

TL49

SERIAL NO. 1001 TO CURRENT

WARNING

All personnel shall carefully read, understand and follow all safety rules, operating instructions and the Scaffold Industry Association's MANUAL OF RESPONSIBILITIES (ANSI 92.2) before operating or performing maintenance on any UpRight aerial work platform.

SAFETY RULES

NEVER operate this machine within 10 feet of power lines or cables. **THIS MACHINE IS NOT INSULATED.**



NEVER elevate the Platform until all four (4) Outriggers have been correctly deployed.



NEVER position the platform without first checking for overhead obstructions or other hazards.



NEVER sit, stand or climb on guard rail or midrail of the platform.

ALL occupants must wear an approved fall restraint properly attached to a designated platform anchorage point. Attach only one fall restraint to each anchorage point.

NEVER operate the machine without first surveying the work area for surface hazards such as holes, drop-off's (curbs), bumps and debris.

NEVER exceed the safe working load of 475 lbs (215 kg), (max. 2 persons plus 120 lbs (55 kg) of equipment).

DO NOT increase wind loadings by fitting items such as sign boards, flags etc. to the cage or boom.

DISTRIBUTE all loads evenly on the platform. See the Specifications Table on Page 16 for the maximum platform load.

NEVER operate the machine unless you have been fully trained in its safe use, are medically fit and have read and fully understood these instructions.

OPERATE the machine on firm level ground with a minimum bearing capacity of 11,500 lbs / ft² (550 kN / m²).

DO NOT use in winds exceeding 27 mph (12.5 m/s - Beaufort Force 6).

NEVER use ladders or scaffolding on the platform.

DO NOT attach overhanging loads, increase the size of the working platform, use the machine as a crane or for any other application involving additional loads or forces.

NEVER change or modify operating or safety systems.

INSPECT the machine thoroughly for missing decals, cracked welds, loose hardware, hydraulic leaks, damaged cables, loose wire connections or wheel bolts. **NEVER** use damaged equipment. (Contact UpRight Int'l. Ltd. for instructions).

NEVER climb down an elevating assembly with the platform elevated.

NEVER use this machine unless the platform entrance drop bar is in position.

NEVER perform service on or in the elevating assembly while the platform is elevated without first blocking the elevating assembly.

NEVER recharge batteries near sparks or open flame; Charging batteries emit highly explosive hydrogen gas.

SECURE the work platform against unauthorized use by turning Keyswitch off, and then remove key from the switch.

NEVER replace any component or part with anything other than original UpRight replacement parts without the manufacturer's consent.

All Outrigger Pads must be in contact with a firm surface and the Chassis levelled before elevating the Platform.

IF ALARM SOUNDS while the platform is elevated, **STOP**. Carefully retract the booms, using the emergency functions and lower the platform without slewing. Move the machine to a firm, level surface.

Introduction

This Manual covers the operation of the TL49 Trailer Mounted Work Platform. *This manual must be stored on the machine at all times.*

Pre-Operation & Safety Inspection



WARNING



Carefully read, understand and follow all safety rules and operating instructions. Perform the following steps each day before use. **DO NOT** perform service on the Work Platform with the platform elevated unless the elevating assembly is properly supported.

1. Remove module covers and inspect for damage, oil leaks or missing parts.
2. Check the level of the hydraulic oil with the platform fully lowered and the Outriggers fully stowed. Oil should be visible on the filler cap dip stick. If necessary top-up using ISO#46 hydraulic oil.
3. Check that the electrolyte level in the batteries is correct. (Battery Maintenance, Page 9)
4. Verify batteries are charged.
5. Check that the A.C. extension cord has been disconnected from the charger.
6. Carefully inspect the entire machine for damage such as cracked welds or structural members, loose or missing parts, oil leaks, damaged cables or hoses, loose connections and tyre damage.
7. Move machine, if necessary, to an unobstructed area where machine can be fully elevated.
8. Check that the surface is capable of supporting the outrigger loads, and is generally level. Apply the handbrake.
9. Ensure that no leaks are present on the hydraulic hoses to the Outrigger cylinders and that they are properly secured. Check that there is no physical damage to the cylinder body or ram. **IF THERE IS ANY DAMAGE DO NOT PROCEED IN USING THE MACHINE.**
10. To extend the Hydraulic Outriggers an Operator must first ensure that all Emergency Stop Buttons are released (turned clockwise). Then turn the Keyswitch to the chassis position and deploy the Outriggers using the Toggle Switches until the Outrigger Foot Pads come into contact with the

surface (See Figure 1). Care should be exercised that the Foot Pads are orientated correctly. When all four Outriggers are in contact with the surface the Chassis can then be elevated. This should be done by extending each Outrigger one at a time in small increments until both of the Road Wheels have just cleared the ground.

11. The Chassis must then be levelled using the Bubble Level on the rear of the Chassis as a reference. When carrying out these minor adjustments the last operation on the Outriggers must be an extension so as to avoid the possibility of minor settling in the Hydraulic Fluid. For a more detailed description of this procedure the instructions in the Operation Section of this Operators Manual should be followed.



WARNING



Do not use a machine that is damaged or malfunctioning. Tag and remove the unit from service until it is repaired.

SYSTEM FUNCTION INSPECTION

NOTE:

Refer to Figure 2, Figure 3 & Figure 4 for the Outrigger Control, Lower Control and Platform Control locations.



WARNING



STAND CLEAR of the Work Platform while performing the following checks.

BEFORE operating the Work Platform survey the work area for surface hazards such as holes, drop-off's (curbs), bumps and debris.

CHECK in all directions, including above the Work Platform, for obstructions and power lines or cables.

CORDON off the area within the platform's working area to keep passers-by clear of the booms.

