

Operation & Handling

HIT SRL

42 procedures · 26 maintenance tips (pillole)

Technical Reference Document

Procedures

Tyres

What is the correct sequence to inflate a tyre?

1. Ask all personnel to leave the area.
2. Fit the self-locking connector on the tyre valve.
3. Take up a position at the side of the wheel, at least 2 metres from the wheel centre.
4. Cautiously start to inflate the tyre, frequently checking that the pressure does not exceed the value indicated on the plate.
5. Once the pressure is correct, disconnect the self-locking connector and screw the valve cap back on.

Note: Absolutely avoid standing in line with the wheel while inflating it, since a burst tyre in that position can cause serious injury or death; stay at the side of the wheel at least 2 metres from its centre.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-inflate-a-tyre>

What is the correct sequence to fit a tyre onto a multi-piece earthmover wheel?

1. Place the wheel on three blocks so it is approximately 10 cm off the floor and fit the valve.
2. Grease the parts of the wheel in contact with the tyre and the seat of the triangular gasket, on both the wheel and the tapered ring, and grease the tyre beads.
3. Fit the tyre to the basic wheel and then to the tapered ring, using tyre levers to fit the rubber triangular gasket into its seats.
4. Using the tyre levers, lower the tapered ring so the triangular gasket is completely exposed, and apply grease in the indicated area.
5. Begin the first stage of inflation by firmly applying three self-locking pliers at regular intervals to ensure the snap ring adheres perfectly to the wheel, then open the air supply to inflate the tyre until the pliers are ejected or the tapered ring closes the snap ring.
6. Using a hammer, tap the snap ring to seat it correctly, check it is tight against the wheel, then proceed with the final inflation.
 - Only qualified personnel must be assigned to tyre fitting and servicing operations.
 - The tyre must be contained within a safety cage during inflation.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-fit-a-tyre-onto-a-multi-piec>

What is the correct sequence to inspect and maintain a wheel rim?

1. Remove the wheel from the vehicle and remove the tyre.
2. Clean the wheel carefully, particularly the mating surfaces.
3. Examine the rim along its entire circumference, and examine the wheel disc, paying particular attention to the area where it is secured to the hub.
4. Check for signs of wear, buckling, rust, breakage or cracks.
5. Check that all surfaces, especially those in contact with the tyre or vehicle, are sufficiently protected against corrosion; repaint if necessary, after removing any surface rust and applying a suitable primer, taking care not to apply too much paint on the mating surfaces.
 - Rims and centres must never be repaired by welding or by patching areas where material is lacking, as such repairs would not withstand the stresses on the wheel.
 - When replacing entire wheels or the removable rings of composite rims, make sure the new parts are identical in size, type, and section to the old ones, matching identification marks as a guide.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-inspect-and-maintain-a-wheel>

What is the correct sequence to inspect the rim at each tyre change?

1. Remove the tyre and disassemble all the rim components.
2. Clean thoroughly all the areas to be examined.
3. Carry out a careful visual inspection, using a penetrating dye test in cases of doubt to detect any cracks.
4. Inspect all the rim's component parts for signs of wear, dents, or other damage.
5. Replace any parts found damaged, always using a new O-ring before reassembly, and clean any rust areas with a wire brush and treat with an anti-rust compound.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-inspect-the-rim-at-each-tyre>

What is the correct sequence to check the tyres, rims and wheel nuts?

1. Check the rims: check that the lock ring and lugs are installed correctly, and that there are no cracks in the rim parts; if damaged, dismantle and check the tyre and rim.
2. Check the tyre air pressure, which must be 1.0 MPa, inflating if necessary.
3. Check the tyres for uneven or fast wear (which can indicate mechanical problems such as uneven braking) and remove any penetrating objects; if the tyre is damaged, dismantle the wheel and change the tyre.
4. If the tyres and rims have no defects, check-tighten the wheel nuts crosswise to 400 Nm.
 - Never stand directly opposite the tyre when deflating or inflating; the lock ring and locking lugs may release and shoot off when the pressure changes.
 - Do not release air through the valve if the tyre or rim is damaged; drill a hole in the tread instead.
 - Do not exceed the prescribed air pressure; a different pressure may apply when changing tyre or rim version, contact the machine manufacturer.
 - When removing wheels, leave the wheel nuts in place after loosening, or the wheel may release from the hub.
 - When removing drive wheels, make sure the wheels are fixed when the spacer rings are removed.
 - Wheel nuts should be check-tightened after 4-5 operating hours.
 - Never use a steel hammer on rim components; use a lead, brass or plastic mallet.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-check-the-tyres-rims-and-whe>

What is the correct sequence to remove a tyre and rim from the drive axle?

1. Lift the machine under the drive axle by the wheel in question, supporting under the drive axle in a safe and adequate manner.
2. Deflate the tyre: release air through the valve if the tyre and rim are in good condition, or drill a hole in the tread if the tyre or rim is damaged.
3. Loosen the wheel nuts.
4. Secure the wheel with lifting equipment.
5. Remove the nuts, washers and clamps.
6. Remove the spacer ring by pulling the wheel out a bit so the spacer ring comes loose.
7. Remove the outer wheel, lifting it away and placing it safely.
8. Move the lifting equipment to the inner wheel.
9. Remove the spacer ring between the outer and inner wheel.
10. Remove the inner wheel, lifting it away and placing it safely.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-remove-a-tyre-and-rim-from-t>

What is the correct sequence to remove a tyre and rim from the steering axle?

