

## Hydraulic Mining Excavator

### General Data

#### Operating weight

Face shovel	552 t	590 sht
Backhoe	547 t	608 sht

#### Engine output

SAE J 1995	1880 kW	2520 HP
optional	2240 kW	3000 HP

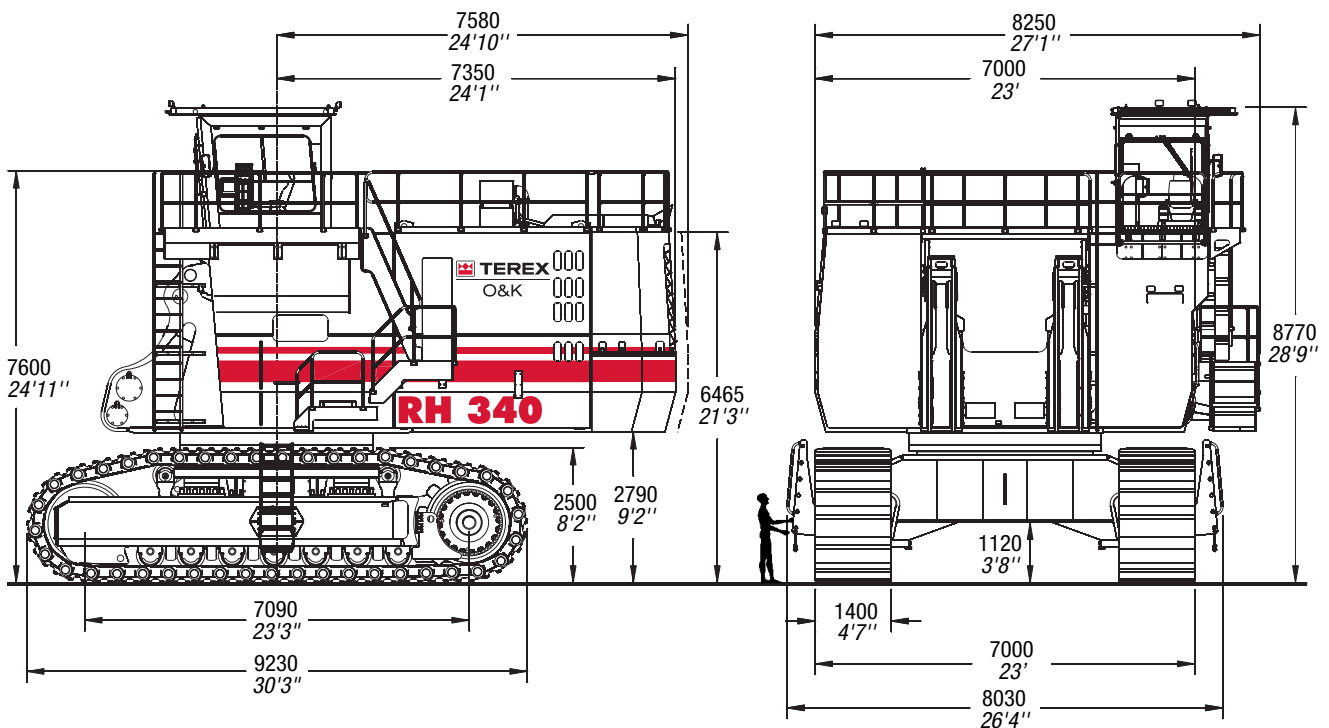
#### Standard bucket capacity

Face shovel (SAE 2:1)	34.0 m <sup>3</sup>	44.5 yd <sup>3</sup>
Backhoe (SAE 1:1)	34.0 m <sup>3</sup>	44.5 yd <sup>3</sup>

### Features

- ▶ TriPower shovel attachment
- ▶ Independent oil cooling system
- ▶ Spacious walk-through machine house
- ▶ 5-circuit-hydraulic system
- ▶ Electronic-hydraulic servo control
- ▶ Board Control System (BCS)
- ▶ Torque control in closed-loop swing circuit
- ▶ Automatic central lubrication system
- ▶ Xenon working lights

### General Dimensions



### Operating Weight - Shovel

Standard track pads	1400 mm	4'7"
Operating weight	552000 kg	1216940 lbs
Ground pressure	24.7 N/cm <sup>2</sup>	35.8 psi
Further track pads on request		

### Operating Weight - Backhoe

Standard track pads	1400 mm	4'7"
Operating weight	547000 kg	1205920 lbs
Ground pressure	24.5 N/cm <sup>2</sup>	35.4 psi
Further track pads on request		

## Diesel Engines (standard)

Make and model	2 x Cummins K 1500-E
Total rated net power ISO 3046/1	1880 kW (2520 HP) 1800 min <sup>-1</sup>
Total rated net power SAE J1349	1880 kW (2520 HP) 1800 min <sup>-1</sup>
Total rated gross power SAE J1995	1880 kW (2520 HP) 1800 min <sup>-1</sup>
Total max. gross power SAE J1995	2240 kW (3000 HP) 2100 min <sup>-1</sup>
No. of cylinders (each engine)	12
Bore	159 mm (6.25 in)
Stroke	159 mm (6.25 in)
Displacement	37.8 l (2300 in <sup>3</sup> )
Aspiration	Turbocharged and aftercooled
Max. altitude without deration	2438 m (8000 ft) a.s.l.
Emission certification	US EPA Tier 1
Fuel tank capacity	10700 l (2820 US gal)
<ul style="list-style-type: none"> <li>▶ Hydraulically driven radiator fan with electronically controlled fan speed</li> <li>▶ Microprocessed engine control</li> <li>▶ Automatic rev. reduction</li> <li>▶ Heavy duty air-filters, STRATA 1 with automatic dust evacuation</li> <li>▶ Two-stage fuel filter incl. water separator</li> <li>▶ Additional high capacity water separator</li> <li>▶ Pre-lube starting system</li> <li>▶ Eliminator with centrifuge for engine oil filtration</li> </ul>	

