Operators Manual

SelfLifter

SL427

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Terminology

Left Hand Crane

The description of the “handing” of the cranes is as follows: Assume you are standing in the position where a container is placed on the ground by the SelfLifter. When you are facing the SelfLifter, the “Left Hand Crane” is the crane on your left side. On a SelfLifter that loads to the right hand side of the vehicle, the “Left Hand Crane” is at the rear. For a SelfLifter that is a left hand lift, the “Left Hand Crane” is at the front of the SelfLifter.

Right Hand Crane

Assume you are standing in the position where a container is placed on the ground by the SelfLifter. When you are facing the SelfLifter, the “Right Hand Crane” is the crane on your Right side. On a SelfLifter that loads to the right hand side of the vehicle, the “Right Hand Crane” is at the front. For a SelfLifter that is a left hand lift, the “Right Hand Crane” is at the rear of the SelfLifter.

Lift Side

The side of the SelfLifter where the stabiliser legs will go down. The container can be moved furthest away and down to the ground on the “Lift Side”.

Off Side

The side of the SelfLifter on which the stabiliser legs do not go out. This is the side on which the arms can only move a short way into. The container must never be lifted over this side or the vehicle may roll over. It is also referred to as the NO GO side.

Top Arm

The crane lifting arm that is on top of the two arms. It has the lifting chains connected to its end.

Bottom Arm

The crane lifting arm that is the lower of the two. It is connected to the crane carriage and has the top arm connected to its other end.

Stabiliser Leg

The stabiliser leg is placed on the ground or the vehicle the load is lifted off or on to. The purpose is to stop the SelfLifter from tipping over sideways. It is essential that the stabiliser legs are used whenever a load is lifted. Never presume the SelfLifter vehicle is heavy or stable enough to operate the cranes without putting the stabiliser legs on firm support.

Stabiliser Inner Leg (or) Stabiliser Extension

The sliding member inside the stabiliser leg assembly that moves out in a straight line.

Stabiliser Outer Leg (or) Stabiliser Housing

The stabiliser member that pivots on the crane carriage and moves by rotating about this pivot.

Foot

The plate that is pivot mounted to the end of the Stabiliser Inner Leg. It sits flat on the ground or other solid load bearing surface.

Crane Carriage (or) Crane Base

The base assembly that the arms and legs are attached to. It has hydraulic cylinders attached to it to move the Bottom Arm and the Outer Leg. It may slide to accommodate loads of different length.

Chain Pin

The shaft (or Pin) that goes into the hole at one end of the top arm that the lifting chains are connected to.

SelfLifter

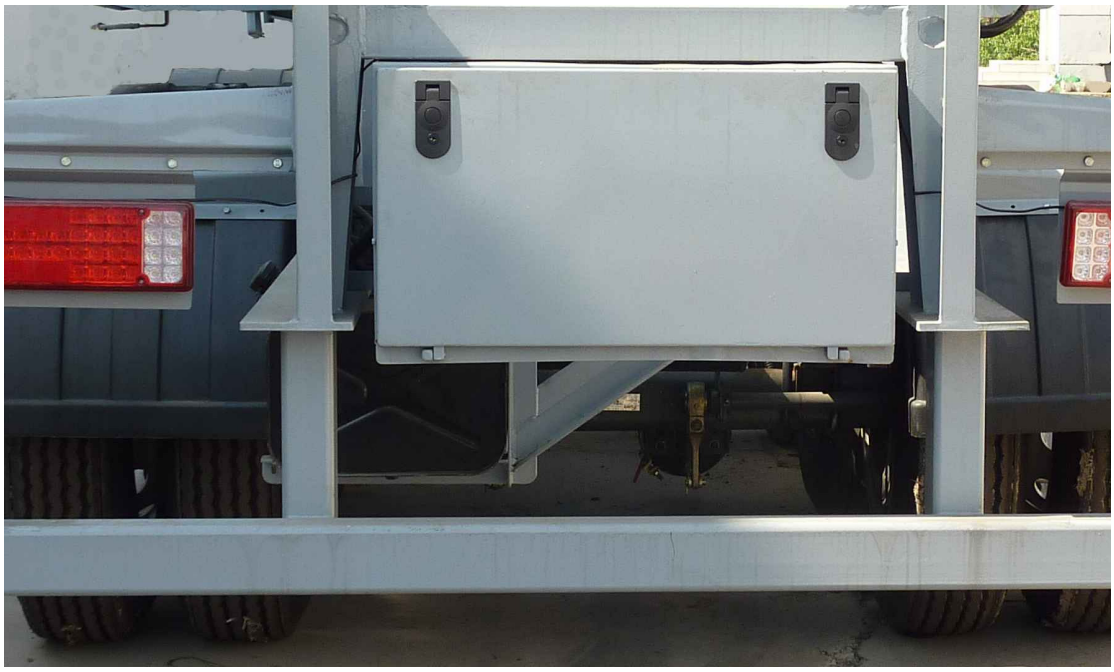
This is our name for a container transporting truck or trailer that can lift a container onto itself with its own cranes. This type of machine is also called a sideloader, a sidelifter, a swinglifter, a swingloader or a selfloader. Some people also use the brand or manufacturers name to refer to the machine.

