



# Dinco Classic



**GB 300/380/470**



# DAL-BO Dinco Classic

Type 300/380 cm

Congratulations on your new Dinco Classic cultivator. For **safety reasons** and for optimal use of the machine, please read the following instructions carefully **before putting the machine into operation.**

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Items which are important as regards safety are preceded by a ▽

- ▽ Tighten up all nuts and bolts after a few hours of use.
- ▽ Do not operate unless seated on the tractor, or with people on or in the immediate vicinity of the machine.
- ▽ Do not allow children to operate the machine.
- ▽ When driving on public road, the Dinco Classic must be fixed in transport position.
- ▽ The driver is responsible for compliance with the existing Road Traffic Act concerning lights and marking.

## Your Dinco Classic has:

Serial number: \_\_\_\_\_ Type description: \_\_\_\_\_  
Month of manufacture: \_\_\_\_\_ Net weight (kg.): \_\_\_\_\_

On applications concerning spare parts or service please state serial number. At the back of this manual you will find a list of spare parts to help you get an overview of the components of the machine.

## EU-CONFORMITY DECLARATION

**DAL-BO A/S**  
**DK-7183 Randbøl**

hereby declares that the above mentioned machine has been manufactured in conformity with the provisions of the 98/37/EC-directive, which replaces the 89/392/EEC-directive and the 91/368/EEC-, 93/44/EEC- and 93/68/EEC-amendments concerning the harmonisation of Member States' legislation on machinery concerning safety and health requirements for the construction and manufacture of machinery.

DAL-BO A/S

Managing director Kaj Pedersen \_\_\_\_\_



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## Employment

DINCO CLASSIC is a light cultivator, which has been designed to work down stubble and crop residues. Owing to the large ground clearance and the distance between the tines great amounts of crop residues can be worked down.

Dinco Classic has been designed to obtain complete cutting by which the growth of both crop and weeds is stopped. The shape of the tines causes the top soil and crop residues to be thrown in the air and mixed into a homogeneous mass.

Dinco Classic consists of a harrow with two rows of tines to which an arm with inclined discs has been mounted to level the tracks after the cultivating tines. At the very back you will find the rear roller, which is used to control the working depth and to crush clods and level the surface. The rear roller comes as a cage roller or with 60 cm t-rings.

As extras a 400-mm. crumbler can be fitted behind the compulsory rear roller. Moreover, a seed drill can be fitted to the Dinco Classic for direct sowing of catch crops.

### Advantages of using Dinco Classic

**The advantages of Dinco Classic are:**

- Exact adjustment of working depth between 4-20 cm.
- **No** supporting wheels causing compaction in the field.
- Complete cutting thus making less drives in the field necessary.
- Homogeneous mixing of crop residues.
- Keeps the soil moist.

Dinco Classic is particularly suitable for working in the topsoil where the majority of plant transformation takes place. For that reason Dinco Classic is an effective tool in a minimum tillage-strategy as Dinco Classic with only one drive provides a complete cutting of the field and a homogeneous mixing of crop residues and microorganisms in the soil. To keep the soil moist and thereby optimise the microclimate for the organisms, packing completes the working of the soil.

## Safety

- ▽ Dinco Classic is only to be used in ordinary fieldwork. Dinco Classic should **not** be used in deforestation or the breaking up of old roads, paving stones or the like. If in doubt, please contact your Dinco Classic Classic-agent or DAL-BO.
- ▽ Dinco Classic is not to be used as a crane, a pile driver, a hydraulic press or the like.
- ▽ When operating the Dinco Classic you must be seated on the tractor.
- ▽ Persons are not to stay on the Dinco Classic while driving.
- ▽ When using Dinco Classic on stony soil some noise may be experienced. However, the level of noise is far below the danger level for the tractor driver.
- ▽ Dust formation may arise when driving under very dry conditions. It is therefore recommended that doors and windows of the tractor are kept closed while driving or that a dust mask is used.

## Connecting and disconnecting

Dinco Classic is constructed according to the DS/ISO 730-1 category II and III. If the lift construction on the tractor is not designed for this, please contact your Dal-bo agent.

### Connecting

First mount the lift arm with the lift pins. Then mount the topline. Adjust the topline so that the frame is in a horizontal position.