## Diesel Engines (optional)

Make and model	2 x Cummins QSK 45
Total rated net power ISO 3046/1	2240 kW (3000 HP) 1800 min <sup>-1</sup>
Total rated net power SAE J1349	2240 kW (3000 HP) 1800 min <sup>-1</sup>
Total rated gross power SAE J1995	2240 kW (3000 HP) 1800 min <sup>-1</sup>
Total max. gross power SAE J1995	2986 kW (4000 HP) 1900 min <sup>-1</sup>
No. of cylinders (each engine)	12
Bore	159 mm (6.25 in)
Stroke	190 mm (7.48 in)
Displacement	45 l (2746 in <sup>3</sup> )
Aspiration	Turbocharged and aftercooled
Max. altitude without deration	4267 m (14000 ft) a.s.l.
Emission certification	US EPA Tier 1

## Electric Motor (optional)

Type	Squirrel cage induction motor
Output	1800 kW
Voltage	4.0 - 7.2 kV ± 10 %
Rated current I <sub>N</sub>	185 A (at 6.6 kV)
Frequency	50 Hz (or 60 Hz optional)
Revolutions	1500 min <sup>-1</sup> (or 1800 min <sup>-1</sup> optional)
Starting current	450% of I <sub>N</sub>
<ul style="list-style-type: none"> <li>▶ Custom-made electric motor with increased gap between rotor and stator to withstand severe mining conditions</li> <li>▶ Power limit control by Pump Management System</li> </ul>	

## Electrical System (diesel drive)

System voltage	24 V
Batteries	6 x 170 Ah - 12 V each
in series/paralell installation	510 Ah - 24 V in total
Alternators	2 x 175 A each
Working spot lights	8 x high brightness Xenon lights
<ul style="list-style-type: none"> <li>▶ Battery disconnect relais</li> <li>▶ Emergency stop switches accessible from ground level and in engine module</li> </ul>	

## Hydraulic System with PMS

<b>Main pumps</b>	4 x variable flow axial piston pumps
Max. oil flow	4 x 925 l/min (4 x 244 US gal/min)
Max. pressure, attachment	32 MPa = 320 bar (4640 psi)
Max. pressure, travel	36 MPa = 360 bar (5220 psi)
<b>Swing pumps</b>	4 x reversible swash plate pumps
Max. oil flow	4 x 353 l/min (4 x 93 US gal/min)
Max. pressure, swing circuit	35 MPa = 350 bar (5080 psi)
Total volume of hydraulic oil	approx. 8400 l (2220 US gal)
Hydraulic tank capacity	approx. 6100 l (1610 US gal)
<b>Pump Managing System (PMS) contains:</b>	
<ul style="list-style-type: none"> <li>▶ Electronic load limit control</li> <li>▶ Zero oil flow regulation of main pumps</li> <li>▶ Automatic rpm reduction of engine speed during working breaks</li> <li>▶ Flow on demand of main pumps depending on joystick position</li> <li>▶ Reduced oil flow of main pumps when hydraulic temperature is below / above set values or engine temperature is too high</li> </ul>	
<ul style="list-style-type: none"> <li>▶ Pressure cut-off for main pumps</li> <li>▶ Automatic double-flow for all cylinders</li> </ul>	
<b>Filters:</b>	
<ul style="list-style-type: none"> <li>▶ Full-flow high-pressure filters (100 µm) for the main pumps, installed directly behind each pump</li> <li>▶ High pressure filters (200 µm) for the closed swing circuit</li> <li>▶ Full-flow filters (10 µm) for the complete return circuit</li> <li>▶ Pressure filters (40 µm and 6 µm) for servo circuit</li> <li>▶ Pressure filters (40 µm) for the feed pumps of the closed swing circuit</li> <li>▶ Transmission oil filters (40 µm)</li> </ul>	

## Hydraulic Oil Cooling

Oil flow of cooling pumps	4 x 500 l/min (4 x 132 US gal/min)
Diameter of fans	4 x 1170 mm (4 x 46")
<ul style="list-style-type: none"> <li>▶ Cooling system is fully independent of all main circuits, i.e. full cooling capacity is available whenever engine is running</li> <li>▶ Gear type cooling pumps supply high volume low pressure oil to fans and aluminium coolers</li> <li>▶ Fan speed and flow of oil to the coolers are thermostatically controlled</li> <li>▶ System with extreme high cooling efficiency for low oil temperatures</li> </ul>	

## Swing System

Swing drives	4 compact planetary transmissions with variable axial piston motors
Parking brakes	Wet multiple disc brake, spring loaded / hydraulically released
Max. swing speed	3.9 rpm
Swing ring	Triple race roller bearing with sealed internal gearing
<ul style="list-style-type: none"> <li>▶ Closed-loop swing circuit with torque control</li> <li>▶ Hydraulical braking of the swing motion by counteracting control</li> <li>▶ All race ways of swing ring as well as grease bath of internal gearing supplied by automatic central lubrication system</li> </ul>	

