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## OPERATOR MANUAL

# WINLET 350TH



**Northern** (Head Office)  
Tel: +44 (0)1482 227333

**Central**  
Tel: +44 (0)1302 341659

**Western**  
Tel: +44 (0)1384 900388

**Southern**  
Tel: +44 (0)203 174 0658

## **Important!**

- **Read these instructions carefully before use.**
- **Familiarize yourself with the running and lifting characteristics of the window robot, and**
- **How it behaves, before you start working with it, in order to be able to use it safely, securely and effectively.**
- **Be aware that you, the user, are responsible for the correct use of the window robot without endangering other people or property.**

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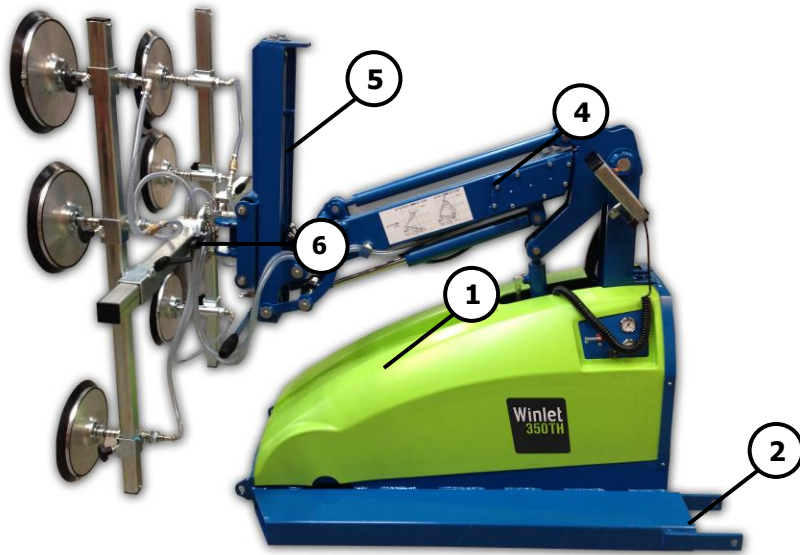
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# Dear Customer

Thank you for choosing a GMV A/S product. We have more than 20 years of experience in the construction and manufacturing industry as well as other industry. We develop, produce and sell equipment for materials handling designed for industrial use.

For further information, see [www.gmvas.dk](http://www.gmvas.dk)



## Description

### Item Designation

- 1 Protective screen
- 2 Fork Pockets
- 3 Locking pin for fork pockets
- 4 Boom with telescopic arm
- 5 Lifting tower
- 6 Vacuum boom
- 7 Control Panel

## Description

Winlet 350TH is a battery-operated window robot with a lifting capacity of 350 kg designed to be used on the forks of a building machine. The robot is made by GMV A/S to facilitate conveying and mounting of window elements or similar sealed items. Winlet 350TH can also be supplied with other specially made lifting and handling fixtures to enable conveying and handling of other types of heavy loads. Winlet 350TH has an advanced, electro-hydraulic system for handling the items to be lifted.

The machine is supplied with an integrated vacuum system as standard. Please contact us concerning your conveying needs for items requiring specially made lifting and handling fixtures.

# Safety instructions

## General

- The window robot must be used as described in these instructions and in accordance with the general safety regulations applicable in the workplace and in the country where the Winlet 350TH is used.
- Always wear steel-capped safety footwear when working with the Winlet 350TH. Depending on the workplace and the type of load, a helmet and protective gloves may also be required.
- To prevent unauthorized personnel from using the window robot, never leave it with the key in the ignition.
- Before use, check that the Winlet 350TH is not damaged in any way that could impair safety.
- Never use the Winlet 350TH when the battery indicator is lit up red, as this could ruin the battery. Instead, charge as described elsewhere in this manual.
- Never use or store the Winlet 350TH outdoors in wet weather. The machine is designed for use in temperatures ranging from -10 °C to +40 °C.

## Installation on Building machine

- Winlet 350TH must be securely fastened to the forks of the building machine to avoid that the Winlet 350TH can slide off and harm persons or material.
- To securely fasten Winlet 350TH to the forks, the forks must be all the way in the Winlet 350TH and the bolts (supplied with Winlet 350TH) must be securely fastened behind the forks and locked with Locking Pin.
- The user must be aware of the surroundings when using the window robot, and must allow a generous safety margin in case unexpected situations arise.
- Plan your path of travel and make sure it is clear and negotiable. Avoid surfaces where there is a risk that the window robot could overturn or slide. Exercise great care at corners and junctions.
- Be aware that high speed in constricted spaces represents a major safety risk.
- Always drive with the load lowered.
- Only use the Winlet 350 in locations with satisfactory lighting.

