VERSALIFT®

Operator's Manual

VST-7500-I-E
WITH LIFT ELEVATOR

Aerial Device

HE210005
SERIAL NUMBER

39074-01
MANUAL PART NUMBER

PLEASE NOTE THE ANSI A92.2 STANDARD AND THE MANUAL OF RESPONSIBILITIES CONTAINS RECENTLY UPDATED INFORMATION. DEALERS, OWNERS, USERS, OPERATORS, LESSORS AND LESSEES MUST ADHERE TO THESE UPDATED STANDARDS.

ATTENTION:

DO NOT ATTEMPT TO OPERATE THIS VERSALIFT UNTIL YOU HAVE READ AND UNDERSTOOD ALL INFORMATION IN BOTH OPERATOR'S AND SERVICE MANUALS, PROVIDED WITH EACH VERSALIFT.

TIME Time Manufacturing Co. 7601 Imperial Drive P.O. Box 20368 Waco, Texas 76702 Phone: 254-399-2100 Fax: 254-751-0775

05/19

VERSALIFT

A TIME MANUFACTURING COMPANY

TIME MANUFACTURING COMPANY
PO BOX 20368
WACO, TEXAS 76702
www.versalift.com

MODEL VST-7500I-E108

SERIAL NO HE210005

THIS BOOM IS: INSULATED X **NON-INSULATED** ____

CATEGORY B **RATED LINE VOLTAGE** 69 kV

CONFIGURED FOR ELECTRICAL WORK RUBBER GLOVING: YES X **NO** ____

CHASSIS INSULATING SYSTEM: YES X **NO** ____

RATED LOAD CAPACITY:

This Aerial Device Complies with the Requirements of ANSI/SAIA A92.2 and/or CAN/CSA-C225

Unit equipped with 1 platforms

Platform capacity is 800 lbs. 363 kg per bucket or platform

UNIT EQUIPPED WITH UPPER CONTROLS WITH HIGH ELECTRICAL RESISTANCE: YES ____ **NO** X

UNIT EQUIPPED WITH MATERIAL HANDLING ATTACHMENT: YES X **NO** ____

AERIAL DEVICE SYSTEM PRESSURE 3000 **PSI** 207 **Bar**

AERIAL DEVICE CONTROL SYSTEM VOLTAGE 12 Vdc

AMBIENT OPERATING TEMPERATURE RANGE -40°F to 120°F (-40°C to 49°C)

TIME
MANUFACTURING COMPANY

OWNER'S WARRANTY

The **Versalift** Aerial Platform Lift is engineered and designed to perform as stated on published specifications. Only quality material and workmanship are used in the manufacture of this product. With proper installation, regular maintenance, and periodic repair service, the equipment will provide excellent service.

Those parts of the **Versalift** that are manufactured by **Time Manufacturing Company** are warranted for one full year from date of purchase. Structural components will carry a lifetime warranty for defects in material and workmanship which existed at the time of initial delivery, wear components are not covered by this statement. This warranty is issued only to the original purchaser and promises that **Time Manufacturing Company** manufactured products are free from defects in material and factory workmanship when properly installed, serviced, and operated under normal conditions, according to the manufacturer's instructions.

Manufacturer's obligation under this warranty is limited to correcting without charge at its factory any part or parts thereof which shall be returned to its factory or one of its Authorized Service Stations, transportation charges prepaid, within one year after being put into service by the original user, and which upon examination shall disclose to the Manufacturer's satisfaction to have been originally defective. Correction of such defects by repair to, or supplying of replacements for defective parts, shall constitute fulfillment of all obligations to original user.

This warranty shall not apply to any of the Manufacturer's products which must be replaced because of normal wear, which have been subject to misuses, negligence or accident, or which shall have been repaired or altered outside of the Manufacturer's factory (unless authorized by the Manufacturer in writing), products which have not been maintained and operated in accordance with **Time Manufacturing Company's** operators, maintenance manuals and bulletins, products which are repaired without using original **Time Manufacturing Company** parts. This limited warranty does not cover transportation fees and/or consumables used for the repair. Products or parts manufactured by others are covered only by such warranties as are extended to **TIME MANUFACTURING CO.** by its suppliers.

Manufacturer shall not be liable for loss, damage, or expense directly or indirectly from the use of its product or from any cause.

The above warranty supersedes and is in lieu of all other warranties, expressed or implied, and of all other liabilities or obligations on part of Manufacturer. No person, agent, or dealer is authorized to give any warranties on behalf of the Manufacturer or to assume for the Manufacturer any other liability in connection with any of its products unless made in writing and signed by an officer of the Manufacturer.

VERSALIFT.

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INTRODUCTION

The **Versalift** aerial device has been designed and engineered to conveniently place personnel at work stations above the ground. This aerial device, as manufactured, meets or exceeds all applicable ANSI A92.2. Full controls at the platform and complete freedom of boom movements make the **Versalift** a truly flexible and functional work platform.

NOTE: As the aerial device users, you must read, understand, and follow the instructions in this manual and other manuals supplied with this aerial lift unit.

This manual is furnished to provide practical and essential information for efficient operation of the **Versalift** aerial device. Proper operation of this aerial lift is the responsibility of the operator and requires a thorough understanding of its capabilities. Personnel responsible for the operation of the aerial lift must be familiar with and understand this manual.

In addition to, dealers, owners, operators, renters, lessors and lessees are required to comply with the requirements of the applicable section or sections found in ANSI A92.2.

NOTE: For additional safety information and required responsibilities, refer to the accompanying EMI Safety Manual and Manual of Responsibilities.

Detailed information for the maintenance inspection and service of the **Versalift** aerial device can be found in the accompanying Service Manual. Should further installation information be required, contact your local **Versalift** dealer or **Time Manufacturing Company.**

DANGER: ***THIS EQUIPMENT SHOULD BE OPERATED AND SERVICED ONLY BY COMPETENT PERSONNEL FAMILIAR WITH GOOD SAFETY PRACTICES. THIS INSTRUCTION IS WRITTEN FOR SUCH PERSONNEL AND IS NOT INTENDED AS A SUBSTITUTE FOR ADEQUATE TRAINING AND EXPERIENCE IN SAFE PROCEDURES FOR THIS TYPE OF EQUIPMENT.***

DANGER: ***READ AND UNDERSTAND THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS AERIAL DEVICE.***

The manual identifies all the controls and their locations and describes how the controls function.

Routine preventive maintenance is very important in maintaining reliable aerial lift service. A preventive maintenance schedule is provided and must be understood and followed by all operators.

DANGER: ***THIS IS NOT MAINTENANCE FREE EQUIPMENT.***

NOTICE: ***THIS MANUAL IS A PERMANENT PART OF THE VERSALIFT AERIAL DEVICE AND MUST REMAIN WITH THE UNIT ALWAYS.***

Time Manufacturing Company reserves the right to improve the design or specifications at any time without any obligation to incorporate new features into products previously sold.

MANUAL STRUCTURE

This manual is divided into six, numbered chapters. The first number in the page number at the bottom of each page identifies the chapter number. Chapter tabs, with titles printed on them, allow easy location of the desired subject.

ADDITIONAL MANUAL FEATURES

Danger, caution, and ***warning*** notes are indented, bold faced, and separated from the regular text to emphasize their importance and the need for attention.

English measurements are followed by equivalent metric measurements in parenthesis.

Non-critical units of measure are usually rounded-off to the nearest whole unit.

Notes referring the reader to related information in the manual indicate the chapter or a section of a chapter, not to a single page. The reader may need to scan a few pages to find the needed information.

RESPONSIBILITIES

(for Dealers, Owners, Users, Operator, Lessors and Lessees)

DANGER: ***FAILURE TO COMPLY WITH YOUR REQUIRED RESPONSIBILITIES IN THE USE AND OPERATION OF THE AERIAL DEVICE COULD RESULT IN DEATH OR SERIOUS INJURY.***

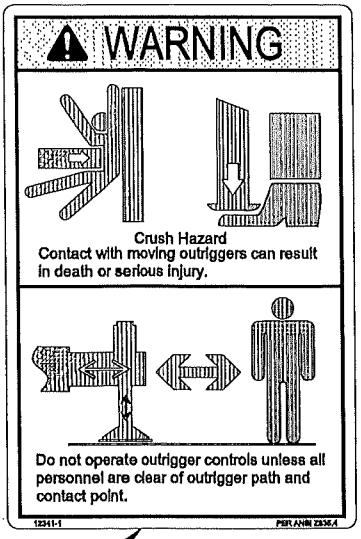
IMPORTANT

You are required by **ANSI/SIA A92.2** to read and understand **YOUR RESPONSIBILITIES** before you use or operate the Aerial Device. It is your responsibility and your employer's responsibility to identify and comply with applicable codes, standards, and regulations.

The operation of any aerial device is subject to certain **HAZARDS** that can be protected against only by the exercise of **INTELLIGENCE, CARE AND COMMON SENSE**. It is essential to have **COMPETENT, CAREFUL PERSONNEL, TRAINED** in the **INTENDED USE, SAFE OPERATION, MAINTENANCE AND SERVICE** of this type of equipment.

The **USER** and **OPERATOR MUST MAKE DECISIONS** on the maintenance, use and operation of the Aerial Device with due consideration for the fact that the **SAFETY OF THE OPERATOR AND OTHER PERSONNEL** is dependent on those decisions. **FAILURE TO COMPLY** with your **REQUIRED RESPONSIBILITIES** in the use and operation of the Aerial Device could result in **DEATH OR SERIOUS INJURY**.

DANGER: ***READ AND UNDERSTAND THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS AERIAL DEVICE.***



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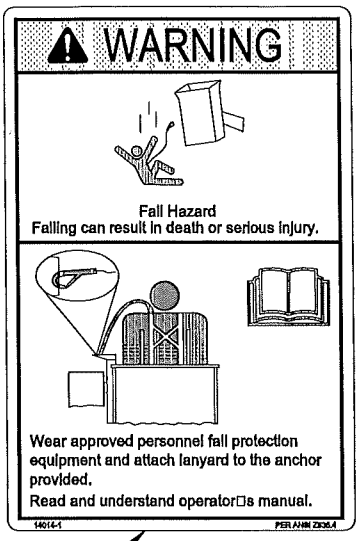

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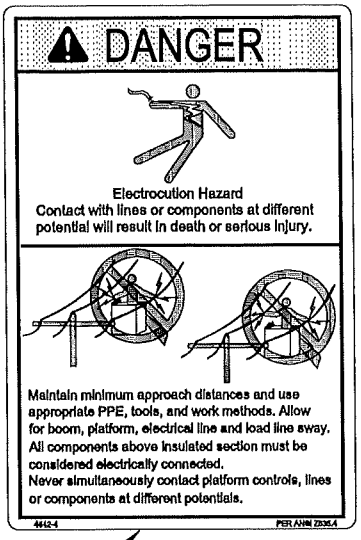

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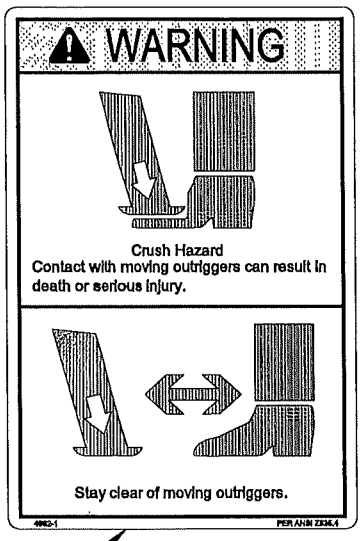

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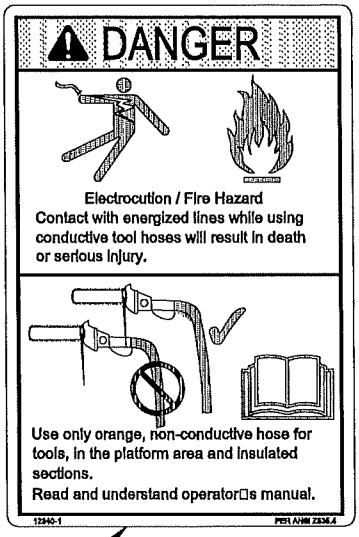

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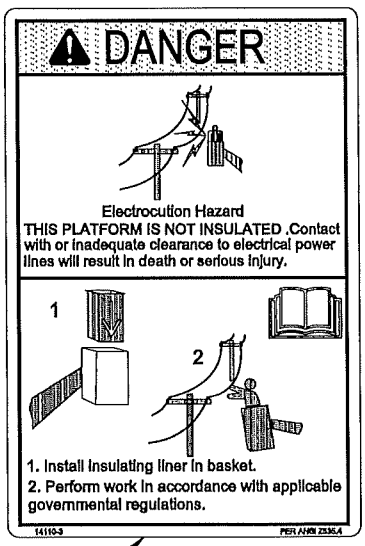

