



Operator's Manual


TEL-29-N/NE

Aerial Device


SERIAL NUMBER


22011-12

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.

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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.



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INTRODUCTION

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

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

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

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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.

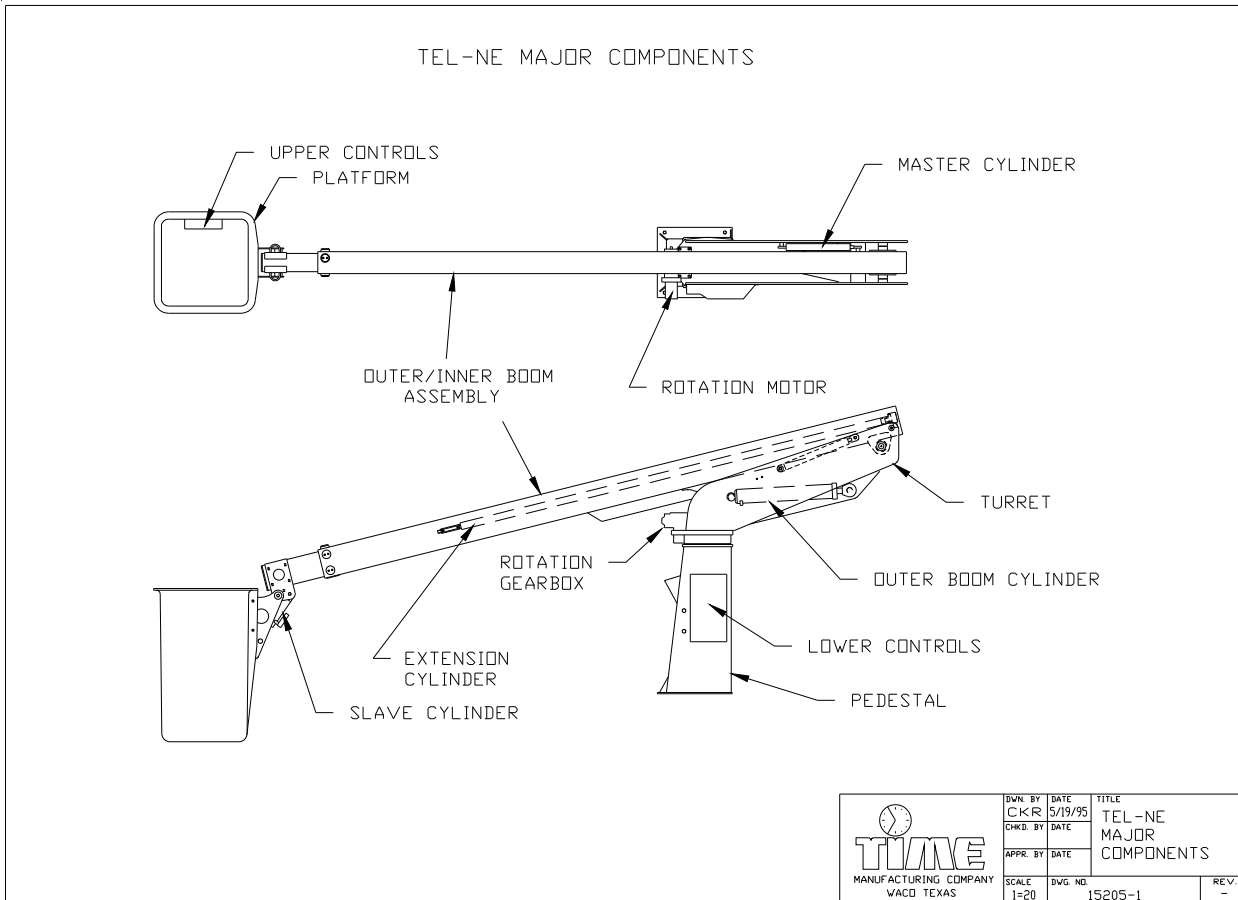
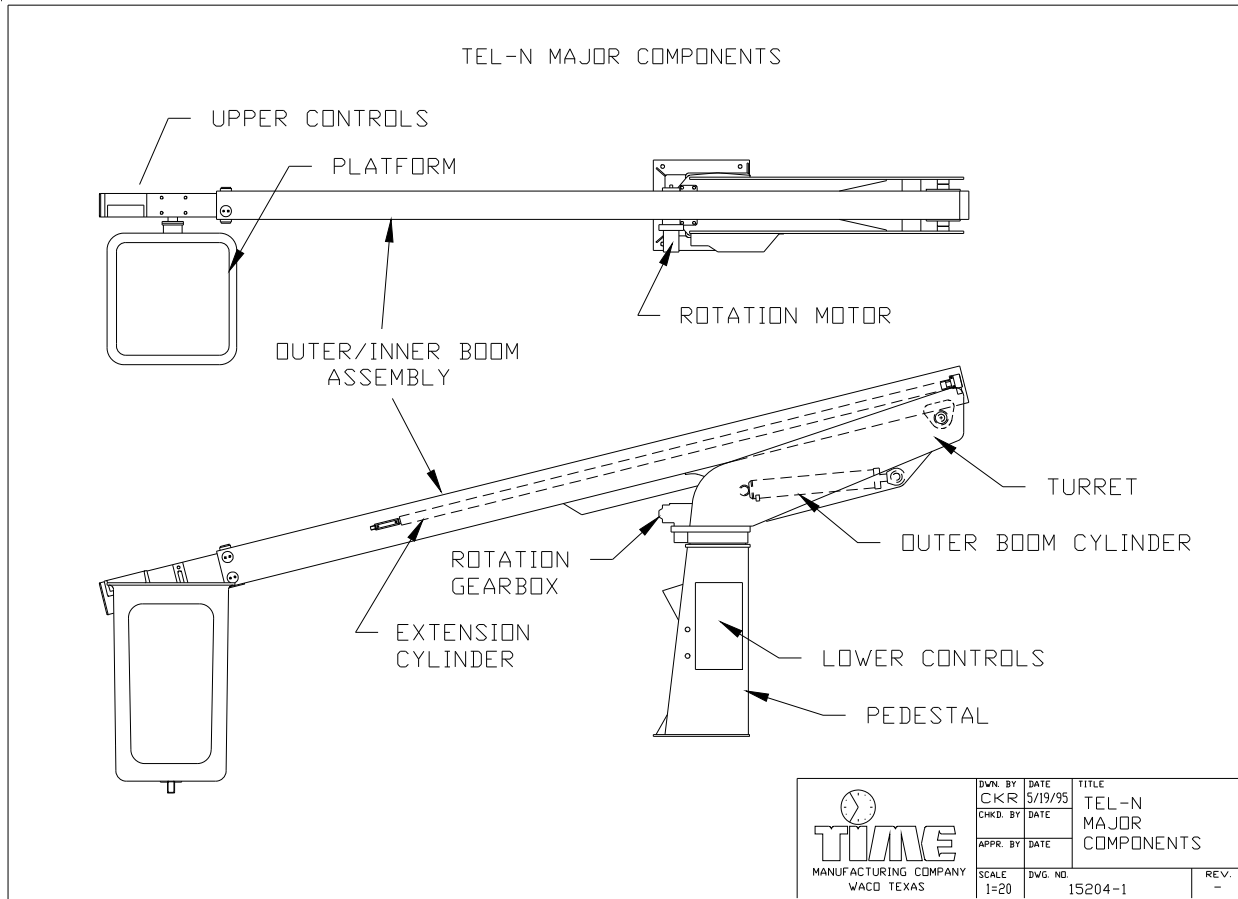



Figure 1.1 Model TEL-29-N/NE Nomenclature

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

VERSALIFT

Model Serial number Date m/y/d

TIME MANUFACTURING COMPANY
PO BOX 20398
WACO, TEXAS 76792
www.versalift.com

Number of platforms Electrical system voltage Vdc

Capacity per platform (See manual and decals for specific capacity) Lbs Kg

Platform height Ft M

The boom is insulated Yes No Hydraulic system operating pressure Psi Kg/Cm²

Chassis insulating system Yes No Dielectric category

Equipped with high electrical resistance upper controls Yes No Rated line voltage

Configured for electrical work rubber gloving Yes No Date of Qualification test

Unit equipped for material handling Yes No Date of Stability test

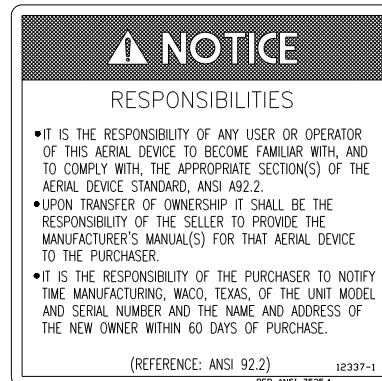
Outriggers are required for stability Yes No Installed by

OPERATING INSTRUCTIONS Before operating this unit, read and understand all operating and safety information in manual and all information on this placard.

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 This unit complies with ANSI A82.2 and CSA C225
-40°F to 120°F (-40°C to 49°C)

1006486-1 & 1006487-1 (DATA BACKING)




12337-1



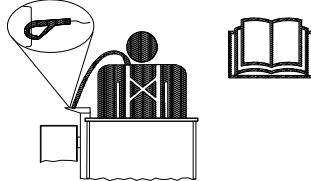
7584-1

RESPONSIBILITIES / SAFETY

WARNING



Fall Hazard
Falling can result in death or serious injury.

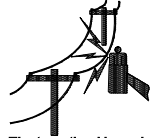


Wear approved personnel fall protection equipment and attach lanyard to the anchor provided.
Read and understand operator's manual.

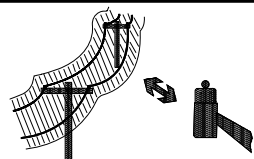
14014-1 PER ANSI Z359.4

14014-1

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 Z359.4

4542-6

DANGER

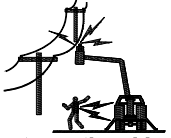
FAILURE TO OBEY THE FOLLOWING WILL RESULT IN DEATH OR SERIOUS INJURY

- 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

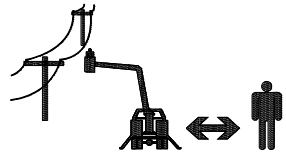
4542-5 PER ANSI Z355.4-1991

4542-5

DANGER



Electrocution Hazard
This equipment may be energized during operation. Contact with energized vehicle will result in death or serious injury.



STAY CLEAR of machine.

4542-2 PER ANSI Z359.4

4542-2

DANGER

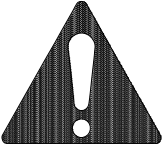
IMPROPER HOLDING VALVE ADJUSTMENT WILL RESULT IN DEATH OR SERIOUS INJURY

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 Z355.4-1991

7500-1

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 Z359.4

4542-12


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-X PER ANSI Z355.4-1991

14015-X

DANGER



KEEP HANDS CLEAR WHEN ROTATING

27648-1 PER ANSI Z355.4-1991

27648-1

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°

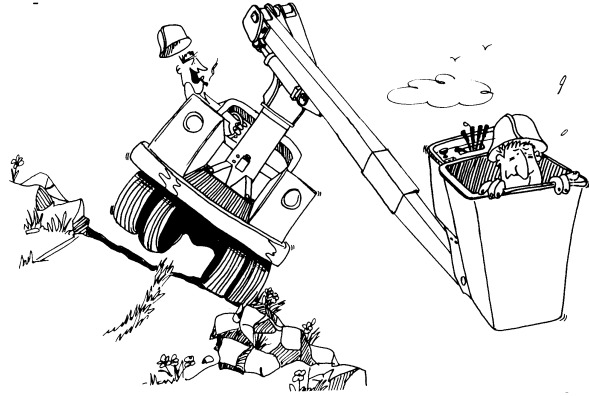
33656-1

33656-1

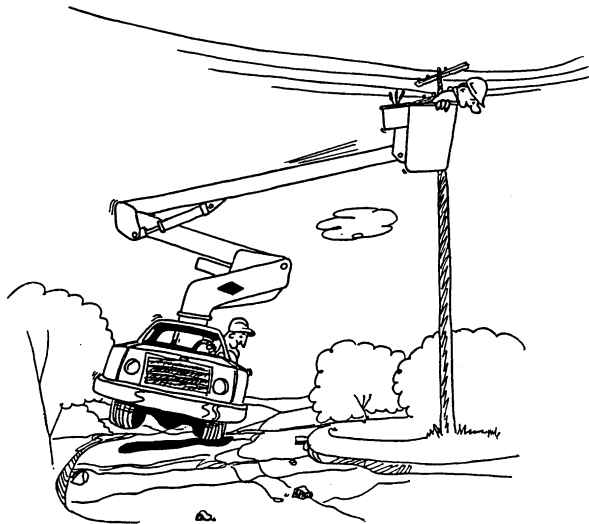
A safe attitude is very important to you, the operator. Practice anticipating accidents and operating hazards. Then determine a corrective course of action to respond to the situation. This habit will sharpen your safety awareness, quicken your reaction time, and prevent many accidents.

