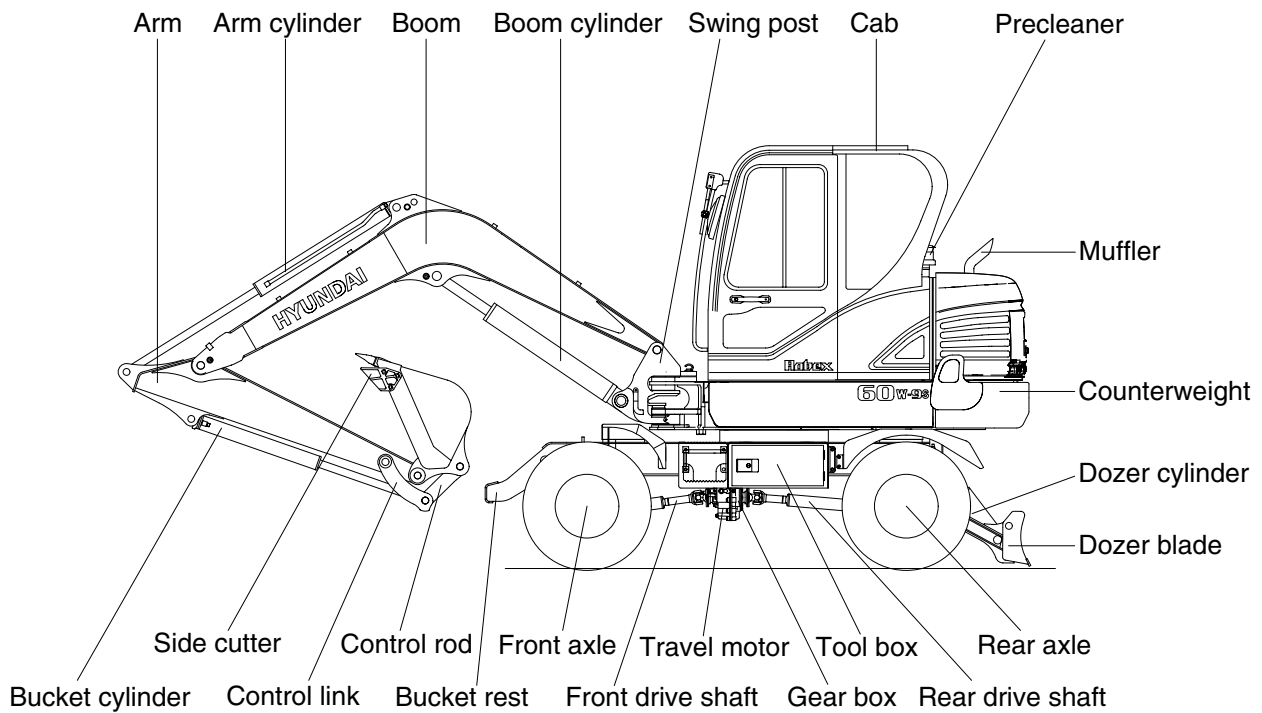
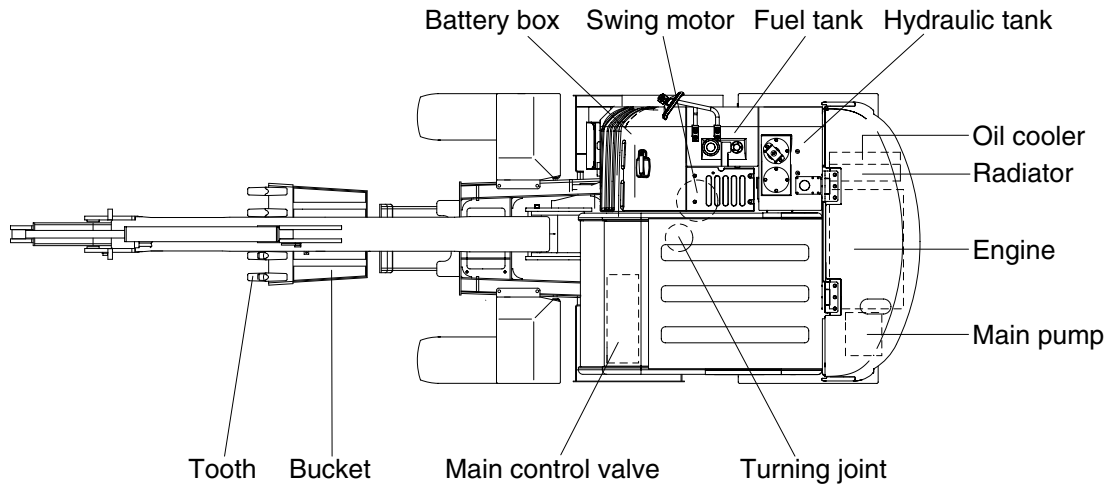