## Vacuum

- The Winlet 350TH is designed to transport and mount window elements and other sealed elements as well as other materials using the specialist equipment supplied.
- Always lift the item at its centre of gravity and in the centre; otherwise, the item may tear free from the suction plates.
- Only activate the vacuum function when the suction cups are placed on a sealed, dry, clean surface. Any other use can damage the vacuum system.

## Lifting and handling

- The Winlet 350TH has moving parts which could give rise to a risk of crushing; accordingly, when lifting and lowering loads, it is important to ensure there is no one in the area of risk where crushing could occur.
- Never lift an item until a sufficient vacuum has been achieved. If the vacuum level diminishes, put down the item immediately.
- Exercise great care when lifting and handling lifted items, as sudden movements or jolts can cause the item to break away from the suction cups.
- Be particularly aware of the capacity limitations of the TeleVac and the building machine on which it is used.

# Operation and safety

## Safe attachments to the forks



Winlet 350TH must be securely fastened to the forks of the building machine to avoid that Winlet 350TH can slide off and harm persons and material.

To securely fasten Winlet 350TH to the forks, the forks must be all the way in the Winlet 350TH and the bolts (supplied with Winlet 350TH) must be securely fastened behind the forks and locked with Locking Pin.



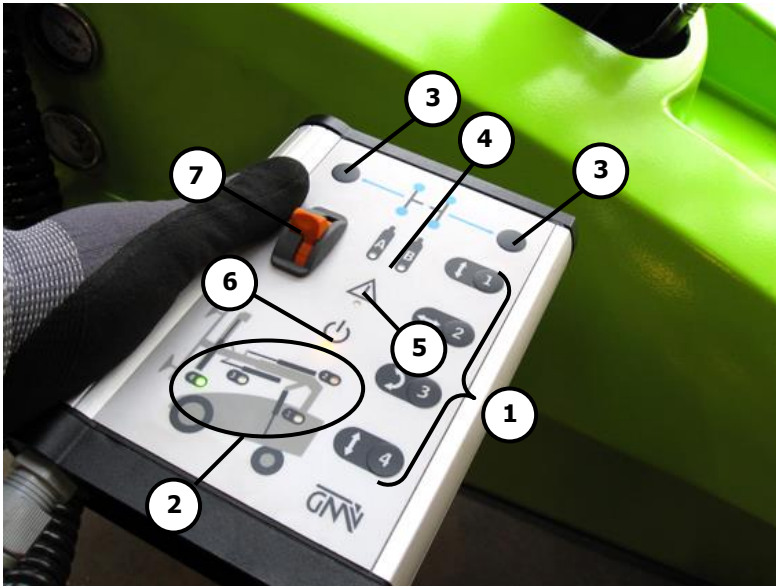
### Description

#### Item. Designation

- 1 On/Off-switch - key contact / Emergency Stop
- 2 Vacuum gauges

Winlet 350TH is equipped with a power switch which has a removable key. The power switch also functions as emergency stop. As soon as the key is turned in the "OFF" position the power supply to the machine's functions turns off. The key switch is spring-loaded so that upon activation of the emergency stop, the key switch remains in the OFF position. This will bring both hydraulic cylinders to an immediate stop. By activating the emergency stop, there ALWAYS remains suction in the suction cups – however, one must be especially alert when the vacuum pump for an emergency also lose power. Both vacuum circuits are provided with individual vacuum tanks to ensure sufficient vacuum for at least five minutes if the system is free of any leaks. The current level of vacuum in the suction cups can always be monitored on the 2 vacuum gauges. When the vacuum level is 60% or more, the machine has full lifting capacity.

## Safety functions when lifting and handling



### Description

#### Item Designation

- 1 Choice of hydraulic cylinder
- 2 LED indicator – cylinder
- 3 Activation of vacuum
- 4 LED indicator – vacuum level
- 5 LED indicator – overload
- 6 LED indicator – on/off
- 7 Direction & speed regulator – cylinders

The Winlet 350TH is equipped with an operating panel from which all vacuum and hydraulic functions are controlled. The integrated safety functions are:

- 2-button safety operation of the machine's vacuum system. Both buttons must be activated at once either to pick up a load or to put down a load.
- The double-circuit vacuum system of the machine is monitored by two vacuum stats which, via LED lamps, give a signal if the vacuum is insufficient for safe lifting.
- LED lamps show which cylinder is active.
- Intelligent overload protection shows when the machine reaches the limits of its capacity.

