

Trimble GCSFlex Grade Control System For Excavators

GCSFlex
GRADE CONTROL SYSTEM



The Trimble® GCSFlex™ Grade Control System is an easy-to-use, reliable, and affordable machine control system to improve excavator productivity and be more competitive. The system provides real-time grade guidance in the cab, so an excavator operator can now dig to a desired depth, slope, or alignment with very little prep work before the job and no grade checking after.

The Trimble GCSFlex System is easy to set up and offers several configuration options for use on a variety of jobsite tasks including for excavation and trenching work for basements, footers, utility lines, and conduit.

It requires no welding or drilling, so GCSFlex is ideal for non-permanent installation on rental machines.

Trimble GCSFlex Grade Control System for Excavators – Configurations and Options

CONFIGURATION	DESCRIPTION
GPS Guidance with Wi-Fi Base Station	GPS guidance provides position and heading through the MS972 GNSS Smart Antenna and a Wi-Fi® enabled local base station. The SNM940 Connected Site Gateway receives corrections via Wi-Fi from an SPS985 GNSS Smart Antenna base station within 1000 feet (300 meters).
GPS Guidance with Remote Corrections	GPS guidance provides position and heading using an MS972 GNSS Smart Antenna and satellite delivered GPS corrections. The SNM940 Connected Site® Gateway receives GPS corrections via cellular connection with a Virtual Reference Station (VRS) network or Trimble Internet Base Station Service (IBSS).
Laser Reference with Heading	With the Laser Reference and HS410 Heading Sensor configuration, the excavator can be rotated without the need to re-enter the desired depth and slope to maintain consistent accuracy.
Laser Reference	A rotating grade laser such as the Spectra Precision® GL700 series from Trimble provides a reference plane across the jobsite.
Bench Reference	Simply enter the desired depth and slope information into the in-cab control box. The system will provide guidance to a depth or slope based on distance from a known point or “bench” on the ground.
ADDITIONAL OPTIONS	
TILT BUCKET SUPPORT AS455 tilt bucket add-on kit	With the addition of an optional AS455 Angle Sensor, the in-cab display can provide real-time left and right position and the angle of a tilt bucket.
VA BOOM SUPPORT AS450 Angle Sensor	With the addition of an optional AS450 Angle Sensor, the in-cab display can provide real-time position of the bucket through the entire reach of an articulated boom.

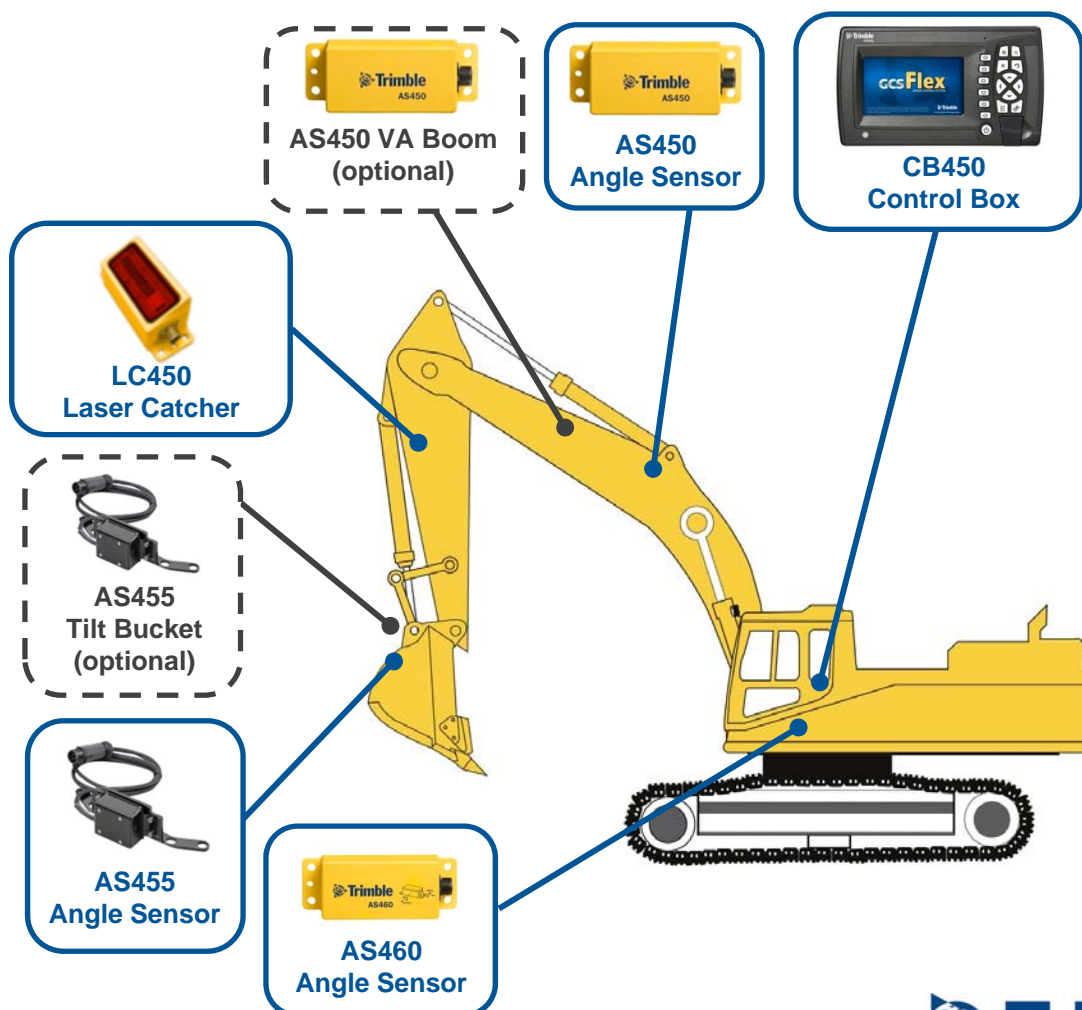
Trimble GCSFlex Grade Control Systems Excavators