12. Turn both of the Chassis and the Platform Emergency Stop buttons **ON** (rotate clockwise). Turn the Keyswitch on the Outrigger Control box to the position marked **CHASSIS** (anticlockwise position).

13. Using the chassis control Toggle Switches, fully **ELEVATE** Booms 1 & 2 and **EXTEND** the Telescopic Boom.
14. Visually inspect the elevating assembly and cage mounting/structure, lift cylinders, cables and hoses for leaks, damage or erratic operation. Check for missing or loose parts such as nuts, bolts and circlips.
15. Test the Emergency Lowering Valves on the Upper and Lower Lift Cylinder are operating correctly as detailed on Page 6. **PUSH/TURN** the Emergency Stop Button to identify that functions will indeed cease when depressed.
16. Check the **SLEW** left and right function.
17. Return the machine to an elevated position just above the Boom Rest 1 ft (300 mm). To confirm that the Outriggers and Outrigger Limit Switches will operate correctly while the machine is elevated, it is then vital that each Outrigger Limit Switch is individually tested.
Retract the Rear Left Outrigger using the Toggle Switches on the Outrigger Control Box (will simulate an Outrigger out of deployment). At this point the TL49 should have the following characteristics;

*the alarm will sound and the **DOWN, RETRACT & SLEW Boom functions only will be operable from the Lower Controls.***

The above test should be repeated for all Outriggers.

18. Lower each boom until the Elevating Assembly is fully stowed. Repeat all the above tests from the Platform Controls.
19. While testing the Platform Controls it is also necessary to test that the Emergency Override functions will work. While elevated in the Platform request a colleague to activate the Tilt Sensor. The

alarm should sound and normal controls should cease. By turning the Platform Selector Switch to the **Emergency Override position the DOWN functions, RETRACT functions and SLEW functions only will be activated.**

The Emergency Override functions should also give the Down & Slew functions only when an Outrigger Limit Switch is deactivated. Carry out the tests as outlined in Item No.17 in this section.

The System Function Inspection is then complete.

PRE-TRANSPORT INSPECTION

20. Lower the jockey wheel until it is in contact with the surface.
21. Retract the Outriggers fully. To do this the operator must use the Toggle Switches on the Outrigger Control Box to raise each Outrigger individually in small increments until the road wheels are taking the Work Platform's weight. Raise the Outriggers until they are locked in the required vertical position. The Outriggers are now correctly stowed.
22. Return the Keyswitch to the **OFF** (centre) position. Check tyre pressures and thread depth. These procedures are further detailed on Page 8.



WARNING



If there are any concerns about the safe use or operation of the TL49 following this Pre-Operation Inspection **DO NOT USE THE TL49 WORK PLATFORM.** Contact your supplier or UpRight's Product Support Department.

