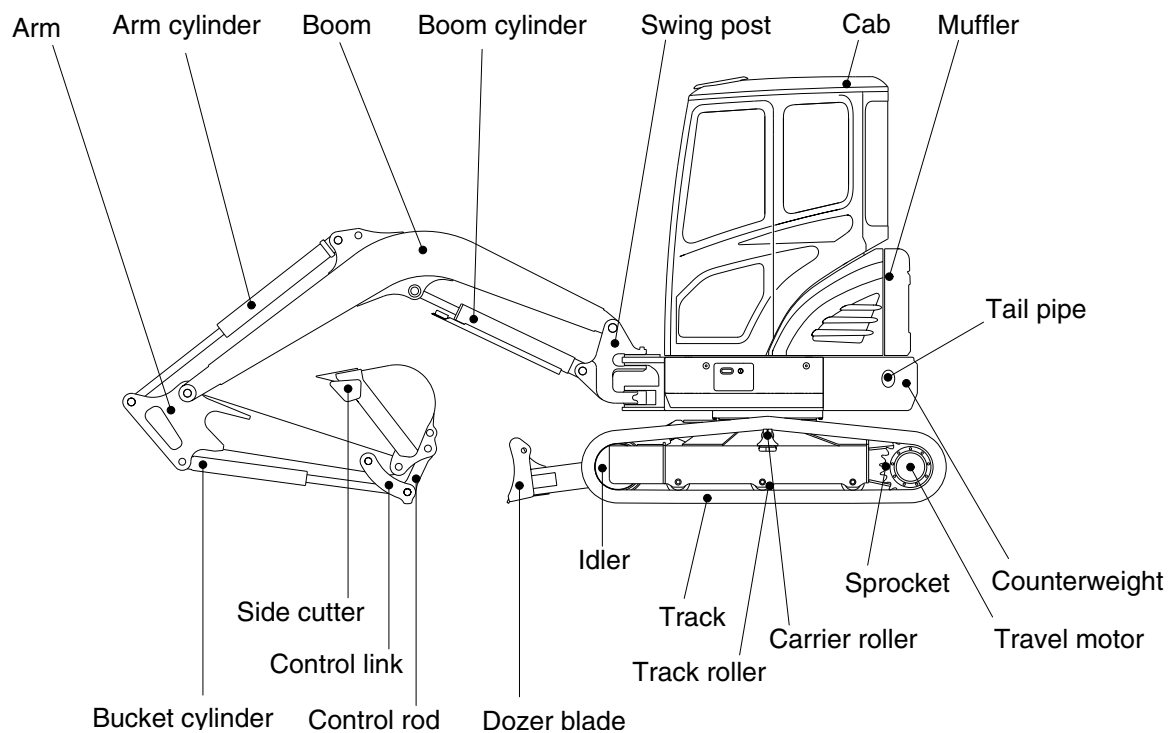
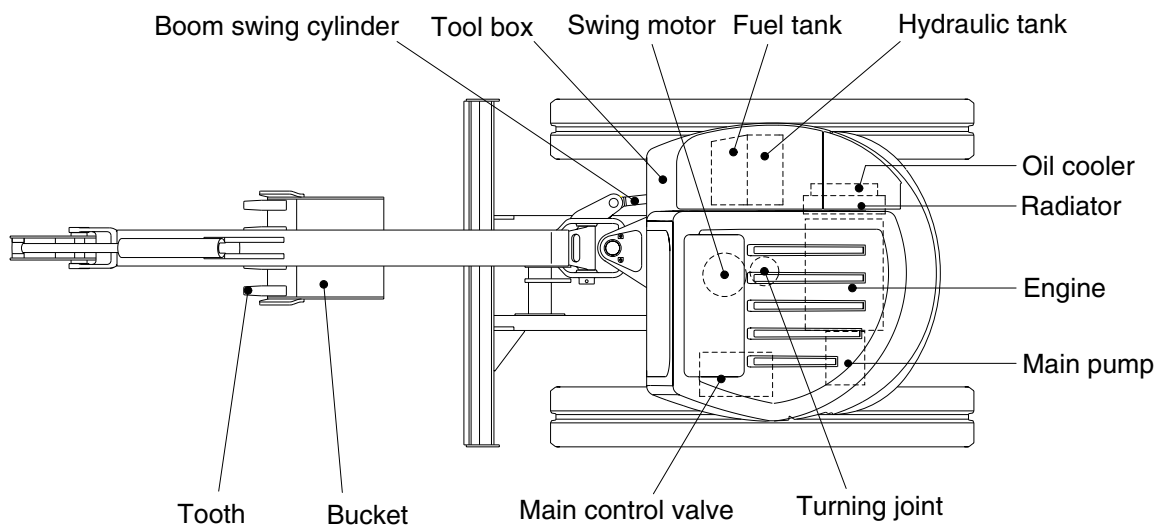


