

# SPECIFICATIONS

## GENERAL SPECIFICATIONS – VST-55-I

**Note:** *Specifications on units may vary or change without prior notifications due to option selections.*

This section includes a brief description of each of the major (standard) components.

**PLATFORM** - The closed fiberglass platform is 24 in. x 24 in. x 42 in. deep (.61 m x .61 m x 1.07 m) with an inside and outside step for easy access.

*Maximum rated platform capacity is 400 lbs (181 kg).*

The actual platform capacity may be reduced depending on the chassis and mounting configuration. See “Vehicle Specifications” for the actual platform capacity of a particular installation.

**PERSONNEL RESTRAINT SYSTEM** - A safety belt or harness and a lanyard are required and can be supplied by Time Manufacturing Company at an additional cost. Consult applicable work practices and regulations to choose between a safety belt and a harness. The anchor for the lanyard is attached to the platform support.

**INDIVIDUAL LOWER CONTROLS** - Individual full-pressure controls at the turret actuate all boom functions. The lower control station is equipped with a selector valve to override the upper controls.

**SINGLE STICK UPPER CONTROL** - The full-pressure single-stick upper control includes a safety trigger to prevent inadvertent operation. The lift movements correspond with control handle movements. An emergency stop and a tool selector control are located at the upper controls.

**TRUGUARD** - This advanced upper controls isolation system provides 4” of electrical isolation from the entire upper controls, including the control dash panel. This system also includes a protective shield which helps prevent environmental and work related contaminants from making direct contact with the isolating surfaces.

**THE UPPER CONTROLS DO NOT PROVIDE PROTECTION IN THE EVENT OF ELECTRICAL CONTACT AND ARE NOT A SUBSTITUTE FOR MINIMUM APPROACH DISTANCES, COVER-UPS, RUBBER GLOVES AND OTHER PERSONAL PROTECTIVE EQUIPMENT.**

**HYDRAULIC PLATFORM ROTATION** - A hydraulic rotary actuator, operated by a control lever, rotates the platform 180° from one side of the boom, to the

end-hung position, and to the other side of the boom.

**HYDRAULIC PLATFORM LEVELING** - A master and slave cylinder controls platform leveling. The leveling system can be operated from the upper or lower controls to adjust platform leveling, tilt the platform for clean out, or to ease the removal of an injured operator.

**OUTER/INNER BOOM ASSEMBLY**- The outer/inner boom assembly includes an outer boom, telescopic inner boom, extension system, and hose assemblies. The outer boom consists of an 8 in. x 10 in. (203 mm x 254 mm) steel section. The 6-7/8 in. x 8-7/8 in. (165 mm x 216 mm) rectangular fiberglass inner boom is housed within the outer boom. The extension system consists of an extension cylinder, holding valves, and a hose carrier housed inside the boom. The hoses routed through the outer/inner boom assembly are non-conductive and fully contained within the boom assembly.

A double acting cylinder with two integral holding valves articulates the outer/inner boom assembly. A boom support cradle and a boom tie down strap are included.

**LOWER BOOM WITH CHASSIS INSULATING SYSTEM** – Each end of a high strength fiberglass insert (chassis insulating system) is installed inside a rectangular 8 in. x 10 in. (203 mm x 254 mm) high strength steel section. The steel and fiberglass sections are bonded with pressure-injected epoxy to fill any voids. A double acting cylinder, with two integral holding valves, articulates the lower boom. The lower boom and compensation link form a parallelogram linkage to maintain the knuckle at a constant angle to the turret.

**CYLINDERS** - Both the upper and lower cylinders are a threaded head-cap design. Both are equipped with two integral holding valves that prevent down creep and to lock the booms in position in the event of hose failure.

**TURRET** - The turret wings are designed for strength and rigidity. A bearing cover seals out moisture and prevents foreign materials from obstructing the turret rotation. The turret plate is machined to provide a flat surface to support the rotation bearing.

**CONTINUOUS ROTATION** - Unrestricted rotation is accomplished by a hydraulically driven worm and spur gear with a shear-ball rotation bearing. The critical bolts holding the lift to the rotation bearing and the rotation bearing to the pedestal are grade 8 hex head capscrews. These critical bolts are torque

seal marked to provide a quick means of detecting any turning of the bolt upon inspection. An eccentric ring is used for gearbox backlash adjustment.

