

SIMON AERIALS INC
10600 W Brown Deer Road
Milwaukee, Wisconsin 53224
Phone (414) 355-0802
TWX 910-262-3310
FAX (414) 355-0832
Cable SIMON MIL

FALCON SERIES VERTICAL LIFT

MODEL
2034



IMPORTANT

This manual is designed to instruct you in the proper operation of your Work Platform, and to make you aware of the many Safety Hazards that could affect the safe use and operation of your "FALCON" Vertical Lift

Operators must be aware of and comply with all manufacturer's instructions and OSHA / ANSI safety guidelines

This Operator's Manual must be read prior to operating your Simon "FALCON" Work Platform

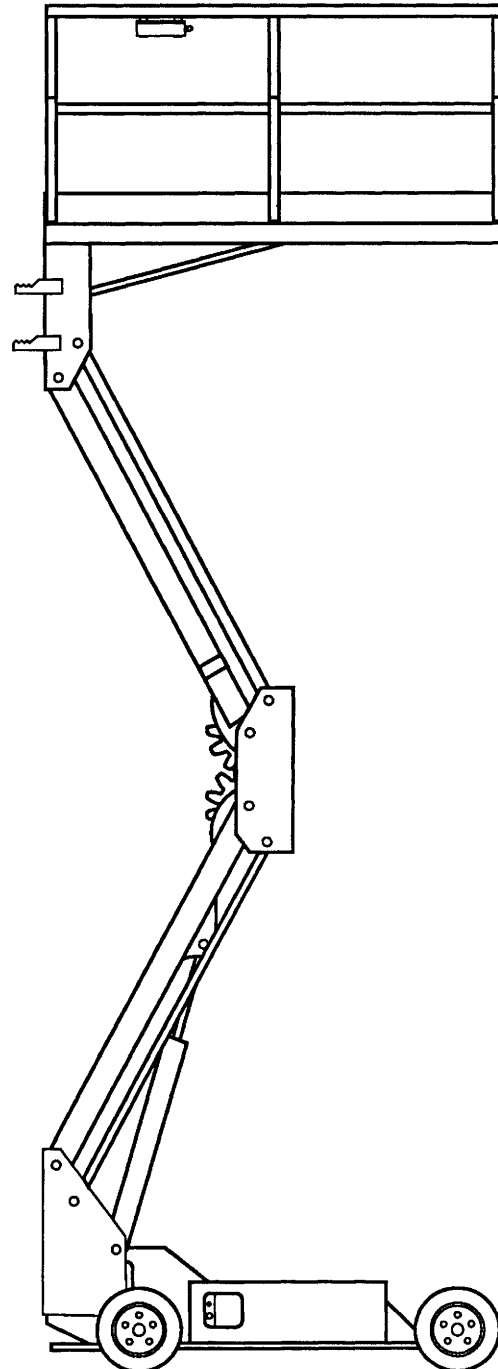
Note: Earlier versions of the "FALCON - 2034" Vertical Lift are identified on nameplates, decals and accompanying publications as "L-2034E"

Both names refer to the same model, which is identified throughout this publication by its current name, "FALCON"

PART NO. 89-750002

SIMON

OPERATOR'S MANUAL



**REVISION B.1
AUGUST, 1991**

TABLE OF CONTENTS

INTRODUCTION.....	V
UNLOADING PROCEDURES.....	VI
SECTION 1: DESCRIPTION	
MACHINE SPECIFICATIONS.....	1-3
GRADEABILITY CONVERSION CHART.....	1-4
PRIMARY MACHINE COMPONENTS.....	1-5
DECAL AND INFORMATION PLATE LOCATIONS.....	1-6
SECTION 2: OPERATION	
SAFETY RULES AND PRECAUTIONS.....	2-3
OPERATOR CONTROLS.....	2-6
START-UP PROCEDURES.....	2-8
DAILY CHECKS.....	2-8
MACHINE STARTUP.....	2-9
GROUND OPERATION AND CHECKS.....	2-10
EMERGENCY VALVE OPERATION AND CHECK.....	2-11
PLATFORM OPERATION AND CHECKS.....	2-12

TABLE OF CONTENTS (CONTINUED)

SECTION 2: OPERATION (CONTINUED)

OPERATION	2-13
COLD WEATHER OPERATION	2-13
DRIVING AND STEERING	2-14
BRAKING	2-14
ELEVATING THE PLATFORM	2-15
LOWERING THE PLATFORM	2-15
LOWERING THE GUARD RAILS	2-16
RAISING THE GUARD RAILS	2-16
SHUT-DOWN PROCEDURES	2-17
RECHARGING BATTERIES	2-17
TRANSPORTING THE UNIT	2-18
TOWING OF THE FALCON SERIES LIFT	2-18
FORK LIFTING OF THE FALCON SERIES LIFT	2-18
TRUCK TRANSPORT OF THE FALCON SERIES LIFT	2-18
EMERGENCY SYSTEM AND PROCEDURES	2-19
EMERGENCY LOWERING	2-19
EMERGENCY DRIVE	2-20
EMERGENCY PROCEDURES	2-21

TABLE OF CONTENTS (CONTINUED)

SECTION 3: MAINTENANCE

GENERAL MAINTENANCE TIPS	3-3
DAILY OPERATIONAL CHECKLIST	3-4
WEEKLY OPERATIONAL CHECKLIST	3-5
MONTHLY OPERATIONAL CHECKLIST	3-6
SEMI - ANNUAL OPERATIONAL CHECKLIST	3-7
TROUBLESHOOTING	3-9
LUBRICATION CHART	3-10
WARRANTY	3-13

INTRODUCTION

This Operator's Manual is designed to provide you with the instructions needed to properly operate the SIMON AERIALS INC FALCON MODEL 2034 Self-Propelled Vertical Lift. The "FALCON" MODEL 2034 includes earlier models identified as "L-2034E". This Manual is also meant to inform you of the many Safety Hazards that can affect the safe use and operation of the unit.



This Operator's Manual MUST BE READ AND UNDERSTOOD prior to operating the FALCON Self-Propelled Vertical Lift.

Operators must be aware of and comply with ALL manufacturer's instructions and OSHA / ANSI safety guidelines.

Simon Aerials FALCON Series Self-Propelled Vertical Lifts are designed and built to provide many years of safe, dependable service. To obtain full benefits from your FALCON, always follow the proper operating and maintenance procedures. Only trained, authorized personnel should be allowed to operate or service this machine. Service personnel should read and study this Operator's Manual in order to gain a thorough understanding of the functioning of the unit prior to making any repairs.

Machine operators must understand and comply with all warnings and instructional decals on the body of the machine, and at the ground and platform control stations.



MODIFICATIONS OF THIS MACHINE FROM THE ORIGINAL DESIGN WITHOUT WRITTEN PERMISSION FROM SIMON AERIALS INC. ARE STRICTLY FORBIDDEN, AND WILL VOID ANY REMAINING WARRANTY.

SIMON AERIALS INC reserves the right to change, improve, modify or expand features of its equipment. Therefore, specifications, models or equipment are subject to change without notice, and without incurring obligation to change, improve, modify or expand features of previously delivered equipment.

All SIMON AERIALS INC manuals are periodically updated to reflect changes that occur in the equipment. Please contact the factory with any questions you may have regarding your machine, or the availability of more recent manuals.

UNLOADING PROCEDURES

UNLOADING THE UNIT

- Inspect the outside of the unit for damage. Inspect all hoses, boom sections and cables for chafing or road damage. Confirm that all wheel lug nuts are tight.
- Unlock and remove both side compartment covers. Inspect all electrical and hydraulic connections for damage and security.
- Connect battery cables to batteries if required. Check electrolyte level.
- Check fluid level in the hydraulic tank, and add fluid as required (see Lubrication Chart). Check that shutoff valve on the hydraulic tank is open.
- Replace side compartment covers.

UNITS NOT EQUIPPED WITH TOW PACKAGE OPTION:

- Ensure that lift truck used has adequate capacity to lift the machine (see "Machine Specifications" for weight). Lift the Simon FALCON Vertical Lift from the sides only. Position forks under the modules, between the front and rear wheels and as near to the rear (driving) wheels as possible.



Do not use tie down lugs to lift the FALCON.

