

# JUNIOR 2

## USER MANUAL



LINDSAY EUROPE

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## 1 – ALLOWED USING CONDITIONS

The machine has been designed and manufactured for the irrigation of any kind of agricultural area, sport grounds, parks, and greenhouses.

In case of machine equipped with an engine for the hose rewinding, the utilization could be also for spreading slurry liquids.

It's forbidden to do tampering, modifications and fixing (those not allowed to the operator) on the machines or parts of it, that could change the working or safety conditions of the machines.

The operator must wear the following safety garments: safety helmet, gloves, safety shoes, safety headphones (in case of machine driven by engine). It's absolutely forbidden wearing tie, scarf and any kind of flapping garments.

No more than one person must be operating with the machine.

The machine must be used by people that have already read at least once this operating manual and who have accepted to follow the listed directions.

All the information on the metal plate is required to identify the machine and to avoid any mistake on delivery of spare parts.

	Constructeur :  Manufacturer
72300 La Chapelle d'Aligné - FRANCE	
Type :	<input type="text"/>
Immatriculation : Ser. No :	<input type="text"/>
Poids à vide / Empty weight.	<input type="text"/> Kg
Poids en eau / Weight with water.	<input type="text"/> Kg
Année de fabrication : Year of manufacturing :	<input type="text" value="200"/>

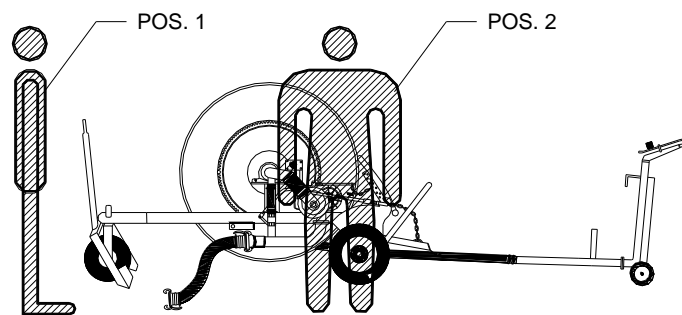
## 2 – WORKING POSITIONS

Position “1” to:

- Hand moving and hook of the machine to the tractor.

Position “2” to:

- Prepare the machine the PE-hose pulling in or pulling out;
- Hook and/or unhook the sprinkler trolley.
- Adjust the PE-hose pulling out speed.



## 3 – UNLOADING INSTRUCTION

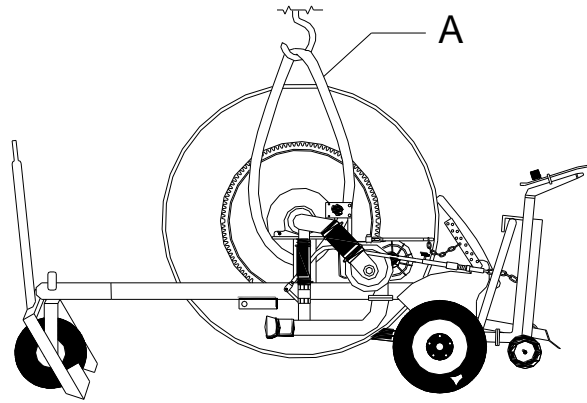
Unloading operations mean the action to make at the machine delivery or in cases when it is transported by truck or by trailer.

3.1 The unloading must be done by appropriate cranes or tackles sized to the machine weight :

3.1.1 Put the appropriate lifting bands “A” around the drum axle as specified on the drawing below ;

3.1.2 Lift 10 cm the machine from the truck/trailer floor and slowly put it onto the ground ;

3.1.3 Take off lifting bands “A”.



3.2 With forklift truck : place the forklift under the chassis bottom and paying attention to not swing it, lift carefully and lay the machine down onto the ground.

