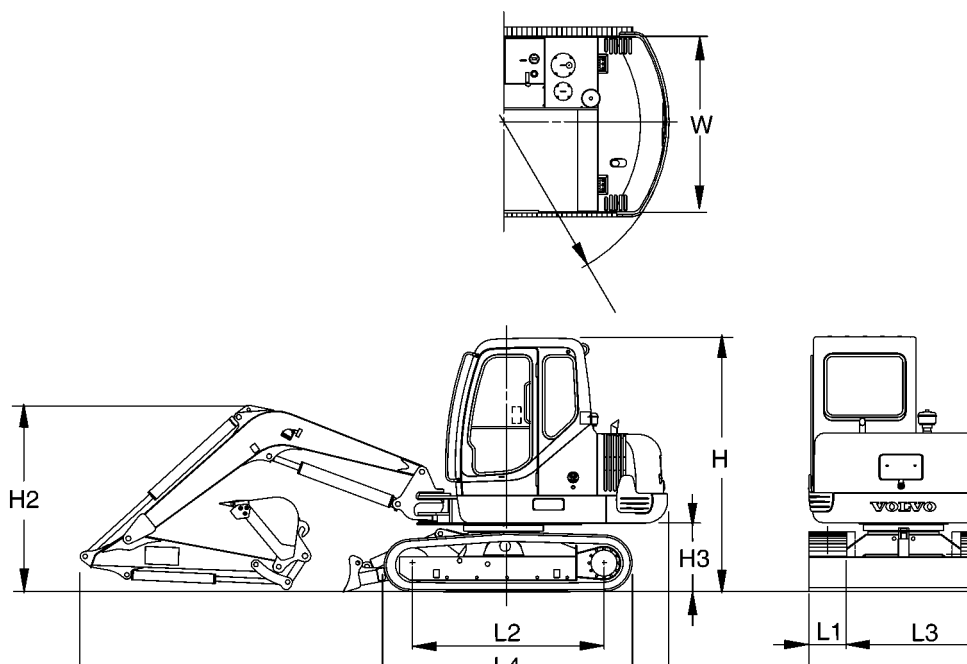


Document Title: <b>General dimensions</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

## General dimensions



**Figure 1**  
**Dimensions of machine**  
**Dimensions, whole machine**

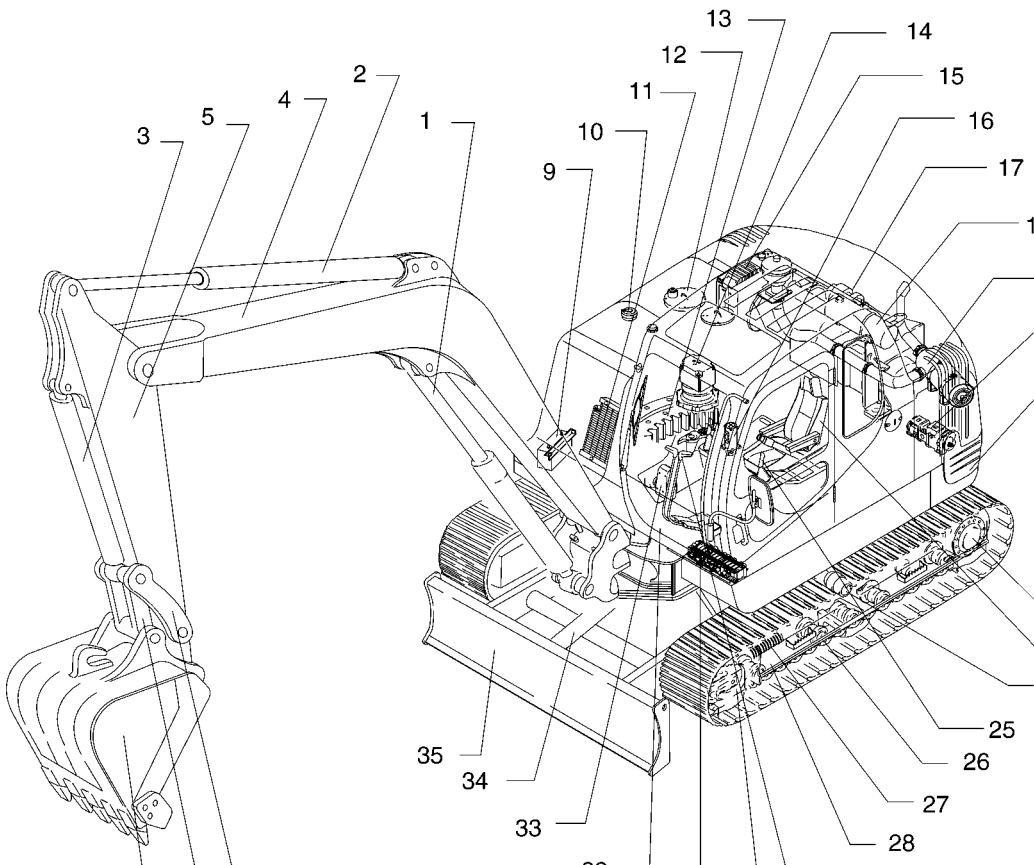
		Symbol	Unit	Standard	Option	
					350 mm shoe	Rubber shoe
Front digging unit	Boom length	-	mm (ft-in)	3030 (9" 11")		
	Arm length	-		1540 (5" 1")		
Overall height	Cab	H		2545 (8" 4")	2545 (8" 4")	2550 (8" 4")
	Boom	H2		1850 (6" 1")	1850 (6" 1")	1855 (6" 1")
Ground clearance	Lower frame	H1		* 375 (1" 3")	* 375 (1" 3")	* 380 (1" 3")
	Upper frame	H3		*685 (2" 3")	*685 (2" 3")	* 690 (2" 3")
Overall length		L		5900 (19" 4")		
Track length on ground		L2		1950 (6" 5")		
Upper	Overall width	W		1840		

structure	Turning radius	R		(6")		
				1650 (5" 5")		
Undercarriage	Shoe width	L1	mm(in)	380 (15")	350 (14")	400 (16")
	Track gauge	L3	mm(ft)	1520 (5")	1520 (5")	1520 (5")
	Overall width	B	mm(ft)	1900 (6" 3")	1870 (6" 2")	1920 (6" 4")
	Track length	L4	mm(ft)	2495 (8" 2")	2495 (8" 2")	2498 (8" 2")

\*:Exclude SHOE GROUSER

Document Title: <b>Location of components</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

