e. 8. 200 hours
f. 9. 1/10/69
g. 9. 1/10/25
h. 9. D 12114
i. 8. A 15

In case of queries please store the following details:

The radiator contains all the year round an anti-freeze mixture effective up to −20°C. When leaving the works the tractor is ready for service. Engine, gearbox and hydraulic supply tank are filled with oil. The track width can be adjusted to 480 mm or 630 mm by turning the wheels.

The operator is designed with view to application in densely planted cultivations.

This manual gives instructions for service and careful maintenance of the tractor. It belongs in the hands of the tractor operator.
Technical Data

1. Engine

- Type: HD 1
- Manufacturer: Gebruder Holzer Maschinenfabrik, ZA18 Melchingen/Wurt.
- Model of operation: (d)
- Combustion: (e)
- Lubrication: (f)
- Cooling: (g)
- Compression: (h)
- Coolant water filling: (i)
- Cooling: (j)
- Cylinder heads: (k)
- Cylinders: (l)
- Cylinder bore: (m)
- Stroke: (n)
- Cylinder capacity: (o)
- Engine capacity: (p)
- Oil supply in oil tank: (q)
- Fuel consumption: (r)
- Oil supply in governor housing: (s)
- Commenunciation of delivery of fuel: (t)
- Injection pump: (u)
- Air filter: (v)
- Fuel tank capacity: (w)
- (y)

2. Oil

- 200/8 HP/m
- 12 HP at 2600 rpm after DIN 70020 (German specification standards)
- 90 mm
- 88 mm
- 1250 cc
- 0.75 hr
- 1.0 hr
- 4.38 hr - Anti-freeze mixture conditioned all the year round

3. Water-cooling

- Direct fuel injection
- Two-stroke
- In-line vertical

4. Large oil-bath air filter on request with cyclone presleeter
- 6.6 mm BTD

5. HDR
been used with each wheel.

Warranty claims must be refused if the track width has
been extended or the overhang is over 5 cm.

Permissible, warranty claims must be refused if the track width has
not been modified. Hub spacers are not

The track width of 63 cm must not be exceeded. Hub spacers are not

No other tyres than the original size 6-14 AS must be used.

All four tyres must have the same diameter and the same tyre pressure.

The particular attention of clients should be drawn to points v - x.
Transmission

2.

Revolving and detachable mission.

Hydraulic: (!)

Trailer hitch: (!)

Brakes: (1)

Minimum inner turning circle: 9 m

Steering: (1)

PTO: (8)

Differential lock: (3)

Front-wheel, foot-pedal operated diff-lock.

<table>
<thead>
<tr>
<th>Gear</th>
<th>Speed (kph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>11.2</td>
</tr>
<tr>
<td>2nd</td>
<td>22.4</td>
</tr>
<tr>
<td>1st</td>
<td>56.1</td>
</tr>
<tr>
<td>6th</td>
<td>19.3</td>
</tr>
<tr>
<td>5th</td>
<td>12.0</td>
</tr>
<tr>
<td>4th</td>
<td>6.6</td>
</tr>
<tr>
<td>3rd</td>
<td>3.72</td>
</tr>
<tr>
<td>2nd</td>
<td>1.99</td>
</tr>
<tr>
<td>1st</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Forward speed with tyres 6-14.5:

C Gearbox:

<table>
<thead>
<tr>
<th>Gear</th>
<th>Speed (kph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th</td>
<td>12.0</td>
</tr>
<tr>
<td>4th</td>
<td>6.6</td>
</tr>
<tr>
<td>3rd</td>
<td>3.72</td>
</tr>
<tr>
<td>2nd</td>
<td>1.99</td>
</tr>
<tr>
<td>1st</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Single-plate dry clutch.

Appox 740 kg on field bon.

Also with decoupled transmission. Max. limiting capacity 350 Kpm or

1 hydraulic cylinder hydraulics with Bosch gear pump (5.5 l/min). Lifts

Front pedal operates front wheel brakes, hand lever operates rear wheel.

Sprin-gear steering with back lash eliminator.