UNITS EQUIPPED WITH TOW PACKAGE OPTION:

- The FALCON Vertical Lift may be winched off the transporting vehicle IF THE UNIT IS EQUIPPED WITH THE TOW PACKAGE OPTION. Locate the tow brake and motor release valves located below the lift cylinder. To unload the unit.
- Fully close the brake release valve by turning the knob clockwise. Fully open the motor release valve by turning the knob counterclockwise.
- Momentarily operate the drive function to disengage the brake cylinder. The unit is now ready to unload.
- Remove machine tie downs. Remove wheel chocks, if used.
- Carefully unload the unit off the truck or trailer.
- Return both tow valves to normal operating position (engaging the brake) when the unit has been removed from the transporting vehicle.

ALL UNITS:

- Before placing the unit into service, all operators must read and understand the contents of this Operator's Manual. Upon initial unloading of the machine the Predelivery Inspection Report must be completed and returned in order to activate the Simon Limited Warranty. An Operator's Manual and a Predelivery Inspection Report are included with each machine leaving the factory.

SECTION 1: DESCRIPTION

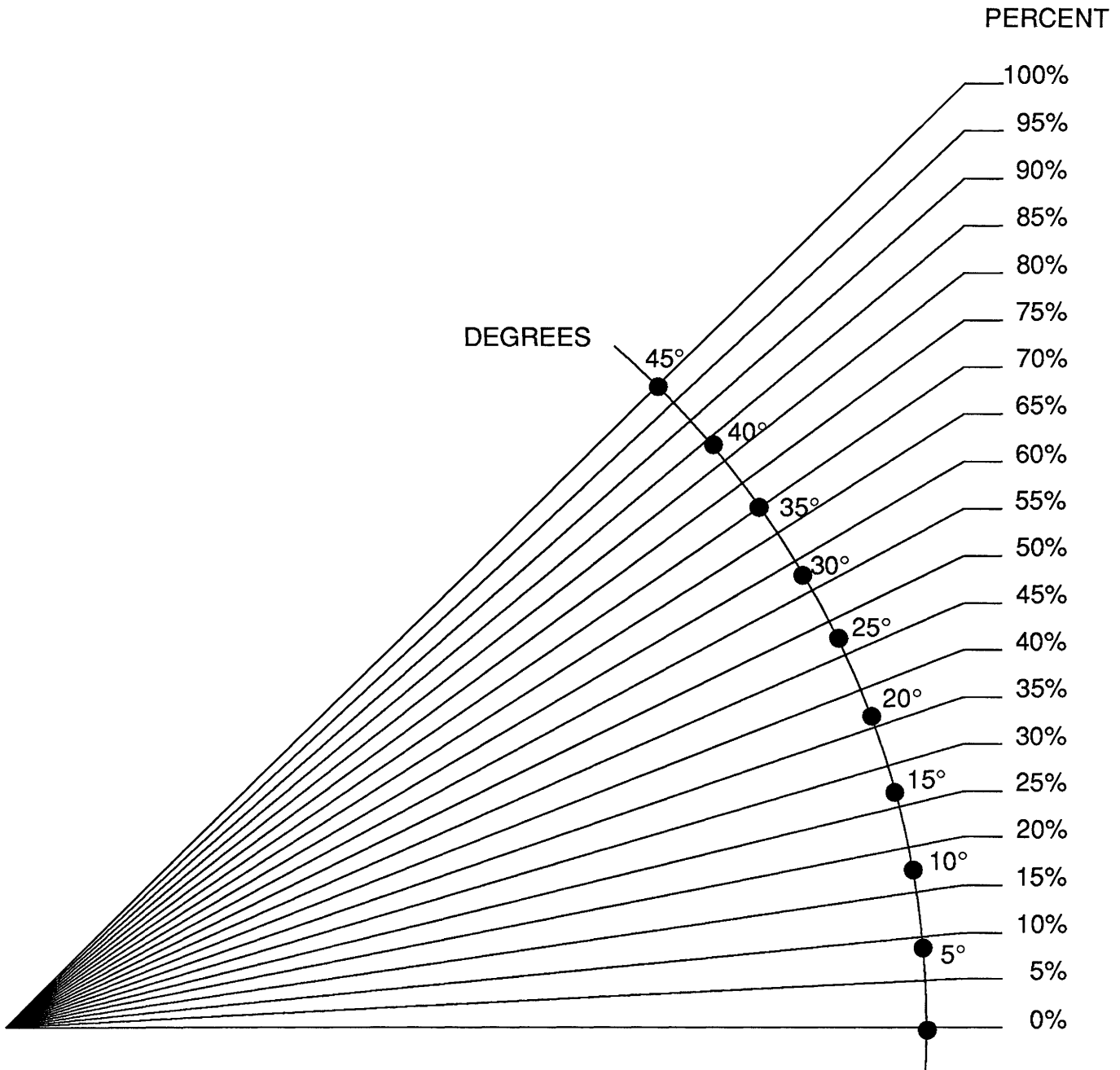
TABLE OF CONTENTS, SECTION 1: DESCRIPTION

MACHINE SPECIFICATIONS	1-3
GRADEABILITY CONVERSION CHART	1-4
PRIMARY MACHINE COMPONENTS	1-5
DECAL AND INFORMATION PLATE LOCATIONS	1-6

