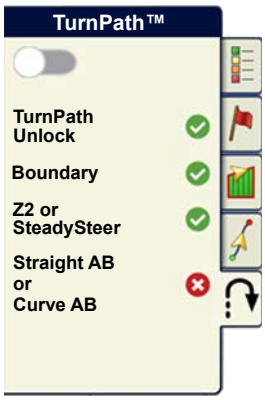
TurnPath

An automatically generated guidance path that takes you from your current guidance pass to your target pass.

TurnPath Requirements



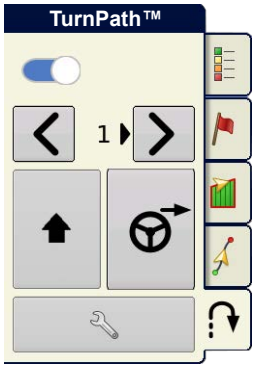
- TurnPath Unlock
- Field boundary
- SteerCommand Z2/SteadySteer
- Straight AB or Curve AB guidance line

The requirements will only show when one or more of the requirements are not met.

When one or more of the requirements are not met, TurnPath will automatically be switched off. It will need to be enabled again when requirements are met.

TurnPath Single Turn Mode Toolbox

TurnPath on/off button



Sequence mode is disabled, and single turn mode will be used.

Turn Direction –  Triangular indicator to show the turn direction of the next TurnPath.

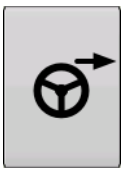
Target Pass -  Number shown to indicate the difference between the current pass number and the target pass number.

Adjust Target Pass location - Moving the target pass, relative to current driving direction.

TurnPath Cancel – If pressed, TurnPath is canceled, and no TurnPath will be generated. The TurnPath will turn gray. When the turn is gray, it can be made active by hitting the next turn button.

TurnPath Alarm Active – notifying that user is within the TurnPath Countdown Distance. The button can be pressed to cancel the TurnPath.

TurnPath Next Turn – If pressed, TurnPath will move to the next available turn shown in gray.



Turn Now – When pressed, TurnPath will immediately turn toward the target pass. Only available while using single turn mode.

TurnPath options – Opens the TurnPath options

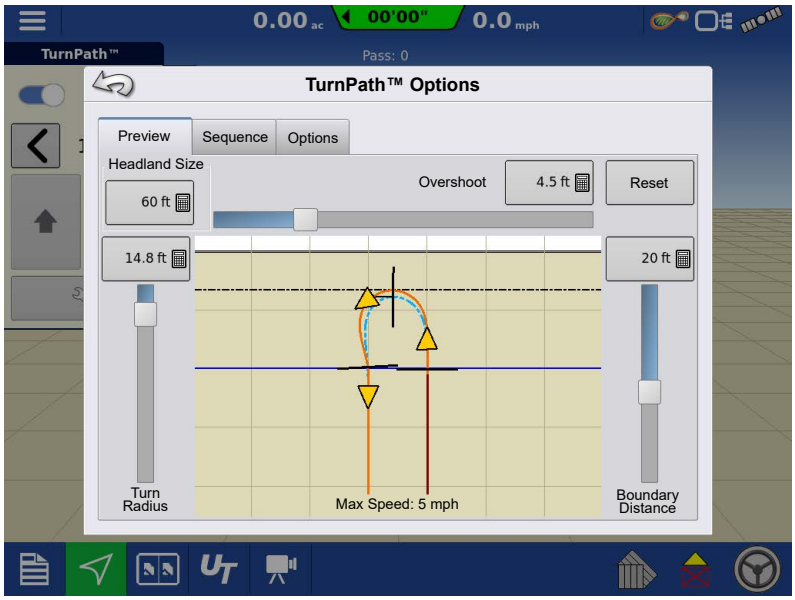
TurnPath Preview

The TurnPath Preview tab shows a preview of the turn and allows adjustment to the parameters that define the shape and location of the turn.

Both the sliders and the number entries can be used to adjust. The value of the sliders show the live changes on the turn shape and location. The number entries are recommended to fine tune to a specific value. Pressing reset will take all sliders back to the default setting.