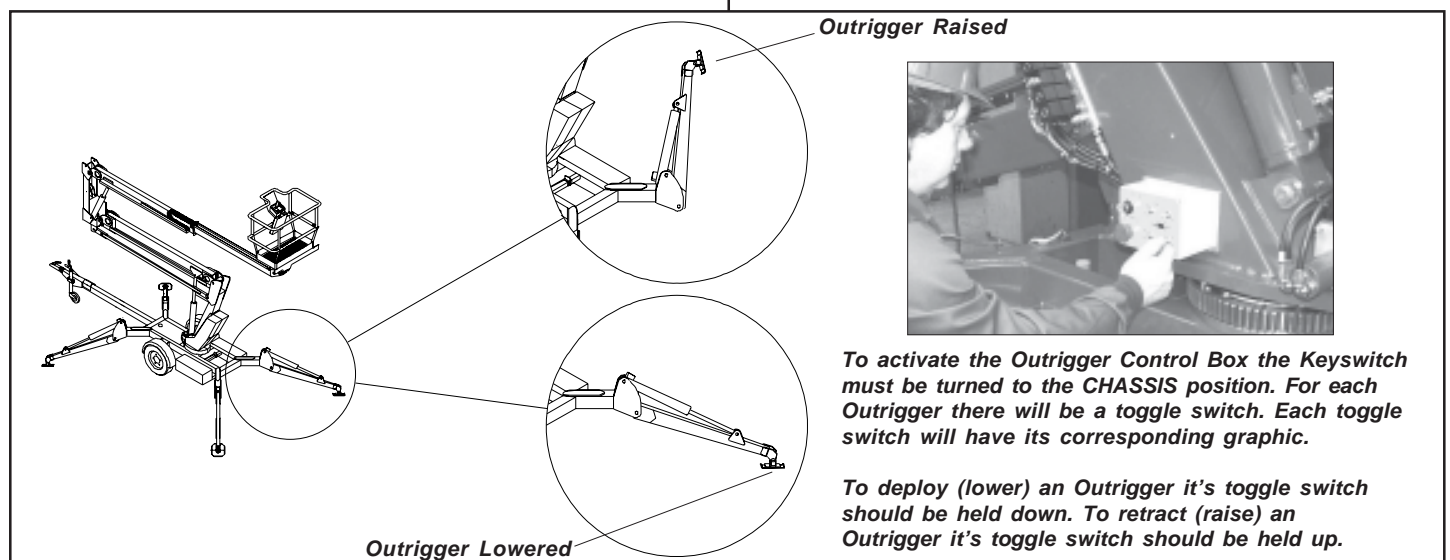


Figure 1: Deploying the Outriggers

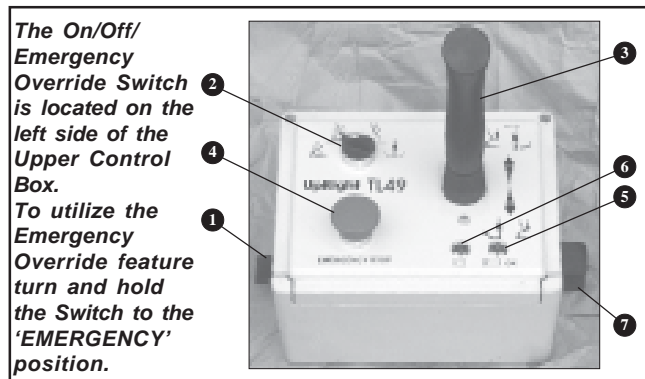


Figure 2 : Upper Control Box

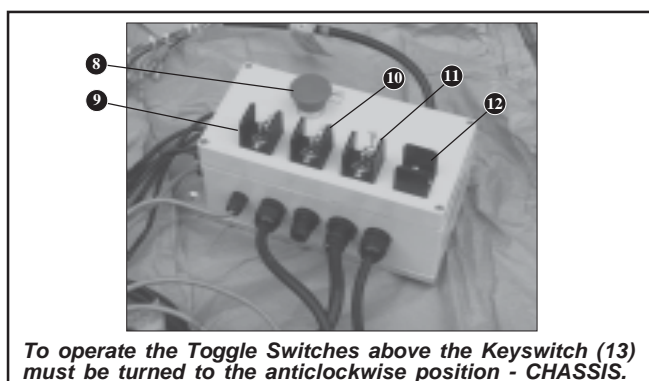


Figure 3 : Lower Control Box

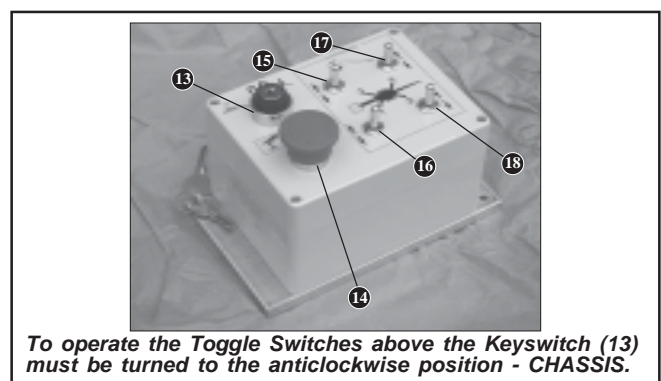


Figure 4 : Ourtrigger Control Box

INDEX NO.	NAME	FUNCTION	INDEX NO.	NAME	FUNCTION	INDEX NO.	NAME	FUNCTION
1	SWITCH : ON/OFF/ EMERGENCY OVERRIDE	Turn clockwise for power 'ON', in centre position for power 'OFF' and anticlockwise for 'EMERGENCY OVERRIDE'. (Must be held against spring pressure in this position)	6	BATTERY CONDITION INDICATOR	This red L.E.D. (Light Emitting Diode) indicates the condition of the batteries. It is constantly illuminated when the batteries are more than 80% discharged. It flashes repeatedly when the batteries are 70% discharged. It is not illuminated when the batteries are fully charged.	13	KEYSWITCH	Turn the Key anticlockwise to select the CHASSIS controls or clockwise to select the PLATFORM controls. Power OFF is in the centre position.
2	SELECTOR SWITCH	Select function to be operated. Left Hand position for BOOM1, the next position for BOOM2 and the next position for TELESCOPE. The SLEW function is the Right Hand position. Only one function can be selected at any one time.	7	LEVEL SWITCH	This toggle switch allows the Platform to have its 'level' adjusted either forwards or backwards. To activate this switch the Platform must be stowed and the ON/OFF/ EMERGENCY OVERRIDE Switch must be held to the Emergency Override Position.	14	EMERGENCY STOP SWITCH	Push red button to cut off power to all functions (OFF). Turn clockwise to release and restore power.
3	JOYSTICK CONTROL LEVER	Squeeze the Interlock Switch, coloured red. This will activate the controller. To activate the BOOM1 UP, BOOM2 UP, TELESCOPE RETRACT or ROTATE RIGHT functions the controller should be pushed forward. To activate the BOOM1 DOWN, BOOM2 DOWN, TELESCOPE EXTEND or ROTATE LEFT functions the controller should be pulled back. The speed that each function operates is related to how far the Joystick is moved from the centre position.	8	EMERGENCY STOP SWITCH	Push red button to cut off power to all functions (OFF). Turn clockwise to release and restore power.	15	OUTRIGGER TOGGLE SWITCH Rear Left	The Outrigger assembly can be extended by holding toggle switch DOWN, and retracted by holding switch UP.
			9	BOOM 1 TOGGLE SWITCH	Boom1 can be raised by holding toggle switch UP, and it can be lowered by holding toggle switch DOWN.	16	OUTRIGGER TOGGLE SWITCH Rear Right	The Outrigger assembly can be extended by holding toggle switch DOWN, and retracted by holding switch UP.
			10	BOOM 2 TOGGLE SWITCH	Boom2 can be raised by holding toggle switch UP, and it can be lowered by holding toggle switch DOWN.	17	OUTRIGGER TOGGLE SWITCH Front Left	The Outrigger assembly can be extended by holding toggle switch DOWN, and retracted by holding switch UP.
4	EMERGENCY STOP SWITCH	Push red button to cut off power to all functions (OFF). Turn clockwise to release and restore power.	11	TELESCOPE TOGGLE SWITCH	The Telescopic Boom can be extended by holding toggle switch UP, and it can be retracted by holding toggle switch DOWN.	18	OUTRIGGER TOGGLE SWITCH Front Right	The Outrigger assembly can be extended by holding toggle switch DOWN, and retracted by holding switch UP.
5	SYSTEM OK INDICATOR	Illuminates to indicate that the Outrigger Switches are activated, i.e. the Outriggers have been properly deployed and that power is now available to the Upper Control Box.	12	SLEW TOGGLE SWITCH	The elevating assembly can be slewed LEFT by holding toggle switch LEFT, and RIGHT by holding switch RIGHT.			