THINK SAFETY

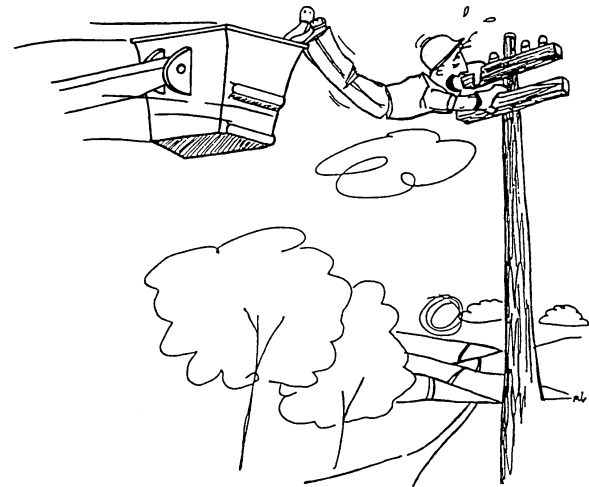
The following sketches illustrate some of the unsafe situations that might occur during the use or operation of the **Versalift**. Some of these safety problems are very basic and as a result are often taken for granted.



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".

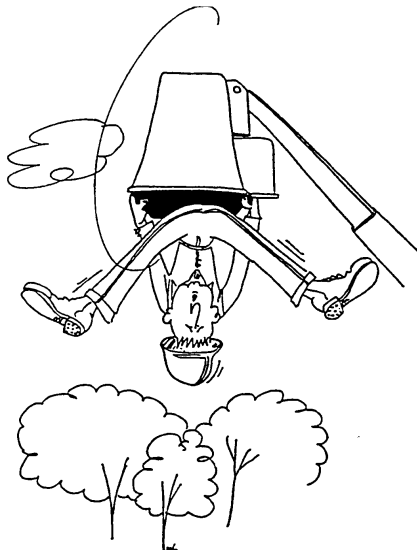


Always engage the outriggers, and maintain the correct tire pressure to increase vehicle stability.

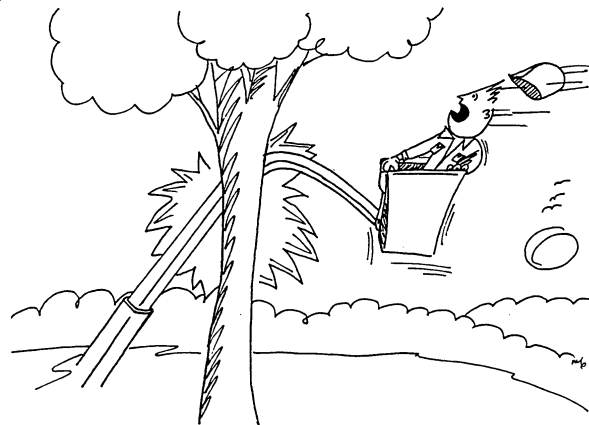


Remember to set the parking brake and chock the truck's wheels.

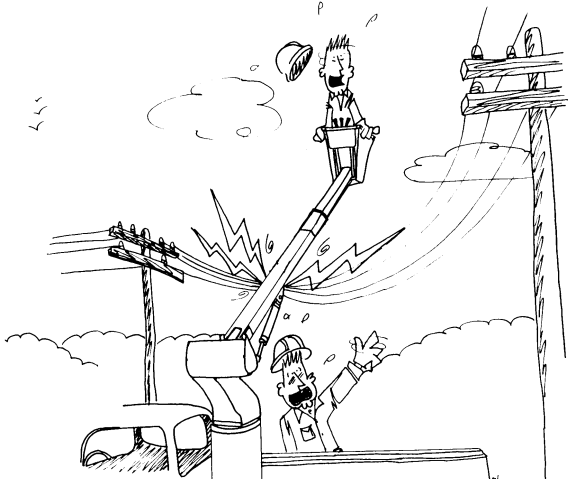
RESPONSIBILITIES / SAFETY



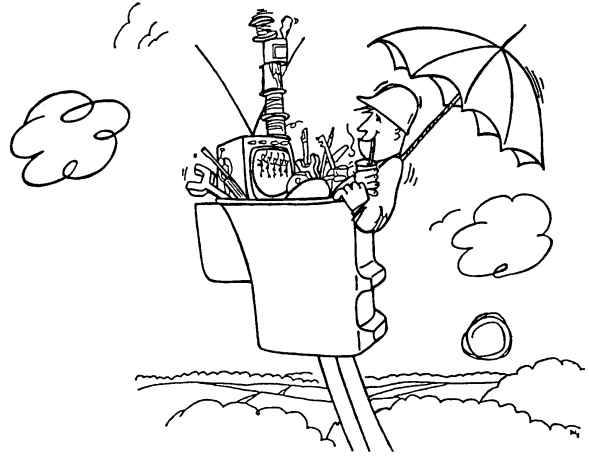
Always wear a personnel restraint system attached to the lanyard anchor.



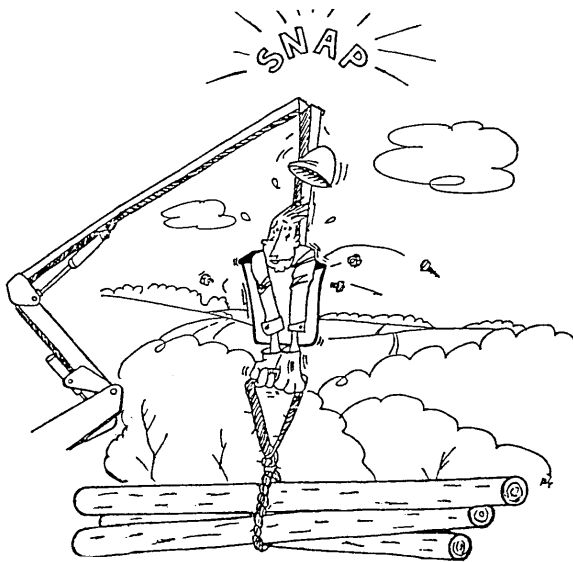
Watch the booms to make sure they clear the truck and other obstructions.



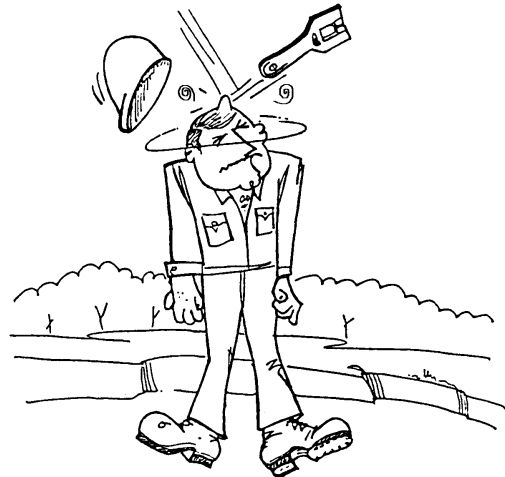
Maintain safe clearances from electrical power lines and apparatus. The aerial lift does not provide protection from contact or proximity to two or more electrically charged conductors.



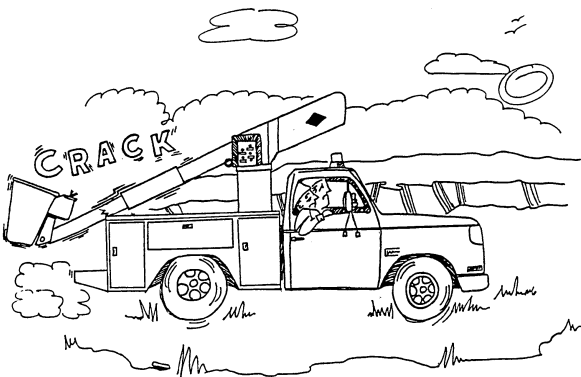
Whenever tools or equipment are included with the operator in the platform the combined weight must not exceed the rated load capacity.



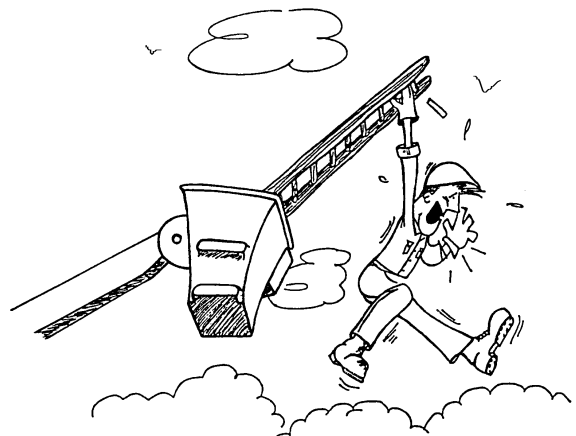
Never use the VERSALIFT as a crane



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 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.

The Versalift TEL-29-N aerial device provides a side mounted single man platform. The Versalift TEL-29-NE aerial device provides an end mounted single man platform. The following is a brief description of the major components of the aerial lifts.

PLATFORM - The standard fiberglass platform is 24 in X 24 in. X 42 in. (.61 m X .61 m X 1.07 m) with a step-through opening for easy access. The standard platform capacity is 350 lbs. (136 kg) for side mounted and end mounted platforms. For *maximum* capacity platforms, please refer to Option Specifications. Leveling is gravity actuated with a hydraulic dampener, travel limit stops, and a spring loaded pin lock. Hydraulic leveling is standard on the TEL- NE (end mounted platform) and optional on the TEL-N (side mounted platform). Walk-in platforms, splicing platforms, and rotating splicing platforms are also available.

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.

OUTER/INNER BOOM ASSEMBLY - The major components of the outer/inner boom assembly include an outer boom, a telescoping inner boom, an extension cylinder, a hose carrier system, and slide pads mounted on the inner and outer boom.

The outer boom consists of an 6 in. X 8 in. (152 mm X 203 mm) rectangular steel section. The telescoping inner boom consists of a 5 in. X 7 in. (127 mm X 178 mm) rectangular aluminum section. The inner boom does not have to be removed to service the extension cylinder or slide pads.

The extension system consists of a hydraulic cylinder with wear rings on the piston and end gland and a holding valve mounted to the cylinder base. The hose carrier system is a multi-link assembly with adequate space to carry hoses and wiring to the upper control station.

Ultra high molecular weight plastic slide pads mounted on the inner boom can be changed without removing the inner boom. The outer boom side and top slide pads are infinitely adjustable and the lower

pad can be replaced without removing the inner boom. The telescoping outer/inner boom assembly articulates from 14° below horizontal to 74° above horizontal. A double acting cylinder, equipped with a counter balance holding valve provides boom elevation.

A boom support cradle and a ratchet-type boom tie down strap are included.

TURRET - The turret wings are 1/2 in. (13 mm) thick steel plate. A steel tube is welded between the turret wings to support the boom cylinder and provide rigidity. The turret plate is machined flat to support the rotation bearing. A bearing cover is provided to prevent foreign material from interfering with lift rotation.

ROTATION - Rotation is 360° non-continuous with an electric limit switch to prevent hose and wiring damage. Continuous unrestricted rotation is available as an option (see option descriptions). Rotation is accomplished by a hydraulically driven worm and spur gear and a shear-ball rotation bearing. The critical bolts holding the turret to the rotation bearing and the rotation bearing to the pedestal meet SAE grade 8 specifications. These critical bolts are Torque Seal Marked to provide a quick means to inspect for loosening. An adjustment screw is provided to adjust pinion and rotation gear clearances.

PEDESTAL - The standard pedestal is a rectangular shape with an access door on one side. The hydraulic reservoir is built into the pedestal. A 100 mesh suction strainer, 10 micron return filter and shut off valves are located inside the pedestal. The top plate of the pedestal is 1-1/4 in. (32 mm) thick and machined flat to support the rotation bearing. Extended and bridge mount pedestals are available (see option descriptions).

LUBRICATION - Non-lube bearings are used at all points of motion. The rotation bearing is the only component that requires lubrication.

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

HYDRAULIC OIL RESERVOIR - Designed as an integral part of the pedestal, the reservoir has an anti-splash baffle and easy-to-read fluid level gauges. The total volume of the reservoir is 8 gallons (30.3 l) with a 7 gallon (26.5 l) oil capacity.

CYLINDERS - The extension cylinder has wear rings on the piston and end gland for extended seal life. A

double acting holding valve is mounted at the extension cylinder base to prevent boom creep during travel or uncontrolled movement in case of hydraulic hose failure. The extension cylinder can be removed without removing the inner boom. A hydraulic regeneration feature on the extension cylinder provides extension and retraction at approximately the same speed. The boom elevation cylinder has a single acting holding valve.

BOOM AND CYLINDER PINS - Pins are high strength alloy steel and chrome plated for a hard finish and corrosion resistance. Cylinder pins are held in place with a Torque-Seal marked bolts at one end and a pin cap bolted to the end.

CONTROL VALVE - The system pressure relief, hydraulic leveling (standard on TEL-NE), two speed (option), variable speed (option), and the electric/hydraulic boom function valves are a single integrated system and mounted on the turret wing. Electric lower controls which override the upper controls are located below rotation.

UPPER CONTROL - On the TEL-N (side mounted platform) all switches are recessed into the inner boom. The TEL-NE (end mount platform) has the control panel mounted inside the platform (an outside the platform control panel is available as an option). To protect against inadvertent operation, a spring loaded master control switch is provided. Boom function switches are self-centering, weather resistant, and are located in a logical sequence for the operator. Engine stop and start is one dual action switch. The engine stop is an instant kill circuit. GFCI receptacle (120 V power) and optional pneumatic circuits (1 or 2) are located at the end of the boom.

HYDRAULIC SYSTEM - The open center hydraulic system operates at 2250 PSI (155 bars) at 2 GPM (8 LPM). The pump draws oil through a 100 mesh suction strainer that is equipped with a bypass valve. A 10 micron return filter with shut-off valve is included. Sight gauges are furnished for checking fluid level. This system can be powered by the chassis engine, a chassis transmission power take off, a separate engine/generator package or an electric motor (see option descriptions).

