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# AGRO FORST TECHNIK

Spezialmaschinen und Geräte  
für die Forstwirtschaft

A-9470 St. Paul / Austria  
Telefon 04357/2077 — Telex 49279 aforst a

Büros in: Freiburg/Westdeutschland — Warschau/Polen — Praha/ČSSR  
Budapest/Ungarn — Sarajevo/Jugoslawien — Sofia/Bulgarien

# UNSER LIEFERPROGRAMM

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- Aufforstungsmaschinen - Quickwood
- Anbauseilwinden, mechanisch u. hydraulisch
- Entastungsmaschinen, pneumatisch
- Entastungsmaschinen, hydraulisch
- Entrindungsmaschinen, stationär
- Entrindungsmaschinen, mobil
- Forstgartenmaschinen
- Forstmulchgeräte
- Forstwerkzeuge
- Processoren für Schwach- und Starkholz
- Schutzvorrichtungen für Forstpflanzen
- Seilkrananlagen für Schwach- und Starkholz
- Samenklenganlagen
- Geodärische Instrumente für die Forstwirtschaft

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**WIR LÖSEN ALLE FORSTTECHNISCHEN  
PROBLEME — FRAGEN SIE UNS!**

# OPERATING-INSTRUCTION

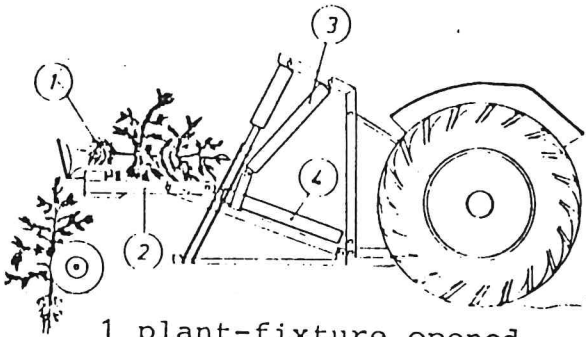
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QUICKWOOD-MECHANICAL-TREEPLANTER

Manual - Maintenance - Spare parts

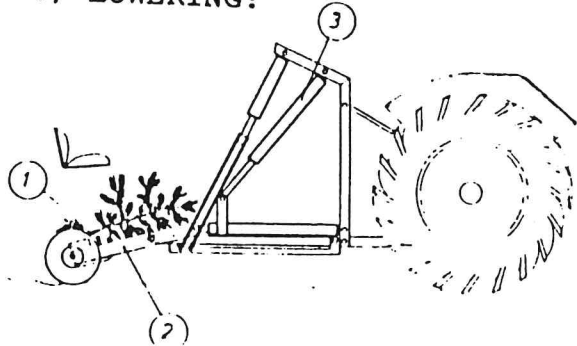
# QUICKWOOD - FUNCTION

## A.) STARTING-POSITION:



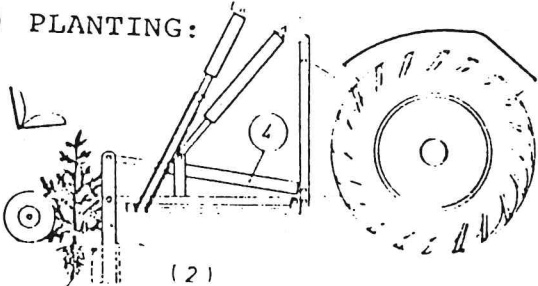
- 1 plant-fixture opened
- 2 planting tool starting position
- 3 cylinder retracted
- 4 Planting-cylinder retracted

## B.) LOWERING:



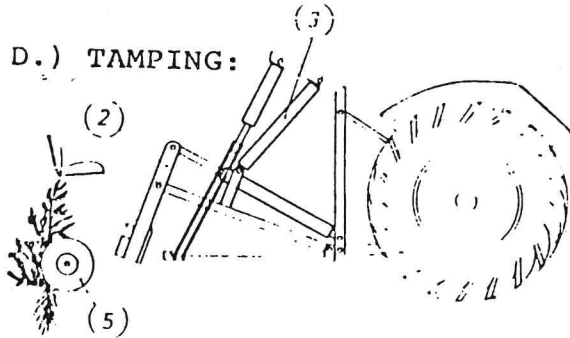
- 3 lowering-cylinder extends
- 2 planting tool is sinking
- 1 plant-fixture is closing

