ft)  |   | Capacity  |   | Reach          |
|                   |          |  |  |  |  |  |  |  |  |  |  | m(ft)          |
| 7.5m<br>(25ft)    | kg<br>lb |   |   |   |   |   |   |   |   | *3400<br>*7500  | 3380<br>7450  | 5.81<br>(19.1) |
| 6.0m<br>(20ft)    | kg<br>lb |   |   |   |   |   |   |   |   | *3340<br>*7360  | 2300<br>5070  | 7.16<br>(23.5) |
| 4.5m<br>(15ft)    | kg<br>lb |   |   |   |   | *4260<br>*9390  | *4260<br>*9390  | *3820<br>*8420  | 3030<br>6680  | 3120<br>6880  | 1860<br>4100  | 7.92<br>(26.0) |
| 3.0m<br>(10ft)    | kg<br>lb |   |   | *8470<br>*18670   | *8470<br>*18670   | *5390<br>*11880   | 4580<br>10100   | *4280<br>*9440  | 2890<br>6370  | 2830<br>6240  | 1660<br>3660  | 8.30<br>(27.2) |
| 1.5m<br>(5ft)     | kg<br>lb |   |   |   |   | *6540<br>*14420   | 4220<br>9300  | 4640<br>10230   | 2740<br>6040  | 2760<br>6080  | 1600<br>3530  | 8.34<br>(27.4) |
| Ground<br>Line    | kg<br>lb |   |   | *6700<br>*14770   | *6700<br>*14770   | 7130<br>15720   | 4010<br>8840  | 4510<br>9940  | 2620<br>5780  | 2890<br>6370  | 1680<br>3700  | 8.06<br>(26.4) |
| -1.5m<br>(-5ft)   | kg<br>lb | *6610<br>*14570   | *6610<br>*14570   | *10490<br>*23130  | 7530<br>16600   | 7060<br>15560   | 3950<br>8710  | 4460<br>9830  | 2570<br>5670  | 3300<br>7280  | 1930<br>4250  | 7.42<br>(24.3) |
| -3.0m<br>(-10ft)  | kg<br>lb | *10560<br>*23280  | *10560<br>*23280  | *8970<br>*19780   | 7680<br>16930   | *6210<br>*13690   | 4010<br>8840  |   |   | *3380<br>*7450  | 2570<br>5670  | 6.28<br>(20.6) |
| -4.5m<br>(-15ft)  | kg<br>lb |   |   | *5840<br>*12870   | *5840<br>*12870   |   |   |   |   |   |   |                |

- Note
1. Lifting capacity are based on SAE J1097 and ISO 10567.
  2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
  3. The load point is a hook located on the back of the bucket.
  4. \*indicates load limited by hydraulic capacity.

(2) 5.1m(16' 9") boom, 2.6m(8' 6") arm equipped with 0.7m<sup>3</sup>(SAE heaped) bucket and 600mm(24") triple grouser shoe.













