

SPECIFICATIONS

GENERAL SPECIFICATIONS - VST-40/55-HDI

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. The maximum rated platform capacity is 600 lbs. (272 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 - Consists of individual control levers mounted on the turret which actuate the lower boom, outer boom, inner boom, rotation, and winch. The lower controls also include an upper control over-ride/e-stop. The lower control valve is a full pressure, full flow, manual type valve.

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, with a 9 in. x 11 in. (229 mm x 279 mm) fiberglass Electroguard 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 a fabricated steel structure incorporating a 1-1/4 in. (32 mm) thick top plate, which is machined flat to support the rotation bearing.

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

HYDRAULIC SYSTEM - The open-center hydraulic system operates at 3000 psi (207 bar) 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 controls 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 bar).

ARTICULATED JIB – Jib and winch consisting of a winch, two piece jib pole assembly, and articulating arm. This feature comes in two different options, up to 1,000 lbs. or 1,100 lbs. material handling can be provided depending on boom and jib positions. The winch is hydraulically powered by a self-locking worm gear drive and is rated at 1000 lbs full drum. The winch provides an average line speed of approximately 20 FPM (6.1 m/minute).

The 3” diameter round inner jib pole is dielectrically tested and can be manually pinned in 5 different length positions, for a total of 22” length adjustment. The 4” diameter round outer jib pole is manufactured from FRP but is not dielectrically tested. The jib pole assembly is automatically leveled with the platform and can be hydraulically tilted from -10° to + 86° for a total of 96°.

The jib pole assembly is mounted on an articulating arm. The arm is compensated so the jib pole stays at approximately the same angle relative to the ground as the arm articulates. The arm travels 91°, providing the equivalent to 17.5” horizontal jib pole extension and 20” vertical jib pole extension. The jib and winch assembly can be manually indexed about a vertical axis in one of three different pin positions. This positions the jib up to 30° to either side of the boom, for a total travel of 60°. The jib and winch assembly can be removed without tools when not needed.

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-40/55-HDI

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

OUTRIGGERS - 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 151 in. (3.8 m) of spread, 8 in. (203 mm) of penetration, and 19 in. (0.48 m) of ground clearance.

10 DEGREE H-FRAME AUXILIARY OUTRIGGERS

– 10 Degree H-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 31 in. (0.79 m) frame height, the outriggers furnish up to 99-1/2 in. (2.3 m) of spread, and a maximum of 9 in. (.23 m) of penetration with 15 in. (.38 m) of ground clearance. Outrigger legs are shipped loose to accommodate various frame heights and body widths. Outrigger feet pivot up to 10° angle in all directions.

AUXILIARY OUTRIGGERS – H-frame outriggers are shear-plate mounted to the frame and are equipped with pilot operated check valves, internal thermal relief valves, and separate controls. The outriggers furnish up to 90.5 in. (2.5 m) of spread, 7 in. (178 mm) of penetration, and 15 in. (381 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. Air cylinder at the upper controls and a toggle switch at the electrical lower controls at the pedestal are used to energize this 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 controls 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 toggle switch at the electrical lower controls 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, the 4-axis control consists of a single handle control which, through linkage, 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
- 24 in. x 48 in. (0.61 m x 1.22 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.

PEDESTAL HEIGHT VARIATIONS – Various height pedestals are available to accommodate different cab heights and mounting locations.

MANUAL JIB AND WINCH - The material handling jib and winch consists of a winch and a jib pole that

are automatically leveled with the platform. Up to 1000 lbs. (454 kg) material handling capacity can be provided at elevated boom angles. The winch is hydraulically powered through a self-locking worm gear drive, so a load-holding brake is not required. The winch provides line speeds of 15 to 30 ft. per minute (5 to 9 m per min.). Eighty feet (24 m) of 1/2-in. (13 mm) diameter polyester rope with a clevis hook is provided.

The angle of the jib pole is manually adjusted; the jib-pole assembly tilts in 10° increments from horizontal to a maximum of 50° above horizontal. The jib-pole assembly also can be rotated to any of the three convenient load-lifting positions to accommodate a load. Those positions are 30° CW, 0°, and 30° CCW from the boom centerline. The jib pole and winch assemblies can be rotated to a stowed position 180° from the end hung position, or they can be easily removed when not needed.