## C.) PLANTING:



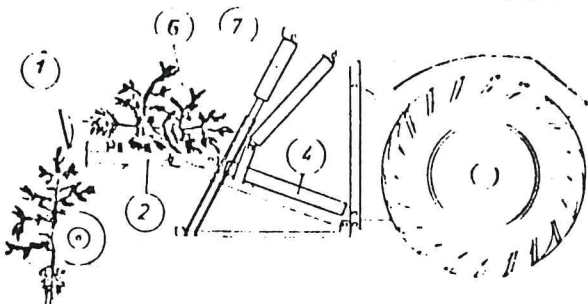
- 4 planting-cylinder extends
- 2 planting tool penetrates the soil
- 1 plant-fixture is opening

## D.) TAMPING:



- 3 lowering-cylinder retracts
- 2 planting tool lifts out
- 5 tamping discs fix the plant and close the planting hole

## E.) TO KEEP THE PLANT INSERT:



- 4 planting-cylinder retracts
- 1 planting-fixture is opening
- 2 planting tool returns
- 6 plant is inserted
- 7 depth limiter is variable

Quickwood is a planting machine that operates from a new concept and has been planted around the world. Properly used the equipment will render most satisfactory service in dealing with the unavoidable difficulties that present themselves in reforestation. It is therefore recommended to follow the instructions listed below.

#### Preparation.

Any type of tractor possessing three-point-linkage and external drive shaft can be used with the Quickwood. For very steep terrain a fourwheel drive tractor with rollguard is recommended. On extremely steep inclines a caterpillar may provide better traction. The only limitation to Quickwood's efficiency is given by the tractors climbing and pulling capacity on which, however, the Quickwood's presence has hardly any effect.

Quickwood is attached to the tractor by means of the three-point-linkage, in such manner as to lean slightly backwards, or to be perfectly level when lowered to the ground. Levelling is achieved by adjusting the length of the upper suspension.

#### Coupling of Hydraulic pump.

The hydraulic pump is simply slipped over the drive shaft of the tractor. It is to be secured against slipping off or faulting the shaft. This requires the services of a handyman, as each make of tractor differs. Some models lend themselves to attachment by a simple caravan coupler, others require bolts or studs.

We deliver the pump with a metal disc held by four screws. Welded to it is a steel flange and nipple. The flange may be bent as required, the nipple can be welded to the flange or to the tractor itself. Many variations of this simple device are possible

#### Important.

Never try to bend the flange whilst still attached to the pump. The pump must not be rigidly attached to the drive shaft. It must have play in all directions and be connected loosely.

#### Filling with hydraulic oil.

Quickwood uses light hydraulic oil of from 3<sup>o</sup> to 3,5<sup>o</sup> such as Shell Tellus 27 or BP Energol HLP 65 or Mobil Oil D.T.E.24. Oil capacity as apprx. 45 liters. Oil is carried not only in the tank but also in the framework of the machine. Filling and topping up should be undertaken in the following manner:

.../...

Fill the tank to the brim, then start the pump. After two to three minutes pumping the framework will be filled with oil. Stop the pump. Thereafter refill the tank up to about three centimeters below the rim. This completes the filling operation and the machine is ready for use.

Working instructions.

Only two men are required for planting with the Quickwood. One to drive the tractor, the other to do the planting.

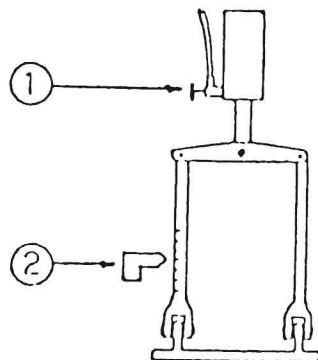
The tractor should start in low gear at a speed of from 1 to 2 kilometers p.h. The tractor shaft should then turn at approx. 540 revolutions per minute. Depending on the skill of the Quickwood operator, the tractor is driven with 1/2 to 3/4 power.

