OPERATOR'S MANUAL

TITANIUM

J.assy

Contents

TITANIUM

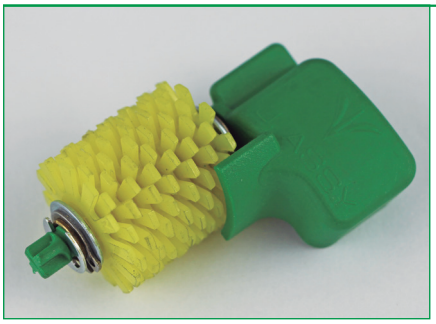
J. Assy's **TITANIUM** mechanical seed meter offers a high rate of seed distribution and effectively reduces the presence of doubles and crop failures:

Cotton
Peanut
Canola
Beans
Sunflower
Corn
Soybean
Sorghum

VISOR

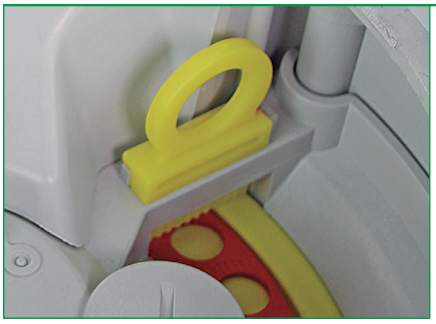
Makes the unit's seed disc visible while in motion, allowing operators to select the ideal disc and dosing ring, in addition to monitoring performance during planting.

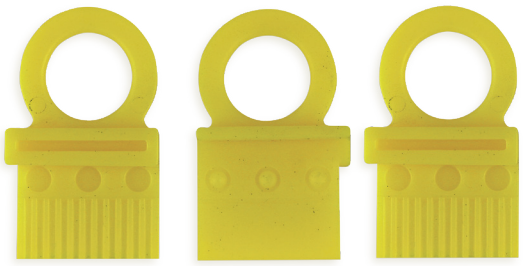
FLEXBRUSH ROLLER



Dispenses seeds that do not exit the unit through the force of gravity. The Flexbrush's point of contact is configured to reduce friction and mechanical damage to seeds.

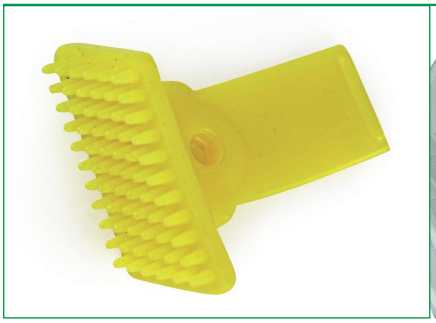
POLIFLOW WIPERS

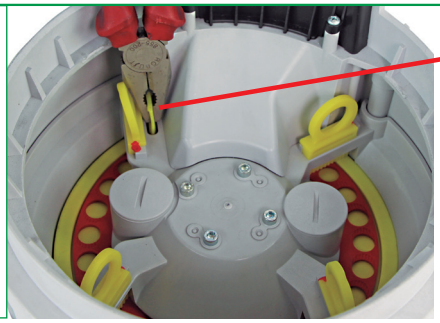




Organizers that secure seeds in holes fitted into seed disc, reducing the number of doubles that are dispensed, failures and minimizing mechanical damage.