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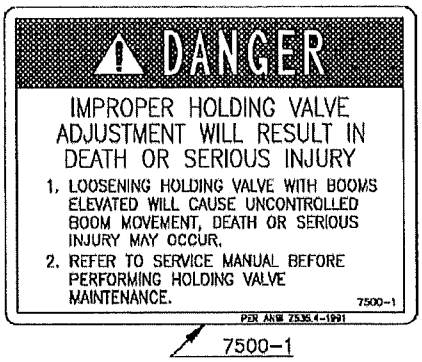

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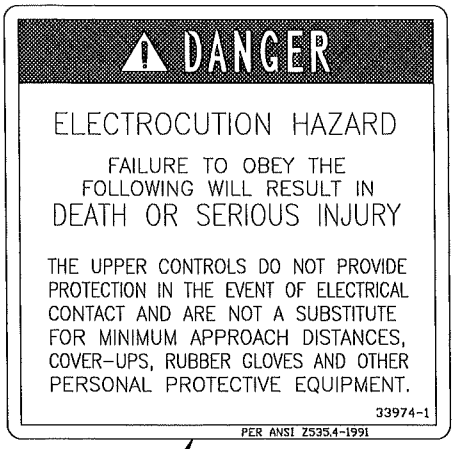

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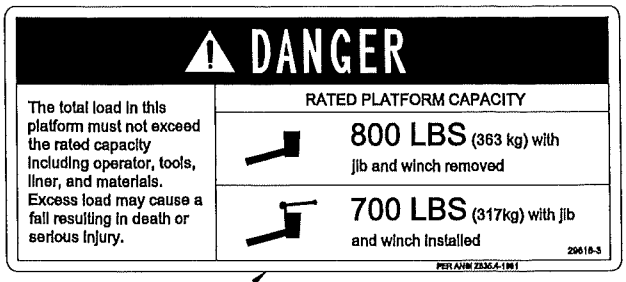

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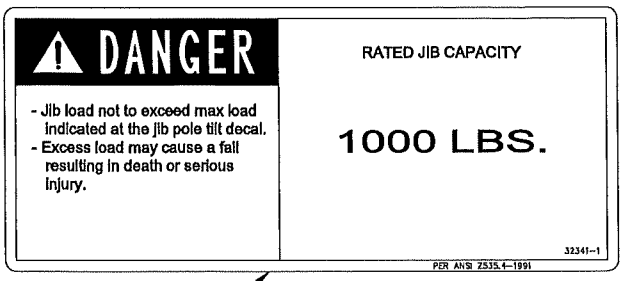

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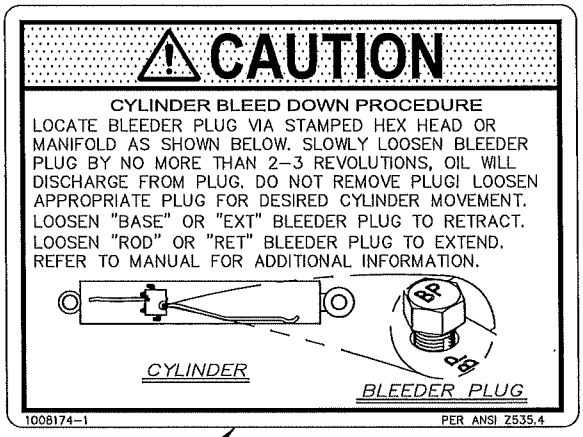

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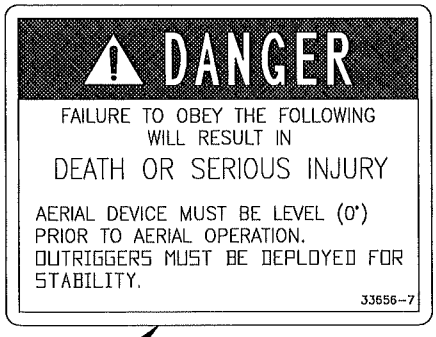

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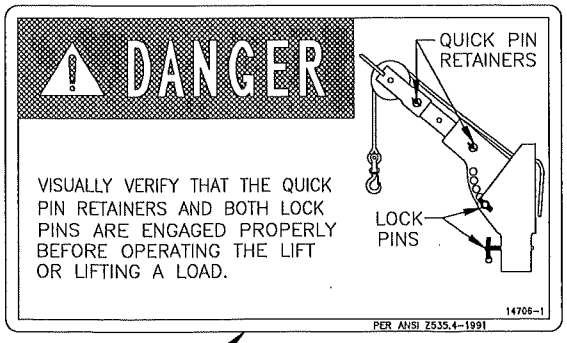

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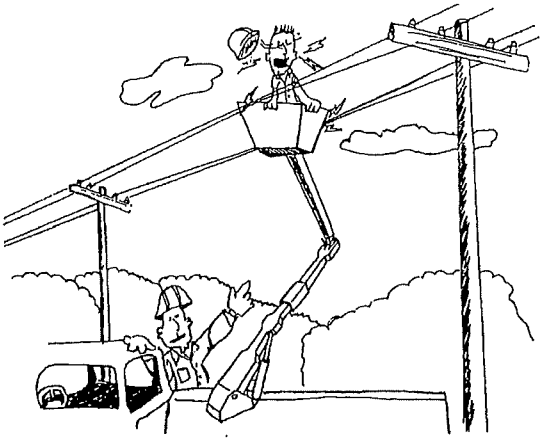
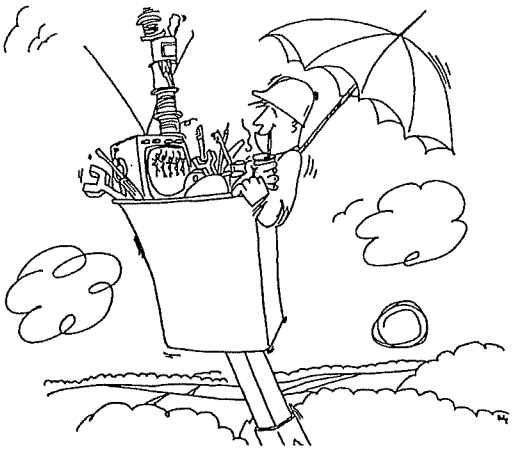
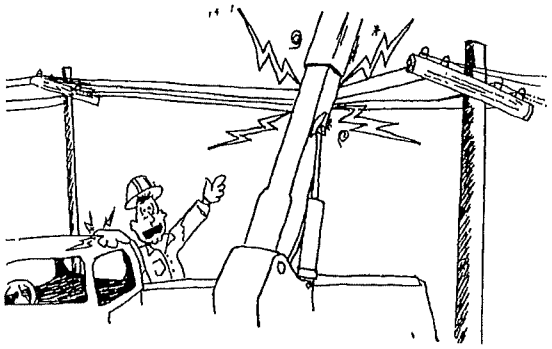


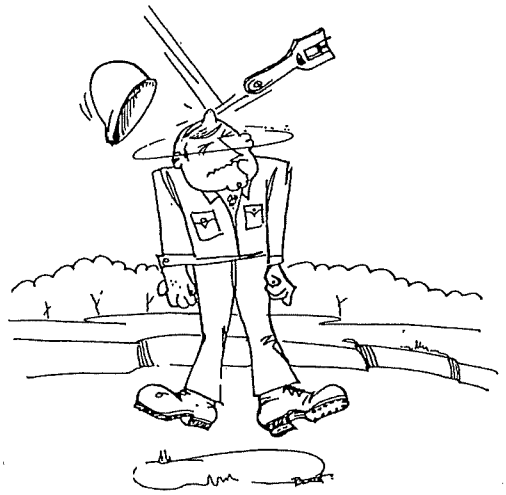
Maintain safe clearances from electrical power lines and apparatus. The aerial lift does not provide protection from contact or proximity to <u>two or more</u> electrically charged conductors.



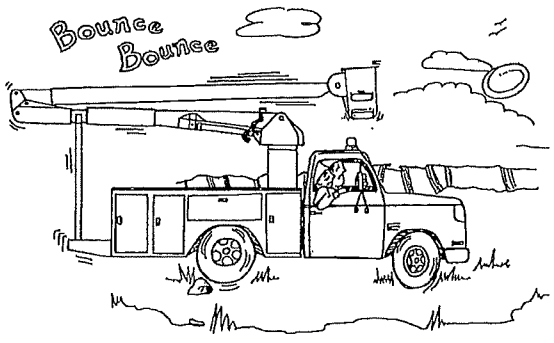
Whenever tools or equipment are included with the operator in the platform the combined weight must not exceed the rated load capacity.



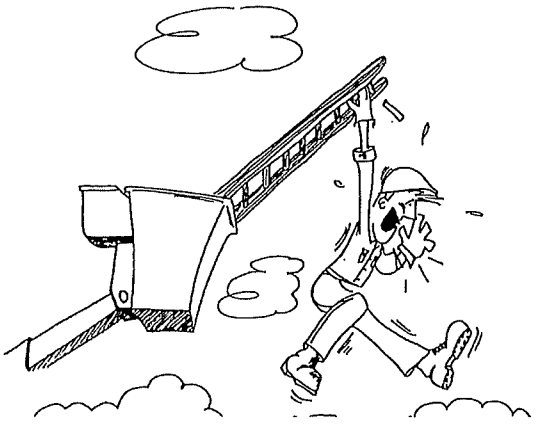
Never allow anyone on the ground to touch the unit when the lift is being used to work on or near electrical lines.



Avoid dropping tools. Use a hand line to raise or lower tools to/from the platform.

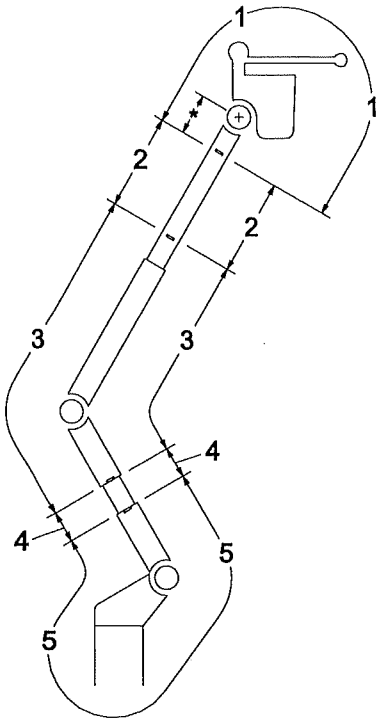


Stow the booms securely before moving the truck.



Stand only on the platform floor.

What Is Insulated and What Is Not Insulated
Articulated/Telescopic and Articulated Models



Area 1 - Boom Tip Area - NOT INSULATED

Area 2 - Upper Boom Insulating Section

Area 3 - Intermediate Structure - NOT INSULATED

Area 4 - Lower Boom Insulating Section

Area 5 - Lower Structure - NOT INSULATED

Area 1, Boom Tip Area – The boom tip area does not provide insulation. This area includes everything past the insulated section decal* on the upper boom. This includes the upper end of the boom, platform support, platform(s), controls, and the jib/winch/rope (when so equipped).

All components at the boom tip area must be considered to be conductive and electrically connected, even with an insulated liner in place. Any contact with a ground and a phase or between two phase conductors will create a hazard of serious personal injury or death. Contact between an energized conductor and any part of the boom tip will energize the entire boom tip.

When working near an energized conductor, ground conductor, or other grounded objects, the operator must use the proper safety equipment (such as rubber gloves, covers, hot sticks, etc.), maintain safe approach distances, and follow company work practices.

Area 2, Upper Boom Insulation Section – This section provides insulation** between the boom tip area and earth ground when clean and properly maintained. On some configurations, it is necessary to extend the boom until the insulated section decal is visible.

Area 3, Intermediate Structure – This section does not provide insulation. This area includes the lower steel portion of the upper boom, knuckle, and the steel upper portion of the lower boom and compensation link (when applicable).

Area 4, Lower Boom Insulating Section – (When so equipped) This section provides insulation** between the intermediate structure (Area 3) and the vehicle when clean and properly maintained.

Area 5, Lower Structure – This area does not provide insulation. This area includes the steel lower portion of the lower boom and compensation link (when applicable), turret, lower controls, pedestal, and the vehicle.

* On VST and T-Series models not supplied with an upper insulated section decal, the insulated section begins 11 inches below the center of the platform pivot.

** Insulation properties are defined by ANSI A92.2

VST-7500-I-E GENERAL SPECIFICATIONS

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

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.

PLATFORM - The fiberglass platform is 24 in. x 48 in. x 42 in. (0.61 m x 1.22 m x 1.07 m) deep with an inside and outside step for easy access. The standard platform capacity is 800 lbs. (360 kg). With the optional jib/winch installed, the platform capacity is 700 lbs. (318 kg). A cushioned platform support is provided.

HYDRAULIC PLATFORM ROTATOR - A hydraulic platform rotator, operated by a control lever, rotates the platform 180° from one side of the outer/inner boom assembly, across the end-hung position, to the other side of the outer/inner boom assembly.

HYDRAULIC PLATFORM LEVELING - A master and slave cylinder arrangement automatically levels the platform in all boom positions. This system also provides hydraulic platform tilt to adjust platform level, tilt the platform for clean out, or to ease the removal of an injured operator. The platform tilt can be activated from the upper and lower controls.