The Quickwood is lowered by means of the three-point-linkage into floating position so that the tamping discs may follow all undulations of the ground. The tractor's levelling device is to be switched off so that the tractor will not lift the Quickwood when the planting tool penetrates the soil.

The operator then takes a bundle of 20 to 50 plants from the plant container and rests in his lap. Then he proceeds to place a plant into the planting tool, making sure the stem is gripped by the clip and that no solid part of the root is showing below the tool. He depresses the front of the footpedal and releases his hold on the plant once the clip has shut. The planting tool then penetrates the surface of the soil and advances a set distance, whereupon the clip releases the plant. It now stands upright in the short slit trench. The operator then depresses the rear of the pedal which causes the tool to retract and to rise. Once the planting mechanism is in the neutral position the next plant can be inserted.

Adjusting the Depth.

Penetration into the ground can be varied by the operator whilst the equipment is in motion. Procedure: With the planting tool in neutral, the cock on the pressure cylinder is opened and the footpedal depressed, the depth gauge will now move. To increase depth, ① the pedal is pushed in the front, for more shallow planting it ② is pushed in the rear. This is done with the pump operating. When the depth gauge has reached the desired point of soil penetration the cock is closed and planting may continue. Once the operator has gained confidence in his control of the equipment, such adjustments may be without interruption of the planting process.



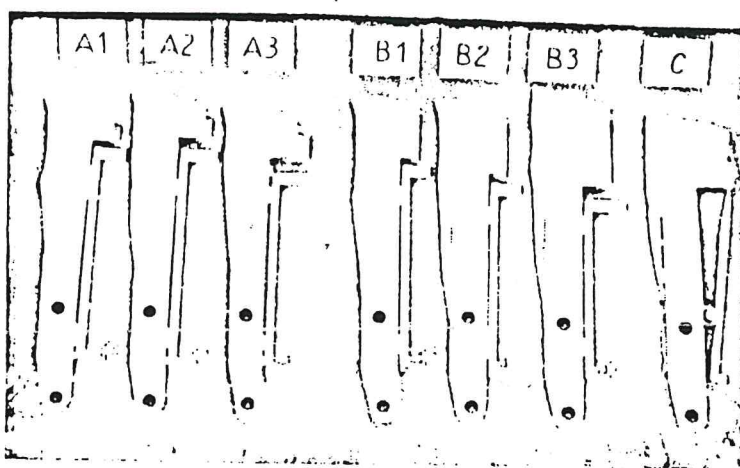
Selection of planting tool.

We manufacture various types of planting tools which are supplied with the machine or as extras. The planting tool should fit the length of the plant, its width and the spread of the roots. The root system must fit snugly within the cavity of the tool, must not protrude too far, but most also not be too small in relation to the tool provided. Should a root system be too big for the capacity of the planting tool, the plant will not be drawn into the soil, but will be thrown out.

For remedy use a larger capacity tool or enlarge the existing tool by welding strips of metal to it.

If plants are too small and the roots will not fill the space in the tool sufficiently, the plants will fall over when released by the clamp.

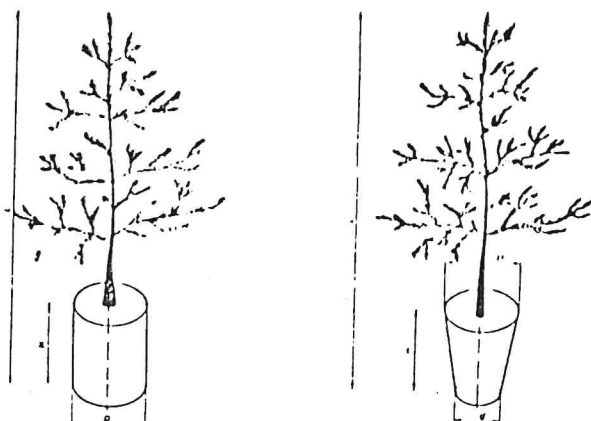
For remedy install a tool with smaller cavity, or modify the existing tool by bending or shortening.