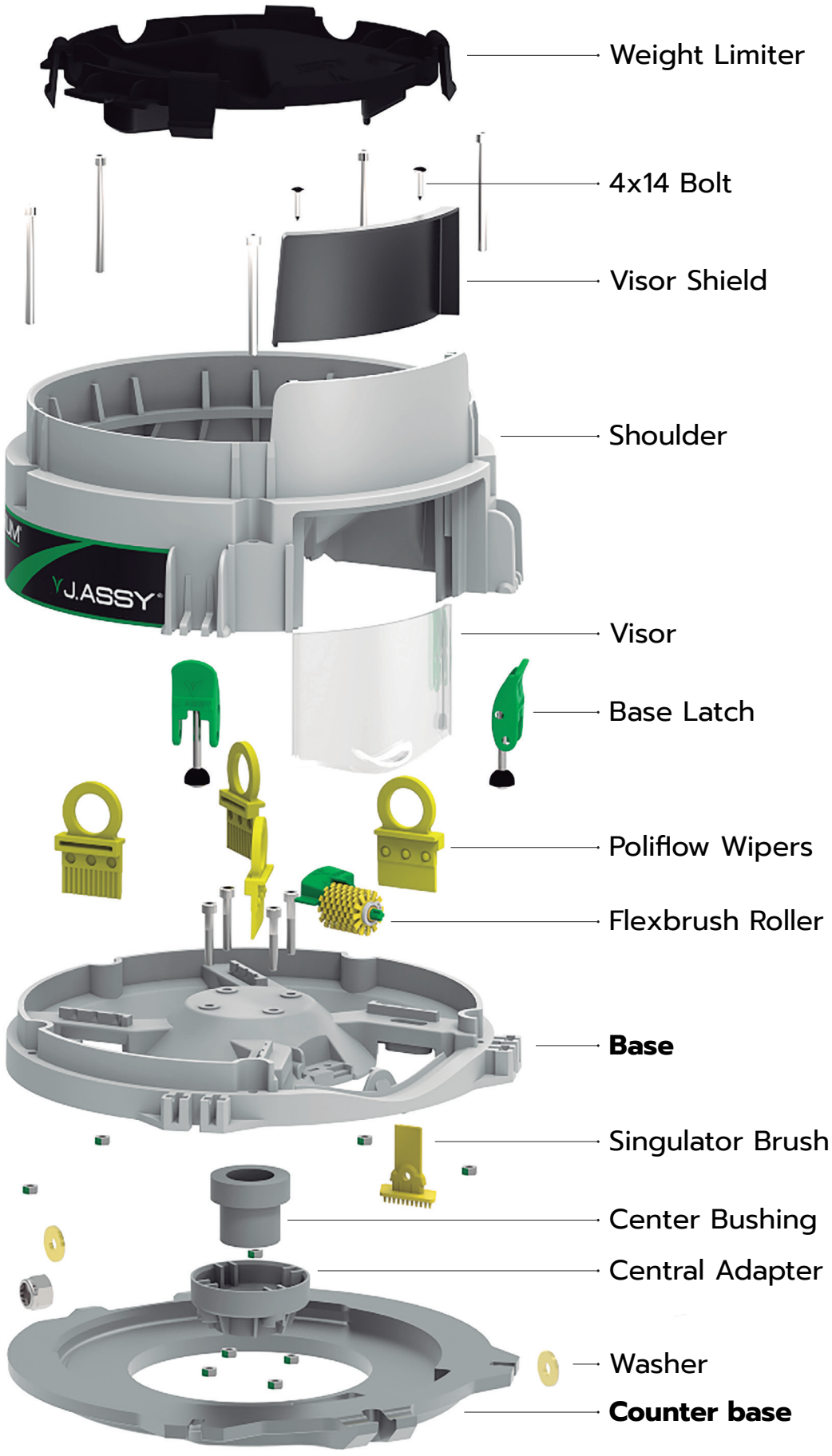
SINGULATOR BRUSH

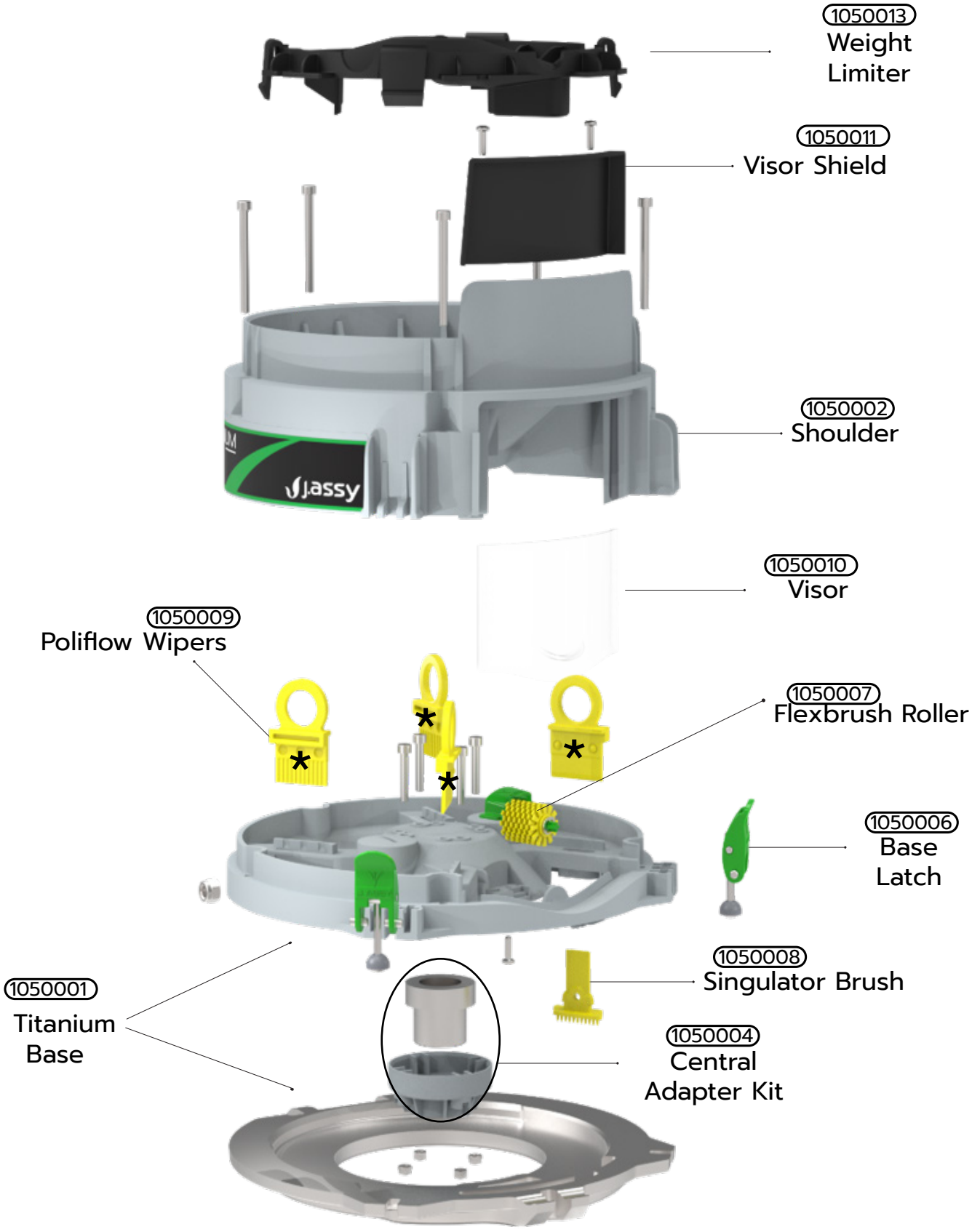




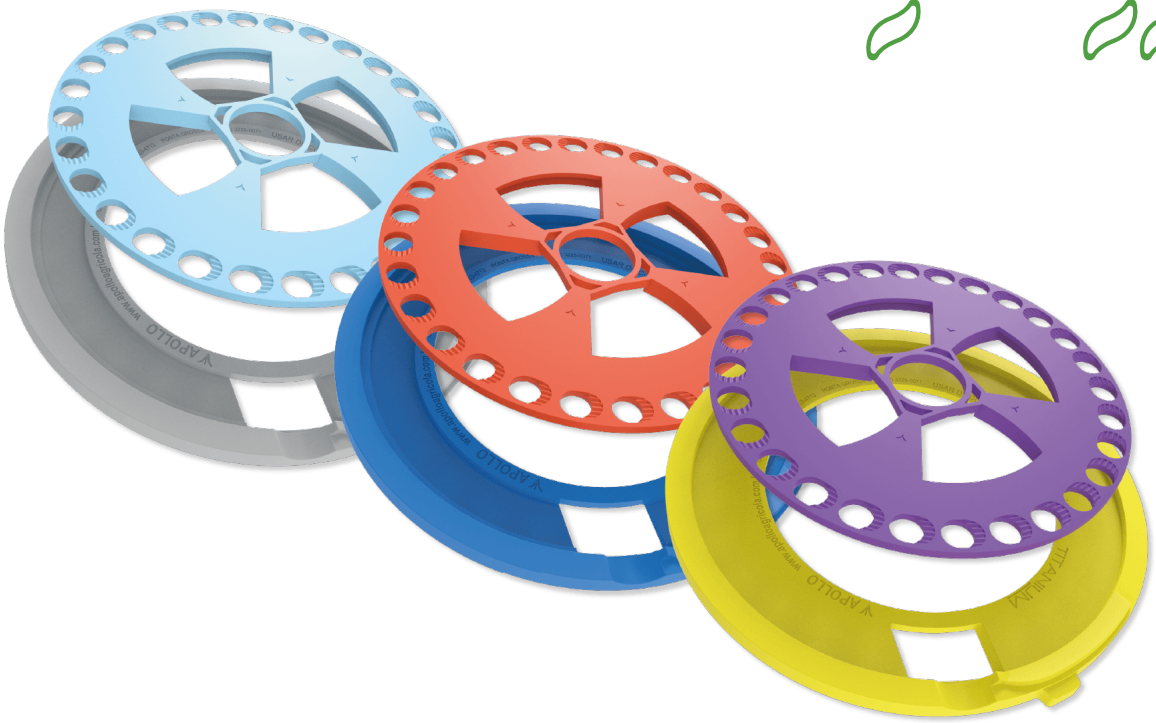
Secures seeds in the holes after final organization phase to prevent skipping due to irregularities in soil.

Titanium Components



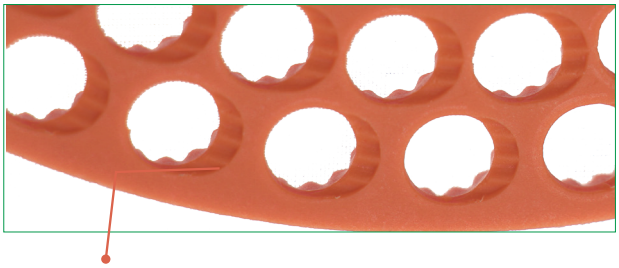

1050013
Weight Limiter
1050011
Visor Shield
1050002
Shoulder
1050010
Visor
1050009
Poliflow Wipers
1050007
Flexbrush Roller
1050006
Base Latch
1050008
Singulator Brush
1050001
Titanium Base
1050004
Central Adapter Kit

Seed Discs and Runners



Crop selection

A unique seed disc kit is provided for each crop. Discs are fitted with Rampflow technology, through which undulated sections in hole ramps enhance the flow of the seeds, preventing the presence of doubles and equipment faults. Selecting the appropriate disc runner is also essential to proper equipment operation. Runners adjust the unit's height to ensure that the disc rotates perfectly inside the seed meter and seeds are therefore properly distributed.