## Automatic Lubrication System

Capacity of grease container	1000 l (264 US gal)
<ul style="list-style-type: none"> <li>▶ Dual-circuit system with hydraulically driven heavy-duty pump and electronic time relay control to adjust the pause/lube times</li> <li>▶ Connected to the lubrication system are the swing roller bearing with internal gearing and all pivot points of attachment, bucket and cylinders</li> <li>▶ System failures displayed by Board Control System</li> <li>▶ Grease filters (200 µm) between service station and container as well as directly behind grease pump</li> </ul>	

Operator's Cab	
Operator's eye level	7.6 m (24'11") approx.
Internal dimensions of cab	
- Length	2200 mm (7'3")
- Width	1600 mm (5'3")
- Height	2150 mm (7'1")
▶ Pneumatically cushioned and multi-adjustable comfort seat with lumbar support, safety belt, head and arm rests	
▶ Dead-man switch in seat cushion to switch-off automatically the hydraulic controls when operator leaves the seat	
▶ Dual-lever joystick controls integrated in independently adjustable seat consoles	
▶ Fold-away auxilliary seat	
▶ FOPS (rock guard; approved acc. to DIN ISO 3449) integrated into cab structure	
▶ Armoured windshield and tinted safety glass side windows with one sliding window	
▶ Windshield with parallel intermittent wiper/washer	
▶ Roller blind at windshield	
▶ Robust instrument panel incl. large and colored BCS screen with transfective technology	
▶ TEREX O&K Board Control System (BCS) electronic monitoring and data logging system for vital signs and service data of the engines, hydraulic system, pumps, motors and drive system	

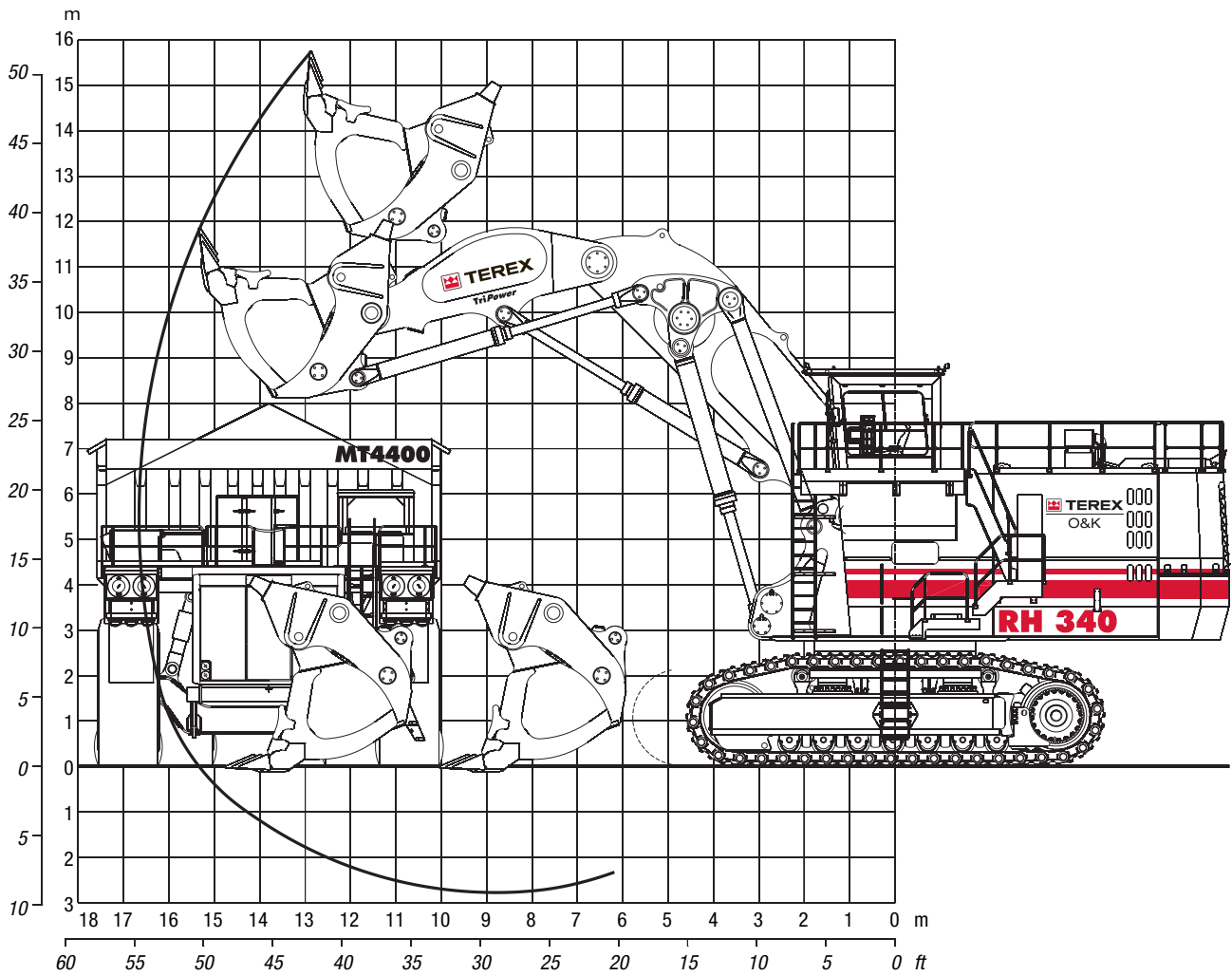
Undercarriage	
Travel speeds (2 stages):	Max. 2.0 km/h (1.24 mph) Max. 1.5 km/h (0.93 mph)
Max. tractive force:	2830 kN (288 t = 635990 lbs)
Gradability:	Approximately 54 %
Track pads (each side)	42
Bottom rollers (each side)	7
Support rollers (each side)	2 plus a sliding bar in the centre
Travel drives (each side)	1 planetary transmission with 2 two-stage axial piston motors
Parking brakes	Wet multiple disc brake, spring applied / hydraulically released
▶ Cast double-grouser combined pad-links with bushings connected by hardened full floating pins	
▶ All running surfaces of sprockets, idlers, rollers and pad links as well as teeth contact areas of sprocket and pad links are hardened	
▶ Fully hydraulic self-adjusting track tensioning system with membrane accumulator; tensioning pressure depending on external loads	
▶ Automatic hydraulic retarder and suction valve to prevent overspeed on downhill travel	
▶ Acoustic travel alarm	