Pflanzarm für flachwurzeltige Nadel- und Laubgehölze	Stammdurchmesser	Wurzelkörper
A 1 = 12—30 cm	2—8 mm	schmal
A 2 = 20—60 cm	2—12 mm	mittel
A 3 = 50—100 cm	8—20 mm	breit
Pflanzarm für tiefwurzeltige Nadel- und Laubgehölze		
B 1 = 12—30 cm	2—8 mm	schmal
B 2 = 20—30 cm	3—12 mm	mittel
B 3 = 50—100 cm	8—20 mm	breit

Potted plant tools are made to order. Specifications are required of the diameter and height of pot.

Changing the planting tool is simply effected by removing two bolts. After each change, adjustment is required for triggering the clamping device and free passage between the tamping discs must be ascertained.



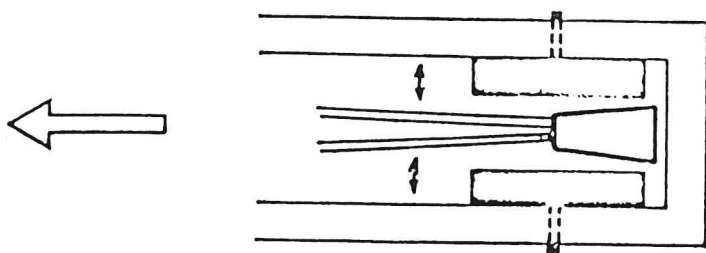
Container oder Tonballen



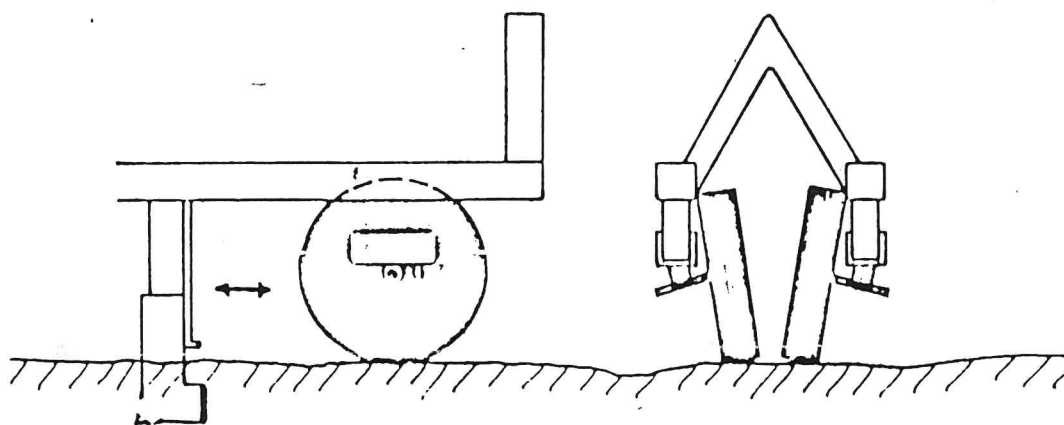
Adjustment of the tamping discs.

These can be adjusted in three dimensions.

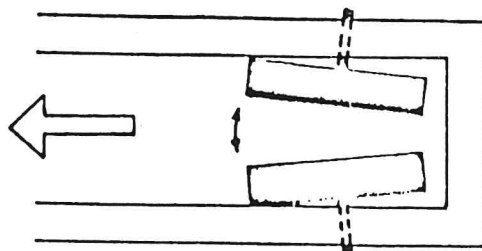
1) Axial adjustment. This allows for variation of the gap between tool and tamping discs.



2) Longitudinal. So that pressure will be applied close to the plant, or some distance behind.



3) Camber. The discs can be opened wider in front, resulting in the soil not only being pressed down, but also sideways towards the plant.