| Load point height |          | Load radius   |   |   |   |   |   |   |   |   |   | At max. reach   |   |                |                |
|-------------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|----------------|----------------|
|                   |          | 1.5m(5ft)   |   | 3.0m(10ft)  |   | 4.5m(15ft)  |   | 6.0m(20ft)  |   | 7.5m(25ft)  |   | Capacity  |   | Reach          |                |
|                   |          |  |  |  |  |  |  |  |  |  |  |  |  | m(ft)          |                |
| 7.5m<br>(25ft)    | kg<br>lb |   |   |   |   |   |   |   |   |   |   |   | *3080<br>*6790  | 2940<br>6480   | 6.33<br>(20.8) |
| 6.0m<br>(20ft)    | kg<br>lb |   |   |   |   |   |   | *2760<br>*6080  | *2760<br>6080   |   |   |   | *3070<br>*6770  | 2090<br>4610   | 7.56<br>(24.8) |
| 4.5m<br>(15ft)    | kg<br>lb |   |   |   |   |   |   | *3500<br>*7720  | 3050<br>6720  |   |   |   | 2880<br>6350  | 1710<br>3770   | 8.28<br>(27.2) |
| 3.0m<br>(10ft)    | kg<br>lb |   |   | *7360<br>*16230   | *7360<br>*16230   | *4940<br>*10890   | 4630<br>10210   | *4000<br>*8820  | 2900<br>6390  | *2560<br>*5640  | 1940<br>4280  | 2630<br>5800  | 1520<br>3350  | 8.64<br>(28.3) |                |
| 1.5m<br>(5ft)     | kg<br>lb |   |   | *7670<br>*16910   | *7670<br>*16910   | *6190<br>*13650   | 4250<br>9370  | *4570<br>*10080   | 2720<br>6000  | 3220<br>7100  | 1870<br>4120  | 2560<br>5640  | 1470<br>3240  | 8.68<br>(28.5) |                |
| Ground<br>Line    | kg<br>lb |   |   | *7420<br>*16360   | *7420<br>*16360   | *6980<br>*15390   | 3990<br>8800  | 4480<br>9880  | 2590<br>5710  | 3150<br>6940  | 1810<br>3990  | 2660<br>5860  | 1520<br>3350  | 8.42<br>(27.6) |                |
| -1.5m<br>(-5ft)   | kg<br>lb | *6300<br>*13890   | *6300<br>*13890   | *10000<br>*22050  | 7410<br>16340   | 6990<br>15410   | 3890<br>8580  | 4400<br>9700  | 2520<br>5560  |   |   | 3000<br>6610  | 1730<br>3810  | 7.81<br>(25.6) |                |
| -3.0m<br>(-10ft)  | kg<br>lb | *9330<br>*20570   | *9330<br>*20570   | *9580<br>*21120   | 7530<br>16600   | *6480<br>*14290   | 3910<br>8620  | 4430<br>9770  | 2540<br>5600  |   |   | *3370<br>*7430  | 2230<br>4920  | 6.75<br>(22.1) |                |
| -4.5m<br>(-15ft)  | kg<br>lb |   |   | *6950<br>*15320   | *6950<br>*15320   | *4610<br>*10160   | 4090<br>9020  |   |   |   |   |   |   |                |                |

(3) 5.1m(16' 9") boom, 3.1m(11' 1") arm equipped with 0.7m<sup>3</sup>(SAE heaped) bucket and 600mm(24") triple grouser shoe.