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 a 12 in. x 14 in. (305 mm x 355 mm) steel section. The inner boom consists of a 9-1/4 x 11-1/4 in. fiberglass section and a 10 x 12 steel section. The fiberglass section provides a 108 in. insulation gap. The inner boom can be easily removed and disassembled for service and inspection. The extension system consists of a hydraulic cylinder, two integral holding valves, and a "cat-track" type hose carrier housed entirely within the boom assembly. The hoses routed through the outer/inner boom assembly are non-conductive and fully contained within the boom assembly. The outer/inner boom assembly articulates from 25° +/- 2° below horizontal to 75° +/-2° above horizontal. Actuated by a double acting cylinder, equipped with two integral holding valves; the outer/inner boom assembly is offset to one side to provide easy access to the platform. 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 over a rectangular 12 in. x 14 in. (305mm x 355 mm) high strength steel section. The steel and fiberglass sections are bonded with pressure injected adhesive to fill any voids. A compensation link with a fiberglass section maintains the 24 in. (0.61 m) insulation gap in all the boom positions. The double acting cylinder, with an integral holding valve, allows the lower boom to articulate from horizontal to 88° above horizontal.

DOUBLE LIFT ELEVATOR – The elevator assembly replaces a traditional pedestal and provides a 25 ft. (7.6m) or 33 ft. (10m) vertical lift. The elevator consists of two arms and is actuated by two double acting cylinders. Each arm can be actuated individually, allowing additional reach over the front or rear of the vehicle. Both arms travel 90°. All major components are fully boxed to provide a stiff and secure structure. The top plate of the elevator is 1.5 in. (38mm) thick and machined flat to support the rotation bearing.

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

TURRET – The 5/8 in (16 mm) thick turret wings are designed for strength and rigidity. The 1-1/2 in (38 mm) thick turret base plate is machined to provide a flat surface to support the rotation bearing.

LOWER CONTROLS – Consists of individual control levers mounted below rotation which actuate the lower boom, upper boom, inner boom, rotation, lift

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

VST-7500-I-E OPTION SPECIFICATIONS

This section contains a brief description of some of the numerous available options.

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.

SUBFRAME – The full-length subframe is constructed of 6 x 3 tubing. Shear plates are provided to attach to the chassis frame.

RADIAL OUTRIGGERS - Radial outriggers are designed and constructed from high-strength steel. At 11" (28 cm) of penetration the outriggers provide 211" (5.4 m) of spread based on a 40" (1.02 m) frame height. Outriggers are equipped with pilot operated check valves, internal thermal relief valves, and separate operating controls for each outrigger.

OUT AND DOWN OUTRIGGERS – Out and down outriggers are designed and constructed from high-strength steel and provide 8 in. (200 mm) of penetration and 195 in. (5.0 m) of spread based on a 40 in. (1.02 m) frame height. Outriggers are equipped complete with pilot operated check valves, internal thermal relief valves, and separate operating controls for each outrigger.

PLATFORM VARIATIONS:
24 in. x 30 in. (0.61 m x 0.76 m) Closed Fiberglass Platform

24 in. x 42 in. (0.61 m x 1.07 m) Closed Fiberglass Platform

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

PLATFORM COVER - Soft vinyl covers are available to fit all standard sized platforms.

1000 LBS 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. This jib provides 1000 lbs. jib capacity in any boom position.

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.).

The angle of the 3 in (75 mm) diameter jib pole is manually adjusted; the jib pole assembly tilts in 10° increments from horizontal to a maximum of 50° above horizontal. Since the pole is automatically leveled with the platform, there is a total of 150° of jib pole articulation relative to the upper boom. The jib pole assembly also can be rotated to any of the seven convenient load-lifting positions to accommodate a load. The jib pole and winch assemblies can be easily removed when not needed.

Platform capacity is 700 lbs. (318 kg) with the jib and winch installed. Platform capacity is 800 lbs. with the jib and winch removed.

1000 LBS 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. This jib provides 1000 lbs. jib capacity in any boom position.

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.).

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 190° 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 the seven convenient load-lifting positions to accommodate a load. The jib pole and winch assemblies can be easily removed when not needed.

Platform capacity is 700 lbs. (318 kg) with the jib and winch installed. Platform capacity is 800 lbs. with the jib and winch removed.

2000 LBS 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. This jib provides from 900 to 2000 lbs. jib capacity depending on the boom positions.

Platform capacity is 700 lbs. (318 kg) with the jib and winch installed. Platform capacity is 800 lbs. with the jib and winch removed.

manual over-ride to open the latch without hydraulic power.

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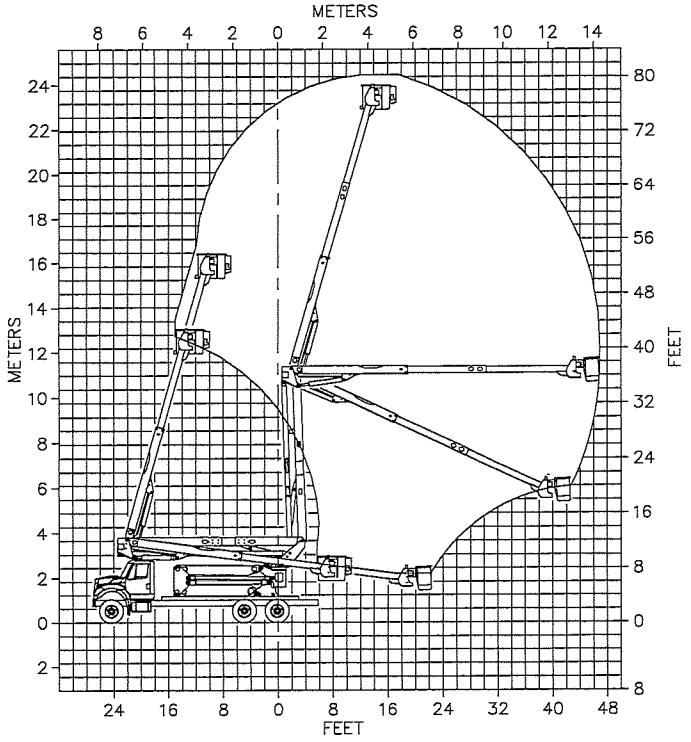
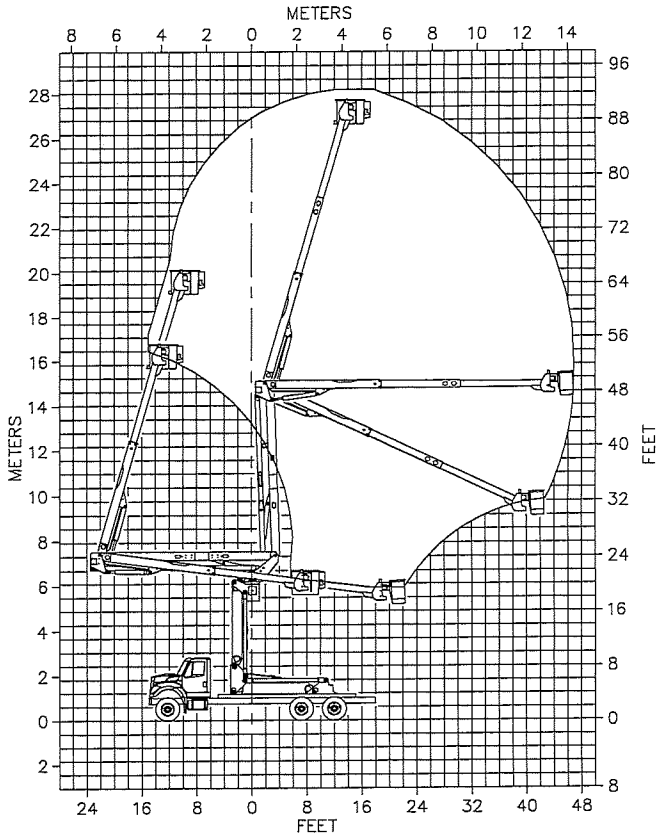




UNLESS OTHERWISE NOTED:
TOLERANCES: FRACTIONS ± 1/16 DECIMALS .X ± .1 .XX ± .03 .XXX ± .005
ANGLES ± 1°
MACHINED SURFACE FINISHES
PROJECTION OF VIEWS
ALL DIMENSIONS ARE IN INCHES

TIME MANUFACTURING COMPANY
WACO TEXAS

MATERIAL

FINISH

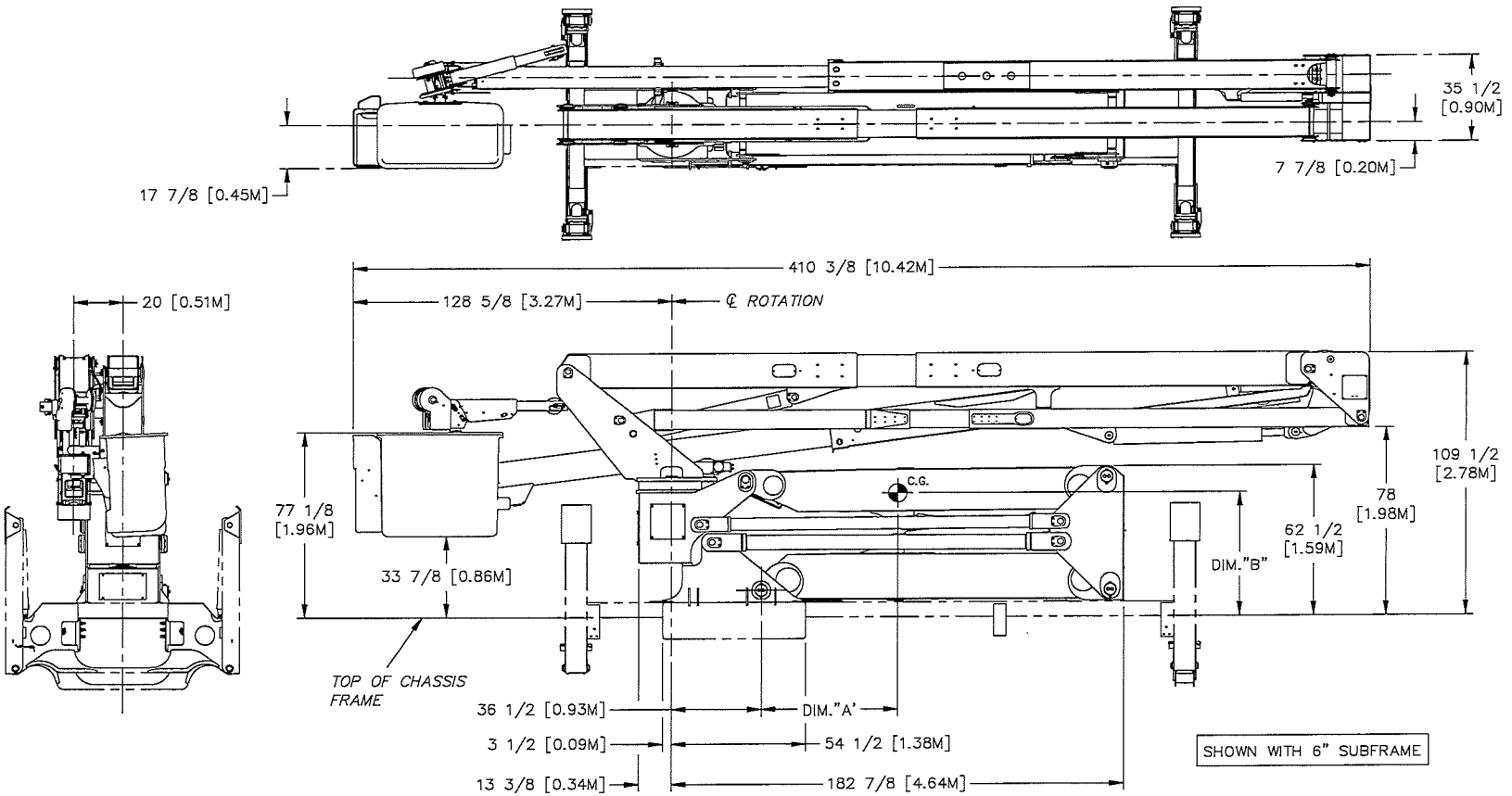
DWN. BY	DATE
LBR	5-17-13
SIZE	SCALE
B	1=200
EST WT #	MANUAL
	—
SHEET	
1 OF 2	

TITLE: REACH DIAGRAM VST-7500 25 FT. LIFT ELEVATOR

DWG. NO. 1001339-DWG

SPECIFICATIONS

REV.	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
A	61032	UPDATED APPROX. SUBFRAME WEIGHTS	DEF	DJH	ARH	12/30/13



MODEL	APPROX. DIM. "A"	APPROX. DIM. "B"	APPROX. WEIGHT
VST7500I-E100	55.2 [1.40M]	54.6 [1.39M]	17,000 LBS.

NOTES:
1.) WEIGHTS DO NOT INCLUDE SUBFRAME, OUTRIGGERS OR MOUNTING HARDWARE.
2.) DIMENSIONS ARE IN INCHES [METERS].
3.) THE SUBFRAME WEIGHT IS APPROX.
6" TALL=13.2#/IN.
5" TALL=12.5#/IN.
4.) APPROXIMATE OUTRIGGER WEIGHTS:
RADIAL.....1600 LBS.