Controls

This section describes the location and function of the operator controls of the SelfLifter.

Main Control Box

The main control box is located in a steel cabinet with a hinge down door. It is located at the rear of the chassis. The control cabinet has two lockable push to open latches. The main control cabinet is also used to store the cable remote control.

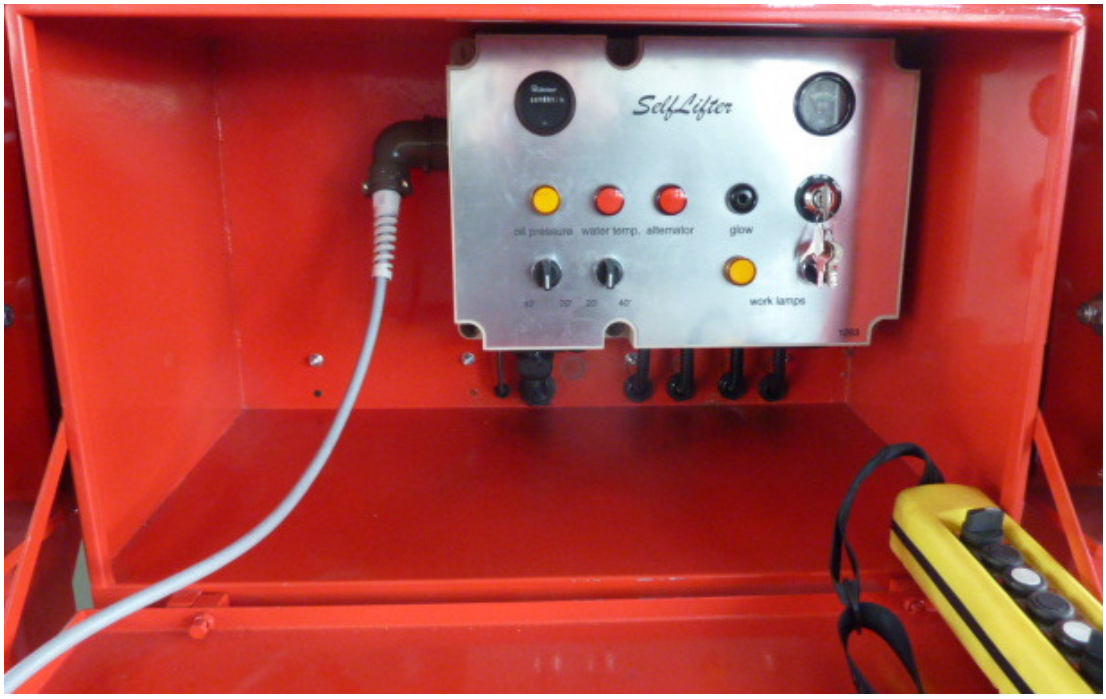


Main Control Cabinet

The main control box includes the main power key switch, the work lamp switch, the hour meter, fuel gauge, motor start switch and indicator lamps. Inside the box is the electrical equipment and fuses for control of the SelfLifter.

Key Switch

The key switch is used to start the motor that drives the SelfLifter. It also applies power to operate the valves which control the crane movement. It has four positions. The key can be removed in the “off” position. When the switch is “on”, the motor will keep running (provided the emergency stop has not been pressed). Turn the key clockwise to the start position to start the engine. In cold climates, the engine may need to have the glow plugs heated before starting. Turn the key to the “heat” position and hold there for 6 seconds. Then rapidly turn the key clockwise to the start position. After the motor has started, release the key. It will spring back to the “on” position. The operator should remember to turn off the key switch when operation of the SelfLifter is finished.



Main Control Panel

Hour Meter

The hour meter records operating time in hours (white numbers). It runs whenever the key switch is turned on. This meter helps ensure maintenance is carried out at appropriate intervals so the SelfLifter is safe to operate over its life.

Fuel Gauge

The fuel gauge indicates the quantity of fuel in the fuel tank that provides fuel for the SelfLifter's diesel motor.