**Location of components**



**Figure 1**  
**Location of components**

1 Boom cylinder	13 Slew ring gear	25 Control lever
2 Arm cylinder	14 Slew motor and gearbox	26 Bottom roller
3 Bucket cylinder	15 Radiator and oil cooler	27 Spring package
4 Boom	16 Center passage	28 Undercarriage
5 Arm	17 Engine	29 Travel lever
6 Bucket	18 Cowl	30 Idler
7 Link	19 Air cleaner	31 Main control valve
8 Yoke	20 Hydraulic pump	32 Cab
9 Battery	21 Counterweight	33 Instrument panel
10 Fuel tank	22 Track motor and gearbox	34 Dozer blade cylinder
11 Air condenser	23 Operator's seat	35 Dozer blade
12 Hydraulic tank	24 Top roller	

Document Title: <b>Measurement conversion tables</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

## Measurement conversion tables

### Length

Unit	cm	m	km	in	ft	yd	mile
cm	1	0.01	0.00001	0.3937	0.03281	0.01094	0.000006
m	100	1	0.001	39.37	3.2808	1.0936	0.00062
km	100000	1000	1	39370.7	3280.8	1093.6	0.62137
in	2.54	0.0254	0.000025	1	0.08333	0.02777	0.000015
ft	30.48	0.3048	0.000304	12	1	0.3333	0.000189
yd	91.44	0.9144	0.000914	36	3	1	0.000568
mile	160930	1609.3	1.6093	63360	5280	1760	1

1 mm = 0.1 cm, 1 mm = 0.001 m

### Area

Unit	cm <sup>2</sup>	m <sup>2</sup>	km <sup>2</sup>	a	ft <sup>2</sup>	yd <sup>2</sup>	in <sup>2</sup>
cm <sup>2</sup>	1	0.0001	-	0.000001	0.001076	0.000012	0.155000
m <sup>2</sup>	10000	1	0.000001	0.01	10.764	1.1958	1550.000
km <sup>2</sup>	-	1000000	1	10000	1076400	1195800	-
a	0.01	100	0.0001	1	1076.4	119.58	-
ft <sup>2</sup>	-	0.092903	-	0.000929	1	0.1111	144.000
yd <sup>2</sup>	-	0.83613	-	0.008361	9	1	1296.00
in <sup>2</sup>	6.4516	0.000645	-	-	0.006943	0.000771	1

1 ha = 100 a, 1 mile<sup>2</sup> = 259 ha = 2.59 km<sup>2</sup>

### Volume

Unit	cm <sup>3</sup> = cc	m <sup>3</sup>	Liter	in <sup>3</sup>	ft <sup>3</sup>	yd <sup>3</sup>
cm <sup>3</sup> = m liter	1	0.000001	0.001	0.061024	0.000035	0.000001
m <sup>3</sup>	1000000	1	1000	61024	35.315	1.30796
Liter	1000	0.001	1	61.024	0.035315	0.001308
in <sup>3</sup>	16.387	0.000016	0.01638	1	0.000578	0.000021
ft <sup>3</sup>	28316.8	0.028317	28.317	1728	1	0.03704
yd <sup>3</sup>	764529.8	0.76453	764.53	46656	27	1

1 gal (US) = 3785.41 cm<sup>3</sup> = 231 in<sup>3</sup> = 0.83267 gal

### Weight

Unit	g	kg	t	oz	lb
g	1	0.001	0.000001	0.03527	0.0022
kg	1000	1	0.001	35.273	2.20459

t	1000000	1000	1	35273	2204.59
oz	28.3495	0.02835	0.000028	1	0.0625
lb	453.592	0.45359	0.000454	16	1
1 tonne (metric) = 1.1023 ton (US) = 0.9842 ton (UK)					

### Pressure

Unit	kgf/cm <sup>2</sup>	bar	Pa=N/m <sup>2</sup>	kPa	lbf / in <sup>2</sup>	lbf / ft <sup>2</sup>
kgf / cm <sup>2</sup>	1	0.98067	98066.5	98.0665	14.2233	2048.16
bar	1.01972	1	100000	100	14.5037	2088.6
Pa=N / m <sup>2</sup>	0.00001	0.001	1	0.001	0.00015	0.02086
kPa	0.01020	0.01	1000	1	0.14504	20.886
lbf / in <sup>2</sup>	0.07032	0.0689	6894.76	6.89476	1	144
lbf / ft <sup>2</sup>	0.00047	0.00047	47.88028	0.04788	0.00694	1
1 kgf / cm <sup>2</sup> = 735.56 Torr (mmHg) = 0.96784 atm						

### Approximate conversions

SI Unit	Conversion Factor	Non-SI Unit	Conversion Factor	SI Unit
<b>Torque</b>				
newton meter (N·m)	× 10.2	= kgf·cm	× 0.8664	= (lbf·in)
newton meter (N·m)	× 0.74	= lb·ft	× 1.36	= N·m
newton meter (N·m)	× 0.102	= kgf·m	× 7.22	= (lbf·ft)
<b>Pressure (Pa = N / m<sup>2</sup>)</b>				
kilopascal (kPa)	× 4.0	= in. H <sub>2</sub> O	× 0.249	= kPa
kilopascal (kPa)	× 0.30	= in. Hg	× 3.38	= kPa
kilopascal (kPa)	× 0.145	= psi	× 6.89	= kPa
(bar)	× 14.5	= psi	× 0.069	= (bar)
(kgf / cm <sup>2</sup> )	× 14.22	= psi	× 0.070	= (kgf / cm <sup>2</sup> )
(newton / mm <sup>2</sup> )	× 145.04	= psi	× 0.069	= (bar)
megapascal (MPa)	× 145	= psi	× 0.00689	= MPa
<b>Power (W = J / s)</b>				
kilowatt (kW)	× 1.36	= PS (cv)	× 0.736	= kW
kilowatt (kW)	× 1.34	= HP	× 0.746	= kW
kilowatt (kW)	× 0.948	= Btu / s	× 1.055	= kW
watt (W)	× 0.74	= ft·lb / s	× 1.36	= W
<b>Energy (J = N·m)</b>				
kilojoule (kJ)	× 0.948	= Btu	× 1.055	= kJ
joule (J)	× 0.239	= calorie	× 4.19	= J
<b>Velocity and Acceleration</b>				
meter per sec <sup>2</sup> (m / s <sup>2</sup> )	× 3.28	= ft / s <sup>2</sup>	× 0.305	= m / s <sup>2</sup>
meter per sec (m / s)	× 3.28	= ft / s	× 0.305	= m / s
kilometer per hour (km / h)	× 0.62	= mph	× 1.61	= km / h
<b>Horse power /torque</b>				
BHP × 5252 rpm = TQ (lb·ft)			TQ × rpm 5252 = B.H.P.	
<b>Temperature</b>				
°C = (°F - 32) / 1.8		°F = (°C × 1.8) + 32		
<b>Flow Rate</b>				