It is important to set the discs so that they exert pressure close to the planting tool at its lowest point of travel when the plant has been released. This makes it possible to maintain root depth even in most uneven terrain. If the plants have very long trailing roots it can happen that they are tamped before released. This rips the plant from the clamp, causing damage to its skin. Furthermore the plant will not be seeded deep enough and will lean at an angle. If this happens, the tamping discs must be shifted further to the rear.

When planting on clay or loam a cavity sometimes remains in the soil immediately behind the plant. To rectify this the tamping discs must be set at a greater camber and at greater distance behind the tool. This results in horizontal pressure on the soil

eliminating such cavities.- If this adjustment is overdone a ridge will form when planting, necessitating further adjustment by placing the discs more parallel. In very loose or very wet soil the discs must be set parallel or even closer in the front than in the rear.

NOTE: After each adjustment of the tampers and after each insertion of a different planting tool, the coordination between tool and tampers must be checked carefully and in slow motion. If the tool should not be able to pass freely between the discs either of these parts could be damaged.

#### Greasing.

To secure a long service life of the machine it is to be serviced as per the following instructions.

1) the gearbox of the hydraulic pump requires oil change once a year. Oil required of viscosity SAE 90, capacity 0,6 liter. Keep a check on the level in the glass cup.

2) the tamper discs must be greased once a week by oil gun. Nipples are provided.

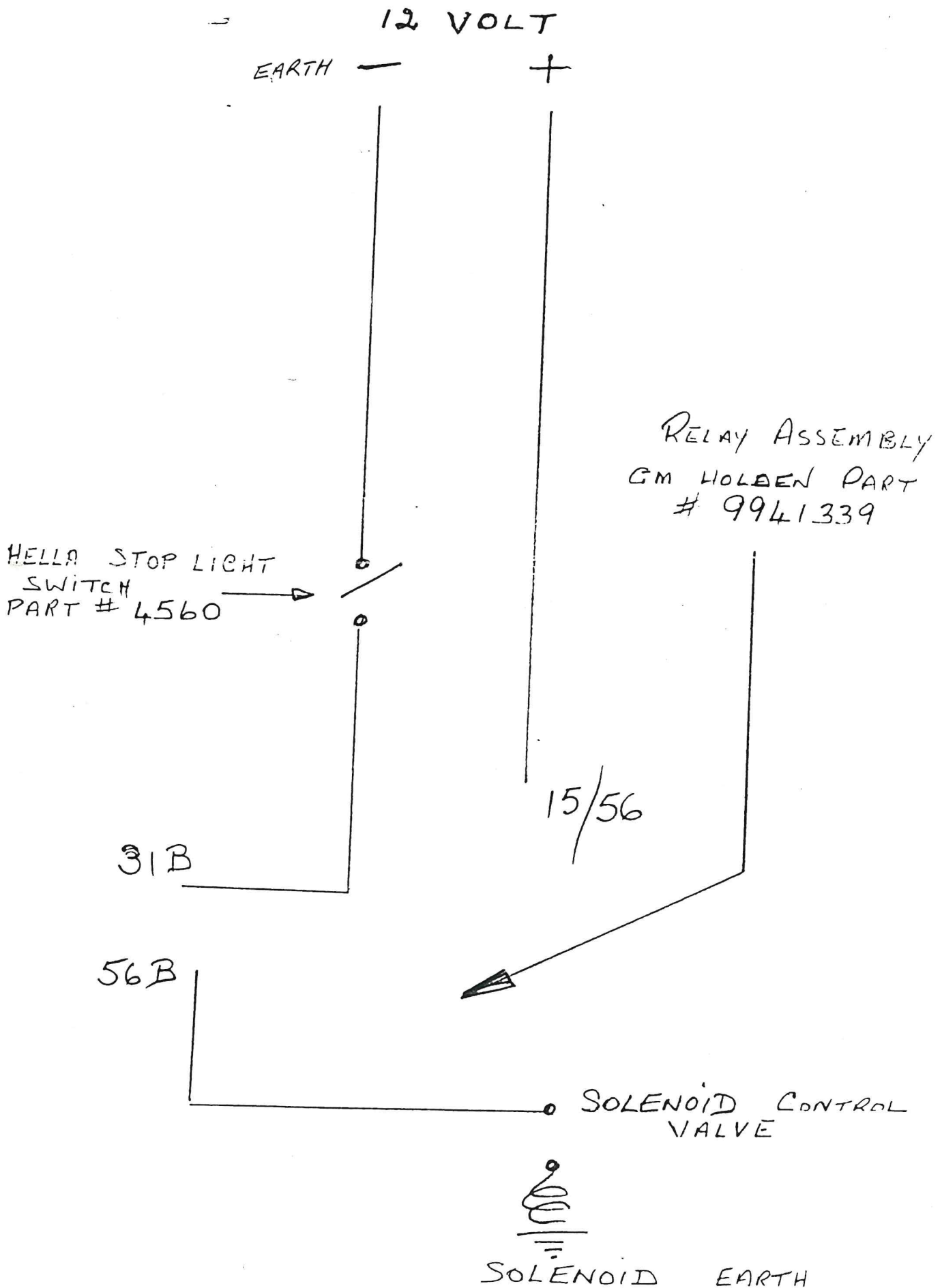
3) Two nipples on the planting tool are to be greased daily.

