



# L2



## Operator Manual

43 cm cord electric scrubber

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*The numbers in bold throughout this manual refer to the auxiliary photos.*

**Attention**, before operating your Tennant L2, carefully read these operating instructions.

- They will provide details about the operation of the unit and contain valuable information for services and basic maintenance of the machine.
- Also follow general safety instructions.
- Please, communicate these instructions to all who operate or will operate this machine.

### Terms of Use

- The automatic floor scrubber Tennant L2 was designed exclusively for cleaning hard floors.
- Any usage of the machine out of this scope of application will be considered misuse.
- Tennant L2 should only be operated, maintained or repaired by people familiar with the equipment and informed of possible dangers.
- The training of your staff must be conducted by an authorised representative of Tennant Company.
- General safety conditions and accident prevention, among other regulations relating to occupational health and safety, should also be met.
- The manufacturer assumes no liability for damage to the equipment or to the location when used inappropriately or with improper detergents.
- The manufacturer assumes no liability for damages including the machine due to changes added by the customer.
- The method of cleaning the impregnated dirt on the floor is based on a mechanical force (disc or brush scrubbing the floor) with the assistance of a chemical agent (solution of detergent in water) and immediately collected (suction by squeegee) leaving the floor clean and dried simultaneously. This method requires sweeping and / or dust mopping first.

## 2.0 Receiving the machine

When receiving the machine, check if any damage has occurred during transportation. If so, confirm the damage with the carrier and immediately contact Tennant Company or our authorised representative.

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Regents Park NSW 2143  
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Ph: 1300 TENNANT  
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Unit 5, 103 Cryers Road  
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www.tennantco.co.nz

## 3.0 General Safety Instructions



***The operator must read carefully this manual.***

- All controls and instruments are identified by easily recognised symbols, facilitating the familiarisation with the equipment.
- It is essential to become familiar with all devices and controls, as well as their functions before starting any work.
- When first using the equipment, please go to an open area where the operator(s) can learn the functions of the machine.
- Before beginning any type of operation, check the machine and its accessories to ensure they are in working order.
- If the machine is not in good working order, it should not be used.
- The operator must use the machine in the proper field of use (on hard floors).
- When operating, take into account the location of obstacles such as stairs, shelving, etc; and give attention to other people, children in particular.
- Use appropriate detergents for the application. Use detergents for automatic scrubbers only following the instructions of use, amounts and restrictions specified by the detergent manufacturer.
- Maintenance and repairs should be done only by people properly trained and with appropriate tools.
- When cleaning or conducting maintenance on the machine, unplug it.
- Do not use high pressure water or steam equipment to clean the machine.
- Do allow water to reach electrical components.

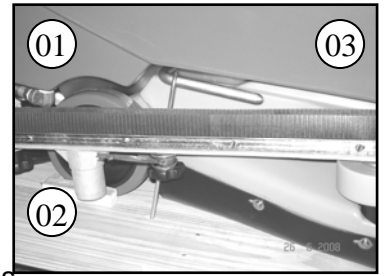


***Attention:*** This equipment is not manufactured to handle flammable liquids, solvents, fuels, reactive metals, vapor nor combustible dust.

## 4.0 Removing from the Pallet

To remove your Tennant L2 from the package:

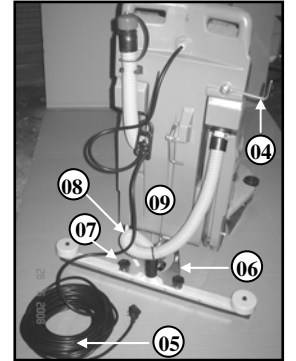
- Cut the plastic strips off the cardboard box.
- Open the top of the box.
- Remove the accessories.
- Remove the cardboard box.
- Cut the plastic strips that hold the squeegee (01) and remove it
- Disassemble the wood structure removing first the top and then the sides.
- Loosen the fasteners (02) that hold the Tennant L2 to the wooden platform.
- Remove the machine by holding by the handles of the chassis (03). Use two people to do this.



## 5.0 Assembly

To assemble your Tennant L2

- Move the cable support 180° (04).
- Put the cable (05) on the cable support.
- Engage the squeegee to the support (06) loosening the knobs (07) and then tightening them.
- Add the end of the suction hose (08) to the squeegee.