**LUBRICATION** - Non-lube bearings are used at most points of motion. Only the rotation bearing requires periodic lubrication.

**PEDESTAL** - The pedestal is tubular with a reinforced mounting plate. The top plate of the pedestal is 1-1/4 in. (32 mm) thick and machined flat to support the rotation bearing.

**HYDRAULIC OIL RESERVOIR** - A 17 gallon (64.4 ) hydraulic oil reservoir is built integral to the pedestal. Two sight gauges allow quick hydraulic fluid level checks.

**HYDRAULIC SYSTEM** - The open-center hydraulic system operates at 3000 psi (207 bars) at 6 gpm (22.7 lpm). A 10 micron pressure filter is installed after the pump and a 10-micron return-line filter, mounted above the hydraulic oil level and inside the pedestal, can be easily changed without draining the reservoir. The 100 mesh (149 micron) suction strainer in the reservoir can be removed for cleaning. A gate valve, located below the reservoir, prevents oil loss when the pump is serviced. A magnetic drain plug attracts metal particles from the oil.

**PAINT** - The complete unit is primed and painted prior to assembly. The standard color is white urethane.

**HOSES AND FITTINGS** - The hoses routed through the booms are high pressure and non-conductive with swaged hose end fittings. Retainers separate the hoses inside the booms to prevent chafing and nylon sleeves are installed over hoses at points of movement. Reusable fittings can be installed if a hose is damaged.

**ENGINE START / STOP** - The start/stop circuit has been designed so the lift cannot be operated unless the truck ignition switch is in the "RUN" position and the master control is activated. This feature makes it difficult for unauthorized individuals to operate the lift when the truck is locked. Air cylinder at the upper controls and a toggle switch at the electrical lower control station at the pedestal are used to energize this system.

**HYDRAULIC TOOL CIRCUIT AT THE PLATFORM** - This system is intended for open center hydraulic tools. The tool circuit provides 6 gpm (22.7 lpm). A pressure reducing valve in the tool circuit limits the tool pressure. The valve can be adjusted from 1000 to 2500 psi (69 to 173 bars).

**ELECTRICAL INSULATION SPECIFICATIONS** - The outer/inner boom assembly is tested and certified for electrical work at 46 KV and below in accordance with ANSI A92.2 requirements. Aerial devices may be designed and configured for gloving work and tool methods at 46KV and below. The outer/inner boom assembly is fully insulated even in a retracted position. The chassis insulating system (lower boom insert) is also tested according to ANSI A92.2.

**OUTRIGGER / BOOM INTERLOCK SYSTEM** - The outrigger/boom interlock system prevents lift operation until the outriggers contact the ground and outrigger retraction before the aerial lift is properly stored.

**SLOPE INDICATORS** – Slope indicators are required on Versalift units and supplied by Time Manufacturing Co. slope indicators shall be installed to indicate the level of rotation bearing relative to the ground.

**MANUALS** - Two Operator's Manuals and two Service Manuals, one Manual of Responsibilities, and one EMI Safety Manual, are included with each aerial lift.

## OPTION SPECIFICATIONS – VST-55-I

Below is a brief description of some of the available options for the aerial lift.

**OUTRIGGERS** - The modified A-frame outriggers are equipped with pilot operated check valves, internal thermal relief valves, pivot feet, and separate controls. Outrigger dimensions vary with chassis application. For a 31 in. (0.79 m) frame height, the outriggers furnish 122 in. (3.1 m) of spread, 8 in. (203 mm) of penetration, and 18 in. (457 mm) of ground clearance. For a 37-1/4 in. (0.95 m) frame height, the outriggers furnish 125-3/8 in. (3.2 m) of spread, 8 in. (203 mm) of penetration, and 18 in. (457 mm) of ground clearance.

**INDEPENDENT OUTRIGGERS** – Narrow angle modified A-frame outriggers are shear-plate mounted to the frame and are equipped with pilot operated check valves, internal thermal relief valves, pivot feet, and separate controls. Outrigger dimensions vary with chassis application. For a 37-1/4 in. (0.95 m) frame height, the outriggers furnish 101-3/4 in. (2.6 m) of spread, 7-3/4 in. (197 mm) of penetration, and 15-3/4 in. (400 mm) of ground clearance.

