Dear AGRIA owner,

Ensure that your dealer explains and demonstrates the machine before you operate it yourself.

Afterwards you should carefully go through this manual, making yourself thoroughly familiar with its contents.

This pocket book size of the manual was chosen to allow it to be carried at all times.

Any damages due to non observation of our instructions are not covered by guarantee. Thorough knowledge of the contents of this booklet will therefore repay you well.

The information contained in this manual will enable you to operate the machine easily and efficiently for all its many uses.

AGRIA-WERKE MOECKMUEH

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3
## G E N E R A L

The AGRIA All Purpose Tractor will always prove reliable and ready for use if properly serviced and operated.

This booklet gives all necessary instructions. When in doubt inquiries addressed to your AGRIA service agent will save you time, money and trouble.

Do not pay attention to the friendly advice of people who are not familiar with AGRIA machines.

Never use force. It cannot compensate for lack of practical knowledge.

Do not try to repair the machine yourself if the cause of the breakdown is not recognized and understood.

Either take the machine to your AGRIA service agent or ask for one of his engineers to come to you. He will be able to carry out repairs quickly and cheaply because of his knowledge and experience, and because he has an appropriately equipped workshop.

### Routine Checks:

1. Clean and lubricate the machine and the attachments time and again. Tighten loose screws and nuts.

2. Check oil level in the gear casing. Fill up to and keep oil always at dipstick mark (page 12, No. 7).

3. Regularly examine air cleaner. If dirty, clean it as described in engine manual.

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</table>
4. Check oil level of the engine oil container (page 8, No. 1) and fill in fresh oil before level is visible at the oil gauge (capacity: abt. 2 1/2 pints (1 3/4 litres).
   See that the engine is standing level when checking above.

5. Check if air holes in the tank covers are not clogged.

6. Check fuel tank contents (capacity abt. 20 pints – abt. 9 1/2 litres).

7. Check brakes. Have them overhauled regularly even when they are still working impeccably. At least every 6 months have the brake device disassembled and cleaned by your AGRIA Service.

MAIN PARTS

1 Oil gauge
2 Engine oil container
3 Clutch lever
4 Adjusting screw for clutch cable (now placed on handlebar)
5 Machine number
6 Adjusting screw for brake (now placed on handlebar)
7 Eye bolt (swung out)
8 Left-hand brake lever
9 Brake drum
10 Wheel flange shaft
11 Multi-track hub
12 Adjusting screw for throttle cable
13 Adjusting screw for brake (now placed on handlebar)
14 Plug of coupling device
15 Coupling device
16 Fuel tank
17 Engine data plate
18 Weight carrier
19 Support
20 Crank handle
21 Oil drainage plug (between 8 and 9 on casing's bottom)
22 Multi-track hub
23 Wheel flange shaft
24 Brake drum
25 Right-hand brake lever
26 Eye bolt (in neutral position)
Dimensions and Weight

Maximum length of tractor unit .... 8 ft. 10 ins. (2700 mms)
Maximum width .................. 3 ft. 3 ins. (1000 mms)
Maximum height (normal handlebar position) .... 4 ft. 6 ins. (1370 mms)
Minimum height .................. 3 ft. 11 ins. (1200 mms)
Ground clearance (wheels 7,00–18 tractor type) .... 10 ins. (260 mms)

Weight including multi-track hubs and wheels 7,00–18 tractor type.... 889 lbs. (403 kgs)

Fuel tank capacity ............... 2 gal. (Brit.)
                           ............. (9 ½ litres)
Engine oil capacity ............. 3 pints (Brit.)
                           ............. (1 ¼ litres)

All figures approximative
## Speeds of Model 1900D

Handlebar normal position, **engine in front** (seen in driving direction):

<table>
<thead>
<tr>
<th>Driving direction</th>
<th>forward and reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear</td>
<td>I</td>
</tr>
<tr>
<td>Gear speed (km/h)</td>
<td>m.p.h.</td>
</tr>
<tr>
<td>1,2</td>
<td>3/4</td>
</tr>
</tbody>
</table>

### Differential gear

The AGRIA Model 1900D differential gear gives easy steering and perfect control.

This differential can be locked if additional driving power is required under very difficult conditions.

This differential lock can be switched on and off by means of the left shifting rod (black ball, page 10, No. 10).