1. Lift the machine under the steering axle by the wheel in question, supporting under the steering axle securely.
2. Deflate the tyre: release air through the valve if the tyre and rim are in good condition, or drill a hole in the tread if the tyre or rim is damaged.
3. Loosen the wheel nuts.
4. Secure the wheel with lifting equipment.
5. Remove the nuts, washers and clamps, and pull out the wheel.
6. Lift away the wheel and place it safely.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-remove-a-tyre-and-rim-from-t-2>

What is the correct sequence to install a tyre and rim on the drive axle?

1. Lift the inner wheel into place with lifting equipment, rotating it so the guide lug enters the groove on the hub.
2. Fit the inner spacer ring (not split).
3. Lift the outer wheel into place, rotating it so the guide lug enters the groove on the hub.
4. Fit the outer spacer ring (split; rotate so the opening ends up in front of the groove on the hub).
5. Place clamps and nuts, and washers where applicable, on the wheel bolts, not forgetting the retainer for the inner tyre's valve extension.
6. Remove the lifting equipment.
7. Tighten the wheel nuts crosswise.
8. Tighten the wheel nuts crosswise to 400 Nm.
9. Inflate the tyre to 1 MPa.
10. Lower the axle and remove the jack.
11. Test-run the machine and check that the wheels are installed securely.
12. Check-tighten the wheel nuts to 400 Nm.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-install-a-tyre-and-rim-on-th>

What is the correct sequence to install a tyre and rim on the steering axle?

1. Lift the wheel into place with lifting equipment, adjusting its position so the guide pin fits over the groove in the hub and the rim rests against the hub.
2. Place clamps and nuts, and washers where applicable, on the wheel bolts.
3. Remove the lifting equipment.
4. Fit the wheel, tightening the wheel nuts crosswise to 400 Nm.
5. Inflate the tyre to 1 MPa.
6. Lower the axle and remove the jack.
7. Test-run the machine and check that the wheels are installed securely.
8. Check-tighten the wheel nuts to 400 Nm.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-install-a-tyre-and-rim-on-th-2>

What is the correct sequence to inflate a tyre?

1. Make sure the lock ring and lock lugs are in the correct position before inflating.
2. Connect the compressor with a locking air-chuck to the nipple on the tyre.
3. Move to the side and stay to the side of the tyre while inflation is in progress.
4. Inflate the tyre to the prescribed level.
 - Never fit rim components by striking with a hammer during inflation; never strike a fully or partly inflated tyre or rim assembly.
 - Never inflate a tyre before all parts are in place.
 - Never stand directly in front of the wheel when inflating or deflating.
 - Check that all parts are in place when the tyre pressure reaches 30 kPa.
 - Do not exceed the prescribed tyre pressure; a different pressure may apply when changing tyre or rim version, contact the machine manufacturer.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-inflate-a-tyre-2>

What is the correct sequence to check a rim for wear after the lock ring?

1. Dismantle the rim.
2. Carefully clean the outside of the rim edge with a steel brush.
3. Measure the depth of wear left by the lock ring at the mark between its ends, using a steel ruler and sliding calipers; if wear exceeds 0.5 mm, discard and replace the rim, lock ring, and rim bead seat taper.
4. Check the rim's diameter by measuring the rim edge's circumference with a measuring tape and calculating the diameter (diameter = circumference / 3.14); if the diameter is smaller than the specified minimum, discard and replace the rim, lock ring, and rim bead seat taper.
5. Check for damage in areas of high stress concentration using the magnetic powder method to locate cracks, then investigate any confirmed cracks further with penetrating fluid.
 - Leave tyre work to authorized personnel or a tyre company, due to fatal danger.
 - Always use the correct tyre size and a design compatible with the rim type and size; never use over-dimensioned tyres.
 - Replace all damaged, worn, or corroded rims or mounting parts.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-check-a-rim-for-wear-after-t>

What is the correct sequence for the magnetic powder crack-checking method on a rim?

1. Blast clean the marked area around the entire rim so it is completely free of paint.
2. Test using magnetic powder equipment with AC current and contrast fluid, using a wet magnetic checking medium.
3. If no cracks are detected, the rim is approved; if cracks are indicated, investigate further with penetrating fluid.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-for-the-magnetic-powder-crack-c>

What is the correct sequence to check a rim crack with penetrating fluid?

1. Clean the area with cleaning fluid.
2. Spray penetrating fluid on the cleaned area and let it dry for 10 minutes.
3. Wash off the penetrating fluid with cleaning fluid, thoroughly wiping it off with a drying cloth and letting any remainder evaporate.
4. Spray detection fluid on the area.
5. Let the sprayed area dry for 1-2 hours.
6. Visually inspect the lock ring groove; if no linear or point-shaped cracks are found, the rim is approved, otherwise it should be discarded.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-check-a-rim-crack-with-penet>

Starting Warm Up

What is the correct starting procedure for a terminal tractor with the standard electrical starting system?