## 6.0 Internal Transportation

Due to the floor characteristics of the location being scrubbed, the Tennant L2 must be transported from one area to another as described below:

**Attention:** Before you transport the machine, raise the squeegee lift lever (09) or remove the squeegee.

### 6.1 Even Floors/Short Distance

- Remove the brush or pad driver, and push or pull the Tennant L2 by the handle. The caster in the center of the drive hub allows easy transportation.

### 6.2 Irregular Floors/Long Distance Even Floors

- Tilt the Tennant L2 back, supporting it by the rear wheels and push it forward.

### 6.3 Stairs/Steps

- The handles of the chassis (03) will allow the Tennant L2 to be carried and transported easily by two people.



## 7.0 Powering the Machine

The equipment is manufactured in 220 V single phase voltage.

### Extremely Important:

- Make sure the voltage of the AC outlet is the same as of the equipment (220v).
- Unwind and completely stretch the power cable on the floor to avoid leaving it as serpentine (otherwise it may form a magnetic field - coil effect - which may cause damage to your equipment).
- Make sure the cable length is ideal for your work.
- If a longer cable is needed apart the standard (25m), consult the manufacturer for the supply of special cable.
- A cable with the chosen length shall be used in place of the supplied and not added to it.
- Amendments and extensions to the cable offer serious risks of accidents and damage.
- Plug into the AC outlet.

## 8.0 Preparing for Operation

### 8.1 Choosing Accessories

#### 8.1.1 Brushes

- **Nylon Brush:** suitable for rough, irregular or smooth floors (general use) produced on a plastic base.

**Note:** The nylon brush can be re-bristled depending on the state of the plastic base and as long as the old bristles don't have length below 10mm. Use the colored "bristles limit" in the center of brush for guidance - when the length of the black bristles reaches the colored bristles, it's time to re-bristle the brush.

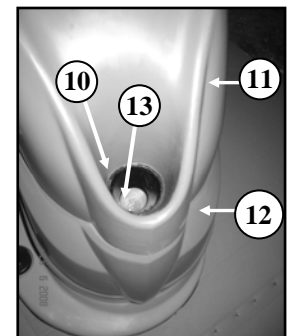
#### 8.1.2 Pad driver, used with:

- Black pad: for a flat floor with a high level of dirt.
- Green pad: for a flat floor with a normal level of dirt.
- Beige pad: to polish a smooth surface.
- White pad: for a more intensive polishing of a flat floor.

There are other pads developed by manufacturers for specific applications.

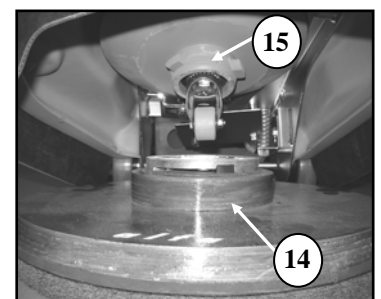
### 8.2 Filling the Tank

- The Tennant L2 can be filled without the need for opening the top of the tank by using the filling opening (10) located in the front of the recovery tank (11).
- Put clean water in the solution tank (12) with the amount of detergent determined by the type of dirt of the floor (check the proportions on the label as indicated by the manufacturer).
- For better dilution, first fill the tank half way with water and then add the detergent. Then complete with water until the solution begins to appear at the bottom of the filter (13) - this is the recommended water/solution level.
- The capacity of the solution tank is 33 litres.



### 8.3 Placing the Brush or Pad Driver

- Place the brush or pad driver in front of the Tennant L2.
- Lean the machine back and push it over the accessory (14) centering it with the drive hub (15).
- Lower the machine on top of the chosen accessory.
- Engage the brush motor trigger for a few seconds until the accessory has locked onto the hub (16 – page 06)
- Check to make sure the accessory is locked by leaning the machine back. If the accessory is no longer on the floor, it has successfully engaged the drive hub. If not, repeat the procedure until the accessory is properly on the drive hub.



**Attention:** When placing the pad support, first place the cleaning pad in it. Otherwise the floor and/or support may be damaged when the drive motor starts.



