T3RRA

10.2 | GNSS & Position Issues

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10.2 | GNSS & Position Issues

Issue	Possible Cause	Recommended Action
No GNSS position detected	Receiver harness disconnected	Verify GNSS receiver harness connections
No GNSS position detected	Receiver not powered	Verify GNSS receiver/display powers on correctly
No GNSS data after startup	Receiver still initialising	Allow receiver sufficient time to initialise and acquire satellite lock
Receiver powers on but no data detected	Incorrect receiver output connection or configuration	For NMEA 2000 receivers, verify connection to the correct CANBUS port operating at 250 kbps. For NMEA 0183 receivers, verify the correct serial output port and baud rate are configured and connected
Receiver powers on but no data detected	Incorrect RS232 baud rate configuration	For NMEA 0183 receivers, verify the configured serial baud rate matches the Level COMMAND receiver configuration
Receiver powers on but no data detected	Incorrect CANBUS connection or baud rate	For CANBUS/NMEA 2000 receivers, verify the receiver is connected to the correct CANBUS network operating at 250 kbps
Receiver powers on but no data detected	NMEA output messages not enabled	Verify required NMEA output messages are enabled within the receiver/display configuration
Position updates slowly	Low output rate configured	Configure receiver output rate to minimum 5 Hz; 10 Hz recommended
No RTK corrections	Incorrect base station selected	Verify the implement receiver is connected to the intended base station or correction source
No RTK corrections	Base station not transmitting corrections	Verify base station operation and correction output
No RTK corrections	Incorrect base station configuration	Verify base station radio/modem and correction output configuration
No RTK corrections	Incorrect implement receiver configuration	Verify correction source, radio/modem and RTK settings within the implement receiver
RTK intermittently lost	Poor correction radio signal	Inspect correction antenna placement and cable condition
RTK intermittently lost	Excessive distance from base station	Reduce distance to base station or verify correction coverage
RTK intermittently lost	GNSS quality thresholds configured too aggressively	Verify Level COMMAND GNSS requirement settings are suitable for current operating conditions
Poor accuracy or drifting	Low GNSS correction quality	Verify RTK/DGNSS correction status
Poor accuracy or drifting	Multipath or obstructed sky view	Move machine to open sky area clear of obstructions
GNSS accuracy degraded unexpectedly	Receiver operating in Float/DGNSS mode	Verify RTK Fix status before operation
Position intermittently lost	Damaged harness or loose connector	Inspect GNSS harnessing and connectors
Position quality degraded	Receiver firmware outdated	Verify GNSS receiver firmware is up to date
Position appears offset	Incorrect base station coordinates	Verify configured base station coordinates

Issue	Possible Cause	Recommended Action
Position appears offset	Connected to incorrect base station	Verify the implement receiver is connected to the correct base station
Position appears offset	Incorrect receiver offsets configured	Verify receiver height, fore/aft and lateral offsets within Level COMMAND

Receivers with Terrain Compensation

Issue	Possible Cause	Recommended Action
Cross-slope or terrain response incorrect	Receiver-integrated IMU/TCM not calibrated	Perform IMU/TCM calibration according to receiver manufacturer instructions
Cross-slope or terrain response incorrect	Receiver-integrated IMU/TCM disabled within receiver configuration	Verify IMU/TCM functionality is enabled within the GNSS receiver configuration

Receivers without Terrain Compensation (Cross-slope sensor required)

Issue	Possible Cause	Recommended Action
Cross-slope or terrain response incorrect	Sensor offsets not enabled	Verify sensor offsets are enabled within Level COMMAND
Cross-slope or terrain response incorrect	Incorrect sensor offsets configured	Verify IMU position offsets are correctly measured and configured within Level COMMAND
Cross-slope or terrain response incorrect	Incorrect IMU assignment or configuration	Verify the correct IMU source is configured within Level COMMAND
Terrain compensation unstable	TARS IMU mounted incorrectly	Verify IMU mounting orientation and mounting rigidity