Oil Pressure Lamp

The oil pressure light is illuminated when the engine oil pressure is low, or the engine is not running and the key switch is turned on. If this light is illuminated when the engine is running, turn the key off to stop the motor immediately. The light normally goes out in the first few seconds of engine start up. Operating the engine with this light illuminated will cause serious damage to the engine. If the oil pressure warning light does not go off in the first few seconds of motor start up, check the engine oil level on the dipstick. If below the indicating marks, add the correct engine lubricating oil. If the oil level is OK then there is a more serious problem.

Water Temp

This lamp will illuminate if the engine cooling water temperature gets too high. If this light illuminates during engine operation, turn the key off to stop the motor. Serious damage will occur of the engine is operated with this light illuminated. It is extremely unlikely that this light will illuminate in normal operation of the SelfLifter. If it does illuminate it would normally be because the coolant has escaped due to damage to the radiator or hoses. A slack fan belt could also cause high water temperature.

Alternator

The alternator lamp is illuminated when the key is turned on and the engine is not running. It normally goes out when the engine is idling. The alternator generates electricity to power the SelfLifter and charge the main battery. If the light is still illuminated when the engine is running at speed, then the battery of the SelfLifter will not be kept charged up. In time it will provide insufficient voltage to power the controls of the SelfLifter. The same battery is used to start the motor. The alternator is driven by the fan belt and if this becomes slack, the alternator is not driven properly.

Glow

The glow indicator is connected with the glow plugs on the diesel motor. The glow plugs provide a source of heat to start combustion allowing the motor to start. This is specially necessary in low temperature cold starts. The glow indicator glows when the glow plugs are heated by turning the key switch anticlockwise into the “heat” position. Never hold the key in the heat position for more than 60 seconds.

Work Lamp Switch

The work lamp switch illuminates a lamp on each crane that lights up the area at each end of the container to assist in low light operation. When the work lamp switch is on, an orange lamp beside the switch also illuminates to remind the operator that there is power on to the work lamps.

20’ – 40’ Switches

There are two rotary switches used to move the cranes so that they are in the correct position to lift either 20 foot or 40 foot long containers. With the SelfLifter motor running, turning the switches will move the cranes. Twist the two switches apart to move both cranes to the 40’ position. Rotate the two switches inwards to move the cranes to the 20’ container position. The cranes can be moved individually, but it is better to move them together.

Before moving the cranes, make sure there are no persons near the SelfLifter. Make sure there are no obstacles the cranes can interfere with. Never attempt to move the cranes with a container mounted on the SelfLifter. Never move the cranes with the arms or legs partly or fully extended.

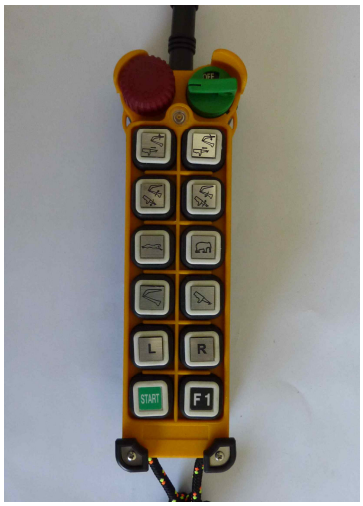
Main Power

The SelfLifter electrical control system is powered from the SelfLifter battery and the SelfLifter motor when operating. Power can be removed from the SelfLifter system by turning Off the key switch. Note that there is voltage in many places on the SelfLifter even with the key turned off. For a total power off, disconnect the battery (or both batteries when two are fitted). Also, the trailer electrical plug to the truck may need to be removed.

Remote Control

This section describes the cable remote control and the radio remote control which are the operator's main means of controlling the motions of the cranes.

Cable Remote Control



Radio Remote Control

The description below uses the radio remote control illustration. The two controls are functionally similar and the labels used on each have the same graphics.

Speed Control

The speed control button with the jaguar symbol is for high speed operation and the one with the elephant symbol is pushed for slow strong lifting. On the cable remote, the knob works by rotating it to point to the appropriate symbol.

Function Control

There are three functions which the SelfLifter can be engaged in using the remote control. The arms function allows the control pushbuttons to operate the SelfLifter arms. This is for load lifting and manoeuvring. The stabiliser legs function allows the movement control buttons to move the stabiliser legs. Manual control is for operating the SelfLifter from the hand levers fitted to each crane control valve.

For the radio control, these functions are engaged by pushing the button with the arms or legs symbol as illustrated below. Manual control requires pushing and holding the "F1" button while moving the hand levers on the valve.

For the cable remote, There is a three position rotary control. It is rotated fully clockwise to enable the movement control buttons to operate the stabiliser legs. In its central position the movement control buttons will operate the arms. When it is turned fully anti-clockwise, the SelfLifter can be operated by the levers on the hydraulic valves on each crane. Note that there is a time delay incorporated into the control so manual motion may not be possible until some time has elapsed from last operating the movement control buttons.

