



Seat Track Inspection Robot

STIR



Improves accuracy



Low maintenance



Reduces risk of musculoskeletal injury



Reduces inspection time

The Seat Track Inspection Robot (STIR) is an **automated solution** that improves the tedious manual method that requires personnel to use inspection mirrors in uncomfortable prone positions. The STIR **streamlines the inspection procedure** using specially designed inspection tools that significantly **reduces the time** required.

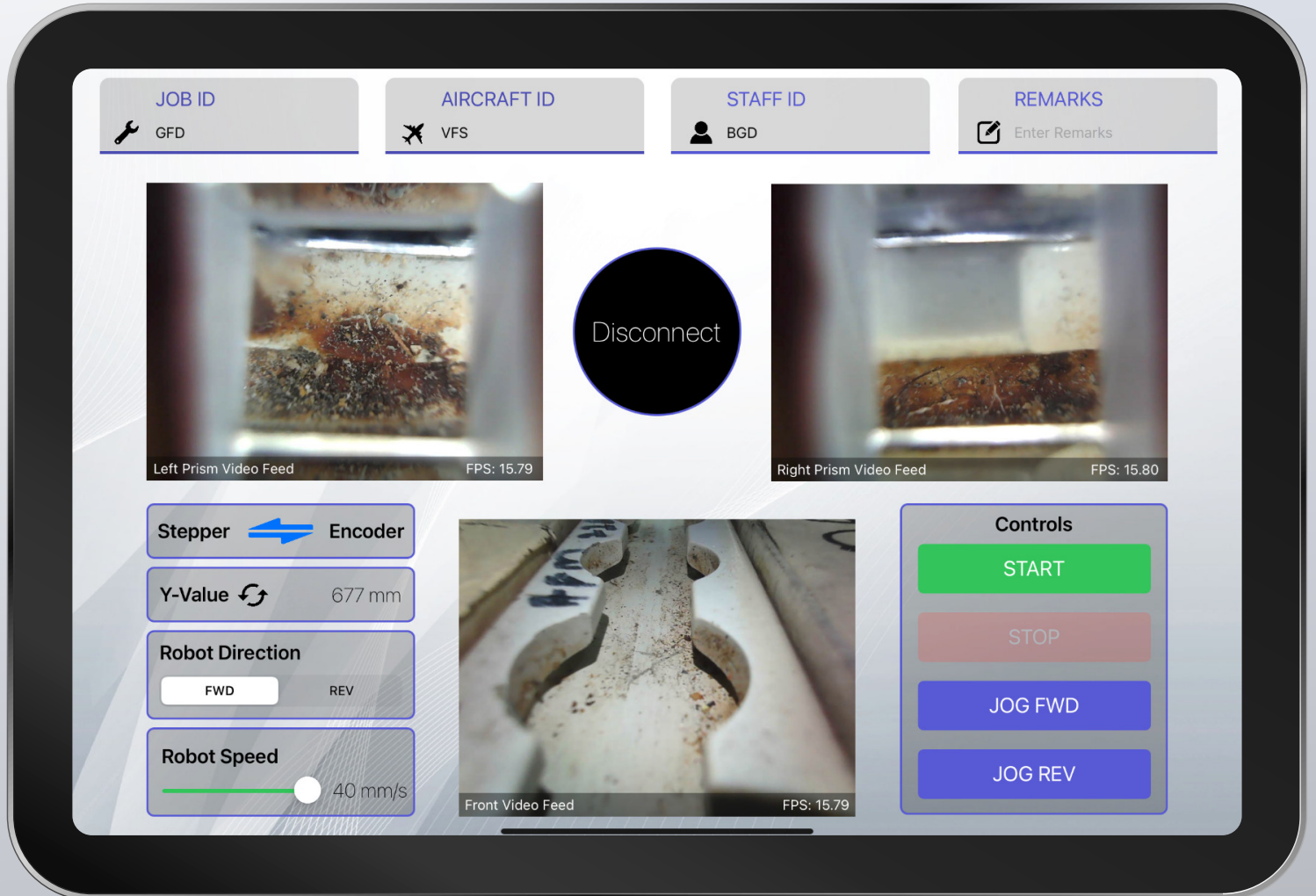
Operating with a **custom-built tablet application**, the robot ensures a user-friendly and efficient experience. The tablet app is integrated into the inspection process, granting users complete control over the robot's speed. Simultaneously, users can **remotely monitor** live camera feeds, providing a comprehensive and real-time perspective of the inspection.