ENGINE START/STOP - The start/stop system has been designed so that the lift cannot be operated normally unless the Versalift power switch is activated and the truck ignition is in the "on" position. This feature makes it difficult for unauthorized individuals to operate the lift when the truck is locked. Start/stop controls are located at the upper and lower control stations.

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

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

OPTION SPECIFICATIONS

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

BRIDGE MOUNT PEDESTALS - These pedestals allow for a 26-1/4 in. x 25-1/2 in. (.67m x .65m) or a taller 26-1/4 in. x 32-1/2 in. (.67m x .83m) unobstructed truck body tunnel from street side through to the curb side. Special mounting hardware is included. The 10 gallon (38 l) poly reservoir is mounted on the bridge structure. A 100 mesh suction filter and spin-on 10 micron return line filter are included.

CONTINUOUS ROTATION - Rotation is continuous and unrestricted in either direction. An electric and hydraulic collector assembly provides a path for hydraulic oil and electric signals from the pedestal to turret. This option is available on all pedestals.

HYDRAULIC LEVELING - Platform leveling is controlled automatically by a master and slave cylinder arrangement. The platform leveling system can be manually activated from the upper or lower controls to level the platform, to stow and unstow the platform, or to tilt the platform for clean out and rescue. While optional on the TEL-N (side mounted platform), this feature is standard on the TEL-NE (end mounted platform).

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 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. Toggle switches are used to energize the system at the upper and lower controls. Backup pump is only available when the primary power source is not operating.

EMERGENCY LOWERING - This system consists of an electric solenoid valve attached to the lower boom cylinder. When actuated at the upper controls, the valve opens and allows the boom to slowly bleed down.

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.

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.

EXTRA CONTROL CIRCUIT FROM THE PLATFORM - Consists of an additional toggle switch at the platform. The number of additional control circuits available depends on the number of control options selected.

TWO-SPEED MANUAL THROTTLE CONTROL - Gives the operator a choice of efficient, economical engine idle speed or a preset higher engine speed when operating hydraulic tools.

VARIABLE SPEED CONTROL - This option is designed as an integral part of the control valve on the aerial devices. The inlet flow to the four way control valve is regulated from no flow to maximum flow by a flow control valve. The controls include the same switches to control the lift functions with a rotational control knob to regulate the speed of operation. The upper control arrangement on the TEL-N stays basically the same with the exception of the addition of the variable speed control switch, and the removal of the master control push button switch. The upper control arrangement on the TEL-NE includes a control housing installed on the outside of the platform.

HYDRAULIC PUMP POWER SELECTION - Various systems are available to power the aerial devices. All orders must include one of the following selections and additional information on the chassis engine, transmission, and air conditioning options. Not all chassis will accept a belt-drive and/or a power-take-off.

A belt drive variation includes an electric clutch/pump assembly for mounting on the engine accessory belt drive. Consult factory installation information for details. Chassis with air conditioning may not be suitable for this option.

A power-take-off may be used and is installed on the chassis transmission. Some chassis with automatic transmissions will not accommodate this drive option.

A 5,500 or 7,000 watt engine generator with extended shaft driving the hydraulic pump is available.

An electric motor drive for the hydraulic pump is also available.

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 TEL-NE (end-mounted platform)

PLATFORM VARIATIONS - The standard platform has a step through opening. The following platform options are available.

The step through splicing platform and walk-in splicing platform can be equipped with door, top, tent, seat, heater, accessory cavity, tool pouches, and splicing machine stand. The side mounted walk-in rotating splicing platform can be equipped with door, top, tent, heater, tool pouches, and splicing machine stand. This option is not available on the TEL-NE. Hydraulic leveling is required. The capacity for the rotating splicing platform is restricted to 300 lbs. (136 kg).

An open square steel platform is available.

The TEL-NE can be equipped with a 24 in. X 30 in. X 42 in. (.61 m X .76 m X 1.07 m) step through or walk-in platform.

The reverse mount platform is mounted on the opposite side of the boom. This orients the platform to the curb side when the aerial is stowed to the front and mounted over the rear axle. Hydraulic leveling is recommended with this platform option. The extended pedestal may be required for chassis clearance.

CAPACITY VARIATIONS:

- A maximum of 350 lbs. (160 kg) can be specified on the TEL-N only.
- A maximum of 400 lbs. (181 kg) can be specified on the TEL-NE only.

Increased curb weight may be required for stability with either the 350 lbs. (160 kg) or 400 lbs. (181 kg) capacity. The 350 lbs. (160 kg) and 400 lbs. (181 kg) capacity are not available with the walk-in rotating splicing platform.

VINYL PLATFORM COVER - A 24 in. X 24 in. (.61 m X .61 m) and a 24 in. X 30 in. (.61 m X .76 m) soft vinyl cover is available.

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

TALLER PEDESTAL - A 6 in. (152 mm) and 12 in. (305 mm) taller pedestal are available for increased cab clearance.

120V HOUR METER - This option is available with the engine driven generator power source and the electric drive power source.

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

TEL-29-N DIMENSIONAL SPECIFICATIONS

Note: All dimensions and angles are nominal, based on 40 in. (1.02 m) frame height with bottom of pedestal mounted 5 in. (127 mm) above the top of the frame.

Horizontal Reach	20 ft. 8 in. (6.30 m)
Maximum Rated Platform Capacity	350 lbs. (160 kg)
Standard Rated Platform Capacity	300 lbs. (136 kg)
Outer Boom Travel	-14° to +74°
Inner Boom Extension	116 in. (2.95 m)

Standard Pedestal

Height to Bottom of Platform	28 ft. 11 in. (8.81 m)
Working Height	33 ft. 11 in. (10.34 m)
Stowed Travel Height	9 ft. 9 in. (2.97 m)
Weight of Lift w/ Mounting Hardware	1,440 lbs. (653 kg)

6 in. (152 mm) Taller Pedestal

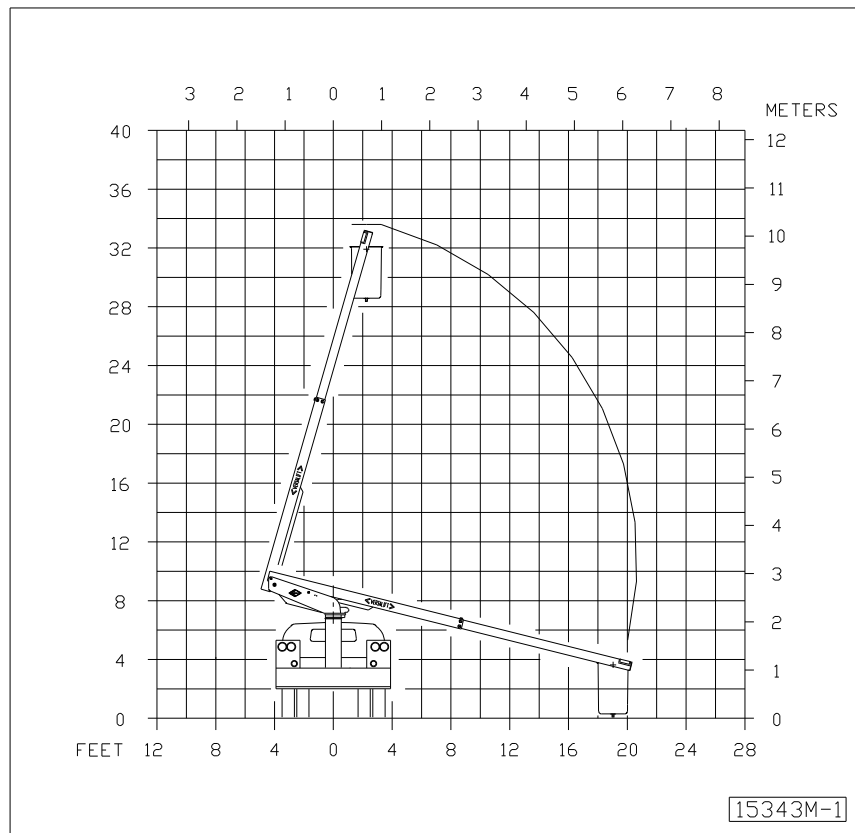
Height to Bottom of Platform	29 ft. 5 in. (8.97 m)
Working Height	34 ft. 5 in. (10.50 m)
Stowed Travel Height	10 ft. 3 in. (3.12 m)
Weight of Lift w/ Mounting hardware	1,465 lbs. (664 kg)

12 in. (305) Taller Pedestal

Height to Bottom of Platform	29 ft. 11 in. (9.12 m)
Working Height	34 ft. 11 in. (10.64 m)
Stowed Travel Height	10 ft. 9 in. (3.28 m)
Weight of Lift w/ Mounting hardware	1,490 lbs. (676 kg)

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

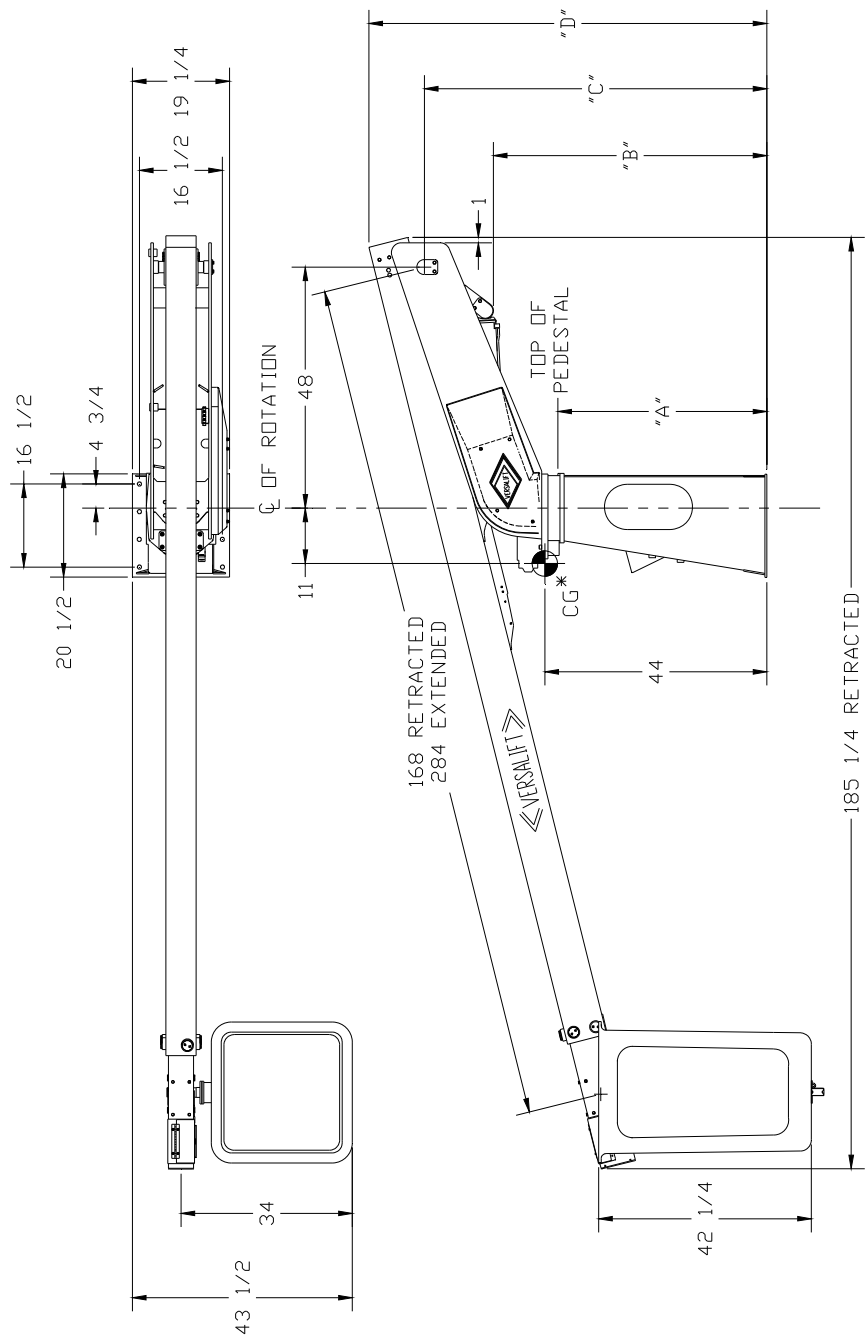
SPECIFICATIONS



**TEL-29-N
Platform Travel**

SPECIFICATIONS

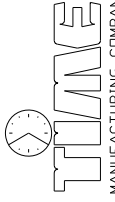
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* STANDARD PEDESTAL ONLY

PEDESTAL	"A"	"B"	"C"	"D"	WEIGHT
STANDARD	41 1/2	54 1/4	68	79	1360
6 IN. TALLER	47 1/2	60 1/4	74	85	1385
12 IN. TALLER	53 1/2	66 1/4	80	91	1400

SHEET 1 OF 2

 MANUFACTURING COMPANY WACO, TEXAS	DRAWN BY	DATE	TITLE
	CHKD. BY	DATE	TEL-29-N
	APPR. BY	DATE	OVERALL
SCALE	DWG. NO.	15387-1	
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TEL-29-NE DIMENSIONAL SPECIFICATIONS

Note: All dimensions and angles are nominal, based on 40 in. (1.02 m) frame height with bottom of pedestal mounted 5 in. (127 mm) above the top of the frame.

