



Managed by	Region(s)	Model(s)	N° PMI	Release date	Page
Gene Kim	AMER-NA APAC	EW160/180/220E, EWR150/170E / <b>ECR235/355E</b> EC220/250/300/380/480/ <b>750E</b>	PMI_EXC_100619_B_ Dig_Assist_2-1_AMER-NA_APAC	10/06/2019	8

## **PURPOSE:**

Available machines include EW160/180/220E, EWR150/170E, ECR235E and EC220/250/300/350/380/480/750E. Start of Production dates differ depending on model type. Please contact your responsible Dig Assist product manager for more information.

## **Languages:**

Until 2.0: English, German, Dutch, French, Italian, Swedish, Spanish, Danish, Norwegian, Portuguese, Finnish, Polish, Czech, Latvian, and Korean.

From 2.1: Greek, Bulgarian, Romanian, Hungarian, Slovak, Slovenian, Estonian, Lithuanian, Turkish, and Croatian.

## **Additional Available Models: Start of Production (MoM codes for Dig Assist options are open for the following models as of today)**

- ECR235E, EC750E: May 2019 from Changwon.
- ECR355E: July 2019 from Changwon

## **Summary: New content of DigAssist 2.1**

- The tilt bucket functionality is improved with extremely better response.
- The dynamic response of the IMU measurement is also improved.
- All of known bugs in 2.0 version have been fixed.



## Summary: Dig Assist for EXW & EXC

MOM Codes	EXW	EXC	"Options to be selected together", Comments
Dig Assist 2D Start	XW50155	XC50155	
Dig Assist 2D	XW50140	XC50140	
Dig Assist In-Field Design	XW50141	XC50141	"Dig Assist 2D" (XW/XC50140 )
Dig Assist Topcon 3D	XW50156	XC50156	"Dig Assist 2D" (XW/XC50140 )
Dig Assist On-Board Weighing	XW50158	XC50158	"Dig Assist 2D or 2D Start" (XW/XC50155 or 50140)
Dig Assist, SteelWrist	XW50142	XC50142	"Dig Assist 2D or 2D Start" (XW/XC50155 or XW/XC50140 ) and "TiltRotator Control system 2 <sup>nd</sup> Generation" (XW60840 or XC80502 )
Dig Assist, Tilt Bucket preparation	XW50143	XC50143	"Dig Assist 2D" , AMO kit is also available
Dig Assist, Tilt Bucket Sensor	XK8300449	AMO kit only	

Tilt Bucket Kit configuration	Dig Assist option & kit for Tilt Bucket		
	Dig Assist, Tilt Bucket preparation	Tilt Bucket Preparation	Tilt Bucket Sensor
Option & Kit Code	XW/XC50143	XK8300125	XK8300449
Gateway on arm	Yes	Yes	
Wire harness from Gateway to IMU	Yes		Yes
IMU with protection	Yes		Yes
Available as an Option availability	Yes		
Available as a kit		Yes	Yes