**BACKUP PUMP** - An auxiliary hydraulic pump designed to bring the booms down in case the main hydraulic source fails. The backup pump is driven

by a DC motor, which is powered by the truck-engine battery. The system is connected in parallel with the main pump and is designed for non-continuous operation. An air cylinder at the upper controls and a toggle switch at the electrical lower control station at the pedestal are used to energize the system.

**SECOND SET OF TOOL POWER PORTS** - A second set of tool power ports are installed at the platform to accommodate a second open center tool.

**EXTRA CONTROL CIRCUIT** - Consists of an additional air cylinder at the platform, toggle switch at the electrical lower control station at the pedestal, pressure switch in the turret and airline to the platform. An additional pass in the collector ring is required for each control circuit.

**MANUAL THROTTLE CONTROL** - Gives the operator a choice of economical engine idle speeds or faster engine speeds with faster lift movements when required. The manual throttle control is designed to operate only when the truck engine is running and the master control is activated. An air cylinder at the upper controls or a toggle switch at the electrical lower control station at the pedestal can be used to energize the manual throttle control.

**4-AXIS CONTROL** - The 4-Axis controller option is a full pressure control located at the platform which consists of a multi-jointed handle control that actuates the interlock section and four individual boom function valves.

**CATEGORY D DIELECTRIC TESTING AND CERTIFICATION** - Testing and certification for ANSI A92.2 Category D are available. These aerial devices which are designed and manufactured for work in which the insulating is not considered as primary insulation, but secondary. These aerial devices are NOT designed for gloving work methods. They are rated at voltages of 46kv.

**PLATFORM VARIATIONS:**

- 24 in. x 24 in. (0.61 m x 0.61 m) Fiberglass Platform (Standard)
- 24 in. x 30 in. (0.61 m x 0.76 m) Fiberglass Platform
- 24 in. x 42 in. (0.61 m x 1.07 m) Fiberglass Platform

**PLATFORM COVER** - Vinyl covers are available for the platforms.

**PLATFORM LINER** - Platform liners are available for each of the platforms.

**LIFTING EYE** - A lifting eye attachment near the end of the outer boom has a 1000 lbs. (455 kg) maximum capacity. (Not available on the VST-36-I)

**PEDESTAL HEIGHT VARIATIONS** - Various height pedestals are available to accommodate different cab heights and mounting locations. See the detailed Dimensional Specifications for the available and standard pedestal heights of each model.

**AUTOMATIC BOOM LATCH** - The automatic boom latch is designed to automatically restrain the upper boom in the cradle when stowed and automatically release the boom when the lift is operated. The latch is actuated by a hydraulic cylinder and includes a manual over-ride to open the latch without hydraulic power.

**PLATFORM ELEVATOR** - Hydraulically controlled platform elevator which will raise the platform and control panel 24" at the boom tip. Driven by a hydraulic cylinder, the platform elevator can be raised proportionally using the same style control valve used for all boom function. **Note:** This reduces the unit capacity by 100 lbs.

## VST-55-I DIMENSIONAL SPECIFICATIONS

### Based on 40 in. (1.02 m) Frame Height, all Dimensions Nominal

Horizontal Reach ..... 33 ft. 11 in. (10.3 m)  
Maximum Platform Capacity ..... 400 lbs. (181 kg)

### With 52.25 in. (1.33 m) Tall Pedestal (Standard)

Height to Bottom of Platform ..... 54 ft. 6 in. (16.6 m)  
Working Height ..... 59 ft. 6 in. (18.1 m)  
Stowed Travel Height ..... 11 ft. 0 in. (3.4 m)  
Weight of Lift ..... 3,800 lbs. (1720 kg)

### Hydraulic System

Operating Pressure ..... 3000 psi (207 bars)  
Flow Rate ..... 6 gpm (22.7 lpm)  
Filtration ..... 10 micron Pressure and Return  
100 mesh Suction  
System Type ..... Open Center  
Power Source ..... PTO Pump

### Boom Action

Outer/Inner Boom Travel ..... -25° to +85°  
Lower Boom Travel ..... 0° to +84°  
Inner Boom Extension ..... 103 in. (2.6 m)  
Rotation ..... 360° Continuous.