HYDRAULIC JIB AND WINCH - The material handling jib and winch consists of a winch and a jib pole that are automatically leveled with the platform. Up to 1000 lbs. (454 kg) material-handling capacity can be provided at elevated boom angles. The winch is hydraulically powered through a self-locking worm gear drive, so a load-holding brake is not required. The winch provides line speeds of 15 to 30 ft. per minute (5 to 9 m per min.). Eighty feet (24 m) of 1/2-in. (13 mm) diameter polyester rope with a clevis hook is provided.

The 4 in (100 mm) square jib pole hydraulically tilts with 90° of travel relative to the platform, from horizontal to vertical. Since the pole is automatically leveled with the platform, there is a total of 200° of jib pole articulation relative to the upper boom. The jib pole also hydraulically extends and retracts, providing 16-in. (400-mm) travel, from 44 in. to 60 in. (1.1 m to 1.5 m). The jib-pole assembly also can be rotated to any of three convenient load-lifting positions to accommodate a load. The jib pole and winch assemblies can be rotated to a stowed position 180° from the end-hung position, or they can be easily removed when not needed.

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 – A hydraulic cylinder raises the platform and controls 24” (0.61 m) relative to the

boom tip. A manual proportional valve located at the upper control panel operates the elevator. **Note:** This reduces the unit capacity by 100 lbs.