## Safety test (before lifting)

The window robot must be safety-tested daily before use. This test must be carried out without load.

**Important!** If any of the items do not pass the safety test, the machine must not be used!

- Carry out an inspection to ensure that the mechanical parts of the window robots are not worn or damaged to such an extent that the safety of the machine is compromised.
- Check the window robot vacuum system for leaks:  
Leak test process  
Place all suction cups on a level, dry and airtight surface (e.g. a window). Start the Winlet 350TH at the on/off button and wait until the red lamps go out on the operating panel. Now activate the vacuum by engaging both buttons on the operating panel at the same time. Both vacuum meters now show the current vacuum in each vacuum circuit. Once a full vacuum has been achieved in both circuits (a vacuum level of approximately 75%), turn the Winlet 350TH off again at the on/off button. Now look at both vacuum meters; the vacuum level must not drop more than 10% in the course of 5 minutes.  
If the vacuum loss is greater than 10% in 5 minutes, check all hose connections and tighten any connections as required. Check the condition of the suction plates. The seals must not show any signs of scratches.

# Lifting and handling

## Vacuum lift

The Winlet 350TH is equipped with an integrated **double-circuit** vacuum system with intelligent vacuum monitoring, which gives an alarm to indicate insufficient vacuum level. The vacuum pump is equipped with Power Save, to save the batteries when there is sufficient vacuum.

### Using the vacuum function:

Start the Winlet 350TH with the on/off button. Press both buttons for the vacuum function on the operating panel and wait a moment until both red LED lamps go out. During this time, a vacuum of at least 60% has been created in the vacuum system.

### Picking up a load.

Place the suction plates on the item. Press both buttons at the same time on the operating panel. The item has been attached by suction once both vacuum meters show more than 60% and the red lamps have gone out; only then can lifting and transporting proceed!

- ! Make sure the vacuum level is above 60% in both circuits.
- ! Always lift the item at its centre of gravity and in the centre; otherwise, the item may tear free from the suction plates.

### Conveying of load.

After attaching the item by suction, move the item to the desired position by driving the Building Machine.

Take note of the following points:

- ! The working area must be clear of any people and/or object.  
**Danger of injury by collision!**
- ! Never step under a hovering load!  
**Danger of falling load!**
- ! If the vacuum level in only one of the 2 vacuum circuits drops below 60%, put the load down **immediately!**
- ! If one of the red lamps lights up, put the load down **immediately!**
- ! Forks on building machine must always be in horizontal position. **Do not use to Winlet 350TH in any other position. Maximum angle of forks from Horizontal must not exceed +- 15 degrees. Use the hydraulic functions of Winlet 350TH instead to manipulate glass.**

### Putting down the load.

Convey the lifted item to the desired place, and put it down. When the load has been placed securely, press both buttons on the operating panel simultaneously. Now the air can flow to the suction plates, and the load will be released immediately. Now a new work process can be undertaken.

- ! Make sure the load is placed securely and that it cannot slide after being put down!

## Handling of load (use of hydraulic cylinders)

The Winlet 350TH is equipped with an electro-hydraulic system which makes it possible to move the lifting arm of the machine in 4 different directions:

1. Main cylinder, which positions the item roughly in the vertical position.
2. Telescopic cylinder, which moves the item forward along the longitudinal axis of the machine.
3. Tilting cylinder, which moves items from a horizontal floor – to a horizontal ceiling (180 degrees).
4. Fine-adjustment cylinder, which moves the item in a 100% vertical line.

Winlet 350TH also has a **multi-mobile front**, which makes the item manually maneuverable in all dimensions. The front can be shifted sideways, turned 90 degrees to right and left, and rotated 360 degrees, without limitation.

