

The disc mower Sip 300 FC:

Mowing with the SILVERCUT

English words were used to name the mowers of the Slovenian manufacturer Sip. In the last season we tested the rotary disc mower with the kneading machine Silvercut 300 FC.

A good construction of the disc mower Silvercut 300 FC can be noticed at first sight. The material, modification and varnish all appear clean and settled, which is achieved also due to a new mechanism for powder covering that the Slovenian producer in Šempeter possess. As we tried not to be deceived by the appearance only, we put the machine to a hard test.

The disc mower is connected to the tractor with the 3-point-hitch of second category. The pins for the lower link fit well to the lower link of the tractor. With the top link you can choose between three possible connection points. At the given geometry the top link must be turned for a long time when connecting the machine. Sip should therefore move the connection points a bit forward. The mower is placed on a solid support when removed. The pommel makes the lifting easier. A bolt, which is self-protective and can be well stuck on, arrests the support. When the machine is folded it requires unfortunately a bit bigger space to be placed on.

Sip placed the settled tube collection of three unmarked hydraulic tubes on the left side of the connection frame. The P.T.O. shaft holder is made perfectly. It uncouples downwards and can be easily removed. Unfortunately, the bracket for the holder is made a bit weaker. The holder can therefore get loose during the work, which causes the contortion when the shaft and the holding arm hit together while lifting the machine. For that reason Sip should



The mower from Slovenia left a good impression at our test. Also small grass was well mowed and kneaded

Photos: Tovornik

consider the strengthening of the bracket.

With the weight of 1170 kg and the connection close to the tractor the mower is theoretically very suitable for smaller tractors as well. Though it feels more secure to use the tractors with about 100 PS minimum.

When driving on the road the mower is folded together. Before folding the machine a blockade must be moved away by pulling the rope. After that the mowing unit can be lifted by a steering device. This hydraulic function has a no-stage stifler on the hydraulic switch. It is

recommended to use this function in order not to shake the machine and the driver too much. One should also think about closing the rear window, which can be damaged due to the close connection.

The machine is to be folded a little over the dead point; in that way the holding arm is in the deposit on the connection frame. The mower does not jut out on the left side. On the contrary, there would be even more space left to fold the machine if the position of the bearing were different. The mower would also not extend the outline of the tractor on the right side. The right lights of the tractor are

namely constantly covered. The price list should therefore include also a light-device. Besides that, more folded machine would also contribute positively to the distribution of weight on the road – at the moment, there is a deviation of about one ton between both



The height of the extended mower could be bigger, however we drove with equally raised lower link.



The drive of the kneading machine is performed over cogwheel belt without strain-cylinder. Straining is performed by the means of two straining-gears on the shaft of the kneading machine.



The mower is close to the tractor and extends far over on the right side. It would be better if the machine were to be folded a bit more.

wheels. The allowed maximum height of four meters is not ignored, maximum height of 3,62 m was measured with the lower link lifted for 60 cm.

The core of the mower is the cutter bar with seven oval cutting blades. Both outer plates and the inner plate rotate inwards. The others rotate alternatively. Each cutting unit is made up of screwed parts. On the top there is a protective cover. Below that there are the blade-holders and after that an element, where the bolt arrests the blade. In addition, the

Measuring values

Sip Silvercut 300 FC

Cutting width	2,95 m
Cutting height	5 cm
Number of blades	7
Diameter of blades	52,5 cm
Blade coverage	63 mm
Blade rotation	3000 rpm
Dimension speed	82,4 m/s
Theor. driving speed	22,7 km/h
Rotor width	2,32 m
Rotor diameter	50 cm
Number of tines	64
Length of tines	15 cm
Rotor rotation	980 rpm
Rotor dimension speed	25,6 m/s
Maximum deposit width	ca. 2,4 m
Weight	1170 kg
Wheel load folded rear right ¹⁾	2700 kg
Wheel load folded rear left ¹⁾	1750 kg
Wheel load work position rear right ¹⁾	3920 kg
Wheel load work position rear left ¹⁾	690 kg

¹⁾ Values referring to Ford 7740



Sip bets on screwed fixing of the blades.

fixing of the blades is appreciative. Sip bets however on the screwed pins, which arrest the blades for the quick change. In that way, when the usage occurs, not the complete cutting blades need to be changed. The power contact is provided over coggled linkage, which is secured with one of 36 nuts. Four clip-pins altogether protect each blade from overload. Though six screws must be unscrewed in order to reach the pins, the change is simple.

The cutter bar is placed on big and massive runners, which enable picking up of high cut. Unfortunately,

Sip does not offer these runners as a part of optional equipment. Otherwise, there are no redundant edges and corners, the cutting centre remains relatively clean and is easy to cleanse.

The cut is also clean. We were always satisfied with the picture of cutting. We noticed no remained pieces of grass. The stoppages were not present. Also 1,20 m high grass for horse fodder was well cut. We cut the height of 5 to 6 cm as a rule; by using the lower link this height can be additionally adjusted. From our experience the blades are durable and can be quickly changed by the means of the lever placed on the machine.

With kneading machine Sip bets on Y-formed plastic tines. Eight tines are placed spirally in eight rows and have the length of 12,5 cm. As the opposite part to the tines a five times adjustable sheet metal is used. For that reason the spring loaded bolt is placed into the hole-raster on the upper side of the mower. The kneading machine beats the stalks well, we were always pleased with the drying course. The number of rotations is fixed, about 980 rpm. The only defect of the kneading machine: With higher mass the stalks that are inclined toward the drive direction can be grabbed by tines before they were cut.