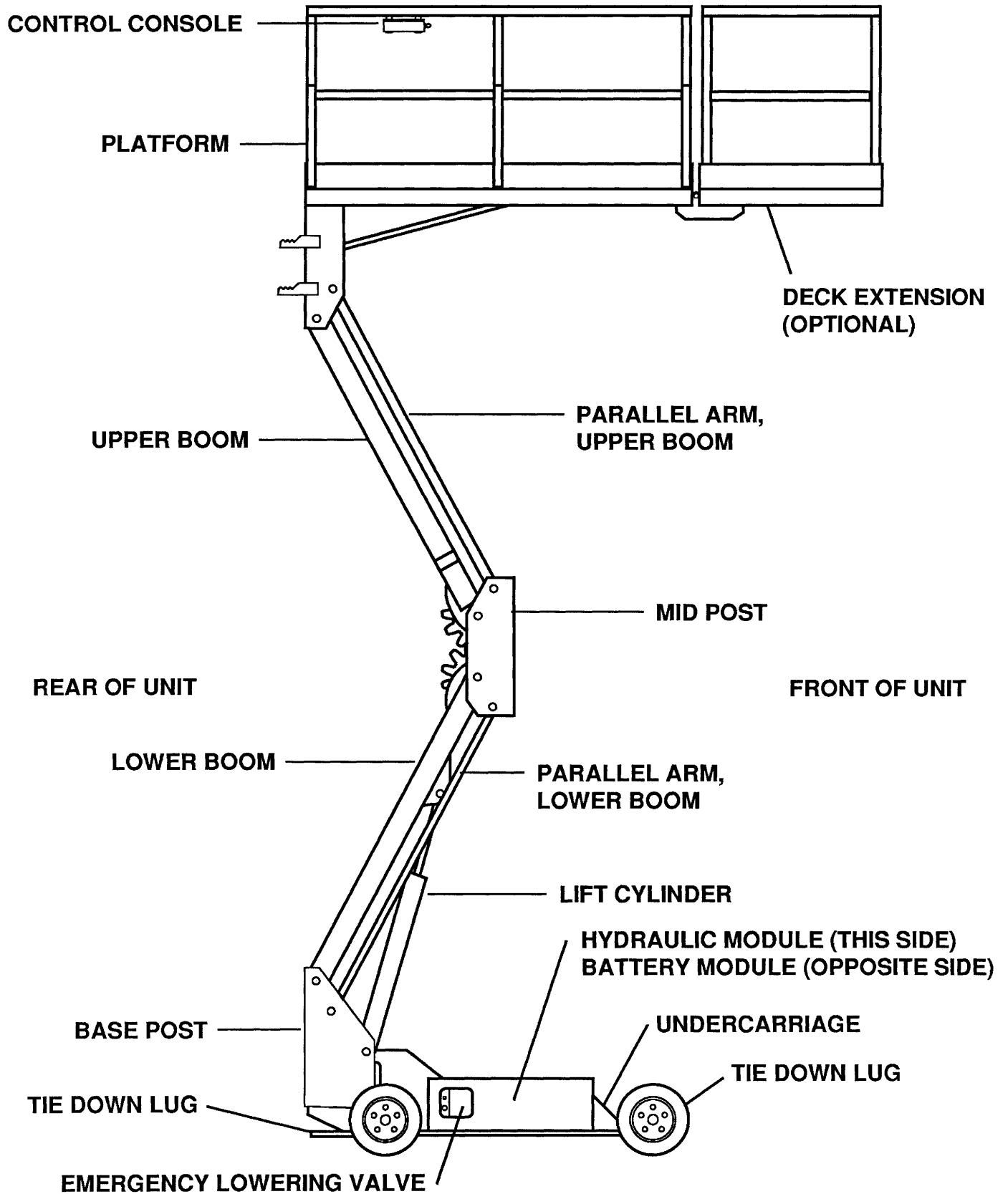
MACHINE SPECIFICATIONS

WORKING HEIGHT	26 FT (7.93 M)
PLATFORM HEIGHT	20 FT (6.10 M)
STOWED HEIGHT	
GUARD RAILS IN PLACE	89.6 IN (2.28 M)
GUARD RAILS LOWERED (STANDARD DECK)	75.2 IN (1.91 M)
GUARD RAILS LOWERED (W/ DECK EXTENSION)	78.0 IN. (1.98 M)
PLATFORM CAPACITY (UNRESTRICTED):	
WITH STANDARD DECK	750 LBS. (340 KG)
WITH OPTIONAL DECK EXTENSION	650 LBS (295 KG)
DECK EXTENSION CAPACITY	250 LBS (115 KG)
PLATFORM DIMENSIONS:	
W/ STANDARD DECK (or w/ optional deck stowed)	30.5 IN. (0.77 M) x 96 IN (2.44 M)
WITH OPTIONAL DECK EXTENDED	30.5 IN (0.77 M) x 128.5 IN (3.26 M)
LENGTH (WITHOUT OPTIONAL DECK EXTENSION)	96 IN. (2.44 M)
(WITH OPTIONAL DECK EXTENSION)	100.2 IN (2.54 M)
WIDTH	34 IN (0.86 M)
WHEELBASE	66 IN (1.67 M)
TRACK	28.6 IN (0.73 M)
OUTSIDE TURNING RADIUS	8 FT 6 IN (2.59 M)
INSIDE TURNING RADIUS	3 FT 5 IN. (1.04 M)
GROUND CLEARANCE	4 IN (0.10 M)
GROSS WEIGHT (APPROX)	3,200 LBS (1,452 KG)
TRAVEL SPEED-PLATFORM STOWED	2 MPH (3.2 KPH)
TRAVEL SPEED-PLATFORM ELEVATED	0.5 MPH (0.8 KPH)
GRADEABILITY (on hard surface) (ref next page)	11.3° (20%)
TIRES	4" x 8" x 16" SOLID
HYDRAULIC FLUID CAPACITY	4 GAL (15.1 L)
HYDRAULIC OPERATING PRESSURE	2600 PSI (179 BAR)
WHEEL LUG NUT TORQUE	65-70 FT LBS
POWER SYSTEM (ELECTRIC)	24 VOLT DC (FOUR 6 VOLT, 220 AMP/HR LEAD-ACID BATTERIES IN SERIES)

GRADEABILITY CONVERSION CHART



PRIMARY MACHINE COMPONENTS

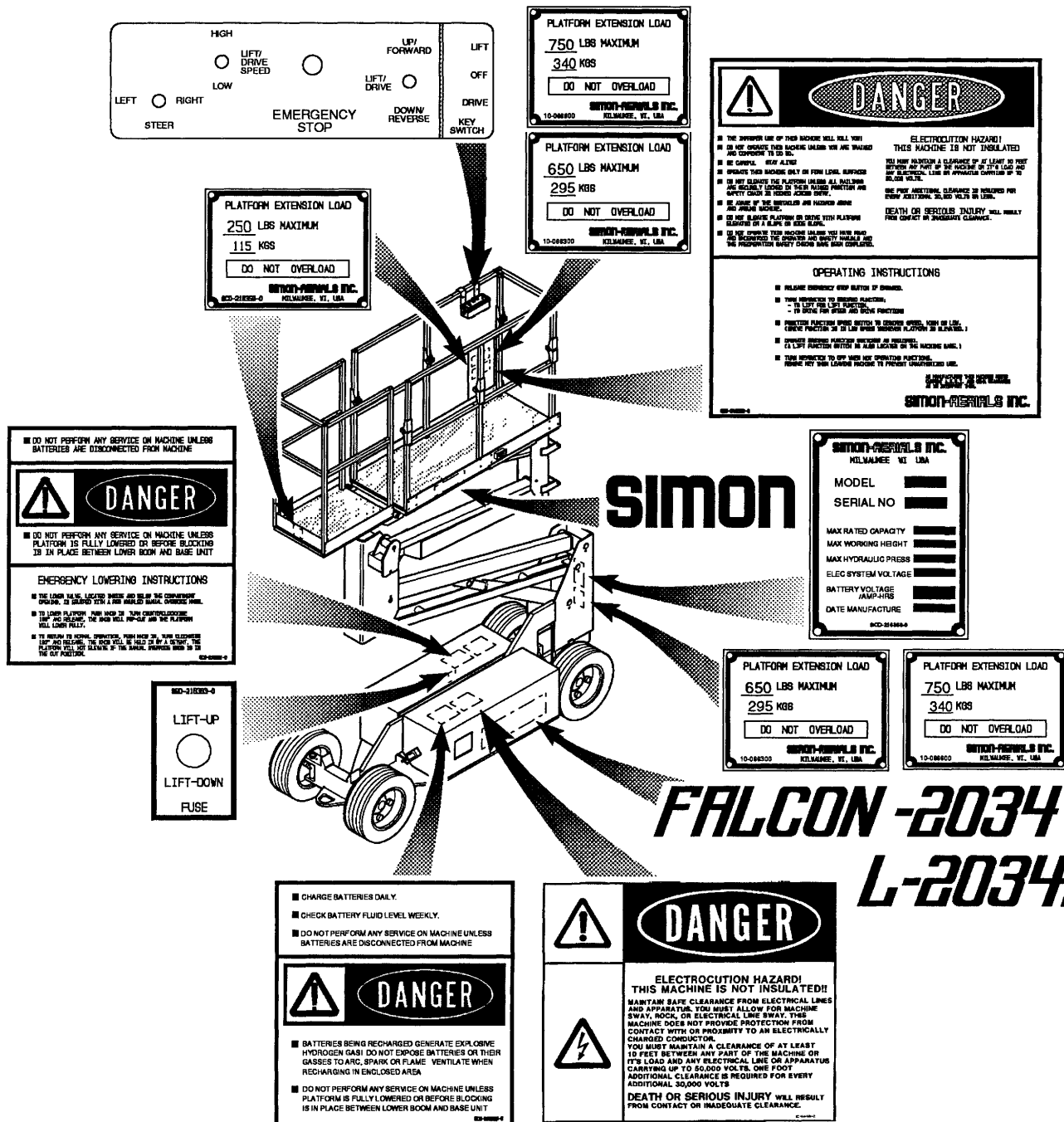


DECAL AND INFORMATION PLATE LOCATIONS



OPERATING THIS EQUIPMENT WITHOUT ALL SAFETY AND CONTROL DECALS IN PLACE CAN BE HAZARDOUS.

Locations of the various decals and plates on the Simon Falcon 2034 Aerial Platform are shown here. If any of these items are damaged or missing, refer to your Parts Catalog for correct replacement part number.



FALCON-2034 L-2034E

SECTION 2: OPERATION

SAFETY RULES AND PRECAUTIONS

- Only trained, competent personnel should operate the FALCON Vertical Lift
- Read and understand all safety and control information found on the machine and in this manual before operating the unit.
- Be aware of all Federal, State and Local rules which may apply to this machine and its safe operation
- DO NOT operate this machine while under the influence of any drugs or alcohol
- DO NOT operate this machine if you are bothered by heights, seizures, or dizzy spells.
- DO NOT indulge in stunt driving or horseplay while operating this machine
- DO NOT exceed the safe working load of the unit in any configuration. Review the section titled "MACHINE SPECIFICATIONS", earlier in this manual, regarding this model's capacities and dimensions
- DO NOT exceed platform rated capacity when transferring live loads to or from the work platform.
- USE EXTREME CAUTION when transferring live loads to or from the platform while the work platform is in a raised position.
- DO NOT raise the work platform unless the unit is on a firm, level surface
- DO NOT exceed the maximum platform horizontal pull of 150 pounds
- DO NOT alter, modify or disable any safety devices or interlocks
- DO NOT perform any service on the unit unless the batteries are disconnected. The platform must be fully lowered, or blocking must be in place between lower boom and base of unit before performing any service
- DO NOT use the FALCON vertical lift as a crane to lift oversized or hanging loads
- DO NOT sit, stand or climb on platform rails.
- DO NOT use scaffolding, ladders or similar items to extend your reach while on the work platform.
- SECURE all tools and other loose items to prevent injury to persons working on or below the work platform.