3.3 With tractor :

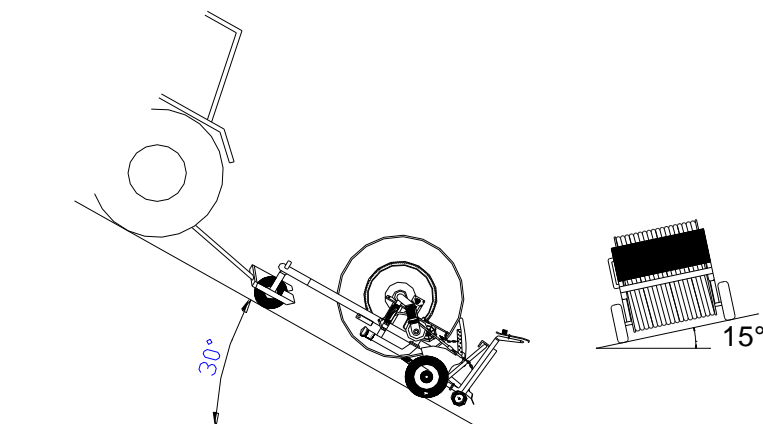
3.3.1 Move the truck/trailer close to a load platform with the same height or, if the truck/trailer has place the appropriate rails ;

3.3.2 Hook the machine to the tractor and unload it at the minimum speed.

## 4 – TRANSPORTATION INSTRUCTIONS

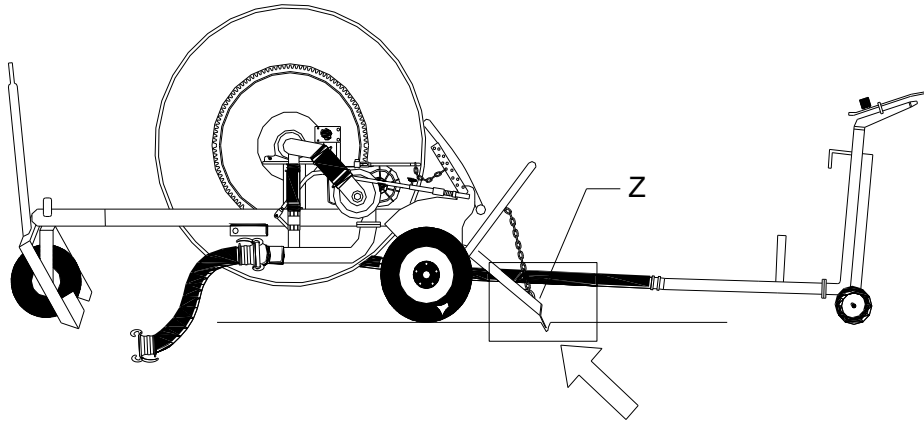
Transportation means moving or towing the machine by tractor. The transportation must be done:

- at the max speed of 10 Km/h, in case of rough roads the speed must be reduced so to avoid dangerous losses of balance for the machine ;
- on ways where the max oblique gradient is 15 degrees and the max longitudinal gradient is 30 degrees.