## 8.4 Solution Flow

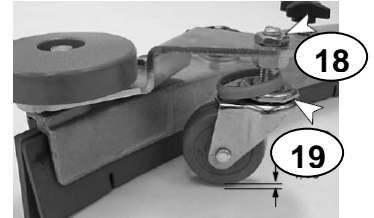
- The water/solution flow valve (17) is used to regulate the quantity of solution flow according to the dirt, work speed and type of floor.
- Turning the valve counter clockwise: it gradually reduces the water flow. Low flow is for maintenance and / or smooth surfaces.
- Turning the valve clockwise: gradually increases the water flow. High flow is for very dirty floors, or rough surfaces.



## 8.5 Squeegee Adjustment

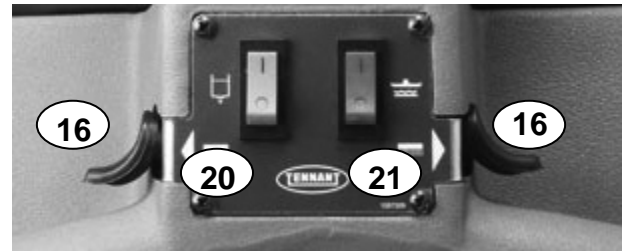
The squeegee blade should touch perpendicular to the floor. If there is a need for adjustment:

- Loosen the knob (18).
- Turn the caster (19) making the caster raise up (lowering the squeegee) or down (raising the squeegee).
- Re-tighten the knob.



## 9.0 Controls

- To turn on the brush motor engage either of the triggers on the handle (16).
- To turn on the solution flow, press the yellow switch to engage the solenoid (20). When the brush motor turns off, the solution flow stops automatically.
- To start the vacuum motor, turn on the red switch (21).



If there is a problem, check if:

- The machine is plugged to the AC line
- There is electric power.

To check if the breaker (CB) has tripped it is necessary to remove the recovery tank. To remove the recovery tank, remove the recovery drain hose (22) from the hanger clip (23) and the squeegee (24), disconnect the solution flow hose from the water/solution flow valve (17). Pull the tank up and forward, towards you.



## 10.0 Operating

- Follow the procedure above.
- Move the machine forward.
- Adjust the solution flow if necessary.

## 10.1 Full Tank Warning

- When dirty water level reaches the maximum capacity of the tank, a ball float (25) will stop the vacuum motor. You will notice a different noise from the vacuum motor.
- Switch off the machine.
- Dispose of the dirty water.

**Note:** The cover of the recovery tank (26) is transparent, allowing visual monitoring of the dirty water being aspirated – If you notice any problem with the vacuum recovery, stop operating the machine and drain the dirty water from the recovery tank.



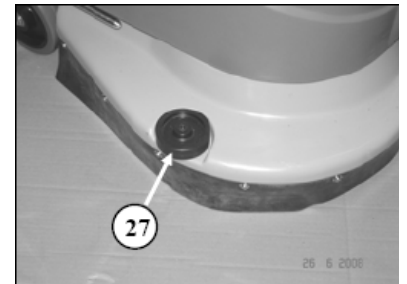
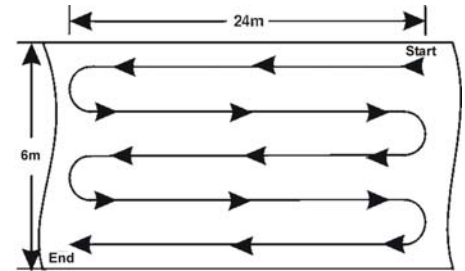
**Warning:** If the detergent being used is making too much foam, then it is not appropriate for automatic scrubbers. Replace it!!

- Remove the discharge hose from the hanger clip; release the black drain hose cap and the lower end of the hose into a drain. Replace the cover of the hose. Refill the machine and continue scrubbing.

## 11.0 Scrubbing During Operation

For maximum performance it is necessary to follow some basic rules of movement.

- Position the Tennant L2 so that the bumper wheel (27) is close to the wall.
- The AC outlet should also be at the same side.
- Clean in parallel paths always overlapping 20% of the path already cleaned to avoid leaving dirty strips on the flooring.
- Try to make long cleaning paths, minimising the turns (see drawing).



