



MOBILE ELEVATION SYSTEMS

**UAV
DEFENSE**

**BORDER
SURVEILLANCE**

**FORCE
PROTECTION**

**MOBILE
SECURITY**



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MOBILE ELEVATION SYSTEMS

Will-Burt's mobile elevation systems are specifically designed for the complex missions facing today's defense organizations. Our elevation products, platforms, and systems are designed to Maintain the Advantage in Strategic Competition. All Will-Burt products are MIL-STD 810 certified and capable of overcoming the environmental challenges that exist today and new ones that will arise tomorrow.

The ability of Will-Burt to deliver superior elevation solutions is attributed to its worldwide leadership in the industry for over 75 years. Teams of experienced engineers, design new products to fit today's requirements. We also offer custom designed solutions to meet program specifications. Our vertically integrated manufacturing systems are backed by an ISO 9001:2015 quality management system. Finally, all of this is backed by a worldwide sales, marketing, and service support structure focused on delivering the correct customer solution on time, every time.

Flexibility and superior performance are two keys for mission success. Will-Burt's Compact Elevation Systems (CES) for pickup trucks and small trailers and the Rapid Deployment Elevation System (RDES) for large trailers deliver fast and precise elevation for a variety of sensors. These systems are designed for easy operation with little training and most importantly can have a sensor deployed in as little as 30 seconds. Available heights range from 13 ft. / 4.0 m to 80 ft. / 24.0 m. Will-Burt's powerful telescopic masts with automatic locks can lift the payloads into place - no need for an auxiliary crane to place the payload on top like some systems. Payload capabilities range from 400 lb. / 181 kg to 1,200 lb. / 544 kg.

The world headquarters of Will-Burt is in Orrville, Ohio USA and the company is classified as a small business and is 100% employee-owned.

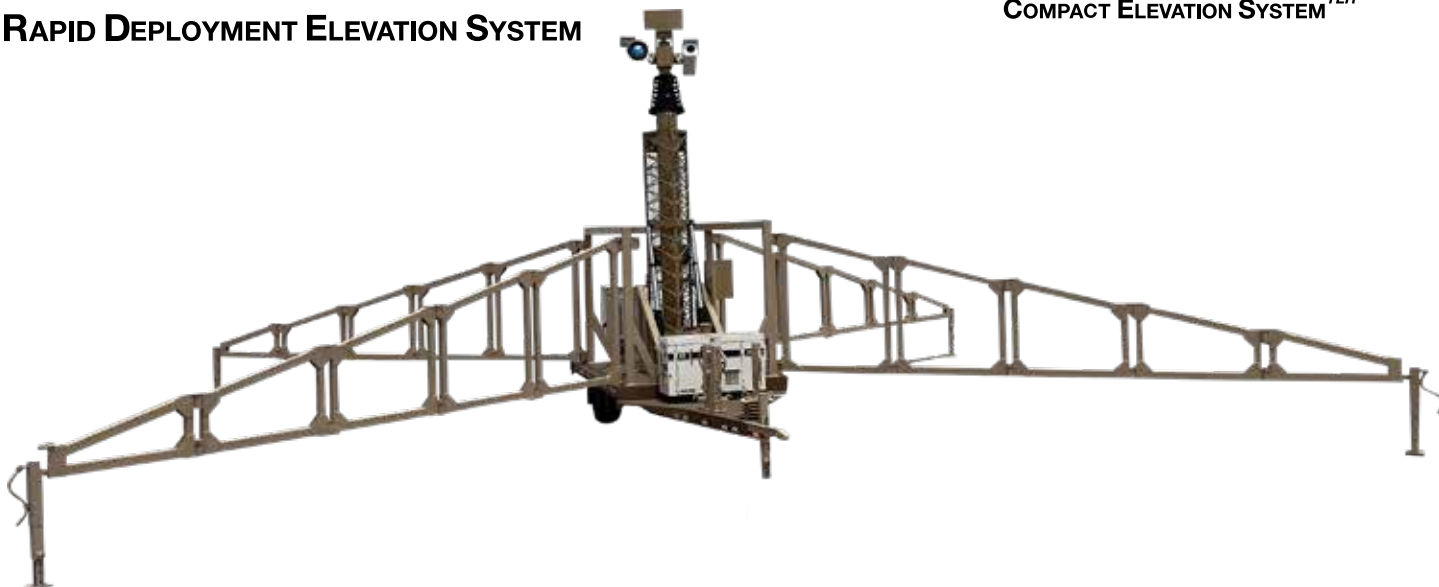


COMPACT ELEVATION SYSTEM^{TRK}



COMPACT ELEVATION SYSTEM^{TLR}

RAPID DEPLOYMENT ELEVATION SYSTEM



MOBILE ELEVATION SYSTEMS

COMPACT ELEVATION SYSTEM^{TRK}

Will-Burt's truck based Compact Elevation System with integrated CAN-bus controls and cable management is a rugged and precise mobile elevation platform that provides rapid deployment of a wide variety of sensors from a compact position in a standard 2.4m pickup truck bed. The compact design provides up to 24.7 ft³ / .7 m³ for the sensor payload with the tailgate in the closed position. Available with an electro-mechanical or pneumatic elevation system at 13 ft. / 4 m or 20 ft. / 6 m heights with a payload capacity of 530 lbs. / 241 kg, payload stability is assured with section keys and keyways that minimize rotational movement.



COMPACT ELEVATION SYSTEM^{TLR}

Will-Burt's medium trailer based Compact Elevation System with integrated CAN-bus controls and cable management is a rugged and precise mobile elevation platform that provides rapid deployment of sensors in as little as 30 seconds. The compact design allows significant room for the sensor payload and auxiliary equipment. Available with an electro-mechanical or pneumatic elevation system at 13 ft. / 4.0m to 32 ft. / 8.5m heights with a payload capacity of 530 lbs. / 241 kg, payload stability is assured with section keys and keyways that minimize rotational movement. This trailer-based system is customizable and can accommodate a variety of power systems as specified by the customer.

RAPID DEPLOYMENT ELEVATION SYSTEM

Will-Burt's Rapid Deployment Elevation System (RDES) with fully integrated CAN-bus controls is designed for expeditious deployment when significant heights are required for sensors and antennas. The RDES includes a mast tilt system that delivers a compact transport envelope. The system is available in heights of 80 ft. / 24m. The powerful telescopic mast can elevate a 1,200 lb. / 544kg payload - no need for crane assistance. An automatic lock system maintains a consistent height for extended periods of deployment - even with the loss of power. Payload stability and pointing accuracy is assured with section keys and keyways that minimize rotational movement. Full deployment can be achieved in 8 minutes.



COVERT POWER SYSTEM^{for CES TRK}

This Covert Power System is designed to deliver power to the CES Truck system and payloads while the vehicle engine is off. This automatic system recharges when the vehicle is running, and can provide **2 hours of continuous power** without vehicle power enabling **virtually silent persistent surveillance**.

- Delivers virtually silent persistent surveillance
- Up to 2 hours run time
- Automatic power and engine control
- Self-monitoring
- Reduces fuel use and increases overall mission time
- Extends life of vehicle
- Small space claim in vehicle



COMPACT ELEVATION SYSTEM TRUCK

UAV Defense | Border Surveillance
Force Protection | Mobile Security

Will-Burt's Compact Elevation System is a rugged and precise mobile elevation platform that provides rapid deployment of a wide variety of sensors from a compact position in a standard 8' pickup truck bed. The compact design provides up to 24.7 ft³ / .7 m³ for the sensor payload with the tailgate in the closed position. Available with an electro-mechanical or pneumatic elevation system, payload stability is assured with section keys and keyways that minimize rotational movement.

Designed and Manufactured in the USA by The Will-Burt Company, the Compact Elevation System will optimize the performance of sensors resulting in mission success.