SPECIFICATIONS

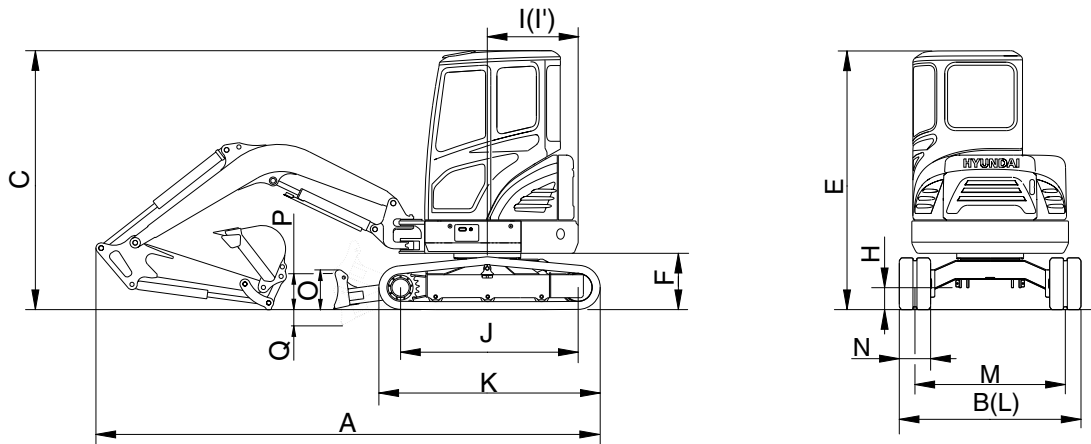
1. MAJOR COMPONENT



R27Z92SP01

2. SPECIFICATIONS

1) 2.03 m (6' 8") MONO BOOM, 1.12 m (3' 8") ARM, WITH BOOM SWING POST

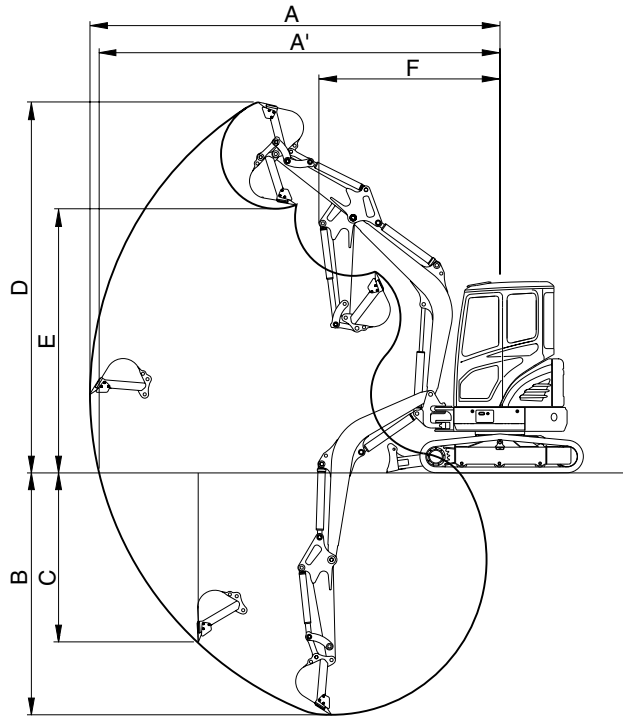


R27Z92SP02

| Description | | Unit | Specification |
|---|----|-----------------------------------|---------------------------|
| Operating weight (cabin / canopy) | | kg (lb) | 2880 (6350) / 2730 (6020) |
| Bucket capacity (SAE heaped), standard | | m ³ (yd ³) | 0.08 (0.10) |
| Overall length | A | mm (ft-in) | 4180 (13' 9") |
| Overall width, with 300 mm shoe | B | | 1550 (5' 1") |
| Overall height | C | | 2500 (8' 2") |
| Overall height of cab | E | | 2500 (8' 2") |
| Ground clearance of counterweight | F | | 540 (1' 9") |
| Minimum ground clearance | H | | 290 (0' 11") |
| Rear-end distance | I | | 775 (2' 7") |
| Rear-end swing radius | I' | | 775 (2' 7") |
| Distance between tumbler rollers | J | | 1550 (5' 1") |
| Undercarriage length | K | | 1970 (6' 6") |
| Undercarriage width | L | | 1550 (5' 1") |
| Track gauge | M | | 1250 (4' 1") |
| Track shoe width, standard | N | | 300 (12") |
| Height of blade | O | | 300 (1' 0") |