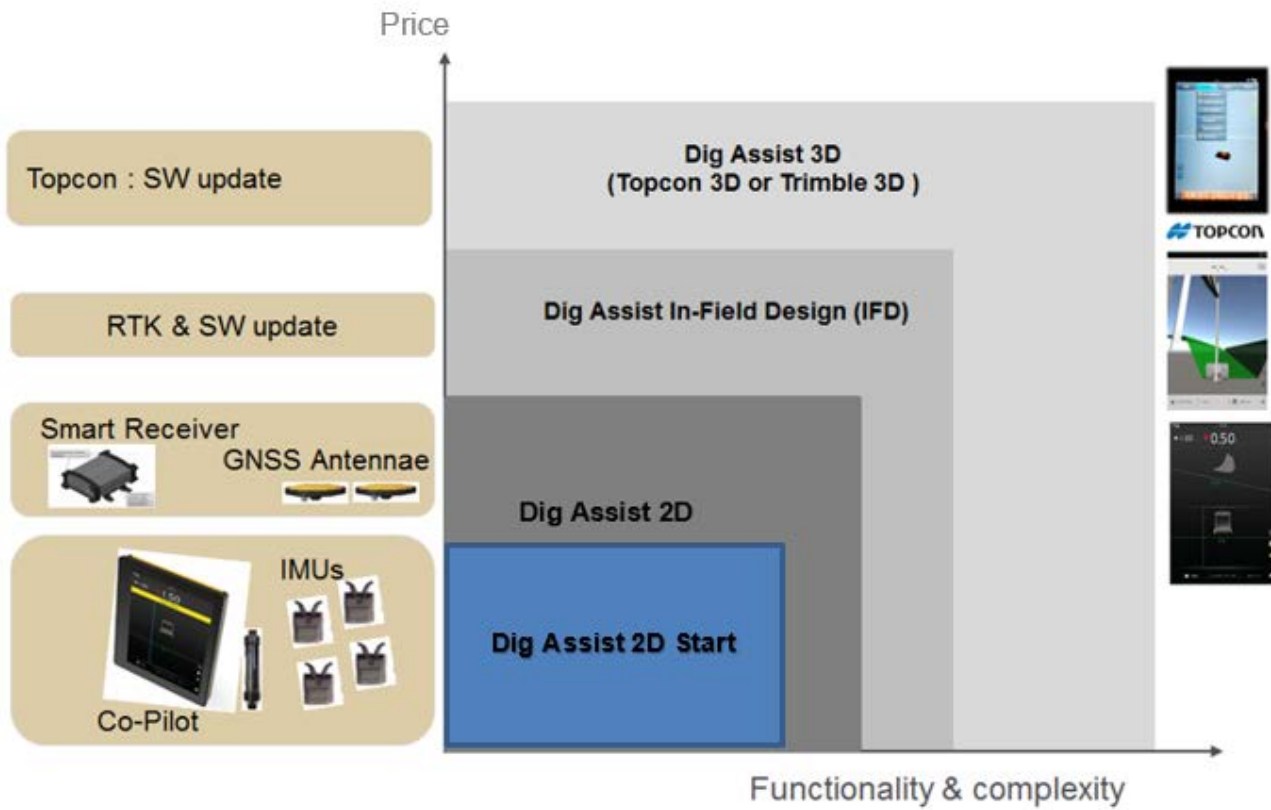
XW/XC50143: This option contains a gateway (T connector) on the arm that is connected to the Dig Assist system plus the wire harness & IMU. A set of "wire harness & IMU" will be supplied as a loose part when the "tilt bucket" is not selected. The customer should install the IMU on their own bucket. See page 8.

XK8300125 & XK8300449: The customer who forgot to order XW/XC50143, **should order both XK8300125 and XK8300449**

XK8300449: A customer who wants to add one more Tilt bucket on Dig Assist (for 2<sup>nd</sup> Tilt bucket)



## The range of offerings in Dig Assist



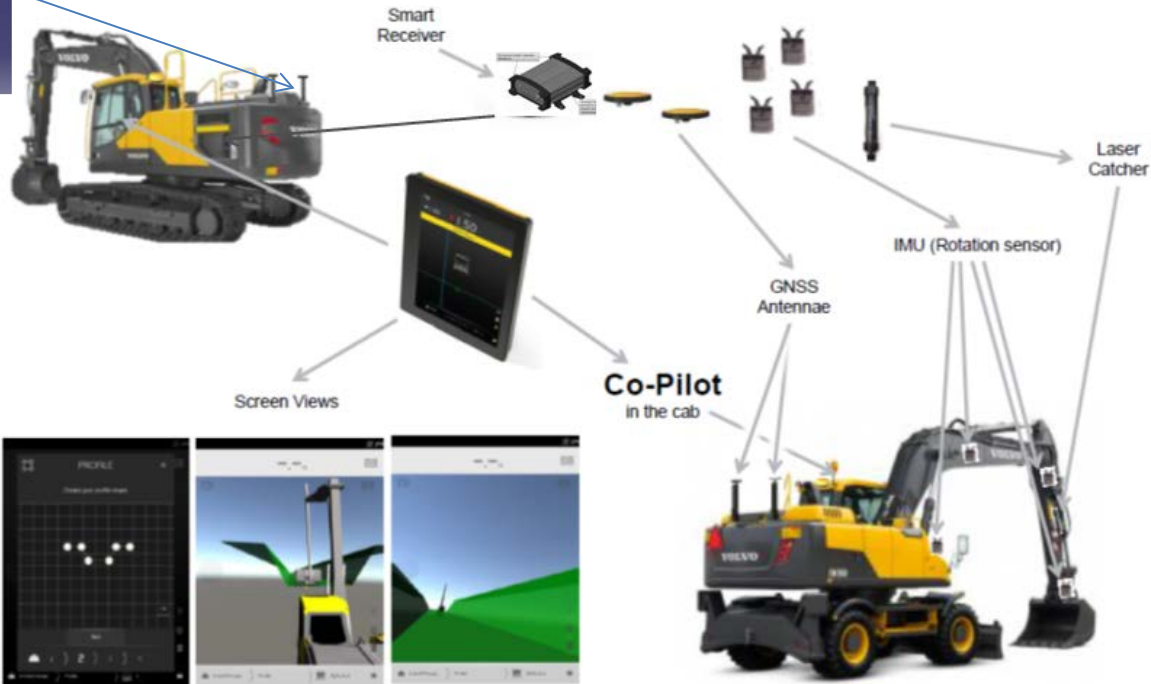
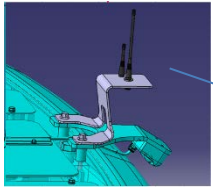


