



AERIAL EQUIPMENT (MEWP) ADDENDUM



Contract No./ID: _____ (hereinafter, the "Contract")

The undersigned "Customer/Lessee" represents, warrants, acknowledges and agrees to and for the benefit of First Place Rental, Inc., an Illinois corporation (also referred to herein as "FPR" and/or "Lessor") that the undersigned has: (a)(i) selected and carefully examined, inspected and tested each "Item" of aerial equipment (a/k/a "Aerial Work Platform," "AWP," "Mobile Elevating Work Platform" or "MEWP") identified in the above referenced Contract; (ii) found the same to be complete, in good order, condition and repair, fully functioning, free of defects, and otherwise in all ways acceptable and fit for the undersigned's intended use, operation and environment; (b) received all applicable training (including without limitation, training regarding the inspection, maintenance, use, application and operation of each such Item), unit-specific familiarization, instructions and warnings; (c) been notified of (as applicable) each and every "Safety Item / Issue" identified below; and (d) carefully reviewed, and hereby acknowledges and **agrees to honor, be bound by, and to fully and timely comply at all times with each such Safety Item / Issue as well as the terms of Pages 1 and 2 of this Addendum.**

Safety Item / Issue:	Initials: (Customer / Lessee)
Manufacturer's Manuals (Made Available in Hard Copy and/or Online to Customer/Lessee): Including Operation, Maintenance, Parts, Repair and Safety Manuals:	
Water-Resistant Storage Compartment for Manuals (Customer/Lessee notified):	
Control Functions (Reviewed and explained to Customer/Lessee):	
Safety Devices Specific to the Item(s) Rented or Sold, as applicable (Reviewed and explained to Customer/Lessee):	
Tilt and Load Sensor(s) / Alarm(s) (Reviewed and explained to Customer/Lessee):	
Tilt-Back Features – Manually Propelled Items (Reviewed and explained to Customer/Lessee):	
Control Labels, Functions and Warnings on Item(s) Rented or Sold, as applicable (Clearly visible and legible):	
Controls – Ground Position (Fully and properly functioning):	
Controls – Platform Basket (Fully and properly functioning):	
Controls – Emergency (Lowering Controls, Motion Alarm, Horn, Creep Switch, Other: _____ (Known and understood by Customer, and fully and properly functioning):	
Entry Gate (Opens, Closes and Secures Properly):	
Hoses, Fittings, Electronics, Hydraulics, Components (Fully and properly functioning, tight, and free of leaks and/or other apparent damage/malfunctions):	
Tires, Tracks, Outriggers , as applicable (In good condition, fully and properly functioning):	
DO NOT ATTEMPT TO USE any Item(s) in severe weather (e.g., winds in excess of wind rating(s), lightning, snow, hail, sleet, etc.), on steep or unstable terrain, on or near unblocked rights-of-way, near power line(s) or other electrocution hazards and/or without proper fall protection equipment/devices.	
Other Item-Specific Documents/Items/Procedures/Features: Risk Assessment, Identification of Potential Hazards, Loading and Unloading, Mitigation Steps, Rescue Plan, Records Retention, Applicable Inspection Form(s), Manufacturer(s) Policies and Procedures; Other(s): _____	

Safety Equipment:	Initials:	Customer/Lessee has been informed of the need for, and has been offered (on reasonable terms) all fall protection equipment ("FPE") referenced on Page 2 and in the columns to the left. If the Customer/Lessee elects to use such FPE, Customer/Lessee represents and warrants that he/she/it will carefully inspect each item of FPE before each use, ensure that it fits properly , and verify that such FPE is in good order, condition and repair, complete and free of defects, and otherwise in all ways acceptable to Customer/Lessee. Customer/Lessee further agrees to: (a) furnish to all users, operators and occupants of the Item(s), all required FPE (whether or not made available by Lessor), as well as all applicable familiarization and training; (b) use and/or wear, and ensure that all other users, operators and occupants of such Item(s) use and/or wear the appropriate FPE at all times; (c) ensure that all such FPE fits properly and is in good order, condition and repair, complete and free of defects <u>before each use</u> ; (d) ensure that only competent and fully and properly trained, familiarized and supervised persons use, operate and/or occupy such Item(s) at all times; and (e) ensure that all users, operators and occupants of such Item(s) fully and timely comply with each of the requirements of this Addendum and all applicable laws, rules and regulations at all times.
Harness(es)		
Lanyard(s)		
Other FPE:		

* **Important Note:** In addition to its other obligations to FPR, Customer/Lessee agrees to indemnify, defend and hold harmless FPR for, from and against any and all liabilities, claims, damages, losses, costs and expenses arising from or associated with any failure by Customer/Lessee to fully and timely comply with the requirements of this Addendum.

The Customer/Lessee executing this Addendum acknowledges that such Customer/Lessee has **carefully reviewed and will fully and timely comply at all times with each of the requirements set forth on Pages 1 and 2 hereof.** This Addendum shall bind the Customer/Lessee and his/her/its insurers, subrogees, successors and permitted assign(s). Executed as of the date of such Customer's/Lessee's receipt of the Item(s) identified in the above referenced Contract(s).