ESSENTIAL FEATURES

- Covert
 - Elevation system and payload hidden within pickup bed envelope
 - Designed for transport while in horizontal or vertical positions
 - Under 30 second tilt time
- Compact
 - Up to 24.7 ft³ / .7 m³ available space for the sensor payload
- Minimized mast twist
 - Full-length mast section keys
- Strong and Robust
 - No need for guying with field-proven rugged telescoping mast design
- Flexible Installation
 - Skid design allows for installation on a variety of platforms
 - Available with mechanical or pneumatic elevation system
 - Cable management system
- Integrated Controls
 - Fully integrated control system
 - PC control capable
 - CAN-bus J1939
 - RS485 Serial

COMPACT ELEVATION SYSTEM^{TRK}



COMPACT ELEVATION SYSTEM TRUCK

SPECIFICATIONS

CES-TRK-SAL	4.0m	6.0m
Stowed Dimensions (Lx W x H) (mm / in.)	1356 x 1062 x 555 / 53.4 x 41.8 x 21.8	1555 x 1062 x 555 / 61.2 x 41.8 x 21.8
Available Area for Concealed Sensor Payload (8 ft. bed) (m ³ & m ² / in ³ & in ²)	0.691 & 1.280 / 42157.090 & 1983.900	0.659 & 1.210 / 40203.363 & 1875.316
Extended Height (m / ft.)	4 / 13.1	6 / 19.6
Payload Capacity (kg / lbs.)	181 / 400	
Telescopic Mast Type	Aluminum Mechanical Screw-Drive with Automatic Locks	
Survival Wind Speed (km/h / mph)	130 / 81	
Deployment Wind Speed (km/h / mph)	56 / 35	
Tilt Up / Mast Deploy / Mast Retract / Tilt Down / Total Cycle Time / Approximate - Payload Dependent	30 / 35 / 35 / 30 / 130 Seconds	30 / 60 / 60 / 30 / 180 Seconds
Rotation Accuracy (Twist)	+/-1°	
Voltage (MIL-STD 1275)	28 VDC	
*Typical Payload Sail Area (m ² / ft ²)	1.1 / 12 CD=1.5	
System Weight CES & Payload (kg / lbs.)	653 / 1440	678 / 1495
Integrated System Control	CAN-bus J1939, RS485 Serial, PC Control Capable	

*Consult factory for larger sail area as payload and wind capacities may be reduced. Specifications subject to change.

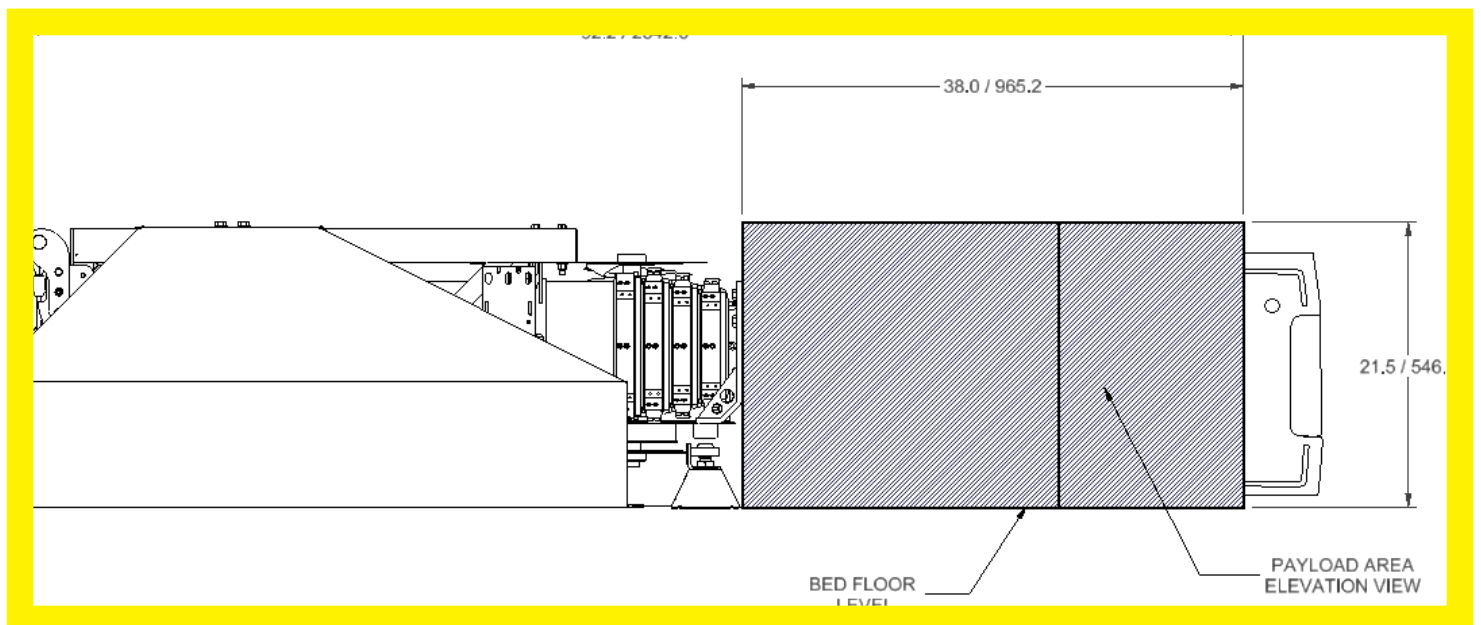
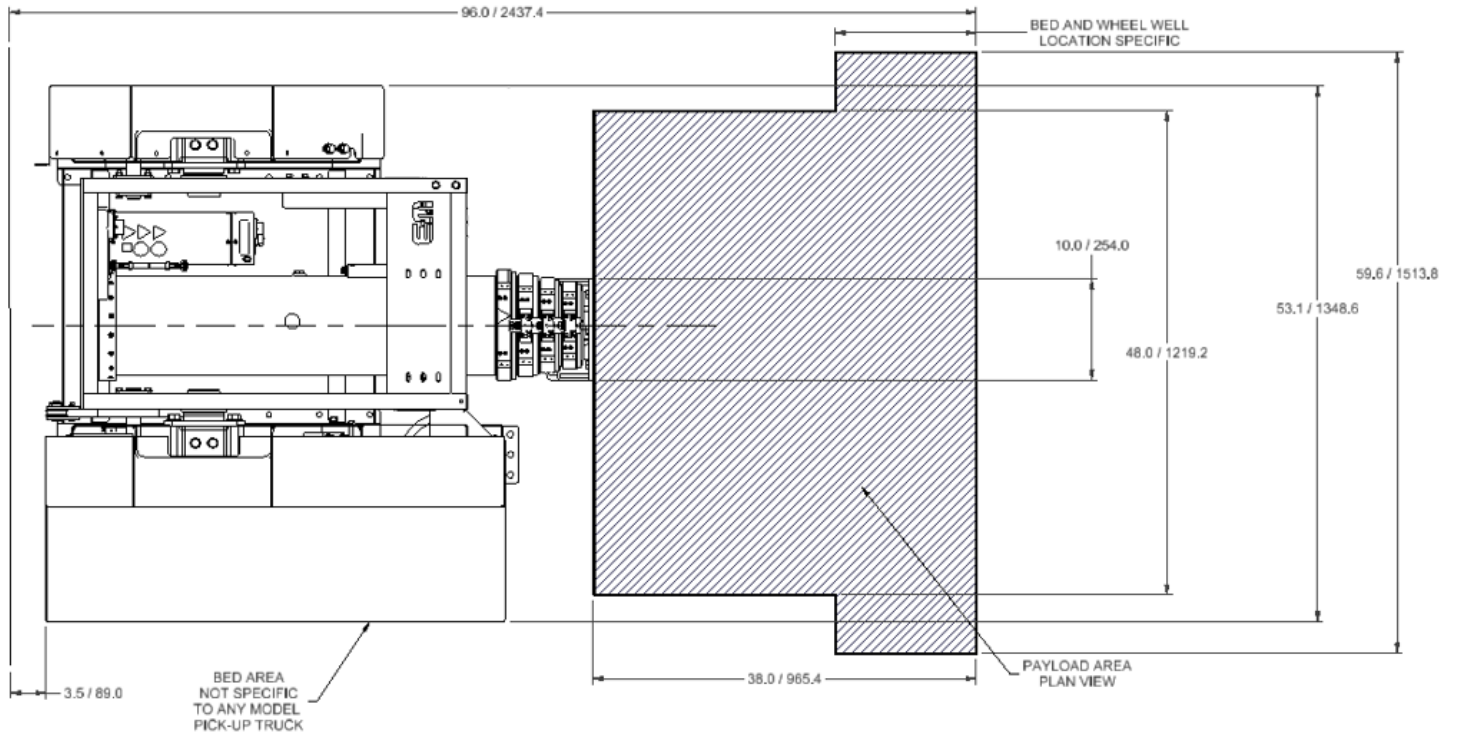
CES-TRK-SAL	4.0m	6.0m
Stowed Dimensions (Lx W x H) (mm / in.)	1440 x 1062 x 555 / 56.7 x 41.8 x 21.8	1692 x 1062 x 555 / 66.6 x 41.8 x 21.8
Available Area for Concealed Sensor Payload (8 ft. bed) (m ³ & m ² / in ³ & in ²)	0.677 & 1.250 / 41316.195 & 1937.140	0.637 & 1.161 / 38836.011 & 1799.352
Extended Height (m / ft.)	4 / 13.1	6 / 19.6
Payload Capacity (kg / lbs.)	241 / 530	
Telescopic Mast Type	Aluminum Pneumatic	
Survival Wind Speed (km/h / mph)	130 / 81	
Deployment Wind Speed (km/h / mph)	56 / 35	
Tilt Up / Mast Deploy / Mast Retract / Tilt Down / Total Cycle Time / Approximate - Payload Dependent	30 / Deploy and Retract times are high variable / 30 seconds	
Rotation Accuracy (Twist)	+/-1°	
Voltage (MIL-STD 1275)	28 VDC	
*Typical Payload Sail Area (m ² / ft ²)	1.1 / 12 CD=1.5	
System Weight CES & Payload (kg / lbs.)	696 / 1535 lbs.	716 / 1579 lbs.
Integrated System Control	CAN-bus J1939, RS485 Serial, PC Control Capable	

*Consult factory for larger sail area as payload and wind capacities may be reduced. Specifications subject to change.