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

TIME MANUFACTURING COMPANY
WACO TEXAS

MATERIAL

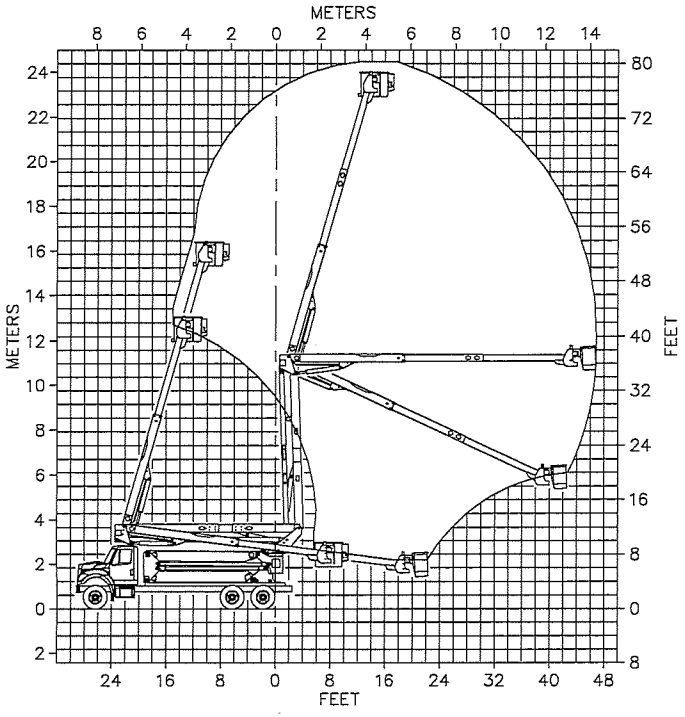
FINISH

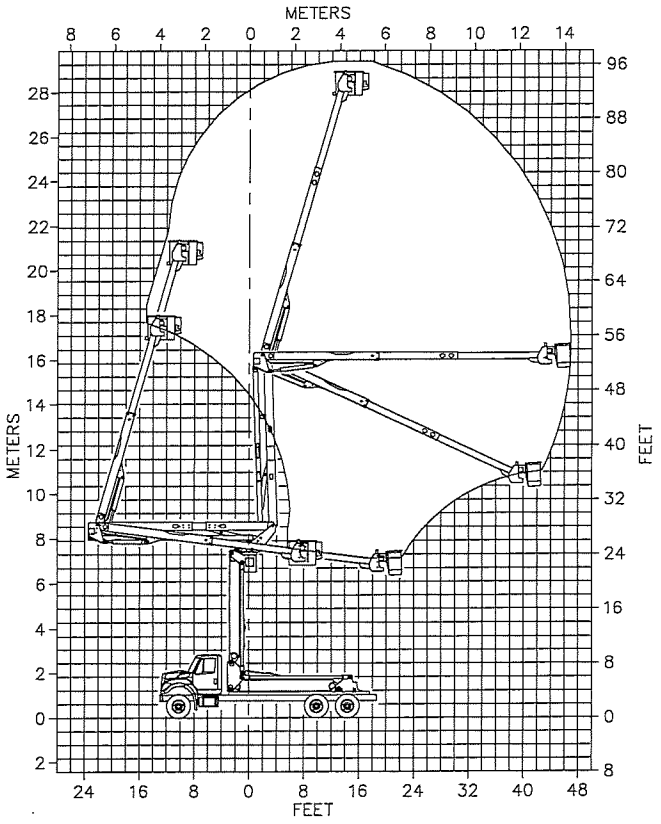
DWN. BY	DATE
LBR	5-17-13
SIZE	SCALE
A	1=65
EST WT #	MANUAL
	—
SHEET	
1 OF 1	

TITLE: OVERALL VST7500I ON 25 FT. ELEVATOR

DWG. NO. 1001346-DWG

REV.	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
⊖	60761	FIRST RELEASE	LBR	DJH	SRS	7-24-13



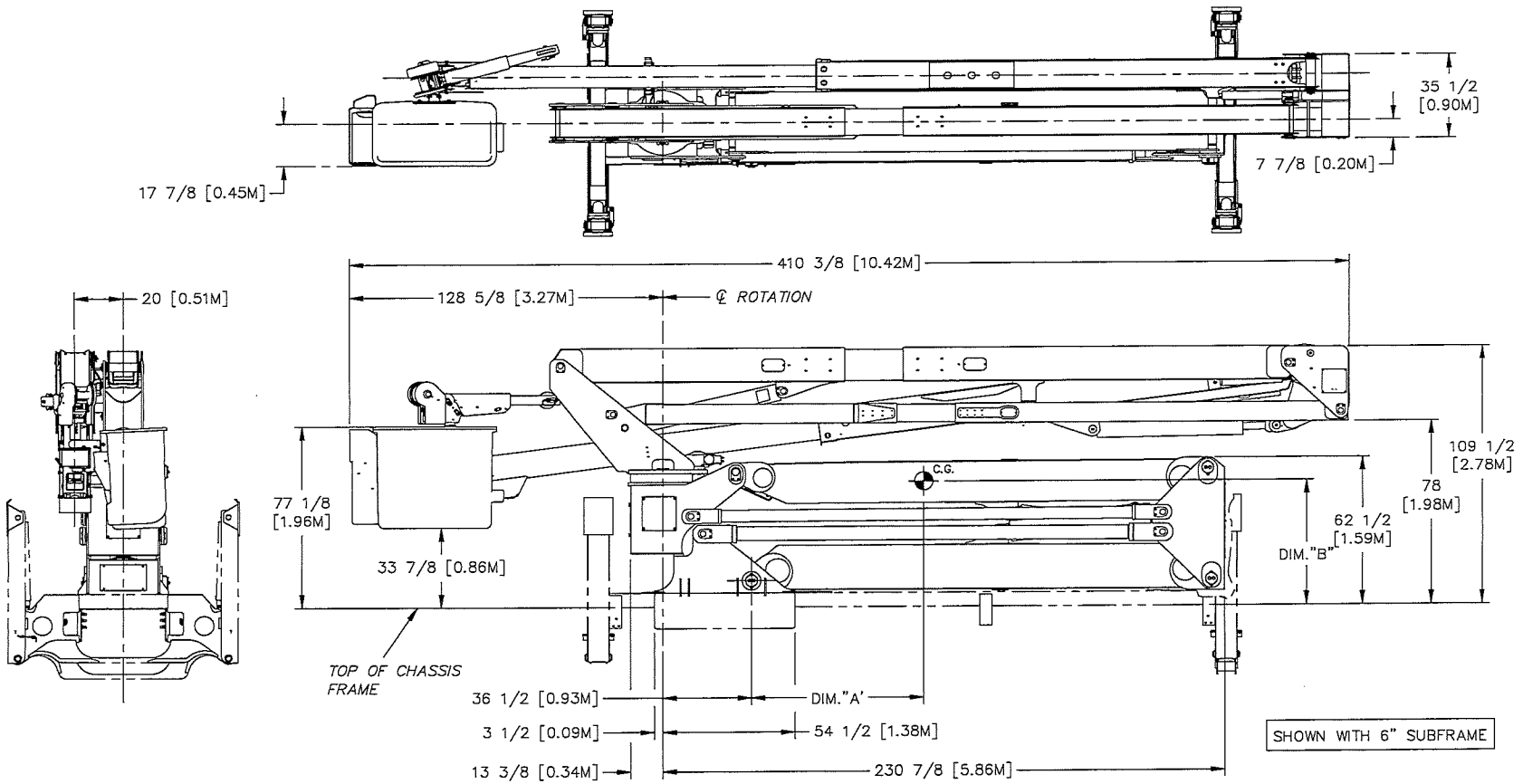


UNLESS OTHERWISE NOTED: TOLERANCES: FRACTIONS ± 1/16, ANGLES ± 1°, DECIMALS .X ± .1, .XX ± .03, .XXX ± .005; MACHINED SURFACE FINISHES 125; PROJECTION OF VIEWS ⊕; ALL DIMENSIONS ARE IN INCHES	TIME MANUFACTURING COMPANY WACO TEXAS	DWN. BY: LBR	DATE: 7-24-13
		SIZE: B	SCALE: 1=200
	MATERIAL	EST WT #	MANUAL: —
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.	FINISH	SHEET: 1 OF 2	DWG. NO.: 1001501-DWG

TITLE: REACH DIAGRAM VST-7500 33 FT. LIFT ELEVATOR

SPECIFICATIONS

REV.	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
A	61032	UPDATED APPROX. SUBFRAME WEIGHTS	DEF	DJH	ARH	12/30/13



MODEL	APPROX. DIM. "A"	APPROX. DIM. "B"	APPROX. WEIGHT
VST7500I-E108	71 [1.80M]	53 [1.35M]	18,300 LBS.

NOTES:
1.) WEIGHTS DO NOT INCLUDE SUBFRAME, OUTRIGGERS OR MOUNTING HARDWARE.
2.) DIMENSIONS ARE IN INCHES [METERS].
3.) THE SUBFRAME WEIGHT IS APPROX.
6" TALL=13.2#/IN.
5" TALL=12.5#/IN.
4.) APPROXIMATE OUTRIGGER WEIGHTS:
RADIAL.....1600 LBS.