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Controller Interface

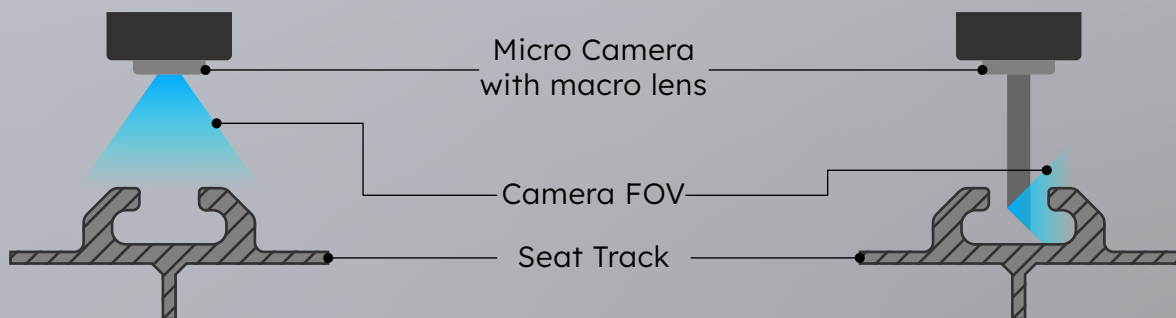
The Seat Track Inspection Robot is equipped with a user-friendly tablet interface that serves as a control hub. This intuitive interface enables users to send a variety of commands to the robot, including start/stop functionalities, directional adjustments, speed control, etc.



Camera FOV

Track surface view camera

Inner track view camera



Automation for Efficiency

Reduces inspection time and enhance productivity by automating repetitive tasks and reducing manual labor.

Reduce Human Errors

Mitigate human error and alleviate human fatigue by automating the inspection process and relying on the robot's vision, ensuring consistent and accurate defect detection.

Optimising Accuracy with Enhanced Views

Increased size and enhanced sharpness of the close-up view of the tracks facilitate more precise and effortless inspection.

Reduced Workplace Hazards

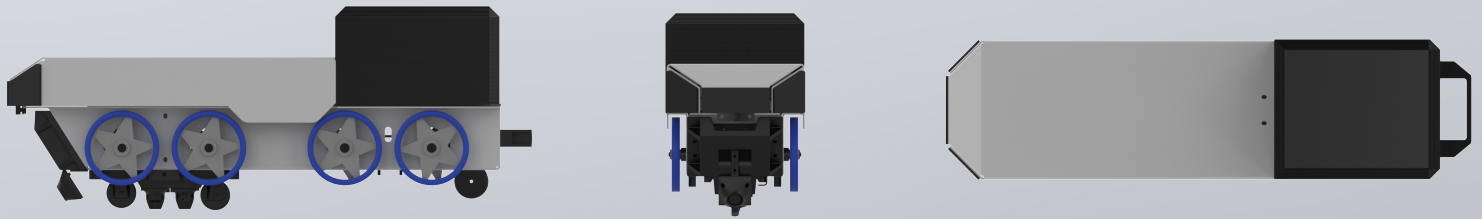
Promote workplace safety and prevent musculoskeletal injuries by eliminating the need for manual inspection and repetitive tasks, reducing the risk of knee, back, and eye strain.

Standardised Inspection Procedures

Ensure consistent and uniform inspection results across multiple aircraft and maintenance bays by eliminating human-induced variations in speed and technique.

Defect Marking for Clarity

Enhance defect visibility and traceability by accurately indicating defect locations with markings, facilitating clear communication and improved maintenance outcomes.



Specifications

Physical characteristics

Setup	8-wheel inspection robot
Dimension	600 (L) x 160 (W) x 190 (H) mm
Chassis maximum load	10 kg
Battery pack capacity	5000 mAh x3
Camera views	Track surface view x1 Inner track view x2 (left and right)
Camera module swivel	±7°

Operational characteristics

Modes of operation	Jog Constant speed
Operation speed (Bi-directional)	2 - 40 mm/sec
Battery charging time	3 hours
Endurance	Up to 3 hours max per battery pack
Communication	Wi-Fi 2.4 GHz