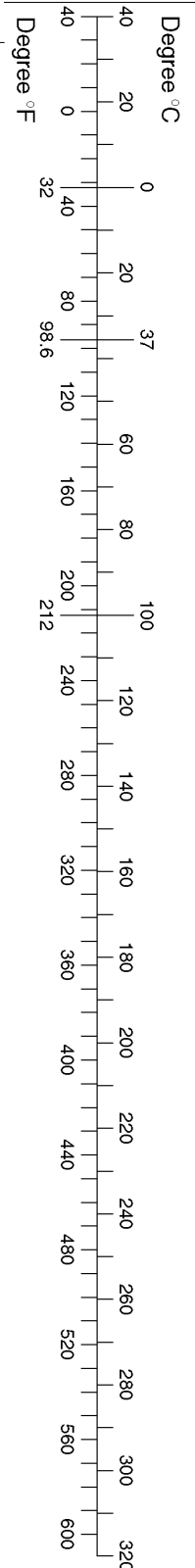
liter / min (dm<sup>3</sup> / min)

× 0.264

= US gal / min × 3.785

= liter / min

Note : ( ) non – si unit



S00244B

Document Title: <b>Specifications, general</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

## Specifications, general

### General specification

Item		Unit	Specifications
Operating weight	Rubber type	kg	*5040
		lb	11110
	Steel type	kg	5170
		lb	11398
Ground contact		kgf / cm <sup>2</sup>	0.31
		psi	4.41
Slew speed	Steady	rpm	10.0
Travel speed	1 speed	km / h	2.5
		mph	1.55
	2 speed	km / h	4.1
		mph	2.54
Maximum bucket digging force		kg	3670
		lb	8074
Maximum tractive effort		kg	4360
		lb	9592
Gradeability		% (°)	70 (35)


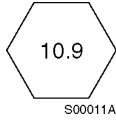
\* Include operator's weight 75 kg (165 lb)

Document Title: <b>Standard tightening torque</b>	Function Group: <b>030</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

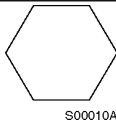
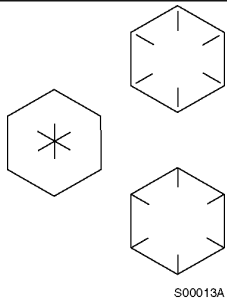
## Standard tightening torque

The following charts give the standard tightening torques of screws and nuts. Exceptions are given in each sections of "disassembly and assembly".

### Tightening torque (meter)

Classification	4T, 5T	10T
Screw type		
Screw size	Torque kgf·m (lbf·ft)	Torque kgf·m (lbf·ft)
M4	0.2 ± 0.02 (1.4 ± 0.1)	0.4 ± 0.04 (2.9 ± 0.3)
M5	0.3 ± 0.03 (2.2 ± 0.2)	0.8 ± 0.08 (5.8 ± 0.6)
M6	0.5 ± 0.05 (3.6 ± 0.4)	1.4 ± 0.14 (10.1 ± 1.0)
M8	1.2 ± 0.12 (8.7 ± 0.9)	3.3 ± 0.3 (23.8 ± 2.2)
M10	2.3 ± 0.23 (16.6 ± 1.7)	6.5 ± 0.7 (47 ± 5)
M12	4.0 ± 0.4 (29 ± 3)	11.3 ± 1.1 (82 ± 8)
<M14>	6.4 ± 0.6 (46 ± 4)	17.9 ± 1.8 (129 ± 13)
M16	9.5 ± 0.9 (69 ± 6)	26.7 ± 2.7 (193 ± 19)
<M18>	13.5 ± 1.4 (97 ± 10)	38.0 ± 3.8 (274 ± 27)
M20	18.6 ± 1.9 (134 ± 14)	52.2 ± 5.2 (377 ± 38)
<M22>	24.7 ± 2.5 (178 ± 18)	69.4 ± 6.9 (500 ± 50)
M24	32.1 ± 3.2 (232 ± 23)	90.2 ± 9.0 (650 ± 65)
M30	62.6 ± 6.3 (452 ± 45)	176.1 ± 17.6 (1270 ± 127)
M36	108.2 ± 10.8 (781 ± 78)	304.3 ± 30.4 (2200 ± 220)
M42	171.8 ± 17.2 (1240 ± 124)	483.2 ± 48.3 (3500 ± 350)
M45	211.3 ± 21.1 (1525 ± 152)	594.3 ± 50.4 (4300 ± 430)

### Tightening torque (inch)

Classification	4T, 5T	10T
Screw type		
Screw size	Torque kgf·m (lbf·ft)	Torque kgf·m (lbf·ft)
1/4	0.6 ± 0.06 (4.3 ± 0.4)	1.7 ± 0.2 (12.2 ± 1.2)
5/16	1.2 ± 0.12 (8.7 ± 0.8)	3.0 ± 0.3 (21.7 ± 2.2)
3/8	2.0 ± 0.20 (14.4 ± 1.4)	5.6 ± 0.5 (40 ± 4)
7/16	3.2 ± 0.32 (23 ± 2)	8.9 ± 0.9 (64 ± 6)
1/2	4.7 ± 0.47 (34 ± 3)	13.4 ± 1.3 (97 ± 10)
9/16	6.8 ± 0.68 (50 ± 5)	19.0 ± 1.9 (137 ± 14)
5/8	9.3 ± 0.93 (67 ± 7)	26.1 ± 2.6 (190 ± 19)
3/4	16.0 ± 1.60 (115 ± 15)	45.1 ± 4.5 (325 ± 33)



7/8	25.5 ± 2.55 (185 ± 19)	71.6 ± 7.2 (520 ± 52)
1	38.0 ± 3.80 (275 ± 27)	106.9 ± 10.7 (770 ± 77)
1-1/8	54.1 ± 5.41 (390 ± 39)	152.2 ± 15.2 (1100 ± 110)
1-1/4	74.2 ± 7.42 (535 ± 54)	208.9 ± 20.9 (1510 ± 151)
1-3/4	98.8 ± 9.88 (710 ± 71)	277.8 ± 27.8 (2000 ± 200)
1-1/2	128.2 ± 12.82 (925 ± 93)	360.7 ± 36.1 (2600 ± 260)

**NOTE!**

This torque table does not apply to screws with nylon packings or where nonferrous metal washers are to be used, or which require tightening to a different specified torque, or tightening procedure.