### Components location

UHF Radio antenna types

- 1. Long (red): world wide
- 2. Short (yellow) : option

The location of smart receiver has been changed and its antenna is located on CWT.



**Volvo  
Co-  
Pilot**



**Award winning Co-Pilot technology developed by Volvo**

Basic 2D and In-Field Design = factory fit!

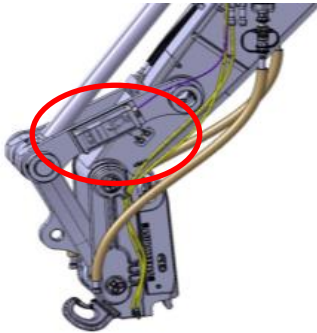
All hardware, software and support provided by Volvo and our Dealers



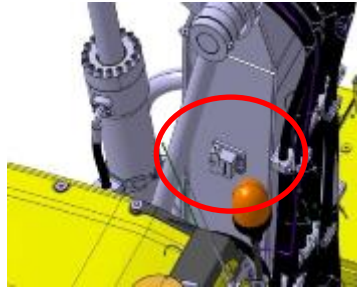
**Details of the components :**

IMU (Inertial Measurement Unit): Rotation sensors

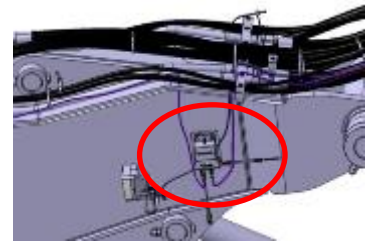
**IMU – bucket /Yoke**



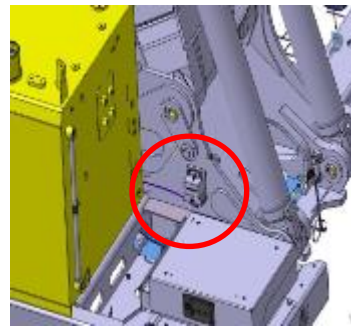
**IMU - first boom**



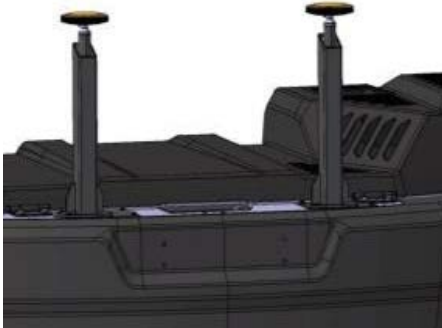
**IMU - second boom**



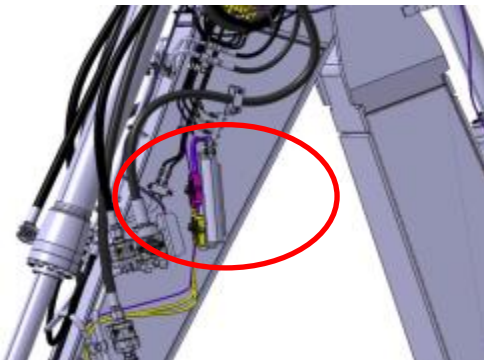
**IMU – upper frame**



**GNSS/GPS Antennas (positioning on CWT)**

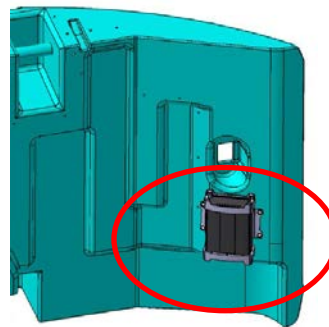


**‘Laser-catcher’**



**Smart Receiver (positioning in machine)**

**Locations are different depending on models**





**Customer advantages:**

**Productivity → Cost Savings**

A main benefit is that the operator can finish the job faster. No time is lost checking depths and rework is minimized, therefore the operator works faster and more efficiently. Productivity improvement results of 12% to 50% are regularly attained, depending on the job and experience of the operator.

