



Operator's Manual

SST-36-N/NE-01

Aerial Device

SERIAL NUMBER

39045-01

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.



THIS MANUAL CONTAINS CONFIDENTIAL INFORMATION AND IS THE SOLE PROPERTY OF TIME MANUFACTURING CO. CONTENTS ARE NOT TO BE DISCLOSED, COPIED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESSED, WRITTEN PERMISSION OF TIME MANUFACTURING CO.



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

Time Manufacturing Co. reserves the right to improve the design or change specifications at any time without notice.



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.



TABLE OF CONTENTS

Introduction	Section 1
Manual Structure	1-1
Additional Manual Features	1-1
Nomenclature	1-2
Responsibilities/Safety	Section 2
Responsibilities of Dealers, Owners, Users, Operator, Lessors and Lessees	2-1
Decals	2-2
Think Safety	2-5
Additional Safety Considerations	2-8
Specifications	Section 3
General Specifications	3-1
Option Specifications	3-2
Dimensional Specifications	3-4
Vehicle Specifications	3-10
Operation	Section 4
Positioning the Versalift for Operation	4-1
Aerial Lift Operations	4-2
Cab Control Operation	4-3
Ground Control Operation	4-4
Lower Control Operation	4-5
Upper Control Operation	4-5
Storing the Aerial Lift	4-9
Emergency Operation	Section 5
Daily Visual Inspection	Section 6

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.

THIS MANUAL 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.

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

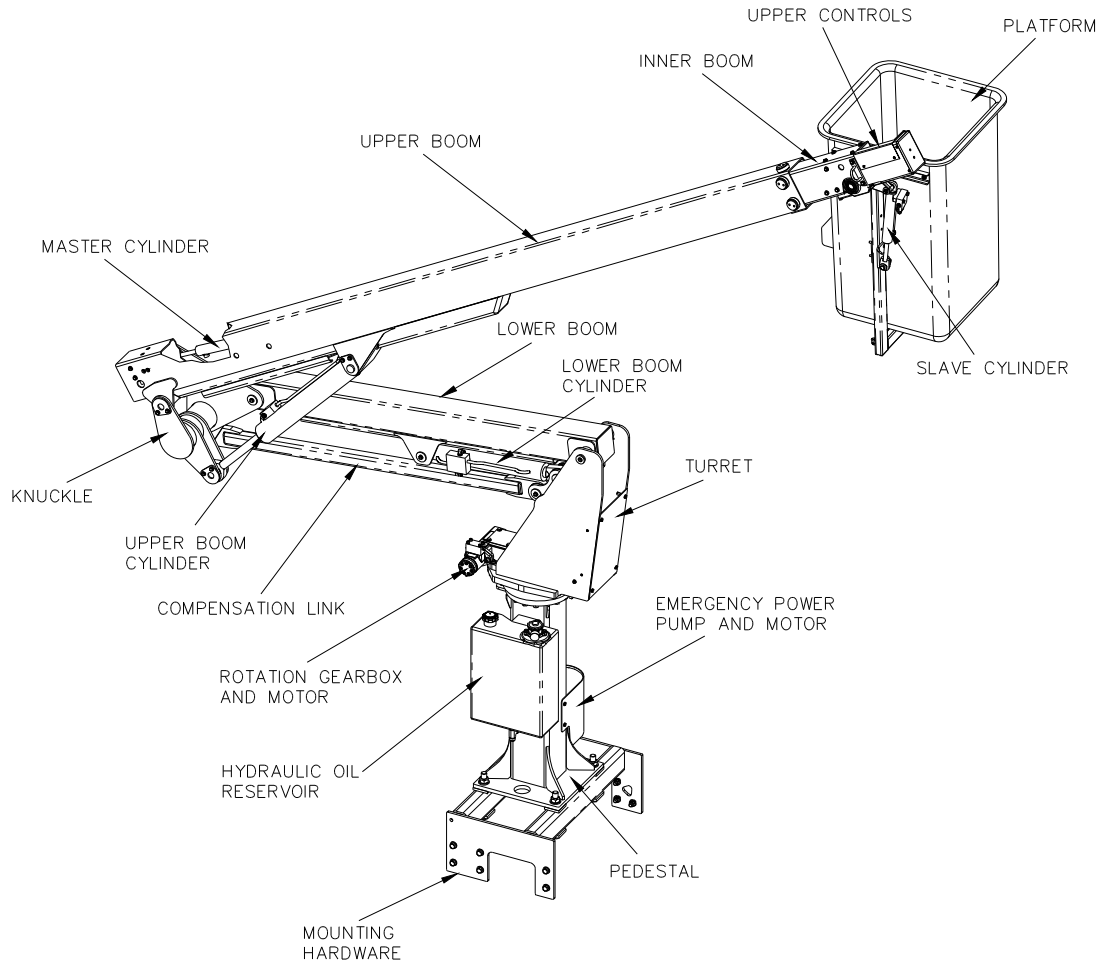
Danger, caution, and warning notes are indented, bold faced, and separated from the regular text to emphasize their importance and the need for attention.

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.

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59152		FIRST RELEASE	LBR	DJH	SRS	3-25-11



INTRODUCTION


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	 MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
		LBR	3-25-11	SST36N-01 MAJOR COMPONENTS
MATERIAL		SIZE	SCALE	
FINISH		EST WT #	MANUAL	
		SHEET	DWG. NO.	
		1 OF 1	20881-DWG	

Figure 1.1 Model SST-36-N-01 Nomenclature

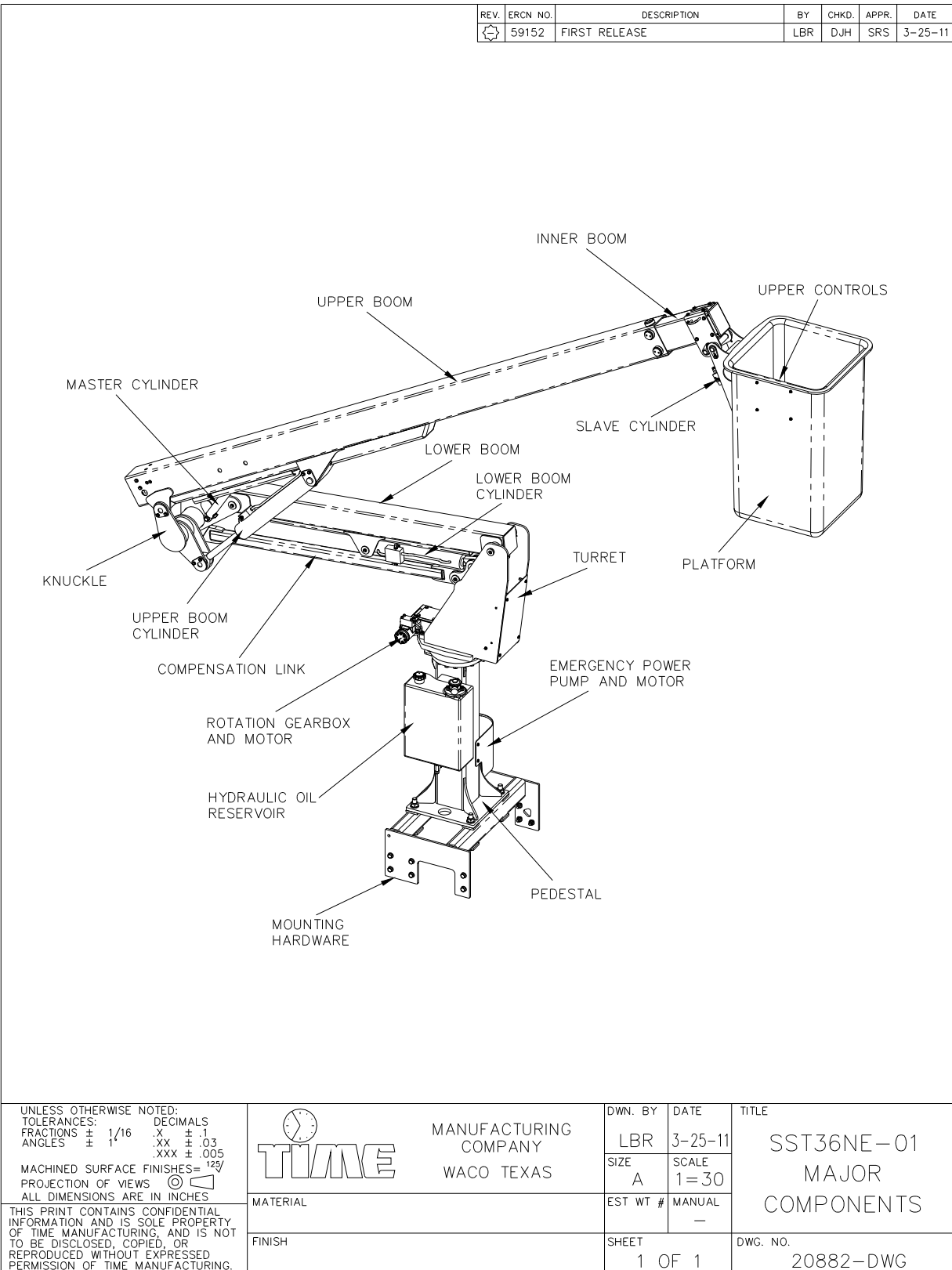



Figure 1.2 Model SST-36-NE-01 Nomenclature

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.**

SAFETY

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.

Throughout this manual there are **danger, warning, and caution** notes that emphasize the possible hazards when operating the **Versalift**. It is the responsibility of the operator to become familiar with the contents of this manual.

Two of the main risks associated with operating an aerial lift:

- (1) Electrocutation caused by operating too close to power lines.
- (2) Injuries caused by falling as a result of equipment failure or the operator performing an unsafe or unstable maneuver.

No manual can address every conceivable operating hazard. Therefore, the prevention of accidents is greatly dependent upon good judgement and common sense of the operator.

It is the responsibility of the operator to use the **Versalift** only when it has been installed and maintained in accordance with the manufacturer's manuals. The preventive maintenance program outlined in this manual and the Service manual must be followed.

It is extremely important for the operator to be thoroughly familiar with the **Versalift** aerial device. Study the information in this manual and the **Versalift** controls until both are completely mastered. Then go to a large, open area to practice using the aerial lift.

Decals are installed at numerous locations on the aerial lift to warn personnel of the potential hazards during the use and operation of the aerial lift. It is important that the operator and ground personnel read and understand the information on the decals. If any decals are defaced, illegible or lost, they must be replaced. Refer to the "Decal Placement" illustration

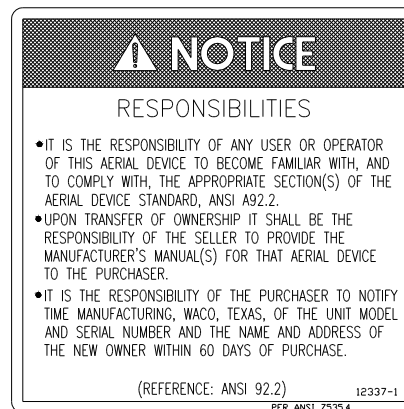
in this manual for a complete listing and the locations of the decals. For your convenience these decals are pictured on the following pages as a quick reference for reviewing safety concerns and for providing part numbers when ordering replacements.

DECALS

All the warning and instruction decals, and their respective part numbers, on the **Versalift** aerial device are included below and on the following pages. The decals are not shown at actual size.

VERSALIFT AERIAL DEVICE			
	Model <input type="text"/>	Serial number <input type="text"/>	Date mfg'd <input type="text"/>
TIME MANUFACTURING COMPANY PO BOX 20388 WACO, TEXAS 76702 www.versalift.com	Number of platforms <input type="text"/>	Electrical system voltage <input type="text"/>	Vdc
	Capacity per platform (See manual and decals for specific capacity) <input type="text"/>	Lbs <input type="text"/>	Kg <input type="text"/>
	Platform height <input type="text"/>	ft <input type="text"/>	m <input type="text"/>
The boom is insulated <input type="checkbox"/> Yes <input type="checkbox"/> No	Hydraulic system operating pressure <input type="text"/>	psi <input type="text"/>	kg/cm ² <input type="text"/>
Chassis insulating system <input type="checkbox"/> Yes <input type="checkbox"/> No		Dielectric category <input type="text"/>	
Equipped with high electrical resistance upper controls <input type="checkbox"/> Yes <input type="checkbox"/> No		Rated line voltage <input type="text"/>	
Configured for electrical work rubber gloving <input type="checkbox"/> Yes <input type="checkbox"/> No		Date of Qualification test <input type="text"/>	
Unit equipped for material handling <input type="checkbox"/> Yes <input type="checkbox"/> No		Date of Stability test <input type="text"/>	
Outriggers are required for stability <input type="checkbox"/> Yes <input type="checkbox"/> No	Installed by <input type="text"/>		
OPERATING INSTRUCTIONS Before operating this unit, read and understand all operating and safety information in manual and all information on this placard.			
<ol style="list-style-type: none"> 1. Always park vehicle as nearly level as possible. 2. When working on a slope, drive into or back into position. 3. Do not operate this unit on a slope without proper vehicle stability. Refer to the Operator's manual or fixed decals for stability requirements. 4. Inspect this device for visible defects or loose objects. 5. Inspect insulating boom and other insulating material for cleanliness, if applicable. 6. Set vehicle parking brakes and chock wheels. 7. Engage hydraulic power source. 8. Extend outriggers, if so equipped, to a solid footing. 9. Raise booms sufficiently to clear obstructions on truck before rotating. 10. Operate all hydraulic controls smoothly and avoid quick reversal. 11. Inspect and service unit per instructions in Service and Installation Manual. 			
Ambient operating temperature range -40°F to 120°F (-40°C to 49°C)		This unit complies with ANSI A92.2 and CSA C225	

1006486-1 & 1006487-1 (DATA BACKING)




12337-1

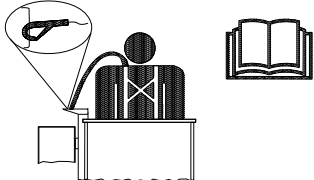


7584-1

WARNING



Fall Hazard
Falling can result in death or serious injury.

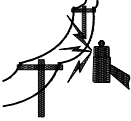


Wear approved personnel fall protection equipment and attach lanyard to the anchor provided.
Read and understand operator's manual.

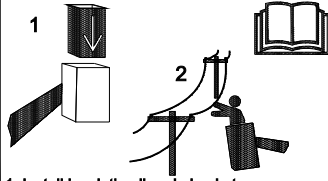
14014-1 PER ANSI Z358.4

14014-1

DANGER



Electrocution Hazard
THIS PLATFORM IS NOT INSULATED. Contact with or inadequate clearance to electrical power lines will result in death or serious injury.

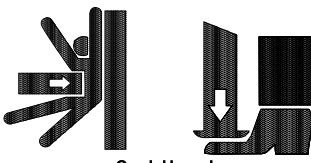


1. Install insulating liner in basket.
2. Perform work in accordance with applicable governmental regulations.

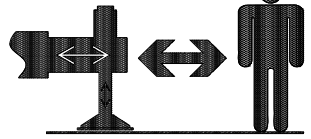
14110-1 PER ANSI Z358.4

14110-1

WARNING



Crush Hazard
Contact with moving outriggers can result in death or serious injury.




Do not operate outrigger controls unless all personnel are clear of outrigger path and contact point.

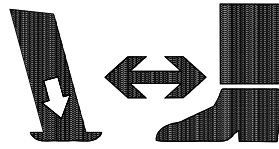
12341-1 PER ANSI Z358.4

12341-1

WARNING



Crush Hazard
Contact with moving outriggers can result in death or serious injury.



Stay clear of moving outriggers.

4992-1 PER ANSI Z358.4

4992-1

DANGER

FAILURE TO OBEY THE FOLLOWING WILL RESULT IN DEATH OR SERIOUS INJURY

- FOR STATIONARY OPERATION, TRUCK MUST BE SECURELY PARKED, DRIVELINE DISENGAGED, AND AERIAL DEVICE PROPERLY STABILIZED PRIOR TO OPERATION.
- TO AVOID TIP-OVER, OUTRIGGERS (WHEN SO EQUIPPED) MUST BE PROPERLY EXTENDED TO A SOLID LEVEL SURFACE.
- OPERATE ALL CONTROLS SLOWLY FOR A SMOOTH PLATFORM MOTION. MAKE SURE CONTROLS ARE RETURNED TO NEUTRAL AFTER DESIRED OPERATION.
- CREW MUST USE PROPER PERSONAL AND OTHER PROTECTIVE EQUIPMENT.
- NEVER LOAD BEYOND RATED CAPACITY.
- NEVER OPERATE AERIAL DEVICE WITH PERSONNEL UNDER BOOM OR LOAD.
- NEVER MOVE THE TRUCK UNTIL THE BOOMS AND OUTRIGGERS ARE PROPERLY STOWED AND SECURED.
- REFER TO THE OPERATOR'S MANUAL FOR COMPLETE INSTRUCTIONS. IF IT IS MISSING, OBTAIN A NEW ONE FROM TIME MANUFACTURING, P.O. BOX 20368, WACO, TX., 76702

PER ANSI Z535.4-1991 4542-5

4542-5

DANGER

THE TOTAL LOAD IN THIS PLATFORM MUST NOT EXCEED _____ INCLUDING OPERATOR, TOOLS, LINER, AND MATERIALS. EXCESS LOAD MAY CAUSE A FALL RESULTING IN DEATH OR SERIOUS INJURY.