Horizontal Reach	22 ft. 7 in. (6.88 m)
Maximum Rated Platform Capacity	400 lbs. (181 kg)
Standard Rated Platform Capacity	300 lbs. (136 kg)
Outer Boom Travel	-14° to +74°
Inner Boom Extension	116 in. (2.95 m)

Standard Pedestal

Height to Bottom of Platform	29 ft. 9 in. (9.07 m)
Working Height	34 ft. 9 in. (10.6 m)
Stowed Travel Height	9 ft. 9 in. (2.97 m)
Weight of Lift w/ Mounting Hardware	1,460 lbs. (662 kg)

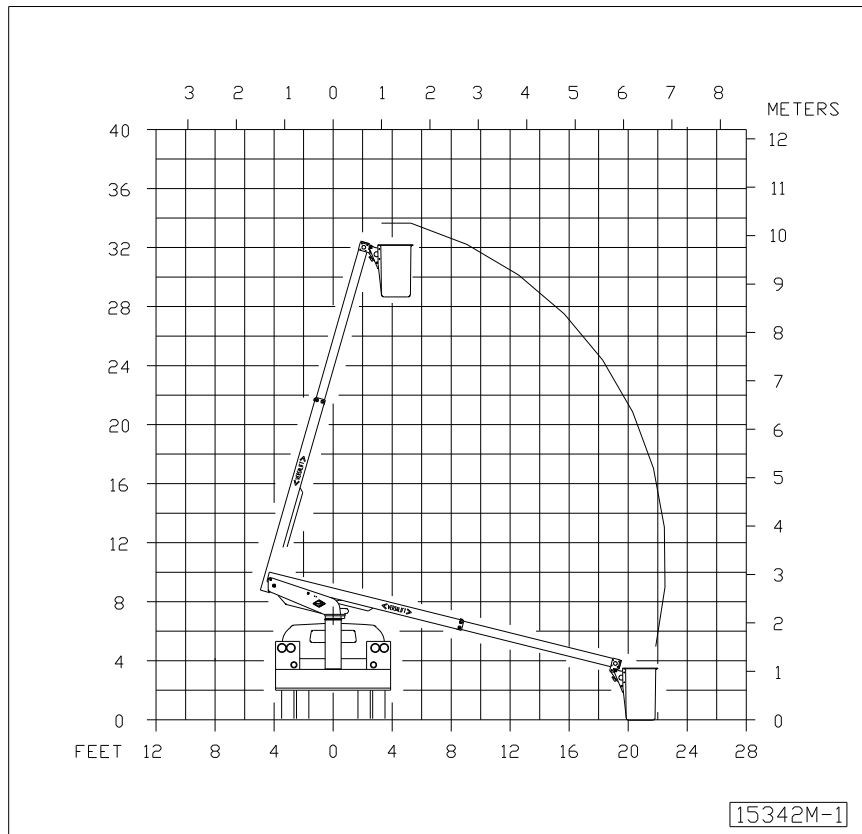
6 in. (152 mm) Taller Pedestal

Height to Bottom of Platform	30 ft. 3 in. (9.22 m)
Working Height	35 ft. 3 in. (10.74 m)
Stowed Travel Height	10 ft. 3 in. (3.12 m)
Weight of Lift w/ Mounting hardware	1,485 lbs. (674 kg)

12 in. (305 mm) Taller Pedestal

Height to Bottom of Platform	30 ft. 9 in. (9.37 m)
Working Height	35 ft. 9 in. (10.9 m)
Stowed Travel Height	10 ft. 9 in. (3.28 m)
Weight of Lift w/ Mounting hardware	1,510 lbs. (685 kg)

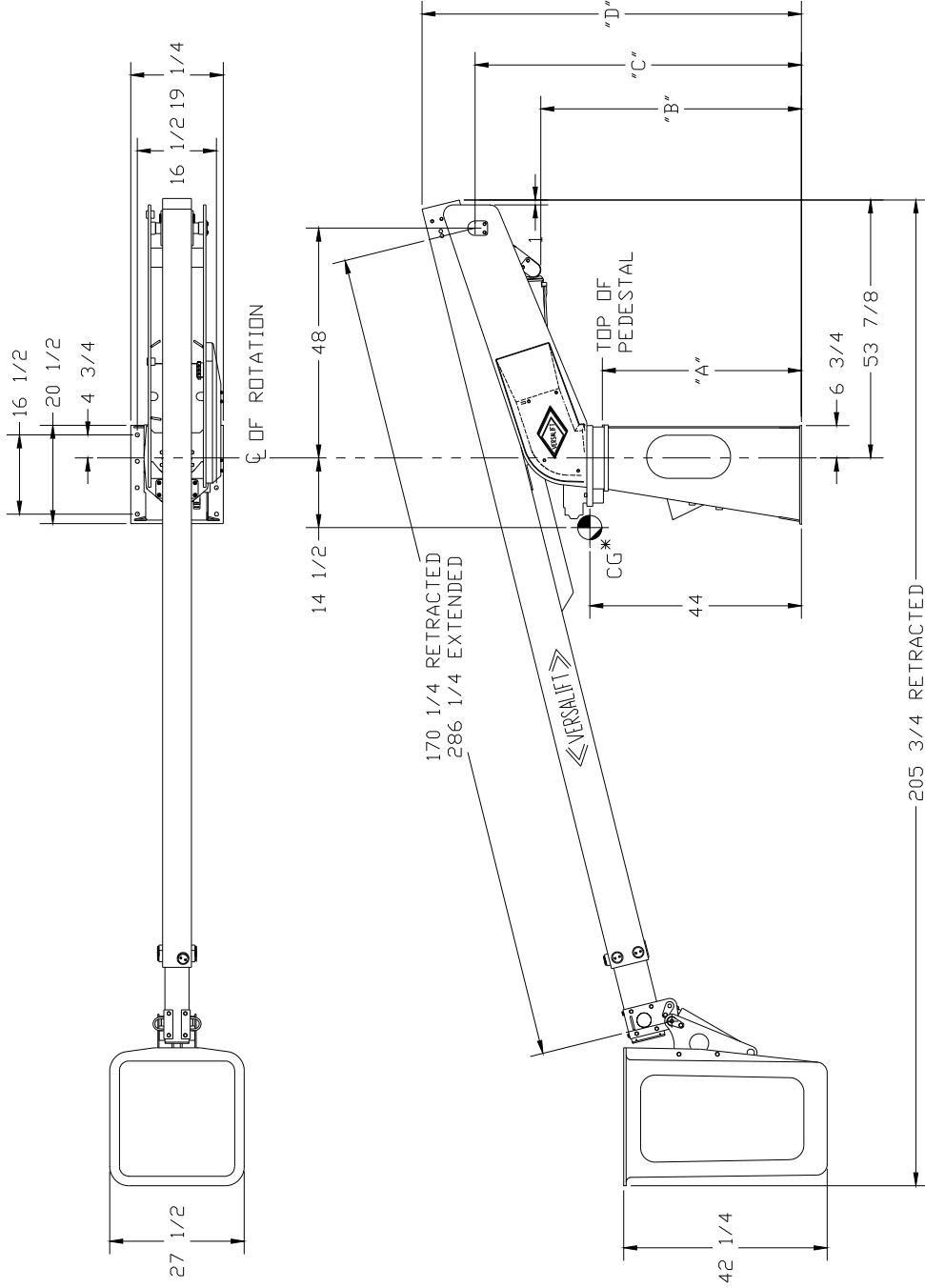
Ambient Temperature Range for Structural Integrity -40°F (-40°C) to 125°F (52°C)



**TEL-29-NE
Platform Travel**

SPECIFICATIONS

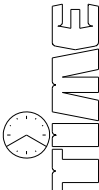
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PEDESTAL	"A"	"B"	"C"	"D"	WEIGHT
STANDARD	41 1/2	54 1/4	68	79	1380
6 IN. TALLER	47 1/2	60 1/4	74	85	1405
12 IN. TALLER	53 1/2	66 1/4	80	91	1430

* STANDARD PEDESTAL ONLY.

SHEET 1 OF 2

 MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
	CKR	6-16-95	TEL-29-NE
	CHKD. BY	DATE	OVERALL
	APPR. BY	DATE	
SCALE	DWG. NO.		
1=35	15386-1		

TEL-29-N/NE VEHICLE SPECIFICATIONS

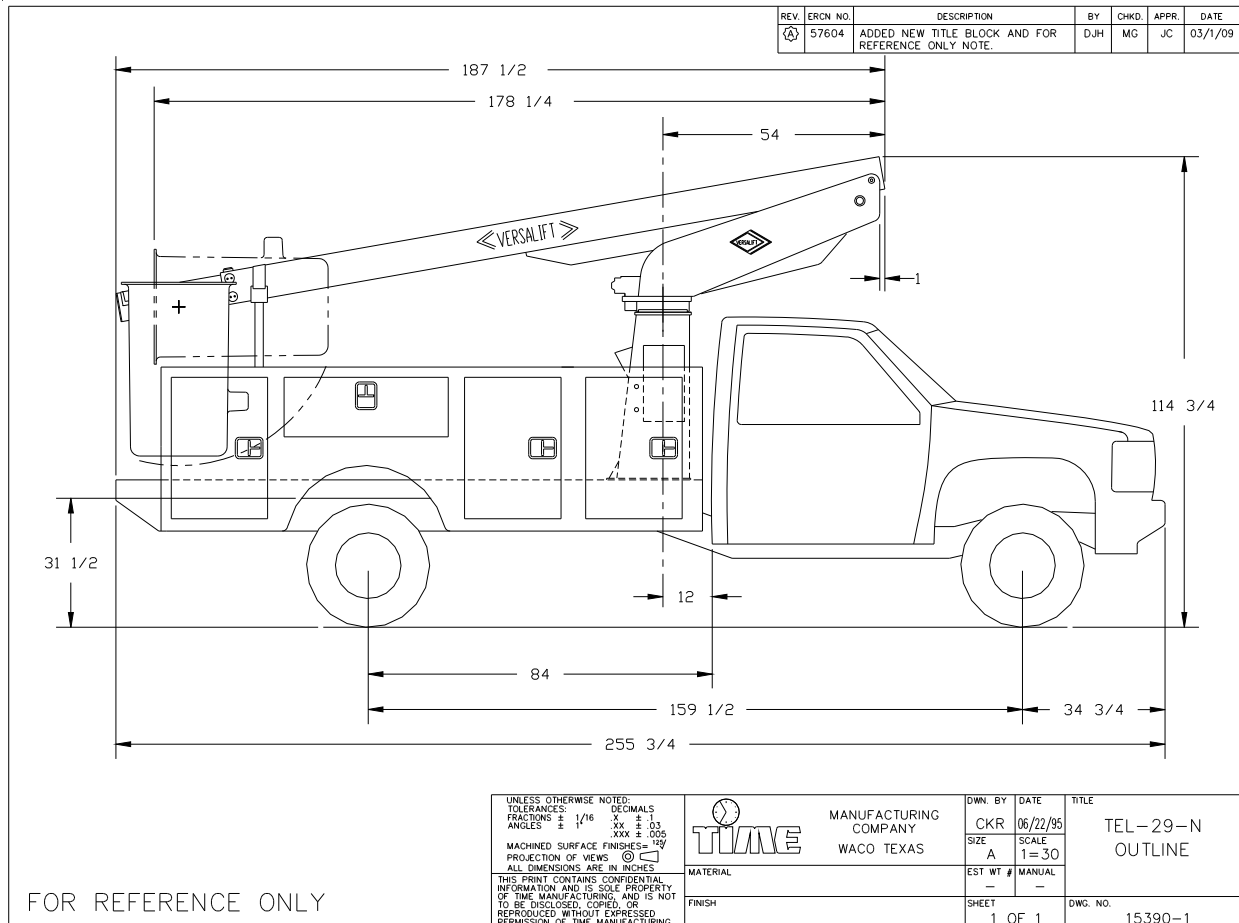
Recommended Chassis Mounting With Torsion Bar:

Minimum Cab to Rear Axle Dimension	60 in. (1.52 m)
Minimum Frame Section Modulus	5.4 in ³ (88 cm ³)
Min. Frame Resisting Bending Moment	195,000 in.-lbs. (22035 N-m)
Approximate Curb Weight for Stability	7,500 lbs. (3410 kg)

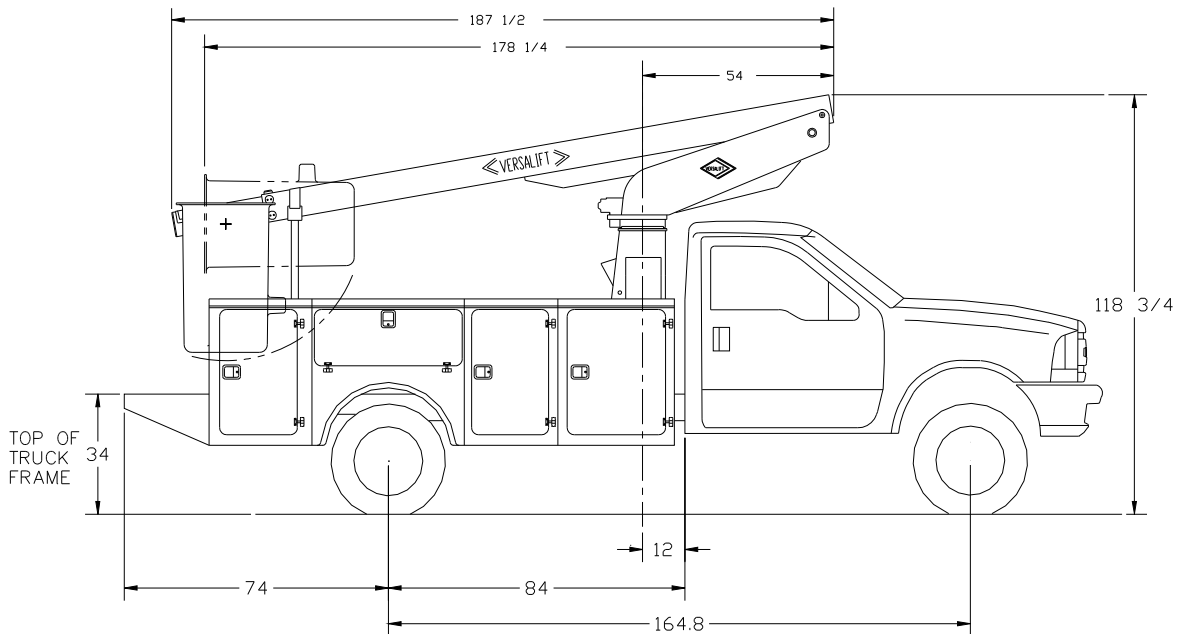
GAWR ¹	14,500 lbs. (6577 kg)
GAWR ² (FRONT)	5,000 lbs. (2268 kg)
GAWR ² (REAR)	9,500 lbs. (4309 kg)

NOTE: Actual curb weight for stability and required GVWR and GAWR can vary significantly with chassis stiffness, suspension stiffness, chassis CA, lift mounting location, service body, accessories, ballast (if required), platform capacity, and desired payload.