COMPACT ELEVATION SYSTEM TRUCK

ENGINEERING SPECIFICATIONS

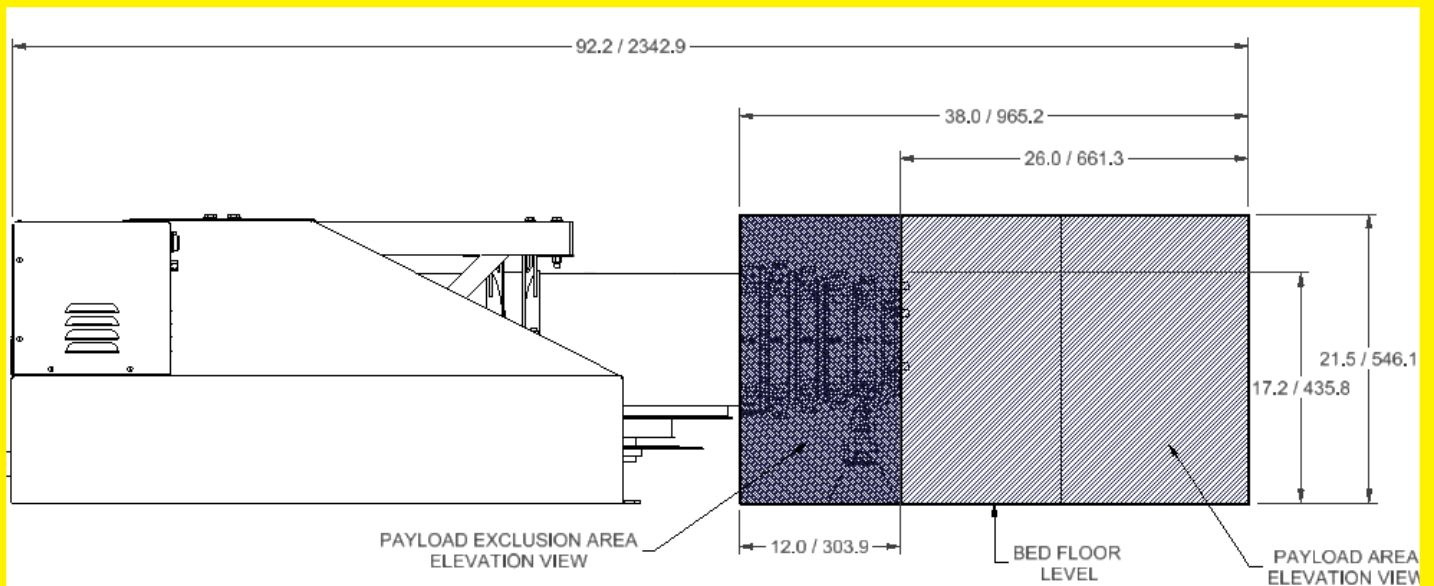
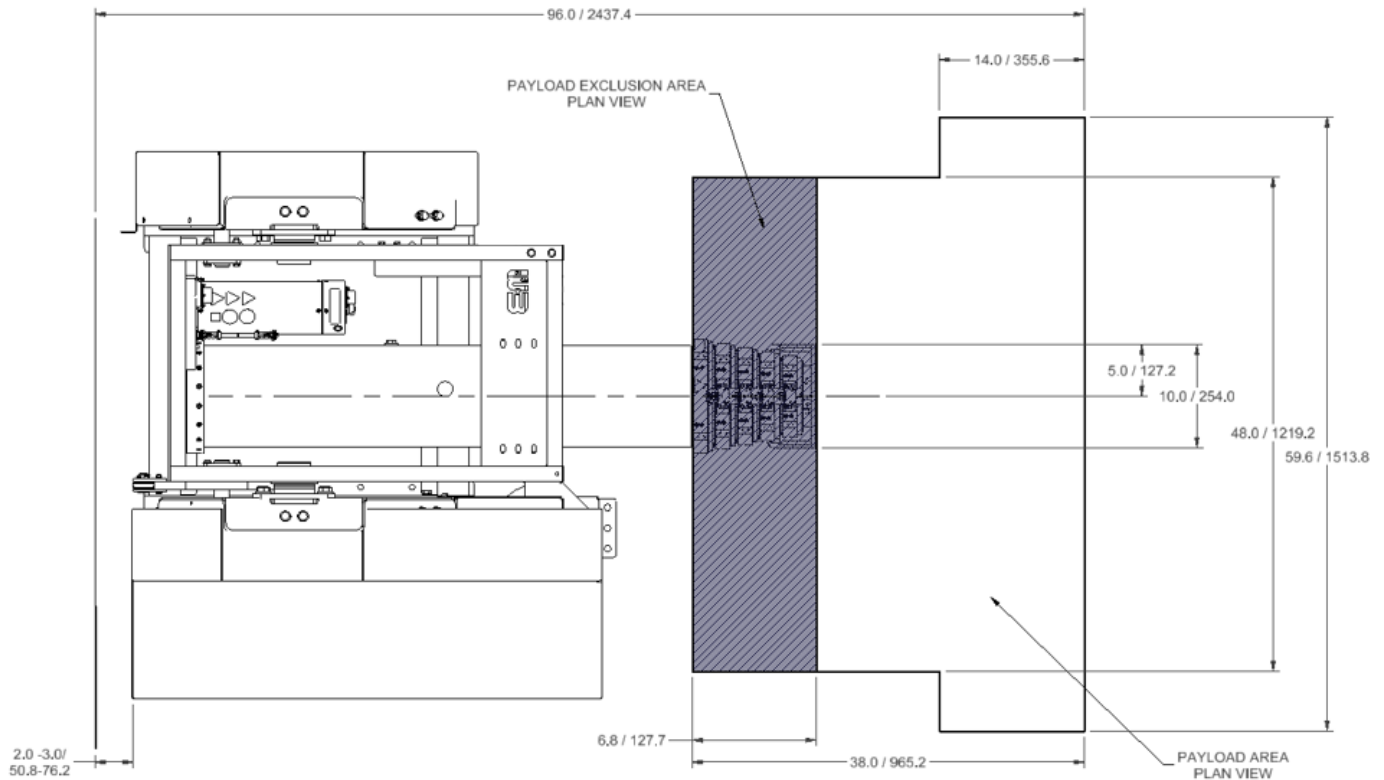
4M CES-TRK-SAL