14015- PER ANSI Z535.4-1991

14015-X

DANGER

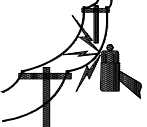
IMPROPER HOLDING VALVE ADJUSTMENT WILL RESULT IN DEATH OR SERIOUS INJURY

1. LOOSENING HOLDING VALVE WITH BOOMS ELEVATED WILL CAUSE UNCONTROLLED BOOM MOVEMENT, DEATH OR SERIOUS INJURY MAY OCCUR.
2. REFER TO SERVICE MANUAL BEFORE PERFORMING HOLDING VALVE MAINTENANCE.

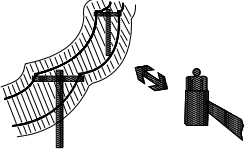
7500-1 PER ANSI Z535.4-1991

7500-1

DANGER



Electrocution Hazard
THIS MACHINE IS NOT INSULATED. Contact with or inadequate clearance to electrical power lines will result in death or serious injury.




Maintain safe clearance from electrical power lines in accordance with applicable government regulations. Allow for boom, platform, electrical line and load line sway.


4542-6 PER ANSI Z358.4

4542-6

WARNING



Improper operation or maintenance of this equipment can result in death or serious injury.

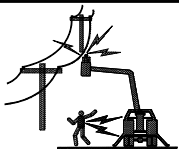
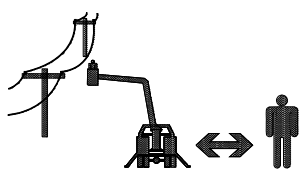


Read and understand operator's manual, all safety signs, and capacity charts before using or maintaining machine. If you do not understand the information in the manuals, consult your supervisor, the owner or the manufacturer. It is the user's responsibility to follow manufacturer's instructions on machine operation, service and application, and observe pertinent laws and regulations.

4542-12 PER ANSI Z358.4


4542-12

⚠ DANGER

 <p>Electrocution Hazard This equipment may be energized during operation. Contact with energized vehicle will result in death or serious injury.</p>	 <p>STAY CLEAR of machine.</p>
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↙ 4542-2

⚠ DANGER

	<p>Crushing Hazard</p> <p>Boom latch may move at any time.</p> <p>Moving boom latch can cause serious injury.</p> <p>Keep hands and fingers clear of boom latch.</p>
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↙ 20719-1

⚠ CAUTION

- ALWAYS LOWER THE LOWER BOOM FULLY BEFORE STOWING THE UPPER BOOM.

↙ 13144-1

⚠ DANGER

FAILURE TO OBEY THE FOLLOWING WILL RESULT IN DEATH OR SERIOUS INJURY

AERIAL DEVICE MUST BE LEVELED WITHIN 2° OF HORIZONTAL PRIOR TO AERIAL OPERATION. OUTRIGGERS MUST BE DEPLOYED FOR STABILITY.

↙ 33656-3

⚠ DANGER

FAILURE TO OBEY THE FOLLOWING WILL RESULT IN DEATH OR SERIOUS INJURY

DO NOT OPERATE THE AERIAL DEVICE ON A SLOPE GREATER THAN 5°

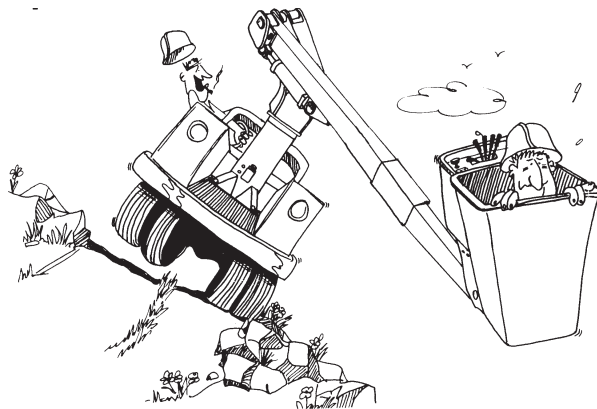
↙ 33656-1

RESPONSIBILITIES/SAFETY

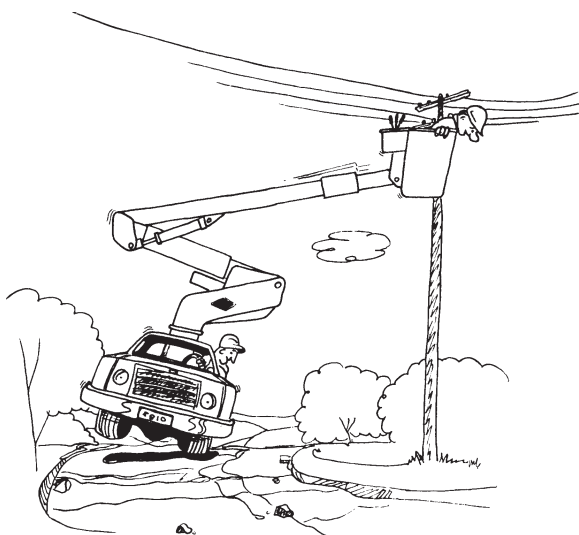
A safe attitude is very important to you, the operator. Practice anticipating accidents and operating hazards. Then determine a corrective course of action to respond to the situation. This habit will sharpen your safety awareness, quicken your reaction time, and prevent many accidents.

THINK SAFETY

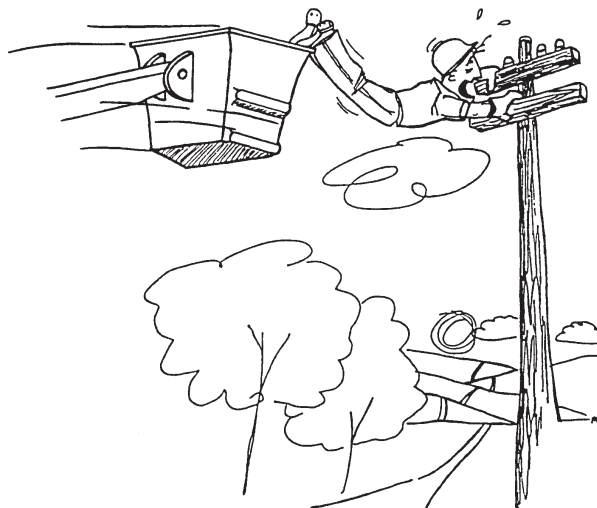
The following sketches illustrate some of the unsafe situations that might occur during the use or operation of the **Versalift**. Some of these safety problems are very basic and as a result are often taken for granted.



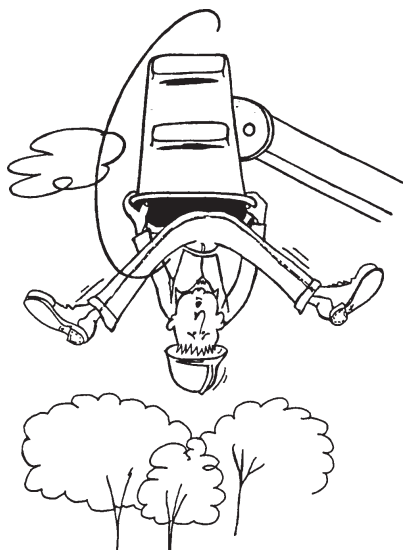
Don't park the truck on a hill unless absolutely necessary. When the truck is parked on a slope, take the special precautions defined in Chapter 4, "Operation".



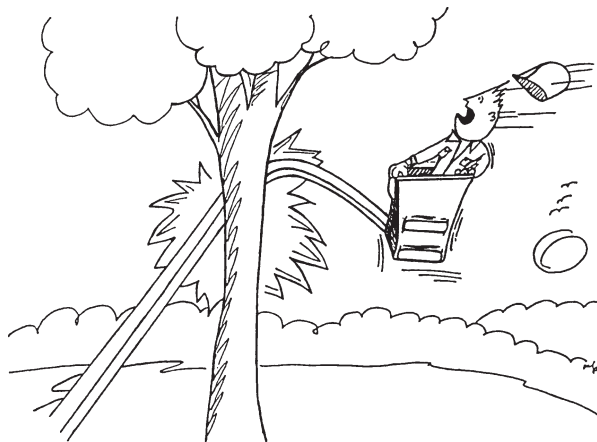
Always engage the outriggers, and maintain the correct tire pressure to increase vehicle stability.



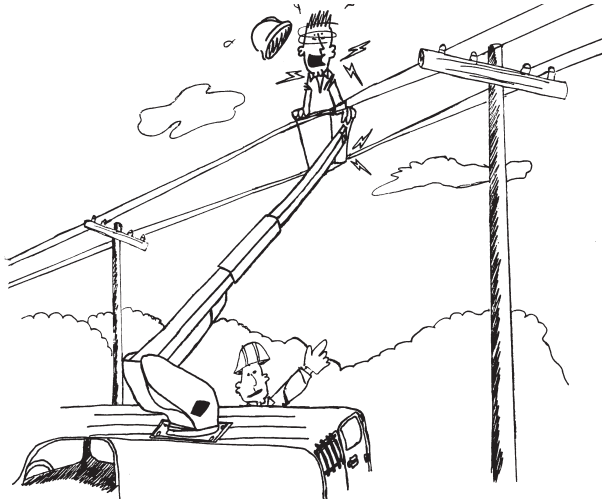
Remember to set the parking brake and chock the truck's wheels.



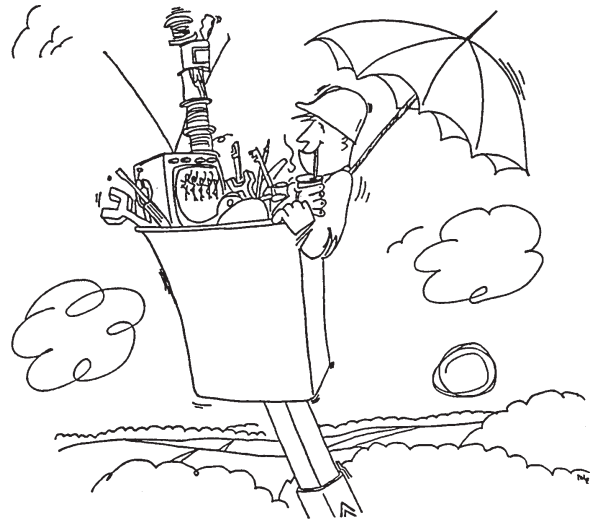
Always wear a personnel restraint system attached to the lanyard anchor.



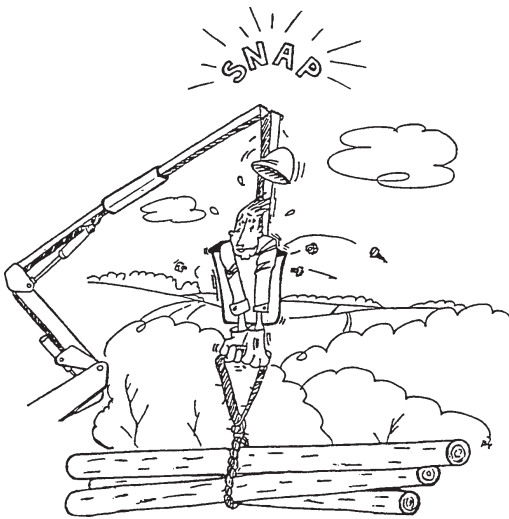
Watch the booms to make sure they clear the truck and other obstructions.



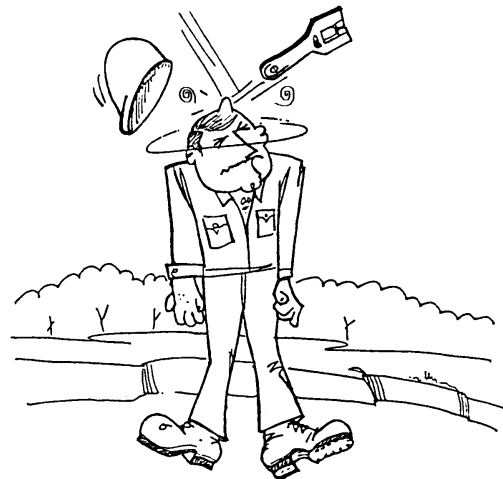
Never allow anyone on the ground to touch the unit when the lift is being used to work on or near electrical lines.



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



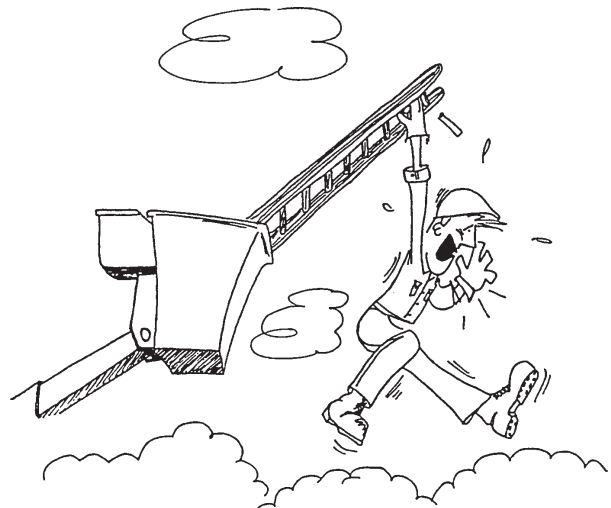
Never use the VERSALIFT as a crane



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.



Don't climb out of a raised platform onto poles, etc.

ADDITIONAL SAFETY CONSIDERATIONS

1. Report any unusual occurrence during the operation of the aerial lift that may require repair or adjustment.
2. Keep the work space in the truck bed clean and neat.
3. Avoid parking on soft surfaces. Soft surfaces may suddenly collapse, shift, or sink beneath the truck's weight.
4. There is no insulating value in the fiberglass platform with or without a platform liner.
5. No attempt should be made to clean, oil, or adjust a machine while the machine is in motion.
6. If an aerial lift has set idle for an extended period (i.e. overnight) or has been recently serviced, cycle the aerial-lift through its full range of motion several times. This procedure will force any trapped air out of the hydraulic system. Do not operate the lift from the platform until this process is completed. Air trapped in the hydraulic oil can cause lift movements to be erratic and unpredictable.
7. Don't operate any part of the unit (platform, booms, outriggers, etc.) outside the work-site barricades into the traffic lanes. Set up adequate cones or barricades to mark the boundaries of the work-site to alert motorists and pedestrians.
8. Only qualified mechanics are authorized to service the aerial lift.
9. Avoid contacting a spray mist produced by a high pressure hydraulic leak. This spray or mist can puncture or become embedded beneath the skin or contaminate the eyes. These conditions require immediate medical attention.
10. Hydraulic oil is flammable. Avoid any contact between hydraulic oil and sources of high heat or open flames.
11. Bodily contact with hot hydraulic oil can cause serious burns which require immediate medical attention.

SPECIFICATIONS

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.

PLATFORM - The fiberglass platform is 24 in. x 24 in. x 42 in. (0.61 m x 0.61 m x 1.07 m) deep with an inside and outside step for easy access. The platform capacity is 350 lbs. (160 kg). Leveling is gravity actuated with a hydraulic dampener, travel limit stops, and a spring loaded pin lock. Hydraulic leveling is standard on the SST-36-NE (end mounted platform) and optional on the SST-36-N (side mounted platform). Walk-in platforms, splicing platforms, and rotating splicing platforms are also available.

UPPER CONTROL - The upper control station consists of a series of spring loaded toggle switches and a master control switch.

REMOTE LOWER CONTROL BOX - The lower control stations consist of a series of spring loaded toggle switches and a control selector switch. The controls are mounted in a weather-resistant box designed to be mounted in or on the service body.

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 6 in. x 8 in. (150 mm x 200 mm) steel section. The 5 in. x 7 in. (130 mm x 180 mm) rectangular aluminum inner boom is housed within the outer boom. The extension system consists of a hydraulic cylinder, two holding valves, and a hose carrier housed entirely within the boom assembly. The outer/inner boom assembly articulates from 14° below horizontal to 74° above horizontal. Actuated by a double acting cylinder with a holding valve, 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.

COMPENSATED LOWER BOOM - The lower boom consists of a 6 in. (150 mm) square steel section. A double acting cylinder with dual holding valves allows the lower boom to articulate from 6° below horizontal to vertical for a total travel of 96°. A compensation link forms a parallelogram linkage to maintain the outer/inner boom assembly at a constant angle to the turret.

PINS - Pins are high-strength alloy steel which are chrome plated for a hard finish and corrosion

resistance. Pins are bolted in place with a welded pin tab at one end and a pin cap at the other for redundant retention.

CYLINDERS - Both the outer and lower boom cylinders are a threaded end-cap design. The lower boom are equipped with two holding valves to prevent down creep and to lock the booms in position in the event of hose failure. The outer boom and extension cylinders are equipped with one holding valve.

TURRET - The turret wings are 1/2 in. (13 mm) thick steel plate. A steel tube is welded between the turret wings to increase rigidity. The 1-1/4 in. (32 mm) thick base plate is machined flat to support the rotation bearing. A full-coverage continuously-welded bearing cover is provided to prevent foreign material from interfering with lift rotation.

ROTATION - Rotation is 370°, non-continuous with a mechanical stop. Rotation is accomplished by a hydraulically driven worm and spur gear set acting on a shear-ball rotation bearing. The critical bolts holding the turret to the rotation bearing and the bearing to the pedestal are grade 8 hex head cap screws. These critical bolts are marked with a torque seal indicator to provide a quick means to inspect for relative movement. A slotted adjustment is provided for pinion and rotation gear clearances. An external hex drive is provided for manual rotation in case of hydraulic failure.