Customer/Lessee: _____
Signature: _____
Name: _____
Title: _____

AERIAL EQUIPMENT (MEWP) ADDENDUM

You, the "Customer" or "Lessee," have rented or purchased one or more **airial work platform(s), "mobile elevating work platform(s)," lift(s) and/or scaffolds (a/k/a: "Rented Item(s)"** or "Item(s)") from First Place Rental, Inc., an Illinois corporation (also referred to herein as "Lessor" or "FPR"), under the terms of the Rental (or other) Contract you have executed with FPR (the "Contract") identified on Page 1 of this Addendum (capitalized terms used but not defined herein having the meanings assigned thereto in such Contract). **You acknowledge and agree that, under applicable guidelines, including ISO 16368, and: (a) in the United States, Occupational Safety & Health Administration ("OSHA") guidelines (including CFR Title 29, Parts 1910 and 1926, and ANSI/SIA A92.2-92.9, 92.22 and 92.24); (b) in Canada, CSA B354; and (c) in Europe, the European Machinery Directive and EN280 (and their respective successor(s), as applicable), USERS, OPERATORS AND OCCUPANTS OF CERTAIN ITEM(S), INCLUDING BOOM LIFTS, MAY BE REQUIRED TO USE OR WEAR FALL ARREST, PROTECTION, AND/OR RESTRAINT EQUIPMENT ("FPE"), and all employers are responsible for ensuring that their employees and all others who come into contact with the Item(s): (i) use or wear FPE when operating such Item(s); and (ii) receive training and familiarization enabling such employees to properly use, inspect and maintain the Items and any required FPE. Accordingly, you acknowledge and agree as follows with respect to all Item(s) listed in the Contract (and with respect to any and all future rentals and/or purchases from FPR, you will ensure the following):**

- (1) that any and all applicable FPE has been made available to you on reasonable terms (whether by FPR or by one or more other party(ies)) (or you already have your own FPE);
- (2) that you have full knowledge of the potential hazards associated with using the Item(s), as well as the hazards associated with failing to use FPE;
- (3) that you have personally selected, inspected, examined, tested and approved each Item as well as any and all FPE prior to attempting to use it/them or making it/them available for use by any other party(ies) at any time;
- (4) that FPR has offered to you, on reasonable terms, any and all applicable training with respect to the Item(s);
- (5) that you have received and understand all applicable familiarization with respect to each Item;
- (6) that a site risk assessment is performed to identify hazards, and control measures are developed, in order to limit or eliminate hazards at each worksite;
- (7) that only fully and properly trained, authorized and supervised personnel shall be allowed to use, operate, occupy or otherwise deal with the Rented Item(s) at any/all time(s);
- (8) that a trained and qualified supervisor will remain present to monitor performance of the work performed using any Rented Item(s) and ensure compliance with the above standards;
- (9) that all required inspections and maintenance shall be timely and properly performed on all Rented Item(s) (unless otherwise agreed in writing by FPR), and that all inspection, maintenance and repair personnel shall have been trained by a qualified person to inspect, maintain and repair such Item(s) in accordance with the manufacturer's instructions; and
- (10) that you have: (a) received, carefully reviewed, and fully understand all applicable instructions and warnings, including without limitation international (including ISO 16368), U.S. (including EPA, NFPA, ASTM, SAIA, SSFI, ASSP, ASME, IEEE, OSHA (including OSHA 1910 and 1926, and the OSHA Fact Sheet available at <https://www.osha.gov/Publications/aerial-lifts-factsheet.pdf>), ANSI/SIA (including ANSI/SIA A92, and ANSI/SIA A92.5, A92.6, A92.22 and A92.24), Canadian (CSA B354), European (Machinery Directive and EN280) and other applicable standards (and their respective successor provision(s), if any) (collectively, "Instructions and Warnings"); and (b) been afforded a reasonable opportunity to ask, and have received satisfactory answers to, any questions you had regarding the same.

You further understand and agree to comply fully and at all times with: (a) the foregoing requirements, including without limitation, all applicable Instructions and Warnings; and (b) the Safety Rules appearing below; and you understand and agree to advise each of your employees and contractors of the same and that:

WORKING AT HEIGHTS IS INHERENTLY DANGEROUS

ACCORDINGLY, IN ADDITION TO YOUR OBLIGATIONS UNDER EACH RENTAL, SALE AND/OR OTHER APPLICABLE CONTRACT, TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAW, YOU, FOR YOURSELF AND FOR THE "CUSTOMER," "RENTER" OR "LESSEE" IDENTIFIED IN THE ABOVE REFERENCED CONTRACT, HEREBY WAIVE AND RELINQUISH, AND AGREE TO INDEMNIFY, DEFEND AND HOLD HARMLESS FIRST PLACE RENTAL, INC., EACH OF THE "INDEMNITEES" IDENTIFIED IN THE APPLICABLE CONTRACT(S) AND THEIR RESPECTIVE INSURERS, SUCCESSORS AND ASSIGNS (REFERRED TO COLLECTIVELY HEREIN AS THE "INDEMNITEES"), FOR, FROM AND AGAINST, ANY AND ALL PERSONAL AND/OR BODILY INJURIES (INCLUDING DEATH), PROPERTY DAMAGE, LIABILITIES, CLAIMS, DAMAGES, FINES, FEES, PENALTIES, LOSSES, COSTS AND EXPENSES, INCLUDING WITHOUT LIMITATION, ATTORNEYS' FEES (COLLECTIVELY, "CLAIMS") ARISING FROM OR ASSOCIATED WITH ANY ONE OR MORE ITEM(S), INCLUDING, BUT NOT LIMITED TO, ANY AND ALL CLAIMS ARISING FROM AND/OR IN CONNECTION WITH THE USE, OPERATION, OCCUPANCY, MISUSE, TRANSPORTATION, MOVEMENT, STORAGE, SERVICING, MAINTENANCE, REPAIR, DELIVERY AND/OR RETRIEVAL OF SUCH ITEM(S), ANY REFUSAL AND/OR FAILURE TO PROPERLY USE FPE IN CONNECTION THEREWITH, AND/OR ANY BREACH OF ANY ONE OR MORE OF THE ABOVE, WHETHER BY YOU OR BY ANY ONE OR MORE OTHER PERSON(S).

