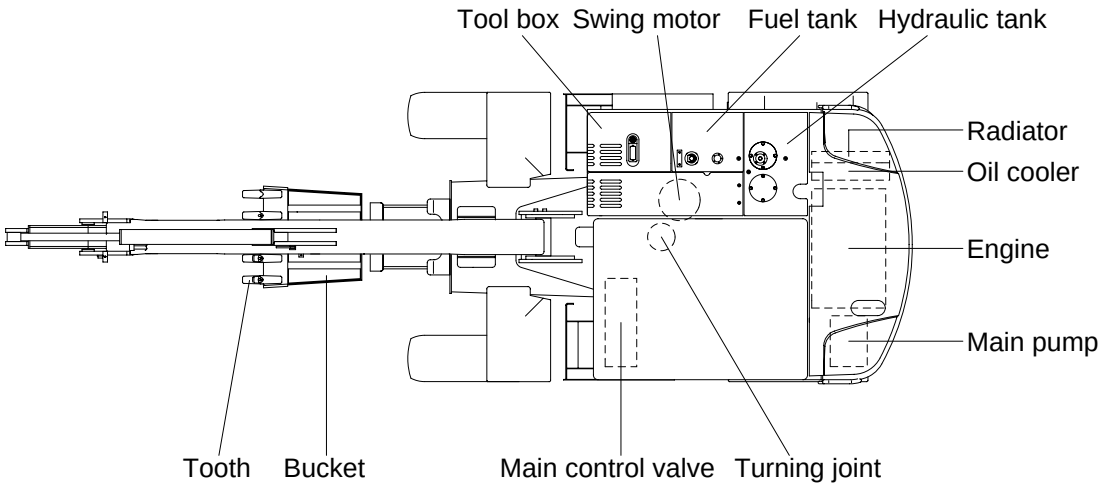
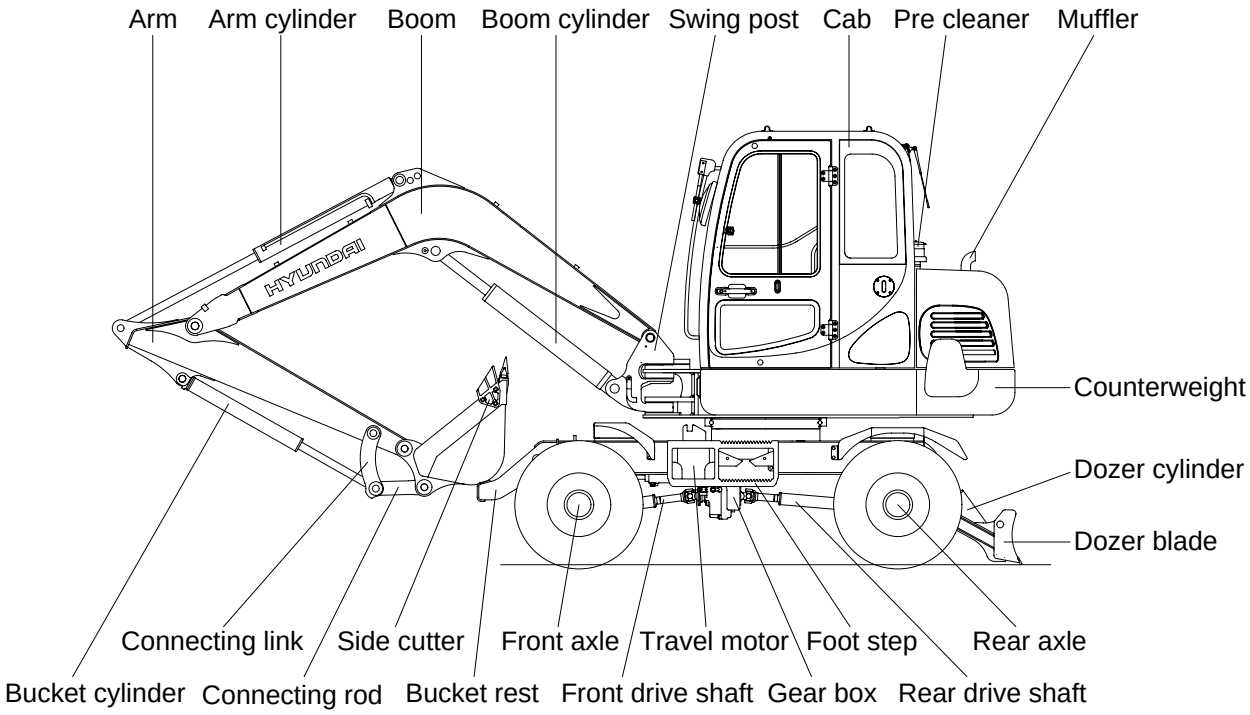
GROUP 2 SPECIFICATIONS