SLOPEMAX – This limit system allows operators to work on surface slopes greater than 5°. SlopeMAX operates with three different sensors. A lower boom angle sensor, a turret base plate angle sensor, and a boom stow sensor. The system uses a hydraulic enabled valve to shut off flow to limit the lower boom raise function depending on the slope range the aerial device is parked on.

VST-40/55-HDI DIMENSIONAL SPECIFICATIONS

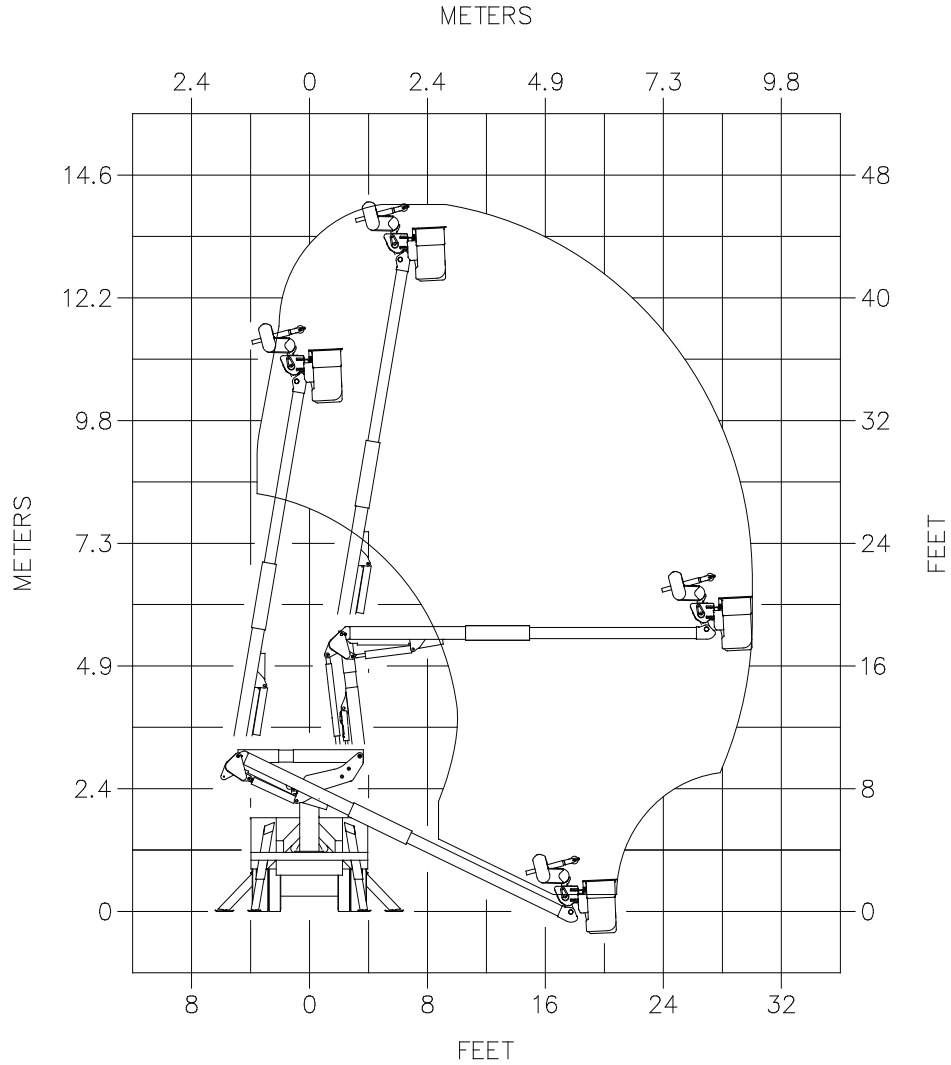
	VST-40-HDI	VST-55-HDI
Height to Bottom of Platform	40.6' (12.4 m)	54.6' (16.6 m)
Working Height	46.1' (14.1 m)	59.6' (18.2 m)
Horizontal Reach	30.0' (9.2 m)	33.4' (10.2 m)
Stowed Travel Height	10.6' (3.2 m)	11.1' (3.4 m)
Standard Pedestal Height	46.25 in. (1.2 m)	52.25 in. (1.3 m)
Approximate Weight of Lift	3700 lbs. (1680 kg)	4300 lbs. (1950 kg)
Platform Capacity (Max)	600 lbs. (272 kg)	600 lbs. (272 kg)
Jib capacity (Max)	1000 lbs. (454 kg)	1000 lbs. (454 kg)
Outer/Inner Boom Articulation	-25° to +80°	-25° to +80°
Lower Boom Articulation	83°	81°
Inner Boom Extension	103 in. (2.6 m)	103 in. (2.6 m)
Rotation	360° Continuous	360° Continuous
Hydraulic System Pressure	3000 psi (207 bar)	3000 psi (207 bar)
Hydraulic System Type	Open Center	Open Center
Hydraulic Filtration	10 Micron Pressure and Return 100 Mesh Suction	10 Micron Pressure and Return 100 Mesh Suction
Upper Boom Insulation Gap (Retracted)	42 in. (1.1 m)	54 in. (1.4 m)
Lower Boom Insulation Gap	12 in. (305 mm)	12 in. (305 mm)