Following is a summary of some important safety rules for use of MEWPs, ladders and scaffolds. You are directed to review the applicable OSHA Guidelines, ANSI Standards (including ANSI/SIA A92.2-92.9, 92.22, 92.24, and their respective successor provision(s)), SAIA/SSFI Code of Safe Practices, ASSE Standards, manufacturer(s) use and safety instructions, and state and local laws, rules and regulations, including the laws of Illinois (collectively, "Applicable Safety Standards"). The following rules are included for informational purposes only, and are NOT intended to: (a) serve as a comprehensive list of safety measures; or (b) supplant any Applicable Safety Standards (to which the Lessee is directed for further information):

1. **POST THESE SAFETY RULES IN A CONSPICUOUS PLACE, COMMUNICATE, and ensure that all users, operators and occupants of the Item(s) are aware of them;**
2. **SELECT AND USE THE PROPER MACHINE FOR THE JOB, and never use machines rated "indoor only" outside or in areas that may be exposed to external wind forces;**
3. **CAREFULLY INSPECT ALL ITEMS AND FPE (TEST THE EMERGENCY DESCENT SYSTEM AND ENSURE YOU HAVE ENOUGH FUEL) REGULARLY AND BEFORE EACH USE: Never use any Item(s) or FPE that is/are malfunctioning, defective, damaged, deteriorated or low on fuel;**
4. **SURVEY THE JOB SITE, perform a SITE RISK ASSESSMENT, make certain it is reasonably flat, stable, dry, properly and sufficiently compacted and free of obstacles, identify and eliminate potential hazards associated with the use of the Item(s), and WATCH OUT FOR GROUND HAZARDS AND OVERHEAD OBJECTS;**
5. **DO NOT ATTEMPT TO USE ANY ITEM IN SEVERE WEATHER OR IN WINDS WHICH EXCEED THE LESSER OF (A) 20 mph; OR (B) THE ITEM'S APPLICABLE WIND RATING (SEE ANSI 92.20 FOR APPLICABLE WIND RATING), on steep or unstable terrain, on or near unblocked rights-of-way or vehicular traffic areas (unless a spotter and/or safety cones are properly used/deployed), near power line(s) or other electrocution hazards and/or without proper fall protection;**
6. **SECURELY FASTEN ALL BRACES, AND CAREFULLY PLACE AND MAINTAIN ANCHORS, OUTRIGGERS AND OTHER STABILIZING DEVICES on level and stable surfaces;**
7. **WHEN APPROACHING A STRUCTURE, FEATHER CONTROLS AND REDUCE CONTROL SPEEDS;**
8. **KEEP ALL ITEMS AND FPE IN GOOD CONDITION AND REPAIR, and CAREFULLY INSTALL ALL ACCESSORIES in accordance with the manufacturers' instructions;**
9. **DO NOT USE, OR PERMIT ANYONE ELSE TO USE, ANY ITEM(S) IF YOU/THEY ARE UNDER THE INFLUENCE OF ANY INTOXICANT(S) INCLUDING CANNABIS AND CANNABINOIDS, EVEN IF LEGALIZED, AS WELL AS ALCOHOL, OR IF YOU/THEY ARE FEELING WEAK, DIZZY, DROWSY OR OTHERWISE IMPAIRED;**
10. **DO NOT JUMP ONTO OR OFF OF PLATFORMS OR PLANKS, AND DO NOT CLIMB on or outside of any Item(s) unless specifically designed for climbing;**
11. **DO NOT ATTEMPT TO MODIFY, ALTER, DISCONNECT, CIRCUMVENT, DISMANTLE OR REPAIR ANY ITEM(S), SAFETY DEVICE(S) (INCLUDING WITHOUT LIMITATION, LOAD, TERRAIN AND TILT SENSORS), OR FPE;**
12. **ASSUME THAT THE ITEM(S) ARE NOT EQUIPPED WITH LOAD AND/OR TILT SENSORS UNLESS THEY ARE CLEARLY MARKED OTHERWISE;**
13. **NEVER EXIT A MEWP, unless: (a) it is in the stowed position and the platform is at ground level; or (b) in strict compliance with the manufacturer's written authorization (and in any event, if at height: (i) a properly fitted and attached full body harness and lanyard MUST be used; (ii) winds cannot exceed 20 mph; and (iii) the platform cannot be more than 12 inches from the exit surface);**
14. **NEVER EXCEED HEIGHT OR WEIGHT LIMITS, OR RATED CAPACITY(IES) OF ANY ITEM(S) (including number of occupants, load dimensions, size and/or weight);**
15. **IF ANY ITEM APPEARS DEFECTIVE OR IN NEED OF MAINTENANCE OR REPAIR, IMMEDIATELY: (A) CEASE USING SUCH ITEM; (B) TAKE REASONABLE STEPS TO ENSURE THAT NO ONE ELSE ATTEMPTS OR IS ABLE TO USE IT; AND (C) NOTIFY FPR;**
16. **PROVIDE A GUARDRAIL SYSTEM, FALL PROTECTION AND TOEBOARDS WHERE REQUIRED;**
17. **DO NOT ERECT ITEM(S) NEAR ELECTRICAL POWER LINES: POWER LINES POSE ELECTROCUTION HAZARDS. THE ITEM(S) ARE NOT ELECTRICALLY INSULATED;**
18. **NEVER ATTEMPT TO REPOSITION (MOVE) AN AWP, MEWP, LIFT, LADDER OR SCAFFOLD WHILE OCCUPIED, unless the Item is specifically designed for doing so;**
19. **DO NOT PLACE STEPS, LADDERS OR OTHER DEVICES IN OR ON ANY ITEM(S) FOR ANY REASON (including without limitation, in an effort to increase height); and**
20. **ESTABLISH, MAINTAIN AND POST AN ANSI / OSHA-COMPLIANT SAFE USE PROGRAM AND AN EMERGENCY RESCUE PLAN per 29 CFR 1926 (For more information, go to: <https://www.ipal.or/sites/default/files/2018-04/PAF%20Toolbox%20Talks%20A4%20TE-449-0917-1-en-GB.pdf>).**