The differential gear is **locked** (both drive wheels are rigidly coupled) when shifting rod is **pushed forward**.

The differential lock should be used only as long as necessary because it renders the steering of the machine difficult.

### Engine clutch

For smooth starting and gear shifting the machine has a single disc dry friction clutch. It is operated by means of the engine clutch lever (page 10, No. 1) on the left handlebar. The Bowden cable can be adjusted by means of the adjusting screw on the handlebar.

To avoid the clutch slipping after considerable use adjustment must be made when necessary. The clutch lever must show a clearance of abt. 1/8 in. (4-6 mms) from stop to pressure point.

To avoid unnecessary wear on the engine do not rev up unduly after a change of gear.
Gears

Model 1900 D is equipped with 4-speed turning gears; this means that it can be run forward and backward on all 4 speeds. The hardened and ground gear wheels are running in full oil bath.

Changing of gears from forward to backward drive and vice versa is done by means of the right-hand shifting rod (red ball, page 10, No. 13). Pushing this rod forwards makes gears run forward; pulling it backwards will put gears in reverse.

If rod is between these two positions, gears are switched off - wheels and power take-off shaft are stopped.

Gear change

Gears are changed by means of the gear change lever (page 10, No. 4).

The 4 speeds are arranged in H position:

a) Engine in front (seen in driving direction):
   left-hand front ........................ 1st
   left-hand back ........................ 2nd
   right-hand front ........................ 3rd
   right-hand back ........................ 4th

b) Engine behind (seen in driving direction):
   right-hand back ........................ 1st
   right-hand front ........................ 2nd
   left-hand back ........................ 3rd
   left-hand front ........................ 4th.

Idling position is between 1st/3rd and 2nd/4th - rod is easily movable to the left and right side.

For speeds see table on page 14.

Brakes

Model 1900 D has a central brake with a braking effect on both wheels simultaneously.

The central brake is to be used when driving with the machine.

It is operated by means of hand lever (page 10, No. 9). The attached locking lever allows this brake to be used also as a parking brake.

The Bowden cable can be readjusted by means of the set-screw at the hand lever.

Using brakes for turning

For easy turning of the machine and for the correction of the driving direction during work the machine has been fitted with turning brakes.

They are operated by the two braking levers (page 10, Nos. 3 and 7) on the handlebar.

These brakes can be readjusted by means of the adjusting screws on the handlebar.
Effects of the turning brakes

a) Engine in front (seen in driving direction):
   Pulling back left-hand turning lever (page 10, No. 3) will brake the left drive wheel and machine will turn to the left.
   Pulling back right-hand turning lever (page 10, No. 7) will turn the machine to the right.

b) Engine behind (seen in driving direction):
   Pulling back left-hand turning lever (page 10, No. 3) will brake the right drive wheel and the machine will turn to the right.
   Pulling back right-hand turning lever (page 10, No. 7) will turn the machine to the left.

Important! Before turning by means of turning device shift to 1st speed and switch off differential lock.
(Other speeds will turn the machine too fast).

Power take-off

The p.t.o. (page 12, No. 3) is on the machine’s rear end. According to machine type it can be switched either dependent or not dependent on gear speed or only not dependent on gear speed.

For revolution rates and direction of rotation see table on page 14.

The p.t.o. is operated by means of middle shifting rod (yellow ball, page 10, No. 11).

Not dependent on gear speed position:
Shifting rod pushed forwards.

Dependent on gear speed position:
Shifting rod pulled backwards.

In middle position p.t.o. shaft is switched off.

For purposes of stationary driving the p.t.o. can only be used in the "not-dependent" gear speed position.

Direction of rotation will be determined by operation of the right-hand (red ball) shifting rod (page 10, No. 13).

If this rod is pushed forward the p.t.o. will turn right, seen in driving direction.

If it is pulled back, the p.t.o. will turn left.

Swiveling of handlebar

The whole handlebar can be swiveled to the left and right and also by 180°.

To swivel pull handlebar locking rod (page 10, No. 12). When handlebar is in desired position, the locking lever (page 11, No. 5) will engage automatically.