NOTES :

- * An alarm is located in the Upper Control Box. This will sound when Tilt Sensor is activated, and while this alarm is on only the Emergency Override controls can be used. This alarm will also sound when an Outrigger Limit Switch opens.

Operation

Before operating the TL49 Work Platform it is imperative that the Pre-Operation Inspection has been completed and any deficiencies have been corrected. The operator must also be fully trained on this machine.

TOWING



WARNING



Before Towing, ensure that the Elevating Assembly is properly stowed and secured using the Locking Pin, and that the Outriggers are raised, retracted and locked into position. See Pre-Transport Inspection on as before. Ensure the tyres are free from damage, inflated to the correct pressure and have sufficient thread depth. Ensure the breakaway cable is properly attached to the towing vehicle before driving away.

Adjust the Jockey Wheel using the screw handle until the Towhitch is just above the height of the tow ball on the towing vehicle.

Position the tow vehicle and fit the breakaway cable to a suitable attachment point on the towing vehicle (not the tow ball stem or towing pin).

While pushing the release button on the Towhitch lower the Receiver onto the Tow Bar using the screw handle on the Jockey Wheel, until the catch snaps into position. Then when the receiver is secure and the Tow Bar is taking some of the machines weight retract the Jockey Wheel to its full extent, at which point the Jockey Wheel will be in its locked position. Retighten the clamp. This will negate the possibility of the wheel moving and so the possibility of the Jockey Wheel screwing down during transport.

Connect the electrical lead to the tow vehicles socket. Check all lights for correct operation before transporting the machine.

NOTE:

Exercise caution during brake “Running In” period (First 500 miles or 850 Km). When parking on slopes fully tension the Hand Brake. When moving the TL49 in reverse ensure that the Hand Brake spring is fully compressed. Check that the TL49 is moving in reverse. When not in use it is advisable to chock wheels to prevent movement.

DEPLOYING THE OUTRIGGERS

Position the TL49 on a firm, level surface. Apply the handbrake and then lower the Jockey Wheel until it comes into contact with the surface and retighten the clamp. As the Jockey Wheel is further lowered release the locking mechanism on the Tow Hitch Receiver. When clear of the tow bar move the towing vehicle a small distance away from the TL49. Next ensure that the TL49 is switched to the **ON** position using the Keyswitch on the Outrigger Control Box and that the Emergency Stop Buttons are also **OFF** (turned clockwise to release).



DANGER



It is important that all outriggers are correctly deployed on a firm surface capable of withstanding the loads imposed. The Chassis **MUST** be correctly levelled before elevating the platform.



WARNING



DO NOT use the TL49 Work Platform unless the System OK LED (Outriggers Ready) is illuminated.

1. Before deploying the Hydraulic Outriggers it is necessary that the area be cleared of any objects or personnel that may infringe on the Outriggers deployment radius.
2. Turn the Keyswitch located on the Outrigger Control Box to the ‘Chassis’ position and deploy the Outriggers using the Toggle Switches until the Outrigger Foot Pads come into contact with the surface. Care should be exercised that the Foot Pads are orientated correctly. Reference Figure 1.
3. When all four Outriggers are in contact with the surface the Chassis can then be elevated. This should be done by extending each Outrigger one at a time in small increments until both of the Road Wheels have just cleared the surface.
4. Ensure that the machine is level in all planes using the Bubble Level located at the rear of the Chassis.

The last operation to be carried out before entering the Platform should be to check each of the Outriggers individually for their stability and that in each instance the Outrigger Limit Switch is activated. When the Keyswitch is in the ‘CHASSIS’ position and the Outriggers are properly deployed there should be no warning alarm.



DANGER



When carrying out final adjustments in the levelling of the chassis it is important that the last operation on each Outrigger be an extension. This is to avoid creating a reduced hydraulic pressure within the Outriggers and hence negate the possibility of minor settling.

ELEVATING & LOWERING THE TL33 WORK PLATFORM

When the TL49 has been thoroughly inspected, and has been set up in accordance with the correct Outrigger Deployment procedures, the Elevating Assembly can then be used.



WARNING



LOOK up and around for obstructions before performing the lift function.

ENSURE that the Elevating Assembly is clear of the Chassis before engaging the Slew operation.

DO NOT overload the platform

DO NOT operate within 10 feet (3 metres) of any electrical power cables. **THIS WORK PLATFORM IS NOT INSULATED.**

Cordon off the area within the platform's working area to keep passers-by clear of the booms.

NOTE: Chassis controls are for service use only.

1. Enter the Platform through the entrance provided and ensure that the Drop Bar is in position. Where applicable lock the Entry Step in the raised position.
2. Before using the machine all local Safety Regulations involving helmets and restraining devices should be observed. Safety harness lanyards, not exceeding 1 m in length, should be attached to the anchor points on the Platform floor.
3. Ensure the 'ON/OFF/OVERRIDE' switch on the Upper Control Box switch is turned to the **ON**, the Keyswitch on the Outrigger Control Box is turned to **CHASSIS** position and all Emergency Stop Buttons are **OFF** (twisted clockwise).
4. Check the green "System OK" L.E.D. is

illuminated. If not, and/or an audible alarm sounds, check that the Outriggers are correctly deployed and that the machine is level. The boom functions, nor the slew function will operate if this is not correct.

5. Select "Boom 1" on the Function Selector Switch. Check for overhead obstructions and when satisfied squeeze the red Interlock control on the Joystick. Slowly move the Joystick forward to elevate Boom 1. The further the joystick is moved, the faster the boom will move. Pressure must be applied to the Interlock at all times while operation is required.
6. Select "Boom 2", "Telescope" or "Rotate" as required using the 'Function Selector Switch' and operate as described above. For boom one or two functions the controls will be forward for UP and backward for DOWN. For telescope retract the Controller Joystick should be moved forward and for rotate Telescope extend move the Controller Joystick backward. To rotate (Slew) RIGHT the Controller Joystick should be moved forward and to rotate (Slew) LEFT move the Controller Joystick backward.
7. Before lowering, check beneath the Platform floor for obstructions. Operate as described above, moving the Joystick to lower the Booms.