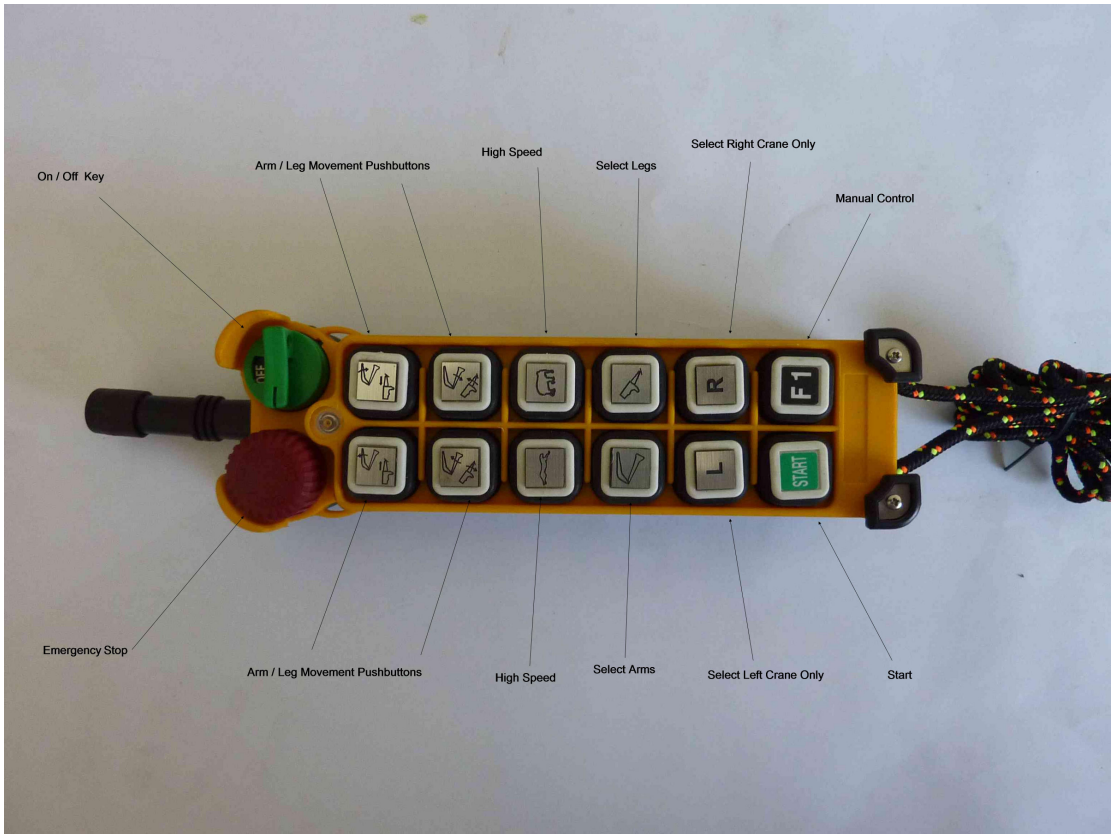
Emergency Stop

In an emergency push the knob down. Rotate the knob to allow it to pop up. For normal operation the knob must be up. This knob disconnects the power to the hydraulic controls and stops the SelfLifter engine.

Left or Right only Crane Operation

Most of the time, the cranes will be operated together with the movement control buttons moving the same cylinder on the left and right crane simultaneously. When the crane components need to be moved independently, pressing the “L” or “R” button and holding it while operating the movement control buttons will move only one crane. For the cable remote, this function is provided by twisting the knob to the “L” or “R” position.

Normal operation is both cranes. Hold the button or twist the knob with one hand while controlling the arms or legs of the crane with the other hand. When lifting a very load it is normal for one crane to move more slowly than the other. Periodically push “L” to stop the motion of the right crane to let the left crane catch up.



Controls on Radio Remote Control

Movement Control Buttons

Movement Control Buttons

The remote control is fitted with four buttons which control the movement of the crane arms or stabiliser legs. The illustration above shows the labels and the functions that are performed by each of the four buttons.

Each button has two positions. When the button is pushed lightly, the arms or legs move at very slow speed. When the button is pushed in fully, the arms or legs move at the speed selected. The speed control function button or knob controls this speed. The lightly pushed first position is for accurately positioning the arms or legs. It is a “creeper” control.

The function the movement control button carries out depends on what function the function control buttons have set. For the radio control the SelfLifter starts up in “arms” function. It will then be changed, and remain set at the last function selected by the “arms” or “legs” buttons. For the cable control, the position of the “arms” “legs” knob determines which function the movement control buttons operate.