**NOTE!**

N·m (Newton meter) : 1 N·m ≅ 0.1 kgf·m

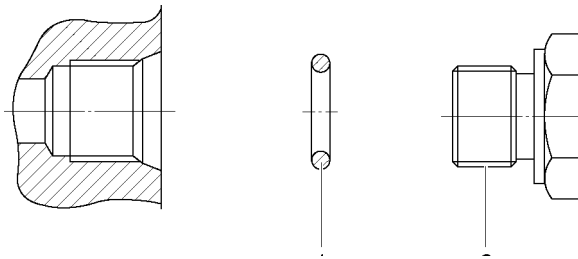
**Tightening torque of split flange screws**

Use these torques for split flange screws.

**Tightening torque (split flange screws)**

Thread diameter of screw (mm)	Width across flats (mm)	Tightening torque	
		kgf·m (lbf·ft)	N·m
10 12 16	14 17 22	6.7 ± 0.7 (48.4 ± 5) 11.5 ± 1 (83 ± 8) 28.5 ± 3 (206 ± 20)	65.7 ± 6.8 112 ± 9.8 279 ± 29

**Tightening torque for hydraulic plugs with o-ring**



**Figure 1**

**Hydraulic plugs with o-ring**

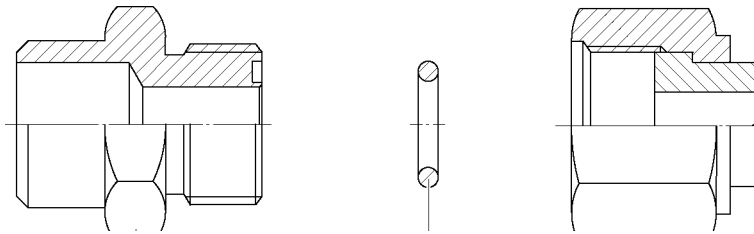
1. O-ring
2. Plug

**Pf thread**

**Tightening torque (hydraulic plugs)**

Thread	Plug part No.	Tightening torque kgf·m (lbf·ft)
1/8	9415-11012	2.5 ± 0.2 (18 ± 1.4)
1/4	9415-11022	5.0 ± 0.5 (36 ± 3.6)
3/8	9415-11032	7.5 ± 0.5 (54 ± 3.6)
1/2	9415-11042	11.0 ± 1.0 (79 ± 7)
3/4	9415-11052	18.0 ± 1.0 (130 ± 7)
1	9415-11062	21.0 ± 2.0 (152 ± 14)

**Tightening torque for swivel nut fitting with o-ring**



**Figure 2**  
**Swivel nut fitting with o-ring**

1. Connector
2. O-ring
3. Swivel nut
4. Hose

**Tightening torque for swivel nut fitting**

Tube outer diameter (in)	Thread size (in)	Tightening torque, kgf·m (lbf·ft)
1/2	UN 1 3/16 – 16	9.5 ± 0.95 (69 ± 7)
3/4	UN 1 3/16 – 12	18 ± 1.8 (130 ± 13)
1	UN 1 7/16 – 12	21 ± 2.1 (152 ± 15)

Document Title: <b>Time Guide</b>	Function Group: <b>070</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

## Time Guide

### EC55

<b>1</b>		<b>Standard parts, service</b>
<b>16</b>		<b>Lubricants, fuels and other liquids</b>
16206	0.50	Engine, changing oil and filter
16234	0.75	Hydraulic oil tank, changing oil and filter excl. cleaning tank
16236	1.50	Hydraulic oil tank, changing oil and filter incl. cleaning tank
16271	0.75	Swing motor gearbox, changing oil
16276	0.75	Travel motor gearbox, changing oil
<b>17</b>		<b>Service</b>
17101	0.50	Arrival inspection
17102	2.00	Delivery inspection
17202	3.00	Warranty service 100hours, according to service programme
17204	6.00	Warranty service 1000hours, according to service programme
17307	2.00	Maintenance service, every 250 hours
17310	3.00	Maintenance service, every 500 hours
17312	4.50	Maintenance service, every 1000 hours
17314	6.00	Maintenance service, every 2000 hours
<b>2</b>		<b>Standard parts, service</b>
<b>21</b>		<b>Engine</b>
21001	5.00	Engine, removing
21002	6.00	Engine, fitting
21004	13.00	Engine removed, general overhaul
21006	2.25	Compression test, engine at operating temperature
21101	6.00	Cylinder head, general overhaul
21102	4.00	Cylinder head gasket, replace in machine
21161	1.00	Valve cover, replace gasket
21211	11.00	Cylinder block, replace
21224	0.25	Crankcase ventilation hose, replace
21251	5.00	Flywheel housing, replace

21311	7.00	Cylinder piston kit, replace one
21319	8.00	Cylinder piston kit, replace all
21412	1.50	Valves, adjusting
21416	4.00	Intake valve and insert, replace one
21418	5.00	Intake valve and insert, replace all
21426	4.00	Exhaust valve and insert, replace one
21428	5.00	Exhaust valve and insert, replace all
21451	2.25	Rocker arm, replace
21481	2.00	Push rod, replace
21511	2.00	Timing gear cover, replace
21516	2.50	Timing gear case, replace
21522	2.00	Timing gear cover, fitting new gasket in machine
21530	2.25	Timing gear, replace in machine
21532	2.50	Timing gear case, fitting new gasket in machine
21541	5.00	Camshaft, replace
21542	5.00	Camshaft gear, replace
21546	5.00	Camshaft bushing, replace
21611	7.00	Crankshaft, replace
21614	2.00	Crankshaft, replace front oil seal
21616	7.00	Crankshaft, replace bearing, incl. thrust bearing
21618	4.00	Crankshaft, replace rear oil seal
21621	6.00	Connecting rod, replace
21626	2.75	Connecting rod, replace bearing
21631	0.50	Crankshaft pulley, replace
21661	3.50	Flywheel, replace
21668	4.00	Flywheel ring gear, replace
21711	2.00	Oil sump, replace
21722	2.25	Oil sump gasket, replace incl. cleaning oil strainer
21731	0.50	Dipstick guide(pipe), replace incl. dipstick
21811	1.00	Engine mounting bracket, right front, replace
21821	1.00	Engine mounting bracket, left front, replace
21831	1.00	Engine mounting bracket, right rear, replace
21841	1.00	Engine mounting bracket, left rear, replace
<b>22</b>		<b>Lubrication and oil system</b>
22106	2.50	Lubricating oil pressure relief valve, replace
22114	2.50	Oil pump, replace
<b>23</b>		<b>Fuel system</b>
23301	0.25	Fuel system, bleeding
23302	0.50	Fuel feed pump, replace
23311	0.50	Fuel filter head, replace
23314	0.25	Fuel filter, replace