In the U.S., you shall carefully review and **post in a conspicuous place all applicable OSHA Guidelines (including those contained in 29 CFR Parts 1910 and 1926), ANSI/SAIA 92.2-92.9, 92.22, 92.24, and the Code of Safe Practices (and their respective successor provision(s), as applicable), and ensure that all persons who erect, dismantle or use any of the Item(s) are made aware of, and comply with, such guidelines as well as the foregoing Safety Rules at all times. **YOU AGREE TO ENSURE THAT ONLY PROPERLY TRAINED, INSTRUCTED, FAMILIARIZED AND SUPERVISED ADULTS ARE PERMITTED TO USE, OPERATE, OCCUPY OR DEAL WITH THE ITEM(S) AT ANY/ALL TIME(S).****

This Addendum supplements and shall be deemed incorporated into the above referenced Rental Contract, any contract of sale, and each other rental or sale contract for the same type(s) of Item(s) you enter into with FPR now or in the future, and shall not be deemed a limitation of any other rights, protections and/or remedies available to or for the benefit of FPR under such contract(s), at law or in equity. Neither this Addendum nor the above referenced Contract(s) may be otherwise modified, unless authorized in writing by FPR. Customer's handwritten, digital, electronic, photocopied and/or facsimiled signature on Page 1 will be enforceable as an original with respect to each of Pages 1 and 2 of this Addendum.

4 Operation

4.1 CONTROL CIRCUIT COMPONENTS

- 4.1.1 CONTROL BOARD:** - Situated under the rear cover, the encapsulated control board comprises a PCB. (Printed circuit board) that incorporates all of the relays to control the machines operation. The control board is common to all models, and contains functions, which might not be utilised on your particular machine. A thermal trip switch is integral to the box, which protects the control circuit and components. If power is lost, the switch can be manually reset.
- 4.1.2 TILT ALARM:** - Fitted to the top of the control board box, the tilt alarm is a solid-state sensor, which monitors the inclination of the machine. It directly controls the BRV (Brake Release Valve) and when the basket is in use, i.e. Booms are raised, if the inclination exceeds the pre-set limit, it will disable the drive to the machine and sound the alarm. In order to recover the machine, the basket operation is unaffected, allowing the operator to restore drive when the machine is stowed. It is then possible to drive back onto level ground, fully restoring machine operation.
- 4.1.3 SOUNDER:** - Situated beneath the PCB is a small electric sounder, which is used to provide an intermittent alarm whenever the machine is in operation. Pushing a green "power control" button or depressing the foot switch in the basket (if fitted) will energise this sounder. This serves to warn personnel of the operation of the machine.
- 4.1.4 KLAXON:** - Also mounted on the top of the control board box is a klaxon, which performs several functions: Firstly, it can be used as a manual alert, by pushing the "Horn" button at the basket control position. Secondly, it is this device, which sounds continuously if the tilt alarm sensor detects excessive inclination, with the booms raised. Lastly, it is linked into the battery management system, such that when low battery state is reached the "pulsing" of the DC motors is mimicked by the klaxon, re-enforcing the message to the operator to recharge the batteries.
- 4.1.5 DRIVE CONTROL VALVE (DCV):-** The motion control valve comprises several individual components all directly involved in the hydraulic supply to the wheel drive motors. Principal amongst these are the drive control valves, which electrically change the drive motor hydraulics supply from series flow to parallel, or vice versa. This control function is only available when the booms are lowered, and allows the operator to select "Hi" or "Lo" drive. "Hi" drive gives fast speed of travel, but low gradeability, "Lo" drive gives best gradeability, but slow speed. "Lo" drive is used for climbing inclines and delicate positioning of the machine.
- 4.1.6 BRAKE RELEASE VALVE (BRV):-** The motion control valve also incorporates a solenoid operated dump valve, which controls the brake function on the machine. This valve must be energised to allow the machine to move. If no voltage is present, the wheel motors will not be able to develop drive torque, whilst at the same time, the parking brakes will remain engaged. Only when a green "Power Control" push-button is being used (or the Basket Foot-switch is depressed) will the BRV operate. If the tilt alarm sensor detects an excessive inclination whilst the booms are raised it is the BRV which is de-energised to isolate the machine. (At the same time the klaxon tone changes to a continuous tone to indicate this condition).