¹GVWR - Gross Vehicle Weight Rating
²GAWR - Gross Axle Weight Rating



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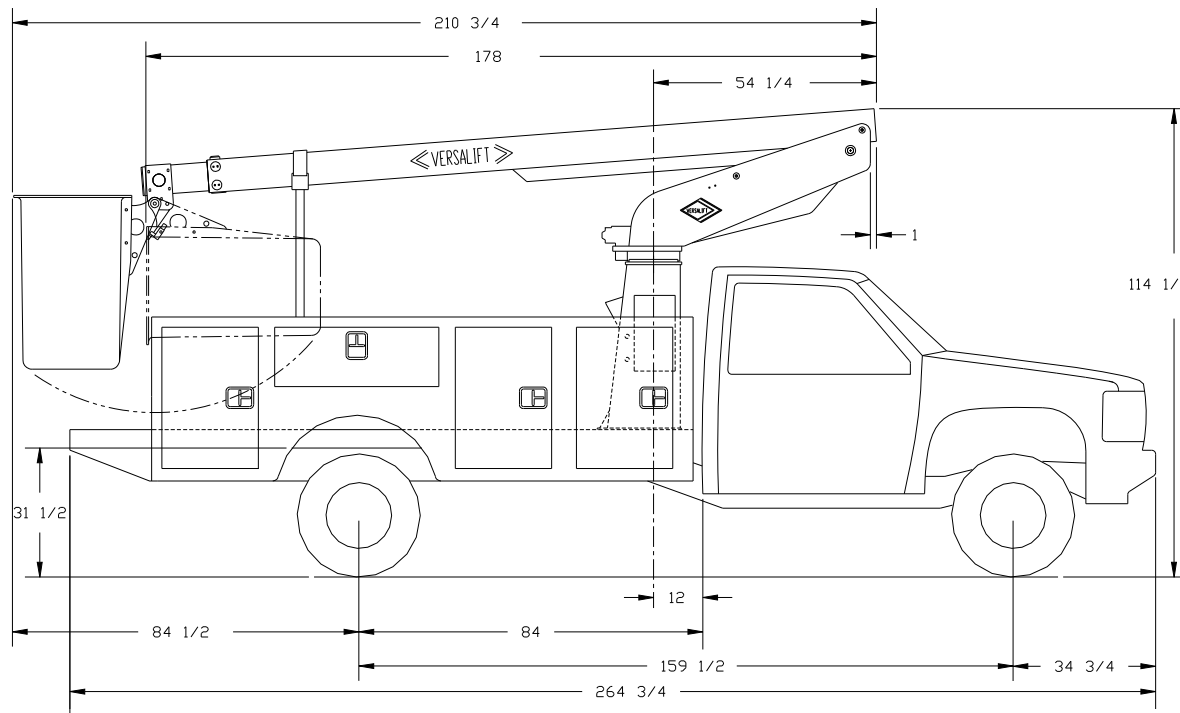


FOR REFERENCE ONLY
SHOWN ON A 1999 FORD F-450
WITH A FIBRE BODY.

UNLESS OTHERWISE NOTED:
TOLERANCES: DECIMALS
FRACTIONS: $\pm 1/16$ $\times \pm .03$
ANGLES: $\pm 1/16$ $\times \pm .03$
MACHINED SURFACE FINISHES: $\sqrt{32}$
PROJECTION OF VIEWS: \odot \square
ALL DIMENSIONS ARE IN INCHES
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	JSD	03/27/98	TEL-29-N OUTLINE
MATERIAL	SIZE	SCALE	
FINISH	A	N/A	
	EST WT #	MANUAL	
	-	-	
	SHEET	DWG. NO.	
	1 OF 1	26126-1	

REV.	ERON NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
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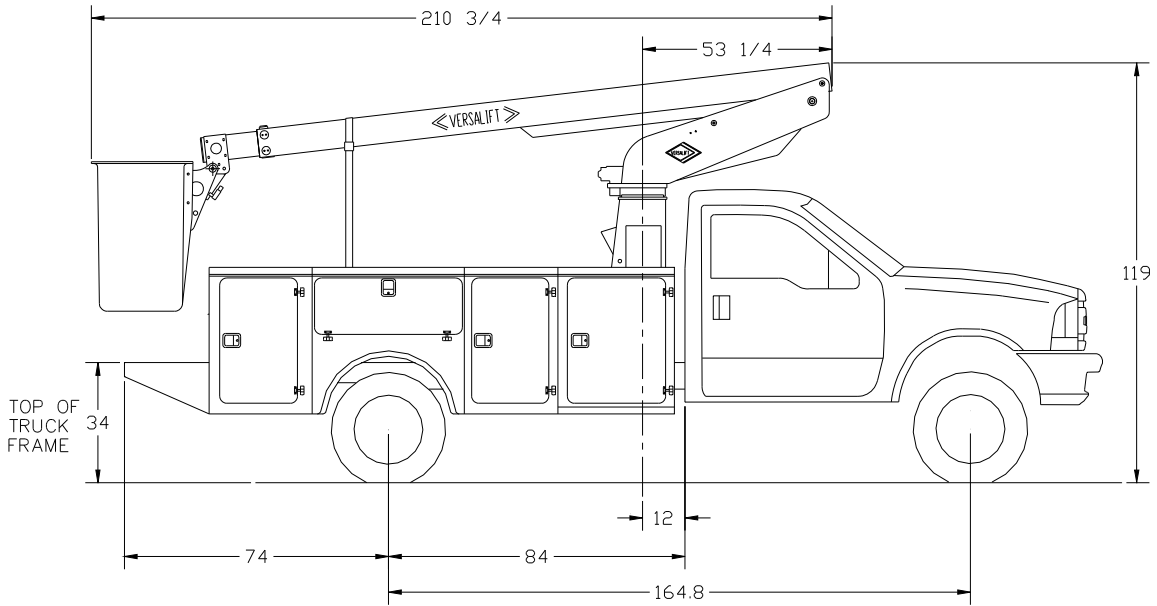
UNLESS OTHERWISE NOTED:
TOLERANCES: DECIMALS
FRACTIONS: $\pm 1/16$ $\times \pm .1$
ANGLES: $\pm 1/16$ $\times \pm .03$
MACHINED SURFACE FINISHES: $\sqrt{32}$
PROJECTION OF VIEWS: \odot \square
ALL DIMENSIONS ARE IN INCHES
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TIME MANUFACTURING COMPANY WACO TEXAS	OWN. BY	DATE	TITLE
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MATERIAL	SIZE	SCALE	
FINISH	A	1=30	
	EST WT #	MANUAL	
	-	-	
	SHEET	DWG. NO.	
	1 OF 1	15388-1	

SPECIFICATIONS

SPECIFICATIONS

REV	ERCN NO.	DESCRIPTION	BY	CHKD	APPR	DATE
57604		ADDED NEW TITLE BLOCK AND FOR REFERENCE ONLY NOTE.	DJH	MG	JC	03/01/09



FOR REFERENCE ONLY
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 WITH A FIBRE BODY.

UNLESS OTHERWISE NOTED:
 TOLERANCES: DECIMALS
 FRACTIONS: 1/16 X ± .1
 ANGLES: ± 1' .XX ± .03
 MACHINED SURFACE FINISHES: .125
 PROJECTION OF VIEWS: ①
 ALL DIMENSIONS ARE IN INCHES.
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TIME MANUFACTURING COMPANY
 WACO TEXAS

MATERIAL

FINISH

DWN. BY: JSD
 DATE: 03/27/98
 SIZE: A
 SCALE: N/A
 EST WT #: -
 MANUAL: -
 SHEET: 1 OF 1

TITLE: TEL-29-NE
 OUTLINE
 DWG. NO.: 26127-1

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 safety 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, and requirements after leaving the truck cab.

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 the slope indicators provided on the chassis to show whether the aerial device is positioned within limits permitted. Slope reduces the vehicle's stability and places additional stress on the lift and components. Maintaining the correct tire pressure and engaging the outriggers (if so equipped) contribute to vehicle stability. If there is any doubt about vehicle stability under any condition, do not operate the lift.

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

RESPONSIBILITIES BEFORE LEAVING THE TRUCK CAB -

Perform the following steps in preparing to operate the aerial-lift. It is assumed that the truck engine is still running. If the lift is powered by an auxiliary engine (optional generator) it is not necessary for the truck engine to remain running.

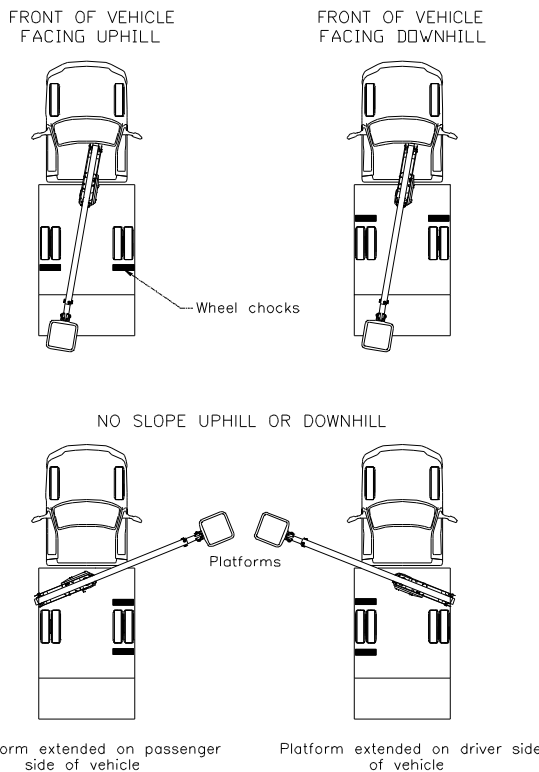
1. Set the parking brake and the brake lock (if so equipped).
2. Shift the truck transmission to neutral (or park for automatic transmissions). This is necessary because the truck engine must be running for the lift to operate. When an auxiliary engine (generator option) is used, place an automatic transmission in park and a manual transmission in gear. The truck engine should not be running.
3. Turn on the warning lights/flashers to alert pedestrians and motorists.
4. Depress the clutch (manual transmissions) and engage the PTO, if so equipped. Refer to "Power Take-Off" in this section.
5. Activate the Versalift power system with the toggle switch on the dashboard of the truck. A red light next to the toggle switch on the dashboard indicates when the Versalift power system is energized. The truck ignition must be in the "RUN" position 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 the diagram below 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.

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".

⚠ 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. Select lower control operation with the lower control selector switch. Refer to the diagrams of lower controls in this section. Always disengage the boom tie down before initiating any lift movements.

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 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. The standard rotation limit is activated electrically. The boom raise, lower, extend and retract movements, however, are mechanically limited.

⚠ 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.

⚠ WARNING: WHEN THE BOOM IS CONTROLLED MANUALLY FROM THE CONTROL VALVE, THE ELECTRICAL LIMIT SWITCH WILL NOT PREVENT OVER ROTATION. DO NOT ROTATE MORE THAN 180° FROM THE STORED POSITION.

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 when entering 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 SPECIFIED 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.

PLATFORM LOCK - Versalifts with gravity leveling are equipped with a positive platform locking pin which prevents movement of the platform. This feature is not to be used while the lift is being *raised or lowered*, but is to be used as a way to eliminate platform swing while the lift is stationary. The locking mechanism is located on the upper telescoping section of the boom, just above the platform pivot point. The platform locking pin has two positions. When the pin is fully engaged in the “platform locked” position, the platform will not swing. When the pin is pulled out and locked, the bucket will gravity level itself.

To lock the platform in position, rotate the pin counter-clockwise until the spring pulls the pin into the boom. The pin should catch one of the locking holes. If the platform still swings, it may be necessary to rock the platform until the pin fully engages. In this position, the platform will not level when the boom is moved.

To deactivate the platform lock, pull the pin out of the boom and rotate it clockwise until the pin stays disengaged. If the pin is under load, it may be

necessary to rock the platform in the opposite direction to pull the pin freely. In this position, the platform will be free to level when the boom is moved. **The platform lock should always be disengaged while raising or lowering the lift.**

To activate lift movement, the master control switch must be activated in conjunction with the desired lift function control switch. See this section for further details and a diagram of the upper control panel.