LEVELLING

NOTE:

The Cage Levelling function will only work when the Boom Rest Limit Switch has been activated i.e. when the Booms are stowed.

The platform can be levelled from the Upper controls using the levelling switch (See Figure 1). To activate this switch the 'ON/OFF/OVERRIDE' switch, also located on the Upper Control Box, must be held to the **OVERRIDE** position.

This switch is for fine adjustment of the slave levelling cylinder. Care should be taken when performing this operation. The switch should be operated cautiously to level the cage **slowly**. Activate the switch in a careful, controlled manner.

EMERGENCY SITUATIONS & EMERGENCY OVERRIDE

In any emergency situation, the first action to be taken should be to hit the red "Emergency Stop" button. This will give instant cutout of all functions. It will then be required to twist the button clockwise to release before the machine can be operated again.

If the Audible warning alarm sounds, normal control functions will cease to operate. This will be due to one of the following problems ;

- deactivation of an Outrigger Limit Switch.
- the activation of the Tilt Sensor.

In this situation the procedure is to turn the Platform “ON/OFF/OVERRIDE” Switch to the ‘EMERGENCY OVERRIDE’ position, and hold it in this position while using the boom controls as normal to descend in a controlled manner to ground level. Do not begin to rotate until close to the ground.

After leaving the Platform, check all Outriggers and adjust to ensure each is correctly deployed. **Note that during emergency operation, controls will operate only at a fixed, slow speed and will not allow the raising of the Booms. The Booms can only be lowered.**

Emergency Lowering



CAUTION



When operating this function, extreme care must be taken to ensure that the person carrying out the task does not become trapped by the Elevating Assembly.

Should the machine become inoperable when elevated request a person on the ground to lower the platform using the emergency lowering valves.

These are red knobs (push or twist type) mounted at the base of the 2 Main Hydraulic Lift Cylinders (See Figure 5 opposite). The decal located on the TL49’s Lift Cylinder’s will identify the Emergency Lowering Valves as either a ‘PUSH’ type or a ‘TWIST’ type.

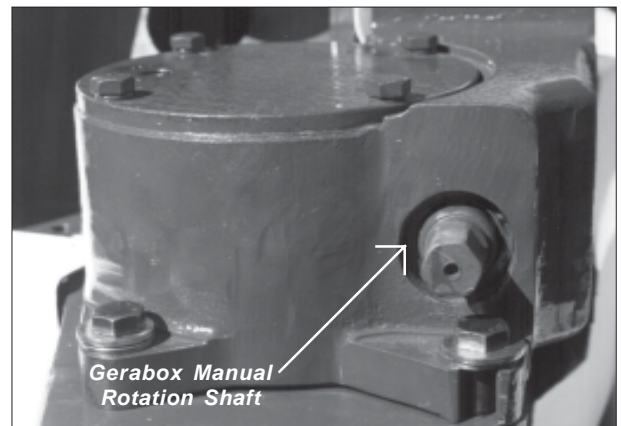
Operate the lower boom first by pushing (turning anticlockwise) slowly until the boom starts to descend. The speed of descent is controlled by the amount the valve is pushed (turned anticlockwise) - ensure that the rate of descent is kept slow and under control. Descent can be halted at any time by removing pressure from the red knob for the ‘PUSH’ type, or turning the ‘TWIST’ type clockwise.

Repeat the operation if necessary for the upper boom when the cylinder is in reach of the ground. With both main booms lowered fully it should then be possible to leave the Platform safely. A small step ladder can be used if necessary.



Before operating the Emergency Lowering Valves the surrounding area should first be cleared of any potential obstructions. It is also important that when the valve is pushed/turned, it is initially done slowly. This is so that sudden movement will not occur in the Elevating Assembly, leading to a potentially unstable machine.

Figure 5: Emergency Lowering



To rotate the Elevating Assembly first apply a 17 mm (13 mm) socket wrench to the shaft and turn to rotate the Elevating Assembly. When finished remove the wrench.

Figure 6: Manual Rotation

MANUAL ROTATION

1. Retract the Telescopic Boom and lower Boom2 fully. Ensure also that Boom1 is lowered as far as possible, but just clear of the Tow Bar Weldment, and that the Emergency Stop Button is pressed to prevent any accidental powered operation.
2. Apply a 17 mm (or 13 mm if required) socket wrench to the Gearbox Drive Shaft and turn to rotate the Elevating Assembly. The Gearbox Drive

Shaft for the 17 mm type gearbox is shown in Figure 6.

3. Remove the wrench.

CONTROL FROM GROUND LEVEL

1. Chassis Boom Controls are fitted in the Control Module of the TL49 Work Platform. These should only be used when no operator is in the Platform (for maintenance/service or inspection purposes), or if the operator has become incapacitated.
2. It should be noted that in order to activate any of the Lower Control Toggle Switches on the Lower Control Box the Keyswitch, located on the Outrigger Control Box, must be turned anticlockwise to the **CHASSIS** position.
3. Use the appropriate toggle switch to raise or lower Boom 1, Boom 2, Telescope or rotate as required.

AFTER USE EACH DAY

1. Ensure that the Platform is fully lowered.
2. Park the machine on a level surface, preferably undercover, secure against vandals, children or unauthorised operation. Apply the Hand Brake.
3. Turn the Keyswitch to **OFF** and remove the key to prevent any unauthorised operation.
4. Recharge the batteries in accordance with the instructions on Page 9.