By pushing the left top button, the top arms will move upwards or the stabilising leg will extend out.

By pushing the right top button, the top arms will move downwards or the stabilising leg will retract inwards.

By pushing the left bottom button, the bottom arms will move up and away from the SelfLifter or the stabiliser leg will rotate downwards.

By pushing the right bottom button, the bottom arms will move inwards from the SelfLifter and down, or the stabiliser legs will rotate up.

Note that the buttons are interlocked electrically or mechanically. Attempting to move the arms up and down by pushing both buttons at the same time will result in either up, or down, or no movement at all. Similarly for the legs function.

Also **note** that when using two arm movements or two leg movements at once, if any button is pushed fully in, all functions will be at the selected speed. In other words, if very slow “creeper” motion is required, no other motion control button should be pressed fully in. Lightly push the buttons when very slow movement is wanted.

Radio Control “Key”

The green knob turns the control on or off and can be removed like a key.

Operation

Park Brake

It is essential that the park brake be applied before operating the cranes. The park brake must be pulled on first before starting operation of the cranes.

Preparation to operate

After leaving the truck, walk around the SelfLifter. Check the position the feet will be placed on is firm and capable of taking the pressure. Unlock the twistlocks as each one is passed. Ensure the chains are not going to catch in anything when the arms are extended. If the lifting lock blocks are engaged with a container on the SelfLifter make sure they are fully engaged and haven't partly fallen out. Check the trailer wheels are on firm ground.

Ensure there is no one in the danger area near the SelfLifter. It is essential that the operator keeps people away from the container and the SelfLifter when it is in operation.

Open the rear control cabinet and remove the cable or the radio remote control.

Starting with Radio Control

With the radio control fitted, starting is a 5 stage process.

1. Twist the Emergency Stop knob to ensure it is fully out.
2. Turn the Motor Start Key to "on"
3. On the radio remote, turn the green "Key" to "on"
4. Press the "start" button on the radio remote
5. Turn the Motor Start Key to "start"

Note that the motor will rotate when the starter key is at the start position but will not run unless the emergency stop button is up, the radio remote key knob has been turned to "on" and the "start" button has been pressed.

The radio remote receiver is fitted just forward of the main control cabinet at the rear of the trailer. It is mounted on the inside of the right chassis rail about ½ meter from the trailer rear. This receiver is in a yellow nylon box and has a red light on its face.

The red light on the receiver will illuminate when the correct start sequence has been followed. The key start switch will only start the engine once the red light has been illuminated. If the emergency stop is pressed or the green "key" knob is switched "off", the red light will go out.

If the ambient temperature is low then the engine will need to have the glow plugs heated to start it.

1. Twist the Emergency Stop knob to ensure it is fully out.
2. On the radio remote, turn the green "Key" to "on"
3. Turn the key to the "heat" position and hold it there for 6 seconds.
4. Turn the key trough to the start position and press the "start" button on the radio control.

The glow plugs loose heat quickly so these actions need to be carried out rapidly. If the engine does not start in a few seconds, repeat the procedure. Some experimentation will help

get the best results. Also remember that in countries where different grades of diesel fuel are available in winter, use the lowest temperature grade.

20’ – 40’ Container Changing

When the cranes need to be positioned to lift a different size container from the last one lifted or carried, the following will position the cranes correctly.

After starting the motor, check that there is no one near the SelfLifter. Have a good look at the front of the front crane area when preparing for a 40’ container.

Use the 20’ – 40’ control knobs mounted on the main control box. Their operation is described in the section under Controls. Do not press any other controls at the same time.

Position the cranes up against the stops either fully apart for a 40’ container, or fully inwards for a 20’ container.

Crane operation

When the motor is running, the controls are powered up and will operate the cranes.

Take the remote control and move to the back of the trailer on the lifting side.

Refer to the description of the controls on the remote control section above.

Set the speed control to fast.

Set the function control to “stabiliser legs”.

Below assumes the arms and stabiliser legs are in the fully retracted position as they must be when driving along the road.

Operate the movement control button to rotate (tilt) the legs. Assuming the legs are to be placed on the ground, tilt the legs down. When the legs get to around 30 degrees down from horizontal, push the top button so that the legs start to extend. Push the buttons fully in to operate in high speed. Operate both tilt and extend buttons together. With the legs fully extended continue to rotate the legs down. When the feet on the legs are about 200 mm above the ground, stop rotating and check that the legs are fully extended.