PEDESTAL - The pedestal is fabricated from 8 in. (200 mm) square tubing with accommodations for mounting the standard external reservoir. The top plate is 1-1/4 in. (32 mm) thick and machined flat to support the rotation bearing.

LUBRICATION - Non-lube bearings are used at boom pivot points. Only the rotation bearing and gear teeth require periodic lubrication.

PAINTING - The complete unit is primed and painted prior to assembly. The standard color is white enamel.

HYDRAULIC OIL RESERVOIR - Attached to the side of the pedestal, the hydraulic reservoir is a rotationally molded one piece unit. The reservoir includes a tank top mounted 10 micron return filter with bypass and a separate filler-breather. The reservoir is molded from a semi-transparent material and has fluid level marks molded into the side for easy inspection of the oil level. The oil capacity of the reservoir is 6 gallons (23 l).

HYDRAULIC SYSTEM - The open-center hydraulic system operates at 1.5-2 gpm (6-8 lpm) at 2250 psi

(155 bars). Hydraulic oil is not included. This system can be driven by the chassis-engine accessory belt or by the chassis transmission power-take-off.

HOSES AND FITTINGS - The hoses routed through the booms are high pressure with swaged hose end fittings. Nylon sleeves are installed over hoses at possible wear points. Reusable fittings can be installed if a hose is damaged.

ENGINE START/STOP AND MASTER CONTROL - The start/stop circuit has been designed so that the lift cannot be operated unless the truck ignition key is in the "run" position and the master switch is "on". This feature makes it difficult for unauthorized individuals to operate the lift when the truck is locked. An toggle switch at the platform and pedestal are provided to actuate the engine start/stop control.

OUTRIGGER BOOM INTERLOCK SYSTEM – (On units with outriggers) The outrigger/boom interlock system is a feature designed to prevent the lift from being operated until the outriggers contact the ground. The interlock also prevents the outriggers from being retracted before the lower boom 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 the 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

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

HYDRAULIC PLATFORM LEVELING – Platform leveling is controlled by a master and slave cylinder arrangement. The platform leveling system can be activated from the upper and lower controls to adjust platform leveling, tilt the platform for cleaning, or to ease the removal of an injured operator. While optional on the SST-36-N, this feature is standard on the SST-36-NE.

PNEUMATIC CIRCUIT(S) TO THE PLATFORM – This system consists of one or two air lines from the pedestal to ports at the end of the inner boom.

INDEPENDENT H-FRAME OUTRIGGERS- 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 90 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.

TORSION BAR - Over frame and under frame torsion bars are available and add to the stability of the vehicle. All Stable Ride torsion bars include rubber bushings at all points of movement and do not require lubrication. Ballast may be required with the use of torsion bars.

TALLER PEDESTALS - Pedestals 6 in. (152 mm) taller or 12 in. (304 mm) taller are available.

BACKUP PUMP - An auxiliary hydraulic pump designed to bring the booms down in case the main hydraulic source fails. This system consists of a hydraulic pump driven by a 12V 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. A toggle switch at the platform and pedestal energize this system. When used with continuous rotation, an additional pass in the collector assembly is usually required.

EMERGENCY LOWERING - This system consists of a needle valve attached to the outside of the platform. When opened slowly, the boom will lower to ground safely.

30 GALLON, AUXILIARY HYDRAULIC RESERVOIR - The reservoir is designed to be bed mounted and includes a 100-mesh suction screen and 10-micron return line filter.

PLATFORM VARIATIONS - The standard platform size is 24 in. x 24 in. x 42 in. (.61 m x .61 m x 1.07 m) and the maximum available is 24 in. x 30 in. x 42 in. (.61 m x .76 m x 1.07 m). Numerous closed, duck-under, walk-in, splicing, and steel platforms are available. Contact the factory for more information.

CAPACITY VARIATIONS - The standard platform capacity is 350 lbs. (160 kg). A maximum of 400 lbs (181 kg) can be specified on the NE-01 model only. Increased curb weight may be required for stability with the 400 lbs (181 kg) capacity.

PLATFORM LINERS AND VINYL COVERS - The soft vinyl covers are available for all fiberglass platform variations listed above.

MANUAL PLATFORM ROTARY POSITIONER – This feature is designed to allow the platform to be positioned manually while the platform is level and not loaded. A spring-loaded pin locks the platform in one of nine positions over a 180° range. This rotary positioner is only available on the SST-NE (end mounted platform).

HAND HELD REMOTE LOWER CONTROL - This option allows hand held remote operation of the aerial device. The remote lower controls override the upper controls and are housed in a weather-resistant hand held box.

UPPER CONTROL COVER – A hinged cover protects the upper controls from exposure to the weather (SST-36-N only).

TWO-SPEED BOOM CONTROLS – Provides either normal boom speeds or slow boom speeds. A toggle switch at the platform selects between normal speed and slow speed. This option reduces the flow to the lift by means of a flow control valve and does not affect the engine or pump speed.

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 upper platform support.

120 VOLT OUTLET AT PLATFORM – Includes 120V wiring, ground fault circuit interrupter, and dual receptacle. Power source is not included.

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.

SST-36N-01 DIMENSIONAL SPECIFICATIONS

Note: All dimensions and angles are nominal, based on 40 in (1.02 m) frame height.

Horizontal Reach	24 ft. 8 in. (7.5 m)
Standard Platform Capacity	350 lbs. (160 kg)
Outer Boom Lift Eye Capacity	500 lbs. (227 kg)
Height to Bottom of Platform	35 ft. 6 in. (10.8 m)
Working Height	40 ft. 6 in. (12.3 m)
Stowed Travel Height	10 ft. 5 in. (3.2 m)
Weight of Lift without oil and mounting hardware	1800 lbs. (840 kg)

Hydraulic System

Operating Pressure	2250 PSI (155 bars)
Flow Rate	1.5 to 2 GPM (6 to 8 lpm)
Filtration	10 micron return
System Type	Open center

Boom Action

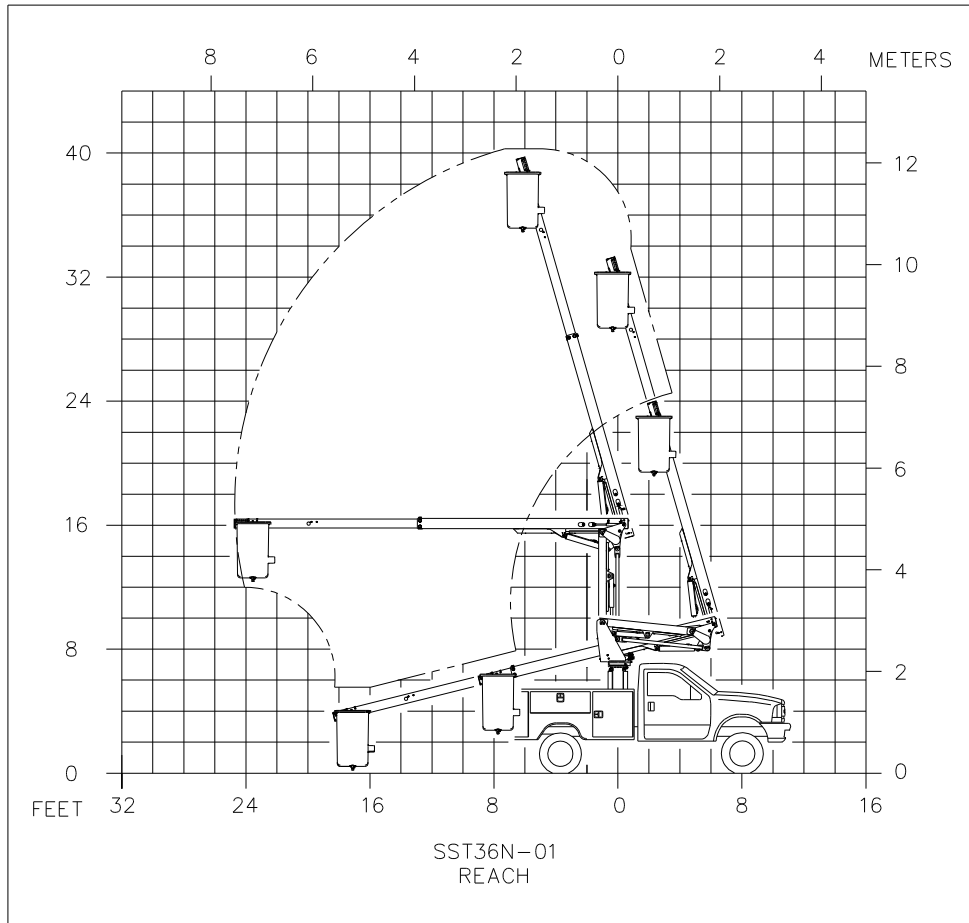
Inner-Boom	116 in. (2.9 m) Extension
Outer-Boom	88° total (-14° to +74°)
Lower-Boom	96° total (-6° to vertical)

Ambient Temperature Range for Structural Integrity -40°F (-40°C) to 125°F (52°C)

Notes:

1. The total load in the platform(s) including operator, liner, tools, etc must not exceed the maximum

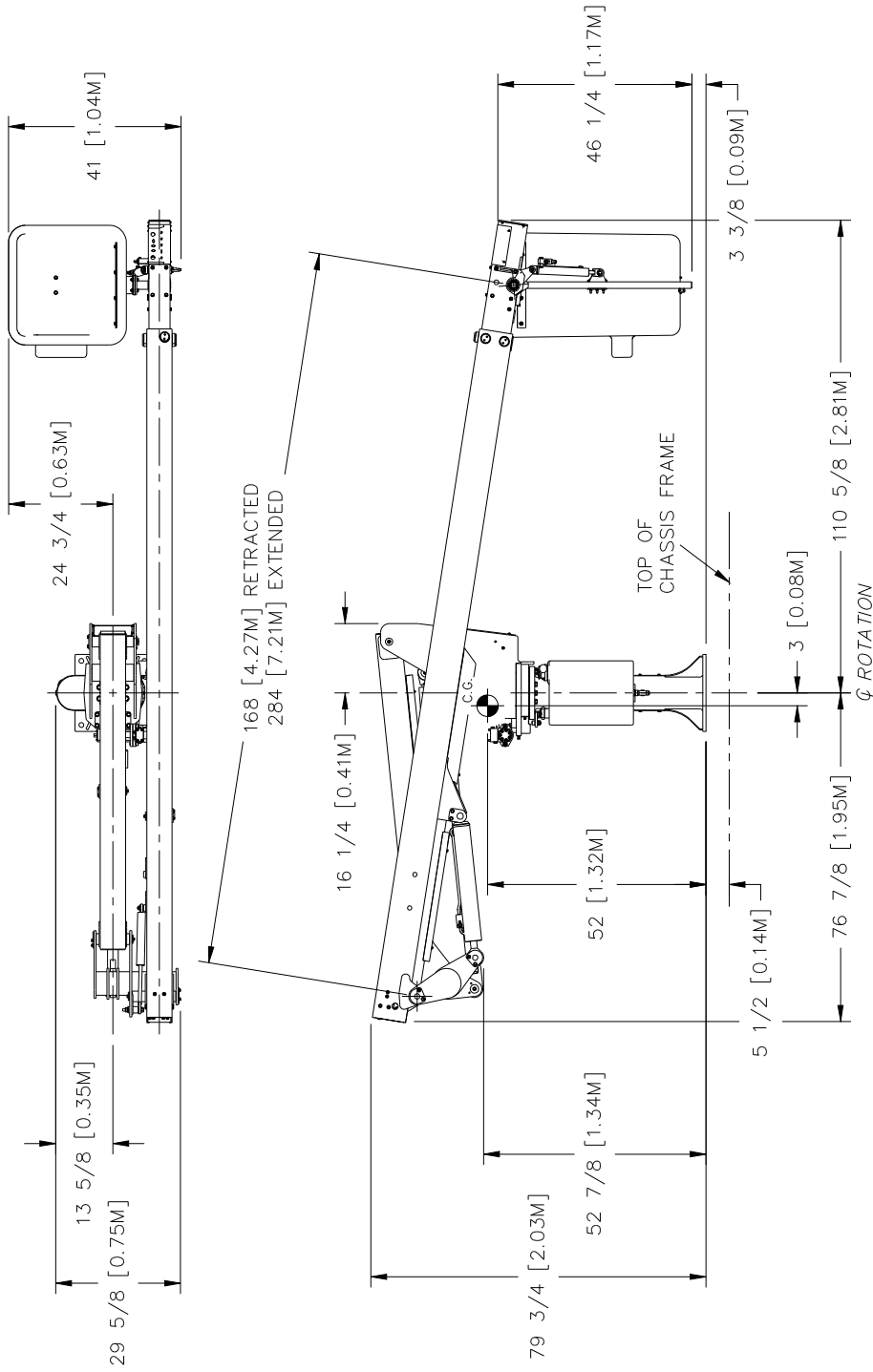
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UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS FRACTIONS ± 1/16 X ± .1 ANGLES ± 1° .XX ± .03 .XXX ± .005 MACHINED SURFACE FINISHES = 125/ PROJECTION OF VIEWS ALL DIMENSIONS ARE IN INCHES		MANUFACTURING COMPANY WACO TEXAS		DWN. BY	DATE	TITLE
		MATERIAL		LBR	3-25-11	SST36N-01 REACH DIAGRAM
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	EST WT # MANUAL -		SIZE	SCALE	
		SHEET 1 OF 1		A	1=125	DWG. NO. 20877-DWG

SPECIFICATIONS

REV	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
59152		FIRST RELEASE	LBR	DJH	SRS	3-25-11



- NOTES:
- 1.) ALL DIMENSIONS ARE IN INCHES WITH METRIC EQUIVALENTS IN METERS.
 - 2.) WEIGHT OF LIFT = 1800 LBS (816 kg) W/O OIL AND MOUNTING HARDWARE.
 - 3.) ADD 44 LBS (20 kg) FOR 6 GALLONS (23 L) OF HYDRAULIC OIL.
 - 4.) ADD 210 LBS (95 kg) FOR MOUNTING HARDWARE.

	MANUFACTURING COMPANY	WACO TEXAS	DATE	3-25-11	TITLE	SST36N-01 OVERALL
	MATERIAL	FINISH	EST WT #	MANUAL	DWG. NO.	20879-DWG
UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS ± .13 FRACTIONS ± 1/16 ANGLES ± .1° MACHINED SURFACE FINISHES = 125 PROJECTION OF VIEWS = 1ST ALL DIMENSIONS ARE IN INCHES THIS PRINT CONTAINS CONFIDENTIAL INFORMATION AND IS SOLE PROPERTY OF TIME MANUFACTURING, AND IS NOT TO BE REPRODUCED, COPIED, OR REPRODUCED IN ANY MANNER WITHOUT THE EXPRESS PERMISSION OF TIME MANUFACTURING.		DWN. BY LBR SCALE A 1=40 SHEET 1 OF 1	DATE 3-25-11 SCALE 1=40 EST WT # MANUAL —	TITLE SST36N-01 OVERALL DWG. NO. 20879-DWG		

SST-36-NE-01 DIMENSIONAL SPECIFICATIONS

Note: All dimensions and angles are nominal, based on 40 in (1.02 m) frame height.