To terminate any lift movement, allow the control switch to return to the centered or neutral position.

The upper controls have been designed to provide convenient and comfortable access for the operator. These controls are also carefully protected from damage. Two or three controls may be operated simultaneously, depending on the platform load and which functions are being operated. If the platform is heavily loaded and the two controls being operated require high pressure (e.g. “extend” and “raise”) the total system pressure may exceed the setting of the relief valve. This causes oil to bypass the relief valve. This is not detrimental to the aerial lift but results in noise and reduced operating speeds and should not be done. Practice and experience will prove invaluable in becoming proficient with the aerial lift controls.

Operating Where Electrical Hazards Are Present:

It is imperative that the operator of the aerial device understand the dangers associated with operating near electrical hazards. Due to the work involved, the ordinary uses of aerial lifts often place the operator, others in the platform, and ground crew in the vicinity of electrical lines and equipment where grave danger exists. These dangers can only be avoided by the constant care of an operator who is aware of these dangers, knows the limitations of the aerial lift, and knows how to protect himself and the crew from these dangers. Maintain safe clearances from electrical power lines in accordance with applicable government regulations. 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 Versalift power switch, indicator light and a PTO actuator and light (if so equipped).

VERSALIFT POWER SWITCH - The Versalift power control is standard and 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 Versalift system and the red light indicates when the system is energized.

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.

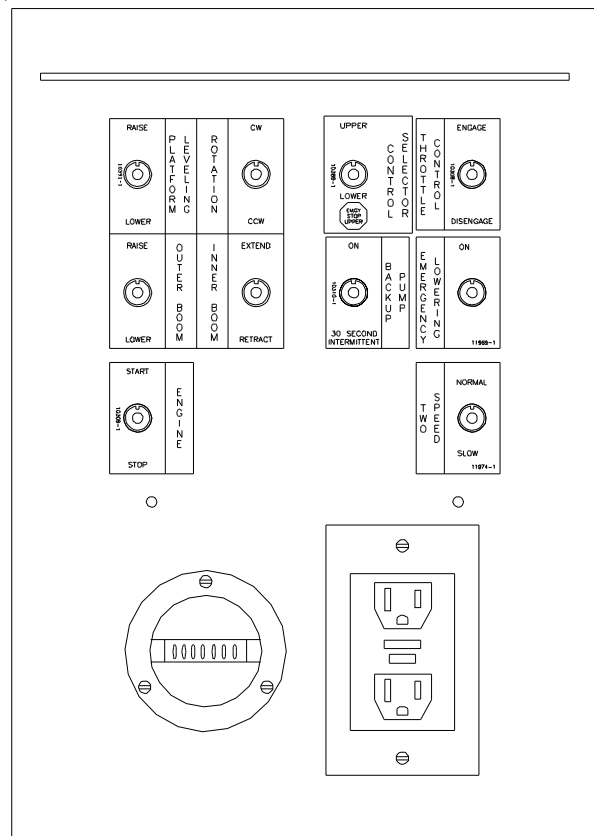
⚠ CAUTION: DRIVING WITH THE PTO ENGAGED MAY DAMAGE THE TRANSMISSION, PUMP, AND/OR THE PTO.

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.

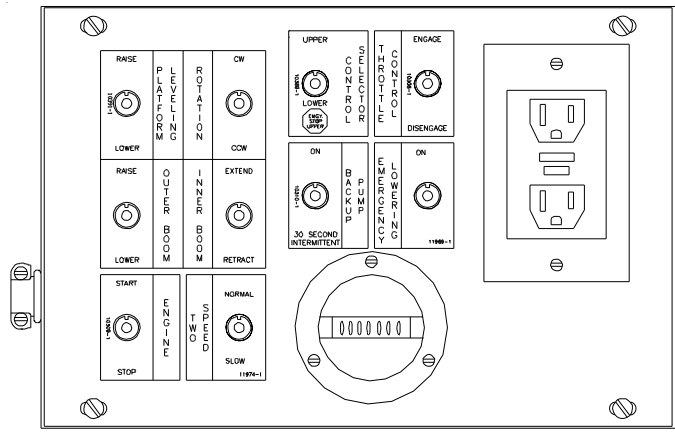
LOWER CONTROL OPERATION

The objective of this section is to help the operator identify and understand the operation of the lower controls. The electrical controls at the pedestal are arranged as shown in Figure 4.2. The remote control box (option) is shown in Figure 4.3. A description of each electrical control and method of operation is given on the following pages.

STANDARD CONTROL SWITCHES - The lower control stations consist of a series of spring loaded toggle switches and a control selector switch. Moving the control switch, 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.



Lower Controls Station at the Pedestal
Figure 4.2



Remote Lower Control Station
Figure 4.3

SELECTOR CONTROL (Standard) - The selector switch is used to give operational control of the aerial lift to either the upper or the lower control station, also this control serves as the emergency stop for the upper controls. The control selector decal indicates 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 electric drive (option). The 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” at the lower controls.

To start the engine from the lower controls, place the engine toggle in the start position and hold the toggle 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 Section 5, “Emergency Operation” for further information on the use of this control in an emergency.

THROTTLE CONTROL (Option) - This option gives the operator a choice of an efficient, economical engine idle speed or a faster engine speed for hydraulic tools, if installed. The two-speed throttle control is operated by a toggle switch labeled “Throttle Control” at the lower controls.

To speed up the engine from the lower controls, move the throttle control toggle to the engage position.

To slow down the engine to an idle from the lower controls, move the throttle control toggle to the disengage position.

TWO-SPEED LIFT CONTROL (Option) - When the manual two speed lift control option is selected an extra toggle switch is included for installation at the lower controls. 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.

EMERGENCY LOWERING (Option) - If the aerial lift’s main power source fails, the emergency lowering control can be used to lower the lift. When actuated, an electric solenoid valve attached to the boom cylinder opens and allows the boom to slowly bleed down.

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

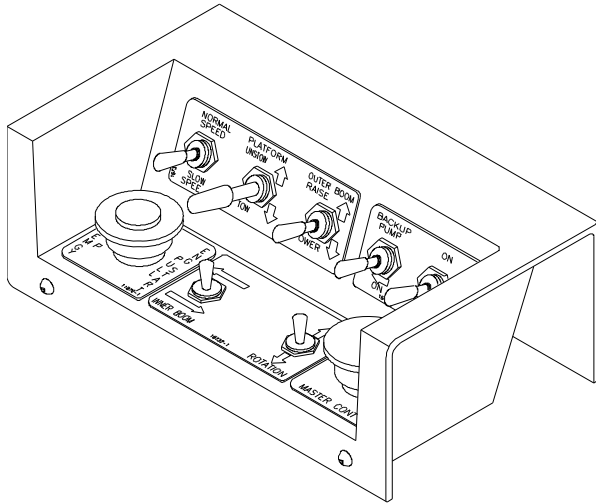
GFCI RECEPTACLE-120V POWER (Option) - GFCI receptacles are placed at the lower and remote control stations for powering 120V accessories.

UPPER CONTROL OPERATION

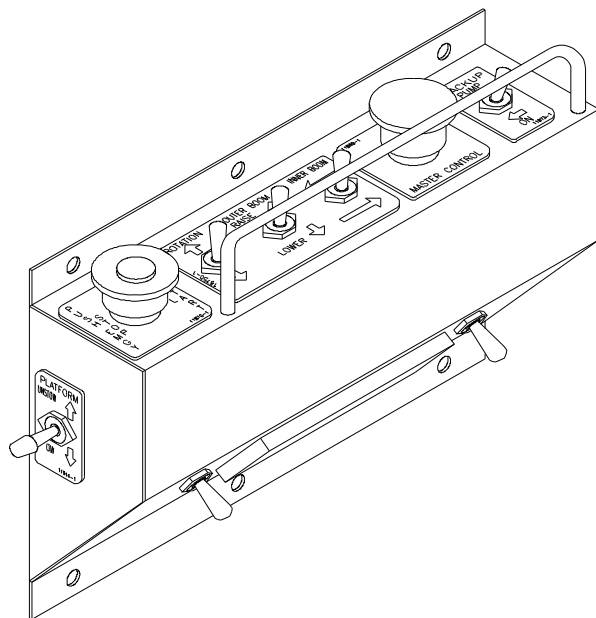
The objective of this section is to help the operator identify and understand the operation of the control switches at the platform. Refer to Figure 4.4 and 4.5 to clarify the information in the text of this section.

STANDARD CONTROL SWITCHES - The upper 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

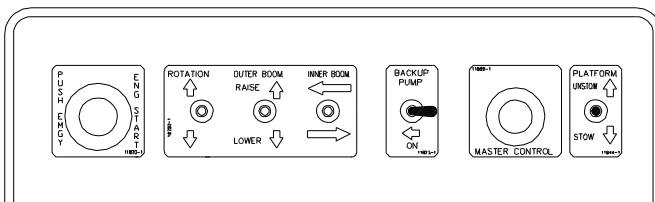
movement stops as the control switch is released and returns to the neutral position.



Upper Control Panel (TEL-29-N)
Figure 4.4



Standard Upper Control Panel (TEL-29-NE)
Figure 4.5



Optional Upper Control Panel (TEL-29-NE)
Figure 4.6

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 NE model) - 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 THROTTLE CONTROL (Option) - The throttle control is operated by a toggle switch labeled “Throttle Control” located with the upper controls at the platform.

To speed up the engine from the platform, place the throttle control toggle to the engage position.

To slow down the engine to an idle from the platform, place the throttle control toggle to the disengage position. It is recommended that the engine be left at idle unless hydraulic tools are required. This practice will provide the most efficient operation and minimize fuel consumption.

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 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. It actuates an electric solenoid valve attached to the boom cylinder, which opens and allows the boom to slowly bleed down.

GFCI RECEPTACLE - 120V POWER (Standard on G model) - 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 TEL's. Depressing the Master 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. Lower the outer/inner boom assembly onto the boom rest. The outer/inner boom control switch should be released to the neutral position as soon as there is contact with the boom rest pad. The platform will also contact the spring loaded platform support (when applicable).

 **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 and remove the wheel chocks. Turn the electrical control system off and disengage the PTO pump drive (when applicable). Driving with the PTO engaged may damage both the pump and the PTO.

 **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.*

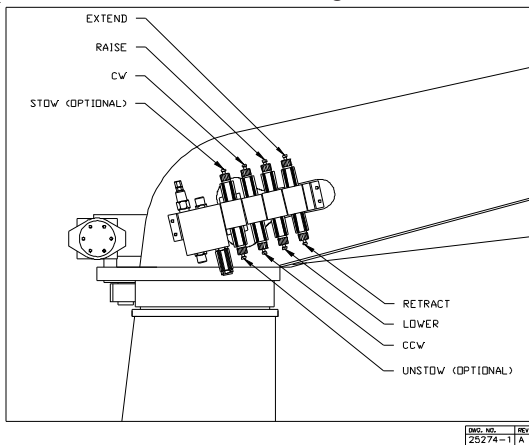
EMERGENCY OPERATION

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. Before attempts are made to rescue personnel, make sure the unit has not become electrically energized. 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 cover must be removed prior to operating the controls at the valve. The hydraulic controls at the turret, with the control cover removed, are shown in Figure 5.1.

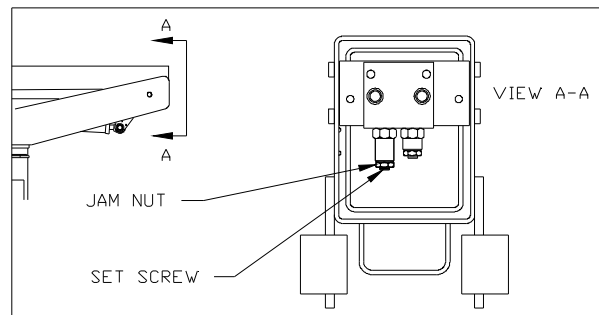


**TEL-N/NE Hydraulic Controls at Turret
Figure 5.1**

HOLDING VALVES - If all the hydraulic power sources become inoperable the outer/inner boom assembly can be lowered using the set screw on the holding valve located at the cylinders. The lower boom function will need to be activated when using this procedure. The boom will drift down as the hydraulic oil passes through the holding valve. The speed of the boom, on its decent, will increase as the set screw is turned clockwise. This method is only effective if the outer/inner boom is sufficiently raised to allow the force of gravity to pull the boom assembly downward. 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, readjustment of the holding valve is required before further use.

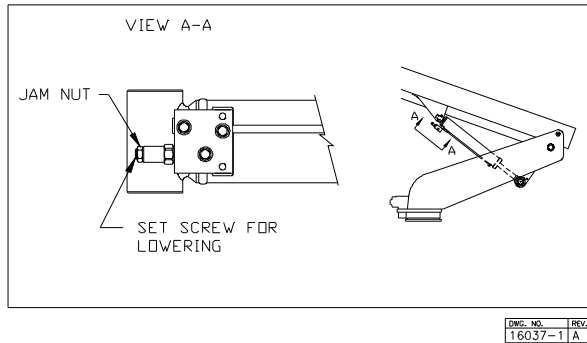
⚠ DANGER: MAKE CERTAIN ALL BODY PARTS ARE CLEAR OF THE PATH OF BOOM TRAVEL BEFORE ATTEMPTING TO LOWER THE BOOM USING THE SETSCREW ON THE HOLDING VALVE. FAILING TO DO SO MAY CAUSE SERIOUS INJURY OR DEATH.