Transportation

BY FORKLIFT



CAUTION



The TL49 is not designed to be forklifted, and does not have provision on the Chassis to allow this method of lifting. UpRight recommends the procedure below for handling the machine.

BY CRANE



WARNING



See specifications (Page 16) for the weight of the work platform and be certain that lifting apparatus is of adequate capacity to lift the platform.

The TL49 may be lifted by an overhead hoist/crane in the following manner:

Four lifting straps capable of safely supporting the total weight of the TL49 (4,189 lbs (1,900 Kg)), and at least 8 feet (2.5 m) long are required. This minimum length is important to ensure the correct lifting angle. The straps should be positioned as shown in Figure 7.

The four lifting straps (Positions 1, 2, 3 & 4) should be positioned at the points indicated in Figure 7. Care must be taken to ensure the straps do not interfere with any other parts of the TL49.

The four straps should be routed between the Outrigger Footpad's and the Outrigger Weldment.

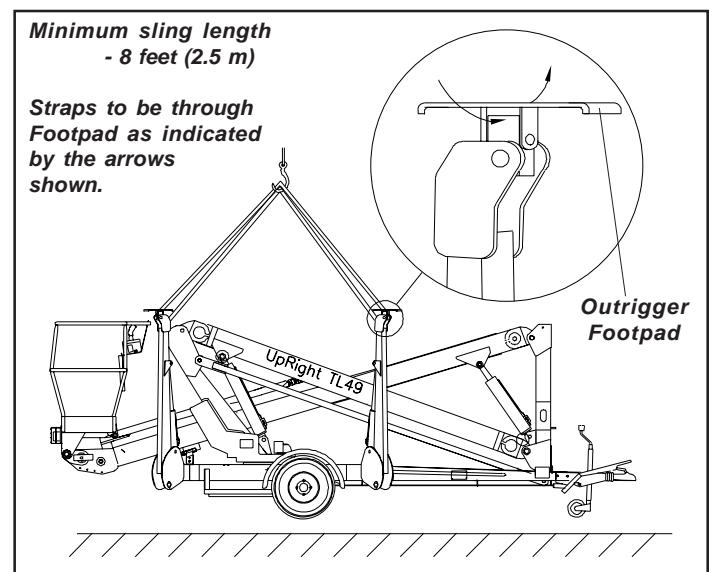


Figure 7: Lifting the TL49

BY ROAD



CAUTION



It is important that before commencing transport to ensure the vehicle used is capable of towing 4,189 lbs (1,900 Kg).

The TL49 is a road approved vehicle and therefore may be transported behind a motor vehicle of suitable towing capacity. It is recommended that the vehicle used should have a tow bar where the top of the ball is at a height of between 1.42 ft (435 mm) and 1.64 ft (500 mm) above surface level. These dimensions are also indicated below in Figure 8. This is for the following reasons;

- the bottom of the Platform may be in danger of hitting the surface while driving if the tow hitch is above the upper limit.

- the towing vehicle will support too much weight if the Towhitch is too low.

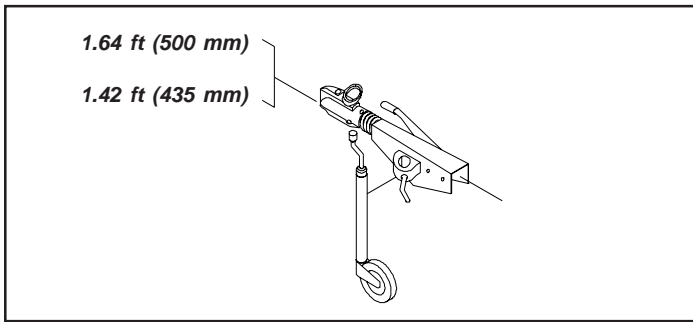


Figure 8: Allowable Tow Hitch Height

Care should always be taken while towing the TL49 on an uneven or sloped surface. It is recommended that the set of procedures that follow should be incorporated into a normal working practice for towing the TL49 Work Platform. The Procedures which should be followed when transporting the TL49 are:

1. The Platform is to be fully lowered, retracted and slewed in the correct position.
2. The Platform is to be securely stowed by inserting the Boom Lock Down Pin in its place. This is located at the bottom of the Second Post.
3. The Jockey Wheel that is fitted to the Towhitch is to be extended until the Receiver is close to the height of the vehicle's tow bar.
4. The Hand Brake is pulled to engage the brakes (important if the machine is not on a level surface).
5. The Outriggers are to be fully retracted and secured in position.
6. The key is turned to the off position.
7. Move the vehicle as close as possible to the Receiver.
8. Lift the Towhitch on to the tow bar and make sure the Receiver is properly secured.
9. Release the Hand Brake and retract the Jockey Wheel.



CAUTION



It is important that the Jockey Wheel is retracted as fully as possible so that the wheel will not slew (turn) while being transported. Failure to do so could result in damage to the Jockey Wheel.

10. The tailboard harness is connected to the vehicle's braking system by means of a 7 Pin Plug.
11. Attach the Breakaway Safety Cable to the towing vehicle.

The TL49 may then be towed.

If the TL49 is to be transported by other means then it must be securely tied down to the transporting unit at several points.

Recommended securing points are the four outrigger support members on the Chassis and the Tow Bar Weldment. Further securing points should be used if the terrain on which the unit is travelling is rough or uneven. Care should be taken when using tie downs that sensitive parts of the TL49 (i.e. hosing, cabling etc.) are not affected.

ALWAYS ensure that the Hand Brake is fully applied, that all the booms are FULLY stowed and that the Boom Lock Down Pin is in place.

Maintenance

BATTERY MAINTENANCE

Electrical energy for the motor is supplied by four 6 volt batteries wired in series to give a 24 volts DC supply. Proper care and maintenance of the batteries and motor will ensure maximum performance from the work platform.