**Never pick up only dust.**

## 12.0 Storing the Machine

After use, some maintenance procedures are necessary:

- Remove the brush or the pad driver. To do that lean the machine back slightly and give a quick “snap” of the trigger on the handle.
- Switch off the vacuum fan motor.
- Remove the power cable from AC outlet.
- Wind the cable, cleaning it.
- Place the cable on the support.
- Take the Tennant L2 to its storage area.
- Remove the transparent cap from the recovery tank, remove the filter (28 - page 06) that is placed between the suction tube (29 - page 06) and float (25 - page 06), wash it and reassemble.
- Empty the recovery tank and wash it. To do this, remove the recovery drain hose from its hook, release the cap and lower the end of the hose into a drain. Drain out all dirty water. Wash the recovery tank internally with plenty of water using a hose.
- Replace the cap on the recovery drain hose and put the hose back in its original position.
- If the machine is going to be stored for more than a day, drain the clean water tank by releasing the hose (30) and discharging the water into a drain.
- Remove and wash the squeegee.
- Wash the brush or pad.
- Use a damp cloth for cleaning the outside of the Tennant L2 (do not use a hose or high pressure equipment for cleaning).





## 13.0 Maintenance Chart

HOW OFTEN	DESCRIPTION	PROCEDURE
DAILY	SQUEEGEE	Check the squeegee cable, if there are signs of cuts, replace it.
		Check damage to the structure, Bumpers, handles and so on.
		Check front and rear blade, in case of tears or excessive wear, replace or turn blade edge.
		Follow the procedures for adjustments.
	BRUSH AND PAD DRIVER	Check damage on the basis of the brush and Pad Driver.
		In Pad Driver, Check condition of the pad and replace as necessary.
		* In the brush, check the bristle length.
	BRUSH COVER	Check wear or tears in the propelling belt
		Check for damage.
	RECOVERY TANK	Check wear or tears on blades and pulleys.
		Do the cleaning.
		Clean the filter cloth and check filter capacity and tears, replace if necessary.
		Check the seal of the recovery lid, replace if necessary
		Check for dry hoses or cuts, replace
SOLUTION TANK	Check the screen of the vacuum fan motor, clear it or if necessary, replace	
	Do the cleaning.	
	Check filter of the tank, replace if necessary.	
WHEELS AND CASTERS	Check if clean water hose is clogged, clean - if torn or dry, replace.	
ELECTRIC CORD	Check wear and remove debris, string, wire, etc...	
	Check if plug is damaged, replace	
Check the cord, if any cuts or signs of melting, replace.		
Every 6 MONTHS or 500 hours	VACUUM FAN MOTOR	**Replace the carbon brushes.
Every 12 MONTHS or 1000 hours	BRUSH MOTOR	**Replace the electric contacts.

\*Plastic base has a limit height of at least yellow bristles.

\*\* Consult your Authorised Representatives or Tennant Company.

## 14.0 Technical Information

Technical Chart	
	<b>L2</b>
Cleaning Capacity (m <sup>2</sup> /h)	Up to 1600
Brush diameter (mm)	440
Power (w)	735
Rotation (RPM)	172
Solution Tank (L)	33
Recovery Tank (L)	39
Noise level at Operators Ear	76dbA
Weight (Kg)	70
Cord Length (m)	25
Voltage (V)	220
<b>Dimensions</b>	-
Length	98
Width (cm)	49
Height (cm)	101
Straight Squeegee/Curve (cm)	75/74
<b>Drive System</b>	-
Maximum Power (w)	1.140
Maximum Vacuum (mm)	2.300
Maximum Flow (m <sup>3</sup> /h)	8 196

## 15.0 Warranty

The Tennant L2 is guaranteed against defects in manufacture and operation for period of 24 months on parts and 6 months labour or 1000 hours, whichever occurs first from date of purchase when maintained and operated in accordance with instructions of this manual and when operated in normal cleaning conditions.

This warranty does not cover accidental damage, robbery or loss of parts, improper use or lack of care. Are also excluded from this guarantee any parts that wear in normal use, as well as the electrical cord, plugs, sealing gaskets, switches, capacitors, handles, brush protection, belt, rubber parts, filter, hoses, carbon brushes, wheels and accessories not part of the equipment. Also excluded is damage caused by the use of inappropriate detergents.

If any problem occurs, the equipment should be sent to the nearest authorised dealer or Tennant Company. The costs of transport (shipping and return) are responsibility of the owner. There is no other expressed or implied warranty except the ones described above.