4.2 SETTING UP PROCEDURES

FAILURE TO DEPLOY THE OUTRIGGERS CORRECTLY COULD RESULT IN DEATH OR SERIOUS INJURY.

ALL MODELS

1) Read and fully comply with all safety precautions and operating instructions in the Operating and Safety manual and the warning decals on the machine.

2) Position Niftylift on firm ground, bearing in mind range of boom movement so that any overhead obstructions or possible hazards such as, but not limited to, power cables, telephone lines, drains, manhole covers, etc. can be safely avoided

3) If the load bearing capacity of the ground is in any doubt the machine must **NOT** be used.

4) Levelling the machine using the hydraulic outriggers can accommodate a slope of up to 12 degrees, if necessary using suitable load bearing pads to support the downhill jacks. Do not elevate the platform unless the base can be corrected to within three degrees of level.

5) Release boom travelling clamp. (If applicable)

7) Check all red emergency stops are not engaged i.e. fully out.

8) Ensure selector valve adjacent to drive/outrigger control station is turned fully down to outrigger/drive position. (For four wheel drive machine grasp and hold duty selector. Power will be available automatically).

9) From the basket control station depress and hold the green power button or footswitch to give hydraulic power to the outriggers and select the appropriate control lever. Note: No power will be available if the booms are not stowed onto the boom rest.

10) Using the four outrigger control levers, (toggle switches on 4WD), lower each outrigger onto a firm, level surface and level machine base ensuring each outrigger foot is taking equal weight with the wheels clear off the ground.

11) Check machine is level using spirit level on the base, visible from the basket.

12) Change selector valve at drive/outrigger control station to basket, i.e. turn fully up. (On four wheel drive machines, releasing the duty selector handle automatically returns the machine to "basket" operation).

13) The booms can now be operated from the ground or basket control station by depressing and holding the green power button. Note: If no power is available check each outrigger is lowered and each footpad is taking equal weight.

14) Always lower booms fully before adjusting, raising, retracting or moving the outriggers in any way.

15) Never alter, modify or block any of the safety circuits on the Niftylift.

4.3 GROUND CONTROL OPERATION

ALWAYS ALLOW THE ENGINE TO WARM UP BEFORE OPERATING.

4.3.1 GROUND CONTROL INSTRUCTIONS

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 selector hand valve (if applicable) is turned to basket position (i.e. fully up).
4) Battery electric models go to step 11.

DIESEL ENGINE OR BI-ENERGY MODELS

5) For a cold engine start, go to step 6) or for a warm engine go to step 7).
6) **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.
7) **WARM ENGINE:** - turn the main engine ignition switch (located beneath the front cover) through "ON" to "ST" (start) position and the engine will fire.

Note – Unless the diesel engine is running, the SD50 will automatically default to the primary power source (usually battery).

GASOLINE (GASOLINE) ENGINE OR GASOLINE (GASOLINE)/ELECTRIC MODELS

8) For a cold engine start, go to step 9) or for a warm engine go to step 10).
9) **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.
10) **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.

Note – Unless the diesel engine is running, the SD50 will automatically default to the primary power source (usually battery).

ALL MODELS

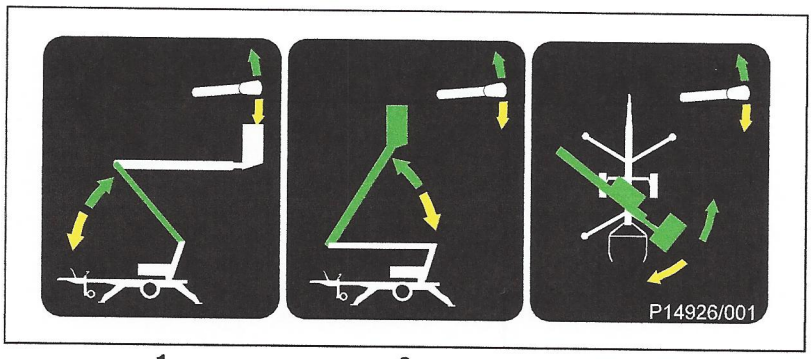
11) Push and hold green power button.
12) Select function and operate hand levers in full accordance with manufacturers Operating and Safety manual. Note: all outriggers must be down before booms can be operated.
13) To return control to basket turn key fully clockwise to up position.
14) When not in use return machine to stowed position, fully raise and stow all outriggers, turn the key to the centre off position, remove key and chock wheels.