| Ground clearance of blade up | P | | 370 (1' 3") |
| Depth of blade down | Q | | 450 (1' 6") |
| Travel speed (low/high) | | km/hr (mph) | 2.4/4.4 (1.5/2.7) |
| Swing speed | | rpm | 9.0 |
| Gradeability | | Degree (%) | 30 (58) |
| Ground pressure 300 mm rubber shoe (cab / canopy) | | kgf/cm ² (psi) | 0.29 (4.12) / 0.27 (3.84) |

3. WORKING RANGE

1) 2.03 m (6' 8") MONO BOOM WITH BOOM SWING POST



R27Z92SP03

| Description | | 1.12 m (3' 8") Arm | |
|---------------------------------|-----|--------------------|--|
| Max digging reach | A | 4650 mm (15' 3") | |
| Max digging reach on ground | A' | 4515 mm (14'10") | |
| Max digging depth | B | 2500 mm (8' 2") | |
| Max vertical wall digging depth | C | 2085 mm (6'10") | |
| Max digging height | D | 4270 mm (14'10") | |
| Max dumping height | E | 2890 mm (9' 6") | |
| Min swing radius | F | 2055 mm (6' 9") | |
| Boom swing radius (left/right) | | 75°/50° | |
| Bucket digging force | SAE | 17.9 kN | |
| | | 1830 kgf | |
| | | 4030 lbf | |
| | ISO | 20.1 kN | |
| | | 2050 kgf | |
| | | 4520 lbf | |
| Arm crowd force | SAE | 13.1 kN | |
| | | 1340 kgf | |
| | | 2950 lbf | |
| | ISO | 13.7 kN | |
| | | 1400 kgf | |
| | | 3090 lbf | |