Swiveling by 180° can be done over the exhaust side only. Before swiveling take off the guide tube (page 10, No. 14) with the shifting rods. The shifting rods are swung laterally to the new direction and turned so that the guide tube can be inserted in the supporting bracket (page 10, No. 15).
Handlebar adjustment for best and easiest working

There are two possibilities to alter the height of the handlebar:

1. Adjusting steering column
   a) Loosen front elastic stop nut (page 11, No. 8) at the steering column foot.
   b) Adjust for desired height by means of handlebar lifting screw (page 11, No. 7). Turning to the right will lower the steering column, turning to the left will raise it.

2. Adjusting handlebar
   a) Loosen clamping spindle by turning hand wheel (page 10, No. 6) to the left until handlebar can be moved up and down.
   b) Adjust for desired height (let snap into groove).
   c) Fasten clamping spindle by turning hand wheel (page 10, No. 6) to the right.

Handlebar side adjustment
   a) Unlock screw hook by pressing adjusting lever (page 10, No. 5).
   b) Swivel handlebar.
   c) Let snap screw hook into groove.

Drive wheels

The regular size of rubber tyred drive wheels for model 1900D is 7.00–18 tractor type. Using multi-track hubs (page 8, No. 11 and page 9, No. 9) there is a choice of the following track gauges:

<table>
<thead>
<tr>
<th>Drive wheel</th>
<th>Multi-track hub</th>
<th>Track gauge (between wheel centres)</th>
<th>Track width (between external wheel edges)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>in.</td>
<td>mms</td>
</tr>
<tr>
<td>Valve outward</td>
<td>inner grade</td>
<td>21 3/4</td>
<td>548</td>
</tr>
<tr>
<td></td>
<td>inward</td>
<td>28 1/8</td>
<td>724</td>
</tr>
<tr>
<td></td>
<td>outward</td>
<td>24 3/4</td>
<td>628</td>
</tr>
<tr>
<td></td>
<td>inward</td>
<td>31 3/4</td>
<td>804</td>
</tr>
</tbody>
</table>
Recommended checks before putting the machine into operation

Before using machine check that

a) ample fuel in tank,

b) enough engine oil in container (page 8, No. 2),

c) oil level is up to line indicated by arrows at the bottom of the oil bath air cleaner,

d) gear change lever (page 10, No. 4) in idling position,

e) central brake lever (page 10, No. 9) is pulled out.

Prior to the first starting of the engine — after major repairs and after each interruption of the fuel and oil flow — and provided that the above checks have been made, the fuel and oil pipes must be cleared (see E 6 and E 7 of the engine manufacturers' manual).

A) Starting the engine with cranking handle:

1. Clean and oil bearing of cranking handle.

2. Open throttle lever fully.

3. Unscrew ignition paper holder. Crank the engine with cranking handle 2–3 times until injection nozzle spatters audibly. In temperatures below 2°C (35°F) crank the engine 5–6 times so that fuel is injected. Insert ignition paper in holder in such a way that ignition side protrudes. If in doubt which is ignition side, try with a match which side flares up brightly.

4. Tightly screw in ignition paper holder.

5. Pull starting button.

6. Insert and connect positively the cranking handle so that engine can be started only by sharply pulling up the handle.

C. After swinging 2–3 times against the compression pull through rigorously. Draw out handle as soon as engine starts.

8. Move throttle lever quickly to idling position and immediately back to full. When engine runs smoothly, move throttle lever back to idling and let engine warm up.

If engine fails to start on first try repeat starting procedure without using new ignition paper. Usually the engine will start on 2nd or 3rd try. If engine has no injection, renew ignition paper and repeat starting procedure. Make absolutely sure that starting button is pulled, otherwise there may be a nasty recoil.

In very low outside temperatures unscrew ignition paper holder, press stop button and crank the engine about 20 times. Then release stop button and continue cranking the engine until injection nozzle audibly spatters 5–6 times. Insert ignition paper holder with Ignition paper and start engine (see points 5–6).

Starting the hot engine, that is when it had been stopped a short while ago and is still under hot running conditions, is done without ignition paper.

If the hot engine will not start, unscrew ignition paper holder, press stop button and crank the engine about 20 times. Release stop button and continue cranking the engine until injection nozzle audibly spatters once or twice. Insert ignition paper holder (with ignition paper if required) and start engine.
B) Starting the engine with self-starter

1. Unscrew ignition paper holder.
2. Crank the engine 10 times with cranking handle.
3. Insert ignition paper holder with ignition paper.
4. Set throttle lever to full and pull starting button (engine) then close throttle lever to about ¼.
5. Pull main switch (No. 4), indicator light will glow.
6. Press starting button. If engine does not pick up, repeat procedure.