Retractable Service Station	
▶ Retractable service station installed underneath the engine module and easily accessible from ground. Equipped with:	
Quick couplings for:	
▶ Diesel fuel	
▶ Engine coolant - left/right	
▶ Pump transmission gear oil - left/right	
▶ Engine oil (oil pan) - left/right	
▶ Engine oil (additional tank - optional) - left/right	
▶ Hydraulic oil tank	
▶ Grease container	
▶ CAT jump start socket	
▶ Fuel gauge	

Attachments	
▶ Booms and sticks are torsion resistant, welded box design of high tensile steel with massive steel castings at pivot areas	
▶ Welding procedures allow for internal counter-welding (double prep weld) wherever possible	
▶ Booms and sticks are stress relieved after welding	
▶ Inspection holes in booms (FS & BH) and stick (FS only)	
▶ "Pressure-free lowering" of boom (FS and BH) and stick (FS) by means of a quick drop valve	
▶ Shovel attachment with TEREX O&K's patented <b>TriPower</b> kinematics ensuring the following main features:	
▶ Horizontal automatic constant-angle bucket guidance	
▶ Vertical automatic constant-angle bucket guidance	
▶ Automatic roll-back limiter to prevent material spillage	
▶ Support of hydraulic forces	
▶ Constant boom momentum throughout the whole lift arc	
▶ Crowd force assistance	
▶ All buckets (FS and BH) are equipped with a universal wear package suitable for all standard applications, which consists of:	
▶ Special liner material covering main wear areas inside and outside of bucket	
▶ Lip shrouds between teeth	
▶ Wing shrouds on side walls	
▶ Bottom edge protection	
Special wear packages for highly abrasive materials on request	

Optional Equipment	
<b>General</b>	
▶ Export crating	
▶ Finishing other than TEREX O&K std. colours (TEREX O&K colour quality)	
▶ Inscription as per customer's specification	
<b>Superstructure</b>	
▶ Hydraulic service crane on superstructure with auxilliary engine	
▶ Mesabi radiators instead of standard radiators	
▶ Automatic fire suppression system	
▶ Oil change interval extension for engine oil up to 1000 hrs	
▶ Retractable boarding ladder	
▶ Grease barrel 200 l (instead of grease container)	
▶ Various cold weather packages	
<b>Cab</b>	
▶ Various heating and airconditioning systems	
▶ Roller blinds at all windows	
▶ Rear windscreen wiper	
▶ BCS data-transfer-system	
▶ Additional instrumentation	
<b>Undercarriage</b>	
▶ Track pad width 1600 mm or 1800 mm	
▶ Automatic lubrication of rollers by central lube system	
<b>Attachment</b>	
▶ Catwalks with rails at boom	
▶ Guards for shovel cylinders of FS-attachment	
▶ Xenon lighting on boom	
▶ Special wear packages	
Further optional equipment on request	

**Working Diagram - Face Shovel (FS) - Boom 8.0 m (26'2") - Stick 5.1 m (16'9")**



**Digging Forces**

Max. crowd force	1910 kN	429230 lbs
Max. crowd force at ground level	1910 kN	429230 lbs
Max. breakout force	1500 kN	337100 lbs