| Load point height |          | Load radius   |   |   |   |   |   |   |   |   |   | At max. reach   |   |                |                |
|-------------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|----------------|----------------|
|                   |          | 1.5m(5ft)   |   | 3.0m(10ft)  |   | 4.5m(15ft)  |   | 6.0m(20ft)  |   | 7.5m(25ft)  |   | Capacity  |   | Reach          |                |
|                   |          |  |  |  |  |  |  |  |  |  |  |  |  | m(ft)          |                |
| 7.5m<br>(25ft)    | kg<br>lb |   |   |   |   |   |   |   |   |   |   |   | *2730<br>*6020  | 2520<br>5560   | 6.92<br>(22.7) |
| 6.0m<br>(20ft)    | kg<br>lb |   |   |   |   |   |   | *2640<br>*5820  | *2640<br>*5820  |   |   |   | *2760<br>*6080  | 1850<br>4080   | 8.05<br>(26.4) |
| 4.5m<br>(15ft)    | kg<br>lb |   |   |   |   |   |   | *3110<br>*6860  | 3080<br>6790  | *1940<br>*4280  | *1940<br>*4280  | 2630<br>5800  | 1530<br>3370  | 8.73<br>(28.6) |                |
| 3.0m<br>(10ft)    | kg<br>lb |   |   |   |   | *4380<br>*9660  | *4380<br>*9660  | *3640<br>*8020  | 2920<br>6440  | *2840<br>*6260  | 1940<br>4280  | 2410<br>5310  | 1370<br>3020  | 9.06<br>(29.7) |                |
| 1.5m<br>(5ft)     | kg<br>lb |   |   | *9510<br>*20970   | 8060<br>17770   | *5730<br>*12630   | 4300<br>9480  | *4290<br>*9460  | 2720<br>6000  | 3200<br>7050  | 1850<br>4080  | 2340<br>5160  | 1310<br>2890  | 9.10<br>(29.9) |                |
| Ground<br>Line    | kg<br>lb |   |   | *8210<br>*18100   | 7460<br>16450   | *6710<br>*14790   | 3900<br>8800  | 4460<br>9830  | 2560<br>5640  | 3120<br>6880  | 1770<br>3900  | 2420<br>5340  | 1350<br>2980  | 8.85<br>(29.0) |                |
| -1.5m<br>(-5ft)   | kg<br>lb | *5960<br>*13140   | *5960<br>*13140   | *9730<br>*21450   | 7320<br>16140   | 6940<br>15300   | 3830<br>8440  | 4350<br>9590  | 2470<br>5450  | *2970<br>*6550  | 1730<br>3810  | 2680<br>5910  | 1510<br>3330  | 8.28<br>(27.2) |                |
| -3.0m<br>(-10ft)  | kg<br>lb | *8420<br>*18560   | *8420<br>*18560   | *10150<br>*22380  | 7380<br>16270   | *6700<br>*14770   | 3820<br>8420  | 4340<br>9570  | 2450<br>5400  |   |   | *3290<br>*7250  | 1900<br>4190  | 7.30<br>(24.0) |                |
| -4.5m<br>(-15ft)  | kg<br>lb | *11640<br>*25660  | *11640<br>*25660  | *8040<br>*17730   | 7600<br>16760   | *5380<br>*11860   | 3930<br>8660  |   |   |   |   |   |   |                |                |



(4) 5.1m(16' 9") hydraulic adjustable boom, 2.2m(7' 3") arm equipped with 0.7m<sup>3</sup>(SAE heaped) bucket and 600mm(24") triple grouser shoe.

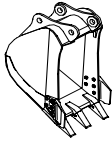
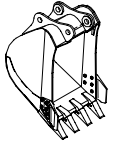
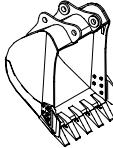
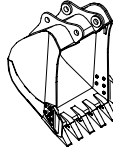
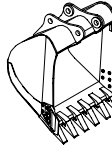
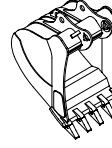
| Load point height |          | Load radius   |   |   |   |   |   |   |   |   |   | At max. reach   |   |                |
|-------------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|----------------|
|                   |          | 1.5m(5ft)   |   | 3.0m(10ft)  |   | 4.5m(15ft)  |   | 6.0m(20ft)  |   | 7.5m(25ft)  |   | Capacity  |   | Reach          |
|                   |          |  |  |  |  |  |  |  |  |  |  |  |  | m(ft)          |
| 6.0m<br>(20ft)    | kg<br>lb |   |   |   |   |   |   |   |   |   |   | *3390<br>*7470  | 2230<br>4920  | 7.24<br>(23.8) |
| 4.5m<br>(15ft)    | kg<br>lb |   |   |   |   |   | *3860<br>*8510  | 3020<br>6660  |   |   |   | 3080<br>6790  | 1810<br>3990  | 7.99<br>(26.2) |
| 3.0m<br>(10ft)    | kg<br>lb |   |   |   |   | *5440<br>*11990   | 4570<br>10080   | *4280<br>*9440  | 2880<br>6350  |   |   | 2800<br>6170  | 1610<br>3550  | 8.36<br>(27.4) |
| 1.5m<br>(5ft)     | kg<br>lb |   |   |   |   | *6500<br>*14330   | 4190<br>9240  | 4660<br>10270   | 2710<br>5970  | *3240<br>*7140  | 1860<br>4100  | 2730<br>6020  | 1560<br>3440  | 8.41<br>(27.6) |
| Ground<br>Line    | kg<br>lb |   |   | *5860<br>*12920   | *5860<br>*12920   | *7040<br>*15520   | 3960<br>8730  | 4520<br>9960  | 2590<br>5710  |   |   | 2860<br>6310  | 1630<br>3590  | 8.13<br>(24.6) |
| -1.5m<br>(-5ft)   | kg<br>lb | *5850<br>*12900   | *5850<br>*12900   | *9740<br>*21470   | 7460<br>16450   | *6890<br>*15190   | 3900<br>8600  | 4480<br>9880  | 2540<br>5600  |   |   | 3270<br>7210  | 1890<br>4170  | 7.50<br>(24.6) |
| -3.0m<br>(-10ft)  | kg<br>lb |   |   | *8500<br>*18740   | 7650<br>16870   | *5940<br>*13100   | 3980<br>8770  |   |   |   |   | *2930<br>*6460  | 2530<br>5580  | 6.37<br>(20.9) |