▽

Please remember to secure the lift arms and the levelling bar connections with split pins.

### Disconnecting

Disconnecting is done in reverse order than connecting.

### Handling without three-point hitches

If moving Dinco Classic without the use of three-point hitches, it is recommended to use straps in the main frame to keep Dinco Classic in balance.

Total weight of the Dinco Classic (kg.)

	<b>300 cm</b>	<b>380</b>
<b>Kg</b>	1010	1290

## Adjustment

Dinco Classic has been adjusted from the manufacturer. A fine adjustment is, however, always necessary before putting the machine into use. Several possible adjustments make your Dinco Classic more versatile thus making the optimal utilisation of the machine possible.

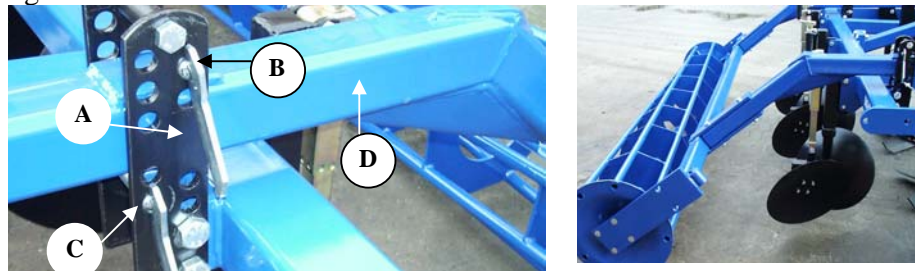
### Adjustment of depth

Cultivation depth is controlled by the rear roller in the form of a cage roller or a t-ring rear roller.

The working depth of the tines is adjusted with pins in the hole plate (A). The upper pin (B) determines the working depth while the lower pin (C) is a supporting pin, which carries the rear roller when the implement is lifted.

When changing working depth it may be necessary to readjust the toplink, as the frame should always be level during operation.

Fig. 1



### Deeper tillage

Deeper tillage can be obtained by lifting the implement from the ground so the lift arm (D) does not press against the upper pin (B). In that way the pin can be removed from the hole plate and be placed in a higher hole. The lower pin (C) is similarly moved up so that the support is as close to the lift arm (D) as possible.

When Dinco Classic has been adjusted to deeper tillage it may be necessary to drive the tines in the soil for a while (or support the rear roller) in order to add pressure to the rear roller. After this the lower pin (C) can easily be fitted in to the hole closest to the lift arm (D).

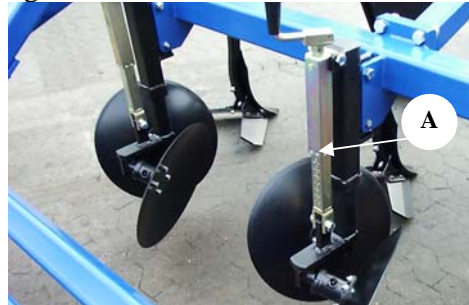
### Level tillage

More level tillage can be obtained by moving the pins down. By this the cultivating frame and thereby the tines are lifted to a more level tillage. It may be necessary to drive the cultivating tines in the soil in order to loosen the lower pin (C, fig. 1). After having placed the lower pin (C) in a lower hole Dinco Classic must be lifted and the upper pin (B) placed as close to the lift arm (D) as possible.

### Depth adjustment of discs

The correct adjustment of the discs leaves the field level with no visible traces of the harrow tines. Fine adjustment of the discs is done with the spindle (A) and not until actually in the field. Discs must be adjusted to work the topsoil, so that a suitable quantity of earth is thrown back after the harrow tine.

Fig. 2



### The angle of the tine

Adjusting the penetration angle in two different positions (A, B) makes it possible to have a soil-searching tine all the time.

Fig. 3

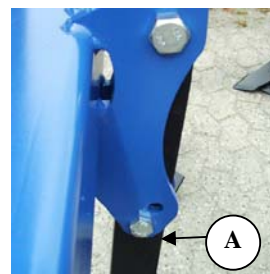


On dry and hard soil use the most soil-searching/aggressive adjustment (A, fig. 3). On light and moist soil use the front hole (B). Due to wear and tractive force the penetration angle should not be larger than necessary to obtain a satisfactory outcome.