Horizontal Reach	26 ft. 7 in. (8.1 m)
Standard Platform Capacity	350 lbs. (160 kg)
Maximum Platform Capacity	400 lbs. (181 kg)
Outer Boom Lift Eye Capacity	500 lbs. (227 kg)

Height to Bottom of Platform	35 ft. 6 in. (10.8 m)
Working Height	40 ft. 6 in. (12.3 m)
Stowed Travel Height	10 ft. 5 in. (3.2 m)
Weight of Lift without oil and mounting hardware	1850 lbs. (820 kg)

Hydraulic System

Operating Pressure	2250 PSI (155 bars)
Flow Rate	1.5 to 2 GPM (6 to 8 lpm)
Filtration	10 micron return
System Type	Open center

Boom Action

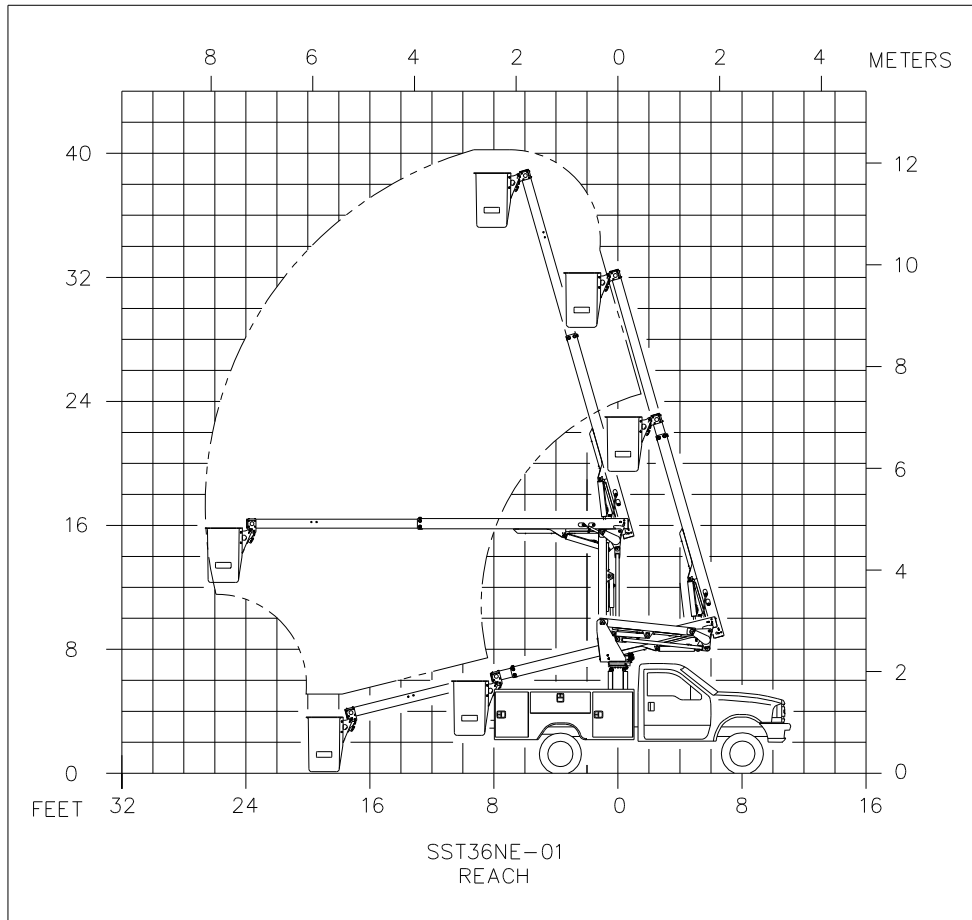
Inner-Boom	116 in. (2.9 m) Extension
Outer-Boom	88° (-14° to +74°)
Lower-Boom	96° (-6° to vertical)

Ambient Temperature Range for Structural Integrity -40°F (-40°C) to 125°F (52°C)


Notes:

1. The total load in the platform(s) including operator, liner, tools, etc must not exceed the maximum

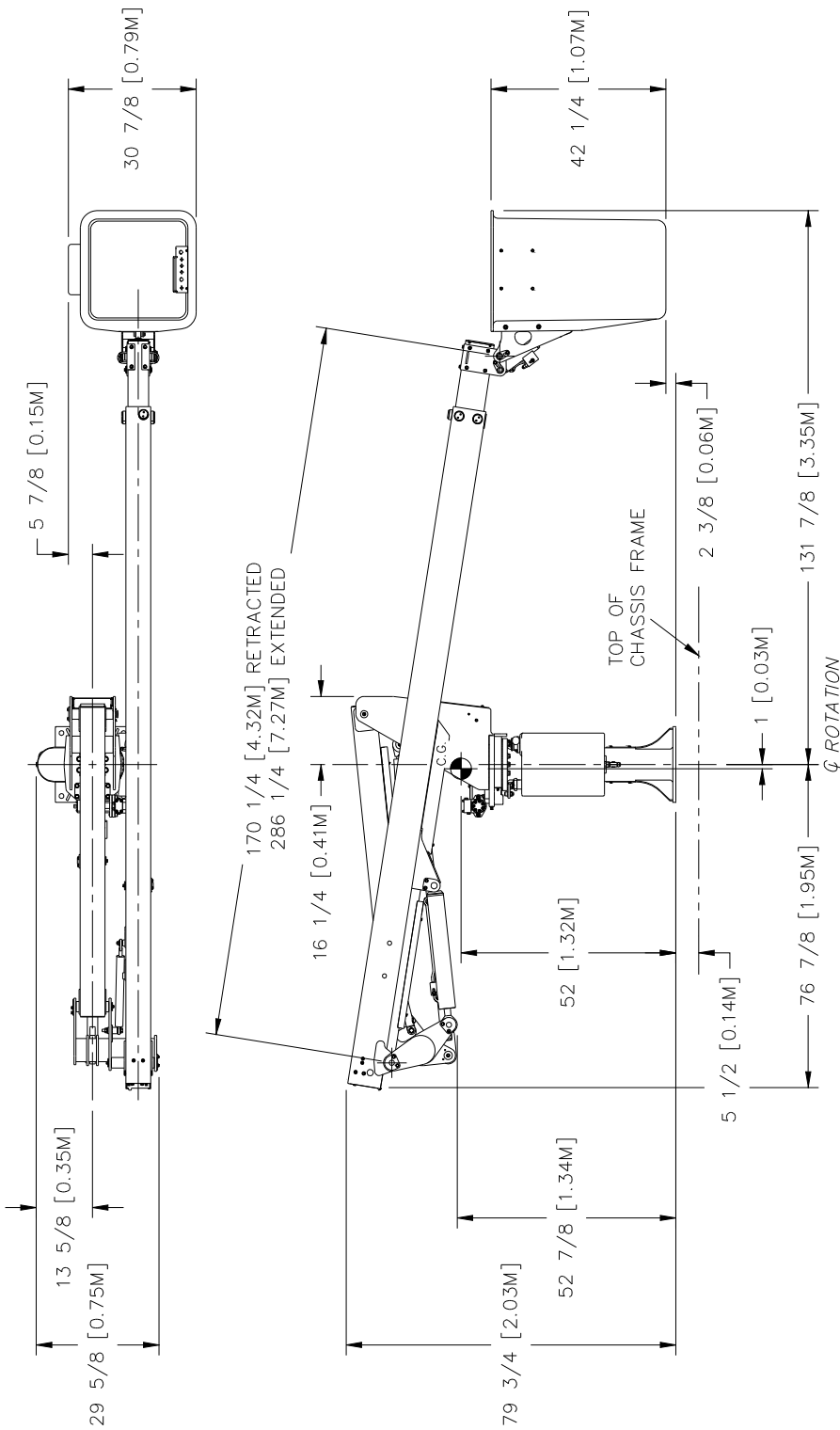
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59152		FIRST RELEASE	LBR	DJH	SRS	3-25-11



SPECIFICATIONS

<p>UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS FRACTIONS ± 1/16 .X ± .1 ANGLES ± 1' .XX ± .03 XXX ± .005</p> <p>MACHINED SURFACE FINISHES = 125/ PROJECTION OF VIEWS ALL DIMENSIONS ARE IN INCHES</p> <p>THIS PRINT CONTAINS CONFIDENTIAL INFORMATION AND IS SOLE PROPERTY OF TIME MANUFACTURING, AND IS NOT TO BE DISCLOSED, COPIED, OR REPRODUCED WITHOUT EXPRESSED PERMISSION OF TIME MANUFACTURING.</p>	 <p>MANUFACTURING COMPANY WACO TEXAS</p>	DWN. BY	DATE	TITLE	
		LBR	3-25-11		SST36NE-01
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REV.	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
59152	59152	FIRST RELEASE	LBR	DJH	SRS	3-25-11



NOTES:

- 1.) ALL DIMENSIONS ARE IN INCHES WITH METRIC EQUIVALENTS IN METERS.
- 2.) WEIGHT OF LIFT = 1850 LBS (839 kg) W/O OIL AND MOUNTING HARDWARE.
- 3.) ADD 44 LBS (20 kg) FOR 6 GALLONS (23 L) OF HYDRAULIC OIL.
- 4.) ADD 210 LBS (95 kg) FOR MOUNTING HARDWARE.

UNLESS OTHERWISE NOTED:
 DIMENSIONS IN FRACTIONS = 1/16
 ANGLES ± .03
 .xxx ± .005
 MACHINED SURFACE FINISHES = 125
 PROJECTION OF VIEWS
 ALL DIMENSIONS ARE IN INCHES
 THIS PRINT CONTAINS CONFIDENTIAL INFORMATION OF TIME MANUFACTURING AND IS NOT TO BE DISCLOSED, COPIED, OR REPRODUCED WITHOUT EXPRESSED PERMISSION OF TIME MANUFACTURING.

	MANUFACTURING COMPANY	WACO TEXAS
	TITLE SST36NE-01 OVERALL	
DWN. BY	LBR	DATE
SIZE	A	SCALE
EST WT #	MANUAL	—
SHEET	1	OF 1
DWG. NO.	20880-DWG	

SPECIFICATIONS

SST-36N/NE-01 VEHICLE SPECIFICATIONS

Recommend Chassis Mounting:

Frame Section Modulus (per frame rail)	9.25 in. ³ (152 cm ³)
Frame Resisting Bending Moment (per frame rail)	333,000 in.-lbs. (37,600 N-m)
Cab to Rear Axle Dimension	60 in. (1.52 m)

With Torsion Bar

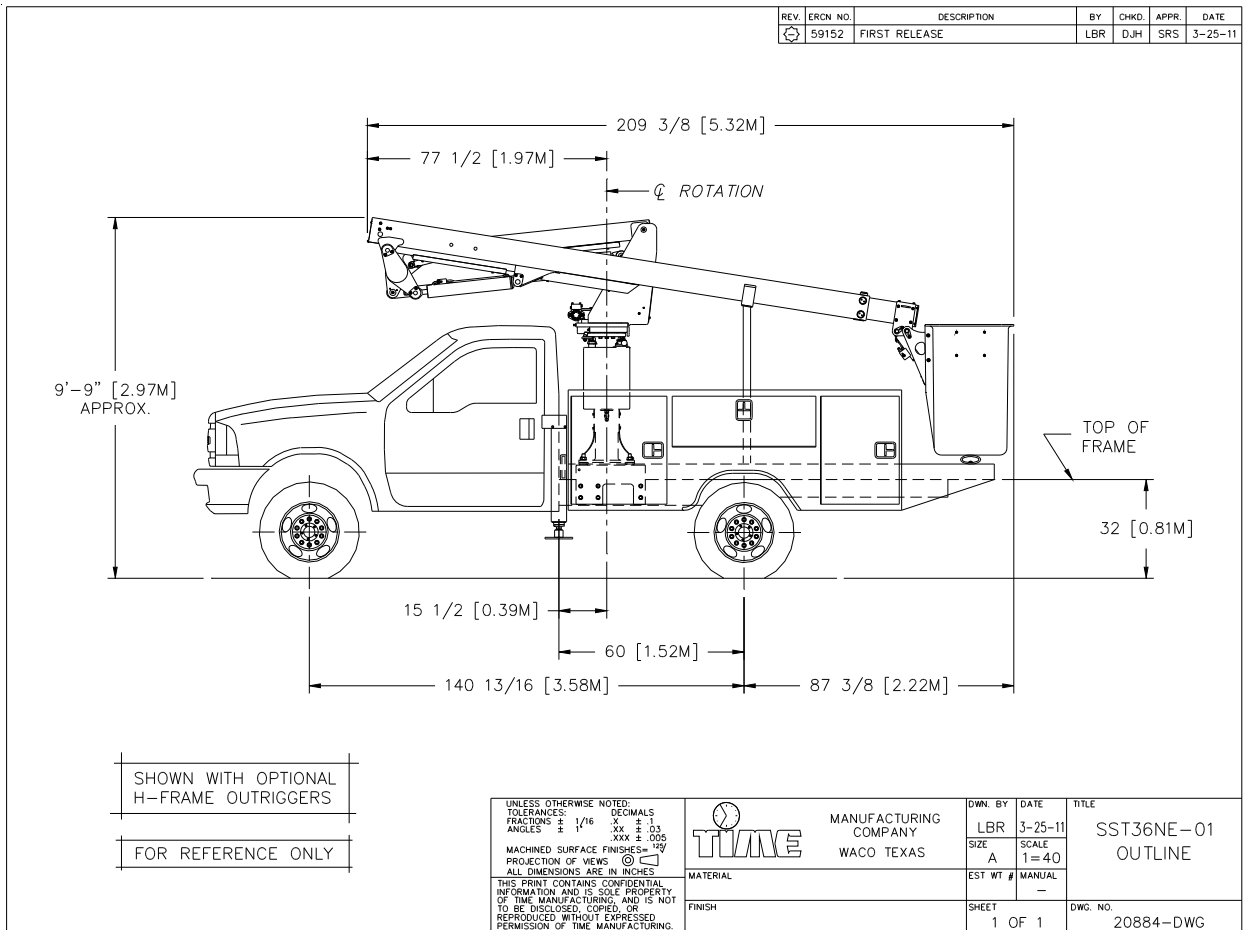
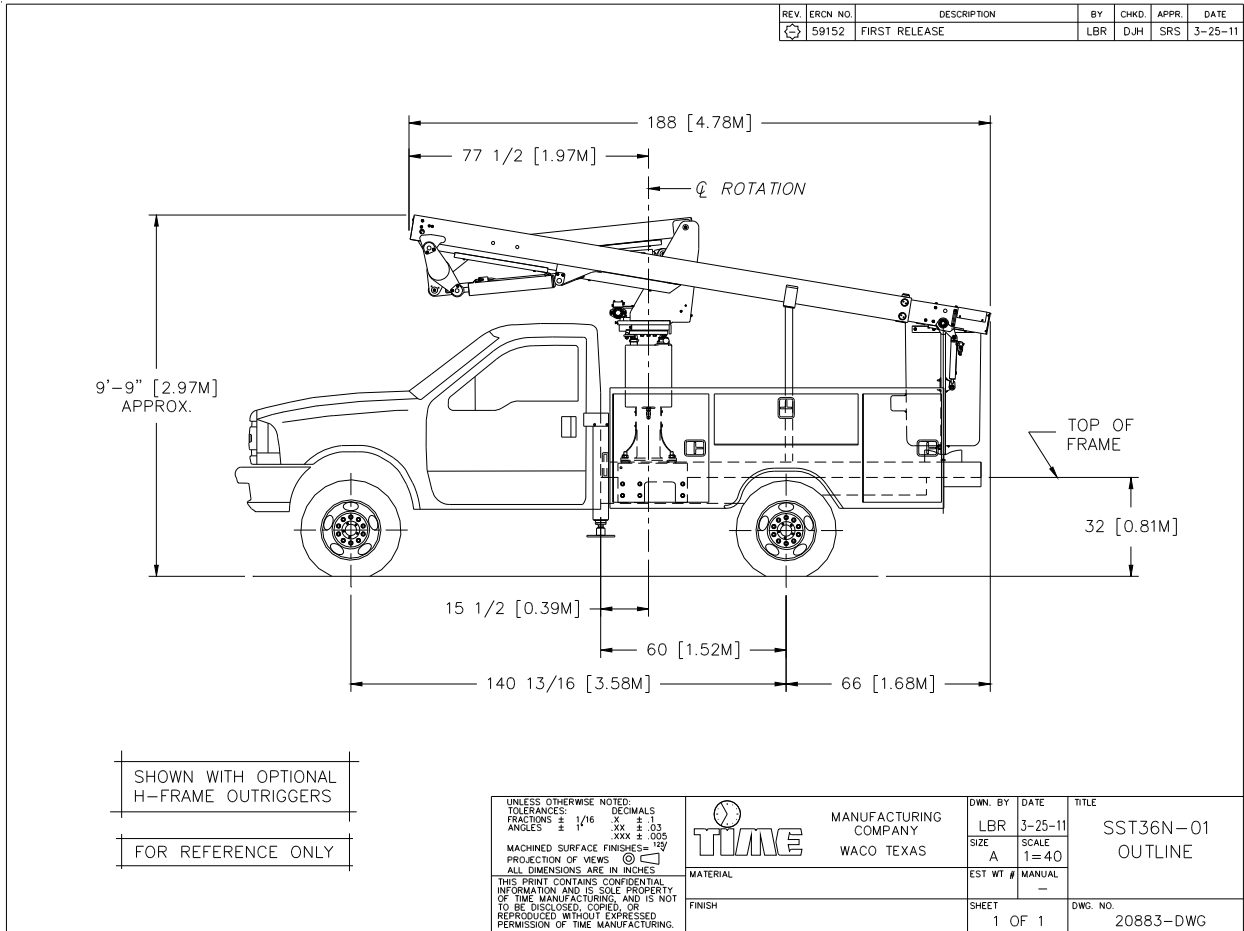
Minimum GVWR	14,500 lbs. (6780 kg)
Minimum GVWR (Front)	5,000 lbs. (2270 kg)
Minimum GVWR (Rear)	10,000 lbs. (4540 kg)
Approximate curb weight for stability	12,000 lbs. (5440 kg)

With H-Frame Outriggers (Mounted behind cab)

Minimum GVWR	14,500 lbs. (6780 kg)
Minimum GVWR (Front)	5,000 lbs. (2270 kg)
Minimum GVWR (Rear)	10,000 lbs. (4540 kg)
Approximate curb weight for stability	10,000 lbs. (4540 kg)

Notes:

1. Actual GVWR and GAWR'S should be based on the weight and weight distribution of the chassis, body, lift, ballast (if required), and accessories, plus the desired payload.
2. Curb weight for stability will vary based on rated platform capacity, mounting configuration, frame stiffness, and stability test requirements.



OPERATION

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 decals, 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 Versalift 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, a checklist of 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 Versalift unit on a slope greater than 5 degrees (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 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 (if so equipped) contribute to vehicle stability. Refer to the subtitle "Outriggers" in this section for further details on engaging the outriggers. 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

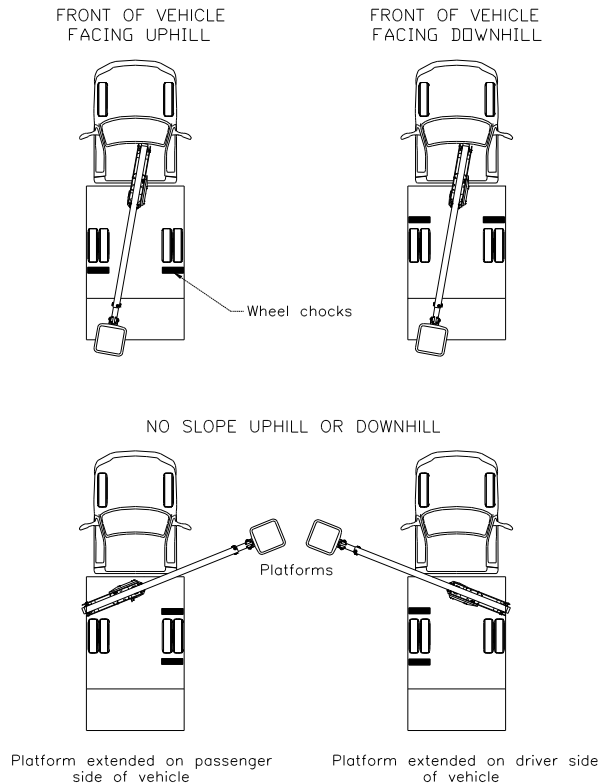
- Perform the following steps in preparing to operate the aerial-lift. It is assumed that the truck engine is still running. However, if the hydraulics are powered by an auxiliary engine (optional power unit) then it is not necessary for the truck engine to remain running.