Exclusive RAMPFLOW technology that reduces the presence of doubles and failures by up to 60%

Seed Discs and Disc Runners Chart

SOYBEAN

Lilac Seed Disc	ø9.0	Thick. 5.5 mm

FORMAT ●	FORMAT ●●	FORMAT ●●●
45 holes 56 holes	64 holes 90 holes	135 holes

Lilac Disc Runner	Thick. 3 mm	SMOOTH
Purple Disc Runner	Thick. 3 mm	0.8 RECESS

Orange Seed Disc	ø8.0	Thick. 4.5 mm

FORMAT ●	FORMAT ●●	FORMAT ●●●
45 holes 56 holes	64 holes 90 holes	135 holes

Orange Disc Runner	Thick. 4 mm	SMOOTH
Orange Disc Runner	Thick. 4 mm	1.0 RECESS

Yellow Seed Disc	ø7.3	Thick. 4.5 mm

FORMAT ●	FORMAT ●●	FORMAT ●●●
45 holes 56 holes	64 holes 90 holes	135 holes

Yellow Disc Runner	Thick. 4 mm	SMOOTH

SORGHUM

45-hole Seed Disc Thick. 2.5 mm

Gray	ø6.0	FORMAT ●
Dark blue	ø5.2	FORMAT ●
Dark brown	ø4.5	FORMAT ●
Light blue	ø4.0	FORMAT ●

90-hole Seed Disc Thick. 2.5 mm

Gray	ø6.0	FORMAT ●●
Dark blue	ø5.2	FORMAT ●●
Dark brown	ø4.5	FORMAT ●●
Light blue	ø4.0	FORMAT ●●

Disc Runner Thick. 6.5 mm

White	SMOOTH

PINTO BEANS

56-hole Seed Disk Thick. 4mm

Beige	11x8	FORMAT ●●
Light brown	12x9	FORMAT ●●
Dark brown	13x9	FORMAT ●●

CORN

28-hole Seed Disc Thick. 4mm

Light orange	15.5x11.5	FORMAT ●
Red	14.5x10.0	FORMAT ●
Green	13.5x9.0	FORMAT ●
Salmon pink	12.5x8.5	FORMAT ●
Gray	12.3x9.4	FORMAT ●
White	11.5x8.5	FORMAT ●
Pumpkin orange	11.0x8.0	FORMAT ●
Light orange	ø15.0	FORMAT ●
Red	ø14.0	FORMAT ●
Beige	ø13.5	FORMAT ●
Lilac	ø13.0	FORMAT ●
Light blue	ø12.5	FORMAT ●
Orange	ø12.0	FORMAT ●
Light green	ø11.5	FORMAT ●
Blue	ø11.0	FORMAT ●
Pink	ø10.5	FORMAT ●
Yellow	ø10.0	FORMAT ●
Beige	ø9.5	FORMAT ●
Lime green	ø9.0	FORMAT ●
Purple	ø8.0	FORMAT ●

SUNFLOWER | CORN

PINTO BEANS

Disc Runner Thick. 4mm

Yellow	SMOOTH
Green	RECESS 1.0
Gray	RECESS 1.6
Blue	RECESS 2.0
Dark blue	RECESS 2.5

COTTON

108-hole Seed Disc Thick. 5.5 mm

Blue	ø7.2	FORMAT ●●
Green	ø6.5	FORMAT ●●

108-hole Seed Disc Thick. 5 mm

Green	ø6.5	FORMAT ●●

BEANS

50-hole Seed Disc Thick. 4mm

Black	11x16	FORMAT ●●
Red	15x15	FORMAT ●●
Beige	10x14	FORMAT ●●
Salmon pink	9x14	FORMAT ●●
Green	9x13	FORMAT ●●
Gray	9x12	FORMAT ●●
White	9x11	FORMAT ●●

Disc Runner Thick 4.5 mm

Yellow	SMOOTH
Green	1.5 RECESS
Black	2.5 RECESS

SUNFLOWER

24-hole Seed Disc Thick. 5 mm

Salmon pink	6x7	FORMAT ●
Light orange	ø6.5	FORMAT ●
Orange	ø7.0	FORMAT ●
Pumpkin orange	ø7.5	FORMAT ●
Red	ø9.0	FORMAT ●

PEANUT

56-hole Seed Disc Thick. 10 mm

Blue	ø17.0	FORMAT ●●
Red	ø15.5	FORMAT ●●

60-hole Seed Disc Thick. 10 mm

Orange	ø14.0	FORMAT ●●

60-hole Seed Disc Thick. 9 mm

Yellow	ø13.0	FORMAT ●●

Thick. 10 mm

Natural color	SMOOTH

CANOLA

128-hole Seed Disc Thick. 2 mm

Red	ø2.8	CARREIRA ●●

Disc Runner Thick. 7 mm

Red	SMOOTH

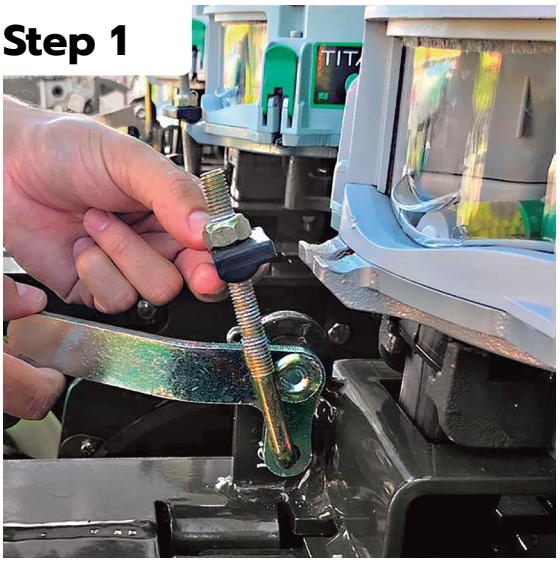
TITANIUM

Mounting TITANIUM onto Planter

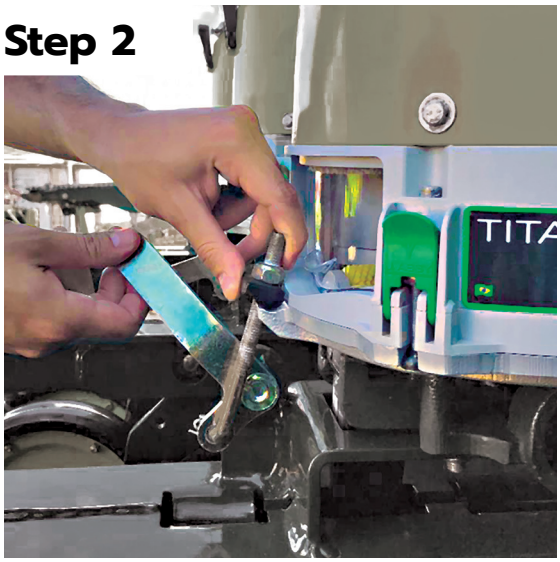
In order to guarantee proper operation of the TITANIUM seed meter and a long service life, it is recommended that precautions be taken when regulating the pressure exerted on the seed box's fastening latch. The TITANIUM must be **well-fastened (without excessive pressure)** so that the box is securely attached and does not cause vibration and warping, which reduces efficiency during operation of the TITANIUM unit.

Proper fastening of the equipment is shown in the following photos:

Step 1

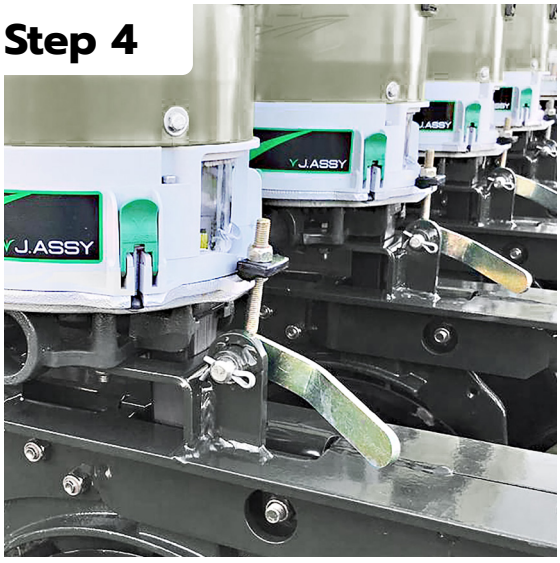


Step 2



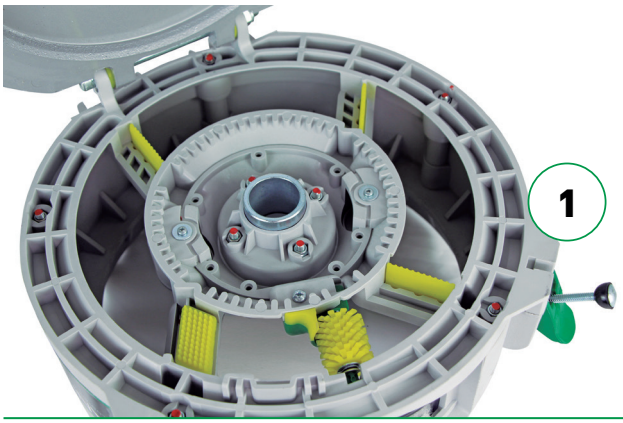
Step 3

Step 4



Installation of Seed Discs and Disc Runners

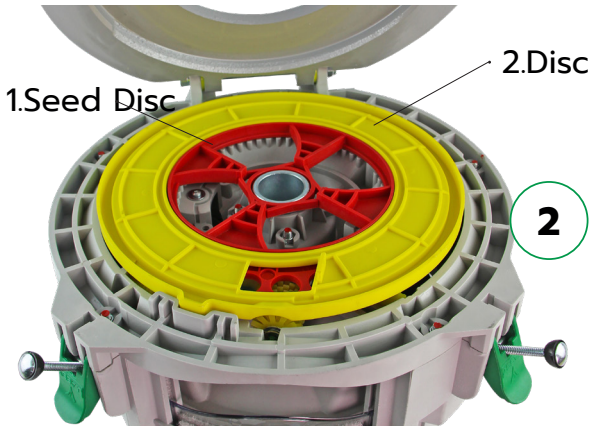
Use the following steps to ensure that the seed disc and runner unit are properly inserted into the seed meter:



1

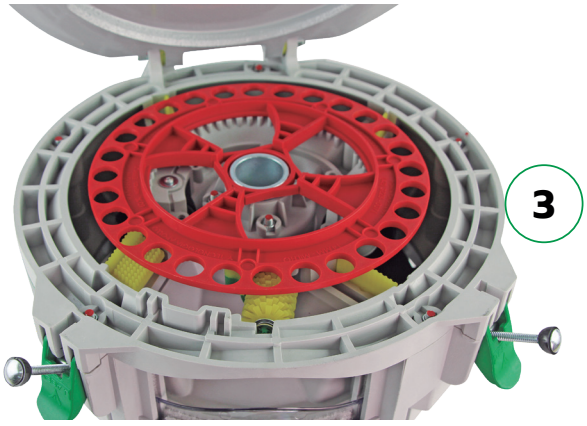
Place the seed meter into an upside down position and unlatch the unit.

Latch



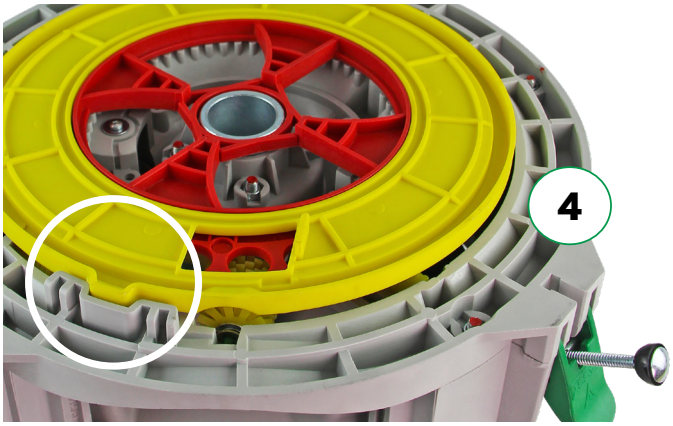
2

Position the seed disc and runner.



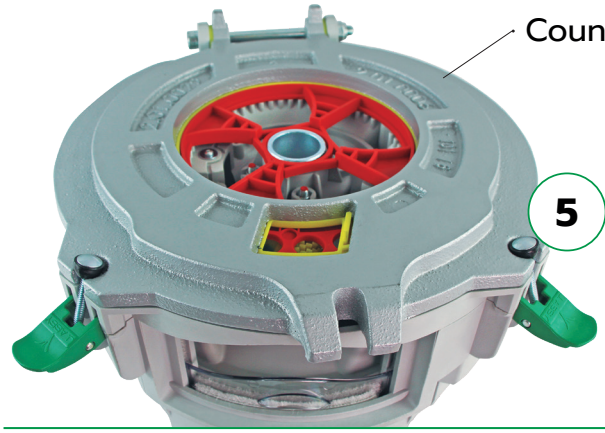
3

Be sure to place the seed disc into the correct position as shown in the figure. Fit the disc's center hole onto the center bushing.



4

Fit the adapter ring onto the seed disc, ensuring that it is properly positioned. Position the counter base and lock the system into place.



5 Position the TITANIUM onto the counter base and close the unit's latches.

PRECAUTIONS TO BE TAKEN WHEN CLOSING TITANIUM UNITS

The following steps must be taken when experiencing difficulty in closing the TITANIUM seed meter:

1. Make sure the seed disc and runner are positioned correctly.
2. Check the TITANIUM's counter base for dirt. Clean as indicated in the operator's manual.
3. Adjust latches in order to facilitate opening of the TITANIUM seed meter and allow the unit to be lightly fastened when closed.
4. Do not leave latches loose, which may directly influence plantability due to gaps in the seed disc and runners.

1. SELECTING SEED DISCS AND RUNNERS

Due to the wide range of available seed types and formats, J. Assy has developed seed disc and runner models that are specific to each crop.

In order to ensure a high level of quality in planting, when selecting a disc, it is important to verify whether seeds:

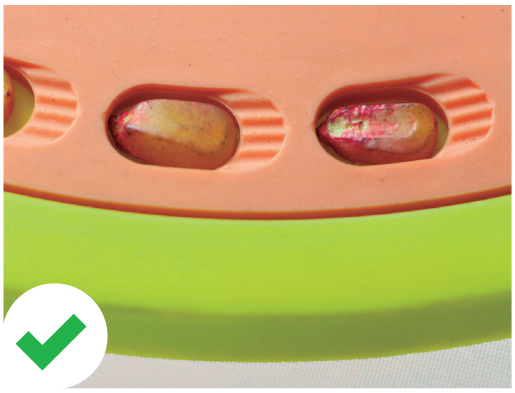
are **securely positioned in the seed disc's holes** in order to ensure that two seeds are not placed into the same hole and **do not become lodged in place**.

do not extend past the surface of the seed disc.

IMPORTANT
When the appropriate seed disc is selected, seeds will be securely positioned in the provided holes and will not extend above the disc's surface.

Selecting the correct SEED DISC

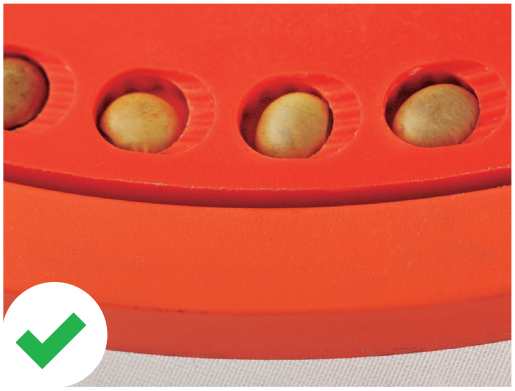
Example using CORN SEED DISC



Seeds properly positioned.

Seeds fit too tightly into holes in seed disc or are larger than the provided holes.

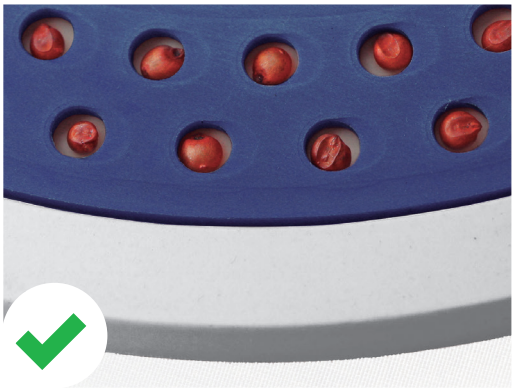
Example using SOYBEAN SEED DISC



Seeds properly positioned.

Seeds fit loosely into holes and presence of doubles.

Example using SORGHUM SEED DISC

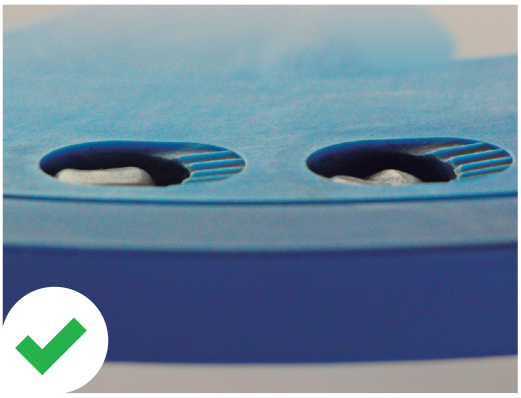


Seeds properly positioned.