To retract the *inner boom*, carefully loosen the jam nut (counter-clockwise), with a 9/16 in. wrench, on the appropriate holding valve as shown in Figure 5.2. Slowly turn the setscrew clockwise (using 5/32 in. hex) until movement begins. To stop boom movement, turn the setscrew counterclockwise.



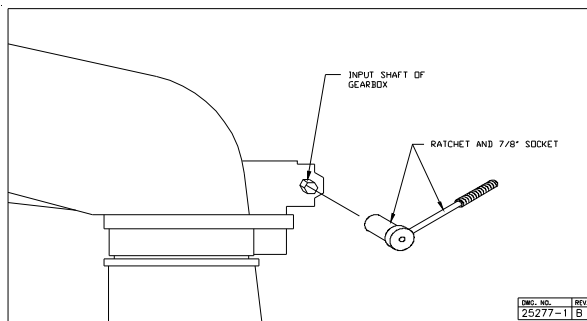
**Holding Valve Lowering Procedure
(Extension Cylinder)
Figure 5.2**

To lower the *outer boom*, carefully loosen the jam nut (counter-clockwise), with a 9/16 in. wrench, on the appropriate holding valve as shown in Figure 5.3. Slowly turn the setscrew clockwise (using 5/32 in. hex) until movement begins. Stay clear of the boom as it travels down. To stop boom movement, turn the set screw counterclockwise.



**Holding Valve Lowering Procedure
(Lift Cylinder)
Figure 5.3**

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. See Figure 5.4 "Manual Rotation" below.



**Manual Rotation
Figure 5.4**

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.** The engine start/stop control is operated by a three-position toggle switch at the lower controls and a red push/pull button at the upper controls.

⚠ 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

EMERGENCY OPERATION

WHICH REQUIRE IMMEDIATE MEDICAL ATTENTION.

The operator and the ground crew must be alert for these hazards to avoid injury.

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) or emergency lowering (option) can be used for emergency operation. If these systems are 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.

CONTROL VALVE FAILURE - If aerial lift motion cannot be stopped by releasing the control handle, kill the engine and the lift's motion will cease. Manually attempt to center the control valve by depressing the manual override, at the control valve, opposite the function which is stuck. If the control valve will not return to neutral, the aerial lift can be lowered by using the holding valves.

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.

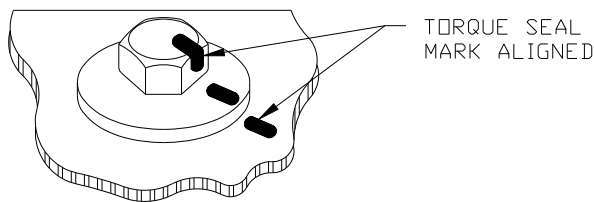
If an equipment defect is suspected, do **not** allow anyone to operate the aerial lift or enter the platform until the problem is corrected.

DAILY VISUAL INSPECTION

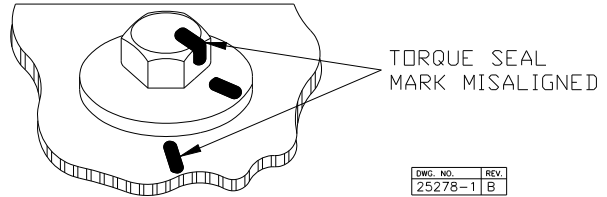
This aerial lift is designed to provide years of reliable service with minimum maintenance. A routine preventive maintenance program will assure extended aerial lift service. The operator is responsible for detecting maintenance problems during the daily visual inspection, reporting the need for adjustments 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 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 Procedure 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 (7 gallons or 26.5 liters)

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

LEVELING SYSTEM - Inspect the master cylinder, slave cylinder, hoses, and fittings for damage, wear, or foreign objects which may prevent proper operation. Refer to Parts & Assemblies Section of the Service Manual for these components.

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 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.

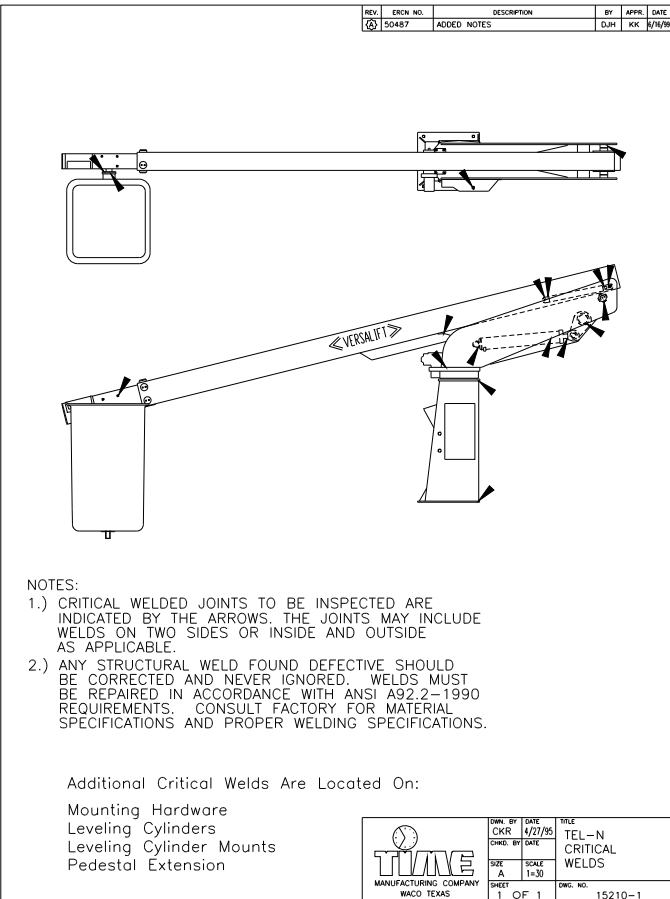
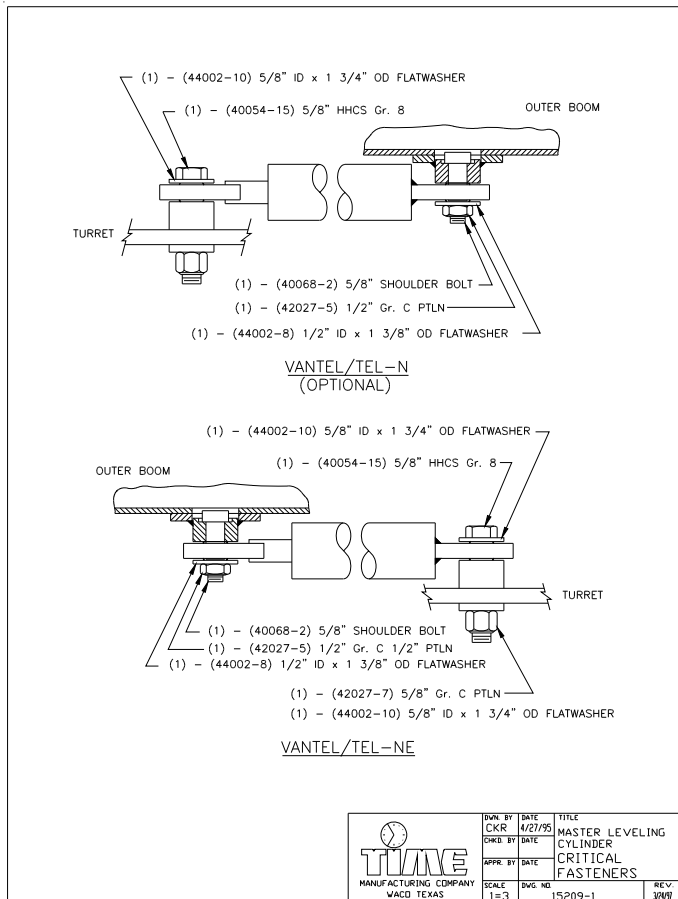
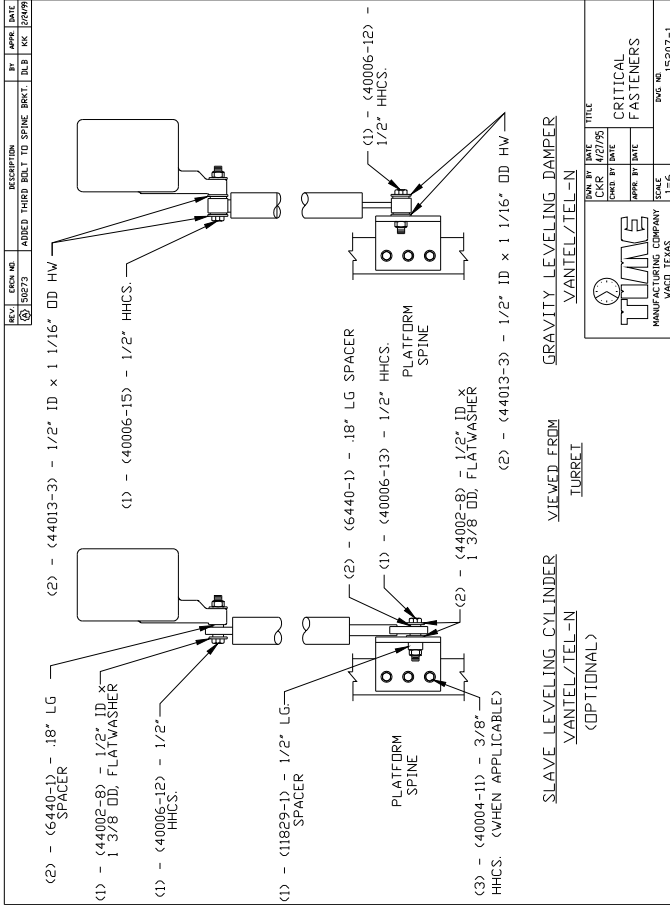
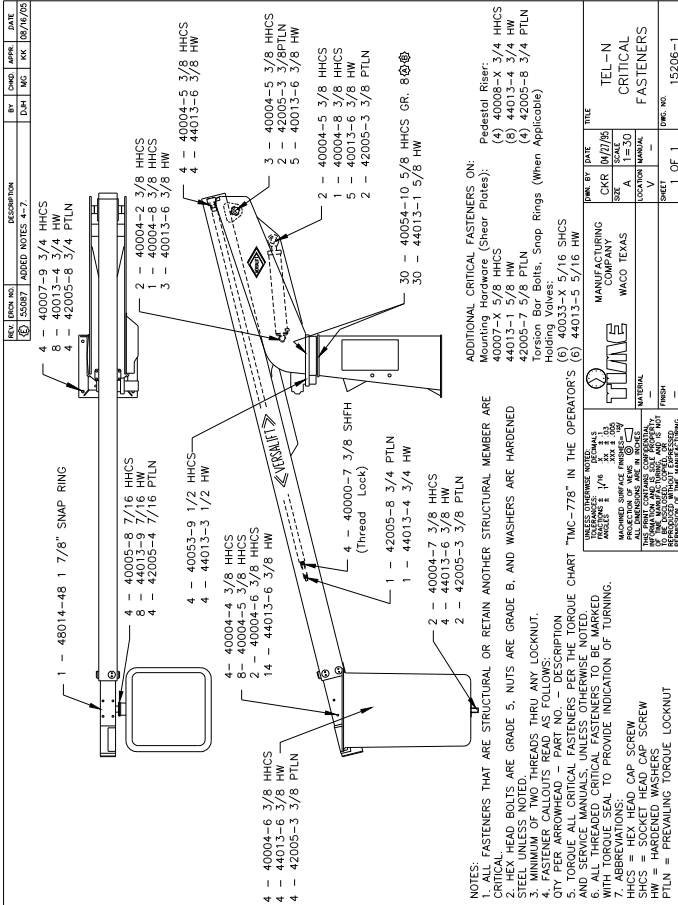
DAILY VISUAL MAINTENANCE AND INSPECTION CHECKLIST AND RECORD
VERSALIFT TEL-29-N SERIAL NO. _____ VEHICLE NO. _____

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							
LEVELING SYSTEM							
DECALS							
FIBERGLASS PLATFORM							
SLOPE INDICATORS							
SAFETY DEVICES							
COVERS							
NOTES:							

DAILY VISUAL INSPECTION

DAILY VISUAL INSPECTION



NOTES:
 1.) CRITICAL WELDED JOINTS TO BE INSPECTED ARE INDICATED BY THE ARROWS. THE JOINTS MAY INCLUDE WELDS ON TWO SIDES OR INSIDE AND OUTSIDE AS APPLICABLE.
 2.) ANY STRUCTURAL WELD FOUND DEFECTIVE SHOULD BE CORRECTED AND NEVER IGNORED. WELDS MUST BE REPAIRED IN ACCORDANCE WITH ANSI A92.2-1990 REQUIREMENTS. CONSULT FACTORY FOR MATERIAL SPECIFICATIONS AND PROPER WELDING SPECIFICATIONS.