1. MAJOR COMPONENT

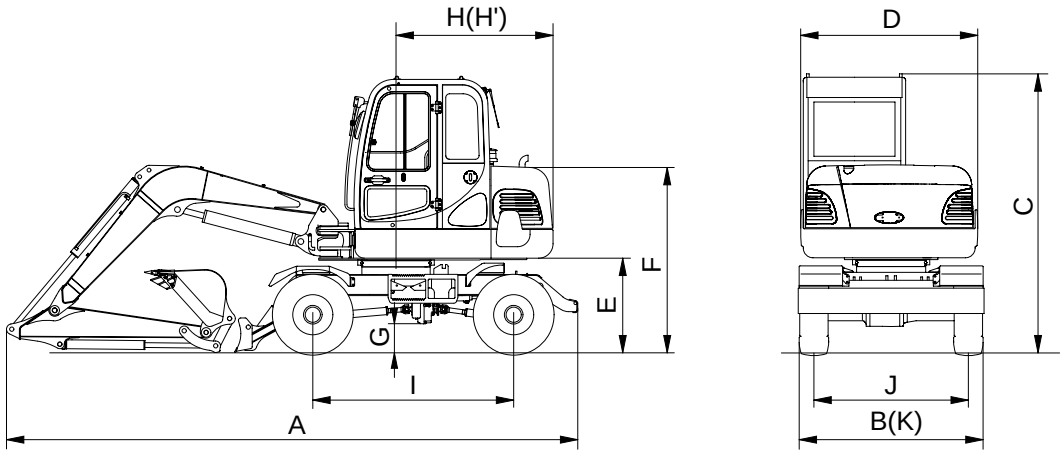




55W72SP01

2. SPECIFICATIONS

1) 3.0m(9'10") ONE PIECE BOOM, 1.6m(5' 3") ARM WITH BOOM SWING POST

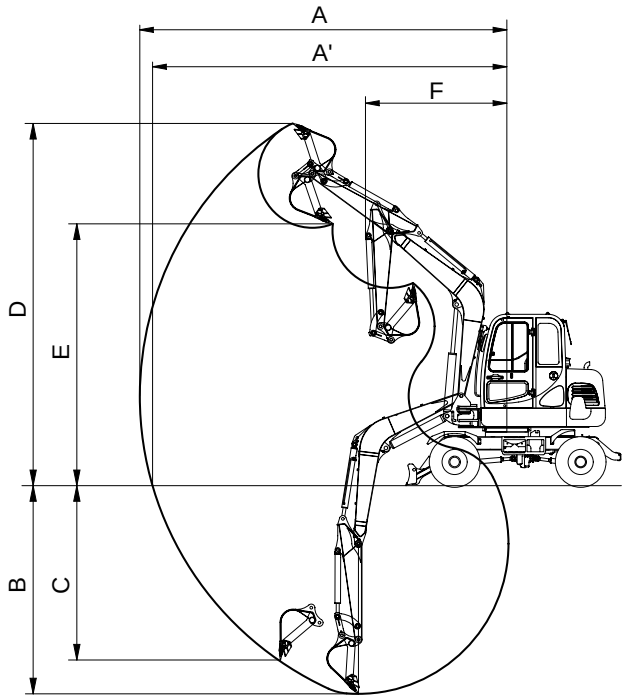


55W72SP02

Description		Unit	Specification
Operating weight		kg(lb)	5600(12350)
Bucket capacity(SAE heaped), standard		$m^3(yd^3)$	0.18(0.24)
Overall length	A	mm(ft-in)	5970(19' 6")
Overall width	B		1925(6' 4")
Overall height	C		2850(9' 4")
Upperstructure width	D		1830(6' 0")
Ground clearance of counterweight	E		986(3' 3")
Engine cover height	F		1930(6' 4")
Minimum ground clearance	G		290(11.4")
Rear-end distance	H		1650(5' 5")
Rear-end swing radius	H'		1650(5' 5")
Wheel base	I		2100(6'11")
Tread	J		1600(5' 3")
Dozer blade width	K		1925(6' 4")
Travel speed	Low	km/hr(mph)	11.0(6.8)
	High		27(16.8)
Swing speed		rpm	9.9
Gradeability		Degree(%)	35(70)

3. WORKING RANGE

1) 3.0m(9'10") MONO BOOM WITH BOOM SWING POST



55W72SP05

Description		1.6m(5' 3") Arm
Max digging reach	A	6150mm (20' 2")
Max digging reach on ground	A'	5980mm (19' 7")
Max digging depth	B	3500mm (11' 6")
Max vertical wall digging depth	C	2960mm (9' 9")
Max digging height	D	6070mm (19'11")
Max dumping height	E	4340mm (14' 3")
Min swing radius	F	2350mm (7' 9")
Boom swing radius(left/right)		80°/50°