(5) 5.1m(16' 9") hydraulic adjustable boom, 2.6m(8' 6") arm equipped with 0.7m<sup>3</sup>(SAE heaped) bucket and 600mm(24") triple grouser shoe.

| Load point height |          | Load radius   |   |   |   |   |   |   |   |   |   | At max. reach   |   |                |
|-------------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|----------------|
|                   |          | 1.5m(5ft)   |   | 3.0m(10ft)  |   | 4.5m(15ft)  |   | 6.0m(20ft)  |   | 7.5m(25ft)  |   | Capacity  |   | Reach          |
|                   |          |  |  |  |  |  |  |  |  |  |  |  |  | m(ft)          |
| 6.0m<br>(20ft)    | kg<br>lb |   |   |   |   |   |   |   |   |   |   | *3120<br>*6880  | 2010<br>4430  | 7.66<br>(25.1) |
| 4.5m<br>(15ft)    | kg<br>lb |   |   |   |   |   |   |   |   |   |   | 2850<br>6280  | 1640<br>3620  | 8.37<br>(27.5) |
| 3.0m<br>(10ft)    | kg<br>lb |   |   |   |   |   |   | *4020<br>*8860  | 2890<br>6370  | *2940<br>*6480  | 1920<br>4230  | 2600<br>5730  | 1470<br>3240  | 8.72<br>(28.6) |
| 1.5m<br>(5ft)     | kg<br>lb |   |   | *6640<br>*14640   | *6640<br>*14640   | *6170<br>*13600   | 4220<br>9300  | *4550<br>*10030   | 2700<br>5950  | 3250<br>7170  | 1840<br>4060  | 2540<br>5600  | 1420<br>3130  | 8.77<br>(28.8) |
| Ground<br>Line    | kg<br>lb |   |   | *6650<br>*14660   | *6650<br>*14660   | *6880<br>*15170   | 3940<br>8690  | 4510<br>9940  | 2550<br>5620  | 3180<br>7010  | 1780<br>3920  | 2650<br>5840  | 1480<br>3260  | 8.50<br>(27.9) |
| -1.5m<br>(-5ft)   | kg<br>lb | *5680<br>*12520   | *5680<br>*12520   | *9340<br>*20590   | 7340<br>16180   | *6930<br>*15280   | 3840<br>8470  | 4440<br>9790  | 2480<br>5470  |   |   | 2980<br>6570  | 1680<br>3700  | 7.90<br>(25.9) |
| -3.0m<br>(-10ft)  | kg<br>lb | *8890<br>*19600   | *8890<br>*19600   | *9150<br>*20170   | 7480<br>16490   | *6240<br>*13760   | 3880<br>8550  | *4340<br>*9570  | 2520<br>5560  |   |   | *2970<br>*6550  | 2180<br>4810  | 6.86<br>(22.5) |
| -4.5m<br>(-15ft)  | kg<br>lb |   |   | *6330<br>*13960   | *6330<br>*13960   | *4220<br>*9300  | 4080<br>8990  |   |   |   |   |   |   |                |