1. Set the parking brake and the brake lock (if so equipped).
2. Shift the truck transmission into neutral (manual transmission) or park (automatic transmission).
3. Turn on the warning light flashers.
4. Depress the clutch and engage the PTO, if so equipped.
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. They may be engaged by locking the drive shaft behind the transmission. If the weight is reduced from one of the rear wheels, by the position of the lift, the truck differential can allow the truck to roll. Refer to Figure 4.1 diagram on the following page for proper way of chocking the wheels.



Wheel Chocking Diagram
Figure 4.1

⚠ DANGER: NEVER OPERATE THE LIFT WITHOUT SETTING THE PARKING BRAKE AND CHOCKING THE WHEELS. A ROLLING TRUCK MAY CAUSE AN ACCIDENT RESULTING IN DEATH OR SERIOUS INJURY.

3. Set up adequate cones or barricades to mark the boundaries of the work site and alert pedestrians and motorists. Never work outside the boundaries.

OUTRIGGERS (If equipped) - To operate the outriggers see "Outrigger Controls" in this section.

⚠ DANGER: NEVER OPERATE WITHOUT EXTENDING THE OUTRIGGERS (IF EQUIPPED). WITHOUT PROPER OUTRIGGER EXTENSION THE UNIT MAY TIP RESULTING IN DEATH OR SERIOUS INJURY.

After the truck has been properly parked on level ground, and the outriggers have a clear path to the ground, lower all the outriggers until they firmly contact the ground. When the ground is too soft for the outriggers to be effective, place outrigger pads on the ground to increase the bearing area.

If the truck is parked on sloping ground so that one side of the truck is lower than the other side, extend the low-side outrigger first so that firm contact is made with the ground. This will avoid tilting the truck even more to the low side when the high-side outrigger is lowered.

If one or both outriggers (of a pair) are not fully extended, the outrigger spread is reduced (A-Frame outriggers only). This reduces the stability of the aerial lift. For example, when an outrigger rests on a curb the outrigger spread is reduced.

The stability of the truck depends on the unit's gross weight, firmness and slope of the ground, weight in the platform, tire pressure, and outrigger spread. These factors are widely variable and caution must be used when determining the stability of the unit. If, under any condition, there is doubt about vehicle stability do not operate the lift.

AERIAL LIFT OPERATIONS

This section emphasizes overall operating practices for aerial lift operations. This information is presented in the order of probable use while operating first from the ground, then from the platform and close to energized conductors.

Start Up Procedures When Operating From the Ground:

Position the truck as described in this section.

In extremely cold weather allow the aerial lift to idle a few minutes before engaging a load. Further consideration of cold weather operation is addressed in Service Procedures Section of Service Manual, "Hydraulic Oil Recommendations".

After the outriggers (if so equipped) have been lowered, disengage the upper-boom tie-down strap. Select lower controls with the lower control selector switch. Refer to this section for diagram of the lower controls.

Caution: if an aerial device has set idle for an extended length of time (i.e. overnight) operate it from the lower controls through its full range of motion several times

before an operator enters the platform. This procedure confirms that the lift is operating properly and purges any air that may have become entrapped in the hydraulic system.

If there is any kind of malfunction during this 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 slowly moving the spring-loaded control switch in the desired direction, until motion begins. To terminate a lift movement allow the spring-loaded control switch to return to the centered or neutral position. All boom movements should be started and stopped gradually.

⚠ DANGER: NEVER 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.

Operating Procedures At The Platform:

Complete the start-up procedure from the ground before selecting the upper controls. Verify that the upper-boom tie-down strap is disengaged. Using the step(s) provided, carefully enter the platform. Safety regulations require the operator be secured with a personnel restraint system to the lift. The lanyard shall be attached to the safety belt/harness and the other end connected to an anchor located on the inner boom. The safety belt must be rotated so that the lanyard connection is centered on the back of the operator.

⚠ DANGER: NEVER OPERATE ANY AERIAL EQUIPMENT WITHOUT WEARING AN APPROVED PERSONNEL RESTRAINT SYSTEM ATTACHED TO THE LANYARD ANCHOR. FAILURE TO 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 nature of the work operators, others in the platform, and ground crew are often exposed to very high voltage. 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 knows how to protect her/himself and the crew from these dangers. Allow clearance for boom, platform, electrical line, and load line sway and deflection.

⚠ 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.

⚠ DANGER: THIS AERIAL LIFT CONSISTS OF A STEEL OUTER BOOM AND AN ALUMINUM INNER BOOM AND HAS NO INSULATING VALUE. CONTACT WITH, OR INADEQUATE CLEARANCE FROM, ELECTRICAL POWER LINES AND APPARATUS WILL CAUSE DEATH OR SERIOUS INJURY.

As stated previously, it is the responsibility of the operator and the ground crew to know and understand the capabilities and limitations of the aerial lift and hazards associated with operation near electric lines or components. In addition they must apply this knowledge to situations that arise on the job for safe and efficient operation.

CAB CONTROL OPERATION

The cab controls include the master control, the engine start/stop control, and the PTO shifter.

MASTER CONTROL (Standard) - The master control consists of a toggle switch and a light mounted on the dashboard of the truck. The toggle switch is used to energize or de-energize the start/stop system and the throttle control options. When the light is lit the toggle switch is energizing these systems.

POWER-TAKE-OFF (PTO) (If So Equipped.) - The power-take-off is a gearbox used to transmit power from the truck transmission to the hydraulic pump, providing hydraulic oil for the aerial lift functions. The PTO control consists of a toggle switch and a red

light mounted in the truck dashboard. When the red (PTO) indicator is lighted the PTO is activated. The operator must never drive the truck with the PTO engaged.

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

To engage the PTO properly refer to the operating instructions located in the PTO manufacturer's owner manual. If the PTO control is not responding properly or if the manufacturer's operating decals are not posted in the cab (near the control) notify the appropriate personnel for correction.

GROUND CONTROL OPERATION

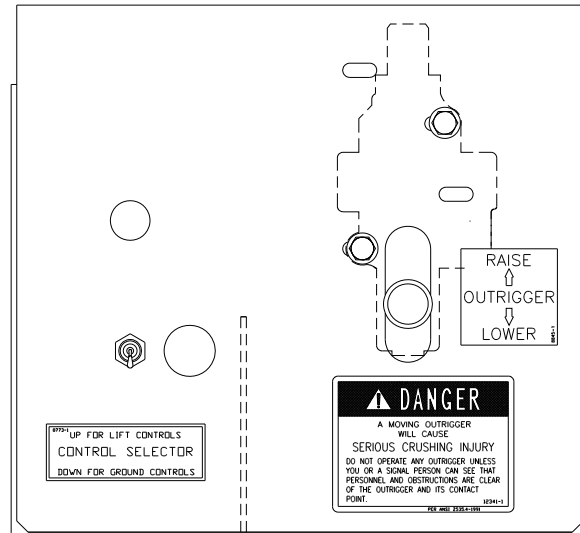
The Versalift ground controls may include one or more of the following controls: outrigger, outrigger/boom interlock, and tool power. Ground controls are usually mounted on panels in the rear bumper of the truck or below the deck. Descriptions and operating procedures for these controls are given in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

OUTRIGGER OPERATION - The outriggers (if so equipped) 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.



DWG. NO.	REV.
15780-1	A

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

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.

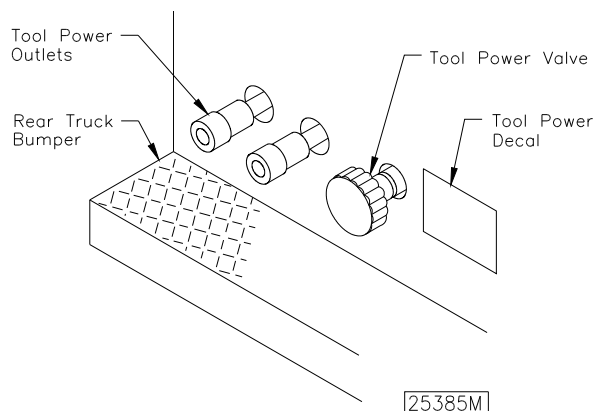
Retracting the Outriggers With an Outrigger/Boom Interlock System: The booms must be stowed before the interlock system will allow the outriggers to be retracted. Stow the booms as described in this section, "Storing the Aerial Lift". Select "ground controls" with the detented control selector. Then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

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.



Tool Power Controls
Figure 4.3

LOWER CONTROL OPERATION

The objective of this section is to help the operator identify and understand the operation of the lower controls. The hand-held remote control (option) and remote lower control box (option) are shown in Figure 4.4 and 4.5. A description of each electrical control and method of operation is given on the following pages.

STANDARD CONTROL SWITCHES - The lower remote controls consist of a series of spring loaded toggle switches and a control selector switch. Moving the control switch in the direction of the arrow, with the control selector in the “lower” position, causes the aerial lift to move in the corresponding direction. Lift movement stops as the control switch is released and returns to the neutral position.

SELECTOR CONTROL (Standard) - The selector switch is used to give operational control of the aerial lift to either the upper control station or the lower remote controls. The control selector decal shows which direction to move the selector control switch to select lift operation for the desired control station. The selector control switch must be held in the lower position for operation of the lower controls. This simultaneously engages the automatic clutch (option) or the electric drive (option). Upper and lower controls cannot be operated simultaneously.

ENGINE START/STOP CONTROL (Standard) - The engine start/stop control is operated by a three-position toggle switch labeled “Engine”.

To start the engine from the lower controls, place the engine toggle in the start position and hold the toggle in that position until the engine starts. Release the toggle and allow it to return to the centered or neutral position.

To stop the engine from the lower controls, push the engine toggle to the stop position and release, the engine will quit running. Refer to Chapter 5, “Emergency Operation” for further information on the use of this control in an emergency.

TWO-SPEED LIFT CONTROL (Option) - When the manual two speed lift control option is selected an extra toggle switch is included for installation. This two position toggle switch allows the user to choose slow or normal speeds.

BACKUP PUMP CONTROL (Option) - If the aerial lift’s power source fails, the backup pump control is used to activate backup pump to operate the lift. The backup pump control is a toggle switch labeled “Backup Pump” at the lower controls.

To activate the backup pump, move the backup pump toggle to the on position indicated by the backup pump decal and hold the control selector in the “lower” position. Operate the lift functions with these two switches activated. 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 turn off the backup pump, release the backup pump toggle switch and allow it to return to the standard position.

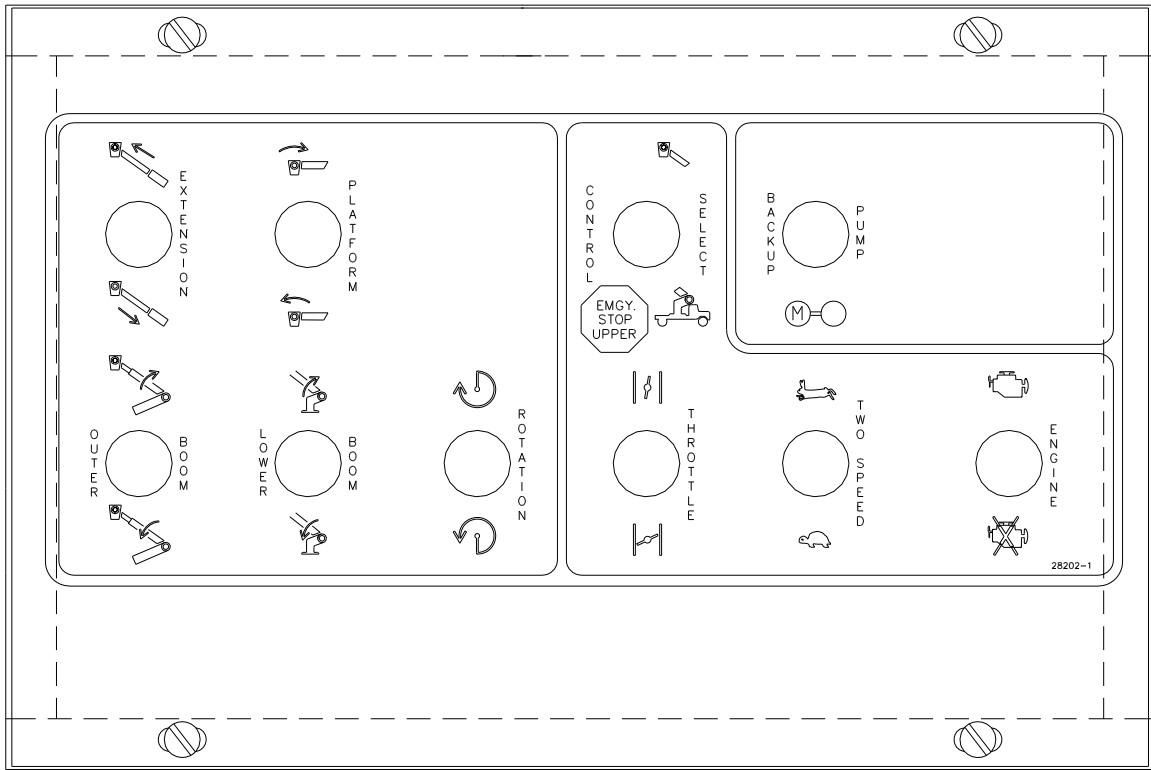
HOUR METER (Option) - A 120V hour meter is available with a generator driven unit.

GFCI RECEPTACLE-120V POWER (Option) - A GFCI receptacle is placed at the lower control station for powering 120V accessories.

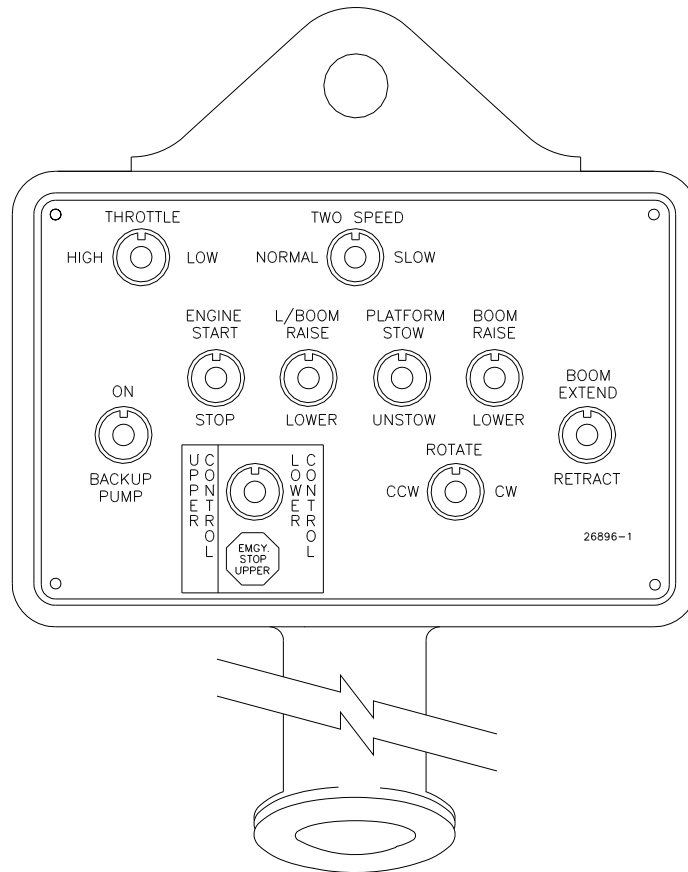
UPPER CONTROL OPERATION

The objective of this section is to help the operator identify and understand the operation of the controls at the platform. Refer to Figure 4.6 to clarify the information in the text of this section.

STANDARD CONTROL SWITCHES - The upper



**Remote Lower Control Box
Figure 4.4**



**Hand Held Remote Lower Control
Figure 4.5**

OPERATION

control station consists of a series of spring loaded toggle switches and a master control switch. Moving the control switch in the direction of the arrow, with the master control switch engaged, causes the aerial lift to move in the corresponding direction. Lift movement stops as the control switch is released and returns to the neutral position.

ENGINE START/STOP CONTROL (Standard) - The red start/stop control button, when pulled to the out position, activates the engine starter. The Versalift power switch must be activated and the truck ignition must be in the "Run" position before this button can start the truck.

The red button also acts as an instant engine stop and emergency stop when it is depressed. The engine stop breaks the ignition circuit and kills either the truck engine or the generator set.

