GEOFABRICS AUSTRALASIA PTY LTD

PNEUMATIC LACING TOOL VISUAL INSPECTION CONDITION REPORT

A copy of this document must be sent with the hire equipment - original to stay at the branch.

VISUAL INSPECTION CONDITION (to be completed by Geofabrics' staff when checking out and checking in)		
Customer		
Dispatch/receipt	Out date: / /	In date: / /
Branch location		
Expected return date		

Item Number	Number of items	Item name	Checked out	Checked in	Comments
1	1	Lacing Tool #			
2	1	Case			

This equipment has received an in-service inspection and was found to have no obvious defects

CHECKED OUT BY

Name:

Signature:

Date: ____/_____/____

CHECKED IN BY

Name:

Signature:

Date: ____/_____/____

Comments/inspection results: _____

_____

_____

Dear Customer

On receipt of this equipment, please check all equipment has been received, ensure your site staff read and understand the operating, maintenance and safety information and use the equipment in a safe manner.

- You are responsible for the safe operation of the equipment and the safety of your staff.
- At the conclusion of the use of the equipment, please clean the equipment, repack it for transportation and return it to Geofabrics.
- Please advise if there are any missing parts. All equipment usage must be in terms of Geofabrics' Equipment Hire Agreement. You will be charged for any damaged or missing components.

WARNING!

- Any alterations to this hire equipment may prove dangerous to the operator and will be in breach of the Equipment Hire Agreement.
- Service must only be performed by an authorised Geofabrics service organisation or representative.
- Please contact your nearest Geofabrics branch (contact numbers below*)* for return of this equipment or servicing if it is found to be faulty.
- All hire related documentation, operating & safety instructions are available on the company website (www.geofabrics.com.au)

Pneumatic Lacing Tool Operator's Manual

Pre-operational considerations:

- Before operating the Pneumatic Lacing Tool, it is important that you read and understand the maintenance and safety precautions outlined below and in the Equipment Hire Agreement document (Use and Maintenance).
- Please contact your nearest Geofabrics branch (contact numbers below) if you do not understand any of the instructions in this document.
- To operate the Pneumatic Lacing Tool, operators must be in good physical and mental condition. Do not operate the equipment if on medication or under the influence of alcohol or drugs. Seek medical advice if unsure.

Safety Precautions and Working Techniques:

- Never operate or work in the vicinity of a Lacing Tool in use without hearing and eye protection that conforms to specifications and provides protection against flying particles both from the FRONT and SIDE. Protective equipment must always be worn by the operator and others in the work area when operating to guard against flying fasteners and debris which can cause severe eye injury. The hirer and/or operator must ensure that proper eye protection is worn (safety glasses with side protectors). Eye protection equipment must conform to the requirements of AS/NZS 1336:1997 and provide frontal and side protection.
- Never assume the Lacing Tool is empty. Always check the magazine.
- Never engage in horseplay with the Lacing Tool. IT IS NOT A TOY.
- Never point the Lacing Tool at anyone or yourself, even if you think it is empty or disconnected.
- Never operate the Lacing Tool unless it is in contact with the work piece.
- Never tamper with, disable or remove the safety device.
- Never leave the work area for any extended period of time without disconnecting the Lacing Tool from the air line.
- Never attempt to clear a jam without disconnecting the Lacing Tool from the air line and removing the remaining fasteners from the Lacing Tool.
- Never allow the air pressure to exceed the maximum marked on the Lacing Tool. Check the air pressure gauge at least twice daily. Do not operate the Lacing Tool with bottled air or gases.
- Never operate a dirty Lacing Tool. Clean the Lacing Tool at least daily and lubricate if required.
- Never carry the Lacing Tool with the trigger depressed.
- Never clamp the trigger in a locked operating position.
- Never load the Lacing Tool with either the trigger or the safety depressed.
- Never use parts or fasteners other than those specifically recommended by Geofabrics for use in the Lacing Tool.
- Never attempt to modify the Lacing Tool in any way.
- For detailed information on the Lacing Tool installation, maintenance and loading instructions, refer to the Lacing Tool manual.
- Treat the Lacing Tool with respect and it will perform safely and reliably for you.
- In case of a Lacing Tool malfunction:
- Disconnect from air line immediately and remove all fasteners from magazine.
- NEVER re-connect air line until the Lacing Tool is thoroughly repaired and inspected.

NEVER set aside a malfunctioning Lacing Tool without tagging the air inlet (to prevent further use of a hazardous piece of equipment) or turning it over to the person responsible for its repair.