Seeds fit loosely into holes and presence of doubles.

Selecting the correct DISC RUNNER

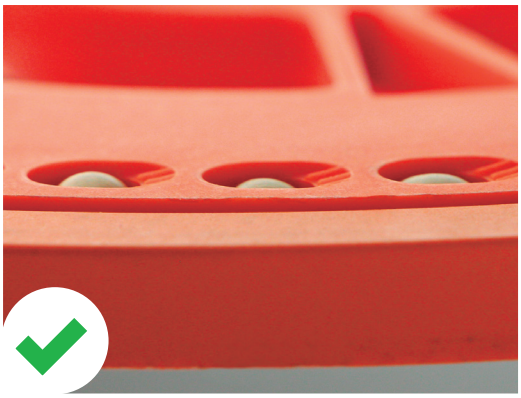
Example using CORN DISC RUNNER



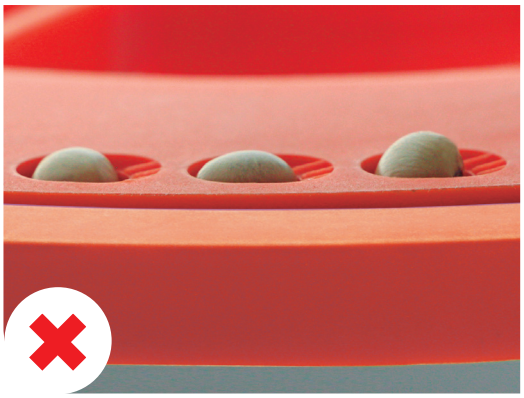
Seeds positioned near the edge of the unit.

Exposed seeds.

Example using SOYBEAN DISC RUNNER



Seeds positioned near the edge of the unit.



Exposed seeds.

2. PLANTING SPEED

To prevent damage to the product and loss of planting efficiency, it is important that the planting speed recommended by the planter's manufacturer be used.

3. USE OF GRAPHITE

The use of **graphite is essential to proper operation of the system, as well as ideal distribution of seeds**, which reduces the presence of doubles and faults, broken seeds and wear and tear on the system.

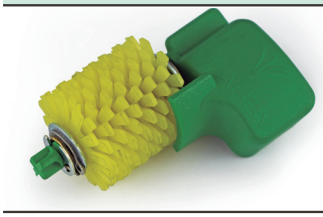
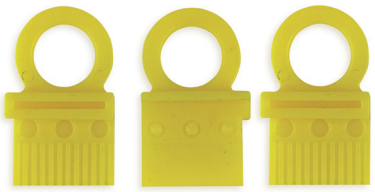
ATTENTION.
See recommendations from the graphite's manufacturer in order to ensure that the correct amount of graphite is used.

Never mix graphite with treatment products, as liquid treatment agents compromise the graphite's lubricating effect.

Mix graphite into a homogeneous substance of equal parts.

Do not exclusively spray graphite onto the top of the seeds. Graphite must be evenly distributed across the seeds' surface.

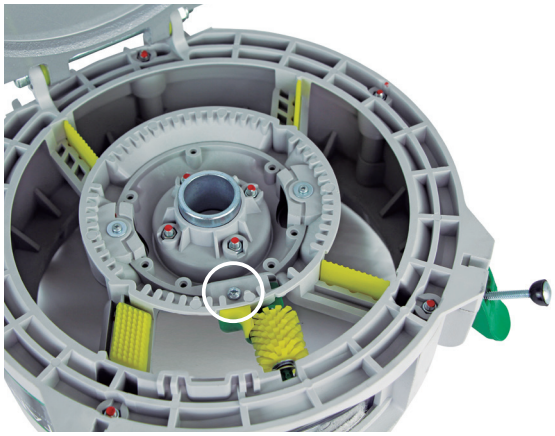
REPLACING TITANIUM COMPONENTS

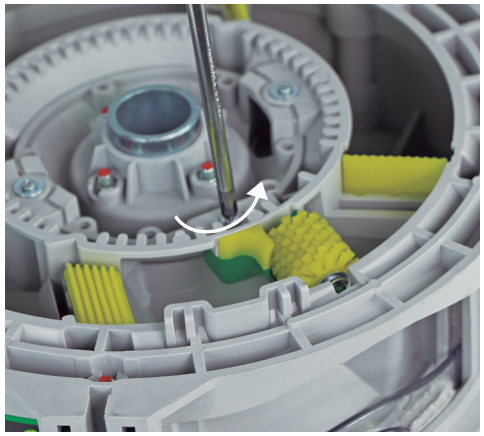
FLEXBRUSH ROLLER	POLIFLOW WIP-ERS	SINGULATOR BRUSH
		

It is important to emphasize that certain factors contribute to the premature wear and tear of the unit's FLEXBRUSH, POLIFLOW and SINGULATOR BRUSH components, such as a lack of graphite and improper selection of the seed disc and runner. When damaged, these parts become less effective and may negatively affect planting.

REPLACING THE FLEXBRUSH ROLLER

1. The TITANIUM'S FLEXBRUSH must be replaced using a N. 2 Phillips head **screwdriver** .





2. Turn the FLEXBRUSH in a counterclockwise direction as shown in the above figure. Lift the brush's back face in a diagonal position.

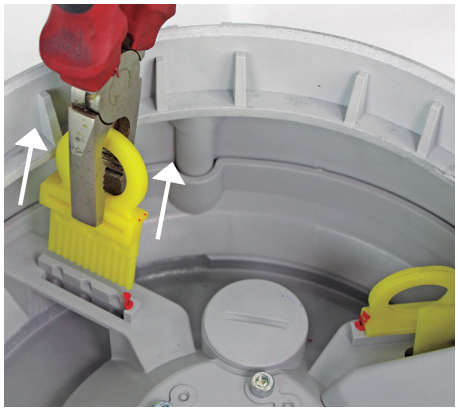
The side of the bracket must fit into the unit's base.

Flexbrush presenting signs of wear. Replacement needed.

Replacing the TITANIUM's POLIFLOW WIPERS

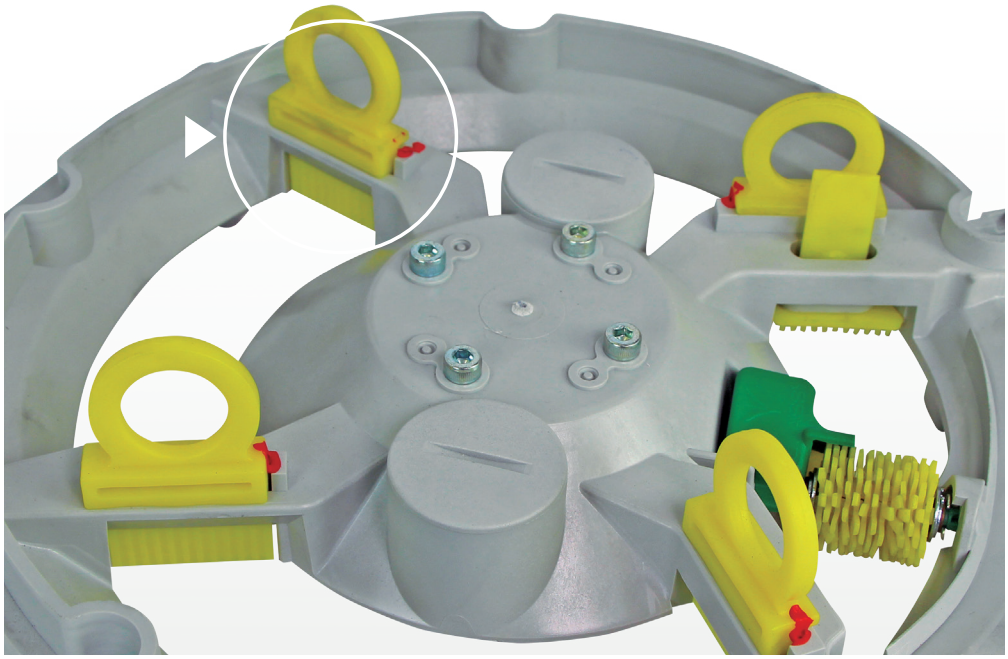
1. The unit's POLIFLOW WIPERS may be replaced manually or using universal pliers. Remove the weight limiter.