⚠ DANGER: THE TRUCK TRANSMISSION MUST BE IN NEUTRAL OR PARK BEFORE USING THE ENGINE START/STOP. STARTING THE TRUCK IN GEAR WILL CAUSE MOVEMENT WHICH MAY CAUSE DEATH OR SERIOUS INJURY TO THE OPERATOR IN THE LIFT OR ANYONE IN THE PATH OF THE TRUCK.

To start the engine from the platform, pull the engine button up to the start position and hold it up until the truck engine starts. Release the start/stop button and allow it to return to the centered or neutral position. The truck or generator engine should remain running.

To stop the engine from the platform, push the engine start/stop button to the stop position. The engine stop is an instant kill system and once it is depressed the ignition circuit will have been broken. Release the button and allow it to return to the centered or neutral position.

HYDRAULIC PLATFORM LEVELING CONTROL (Standard on SST-N, Optional on SST-NE) - A hydraulic platform leveling control switch at the platform is used to adjust platform leveling and tip the platform for clean out or rescue of an injured operator. Move the hydraulic platform leveling control switch in the indicated direction to tilt the platform.

⚠ CAUTION: BECOME FAMILIAR WITH THE SPEED AND OPERATION OF THE LEVELING CONTROL BEFORE GETTING INTO THE PLATFORM.

MANUAL TWO SPEED LIFT CONTROL SYSTEM (Option) - A two position toggle switch is added to the upper control panel. This toggle switch offers a choice of slow or normal speeds for rotation and boom functions. For operation at slow speeds place the toggle in the position marked slow and actuate the functions as normal. For operation at normal speeds place the toggle switch in the position marked normal and actuate the desired controls.

VARIABLE SPEED CONTROL (Option) - This option allows rotation and boom functions to operate at variable speeds, which provides smoother starting and stopping. The controls include the same switches to control the lift functions with a rotational control knob to regulate the speed of operation.

BACKUP PUMP CONTROL (Option) - The backup pump system provides hydraulic power from a DC pump-motor for emergency operation of the lift in the event of a prime power source failure. The backup pump system will not operate from the upper controls while the prime power source is operating. The backup pump system is operated by a spring-loaded toggle switch labeled "Backup Pump" at the upper controls.

To activate the backup pump from the platform, place the backup pump toggle switch in the on position and hold it there while operating the lift controls. It is not necessary to press the master control button while using the backup pump system. The backup pump system should not be operated continuously longer than 30 seconds. Continuous use will drain the battery and damage (overheat) the backup pump motor.

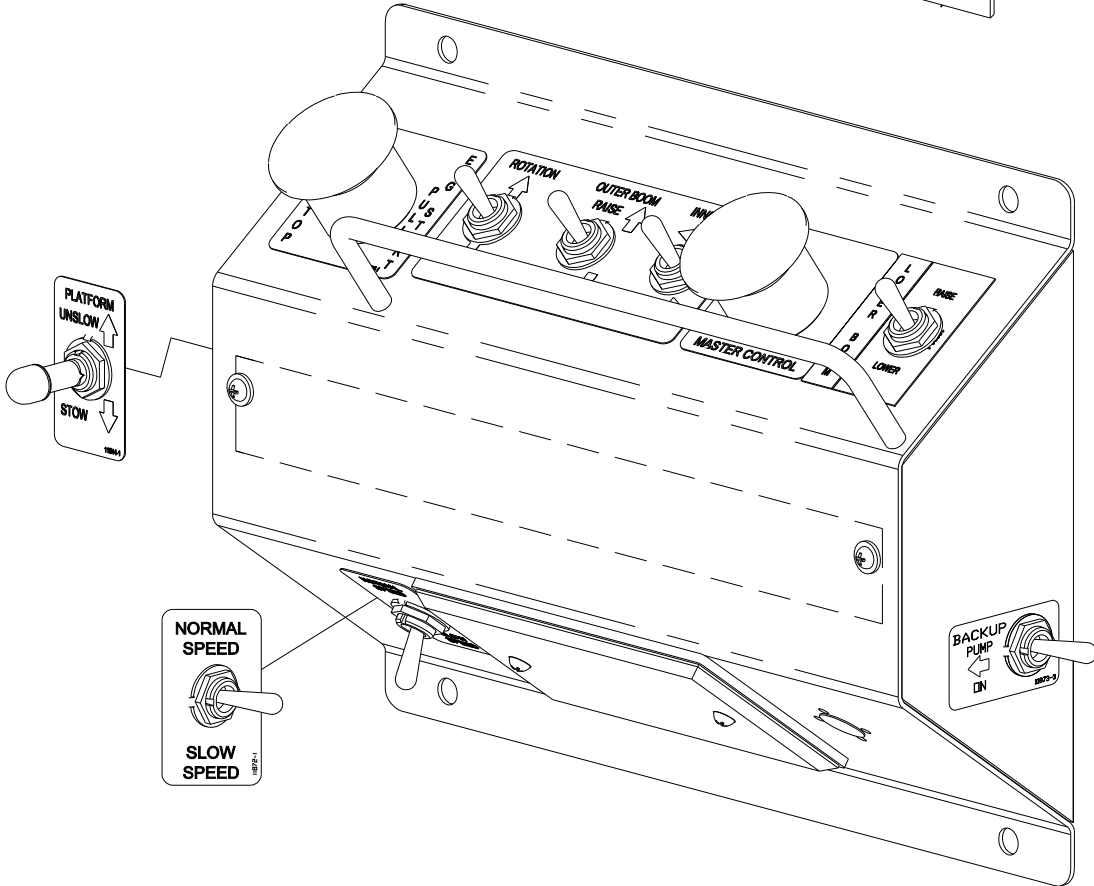
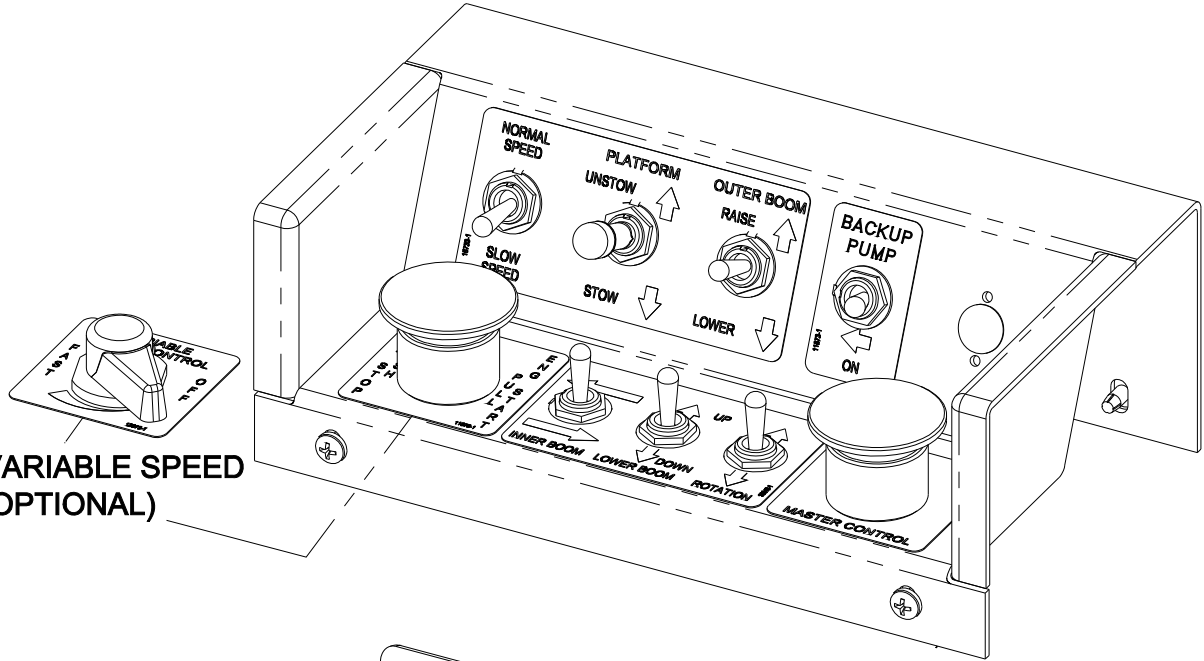
To turn off the backup pump from the platform, release the spring-loaded backup pump toggle switch and allow it to return to the centered or neutral position.

EMERGENCY LOWERING (Option) - If the aerial lift's main power source fails, the emergency lowering control can be used to lower the lift. A needle valve is located outside the platform. To operate the needle valve, slowly open by turning counter-clockwise to lower the boom. Once the boom is lowered, close the valve by turning clockwise.

GFCI RECEPTACLE - 120V POWER (Option) - A GFCI receptacle is placed at the platform for powering 120V accessories.

DC PUMP/MOTOR OPERATION (Option) - The DC pump/motor option provides the 2 GPM necessary for the operation of the unit. Depressing the Master

VARIABLE SPEED
(OPTIONAL)



OPERATION

Upper Control Panels
Figure 4.6

Control switch starts the DC pump/motor, and then engaging a boom operation switch diverts the hydraulic oil through the control valve to the proper cylinder. As this system uses a DC motor, it is prudent to not operate the pump/motor for more than three minutes during a 10 minute period. This will ensure long life for the DC motor.

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. Always stow the lower boom before lowering 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.

⚠ 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.*

⚠ 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 outer/inner boom assembly with the tie down strap, retract the outriggers (if so equipped) 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 OUTER BOOM IS SECURED WITH THE BOOM TIE DOWN STRAP.*

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

It is preferred that the platform be stored in the upright position, preferably with a platform rest under it to

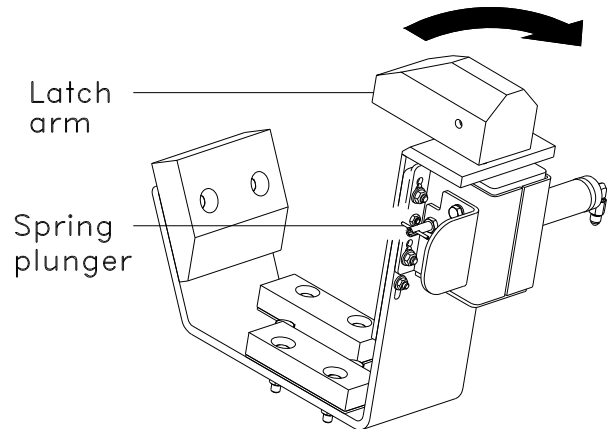
avoid high pressure spikes in the slave cylinder when roading the unit.

AUTO BOOM LATCH (Optional) – 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.



To Release Over-ride:

1. **Caution** – The latch is spring loaded. Keep fingers clear to prevent pinching.
2. Slightly rotate the latch arm clockwise to remove the load from the spring plunger.
3. While holding the latch arm, pull the spring plunger out and rotate the “T” handle to lock the spring plunger in the “out” position.
4. Carefully allow the latch arm to rotate counter-clockwise under spring power until it stops.

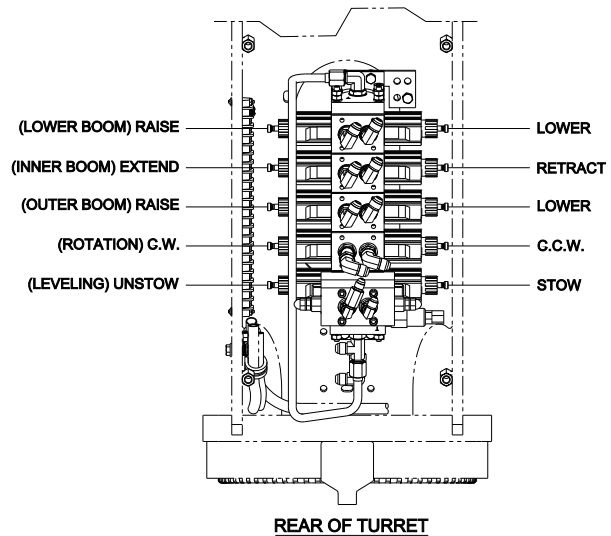
EMERGENCY OPERATION

Emergency operation may be required if an operator is injured or the hydraulic system malfunctions. This chapter describes the controls and features designed to accommodate emergency operation and to describe some procedures for responding to emergency situations. In an emergency, the first priority is always the safety of the personnel. Identifying the problem and initiating emergency procedures promptly helps minimize or possibly prevents injuries. It is important to follow standard work practices and safety regulations.

⚠ DANGER: *BEFORE ATTEMPTING TO RESCUE PERSONNEL ON THE AERIAL LIFT, 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 WILL CAUSE DEATH OR SERIOUS INJURY.*

CONTROL SELECTOR (Platform Override) - If a situation requires operation from the lower controls, the upper controls may be overridden through the use of the selector switch. Hold the selector switch in the "lower" position and move the desired control switch to allow operation from the lower controls. This renders the upper controls inoperable.

CONTROL VALVE (If not equipped with Two Speed or Variable Speed) - If the control switches fail to respond at the lower and upper controls the lift may be operated manually by the push buttons on the control valve at the turret. This is only possible if the hydraulic system is operational. The rear panel at turret must be removed prior to operating the controls at the valve. The hydraulic controls at the turret, with the rear cover removed, are shown in Figure 5.1.

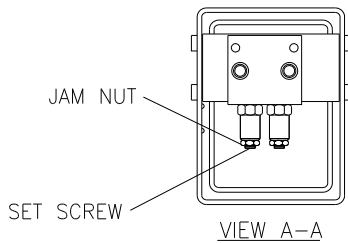
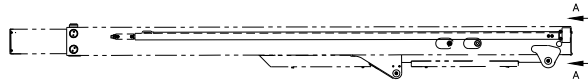


Hydraulic Controls at Turret
Figure 5.1

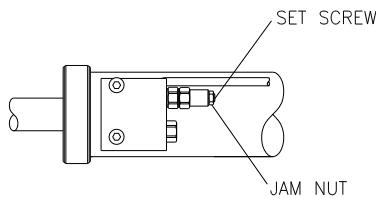
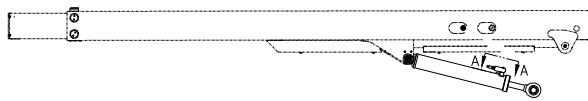
HOLDING VALVES - If all the hydraulic power sources become inoperable the booms can be lowered using the set screw on the holding valve located at the cylinders. The boom will drift down as the hydraulic oil passes through the holding valve. The speed of the boom's descent will increase as the set screw is turned clockwise. Manual adjustment of the setscrew on the holding valve can only be used in lowering the boom. When the holding valve setscrew is used to lower the boom, replacement of the holding valve is required before further use.

⚠ DANGER: *MAKE CERTAIN ALL BODY PARTS ARE CLEAR OF THE PATH OF BOOM TRAVEL BEFORE ATTEMPTING TO LOWER THE BOOM USING THE SETSCREW ON THE HOLDING VALVE. FAILING TO DO SO MAY CAUSE SERIOUS INJURY OR DEATH.*

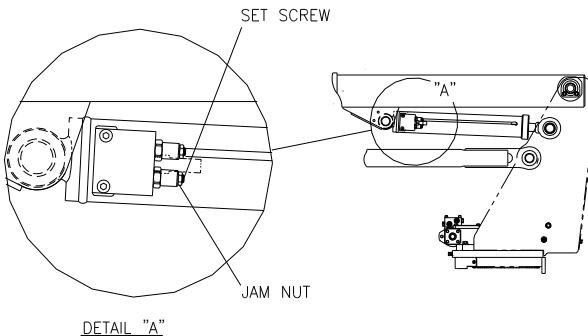
To retract the inner boom, lower the outer boom, or lower the lower boom, carefully loosen the jamnut (counter-clockwise), with a 9/16 in. wrench, on the appropriate holding valve as shown in the following figures. Slowly turn the setscrew clockwise (using 5/32 in. hex) until movement begins. To stop boom movement, turn the setscrew counterclockwise.



**Holding Valve Lowering Procedure
(Extension Cylinder)
Figure 5.2**



**Holding Valve Lowering Procedure
(Outer Boom Cylinder)
Figure 5.3**



**Holding Valve Lowering Procedure
(Lower Boom Cylinder)
Figure 5.4**

EMERGENCY LOWERING AT PLATFORM (Optional) – This optional emergency lowering system will allow you to lower the outer boom assembly from the platform in the event that all hydraulic power sources become inoperable. **This system will not retract boom, it will only lower the boom (to retract inner boom refer to cylinder holding valve lowering procedure in this**

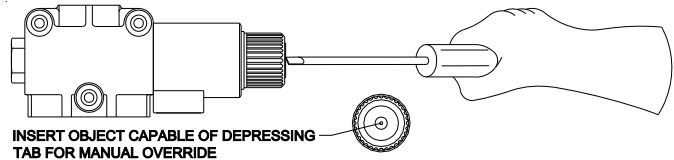
section). To lower the *outer boom*, first check boom travel path for any obstacles. Slowly open the needle valve at the platform by turning counter clockwise until movement begins. To stop boom movement, turn the needle valve clockwise. Once the boom is fully lowered, close needle valve by turning clockwise.

⚠ DANGER: KEEP ALL BODY PARTS CLEAR FROM THE PATH OF BOOM TRAVEL BEFORE ATTEMPTING TO LOWER THE BOOM USING THE NEEDLE VALVE. FAILING TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

MANUAL ROTATION - If all the hydraulic power sources becomes inoperable, the lift rotation system can be operated manually. Use the hex socket extension on the gearbox input shaft to manually align the boom with the cradle. Actuating the lower rotation control will reduce the effort required for rotation of the aerial lift.