4. WEIGHT











| Item | kg | lb |
|--|------|------|
| Upperstructure assembly | 1640 | 3615 |
| Main frame weld assembly | 360 | 795 |
| Engine assembly | 136 | 300 |
| Main pump assembly | 19 | 42 |
| Main control valve assembly | 25 | 55 |
| Swing motor assembly | 34 | 75 |
| Hydraulic oil tank assembly | 50 | 110 |
| Fuel tank assembly | 30 | 70 |
| Boom swing post | 80 | 180 |
| Counterweight | 220 | 485 |
| Cab assembly | 210 | 460 |
| Lower chassis assembly | 910 | 2010 |
| Track frame weld assembly | 400 | 880 |
| Swing bearing | 50 | 110 |
| Travel motor assembly | 36 | 80 |
| Turning joint | 10 | 22 |
| Track recoil spring | 16 | 35 |
| Idler | 19 | 42 |
| Carrier roller | 3 | 7 |
| Track roller | 6 | 13 |
| Sprocket | 7 | 15 |
| Rubber track (300 mm) | 118 | 260 |
| Dozer blade assembly | 125 | 275 |
| Front attachment assembly | 330 | 730 |
| (2.03 m boom, 1.12 m arm, 0.08 m ³ SAE heaped bucket) | 140 | 310 |
| 2.5 m boom assembly | 100 | 220 |
| 1.12 m arm assembly | 50 | 110 |
| 0.08 m ³ SAE heaped bucket | 60 | 130 |
| Boom cylinder assembly | 31 | 68 |
| Arm cylinder assembly | 25 | 55 |
| Bucket cylinder assembly | 18 | 40 |
| Bucket control link assembly | 20 | 45 |
| Dozer cylinder assembly | 24 | 53 |
| Boom swing cylinder assembly | 23 | 51 |

5. LIFTING CAPACITIES

1) 2.03 m (6' 8") boom, 1.12 m (3' 8") arm equipped with 0.08 m³ (SAE heaped) bucket and 300 mm (12") rubber track, the dozer blade up with 220 kg (485 lb) counterweight.

•  : Rating over-front

•  : Rating over-side or 360 degree











| Load point height | | Load radius | | | | | | | | At max. reach | | |
|-------------------|----|---|---|---|---|---|---|---|---|---|---|--------|
| | | 2.0 m (6.6 ft) | | 2.5 m (8.2 ft) | | 3.0 m (10.0 ft) | | 3.5 m (11.5 ft) | | Capacity | | Reach |
| | |  |  |  |  |  |  |  |  |  |  | m (ft) |
| 3.5 m (11.5 ft) | kg | | | | | | | | | 610 | 460 | 3.07 |
| | lb | | | | | | | | | 1340 | 1010 | (10.1) |
| 3.0 m (10.0 ft) | kg | | | | | 610 | 450 | | | 460 | 340 | 3.63 |
| | lb | | | | | 1340 | 990 | | | 1010 | 750 | (11.9) |
| 2.5 m (8.2 ft) | kg | | | | | 610 | 450 | 460 | 340 | 380 | 290 | 3.99 |
| | lb | | | | | 1340 | 990 | 1010 | 750 | 840 | 640 | (13.1) |
| 2.0 m (6.6 ft) | kg | | | 830 | 610 | 600 | 450 | 460 | 340 | 350 | 250 | 4.22 |
| | lb | | | 1830 | 1340 | 1320 | 990 | 1010 | 750 | 770 | 550 | (13.8) |
| 1.5 m (5.0 ft) | kg | | | 800 | 590 | 590 | 440 | 460 | 340 | 320 | 240 | 4.35 |
| | lb | | | 1760 | 1300 | 1300 | 970 | 1010 | 750 | 710 | 530 | (14.3) |
| 1.0 m (3.3 ft) | kg | | | 770 | 560 | 580 | 420 | 450 | 330 | 320 | 230 | 4.39 |
| | lb | | | 1700 | 1230 | 1280 | 930 | 990 | 730 | 710 | 510 | (14.4) |
| 0.5 m (1.6 ft) | kg | | | 750 | 540 | 570 | 410 | 440 | 320 | 320 | 230 | 4.35 |
| | lb | | | 1650 | 1190 | 1260 | 900 | 970 | 710 | 710 | 510 | (14.3) |
| Ground Line | kg | 1080 | 750 | 740 | 530 | 560 | 400 | 440 | 320 | 330 | 240 | 4.22 |
| | lb | 2380 | 1650 | 1630 | 1170 | 1230 | 880 | 970 | 710 | 730 | 530 | (13.8) |
| -0.5 m (-1.6 ft) | kg | 1080 | 750 | 740 | 530 | 550 | 400 | 440 | 320 | 360 | 260 | 4.00 |
| | lb | 2380 | 1650 | 1630 | 1170 | 1210 | 880 | 970 | 710 | 790 | 570 | (13.1) |
| -1.0 m (-3.3 ft) | kg | 1090 | 760 | 740 | 530 | 560 | 400 | | | 420 | 300 | 3.64 |
| | lb | 2400 | 1680 | 1630 | 1170 | 1230 | 880 | | | 930 | 660 | (11.9) |
| -1.5 m (-5.0 ft) | kg | 1110 | 780 | 760 | 550 | | | | | 550 | 400 | 3.09 |
| | lb | 2450 | 1720 | 1680 | 1210 | | | | | 1210 | 880 | (10.1) |
| -2.5 m (-8.2 ft) | kg | | | | | | | | | 570 | 420 | 3.06 |
| | lb | | | | | | | | | 1260 | 930 | (10.0) |