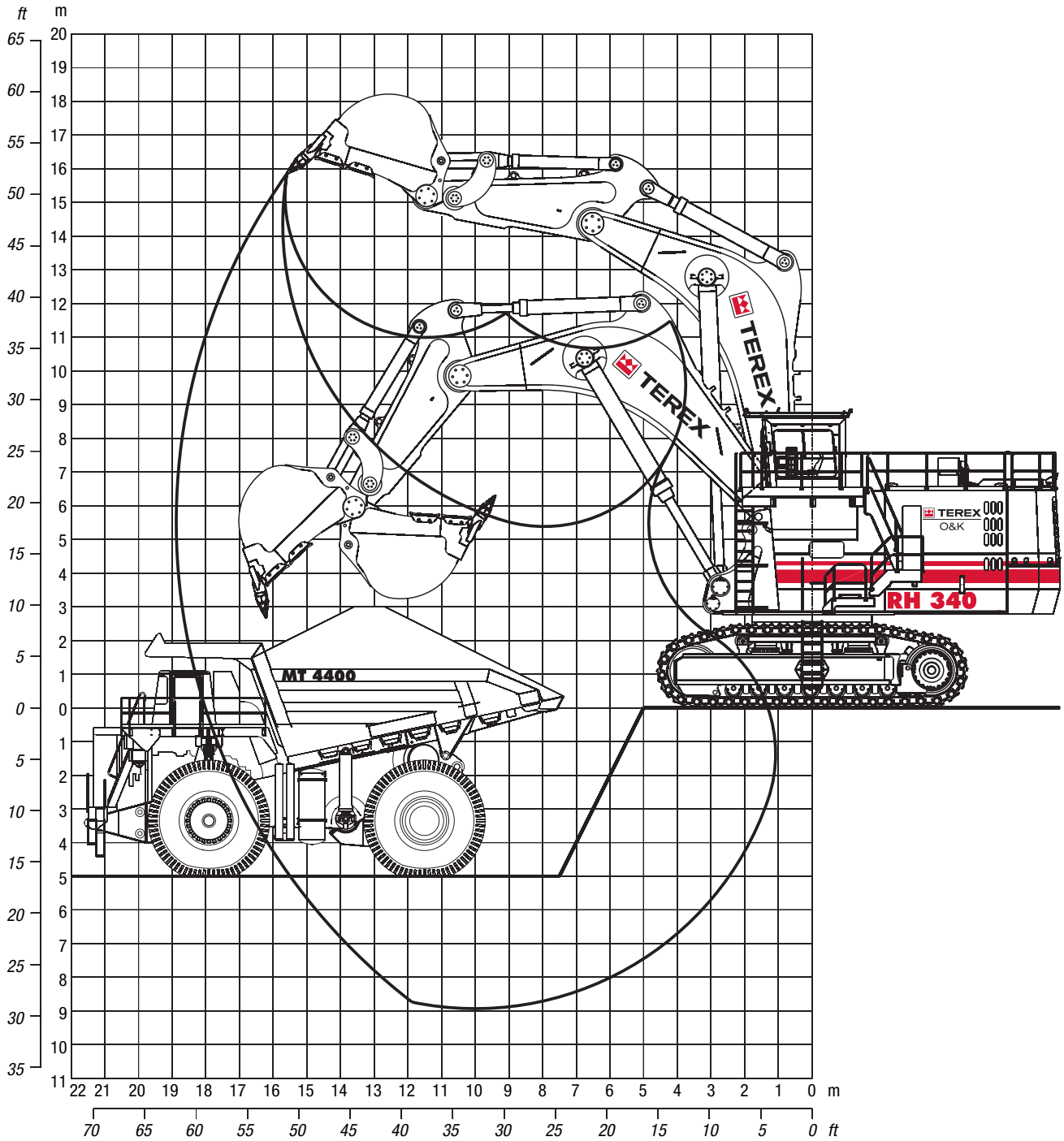
**Working Range**

Max. digging height	15.8 m	51'10"
Max. digging reach	16.7 m	54'9"
Max. digging depth	2.8 m	9'2"
Max. dumping height	12.0 m	39'4"
Crowd distance on level	4.7 m	15'5"

**Face Shovels**

Type			Standard rock shovel		Other shovels on request
Tooth system			ESCO Posilok tooth system S 130		
Capacity SAE / PCSA 1:1	m <sup>3</sup>	cuyd	39.0	51.0	
<b>Capacity SAE / CECE 2:1</b>	<b>m<sup>3</sup></b>	<b>cuyd</b>	<b>34.0</b>	<b>44.5</b>	
Total width	mm	ft:in	4700	15'5"	
Opening width	mm	ft:in	2500	8'2"	
No. of teeth			6		
Weight incl. universal wear kit	kg	lbs	51300	113100	
Max. material density (loose)	t/m <sup>3</sup>	lbs/cuyd	1.8	3030	

**Working Diagram - Backhoe (BH) - Boom 10.5 m (34'5") - Stick 5.0 m (16'5")**



**Digging Forces**

Max. crowd force	1270 kN	285410 lbs
Max. breakout force	1240 kN	278670 lbs

**Working Range**

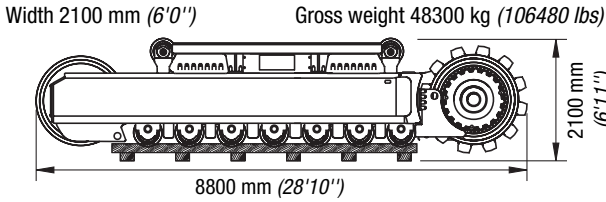
Max. digging depth	8.9 m	29'2"
Max. digging reach	18.9 m	62'0"
Max. digging height	15.9 m	52'2"

**Backhoes**

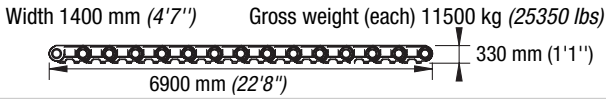
Type			Heavy rock bucket		Standard rock bucket	
Tooth system			ESCO Posilok tooth system S 130		ESCO teeth size 110	
<b>Capacity SAE 1:1</b>	<b>m<sup>3</sup></b>	<b>cuyd</b>	<b>29.0</b>	<b>37.9</b>	<b>34.0</b>	<b>44.5</b>
Capacity CECE 2:1	m <sup>3</sup>	cuyd	25.4	33.2	30.3	39.6
Capacity struck	m <sup>3</sup>	cuyd	21.9	28.6	26.5	34.7
Total width	mm	ft:in	4270	14'	4570	15'
No. of teeth			5		6	
Weight incl. universal wear kit	kg	lbs	31300	69000	31000	68340
Max. material density loose	t/m <sup>3</sup>	lbs/cuyd	2.1	3540	1.8	3030