Max engine revs (2600 rpm)

Standard springs short with 540 rpm at 760 Rpm of 2100 engine rpm at

Front-wheel, foot-pedal operated diff-lock.

Operated front wheel diff-lock.

Revers differential, turning to front axle via twin propeller shaft. Pedal

broken by split pin propeller short and universal joints through gearbox to

6 forward gears (0.5-20 km/h) and 3 reverse gears. Drive from engine is
Permissible loads on axles only applicable for road driven.

<table>
<thead>
<tr>
<th>Load on Axle</th>
<th>Front Axle</th>
<th>Rear Axle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>750 kg</td>
<td>380 kg</td>
</tr>
<tr>
<td></td>
<td>800 kg</td>
<td>380 kg</td>
</tr>
<tr>
<td></td>
<td>900 kg</td>
<td>700 kg</td>
</tr>
<tr>
<td></td>
<td>1,000 kg</td>
<td>310 kg</td>
</tr>
<tr>
<td></td>
<td>1,200 kg</td>
<td>495 kg</td>
</tr>
</tbody>
</table>

Incident, Versus 1.5.25 and Holder Three-point Linkage

1 - 7-pole socket
1 - fuse box
1 - horn
1 - license plate light
2 - brake warning lights with switch
2 - rear reflectors
2 - rear fog light indicators
2 - front parking lights (driving and parking)

Battery: 12 V - 24 Ah
Bosch starter type AL 23/43/145
Bosch dynamo type L/GEH 90/12/1800 FR-15

Holder three-point linkage

Approx. 1.6 l/h (SAE 20 HD - B - 01 for diesel engines)
Y-belt has the right tension. Tighten screws [80 and 81 in (1)].

Dynamo pulley: For re-tightening Y-belt, slacken both screws of belt bracket and press dynamo outwards, if the belt is stretched.

Attention: The machines are shipped from the works all the year round with an anti-freeze mixture contained in the escape before removing it completely.

If possible, check when engine is cold; be careful when checking cooling water strength after running engine off.

cooling water

Remove all basin (22 in [1]), and top-up to mark with the same brand of oil as used in engine.

Oil both air filters.

Oil filter. (see page 36). The brand of oil first chosen should be continuously used.

March to September incld. To avoid damage caused through incorrect lubrication oils use only high-grade branded HD-B-SAE 10 oil if filled in from the works, from 15 October to February inclusive, and HD-B-SAE 20 oil from 15 January.

For temperatures over +30° C:
HD-B-SAE 10 oil is advisable from 15 October to February and HD-B-SAE 20 oil from 15 January.

With oil filters below 0° C:
HD-B-SAE 10 oil is advisable from 15 October to February inclusive and HD-B-SAE 20 oil from 15 January.

Check all level daily. Open cover of lubrication oil container (13 in [1]), take diprod (13a in [1]), out and fill with HD-B-oil. For diesel engines almost to centreline edge. Oil level must never be below diprod mark (MINIMUM).

1. Engine

Precautions for taking tractor into service!

C)
Remove protective coating of paint from lubrication nipples.

Hydraulic oil supply tank: SAE 20 HD-B oil for diesel engines. Lubricate nipples (5, 1 - 5, 9).

If the machine is on level ground the oil should be visible at the centre of the oil sight glass.

Front: Oil level sight glass (4/1) SAE 80 gear oil

Gearchbox:

Oil level sight glass (4/1/2) SAE 80 gear oil

Governor housing:

Ventilate (bleed) fuel system. Open screw (7/1/4) 3/1/9) 1/1/3 fuel comes out without bubbles.

Use only clean diesel oil. Dirty fuel causes excessive wear of fuel injection pump and injection nozzles.

Filling fuel tank:
If the tractor is used with trailer attached, local safety regulations must be observed.

Implement setting:
Parking the tractor on rising ground use suitable chocks, shift in auto off, engage low gear and lower attachment. Dependants on all four wheels. The hand brake (3 II, 2) is released by pushing the button of the handle grip. When the foot brake (2 II, 1) is used when the tractor is moving. The brakes have the advantage of acting at any time in.