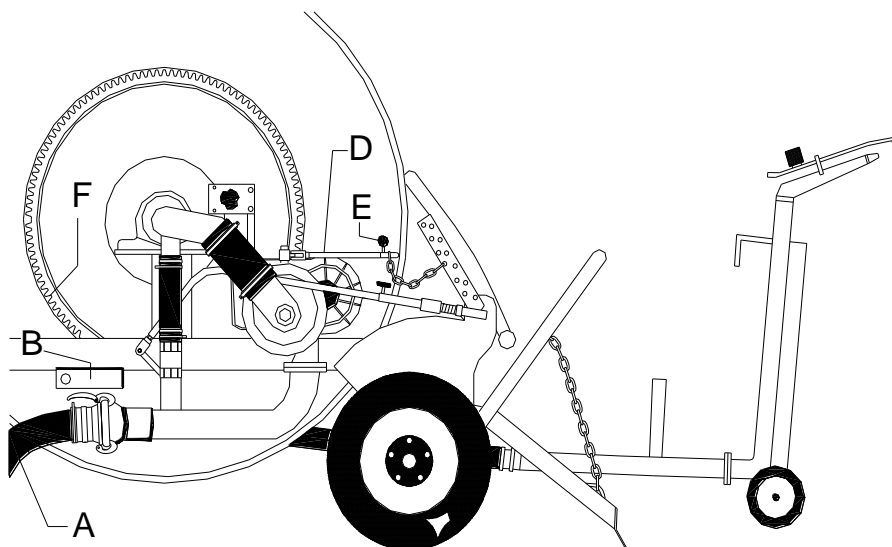
## 5 – IRRIGATION INSTRUCTION : INSTALLATION

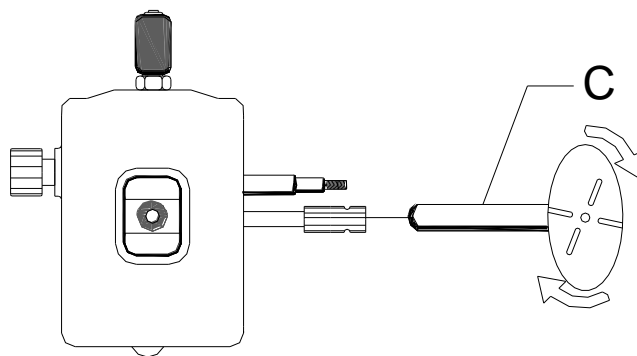
- 5.1 Tow the machine in an operating area, paying attention that the area is flat, if not make an appropriate area on the field;
- 5.2 Prepare the machine so that the pull out trolley is parallel to the same way that it will have to do;
- 5.3 Dig the staker legs “Z” as much as possible into the ground.



## 6 – IRRIGATION INSTRUCTION – STARTING AND UTILIZATION

- 6.1 Connect one extremity of the supply hose “A” to the water inlet paying attention to the fact that the hooks of junction are plugged in.
- 6.2 Disconnect the locking pin “B” from the crown wheel “F”.





6.3 With a tractor start pulling-out PE-hose at a max speed of 2 Km/h and keeping a straight lane and a constant speed, run till the end of the field and lower speed when starting the last 25 meters; in case of field longer than PE-hose, save 1,5 - 2.0 PE-hose coils in the drum. It is important to make the first irrigation pulling out the PE-hose for at least 90% of its total length and then rewind it by irrigation.

6.4 Check that the irrigation angle of the sprinkler is the desired one, if not adjust it using the pertinent devices on the sprinkler (without water) ;

6.5 Start the pump or open the valve between water pipe-line and supply hose, running water into the machine slowly, as far as the water is starting exiting from gun. After put water at the required level ( 3.5 - 8.0 bar from Ø 40 to Ø 70).

6.6 Fit the locking pin "B" to the crown wheel "F", turn the wheel "C" right ways and insert the gear using the lever "D" in direction of the gear box. It is useful to do some force on the knob "E".

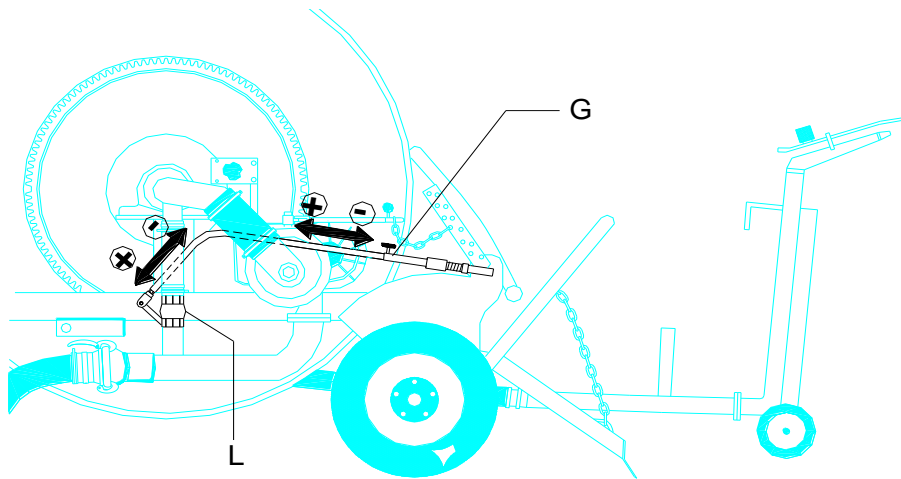
6.7 As soon as PE-hose pull in starts, check if the PE-hose coils left into the drum are tight : if not tighten up;.