COMPACT ELEVATION SYSTEM TRUCK

ENGINEERING SPECIFICATIONS

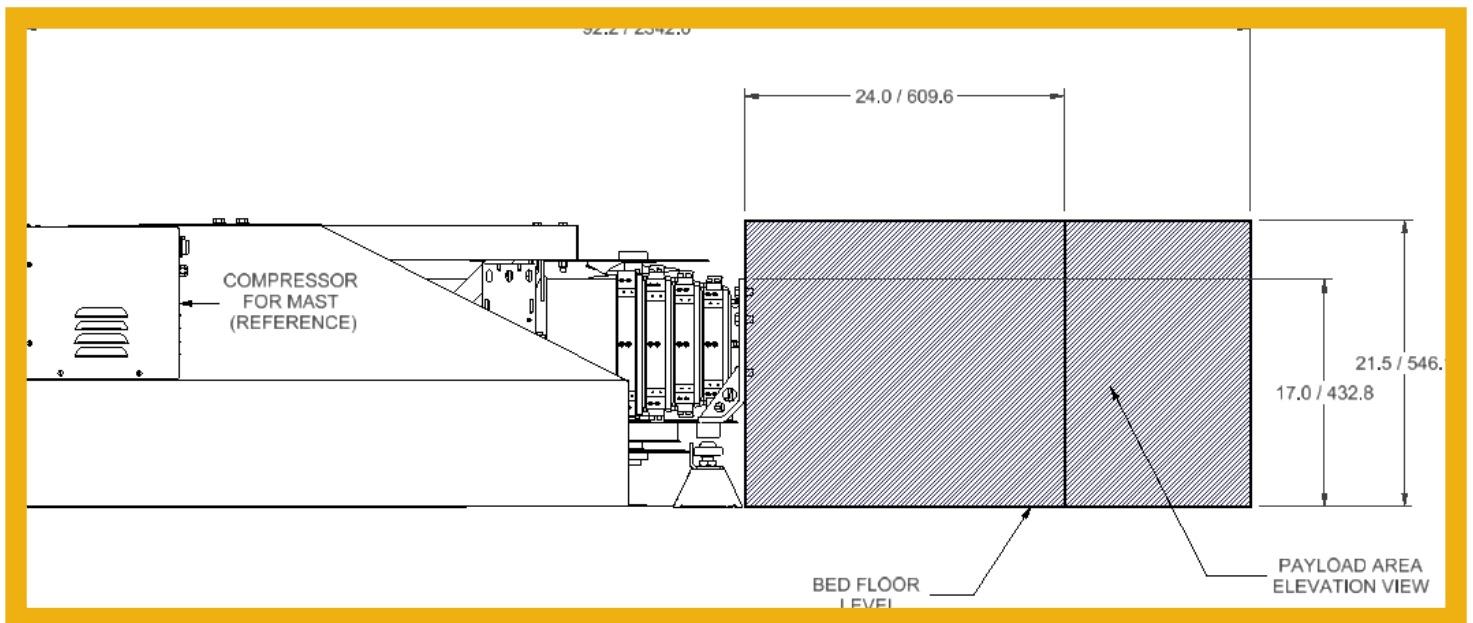
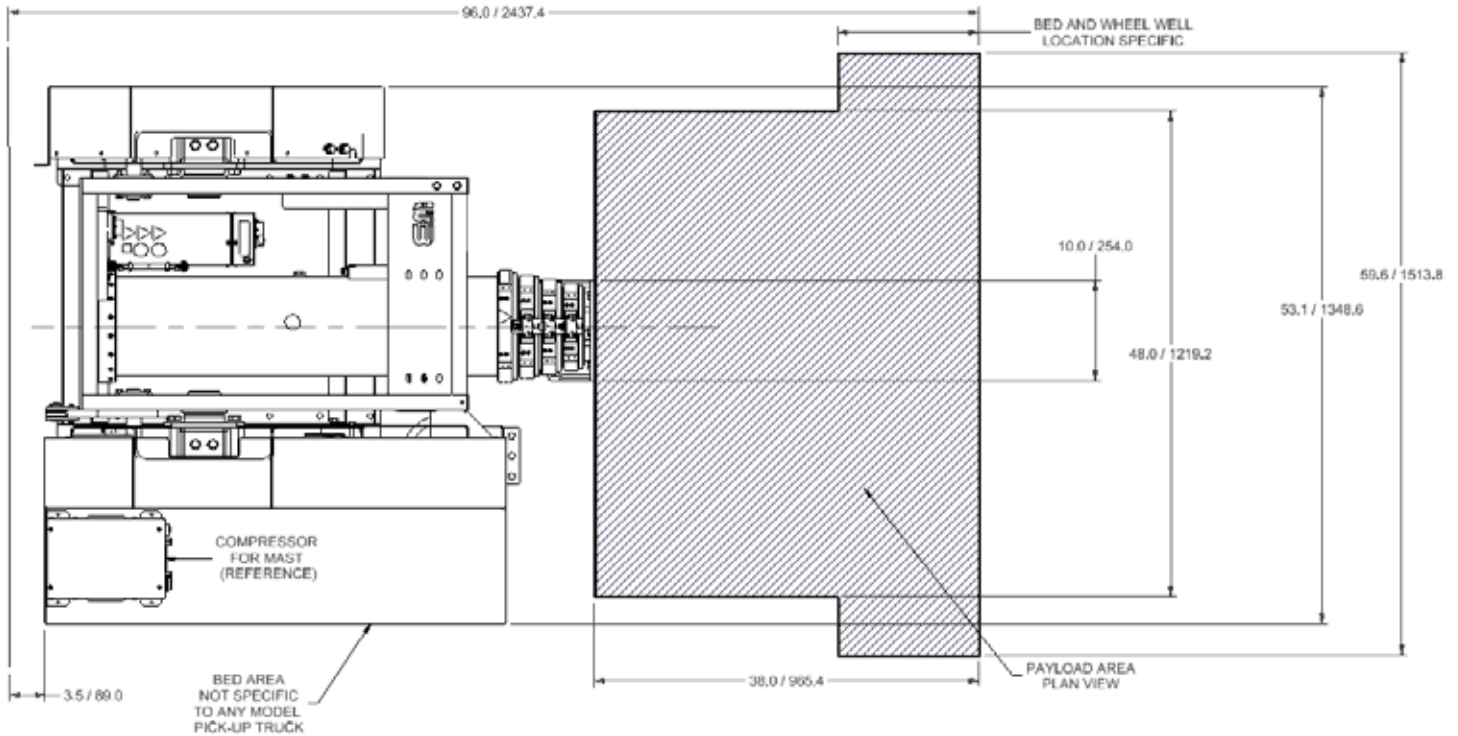
6M CES-TRK-SAL