C) Stopping the engine

1. Put throttle lever to idling position.
2. Press stop button.
3. Press main switch (No. 4) so that indicator light (No. 6) extinguishes.

Electrical lighting, signalling and starting equipment

A) Basic electrical equipment No. 1979 b comprises:
- Dynamo
- Junction box
- Lighting system
- Battery with base plates and strap
- Electrical signal horn with button
- Connecting cables and mounting brackets.

It is recommended to have this equipment mounted by your AGRIA agent.

B) Lighting equipment No. 1979 d for the tractor comprises:
- Lamp carrier with steel armored headlights elastically mounted with built-in tail lamps. Connecting cables with plugs and 2 clamping rings.

This equipment can only be used in connection with No. 1979 b (see chapter A).

Mounting

Slide the two clamping rings on the rear tank supports of the fuel tank, mount the lamp carrier and fix it by tightening up the clamping rings. Insert plug into righthand socket of junction box (page 24, No. 2).
Operation

Switch on lamps by pulling white button (page 24, No. 3).

The battery will be charged only if the black button (page 24, No. 4) is pulled.

When engine is stopped, indicator light (page 24, No. 6) will glow. Then black button must be pressed.

The battery will be charged only if black button (page 24, No. 4) is pulled.

C) Self-starter No. 1979i

comprises:

- Starter
- Starter ring gear
- Button
- Cranking handle holder
- Connecting cables and mounting brackets.

It is recommended to have this equipment mounted at the factory or at a service station.

This equipment can only be used in connection with No. 1979b (see chapter A). For operation of self-starter see page 24.

For letters of reference see page 28.
Servicing and maintenance

As well as following the instructions referring to the engine it is just as important to follow our advice about servicing and maintenance.

Good performance depends on good servicing!

1. Check oil level before starting the engine.

2. Change oil in time. Keep oil filling plug, oil drainage plug and environment scrupulously clean so that no dirt may get into the interior of the machine.
   Oil must be changed after the first 20 hours, then after every 100 working hours.
   1 ¹/₄ gal. (Brit.) = 8 litres of a light gear oil SAE 80 such as ESSO GEAR OIL 80 of the ESSO A. G. are required. Oil has to be changed immediately after running the machine, engine being warm.

3. Do not neglect air cleaner (see engine manual).

4. Check that cooling system is working efficiently. Always keep the necessary parts in good order.

5. Check exhaust manifold every 200 working hours; decarbonize and clean if necessary (see engine manual).

6. Always keep tractor clean, especially the parts which help to make it run better and easier.
7. Regularly lubricate all moving parts, such as shifting rods, coupling device for trailed attachments (lubricating nipple page 11, No. 6 and 9), the hand levers, throttle lever etc.

Also lubricate Bowden cable cores in regular intervals.

8. Check tyre pressure of drive wheels with pneumatic tyres.

Tyres 7.00–18 on the tractor should have 11 lbs. per sq. inch (0.8–1 kg/cm²); tyres 6.00–16 on the trailer should have 35–36 lbs. per sq. inch (2.5 kg/cm²). Special attention is to be paid to equal pressure of both wheels in order to warrant easy driving.

9. Do not forget to check and service brakes of the tractor and trailer.

Have the braking system inspected at regular intervals even if they seem to be in good order. Brakes should be dismantled and cleaned every 6 months. It is recommended to have this done by a service station.

10. Do not garage machine

   in moist rooms,
   in rooms where fertilizer is stored,
   in stables or adjacent rooms

   as this would cause severe corrosion.