1. Set the parking brake.
2. Place the transmission control in NEUTRAL.
3. Apply the service brakes using the foot-operated treadle valve and hold the brakes in this position.
4. Turn the ignition switch to the OFF position (or use the engine shut-down button/control if not ignition-operated).
5. Wait for the "Wait to Start" light on the dash to go out, if the vehicle is equipped with one.
6. Turn the key to the START position; when the engine starts, release the key and allow the switch to remain in the RUN position.
 - Never attempt to start the vehicle from any position other than the driver's seat.
 - Always set the parking brake and place the shifter in neutral before attempting to start the engine.
 - All tractors are designed to start in NEUTRAL ONLY; if the vehicle starts while in gear, do not operate it and have the neutral lock-out system repaired.
 - If the engine does not start within 30 seconds, release the starter switch and wait 3 minutes to allow the starter motor to cool; if after three repeated attempts the engine still fails to start, stop and determine the cause.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-starting-procedure-for-a-terminal-tracto>

What is the correct shut-down procedure for a terminal tractor's diesel engine?

1. Place the transmission in NEUTRAL.
2. Set the parking brake.
3. Allow the engine to idle at low idle for at least 3 minutes.
4. Turn the ignition switch to the OFF position (or use the engine shut-down button/control if not ignition-operated).
5. Make sure all electrical accessories and lights are off and the vehicle is in NEUTRAL.

Note: *Shutting a hot engine down without a cool-down period may cause an immediate and excessive increase in engine temperature, which could severely damage internal engine components.*

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-shut-down-procedure-for-a-terminal-tract>

What is the normal start-up sequence for a container stacker's engine?

1. Adjust the seat.
2. Be sure that the parking brake is applied.
3. Place all the control levers in their neutral position.
4. Turn the ignition key switch to the START position and hold it to start the engine.
5. Warm up the engine: engine and transmission oil pressures should rise immediately on start (if the pressure warning lights do not go off, stop the engine and notify maintenance); temperature gauges rise more slowly; the battery charge indicator should go off after starting (if not, stop the engine).
6. Allow the engine coolant temperature to increase to the low end of normal temperature range (approx. 104°F); do not apply full load before it reaches 176°F.
7. Operate all controls slowly while the engine is warming up, listening for any unusual noises.
8. When the engine, transmission, and hydraulic system temperatures are in the normal operating range, the machine is ready for use.
9. Test the braking system before proceeding to use the machine.
 - Sound the horn to warn personnel in the area before starting the engine; make sure no one is standing near the machine.
 - Do not operate the starting motor for longer than 15 seconds; in case of starting failure wait 10 seconds between attempts.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-normal-start-up-sequence-for-a-container-stacker>

What precautions should be taken before starting the engine in cold weather (below 50°F)?

1. Keep the batteries fully charged.
2. Keep the fuel clean and free of water.
3. Use lubricating oil with correct viscosity for the room temperature range where the engine has to operate.
4. Pre-heat the glow plugs (keep the key in this position for a maximum of 5 seconds).
5. Start the engine.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-precautions-should-be-taken-before-starting-the-engine>

What is the correct sequence to stop the engine of a container stacker?

1. Turn the key switch to the OFF position to turn off all electrical control circuits and remove the starting key from the instrument panel.
2. Apply the parking brake.
3. If the machine is so equipped and will be stopped for a prolonged period during cold weather, plug in the engine block heater and/or hydraulic oil tank heater using the correct socket for external power supply.
4. Disconnect the battery selector and remove the key.
5. Close all locks before leaving the machine.

Note: A turbocharged engine must always be run at about 1000 rpm with reduced load for 2 or 3 minutes before switching off, to allow the turbocharger to cool down.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-stop-the-engine-of-a-contain>

What coolant and transmission oil temperatures should be reached before heavy operation after a cold start?

1. If the motor has been shut off or has cooled down, heat it up gradually so the coolant and the motor and transmission oil are brought to operating temperature.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-coolant-and-transmission-oil-temperatures-should-be-rea>

What is the correct sequence to begin driving the machine?

1. Adjust the operator's seat to a comfortable and suitable position; run the engine at idling speed and select the driving direction and gear required with the gear lever.
2. Release the parking brake.
3. To change to a higher gear, turn the gear lever to the next higher gear while releasing the accelerator, then accelerate normally after the gear has been inserted (perform in reverse order to go down the gears).
4. When driving, always use the right brake pedal.
 - Do not gear down until the machine slows to appropriate speeds, otherwise damage to the drive line can occur.
 - Do not carry heavy loads in a raised position, in order not to compromise stability when braking or driving on irregular ground.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-begin-driving-the-machine>

What is the correct parking procedure for a container stacker?

1. Remove all loads.
2. Move the machine to its designated parking area, away from traffic lanes.
3. Apply the parking brake and lower the spreader.
4. Make sure all controls are in the NEUTRAL position and all electrical accessories and lights are OFF.
5. Follow the engine stopping procedure and turn the ignition switch to the OFF position.
6. Report any maintenance or operational problems to qualified maintenance personnel.

Note: *Never leave the machine with a load suspended: it could inadvertently lower, possibly causing serious injury or death.*

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-parking-procedure-for-a-container-stacker>

What is the correct sequence to start the engine of this class of reach stacker?

1. Insert the key into the ignition switch and turn it clockwise to position 1 "ON".
2. Turn the key again to position 3 "starter" and release it as soon as the engine starts, without pressing the accelerator pedal.
3. Once the engine has started, check via the gauge that engine oil pressure is within the preset parameters (3.5-4 bar), and check that the display's alarm area does not indicate any engine anomaly.
 - The engine can only be started with the gear selector in neutral "N"; safety devices otherwise prevent starting.
 - If the engine does not start promptly, do not operate the starter motor for more than 30 consecutive seconds, or the batteries could discharge or the starter motor could be damaged.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-start-the-engine-of-this-class>

What is the correct sequence to stop the engine of this class of reach stacker?