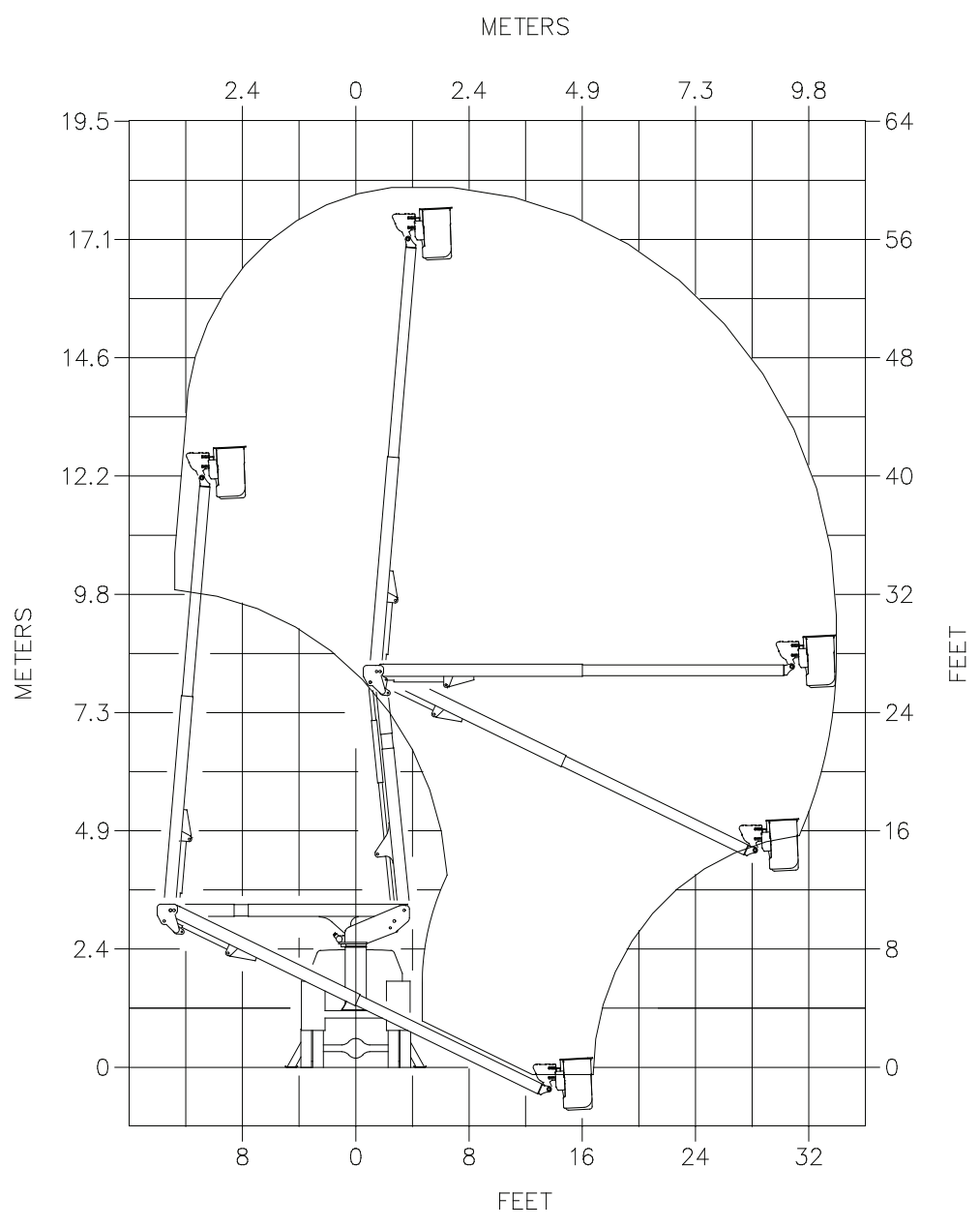
### Insulation Gap


Upper Boom Fully Retracted ..... 62.5 in. (1.6 m)  
Lower Boom ..... 12 in. (305 mm)

Ambient Temperature Range for Operation ..... -40°F (-40°C) to 120°F (49°C)



