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TWO MASTLESS FACTORY OFFERINGS TO HELP MAXIMIZE YOUR INITIAL INVESTMENT.

Grade with 3D factory options now offer Grade with Cross Slope for Tier 4 and Tier 3 motor graders.

	140 JOY, 150 JOY, 160 JOY TIER 4 GRADE WITH 3D MASTLESS	140 JOY, 150 JOY, 160 JOY TIER 3 GRADE WITH 3D MASTLESS
FUNCTIONALITY	• Automatic Cross Slope system with ability to save target slope presets • Integrated Cross Slope utilizes factory primary machine display • EC520 controller on machine for 2D/3D capability, sensors, factory machine display • Factory-calibrated full 3D mastless GNSS solution • Establishes machine location at all times on jobsite • Includes E-Fence (drawbar, ladder, and tire protection)	• Automatic Cross Slope system • Integrated Cross Slope utilizes factory-installed TD540 grade control display • EC520 controller on machine for 2D/3D capability, sensors, factory machine display • Factory-calibrated full 3D mastless GNSS solution • Establishes machine location at all times on jobsite • E-Fence not included
REFERENCE	• Design file • GNSS correction source, such as a base station (not included)	• Design file • GNSS correction source, such as a base station (not included)
HARDWARE	**All Grade with Cross Slope Hardware Plus:** • EC520 controller • Circle rotation sensor • Blade slope sensor (GS520) • Factory primary machine display for integrated Cross Slope • TD540 display for Advanced Grade Control system • (2) MS976 GNSS antenna/receiver • Drawbar sensor (GS510) • Yoke sensor (GS510) • Moldboard sideshift position sensing cylinder	**All Grade with Cross Slope Hardware Plus:** • EC520 controller • Circle rotation sensor • Blade slope sensor (GS520) • Factory machine display • TD540 display for Advanced Grade Control system • (2) MS976 GNSS antenna/receiver • Drawbar sensor (GS510) • Yoke sensor (GS510) • Moldboard sideshift position sensing cylinder
ADDITIONAL REQUIREMENTS	• GNSS corrections source	• GNSS corrections source
SOFTWARE	• Not required: 3D Mastless • Included: Grade with Cross Slope • Included: E-Fence	• Not required: 3D Mastless • Included: Grade with Cross Slope • Not Included: E-Fence
LICENSES	• 2D and 3D licenses • GNSS receiver licenses included	• 2D and 3D licenses • GNSS receiver licenses included

CAT®

140 JOY, 150 JOY, 160 JOY TIER 4 GRADE WITH 3D MASTLESS

- Automatic Cross Slope system with ability to save target slope presets
- Integrated Cross Slope utilizes factory primary machine display
- EC520 controller on machine for 2D/3D capability, sensors, factory grade control display

- Factory-calibrated full 3D Mastless GNSS solution
- Establishes machine location at all times on jobsite
- Includes E-Fence (drawbar, ladder, and tire protection)

HARDWARE

Advanced Control Joysticks

Main Machine Grade Control Harness

A6:N2 Network Manager

EC520 Controller

Drawbar Sensor

Blade Slope Sensor

Position-Sensing Sensor

(2) MS976 GNSS Receivers

Lift Arm Sensor

Circle Rotation Sensor

Factory Machine Display

TD540 Display for Advanced Grade Control System

(2) GNSS High Precision Licenses (RTK)

Grade 2D & 3D System Licenses

Grade (Enable) Software

Reference
- Design file
- GNSS correction source, e.g. base station (not included)

Software
- Not required: 3D Mastless
- Included: Grade Cross Slope
- Included: E-Fence

License
- GNSS licenses included

Additional Requirements
- GNSS corrections source

CAT®

140 JOY, 150 JOY, 160 JOY TIER 3 GRADE WITH 3D MASTLESS

- Automatic Cross Slope system
- Integrated Cross Slope utilizes factory-installed TD540 grade control display
- EC520 controller on machine for 2D/3D capability, sensors, factory grade control display

- Factory-calibrated full 3D Mastless GNSS solution
- Establishes machine location at all times on jobsite
- E-Fence not included

HARDWARE

Advanced Control Joysticks

Main Machine Grade Control Harness

Communication Module

Blade Slope Sensor

Circle Rotation Sensor

EC520 Controller

Drawbar Sensor

Position-Sensing Sensor

(2) MS976 GNSS Receivers

Lift Arm Sensor

TD540 Display for Cross Slope & Advanced Grade Control

(2) GNSS High Precision Licenses (RTK)

Grade 2D & 3D System Licenses

Grade (Enable) Software

Reference
- Design file
- GNSS correction source, e.g. base station (not included)

Software
- Not required: 3D Mastless
- Included: Grade with Cross Slope
- Not Included: E-Fence

License
- GNSS licenses included

Additional Requirements
- GNSS corrections source

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