Notes:

1. All height dimensions are based on a 40" (1.02 m) chassis frame height and the standard pedestal height.
2. Actual travel height will vary with frame height, cab height, pedestal height, mounting location, etc.
3. All values are nominal.
4. Ambient temperature range for structural integrity is -40°F (-40°C) to 125°F (52°C).
5. Approximate weight of lift includes weight of jib.

REV.

SPECIFICATIONS



UNLESS OTHERWISE NOTED:
 TOLERANCES: DECIMALS
 FRACTIONS ± 1/16 .X ± .1
 ANGLES ± .XX ± .03
 .XXX ± .005
 MACHINED SURFACE FINISHES = 125
 PROJECTION OF VIEWS
 ALL DIMENSIONS ARE IN INCHES

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TIME MANUFACTURING COMPANY
 WACO TEXAS

MATERIAL

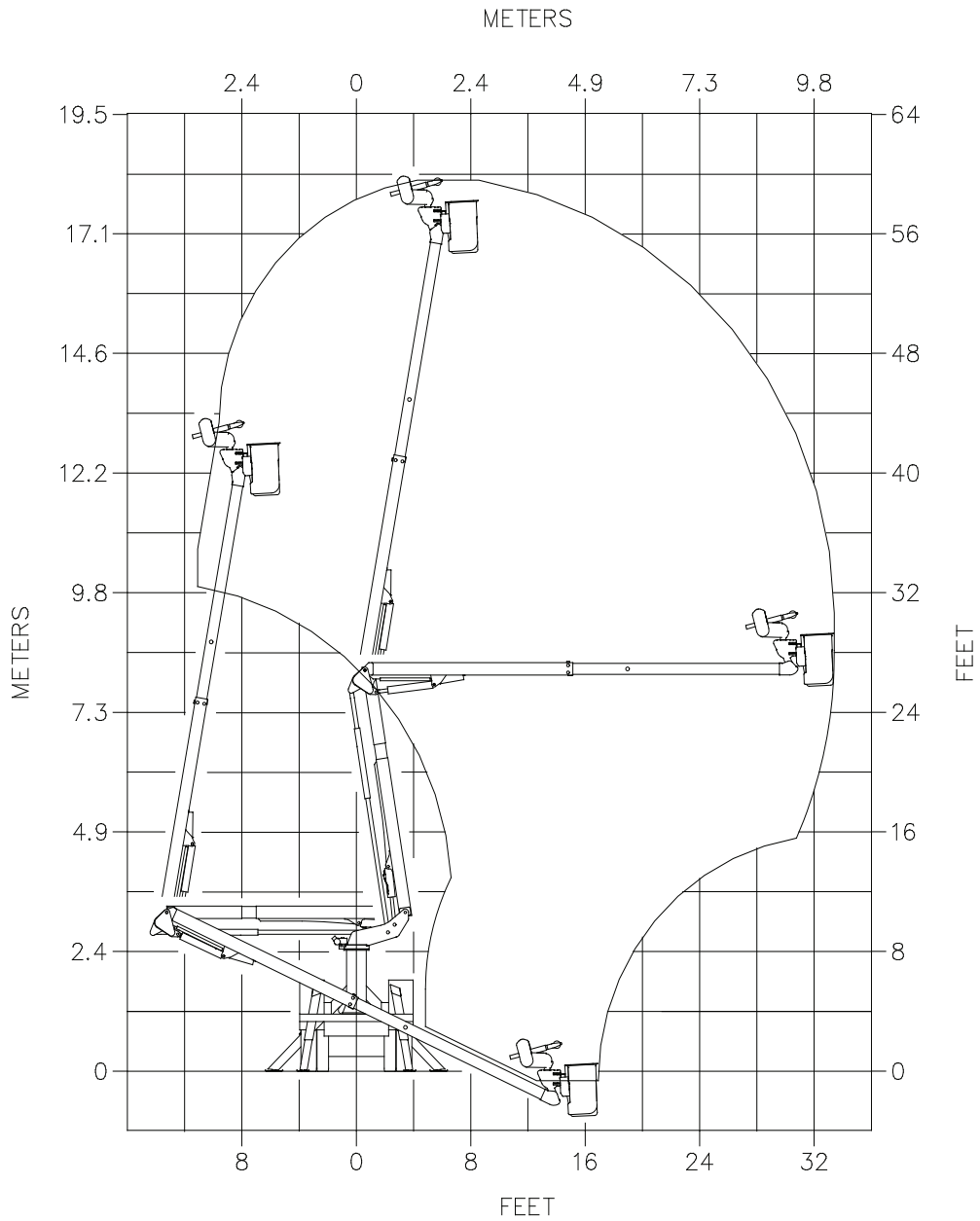
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DTG	5/11/21
SIZE	SCALE
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SHEET	DWG. NO.
1 OF 1	1009340-DWG

TITLE

REACH DIAGRAM
 VST-40-HDI

REV.



UNLESS OTHERWISE NOTED:
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 FRACTIONS ± 1/16 .XX ± .1
 ANGLES ± .03 .XXX ± .005
 MACHINED SURFACE FINISHES = 125
 PROJECTION OF VIEWS
 ALL DIMENSIONS ARE IN INCHES