Image of the unit's Poliflow Wipers being removed.



2. Pull the POLIFLOW using your fingers or pliers.

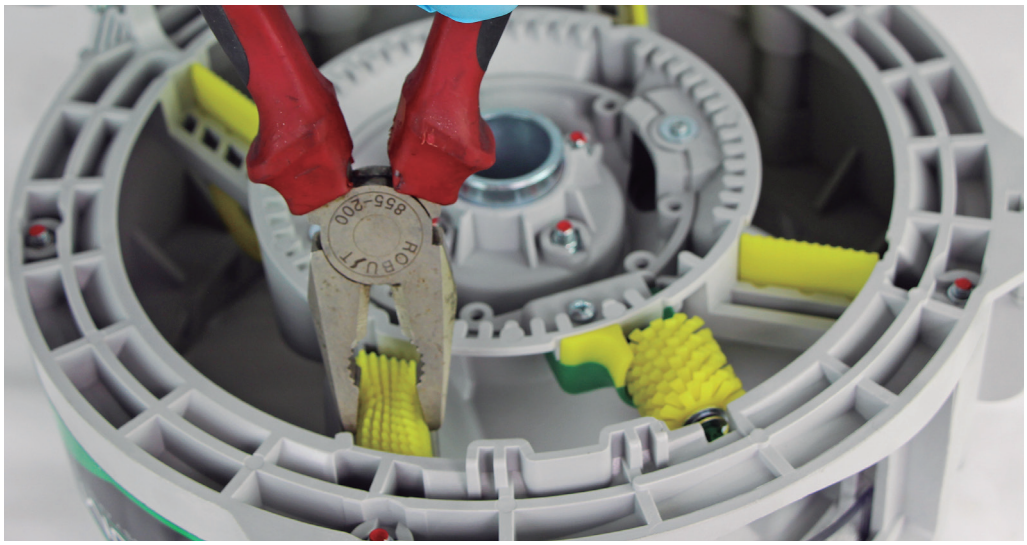
When placing a new POLIFLOW wiper into the unit, make sure it is properly positioned. Lower the POLIFLOW until the face of the wiper and the base touch (yellow and gray), as shown in the image below:



POLIFLOW WIPERS
presenting signs of wear.
Replacement needed.

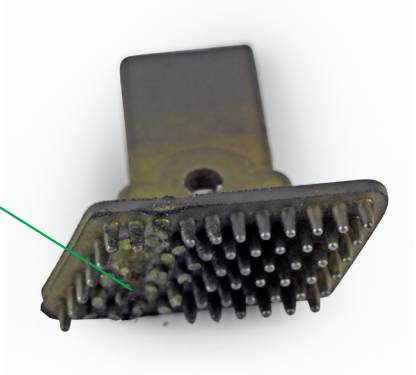
Replacing the TITANIUM's SINGULATOR BRUSH

1. Use universal pliers to replace the unit's Singulator Brush, as shown in the image below:



2. Using a pair of pliers, lower the SINGULATOR BRUSH into the unit's base and pull upwards until is firmly positioned.

SINGULATOR BRUSH
presenting signs of wear.
Replacement needed.

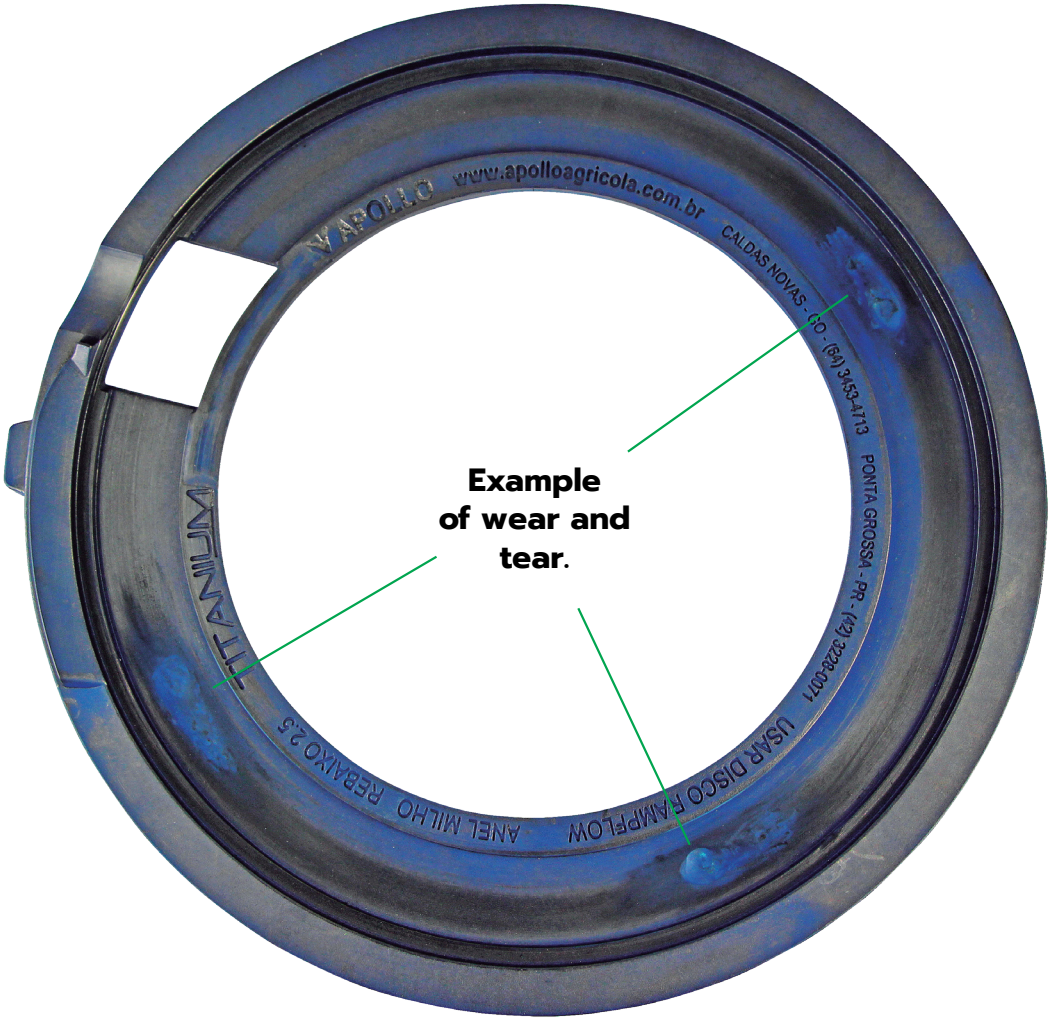


Replacing SEED DISCS and RUNNERS after each new planting cycle

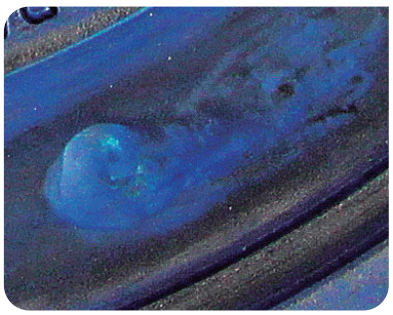
Operating the TITANIUM without graphite, improper seed disc/runner **selection** and **service hours directly** influence wear in the unit's seed disc and runner.

IMPORTANT
In order to maintain a high level of excellence and efficiency in the TITANIUM seed meter, the unit's seed disc and runner must be replaced with each new planting cycle.