WARNING



Hazard of explosive gas mixture. Keep sparks, flames and smoking materials away from batteries

Always wear safety glasses when working with batteries.

Battery fluid is highly corrosive. Rinse away any spilled fluid thoroughly with clean water.

BATTERY INSPECTION AND CLEANING

Check battery fluid level daily, especially if work platform is being used in a warm, dry climate. If required, add distilled water; use of tap water with a high mineral content will shorten battery life.



CAUTION



If battery water level is not maintained, batteries will not fully charge, creating a low discharge rate which will damage Motor/Pump unit and void warranty.

Batteries should be inspected periodically for signs of cracks in the cases, electrolyte leakage and corrosion of the terminals. Inspect cables for worn spots or breaks in the insulation and for broken cable terminals.

Clean batteries that show signs of corrosion at the terminals or onto which electrolyte has overflowed during charging. Use a baking soda solution to clean the batteries, taking care not to get the solution inside the cells. Rinse thoroughly with clean, warm water. Clean battery and cable contact surfaces to a bright metal finish whenever a cable is removed.

Basic Rule for maximum duty cycle of deep cycle traction batteries:

- Use the machine until it shows signs of weak / slow performance.
- Allow the charger to charge the batteries until it automatically shuts off.
- Avoid intermittent charging as the batteries develop a memory effect similar to Nicad batteries.

BATTERY CHARGING

Batteries do not have their full potential until they have been through 50 charge/discharge cycles (however the rate at which the potential increases is exponential, and the batteries will normally have 95% potential after 15 charge/discharge cycles). Hence do not use a new battery in a battery pack that already has more than 15 cycles. Charge batteries at the end of each work shift or sooner if batteries have been discharged. A battery is considered to have a faulty cell if it has less than 80% of the potential of the other batteries in the pack while measured under load.



WARNING



Charge batteries in a well-ventilated area.
Do not charge batteries in the vicinity of sparks or flames.
Permanent damage to batteries will result if they are not immediately recharged after discharging.
Never leave charger operating unattended for more than two days. Keep charger dry.
Never disconnect cables from batteries when charger is operating.

To ensure a proper charge several items must first be checked.

1. Correct voltage and current available to the charger.

2. Extension cord is in good condition, is no longer than 26 ft. (8 m) and is 12 ga (1.5 mm²) or larger.
3. Charger will have an adequate time to allow a full charge i.e. ensure that power supply will not be switched off overnight.
4. A.C. Voltage Selector Switch (110/220V) is in the correct position.

All UpRight battery operated Work Platforms, including the TL49, are suitable for use in freezing and low temperature conditions (to a value of -4°F (-20°C)). However for this there are two provisions which must be met.

- The ISO#46 grade of hydraulic oil normally used in UpRight Work Platforms must be replaced with a grade suitable for these low temperature conditions.
- When ambient temperatures fall below 65°F (18°C) batteries cannot deliver 220 Ampere hours and so should be placed on charge as soon after use as possible. Under such conditions a 4 hour equalize charge once a week in the early afternoon will improve state of charge and battery life.

Charging

1. Check battery fluid level. If electrolyte level is lower than 3/8 in (10 mm) above plates add distilled water only. **(DO NOT OVERFILL)**
2. Connect battery charger lead to properly earthed outlet of correct voltage and frequency.
3. The Charger will turn on automatically after a short delay. The LED's will indicate the rate of charging.
4. Charger turns off automatically when batteries are fully charged.

HYDRAULIC OIL

With the Platform fully lowered i.e. stowed, oil should be visible on the dipstick. If oil is **NOT** visible, fill the tank until oil is then visible on the dipstick. **DO NOT** fill above the upper line on the dipstick or when the platform is elevated.

LUBRICATION

Refer to the Service & Parts Manual for the lubrication chart and guidelines.

DECALS

Refer to Figure 9 on Pages 12 & 13 for the locations of the Decals used on the TL49 Work Platform. These Decals must be present and in good condition before operating the Work Platform. Be sure to read, understand and follow these Decals when operating the Work Platform.

ROUTINE SERVICE

Use the following table as a guide for routine maintenance.
Inspection and maintenance shall be performed by personnel who are trained and familiar with mechanical and electrical procedures. Refer to the Service & Parts Manual for complete service instructions.

Interval

Daily = each shift or every day
50h/30d = every 50 hours or 30 days

Y=Yes/Acceptable

N=No/Not Acceptable

R=Repaired/Acceptable

Preventative Maintenance Report

Date : _____
 Owner : _____
 Model No : _____
 Serial No : _____
 Serviced By : _____
 Service Interval : _____

Signature of Service Engineer

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Battery System	Check electrolyte level	Daily			
	Check battery cable condition.	Daily			
	Charge batteries.	Daily			
	Check specific gravity.	50h/30d			
Hydraul. Oil	Check oil level.	Daily			
Hydraulic Pump	Wipe clean.	50h/30d			
	Check for hose fitting leaks	50h/30d			
	Check for leaks at mating surfaces.	50h/30d			
	Check mounting bolts for proper torque.	50h/30d			
Hydraulic System	Check for leaks.	Daily			
	Check hose connections.	50h/30d			
	Check for exterior wear.	50h/30d			
Emer. Hydraulic System	Open the emergency lowering valves and check for proper operation.	Daily			
Control Cable	Check switch operation.	Daily			
	Check the exterior of cable for pinching, binding or cable wear.	Daily			