4) Other moving parts should be oiled daily.

#### Summary.

In setting out the above instructions we have tried to cover all contingencies for the inexperienced operator. Any forester a farmer used to handling mechanical equipment will hardly need instruction and will observe that the Quickwood requires no more care or attention than any conventional agricultural machinery.

# WIRING DIAGRAM FOR QUICK WOOD PLANTER



**World Market  
Novelty  
for Reforestation**

# Quickwood®

**Mechanical Planter eliminating grubbing,  
a technical breakthrough in reforestation**

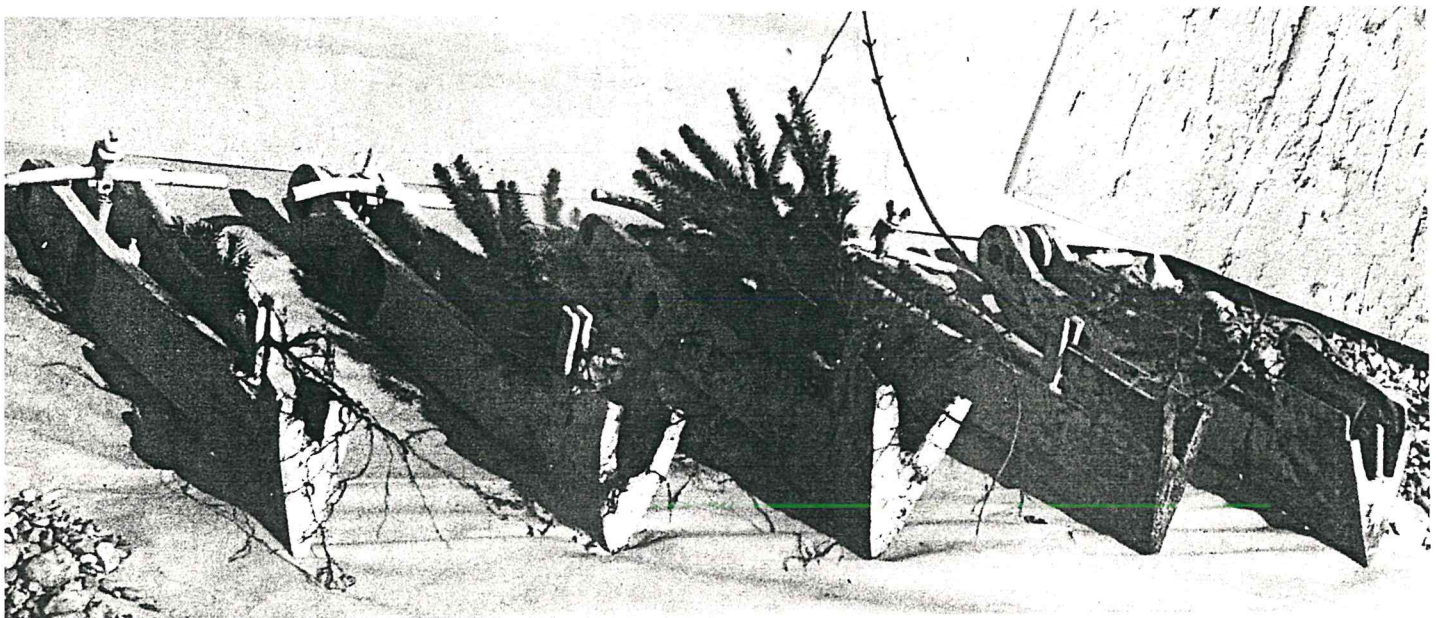


The QUICKWOOD Planter is basically a new development in the field of mechanical planting devices used for reforestation and other planting operations. Austrian engineers and foresters joined forces in order to overcome the inherent disadvantages of conventional equipment, which required preparation of tracts and proved slow and cumbersome.