- 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) 2.03 m (6' 8") boom, 1.12 m (3' 8") arm equipped with 0.08 m³ (SAE heaped) bucket and 300 mm (12") rubber track, the dozer blade down with 220 kg (485 lb) counterweight.

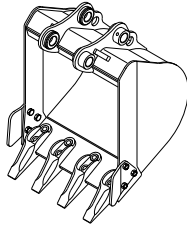
•  : Rating over-front

•  : Rating over-side or 360 degree

| Load point height | | Load radius | | | | | | | | At max. reach | | |
|---------------------|----------|---|---|---|---|---|---|---|---|---|---|-----------------|
| | | 2.0 m (6.6 ft) | | 2.5 m (8.2 ft) | | 3.0 m (10.0 ft) | | 3.5 m (11.5 ft) | | Capacity | | Reach m (ft) |
| | |  |  |  |  |  |  |  |  |  |  | |
| 3.5 m (11.5 ft) | kg lb | | | | | | | | | *670 *1480 | 490 1080 | 3.07 (10.1) |
| 3.0 m (10.0 ft) | kg lb | | | | | *760 *1680 | 480 1060 | | | *600 *1320 | 360 790 | 3.63 (11.9) |
| 2.5 m (8.2 ft) | kg lb | | | | | *970 *2140 | 490 1080 | *570 *1260 | 370 820 | *570 *1260 | 310 680 | 3.99 (13.1) |
| 2.0 m (6.6 ft) | kg lb | | | *1270 *2800 | 650 1430 | *1170 *2580 | 480 1060 | *900 *1980 | 370 820 | *570 *1260 | 270 600 | 4.22 (13.8) |
| 1.5 m (5.0 ft) | kg lb | | | *2200 *4850 | 630 1390 | *1640 *3620 | 470 1040 | *1140 *2510 | 360 790 | *570 *1260 | 260 570 | 4.35 (14.3) |
| 1.0 m (3.3 ft) | kg lb | | | *2710 *5970 | 600 1320 | 1880 4140 | 450 990 | 1380 3040 | 350 770 | *600 *1320 | 250 550 | 4.39 (14.4) |
| 0.5 m (1.6 ft) | kg lb | | | 2840 6260 | 580 1280 | 1860 4100 | 440 970 | 1370 3020 | 350 770 | *630 *1390 | 250 550 | 4.35 (14.3) |
| Ground Line | kg lb | *1490 *3280 | 810 1790 | 2820 6220 | 570 1260 | 1850 4080 | 430 950 | 1360 3000 | 340 750 | *690 *1520 | 260 570 | 4.22 (13.8) |
| -0.5 m (-1.6 ft) | kg lb | *2090 *4610 | 810 1790 | 2810 6190 | 570 1260 | 1840 4060 | 430 950 | *1070 *2360 | 340 750 | *790 *1740 | 280 620 | 4.00 (13.1) |
| -1.0 m (-3.3 ft) | kg lb | *3030 *6680 | 820 1810 | *2750 *6060 | 570 1260 | 1850 4080 | 440 970 | | | *950 *2090 | 330 730 | 3.64 (11.9) |
| -1.5 m (-5.0 ft) | kg lb | *2850 *6280 | 840 1850 | *2040 *4500 | 590 1300 | | | | | *1320 *2910 | 430 950 | 3.09 (10.1) |
| -2.5 m (-8.2 ft) | kg lb | | | | | | | | | *1040 *2290 | 450 990 | 3.06 (10.0) |