# SPECIFICATIONS

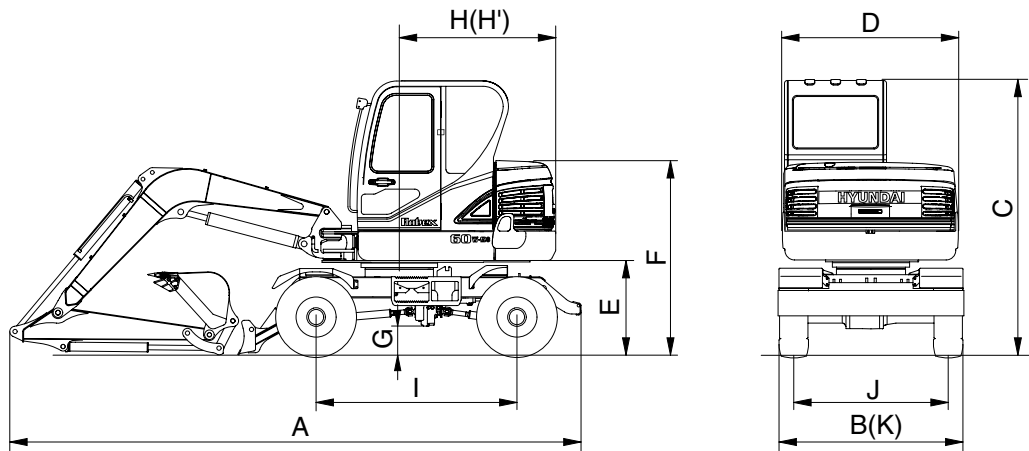
## 1. MAJOR COMPONENTS



55W9S2SP01

## 2. SPECIFICATIONS

### 1) 3.0 m (9'10") MONO BOOM, 1.6 m (5' 3") ARM WITH BOOM SWING SYSTEM

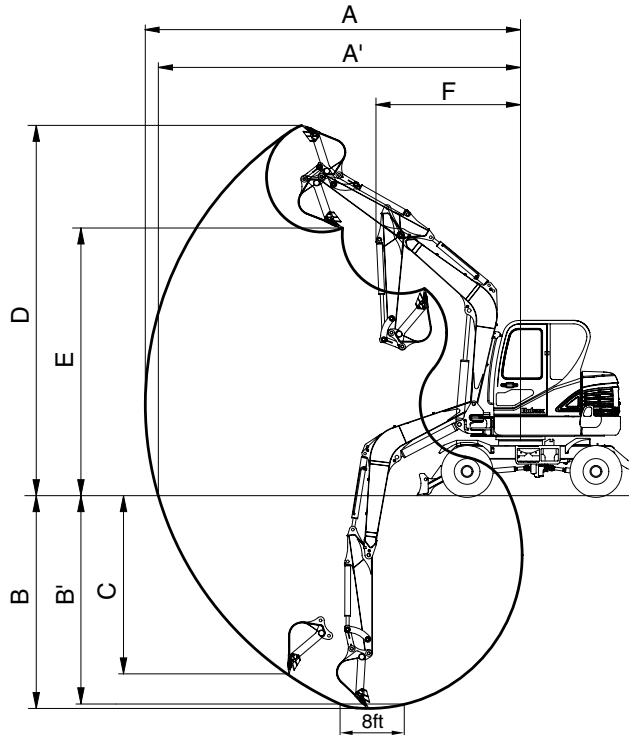


55W9S2SP02

Description		Unit	Specification
Operating weight		kg (lb)	5550 (12240)
Bucket capacity(SAE heaped), standard		m <sup>3</sup> (yd <sup>3</sup> )	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		1850 ( 6' 1")
Ground clearance of counterweight	E		986 ( 3' 3")
Engine cover height	F		1970 ( 6' 6")
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)
	High	27 (16.8)	
Swing speed		rpm	9.1
Gradeability		Degree (%)	35 (70)
Max traction force		kg (lb)	3500 (7720)

### 3. WORKING RANGE

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



55W92SP03



Description		1.6 m (5' 3") Arm
Max digging reach	A	6150 mm (20' 2")
Max digging reach on ground	A'	5980 mm (19' 7")
Max digging depth	B	3500 mm (11' 6")
Max digging depth (8 ft level)	B'	3100 mm (10' 2")
Max vertical wall digging depth	C	2960 mm ( 9' 9")
Max digging height	D	6070 mm (19' 11")
Max dumping height	E	4340 mm (14' 3")
Min swing radius	F	2350 mm ( 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 crowd force	SAE	28.4 kN