COMPACT ELEVATION SYSTEM TRUCK

ENGINEERING SPECIFICATIONS

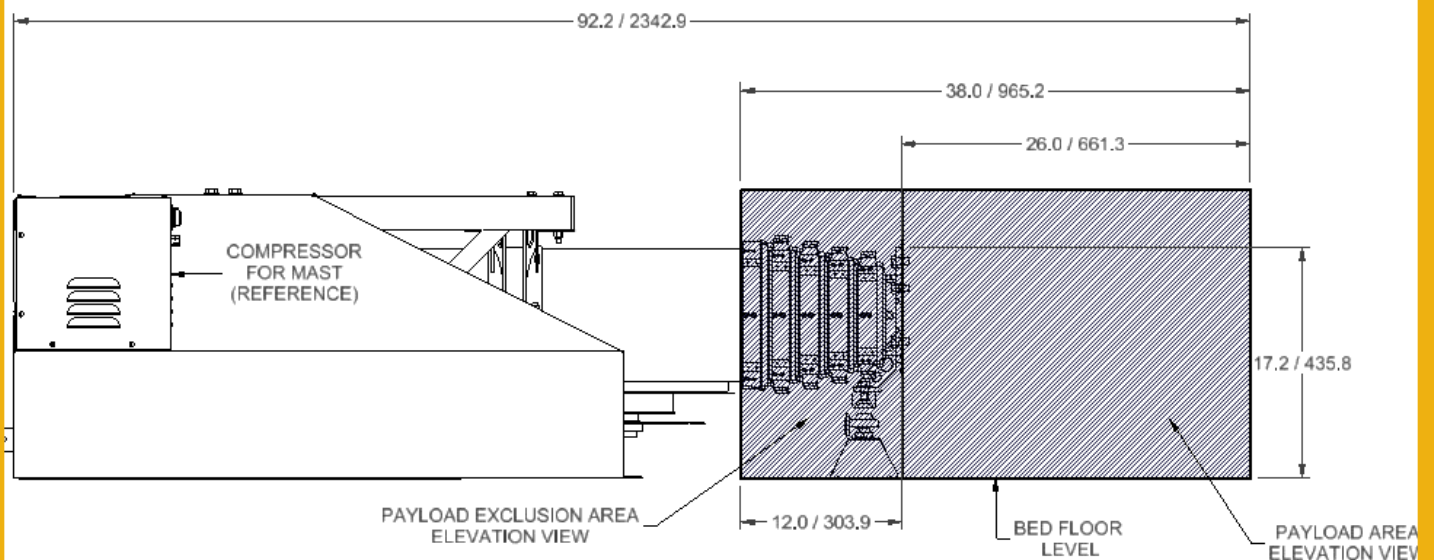
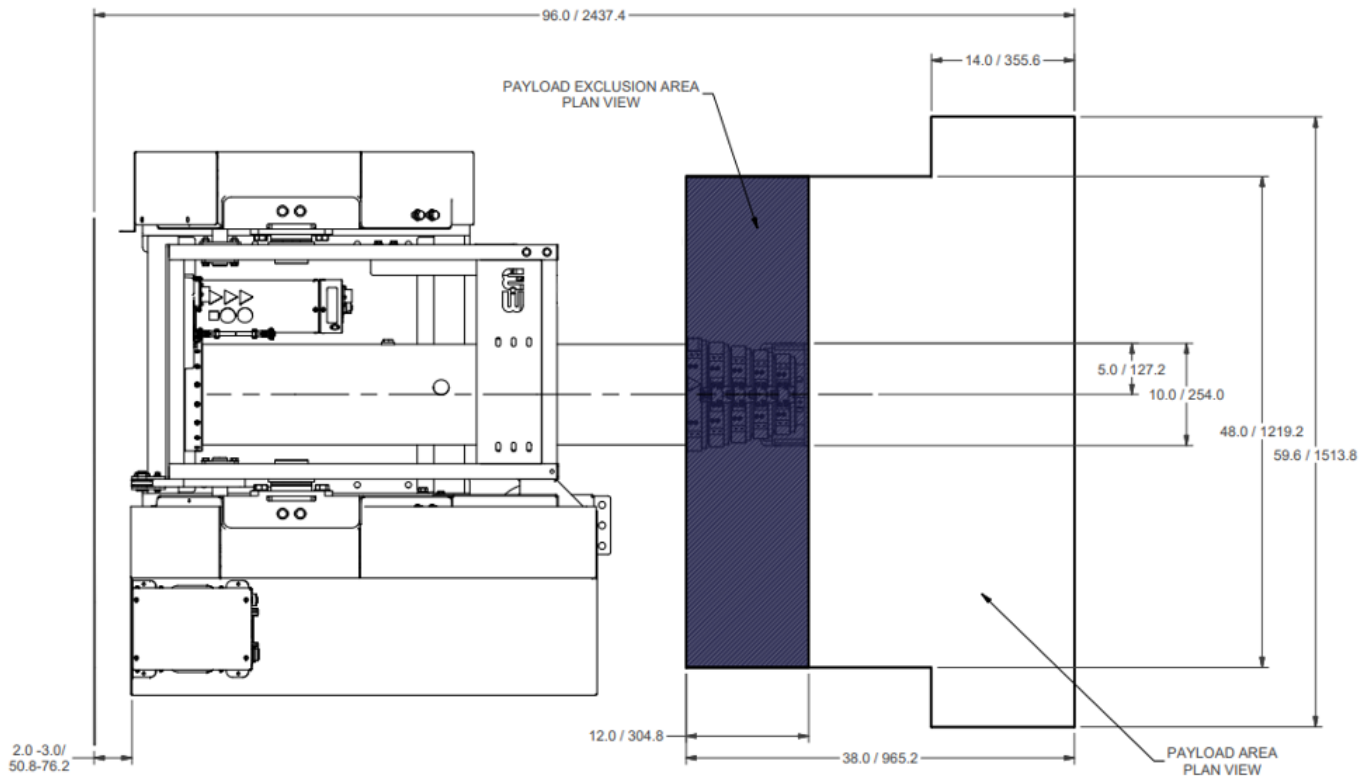
4M CES-TRK-SHDNL



COMPACT ELEVATION SYSTEM TRUCK

ENGINEERING SPECIFICATIONS

6M CES-TRK-SHDNL



COMPACT ELEVATION SYSTEM TRAILER

UAV Defense | Border Surveillance
Force Protection | Mobile Security

Will-Burt's Compact Elevation System^{TLR} is a rugged and precise mobile elevation platform that provides rapid deployment of sensors in as little as 30 seconds from a trailer platform. The compact design allows significant room for the sensor payload and auxiliary equipment. Available with an electro-mechanical or pneumatic elevation system, payload stability is assured with section keys and keyways that minimize rotational movement.

The Compact Elevation System TLR is customizable and can accommodate a variety of power systems as specified by the customer.

ESSENTIAL FEATURES

- Rapid Deployment of Sensors - 30 seconds
- Heights from 13 ft. / 4.0m to 28 ft. / 8.5m
- Payload up to 530 lb. / 241kg
- Minimized mast twist
 - Full-length mast section keys
- Strong and Robust
 - No need for guying with field-proven rugged telescoping mast design
- Flexible Installation
 - Skid design allows for installation on a variety of platforms
 - Available with mechanical or pneumatic elevation system
 - Cable management system
- Integrated Controls
 - Fully integrated control system
 - PC control capable
 - CAN-bus J1939
 - RS485 Serial

COMPACT ELEVATION SYSTEM^{TLR}



COMPACT ELEVATION SYSTEM TRAILER

SPECIFICATIONS

CES-TLR-SAL	6.0m	8.5m