Change the speed control to slow speed. Press the “L” or “R” button and hold it in while pushing the leg tilt down button to rotate only the front leg so that the foot makes contact with the ground. Rotate it slightly further until the leg side of the crane carriage just starts to rise. It should only rise a few millimetres.

After the front crane leg is in place, push the other “R” or “L” button while pushing the tilt down button to move only the rear leg until the ground has been contacted by the foot and the crane carriage has just risen on the leg side by a few millimetres.

Note: The ground where the foot is placed must be firm and capable of supporting a heavy load. Each foot when fully extended may put a load on the ground of up to half the mass of the container plus the truck and trailer.

Switch the function control to “arms”.

Move the arms (in low speed) using the movement control buttons to move them up and out to pick up or deliver the container.

After the load has been moved on or off the SelfLifter, Put the arms back into a fully retracted (folded) state. Rotate the legs up a little then retract them about half way then rotate and retract them until the legs are fully retracted and rotated until horizontal.

Before driving away, check the twistlocks are engaged as required. Put the radio control in a safe place or if using the cable remote control put it back in the control box and neatly coil the cable at the bottom of the box. Figure of 8 coiling is tidiest. Turn off the key to stop the motor. If the work lamps lights are on, turn the knob anticlockwise to extinguish the lights. Close and lock the control box.

Stabiliser Leg Positioning

The stabiliser legs must be positioned as far away from the SelfLifter as possible. This will ensure maximum stability.

With difficult lifts for instance where a container is being lifted off a trailer with side guards or a leg will come down beside a truck wheel or truck equipment, take time to think about the best way to get the stabiliser leg as far out as possible.

For a trailer transfer, it is sometimes necessary to shift the other truck from the first position it was put to ensure the stabiliser legs can be positioned as far out as possible. The small amount of time taken to reposition a truck is much less than finding the lift will exceed the safe stability limits once the arms and legs have been extended.

The stabiliser legs can rotate to a vertical position. This is primarily to allow manoeuvring the foot down beside a side guard or truck tank prior to the leg being moved out with the foot under the obstacle. The leg must be moved as far away from the SelfLifter as possible.

Caution

The operator must ALWAYS work the machine within the limits of load mass and load distance away in accordance with the “Safe Working Load Diagram”.

Always ensure the trailer is properly coupled to the truck and the truck and trailer brakes are on while operating the SelfLifter.

The load must never be allowed to move to the side of the truck which does not have legs extended. This side is referred to as the NO GO side. If a load is moved to the NO GO side of the trailer, the trailer and the truck can roll over.

Training

The SL410 SelfLifter should only be operated by persons who have received training in SelfLifter or Sideloader operation.

Typical Operations

Lifting a container from the ground to the truck

Drive the truck up to the container then carefully position the truck so there is about 300 mm between the side of the trailer and the container. Move the trailer forward (or backwards) until the twistlocks on the cranes are lined up with the twistlock holes in the corners of the container.

Put on the park brake. Make sure the emergency stop button is up. Start the SelfLifter motor.

Check there are no obstructions above the area of lift. Power lines are not visible when looking into the sun so move around to ensure you have proper visibility in the complete lifting area.

Check that the ground at each end of the container is firm and that there are no drains or buried pipes or other things that make the ground soft.

Lower the legs and feet until they just make contact with the ground and then a little further so that the crane carriages move a few millimetres up on the legs side.

Change the function control to “arms” and move the arms out until the chain pin is in the centre of each end wall of the container. Lower the chains until the chain end container lock blocks touch the ground. Lower the chain pins a further 800 - 1200 mm keeping the chain pins at the centre of each end wall of the container.

Engage the container lifting lock blocks with the holes at the bottom of the ends of the container at each corner. Pull the chains out sufficient to see that the links are inline, not spiralling. Chains links must be inline to lift correctly. Knots or loops in the lifting links are not acceptable.

Note that the lock blocks must be rotated so the chain is above the lock block and about 90 degrees away from vertical in the opposite direction to that where the chain will be when the container is lifted. This means that for a lock block on your right when you face the hole into which the lock block is fitted, turn the lock block clockwise with the chain 90 degrees away

from vertical. Push the lock block in then rotate it anticlockwise until the chain is about 20 degrees to the left of vertical. At this position, the chain will remain in position and not fall out.

For the container corner hole on your left, turn the lock block anticlockwise so the chain is about 90 degrees to the left of vertical. Push the lock block into the hole in the container corner casting and when fully in, rotate it clockwise until it is about 20 degrees to the right of vertical. At this point the lock block and chain will not fall out.

Ensure the speed control has been operated to select low speed.

Move the top and bottom arms up slowly until the strain is taken in all chains. The chains and top link or clevis will be symmetrical about the chain pin when the strain in the chains is equal.