SAFETY RULES AND PRECAUTIONS (CONTINUED)

- DO NOT use the work platform or booms to push or tow another vehicle.
- DO NOT raise or lower the platform into stationary objects, as this will cause damage to mechanical and hydraulic components.
- DO NOT use the Falcon outdoors in electrical storms or in high wind situations
- OSHA approved safety belts and safety hats must be worn at all times when operating the unit
- NEVER fasten safety belt to an adjacent structure while on the work platform
- DO NOT elevate the platform unless all railings are securely locked in their raised position. Make sure that the entry chain to the platform is secured before operating the unit from the platform.
- Since the platform may be lowered from its ground controls, precautions should be taken to prevent unauthorized personnel from operating the ground controls while the platform is in use.
- DO NOT allow anyone to tamper with, service or operate the machine from the ground control station while personnel are on the platform, except in an emergency.
- The operator must complete the "Daily Operational Checklist" found in this manual (see Table of Contents) prior to each day's usage
- The operator shall immediately report any noises, vibrations or malfunctions of the unit to supervisor. Machine shall be removed from service until diagnosis and any necessary repairs have been completed.
- The operator should note that the travel speed automatically decreases whenever the platform is elevated
- The operator shall ensure that the area surrounding the FALCON is clear of personnel and equipment before driving the unit, raising or lowering the platform.
- The operator shall maintain a safe distance from overhead and ground obstacles, debris, drop-offs, holes, depressions, electrical wires and other hazards to travel
- The operator shall limit travel speed according to conditions of the ground surface, congestion, slope, location of personnel or any other factors that could cause hazard of collision or injury to personnel
- The operator shall use caution to prevent ropes, cords, hoses, etc. from becoming entangled in the unit's boom sections when being raised, lowered or repositioned.

SAFETY RULES AND PRECAUTIONS (CONTINUED)

- The operator should check level of battery charge before operating unit. If the unit is sluggish in operation, DO NOT USE before recharging.
- **DO NOT** recharge the batteries near sparks or open flames. Lead-acid batteries generate EXPLOSIVE HYDROGEN GAS. **Always wear safety glasses.**



ELECTROCUTION HAZARD!!

THIS MACHINE IS NOT INSULATED!!

Maintain safe clearance from electrical lines and apparatus. You must allow for machine sway (side to side movement) when elevated, and electrical line movement. This machine does not provide protection from contact with or proximity to an electrically charged conductor.

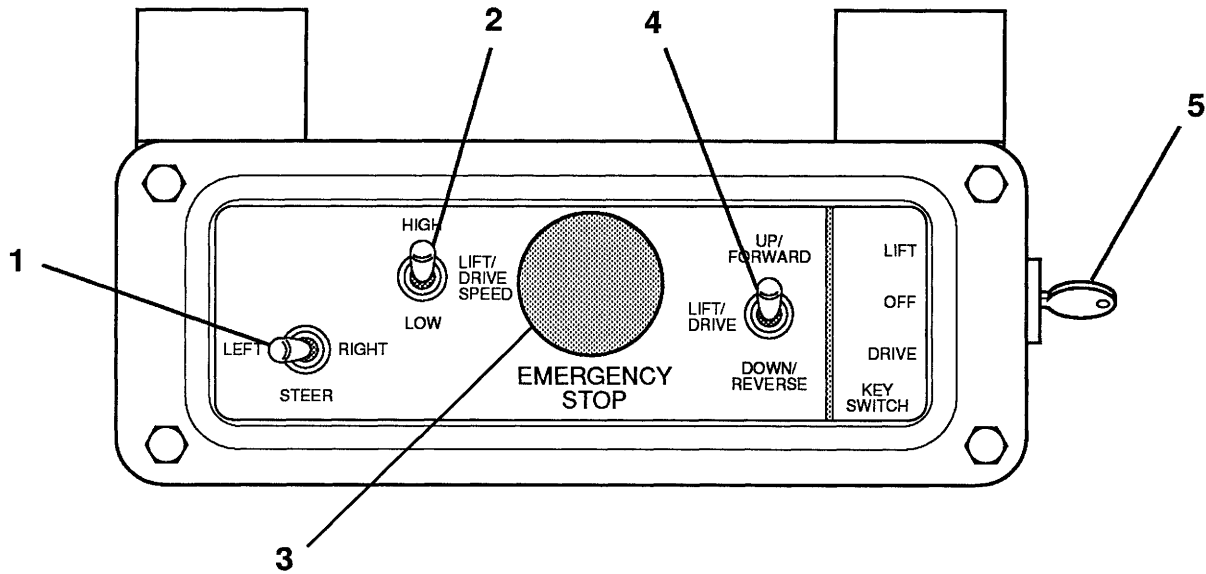
You must AVOID CONTACT between any part of the machine, or its load, and any electrical line or apparatus carrying up to 300 volts.

You must maintain a CLEARANCE OF AT LEAST 10 FEET between any part of the machine, or its load, and any electrical line or apparatus carrying over 300 volts up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts.

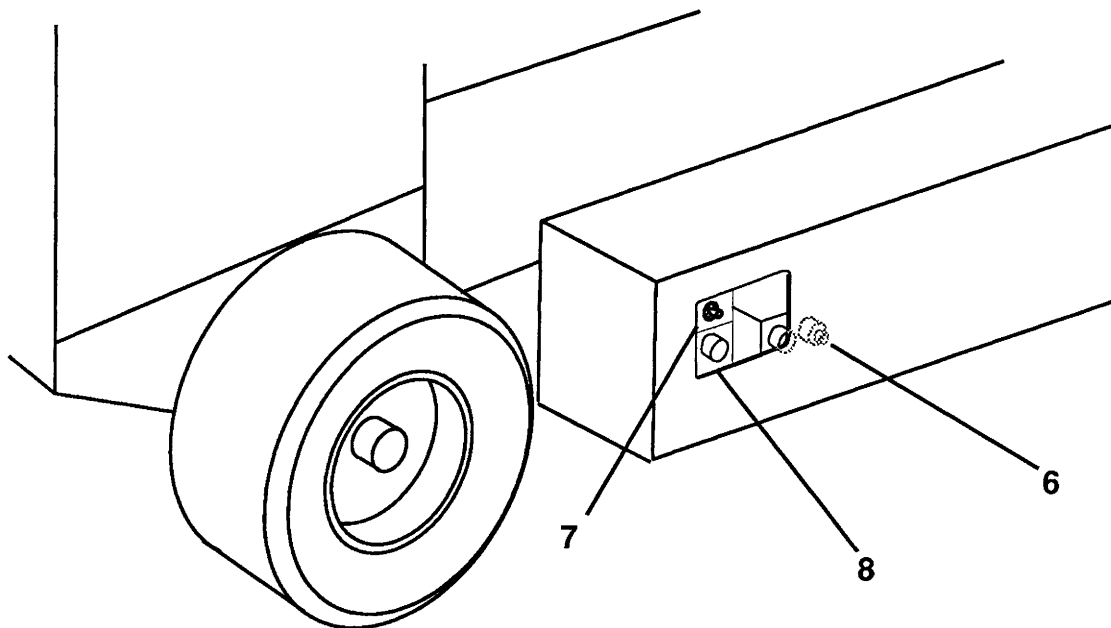
DEATH OR SERIOUS INJURY will result from contact with, or inadequate clearance from, any electrically charged conductor.

OPERATOR CONTROLS



CONTROL CONSOLE



GROUND CONTROLS



OPERATOR CONTROLS DESCRIPTION

Item	Control	Location	Description
1.	Steering Switch	Control Console	Controls the steering wheels when Key Switch is turned to the "DRIVE" position
2	Vehicle Lift/ Drive (Function) Speed Switch	Control Console	Shifts between "HIGH" and "LOW" speed drive, or platform raising speed
			
			High speed drive should be used only on firm, level surfaces.
			