## 6. BUCKET SELECTION GUIDE


### 1) GENERAL BUCKET


|   |   |   |   |   |   |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| 0.39m <sup>3</sup> SAE<br>heaped bucket   | 0.50m <sup>3</sup> SAE<br>heaped bucket   | 0.64m <sup>3</sup> SAE<br>heaped bucket   | 0.70m <sup>3</sup> SAE<br>heaped bucket   | 0.89m <sup>3</sup> SAE<br>heaped bucket   | 0.69m <sup>3</sup> SAE<br>heaped bucket   |


| Capacity                                     |  | Width                  |                     | Weight            | Recommendation             |                     |                      |  |                     |
|--|--|------------------------|---------------------|-------------------|----------------------------|---------------------|----------------------|--|---------------------|
|  |  |                        |                     |                   | 5.1m (16' 9")<br>Mono boom |                     |                      | 5.1m (16' 9")<br>Hydraulic adjustable boom |                     |
| SAE<br>heaped                                | CECE<br>heaped                               | Without<br>side cutter | With<br>side cutter |                   | 2.0m arm<br>(7' 3")        | 2.6m arm<br>(8' 6") | 3.1m arm<br>(10' 2") | 2.2m arm<br>(7' 3")                        | 2.6m arm<br>(8' 6") |
| 0.39m <sup>3</sup><br>(0.51yd <sup>3</sup> ) | 0.34m <sup>3</sup><br>(0.44yd <sup>3</sup> ) | 620mm<br>(24.4")       | 740mm<br>(29.1")    | 410kg<br>(900lb)  |                            |                     |                      |  |                     |
| 0.50m <sup>3</sup><br>(0.65yd <sup>3</sup> ) | 0.44m <sup>3</sup><br>(0.58yd <sup>3</sup> ) | 760mm<br>(29.9")       | 880mm<br>(34.6")    | 470kg<br>(1040lb) |                            |                     |                      |  |                     |
| 0.64m <sup>3</sup><br>(0.84yd <sup>3</sup> ) | 0.55m <sup>3</sup><br>(0.72yd <sup>3</sup> ) | 920mm<br>(36.2")       | 1040mm<br>(40.9")   | 510kg<br>(1120lb) |                            |                     |                      |  |                     |
| 0.70m <sup>3</sup><br>(0.92yd <sup>3</sup> ) | 0.60m <sup>3</sup><br>(0.78yd <sup>3</sup> ) | 990mm<br>(39.0")       | 1110mm<br>(43.7")   | 540kg<br>(1190lb) |                            |                     |                      |  |                     |
| 0.89m <sup>3</sup><br>(1.16yd <sup>3</sup> ) | 0.77m <sup>3</sup><br>(1.01yd <sup>3</sup> ) | 1220mm<br>(48.0")      | 1340mm<br>(52.8")   | 610kg<br>(1340lb) |                            |                     |                      |  |                     |
| 0.69m <sup>3</sup><br>(0.9yd <sup>3</sup> )  | 0.62m <sup>3</sup><br>(0.81yd <sup>3</sup> ) | 990mm<br>(39.0")       | -                   | 700kg<br>(1540lb) |                            |                     |                      |  |                     |

: Standard bucket

: Heavy duty bucket

 Applicable for materials with density of 2000kg/m<sup>3</sup> (3370lb/yd<sup>3</sup>) or less

 Applicable for materials with density of 1600kg/m<sup>3</sup> (2700lb/yd<sup>3</sup>) or less

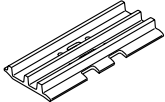
 Applicable for materials with density of 1100kg/m<sup>3</sup> (1850lb/yd<sup>3</sup>) or less

## 7. UNDERCARRIAGE

### 1) TRACKS

X-leg type center frame is integrally welded with reinforced box-section track frames. The design includes dry tracks, lubricated rollers, idlers, sprockets, hydraulic track adjusters with shock absorbing springs and assembled track-type tractor shoes with triple grousers.