**General Packing List (approx. values; details may vary depending on scope of supply and destination)**

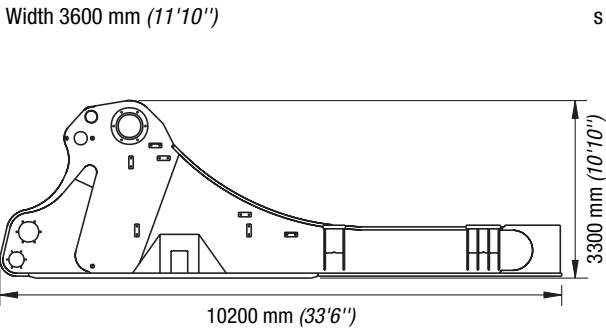
**Crawler side frame (2 units)**



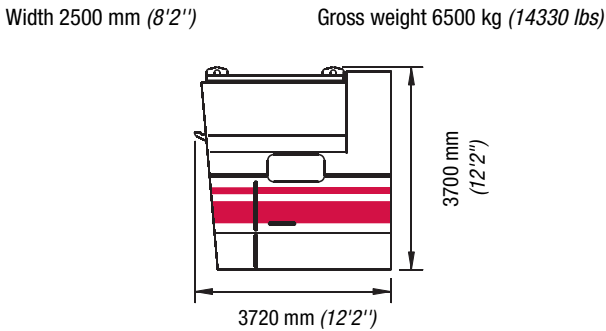
**6 tracks consisting of 14 pad links; each:**



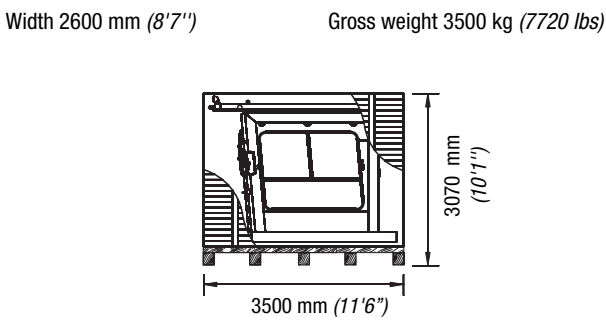
**Superstructure centre frame**



**Cab pedestal module**

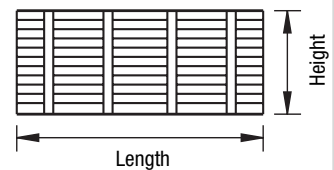


**Crate with cabin and FOPS**

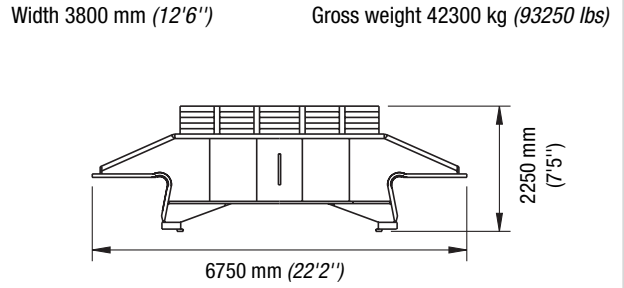


**Crates**

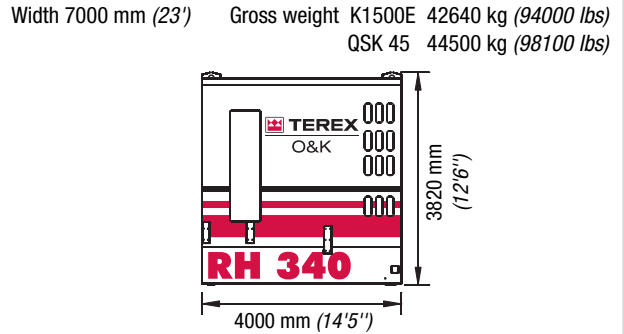
Content	Length mm (ft.in)	Width mm (ft.in)	Height mm (ft.in)	Gross weight kg (lbs)
Radiators with fan; 2 crates each:	2700 (8'10")	2100 (6'11")	710 (2'4")	1230 (2710)
Four swing gears	1350 (4'5")	1350 (4'5")	1900 (6'3")	5340 (11770)
Swing ring cover	2200 (7'3")	1300 (4'3")	1030 (3'5")	390 (860)
Swing ring bolts, access ladder, etc.	3300 (10'10")	1600 (5'3")	1260 (4'2")	3700 (8160)
Catwalks and other parts	4950 (16'3")	1900 (6'3")	1740 (5'9")	3500 (7720)
Grease container with pump	1700 (5'7")	1300 (4'3")	2050 (6'9")	1470 (3240)
Barrels (hydraulic oil; grease)	3700 (12'2")	1350 (4'5")	1350 (4'5")	3150 (6940)
Barrels (engine oil; antifreeze)	2000 (6'7")	1350 (4'5")	1400 (4'7")	1380 (3040)



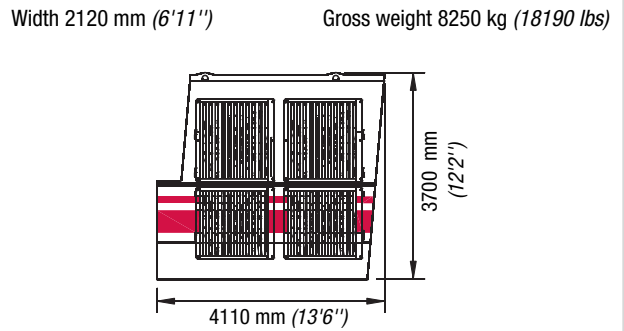
**Undercarriage centre frame with swing roller bearing**



