

# VOLVO ECR58-T TUNNEL-EXCAVATOR

**SSM**  
SCHÖLLER SPECIAL MACHINES

OPERATING WEIGHT 14,300 – 16,500 LB  
ENGINE POWER 47 HP – TIER 4F (STAGE V)  
FOR TUNNEL HEIGHTS FROM 9.8 TO 14.4 FT  
BREAKOUT FORCE 5,600 LB  
TEAROUT FORCE 10,800 LB  
HIGH HYDRAULIC PERFORMANCE FOR ATTACHMENT TOOLS  
OPTIONAL ALSO WITH ELECTRIC DRIVE OR TWINDRIVE



ENGINE

The certified Volvo diesel engine fully meets the demands of the latest emission regulations Tier 4f /Stage V. The water cooled engine uses precise, high pressure fuel injectors and provides optimize machine performance and high fuel efficiency. The Volvo EATS exhaust gas emission control essentially comprises a combination of a diesel oxidation catalytic converter (DOC) and a downstream diesel particle filter (DPF). The stacked water and hydraulic oil cooler is easy accessible and equipped with a single-speed fan for the cooling system.  
Air Filter: 2-stage, Pre-heated fuel filter  
Automatic Idling System: Reduces engine speed to idle when the levers and pedals are not activated resulting in less fuel consumption and low cab noise levels.

Engine type	Volvo	D2.6H
No. of cylinders		4
Displacement	in³	160
Max. engine speed	rpm	2.200
Max. gross power	hp	47
Max. torque at engine speed	lfp ft	128

ELECTRICAL SYSTEM

Well protected high-capacity electrical system. Waterproof double-lock harness plugs are used to secure corrosion-free connections. The main relays and solenoid valves are shielded to prevent damage. The master switch is standard. The I-ECU control panel beside the operator seat provides controls and displays the machine functions. The machine is equipped with a yellow beacon, acoustic drive alert and codec-secured anti-theft device.

Voltage	V	12
Batteries	V/Ah	12 / 74
Alternator	V/Ah	12 / 70

SWING SYSTEM

Maintenance free hydrostatic swing system, with radial piston motor and an automatic holding brake and anti-rebound valve are standard.

Max. slew speed	rpm	8,7
Max. slew torque	lfp ft	9,065

TRAVEL SYSTEM

Each track is powered by an automatic two-speed shift travel motor. The track brakes are multi-disc, spring-applied and hydraulic released. The travel motor, brake and planetary gears are well protected within the track frame.

Max. drawbar pull	lbf	10,670
Max. travel speed (low / high)	mph	1.6/2.8
Max. gradeability	°	20

UNDERCARRIAGE

Robuster, X-förmiger Rahmen mit dauergeschmierten und abgedichteten Raupenketten. Stütz- und Planierschild am Unterwagen.

Steel crawler chains (optional with rubber pads, 400 mm wide)		
Shoe width, steel grouser shoe	in	15
Bottom rollers	ea	2 x 5
Top rollers	ea	2 x 1

CABIN

The FOPS certified operator's cab has easy access via a wide door opening. The cab is supported on dampening mounts to reduce shock and vibration levels. These along with sound absorbing lining provide low noise levels. The cab has excellent allround visibility. The front windshield with wiper unit can easily slide up into the ceiling, and the lower front glass can be removed and stored in the side door.  
The spring-suspended driver's seat and the joystick console can be adjusted independently of each other. The seat has different adjustments plus a seat belt with warning device for the operator's comfort and safety. Beside the multifunctional operating panel, also an AM/FM radio with USB port is installed. The cabin has an integrated heating and air-conditioning system (working with coolant of type R134a).

HYDRAULIC SYSTEM

The hydraulics system operates with an open negative control system which optimal matches to the engine and components and allows independent and simultaneous movements. The hydraulic systems operates with one axial piston pump.  
Hose burst protection valves at the boom and dipper arm cylinders provide safe operation.