### Safety bolt

Fig. 4

The safety bolt (A) must be a 16x80 4.6, because it must break if the tine is overloaded.



## Driving and operating

The right operation is important to obtain the optimal utilisation of your Dinco Classic Classic. This applies to fieldwork as well as security.

- ▽ **Each day before work is started check that no nuts or bolts are loose and that all splits pins are intact.**
- ▽ **When turning or reversing Dinco Classic should be lifted.**
- ▽ **No extra weight should be mounted on the Dinco Classic, as the implement is not designed for it.**
- ▽ **During transport any side discs should be folded.**

The shares give a heavy cultivation. Despite the heavy cultivation the field should be left even and with no banks of any kind. This requires a correct adjustment of the implement (see "Adjustment" page 6).

### Working depth

Dinco Classic can be adjusted to very light tillage in a depth of 4 to 5 cm. This is possible only because the shape of the tine leaves the field level and completely cut.

Fig. 5



Dinco Classic should be adjusted so that the rear roller carries it. The handle for the tractor lift must be lowered completely when driving in the field so that the lift is floating and can move with the terrain. The cultivation depth will thus be controlled by the rear roller in the back and by the topline in the front.

When changing the working depth a readjustment of the discs is necessary. The discs are designed to work in the topsoil, however, they do not perform any real tillage except levelling out the field after the tines, so that a suitable quantity of earth is thrown back after the harrow tine.

On the models for the German market side discs for levelling the outside of the outermost tine are standard equipment whereas models for other markets are equipped with covering discs on the outermost tines. Side discs are therefore considered extras on markets other than the German (see "Accessories, Side discs").

## Speed

To obtain optimal tillage a working speed of 6-7 mph (10-12 kph) is recommended. **However, one should always drive according to conditions.**

Please note that wear is heavily increased when speed is increased. Shares may be lost or damaged when driving too fast under unfavourable conditions.

**When driving at high speed - especially under dry conditions - wear on the tines will increase considerably.**

## Power

Dinco Classic is a power-demanding implement and it is recommended to have a tractor with a sufficient power surplus so that working speed can be maintained when driving uphill. In this way the field gets a uniform treatment which may be important later on.

### **Vejledende effektforbrug i HK/KW**

Arbejdsbredde	300 cm	380 cm
Effekt	120/88	140/103

Power requirements depend on type of soil, terrain, working depth and speed

## Maintenance

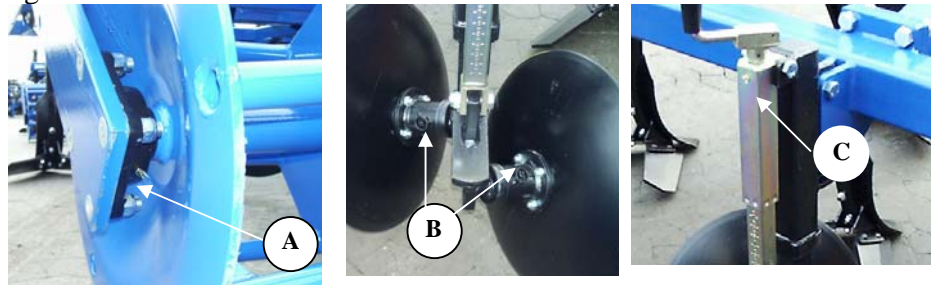
Proper maintenance lengthens the life span of the Dinco Classic and thus secures optimal utilisation of the implement. For that reason grease nipples have been placed where the most wear happens.

**All nuts and bolts should be tightened up after the first day. Pins and bolts should be checked to avoid damage.**

### Lubrication

- (A) Roller bearings (*50-hour-lubrication interval*)
- (B) Disc bearings (*50-hour-lubrication interval*)
- (C) Spindle (*lubricate as required*)

Fig. 6



### Safety



It is **very dangerous** to stay under Dinco Classic when it is lifted without proper support. At the same time the tractor should be properly braked and the engine switched off.



All bolted connections should be checked often and tightened when needed.



After working with oil, hands should be carefully cleaned. Oil stained clothes should be removed immediately as it may cause damage to the skin.