			Drive is limited to "LOW" speed and gradeability will be reduced whenever the platform is elevated
3	Emergency Stop	Control Console	Used to to stop all functions in an emergency Push for emergency stop Turn clockwise to reset.
4	Lift/ Drive Switch	Control Console	Used to control the raising and lowering of the platform when the Key Switch is turned to the "LIFT" position.
			Used to select forward drive or reverse drive functions when the Key Switch is turned to the "DRIVE" position.
5	Key Switch	Control Console	Main power disconnect Also selects "DRIVE" or "LIFT" function. The key may be removed to prevent unauthorized operation
6	Emergency Lowering Valve	Ground Valve Bank in Enclosure	Push red knob in and turn full counterclockwise to permit lowering of platform should the platform controls become inoperable Push and turn full clockwise to release
7	Lift/ Lower Switch	Ground Panel	Toggle switch used to control the raising and lowering of the platform from the ground.
8	20 Amp Fuse	Ground Panel Panel	Electrical circuit protection

START-UP PROCEDURES

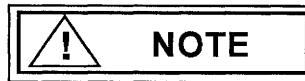
DAILY CHECKS

Before the Simon FALCON Vertical Lift is put into use each day, the following checks should be completed to make sure that the machine is safe and in good condition

Refer to check lists at back of this manual for periodic maintenance requirements and additional procedures for severe duty applications

- ___ Visually inspect all machine components, i.e missing parts, torn or loose hoses, hydraulic fluid leaks, torn or disconnected wires, damaged tires, etc The module covers on both sides can be removed to inspect components inside
- ___ Check battery electrolyte level, charge level and connections.
- ___ Check hydraulic fluid level with platform fully lowered
- ___ Check tires for damage.
- ___ Check wheel lug nuts for tightness.
- ___ Check hoses and cables for worn areas
- ___ Inspect safety belt connections and check for worn areas on the belts.
- ___ Check platform rails and safety chains for damage.
- ___ Check pivot pins for security.
- ___ Check that all warning and instructional labels are legible and secure.

MACHINE STARTUP

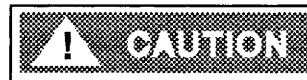


All operators must thoroughly read and understand the “Safety Rules and Precautions” section of this manual prior to operating this machine.



A complete visual inspection of the machine must be performed prior to operational checks.

- Check to be sure that battery charger has been disconnected from the AC power source. Unhook the control console from the platform guard rail, and hold console while standing on the ground, alongside the machine, to perform these checks.



Stand clear of the machine, and keep control console cable away from mechanism while performing these checks.

- Ensure that emergency stop button is disengaged. Turn clockwise to reset.
- Push down on each of the three fastened corners of the tilt alarm (if so equipped) and hold. After a three second delay, the alarm should sound as each corner is pressed.

GROUND OPERATION AND CHECKS

- Turn the key switch on the platform control to the "DRIVE" position. Switch lift/ drive speed toggle to "LOW"
- Switch forward/ reverse toggle in each direction to check for proper control. Machine should travel smoothly in the selected direction. Release the forward/ reverse switch.



Machine travel should stop upon release of forward/ reverse switch.

- Switch the lift/ drive speed toggle to "HIGH", and repeat forward and reverse tests. Check for appropriate drive speed of unit in "HIGH" and "LOW" toggle position.
- Test the "Emergency Stop" function. While travelling, press the red button on the platform control.



Machine travel should stop upon actuation of emergency stop button. Beware of unsecured items on platform.

- Turn emergency stop button clockwise to reset.
- Move steering switch "LEFT" and "RIGHT" to test proper steering control
- Turn the key switch on the platform control to the "LIFT" position. Switch lift/ drive speed toggle to "LOW".



BE SURE AREA ABOVE UNIT IS CLEAR OF OBSTRUCTIONS, TO ALLOW FULL ELEVATION OF PLATFORM.

DO NOT OPERATE THE MACHINE IF THE FOLLOWING CHECKS REVEAL A DEFECT.

- Hook the control console to the platform guard rail. Switch the lift/ lower toggle on the ground panel "UP" to raise the platform to the end of its movement
 - ___ Listen for any unusual noises.
 - ___ Check for any vibration while the platform travels up.
 - ___ Check for uneven or jerky operation
 - ___ Check for hydraulic leaks
 - ___ Check pivot pin security. Ensure that all snap rings and keeper pins are in place at each pin locking point

- Lower the platform about half way by switching the lift/ lower toggle on the ground panel "DOWN". Note operation of audible "down alarm" during lowering procedure.
 - ___ Listen for any unusual noises.
 - ___ Check for any vibration while the platform travels down
 - ___ Check for uneven or jerky operation
 - ___ Check for hydraulic leaks
 - ___ Check pivot pin security. Ensure that all snap rings and keeper pins are in place at each pin locking point.

- Release the raise/ lower switch when platform is approximately half way to stowed position



Platform lowering should stop immediately upon release of raise/ lower switch.

- Turn the key switch off

EMERGENCY VALVE OPERATION AND CHECK

With power off.

- Open the emergency lowering valve by pushing knurled red "manual override" knob (located inside and below the compartment opening) in. Turn knob counterclockwise approximately 180°, then release. The knob will pop out and the platform will lower to the stowed position

- Close the emergency lowering valve. Push red knob in, turn clockwise approximately 180° and release. The knob will be held in by a detent. Platform cannot be raised when emergency lowering valve is open.

PLATFORM OPERATION AND CHECKS

- Complete the Ground Operational Checks before you perform the Platform Checks
- Enter platform and close entry safety chain. Check that all end railings are in position, and railing pins are all in place
- For machines with optional deck extension, manually lower extension into working position. Check that front guard rails are in position, and railing pins are all in place



BE SURE AREA ABOVE UNIT IS CLEAR OF OBSTRUCTIONS, TO ALLOW FULL ELEVATION OF PLATFORM.

DO NOT OPERATE THE MACHINE IF THE FOLLOWING CHECKS REVEAL A DEFECT.

- ___ Turn the key switch on the side of the control console to the "LIFT" position
- ___ Switch the lift/ drive toggle "UP" to raise the platform part way
- ___ Test the "Emergency Stop" function While platform is moving, press the red button Platform should stop
- ___ Reset button by turning clockwise to continue platform operation
- ___ Switch the lift/ drive toggle "DOWN" to lower the platform to the stowed position.



IF PLATFORM SHOULD FAIL TO LOWER, DO NOT ATTEMPT TO CLIMB DOWN THE BOOM. SERIOUS INJURY MAY RESULT.

- Replace module covers on both side of the machine.

OPERATION



DUE TO THE DESIGN OF THE FALCON LIFT, IT IS POSSIBLE TO DRIVE THROUGH LOCATIONS IN WHICH IT WOULD BE UNSAFE TO RAISE THE PLATFORM.

THE OPERATOR MUST BE AWARE OF THE ENVIRONMENT. DO NOT RAISE THE PLATFORM IF THE MACHINE IS NOT ON A FIRM LEVEL SURFACE!

DO NOT RELY ON THE TILT ALARM TO WARN YOU OF AN UNSAFE CONDITION.

SAFE OPERATION BEGINS WITH A SAFE OPERATOR.

Perform Start-up Procedures After satisfactory completion of all preliminary checks, enter platform, close safety chain, and attach safety belt Check that front end guard rails are also in position, and railing pins are all in place.

COLD WEATHER OPERATION

- In below zero weather, the hydraulic fluid should be allowed to warm before full operation of the unit
- Check for water contamination of the hydraulic fluid.
- Check for and remove ice on steps, platform and steering linkage prior to operation
- Check that all controls operate freely in all positions



Go slow and leave more maneuvering room during cold weather operation.

DRIVING AND STEERING



Check that the route of travel to be taken is clear of persons, obstructions, debris, holes and dropoffs, and is capable of supporting the machine.

Turn the key switch to the "DRIVE" position. Switch the lift/ drive speed toggle switch to "LOW" Push the forward/ reverse toggle switch to select the desired travel direction. IF CONDITIONS PERMIT, switch the lift/ drive speed toggle switch to "HIGH" to allow faster travel

Steering is achieved by pressing the steer toggle switch to the left or right as required



Steer wheels will not center themselves after a turn, and must be returned to the straight-ahead position with the steer toggle switch.

Although the control panel may be positioned anywhere on the platform rail, the operator may find driving easier if facing the "steering" end of the machine. If driving is attempted while facing the "non-steering" end, it must be remembered that all directions given to the steer and drive controls will be reversed

When descending a ramp (incline), switch the lift/ drive speed toggle switch to "LOW"

BRAKING

For parking, the brake is automatically applied when the forward/ reverse toggle switch is positioned in the center (neutral) position.



ACTUATION OF THE PLATFORM "EMERGENCY STOP" SWITCH WILL APPLY BRAKES IMMEDIATELY!