The QUICKWOOD Planter offers unlimited usage for the planting of trees, shrubs and other plants in any kind of soil without previous preparation, and will do its job on the most difficult terrain, wherever a tractor will take it. Planting is possible with QUICKWOOD in stony fields or tracts of freshly felled woodland even before grubbing or burning off.

**The working principle** is mechanically simple and therefore sound and trouble free. A forged steel tool, performing the functions of both digging and depositing the young plant, is activated by a hydraulic piston. It penetrates the earth to a predetermined depth, deposits the plant and retracts.

Interchangeable tools to suit various kinds of plants and all conditions of the soil are supplied. They consist of a specially hardened cutting edge, a shoulder conforming to the spread of the plant roots, and a simple springsloaded fundng device.

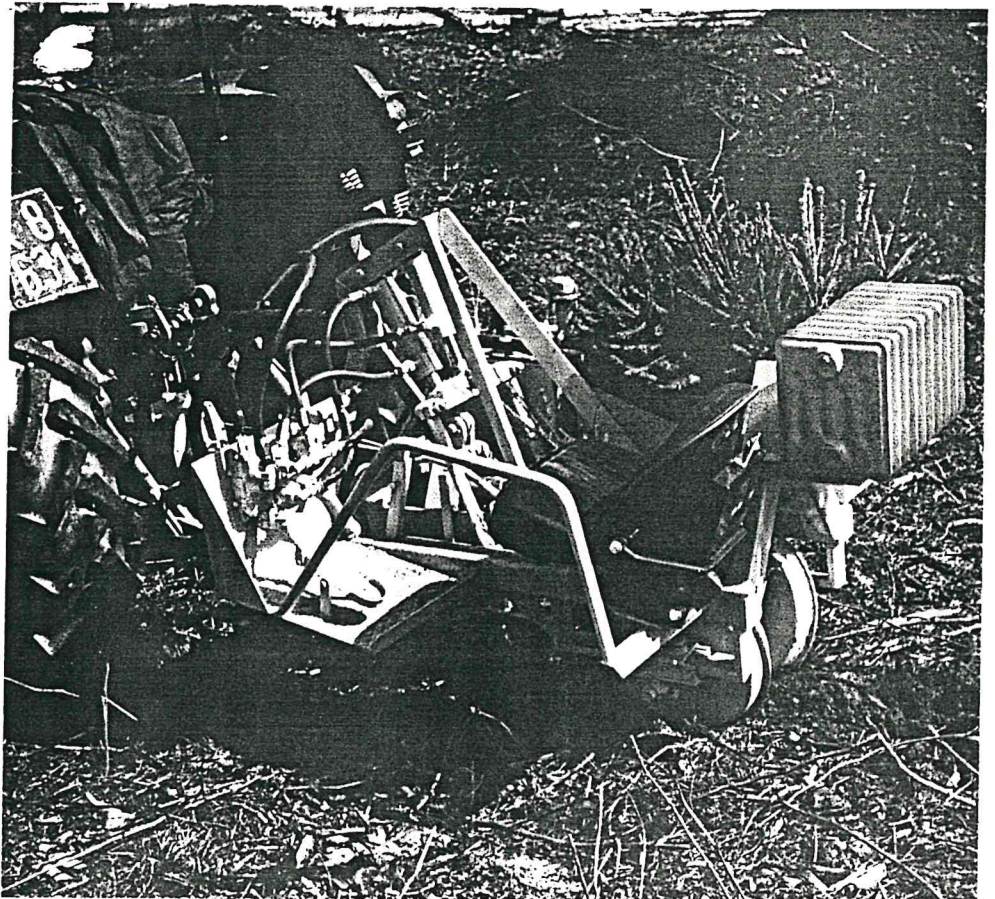
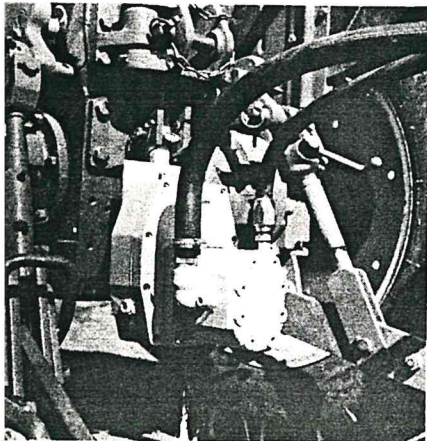
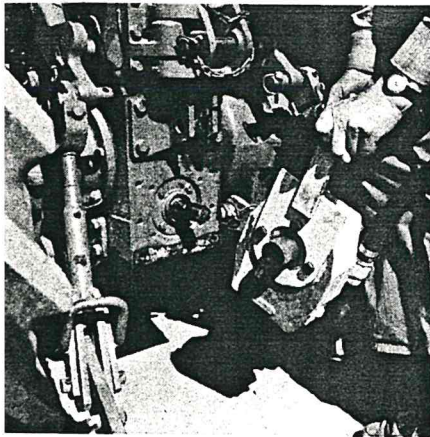