23410	2.50	Fuel tank, replace
23416	0.50	Fuel level gauge, replace
23421	0.25	Fuel tank filling cap, replace
23441	0.50	Fuel filler pump, replace
23471	0.50	Fuel line hose, replace
23601	0.50	Idling speed, checking and adjusting
23602	0.50	Stall speed, checking and adjusting
23630	0.75	Injection timing, checking and adjusting
23673	2.75	Injection pump, replace incl. setting injection timing
23673	2.50	Injection pump gear, replace
23702	2.25	Injectors, replace all
23704	1.50	Injector, replace one
23718	0.50	Delivery pipe, replace one
23780	2.00	Injectors removed, reconditioning all
23791	0.50	Manifold (injector return), replace

## 25

### Intake and exhaust system

25101	1.25	Intake manifold, replace gasket
25104	1.50	Exhaust manifold, replace gasket
25220	1.00	Muffler, replace
25221	0.50	Exhaust pipe, replace
25227	0.75	Muffler mounting bracket, replace
25601	0.25	Air cleaner, cleaning element
25602	0.25	Air cleaner, checking pressure drop indicator
25603	0.25	Air cleaner, primary element replace
25604	0.25	Air cleaner, secondary element replace
25606	1.00	Air pre-heater, replace
25607	0.75	Air pre-heater controller, replace
25611	0.50	Air cleaner, replace hose
25612	0.25	Air cleaner, replace indicator
25671	0.25	Pre-cleaner, replace

## 26

### Cooling System

26101	0.50	Radiator, pressure testing
26104	0.50	Coolant, changing
26108	2.25	Radiator, replace
26111	0.25	Radiator cap, replace
26112	0.25	Radiator upper hose(inlet), replace
26114	0.75	Radiator lower hose(outlet), replace
26121	0.50	Expansion tank, replace
26131	0.75	Radiator shroud, replace
26133	0.50	Fan guard, replace
26202	1.25	Coolant pump, replace

26298	1.50	Thermostat, replace and testing
26311	0.75	Fan, replace
26312	0.50	Fan belt and/or alternator belt, replace
26313	0.75	Fan belt, alternator, compressor belt, replace all belt
26341	0.75	Fan drive pulley and spacer, replace
<b>27</b>		<b>Engine control</b>
27911	0.50	Control lever, replace
27912	0.75	Cable, replace
27914	0.25	Boot, replace
27931	0.50	Stop motor, replace
27932	0.50	Stop motor relay, replace
<b>3</b>		<b>Electrical system, warning system, information system instruments</b>
<b>31</b>		<b>Battery</b>
31102	0.50	Battery, replace
<b>32</b>		<b>Alternator and charging regulator</b>
32102	1.00	Alternator, replace incl. function check
32135	1.50	Alternator, replace carbon brush kit in machine
32186	0.50	Alternator support, replace
32205	1.25	Charging regulator, replace
<b>33</b>		<b>Starting system</b>
33141	0.75	Starter motor, replace
33181	0.50	Starter relay, replace
33411	0.75	Starter switch (eng. start switch), replace
<b>35</b>		<b>Lighting</b>
35211	0.25	Head lamp assembly, replace
35212	0.50	Lamp bulb, replace
35651	0.25	Work lamp assembly, replace one incl. adjusting
35652	0.50	Lamp bulb, replace
<b>36</b>		<b>Other electrical equipment</b>
36211	0.50	Horn, replace
36212	0.50	Melody horn, replace
36231	0.50	Horn switch, replace
36251	0.50	Travel warning alarm, replace
36311	0.75	Windscreen wiper front, replace motor
36351	0.50	Windscreen flusher pump, replace
36381	0.50	Windscreen wiper, replace switch
36391	0.50	Windscreen wiper, replace controller

36450	0.50	Relay(general), replace
36456	0.75	Pre-heating relay, replace
36452	0.50	Battery relay, replace
36461	0.50	Switch, replace
36462	0.50	Limit switch (hyd. servo line safety), replace

### **37**

#### **Cable. Fuse. Relay**

37111	5.00	Main wire harness, replace
37121	2.25	Instrument wire harness, replace
37141	0.75	Battery cable +, replace
37142	0.25	Battery cable -, replace
37211	7.00	Electrical distribution box, replace
37220	0.25	Fuse(general), replace
37226	0.50	Slow blow fuse, replace
37311	2.25	Engine wire harness, replace
37911	0.50	Boom wire harness, replace

### **38**

#### **Instruments, Sensors, Warning and Information**

38211	1.25	Engine temperature gauge, replace
38221	1.25	Fuel level gauge, replace
38291	1.25	Hour counter, replace
38611	0.50	Engine temperature sensor, replace
38612	0.50	Hydraulic tank oil temperature sensor, replace
38621	0.25	Fuel lever sender, replace
38641	0.50	Engine oil pressure sensor, replace
38651	0.50	Engine speed sensor, replace
38721	1.00	Cluster assembly, replace

### **39**

#### **Miscellaneous**

39321	1.00	Radio (with tape player), replace
39521	0.50	Antenna, replace
39522	0.75	Antenna cable, replace
39531	0.50	Speaker, replace

### **4**

#### **Power transmission**

### **43**

#### **Gearbox, mechanical**

43111	3.50	Travel gearbox, replace
43116	1.25	Travel gearbox removed, replace floating seal
43117	0.75	Travel gearbox removed, replace cover
43118	1.50	Travel gearbox, replace sun gear
43119	1.50	Travel gearbox removed, replace carrier assembly

43121	3.75	Swing gearbox, replace
43126	1.00	Swing gearbox removed, replace seal
43127	1.00	Swing gearbox removed, replace pinion shaft
43128	0.50	Swing gearbox removed, replace sun gear
43129	0.75	Swing gearbox removed, replace carrier assembly
43131	3.50	Pump gearbox coupling assembly, replace
43133	3.25	Coupling spline (hub), replace
43134	3.25	Coupling cushion(element), replace
43135	3.50	Coupling insert, replace
43136	3.25	Gearbox flange, replace