BRACE YOURSELF AND SECURE LOOSE OBJECTS ON PLATFORM, AS THIS WILL CAUSE MACHINE TO COME TO A SUDDEN STOP.

ELEVATING THE PLATFORM

Turn the key switch to the "LIFT" position. Switch the lift/ drive speed toggle switch to "LOW". Push the up/ down toggle switch to the "UP" position. If desired, switch the lift/ drive speed toggle switch to "HIGH" to allow faster rise.



TRAVEL WITH PLATFORM ELEVATED ONLY ON HARD, LEVEL SURFACES.



The machine will travel only at the slower speed when platform is raised.

LOWERING THE PLATFORM

Turn the key switch to the "LIFT" position. Switch the lift/ drive speed toggle switch to "LOW". Push the up/ down toggle switch to the "DOWN" position.



The platform will only descend at "LOW" speed, regardless of the position of the lift/ drive speed toggle switch.

LOWERING THE GUARD RAILS



USE THIS PROCEDURE ONLY TO PERMIT DRIVING THE UNIT THROUGH DOORWAYS OR OPENINGS TOO SMALL TO OTHERWISE ALLOW ACCESS.

- Unpin control console from platform side rail. Set aside to prevent damage. Fold down the deck extension (if so equipped)
- Unpin the front and rear end railings on one side, and unhook the safety chain
- Swing end railings over to side rail, and insert pins to hold end rails in place
- Swing upper side rails inward onto platform. Fold up the deck extension (if so equipped)



OPERATE MACHINE FROM GROUND ONLY, USING PLATFORM CONTROL CONSOLE, WHILE GUARD RAILS ARE IN LOWERED POSITION.

RAISING THE GUARD RAILS



GUARD RAILS MUST BE SECURELY FASTENED IN THEIR PROPER POSITION BEFORE ENTERING THE PLATFORM.

- Fold down the deck extension (if so equipped). Swing upper side rails to upright position.
- Unpin end railings from side rail, swing into position and pin to opposite side rail
- Connect rear midrail chain. Place control console in desired position on top rail, and pin in place.

SHUT-DOWN PROCEDURES

- When finished with the unit, place the platform in the stowed position.
- Park the unit on level ground (preferably protected from weather) Secure to prevent vandalism and to discourage children at play.
- Turn off the key switch, and remove key to prevent unauthorized operation
- Plug in the battery charger to recharge the batteries

RECHARGING BATTERIES

Recharge the batteries of the FALCON Vertical Lift each day after use



LEAD-ACID BATTERIES GENERATE EXPLOSIVE GASES. KEEP SPARKS AND FLAME AWAY FROM BATTERIES. NO SMOKING!

- Plug the charger into a 115 Volt, 60 Hz AC outlet, using a #12 AWG grounded extension cord
- Set timer on charger to
 - 16 hours for fully discharged batteries,
 - 7 to 9 hours if batteries are lightly discharged.

Timer will shut off the charger automatically at the end of this time

To determine if the batteries are fully charged, plug the charger in, and set the timer for 1 hour. A drop in the charge rate (shown on the ammeter) to 1-4 amps within a few minutes indicates that the batteries are fully charged



DO NOT OPERATE THE UNIT WHILE CHARGING.

Be sure to disconnect the charger from the outlet before moving the FALCON

TRANSPORTING THE UNIT

Platform should be in the stowed position when the unit is being transported. Do not operate the unit while it is being transported.

TOWING OF THE FALCON SERIES LIFT:

If your FALCON is equipped with the TOW PACKAGE OPTION, it can be towed. MAXIMUM TOWING SPEED IS 6 MPH (9.6 KPH). The tow brake and motor release valves are located below the lift cylinder. To tow the unit

- Fully close the brake release valve by turning the knob clockwise. Fully open the motor release valve by turning the knob counterclockwise.
- Momentarily operate the drive function to disengage the brake cylinder. The unit is now ready to tow.

To return to normal operation, fully open the brake release valve by turning the knob counterclockwise. Fully close the motor release valve by turning the knob clockwise.

FORK LIFTING OF THE FALCON SERIES LIFT:

- Lift the Simon FALCON Vertical Lift from the sides only. Position forks under the modules, between the front and rear wheels and as near to the rear (driving) wheels as possible. Ensure that lift truck used has adequate capacity to lift the machine (see "Machine Specifications" for weight).



Do not use tie down lugs to lift the FALCON.

TRUCK TRANSPORT OF THE FALCON SERIES LIFT:

- The FALCON Vertical Lift may be winched onto a transporting vehicle IF THE UNIT IS EQUIPPED WITH THE TOW PACKAGE OPTION. Return both tow valves to normal operating position (engaging the brake) when the unit is on the transporting vehicle.
- Securely attach the machine to the transporting vehicle using the tie down lugs, located at the center front and center rear of the undercarriage. Ensure that chains or straps have adequate load capacity, and DO NOT OVERTIGHTEN.



Do not use tie down lugs to lift the FALCON.

- Always chock the wheels of the unit while on the transporting vehicle.

EMERGENCY SYSTEM AND PROCEDURES



IF PLATFORM SHOULD FAIL TO LOWER, DO NOT ATTEMPT TO CLIMB DOWN THE BOOM ASSEMBLY. SERIOUS INJURY MAY RESULT.

HAVE AN EXPERIENCED OPERATOR USE THE EMERGENCY LOWERING PROCEDURE TO SAFELY LOWER THE PLATFORM.

THIS MACHINE IS NOT INSULATED AND EXTREME CARE MUST BE TAKEN WHEN WORKING AROUND POWER LINES.

DO NOT TOUCH THE UNIT IF THERE IS A CHANCE IT IS IN CONTACT WITH POWER LINES. WAIT UNTIL THE POWER TO THE LINES HAS BEEN SHUT OFF.

EMERGENCY LOWERING



DO NOT REMOVE THE VELOCITY FUSE WHILE THE PLATFORM IS RAISED.

- Remove wire #7 from the high speed valve. The high speed valve is located to the left of the emergency lowering valve inside and below the ground control opening
- Hold the lift/ lower toggle in the "LIFT" position. The pump should run.
- Open the emergency lowering valve by pushing knurled red "manual override" knob (on the emergency lowering valve) in. Turn knob counterclockwise approximately 180°, then release. The knob will pop out, you should hear pressure being relieved, and the platform will lower to the stowed position.

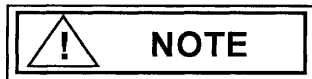


Drive and steer functions are not available when using the emergency lowering valve



The emergency lowering system is designed to be used only for emergency descent.

- Once the platform has been fully lowered, close the emergency lowering valve. Push red knob in, turn clockwise approximately 180° and release. The knob will be held in by a detent.



Platform will not elevate if this valve is open.

- Reconnect wire #7 to the high speed valve.
- **Report the incident to your supervisor immediately.**

EMERGENCY DRIVE

The emergency lowering system will not provide control or operation of the drive or steering functions. Should it be necessary to move the unit, see "Transporting the Unit", earlier in this Manual.

EMERGENCY PROCEDURES

It is not possible for us to foresee every emergency situation that could arise during operation of this machine. The following information describes three such emergency situations, and lists appropriate actions that can be taken.

When faced with an emergency, above all please remember:

- Stay calm
- Think through the situation before operating the machine
- Get help if necessary

SITUATION: Platform elevated, operator not incapacitated, but unit will not respond to control console.



DO NOT TRY TO CLIMB DOWN THE BOOM ASSEMBLY.
SERIOUS INJURY MAY RESULT

HAVE AN EXPERIENCED OPERATOR USE THE EMERGENCY LOWERING PROCEDURE TO SAFELY LOWER THE PLATFORM.

REPORT THE INCIDENT TO YOUR SUPERVISOR IMMEDIATELY.

POSSIBLE CONDITION:

- One or more functions not operating correctly
- Unit movement from unselected control
- Unit function will not stop unless power is switched off

CORRECTIVE ACTION

- 1 Contact an experienced operator to lower the machine using the emergency descent lowering procedure.
- 2 **Report the incident to your supervisor immediately.**

SITUATION: Unit elevated, with operator incapacitated at controls.



DO NOT TOUCH UNIT !!!

DETERMINE THE CAUSE OF THE PROBLEM BEFORE YOU TOUCH THE MACHINE.

