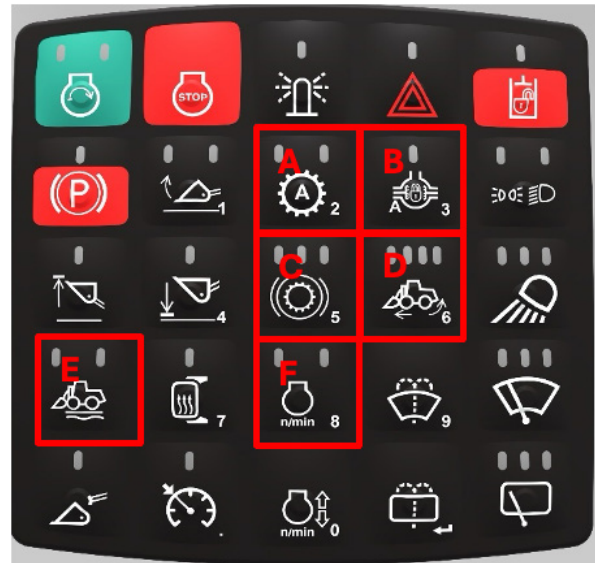


# 644 X-TIER 4WDL



## Key Feature Identification

- A: Automatic Transmission Switch
- B: Automatic Differential Lock Switch
- C: Coast Control Switch
- D: Rimpull Control Switch
- E: Ride Control Switch (if equipped)
- F: Engine Throttle Control Switch



## A: AUTOMATIC TRANSMISSION (STANDARD)

### FUNCTION STATE BY NUMBER OF LIGHTS

- i. 1 LED Light – AUTO 1-D mode. Transmission will start in second gear when initially shifted from neutral. After initial shift from neutral, transmission will shift to first gear if a high load is encountered. Transmission will upshift or downshift as ground speed dictates but will only upshift to highest gear selected.
- ii. 2 LED Lights – AUTO 2-D mode. Transmission will start in second gear and will shift to highest gear selected as ground speed increases or will downshift to second gear as ground speed decreases. Transmission will never shift to first gear. In this setting, first gear can only be obtained by actuating the transmission quick shift button.

### RECOMMENDATION

Typically, an operator will have sufficient acceleration/power for load and carry operations using the AUTO 2-D mode. AUTO 1-D is best utilized when the material pile is very dense, when the loader is climbing a steep ramp, or if the loader is being used to push material like a dozer. Caution should be used in AUTO 1-D as this mode may spin tires, increasing O&O costs. AUTO 2-D mode can reduce the number of transmission shifts which in turn can enhance component life.

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## **B: AUTOMATIC DIFFERENTIAL LOCK (OPTIONAL):**

**\* Differential lock is activated any time the differential lock switch is pressed, regardless of whether automatic differential lock system is enabled or not.**

### **FUNCTION STATE BY NUMBER OF LIGHTS**

- i. No LED Lights – AUTO Differential Lock Disabled
- ii. 1 LED Light – AUTO Differential Lock Enabled (The automatic differential lock system locks the axles so that the left and right wheels turn together when wheel slip is detected, and machine speed is below 7.5 mph)

### **RECOMMENDATION**

Auto Differential Lock should be enabled on most surfaces, allowing maximum traction and productivity. On hard packed surfaces, or dry asphalt/concrete, this feature should be disabled to prevent the differential from locking during sharp turns, which could potentially accelerate powertrain and tire wear.

## **C: COAST CONTROL (STANDARD):**

**\* Enables dynamic braking to slow the machine and reduce fuel consumption.**

### **FUNCTION STATE BY NUMBER OF LIGHTS**

- i. LED Lights Off – Lowest Deceleration Setting (Traditional Powertrain Feel)
- ii. 1 LED Light – Moderately Low Deceleration (Slight Hydrostat Feel)
- iii. 2 LED Lights – Moderately High Deceleration (Moderate Hydrostat Feel)
- iv. 3 LED Lights – Highest Deceleration (Full Hydrostat Feel)

### **RECOMMENDATION**

Coast Control changes the way the machine slows down when the accelerator pedal is released. On jobsites with large elevation changes, such as significant ramp climb/descent, three lights may be used, mimicking a hydrostat feel. This will cause the machine to use its electric drive to help slow the machine, extending service brake life while improving fuel efficiency. Each sequential LED light reduction on the SSM button will adjust the feel of machine braking away from a hydrostat feel to a traditional torque converter feel. All LED Lights off will eliminate dynamic braking. Coast Control setting is recommended to be set in the highest setting for job site limitations and operator comfort.

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## D: RIMPULL CONTROL (STANDARD)

\* Spin control operates in first gear forward to reduce rim pull by reducing power transferred to the ground when loading the bucket.

### FUNCTION STATE BY NUMBER OF LIGHTS

- i. 1 LED Light – Minimum Decrease
- ii. 2 LED Lights – Moderate Decrease
- iii. 3 LED Lights – Elevated Decrease
- iv. 4 LED Lights – Maximum Decrease

### RECOMMENDATION

Spin Control should be used when the floor conditions allow the tires to spin under heavy load in first gear. When floor conditions allow maximum traction and tire spinning is not observed, the number of lights may be reduced, to completely off. As floor conditions change and the tires begin to slip while loading, additional lights should be illuminated one at a time until no further tire spin is observed. Proper use of this button can enhance tire life, increase productivity, and reduce fuel burn. Beginning a demo or rental with 2 or 3 LEDs illuminated is typically a good place to start and work with the operator preference/deck condition from that point forward.

## E: RIDE CONTROL (STANDARD)

### FUNCTION STATE BY NUMBER OF LIGHTS

- i. No LED Lights – Ride Control OFF
- ii. 1 LED Light – Ride Control ON (All the time)
- iii. 2 LED Lights – AUTO (active when ground speed is greater than the set point; Default set point is approximately 3.5 mph)

### RECOMMENDATION

Applications that utilize a bucket on the front of the loader will benefit from the AUTO setting (2 LED Lights), as this feature was designed to optimize the point that ride control turns on and off. By having AUTO mode enabled, the operator can expect to get max bucket fill in the pile and minimum material spill during the carry. While this feature improves fuel economy of the loader, it can also improve the life of the ride control components. If the machine is outfitted with forks, an operator may experience a more consistent operation by turning ride control ON (1 LED Light), especially in very low speed, poor underfoot applications.

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## **F: ENGINE THROTTLE MODE (STANDARD)**

### **FUNCTION STATE BY NUMBER OF LIGHTS**

- i. 1 LED Light – Normal Mode (Variable Engine RPM)
- ii. 2 LED Lights – Performance Mode (Constant Engine RPM)

### **RECOMMENDATION**

This feature enables the operator to change how the engine throttle operates. With one light engaged, engine speed will increase to the operator set maximum as load increases but will decrease to idle when the machine is not under a load. This setting is recommended in nearly all applications due to fuel consumption gains, noise reduction, and often, the lack of need for full Performance Mode. Performance Mode will lock the throttle to the operator selected position regardless of load. This mode consumes a higher rate of fuel burn, but an operator may note that this provides better hydraulic consistency, for instance when fine metering/craning. Note: After 5 seconds of inactivity, the machine may still return the throttle to idle even in Performance Mode.