Planting-tools for deciduous- and coniferous plants

**Working areas:** In any terrain accessible by tractor or caterpillar be it virgin ground or woodland or fields just after harvesting, QUICKWOOD Planter will do its job. Branches, stones or roots cannot impair its steady progress. Even extremely hard soil condition, chalky formation, hardened clay and gravel, will be subdued as the planting tool has a penetrating force of up to 1500 kp. A safety valve protects the working parts should the planting tool hit an impenetrable obstacle.

**Variety of application:** All deciduous and corniferons plants up to 1 meter in lenght can be planted by QUICKWOOD. Gardenplants in plastic or paperpots can be accommodated and if needed special planting tools can be supplied for special uses.

**Operation** No special skill ist required in operating the QUICKWOOD Planter. The only manual task consist of inserting the plant into the feeding bracket which rises to seat level for comfortable manipulation. The actual planting operation is controlled by footpedal.



hydraulic pump-mounting of tractor-pin

40-HP-tractor with QUICKWOOD

**Technical data** Working speed: about 1—2 km/h; capacity: 800—1000 plants/h;  
Pressure-rolls: steel with flange adjustable in 3 directions; capacity of  
reservoir of hydraulic oil: about 60 l of oil 3°—3,5°.

Weight: about 390 kgs.

Dimensions: maximum length: 1,26 x width: 1,40 x height: 1,21 m.

**Essential advantages of QUICKWOOD planting** the natural structure of the soil remains undisturbed. Plants are deposited on, and surrounded by naturally grown soil, capillary structure and action remain unaffected. The moisture content is not broken up and exposed as in ploughing. Thus it will be observed that QUICKWOOD areas grow quicker than areas cultivated by conventional methods.

Even extended working hours will not overtire the operator who controls the planting without effort and in comfort.

QUICKWOOD will plant anything anywhere a tractor or caterpillar will go.

In spite of robust construction for long service life QUICKWOOD is light in weight.

The various planting tools are quickly interchanged.

We reserve the right to change specifications with the advance of technology. QUICKWOOD Planter is internationally patented.

**Forestry and nursery equipment:** We are specialists in the manufacture of forestry and agricultural machinery and of plant nursery equipment. Please ask for our illustrated brochures)

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**IMPORTEUR:**