#### **44**

#### **Hydrostatic drive**

44111	3.00	Travel motor assembly, replace one
44112	0.75	Travel motor relief valve, replace
44113	1.50	Travel motor removed, replace cylinder kit
44116	1.50	Travel motor removed, replace seal
44121	2.50	Swing motor, replace
44122	1.25	Swing motor relief valve, replace
44123	1.25	Swing motor removed, replace cylinder block
44124	0.50	Swing motor removed, replace plate(brake)
44125	0.75	Swing motor removed, replace brake piston seal
44126	1.50	Swing motor removed, replace seal
44128	0.50	Swing motor brake valve, replace

44303	3.25	Turning joint, replace
44304	4.00	Turning joint, replace hub
44305	4.00	Turning joint, replace shaft
44306	3.75	Turning joint, replace seal kit
44307	1.00	Turning joint hose (valve - turning joint), replace
44308	1.00	Turning joint hose (turning joint - motor), replace
44309	0.50	Turning joint line connector, replace

#### **49**

#### **Swing system**

49221	12.00	Swing ring gear, replace
49231	0.50	Swing ring gear outer seal, replace
49232	12.50	Swing ring gear inner seal, replace
49251	0.25	Ring gear grease pipe, replace

#### **5**

#### **Brake**

#### **53**

#### **Track brake**

53111	3.75	Travel gear box brake disc, replace
53116	3.75	Travel gear box brake piston seal, replace

#### **7**

#### **Frame, springs, damping, axle suspension**



## wheel/track unit

### 71

71611 1.25

#### Frame

Counterweight, replace

### 77

77511 2.00

77512 1.00

77516 1.00

77521 2.00

77531 4.25

77532 0.25

77533 3.75

77551 1.00

77556 1.50

77561 1.25

77566 1.75

77571 0.70

77581 2.00

77582 2.50

#### Tracks

Front idler, replace one

Idler removed, replace support

Idler removed, replace seal

Sprocket, replace one

Track chain assembly, replace (incl. shoe fitting)

Track shoe, replace one

Track shoe, replace each side

Top roller, replace one

Top roller, replace seal

Bottom roller, replace one

Bottom roller, replace seal

Track guard, replace one

Track recoil spring(tensioner) assembly, replace

Recoil spring cylinder seal kit, replace

### 8

#### Machinery house, cab

### 81

81021 3.00

#### Cab

Operator cab, replace

### 82

82101 1.00

82104 1.00

82222 1.75

#### Engine hood, Mudguard, Foot step

Engine hood(bonnet), replace

Engine hood gas spring, replace

Cowl frame (bonnet frame), replace

### 83

83111 0.50

83143 0.25

83151 0.25

83411 0.25

83441 0.25

#### Doors, Hatch, Cover plate(all)

Cab door, replace

Cab door stripped, replace

Cab door catch, replace

Lock, replace

Handle, replace

### 84

84161 0.25

84311 0.75

84331 0.75

84351 0.75

#### Outside trim parts, glass, sealing mouldings

Rear view mirror, replace

Windscreen glass, replace

Rear window glass, replace

Side window glass, replace

<b>85</b>		<b>Seat</b>
85211	0.75	Seat, replace
85216	1.00	Seat support, replace
<b>87</b>		<b>Air conditioning unit</b>
87301	2.00	Heater assembly, replace
87304	2.25	Radiator, replace
87306	2.25	Fan motor, replace
87307	0.50	Heater hose, replace
87308	0.50	Heater valve, replace
87402	0.50	Refrigerant, draining
87403	1.00	Cooling unit, performance test
87405	0.75	Refrigerant, filling excl. vacuum pumping
87431	1.25	Compressor, replace (draining and filling)
87433	0.50	Compressor belt, replace
87451	2.25	Evaporator, replace
87456	2.25	Expansion valve, replace
87461	1.25	Condenser, replace
87471	1.25	Receiver dryer, replace
87481	1.25	Liquid hose, replace
87482	1.25	Discharge hose, replace
87483	1.25	Suction hose, replace
87491	0.75	Switch and controller, replace
<b>88</b>		<b>Interior equipment</b>
88101	1.75	Instrument panel, replace(right)
88103	2.00	Instrument panel, replace(left)
88106	0.50	Instrument panel safety catch, replace (incl. guard lever slide)
88107	0.50	Instrument panel gas spring, replace
88411	0.25	Seat safety belt, replace
<b>9</b>		<b>Hydraulic system, digging equip.</b>
<b>91</b>		<b>Working hydraulic and servo system</b>
91111	2.75	Hydraulic tank, replace
91113	0.50	Suction strainer, replace
91114	0.50	Breather, replace
91115	0.25	Oil level gauge, replace
91116	0.25	By-pass valve (filter), replace
91124	0.75	Pipe and hose (pump - valve), replace
91125	0.75	Pipe and hose (valve - cylinder), replace
91126	0.50	Pipe and hose (valve - swing motor), replace
91127	1.00	Pump suction hose and pipe, replace
91128	0.50	Pipe and hose (dozer cylinder line), replace
91129	0.50	Connector (pipe and hose), replace
91130	1.50	Oil cooler, replace

91133	1.50	Oil cooler line bypass valve (check valve), replace
91136	1.75	Oil cooler line pipe and hose, replace
91141	0.25	Oil return element, replace
91201	8.00	Main control valve, replace
91202	7.00	Main control valve removed, general overhaul
91211	1.25	Swing valve and travel valve, reconditioning
91212	1.25	Boom valve, reconditioning
91213	1.25	Bucket valve, reconditioning
91214	1.25	Dipper arm valve, reconditioning
91216	1.50	Dozer control valve, replace
91220	0.75	Main pressure relief valve, replace
91221	0.75	Overflow valve (port relief), replace
91224	0.75	Check valve, replace
91235	1.25	Anti drop valve, replace (boom cylinder)
91236	1.25	Anti drop valve, replace (dipper arm cylinder)
91241	1.00	Solenoid valve, replace
91291	0.50	Anti drop valve hose, replace (boom cylinder)
91292	0.50	Anti drop valve pipe, replace (boom cylinder)
91296	0.50	Arm anti drop valve hose, replace (dipper arm cylinder)
91297	0.50	Anti drop valve pipe, replace (dipper arm cylinder)
91301	3.50	Hydraulic pump, replace
91302	4.00	Pump removed, general overhaul
91303	5.25	Pump block seal, replace
91304	4.00	Pump shaft seal, replace
91305	0.75	Pump relief valve, replace
91306	0.75	Pump regulator, replace
91431	0.75	Servo pump, replace
91436	1.25	Servo pump block seal, replace
91437	1.00	Servo pump shaft seal, replace
91471	0.50	Servo pipe and hose, replace
91481	1.50	Remote control valve, replace
91482	0.75	Remote control valve removed, reconditioning
91486	0.75	Remote control valve hose, replace
91488	0.50	Remote control valve switch, replace
91641	0.50	Swing cylinder hose, replace
91644	0.50	Boom, replace hose (boom cylinder)
91645	0.75	Boom, replace pipe (dipper arm cylinder)
91646	0.50	Boom, replace hose (dipper arm cylinder)
91647	0.75	Boom, replace pipe (bucket cylinder)
91648	0.50	Dipper arm, replace hose (bucket cylinder)
91649	0.50	Dipper arm, replace pipe (bucket cylinder)
<b>92</b>		<b>Mechanical equipment</b>
92401	1.00	Quickfit pump (gear pump), replace
92402	0.75	Quickfif valve, replace