The preview enables evaluation of the TurnPath's shape and location, and how the TurnPath fits in the intended headland size. The vehicles with implements indicate the estimated trajectory of the implement through the turn, also shown with the dotted blue line. The three representations are shown at both the headland crossings and the halfway point of the turn.

The Max Speed shown in the preview resembles the expected maximum speed that can be used on the TurnPath. However, there are many factors playing into how well the vehicle can track the TurnPath.



TurnPath Radius

•The potential minimum turn radius in a TurnPath

A smaller value will lead to a sharper turn, and a larger value to a wider turn. When wanting to drive at higher speeds a larger turn radius value will be needed.

Overshoot

- How far you will overshoot the target pass on exit of the turn

With pull type implements that trail on the inside of the turn, adding an overshoot will allow the implement to line up perfectly straight on the target pass. The more an implement trails on the inside, the bigger overshoot value needed.

Boundary Distance

- The minimum distance from the TurnPath to the field boundary

When using a negative value, the TurnPath will cross the field boundary.

NOTE!: In situations where the vehicle is not able to perfectly follow the TurnPath the vehicle can get closer to the field boundary than defined by the boundary distance.

NOTE!: The solid black line in the TurnPath preview represents the field boundary.

NOTE!: The dotted black line in the TurnPath preview represents the minimum distance the TurnPath will stay from the field boundary, the Boundary Distance.

Headland Size

- A reference for evaluating how the previewed

TurnPath will fit in the intended headland size. The headland size value entered will not affect the shape or location of the TurnPath.

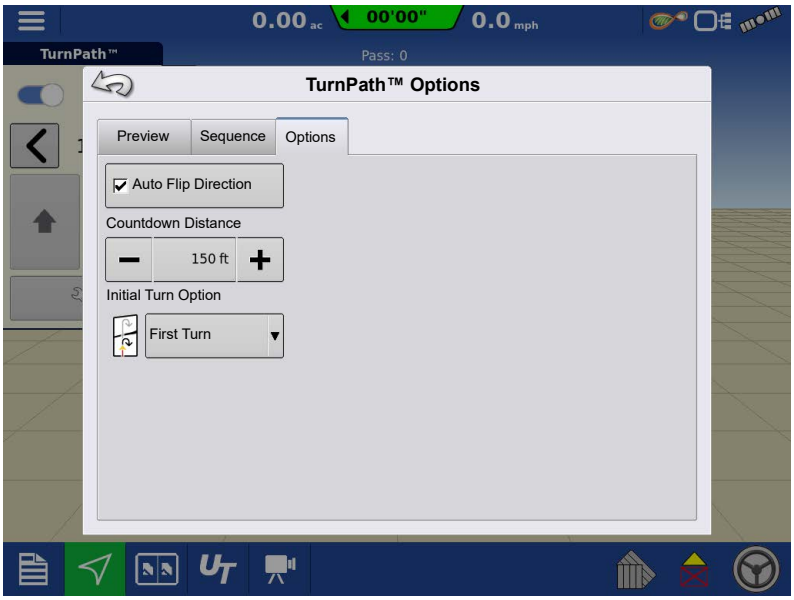
NOTE!: The solid blue line represents the headland size in the TurnPath preview.

Reset

- Will reset the defaults for Turn Radius, Overshoot, and Boundary Distance

The Headland Size will not be reset.

TurnPath Options



Auto Flip Direction

•Will automatically flip the direction of the turn based on the driving direction.

Unchecking this option will maintain the current turn direction, the user will adjust turn direction, and target pass manually.

Countdown Distance

- The distance from the turn at which the user will be alarmed on the upcoming TurnPath.

— There is an audible alarm at this time.

— The TurnPath toolbox will automatically slide open.

— The cancel button will be showing a GIF to draw attention to the cancel option.

Initial Turn Option

- Option used when the guidance line has multiple encounters with the external boundary.

— **First Turn** – TurnPath will complete the turn at the first encounter with a boundary.

— **Last Turn** – TurnPath will complete the turn at the last encounter with a boundary.