- 4.1.7 BOOM SWITCH:** - Mounted on the end of the machine counterbalance, and operated by the upper boom, this switch controls both the operation of the tilt alarm sensor, and the speed control function. With the booms in the stowed position, the tilt alarm sensor is by-passed, allowing the machine to negotiate slopes in excess of the permissible working angle, without isolating the drive function. At the same time, "Hi" drive is possible, as is fast throttle on those machines so equipped. When the booms are raised, the tilt alarm sensor becomes activated, only slow speed operation is possible and only "Lo" drive is permitted. These control functions are of primary importance to safety of the machine and operator. Under no circumstances should this control function be isolated or by-passed. Note! On later machines the boom switch is located adjacent to the Knuckle, and works from a cam attached to Boom 3. This permits the operator to slightly raise the Booms whilst still permitting high-speed drive. All other functions remain the same.
- 4.1.8 BATTERY MANAGEMENT:** - Battery condition is permanently monitored by the control circuit, such that when available power has decreased to 20% of full charge, the battery status circuit begins to "chop" the power to the hydraulic power packs. This function causes the drive system to alternately stop and start, signalling to the operator that re-charging is necessary. At the same time the Klaxon will begin to sound intermittently re-enforcing the charge warning. At this point, sufficient power remains to drive to the nearest power point. Should the operator ignore the on-set of the discharge warning, the "chopping" will continue until the machine is rendered inoperative. Immediate charging will then be required.
- Under no circumstances should a machine be left fully discharged or severe battery damage can occur in a relatively short time.
- 4.1.9 BATTERY ISOLATORS:** - The battery-disconnect handles are located beneath the rear bonnet section and allow the machine control and power circuits to be isolated from the batteries. In order to isolate the batteries it is necessary to pull **both** release handles. The left side release handle also incorporates a control circuit connector. Pulling this handle also disconnects the supply to the PCB control box. Under normal operation, the machine key switch should be used to isolate the machine, with the battery isolator handles only being required for emergencies, in the event of a short circuit, or during routine maintenance.
- 4.1.10 DUTY SELECTOR:** - On multiple power option machines, one of the functions on the basket control station will be a duty selector. This key switch allows the selection of either power option, i.e. from Diesel to Battery or Gasoline to battery, or vice-versa. On other machines this same key switch serves as an "On-Off" control.
- 4.1.11 DIESEL ENGINE:-** Generally a Kubota OC60 or OC95 engine, driving a twin bodied pump with direct mounted pump dump valves (one per section), and integral relief valve on the rear pump. The arrangement allows two speed operation, fast throttle and automatic relief for ramp climbing.
- 4.1.12 DIESEL BOX:** - Located adjacent to the diesel engine, the diesel box combines all of the functions for dual power operation, (Bi-Energy machines), as well as controlling the diesel engine itself. The relays in this box control starting, high throttle, pump dump, duty selector and the diesel stop timer. There is also an integral thermal trip, which protects the throttle solenoid and other functions.