1. Bring the engine to idle for a few minutes to reach thermal equilibrium and ensure lubrication of pistons, cylinders, liners, bearings and turbocharger components.
2. Apply the parking brake.
3. Turn the key in the ignition switch to position 0 and remove it.

Note: *Do not use the emergency engine stop button to switch off the engine under normal conditions.*

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-stop-the-engine-of-this-class>

What is the correct sequence to start moving the vehicle?

1. Keeping the brake pedal pressed, disengage the parking brake switch.
2. Pre-select the desired gear, release the brake pedal and gradually press the accelerator pedal.
 - Before starting the vehicle, make sure the display's alarm area shows no anomaly (e.g. generator charge, low engine oil pressure, high engine coolant temperature).
 - Immediately after moving off, test the service brake and parking brake; if either fails to work, contact assistance immediately.
 - Reverse gear must only be engaged with the vehicle stopped and the engine at low revs.
 - Do not let the vehicle move or travel downhill with the gear selector in neutral, as this can seriously damage the transmission.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-start-moving-the-vehicle>

What is the correct sequence to stop the vehicle?

1. Release the accelerator pedal.
2. Gradually press the brake pedal.
3. When the vehicle is close to stopping, move the gear selector to neutral, apply the parking brake, and confirm engagement via the indicator light.
 - If the service brake pedal does not stop the vehicle, use the parking brake as an emergency brake; after stopping, repair the fault before continuing to use the machine.
 - Always apply the parking brake when leaving the cab or parking.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-stop-the-vehicle>

Towing Recovery

What are the correct steps for towing a disabled tractor with the front wheels lifted?

1. Always use a rigid towing bar or properly restrain the towed vehicle; do not use a chain or cable.
2. Always disconnect the driveline to the rear drive axle(s), or remove all axle shafts from all rear drive axles.
3. Always cage the spring brakes on all rear drive wheels.
 - Failure to follow these steps could result in death or serious injury.
 - A loss of air pressure could occur while towing the vehicle; this would apply the spring/parking brakes and lock the rear wheels on the towed vehicle.
 - When manually releasing the spring brakes, make sure that the vehicle wheels are properly blocked; if not, the vehicle could move suddenly and cause death or severe injury.
 - If the disabled vehicle is connected to a tow vehicle before the spring brakes are released, make sure the tow vehicle's parking brakes are applied and its wheels are blocked.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-are-the-correct-steps-for-towing-a-disabled-tractor-wit>

What conditions must be met to tow a disabled tractor with the rear wheels suspended?

1. The steering axle must be locked in the straight-ahead position.
2. If there are spring brakes on the front axle, the springs must be caged.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-conditions-must-be-met-to-tow-a-disabled-tractor-with-t>

What must be done before towing a machine with a diesel engine fault that has disabled the hydraulic circuits?

1. Disconnect the Cardan shaft and release the parking brake caliper.
2. If the diesel engine is working, disconnect only the Cardan shaft.
 - Towing any machine without taking the proper prerequisite steps could result in damage to equipment and possible personal injury.
 - Contact the technical department for further details before any towing operation.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-must-be-done-before-towing-a-machine-with-a-diesel-engi>

What steps must be taken before towing a broken-down reach stacker?

1. Use only the dedicated tow hook.
2. Disconnect the propeller shaft between the transmission and the drive axle, on the drive axle flange side.
3. Apply a rigid tow bar.
4. Make sure the towed vehicle is released from its brakes.
5. Confirm the rigid tow bar has been correctly installed; in this configuration, the towing vehicle remains the only means of braking.
 - If the propeller shaft is not disconnected, the transmission and converter would suffer serious and irreparable damage.
 - The reach stacker must be towed without a load.
 - Towing speed must be very low and the distance covered minimal.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-steps-must-be-taken-before-towing-a-broken-down-reach-s>

Pre Start Walkaround

What does the daily walk-around inspection checklist cover before operating a terminal tractor?

1. Check tires and wheels for damage and proper inflation.
2. Check cab hold-down latch (air suspension unit) for proper latching.
3. Check all fluid levels: engine oil, hydraulic and coolant.
4. Drain any moisture from air tanks.
5. Check cab doors and latches for proper operation.
6. Ensure that all steps, walkways and handholds are installed and in good working order.
7. Start engine and check transmission fluid level with parking brake applied and transmission shift selector in neutral.
8. Check windshield wiper for proper operation.
9. Check steering system for any binding; make sure steering effort is smooth and light.
10. Check accelerator for proper operation.
11. Check all rear view mirrors; adjust and clean if needed.
12. Check cab and frame for any structural damage or cracks.
13. Inspect trailer electrical cable and trailer air lines for damage; make sure both air lines are installed.
14. Clean all windows if needed.
15. Check transmission shift lever for proper operation.
16. Check boom control lever for proper operation.
17. Check all lights for proper operation: headlights, turn signals, brake lights, hazard lights and marker lights.
18. Check horn(s) for proper operation.
19. Check and fill fuel tank.
20. Drain fuel water separator.
21. Check and fill DEF tank.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-does-the-daily-walk-around-inspection-checklist-cover-b>

What should be checked before starting the engine, as part of the pre-operational inspection on a container stacker?