### Use of hydraulic cylinders

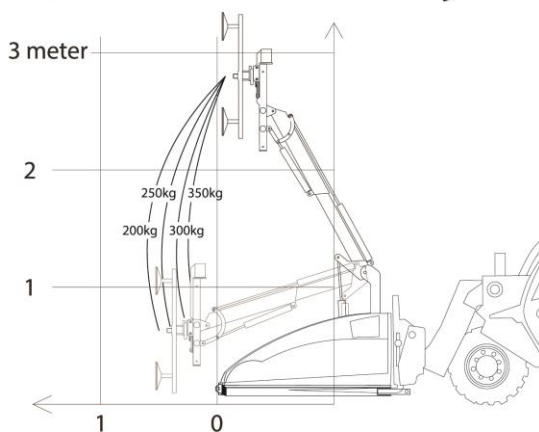
Press the desired cylinder on the operating panel. An LED lamp will now show the selected cylinder. The cylinder can then be moved in the desired direction at the desired speed by engaging the direction and speed regulator.

Take note of the following points:

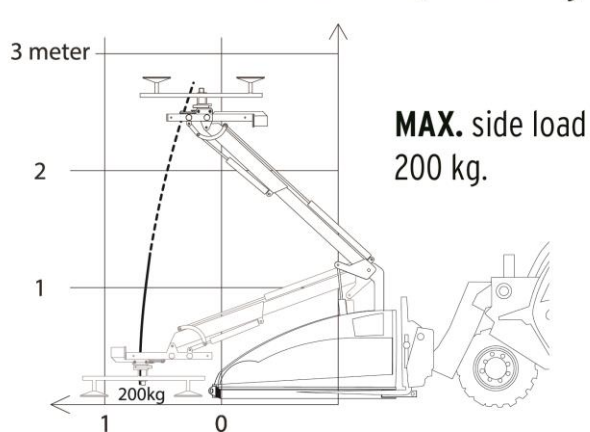
- ! The working area must be clear of any people and/or objects. **Danger of injury by collision!**
- ! Never step under a hovering load! **Danger from falling load!**
- ! If the vacuum level in only one of the 2 vacuum circuits drops below 60%, put the load down **immediately!**
- ! If one of the red lamps lights up, put the load down **immediately!**

**Note: Be aware that the capacity of the machine is reduced when using the hydraulic cylinders.**

WINLET 350 TH **MAX. LOAD** kg.



WINLET 350 TH **MAX. LOAD/REACH** kg.



**The stated values are for reference. And based on a 100% level surface.**



The Winlet 350TH is equipped with load monitoring whereby a red lamp flashes on the operating panel when approaching the max. capacity in a given position. At this warning, all cylinders must be retracted. If you continue running the cylinders "outwards", the warning lamp will remain on constantly and there is a risk of the machine overturning. **Note that engaging the main cylinder in the "upward-bound" direction for a protracted period can cause the oil pressure in the overload protection to increase, which, for safety reasons, limits the hydraulic function to enable retraction only. If this happens, retract the main cylinder to restore all functions.**

### Using the multi-movable front

The front is individually locked against movement in the three directions in which the front is capable of moving.

The front can:

- Shift sideways
- Turn 90 degrees to the right and left.
- Rotate 360 degrees without limitation.

Unlock the desired function by releasing the relevant latch. **When the front has been brought to the desired position the latch must always be reactivated.**

## Storage and lifting of Winlet 350TH

- After use, check the level of charge in the batteries via the battery indicator, and charge as required. See below concerning instructions with regard to charging.
- Never use the Winlet 350TH when the battery indicator is lit up red.

**Important!** Batteries stored for a prolonged period must have a maintenance charge (be fully charged), to avoid damage to the batteries.

- Turn off the window robot. To do so, turn the ignition key/press the off-button.

**Important!** When storing for an extended period, turn off the machine to avoid damaging the batteries. This is because there is always a certain amount of current consumption as long as the ignition is on.

## Servicing

Carry out regular checks of the window robot to ensure that it is error-free when it is to be used.

### Check that:

- The mechanical parts of the window robot have not become worn or damaged to such an extent that the safety or performance of the machine is compromised.
- The suction cups of the window robot have not become worn or damaged to such an extent that the safety or performance of the machine is compromised.
- The operating panel is not damaged.
- There are no leaks from hydraulic pump, cylinders or batteries.
- All visible electric cables and hydraulic hoses are intact.

### Troubleshooting

If the window robot does not work, check that:

- The ignition key/switch is in the correct position.
- The batteries are not flat.
- The operating arm is not at the top position.