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Tyres / Wheels	Check tyre press. 65 psi (4.5 bar)	Daily			
	Check for damage.	Daily			
	Check thread depth.	Daily			
	Check/torque nuts 74 ft lbs-100 Nm	Daily			
Platform Deck and Guardrails	Check welds for cracks.	Daily			
	Check condition of floor.	Daily			
	Check that securing bolts are tightened.	Daily			
	Check drop bar on cage entrance.	Daily			
Slew System	Grease slew gear.	50h/30d			
	Check slew motor for leaks and mounting bolts for proper torque.	50h/30d			
Slew System/ First Post	Check torque on all bolts, 15 outer ring and 20 inner ring. Retorque to 88 ft lbs (120 Nm).	50h/30d			
Elevating Assembly	Inspect for structural cracks.	Daily			
	Check hoses for pinch or rubbing points.	Daily			
	Check pivot pins for damage.	50h/30d			
	Check pivot pin retaining rings.	50h/30d			
Lift Cylinders	Check cylinder rod for wear.	50h/30d			
	Check pivot pin retaining rings.	50h/30d			
	Grease all fittings as section 4.4.	50h/30d			
Chassis Assembly	Inspect for structural cracks.	Daily			
	Check hoses for pinch or rubbing points.	Daily			
Entire Unit	Function check Emergency stop switches at control boxes.	Daily			
	Perform pre-operation inspection.	Daily			
	Check for/repair collision damage.	Daily			
	Lubricate.	50h/30d			
	Grease all fittings.	50h/30d			
Outriggers	Check outrigger cylinders for damage.	Daily			
	Check interlock switch function.	Daily			
	Lubricate.	50h/30d			
	Grease all fittings.	50h/30d			
Tow Hitch	Check coupling for function and wear.	Daily			
	Inspect breakaway cable for proper attachment.	Daily			
	Grease all fittings as per the Service & Parts Manual Section 4.4	50h/30d			
Road Lights	Check all trailer lights and connecting plug	Daily			
Brake	Apply handbrake and check function.	Daily			
	Check brake shoes for wear.	50h/30d			
	Test auto reverse function.	50h/30d			
	Adjust brake shoes.	50h/30d			

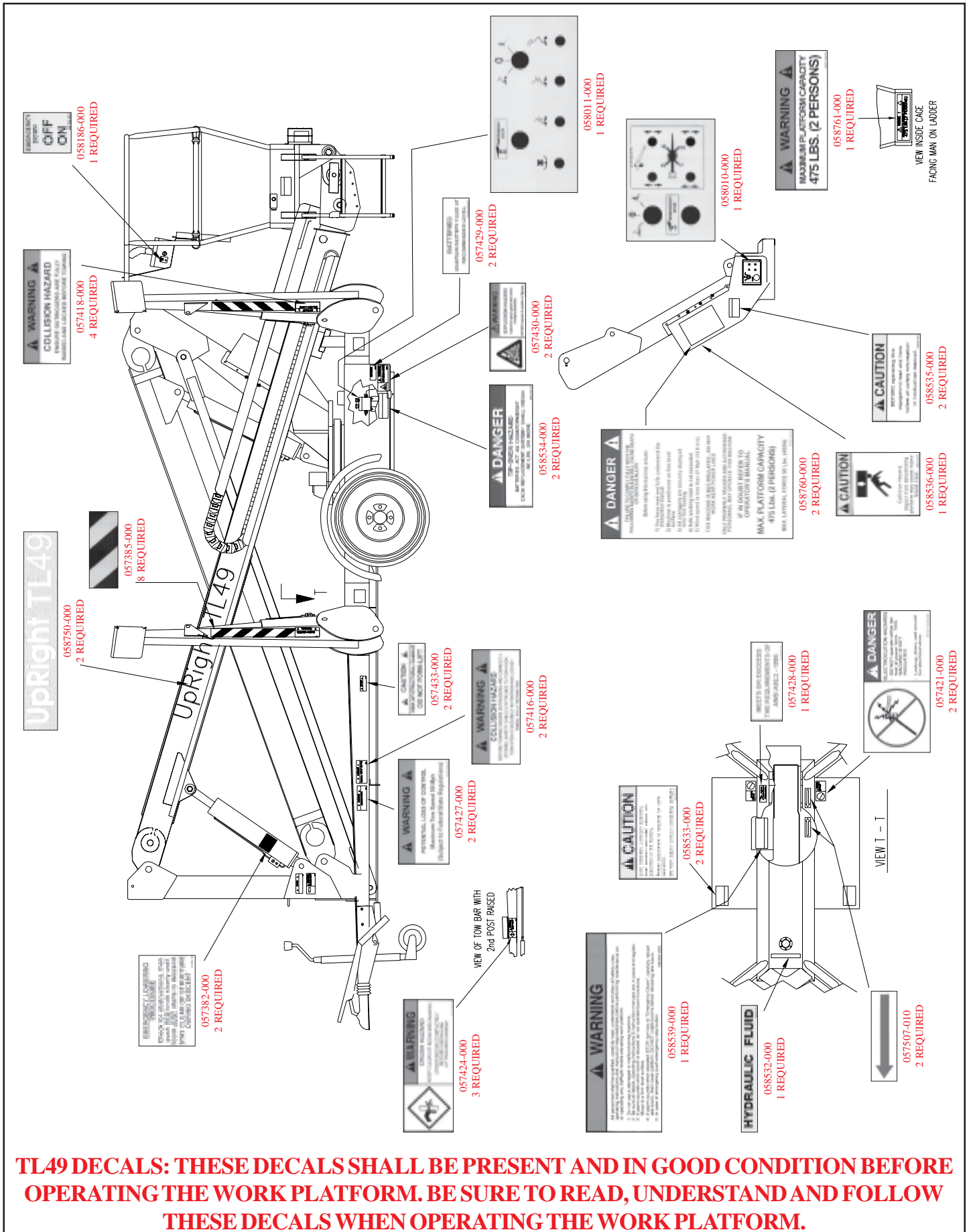


Figure 9: Decal Identification

Notes:

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