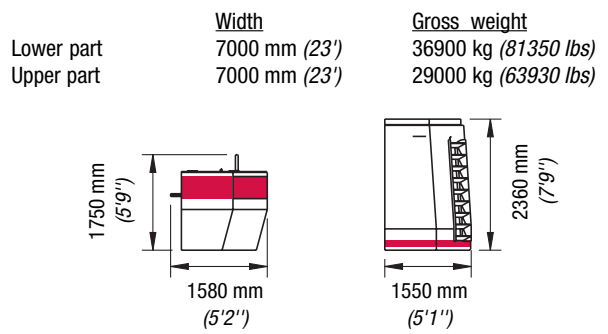
**Engine module with diesel engines**



**Oil cooler module**



**Counterweights**

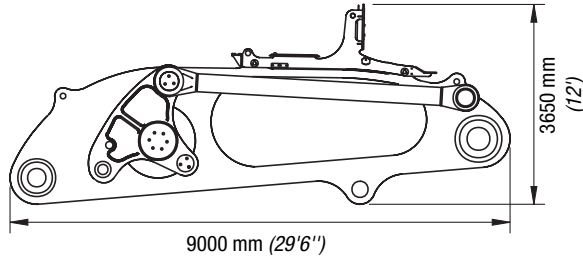


All details provided are for general information only. Exact dimensions subject to selected machine configuration and final packing list.

### TriPower Shovel Attachment

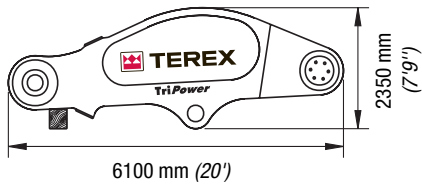
#### Boom with main valve block, TriPower linkages and rods

Width 3050 mm (10') Gross weight 44000 kg (97000 lbs)



#### Arm / stick

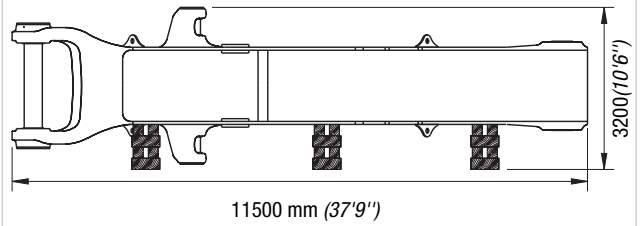
Width 2660 mm (8'9") Gross weight 16300 kg (35930 lbs)



### Backhoe Attachment

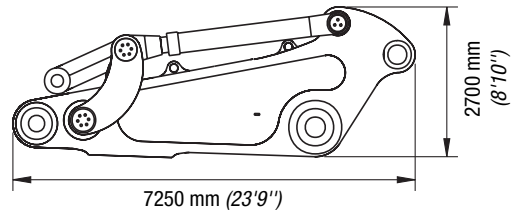
#### Monoboam without main valve block

Width (Height) 5000 mm (16'5") Gross weight 41600 kg (91710 lbs)



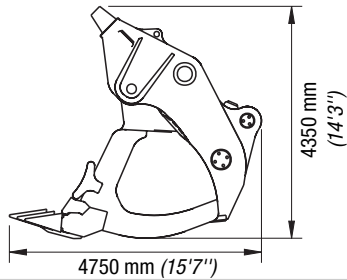
#### Arm with linkage and bucket cylinders

Width 2300 mm (7'7") Gross weight 26800 kg (59080 lbs)



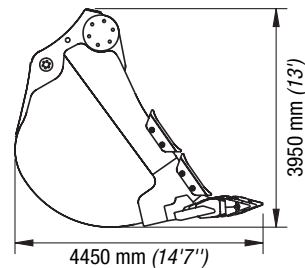
#### Face shovel incl. pin for stick

Capacity (2:1) 34.0 m<sup>3</sup> (44.5 cuyd) Width 5000 mm (16'5") Gross weight 52600 kg (115960 lbs)



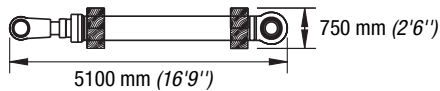
#### Backhoe bucket incl. pins for stick and linkage

Capacity (1:1) 34 m<sup>3</sup> (44.5 cuyd) Width 4600 mm (15'1") Gross weight 33100 kg (72970 lbs)



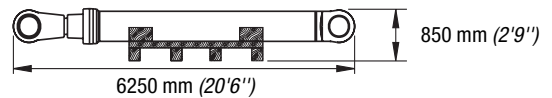
#### Bundle with 2 boom cylinders

Width 1200 mm (3'11") Gross weight 8250 kg (18190 lbs)



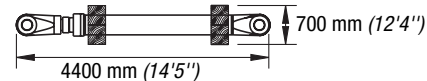
#### 2 pallets with boom cylinders, each:

Width 800 mm (2'7") Gross weight 7180 kg (15830)



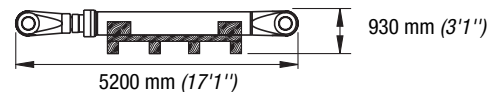
#### 2 bundles with 2 stick cylinders and 2 bucket cylinders, each:

Width 1200 mm (3'11") Gross weight 5200 kg (11460 lbs)



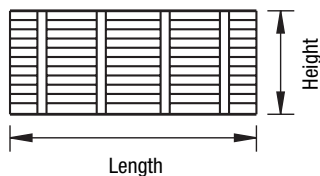
#### 2 pallets with arm cylinders, each:

Width 800 mm (2'7") Gross weight 4200 kg (9260)



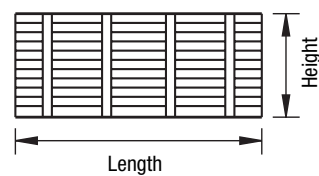
#### Crates with catwalks, railings and other parts