### 2) TYPES OF SHOES

| Model    | Shapes           |                           | Triple grouser   |              |              |
|----------|------------------|---------------------------|--|--------------|--------------|
|          |                  |                           |  |              |              |
| R160LC-7 | Shoe width       | mm(in)                    | 500(20)  | 600(24)      | 700(28)      |
|          | Operating weight | kg(lb)                    | 17150(37810)   | 17400(38360) | 17650(38910) |
|          | Ground pressure  | kgf/cm <sup>2</sup> (psi) | 0.50(7.11)   | 0.42(5.97)   | 0.37(5.26)   |
|          | Overall width    | mm(ft-in)                 | 2490(8' 2")  | 2590(8' 6")  | 2690(8'10")  |

### 3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

| Item            | Quantity |
|-----------------|----------|
| Carrier rollers | 2EA      |
| Track rollers   | 7EA      |
| Track shoes     | 49EA     |

### 4) SELECTION OF TRACK SHOE

Suitable track shoes should be selected according to operating conditions.

#### Method of selecting shoes

Confirm the category from the list of applications in **table 2**, then use **table 1** to select the shoe. Wide shoes(Categories B and C) have limitations on applications. Before using wide shoes, check the precautions, then investigate and study the operating conditions to confirm if these shoes are suitable.

Select the narrowest shoe possible to meet the required flotation and ground pressure. Application of wider shoes than recommendations will cause unexpected problem such as bending of shoes, crack of link, breakage of pin, loosening of shoe bolts and the other various problems.

**Table 1**

| Track shoe           | Specification | Category |
|----------------------|---------------|----------|
| 500mm triple grouser | Option        | A        |
| 600mm triple grouser | Standard      | A        |
| 700mm triple grouser | Option        | B        |

**Table 2**

| Category | Applications                                | Precautions   |
|----------|---|---|
| A        | Rocky ground,<br>river beds,<br>normal soil | <ul style="list-style-type: none"><li>• Travel at low speed on rough ground with large obstacles such as boulders or fallen trees</li></ul>   |
| B        | Normal soil,<br>soft ground                 | <ul style="list-style-type: none"><li>• These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees</li><li>• Travel at high speed only on flat ground</li><li>• Travel slowly at low speed if it is impossible to avoid going over obstacles</li></ul>  |
| C        | Extremely soft ground<br>(Swampy ground)    | <ul style="list-style-type: none"><li>• Use the shoes only in the conditions that the machine sinks and it is impossible to use the shoes of category A or B</li><li>• These shoes cannot be used on rough ground with large obstacles such as boulders or fallen trees</li><li>• Travel at high speed only on flat ground</li><li>• Travel slowly at low speed if it is impossible to avoid going over obstacles</li></ul> |

## 8. SPECIFICATIONS FOR MAJOR COMPONENTS

### 1) ENGINE

| Item                                | Specification                                    |
|-------------------------------------|--|
| Model                               | Mitsubishi S6S-DT                                |
| Type                                | 4-cycle turbocharged diesel engine, low emission |
| 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              | 94 x 120mm(3.70" x 4.72")                        |
| Piston displacement                 | 4996cc(305cu in)                                 |
| Compression ratio                   | 19.5 : 1   |
| Rated gross horse power(SAE J1349)  | 126Hp at 2100rpm(94kW at 2100rpm)                |
| Maximum torque at 1500rpm           | 42.5kgf · m(307lbf · ft)                         |
| Engine oil quantity                 | 16.5 (4.4U.S. gal)                               |
| Dry weight                          | 355kg(783lb)                                     |
| High idling speed                   | 2200+ 50rpm                                      |
| Low idling speed                    | 950 ± 100rpm                                     |
| Rated fuel consumption              | 169.3g/Hp · hr at 2100rpm                        |
| Starting motor                      | Mitsubishi 24V-5.0kW                             |
| Alternator                          | Mitsubishi 24V-5.0A                              |
| Battery                             | 2 x 12V x 100Ah                                  |

