

P-TIER CRAWLERS (450-950)



Key Feature Identification

- A: Grade Control Switch
- B: Neutral Rotate Mode Switch
- C: Decelerator Mode Switch
- D: Reverse Ratio Switch
- E: Economy (ECO) Mode Switch



A: GRADE CONTROL (OPTIONAL):

* If grade control “ready” is not installed on the machine, neither LED will be illuminated. The John Deere Grade control systems can include multiple options: EZGrade™, Slope Control, Slope Control with Laser, and SmartGrade™ 3D.

FUNCTION STATE BY NUMBER OF LIGHTS

- i. No LED Lights – Grade Control is not installed (Mechanical Control Machine Only)
- ii. 1 LED Light – John Deere Grade Control ON
- iii. 2 LED Lights – Aftermarket Grade Control ON

RECOMMENDATION

EZ Grade – Basic grade control system to enhance the operator’s ability to create smooth planer surfaces by automating the blade movements to compensate for unintended machine movements. System runs in the background without the need for operator input. Can be turned off in the monitor if needed to create complex transitions like super curves and sweeping slopes.

Slope Control – Onboard 2D grade control system that assists the operator with single and compound sloping planes relative to machine track plane. Consists of 3 operating modes (Target, Joystick, Manual) that can be tailored to the mainfall and cross slope parameters of the plane. This system allows for creating of planer surfaces based on

P-TIER CRAWLERS (450-950)



the operators input of the slopes. This system works well when GPS signal may not be available, for simple grading projects not requiring tight elevation tolerances, and for simple surfaces.

Slope Control w/Laser – Onboard 2D grade control system that utilizes input from a rotating laser to benchmark elevation. This system can be configured with either single or dual laser receivers. It allows for creating planer surfaces based on the guidance of the rotating laser for increased accuracy providing tighter grade tolerances. This system works well when GPS signal may not be available, for simple grading projects requiring tight elevation tolerances.

SmartGrade 3D – Onboard 3D grade control system that utilizes input from GPS correction. This system allows for creating planer and complex surfaces based on the guidance of the GNSS receivers and base station. This system works well when GPS signal is available, for complex grading projects requiring elevation tolerances or for engineered models and plans.

B: NEUTRAL ROTATE MODE (STANDARD):

*** Allows the operator to turn the machine in place without moving in forward or reverse.**

FUNCTION STATE BY NUMBER OF LIGHTS

- i. LED Lights Off – Neutral Rotate Mode OFF
- ii. 1 LED Light – Neutral Rotate Mode ON

RECOMMENDATION

Neutral Rotate is commonly used to wind winch cable uniformly across the spool. Additionally, it should be used when making slight steering corrections when positioning the machine on a trailer or placing a side boom. This feature requires the park brake to be released and the engine to be above low idle speed.

P-TIER CRAWLERS (450-950)



C: DECELERATOR MODE (STANDARD):

FUNCTION STATE BY NUMBER OF LIGHTS

- i. No LED Light – “ENGINE MODE”: When the decelerator/brake pedal is applied, both the engine and transmission speed are decreased, which effectively decreases ground speed and all corresponding machine functions.
- ii. 1 LED Light – “TRANSMISSION MODE”: When the decelerator/brake pedal is applied, the transmission speed decreases but the engine speed remains constant. Hydraulic functions continue to perform at the associated engine speed.

RECOMMENDATION

Historically, John Deere crawlers have operated in “Engine Mode,” and therefore operators commonly prefer this setting due to its familiarity. Engine mode is best used to slow the ground speed and all hydraulic functions in very tight/precise applications. This will also reduce power to the tracks which can limit slip and has some fuel consumption benefits. Transmission mode is commonly used when increased hydraulic flow is needed for blade or attachment performance. Examples include, creating transitions in grade (flats to slopes, swales, ditches), running automatic grade control in confined areas or around obstacles, using high flow attachments like winches, or low speed tools such as vibratory plows.

D: REVERSE RATIO (STANDARD)

FUNCTION STATE BY NUMBER OF LIGHTS

- i. No LED Lights – Used for setting forward and reverse speeds independently (Machine remembers the last speed in either F or R direction when shifting)
- ii. 1 LED Light – Reverse speed ratio of 100% of forward speed
- iii. 2 LED Lights – Reverse speed ratio of 115% of forward speed
- iv. 3 LED Lights – Reverse speed ratio of 130% of forward speed

RECOMMENDATION

John Deere suggests that no LED lights are set for Reverse Ratio, requiring an operator to choose independent forward and reverse speeds that best accommodate the job and site conditions. Higher reverse speeds can have a negative impact on undercarriage life and should be minimized when possible. A lower reverse speed setting is best for track life, but this comes with the potential cost of lower production.

P-TIER CRAWLERS (450-950)



E: ECONOMY (ECO) MODE (STANDARD)

* ECO mode can be force enabled/disabled through the primary display unit (PDU). A display message appears on the PDU unit if disabled and the function does not change with the SSM.

FUNCTION STATE BY NUMBER OF LIGHTS

- i. No LED Lights – ECO Mode OFF
- ii. 1 LED Light – ECO Mode ON: automatically lowers engine speed to reduce fuel consumption when the engine is not under load

RECOMMENDATION

John Deere recommends ECO mode “ON” for most applications. The most common environments that an operator would want this feature turned off is when there is inconsistent underground material (roots), or slope work. These conditions can result in engine surging, where the engine is looking for the optimal run speed with ECO Mode ON. Eco Mode works much like an overdrive transmission, where the engine is idled down to run the most efficient speed, providing peak power and torque, while the hydrostatic transmission is shifted up to maintain travel speeds. When additional load is encountered, the transmission will automatically downshift while the engine speed is increased until the load is reduced. ECO Mode also provides improved grade control performance by running the hydraulics at the engine speed the grade system is calibrated at. This also reduces the noise of the engine and smooths out the power to the tracks providing increased traction in loose materials.