1. Engine crankcase: check oil level.
2. Radiator: check coolant level.
3. Hydraulic reservoir: check oil level.
4. Oil leaks: visually check for oil leaks.
5. Structure-chassis and spreader: check for loose or missing fasteners, cracks and deformation.
6. Tires: check general condition and whether pressure appears low.
7. Operator's cab: clean thoroughly, including windows.
8. Fire extinguisher(s): check for full charge.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-should-be-checked-before-starting-the-engine-as-part-of>

What should be checked after starting the engine (running at idle), as part of the pre-operational inspection?

1. Hydraulic filters: check visual indicators (if available).
2. Transmission oil: check oil level (warm).
3. Fuel tank: check fuel level.
4. Lights: check work, drive and indicator lights for proper operation.
5. Warning devices: check horn, strobe lights, and back-up alarm for proper operation.
6. Windshield wipers: check for proper operation.
7. Operator's controls: check for proper operation.
8. Brakes: be sure they operate before driving.
9. Dash display: check all indicator lights and gauges for proper operation of respective systems.
10. Unusual sounds: listen for unusual sounds or noises from engine, transmission or hydraulic system.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-should-be-checked-after-starting-the-engine-running-at>

What checks should be made before entering the cab and starting the machine?

1. Before entering the cab, make sure the main power disconnect switch is closed (ON).
2. Level checks: fuel level, engine oil level, coolant level, hydraulic oil level, windscreen washer fluid level.
3. Cleanliness checks: clean the cab windows, headlights and mirrors; check that steps, handrails, guard rails and grab handles (both sides) are clean and dry; check for engine air filter blockage.
4. Damage checks: check for damaged or missing parts; check the glass for signs of cracking; check underneath the vehicle for oil, fuel or coolant leaks; check tyre condition.
5. Other checks: that tank caps are correctly tightened; that the cab, boom and attachment are correctly fastened; correct operation of controls and onboard instruments; operation of the service and parking brakes.
 - A tyre bursting can cause serious or fatal injury; do not use the machine with damaged, incorrectly inflated or excessively worn tyres.
 - Do not use the machine with cut tyres or tyres with sharp objects embedded in them.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-checks-should-be-made-before-entering-the-cab-and-start>

Load Handling

What is the correct sequence to pick up a stacked container?

1. Move slowly up to the stack of containers.
2. Position the spreader above the container to be picked up, making sure it is centred with respect to the container.
3. Lower the spreader so the twistlocks correctly enter the container corner hook-on housings.
4. Check that the twistlocks have entered properly (the yellow light comes on); if not, lift the spreader and repeat the previous step.
5. Hook on the twistlocks; if done correctly the green light comes on and the next operation can be performed, otherwise release the twistlocks, slowly raise the spreader, and repeat from lowering the spreader.
6. Slowly lift the container.
7. Back the truck up slowly without turning the wheels.
8. Lower the spreader, being careful not to collide with obstacles.

Note: Drive carefully when transporting loads, avoiding sudden braking and changes of direction.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-pick-up-a-stacked-container-2>

What is the correct sequence to stack a container?

1. Move slowly up to the container on which the load will be placed.
2. Lift the load above the container that will act as a support.
3. Centre the load above the container.
4. Rest the load on the container and wait for the yellow light to confirm the load is well supported before proceeding; if it does not come on, lift the spreader and repeat this step.
5. Release the twistlocks and wait for the red light to confirm all twistlocks have been released; if not, hook the twistlocks back on, lift the spreader, and repeat the previous step.
6. Slowly lift the spreader until the twistlocks have completely come out of the corner housings.
7. Back the truck up slowly.
8. Lower the spreader, being careful not to collide with obstacles.

Note: *Drive carefully when transporting loads, avoiding sudden braking and changes of direction.*

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-stack-a-container-2>

What has to be checked as part of the machine's general test cycle after a 500-hour Type A preventive maintenance service?

1. As part of the machine's general test cycle, check container attachment/lift/lowering/release.
2. Check boom extension/rotation/unbalanced-load handling as part of the test cycle.
3. Check translation empty/loaded (transmission-engine check) as part of the test cycle.
4. Test braking empty and loaded as part of the test cycle.

Note: *Maintenance must be carried out only by qualified, authorised personnel, working in conditions of maximum safety.*

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-has-to-be-checked-as-part-of-the-machine-s-general-test>

Trailer Chassis Handling

What are the basic steps for spotting (moving) a trailer with the hydraulic fifth wheel?