NOTE!: No TurnPath will be generated on internal boundary.

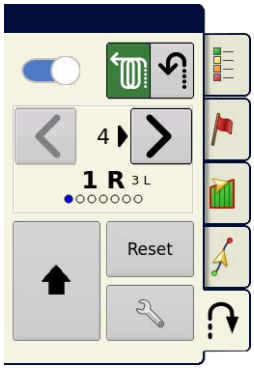
Sequence Mode

Sequence Mode defines a plan to work the field using a fixed order of guidance passes, a Sequence. The Sequence characteristic, the fixed, planned, order of passes, is defined by the Sequence settings, and the base pass on which the sequence is created.

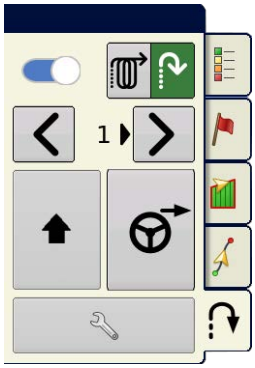
In Sequence Mode the active guidance pass is defined by the Sequence progress, this applies when engaged, and when disengaged. In Sequence Mode the active guidance pass will not automatically update when travelling through the field. This behavior is fundamentally different to the behavior when not using TurnPath or when using Single Turn Mode, where the active guidance pass is defined by the vehicle location.

Sequence Mode is designed to follow a fixed, planned, order of guidance passes. The Sequence progresses to the next guidance pass in the order of guidance passes when a TurnPath is started. Alternatively, the Sequence rolodex next button can be used to progress to the next guidance pass, or the rolodex previous button can be used to return to previous guidance pass.

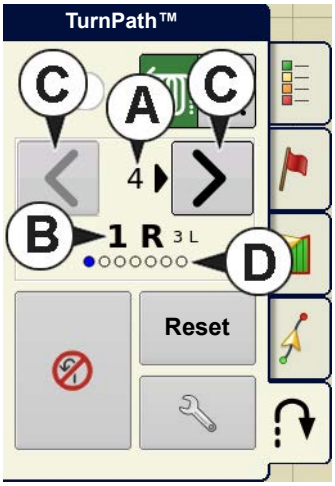
Sequence Mode Toolbox & Rolodex



Sequence mode is active.



Sequence mode is enabled, but single turn mode is active.



A.Target Pass direction 

and Target Pass number 

B.Previous pass in sequence (left)  ,

current Pass in sequence (center)  ,

next pass in sequence (right)  .

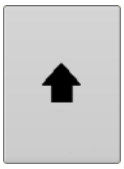
C. Rolodex button  , move to next or previous pass in sequence

D. LED  indicates current state in sequence group. Total number of LEDs resembles amount of passes in the current sequence group.

Blue LED indicates Sequence Base Pass. The Base Pass is the first guidance line of the first sequence group.

TurnPath Cancel – If pressed, TurnPath is canceled, and no TurnPath will be generated.

TurnPath Alarm Active – notifying that user is within the TurnPath Countdown Distance.

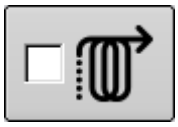


TurnPath Next Turn – If pressed, TurnPath will move to the next available turn

This resets Sequence Base Pass to the current vehicle location.

TurnPath options

Sequences



Sequence mode is disabled.