The guiding rails for deposit width can be adjusted in five levels. Only both outer guiding rails are no-level adjustable. The arrest is performed by the screw. The fodder is deposited cleanly and evenly as a light carpet. The deposit width can be adjusted almost to the cutting width, only on the contact side there is about 20 cm of free space.

The mower is driven over the free-run P.T.O. shaft. It ends on an edge-drive, which is placed far behind. Due to that position of the drive, the shaft can be coupled to the tractor at once, without shortening.

From there on the power is transferred over an additional P.T.O. shaft to the drive, which drives the cutter bar. This straight arrangement of drives is in our opinion positive. In front of this drive there is of course another cogwheel belt disc. For the kneading machine is driven over cogwheel belt. We were satisfied with this solution. The belt did not hop over; this kind of

drive is surprisingly quiet and above all needs no maintenance. In case that the straining is needed there are two straining devices on the left and right side of the shaft of the kneading machine. Due to the lack of straining cylinder the work with straining devices must be done carefully so that the straining and direction are in accordance. Here are also relatively bad accessible greasing spots for the bearings. For easier maintenance Sip should consider the greasing linkages to the upper side of the mower. The drive of the blades is driven over head wheels in oil bath, which are integrated in drive-tuft. Sip assures

lifting the curtains: simply pull the spring-loaded lever, lift the curtain and arrest the bar automatically with the same lever. The access to the cutter bar is therefore easier in case of blade replacement.

The lever used for replacing the blades is mounted on the upper side of the mower. In our opinion it should be made a bit more robust. When loaded, it bends so far that one may expect its slide; precise adjustment is therefore very important. Beside that it is also recommended to integrate a small nose, which could make the unscrewing and screwing of the screws of guiding metal sheet on the

The blade replacement is simple. The lever could be a bit more stable – it bends a lot and can slip.



Absolutely deficient are the missing start-up protections. The curtains however can be lifted well and get arrested on their own. The intensity of the kneading machine can be adjusted five times in the hole-raster.



that the well dimensioned cogwheels with low rotations cause an easy run of the machine. We can actually confirm an agreeable run of the Silvercut 300 FC.

The mower is easy to work with, hardly any mistakes can be made. Sip offers some help with adjustments: Side protective curtain is slightly oblique. When the connected mower leans forward, the curtain runs parallel to the ground, which Sip explains as an ideal solution.

Sip also found a good solution for

kneading machine possible.

Sip should also strengthen the end-restriction for lifting the mower when working. When lifting the machine with hydraulic cylinder, a pin gets stuck into a jug of restriction and reduces the way of lifting. Unfortunately, the jug was deformed after a short period of use; it just does not stand the pressure of the cylinders.

The work would be more practical if

Sip meant greater lifting height for the mower. The height on our tested machine did not always suit the work and ground conditions. Here we should mention that we worked with the height-even lower link. Sip recommends lifting the right lower link for about 10 cm to gain more height



The kneading machine with Y-tines works with constant rotation. The inner guiding metal sheets can be adjusted in five levels, the outer ones with no-level in the long hole.



Two solutions for the improvement: The manometer is hard to read from the cabin. The jug for transport blockade or restriction of lifting should be strengthened.

and variation in pressure. In that way the machine is but a bit harder to connect.

To close the machine a wire rope must be pulled to lift the jugs and make the closing possible. In folded position the jug is used to arrest the machine when transporting. To unfold the machine another pull is needed to set the mowing unit free for lowering.

To discharge the cutting centre Sip uses an ew-cylinder with attached nitrogen blister. The system is driven over pressure and closed with a ball-pipe. A manometer tells us the actual pressure. Unfortunately, it is not properly mounted and can be hardly seen from the driver's seat. Some adjustments are needed to be able to read the values. It would also be nice if the manometer had a mark showing us the load-weight. The discharge suits the work conditions. Though, it would not be redundant if there was a stifler to assure to operate with the pressure in the system better. Because of lack of it one must experiment a bit, for example stifle the flow, before the pressure is where it is needed. To prevent the oscillation transversal to drive direction, a shock-absorber can be mounted. The holes for the absorber are already prepared, the absorber itself belongs but to the additional equipment. In our opinion it should be a part of serial equipment.

Some improvements on the front and side protections of the mower should also be made. To speak severe there was no such protection so far. For the tube, where the protective curtains are mounted, intercepted so far all the strange effects. Therefore the tube and the curtains can be damaged. In serious cases the mower moves away back and upward when the clutch of rubber element slips.

However, the work with the Silvercut 300 FC was always successful. A lot of drivers were impressed by easy and vibration less run of the machine. Every time we came to the conclusion that the subjective power needed for the mower was insignificant.

What attracted our attention was:

- The box for additional blades and cut-pins is well accessible and has a wateroutlet.
- A lot of dirt accumulate on the repulsive metal sheet of the kneading machine and is hard to remove. Otherwise, only few things dirty the machine.
- 5 greasing spots altogether were listed, without the P.T.O. shaft.
- The price of the Silvercut 300 FC is 11 900 Euro without VAT.

Result: Working with Silvercut 300 FC is pleasurable and satisfying. Though some solutions must yet be found, the mower is easy to operate with. The critical points can be easily eliminated, starting with the case of protections. The remaking left a good impression on us and we have no comment on constant durability.

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