TENSTAR simulation

EXERCISES
TRACK EXCAVATOR

EXERCISE	PURPOSE	DESCRIPTION	FEATURES
EXCAVATOR INTRODUCTION			
1.3 Prechecks		The exercises involves reporting any and all flaws or abnormalites with the machine before driving.	
1.6 Driving exercise	The exercise's objective is to practise manoeuvring the excavator.	The exercise involves driving along an obstacle course, turning and driving back to the start.	
BASIC DIGGING			
2.1 Filling	The purpose of the exercise is get a feel for basic material handling in the simulator.		
2.2 Dig	The purpose of the exercise is get a feel for digging in the simulator.		
2.3 Level	The purpose of the exercise is to practice small and precise movements with the machine.		
2.4 Level with section view	The purpose of the exercise is to practice small and precise movements with the machine while at the same time keeping track of the machine controls.		
2.5 Fill a trench	The purpose of the exercise is to practice digging and workflow.		
2.6 Dig a trench	The purpose of the exercise is to practice precise digging according to a template. You will also have to consider how and where you will start working.		
2.7 Loading a truck	Fill the truck with material by digging out of the encircled area.	You will need to move the excavator to get a good spot to dig from.	
2.8 Load truck from elevation	Practice loading the dumper from an elevated position.		
2.9 Dig and fill	The purpose of the exercise is to practice digging and refilling a trench. You will also have to consider how and where you will start working.	The exercise involves digging a trench and, after pipes have been laid in to it, refilling it. The student will have to consider where to place the material when digging to save time when refilling later.	

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ADVANCED DIGGING			
3.2 Profile view	The purpose of the exercise is to practice digging according to a profile view.	The exercise involves digging an elevator shaft assisted by machine control to get the right angle on slopes.	
3.3 Trench with reference	The purpose of the exercise is to practice digging using only visual references. The student will have to manually dig straight.	The exercise involves digging a trench without complete markings on the ground. The result is shown by colorcode in realtime.	
3.4 Trench	The purpose of the exercise is to practice digging using only visual references. The student will have to manually dig straight.	The exercise involves digging a trench without complete markings on the ground. However; in this exercise the student cannot see the result in realtime.	
3.5 Digging multiple levels			
3.6 Raising elevations	The purpose of the exercise is to practice digging different levels inside a trench.		
3.7 Grading sloped surfaces	The purpose of the exercise is to learn how to level sloping surfaces using the tilt on the bucket.	The exercise involves grading a road under construction.	
TIME CHALLENGES			
7.1 Load a truck when timed	Load a truck within 4 minutes!		
7.4 Multifunction driving exercise	The exercise's objective is to learn to manoeuvre the excavator and to use several functions simultaneously.		
7.5 Practical test		This exercise is a practical test where the student will have to perform safety measures before driving and then do a driving and digging test.	
HELAC POWER TILT			
8.1 Ground shapes	Scrape shapes in the dust using the Helac PowerTilt.		
8.2 V-ditch	Dig a V-ditch using Helac PowerTilt.		
8.3 Shapes and rotortilt	Scrape shapes in the dust using the Helac RotorTilt.		

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MACHINE CONTROL			
A. Calibrate bucket	This exercise is used for calibrating the bucket in the machine control software.	Compatible with: Topcon 3DMC, Leica/Scanlaser XC2,XC14,XC16,iCP31,iCP41.	
B. Length measurement	Learn how to use machine control for distance measurement.	Compatible with: Leica/Scanlaser XC2,XC14,X-C16,iCP31,iCP41.	
C. Laser	Here you can learn how to calibrate your machine using a laser.	Compatible with: Leica/Scanlaser XC2,XC14,X-C16,iCP31,iCP41.	
D. Laser with one slope	Here you will learn how to calibrate your machine using a laser with slope in 1 direction.	Compatible with: Leica/Scanlaser XC2,XC14,X-C16,iCP31,iCP41.	
E. Laser with two slopes	Here you will learn how to calibrate your machine using a laser with dual slope.	Compatible with: Leica/Scanlaser XC2,XC14,X-C16,iCP31,iCP41.	
F. Save positions	Learn how to store points in the control box to aid remembering the pipe positions when filling.	Compatible with: Topcon 3DMC, Leica/Scanlaser XC16, iCP41.	
G. Vertical Offset	Learn how to use vertical offset to raise or lower against the 3D surface.	Compatible with: Topcon 3DMC, Leica/Scanlaser XC16, iCP41.	
H. Help model	Learn how to load a 3D model of the pipes to aid when digging out the trench.	Compatible with: Topcon 3DMC, Leica/Scanlaser XC16, iCP41.	
I. Create road model	In this exercise you will create a road surface in the control box and use it for reference.	Compatible with: Topcon 3DMC, Leica/Scanlaser XC16, iCP41.	
SANDBOX			
Sandbox	The purpose of this execise is to have a large open area to dig freely in.	Be creative!	

Developed by

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Distributed by

LVE Learn Virtual Europe

LearnVirtual Euorpe Kft.

3200 Gyöngyös
7. Táncsics M.

HUNGARY

Tel.: +36-20/929-2026
e-mail: info@learnvirtual.eu
web: www.learnvirtual.eu