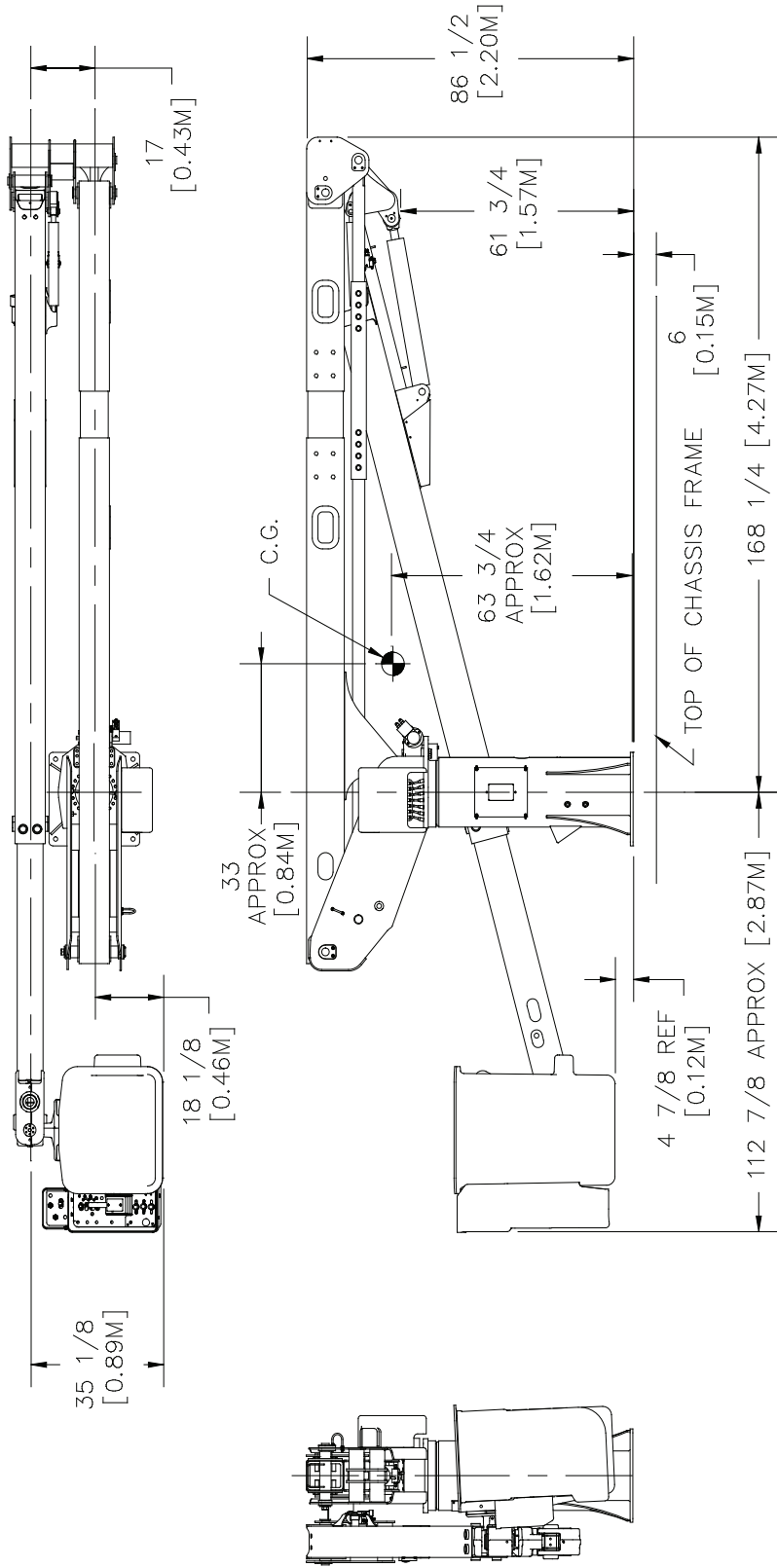
REV.



<p>UNLESS OTHERWISE NOTED:  TOLERANCES: DECIMALS  FRACTIONS ± 1/16 .X ± .1  ANGLES ± 1° .XX ± .03                    .XXX ± .005</p> <p>MACHINED SURFACE FINISHES = <math>\sqrt{125}</math>  PROJECTION OF VIEWS <math>\odot</math> <math>\triangleleft</math>  ALL DIMENSIONS ARE IN INCHES</p> <p>THIS PRINT CONTAINS CONFIDENTIAL  INFORMATION AND IS SOLE PROPERTY  OF TIME MANUFACTURING, AND IS NOT  TO BE DISCLOSED, COPIED, OR  REPRODUCED WITHOUT EXPRESSED  PERMISSION OF TIME MANUFACTURING.</p>	 <p>MANUFACTURING  COMPANY  WACO TEXAS</p>	DWN. BY	DATE	TITLE
		SRS	4/24/23	REACH DIAGRAM VST-55-I
		SIZE	SCALE	
		A	1/140	
MATERIAL		EST WT #	MANUAL	
FINISH		SHEET		DWG. NO.
		1 OF 1		1020361-DWG