		2900 kgf
		6390 lbf
	ISO	31.9 kN
		3260 kgf
		7190 lbf











## 4. WEIGHT

Item	R60W-9S	
	kg	lb
Upperstructure assembly	2680	5910
Main frame weld assembly	600	1320
Engine assembly	280	620
Main pump assembly	30	70
Main control valve assembly	40	90
Swing motor assembly	80	180
Hydraulic oil tank assembly	90	200
Fuel tank assembly	60	130
Boom swing post	110	240
Counterweight	180	400
Cab assembly	350	770
Lower chassis assembly	2080	4590
Lower frame weld assembly	550	1210
Swing bearing	94	210
Travel motor assembly	50	110
Turning joint	60	130
Gear box	63	140
Front axle assembly	280	610
Rear axle assembly	200	430
Dozer blade assembly	200	440
Front attachment assembly (3.0 m boom, 1.6 m arm, 0.18 m <sup>3</sup> SAE heaped bucket)	790	1740
3.0 m boom assembly	240	530
1.6 m arm assembly	130	290
0.18 m <sup>3</sup> SAE heaped bucket assembly	170	370
Boom cylinder assembly	70	155
Arm cylinder assembly	60	130
Bucket cylinder assembly	35	80
Bucket control link assembly	40	90
Boom swing cylinder assembly	40	90
Blade cylinder assembly	30	70











## 5. LIFTING CAPACITIES

1) 3.0 m ( 9'10") boom, 1.6 m ( 5' 3") arm equipped with 0.18m<sup>3</sup> (SAE heaped) bucket and the dozer blade down.