EMERGENCY PROCEDURES

1) Push in red emergency stop to shut down all functions.
2) Use manual hand pump to manoeuvre machine into a safe place. Base or basket controls can be used whilst the hand pump is being operated. Only when the machine is fully stowed should the flow be directed to the outrigger controls in order to recover the outriggers. Failure to follow this procedure could result in serious injury or risk of death.

4.3.2 BOOM FUNCTIONS

A) Push and hold green power button.



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 Swing	**UP** for right	**DOWN** for left

ALWAYS ENSURE THE AERIAL BASKET IS ON A FIRM 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.

4.4 BASKET CONTROL OPERATION

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.

4.4.1 BASKET CONTROL INSTRUCTIONS

ALL MODELS

1) Ensure all red emergency stops are out.
2) Turn key switch at ground control station fully up to basket position.
3) Ensure selector hand valve (if applicable) is turned to basket position, i.e. fully up
4) Battery electric models go to step 11).

DIESEL ENGINE OR BI ENERGY MODELS ONLY

5) For a cold engine start go to step 6) or for a warm engine start go to step 7).
6) **COLD ENGINE:** - turn the engine ignition switch (on the basket control box) to the Glow position (anti-clockwise). This engages the glow plug pre-heat system. Hold for 3-5 seconds then turn the switch to the Start position (fully clockwise) and the engine will fire.
7) **WARM ENGINE:** - - turn the main engine ignition switch (on the basket control box) to the Start position (clockwise) and the engine will fire.

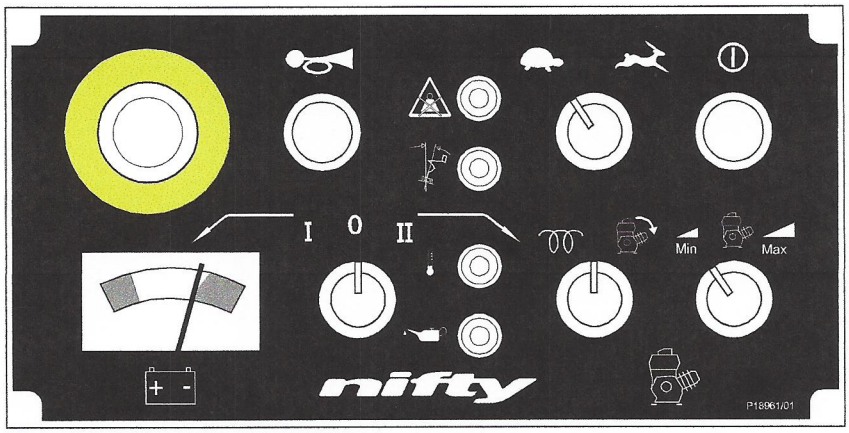
GASOLINE ENGINE OR GASOLINE/ELECTRIC MODELS ONLY

8) For a cold engine start go to step 9) or for a warm engine start go to step 10).
9) **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.
10) **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

11) Depress foot switch or push and hold green power button.
12) Select function and operate hand levers in full accordance with manufacturers Operating and Safety manual.
13) When not in use return booms to stowed position. Fully raise and stow all outriggers. Turn key switch at ground control to centre off position, remove key and chock wheels.