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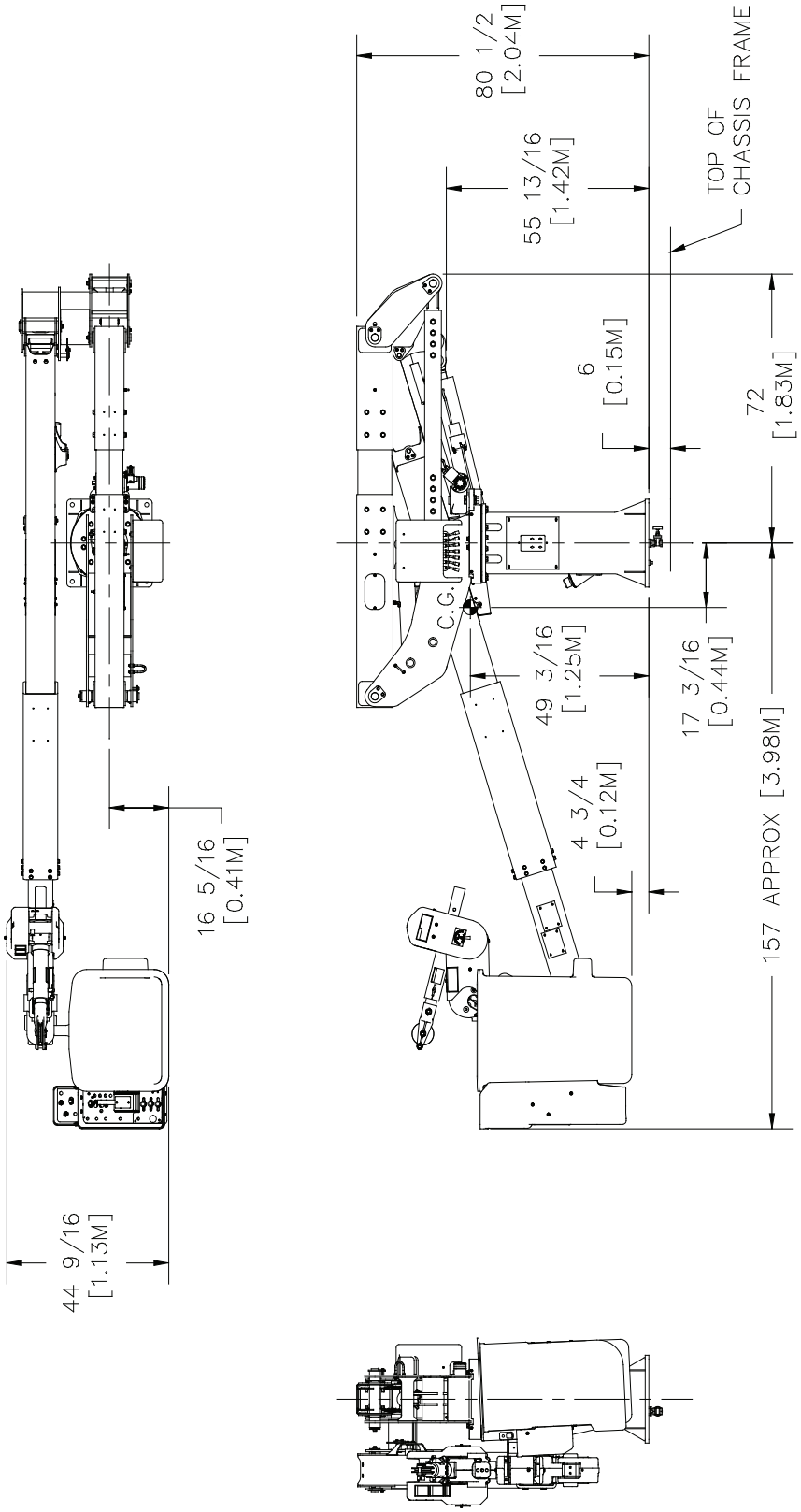
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MATERIAL	DWN. BY	DATE	TITLE
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SPECIFICATIONS



