

ASSEMBLY SHOP

Shop	A Rank Equipment	Failure Mode	Temperature	Current	Vibration	Ultrasound	Other Sensing Technology
Assembly	Lifters	Bearing Damage	Use Sensor on bearing to detect bearing temperature due to Friction heat	Use motor current sensor to detect current raise due to friction	Use Sensor on bearing to detect vibration (axle, radius) due to bearing damage	Use Sensor on bearing to detect noise due to bearing damage	
		Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat	Use motor current sensor to detect current raise due to friction	Use Sensor on motor to detect vibration (axle, radius) due to bearing damage	Use Sensor on motor to detect noise due to bearing damage	
		Chain Stretch					
		Cylinder Leak					Use logic to monitor cylinder stroke timing to identify leak
	Overhead Conveyor	Chain Stretch					Use laser-based sensor to measure chain stretch
		Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat	Use motor current sensor to detect current raise due to friction	Use Sensor on motor to detect vibration (axle, radius) due to bearing damage		
		Take-Up Wheel Bearing Failure	Use Sensor on bearing to detect bearing temperature due to Friction heat		Use Sensor on bearing to detect vibration (axle, radius) due to bearing damage		
		Rail Wear					Use 3D laser camera to measure the wear
	Friction Drives	Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat	Use motor current sensor to detect current raise due to friction	Use Sensor on motor to detect vibration (axle, radius) due to bearing damage		
		Friction Wheel Wear					

ASSEMBLY SHOP (CONT.)

Shop	A Rank Equipment	Failure Mode	Temperature	Current	Vibration	Ultrasound	Other Sensing Technology
Assembly	Fluid Fill	Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat		Use Sensor on motor to detect vibration (axle, radius) due to bearing damage		
		Vacuum Pump Failure	Use Sensor on pump to detect temperature raise due to Friction heat		Use Sensor on pump to detect vibration (axle, radius) due to pump damage		
	Robot	Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat		Use Sensor on motor to detect vibration (axle, radius) due to bearing damage		OEM monitoring software data sets
	Frame Alignment	Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat		Use Sensor on motor to detect vibration (axle, radius) due to bearing damage		
		Cylinders					Use logic to monitor cylinder stroke timing to identify leak
		Hydraulic Pump	Use Sensor on pump to detect temperature raise due to Friction heat		Use Sensor on pump to detect vibration (axle, radius) due to pump damage		
	Scissor Lifts	Motor, Gearbox, or Bearing Damage	Use Sensor on motor to detect bearing temperature due to Friction heat		Use Sensor on motor to detect vibration (axle, radius) due to bearing damage		
		Bearing Damage	Use Sensor on bearing to detect bearing temperature due to Friction heat	Use motor current sensor to detect current raise due to friction	Use Sensor on bearing to detect vibration (axle, radius) due to bearing damage	Use Sensor on bearing to detect noise due to bearing damage	