6.8 At the end of irrigation the end run fin on the trolley will provide to disconnect the gearbox, automatically the trolley will go on its own seat;

6.9 Switch off the pump and/or close the valve between water line and supply hose.

## **7 - INSTRUCTION FOR SPEED ADJUSTMENT**

With this regulation the operator can adjust the speed of the machine. To do this, it is sufficient to work on valve "L", push (if you want increase the speed) or pull (if you want decrease the speed) manually the lever "G" (see picture) during irrigation.



## 8- WRONG USE OF THE MACHINE

8.1 Do not pull out the PE hose parallel to ditches closer than 5 meters;

8.2 Put wooden rods under the laid PE-hose before rewinding it in muddy grounds ( every 10-15 meters );

8.3 Never leave the handle in the PTO;

8.4 The machine is not homologated for traffic circulation;

8.5 Warning : water spray must not hit electric lines;

8.6 During the moving it is forbidden to get up or sit on the machine;

8.7 After pull out do not leave PE-hose laid on the ground too long because dangerous sticking phenomena may happen, if it is not possible pull a rope under its total length;

8.8 After engaging the lever into gear control the rewinding of PE-hose and make sure that the machine is fixed to the ground and does not move otherwise dig the staker legs into the ground.

8.9 When the PE-hose is partly used :

A) To pull out the PE-hose carefully in order to avoid that the remaining part in the drum losses. We suggest to pull it out at lower speed and to stop it gradually ;

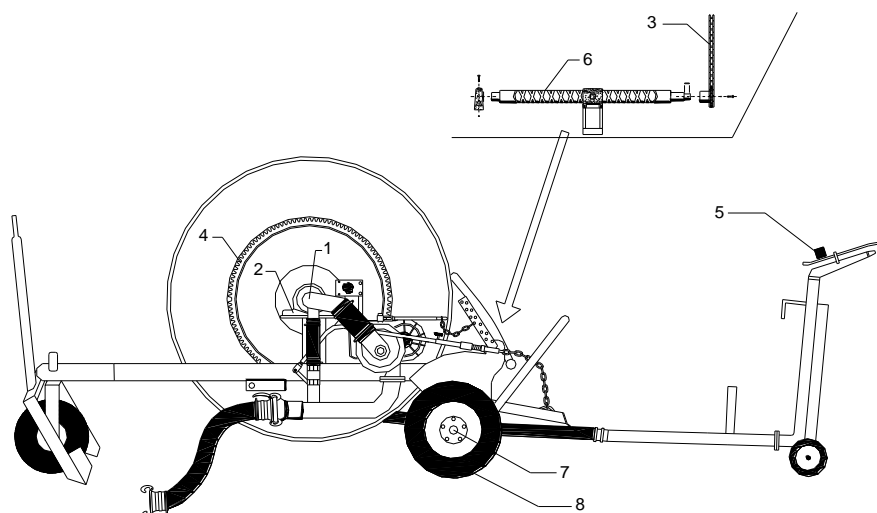
B) To make irrigations periodically, pulling out the PE-hose for at least 80-90% of its total length.



## 9- MAINTENANCE

Maintenance means all the operations needed for a perfect running and for a long working life of the machine.

All the operations must be done periodically : see drawing on the right and schedule.



POS.	DESCRIPTION	A	B	C
1	Inlet gasket on drum greasing ( water inlet on drum )	X		X
2	Drum plunger blocks greasing			X
3	Lead screw chain greasing		X	X
4	Greasing of the crown wheel		X	
5	Gun greasing ( see gun using booklet )		X	
6	Lead screw length, guide block and support bearing greasing		X	X
7	Machine wheel bearings greasing			X
8	Pressure tyres checking		X	X

A: To be checked every 3 irrigations;

B: To be checked every 20 irrigations;

C: To be checked at the beginning/end of season..