# SPECIFICATIONS

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- NOTES:
- 52 1/4 [1.33M] TALL PEDESTAL SHOWN.
  - WEIGHT OF LIFT AS SHOWN = 3800 LBS [1720 KG] APPROX.
  - ADD 130 LBS [60 KG] FOR HYDRAULIC OIL IN RESERVOIR.
  - SUBFRAME WEIGHT IS APPROX 4.5 LBS PER INCH [80 KG/M].
  - THIS DRAWING IS FOR REFERENCE ONLY.

UNLESS OTHERWISE NOTED: DIMENSIONS: FRACTIONS ± 1/16 DECIMALS .XX ± .03 .XXX ± .005 MACHINED SURFACE FINISHES = 125 PROJECTION OF VIEWS ALL DIMENSIONS ARE IN INCHES	MANUFACTURING COMPANY WACO TEXAS	DWN. BY SRS	DATE 4/24/23	TITLE VST-55-1 OVERALL
	MATERIAL FINISH	EST WT # A	SCALE 1=45	DWG. NO. 1020362-DWG
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## VST-55-I VEHICLE SPECIFICATIONS

### Reverse Mount With One Set of Outriggers behind Cab - 400 lbs. Capacity

Cab-to-Rear Axle Dimension .....	84 in. (2.14 m)
Frame Resisting Bending Moment .....	560,000 in-lbs (63,300 N-m)
GVWR .....	22,000 lbs. (10,000 kg)
GAWR (Front).....	7,500 lbs. (3400 kg)
GAWR (Rear) .....	15,000 lbs. (6800 kg)
Approximate Curb Weight for Stability.....	17,000 lbs. (7700 kg)

### Reverse Mount With One Set of Outriggers behind Cab - 350 lbs Capacity

Cab-to-Rear Axle Dimension .....	84 in. (2.14 m)
Frame Resisting Bending Moment .....	535,000 in-lbs (60,500 N-m)
GVWR .....	22,000 lbs. (10,000 kg)
GAWR (Front).....	7,500 lbs. (3400 kg)
GAWR (Rear) .....	15,000 lbs. (6800 kg)
Approximate Curb Weight for Stability.....	16,500 lbs. (7480 kg)

### Rear Mount With Two Sets of Outriggers and Full Length Subframe

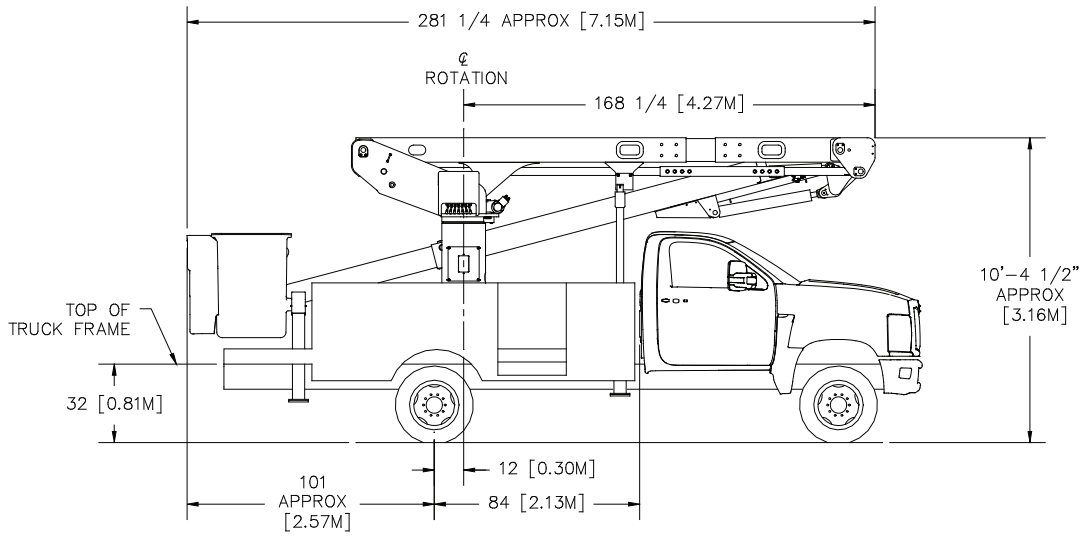
Cab-to-Rear Axle Dimension .....	84 in. (2.14 m)
Frame Resisting Bending Moment .....	530,000 in-lbs (60,000 N-m)
GVWR .....	22,000 lbs. (10,000 kg)
GAWR (Front).....	7,500 lbs. (3400 kg)
GAWR (Rear) .....	15,000 lbs. (6800 kg)
Approximate Curb Weight for Stability.....	15,000 lbs. (6800 kg)