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

TIME MANUFACTURING COMPANY
WACO TEXAS

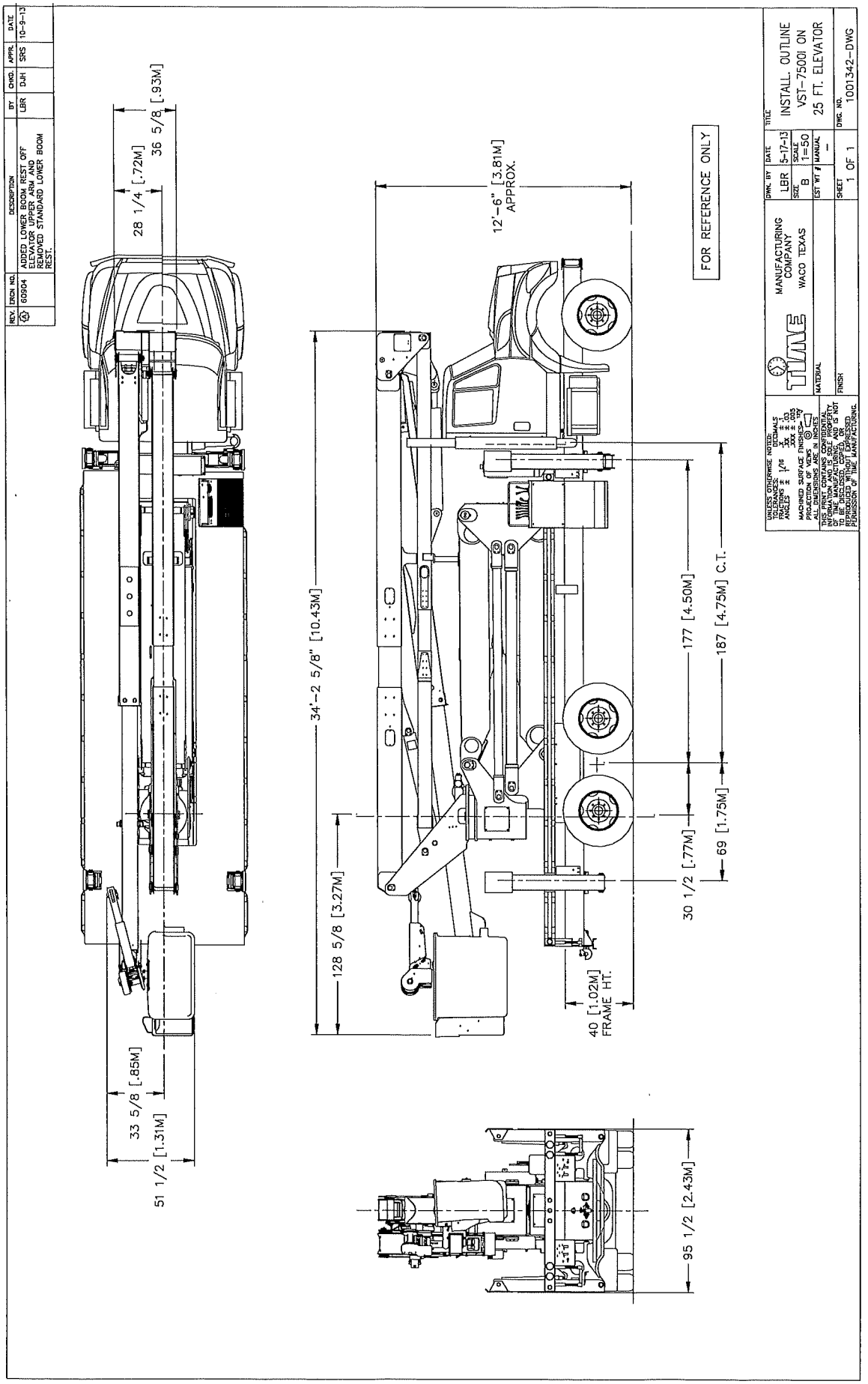
MATERIAL

FINISH

DWN. BY	DATE
LBR	7-24-13
SIZE	SCALE
A	1=65
EST WT #	MANUAL
	—
SHEET	
1 OF 1	

TITLE: OVERALL VST7500I ON 33 FT. ELEVATOR

DWG. NO. 1001503-DWG


REV. | DRGN NO. | DESCRIPTION | BY | CHKD. | APPR. | DATE
A 60904 ADDED LOWER BOOM REST OFF ELEVATOR UPPER ARM AND REMOVED STANDARD LOWER BOOM REST. LBR DJH SRS 10-9-13
28 1/4 [.72M]
36 5/8 [.93M]
33 5/8 [.85M]
51 1/2 [1.31M]
12'-6" [3.81M] APPROX.
34'-2 5/8" [10.43M]
128 5/8 [3.27M]
40 [1.02M] FRAME HT.
177 [4.50M]
187 [4.75M] C.T.
30 1/2 [.77M]
69 [1.75M]
95 1/2 [2.43M]
FOR REFERENCE ONLY
UNLESS OTHERWISE NOTED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONS ± 1/16 .XX ± .03 .XXX ± .010 ANGLES ± 1° MACHINED SURFACE FINISHES 125 PRODUCTION OF VIEWS ALL DIMENSIONS ARE IN INCHES
THIS PRINT CONTAINS CONFIDENTIAL INFORMATION AND IS SOLE PROPERTY OF TIME MANUFACTURING COMPANY AND IS NOT TO BE DISCLOSED, COPIED, OR REPRODUCED IN WHOLE OR IN PART WITHOUT PERMISSION OF TIME MANUFACTURING.
MATERIAL
FINISH
TIME MANUFACTURING COMPANY WACO TEXAS
DWN. BY LBR DATE 5-17-13
SIZE B SCALE 1=50
TEST WT # MANUAL —
SHEET 1 OF 1
TITLE INSTALL. OUTLINE VST-7500I ON 25 FT. ELEVATOR
DWG. NO. 1001342-DWG

This chapter provides operators and ground crew with recommended aerial lift operating procedures, descriptions and detailed operating information about the controls at each control station. Operators and ground crews are responsible for knowing and applying this information to job site situations.

Only properly trained operators are qualified to operate the **Versalift** aerial lift. Operator training shall include complete instruction and understanding of the manufacturer's manuals, employer's work rules, and all related governmental regulations. Prior to operation from the platform the machine must be operating properly, must have been installed properly, inspected, and maintained in accordance with the manufacturer's instructions. All safety signs, guards, and covers must be in place and in proper condition.

⚠DANGER: ***AN UNTRAINED OR CARELESS OPERATOR SUBJECTS HIM/HERSELF AND OTHERS TO DEATH OR SERIOUS INJURY.***

It is the responsibility of the operator and ground crew to make certain that the identification, operation, and instructional decals are not lost, damaged, or illegible. If these conditions exist the decals must be replaced before lift operation. Refer to the Decal Placement illustration in Section 6 of this manual for decal location and parts listing.

PRIOR TO OPERATING THE AERIAL LIFT, REFER TO "DAILY VISUAL INSPECTION", SECTION 6 OF THIS MANUAL. DAILY VISUAL INSPECTION MUST BE PERFORMED BEFORE OPERATING THE LIFT.

POSITIONING THE VERSALIFT FOR OPERATION

This section describes proper positioning of the aerial lift so that it will be as stable and useful as possible. The information in this section includes orientation of the truck at the work site, responsibilities before leaving the truck cab, requirements after leaving the truck cab, and engaging the outriggers.

ORIENTING THE TRUCK AT THE WORK SITE: Be sure to park the truck on firm level ground. Do not operate the unit on a slope greater than 5° (1 foot rise in 12 feet) on units not equipped with outriggers. On units with outriggers, aerial device must be leveled within 2° of horizontal prior to operation. Refer to the slope indicators provided on the chassis to show whether the aerial device is positioned within limits permitted. Slope reduces the vehicle's stability and places additional stress on the lift and components. Maintaining the correct tire pressure and engaging the outriggers contribute to vehicle stability. If there is any doubt about vehicle stability under any condition, do not operate the lift.

⚠DANGER: ***NEVER OPERATE THE LIFT ON A SLOPE GREATER THAN 5°. WITHOUT PROPER STABILITY THE UNIT MAY TIP RESULTING IN DEATH OR SERIOUS INJURY.***

RESPONSIBILITIES BEFORE LEAVING THE TRUCK CAB: Perform the following steps in preparing to operate the aerial lift. It is assumed that the truck engine is still running. If the lift is powered by an auxiliary engine (optional power unit) it is not necessary for the truck engine to remain running.

1. Set the parking brake and the brake lock (if equipped).
2. Shift the truck transmission into neutral. This is necessary because the truck engine must be running for the lift to operate. Omit this step if an auxiliary engine is used to power the lift hydraulics.
3. Turn on the warning light flashers.
4. Depress the clutch (manual transmissions) and engage the PTO, if equipped. Refer to "Power Take-Off" in this section.
5. Activate the master control with the toggle switch on the truck dashboard. A red light next to the toggle switch on the dashboard indicates when the master control system is energized. The truck ignition must be on unless equipped with an auxiliary engine.

REQUIREMENTS AFTER LEAVING THE TRUCK CAB:

1. Check wind and weather conditions. Do not operate the platform if wind gust exceeds 30 mph (48 km/hr) or there is a threat of an electrical storm.
2. After leaving the cab chock the wheels. This is extremely important because the brake systems on some larger trucks have a critical weakness.

air the hydraulic system.

If there is any malfunction during this empty test run, shut down the unit immediately. Do not operate the lift again until the problem has been corrected by the service department.

Operate each lift function from the lower controls by constantly holding the 3-position selector valve control handle in the lower controls position while slowly moving the appropriate spring-loaded control handle in the desired direction, as indicated by the decal, until motion begins. All boom movements must be started and stopped gradually.

⚠DANGER: ***NEVER START, REVERSE, OR STOP THE DIRECTION OF LIFT TRAVEL SUDDENLY AND AVOID REACHING THE END OF BOOM RANGE AT EXCESSIVE SPEEDS. STRUCTURAL DAMAGE OR INSTABILITY MAY RESULT CAUSING DEATH OR SERIOUS INJURY.***

The range each boom will raise and lower is mechanically limited. An operator must always be aware of these mechanical limits and avoid reaching the end of the boom's range at an excessive speed. To do so stresses the lift and chassis unnecessarily and may cause instability. Notice that rotation is not limited. The lift can rotate continuously.

Operating Procedures From The Platform:
Complete the startup procedures from the ground before selecting the upper controls with the 3-position control selector. In order to operate the lift from the platform, select the upper controls with the 3-position selector lever at the lower control station. Verify that the upper boom tie-down strap is disengaged. Using the step(s) provided, carefully enter the platform. Safety regulations require the operator to be secured with a personnel restraint system to the lift. The safety belt must be secured around the waist. The lanyard is a connecting strap. The "Energy Absorber" end of the lanyard always connects to the body belt or harness and the other end connects to a lanyard anchor at the platform support weldment. The safety belt must be rotated so that the lanyard connection is centered on his back.

⚠DANGER: ***NEVER OPERATE ANY AERIAL EQUIPMENT WITHOUT WEARING AN APPROVED PERSONNEL RESTRAINT SYSTEM ATTACHED TO THE ANCHOR. FAILURE TO PROPERLY SECURE THE SAFETY BELT AND LANYARD MAY RESULT IN DEATH OR SERIOUS INJURY IN THE EVENT OF A FALL FROM THE PLATFORM.***

Before operating the lift the operator should study, "Upper Control Operation" in this section.

Operating Where Electrical Hazards Are Present:
It is imperative that the aerial device operator understand the dangers associated with operating near electrical hazards. Due to the work involved, the ordinary uses of aerial lift often place the operator and ground crew in the vicinity of electrical lines and equipment where grave danger exists. These dangers can only be avoided by the constant care of an operator who is aware of these dangers, knows the limitations of the aerial lift and its insulating sections, and knows how to protect himself and the crew from these dangers.

⚠DANGER: ***ALL COMPONENTS IN THE PLATFORM AREA, INCLUDING THE CONTROLS, JIB POLE, COVERS, ETC. SHALL BE CONSIDERED ELECTRICALLY CONNECTED, AND NOT INSULATED OR ISOLATED. THESE COMPONENTS MAY CONDUCT ELECTRICITY RESULTING IN DEATH OR SERIOUS INJURY.***

The insulation capabilities of this aerial lift are defined by the rated line voltage on the ANSI A92.2 data plate. Although the aerial unit provides insulated booms, no aerial lift can provide protection from contact with or proximity of an electrically charged power line when you are in contact with or in proximity of another power line. Maintain safe clearances from electrical power lines in accordance with applicable government regulations. Make certain to allow clearance for boom, platform, electrical line, and load line sway and deflection.

⚠DANGER: ***CONTACT WITH OR INADEQUATE CLEARANCE FROM ELECTRICAL POWER LINES AND APPARATUS WILL CAUSE DEATH OR SERIOUS INJURY.***

The accumulation of dirt and moisture on insulated booms degrades the insulation. Be sure the booms are clean and dry. Remember that the inside of a boom may be wet even when the outside is dry. Any equipment which bridges the platform and the ground voids the insulation and must be eliminated when working near areas of electrical hazard.

GROUND CONTROL OPERATION

The ground controls may include one or more of the following controls: outrigger, outrigger/boom interlock, and tool power. Ground controls are usually mounted on panels in the rear bumper of the truck or below the deck of the unit. Descriptions and operating procedures for these controls are given in the following text.

OUTRIGGER OPERATION - The outriggers should always be extended to provide stability for the aerial lift. The outrigger controls consist of a control selector and a control valve as shown in Figure 4.2.

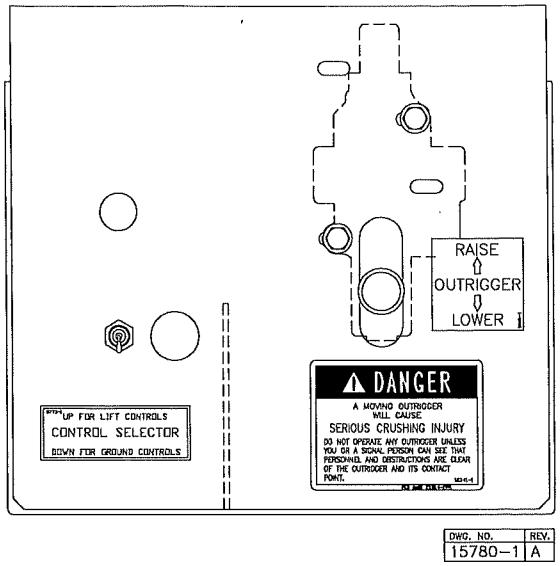
CONTROL SELECTOR AND OUTRIGGER/BOOM INTERLOCK - The outrigger/boom interlock is a feature designed to prevent the lift from being operated until the outriggers are properly extended. The interlock also prevents the outriggers from being retracted before the lift is properly stored. This option is particularly useful in keeping unauthorized personnel from operating the outriggers while an operator is working aloft.

Note: The operation of an outrigger interlocking device(s) does not assure aerial device stability. It serves only to remind the operator that the outriggers have not been deployed.

The controls for operating the outrigger/boom interlock include a detented control selector and a control valve. These controls are usually mounted in the ground control panel similar to the arrangement shown in Figure 4.2. ANSI A92.2 standards require that the outrigger control valve be located where the operator can watch each outrigger raise and lower as the control valve lever is activated.

Lowering the Outriggers With an Outrigger/Boom Interlock System: To lower the outriggers select "ground controls" with the control selector. Then operate the outriggers as described previously. Select "lift controls" with the control selector in order to begin operating the booms.

Retracting the Outriggers With an Outrigger/ Boom Interlock System: The booms must be stowed before the interlock system will allow the outriggers to be retracted. Stow the booms as described in this section, "Storing the Aerial Lift". Select "ground controls" with the detented control selector. Then raise the outriggers as described previously.



Ground Control Panel With an Outrigger/Boom Interlock System
Figure 4.2

HYDRAULIC TOOL OPERATION AT THE GROUND (Optional) - Select ground controls at the lift/ground control selector then connect the hydraulic tool hoses to the tool power outlets (quick-disconnect couplings). Activate the tool-power valve by pulling the tool power valve knob "out". The other aerial lift controls will not respond while the hydraulic tools are being operated. To disconnect the hydraulic tools, the tool-power valve must be turned "off" so that the pressure in the system is relieved. This is done by pushing the tool-power valve knob "in". Then the tool hoses can be disconnected safely and easily from the tool power outlets (quick-disconnect couplings). The tool power controls are shown in Figure 4.3.