4.4.2 BASKET PUSH-BUTTON CONTROLS STATION



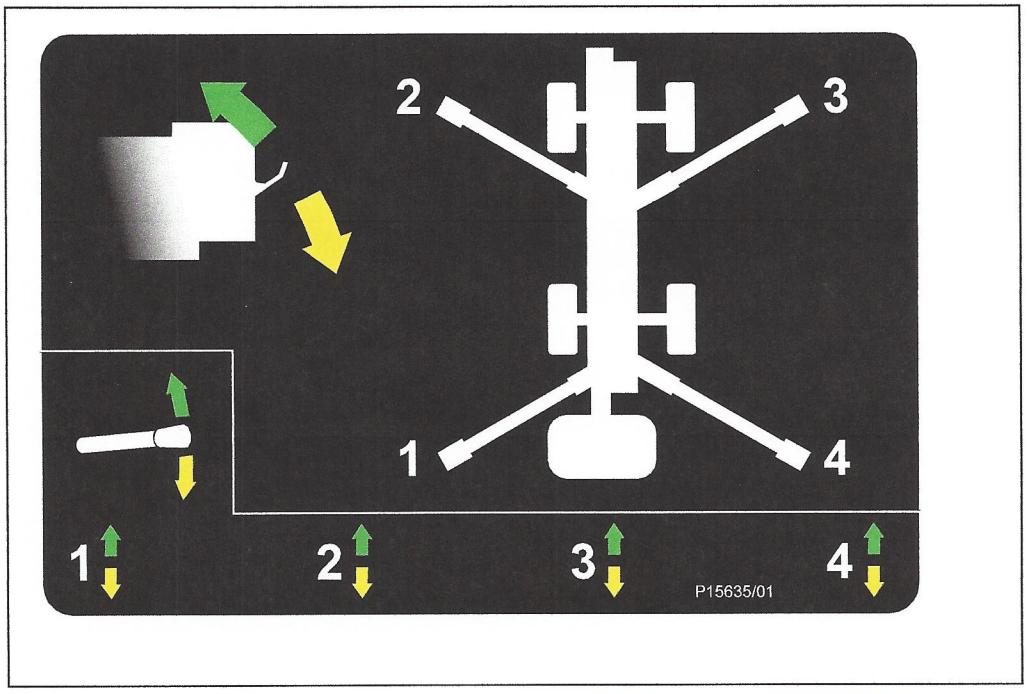
(BI-ENERGY MODEL SHOWN)

4.4.3 DRIVE AND OUTRIGGER FUNCTIONS

Situated at the top of Boom 1 (superstructure) is the 5 lever drive/outrigger hand valve. These control the following functions:

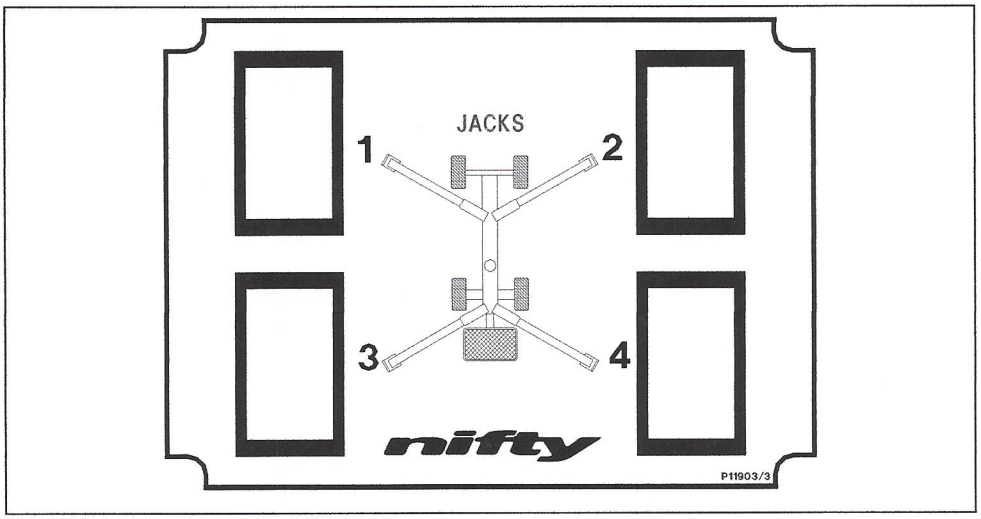
Left hand lever: Two axis joystick for drive; Up for Forward, Down for reverse & Steer: Left for Left, Right for Right

The remaining 4 levers: Control the outrigger deployment as indicated on the label below. (Mounted adjacent to the outrigger control position). **Two wheel drive machine only.**



FOUR WHEEL DRIVE: OUTRIGGER CONTROL

Situated adjacent to the single drive/steer joystick is the box comprising of the toggle switches controlling each stabiliser leg. These operate individually to either lower or raise each leg, and provide the levelling function for the machine base.