1. Maintain optimum tractor air pressure (120 P.S.I.); the fifth wheel should be in the FULL DOWN position, with the fifth wheel jaws confirmed in the UNLATCH position by depressing the unlatch control valve.
2. Line the tractor up to the front of the trailer by centering the fifth wheel to the trailer's centre line, keeping the tail of the fifth wheel below the trailer skid ramp.
3. Back the tractor under the trailer until the entire fifth wheel disappears under the front edge of the trailer floor/skid plate.
4. With the foot firmly on the brake treadle and the shift lever in NEUTRAL, move the boom control lever to the UP position and raise the trailer until the trailer support is just off the ground.
5. After obtaining adequate ground clearance at the trailer landing gear, place the shift selector in REVERSE, release the brake treadle and back firmly into the kingpin jaws until full engagement is felt.
6. Place the transmission shift lever into a forward drive gear and give a "tug" at the kingpin to ensure positive lock of the jaws around the kingpin.
7. Place the shift lever in NEUTRAL and raise the boom using the boom control lever to the necessary height to maintain ground clearance while towing.
8. Once proper trailer height is reached, apply the tractor parking brake, then hook both the trailer emergency and service air lines to the trailer and plug in the trailer electrical cable.
9. With the brake treadle fully applied, push in both the parking brake control and the trailer air supply control, to charge the trailer air supply and release the trailer spring/parking brakes.
10. After the tractor air system is fully charged, move the transmission shift lever to the proper gear, release pressure on the brake treadle, allow the vehicle to roll a very short distance, then depress the brake treadle again to stop, to confirm the trailer service brakes are working.
11. Once the trailer is relocated and the vehicle combination is completely stopped, place the shift lever in NEUTRAL and pull out on the trailer air supply control to apply the trailer parking brakes only.
12. Using the boom control lever, lower the trailer until the trailer supports are resting completely on the ground.
13. Disconnect and store the air lines and electrical cable.
14. Depress and hold the fifth wheel unlatch control valve while slowly pulling away from the trailer; release the control once the fifth wheel is completely clear of the kingpin.
 - Never raise or lower the boom while the tractor and trailer combination is moving.
 - Be prepared to stop if the fifth wheel jaws have not fully latched, to avoid pulling out from under the trailer and dropping it.
 - When operated on public streets or highways, the fifth wheel manual secondary lock must be engaged and the fifth wheel must be in the DOWN position.
 - Do not exceed 15 M.P.H. (24 K.P.H.) when towing trailers.
 - Never tow trailers without both the service and emergency brake lines connected and functioning.
 - Never tow a trailer above the minimum height required to clear the landing gear from the ground.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-are-the-basic-steps-for-spotting-moving-a-trailer-with>

Why must both trailer air lines always be connected when towing a trailer?

1. Always connect both trailer air lines when towing a trailer.

Note: Failure to connect both the trailer service (BLUE) and the trailer supply (RED) air lines greatly reduces the braking ability of the tractor-trailer combination and creates a serious hazard, increasing the possibility of an accident.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#why-must-both-trailer-air-lines-always-be-connected-when-tow>

Driving

What is the correct sequence to start driving and change gear?

1. Adjust the operator's seat to a comfortable position, run the engine at idling speed, and select the driving direction and gear required with the gear lever.
2. Release the parking brake.
3. To change to a higher gear, turn the gear lever to the next higher gear while releasing the accelerator, then accelerate normally once the gear is engaged; to change down, perform the same actions in reverse order.
4. Always use the right brake pedal when driving.
 - Do not gear down until the machine has slowed to the appropriate speed, or damage to the drive line can occur.
 - Do not carry heavy loads in a raised position, as this can compromise stability when braking or driving on irregular ground.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-start-driving-and-change-gear>

What rules must be observed when operating on slopes?

1. Move up and down slopes slowly.
2. Do not turn the machine on slopes, and do not drive across slopes.
3. Keep the load facing uphill when driving up or down gradients of over 10%.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-rules-must-be-observed-when-operating-on-slopes>

Other Operation & Handling procedures

What rules apply when operating the machine on a slope?

1. The machine must move up and down slopes slowly.
2. Do not turn the machine on slopes, nor drive across slopes.
3. The load must be facing uphill when driving up or down gradients of over 10%.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-rules-apply-when-operating-the-machine-on-a-slope>

What is the correct sequence to park the machine?

1. Remove all loads.
2. Move the machine to its designated parking area, away from traffic lanes.
3. Apply the parking brake and lower the spreader.
4. Make sure all controls are in neutral and all electrical accessories and lights are off.
5. Follow the engine-stopping procedure and turn the ignition switch to off.
6. Report any maintenance or operational problems to qualified maintenance personnel.

Source: <https://www.hitsrl.it/technical-resources/procedures/operation-and-handling/#what-is-the-correct-sequence-to-park-the-machine>

Maintenance Tips

Pre-Start & Walkaround

What has to be done before starting a daily walk-around inspection?

When performing inspections, always park the vehicle on a level surface, apply the parking brakes, and chock the wheels.

The daily walk-around inspection helps the operator identify obvious problems that could affect normal operation — it isn't a substitute for a preventive maintenance programme.

Do not operate the vehicle until the brake system has been thoroughly inspected; skipping the daily inspection before operation could lead to serious injury or death.

HIT Srl supplies wheel chocks for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#before-daily-walkaround-inspection>

What interlocks must be satisfied before translation of a mobile harbour crane is enabled, and how does the parking brake behave automatically?

Enabling translation requires: a command from the turtle button; consent for translation at 0 or 180 degrees or with the tower landed; stabilizers not active; the boom in the off state; and the winch in the off state. Additional consents for translation at 0/180 degrees include: correct radius and weight for translation/stabilization; no translation-brake alarm; the crane at 0 or 180 degrees; no wind alarm; the tower landing bypass not active; the optional 'stabilizers all up' consent; the slewing block in its seat; the optional 'no stabilized beams' consent; the slewing brake not open; boom pilot up/down not active; the winch parking brake not active; and automatic stabilization not active. The translation parking brake opens automatically about 1 second before the crane starts translating, and closes automatically about 1 second after the movement stops; the operator has no direct control over it. The service brake pedal is proportional to the applied pressure and stops translation when fully pressed.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#what-interlocks-must-be-satisfied-before-translation-of-a>

What are the overtipping safety pre-alarm and alarm thresholds on a mobile harbour crane, and what happens at each?