Stowed Dimensions (Lx W x H) (mm / in.)	174.6 x 98.8 x 65.4 / 4435 x 2510 x 1662	
Extended Height (m / ft.)	7.1 / 23.4	9.7 / 31.7
Payload Capacity (kg / lbs.)	181 / 400	120 / 265
Telescopic Mast Type	Aluminum, Electromechanical	
Survival Wind Speed (km/h / mph)	130 / 81	
Deployment Wind Speed (km/h / mph)	56 / 35	
Tilt Up / Mast Deploy / Mast Retract / Tilt Down / Total Cycle Time / Approximate - Payload Dependent	30 / 60 / 60 / 30 / 180	30 / 100 / 100 / 30 / 260
Rotation Accuracy (Twist)	+/-1°	
Voltage (MIL-STD 1275)	28 VDC	
*Typical Payload Sail Area (m ² / ft ²)	12 / 1.1 CD=1.5	
System Weight CES & Payload (kg / lbs.)	477 / 1052	522 / 1151
Integrated System Control	CAN-bus J1939, RS485 Serial, PC Control Capable	

*Consult factory for larger sail area as payload and wind capacities may be reduced. Specifications subject to change.

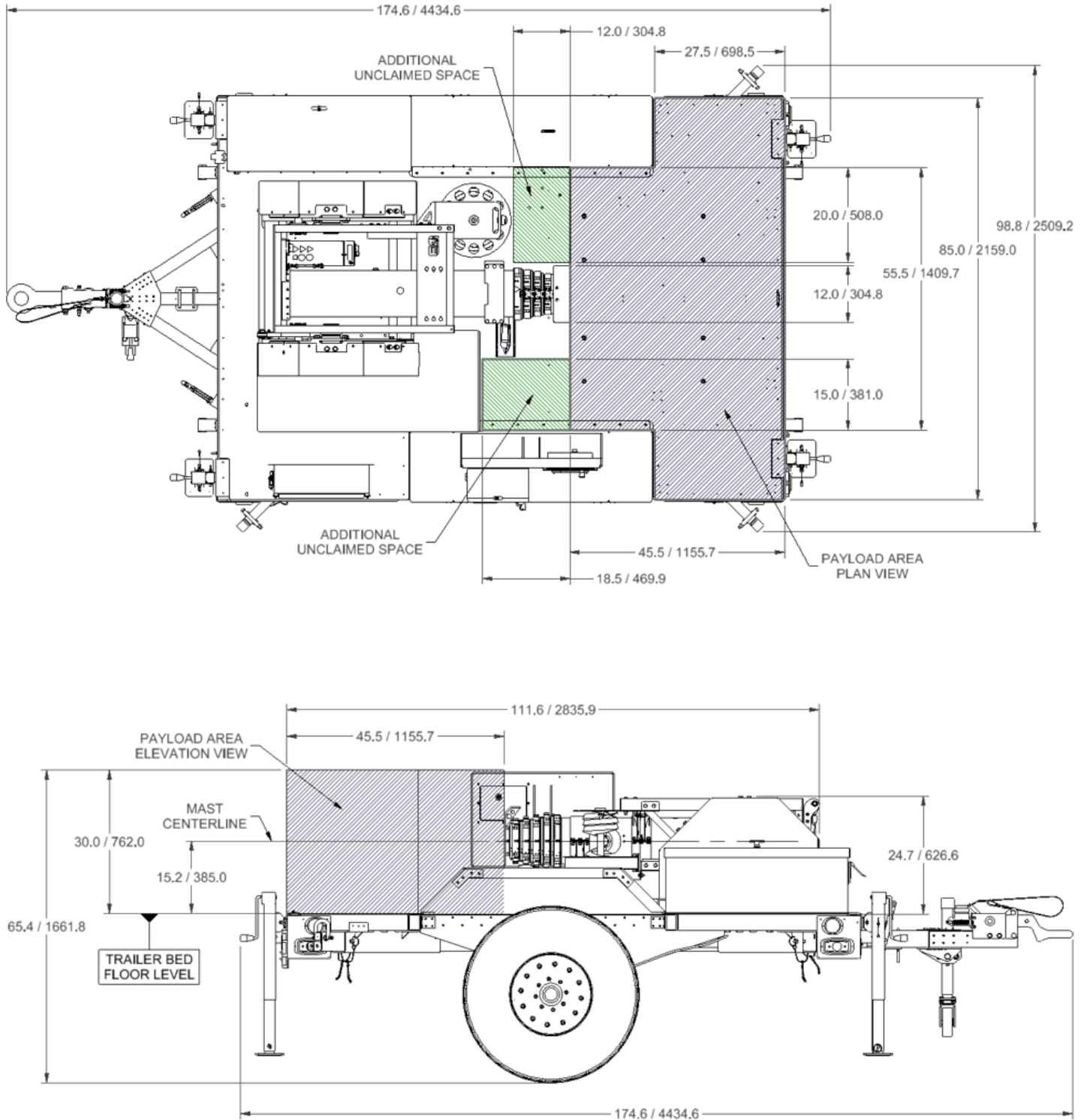
CES-TLR-SHDNL	4.0m	6.0m
Stowed Dimensions (Lx W x H) (in. / mm)	56.7 x 41.8 x 21.8 / 1440 x 1062 x 555	66.6 x 41.8 x 21.8 / 1692 x 1062 x 555
Extended Height (AGL) (ft. / m)	13.1 / 4	19.6 / 6
Payload Capacity (lb. / kg)	530 / 241	
Telescopic Mast Type	Aluminum Pneumatic	
Survival Wind Speed (mph / km/h)	81 / 130	
Deployment Wind Speed (mph / km/h)	35 / 56	
Tilt Up / Mast Deploy / Mast Retract / Tilt Down / Total Cycle Time / Approximate - Payload Dependent (seconds)	30 / Deploy and Retract times are high variable / 30	
Rotation Accuracy (Twist)	+/-1°	
Voltage (MIL-STD 1275)	28 VDC	
*Typical Payload Sail Area (ft. ² / m ²)	12 / 1.1 CD=1.5	
System Weight CES & Payload (lb. / kg)	1535 / 696	1579 / 716
Integrated System Control	CAN-bus J1939, RS485 Serial, PC Control Capable	