# Charging/batteries

**Important!** The Winlet 350TH contains batteries with battery acid. Exercise great care with any leaked acid. Normally, acid can only leak if the machine overturns. If any acid comes into contact with skin or eyes, flush with plenty of water, and seek medical advice if required.

## General

- Never charge the Winlet 350TH if damage is evident on the battery charger connection cable. This could be fatal!
- Charging must always be done at the designated site, which must be dry and well-ventilated. At this site, there must be no sparks from angle grinders, open flames or smoking, for example.
- Do not start charging the batteries immediately after use. Allow the batteries to cool first.
- Batteries stored for a prolonged period must have a maintenance charge (be fully charged), to avoid damage to the batteries.

## Charging

- Always charge after use.
- Turn the machine off with the ignition key/at the off-button.
- Connect an earthed plug with voltage 230 V (110 V). Charging time is approximately 8 hours, if the batteries are completely flat.

# Service/maintenance

## General

The Winlet 350TH is designed to cope with the demands and the environment extant at a construction site, but its service life and safety can be reduced considerably if the stated service/maintenance items are not complied with.

All mechanical joints must be checked at regular intervals to ensure that no components have worked loose. In general, special attention is required after the initial hours of operation when the machine is brand-new, as well as after the machine has been taken apart/any repairs.

## Servicing by specialist personnel

As a minimum requirement, a full overhaul must be carried out by specialist personnel every 12 calendar months. Contact GMV A/S for further information.

## Cleaning

Clean the machine regularly with a damp sponge, brush or vacuum cleaner.

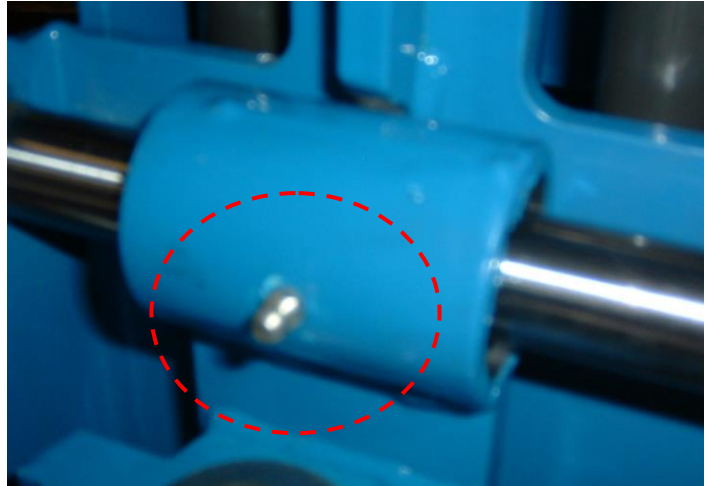
**Important!** Do not wash the machine with running water, as this could ruin the truck components.

## Lubrication

The Winlet 350TH is primarily constructed using maintenance-free bearings in all moving parts. All these parts must be kept free of dirt, but lubrication is not required. This means the machine should only be lubricated with grease at the bearing?? joints as required:

### Bearing liner – side shift

The two bearing liners in the side-shift mechanism in the front are fitted with lubrication nipples for a grease gun. To guarantee the performance of the window robot and to avoid unnecessary repair costs, it is important to lubricate these lubrication nipples regularly and as required.



**Important!** Be aware that all prolonged and repeated contact with oils and lubricants constitutes a risk to health; whenever necessary, wear protective gloves and goggles when implementing the points below.

## Maintenance of the hydraulic system

- Change the oil after every 1500 hours of operation or at least once a year (oil Gulf Harmony ZF HVI 32 or similar).

## Maintenance of the vacuum system

- The vacuum pump contains wearing parts. If the pump cannot achieve a vacuum level of min. 70% (-70 kPa), it must be replaced or serviced by qualified personnel.
- Do not dismantle the vacuum pump while it is under warranty – this would invalidate the warranty.
- The vacuum system is fitted with a filter. The filter is located in the machine's motor compartment, beside the two vacuum tanks. The filter must be cleaned at appropriate intervals, depending very much on how clean and particle-free the items being lifted are.
- The window robot's vacuum system must have all the hose clamps re-tightened as required.  
**Important! The screwed-on fittings must not be re-tightened because they are sealed with floating, self-hardening thread sealant. Re-tightening them could give rise to a risk of leakage. If they are accidentally re-tightened, the error must be rectified immediately by re-sealing the fittings.**