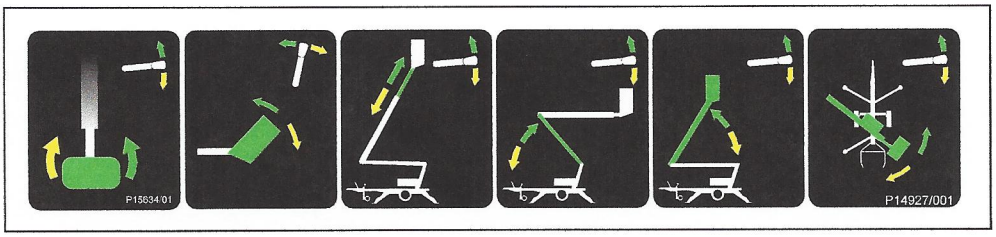


4.4.4 BOOM CONTROLS

1) Never exceed the maximum basket capacity of 500lb..

2) Check below, above and around the basket for any obstruction or hazards before operating any function.

3) Depress foot switch or push and hold green power button.



1 2 3 4 5 6

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

1 Operates Basket Swivel (optional)	**UP** for right	**DOWN** for left
2 Operates Basket Levelling	**FORWARD** for forward	**BACK** for back
3 Operates Telescope	**UP** for telescope out	**DOWN** for telescope in
4 Operates Lower Boom	**UP** for up	**DOWN** for down
5 Operates Upper Boom	**UP** for up	**DOWN** for down
6 Operates Swing	**UP** for right	**DOWN** for left

IF ALARM SOUNDS - DESCEND IMMEDIATELY

THIS MACHINE IS NOT ELECTRICALLY INSULATED. DO NOT WORK WITHIN 10FT OF OVERHEAD CABLES EXCEEDING 415 VOLTS

4.5 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) Depress foot switch located in basket floor (if applicable). For 4WD machines grasp and hold the duty selector handle.

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.

4) Select drive joystick from hand lever controls (left hand lever of five, situated at the drive/outrigger control position).

   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 outriggers are lowered and the booms are raised, whereupon the drive would be disabled and the tilt alarm sounds continuously.

8) Under no circumstances should any Niftylift SD series machine be driven on slopes exceeding 25%, with the booms fully stowed (30% for 4WD machine).

5 Emergency Controls

5.1 GENERAL

CHECKING THE OPERATION OF THE EMERGENCY CONTROLS EVERY DAY AND/OR BEFORE EACH SHIFT IS AN ESSENTIAL PART OF THE OPERATOR'S DUTIES

The operator and all ground personnel must be thoroughly familiar with the location and operation of the EMERGENCY CONTROLS.

5.2 IN THE EVENT OF AN INCAPACITATED OPERATOR

Turn the key switch selector at ground control station to ground (i.e. fully down). Lower on ground controls as detailed under section 4.3 Ground control operation.

5.3 IN THE EVENT OF MACHINE FAILURE

Operate manual hand pump (located adjacent to the base controls) and lower basket to the ground using either basket or base controls. If initial movement of the machine allows the master alarm to reset, normal controls will be available. This is then the fastest method of lowering the basket to the ground.

Note: If the machine is fitted with a basket overload system, and the basket comes into contact with a fixed object whilst operating at height, this would be detected as an overload condition. All power to the machine controls would be lost, requiring the machine to be recovered using the **Manual Hand Pump**. It is sufficient for the basket to be manoeuvred away from the collision point to release the basket weigh system, thereby restoring normal machine operation. The basket could then be brought down using the controls as described previously.

FOLLOWING AN EMERGENCY DESCENT RECOVERY OF THE BASKET, FULLY EXTEND AND RETRACT ALL CYLINDERS FROM GROUND CONTROL STATION BEFORE USING THE MACHINE.

5.4 INCIDENT NOTIFICATION

It is a mandatory requirement that any accident or incident involving a Niftylift, regardless of whether any party received injury or property was damaged, be reported by telephone directly to Niftylift. Failure to do so may render any warranty on the machine void.