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

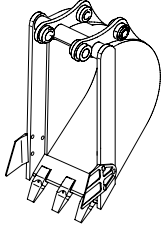
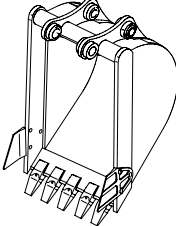
Load point height		Load radius								At max. reach		
		2.0 m (7 ft)		3.0 m (10 ft)		4.0 m (13 ft)		5.0 m (16 ft)		Capacity		Reach
												m (ft)
5.0 m (16 ft)	kg									*960	*960	4.47
	lb									*2120	*2120	(14.7)
4.0 m (13 ft)	kg					*1020	*1020			*990	720	5.26
	lb					*2250	*2250			*2180	1590	(17.3)
3.0 m (10 ft)	kg					*1150	1120	*990	760	*1020	620	5.69
	lb					*2540	2470	*2180	1680	*2250	1370	(18.7)
2.0 m (7 ft)	kg			*1900	1690	*1400	1070	*1200	740	*1070	570	5.86
	lb			*4190	3730	*3090	2360	*2650	1630	*2360	1260	(19.2)
1.0 m (3 ft)	kg			*2500	1580	*1670	1020	*1310	720	*1110	570	5.81
	lb			*5510	3480	*3680	2250	*2890	1590	*2450	1260	(19.1)
Ground Line	kg	*2690	*2690	*2720	1530	*1820	990	*1350	700	*1160	620	5.51
	lb	*5930	*5930	*6000	3370	*4010	2180	*2980	1540	*2560	1370	(18.1)
-1.0 m (-3 ft)	kg	*4040	3040	*2610	1520	*1760	980			*1180	740	4.92
	lb	*8910	6700	*5750	3350	*3880	2160			*2600	1630	(16.1)
-2.0 m (-7 ft)	kg	*3400	3100	*2090	1550							
	lb	*7500	6830	*4610	3420							

2) 3.0 m ( 9'10") boom, 1.6 m ( 5' 3") arm equipped with 0.18m<sup>3</sup> (SAE heaped) bucket and the dozer blade up.

Load point height		Load radius								At max. reach		
		2.0 m (7 ft)		3.0 m (10 ft)		4.0 m (13 ft)		5.0 m (16 ft)		Capacity		Reach
												m (ft)
5.0 m (16 ft)	kg									*960	880	4.47
	lb									*2120	1940	(14.7)
4.0 m (13 ft)	kg					*1020	*1020			760	650	5.26
	lb					*2250	*2250			1680	1430	(17.3)
3.0 m (10 ft)	kg					*1150	1010	810	690	650	550	5.69
	lb					*2540	2230	1790	1520	1430	1210	(18.7)
2.0 m (7 ft)	kg			1770	1510	1130	960	790	670	610	510	5.86
	lb			3900	3330	2490	2120	1740	1480	1340	1120	(19.2)
1.0 m (3 ft)	kg			1660	1410	1080	910	760	640	610	510	5.81
	lb			3660	3110	2380	2010	1680	1410	1340	1120	(19.1)
Ground Line	kg	*2690	2630	1610	1360	1040	880	750	630	650	550	5.51
	lb	*5930	5800	3550	3000	2290	1940	1650	1390	1430	1210	(18.1)
-1.0 m (-3 ft)	kg	3210	2650	1600	1350	1040	870			790	660	4.92
	lb	7080	5840	3530	2980	2290	1920			1740	1460	(16.1)
-2.0 m (-7 ft)	kg	3270	2700	1630	1380							
	lb	7210	5950	3590	3040							

- 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

	
<p>0.07m<sup>3</sup> SAE heaped bucket</p>	<p>0.18 m<sup>3</sup> SAE heaped bucket</p>

Capacity		Width		Weight	Recommendation
					3.0 m (9' 10") boom
SAE heaped	CECE heaped	Without side cutter	With side cutter		1.6 m (5' 3") arm
0.07 m <sup>3</sup> (0.09 yd <sup>3</sup> )	0.06 m <sup>3</sup> (0.08 yd <sup>3</sup> )	315 mm (12.4")	360 mm (14.2")	115 kg (255 lb)	Applicable for materials with density of 1600 kgf/m <sup>3</sup> (2700 lb/yd <sup>3</sup> ) or less
0.18 m <sup>3</sup> (0.24 yd <sup>3</sup> )	0.15 m <sup>3</sup> (0.20 yd <sup>3</sup> )	670 mm (26.4")	740 mm (29.1")	170 kg (375 lb)	