gcsFlex
GRADE CONTROL SYSTEM



Key Features: Bench Reference

- Uses a known point on the ground as a bench reference
- Simply enter the desired depth and touch the bucket to a point with a known elevation
- CB450 full-color graphical control box indicates grade with up/down arrows
- Store unlimited number of bucket definitions
- Store unlimited number of depth, slope, and profile guidance models
- Measure distances and slopes with the bucket and stores measured elements as slope guidance models
- On-machine components are portable between excavators



© 2012, Trimble Navigation Limited. All rights reserved. Trimble, Connected Site and the Globe & Triangle logo are trademarks of Trimble Navigation Limited, registered in the United States Patent and Trademark Office and in other countries. GCSFlex is a trademark of Trimble Navigation Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other trademarks are the property of their respective owners. PN 022482-2257C (07/12)

 **Trimble**
The Construction Technology Standard

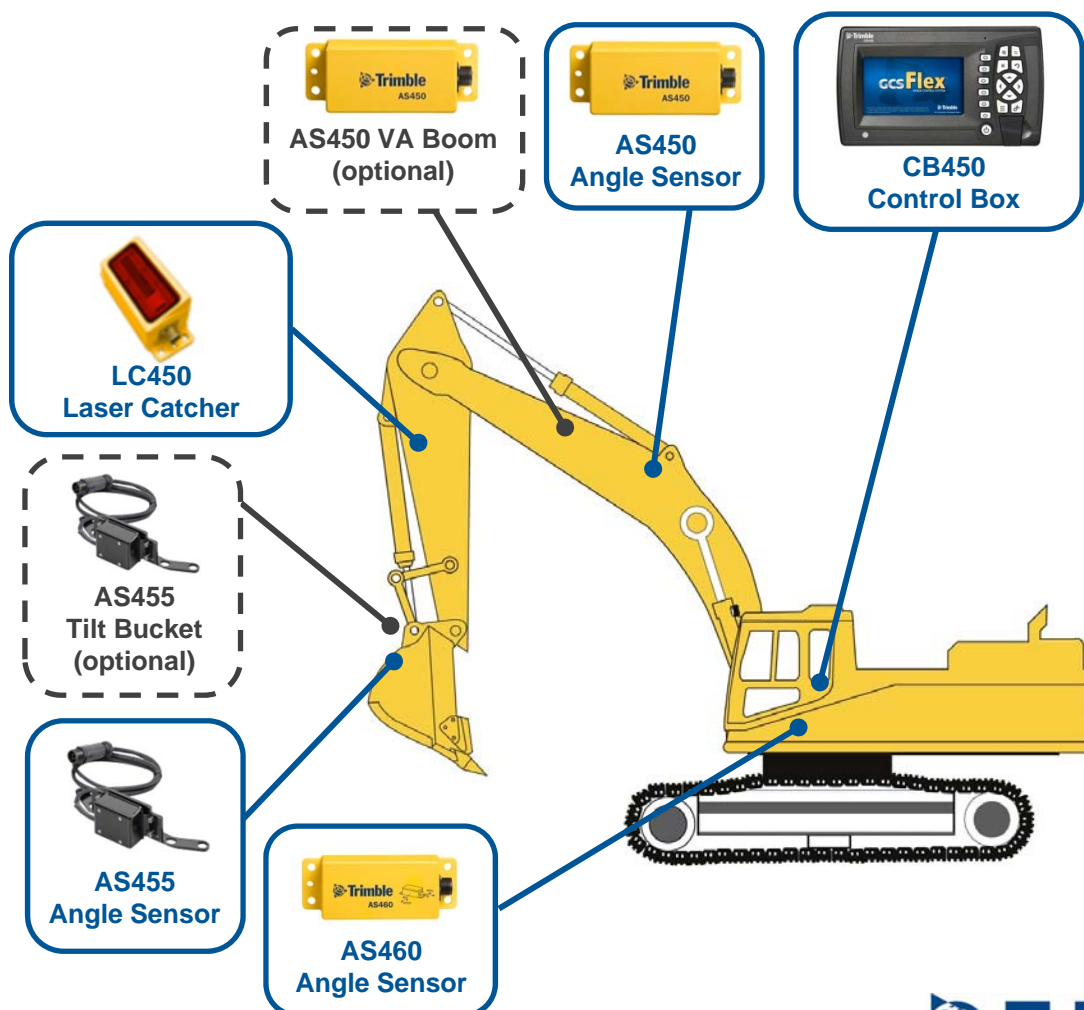
Trimble GCSFlex Grade Control Systems Excavators