## 10- IRRIGATION DATA

Ø PE (mm)		PE hose length (m)		Hose thickness (mm)		Water application mm									
50		150		4		10		15		20		30		40	
Ø endgun nozzle (mm)	End gun pressure (bar)	Jet length (m)	Flow rate m3/h	Spacing (m)	Irrigated area (ha)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)
8	3,0	19,50	7,2	33,2	0,50			14	4,3	11	4,2	7	4,2		
8	4,0	21,00	8,4	35,7	0,54			16	5,5	12	5,5	8	5,4		
10	3,0	21,00	9,5	35,7	0,54	27	4,9	18	4,8	13	4,7	9	4,6	7	4,6
10	4,0	23,00	11,0	39,1	0,59	28	6,2	19	6,1	14	6,0	9	6,0	7	6,0
12	3,0	22,00	12,4	37,4	0,56	33	5,6	22	5,5	17	5,4	11	5,4	8	5,4
12	4,0	25,00	14,3	42,5	0,64	34	7,1	22	7,0	17	7,0	11	6,9	8	6,9
12	5,0	27,50	16,1	46,8	0,70	34	8,7	23	8,6	17	8,6	11	8,5	9	8,5
14	3,0	23,50	15,8	40,0	0,60	40	6,6	26	6,5	20	6,5	13	6,4	10	6,4
14	4,0	26,00	18,3	44,2	0,66	41	8,5	28	8,4	21	8,4	14	8,3	10	8,3
14	5,0	28,50	20,5	48,5	0,73	42	10,4	28	10,3	21	10,2	14	10,2	11	10,2
16	3,0	24,00	19,6	40,8	0,61			32	7,9	24	7,9	16	7,8	12	7,8
16	4,0	26,50	22,7	45,1	0,68			34	10,2	25	10,2	17	10,2	13	10,1

- Hydraulics characteristics correspond to a SIME endgun type AMBO. A different end gun will give different results.

- pressure at the hose reel inlet are given for information. They correspond to a operating conditions regularly encountered but can differ from the real operating conditions. In particular, type of terrain , field slopes, equipment of turbine may impact hydraulic performances of the whole system.

Ø PE (mm)		PE hose length (m)		Hose thickness (mm)		Water application mm									
63		100		5		10		15		20		30		40	
Ø endgun nozzle (mm)	End gun pressure (bar)	Jet length (m)	Flow rate m3/h	Spacing (m)	Irrigated area (ha)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)	Speed m/h	Inlet press. (bar)
12	3,0	24,00	10,9	33,2	0,33			22	3,9	16	3,8	11	3,8		
12	4,0	27,00	12,6	35,7	0,36			24	5,0	18	4,9	12	4,9		
14	3,0	28,00	14,3	35,7	0,36	40	4,2	27	4,1	20	4,0	13	4,0	10	3,9
14	4,0	31,00	16,6	39,1	0,39	42	5,3	28	5,2	21	5,2	14	5,1	11	5,1
16	3,0	30,00	18,2	37,4	0,37	49	4,5	32	4,4	24	4,3	16	4,3	12	4,2
16	4,0	34,00	21,0	42,5	0,43	49	5,7	33	5,6	25	5,5	16	5,5	12	5,5
16	5,0	36,00	23,4	46,8	0,47	50	6,9	33	6,8	25	6,8	17	6,7	13	6,7
18	3,0	32,00	22,7	40,0	0,40	57	4,9	38	4,8	28	4,7	19	4,7	14	4,6
18	4,0	35,00	26,2	44,2	0,44	59	6,2	40	6,1	30	6,1	20	6,0	15	6,0
18	5,0	38,00	29,2	48,5	0,49	60	7,5	40	7,4	30	7,4	20	7,4	15	7,3
20	3,0	33,00	27,6	40,8	0,41			45	5,3	34	5,2	23	5,2	17	5,2
20	4,0	37,00	31,9	45,1	0,45			47	6,8	35	6,7	24	6,7	18	6,7
20	5,0	41,00	35,6	49,3	0,49			48	8,3	36	8,2	24	8,2	18	8,2

- Hydraulics characteristics correspond to a SIME endgun type SENIOR. A different end gun will give different results.

- pressure at the hose reel inlet are given for information. They correspond to a operating conditions regularly encountered but can differ from the real operating conditions. In particular, type of terrain , field slopes, equipment of turbine may impact hydraulic performances of the whole system.