#### NOTES:

- Actual GVWR and GAWR's should be based on the weight and location of the chassis, body, lift, ballast (if required), accessories, and the desired payload.
- Recommended GVWR and GAWR's listed above are based on typical installations with a 4x2 chassis. 4x4 and/or crew cab chassis will typically require higher axle ratings.
- The curb weight for stability will vary based on the rated platform capacity, mounting configuration, frame stiffness, and stability test requirements.
- To determine the Frame Resisting Bending Moment (RBM), use the formula below:
  - Section Modulus X Yield Strength = RBM
  - For example, the RBM of a 2008 Ford F-550 with reinforced frame is:  
17.2 x 36,000 = 619,200 in-lbs



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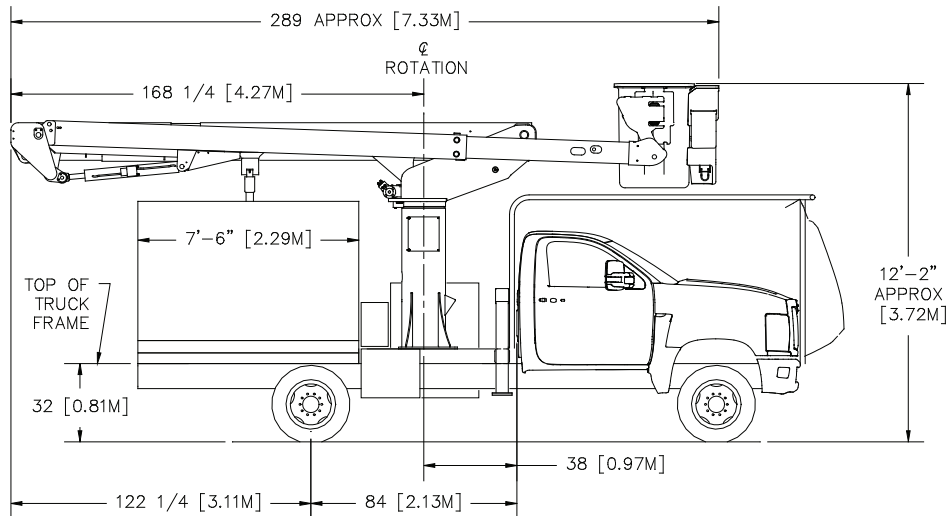


FOR REFERENCE ONLY

SHOWN WITH 52 1/4 IN. [1.33M] TALL PEDESTAL

<small>UNLESS OTHERWISE NOTED:          TOLERANCES: DECIMALS          FRACTIONS ± 1/16 X.X ± .03          ANGLES ± .1° .XXX ± .005          MACHINED SURFACE FINISHES = .125          PROJECTION OF VIEWS = [Symbol]          ALL DIMENSIONS ARE IN INCHES</small>	 MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
		SRS	4/24/23	VST-55-1 OUTLINE
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		A	1/50	
		EST WT #	MANUAL	
		SHEET	DWG. NO.	
		1 OF 1	1020363-DWG	

REV.



FOR REFERENCE ONLY

SHOWN WITH 58 1/4 IN. [1.48M] TALL PEDESTAL

<small>UNLESS OTHERWISE NOTED:          TOLERANCES: DECIMALS          FRACTIONS ± 1/16 X.X ± .03          ANGLES ± .1° .XXX ± .005          MACHINED SURFACE FINISHES = .125          PROJECTION OF VIEWS = [Symbol]          ALL DIMENSIONS ARE IN INCHES</small>	 MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
		SRS	4/24/23	VST-55-1 OUTLINE (FORESTRY)
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		A	1/50	
		EST WT #	MANUAL	
		SHEET	DWG. NO.	
		1 OF 1	1020366-DWG	

SPECIFICATIONS