- 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.

6. BUCKET SELECTION GUIDE



0.08 m³ SAE
heaped bucket

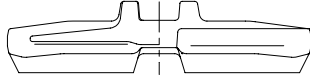
| Capacity | | Width | | Weight | Recommendation |
|--|--|---------------------|------------------|-------------------|---|
| | | | | | 2.03 m (6' 8") boom |
| SAE heaped | CECE heaped | Without side cutter | With side cutter | | 1.12 m (3' 8") arm |
| 0.08m ³ (0.10yd ³) | 0.09 m ³ (0.12 yd ³) | 450 mm (17.7") | 510 mm (20") | 80 kg (176 lb) | Applicable for materials with density of 1600 kgf/m ³ (2700 lb /yd ³) 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 | | Rubber track |
|--------|------------------|---------------------------|--|
| | | |  |
| R27Z-9 | Shoe width | mm (in) | 300 (12") |
| | Operating weight | kg (lb) | 2880 (6350) |
| | Ground pressure | kgf/cm ² (psi) | 0.29 (4.12) |
| | Overall width | mm (ft-in) | 1550 (5' 1") |

(3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

| Item | Quantity |
|-----------------|----------|
| Carrier rollers | 1 EA |
| Track rollers | 3 EA |

8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

| Item | Specification |
|-------------------------------------|---|
| Model | Mitsubishi S3L2 |
| Type | 4-cycle vertical overhead valve, diesel fuel |
| Cooling method | Water cooling |
| Number of cylinders and arrangement | 3 cylinders, in-line |
| Firing order | 1-3-2 |
| Combustion chamber type | Swirl chamber type |
| Cylinder bore × stroke | 78 × 92 mm (3.07" × 3.62") |
| Piston displacement | 1318 cc (80.4 cu in) |
| Compression ratio | 22 : 1 |
| Rated gross horse power (SAE J1995) | 24.7 Hp at 2300 rpm (18.4 kW at 2300 rpm) |
| Maximum torque at 1800 rpm | 8 kgf · m (57.8 lbf · ft) |
| Engine oil quantity | 5.9 l (1.6 U.S. gal) |
| Dry weight | 136 kg (300 lb) |
| High idling speed | 2500+ 30 rpm |
| Low idling speed | 1160 ± 25 rpm |
| Rated fuel consumption | 198 g/Hp · hr at 2300 rpm (265 g/kW · hr at 2300 rpm) |
| Starting motor | 12V-1.7 kW |
| Alternator | 12V-40 A |
| Battery | 1 × 12 V × 58 Ah (5h rating) |

2) MAIN PUMP

| Item | Specification |
|----------------|--|
| Type | Variable displacement tandem axis piston pumps |
| Capacity | 2 × 12 cc/rev |
| Rated oil flow | 2 × 27.6 l /min (7.3 U.S. gpm / 6.1 U.K. gpm) |
| Rated speed | 2300 rpm |

3) GEAR PUMP

| Item | Specification |
|----------------|--|
| Type | Fixed displacement gear pump single stage |
| Capacity | 8.5/4.5 cc/rev |
| Rated oil flow | 19.6/10.4 l /min (5.2/2.7 U.S. gpm / 4.3/2.3 U.K. gpm) |