⚠WARNING: ***FAILURE TO RELIEVE PRESSURE TO THE TOOL PORTS BEFORE CONNECTING OR DISCONNECTING THE HYDRAULIC TOOL HOSES MAY RESULT IN A HIGH PRESSURE HYDRAULIC OIL SPRAY. THIS SPRAY OR MIST CAN PUNCTURE OR BECOME EMBEDDED BENEATH THE SKIN OR CONTAMINATE THE EYES. THESE CONDITIONS REQUIRE IMMEDIATE MEDICAL ATTENTION.***

master control is activated. The two-speed throttle control is operated by a three-position toggle switch on the lower control console.

To speed up the engine from the lower controls, push the toggle to the "ENGAGE" position. Allow the toggle to return to the neutral or centered position.

To slow the engine to an idle from the lower controls, push the toggle to the "DISENGAGE" position. Allow the toggle to return to the centered or neutral position.

BACKUP PUMP CONTROL (Option) - If the aerial lift main power source fails, the backup pump option can be activated to operate the lift. The backup pump control is a detented toggle switch located on the lower control console. The backup pump system should not be operated longer than 30 seconds continuously. Continuous use will drain the battery and damage (over heat) the backup pump motor.

To activate the backup pump from the ground, push the toggle switch to the "ON" position and operate the appropriate lift controls.

To deactivate the backup pump from the ground, push the toggle switch down (towards the "30 SECOND INTERMITTENT" message).

UPPER CONTROL OPERATION

This section describes how the operator can identify and operate the upper controls at the platform. Never allow an untrained individual to operate the aerial lift.

DANGER: ***AN UNTRAINED OR CARELESS OPERATOR SUBJECTS HIM/HERSELF AND OTHERS TO DEATH OR SERIOUS INJURY.***

When operating the lift, all lift movements must be started and stopped gradually.

DANGER: ***NEVER REVERSE OR STOP THE DIRECTION OF THE LIFT TRAVEL SUDDENLY AND AVOID REACHING THE END OF THE BOOM TRAVEL AT EXCESSIVE SPEEDS. STRUCTURAL DAMAGE OR INSTABILITY MAY RESULT CAUSING DEATH OR SERIOUS INJURY.***

Never operate the upper controls without using the personnel restraint system.

Before operating the aerial lift, the operator must be familiar with the built-in compensation link system that affects boom movements. The connecting components are shown on the "Major Components" drawing in Section 1. When the lower boom function is activated the lower boom will respond as directed and the upper boom will move and maintain its initial position in relation to the turret. However, activating the upper boom function will not affect the lower boom.

Speed and smoothness of lift operation are controlled by feathering the control valves. Feathering a control function allows the operator to change the speed by adjusting how far the control is moved. Flow can be directed to one function or multiple functions simultaneously. Function speed depends on flow to each valve. Regular practice will develop operator proficiency.

UNITROL 3 OR 4-FUNCTION CONTROLS - This multi-jointed handle operates the valve spools and enables the operator to control all lift movements.

Lift operations are selected by depressing the safety trigger while actuating the single stick control handle. Slowly move the single stick lever in the desired direction until motion begins. Further movement of the handle in the same direction will increase the speed of the motion. To stop a lift movement, move the single-stick lever back to the neutral position and release the trigger. Releasing the safety trigger in any position except neutral will cause the selector valve to slam shut and stop lift travel with an abrupt jerking motion resulting in unnecessary loads and stresses.

To operate two or more functions at the same time, position the single-stick handle anywhere in an area between the separate paths of the desired functions.

HYDRAULIC TOOL POWER (Standard) - The hydraulic tool ports are located on the side of the upper controls. Always relieve the pressure to the tool ports before connecting or disconnecting the hydraulic tool hoses. To relieve the pressure, move the tool selector handle to the "OFF" position. Then connect or disconnect the hydraulic tool hoses to the tool ports. (Quick Disconnect Outlets). Activate operating pressure to the hydraulic tools by moving the tool selector to the "ON" position.

WARNING: ***FAILURE TO RELIEVE PRESSURE TO THE TOOL PORTS BEFORE***

To activate this system from the upper controls, push the air cylinder knob down and hold it while operating the lift controls.

To turn off the backup pump from the upper controls, release the knob and allow it to return to the neutral position.

HYDRAULIC PLATFORM ROTATOR (Standard with Single Stick Control) - The platform mount allows the platform to rotate 180° from one side of the outer/inner boom assembly, across the end hung position, to the other side of the outer/inner boom assembly. To rotate, place the handle in the clockwise or counter-clockwise ("CW" or "CCW") position.

TWO-SPEED MANUAL THROTTLE CONTROL (Standard) - The two-speed manual throttle control is operated by an air cylinder plunger knob at the upper controls. The two-speed control is designed to operate only if the engine is running and the master control is activated.

To speed up the engine from the upper controls, push the plunger knob down once and release it.

To slow the engine to an idle from the upper controls, push the plunger knob down and release it. It is recommended that the engine be left at idle until faster lift movements are required. This practice will provide efficient operation and minimize fuel consumption. During hydraulic tool operation the oil flow will be adequate to operate the tools at idle speed.

STORING THE AERIAL LIFT

When storing the aerial lift for road travel retract the inner boom completely. Rotate the outer/inner boom assembly until it is centered over the boom rest. Rotate the platform so the bottom of the platform is centered over the platform support. Always stow the lower boom before descending the outer/inner boom assembly onto the boom rest. Release the outer/inner boom control lever as soon as there is firm contact with the boom rest pad. The platform will also contact the spring-loaded platform support.

⚠CAUTION: ***FAILURE TO STOW THE LOWER BOOM BEFORE DESCENDING THE OUTER/INNER BOOM ASSEMBLY ON TO THE BOOM REST WILL STRESS THE COMPONENTS AND MAY CAUSE DAMAGE TO THE AERIAL LIFT.***

STORING THE LIFT ELEVATOR - Lower the lift elevator before the booms. The elevator arms are equipped with relief valves to prevent excessive downforce when stowed.

⚠DANGER: ***ALWAYS WATCH FOR PERSONNEL AND OBSTRUCTIONS WHEN STORING THE AERIAL LIFT. A CRUSHING INJURY TO PERSONNEL OR DAMAGE TO THE UNIT CAN OCCUR.***

TO COMPLETE THE STORING PROCEDURE - Secure the upper-boom with the tie-down strap, retract the outriggers, and remove the wheel chocks. Turn the electrical control system off and disengage the PTO pump drive.

⚠CAUTION: ***TO PREVENT DAMAGE TO THE UNIT DO NOT DRIVE THE TRUCK UNTIL THE AERIAL LIFT IS STORED AND THE UPPER BOOM IS SECURED WITH THE UPPER-BOOM TIE- DOWN STRAP.***

⚠CAUTION: ***DRIVING WITH THE PTO ENGAGED MAY DAMAGE THE TRANSMISSION, PUMP, AND/OR THE PTO.***

AUTO BOOM LATCH (Option) – The automatic boom latch is designed to open automatically when the lift is operated. Stay clear of the latch as it may move at any time depending on the hydraulic system pressure.

Manual over-ride – In case of hydraulic system failure, the auto boom latch may be operated manually.

Over-ride Procedure:

1. **Danger** – Make sure the hydraulic power source is off.
2. Release the spring plunger by rotating the "T" handle.
3. Manually rotate the latch arm 90° clockwise until it snaps and is held by the spring plunger.

ROPE MAY RESULT IN DEATH OR SERIOUS INJURY.

Jib Pole Tilt Angle - The jib pole can be manually tilted into one of six positions. To adjust the jib pole, follow the sequence below:

1. Remove any load from the jib and winch assembly. Never attempt to adjust the jib while under load.
2. Remove the jib tilt lock pin.
3. Tilt the jib to the desired position.
4. Fully replace the lock pin.

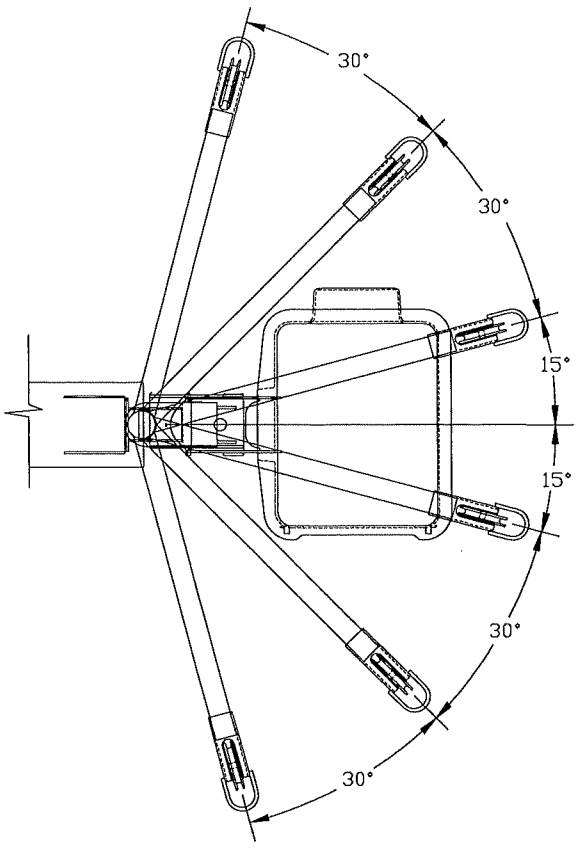
Jib Rotation - The jib pole assembly can be rotated to one of six different positions to accommodate a load. These load lifting positions are located at 15°, 45° and 75° to either side of the boom. See Figure 4.7.

To rotate the jib assembly, follow the sequence below:

1. Remove any load from the jib and winch assembly. Never attempt to rotate the jib while under load.
2. Remove the jib rotation lock pin.
3. Rotate the jib to the desired position.
4. Fully replace the lock pin.

DANGER: ***ALL JIB POLE POSITIONING ADJUSTMENTS MUST BE MADE BEFORE ENGAGING A LOAD. ADJUSTMENT OF THE ASSEMBLY WITH A LOAD MAY CAUSE DEATH OR INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT.***

DANGER: ***NEVER OPERATE THE JIB-POLE ASSEMBLY UNTIL THE ASSEMBLY TURRET IS LOCKED IN A LOAD LIFTING POSITION AND THE VARIOUS LOCK PINS ARE SECURE. A LOAD SHIFT CAN CRUSH THE OPERATOR AND CAUSE DEATH OR SERIOUS INJURY.***



Jib Pole Assembly Rotation Positions
Figure 4.7

HYDRAULIC WINCH OPERATION - This control is located in the boom control panel mounted to the platform. To operate, move the appropriate lever in the direction indicated on the decal. The winch control is also duplicated at the lower controls for use in case of an emergency. When operating from the lower controls, the winch speed will be slower.

DANGER: ***IF THE WINCH ROPE HAS ABRASIVE WEAR, PULLED STRANDS, CUTS, HEAT DAMAGE, OR OTHER DEFECTS, IT MUST BE REPLACED BEFORE FURTHER USE. THE RECOIL FROM ROPE FAILURE OR FALLING OBJECTS CAN CAUSE DEATH OR SERIOUS INJURY TO THE OPERATOR OR GROUND CREW.***

DANGER: ***PHASE-TO-PHASE OR PHASE-TO-GROUND CONTACT OF THE WINCH LINE WILL REDUCE THE STRENGTH OF THE ROPE. THE RECOIL FROM ROPE FAILURE OR FALLING OBJECTS CAN CAUSE DEATH OR SERIOUS INJURY TO THE OPERATOR OR GROUND CREW.***

JIB CAPACITY DETERMINATION

For 1000 lbs. Jib

The lifting capacity of the material handling system is conditional and depends on the angle of the jib pole. To determine the lifting capacity of the jib at a particular position, refer to the jib capacity decal near the jib pole pivot.

⚠DANGER: ***NEVER EXCEED THE MAXIMUM LIFTING CAPACITY AS SHOWN BY THE MATERIAL HANDLING LOAD CHART. OVERLOADING THE LIFT MAY CAUSE EQUIPMENT FAILURE RESULTING IN DEATH OR SERIOUS INJURY.***

⚠DANGER: ***EXCEEDING THE MAXIMUM LIFTING CAPACITY OF THE LIFT OR THE JIB MAY CAUSE EQUIPMENT FAILURE RESULTING IN DEATH OR SERIOUS INJURY.***

For 2000 lbs. Jib

The lifting capacity of the material handling system is conditional and depends on the angle of the jib pole, the extension of the inner boom, and the angle of the outer boom. To determine the lifting capacity of the jib at a particular position, refer to the procedure and example below. The capacities shown here are for example only. Refer to the decals on the unit for the actual lifting capacities.

⚠DANGER: ***NEVER EXCEED THE MAXIMUM LIFTING CAPACITY AS SHOWN BY THE MATERIAL HANDLING LOAD CHART. OVERLOADING THE LIFT MAY CAUSE EQUIPMENT FAILURE RESULTING IN DEATH OR SERIOUS INJURY.***

⚠DANGER: ***EXCEEDING THE MAXIMUM LIFTING CAPACITY OF THE LIFT OR THE JIB MAY CAUSE EQUIPMENT FAILURE RESULTING IN DEATH OR SERIOUS INJURY.***

Jib Capacity Component Description - The inner boom is color coded. It is painted white from 0 to 62 inches of extension. After 62 inches, the exterior of the inner boom is marked with red decals.