Additional Critical Welds Are Located On:

- Mounting Hardware
- Leveling Cylinders
- Leveling Cylinder Mounts
- Pedestal Extension

	OWN BY	DATE	TITLE
	CKR	4/27/95	MASTER LEVELING
	CHKD BY	DATE	CYLINDER
APPR BY	DATE	CRITICAL	
SCALE	DWG. NO.	REV.	
1=3	15209-1	3/01	

	OWN BY	DATE	TITLE
	CKR	4/27/95	TEL-N
	CHKD BY	DATE	CRITICAL
APPR BY	DATE	FASTENERS	
SCALE	DWG. NO.	REV.	
A	15206-1	1/6	



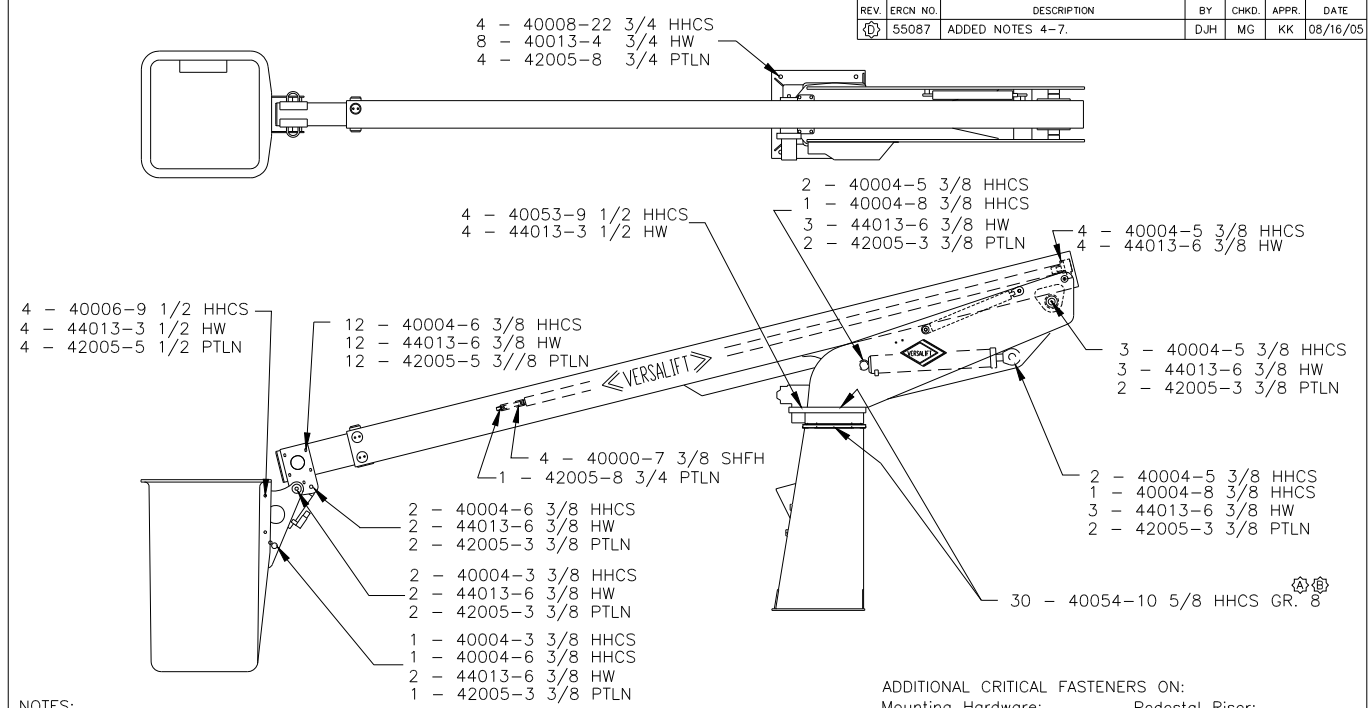
DAILY VISUAL MAINTENANCE AND INSPECTION CHECKLIST AND RECORD
VERSALIFT TEL-29-NE SERIAL NO. _____ VEHICLE NO. _____

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							
LEVELING SYSTEM							
DECALS							
FIBERGLASS PLATFORM							
SLOPE INDICATORS							
SAFETY DEVICES							
COVERS							
NOTES:							

DAILY VISUAL INSPECTION

REV.	ERCN NO.	DESCRIPTION	BY	CHKD.	APPR.	DATE
55087		ADDED NOTES 4-7.	DJH	MG	KK	08/16/05

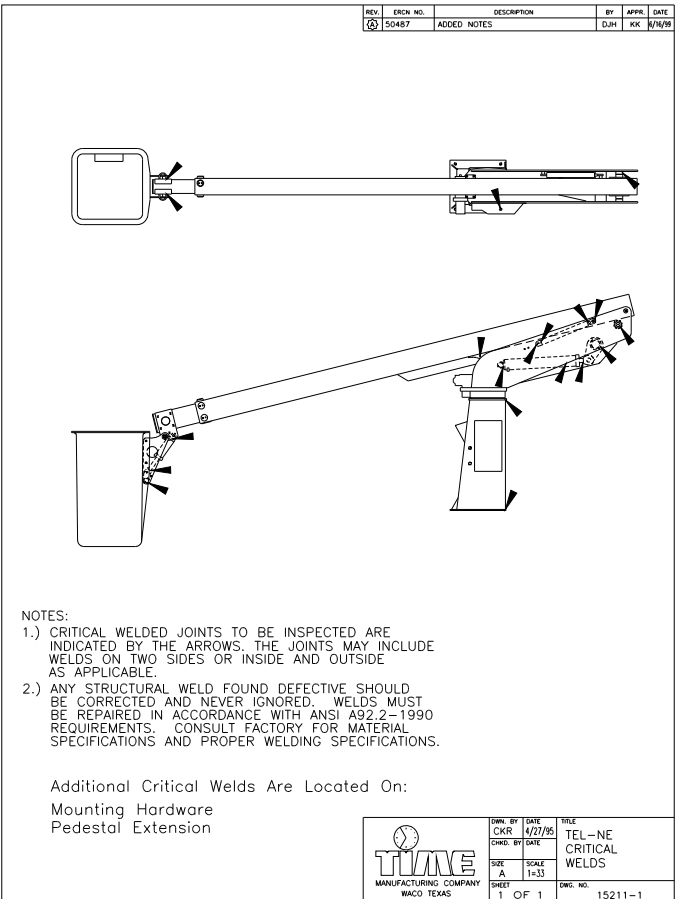
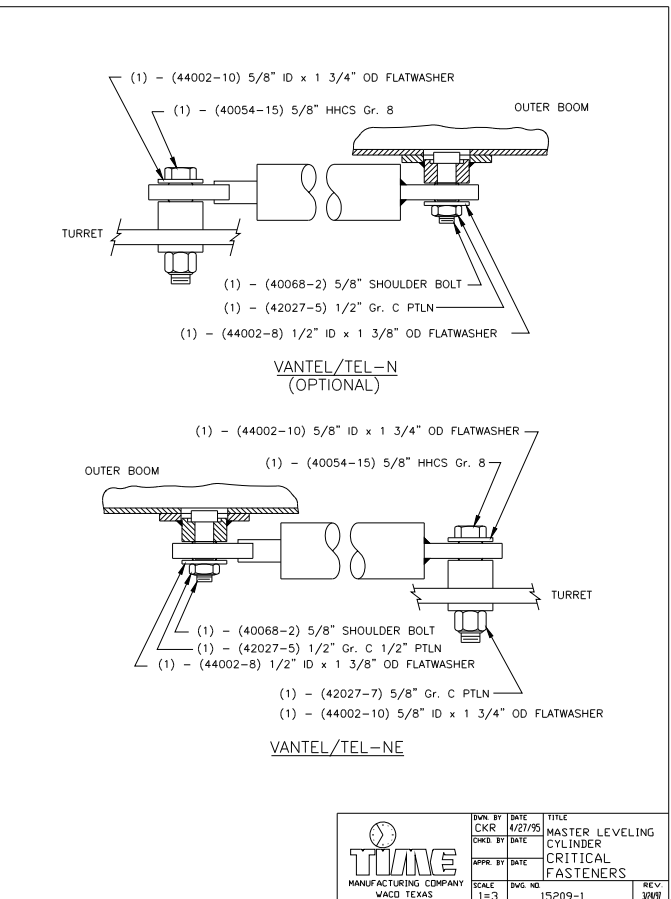


- NOTES:
- ALL FASTENERS THAT ARE STRUCTURAL OR RETAIN ANOTHER STRUCTURAL MEMBER ARE CRITICAL.
 - HEX HEAD BOLTS ARE GRADE 5, NUTS ARE GRADE B, AND WASHERS ARE HARDENED STEEL UNLESS NOTED.
 - MINIMUM OF TWO THREADS THRU ANY LOCKNUT.
 - FASTENER CALLOUTS READ AS FOLLOWS:
 QTY PER ARROWHEAD - PART NO. - DESCRIPTION
 - TORQUE ALL CRITICAL FASTENERS PER THE TORQUE CHART "TMC-778" IN THE OPERATOR'S AND SERVICE MANUALS, UNLESS OTHERWISE NOTED.
 - ALL THREADED CRITICAL FASTENERS TO BE MARKED WITH TORQUE SEAL TO PROVIDE INDICATION OF TURNING.
 - ABBREVIATIONS:
 HHCS = HEX HEAD CAP SCREW
 SHCS = SOCKET HEAD CAP SCREW
 HW = HARDENED WASHERS
 PTLN = PREVAILING TORQUE LOCKNUT

- ADDITIONAL CRITICAL FASTENERS ON:
- Mounting Hardware: Pedestal Riser:
 (8) 40007-X 5/8 HHCS (4) 40008-X 3/4 HHCS
 (8) 44013-1 5/8 HW (4) 44013-4 3/4 HW
 (8) 42005-7 5/8 PTLN (4) 42005-8 3/4 PTLN
- Holding Valves:
 (6) 40033-X 5/16 SHCS
 (6) 44013-5 5/16 HW

UNLESS OTHERWISE NOTED: TOLERANCES: DECIMALS FRACTIONS ± 1/16 X ± .01 ANGLES ± 1° XX ± .03 .XXX ± .005 MACHINED SURFACE FINISHES = 125 PROJECTION OF VIEWS ALL DIMENSIONS ARE IN INCHES		TIME MANUFACTURING COMPANY WACO TEXAS	DWN. BY	DATE	TITLE
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.			CKR	04/27/95	TEL-NE CRITICAL FASTENERS
MATERIAL	FINISH	LOCATION	MANUAL	SHEET	DWG. NO.
-	-	V	-	1 OF 1	15208-1

DAILY VISUAL INSPECTION



DASH #	DESCRIPTION	OPTION #
-1	DECAL PLACEMENT, HYDRAULIC LEVELING, TEL/VANTEL-N/NE	DE-1210-116
-2	DECAL PLACEMENT, GRAVITY LEVELING, TEL/VANTEL-N	DE-1210-117

* ITEMS TO BE SHIPPED LOOSE.

DECAL LOCATION CHART	
ITEM	LOCATION
B	1 NEAR LOWER CONTROLS (VISIBLE TO OPERATOR)
C	1 NEAR LOWER CONTROLS (VISIBLE TO OPERATOR)
D	1 NEAR LOWER CONTROLS (VISIBLE TO OPERATOR)
H	1 ONE ON FRONT SIDE OF BUCKET.
M	1 ON PASSENGER SIDE OF PEDESTAL.
N	1 ON PASSENGER SIDE OF PEDESTAL.
P	1 ON PASSENGER SIDE OF PEDESTAL.
S	4 ONE ON EACH SIDE OF VEHICLE
T	1 ON VEHICLE DASH
V	1 ONE ON LOWER CONTROL VALVE

		-2	-1		
REF	ITEM	QTY.	ITEM	PART NO.	DESCRIPTION
*	2	2	V	12185-1	DECAL-MANUAL CONTROL ENGLISH
*	REF	REF	U	REF	DECAL - ROTATION LIMIT
*	1	1	T	9572-1	DECAL-VERSALIFT POWER ON
*	4	4	S	4542-2	DECAL-DANGER ELECTROCUTION
*	1	1	R	27648-1	DECAL-PINCH WARNING
*	1	-	Q	3591-1	PLATFORM LOCK NAME PLATE
*	1	1	P	12337-1	DECAL, OWNERSHIP TRANSFER
*	1	1	N	1006487-1	BACKING, DATA PLATE
*	1	1	M	1006486-1	DATA PLATE
	2	2	L	7500-1	DECAL, HOLDING VALVE
	1	1	K	7584-1	DECAL, RELIEF ADJUSTMENT
	2	2	J	426-011	DECAL, DIAMOND
*	3	3	H	4541-1	DECAL, VERSALIFT
	1	1	G	14014-1	DECAL, SAFETY LANYARD
	1	2	F	30593-1	DECAL, PLATFORM INSTRUCTION
	REF	REF	E	REF	DECAL, CAPACITY
*	2	2	D	4542-12	DECAL, DANGER, QUALIFIED OPR.
*	2	2	C	4542-5	DECAL, CAUTION, OPERATION
*	2	2	B	4542-6	DECAL, DANGER, ELECTROCUTION
	2	2	A	1006664-DWG	DWG, MAIN DECAL PLACEMENT
	QTY.				

UNLESS OTHERWISE NOTED: TOLERANCES: DIMENSIONS ± .1/16 ANGLES ± .03 MACHINED SURFACE .0005 ± .001 PROJECTION OF VIEWS ALL DIMENSIONS ARE IN INCHES. INFORMATION ON THIS SHEET IS THE PROPERTY OF TIME MANUFACTURING. IT IS NOT TO BE DISCLOSED, COPIED, OR REPRODUCED WITHOUT THE PERMISSION OF TIME MANUFACTURING.		LIST OF MATERIAL		DWG. BY DATE		TITLE	
TIME		MANUFACTURING COMPANY		DTG 3/7/16		DECAL PLACEMENT	
SEE ABOVE		WACO TEXAS		SCALE B		TEL/VANTEL-N	
MATERIAL		LOCATION		MANUAL		DWG. NO.	
FINISH		SHEET		1 OF 2		1006664-DWG	

DAILY VISUAL INSPECTION



DAILY VISUAL INSPECTION