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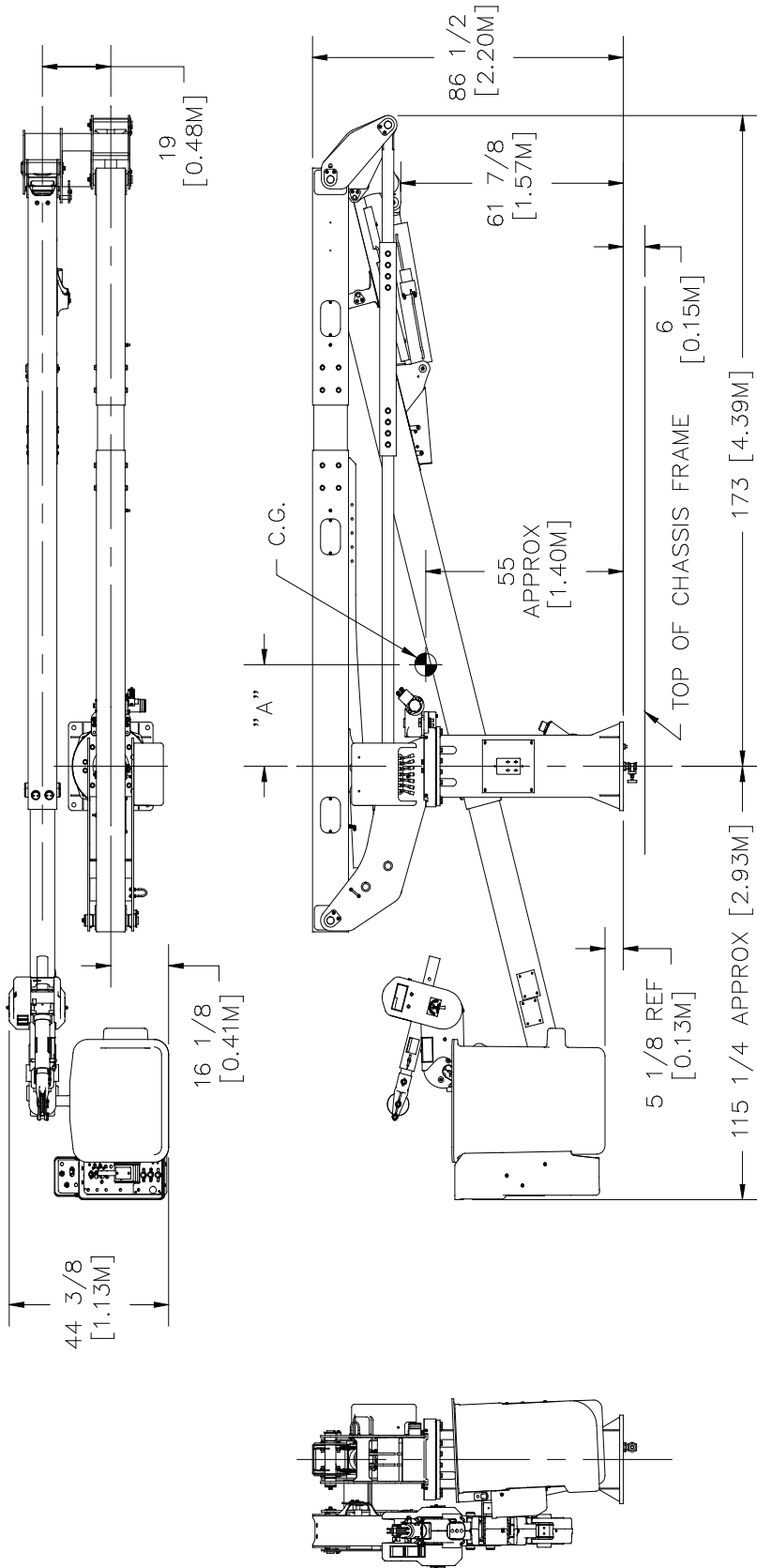
UNLESS OTHERWISE NOTED:
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 MACHINED SURFACE FINISHES= 125/
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- NOTES:
1. APPROX WEIGHT OF LIFT AS SHOWN = 3700 LBS (1680 KG)
 2. 46" TALL PEDESTAL SHOWN
 3. ADD 130 LBS (60 KG) FOR HYDRAULIC OIL IN RESERVOIR.

DWN. BY		DATE		TITLE	
DTG		5/17/21		VST-40-HDI OVERALL	
SIZE		SCALE		A	
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MANUFACTURING COMPANY		WACO TEXAS		TIME	
MATERIAL		FINISH			



REV. —



NOTES:

1. 52 1/4 [1.33M] TALL PEDESTAL SHOWN.
2. ADD 130 LBS [60 KG] FOR HYDRAULIC OIL IN RESERVOIR.
3. SUBFRAME WEIGHT IS APPROX 6 LBS PER INCH [106 KG/M].
4. THIS DRAWING IS FOR REFERENCE ONLY.