### 2) MAIN PUMP

| Item             | Specification   |
|------------------|---|
| Type             | Variable displacement tandem axis piston pumps                      |
| Capacity         | 2 x 80cc/rev  |
| Maximum pressure | 330kgf/cm <sup>2</sup> (4694psi) [360kgf/cm <sup>2</sup> (5120psi)] |
| Rated oil flow   | 2 x 168 /min (44.3U.S. gpm/ 40U.K. gpm)                             |
| Rated speed      | 2100rpm   |

[ ]: Poer boost

### 3) GEAR PUMP

| Item             | Specification                             |
|------------------|---|
| Type             | Fixed displacement gear pump single stage |
| Capacity         | 15cc/rev                                  |
| Maximum pressure | 35kgf/cm <sup>2</sup> (500psi)            |
| Rated oil flow   | 31.5 /min(8.3U.S. gpm/7.0U.K. gpm)        |

### 4) MAIN CONTROL VALVE

| Item                           | Specification   |
|--------------------------------|---|
| Type                           | 11 spools mono-block  |
| Operating method               | Hydraulic pilot system  |
| Main relief valve pressure     | 330kgf/cm <sup>2</sup> (4695psi) [360kgf/cm <sup>2</sup> (5120psi)] |
| Overload relief valve pressure | 380kgf/cm <sup>2</sup> (5550psi)                                    |

[ ]: Poer boost

### 5) SWING MOTOR

| Item                   | Specification                                |
|------------------------|--|
| Type                   | Two fixed displacement axial piston motor    |
| Capacity               | 117.8cc/rev                                  |
| Relief pressure        | 240kgf/cm <sup>2</sup> (3414psi)             |
| Braking system         | Automatic, spring applied hydraulic released |
| Braking torque         | 56kgf · m(405lb · ft)                        |
| Brake release pressure | 20kgf/cm <sup>2</sup> (284psi)               |
| Reduction gear type    | 2 - stage planetary                          |
| Swing speed            | 12.1rpm                                      |

### 6) TRAVEL MOTOR

| Item                   | Specification                                |
|------------------------|--|
| Type                   | Variable displacement axial piston motor     |
| Relief pressure        | 330kgf/cm <sup>2</sup> (4695psi)             |
| Reduction gear type    | Planetary & differential type                |
| Braking system         | Automatic, spring applied hydraulic released |
| Brake release pressure | 6kgf/cm <sup>2</sup> (85psi)                 |
| Braking torque         | 40.6kgf · m(294lb · 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 x Rod dia x Stroke | Ø115 x Ø80 x 1090mm |
|                 | Cushion                     | Extend only         |
| Arm cylinder    | Bore dia x Rod dia x Stroke | Ø120 x Ø85 x 1340mm |
|                 | Cushion                     | Extend and retract  |
| Bucket cylinder | Bore dia x Rod dia x Stroke | Ø115 x Ø80 x 950mm  |
|                 | 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   |
|----------|----------|------------|-----------------------------------|---------------|-----------------|
| R160LC-7 | Option   | 500mm(20") | 0.50kgf/cm <sup>2</sup> (7.11psi) | 49            | 2490mm( 8' 2")  |
|          | Standard | 600mm(24") | 0.42kgf/cm <sup>2</sup> (5.97psi) | 49            | 2590mm( 8' 6")  |
|          | Option   | 700mm(28") | 0.37kgf/cm <sup>2</sup> (5.26psi) | 49            | 2690mm( 8' 10") |