5.5 OUTRIGGER RECOVERY

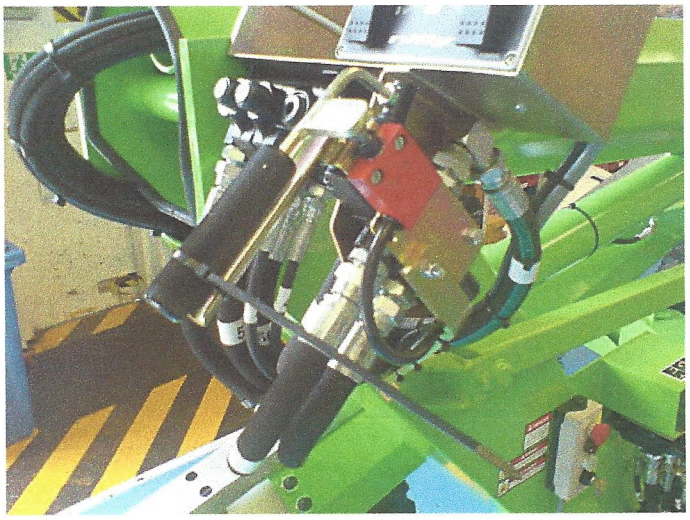
2 Wheel Drive Models

The Manual Hand pump operates as normal to provide flow into the hydraulic system. As long as the hand pump is being used, hydraulic flow is available. Once the booms are fully stowed, move the diverter valve handle, located at the top of Boom 1, to direct the flow through to the manual outrigger levers. Operate the hand pump whilst holding a lever to retract each outrigger as required.

4 Wheel Drive Models

Hand pump flow is directed by leaving the brake override lever in the 'normal' upright position to direct flow up to the duty selector.

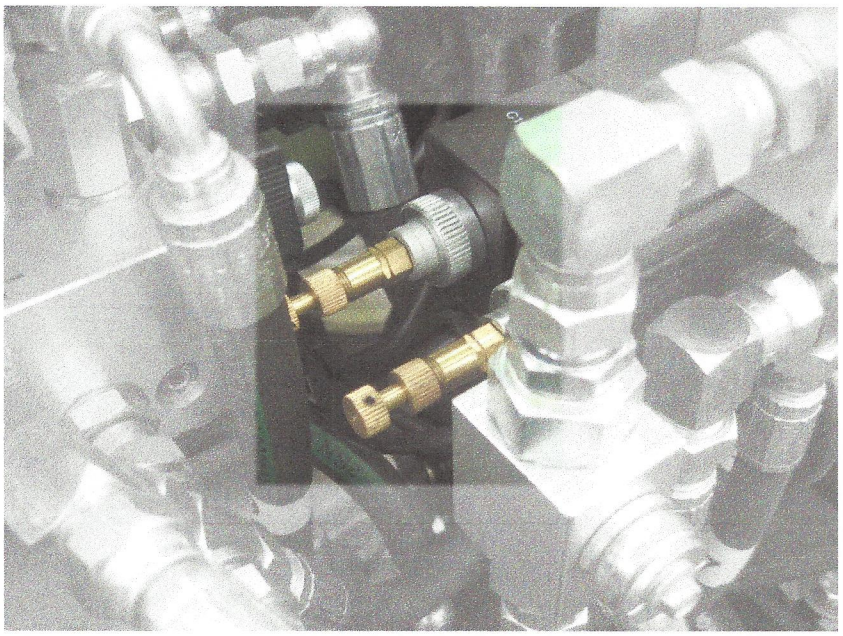
Once the booms are fully stowed, tie-wrap the duty selector in the 'Drive/Outrigger' position (as shown below) and remove the canopies to gain access to the machine hydraulics.



The outrigger solenoid manual overrides can now be used to manually operate the solenoid spools.

To retract an outrigger, the manual override (see below) needs to be **pulled out**, away from the solenoid body. Operate the hand pump and the outrigger will **close**.

If the manual override is **pushed in** toward the solenoid body, operating the hand pump will cause the outrigger **to open/lower**.



Operate each of the controls in turn; identifying the movement of each outrigger until the machine is fully stowed for recovery.

This method assumes that the hydraulic power from the engine or motors has been lost and that the electrical circuit is also no longer functioning. If the outrigger control system with the toggle switches is still active, they can be used to activate the solenoids to retract each outrigger cylinder, whilst at the same time using the hand pump to power the hydraulics.

Once the machine is ready to return to work, ensure the safety bypass lever is moved back to the 'Normal' horizontal position (refer to page 37) to allow flow back to tank from the bypass solenoid, restoring the safety circuit.

Remove the tie–wrap on the duty selector handle.