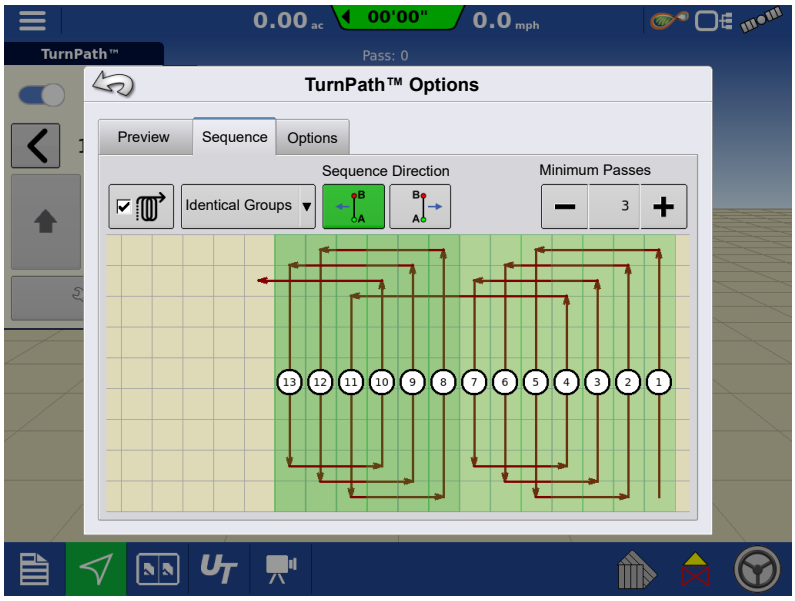
Sequence mode is enabled.

Four options that Sequences can be used:

- Identical Groups
- Alternate Groups
- Skip Pass
- Harvest

Identical Groups

When following the sequence, all groups in the sequence will be identical.

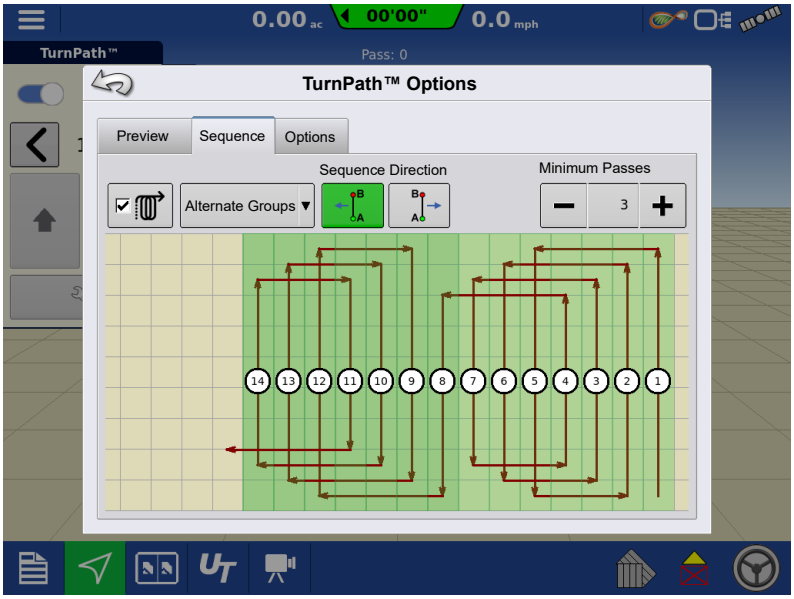


•**Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.

•**Minimum Passes** – Minimum target pass setting for the sequence group.

Alternate Groups

When following the sequence, when moving to a next group, the turning direction will alternate.

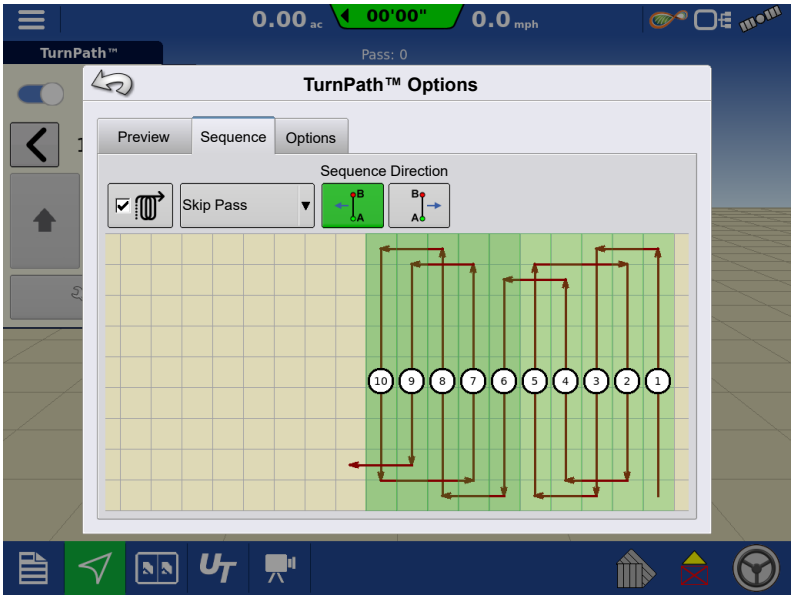


•**Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.