*Consult factory for larger sail area as payload and wind capacities may be reduced. Specifications subject to change.

COMPACT ELEVATION SYSTEM TRAILER

ENGINEERING SPECIFICATIONS

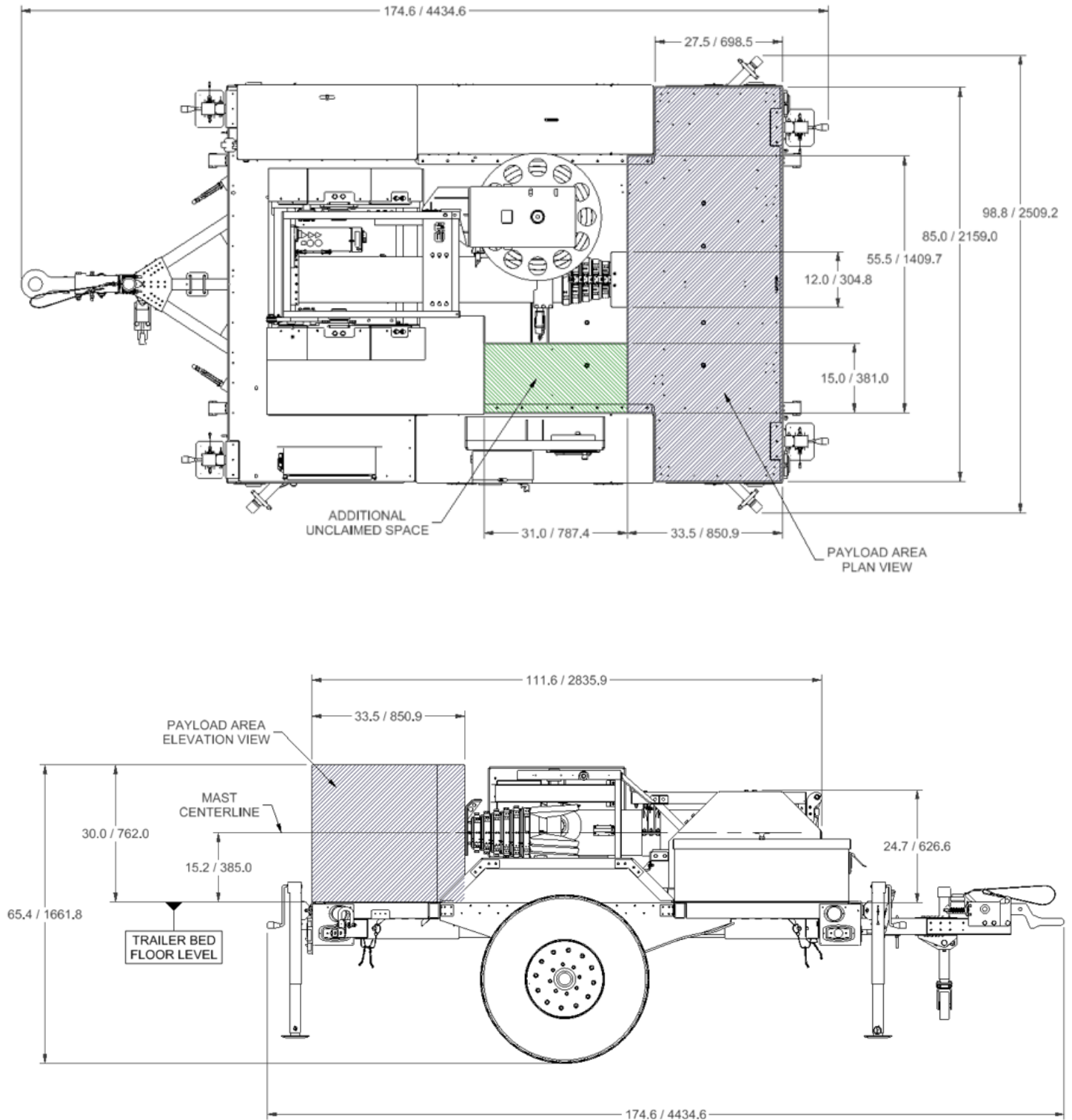
6M CES-TLR-SAL



COMPACT ELEVATION SYSTEM TRAILER

ENGINEERING SPECIFICATIONS

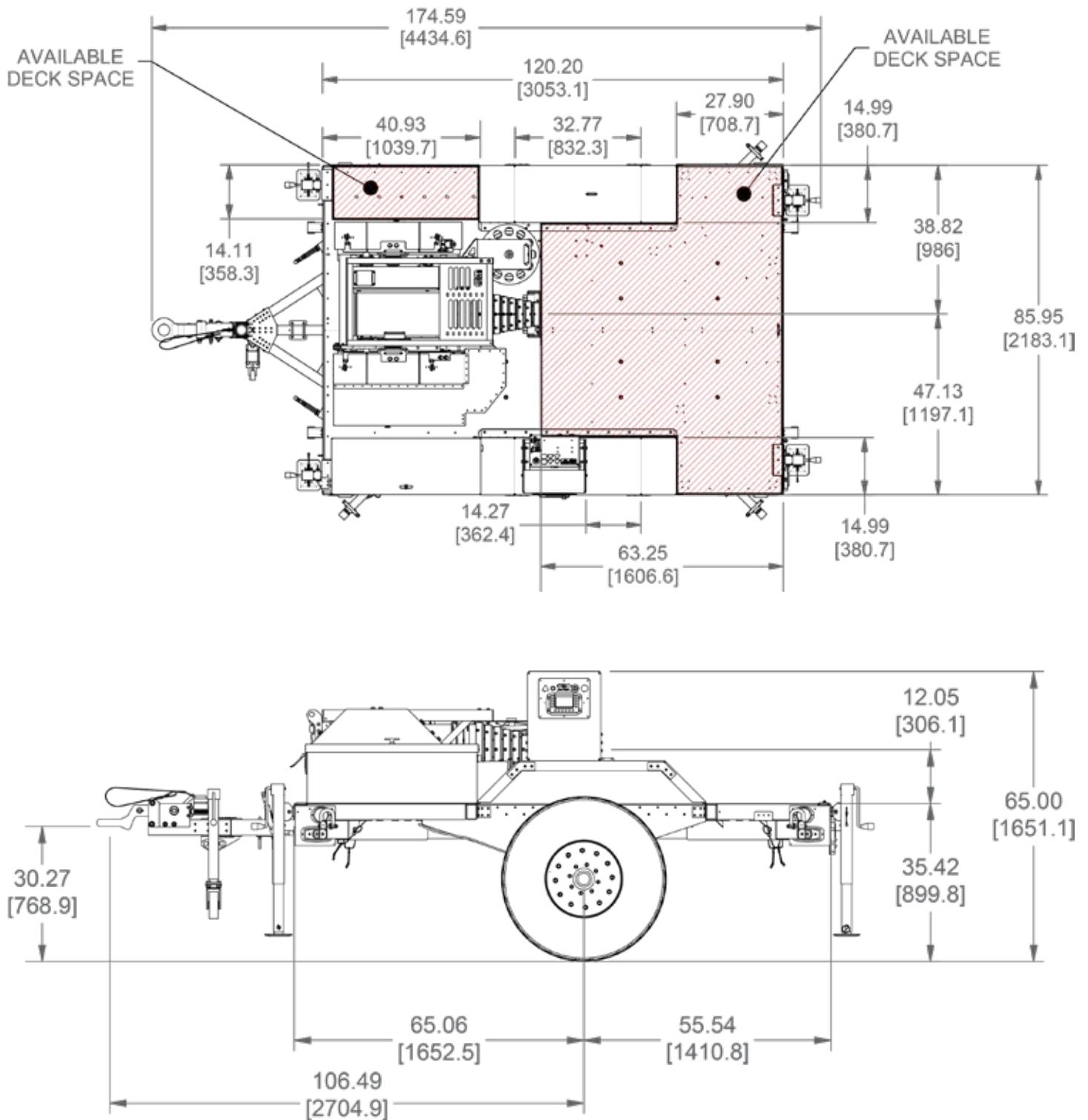
8.5M CES-TLR-SAL



COMPACT ELEVATION SYSTEM TRAILER

ENGINEERING SPECIFICATIONS

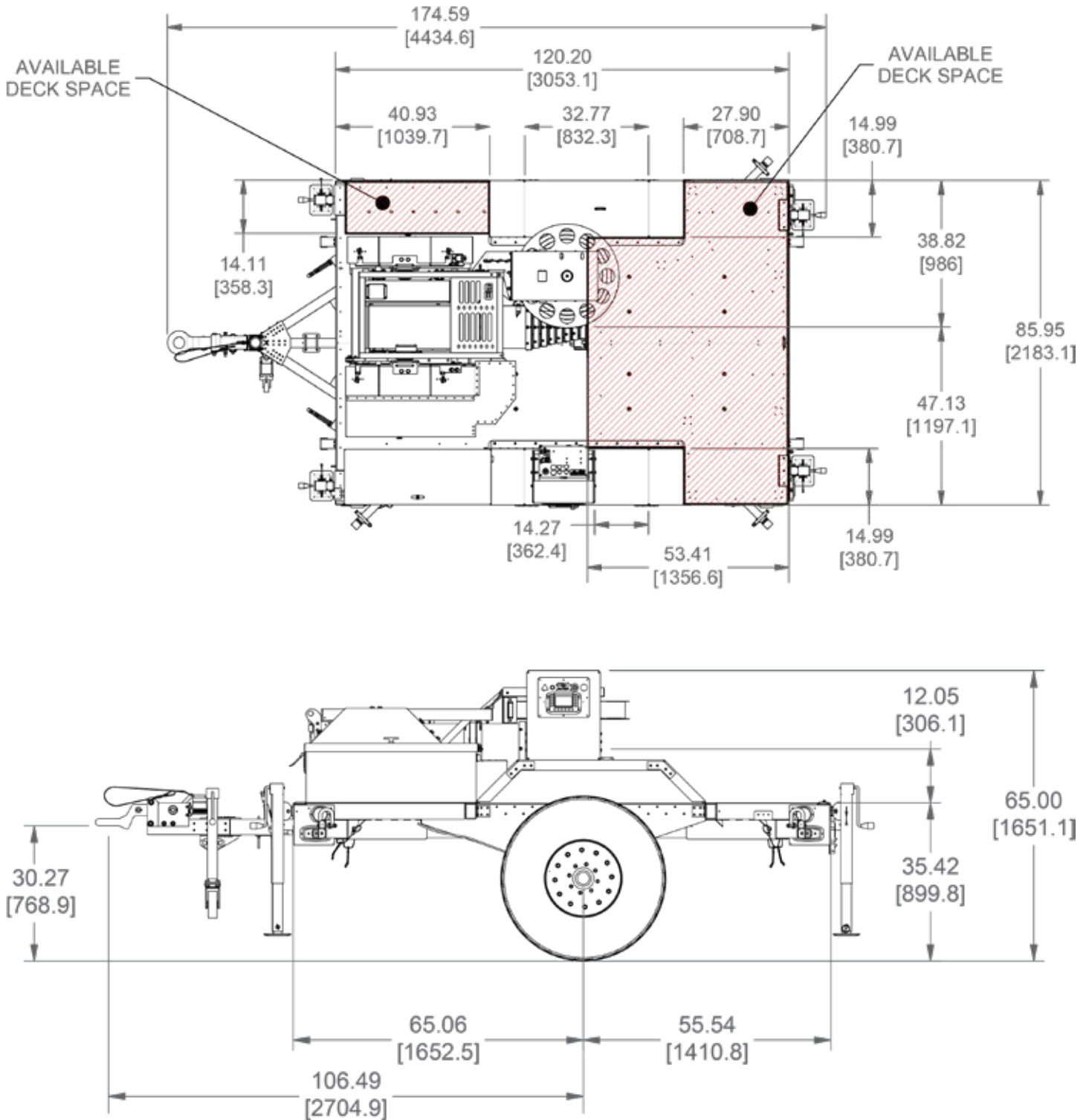
4M CES-TLR-SHDNL



COMPACT ELEVATION SYSTEM TRAILER

ENGINEERING SPECIFICATIONS

6M CES-TLR-SHDNL



RAPID DEPLOYMENT ELEVATION SYSTEM

**UAV Defense | Border Surveillance
Force Protection | Mobile Security**

Will-Burt's Rapid Deployment Elevation System (RDES) is designed for expeditious deployment when significant heights are required for sensors and antennas. The RDES includes a mast tilt system that delivers a compact transport envelope. The system is available in heights of 80 ft. / 24m. The powerful telescopic mast can elevate a 544kg / 1,200 lb. payload - no need for crane assistance. An automatic lock system maintains a consistent height for extended periods of deployment - even with the loss of power. Payload stability and pointing accuracy is assured with section keys and keyways that minimize rotational movement. Full deployment of the 24m / 80 ft. system can be achieved in 8 minutes.

RDES is customizable and can accommodate a variety of power systems as specified by the customer.

ESSENTIAL FEATURES

- Rapid deployment of sensors and antennas to significant heights
 - 8 minutes to 24m / 80 ft.
- Payload up to 1,200 lb. / 544 kg
- Telescopic Mast Lifts the Payload - No cranes required
- Powerful Automatic Locking System
 - Maintains height indefinitely - even without power
- Minimized mast twist with Full-length mast section keys
- Integrated Controls
 - Fully integrated control system
 - PC control capable
 - CAN-bus J1939
 - RS485 Serial