OUTRIGGER BOOM INTERLOCK MANUAL OVERRIDE – In the event of diverter valve failure, and the lift becomes inoperable with an operator aloft, the outrigger boom interlock selector can be overridden to lower the booms and return the operator to the ground. To activate the manual override, locate the solenoid operated 3-way valve, usually in the pedestal. On the end of the valve, there is a small tab (Fig. A) which can be pressed with a small screwdriver, capscrew, etc. With this tab pressed down, hydraulic flow will be diverted from the outriggers to the lift. Another operator can then operate the lower controls to lower the booms.

⚠ WARNING: USE OF MANUAL OVERRIDE TO OPERATE THE LIFT WITHOUT THE OUTRIGGERS DEPLOYED CAN RESULT IN SERIOUS INJURY OR DEATH.



OUTRIGGER BOOM INTERLOCK SELECTOR VALVE MANUAL OVERRIDE ON SOLENOID OPERATED 3-WAY VALVE

Figure A

**Outrigger Boom Interlock Manual Rotation
Figure 5.5**

EMERGENCY OPERATION

ENGINE START/STOP CONTROL (Standard) - The engine start/stop control can be used for emergency operation in the event the prime power source (truck engine, auxiliary generator, etc.) stalls or dies. To restore lift operation use the engine start/stop control to crank the engine and attempt to stow the booms at the same time. **Crank the engine intermittently at 30 second intervals to conserve the battery. Use the backup pump rather than the engine start/stop control, if it is installed.**

⚠ DANGER: THE TRUCK TRANSMISSION MUST BE IN NEUTRAL OR PARK BEFORE USING THE ENGINE START/STOP. STARTING THE TRUCK IN GEAR WILL CAUSE MOVEMENT WHICH MAY CAUSE DEATH OR SERIOUS INJURY TO THE OPERATOR IN THE LIFT OR ANYONE IN THE PATH OF THE TRUCK.

RECOMMENDED EMERGENCY PROCEDURES:

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 and the situation allows safe operation from the lower controls, move the platform away from the danger and into the shortest clear path to get the operator on the ground. See “Control Selector”, at the beginning of this section, 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 in this chapter.

HYDRAULIC LINE FAILURE - Hydraulic line failure during aerial lift operation presents numerous hazards. Be aware that 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. The examples below describe some emergency operating procedures to follow for some specific types of hydraulic line failures.

1. The aerial lift design uses holding valves to lock the position of the cylinders in the event of a complete hydraulic line failure. This safety feature prevents the booms from dropping. The holding valve set screw and manual rotation described earlier in this chapter can be used to lower the booms.
2. 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. If operation of any aerial lift function is not possible, then use the holding valve set screw and the manual rotation procedure described earlier in this chapter.

ENGINE FAILURE - If the prime power source fails the backup pump system (option) 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. If this is not adequate, the holding valve set screws and manual rotation must be used.

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

RESPONSIBILITIES AFTER EMERGENCY OPERATION:

After any emergency situation it is the responsibility of the operator to make sure the aerial lift is repaired and adjusted by the service department before it is used again.

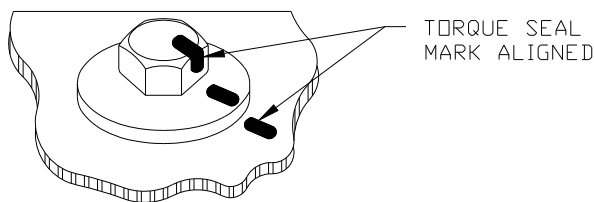
If an equipment defect is suspected, do **not** allow anyone to operate the aerial lift or enter the platform until the problem is corrected.

DAILY VISUAL INSPECTION

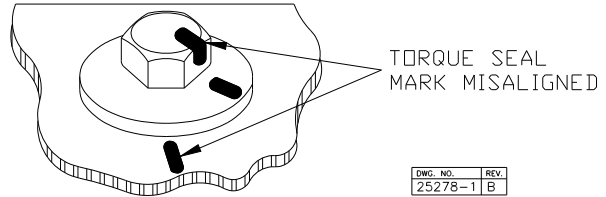
This aerial lift is designed to provide years of reliable service with minimum maintenance. A routine preventive maintenance program will assure extended aerial lift service. The operator is responsible for detecting maintenance problems during the daily visual inspection, reporting the need for adjustments 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 given a thorough visual inspection to detect problems before they become serious. During this inspection the operator shall look for anything out of the ordinary that might indicate a problem. 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 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. Rust and hairline cracks on a weld indicate weld fatigue.

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

OIL LEAKS - Oil leaking onto the truck floor or the ground is sign of an impending problem. A hydraulic leak will create a slippery surface which is potentially hazardous. Hydraulic leaks must be repaired by qualified 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 electrical 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 gages. The two sight gages are mounted, one several inches above the other, on the pedestal. The hydraulic oil level should be just above the bottom of the top sight gage at full capacity (12 gallons or 45 liters)

CONTROLS - Operate all the lift controls through the full range of motion to verify the controls are functioning properly.

DECALS - Identification, operational, and instructional decals are installed at numerous locations on the **Versalift**. These decals must be replaced if they become lost, damaged, or illegible. Refer to the "Decal Placement" illustration in this section.

PLATFORM - Inspect the platform for cracks in the mounting ribs, floor, and flange around the top. If these conditions exist they must be repaired by qualified personnel before operation.

SLOPE INDICATORS - The indicators are installed at several locations on the Versalift chassis. Check that indicators are in place and not damaged. Refer to slope indicator installation in "Parts and Assemblies" Section in the Service Manual.

SAFETY DEVICES - Check visual and audible safety devices for proper operation.

COVERS - Inspect all covers to make sure they are in place, secure, and in good condition.

DAILY VISUAL MAINTENANCE AND INSPECTION CHECKLIST AND RECORD
VERSALIFT SST-36-N/NE-01 SERIAL NO. _____ VEHICLE NO. _____

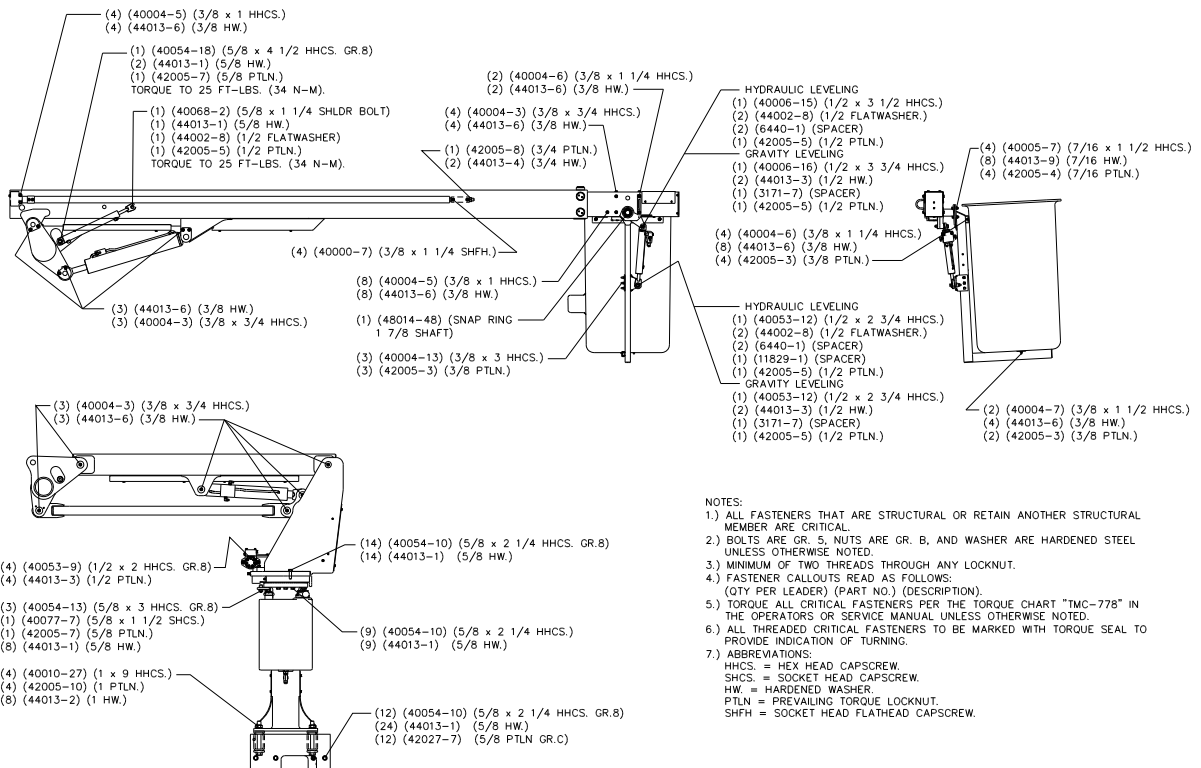
Fill in date and initial boxes when each check is made. Refer to Daily Visual Inspection in this section for complete description of checks. Additional copies of this form may be obtained from **Time Manufacturing Company**.

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							
DECALS							
FIBERGLASS PLATFORM							
SLOPE INDICATORS							
SAFETY DEVICES							
COVERS							

NOTES:

DAILY VISUAL INSPECTION

REV. 3



- NOTES:
- 1.) ALL FASTENERS THAT ARE STRUCTURAL OR RETAIN ANOTHER STRUCTURAL MEMBER ARE CRITICAL.
 - 2.) BOLTS ARE GR. 5, NUTS ARE GR. B, AND WASHER ARE HARDENED STEEL UNLESS OTHERWISE NOTED.
 - 3.) MINIMUM OF TWO THREADS THROUGH ANY LOCKNUT.
 - 4.) FASTENER CALLOUTS READ AS FOLLOWS: (QTY PER LEADER) (PART NO.) (DESCRIPTION).
 - 5.) TORQUE ALL CRITICAL FASTENERS PER THE TORQUE CHART "TMC-778" IN THE OPERATORS OR SERVICE MANUAL UNLESS OTHERWISE NOTED.
 - 6.) ALL THREADED CRITICAL FASTENERS TO BE MARKED WITH TORQUE SEAL TO PROVIDE INDICATION OF TURNING.
 - 7.) ABBREVIATIONS:
HHCS. = HEX HEAD CAPSCREW.
SHCS. = SOCKET HEAD CAPSCREW.
HW. = HARDENED WASHER.
PTLN. = PREVAILING TORQUE LOCKNUT.
SHFH. = SOCKET HEAD FLATHEAD CAPSCREW.

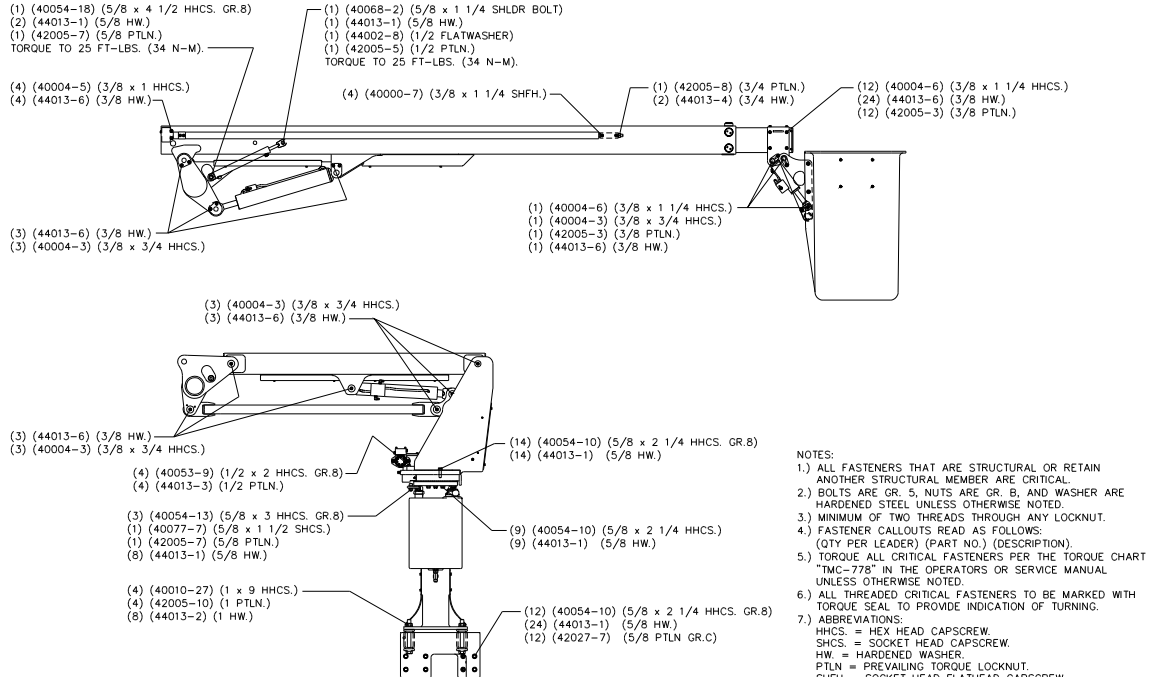
ADDITIONAL CRITICAL FASTENERS ON:
TORSION BAR, OUTRIGGERS (WHEN APPLICABLE)

UNLESS OTHERWISE NOTED:
TOLERANCES: DECIMALS
FRACTIONS ± 1/16 X ± .03
ANGLES ± .1° XX ± .05
MACHINED SURFACE FINISHES = 125
PROJECTION OF VIEWS
ALL DIMENSIONS ARE IN INCHES

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.

TIME MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
	LBR	3-25-11	SST36N-01 CRITICAL FASTENERS
MATERIAL	SIZE	SCALE	
	A	1=35	
FINISH	EST WT #	MANUAL	
SHEET	1 OF 1	DWG. NO.	20886-DWG

REV.	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
3	59152	FIRST RELEASE	LBR	DJH	SRS	3-25-11



- NOTES:
- 1.) ALL FASTENERS THAT ARE STRUCTURAL OR RETAIN ANOTHER STRUCTURAL MEMBER ARE CRITICAL.
 - 2.) BOLTS ARE GR. 5, NUTS ARE GR. B, AND WASHER ARE HARDENED STEEL UNLESS OTHERWISE NOTED.
 - 3.) MINIMUM OF TWO THREADS THROUGH ANY LOCKNUT.
 - 4.) FASTENER CALLOUTS READ AS FOLLOWS: (QTY PER LEADER) (PART NO.) (DESCRIPTION).
 - 5.) TORQUE ALL CRITICAL FASTENERS PER THE TORQUE CHART "TMC-778" IN THE OPERATORS OR SERVICE MANUAL UNLESS OTHERWISE NOTED.
 - 6.) ALL THREADED CRITICAL FASTENERS TO BE MARKED WITH TORQUE SEAL TO PROVIDE INDICATION OF TURNING.
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SHFH. = SOCKET HEAD FLATHEAD CAPSCREW.

ADDITIONAL CRITICAL FASTENERS ON:
TORSION BAR, OUTRIGGERS (WHEN APPLICABLE)

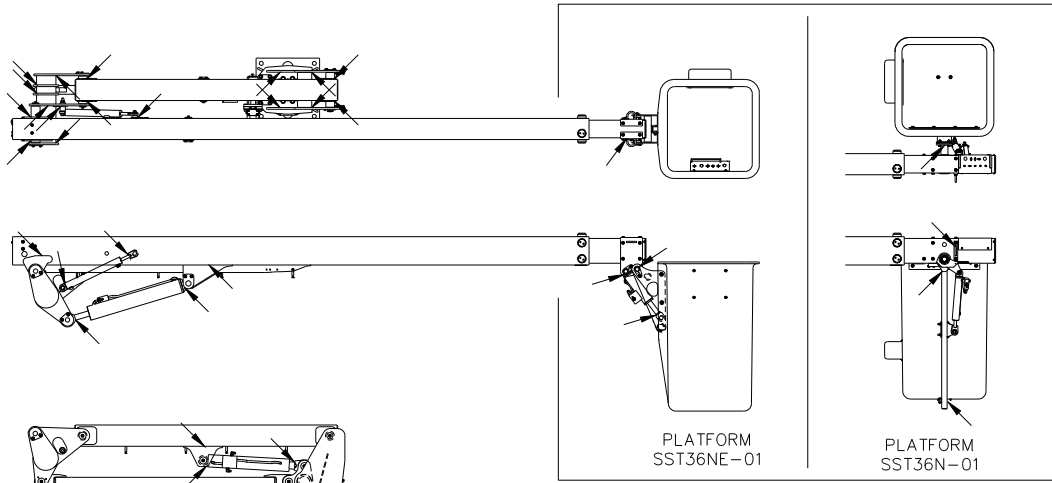
UNLESS OTHERWISE NOTED:
TOLERANCES: DECIMALS
FRACTIONS ± 1/16 X ± .03
ANGLES ± .1° XX ± .05
MACHINED SURFACE FINISHES = 125
PROJECTION OF VIEWS
ALL DIMENSIONS ARE IN INCHES

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.