CONFIGURATION	DIM. "A" (APPROX)	APPROX WEIGHT
W/O JIB & WINCH	32 [0.81M]	4100 LBS [1860 KG]
WITH JIB & WINCH	27 [0.69M]	4300 LBS [1950 KG]

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		SHEET	1 OF 2
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VST-40/55-HDI VEHICLE SPECIFICATIONS

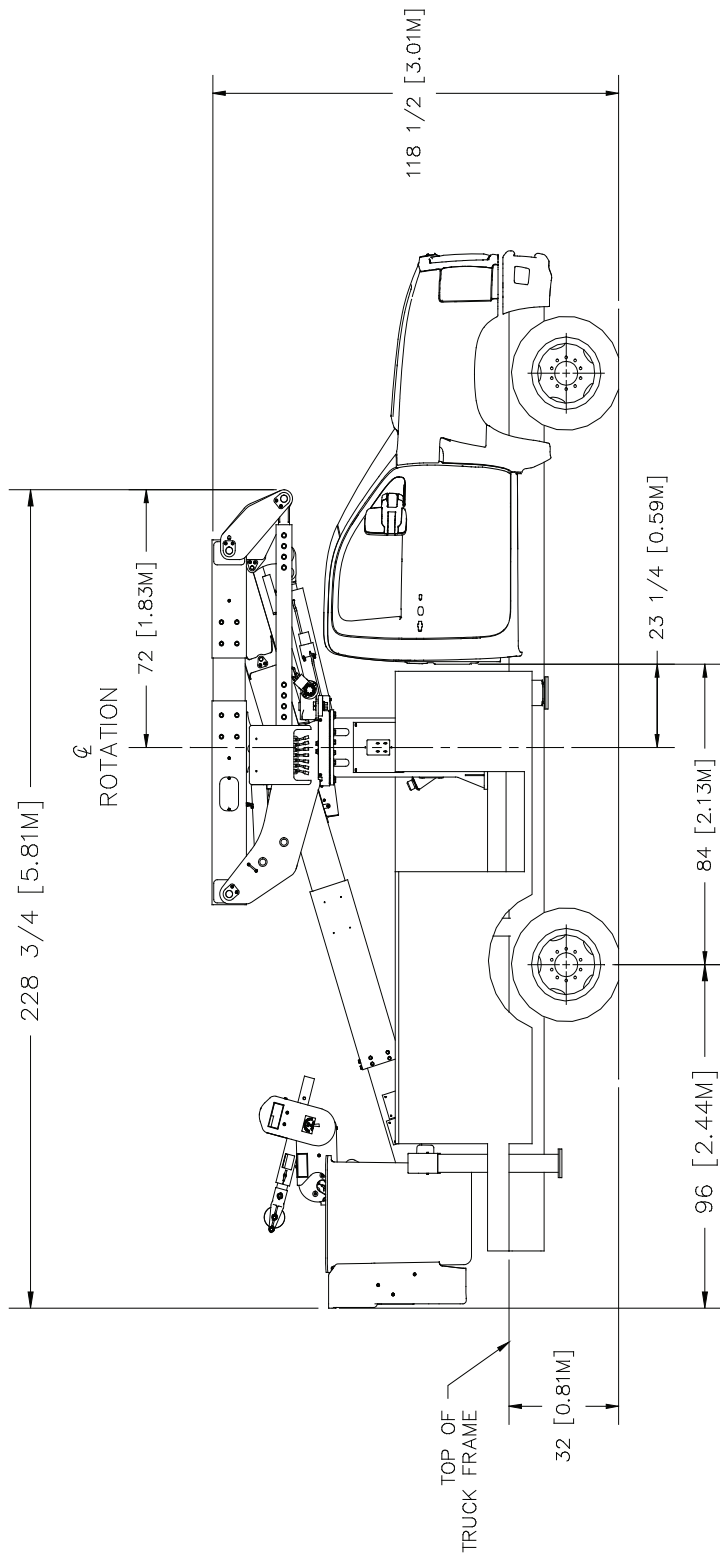
With Two Sets of Outriggers and Full Length Subframe

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. (10000 kg)
GAWR (Front).....	7,500 lbs. (3400 kg)
GAWR (Rear)	15,000 lbs. (6800 kg)
Approximate Curb Weight for Stability.....	17,500 lbs. (7940 kg)

NOTES:

1. 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.
2. 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.
3. The curb weight for stability will vary based on the rated platform capacity, mounting configuration, frame stiffness, and stability test requirements.
4. To determine the Frame Resisting Bending Moment (RBM), use the formula below:
 - Section Modulus X Yield Strength = RBM