After tests were performed, it was concluded that wear may increase the presence of doubles in a single disc hole. **An example of wear is shown in the image below:**

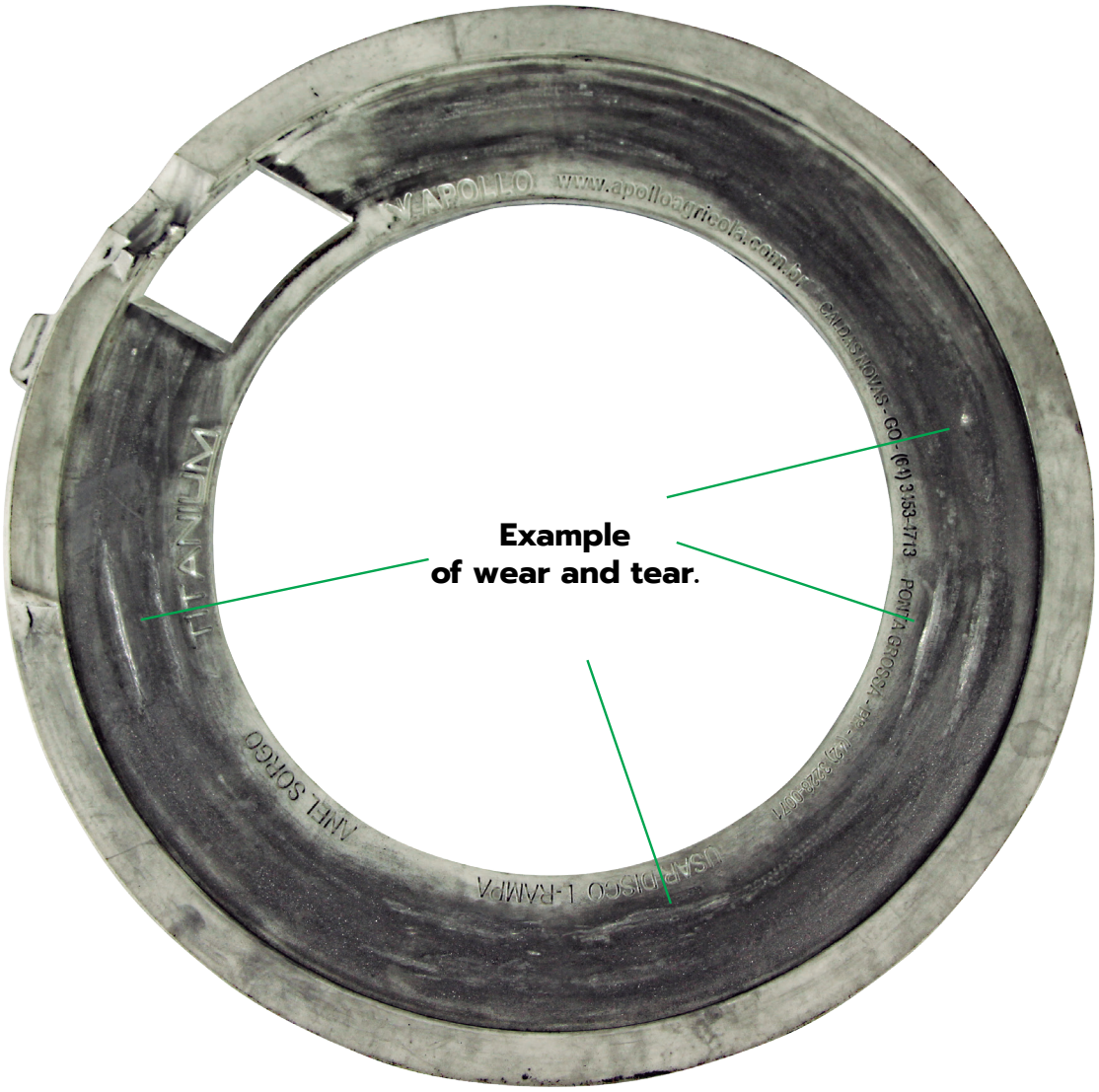


Example of wear and tear.

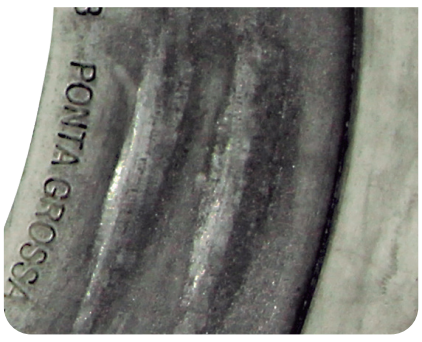


Wear may result in the presence of doubles (two seeds in the same disc hole).

Example of wear in DISC RUNNER.



Example of wear and tear.



Visible wear in this area that **may result in the presence of doubles** (two seeds in the same disc hole).

FAQ | Frequently Asked Questions

1. The unit's FLEXBRUSH has become stuck in place due to a wrapped brush. How can I remove it from this position?
In extreme cases the FLEXBRUSH may become tangled. It is therefore important to always verify whether the component is operating correctly through the unit's visor. If a brush becomes stuck, remove the wire, verify whether the FLEXBRUSH is in proper working condition and, if necessary, replace the brush before continuing planting.

2. With regards to the treatment of seeds, are there any limitations to use of the TITANIUM seed meter?
Yes. The application of oil-based treatments and liquid inoculants, directly into the seed box can greatly compromise the system's plantability.

3. Can I perform planting at higher speeds with the TITANIUM seed meter?
No. The speed recommended by the planter's manufacturer must always be used. The TITANIUM seed meter was developed to improve plantability. One of the main factors that compromises plantability is a high level of speed.

4. Can I carry out planting without graphite?
No. Planting must never be carried out without graphite. Graphite is used to lubricate the system, preventing mechanical damage and reducing wear in seed discs and runners.

5. Can graphite be applied during seed treatment?
No. Seed treatment processes must be completed first. The application of graphite represents the final process stage before the start of planting.

6. Can graphite powder be replaced with inert talc when using the machine?
No. Graphite must never be replaced or used in a smaller amount than that indicated, as it is used to lubricate the system and ensure that seeds are properly distributed.

7. I have begun planting soybeans and have observed broken seeds through the unit's visor. What should I do?
Broken seeds are sign of insufficient use of graphite or improper seed disc and runner selection.

8. Can I perform inoculation directly in the Titanium seed meter's seed box?
No. Liquid inoculants compromise operation of the distribution unit.

9. Can the TITANIUM be operated without its weight limiter?
No, the limiter prevents excessive weight in the reservoir to ensure that seeds are properly distributed. The unit may only be operated without its limiter when J.Assy Seed Reservoir (Hopper) is used.

SEED HOPPER
PIPOQUEIRA

The TITANIUM's Seed **Reservoir** (Hopper) offers a compact and resistant 6-liter design. The Seed Reservoir facilitates **the flow of seeds** and **the replacement of seed discs and runners**.

SEED RESERVOIR COMPONENTS

360° Nozzle
Attached to rigid hose*, in order to prevent bending (bulging), allowing supply to be cut, as well as the **complete flow** of the seeds from the unit's central box.

*When purchasing a Seed Hopper, a nozzle that can be adapted to the hose used with the unit must be chosen.

Installation
Adaptation or the installation of holes in the unit is not necessary when the Seed Hopper is used with the Titanium Mechanical Seed Meter.*

* Assembly exclusive to Titanium.

Highly Resistant Design

J. Assy's Seed Reservoir is extremely durable and waterproof and made from the same raw materials used in the Titanium. The unit prevents rainwater and dust from entering the seed meter.