Lift the container up using the top arm. Provided the container side is about 300 mm away from the truck side, the container can be lifted up until the container bottom is about 100 mm above the twistlocks on the crane carriage.

Push the bottom arm retract button to move the bottom arms inwards to move the container over the trailer. Stop the bottom arm movement as the centre of the container approaches a position central with the trailer. It may be necessary to lift the top arm up slightly to ensure the container is above the twistlocks ready to move down to engage with them.

Keep the container no higher than the vertical plates that guide the container down to the twistlocks. These plates ensure the container is not able to move off to the NO GO side of the truck.

Push in the “L” or “R” button to control one crane and together with the movement control buttons operate them to finally land the container onto the twistlocks at one end of the container. For very slow control push the movement control buttons lightly so the arms operate in very slow speed. It is essential to move heavy boxes slowly. If on sloping ground, first move the end of the container that is at the higher ground. Once the first end of the container is completely on and engaged over the twistlocks, push the other “R” or “L” button to operate the other crane to position the other end onto the twistlocks. Lower both bottom and top arms so they are horizontal.

Switch to high speed and retract the stabiliser legs.

Put the radio control away or the cable remote control in the metal control box. Turn off the key switch. Check all is complete and the twistlocks are locked. The truck can then be driven away normally.

Note: Always ensure the mass of the container is within the lifting capacity of the SelfLifter.

Lifting a container off the SelfLifter onto the ground

Put on the park brake and engage the PTO. Walk round the trailer unlocking each twistlock as you come to it. Check the lifting lock blocks are inserted completely into the container corner casting holes. Their ears should be about 20 degrees inwards from vertical and the chains inboard of the lifting blocks. Check all is clear and the ground is firm in the area, especially where the stabiliser legs and the container is to be put down.

Open the control cabinet and remove the cable remote control. Make sure the emergency stop button is up. Turn on the key and start the motor.

Check that the ground at each end of where the container is going to be placed is firm and that there are no buried pipes or other things that make the ground soft.

Lower the legs and feet until they just make contact with the ground and then a little further so that the crane carriages move a few millimetres up on the legs side.

Turn the speed switch to “Low Speed”

Change the function to “arms” and move the top arms up until one end of the container just starts to lift on the legs side of the container.

Push the appropriate “L” or “R” button to move the other top arm to lift the other end of the container.

Move the top arms up together to lift the container on the legs side about 100 mm above the transport position. The bottom of the corner castings should be about 50 mm above the top of the twistlock heads.

Assuming the bottom arms are fully down, move the bottom arms up until the container just starts to rise on the off side.

If for some reason, the bottom arms are not both fully down with their cylinders fully retracted, move both arms up until one end of the container just starts to rise on the off side. Then use the “L” or “R” button for the other end to move the bottom arm up until that end of the container just starts to rise.

Once the container is in a position where the lift side is 100 mm lifted and the other side has just started to move, push the bottom arms outwards button to move both arms outwards together.

With containers with unequal loading at each end, or with heavy containers, one crane may move faster than the other. If this happens, push the “L” or “R” button and move one end only so the container is about the same distance out from the SelfLifter at each end.

Note that the end of the container closest to you looks bigger than the end farther away. A distance or gap between a container and the SelfLifter will look bigger at the end close to you even if it is the same as at the end farther away.

Provided the container was lifted a full 100 mm above the lift side twistlocks, the container should move smoothly out and clear the twistlocks on the lift side as it moves in an arc out up then down. If it doesn’t look like it will clear the lift side twistlocks, lift the container slightly with the top arms.

When the container is about 300 mm away from the side of the SelfLifter, Lower it with the top arms.

The container should be lowered to about 100 mm above the ground.

If it is desired to move the container out further and away from the SelfLifter, do this with the container hovering about 100 mm above the ground. The reason for this is if the container is heavier than you expected and goes past the stability limits, the container will only drop 100 mm and the SelfLifter will not lift very far off the ground.

If a heavy container begins to lower by itself as you move it out well away from the SelfLifter then the relief valves in the arms may be past their maximum pressure and are letting the load lower so as not to exceed the safe load limit of the structure. Lower the box immediately if you observe this.

With the container in its final position on the ground, lower the tops arms further to allow the chain lock blocks to be uncoupled from the container.

Change to high speed and move the arms up and in then down until they are fully retracted. Then change the function control to legs and retract the legs fully.

Put the radio control away or the cable remote control in the metal control box and turn off the key switch. Check all is complete and the twistlocks are turned into the locked position.

Lifting a container off the ground with a large gap between the SelfLifter and the container

Sometimes the SelfLifter cannot be positioned close beside the container to be lifted.