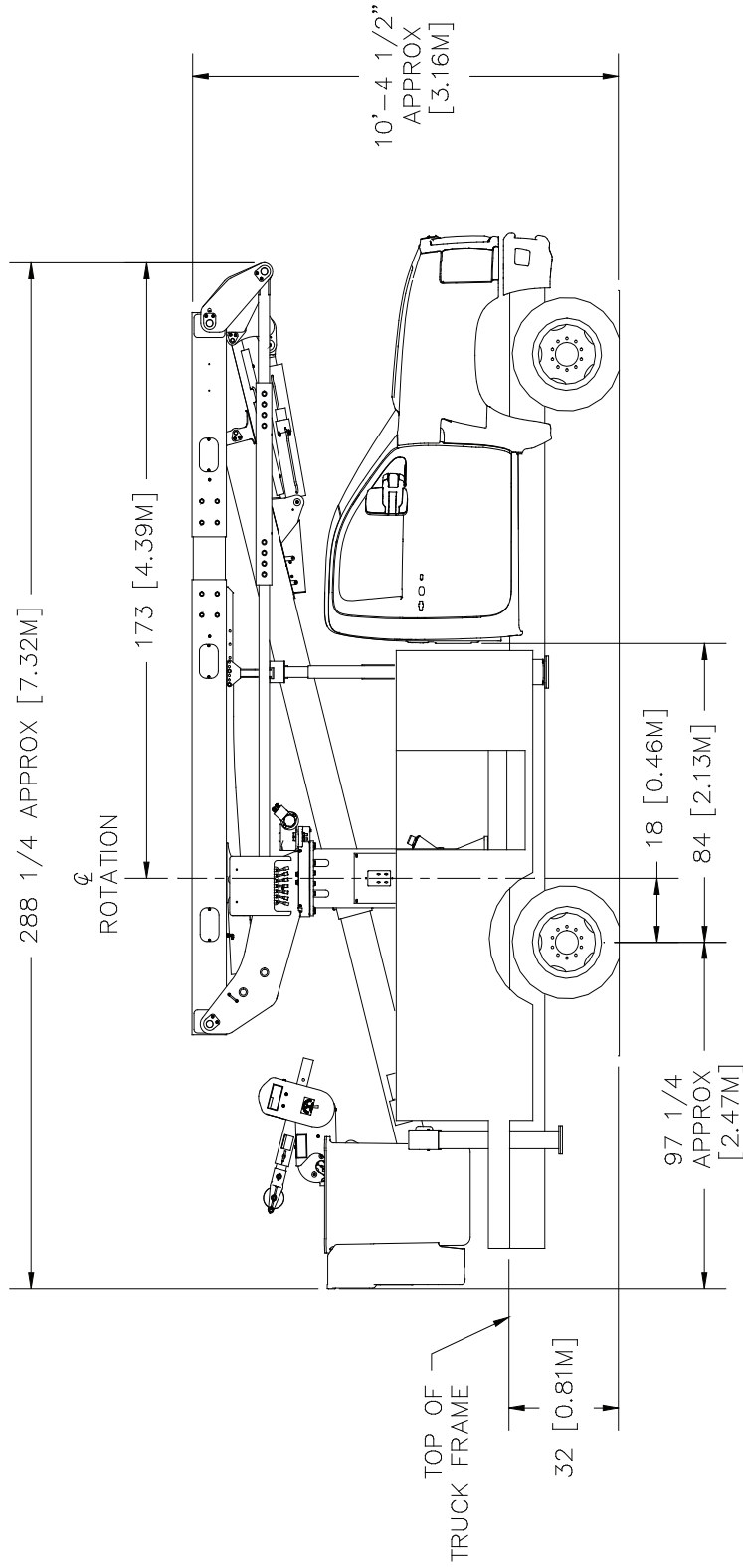


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UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS ±.1 FRACTIONS ± 1/16 ANGLES .XXX ± .05 MACHINED SURFACE FINISHES: 125 PROJECTION OF DIMENSIONS: 125 ALL DIMENSIONS ARE IN INCHES	DWN. BY DTG DATE 5/17/21 SCALE 1/50 SIZE A EST WT # MANUAL SHEET 1 OF 1	TITLE VST-40-HDI OUTLINE
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SPECIFICATIONS

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	MANUFACTURING COMPANY	WACO TEXAS	