***nifty* SP Series**

Operating & Safety Instructions

- 4.1.13 GASOLINE ENGINE:** - Generally a Honda GX 240 engine, driving a single body pump with direct mounted pump dump valve. The engine is also equipped with a throttle solenoid for two-speed operation.
- 4.1.14 GASOLINE BOX:** - Located adjacent to the gasoline engine, the gasoline box combines all of the functions for dual power operation, as well as controlling the gasoline engine itself. The relays in this box control starting, high throttle, pump dump, duty selector and engine stop. Here is also an integral thermal trip, which protects the throttle solenoid and other functions.
- 4.1.15 LPG OPERATION:**-On machines equipped for LPG operation (propane) the Honda engine will also have an LPG vaporiser, valve lock and micro-vac switch. The supply and regulation of the propane is governed by the installed propane bottle and regulator. The vapour take-off system requires a vaporiser to convert the liquid propane into an airborne mixture. This is then held by the micro-vac switch and valve lock until the engine turns over, creating a vacuum on the inlet to the engine carburettor. The micro-vac switch then tells the valve lock to open, admitting the propane to the engine. If the engine is halted, the system returns to normal, holding the propane until a re-start is attempted. When running on gasoline, the main tap to the propane bottle should be securely closed, to prevent the engine from trying to run on a mixture of the two fuels. If starting to run on LPG, it should be ensured that all gasoline is discharged from the carburettor bowl before changing to LPG, since the engine will not run satisfactorily if any gasoline is in the carburettor bowl. When turning on the propane, the bottle tap should be opened gradually so that the liquefied propane does not freeze up the vaporiser on contact. Warming up the engine on gasoline first will ensure that the vaporiser is already hot enough to begin the propane conversion. A frozen vaporiser will not allow the machine to run on propane. Machines arranged for vapour take-off do not have a vaporiser, but still have the valve lock and micro-vac switch to control the flow of propane to the engine. The functions of the machine are as described above for the liquid take-off system.
- 4.1.16 MECHANICAL BASKET WEIGH SYSTEM CONTROL BOARD (IF FITTED)** - On machines equipped with the mechanical basket weigh system, the control printed circuit board is usually mounted in the rear of the basket control panel. The function of the operation, the indicator lights and fault conditions are all explained in Section 4.5.5.
- 4.1.17 LOAD SENSING BAR (SiOPS™):** - This machine incorporates a load sensing bar that senses if the operator has been pushed or has fallen against it. If the load applied to the front of the bar is greater than the pre-determined amount, the footswitch will be disabled to increase operator safety and reduce the possibility of sustained involuntary operation of the cage controls. For further information refer to Section 4.3.3.
- 4.1.18 ENGINE WATER TEMPERATURE:** - On those engines equipped with water-cooling, the high temperature sender is connected to an indicator light in the basket panel. High temperature will illuminate the indicator, but not shut down the engine. If the indicator light illuminates during operation, descend immediately and/or stop the engine.
- 4.1.19 ENGINE OIL PRESSURE:** - On those engines equipped with oil sensors, the low oil pressure sender is connected to an indicator light in the basket panel. Low oil pressure will illuminate the indicator, as would total loss of oil or the engine coming to a stop. If the indicator light illuminates during operation, descend immediately and/or stop the engine. When the basket key is turned to the 'engine' position, the light will illuminate to indicate that the engine is not running. This serves to remind the operator to turn the basket key switch 'Off' when not in use. Turning the key switch to 'Off' will de-energise any control relays that might eventually discharge the batteries.

4.2 GROUND CONTROL OPERATION

4.2.1 GROUND CONTROL STATION

ALWAYS ALLOW THE ENGINE TO WARM UP BEFORE OPERATING.



ALL MODELS

- 1) Ensure all red emergency stops are out.
- 2) Turn key switch at ground control station to ground (i.e. fully down).
- 3) Ensure function selector hand valve is turned to **Ground** position (i.e. fully down).
- 4) Turn duty selector in basket to **BATT** (battery) or **ENG** (engine).
- 5) If **BATT** (Battery) is selected go to step 9), if **ENG** (engine) is selected go to step 6).

DIESEL ENGINE OR BI-ENERGY MODELS

- 6) If **ENG** (engine) is selected go to step 7 for a **COLD ENGINE** or step 8 for a **WARM ENGINE**.
- 7) **COLD ENGINE:** - turn the main engine ignition switch (located beneath the front cover) through ON to GL. This engages the glow plug pre-heat system. Hold for 3-5 seconds then turn key fully to ST (start) position and the engine will fire.
- 8) **WARM ENGINE:** - turn the main engine ignition switch (located beneath the front cover) through ON to ST (start) position and the engine will fire.

GASOLINE ENGINE BI-ENERGY MODELS

- 6) If **ENG** (engine) is selected go to Step 7 for a **COLD ENGINE** or Step 8 for a **WARM ENGINE**.
- 7) **COLD ENGINE:** - turn the engine fuel tap on and engage the choke lever. Turn the main engine ignition through ON to ST (Start) and the engine will fire. Return the choke lever to its normal running position after the engine is started.
- 8) **WARM ENGINE:** - turn the engine fuel tap on and turn the main engine ignition through ON to ST (start) position and the engine will fire.

ALL MODELS

- 9) Push and hold green power button.
- 10) Select function and operate hand levers in full accordance with manufacturers operating and safety manual.
- 11) To return control to basket turn key fully clockwise to up position, and return function selector hand valve to **Basket** position, (i.e. fully up).
- 12) When not in use return machine to stowed position, turn the key to centre off position, remove key and chock wheels.

EMERGENCY PROCEDURES

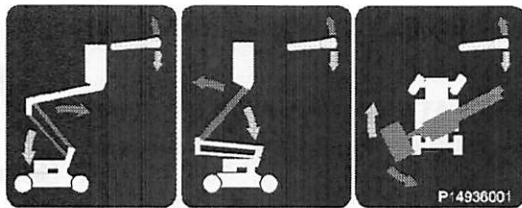
- 1) Push in red emergency stop to shut down all functions, and select ground control by moving the function selector hand valve to the **Ground** position, (i.e. fully down).
- 2) Operate manual hand pump (located adjacent to the ground control valve) and manoeuvre the machine on the Ground hand lever controls.

nifty SP Series

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4.2.2 BOOM OPERATION

A) Push and hold green power button.

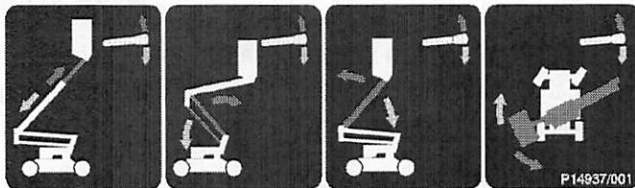


STANDARD SP26 AND SP34 (SP26 & SP34)

1 **2** **3**

B) Select lever 1, 2 or 3 for desired boom function.