gcsFlex
GRADE CONTROL SYSTEM



Key Features: Laser Reference

- Uses a laser reference plane across the job site
- Simply enter the desired depth and/or slope and establish laser plane
- CB450 full-color graphical control box indicates grade with up/down arrows
- Store unlimited number of bucket definitions
- Store unlimited number of depth, slope, and profile guidance models
- Measure distances and slopes with the bucket and store measured elements as slope guidance models
- On-machine components are modular and can be added or removed depending upon application
- On-machine components are portable between excavators



© 2012, Trimble Navigation Limited. All rights reserved. Trimble, Connected Site and the Globe & Triangle logo are trademarks of Trimble Navigation Limited, registered in the United States Patent and Trademark Office and in other countries. GCSFlex is a trademark of Trimble Navigation Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other trademarks are the property of their respective owners. PN 022482-2257C (07/12)

 **Trimble**
The Construction Technology Standard

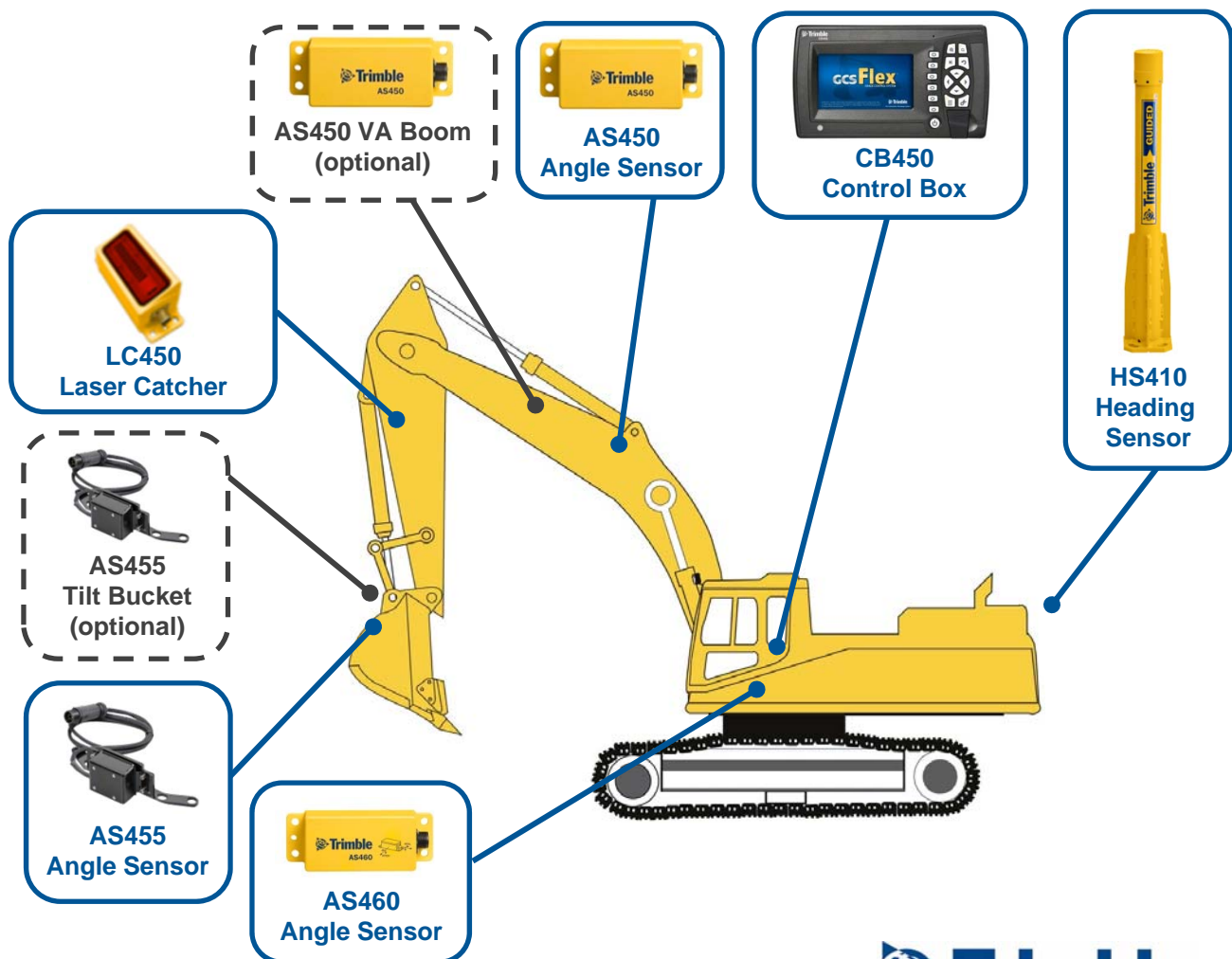
Trimble GCSFlex Grade Control Systems Excavators

gcsFlex
GRADE CONTROL SYSTEM



Key Features: Laser Reference and Heading

- Uses a laser reference and HS410 Heading Sensor to measure excavator orientation, allowing the operator to rotate without the need to re-orient with the laser
- CB450 full-color graphical control box indicates grade with up/down arrows
- Store unlimited number of bucket definitions
- Store unlimited number of depth, slope, and profile guidance models
- Measure distances and slopes with the bucket and store measured elements as slope guidance models
- On-machine components are modular and can be added or removed depending upon application
- On-machine components are portable between excavators



© 2012, Trimble Navigation Limited. All rights reserved. Trimble, Connected Site and the Globe & Triangle logo are trademarks of Trimble Navigation Limited, registered in the United States Patent and Trademark Office and in other countries. GCSFlex is a trademark of Trimble Navigation Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other trademarks are the property of their respective owners. PN 022482-2257C (07/12)