## 7. SPECIFICATIONS FOR MAJOR COMPONENTS

### 1) ENGINE

Item	Specification
Model	Yanmar 4TNV94L-PHYBY
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 × 110 mm (3.7" × 4.3")
Piston displacement	3054 cc (186 cu in)
Compression ratio	19 : 1
Rated gross horse power(SAE J1995)	57 Hp at 2400 rpm (42 kW at 2400 rpm)
Maximum torque at 1440rpm	20.6 kgf · m (149 lbf · ft)
Engine oil quantity	11.6 ℓ (3.1 U.S. gal)
Dry weight	280 kg (617 lb)
High idling speed	2400+ 50 rpm
Low idling speed	1000 ± 100 rpm
Rated fuel consumption	175 g/ps · hr at 2400 rpm
Starting motor	12 V-3.0 kW
Alternator	12 V-100 A (-#0039), 12 V-110 A (#0040-)
Battery	1 × 12 V × 100 Ah

### 2) MAIN PUMP

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

### 3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	16.2/6.5 cc/rev
Maximum pressure	220/30 kgf/cm <sup>2</sup> (3130/430 psi)
Rated oil flow	38.9/15.6 ℓ /min (10.3/4.1 U.S. gpm/8.6/3.4 U.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	220 kgf/cm <sup>2</sup> (3130 psi)
Overload relief valve pressure	240 kgf/cm <sup>2</sup> (3410 psi)

[ ]: Power boost

### 5) SWING MOTOR

Item	Specification
Type	Two fixed displacement axial piston motor
Capacity	32.3 cc/rev
Relief pressure	220 kgf/cm <sup>2</sup> (3130 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	14 kgf · m (101 lbf · ft)
Brake release pressure	20~40 kgf/cm <sup>2</sup> (284~570 psi)
Reduction gear type	2 - stage planetary

### 6) TRAVEL MOTOR

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



## 7) POWER TRAIN

Item	Description		Specification
Gear box	Type		2 speed hydrostatic
	Gear ratio	1st	4.06
		2nd	1.31
Parking brake	Type		Multi disc brake integrated in rear axle
	Maximum braking power		945 kgf · m (6835 lbf · ft)
Axle	Type		4 wheel drive with differential
	Gear ratio		8.67
	Brake		Multi disc brake

## 8) CYLINDER

Item	Description	Specification
Boom cylinder	Bore dia × Rod dia × Stroke	Ø 110 × Ø 60 × 715 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	Ø 90 × Ø 55 × 850 mm
	Cushion	Extend and retract
Bucket cylinder	Bore dia × Rod dia × Stroke	Ø 80 × Ø 50 × 660 mm
	Cushion	-
Dozer cylinder	Bore dia × Rod dia × Stroke	Ø 110 × Ø 60 × 189 mm
	Cushion	-
Boom swing cylinder	Bore dia × Rod dia × Stroke	Ø 95 × Ø 50 × 527 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.

## 9) BUCKET

Item		Capacity		Tooth quantity	Width	
		SAE heaped	CECE heaped		Without side cutter	With side cutter
R60W-9S	STD	0.18 m <sup>3</sup> (0.24 yd <sup>3</sup> )	0.15 m <sup>3</sup> (0.20 yd <sup>3</sup> )	5	670 mm (26.4")	740 mm (29.1")
	OPT	0.07 m <sup>3</sup> (0.09 yd <sup>3</sup> )	0.06 m <sup>3</sup> (0.08 yd <sup>3</sup> )	3	315 mm (12.4")	360 mm (14.2")

## 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	11.6 (3.1)	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	1.8 (0.5)							
Front axle		Center : 4.5 (1.19) Hub : 0.4×2 (0.11×2)	SAE 85W-90						
Rear axle		Center : 4.5 (1.19) Hub : 0.4×2 (0.11×2)							
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 soft water* 50 : 50	9.5 (2.5)	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

\* Soft water

City water or distilled water