4) MAIN CONTROL VALVE

| Item | Specification |
|--------------------------------|------------------------------------|
| Type | Sectional, 9 spools (12 blocks) |
| Operating method | Hydraulic pilot system |
| Main relief valve pressure | 220 kgf/cm ² (3130 psi) |
| Overload relief valve pressure | 240 kgf/cm ² (3410 psi) |

5) SWING MOTOR

| Item | Specification |
|------------------------|--|
| Type | Fixed displacement axial piston motor |
| Capacity | 12.5 cc/rev |
| Relief pressure | 170 kgf/cm ² (2420 psi) |
| Braking system | Automatic, spring applied hydraulic released |
| Braking torque | 7.0 kgf · m (50.6 lbf · ft) |
| Brake release pressure | 25~50 kgf/cm ² (356~710 psi) |
| Reduction gear type | 2 - stage planetary |

6) TRAVEL MOTOR

| Item | Specification |
|------------------------|--|
| Type | Variable displacement axial piston motor |
| Relief pressure | 220 kgf/cm ² (3130 psi) |
| Reduction gear type | 2-stage planetary |
| Braking system | Automatic, spring applied hydraulic released |
| Brake release pressure | 19 kgf/cm ² (270 psi) |
| Braking torque | 5.7 kgf · m (41 lbf · ft) |

7) CYLINDER

| Item | | Specification |
|---------------------|-----------------------------|----------------------|
| Boom cylinder | Bore dia × Rod dia × Stroke | ∅ 75 × ∅ 45 × 565 mm |
| | Cushion | Extend only |
| Arm cylinder | Bore dia × Rod dia × Stroke | ∅ 65 × ∅ 40 × 500 mm |
| | Cushion | Extend and retract |
| Bucket cylinder | Bore dia × Rod dia × Stroke | ∅ 60 × ∅ 35 × 420 mm |
| | Cushion | - |
| Boom swing cylinder | Bore dia × Rod dia × Stroke | ∅ 85 × ∅ 45 × 140 mm |
| | Cushion | - |
| Dozer cylinder | Bore dia × Rod dia × Stroke | ∅ 70 × ∅ 40 × 400 mm |
| | Cushion | - |

※ 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.

8) BUCKET

| Item | Capacity | | Tooth quantity | Width | |
|----------|---|---|----------------|---------------------|------------------|
| | SAE heaped | CECE heaped | | Without side cutter | With side cutter |
| Standard | 0.08 m ³ (0.10 yd ³) | 0.09 m ³ (0.12 yd ³) | 4 | 450 mm (17.7") | 510 mm (20") |

9. RECOMMENDED OILS

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

| Service point | Kind of fluid | Capacity l (U.S. gal) | Ambient temperature °C (°F) | | | | | | |
|------------------------------|--|---|-------------------------------------|-------------|-----------|------------|------------|------------|-------------|
| | | | -20 (-4) | -10 (14) | 0 (32) | 10 (50) | 20 (68) | 30 (86) | 40 (104) |
| Engine oil pan | Engine oil | 5.9 (1.6) | SAE 30 | | | | | | |
| | | | SAE 10W | | | | | | |
| | | | SAE 10W-30 | | | | | | |
| | | | SAE 15W-40 | | | | | | |
| Final drive | Gear oil | 0.6×2 (0.16×2) | SAE 85W-140 | | | | | | |
| Hydraulic tank | Hydraulic oil | Tank: 32 (8.5) System: 60 (15.9) | ISO VG 32 | | | | | | |
| | | | ISO VG 46 | | | | | | |
| | | | ISO VG 68 | | | | | | |
| Fuel tank | Diesel fuel | 38 (10) | ASTM D975 NO.1 | | | | | | |
| | | | ASTM D975 NO.2 | | | | | | |
| Fitting (Grease nipple) | Grease | As required | NLGI NO.1 | | | | | | |
| | | | NLGI NO.2 | | | | | | |
| Radiator (Reservoir tank) | Mixture of antifreeze and water 50 : 50 | 5 (1.3) | 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