## 10) BUCKET

| Item     |     | Capacity                                  |   | Tooth quantity                            | Width               |                  |               |
|----------|-----|---|---|---|---------------------|------------------|---------------|
|          |     | SAE heaped                                | CECE heaped                               |   | Without side cutter | With side cutter |               |
| R160LC-7 | STD | 0.70m <sup>3</sup> (0.92yd <sup>3</sup> ) | 0.60m <sup>3</sup> (0.78yd <sup>3</sup> ) | 5   | 990mm(39.0")        | 1110mm(43.7")    |               |
|          | OPT |   | 0.39m <sup>3</sup> (0.51yd <sup>3</sup> ) | 0.34m <sup>3</sup> (0.44yd <sup>3</sup> ) | 3                   | 620mm(24.4")     | 740mm(29.1")  |
|          |     |   | 0.50m <sup>3</sup> (0.65yd <sup>3</sup> ) | 0.44m <sup>3</sup> (0.58yd <sup>3</sup> ) | 4                   | 760mm(29.9")     | 880mm(34.6")  |
|          |     |   | 0.64m <sup>3</sup> (0.84yd <sup>3</sup> ) | 0.55m <sup>3</sup> (0.72yd <sup>3</sup> ) | 5                   | 920mm(36.2")     | 1040mm(40.9") |
|          |     |   | 0.89m <sup>3</sup> (1.16yd <sup>3</sup> ) | 0.77m <sup>3</sup> (1.01yd <sup>3</sup> ) | 6                   | 1220mm(48.0")    | 1340mm(52.8") |
|          |     |   | 0.69m <sup>3</sup> (0.90yd <sup>3</sup> ) | 0.62m <sup>3</sup> (0.81yd <sup>3</sup> ) | 5                   | 990mm(39.0")     | -             |

: Heavy duty bucket



## 9. RECOMMENDED OILS

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

| Service point                | Kind of fluid                                    | Capacity<br>(U.S. gal)                     | Ambient temperature °C(,°F)         |             |           |            |            |            |             |
|------------------------------|--|--|-------------------------------------|-------------|-----------|------------|------------|------------|-------------|
|                              |  |  | -20<br>(-4)                         | -10<br>(14) | 0<br>(32) | 10<br>(50) | 20<br>(68) | 30<br>(86) | 40<br>(104) |
| Engine oil pan               | Engine oil                                       | 16.5(4.4)                                  | SAE 30                              |             |           |            |            |            |             |
|                              |  |  | SAE 10W                             |             |           |            |            |            |             |
|                              |  |  | SAE 10W-30                          |             |           |            |            |            |             |
|                              |  |  | SAE 15W-40                          |             |           |            |            |            |             |
| Swing drive                  | Gear oil   | 5(1.3)                                     | SAE 85W-140                         |             |           |            |            |            |             |
| Final drive                  |  | 3 × 2<br>(0.8 × 2)                         |                                     |             |           |            |            |            |             |
| Hydraulic tank               | Hydraulic oil                                    | Tank:<br>160(42.2)<br>System:<br>240(63.4) | ISO VG 32                           |             |           |            |            |            |             |
|                              |  |  | ISO VG 46                           |             |           |            |            |            |             |
|                              |  |  | ISO VG 68                           |             |           |            |            |            |             |
| Fuel tank                    | Diesel fuel                                      | 260(68.7)                                  | ASTM D975 NO.1                      |             |           |            |            |            |             |
|                              |  |  | ASTM D975 NO.2                      |             |           |            |            |            |             |
| Fitting<br>(Grease nipple)   | Grease   | As required                                | NLGI NO.1                           |             |           |            |            |            |             |
|                              |  |  | NLGI NO.2                           |             |           |            |            |            |             |
| Radiator<br>(Reservoir tank) | Mixture of<br>antifreeze<br>and water<br>50 : 50 | 30(7.9)                                    | 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