Bucket digging force	SAE	37.7 kN
		3850 kgf
		8490 lbf
	ISO	42.4 kN
		4330 kgf
		9550 lbf
Arm digging force	SAE	28.4 kN
		2900 kgf
		6390 lbf
	ISO	31.9 kN
		3260 kgf
		7190 lbf

4. WEIGHT

1) MONO BOOM

Item	R55W-7	
	kg	lb
Upperstructure assembly	2500	5510
Main frame weld assembly	680	1500
Engine assembly	280	620
Main pump assembly	30	70
Main control valve assembly	40	90
Swing motor assembly	70	160
Hydraulic oil tank assembly	80	180
Boom swing post	110	240
Fuel tank assembly	60	130
Counterweight	200	440
Cab assembly	280	620
Lower frame weld assembly	500	1090
Swing bearing	100	220
Travel motor assembly	80	180
Turning joint	30	70
Gear box	63	140
Front axle assembly	280	610
Rear axle assembly	200	430
Dozer blade assembly	190	420
Front attachment assembly(3.0m boom, 1.6m arm, 0.18m^3 SAE heaped bucket)	740	1630
3.0m boom assembly	260	570
1.6m arm assembly	140	310
0.18m^3 SAE heaped bucket assembly	170	370
Boom cylinder assembly	60	130
Arm cylinder assembly	50	110
Bucket cylinder assembly	30	70
Bucket control link assembly	40	90
Boom swing cylinder assembly	45	100
Blade cylinder assembly	50	110

5. LIFTING CAPACITIES

1) ROBEX 55W-7

(1) 3.0m(9'10") boom, 1.6m(5' 3") arm equipped with 0.18m³(SAE heaped) bucket and the dozer blade down with 200kg(440lb) counterweight.