The overtipping safety routine continuously checks the suspended load and radius against the load table (50% table for a grab, 66-75% tables for a hook, depending on the operator's choice). Above the prealarm threshold (90% of the maximum load), the system warns the user with a visual and acoustic signal. Above the alarm threshold (105% of the maximum load), the system gives the same visual and acoustic warning and additionally blocks any further lifting of the load and any further lowering of the boom.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#what-are-the-overtipping-safety-pre-alarm-and-alarm>

Why must the tower be moved back to the centre of the spreader before it leaves the container, and before the crane boom slews?

The tower must be moved back to the centre of the spreader before it leaves the container, and there must be good clearance between the spreader and the container before slewing the crane boom, to avoid collision or interference between the spreader and the container.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#why-must-the-tower-be-moved-back-to-the-centre-of-the>

Starting & Warm-Up

Why must starting spray or ether never be used together with engine preheating?

Starting aid spray, ether, or equivalent products must never be used at the same time as preheating, because doing so could cause an explosion.

HIT Srl supplies glow-plug preheating system components for this class of engine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#never-combine-starting-spray-with-preheating>

How does the intake air heater help the engine start in cold weather?

The intake air heater has a rating of 3 kW and heats the intake air enough for the engine to start at low ambient temperatures. It's energised when the starting key is turned to the heating position, with a suitable preheating time of about 50 seconds.

Below 50°F (10°C), extra attention is recommended when starting the engine, for maximum engine protection and easier starting.

HIT Srl supplies the intake air heater element for this class of engine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#intake-air-heater-cold-start-function>

Why must a turbocharged engine idle before being switched off?

A turbocharged engine must always be run at about 1000 rpm with reduced load for 2 or 3 minutes before switching off, in order to allow the turbocharger to cool down.

HIT Srl supplies the turbocharger for this class of engine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#turbocharger-idle-before-shutdown>

What is the explosion risk when using booster batteries to start the engine?

Batteries produce explosive gasses when being charged or discharged. Always wear eye protection when using booster batteries or starting generators — batteries can explode if a spark or flame comes near them.

HIT Srl supplies batteries and booster cables for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#booster-battery-explosion-risk>

When must the machine never be started, regardless of the controls?

Do not attempt to start the machine if it has been locked out by maintenance personnel, or if the main power disconnect switch in the battery compartment is disengaged.

HIT Srl supplies the main power disconnect switch for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#when-machine-must-never-be-started>

Why can the engine only be started with the transmission in neutral?

The vehicle is designed to start in neutral only — the starter should not operate if the vehicle is in any other gear.

A safety device that works the same way prevents the engine from starting if the gear selector isn't in the neutral ("N") position.

HIT Srl supplies the neutral safety start switch for this class of transmission.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#neutral-only-engine-start-interlock>

What does it mean if the parking brake indicator stays on after releasing the parking brake?

The parking brake indicator light must not be on when starting to drive. If the light remains on after the parking brake has been released, seek technical assistance rather than continuing to drive.

HIT Srl supplies the parking brake indicator switch for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#parking-brake-indicator-stays-on-meaning>

Refuelling & AdBlue Filling

What does the DEF warning lamp sequence mean, from first warning to engine shutdown?

A solid DEF lamp is the first warning that the reducing agent (diesel exhaust fluid) is low — at this stage it's an intermediate warning that a derate will be activated if the fluid isn't refilled.

A flashing DEF lamp means the DEF level has fallen below a critical level; refilling the DEF tank corrects it. If the flashing DEF lamp is combined with an illuminated Warning or Check Engine lamp, the DEF level is critically low and the engine is already losing power.

Normal engine power is restored once the DEF tank is refilled. If the engine is shut down or left idling for one hour after the DEF tank has run completely dry, the Stop Engine Lamp also illuminates alongside the flashing DEF lamp and the Warning or Check Engine lamp, and engine power continues to be reduced automatically.

HIT Srl supplies the DEF tank and its level sender for this class of engine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#def-warning-lamp-escalation-sequence>

Why does refuelling and topping up oil require special care with containers and temperature?

Refuelling operations require the most scrupulous cleanliness of the containers used to transfer oil and any other fluid.

During oil replacement or refilling, hot oil can cause burns when it's drained — let the oil cool below 50°C first.

HIT Srl supplies lubricants and fluids for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#refuelling-container-cleanliness-and-hot-oil>

Travelling Unladen

Why should the machine move slowly and avoid sudden braking even when unladen?

With maximum load — and it's recommended even without a load — move very slowly and avoid sudden braking or turns, to avoid dangerous oscillations and kickback.

HIT Srl supplies spare parts for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#why-move-slowly-even-when-unladen>

Slopes & Uneven Ground

What rules apply when driving the machine on a slope?

When operating on slopes, move the machine up and down slowly. Do not turn the machine on slopes, and do not drive across them.

When driving up or down a gradient of over 10%, the load must be facing uphill.

HIT Srl supplies brake and steering components for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#rules-for-driving-on-a-slope>

Why should a vehicle only be parked on flat, compact ground?

Always park the vehicle on flat, compact ground, to prevent the wheels from sinking into the terrain. If the parking area isn't level but on a slope, place wheel chocks under the wheels.

HIT Srl supplies wheel chocks for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#why-park-on-flat-compact-ground>

Stacking & Destacking

What driving discipline applies when approaching a container to stack a load on it?