CORRECTIVE ACTION

- 1 Have someone summon first aid or rescue squad.
2. Attempt to talk to operator before taking any rescue measures.
- 3 **Check to see if operator is in a pinned position, or would be endangered if platform is moved, before attempting emergency lowering procedure.**
- 4 After establishing that the machine is not in contact with live power lines, lower the platform using the emergency lowering procedure.
- 5 Render first aid to the operator

SITUATION: Platform in contact with live power lines and operator incapacitated.



DO NOT TOUCH UNIT !!!

CORRECTIVE ACTION

- 1 Contact authorized personnel to disconnect power supply touching unit.
2. Have someone summon first aid or rescue squad.
- 3 If operator is unconscious, check to see if he is in a pinned position, or would be endangered if platform is moved.
- 4 **AFTER POWER IS CUT, use the emergency lowering procedure to bring platform with operator to a safe location to render first aid.**



Any incident involving personal injury must be immediately reported to the local Simon Aerials Distributorship as well as to Simon Aerials Inc.

SECTION 3: MAINTENANCE

TABLE OF CONTENTS, SECTION 3: MAINTENANCE

GENERAL MAINTENANCE TIPS	3-3
DAILY OPERATIONAL CHECKLIST ..	3-4
WEEKLY OPERATIONAL CHECKLIST	3-5
MONTHLY OPERATIONAL CHECKLIST . .	3-6
SEMI - ANNUAL OPERATIONAL CHECKLIST	3-7
TROUBLESHOOTING.	3-9
LUBRICATION CHART	3-10
WARRANTY	3-13

MAINTENANCE

GENERAL MAINTENANCE TIPS



NEVER PERFORM SERVICE ON THE UNIT (WITH PLATFORM ELEVATED) WITHOUT FIRST BLOCKING THE ELEVATING ASSEMBLY IN PLACE !

USE 4" X 4" WOOD POSTS OR SIMILAR MATERIAL WITH SUFFICIENT STRENGTH TO HOLD PLATFORM AND BOOM.

BLOCK BETWEEN LOWER BOOM OR MIDPOST AND CHASSIS. DO NOT BLOCK BETWEEN MIDPOST AND GROUND, AS RETRACTING CYLINDER MAY CAUSE STEER END OF UNIT TO RISE OFF THE GROUND.

- Never leave hydraulic components or hoses open. They must be protected from contamination (including rain) at all times.
- Never open a hydraulic system when there are contaminants in the air
- Use only recommended lubricants. Improper lubricants or incompatible lubricants may be as harmful as no lubrication.
- ALWAYS clean the surrounding area before opening hydraulic systems
- Watch for makeshift "fixes" which can jeopardize safety as well as lead to more costly repairs.
- Any work platform found not to be in safe operating condition should be removed from service until repaired. All repairs should be made by authorized personnel in conformance with the manufacturer's operating, maintenance, and repair manuals

DAILY OPERATIONAL CHECKLIST

All checks must be completed before operation of the Simon FALCON.

DATE _____ INSPECTED BY _____

MODEL NUMBER _____ SERIAL NUMBER _____

GENERAL INFORMATION

- 1 Keep inspection records up-to-date
- 2 Record and report all discrepancies to your supervisor
- 3 A dirty machine cannot be properly inspected
Keep your Simon FALCON clean!!



THIS CHECKLIST MUST BE USED DAILY. FAILURE TO DO SO COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE MUCH MORE THAN IT COSTS.

INITIAL

DESCRIPTION

- | | |
|-------|---|
| _____ | 1. Perform a visual inspection of all machine components, i e missing parts, torn or loose hoses, hydraulic fluid leaks, torn or disconnected wires, damaged tires etc Replace components as necessary. The module covers on both sides can be removed to inspect components inside |
| _____ | 2 Check battery charge level and connections. |
| _____ | 3. Check hydraulic fluid level with the unit in stowed position. |
| _____ | 4. Check that all shutoff valves on hydraulic tank are open (parallel to flow) |
| _____ | 5 Check tires for damage. |
| _____ | 6 Check hoses and cables for worn areas |
| _____ | 7. Inspect safety belt connections, and check for worn areas on the belts. |
| _____ | 8. Check platform rails and safety chains for damage |
| _____ | 9 Check pivot pins for security. |
| _____ | 10 Check that all warning and instructional labels are legible and secure |

ADDITIONAL MAINTENANCE REQUIREMENTS FOR SEVERE USAGE APPLICATIONS

INITIAL

DESCRIPTION

- | | |
|-------|---|
| _____ | 11. Check hydraulic system for leakage after every eight (8) hours of operation |
|-------|---|

WEEKLY OPERATIONAL CHECKLIST

All checks must be completed before operation of the Simon FALCON.

DATE _____ INSPECTED BY _____

MODEL NUMBER _____ SERIAL NUMBER _____

GENERAL INFORMATION

1. Keep inspection records up-to-date
 2. Record and report all discrepancies to your supervisor.
 3. A dirty machine cannot be properly inspected.
- Keep your Simon FALCON clean!!**



**THIS CHECKLIST MUST BE USED WEEKLY. FAILURE TO DO SO
COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS
REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE
MUCH MORE THAN IT COSTS.**

INITIAL	DESCRIPTION
	1. Perform all checks listed on Daily Operational Checklist
	2. Check battery electrolyte level and specific gravity (fully charged specific gravity should be 1.265).
	3. Check wheel lug nuts for proper torque (65-70 ft lbs).
	4. Grease boom gears at mid post.

ADDITIONAL MAINTENANCE REQUIREMENTS FOR SEVERE USAGE APPLICATIONS

INITIAL	DESCRIPTION
	5. Inspect condition of hydraulic fluid in the reservoir Oil should have a clear amber color
	6. Lubricate all grease fittings (see Lubrication Chart)
	7. Lubricate all steering linkages and pivot points.

MONTHLY OPERATIONAL CHECKLIST

DATE _____ INSPECTED BY _____

MODEL NUMBER _____ SERIAL NUMBER _____

GENERAL INFORMATION

- 1 Keep inspection records up-to-date.
 - 2 Record and report all discrepancies to your supervisor
 - 3 A dirty machine cannot be properly inspected.
- Keep your Simon FALCON clean!!**



THIS CHECKLIST MUST BE USED MONTHLY. FAILURE TO DO SO COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE MUCH MORE THAN IT COSTS.

INITIAL

DESCRIPTION

_____	1. Perform all checks listed on Daily and Weekly Operational Checklists
_____	2. Lubricate all grease fittings (see Lubrication Chart).
_____	3. Lubricate all steering linkages and pivot points.
_____	4. Lubricate deck extension pivot pin (if so equipped)
_____	5. Inspect condition of hydraulic fluid in the reservoir Oil should have a clear amber color
_____	6. Inspect the entire machine for signs of damage, broken welds, loose bolts, improper or makeshift repairs
_____	7. Check the electric motor brushes
_____	8. Check pin joints and retaining bolts for security.
_____	9. Check hydraulic system pressure.
_____	10. Check left and right spindles for free turning with no end play.
_____	11. Visually inspect power wheel mounting bolts. Bolts should be flush to retainer, with no gap between retainer and hub flange Torque to 55-60 ft lbs

SEMI - ANNUAL OPERATIONAL CHECKLIST

DATE _____ INSPECTED BY _____

MODEL NUMBER _____ SERIAL NUMBER _____

GENERAL INFORMATION

- 1 Keep inspection records up-to-date
 - 2 Record and report all discrepancies to your supervisor
 - 3 A dirty machine cannot be properly inspected
- Keep your Simon FALCON clean!!**



THIS CHECKLIST MUST BE USED AT SIX MONTH INTERVALS. FAILURE TO DO SO COULD ENDANGER THE LIFE OF THE OPERATOR. ALWAYS REMEMBER, A LITTLE PREVENTIVE MAINTENANCE CAN SAVE MUCH MORE THAN IT COSTS.

INITIAL

DESCRIPTION

_____ 1. Perform all checks listed on Daily, Weekly and Monthly Operational Checklist.

_____ 2. Have hydraulic fluid sample analyzed at a test laboratory. Comply with test results and recommendations to ensure long, trouble free operation



If hydraulic fluid has been regularly maintained, it should only require changing once every year, depending on maintenance, temperature, application, duty cycle, and atmospheric conditions.

_____ 3. Check tightness of upper frame and linkage pins.

_____ 4. Check overall platform stability

_____ 5. Check the electrical mounting and hardware connections for security

_____ 6. Replace return filter element.

_____ 7. Repack front wheel bearings.

TROUBLESHOOTING



SHOULD YOU EXPERIENCE ERRATIC OPERATION OR NOTICE ANY MALFUNCTION WHILE RUNNING THIS UNIT, CONTINUE OPERATION ONLY LONG ENOUGH TO RETURN TO THE GROUND POSITION IF POSSIBLE.