Main pump, type variable displacement axial piston pump		
Max. flow rate	gpm	37.8 @ 2200 rpm
Max. operating pressure (main pump)	psi	3,771
Max. flow for hammer/drum cutter circuit (X1)	gpm	19.8 (proportional)
Max. operating pressure for attachment tools (X1)	psi	3,190
Max. flow for second auxiliary circuit (X3)	gpm	10.6 (proportional)

TUNNELIMNG BOOM EQUIPMENT

- Heavy-duty tunnel boom with swivel mechanism 2x40°
- All main bearing points with exchangeable bushings and floating bolts
- Hydraulic adjustable king post toward the upper-carriage, allows max. maneuverability of the boom
- Basic boom with lifting cylinder including hose burst protection valve
- Swivel bracket (2x40 °) with one cylinder
- Dipper arm with lifting cylinder including hose burst protection valve and reinforced bucket cylinder integrated in the dipper stick
- Hydraulic hose line installation on the boom (hydraulic hoses for easy maintenance and exchangeability)
- Additional hydraulic control circuits for hammer / drum cutter (X1, proportional) and rotary drive circuit (X3, proportional) as well as drain oil line.

Ripping force (boom)	lb	5,600
Breakout force (bucket)	lb	10,800

MODIFICATIONS AND OPTIMIZATIONS

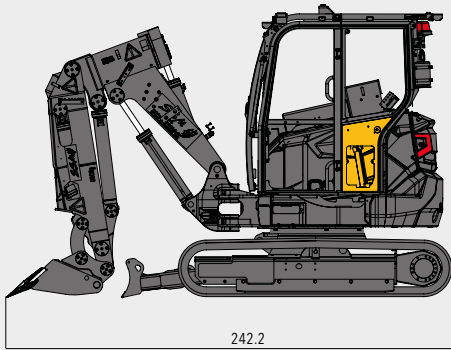
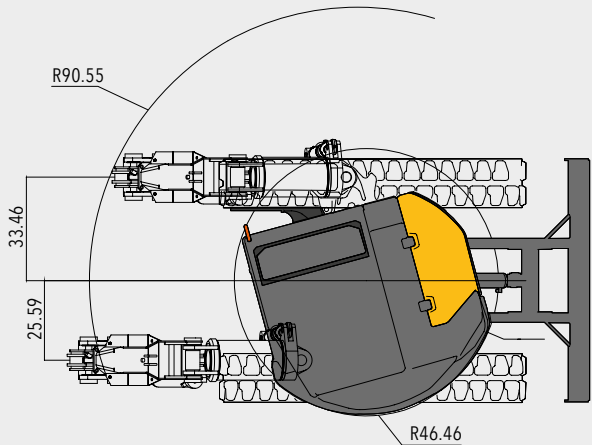
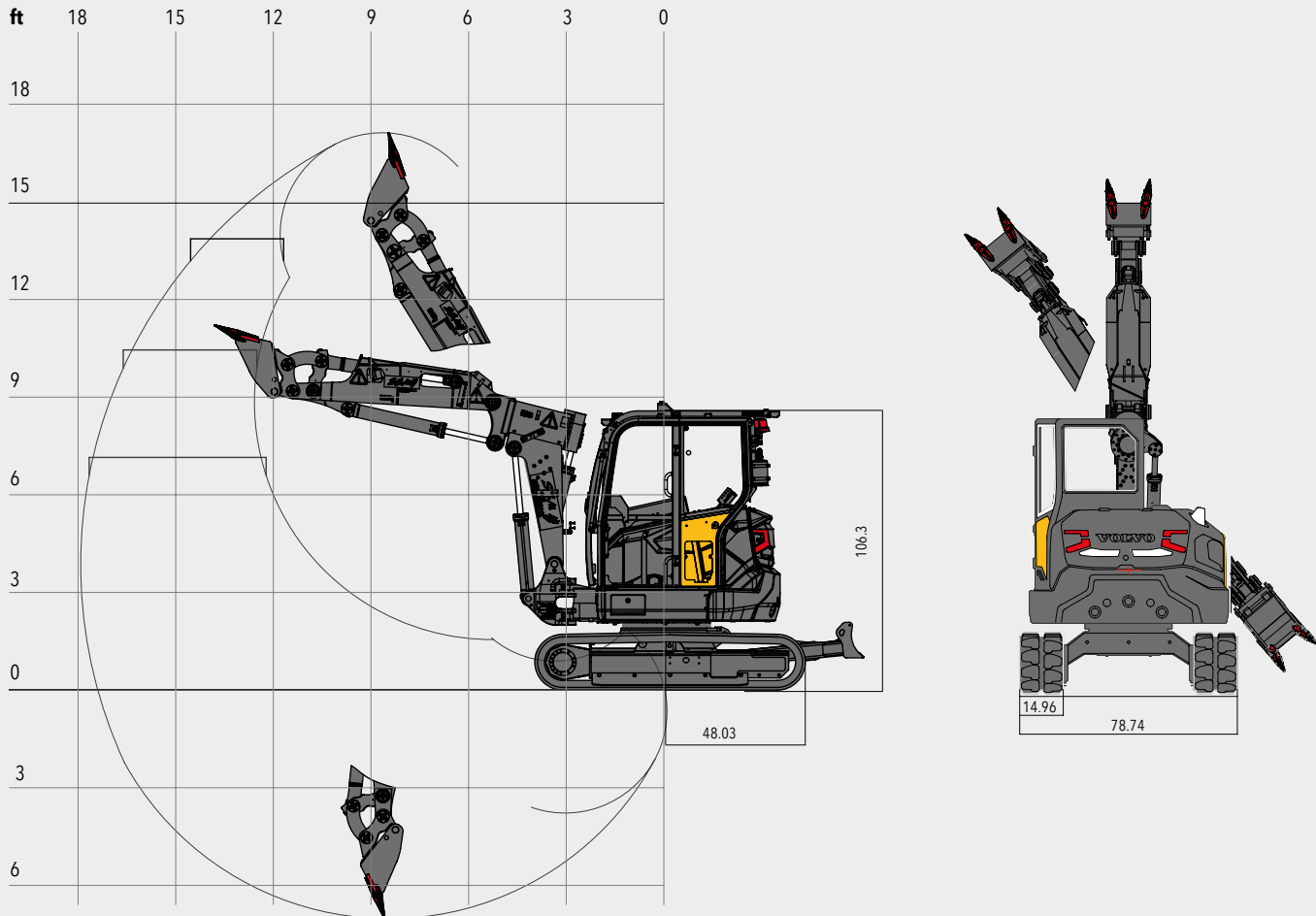
- Optimised excavator superstructure frame including modification of the aggregate suspensions a cable & hose installation