RAPID DEPLOYMENT ELEVATION SYSTEM



RAPID DEPLOYMENT ELEVATION SYSTEM

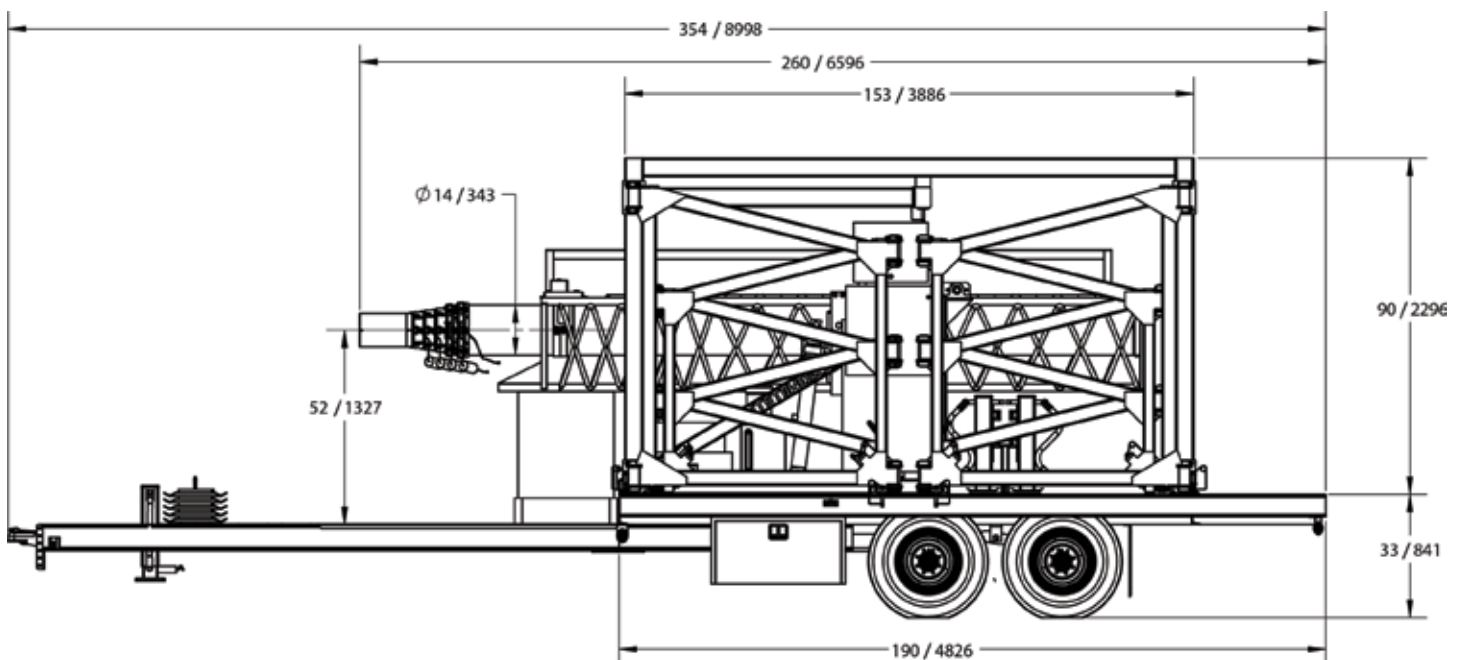
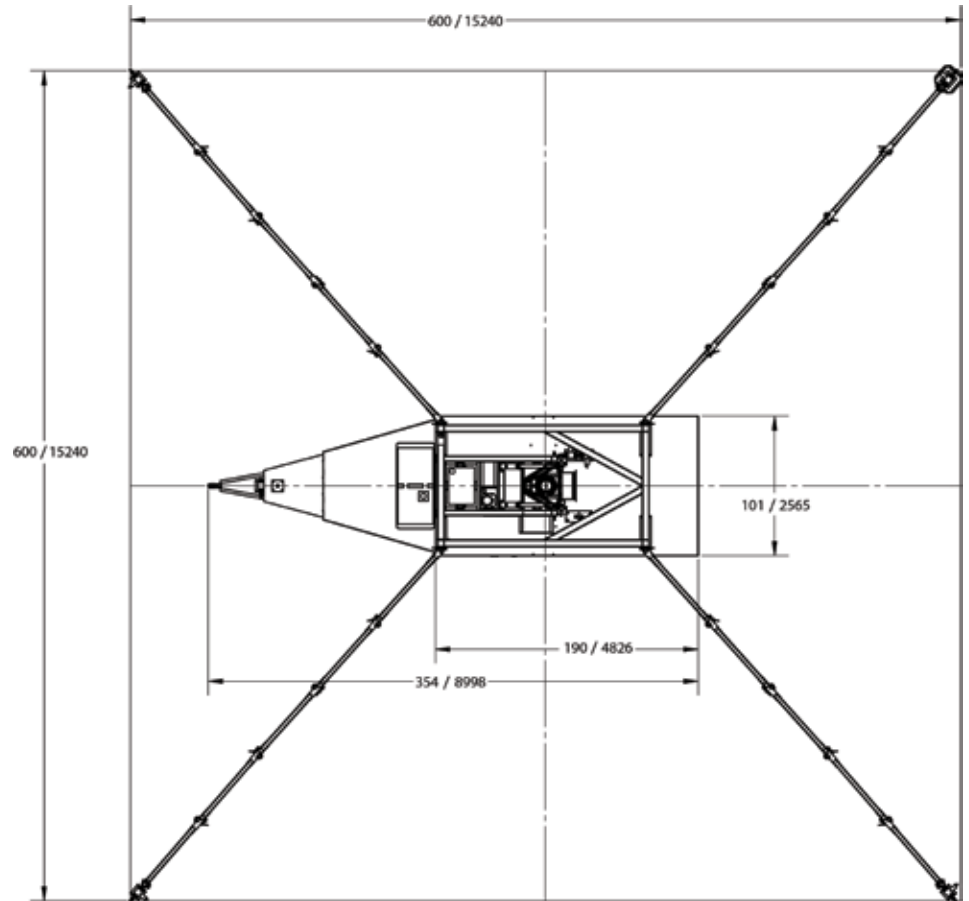
SPECIFICATIONS

RDES-UHDL	24.0m
Stowed Dimensions (Lx W x H) (mm / in.)	Please consult Will-Burt Engineering for up-to-date specifications
Available Area for Sensor Payload (in ³ & in ² / m ³ & m ²)	Please consult Will-Burt Engineering for up-to-date specifications
Extended Height (m / ft.)	24.4 / 80
Payload Capacity (kg / lbs.)	544 / 1200
Telescopic Mast Type	Aluminum Pneumatic with Automatic Locks
Survival Wind Speed (km/h / mph)	81 / 130
Deployment Wind Speed (km/h / mph)	35 / 56
Tilt Up / Mast Deploy / Mast Retract / Tilt Down / Approximate – Payload Dependent (seconds)	3 minutes / Deploy and Retract times are highly variable / 3 minutes
Rotation Accuracy (Twist)	+/-1°
Voltage (MIL-STD 1275)	28 VDC
*Typical Payload Sail Area (m ² / ft. ²)	1.67 / 18 CD=1.5
System Weight RDES with Trailer (kg / lb)	Please consult Will-Burt Engineering for up-to-date specifications
Integrated System Control	CAN-bus J1939, RS485 Serial, PC Control Capable

*Consult factory for larger sail area as payload and wind capacities may be reduced. Specifications subject to change.



RAPID DEPLOYMENT ELEVATION SYSTEM **ENGINEERING SPECIFICATIONS** **24M-RDES-UHDL**



COVERT POWER SYSTEM for CES^{TRK}

COVERT POWER SYSTEM FOR CES TRK

UAV Defense | Border Surveillance
Force Protection | Mobile Security

This Covert Power System is designed to deliver power to the CES Truck system and payloads while the vehicle engine is off. This automatic system recharges when the vehicle is running, and can provide **2 hours of continuous power** without vehicle power enabling **virtually silent persistent surveillance**. Additionally, the vehicle can autostart to recharge the batteries. A 120VAC input is also available for charging.

ESSENTIAL FEATURES

- Delivers virtually silent persistent surveillance
- 2 hour minimum run time without charging (payload dependent)
- Automatic power and engine control
- Self-monitoring
- Reduces fuel use and increases overall mission time
- Extends life of vehicle
- Small space claim in vehicle
- 120VAC input can charge the battery without vehicle power
- Cellular capabilities allow remote access to system status

SPECIFICATIONS

Model	6.6
System Output	6.6kWh
Approximate Quiet Run Time Based on Continuous 2,500W Load	2 Hours
Master Power Switch	x
Data Collection Module	x
Mobile Battery System (MBS)	x
Inverter	1800W
120 VAC Output	(2) for customer payload
24VDC Output	(1) for customer payload
48VDC Output	(1) for customer payload
Storage Temperature (°F / °C)	-40 to 160 / -40 to +71
Operating Temperature (°F / °C)	-40 to 140 / -40 to +60



120VAC input can charge the battery when the vehicle is off

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The Will-Burt Company, headquartered in Orrville, Ohio, USA, is the world's premier manufacturer of mobile telescoping masts, towers and pan and tilt positioners. We offer virtually every mobile payload elevation and integration solution for defense, government, first responders, cellular and mobile, broadcast, energy production and other markets. Will-Burt also offers contract manufacturing, metal fabrication, powder-coating, and rapid prototyping services. Will-Burt is an international company with offices and manufacturing in the USA, England, and Germany along with offices in Singapore. All Will-Burt Company manufacturing locations are backed by a certified ISO 9001:2015 Quality Management System. Incorporated in 1918, Will-Burt is 100% employee-owned and is classified as a small business.