If machine is not used for some time it is necessary to

a) clean it thoroughly, check it over and replace any worn or damaged parts.

b) jack it up so that pneumatic tyres do not touch the ground. Pneumatic tyres perish in a very short time if left under load without air.

c) drain gear oil and, if possible, wash gear in petroleum. Fill in 1 1/4 gal. (Brit.) = 8 litres of fresh gear oil SAE 80 such as ESSO GEAR OIL 80 of the ESSO A. G.

d) preserve the engine (see engine manual).
MODEL 1900 D

Main attachments and positions

In the description of the various uses it is assumed that the machine is equipped with multi-track Hubs No. 1919.
Driving with trailer No. 1981

Necessary attachments:

a) 1 set of drive wheels with pneumatic tyres
   No. 1990 (7.00–18 tractor type)
   or No. 1991 (6.50–20 tractor type)
b) 1 trailer No. 1981 with pneumatic tyers
c) 1 set of mud guards No. 1924 for drive wheels No. 1990
   or No. 1924a for drive wheels No. 1991
d) 1 set of wheel weights No. 1921
   and
   1 set of additional wheel weights No. 1921a
   (for full utilization of loading capacity)
   1 front weight No. 1928a.

Mounting

1. Handlebar position normal, engine in front (seen in driving direction).
2. Mount drive wheels on multi-track hubs (track gauge 28 1/4 in. [724 mms], see data on page 21.)
3. Mount mud guards.
4. Attach trailer to machine.
5. Join lighting cable to the machine.

6. Mount wheel weights and additional wheel weights (if available) to drive wheels and secure by screws.
7. Mount front weight and secure by screws.

Driving

1. Put gearshift rod into idling position (see description on page 16/17).
2. Start engine and let warm up (see description on page 22).
3. Shift gear (under normal conditions start on roads in 3rd).
5. Release brakes on trailer and machine.
6. Slowly release engine clutch while opening throttle.
7. Changing from 1st to 4th gear:
   a) Pull engine clutch lever, regulate throttle.
   b) Shift gear.
   c) Slowly release engine clutch while opening throttle.
8. Changing down from 4th to 1st gear:
   a) Pull engine clutch lever, regulate throttle and speed.
   b) Shift to next lower gear.
   c) Slowly release engine clutch while opening throttle.
9. **Stopping:**
   a) Pull engine clutch lever, regulate throttle.
   b) Put gear shift rod to idling position.
   c) Release engine clutch lever.
   d) Pull on trailer and machine brakes.

Avoid overloading the trailer, it would be harmful not only to the trailer but also to the machine.

Air pressure of trailer wheels: 35–36 lbs. per sq. inch (2.5 atü).

Don't free-wheel!

**After driving**

Dismantling is done in reverse order.

---

**Lighting on trailer**

It is advisable to mount the lighting equipment (Nos. 1979b and 1979d) on the machine and not on the trailer because this will offer more possibilities to use the machine as a tractor.

However in such a case the trailer has to be fitted with 2 tail lamps. The electricity required can be taken from the left socket of the junction box (on the machine).

There is also a lighting equipment No. 1979g for trailers available. It comprises:

- 2 tail lamps with connecting cables,
- socket,
- mounting brackets,
- connecting cord with plug.

This equipment can only be used in connection with Nos. 1979b and 1979d (see description on page 25).

When the connecting cable is inserted into the left socket of the junction box (page 24, No. 5) the tail lamps of the machine will extinguish and the tail lamps of the trailer will burn (see wiring diagram on page 27).
Driving with power drive axle trailer

Necessary attachments:
a) 1 set of wheels No. 1990 with pneumatic tyres 7.00–18 tractor type
b) 1 set of mud guards No. 1924
c) 1 power drive axle trailer with lighting equipment.

Mounting

1. Handlebar normal position, engine in front (seen in driving direction).
2. Attach drive wheels to multi-track hubs (track gauge 28 1/2 in. (724 mms), see data on page 21).
3. Mount mud guards.
4. Attach power drive axle trailer to machine: Swing handlebar aside, adjust trailer drawbar to appropriate height (using spindle). Attach to machine and swing back handlebar.
5. Screw on intermediate gear for drive axle trailer to rear end of tractor.
6. Fasten drive shaft to intermediate gear, press lacking button. The telescope end of the drive shaft must always be well greased.

7. Slip protecting cover over drive shaft on the intermediate gear. (When disconnecting trailer this protecting cover must not be taken off.)
8. Join lighting cable to the tractor.