The outer boom is equipped with a pointer and jib capacity decal. The pointer responds to gravity, so as the boom angle changes, the pointer tracks to different areas of the decal. The decal is divided in to two zones, one white, and one red.

The jib pole is equipped with maximum capacity decals near the pivot

Procedure to Determine the Jib Capacity:

1. Determine the color of the inner boom where it exits the outer boom. It will be either red or white.
2. Read the capacity from the outer boom pointer. If the boom in step 1 was white, read the capacity from the white portion of the decal. If the boom in step 1 was red, read the capacity from the red portion of the decal.
3. Check the capacity of the jib pole by reading the decal near the jib pole tilt pivot.
4. The actual lifting capacity is the smaller of the two capacities determined in steps 2 and 3.

Example – See Figure 4.9 for 2000 lbs. Jib

1. In this example, the boom is red where it exits the outer boom.
2. Reading the red zone, the outer boom pointer indicates 1500 lbs capacity.
3. The jib pole tilt decal reads "1000 MAX".
4. The actual lifting capacity is the smaller of the two capacities determined in steps 2 and 3. Therefore, the actual capacity is 1000 lbs.

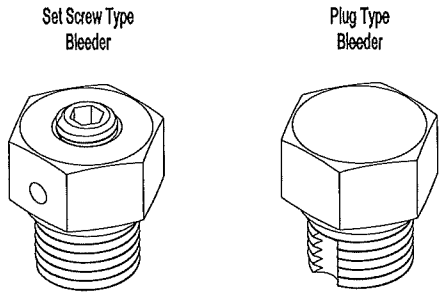
EMERGENCY OPERATION

Emergency operation may be required if an operator is injured or the hydraulic system malfunctions. The purpose of this chapter is to help qualified operators become proficient with the controls and features designed to accommodate emergency operation and to describe the procedures for responding to emergency situations. In any emergency the first priority is always the safety of the personnel involved. Before attempts are made to rescue personnel always make sure the unit has not become electrically energized. It is important to follow standard work practices and safety regulations.

⚠ DANGER: ***BEFORE ATTEMPTING TO RESCUE PERSONNEL ON THE UNIT ALWAYS MAKE SURE THAT THE TRUCK AND THE AERIAL LIFT HAVE NOT BECOME ELECTRICALLY ENERGIZED. CONTACT MADE BY RESCUERS FROM THE GROUND WITH AN ENERGIZED UNIT COULD CAUSE DEATH OR SERIOUS INJURY.***

CONTROL SELECTOR (Platform Override) - When a situation requires the upper controls be overridden (i.e. an injured operator in the platform) use the control selector to select the lower controls for operation of the lift. This will render the upper controls inoperable and the lower controls can be used to lower the operator to the ground.

BLEEDER PORTS - If the hydraulic system becomes inoperable with an operator aloft, bleeder ports on the cylinders can be used to lower the booms and return the operator to the ground. Refer to Parts & Assemblies Section in the Service Manual for hydraulic cylinder option to locate the bleeder ports. Qualified personnel at the site are responsible for selecting the path of boom descent. The unit may be equipped with two different types of bleeder ports. Refer to Figure 5.1 for identification and proper procedures for loosening the bleeder ports. Be prepared for a flow of hot oil escaping around the bleeder port and step away from the boom path of descent. The speed at which the lower boom drifts down depends on the rate of oil loss.



Bleeder Ports
Figure 5.1

Set Screw Type Bleeder - Turn the set screw slowly using an Allen wrench to release load. Do not turn the body. Oil is released from the hole on the side of hex body.

Plug Type Bleeder - Turn the entire plug slowly using a wrench to release load. Do not remove the plug. Oil is released from the notch in the threads. Torque to 10-15 ft-lbs. after use.

MANUAL ROTATION - If the hydraulic system becomes inoperable the lift rotation system can be operated manually. Before manual rotation is attempted, remove the plugs from the motor test ports on the dual counter-balance valve manifold located on the rotation motor (Figure 5.2). This allows oil to be piloted during rotation of the lift. Be prepared for a flow of oil escaping from the motor test ports. Rotate the lift by using a 7/8 in. hex socket, an extension, and a ratchet to rotate the gearbox input shaft accessible on the gearbox. Actuating the lower rotation control lever will reduce the effort required to rotate the lift.

If manual operation is used, test port plugs must be replaced on counter-balance valve manifold. See "Responsibilities after Emergency Operation" at the end of this chapter.

"START/STOP" position. It may require a second push to set the latching relay in the start position. To stop the engine push the switch to the "START/STOP" position once more.

INJURED OR INCAPACITATED OPERATOR - If the operator is unable to operate the aerial lift, determine if any damage has occurred to make the lift inoperable. If the aerial lift is operable, move the platform away from the danger and into the shortest clear path of descent to get the operator on the ground. If an equipment defect is suspected, do **not** allow anyone to enter the platform. If the situation allows safe operation from the lower controls, override the upper controls and carefully lower the platform to the ground. See the title, "Control Selector" near the beginning of this chapter for specific instructions on overriding the upper controls. If the aerial lift is not operable, use another aerial lift to rescue the operator from the platform or consider one of the other emergency procedures presented in this chapter.

HYDRAULIC LINE FAILURE - Hydraulic line failure during aerial lift operation presents numerous hazards. Be aware that a hydraulic oil mist caused by a leak or hydraulic line failure is conductive even though a non-conductive oil is used.

⚠DANGER: ***AVOID HIGH PRESSURE HYDRAULIC OIL SPRAY. THIS SPRAY OR MIST CAN PUNCTURE OR BECOME EMBEDDED BENEATH THE SKIN OR CONTAMINATE THE EYES. THESE CONDITIONS REQUIRE IMMEDIATE MEDICAL ATTENTION.***

A hydraulic line leak will create a slippery surface which is potentially hazardous. When a hydraulic leak is encountered it must be repaired by the proper service personnel and the unit should be cleaned of excess hydraulic oil. If a hydraulic leak is not repaired the oil in the reservoir will be depleted and pump damage may occur. Most hydraulic oils are flammable and bodily contact with hot oil is dangerous. The operator and the ground crew must be alert for these hazards to avoid injury.

⚠DANGER: ***AVOID ANY CONTACT BETWEEN HYDRAULIC OIL AND SOURCES OF HIGH HEAT OR OPEN FLAMES. DEATH OR SERIOUS INJURY MAY RESULT FROM A FIRE.***

⚠WARNING: ***CONTACT WITH HOT HYDRAULIC OIL MAY CAUSE SERIOUS BURNS WHICH REQUIRE IMMEDIATE MEDICAL ATTENTION.***

A quick response to **hydraulic line failure** is important if the operator is to be safely removed from the platform. A quick response can simplify the steps required to lower the platform and remove the operator. The following examples describe some emergency operating procedure for typical hydraulic line failures.

1. The Versalift aerial lift design uses holding valves to lock the booms in position in the event of a hydraulic line failure. If there is a continuous loss of hydraulic oil from the aerial lift, operate the hydraulic power source only while attempting to stow the aerial lift to conserve the hydraulic oil supply. If operation of the aerial lift is impossible, use the bleeder ports and manual rotation.

2. A hydraulic line failure located between the upper and lower controls may temporarily allow the continued operation of the aerial lift. The rate of the hydraulic oil loss can be reduced by overriding the upper controls and operating the aerial lift with the lower controls. If the oil supply is depleted, discontinue operation of the hydraulic power source to avoid damage to the hydraulic pump. If the aerial lift is inoperable, use the bleeder ports and manual rotation.

ENGINE FAILURE - If the prime power source fails, the optional backup pump system can be used for emergency operation. If this system is not installed, use the engine start/stop control to crank the engine as previously explained. The bleeder ports and manual rotation must be used if backup pump and the start/stop system are not installed.

HYDRAULIC PUMP FAILURE - If the primary hydraulic pump fails use the backup pump system, if so equipped. If this feature is not installed, the bleeder ports and manual rotation must be used.

CONTROL VALVE FAILURE - If aerial lift motion cannot be stopped use the emergency stop, upper control override, or engine start/stop control to halt the lift functions.

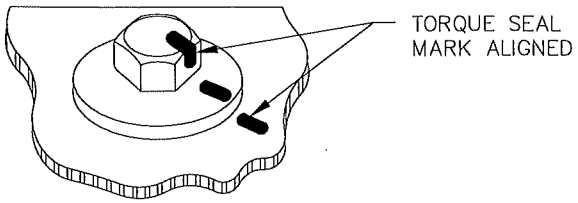
Upper Control - Push the knob labeled "PUSH FOR EMGY. STOP". When the emergency stop knob is

DAILY VISUAL INSPECTION

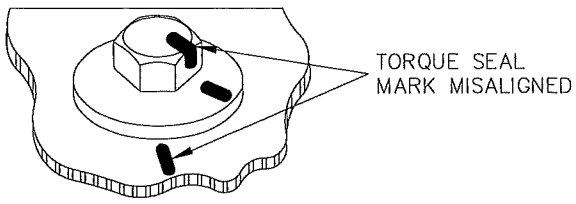
This aerial lift is designed to provide years of reliable service with minimum maintenance. A routine preventive maintenance program will assure extended aerial lift service. The operator is responsible for detecting maintenance problems during the daily visual inspection, reporting the need for adjustments or repairs, verifying that maintenance is performed at the suggested intervals, and determining if the aerial lift is in a good, safe operating condition. The importance of accurate maintenance records cannot be over emphasized. In order to judge the condition of the aerial lift, the operator needs to be familiar with the maintenance records of the aerial lift. Refer to the "Maintenance Checklist" in Service Procedures Section of the Service Manual for the suggested interval inspection information. The actual repair or adjustment must be done by a qualified aerial lift mechanic.

Every day the equipment must be thoroughly visually inspected to detect problems before they become serious. During this inspection the operator shall look for anything out of the ordinary. Particular attention must be paid to the following items. The Daily Visual Inspection Checklist included in this section must be followed.

BOLTS - Critical fasteners are identified on the "Critical Fasteners" drawing in this section. All major sections of the **Versalift** are bolted together and it is vital that these bolts remain tight. Visually inspect all the bolts for signs of relative movement. Pay particular attention to the load supporting bolts (rotation bearing bolts, pedestal/subframe mounting bolts, platform rotator bolts). Critical bolts are Torque-Seal marked to provide a quick means of detecting any turning. Do not use the lift if the Torque-Seal mark between the bolt head and mounting surface, are not in alignment. Refer to the Maintenance and Inspection Schedule in Service Procedures Section of the Service Manual for recommended torque procedures and torque chart specifications. Refer to Figure 6.1 and 6.2 for Torque-Seal mark conditions.



Torque-Seal Mark In Acceptable Condition
Figure 6.1



Torque-Seal Mark In Misalignment Condition
Figure 6.2

WELDS - Refer to the "Critical Welds" drawing in this section. All the welds should be inspected for signs of fatigue. Hairline cracks in a weld are a strong indication of weld fatigue. Some critical welds that warrant special attention are where the turret wings are welded to the base plate, the cylinder mounts are welded to the boom, the cylinder mounts are welded to the turret, the knuckle welds on the booms, and the welds on the platform mounting shaft.

HYDRAULIC LINES - Hydraulic lines should be inspected for loose connections and frayed jackets. Carefully examine the hoses especially that portion of the hose subject to flexing and particularly the hoses at the platform.

OIL LEAKS - Oil leaking onto the truck floor or on the ground is a sign of an impending problem. A hydraulic leak will create a slippery surface which is potentially hazardous. When a hydraulic leak is encountered it must be repaired by the proper service personnel and the unit must be cleaned of excess hydraulic oil. If a hydraulic leak is not repaired the oil in the reservoir will be depleted and pump damage may occur.

ELECTRICAL SYSTEM - Inspect electrical system for damaged components. Check for bare electrical wires and remove any trash or debris from around elctrical components. Repair all damaged wires and secure any loose electrical components or wires.

VEHICLE TIRES - Check tires for the correct inflation and for damage. Low pressure or damaged tires are unsafe while driving the vehicle or operating the lift.

LOOSE OBJECTS - Inspect the booms for loose objects (tools, spare parts, etc.) that might fall when the booms are elevated.