1 Operates Lower Boom	UP for up	DOWN for down
2 Operates Upper Boom	UP for up	DOWN for down
3 Operates Boom Rotate	UP for right	DOWN for left



SP34 WITH GROUND TELESCOPE CONTROL

C) Select lever 1, 2, 3 or 4 for desired boom function.

1 Operates Telescope	UP for out	DOWN for in
2 Operates Lower Boom	UP for up	DOWN for down
3 Operates Upper Boom	UP for up	DOWN for down
4 Operates Boom Rotate	UP for right	DOWN for left



ALWAYS ENSURE THE MACHINE IS ON A FIRM LEVEL SURFACE AND THE AREA IS FREE OF ANY OVERHEAD OBSTRUCTIONS.

ENGAGING THE RED EMERGENCY STOP BUTTON WILL SHUT DOWN THE ENGINE AND THE ELECTRIC CIRCUIT, PREVENTING OPERATION OF ANY FUNCTION.

4.3 BASKET CONTROL OPERATION

4.3.1 BASKET CONTROL STATION

NEVER START THE NIFTYLIFT IF YOU SMELL GASOLINE, LIQUID PROPANE OR DIESEL. THESE FUELS ARE FLAMMABLE.

BEFORE OPERATING THE NIFTYLIFT ENSURE THAT EACH OPERATOR HAS READ AND FULLY UNDERSTOOD THE OPERATING MANUAL. FAILURE TO DO SO MAY RESULT IN DEATH OR SERIOUS INJURY.



ALL MODELS

- 1) Ensure all red emergency stops are out.
- 2) Turn key switch at ground control station to **Basket** position (i.e. fully up).
- 3) Ensure function selector hand valve is turned to **Basket** position, (i.e. fully up)
- 4) Turn duty selector in basket to **BATT** (Battery) or **ENG** (Engine).
- 5) Battery electric models go to step 10.

DIESEL ENGINE OR BI ENERGY MODELS ONLY

- 6) If **ENG** (Engine) is selected go to Step 8 for **COLD ENGINE** or Step 9 for a **WARM ENGINE**.
- 7) **COLD ENGINE**: - Turn the 3 position engine ignition switch to the left, and hold for 3-5 seconds, this engages the glow plug pre-heat system. Then turn key fully to the right and the engine will fire. When released, the selector will return to the centre, '**OFF**' position.
- 8) **WARM ENGINE**: - Turn the 3 position engine ignition switch to the right and the engine will fire. When released, the selector will return to the centre, '**OFF**' position.

GASOLINE ENGINE OR GASOLINE/ELECTRIC MODELS ONLY

- 6) If **ENG** (Engine) is selected, ensure the fuel tap is turned to the ON position and then go to Step 8 for **COLD ENGINE** or Step 9 for a **WARM ENGINE**.
- 7) **COLD ENGINE**: - (From the ground only) turn the engine fuel tap on and engage the choke lever. Turn the main engine ignition through ON to ST (Start) and the engine will fire. Return the choke lever to its normal running position after the engine is started.
- 8) **WARM ENGINE**: - Ensure the main engine ignition switch is ON. Turn the 3 position engine ignition switch to the right and the engine will fire. When released, the selector will return to the centre, '**OFF**' position.

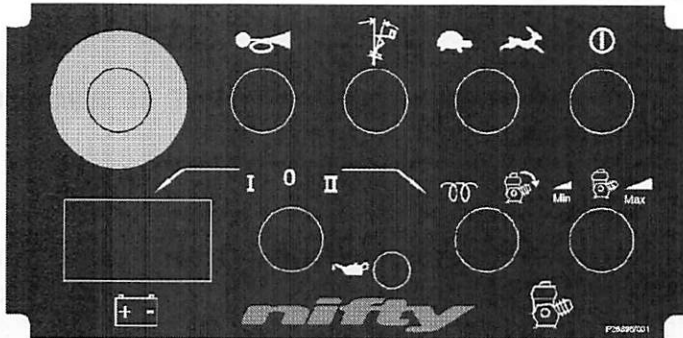
ALL MODELS

- 9) Ensure key switch selector is turned to **ON** or **BATT** (Battery) if applicable.
- 10) Depress foot switch or push and hold green power button.
- 11) Select function and operate hand levers in full accordance with manufacturers operating and safety manual.
- 12) When not in use return booms to stowed position. Turn key switch at ground control to centre off position, remove key and chock wheels.

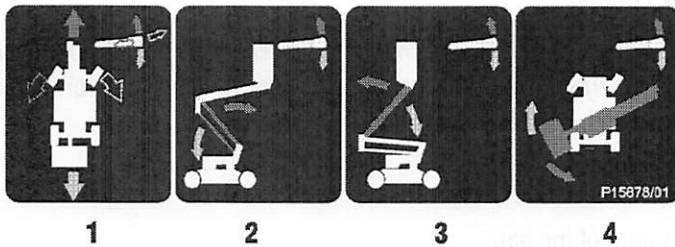
nifty SP Series

Operating & Safety Instructions

4.3.2 BOOM OPERATION



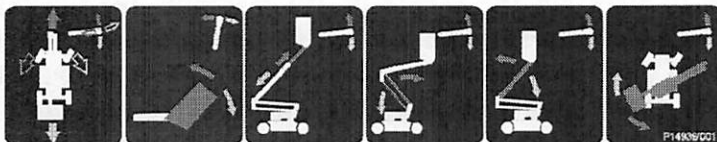
(BI-ENERGY MODEL SHOWN)



SP26 (SP26) SERIES ONLY

Select lever 1, 2, 3 or 4 for desired boom function.