Driving

The power drive axle will increase the tractive power under difficult conditions such as in the field or on wet forest roads. If the tractive power of the machine is sufficient, the power drive axle should be switched off in order to avoid wear. For safety reasons drive only in 1st, 2nd and 3rd gear when power drive axle is switched on.

a) Driving with power drive axle switched off:

(see "Driving with trailer No. 1981", page 35)
b) Driving with power drive axle switched on:

1. Start engine and let warm up (see description on page 22).
2. Pull engine clutch lever.
3. Put rod for turning gear (red ball, page 10, No. 13) into "forward" position by pushing it forward.
4. Make power take-off shaft dependent on gear speed by pulling rod (yellow ball, page 10, No. 11) backwards (see description on page 19).
5. Shift to desired gear speed.
7. Slowly release engine clutch lever while opening throttle.

8. Do not touch power take-off rod (page 10, No. 11) while shifting gears.

c) Switching off power drive axle:

1. Pull engine clutch lever, adjust throttle and brake trailer until vehicle stops.

2. Switch off power take-off shaft, putting power take-off rod (yellow ball, page 10, No. 11) into middle position (see description on page 19).

On no account switch on the power take-off shaft which is not dependent on gear speed; this would stall the engine and damage the gears.

The power drive axle must be switched on or off only when the vehicle is stopped.

Hoeing and tilling

Necessary attachments:

a) 1 hoeing gear No. 1901
b) 1 hoeing attachment No. 1908–1912 (according to hoeing width), comprising:
   - 1 set of hoeing rotors
   - 1 hood and
   - 1 set of clamping studs
c) 1 set of drive wheels No. 1990 (7,00–18 tractor type)
d) 1 front weight No. 1928

Mounting

1. Handlebar normal position, engine in front (seen in driving direction).

2. Mount drive wheels on multi-track hubs up to 28½ ins. (72 cms) working width on 21½ ins. (548 mms) track gauge, from 35½ ins. (90 cms) working width on 24⅛ ins. (628 mms) track gauge (see description on page 21).

3. Flange on hoeing gear.
   Please make sure that connecting surfaces are clean and eyebolts are screwed up equally.

4. Adjust goose foot.
   a) Unscrew clamping bolt.
   b) Pull goose foot backwards and engage in desired lock (lowest lock = largest hoeing depth, uppermost lock = smallest hoeing depth).
c) Screw in clamping bolt loosely.
d) Adjust cutting angle of goose foot:
   For light sandy soil press rear arm as far down as it can just be held by the clamping bolt; the heavier the soil the more push rear arm upwards.
e) Tighten clamping bolt.

5. Put hoeing tines on hoeing shaft ends and screw them on.

Attention! Important! On left side is right-hand thread, on right side is left-hand thread. The clamping bolt with left-hand thread is marked “L” on bolt’s head.

6. Mount hood and screw. For wet soil and large hoeing depth upper lock, for dry soil and small hoeing depth lower lock.

7. If required mount front weight and screw. For deep hoeing and tilling it is recommended to work without front weight.

Working
1. Put gear shift rod and power take-off rod (page 10, Nos. 4 and 11) into idling position.
2. Start engine and let warm up (see description on page 22).
3. Pull engine clutch lever, switch power take-off shaft to not-dependent-on-gear-speed position, that is push rod for power take-off shaft (yellow ball, page 10, No. 11) forward (see description on page 19) and switch to 1st or 2nd gear – 1st for tilling (fine tilth), 2nd for hoeing (routher tilth).
4. Switch gear to “forward”, that is push rod with red ball (page 10, No. 13) forward (see description on page 16).
5. Slowly release engine clutch lever while opening throttle.

Attention! Important! Do not step under hood! Machine runs forward with hoeing rotors turning!

6. For turning switch to 1st and operate turning device (see description on page 17/18).

Switch off power take-off shaft before each turn.

After working
1. Dismantle implements in reverse order.
2. The hoeing gear must always contain sufficient gear oil.

Quantity required: 1½ pints (1 litre) of gear oil SAE 80 such as ESSO GEAR OIL 80 of the ESSO A. G.