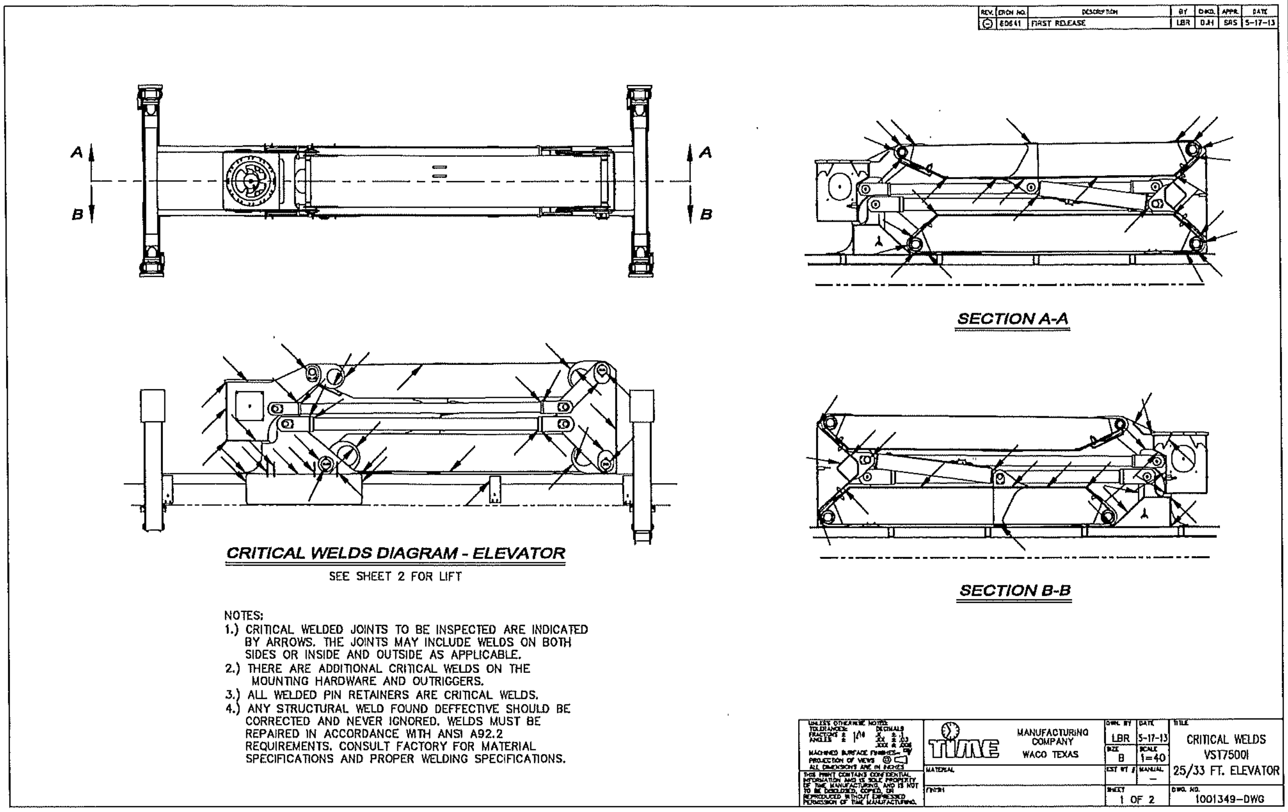
HYDRAULIC OIL LEVEL - The hydraulic fluid level can be easily checked by monitoring the oil level through the sight gauges. Add hydraulic oil if necessary. Refer to "Hydraulic Oil Recommendations" in Service Procedures Section of the Service Manual for oil recommendations. It is important to maintain the proper hydraulic oil level because a full reservoir

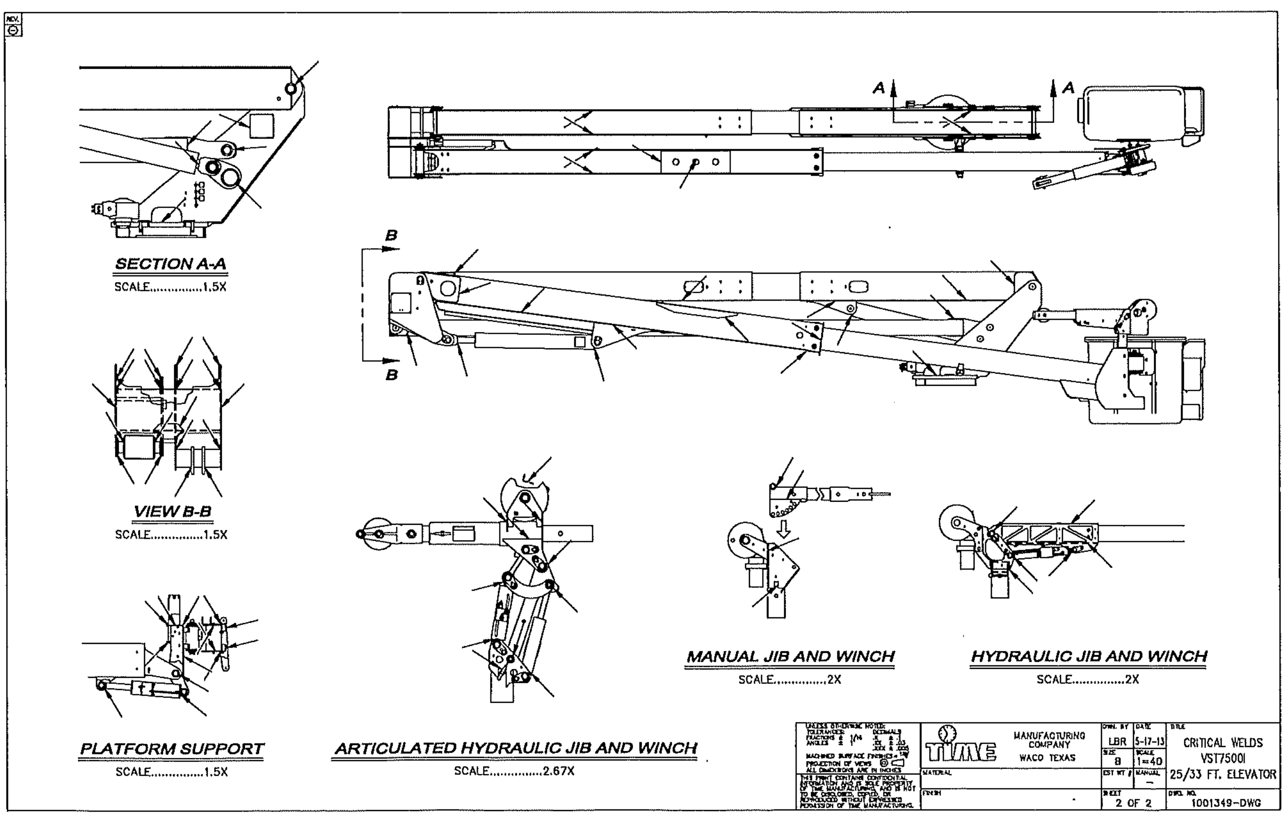
DAILY VISUAL MAINTENANCE AND INSPECTION CHECKLIST AND RECORD

VERSALIFT VST-7500-I-E SERIAL NO. _____ VEHICLE NO. _____

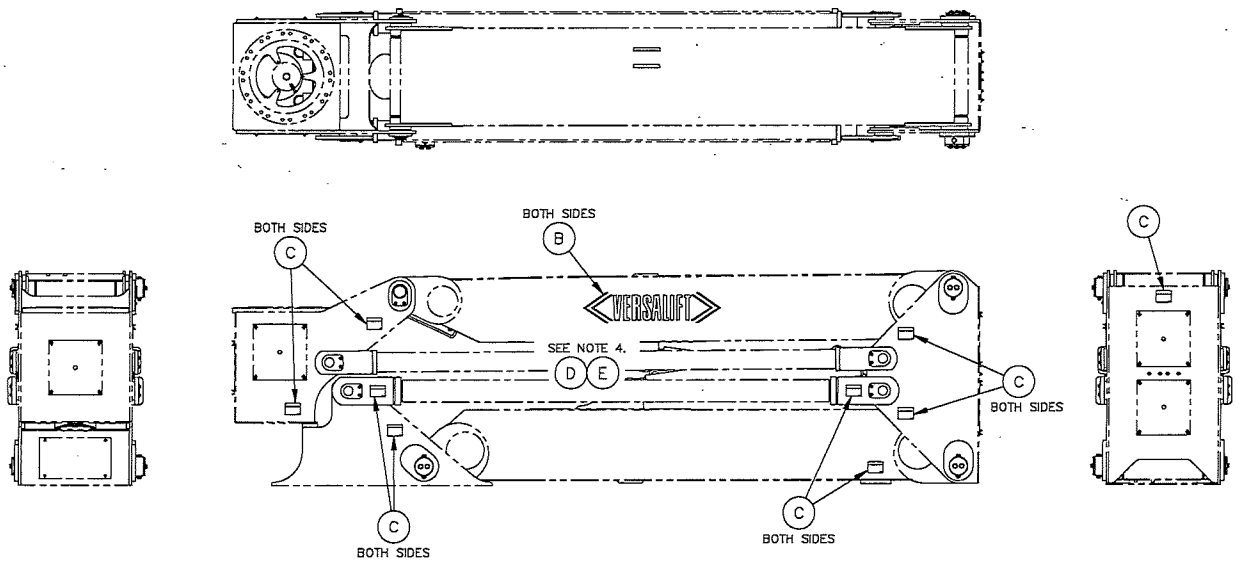
Fill in date and initial boxes when each check is made. Refer to Daily Visual Inspection in this Operator's Manual for complete description of checks. Additional copies of this form may be obtained from **Time Manufacturing Company**.

DAY	SUN	MON	TUE	WED	THU	FRI	SAT
DATE							
INSPECT BOOMS FOR TRASH & DEBRIS							
CRITICAL FASTENERS							
CRITICAL WELDS							
HYDRAULIC LINES - FRAYED JACKETS							
OIL LEAKS - LOOSE CONNECTIONS							
ELECTRICAL SYSTEM							
VEHICLE TIRES							
LOOSE OBJECTS							
HYDRAULIC OIL LEVEL							
CONTROLS							
EXTENSION SYSTEM							
LEVELING SYSTEM							
DECALS							
FIBERGLASS BOOMS							
FIBERGLASS PLATFORM							
ROPE							
WINCH							
SLOPE INDICATORS							
SAFETY DEVICES							
COVERS							
NOTES:							


A
B
A
B
SECTION A-A
CRITICAL WELDS DIAGRAM - ELEVATOR
SEE SHEET 2 FOR LIFT
SECTION B-B
NOTES:
1.) CRITICAL WELDED JOINTS TO BE INSPECTED ARE INDICATED BY ARROWS. THE JOINTS MAY INCLUDE WELDS ON BOTH SIDES OR INSIDE AND OUTSIDE AS APPLICABLE.
2.) THERE ARE ADDITIONAL CRITICAL WELDS ON THE MOUNTING HARDWARE AND OUTRIGGERS.
3.) ALL WELDED PIN RETAINERS ARE CRITICAL WELDS.
4.) ANY STRUCTURAL WELD FOUND DEFFECTIVE SHOULD BE CORRECTED AND NEVER IGNORED. WELDS MUST BE REPAIRED IN ACCORDANCE WITH ANSI A92.2 REQUIREMENTS. CONSULT FACTORY FOR MATERIAL SPECIFICATIONS AND PROPER WELDING SPECIFICATIONS.
80641 FIRST RELEASE LBR DJH SAS 5-17-13
TIME MANUFACTURING COMPANY WACO TEXAS
LBR 5-17-13
B 1=40
CRITICAL WELDS VST7500I 25/33 FT. ELEVATOR
1 OF 2
1001349-DWG


A
A
B
B
SECTION A-A
SCALE...............1.5X
VIEW B-B
SCALE...............1.5X
MANUAL JIB AND WINCH
SCALE..............2X
HYDRAULIC JIB AND WINCH
SCALE..............2X
PLATFORM SUPPORT
SCALE...............1.5X
ARTICULATED HYDRAULIC JIB AND WINCH
SCALE..............2.67X
TIME MANUFACTURING COMPANY WACO TEXAS
LBR 5-17-13
B 1=40
CRITICAL WELDS VST7500I 25/33 FT. ELEVATOR
2 OF 2
1001349-DWG

REV. B



DASH NO:	DESCRIPTION	CODE
–1	DECAL PLACEMENT FOR LIFT ELEVATOR	DE–1341–4

NOTE:
1.) ITEMS "D", "E" AND "F" ARE TO BE LOCATED NEAR EACH UPPER AND LOWER ARM CYLINDER HOLDING VALVE.

–1

	QTY.	ITEM	PART NO.	DESCRIPTION
SEE NOTE 1.	2	F	1008175–1	DECAL, HAND/ARM CRUSH WARNING
SEE NOTE 1.	2	E	1008174–1	DECAL – EMGCY LWRING BLEEDER
SEE NOTE 1.	2	D	7500–1	DECAL – HOLDING VALVE
	17	C	34005–1	DECAL – PINCH POINT
	2	B	4541–2	DECAL – VERSALIFT LARGE
	1	A	1000783–DWG	DECAL PLACEMENT – ELEVATOR

LIST OF MATERIAL

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

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TIME MANUFACTURING COMPANY WACO TEXAS

MATERIAL

FINISH

DWN. BY	DATE
LBR	10-24-12
SIZE: B	SCALE: 1=30
EST WT #	MANUAL: –
SHEET: 1 OF 1	DWG. NO.: 1000783–DWG

TITLE: DECAL PLACEMENT FOR LIFT ELEVATOR