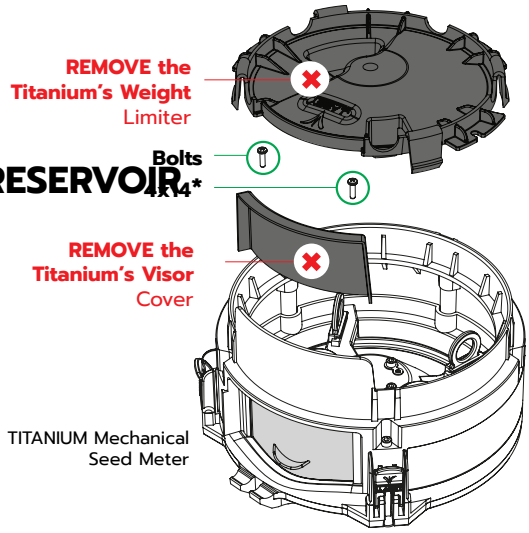
The following nozzles are available:

360° nozzle for use with **3" hose**

360° nozzle for use with **2.5" hose**

Installation

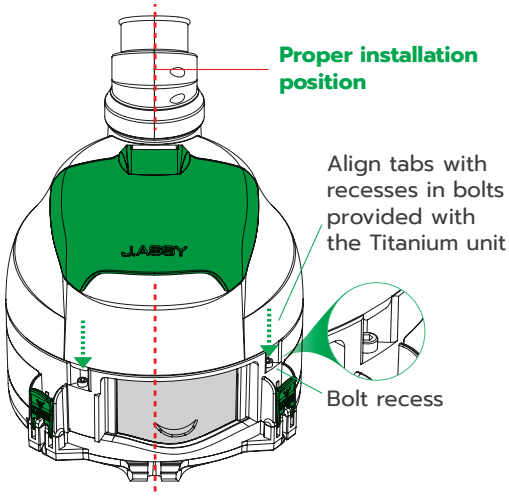
BEFORE
INSTALLING THE UNIT'S SEED RESERVOIR



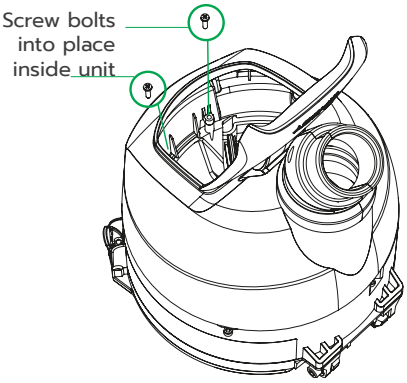
1 **Remove the Titanium's weight limiter, the two installed Phillips 4x14* bolts and the visor cover.**
*Set the unit's 4x14 **bolts aside** for use in **STEP 3**.

INSTALLING THE SEED RESERVOIR ONTO THE TITANIUM

2 **Align the Seed Hopper's tabs with the recesses in the Titanium's bolts** and place them into a vertical position until they snap into place, producing a "click" sound.



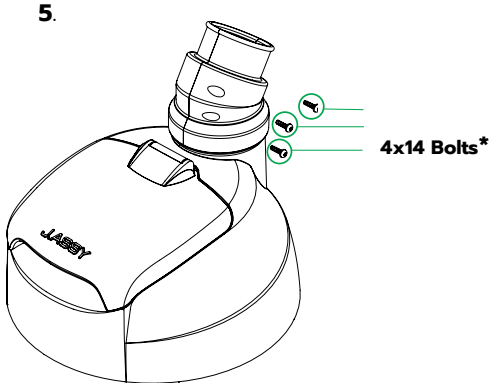
3 Open the Seed Hopper's cover and position the **two 4x14 Phillips bolts** previously removed from the Titanium's visor cover).



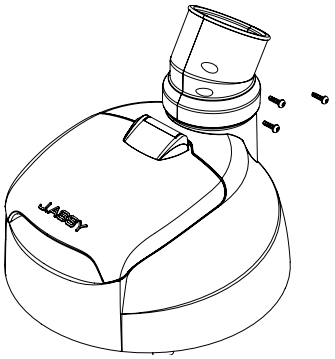
REPLACING
THE SEED HOPPER'S NOZZLE

4 Loose **the three provided 4x14 Phillips bolts *** and remove the old nozzle.

***Set the unit's 4x14 **bolts aside** for use in **STEP 5**.**



5 Position the new nozzle and **three 4x14 Phillips bolts** taken from the previously used nozzle.



Obs.: the equipment cannot be guaranteed to protect against rain after the nozzle is replaced.

Your Seed Hopper is ready for use!

Product Disposal

Equipment must be forwarded to the nearest J.Assy reseller or the implement assembler at the end of its service life, if acquired through a direct purchase.

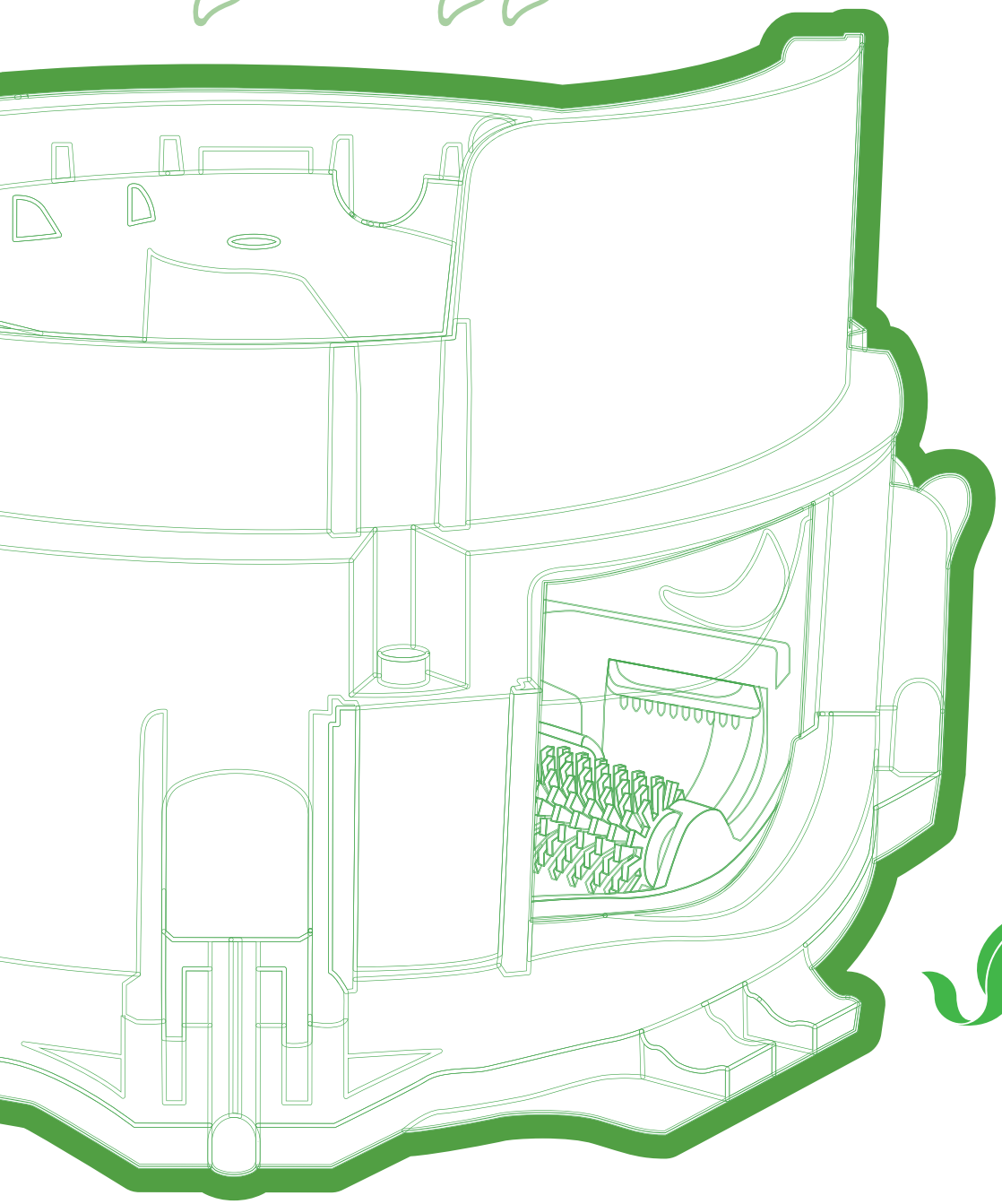
J.Assy's Quality Policy

"Provide quality products and services that exceed our customer's expectations to ensure compliance with legal and technical requirements and the development and manufacture of reliable products that can be considered true design masterpieces, through the use of innovative technological solutions, investment in research and personnel while guaranteeing a high level of productivity and continuous improvement."

After the contained in this manual have been completed, your TITANIUM seed meter will be ready for use in planting.

PLEASE CONTACT A J. ASSY SALES REPRESENTATIVE OR RESELLER IN YOUR REGION WITH ANY QUESTIONS OR CONCERNS, OR ACCESS THE WEBPAGE:

www.jassy.ag



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