92403	0.75	Quickfit solenoid valve, replace
92404	0.75	Quickfit control switch, replace
92421	1.75	Quickfit hydraulic cylinder bracket (body), replace
92431	1.25	Quickfit hydraulic cylinder, replace
92441	0.50	Quickfit hydraulic hose, replace (for boom)
92442	0.50	Quickfit hydraulic pipe, replace (for boom)
92443	0.25	Quickfit hydraulic hose, replace (for dipper arm)
92444	0.50	Quickfit hydraulic pipe, replace (for dipper arm)
92445	0.75	Quickfit hydraulic cylinder hose, replace (cylinder-dipper arm)

92511	0.50	Bucket assembly, replace
92512	0.25	Bucket pin, replace
92581	0.50	Bucket tooth, replace all
92582	0.25	Bucket side cutting edge, replace

92711	1.25	Dozer blade, replace
92751	0.75	Dozer blade cylinder, replace

**97 Unit for digging**

97161	1.00	Boom swing cylinder, replace
97162	1.25	Boom swing cylinder, repacking in machine
97163	1.00	Boom swing cylinder removed, repacking

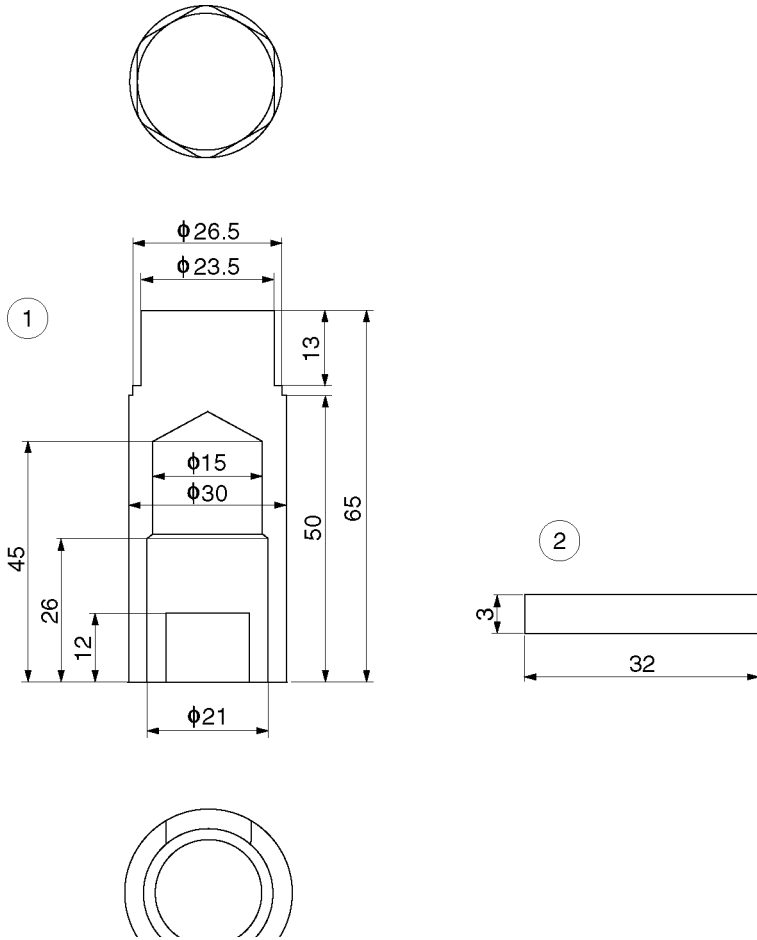
97411	3.00	Boom, removal
97412	3.25	Boom, installation
97416	0.50	Boom removed, replace two bushing
97417	0.25	Boom, replace one pin
97421	2.50	Boom swing bracket, replace
97431	1.00	Boom cylinder, replace
97432	1.25	Boom cylinder, repacking in machine
97433	1.00	Boom cylinder removed, repacking
97436	0.50	Boom cylinder removed, replace bushing
97437	0.25	Boom cylinder, replace one pin

97511	1.25	Dipper arm, removal
97512	1.50	Dipper arm, installation
97516	0.50	Dipper arm removed, replace two bushing
97517	0.25	Dipper arm, replace one pin
97521	0.75	Arm connecting rod, replace
97526	0.50	Arm connecting rod removed, replace two bushing
97527	0.25	Arm connecting rod, replace one pin
97528	0.50	Connecting rod yoke, replace
97531	1.00	Dipper arm cylinder, replace
97532	1.25	Dipper arm cylinder, repacking in machine
97533	1.00	Dipper arm cylinder removed, repacking
97536	0.50	Dipper arm cylinder removed, replace one bushing
97537	0.25	Dipper arm cylinder, replace one pin
97551	1.00	Bucket cylinder, replace
97552	1.25	Bucket cylinder, repacking in machine

97553	1.00	Bucket cylinder removed, repacking
97556	0.50	Bucket cylinder removed, replace one bushing
97557	0.25	Bucket cylinder, replace one pin

Document Title: <b>NET 8940-00200</b> <b>Replacement tool for the remote control valve joint</b>	Function Group: <b>080</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