IMMEDIATELY REPORT THE INCIDENT TO YOUR SUPERVISORS, AND DISCONTINUE USING THE UNIT UNTIL IT HAS BEEN CHECKED BY A TRAINED, QUALIFIED MECHANIC.

WHAT TO CHECK IF UNIT WILL NOT OPERATE:

- Key switch turned to proper mode?
- Emergency stop button released? (Twist to release.)
- Batteries fully charged?
- Battery cables connected?
- Wires pulled out or loose?
- Hydraulic fluid level low?
- Obvious fluid leak or damaged component?

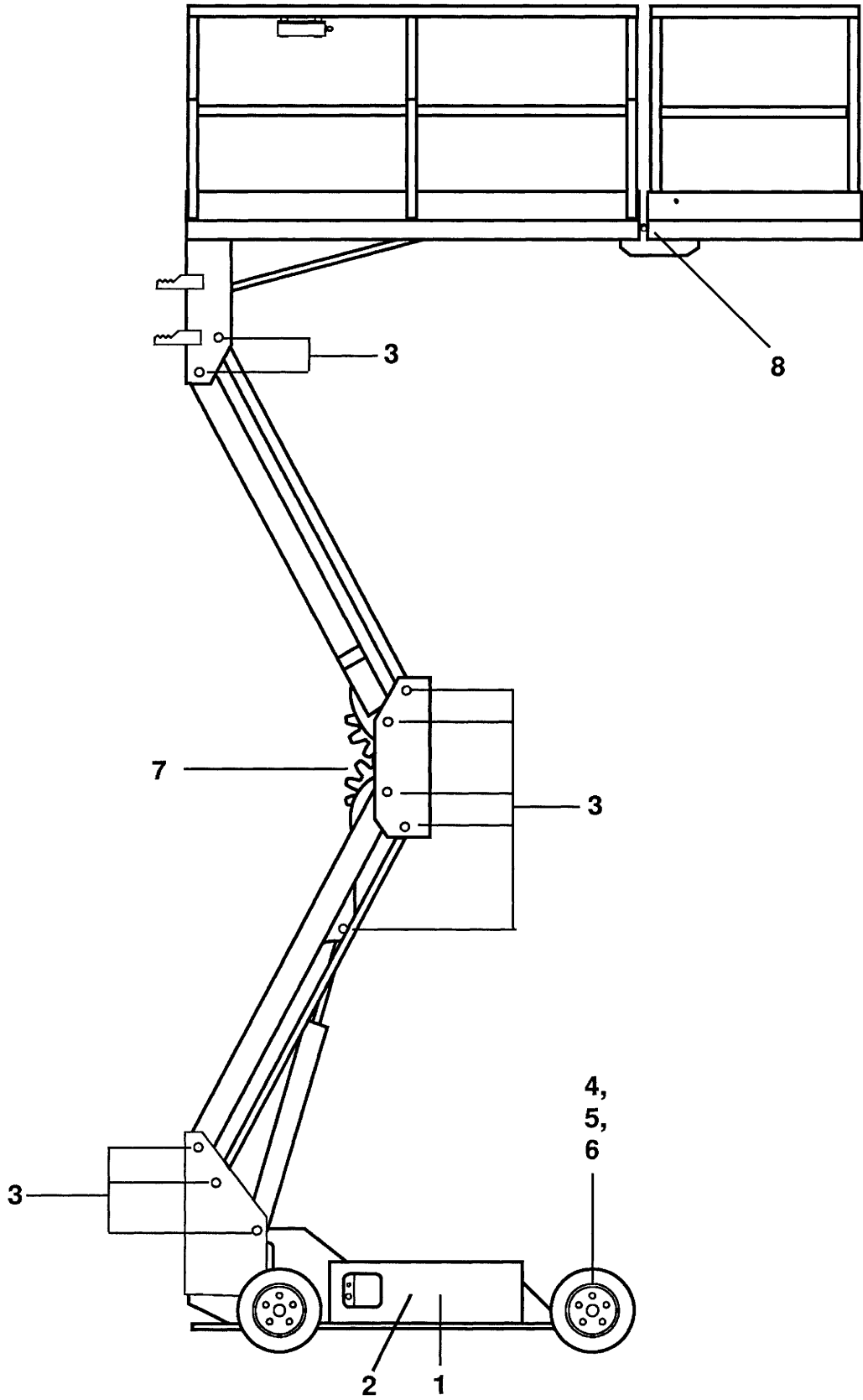
LUBRICATION CHART

NO.	ITEM	SPECIFICATION AND QUANTITY	FREQUENCY OF LUBRICATION
1.	Hydraulic reservoir	Mobil DTE-15 to 2" from top of tank with platform retracted	Check daily, Analyze every 6 months or 500 hrs *†, Change yearly or every 1,000 hrs *†
2	Hydraulic return filter	Filter element	Chg. every 6 months or 500 hrs *†
3	Pivot pins	Mobilgrease Special or equivalent (NLGI #2 Lithium plus EP & Moly). Purge old grease.	Weekly or every 25 hrs.*†
4	Steering spindles	Lithium N.L.G I #2 EP. Purge old grease.	Monthly or every 100 hrs.*†
5	Steering hubs	Lithium N.L.G I #2 EP Clean and repack.	Every 6 months or 500 hrs.*
6	Steering linkage	Silicone spray or penetrating oil	Monthly or every 100 hrs.*†
7	Boom gears	"Keystone - Moly 29 Open Gear Compound" Coat gear faces	Weekly or every 25 hrs.*†
8	Deck extension pivot pin	Silicone spray or penetrating oil.	Monthly or every 100 hrs.*†

* Whichever occurs first

† Different requirements for severe duty applications See check lists

LUBRICATION DIAGRAM





Twelve Month Limited Warranty

Simon Aerials Inc. (the "Company") warrants, to the original Buyer only,

- (a) that the units of equipment manufactured and sold by it conform to the Company's published specifications;
- (b) that all component parts manufactured by it shall be free from defects in material or workmanship for 12 months from the date the unit is first placed in service; and
- (c) that component parts not manufactured by the Company shall be free from defects in material or workmanship for the period warranted by the Company's vendor.

If the Buyer discovers within the warranty period a failure to conform to specifications or a defect in material or workmanship, it must promptly submit notice of such condition to the Company and return the non-conforming part(s) to the factory, freight prepaid, together with a properly completed Simon Aerials Inc. Warranty Claim Form as furnished by the Company. In no event shall such notice be received later than 30 days following expiration of the applicable warranty period. If, after inspection by factory Quality Assurance personnel, the returned part(s) are judged to be not in conformity with specifications or defective in material or workmanship, the Company will correct such condition by delivering repaired or new replacement part(s) to the Buyer, free of charge. This remedy is the Buyer's **exclusive** remedy for breach of warranty.

This warranty does not cover damage caused by shipment, misuse of the unit (including operation beyond unit specification limits), failure to properly service and maintain the unit in accordance with the Company's Manual or Factory Service Bulletins, alteration of the unit, or natural disasters (such as fire, flood, wind and lightning) and shall be void if

- (1) the unit is altered or repaired contrary to the Company's authorized instructions,
- (2) the unit is altered or repaired in such a way as to affect its performance or reliability, or
- (3) the unit is mounted on a chassis or carrier which does not meet the Company's published minimum requirements.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

If field repair or parts replacement is necessary on warranted components, Simon Aerials will reimburse distributors for direct labor costs incurred for said repairs according to the Company's current authorized field service rate, providing that advance approval for said work be granted by Simon Aerials Service Department. In no case shall the Company be liable for any special incidental or consequential damage (including without limitation loss of profits, loss of revenue, cost of capital, cost of substitute equipment, downtime, claims of third parties and injury to person or property) based upon breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory. This limited warranty allocates the risks of product failure between the Company and the Buyer, and that allocation is recognized by both parties and is reflected in the price of the goods.

This written warranty is understood to be the complete and exclusive agreement between the parties, superceding all prior agreements, oral or written and all other communications between the parties relating to the subject matter of this warranty. No employee, agent or distributor of the Company or any other person is authorized to state or imply any additional warranties on behalf of the Company, nor to assume for the Company any other liability in connection with any of its products, unless made in writing and signed by an officer of the Company.

SIMON AERIALS INC.
Milwaukee, WI