Length mm (ft:in)	Width mm (ft:in)	Height mm (ft:in)	Gross weight kg (lbs)
3900 (12'10")	1900 (6'3")	1600 (5'3")	3300 (7280)



#### Crates with main valve block, catwalks, railings and other parts

Length mm (ft:in)	Width mm (ft:in)	Height mm (ft:in)	Gross weight kg (lbs)
4500 (14'9")	2150 (7'1")	1700 (5'7")	4400 (9700)
3900 (12'10")	1900 (6'3")	1600 (5'3")	3100 (6830)

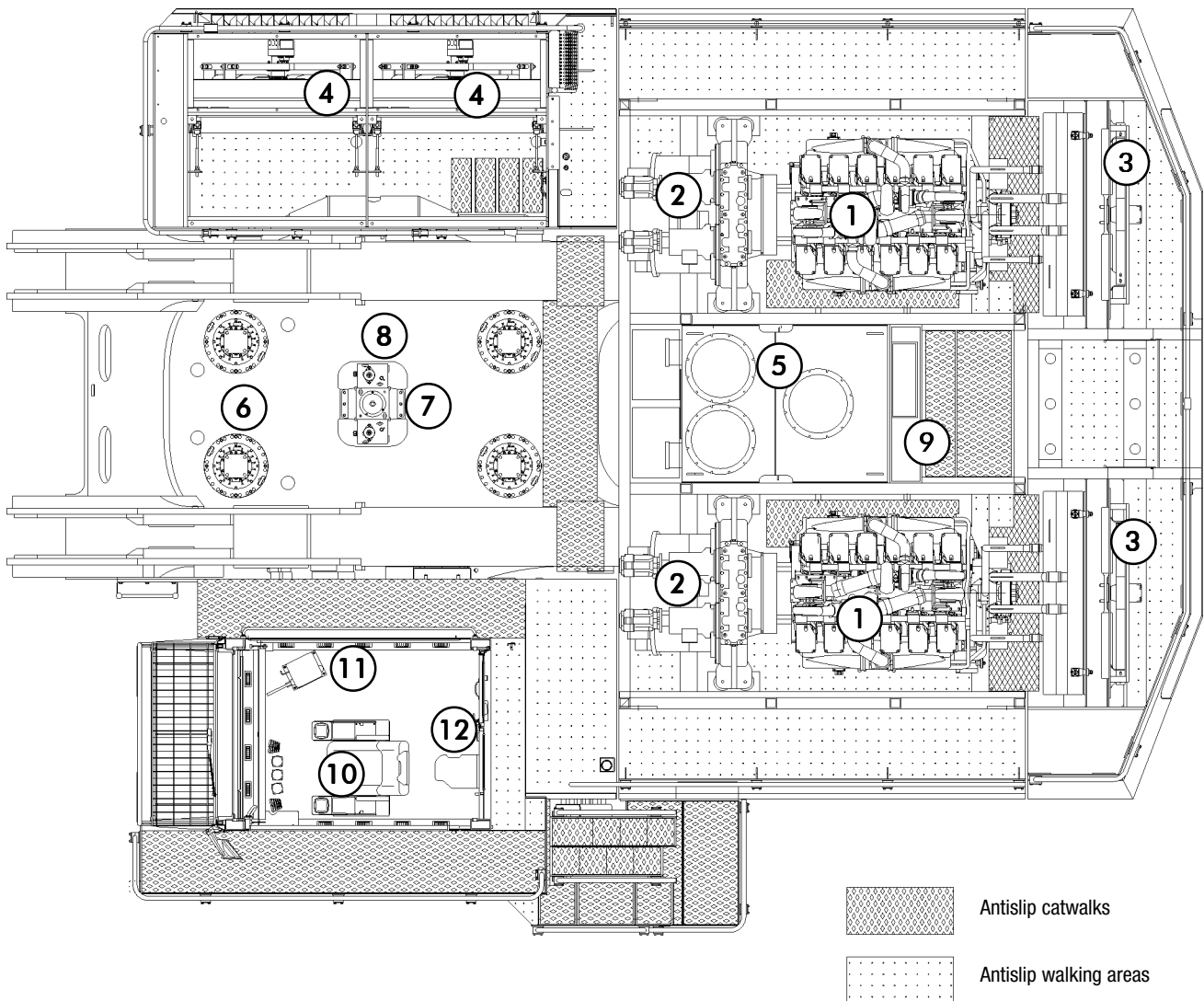


All details provided are for general information only. Exact dimensions subject to selected machine configuration and final packing list.

# Hydraulic Mining Excavator RH 340

## Component accessibility on superstructure

- |  |                                      |
|--|--------------------------------------|
| 1 Diesel engines                                 | 7 Rotary distributor                 |
| 2 Gearboxes with hydraulic pumps                 | 8 Travel valves                      |
| 3 Engine radiators with hydraulically driven fan | 9 Switch cabinet and battery cabinet |
| 4 Oil coolers                                    | 10 Operator's seat                   |
| 5 Hydraulic tank                                 | 11 BCS tower                         |
| 6 Swing drives                                   | 12 Trainer's seat                    |



### Terex Germany GmbH & Co. KG

Karl-Funke-Strasse 36  
D-44149 Dortmund  
Germany

TEL ++49 (0) 231 / 922-3  
FAX ++49 (0) 231 / 922-5800  
EMAIL [info@terex-ok.de](mailto:info@terex-ok.de)  
WEB [terex-ok.com](http://terex-ok.com) [terex.com](http://terex.com)