 **Trimble**
The Construction Technology Standard

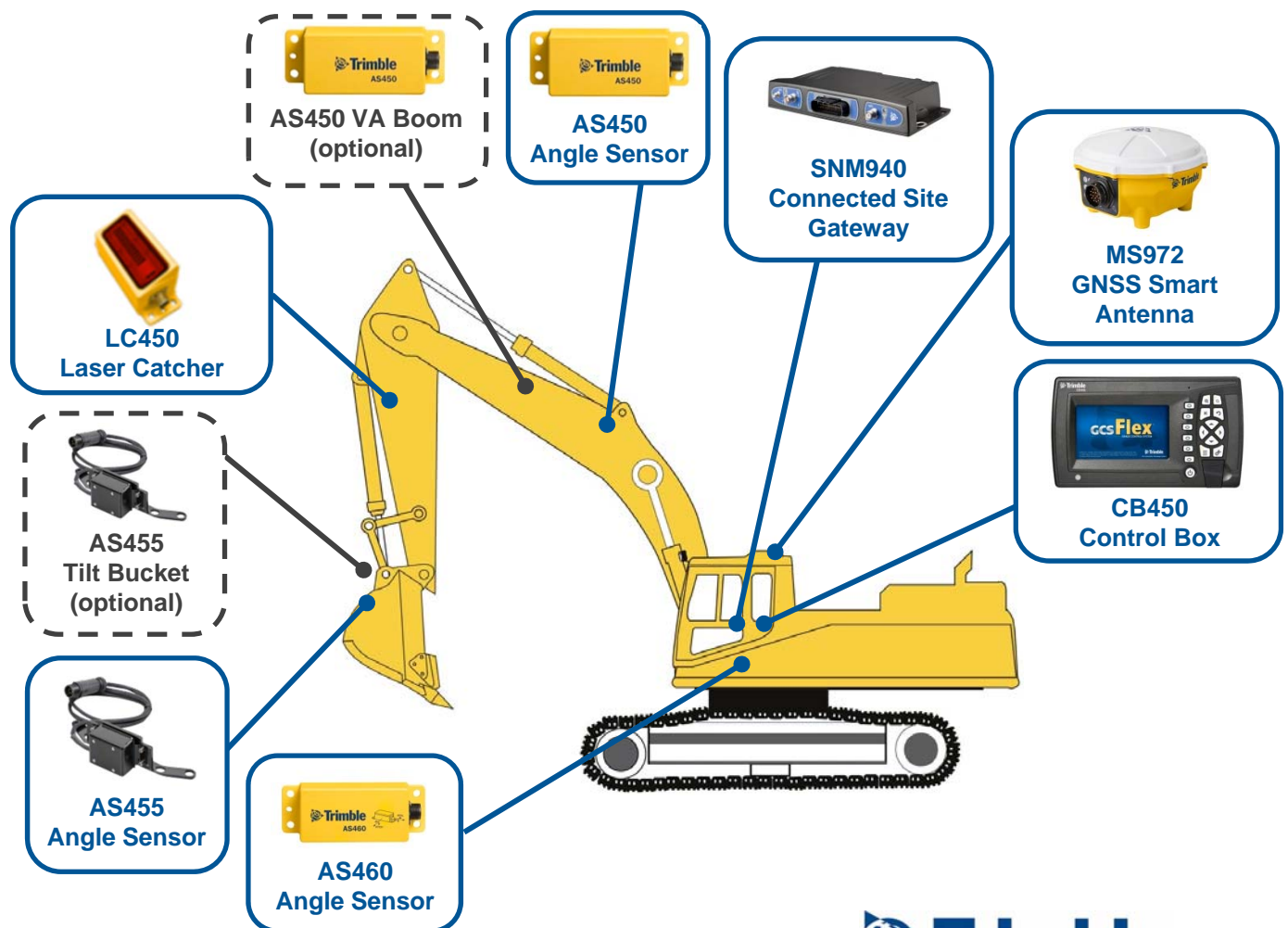
Trimble GCSFlex Grade Control Systems Excavators

gcsFlex
GRADE CONTROL SYSTEM



Key Features: GPS Guidance with Remote Corrections

- Uses GPS guidance and in-field designs to excavate to a depth, slope, profile or alignment
- GPS corrections are provided via cellular connection to a VRS network or Trimble IBSS
- Allows more freedom to move the excavator without needing to bench from a point or laser plane
- CB450 full-color graphical control box indicates grade with up/down arrows
- Store unlimited number of bucket definitions
- Store unlimited number of depth, slope, and profile guidance models
- On-machine components are modular and can be added or removed depending upon application
- On-machine components are portable between excavators



© 2012, Trimble Navigation Limited. All rights reserved. Trimble, Connected Site and the Globe & Triangle logo are trademarks of Trimble Navigation Limited, registered in the United States Patent and Trademark Office and in other countries. GCSFlex is a trademark of Trimble Navigation Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other trademarks are the property of their respective owners. PN 022482-2257C (07/12)