TIME MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
	LBR	3-25-11	SST36NE-01 CRITICAL FASTENERS
MATERIAL	SIZE	SCALE	
	A	1=35	
FINISH	EST WT #	MANUAL	
SHEET	1 OF 1	DWG. NO.	20887-DWG

DAILY VISUAL INSPECTION

REV.	ERON NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
59152		FIRST RELEASE	LBR	DJH	SRS	03/25/11



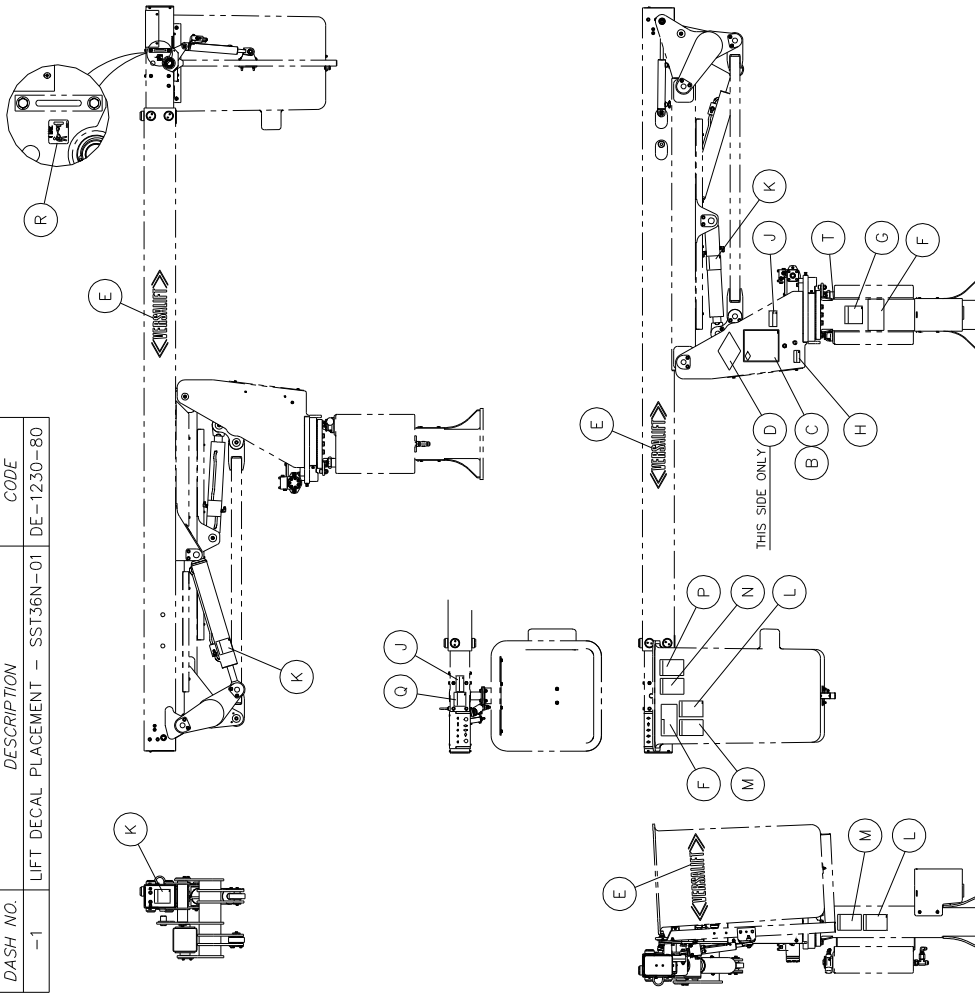
NOTES:

- 1.) CRITICAL WELD JOINTS TO BE INSPECTED ARE INDICATED BY ARROWS. THE JOINTS MAY INCLUDE WELDS ON TWO SIDES OR INSIDE AND OUTSIDE AS APPLICABLE.
- 2.) ALL WELDED PIN RETAINER TABS ARE CRITICAL WELDS.
- 3.) ANY STRUCTURAL WELD FOUND DEFECTIVE SHOULD BE CORRECTED AND NEVER IGNORED. WELDS MUST BE REPAIRED IN ACCORDANCE WITH ANSI 92.2-1990 REQUIREMENTS. CONSULT FACTORY FOR MATERIAL SPECIFICATIONS AND PROPER WELDING SPECIFICATIONS.
- 4.) SEE MOUNTING HARDWARE FOR ADDITIONAL CRITICAL WELD REQUIREMENTS.

UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS FRACTIONS $\pm 1/16$ X $\pm .03$ ANGLES $\pm .005$ MACHINED SURFACE FINISHES = .125 PROJECTION OF VIEWS = 1ST ALL DIMENSIONS ARE IN INCHES 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.	MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE SST36-01 CRITICAL WELDS
		LBR	03/25/11	
MATERIAL		SIZE	SCALE	
FINISH		A	1=35	
		EST WT #	MANUAL	
			-	
		SHEET	DWG. NO.	
		1 OF 1	20885-DWG	

DAILY VISUAL INSPECTION

DASH NO.	DESCRIPTION	CODE
-1	LIFT DECAL PLACEMENT - SST36N-01	DE-1230-80



QTY.	ITEM	LOCATION
1	B	ON CURB SIDE OF TURRET
1	C	ON CURB SIDE OF TURRET
1	F	NEAR LOWER CONTROLS
1	L	NEAR LOWER CONTROLS
1	M	NEAR LOWER CONTROLS
4	S	ON FRONT, REAR, AND EACH SIDE OF CHASSIS

* INDICATES PART IS SHIPPED LOOSE.

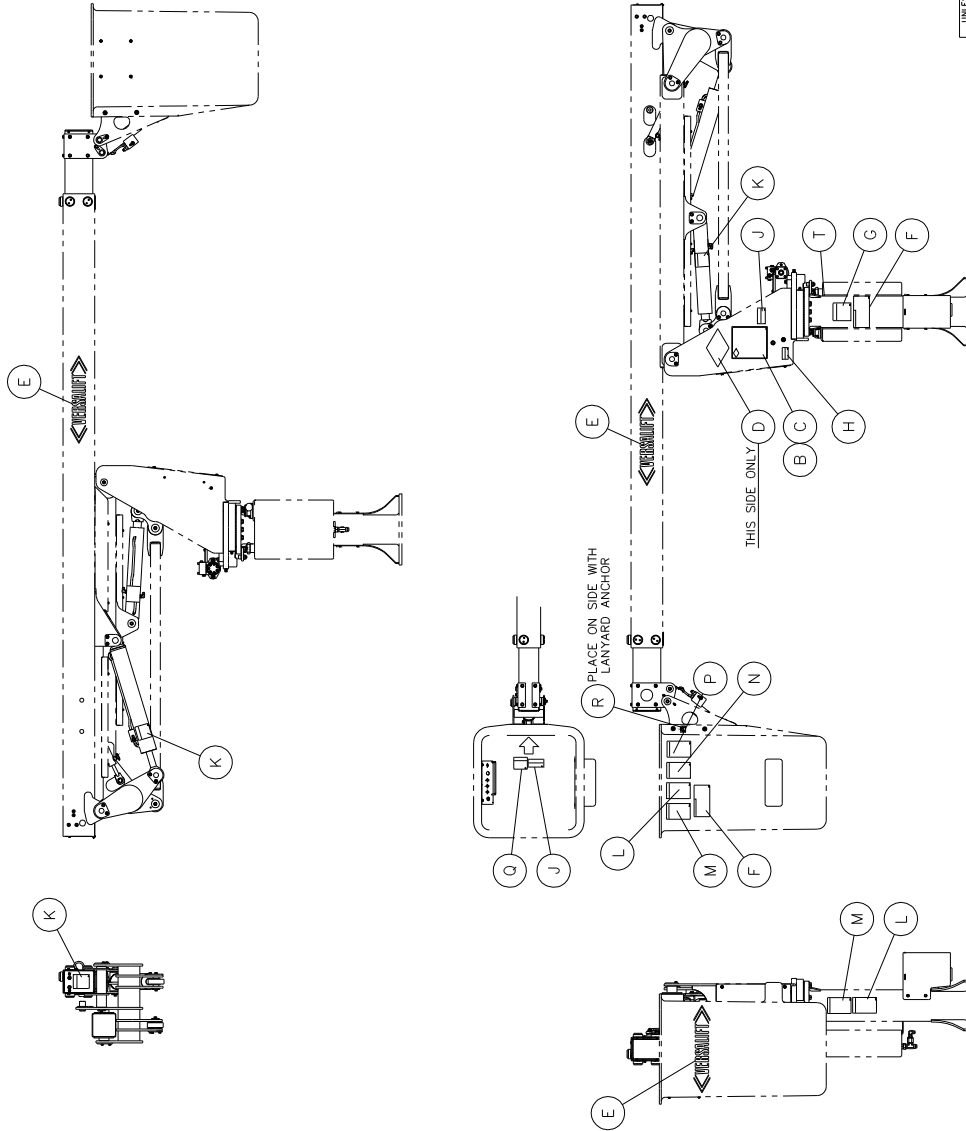
QTY.	ITEM	PART NO.	DESCRIPTION
1	T	27648-1	DECAL, PINCH WARNING
4	S	4542-2	DECAL, DANGER ELECTROCUTION
1	R	30593-1	DECAL, LANYARD ATTACHMENT
REF	Q	REF	DECAL, PLATFORM CAPACITY
1	P	14014-1	DECAL, PLATFORM INSTRUCTIONS
1	N	14110-1	DECAL, ELECTROCUTION HAZARD
2	M	4542-6	DECAL, DANGER
2	L	4542-5	DECAL, CAUTION
3	K	7500-1	DECAL, HOLDING VALVE
2	J	13144-1	DECAL, LOWERING LOWER BOOM
1	H	7584-1	DECAL, RELIEF ADJUSTMENT
1	G	12337-1	DECAL, OWNERS TRANSFER
2	F	4542-12	DECAL, DANGER
3	E	4541-1	DECAL, VERSALIFT SMALL
1	D	426-011	VERSALIFT NAME PLATE
1	C	1006487-1	DATA PLATE BACKING
1	B	1006486-1	DATA PLATE
2	A	1006658-DWG	LIFT DECAL PLACEMENT

UNLESS OTHERWISE NOTED:
 TOLERANCES: DECIMALS
 ANGLES: 1/16 XX ± .03
 MACHINED SURFACE FINISHES: 125
 PROJECTION OF VIEWS: 2D
 ALL DIMENSIONS ARE IN INCHES
 INFORMATION AND IS SOLE PROPERTY
 TO BE DISCLOSED, COPIED, OR NOT
 IN PERMISSION OF TIME MANUFACTURING.

LIST OF MATERIAL		REV. BY DATE		TITLE	
MANUFACTURING COMPANY		DTG	3/7/16	LIFT DECAL	
WACO TEXAS		SCALE	1/30	PLACEMENT	
MATERIAL		EST WT #	MANUAL	SST36N-01	
FINISH		SHEET	1 OF 1	DWG. NO.	1006658-DWG

DASH NO.	DESCRIPTION	CODE
-1	LIFT DECAL PLACEMENT - SST36NE-01	DE-1230-81

DECAL LOCATION CHART	
QTY.	ITEM LOCATION
1	B ON CURB SIDE OF TURRET
1	C ON CURB SIDE OF TURRET
1	F NEAR LOWER CONTROLS
1	L NEAR LOWER CONTROLS
1	M NEAR LOWER CONTROLS
4	S ON FRONT, REAR, AND EACH SIDE OF CHASSIS



* INDICATES PART IS SHIPPED LOOSE.

QTY.	ITEM	PART NO.	DESCRIPTION
1	T	27648-1	DECAL, PINCH WARNING
* 4	S	4542-2	DECAL, DANGER ELECTROCU
1	R	30593-1	DECAL, LANYARD ATTACHMENT
REF	Q	REF	DECAL, PLATFORM CAPACITY
1	P	14014-1	DECAL, PLATFORM INSTRUCTIONS
1	N	14110-1	DECAL, ELECTROCU HAZARD
* 2	M	4542-6	DECAL, DANGER
* 2	L	4542-5	DECAL, CAUTION
3	K	7500-1	DECAL, HOLDING VALVE
2	J	13144-1	DECAL, LOWERING LOWER BOOM
1	H	7584-1	DECAL, RELIEF ADJUSTMENT
1	G	12337-1	DECAL, OWNERS TRANSFER
* 2	F	4542-12	DECAL, DANGER
3	E	4541-1	DECAL, VERSALIFT SMALL
1	D	426-011	VERSALIFT NAME PLATE
* 1	C	1006487-1	DATA PLATE BACKING
* 1	B	1006486-1	DATA PLATE
2	A	1006659-DWG	LIFT DECAL PLACEMENT

LIST OF MATERIAL	
QTY.	DESCRIPTION
1	OF 2
1	SHEET
1	DWG. NO. 1006659-DWG

OWN BY	DATE	TITLE
MANUFACTURING COMPANY	3/7/16	LIFT DECAL
WACO TEXAS	SCALE	PLACEMENT
	EST WT #	SST36NE-01
	MANUAL	
	FINISH	

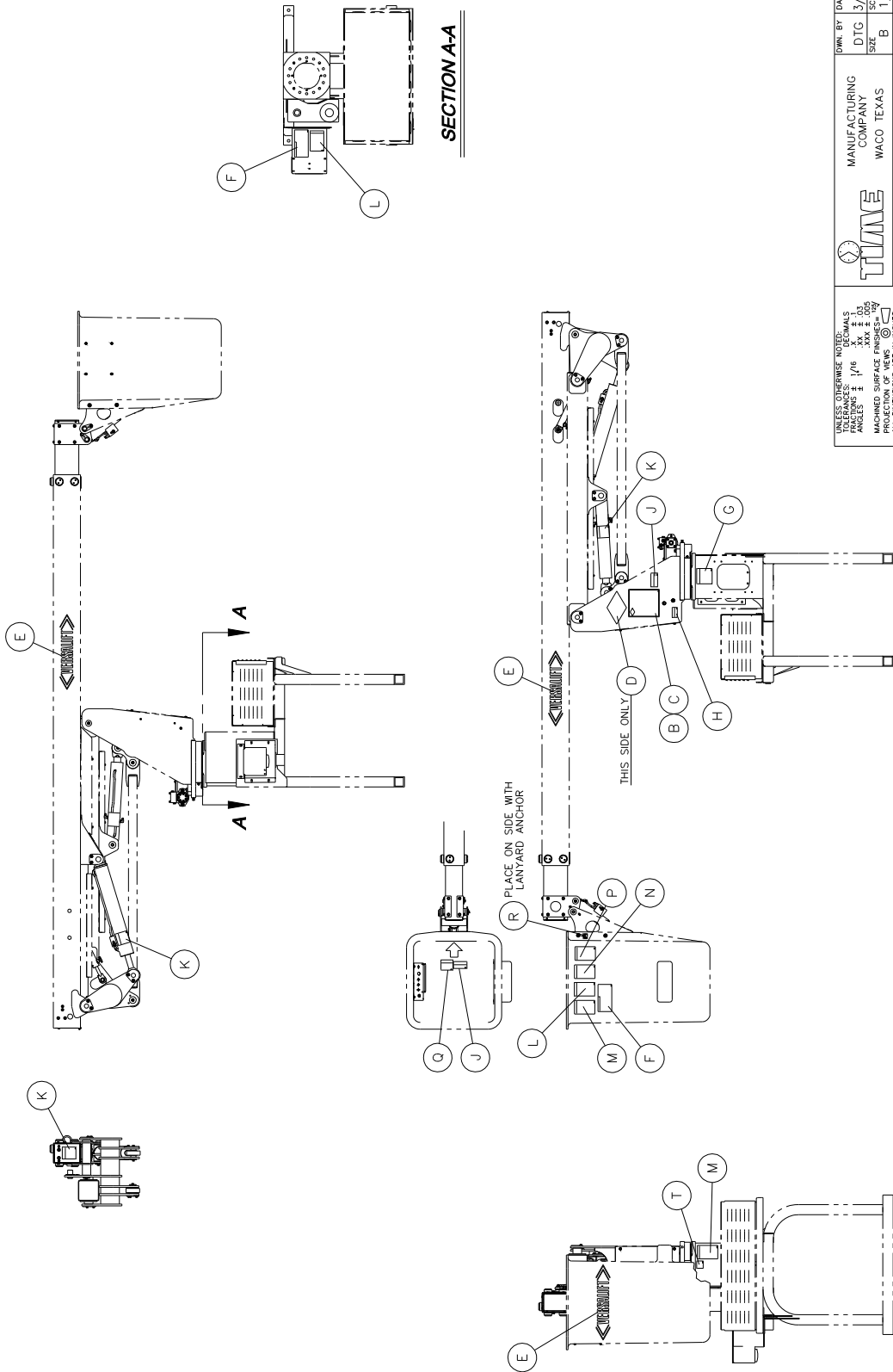
UNLESS OTHERWISE NOTED:
 DIMENSIONS ARE IN INCHES
 FRACTIONS ± 1/16
 DECIMALS ± .005
 ANGLES ± 1°
 MACHINED SURFACE FINISHES - .008
 ALL DIMENSIONS ARE IN INCHES
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DAILY VISUAL INSPECTION

DAILY VISUAL INSPECTION

REV 1

BRIDGE MOUNT VIEWS



SECTION A-A

	MANUFACTURING COMPANY	WACO TEXAS
	UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS .1/16 ± .004 .004 ± .002 .002 ± .001 .001 ± .0005 MACHINED SURFACE FINISHES: .125 .063 .031 .015 PROJECTION OF VIEW: FIRST ANGLE THIS PRINT CONTAINS CONFIDENTIAL INFORMATION. IT IS THE PROPERTY OF TIME MANUFACTURING, AND IS NOT TO BE REPRODUCED, COPIED, OR REPRODUCED WITHOUT EXPRESSED PERMISSION OF TIME MANUFACTURING.	
	DATE	3/7/16
	DTG	B
TITLE		LIFT DECAL PLACEMENT SST36NE-01
SCALE		1/30
EST. WT #		MANUAL
SHEET		2 OF 2
DWG. NO.		1006659-DWG