Site Conditions:

- The Pneumatic Lacing Tool is designed for fast and efficient operation.
- The Lacing Tool should only be operated in conditions where the operator and any assistants are provided with a firm and stable footing (applicable when working on sloping terrain). Loose or slippery terrain will endanger the operator or other site personnel.

Trouble Shooting Guidelines:

Always disconnect the Lacing Tool from the air supply before attempting any trouble shooting measures.

Lacing Tool Jams:

a) The most common reason for jamming problems in the Lacing Tool is operator error. Because of the Lacing Tool's long stroke, the trigger must be pulled completely to the rear to ensure positive functioning of the valve. If the Lacing Tool is "short cycled", the feed mechanism will return forward prematurely in an attempt to pick up a second ring. This will most likely cause a jam each time.

b) Remove the remaining rings from the magazine. Point the Lacing Tool away from yourself and others, and cycle the Lacing Tool slowly. This should force the jammed ring(s) out of the jaw mechanism.

c) If procedure b) does not clear the Lacing Tool, disconnect the air supply and lay the Lacing Tool on a clean flat surface and remove the set screw from rear of the magazine at feeder arm bracket. Remove jaw bolts and nuts, and pull the magazine and pusher assembly from the Lacing Tool. Jammed rings are now exposed and may be removed from the Lacing Tool. Reassemble in reverse order.

Feeding Problems:

a) If rings do not feed smoothly down the magazine, check pusher spring for adequate tension. When properly adjusted, the pusher and spring should not extend more than one or two inches (51mm) past the end of the magazine. If the magazine is covered with dirt from field use, clean the magazine and apply a light coat of oil.

b)When rings feed properly on the magazine but do not feed into the jaws without spitting out the sides of the Lacing Tool, or if the rings sit in the jaw grooves on an angle, check the jaws to ensure freedom of movement. With the jaws void of rings, the vertical movement should be approximately 150" (3.81mm). The nuts on the jaw bolts should be snug, but never over tightened. On occasion, a shim may be required under the magazine. This will enable the feeder blade to slide freely against the magazine shoe.

c) After considerable use or several jams, the fingers on the pusher may show signs of spreading. This may cause the pusher to "hang up" on the magazine, with little or no pressure behind the rings. The last few rings in the strip fingers can be squeezed back into proper position or the pusher should be replaced.

Note: Never use loose rings in the Lacing Tool.

Ring does not close completely

a) Check the air pressure. Line pressure at the Lacing Tool should be between 90 and 100 psi (6.12 – 6.81 bar). The Lacing Tool should never be operated at pressures exceeding 105 psi (7.15 bar). An air line of 3/8" (9.5 mm) or larger should be used with the Lacing Tool. Air lines in excess of 100" (30.5 m) in length can cause air volume deficiencies at the Lacing Tool which will prevent normal operation.

b)Check for foreign debris in the jaw area. This is especially true in the area between the side plates and rollers. Remove particles of rock, excess sand or broken pieces of rings.

c)The jaws may be worn from extended use with high tensile fasteners. Check the "land" between the receiving grooves of the jaws, if the "land" is worn excessively, replace the jaw(s).

d)When the Lacing Tool is used in construction applications, light oil should be applied on a regular basis to the jaw bushings and rollers. Unlubricated and/or corroded jaw bushings may cause the Lacing Tool to function poorly.

Lacing Tool leaks air or is sluggish

a) If Lacing Tool is leaking air in the throttle area, see "Throttle Valve Adjustment" section.

b) Should the Lacing Tool leak air in both the triggered and rest positions, a damaged piston "O" ring may be the cause. Once the piston "O "ring has been replaced, tilt the front of the Lacing Tool to one side to allow the piston and "O" ring to pass the notch on the cylinder liner. If this procedure is not followed the "O" ring may be damaged during reassembly.

c) In the event the rear throttle valve screw is turned in too far, the Lacing Tool will operate slowly or in a sluggish manner. This screw controls the amount of rear exhaust. When properly adjusted, two or three threads should be exposed once the nut and washer are in place.

Maintenance:

Lubrication:

a) The Lacing Tool is designed for long, trouble-free service with little or no air line lubrication. (If an in-line lubricator is used, it should be set at the minimum rate of flow).

b) Excess oil in the Lacing Tool will attract dirt and affect the adhesive material used in collating the fasteners, thus preventing smooth operation. If lubrication is utilised, always use a good grade of 5W non-detergent oil, or oil specifically manufactured for air Lacing Tools.