• : Rating over-front • : Rating over-side or 360 degree

Load point height		Load radius								At max. reach		
		2.0m(5ft)		3.0m(10ft)		4.0m(15ft)		5.0m(15ft)		Capacity		Reach
												m(ft)
5.0m (15ft)	kg									*960	*960	4.46
	lb									*2120	*2120	(14.6)
4.0m (15ft)	kg					*1020	*1020			*990	720	5.26
	lb					*2250	*2250			*2180	1590	(17.3)
3.0m (10ft)	kg					*1150	1110			*1030	610	5.69
	lb					*2540	2450			*2270	1340	(18.7)
2.0m (5ft)	kg			*1910	1670	*1410	1060	*1210	740	*1070	570	5.86
	lb			*4210	3680	*3110	2340	*2670	1630	*2360	1260	(19.2)
1.0m (5ft)	kg			*2510	1570	*1670	1010	*1320	720	*1120	570	5.80
	lb			*5530	3460	*3680	2230	*2910	1590	*2470	1260	(19.0)
Ground Line	kg	*2680	*2680	*2730	1510	*1820	980			*1160	610	5.51
	lb	*5910	*5910	*6020	3330	*4010	2160			*2560	1340	(18.1)
-1.0m (-5ft)	kg	*4040	3020	*2620	1510	*1770	970			*1190	740	4.91
	lb	*8910	6660	*5780	3330	*3900	2140			*2620	1630	(16.1)
-2.0m (-5ft)	kg	*3410	3080	*2100	1540							
	lb	*7520	6790	*4630	3400							

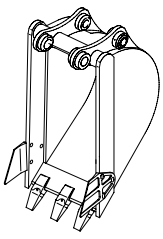
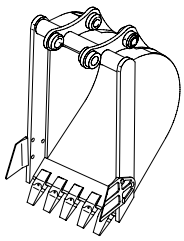
2) 3.0m(9'10") boom, 1.6m(5' 3") arm equipped with 0.18m³(SAE heaped) bucket and the dozer blade up with 200kg(440lb) counterweight.

Load point height		Load radius								At max. reach		
		2.0m(5ft)		3.0m(10ft)		4.0m(15ft)		5.0m(15ft)		Capacity		Reach
												m(ft)
5.0m (15ft)	kg									*960	880	4.46
	lb									*2120	1940	(14.6)
4.0m (15ft)	kg					*1020	*1020			760	650	5.26
	lb					*2250	*2250			1680	1430	(17.3)
3.0m (10ft)	kg					*1150	1010			650	550	5.69
	lb					*2540	2230			1430	1210	(18.7)
2.0m (5ft)	kg			1760	1500	1120	960	780	660	610	510	5.86
	lb			3880	3310	2470	2120	1720	1460	1340	1120	(19.2)
1.0m (5ft)	kg			1650	1390	1070	910	760	640	600	510	5.80
	lb			3640	3060	2360	2010	1680	1410	1320	1120	(19.0)
Ground Line	kg	*2680	2610	1600	1350	1040	880			650	550	5.51
	lb	*5910	5750	3530	2980	2290	1940			1430	1210	(18.1)
-1.0m (-5ft)	kg	3190	2630	1590	1340	1030	870			780	660	4.91
	lb	7030	5800	3510	2950	2270	1920			1720	1460	(16.1)
-2.0m (-5ft)	kg	3250	2690	1620	1370							
	lb	7170	5930	3570	3020							

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

1) GENERAL BUCKET

	
0.07m³ SAE heaped bucket	0.18m³ SAE heaped bucket

Capacity		Width		Weight	Recommendation
					3.0m (9'10") boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.6m (5' 3") arm
0.07m³ (0.09yd³)	0.06m³ (0.08yd³)	315mm (12.4")	360mm (14.2")	84kg (185lb)	Applicable for materials with density of 1600kgf/m³ (2700lbf/yd³) or less
0.18m³ (0.24yd³)	0.15m³ (0.20yd³)	705mm (27.8")	770mm (30.3")	137kg (300lb)	

7. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Yanmar 4TNV94L
Type	4-cycle diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	94 × 110mm(3.70" × 4.33")
Piston displacement	3054cc(186.3cu in)
Compression ratio	19 : 1
Rated gross horse power(SAE J1995)	57Hp at 2400rpm(42kW at 2400rpm)
Maximum torque at 1440rpm	20.6kgf · m(148lbf · ft)
Engine oil quantity	9.2 ℓ (2.4U.S. gal)
Dry weight	260kg(573lb)
High idling speed	2590 + 50rpm
Low idling speed	1050 ± 100rpm
Rated fuel consumption	172.6g/Hp · hr at 2400rpm
Starting motor	12V-3.0kW
Alternator	12V-55A
Battery	1 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 25cc/rev
Maximum pressure	220kgf/cm^2 (3130psi)
Rated oil flow	2 × 60 ℓ /min (15.9U.S. gpm/ 13.2U.K. gpm)
Rated speed	2400rpm

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	16.2/6.5cc/rev
Maximum pressure	200/30kgf/cm^2(2840/430psi)
Rated oil flow	38.9/15.6 ℓ /min(10.3/4.1U.S. gpm/8.6/3.4U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	10 spools sectional block(+1 optional block)
Operating method	Hydraulic pilot system
Main relief valve pressure	220kgf/cm^2(3130psi)
Overload relief valve pressure	240kgf/cm^2(3410psi)

5) SWING MOTOR

Item	Specification
Type	Two fixed displacement axial piston motor
Capacity	28.87cc/rev
Relief pressure	200kgf/cm^2(2840psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	14kgf · m(101lbf · ft)
Brake release pressure	20~40kgf/cm^2(284~570psi)
Reduction gear type	2 - stage planetary
Swing speed	9.9rpm

6) TRAVEL MOTOR

Item	Specification
Type	Bent axis design variable displacement axial piston motor
Relief pressure	220kgf/cm^2(3130psi)
Counterbalance valve	Applied
Capacity	80cc

7) POWER TRAIN

Item	Description		Specification
Gear box	Type		2 speed hydrostatic
	Gear ratio	1st	6.357
		2nd	1.961
Parking brake	Type		Multi disc brake integrated in rear axle
	Maximum braking power		714kgf · m(5164lbf · ft)
Axle	Type		4 wheel drive with differential
	Gear ratio		8.639
	Brake		Multi disc brake

8) REMOTE CONTROL VALVE

Item		Specification
Type		Pressure reducing type
Operating pressure	Minimum	5kgf/cm^2(71psi)
	Maximum	20kgf/cm^2(284psi)
Pushrod stroke		6.5/8.5mm(0.26/0.33in)

9) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø110 × Ø65 × 715mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø90 × Ø55 × 850mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø80 × Ø50 × 660mm
	Cushion	Extend only
Dozer cylinder	Bore dia × Rod dia × Stroke	Ø100 × Ø50 × 159mm
	Cushion	-
Boom swing cylinder	Bore dia × Rod dia × Stroke	Ø95 × Ø50 × 535mm
	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.

10) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R55W-7	STD	0.18m^3(0.24yd^3)	0.15m^3(0.20yd^3)	5	705mm(27.8")	770mm(30.3")
	OPT	0.07m^3(0.09yd^3)	0.06m^3(0.08yd^3)	3	315mm(12.4")	360mm(14.2")

8. 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	9.2(2.4)	SAE 30 SAE 10W SAE 10W-30 SAE 15W-40
Swing drive	Gear oil	1.5(0.4)	SAE 85W-140
	Grease	0.2(0.05)	NLGI NO.1 NLGI NO.2
Gear box case	Gear oil	1.85(0.49)	SAE 85W-90
Front axle		Center : 4.8(1.27) Hub : 0.45×2 (0.12×2)	
Rear axle		Center : 3.9(1.0) Hub : 0.45×2 (0.12×2)	
Hydraulic tank	Hydraulic oil	Tank: 70(18.5)	ISO VG 32 ISO VG 46 ISO VG 68
Fuel tank	Diesel fuel	120(31.7)	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	10(2.6)	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