- Side ram protection (tunnel protection bar) at the outside of the upper-carriage frame
- Bigger rear counter weight for better stability while working
- Additional guides for crawler drive chains
- Crawler chain dirt scrapers (height adjustable, at front and rear side, optional)
- Reinforced cabin front and roof protection grid FGPS, (FOPS level 2)
- Hand operated fire extinguisher in protective box on the upper-carriage
- Electric filling pump for hydraulic oil
- LED headlights on the upper front and rear of the cab
- Drive warning lights (flashing lights) on the front and rear of the chassis
- Emergency stop switch on the superstructure (1 x cabin and 2 x rear of the superstructure)
- Drain oil line installation on boom and in basic machine
- Other various modifications and optimizations
- Lifting points for crane transport (optional)
- Optional accessories: central lubrication system, fire extinguishing system, quick coupler, various buckets and attachment tools, etc.

SERVICE REFILL

Fuel tank	gal	18.5
Hydraulic system, total	gal	20
Hydraulic tank	gal	12.4
Engine oil	gal	2.69
Engine coolant	gal	2.38
Travel reduction unit	gal	2 x 0.211

SOUND LEVEL

Sound pressure level in cab according to ISO 6396		
LpA (standard)	dB	74
External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC		
LWA (standard)	dB	97





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