1. Operates Drive and Steer (see explanation in Section 4.4)		
2. Operates Lower Boom	UP for up	DOWN for down
3. Operates Upper Boom	UP for up	DOWN for down
4. Operates Boom Rotate	UP for right	DOWN for left



SP34 (SP34) SERIES ONLY

Select lever 1, 2, 3, 4, 5 or 6 for desired boom function.

1. Operates Drive and Steer (see explanation in Section 4.4)		
2. Operates Basket Level	FWD for fwd	BACK for back
3. Operates Telescope	UP for out	DOWN for in
4. Operates Lower Boom	UP for up	DOWN for down
5. Operates Upper Boom	UP for up	DOWN for down
6. Operates Boom Rotate	UP for right	DOWN for left

4.3.3 SiOPS™ - LOAD SENSING BAR (If fitted)



WHEN OPERATING THIS MACHINE THE USER MUST BE AWARE OF ANY OVERHEAD OBSTRUCTIONS.

This machine incorporates a load sensing bar that senses if the operator has been pushed or has fallen against it. If the load applied to the front of the bar is greater than the pre-determined amount, the footswitch will be disabled to increase operator safety and reduce the possibility of sustained involuntary operation of the cage controls.

Note: The green button will illuminate once the footswitch has been disabled, but continues to be available for use at all times. This allows the operator to use the cage control functions and manoeuvre the machine to a safe position.

To reset the footswitch:

- 1) Release the load from the front of the bar.
- 2) Ensure cage controls are in the neutral position and clear of objects.
- 3) Raise foot clear of footswitch then lower foot onto footswitch.
- 4) Footswitch is now active and full control has been restored.

Note: If SiOPS™ has been activated and the footswitch is not reset within **5 seconds**, then the blue warning beacon will flash (If fitted, located on the outside of the cage) and a warning announcement will sound until the footswitch is reset as described previously.



IN ORDER TO MAINTAIN THE SAFETY OF THE MACHINE, THE OPERATION OF THE LOAD SENSING SAFETY BAR SHOULD BE CHECKED EACH DAY BEFORE USE. IN THE CASE OF A MACHINE NOT RESPONDING TO THE OPERATION OF THE SAFETY BAR IT SHOULD BE REMOVED FROM SERVICE IMMEDIATELY.

UNDER NO CIRCUMSTANCES SHOULD THE SAFETY BAR BE REMOVED OR DISABLED BEFORE USING THE MACHINE. IF IN DOUBT, INFORM YOUR SUPERVISOR BEFORE ATTEMPTING TO USE THE MACHINE.

4.4 DRIVING CONTROLS



DO NOT OPERATE THE NIFTYLIFT WHILST ELEVATED UNLESS ON A FIRM, LEVEL SURFACE FREE FROM ANY POSSIBLE OBSTRUCTIONS OR HAZARDS BOTH AT GROUND LEVEL AND OVERHEAD.

- 1) Check proposed route for possible hazards, obstructions and personnel.
- 2) Push green power button or depress foot switch located in basket floor (if applicable).
- 3) Use the **Drive Speed** selector on the basket control station to determine speed.
High Drive (Hare) - GIVES HIGH SPEED AND LOW GRADEABILITY.
Low Drive (Tortoise) - GIVES LOW SPEED AND HIGH GRADEABILITY.
N.B. High Drive is only available when the booms are in the stowed position. The SP26 or SP34 will default to Low Drive speed whenever the booms are elevated.
- 4) Select drive joystick from the basket control box.
 - A. Up for **FORWARD**
 - B. Down for **REVERSE**
 - C. Left for **STEER LEFT**
 - D. Right for **STEER RIGHT**
- 5) All control levers give a fully proportional response therefore the more the lever is moved away from the centre (OFF) position the faster the function will become.
- 6) Maximum drive speed is only attainable when all booms are fully stowed and the **HI/LO** selector is in the **HI** position.
- 7) When driving with the booms fully stowed, the Tilt Alarm is bypassed to allow the Niftylift to be driven in areas where the slope exceeds the five-degree working limit. In normal operation the drive is therefore unaffected when driven onto a slope in excess of five degrees, until the booms are raised, whereupon the drive would be disabled and the tilt alarm sounds continuously.
- 8) Under no circumstances should any Niftylift SP series machine be driven on slopes exceeding 25%, with the booms fully stowed.



ALL NIFTYLIFTS ARE FITTED WITH A TILT ALARM - PRE-SET IN THE FACTORY. ONCE ENERGISED, THE NIFTYLIFT WILL LOSE ALL POWER TO DRIVE FUNCTIONS AND A LOUD AUDIBLE ALARM WILL BE ACTIVATED.

TO DE-ACTIVATE, LOWER THE BOOMS FULLY TO STOWED POSITION AND RE-POSITION BASE ON FIRM, LEVEL GROUND.

IF ALARM SOUNDS - DESCEND IMMEDIATELY AND RE-LEVEL MACHINE BASE.



**Nifty SP34 Lift
Operation Instruction
Video**