Filter and regulator:

a) The air line should always contain a filter and regulator unit to provide the Lacing Tool with a constant flow of clean, dry air. If moisture and contaminants are allowed to enter the Lacing Tool, the Lacing Tool's serviceable life will be decreased.

b) The regulator should be set at between 90 and 100 psi (6, 12 and 6.81 bar). NEVER operate this Lacing Tool beyond 105 psi (7.51 bar).

Tips on extending Lacing Tool life:

The serviceable life of the Lacing Tool can be extended greatly by using the following guidelines:

a) Always use fastener rings that are recommended by Geofabrics, as there are standard strength and coating requirements, to meet specifications. Never replace worn or broken parts with anything other than genuine parts provided by Geofabrics.

b) Keep the Lacing Tool clean and dry. Always use clean, dry air and never exceed the recommended air pressure noted above.

c) Use of this Lacing Tool at minimum air pressure required for the work at hand will greatly extend the life of the Lacing Tool.

d) Exercise caution not to drop the Lacing Tool. Lacing Tools dropping onto the floor or ground is a primary reason for parts replacement.

Features and specs:

- Geofabrics' Pneumatic Lacing Tools have been developed for use with gabions, Reno mattresses, Terramesh and double twist wire mesh. They offer an approved alternative to standard hand lacing methods as detailed in ASTM A975 - 97.
- The Geofabrics Lacing Tools are designed to operate with standard air compressors that meet the following requirements:

1. Air compressor with regulator set at 100 to 105 psi (690 to 720 kPa). Never operate above 115 psi (795kPa).
2. Minimum delivery of 10 CFM (17m³/hr) and air tank capacity of at least 48 litres.
3. The air line should contain a regulator with filter unit, have a diameter of 10mm and a maximum length of 30m.
4. Excess oil attracts dirt and therefore the Lacing Tool should be kept clean and dry during use. A wipe down and light spray with a good non-detergent oil after use should ensure the smooth operation of the Lacing Tool.

- Ring fasteners: Two types of rings are available to meet the strength and durability requirements of the wire mesh used, these are:

- Galmac coated wire/mesh products. Zinc-5%Aluminium mischmetal alloy coated rings having the following specification can be used instead of Galmac lacing wire:

  1) diameter: 3.00 mm, ASTM A975, Table 1

  2) tensile strength: 1380-1660 MPa, ASTM A764, Table 2, Class 1

  3) coating thickness: 244g/m2, ASTM A764, Table 7, Class 3

- Galmac/PVC coated products. Stainless steel rings having the following specification can be used instead of Galmac/PVC lacing wire:

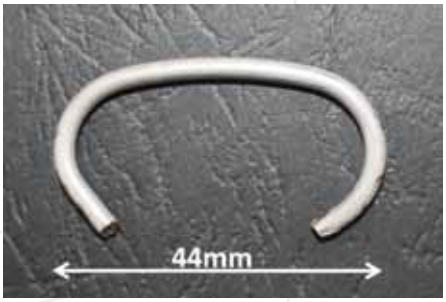
  1) diameter: 3.00 mm, ASTM A975, Table 1

  2) tensile strength: 1530-1745 MPa, ASTM A313, Table 5

  3) stainless steel grade, Type 302, ASTM A313, Table 1

- To meet the minimum strength requirements of wire mesh connections as specified in ASTM A975 - 97 the rings shall be spaced 10-15cm apart as shown in figure 3. The number of rings used is dependent on the mesh size and type of work. For continuity of the joints and to meet the wire mesh connection requirement the rings shall be used as shown in Table 1.

RINGS



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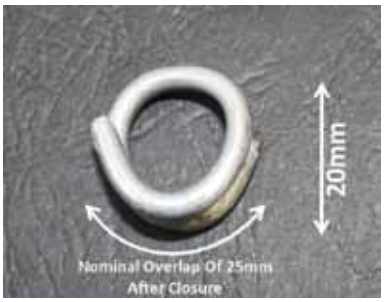

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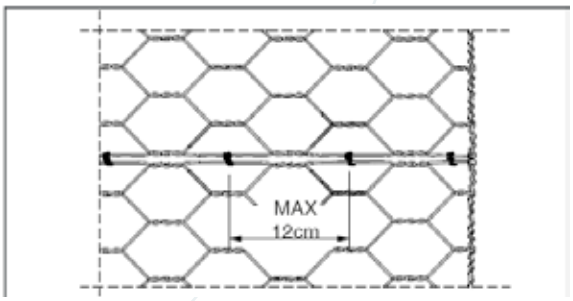

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