<b>Specifications:</b>	
Max. load	350 kg
Width	840 mm
External length	1.850 mm
Own weight	400 kg
Min. extension (front bumper to suction cup)	290 mm
Min. extension (front bumper to suction cup)	790 mm
Max. height of centre lifting yoke	2.700 mm
Lateral displacement	100 mm
Fine hoisting in tower	500 mm
Rotation	360 degrees
Suction cups	6 x ø270 mm
Motor	24 Volt
Lifting-lowering function	Electro-hydraulic
Battery	24 Volt - 2 x 95 Ah
Charging – integral charger	230V (110V)

### **Sound pressure level**

The sound pressure level of the machine has been tested with the machine's vacuum pump and hydraulic pump running simultaneously. The following values were ascertained:

A-weighted sound pressure level: Below 70 dB(A)

C-weighted maximum sound pressure level: Below 63 Pa (130 dB compared to 20 µ Pa).

# CE – EU Declaration of conformity

## Manufacturer

Company name: GMV A/S  
Address: Industriparken 1  
Post code: DK-7182 Bredsten  
Tel.: +45 7573 8247

## Responsible for the technical dossier

Authorized to prepare the technical dossier:

Jesper Faurkov  
GMV A/S  
Industriparken 1  
DK-7182 Bredsten

hereby declares that

## Machine

Designation: Winlet

Type: 350TH

Machine no.:

- a) conforms to the following Directive:
  - i. Machinery Directive 2006/42/EC
- b) Manufactured in accordance with the following national/international standards and technical specifications:
  - i. The Danish Working Environment Authority, "anvisninger om tekniske hjælpemidler" (instructions concerning technical aids")
  - ii. The Danish Working Environment Authority, "meddelelser om tekniske hjælpemidler" (notifications concerning technical aids")
  - iii. The Danish Working Environment Authority, "vejledninger om tekniske hjælpemidler" (guidelines concerning technical aids")
- c) Manufactured in partial accord with the following harmonized standards:
  - i. EN 13155-2003

## Signature

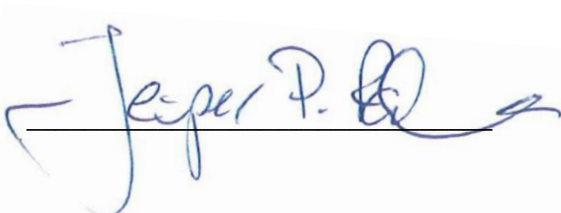
Name: Jesper P. Faurkov

Title: Director

Company: GMV A/S

Date: \_\_\_\_\_

Signature:





# Daily Pre-Use Checklist

## Glazing Robots

Northern (Head Office) Tel: +44 (0)1482 227333

Central Tel: +44 (0)1302 341659

Western Tel: +44 (0)1384 900388

Southern Tel: +44 (0)203 174 0658

www.hird.co.uk

Machine Model: <b>Winlet 350TH</b>		Site Name:
Date Week Commencing:	Fleet No:	Address:
Inspected by:		

Daily Pre-use Checks		M	T	W	T	F	S	S	COMMENTS
1	Are all operators manuals present and readable								
2	Is the Report of Thorough Examination (LOLER) in date								
3	Complete a visual walk around / Inspection for any noticeable defects								
4	Are all safety information decals present and readable								

**Check the following components or areas for damage, or missing parts & unauthorised modifications:**

5	Hydraulic oil level								
6	Gauges and switches								
7	Electrical components, wiring, connectors,								
8	Hydraulic hoses								
9	Air hoses are free from defects								
10	Vacuum pads are secure and free from defects								
11	Vacuum pumps engage when switcheded on								
12	Vacuum gauges are operational								
13	Nut, bolts & other fasteners								
14	Forklift mounting points								
15	Charger								
16	Counterweights are present and fitted								
17	Audible / Visual warnings (Alarms & Beacons)								
18	Controls, Buttons, Joysticks, Remote Control								
19	Boom sections free from defects or debris								
20	Drive function test								
21	Lift function test								
22	Emergency Stop button(s) function								
23	Carry out full function test								

<b>Is the machine safe to use?</b> (please circle)	YES	YES	YES	YES	YES	YES	YES
	NO	NO	NO	NO	NO	NO	NO

<b>Operator's Initials</b>							
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**Result of Inspections: List defects or state "No Defects"**

<b>Signature:</b>	<b>Name:</b>	<b>Date:</b>
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