•**Minimum Passes** – Minimum target pass setting for the sequence group.

Skip Pass

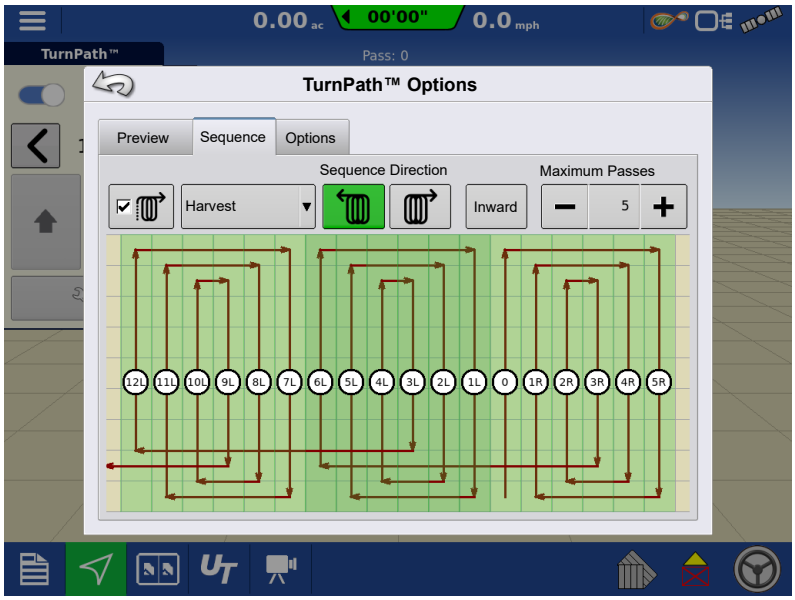
An efficient preset order to move through the field with switching between a target pass of 2 and 3. Used when the turn to the next pass is too sharp, and a single pass needs skipped.

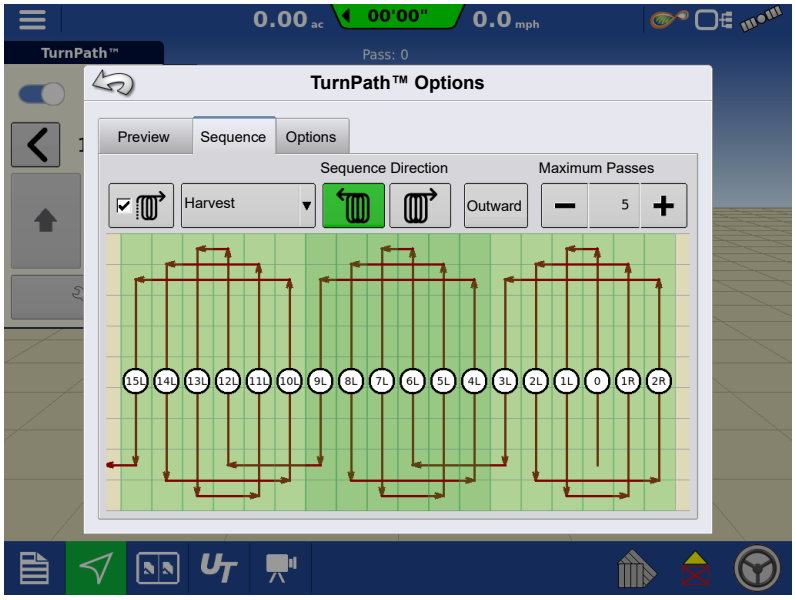


•**Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.

Harvest

Sequence designed for harvest operations, to unload on one side of the vehicle, over already harvested ground. Select to go inward or outward throughout the field.





- **Sequence Direction** – Direction relative to the A-B direction for populating sequence groups.
- **Maximum Passes** – Maximum target pass setting for the sequence group.