Prevents over-digging, less rework is required, less high-cost filler (i.e. gravel, concrete, etc.) is required.

**Accuracy**

The system provides accuracy equivalent to making manual measurements but with the advantage of measuring 100% accurately each time. An accuracy of at least 4cm or less can be reached in height (z). The benefit of providing faster, better quality work allows contractors to win contracts easily, comply with contract demands and design specs all the time while wasting less material. The accuracy is particularly important in applications such as sewer laying (the savings in used gravel can double the profit for any job).

**Safety**

Operators aren't needed in the trench to check depth or alignment, anymore. The system provides height and depth alarms: height for power lines or ceilings and depth for underground utilities. Operators aren't needed to watch the machine, giving Volvo a great advantage in terms of safety and cost savings.

**Flexibility: the bucket position system provides more flexibility to a customer**

# PRODUCT AND MARKETING INFORMATION

CRAWLER & WHEELED EXCAVATOR



Night or blind work is possible – Flexibility  
Operators with less experience can do the job right, first time!  
It is the only solution for underwater excavation (max. 1 m deep)/trimming/placement  
Even if the laser transmitter breaks, the operator can still continue working by using references on the ground.

➤ Dig Assist, SteelWrist (XW50142/XC50142)



Integration of tilt-rotating sensors

In order to connect the SteelWrist Tiltrotator via a gateway in the cab to the Dig Assist system.  
The option can only be ordered together with SteelWrist Tilt Rotator Control options

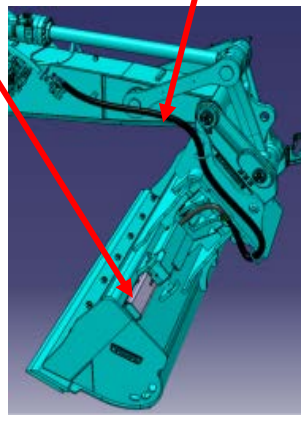
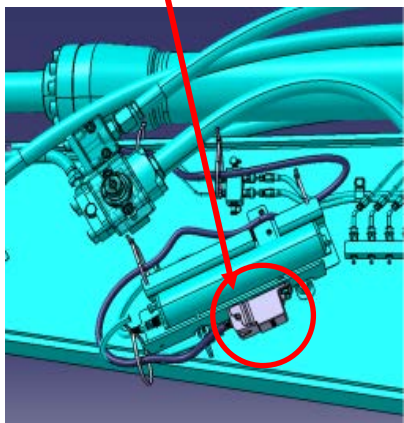
➤ Dig Assist, Tilt Bucket Preparation (XW50143 or XC50143), Tilt Bucket Sensor (XK8300449)

XW/XC50143: This option contains a gateway ( T connector ) on the arm connected to the Dig Assist system plus wire harness & IMU. A set of “wire harness & IMU” will be supplied as loose part when a “Tilt Bucket” is not selected.  
XK8300125 & XK8300449: A customer who forgot to order XW/XC50143 should order both XK8300125 & XK8300449

Gateway

IMU

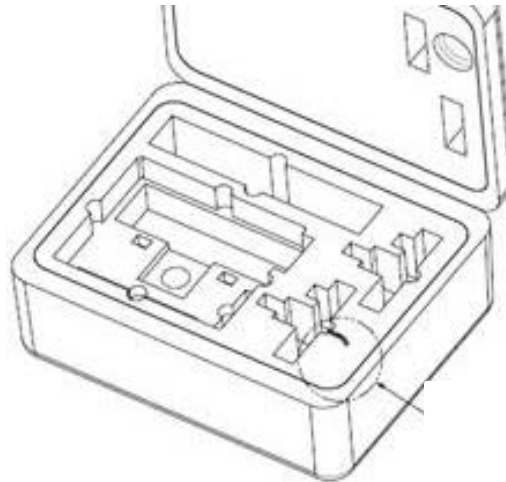
Wire harness





- Heavy Duty Carrying Case: (Included when a customer buys Dig Assist 2D, In-Field Design or Topcon 3D).

It can contain GNSS antennas, Laser catcher, Volvo Co-Pilot, UHF antennas.



- Short key function

When using the L8 multifunction joysticks, three of the buttons (A, B, and C below) can be used as shortcuts for different Dig Assist functions



L: Left lever, back side  
R: Right lever back side.