Preparation for the lift

The most important aspect of lifting a container that is more than about 600 mm away from the SelfLifter is to ensure the SelfLifter and the container remain stable. If the container is too heavy relative to the distance it is away from the SelfLifter then stability could be inadequate and the SelfLifter could roll over.

For a lift with a gap between the SelfLifter and the container larger than about 600 mm the Safe Working Load diagram must be obeyed. This requires that the mass (weight) of the container is known. This is the total mass meaning the load inside plus the self weight of the container. The Safe Working Load diagram shows the maximum mass that can be lifted at various distances between the centre of the SelfLifter and the centre of the container. To relate this to the gap between the container and the SelfLifter sides, subtract 2.5 meters from the centre to centre distance.

For a lift with a large gap between the SelfLifter and the container AND with one or both legs not fully extended away from the SelfLifter, the maximum load that can be safely lifted is considerably reduced. This information is also shown on the Safe Working Load diagram.

Lifting technique

Commence as for a normal lift from ground to SelfLifter. After connecting the chains, follow as below:

Lift the container only 100 mm off the ground using the top arms.

Use the bottom arms to move the container towards the SelfLifter.

As the bottom arms move the container in it will rise higher above the ground. Push the buttonto lower the top arms to keep the container about 100 mm above the ground as the container is moved closer to the SelfLifter.

When the container side is about 300 mm away from the side of the SelfLifter, stop the bottom arm movement and use the top arm to lift the container up to about 100 mm above the twistlock level.

Complete the lift and setting down on the twistlocks as per a normal lift from ground to SelfLifter.

Lifting a container off a trailer or rail wagon

To lift a container off a trailer, truck or rail wagon, the positioning of the legs are critical.

For a truck and trailer unit it is usually best to position the tractor unit or head of the truck at the opposite end to the head of the SelfLifter truck.

If the truck tractor unit's rear wheels are in the position where the SelfLifter legs extend, it is best to jack knife the tractor unit with the trailer to get the rear wheels away from the SelfLifter leg extension area.

For rail wagons, most wagons have a strong enough top surface to put the SelfLifter feet on to. If this is not the case or the container is too close to the end or there is another item on the wagon that prevents the foot going on the deck, then it needs to be put on the ground under the wagon as far away from the SelfLifter as it can be.

For a trailer or truck the SelfLifter leg can sometimes be put on the deck. If there is deck in the area where the foot can go, the foot MUST be positioned over the longitudinal chassis rail. On a trailer this is usually visible from the top of the deck. For a truck, the SelfLifter foot must be placed above a deck cross member above the chassis rail.

Trailers designed for operation in conjunction with Sideloaders have strong pads designed to take the weight of the feet of SelfLifters. For other trailers or trucks, the decks may not be strong enough. Use thick hardwood load spreaders or deep steel members to span low strength areas. The exposed chassis rails of trailers can be assumed strong enough to take the weight of loaded containers. Also remember the foot can move sideways on a steel deck during lifting. Position it in the centre of the member and check it during the lift.

If a SelfLifter foot is to be put on the ground beside a trailer truck or wagon, manoeuvre the foot to get it as far under the vehicle as possible. Remember that side guards, fuel or air tanks are easily damaged so move the legs very slowly when they are close to the vehicle.

When the legs are not fully extended double check the Safe Working Load diagram prior to lifting a loaded container.

Lifting 2 x 20' containers

When there are two 20' containers to be lifted onto the Selflifter, they need to be coupled together in the middle. They are then lifted like a (sagging) 40' container.

The containers need to be positioned close together on the ground. If the SelfLifter is used for this then put the lifting lock blocks in the side holes of the container that is to be moved close to the other 20' container. When the containers have about 75 mm between the corner castings, then lower the container and remove the lifting lock blocks and the chains.

The chains may need to be pulled clear by hand and rested on the side of the container prior to lifting them up completely out of the way. It is difficult dislodge a lifting lock block that gets wedged between the containers.

Insert the joining lock block with the chain first. Then fit the second joining block and push the chain in so the pin can be inserted through the block's holes and the chain link. The photo below shows the pin being inserted.

Make sure the joiners are fitted to the lower 2 corner holes on each container so that they will hold the containers together at the bottom.

Ensure the SelfLifter centre twistlocks are up and in the unlocked position. Reposition the SelfLifter and move the cranes to the 40' position. Extend the legs and the arms and put the lifting chains in the end holes of each 20' container.

Lift carefully. One container may drop a little lower at the start of the lift. Lift both containers up and onto the SelfLifter. The centre twistlocks will engage first. Position the containers carefully then lower the outside of the containers. Remove the joining lock blocks before driving away.