**NET 8940-00200 Replacement tool for the remote control valve joint**

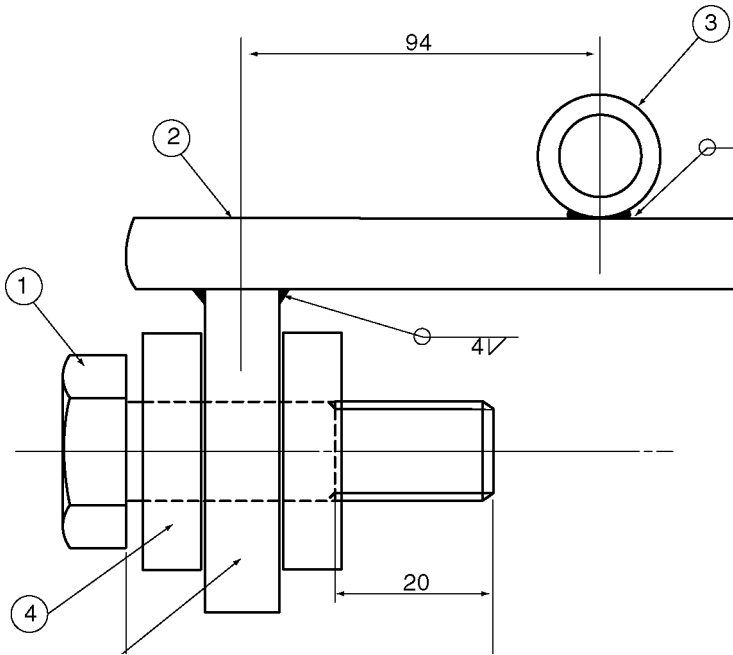


**Figure 1**  
**Replacement tool, remote control valve joint (unit : mm)**

Item	Quantity	Name	Remark
1	1	Socket	SAE 4130 (QT)
2	1	Stop plate	SAE 4130 (QT)

Document Title: <b>NET 8940-00350</b> <b>Replacement tool for the</b> <b>slew motor assembly</b>	Function Group: <b>080</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

**NET 8940-00350 Replacement tool for the slew motor assembly**

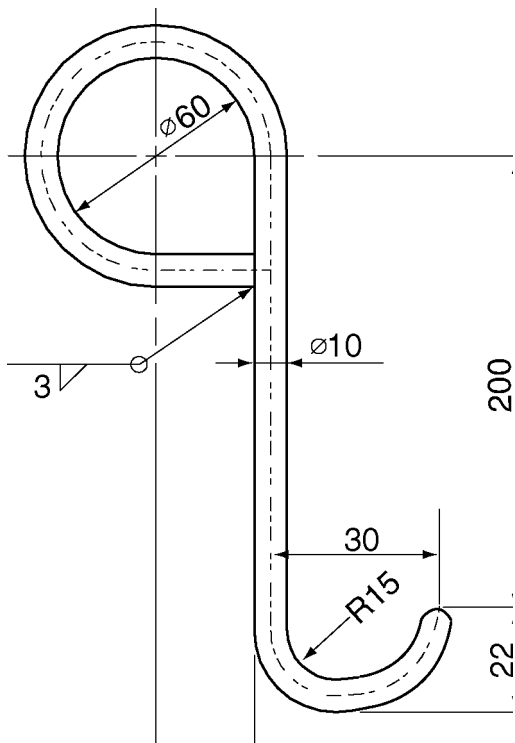


**Figure 1**  
**Replacement tool, slew motor assembly (unit : mm)**

Item	Quantity	Name	Remark
1	1	Screw PF3/4 (flat width 36mm)	SAE1045 (QT)
2	1	Round bar – $\phi 20$	SAE1045
3	1	Ring – $\phi 20 \times \phi 20$	SAE1045
4	2	Washer $\phi 28 \times \phi 40 - 10t$	SAE1045
5	1	Washer $\phi 28 \times \phi 50 - 20t$	SAE1045

Document Title: <b>NET 8940-00360 Replacement tool for the radiator assembly</b>	Function Group: <b>080</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

**NET 8940-00360 Replacement tool for the radiator assembly**



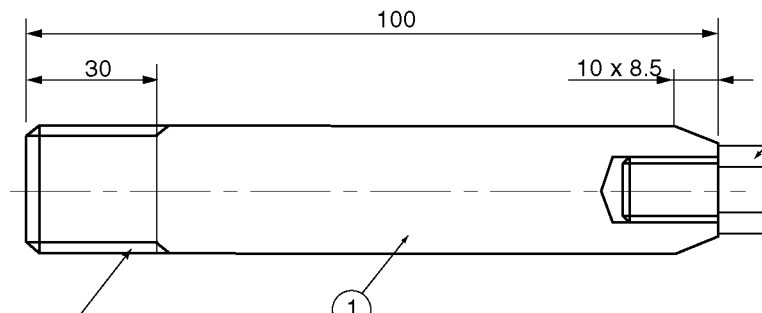
**Figure 1**  
Replacement tool, radiator assembly (unit : mm)

Item	Quantity	Name	Remark
1	2	Lifter	SAE 1040



Document Title: <b>NET 8940-00370 Guide pin for travel motor and slew ring gear</b>	Function Group: <b>080</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

**NET 8940-00370 Guide pin for travel motor and slew ring gear**

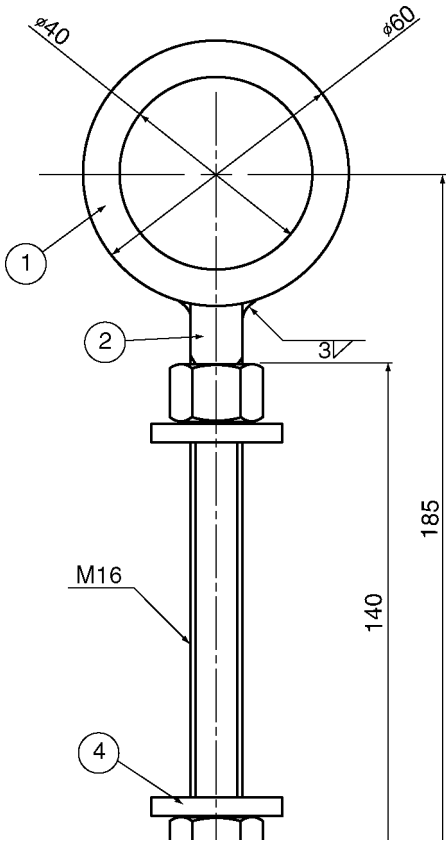


**Figure 1**  
**Travel motor guide pin (unit : mm)**

Item	Quantity	Name	Remark
1	2	Guide bar	SAE 4130 (25 ~ 35 HRC)
2	2	Screw	M8 × 16

Document Title: <b>NET 8940-00380</b> <b>Replacement tool for slew ring gear</b>	Function Group: <b>080</b>	Information Type: <b>Service Information</b>	Date: <b>2017/7/7 0</b>
Profile:			

**NET 8940-00380 Replacement tool for slew ring gear**











**Figure 1**  
**Replacement tool for sing ring gear (unit : mm)**

Item	Quantity	Name	Remark
1	2	Ring	SAE1045 (QT)
2	2	Round bar ( φ16)	SAE1045 (QT)
3	4	Nut	M16
4	4	Washer (φ16 × φ35 -10t)	

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