### Wearing Parts

The points on Dinco Classic are reversible and should be turned before the shank, to which the points have been clamped, starts to wear down (see "Replacement and repairs"). Points with covering shield on the outermost tines should be changed from right to left when turning the points so that the covering discs are placed on the outside.

Wings should be changed when they are worn down to the extent that the work result is no longer satisfactory or before the shank starts to wear down.

## **Other things**

Avoid spilling oil on the ground. Should it happen anyway, gather it together and deliver it for destruction.

When parked under damp conditions for a longer period piston rods should be lubricated in oil or fat to avoid corrosion.

### **Cleaning and checking**

When the season is over, the machine should be cleaned for dirt and moist attracting material. This facilitates later services and repairs.

## Accessories

Various forms of accessories for Dinco Classic exist, e.g. crumblers and side discs. Other accessories are lights and seeddrills.

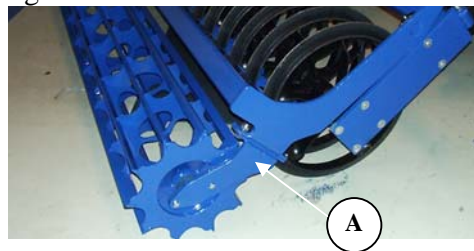
### Crumbler

The crumbler is mounted behind the rear roller and gives an extra working of the field. The crumbler is designed as a roller with a smaller diameter than the rear roller, which means a faster rotation and thereby a more effective crushing of clods. At the same time the crumbler packs the topsoil to preserve the moistness of the soil.

### Mounting of accessories

Depending on the type of rear roller (cage roller or t-rings) two different bearings for the crumbler exists.

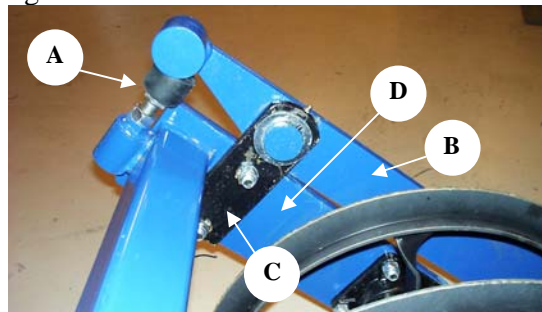
Fig. 7



### T-rings

The crumbler for the t-ring roller is mounted with 4 16x50 mm. bolts, which are fitted in the flanges (A, fig. 7) at the very back of the bearings for the rear roller. The adjustment bolts (A, fig. 8) should be screwed in completely to facilitate the mounting. Fine adjustment of the crumbler is done on the basis that the adjustment bolts have been screwed in completely.

Fig. 8



### Cage roller

As cage rollers come with no scrapers, bracket (B, fig. 8) should be mounted before the crumbler can be mounted.

1. Mount the adjustment bolt (A) and screw it all the way in.
2. Mount the rotation stand (C, fig. 8) on the bearing (B, fig. 8), please remember the washer and split pin.
3. Bolt the rotation stand to the bearing of the rear roller (D, fig. 8).
4. Mount the flange bearings loosely on the crumbler shaft
5. Roll the crumbler in between the bearings (B, fig. 8).
6. Bolt the flange bearings to the bearing.
7. Secure the pointed screws with Loctite and tighten them.

## Driving and adjusting

The crumbler is **not** designed to carry Dinco Classic. Its only job is to crush, cultivate and level after Dinco Classic as the working depth is determined by the rear roller.

The crumbler should be working in the topsoil. The pressure is adjusted by the bolts (A, fig. 8). If the bolts are loosened the pressure of the crumbler on the ground will increase and if the bolts are tightened the pressure will decrease.

## Side discs

To level the soil outside the outermost tines side discs can be mounted. The side discs are inclined discs on arms, which can be swung outside the outer tines. Side discs are most relevant in connection with sowing of catch crops with Dinco Classic seed drill.

Fig. 9



▽

During transport side discs must be locked in transport position. It is important that the plate is fixed with the pin in transport position to prevent the discs from swinging out when driving (see fig. 10, B).

### Mounting

The plate for the side discs is fixed with two bolts (A) through the frame. Mount the shank with the discs on the arm so that the hollow side of the discs turn inwards.