 **Trimble**
The Construction Technology Standard

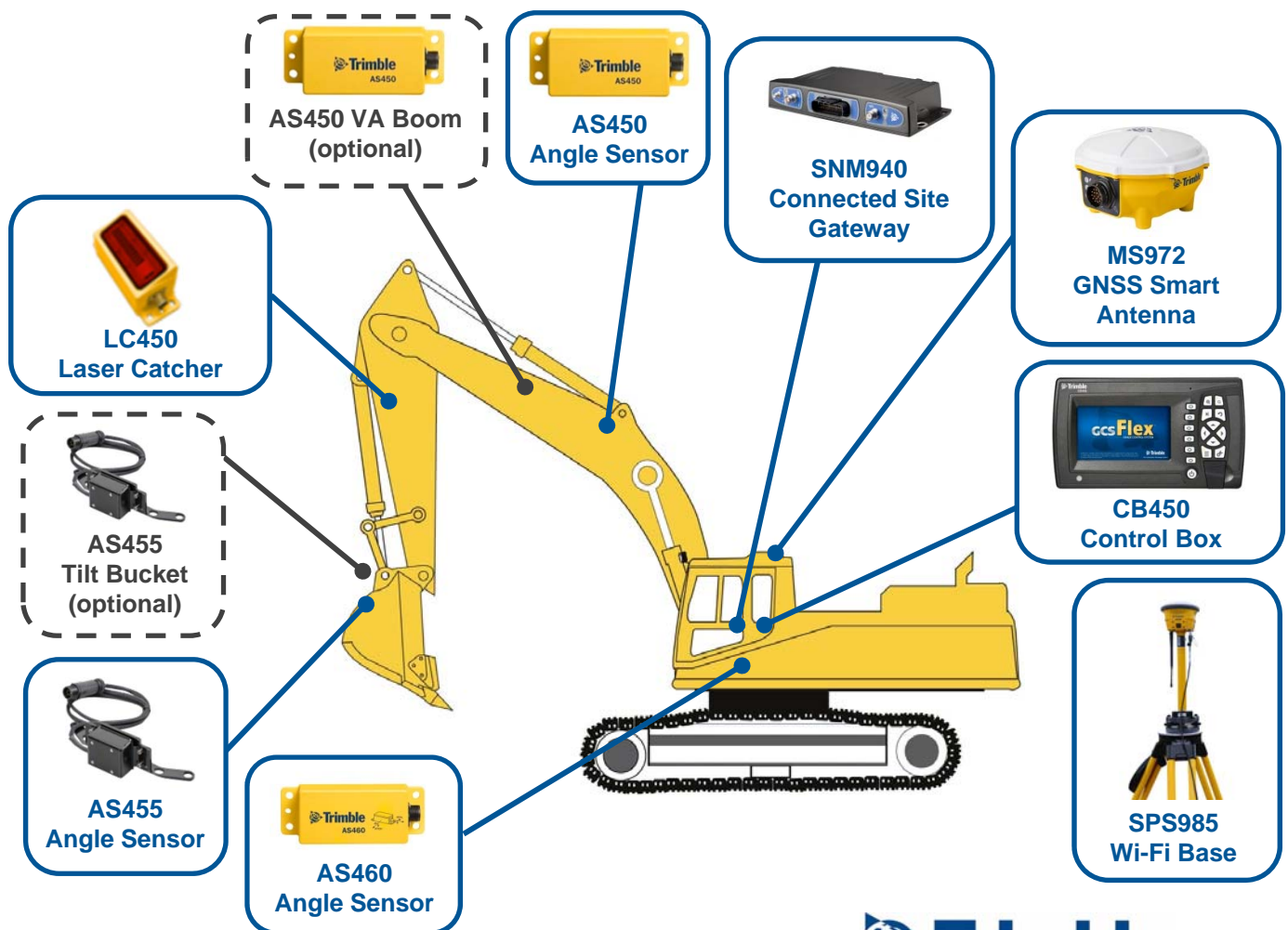
Trimble GCSFlex Grade Control Systems Excavators

gcsFlex
GRADE CONTROL SYSTEM



Key Features: GPS Guidance with Wi-Fi Base Station

- Uses GPS guidance and in-field designs to excavate to a depth, slope, profile or alignment
- GPS corrections are provided via Wi-Fi connection to a Trimble SPS985 GNSS Smart Antenna base station
- Allows more freedom to move the excavator without needing to bench from a point or laser plane
- CB450 full-color graphical control box indicates grade with up/down arrows
- Store unlimited number of bucket definitions
- Store unlimited number of depth, slope, and profile guidance models
- On-machine components are modular and can be added or removed depending upon application
- On-machine components are portable between excavators



© 2012, Trimble Navigation Limited. All rights reserved. Trimble, Connected Site and the Globe & Triangle logo are trademarks of Trimble Navigation Limited, registered in the United States Patent and Trademark Office and in other countries. GCSFlex is a trademark of Trimble Navigation Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other trademarks are the property of their respective owners. PN 022482-2257C (07/12)

Trimble
The Construction Technology Standard