Drive carefully when transporting loads, avoiding sudden braking and changes of direction — move slowly up to the container on which the load is to be placed.

The lifting unit and the load must stay lowered, so the operator retains full visibility; the load should only be lifted during the actual stacking movement itself, not carried raised beforehand.

HIT Srl supplies spreader and lifting components for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#container-stacking-approach-discipline>

Trailer & Chassis Handling

Why must both trailer air lines always be connected when towing a trailer?

Always connect both trailer air lines when towing a trailer. Failure to connect both the trailer service (BLUE) and the trailer supply (RED) air lines greatly reduces the braking ability of the tractor-trailer combination and creates a serious hazard.

After connecting a trailer, the system runs a diagnostics check; if a problem is detected on the trailer side of the ABS, a trailer warning indicator light on the dash illuminates.

HIT Srl supplies trailer air line couplings for this class of tractor.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#trailer-air-lines-connection-requirement>

What should be done if the trailer ABS warning light stays on?

Never operate the vehicle if the truck or trailer ABS warning light remains illuminated — this indicates the ABS is not functioning properly. Shut the vehicle down and have the ABS repaired immediately.

HIT Srl supplies ABS components for this class of trailer system.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#trailer-abs-warning-light-response>

What air pressure is needed before the parking brake control can be released?

Air pressure in the system must be at least 70 PSI (4.83 bar) before the parking brake control or the trailer air supply control can be pushed in to release the spring brakes.

Never park a tractor-trailer combination unless the trailer parking brakes are operational and applied.

HIT Srl supplies the parking brake and trailer air supply controls for this class of tractor.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#minimum-air-pressure-to-release-parking-brake>

What are the speed, brake-line, and height rules for towing a trailer?

Do not exceed 15 mph (24 km/h) when towing trailers.

Never tow trailers without both the service and emergency brake lines connected and functioning.

Never tow a trailer above the minimum height required to clear the landing gear from the ground — lifting the fifth wheel and trailer too high drastically raises the trailer's centre of gravity and increases the chance of a rollover.

HIT Srl supplies fifth-wheel and landing-gear components for this class of tractor.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#trailer-towing-speed-brake-line-height-rules>

Towing & Recovery

What has to be checked before towing a broken-down vehicle with a rigid tow bar?

Towing a broken-down vehicle should be done with a rigid tow bar, attached to the tow hook. Before starting the tow, make sure the vehicle is released from its brakes.

Confirm the rigid tow bar has been correctly installed — in this configuration, the towing vehicle becomes the only means of braking for the towed vehicle.

HIT Srl supplies the tow hook for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#rigid-tow-bar-setup-and-braking>

How should the engine be started when the batteries are discharged?

If the machine's batteries are weak or discharged, use booster batteries or a starting generator to start the engine. Do not try to start the engine by towing or pushing the machine.

HIT Srl supplies batteries and booster cables for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#never-start-engine-by-towing-or-pushing>

When towing a disabled vehicle, which wheels should be lifted off the ground?

The recommended way to tow a disabled vehicle is with the rear wheels lifted off the ground. The steering axle must be locked in the straight-ahead position, and if there are spring brakes on the front axle, they must be released (caged) before towing.

Towing a vehicle with the front wheels lifted and the rear drive wheels on the road is not recommended — this practice may result in serious vehicle damage.

A loss of air pressure could occur while towing, which would apply the spring/parking brakes and lock the rear wheels of the towed vehicle — this is why the brakes need to be manually released first.

HIT Srl supplies spring brake components for this class of axle.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#correct-wheel-configuration-for-towing>

Wind & Weather Limits

What wind speed limit is the machine rated for during operation?

The machine has been tested for its operating limits in wind according to ISO 10525 standards, at a wind speed of 40 km/h — corresponding to degree 6 of the Beaufort scale.

HIT Srl supplies spare parts for this class of machine.

Field note — HIT Srl, Reggio Emilia (Italy). Last updated: August 2026.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#operating-wind-speed-limit>

What safety interlocks must be satisfied before slewing is enabled on a mobile harbour crane, and what do the slewing and wind-safety bypasses remove?

Slewing requires: a command from the joystick; the "stabilizers extended" consent; the slewing block up; no wind safety block; the crane stabilized; the slewing brake not active; and (on some crane models) the oil translation deviator not active. The stabilizers bypass removes the stabilizers-extended safety lock, and the wind-safety bypass removes the no-wind-alarm safety lock; the combined slewing bypass removes both.

Source: <https://www.hitsrl.it/technical-resources/operation-and-handling/#what-safety-interlocks-must-be-satisfied-before-slewing-is>

Important — general guidance only

The information on this page is general technical guidance based on HIT Srl's experience with port handling equipment. It is not machine-specific and does not replace the manufacturer's documentation.

Always refer to the operation and maintenance manual issued for your specific machine, model, serial number and configuration. Specifications, tolerances, tightening torques, service intervals and fluid types vary between manufacturers, between models of the same manufacturer, between production series of the same model, and with the operating environment: two visually identical components may be tightened to different torque values depending on who built the machine, and a unit working in arctic conditions requires different lubricants and service intervals from an identical unit working in tropical heat. Local regulations may impose further requirements. Where this page and your machine's manual differ, the manual prevails.

Maintenance and repair work must be carried out only by qualified personnel, with the machine isolated and secured according to the applicable safety procedures.

HIT Srl accepts no liability for damage, injury or loss arising from the use of this general information.