Fig. 10



## Replacement and repair

- ▽ All repairs and maintenance in connection with Dinco Classic should be done while Dinco Classic stands properly on the ground and thus rests securely on the ground.
- ▽ It is **very dangerous** to stay under Dinco Classic when it is lifted without being properly supported. At the same time the tractor should be properly braked and the engine switched off.

### Replacing wearing parts

- ▽ Support the Dinco Classic to avoid the danger of being trapped underneath and to avoid the machine falling.

Fig. 11



The point (A) are reversible and bolted with three bolts. The points should be turned before the shank to which points and wings (B) are clamped start to wear down.

When turning points, reuse the old bolts, but when changing points new bolts should be used. If dirt or the like is present it should be removed.

- **12x70 mm carriage bolt St. 10,9 for fastening point.**
- **12x35 mm carriage bolt St. 10,9 for fastening wings.**

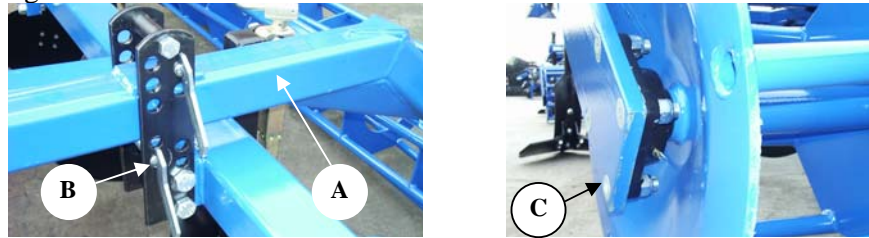
Wings should be changed when they are worn down to the extent that the work result is no longer satisfactory or before the shank start to wear down.

## Replacing bearings

When Dinco Classic is lowered the rear roller is supported so that the arms (A) rests on the lower pin (B).

1. Remove the bolts in each side of the flange bearings (C).
2. The cage roller/t-ring roller can be rolled away.
3. Loosen the pointed screws in each bearing and the bearing can be removed from the shaft.
4. Mount new bearings loosely on the shaft. Roll the cage roller/t-ring roller back in between the bearing plates. Bolt the bearings onto the these.
5. Secure the pointed screws with Loctite and tighten well.

Fig. 12



## T-ring roller

The t-ring roller has been designed with a centre bearing to support the shaft.

1. Remove the centre bearing in the middle together with the flange bearings.
2. When the bearings are free, lift Dinco Classic. The t-rings and shaft are now free.
3. Loosen the pointed screws and remove the flange bearings.
4. Remove the t-rings in one side of the center bearings to change the bearing.
5. Having changed the center bearing mount the rings. Mount in reverse order. **Secure the pointed screws with Loctite.**

Removing rings from the shaft can be quite hard. Try cleaning the area between the rings and the shaft with a high pressure cleaner to remove dirt and corrosion that may be present.

Fig. 13



### Replacing scrapers

1. Screw the adjustment bolts (A, fig. 8) all the way in.
2. Remove the bolts, which fasten the rotation, stand (C, fig. 8) and splitpin and washer can be removed.
3. Mount the old rotation stand on the new scraper and mount in reverse order.

### Replacing rear roller

When replacing the cage roller or t-rings follow the same procedure as when replacing bearings. Old bearings can be used, however, new ones are recommended.

Fig. 14



### Replacing disc bearings

Disc bearings are changed together with the shank as one unit.

1. Remove the bolts that fasten the shank stand to the frame, the discs and spindle are now disengaged from the frame.
2. Remove the bolts that fastens the shank and the spindle and the telescopic piece can be dismantled.
3. Mount a new shank with bearings and assemble in reverse order.

## Scrapping

▽ Support Dinco Classic on strong trestles so that the tines are free of the ground. Make sure that there is no danger of falling or getting trapped under the implement. A crane or the like should be used to dismantle the parts from the frame.

▽ After working with oil, hands should be carefully cleaned. Oil stained clothes should be removed immediately as it may cause damage to the skin.

Support the rear roller or take a hitch on it to keep it in balance. Remove the bolts in the bearings and roll away the rear roller. Whereupon the arms with the bearing plates for the rear roller, the topline connections, tines and shanks can be removed.

The cultivator may be used as recycled iron.

## Spare parts