For checking put the flangeing side of the hoeing gear on a horizontal base and unscrew oil filling plug. The oil surface must then be even with the bottom edge of the oil filler inlet.
Ploughing with reversible plough

Necessary attachments:

a) 1 set of drive wheels
   No. 1990 (7,00–18 tractor type) or No. 1991 (6,50–20 tractor type)

b) 1 set of wheel weights No. 1921

c) 1 set of additional wheel weights No. 1921 a

d) 1 bail with side stops No. 1940 b

e) 1 front weight No. 1928 a

f) 1 reversible plough No. 1944
   f 1) 1 additional front weight No. 1928 b
   f 2) 1 universal implement frame No. 1940
   or:

g) 1 reversible plough No. 1865
   g 1) 1 adjustable coupling device No. 1940 a

Mounting – reversible plough No. 1944

1. Handlebar position see chapter “Hoeing and tilling”.

2. Mount drive wheels on multi-track hubs on level ground widest track (31 1/2 ins. – 804 mms) ploughing across slopes, throwing sods uphill, one grade smaller track (28 1/2 ins. – 724 mms) (see data on page 21)

3. Mount wheel weights and screw on.

4. Screw bail with side stops on the back of the machine and slip stop plugs into the bail. In the middle of the bail there must be two free holes between the two plugs.

5. Mount universal implement frame on plough:
   a) Set both preselection levers on the universal implement frame into the outer locks.
   b) Hang universal implement frame on plough, first front lug then rear lug, push implement frame forward and tilt locking lever.

6. Put one preselection lever into the middle of the bail.

7. Set implement frame in horizontal position and let snap in.

8. Use adjusting spindle to lift the universal frame’s pivot to its highest position.

9. Lift handlebar to its highest position by means of the handlebar lifting screw (see description on page 20).

10. Back up the machine and connect plough.

11. Screw down handlebar until the plough has stopped swinging. It should be possible to just move the plough sideways by hand.

12. Mount front weight and screw on.

Mounting – reversible plough No. 1865

1. Handlebar position as above (see page 44, No. 1).

2. Mount drive wheels on multi-track hubs on level ground 28 1/2 ins. – 724 mms track gauge, ploughing across slopes, throwing sods uphill one grade smaller track (24 1/2 ins. – 628 mms).
3. See mounting of reversible plough No. 1944.
4. Lift handlebar to its highest position by means of handlebar lifting screw (see description on page 20).
5. Attach adjustable coupling device No. 1940a to the machine.
6. Back up the machine and connect the reversible plough.
7. Mount front weight and screw on.
8. Screw down handlebar until the plough has stopped swinging. It should be possible to just move the plough sideways by hand.

**Working**

1. Put gear shift rod into idling position.
2. Start engine and let warm up.
3. If reversible plough No. 1944 is used, mount second front weight and screw on.
4. Pull engine clutch lever, shift to 3rd and switch gear to "forward" (see description on page 16).
5. Slowly release engine clutch lever while opening throttle.
6. On starting the plough adjust ploughing depth and cutting angle.
   If the machine is set to the above track gauge, the ploughing width will be correct under normal conditions. In special cases the cutting width may be changed by means of the lever for lateral adjustment or by setting the machine to another track gauge. A larger track gauge will produce a larger cutting width and a smaller track gauge consequently a smaller cutting width.

7. **Border ploughing**
   a) Put stop plugs on the bail into the end holes.
   b) Loosen screw with spring washer on the border ploughing device, swing the plough to the left or right side behind a wheel and in this position screw on again the screw with spring washer.
   c) Use the lever for lateral adjusting to set the plough tip in parallel with the furrow.
   d) Working: (see ploughing with reversible plough). When border ploughing the differential gear must be absolutely locked.

8. **Turning at the end of a furrow:**
   a) Lift plough while driving, switch off differential lock (black ball).
   b) Pull engine clutch lever, put gear shift rod into idling position, release engine clutch lever.
   c) Disengage plough so that it swings freely.
   d) Pull engine clutch lever, switch to 1st, adjust throttle, slowly release engine clutch lever and turn the machine, driving forward, by using the left or right brake (see description on page 17/18).
   e) Pull engine clutch lever, put gear change lever into idling position and release engine clutch lever.
   f) Use foot to swing in the plough and let engage.
   g) Pull engine clutch lever, switch to 3rd, start driving and lock differential gear.
9. **Special device on reversible plough No. 1944**

One of the plough bodies of this reversible plough can be unscrewed which allows the plough to be used — by means of the border ploughing device on the universal implement frame No. 1940 — as a special bed plough in orchards, vineyards and hop plantations.

**After working**

Dismantle implements in reverse order.