3. Braking

Danger of poisoning through carbon oxides.

Never run engine in unventilated spaces.

Never use the implement with the implement you use the overranging angle of your tractor under consideration of all safety measures. Wheel weights increase safety.

When driving on rising ground, and particularly when turning on slopes be very careful. Rest yourselves.

When driving on rising ground. Control speed with selected gear range with throttle (3 II, 2).

Clutch pedal slowly. Control speed with selected gear range with throttle (3 II, 2).

If the selected gear proves difficult to engage, depress clutch pedal (36 II, 2) a second time (never use force). Release the selected dress gear range with preselector lever (2 II, 2) depressed clutch pedal (36 II, 2).

Open hand brake (3 III, 2).

Before using selector, lever throttle down to idling speed (32 II, 2). Depress clutch pedal (36 II, 2).

2. Driving

Move throttle lever back to low Reas.

a) Push starter knob on dashboard (1 II, 1). Release starter knob as soon as engine springs to life.

b) Move throttle lever (2 II, 2) to approx. 3/4 Reas.

c) Insert key into ignition (6 III, 4) so that red charging lamp (9 III, 1) lights up.

d) Push blue starter knob of injection pump (37 III, 10).

(1) Preparations

D) Taking tractor into service
7. Hydraulic Lift

The use of hub spacers is not permissible:

- They will put too much stress on the transmission.
- They will interfere with the steering lock.
- They may give higher road speeds than permitted by local traffic regulations.

Following reasons:

- Check wheel nuts from time to time, particularly after changing wheels. Larger type sizes should be avoided for the wheel. The front wheels can be adjusted to the rearward track width. Tyres of all four wheels must be the same.
- When track width changes both pairs of wheels from right to left. Make sure that arrow on tyre always points for...

6. Track with adjustment

Lock front pedal (35 4 6). With differential locked the tractor must be steered straight ahead only.

The differential or lock. The two front wheels is prevent either of them from slipping. To apply diff-lock press diff. 5. Diff-Lock

4. Tractor Lighting

Traffic indicators and breaking lights. The seven socket is commercially available under the number DIN 7276.

Traffic regulations in Germany prescribe that the distance between tractor and outer trailer edge, as measured on the tractor, must not be more than 40 m. Also the trailer must be equipped with rear reflectors.

The height of the trailer must not exceed 500 mm. Also the trailer must be equipped with rear reflectors.
Let machine run idle for a short while. Move throttle lever (3) downward to idle position. Remove ignition key.

9. Shutting engine off

Let engine run idle, throttle engine reverse, shift selector lever (1) into neutral, put on hand brake (3) (II).
The fuel filter must be replaced after approx. 500 operation hours.

The fuel filter cannot be cleaned.

Replacements Fuel filter (29 III. 2).

or with a jet of water.

Clean radiator: remove dirt deposits by blowing from engine side through radiator shunt with compressed air.

Re-住院: S (See C - 1 d).

If frost is expected check cooling water concentration (see C - 1 c).

Cooling system

1. Change oil in gearbox for auxiliary pumps after 1000 operation hours. Drain oil on drain plug (30 III. 9) and refill.

2. Change oil in gear box (39 III. 9) with 0.75% SAE 20 HD-B oil to centre of sight glass (31 III. 9).

3. Change all oil in engine (37 III. 9) and wash with diesel oil. Let filler insert dry well and fill all oil basin with fresh engine oil up to mark.

4. Insert (36 III. 12) and wash with diesel oil. Let filler insert dry well and fill all oil basin with fresh engine oil up to mark.

5. Change all oil in engine (37 III. 9) and wash. The graphite seal (77 III. 9) and wash. The graphite seal (77 III. 9) must be fitted in a way that the two slots are diagonally on the longitudinal axis of the machine (see III. 9).

6. After 500 hours remove all dip plate (75 III. 9) and all dip strainer (75 III. 9) and wash.

Attention: After every change open ventilation screw on filter (69 III. 9) and wait until oil comes out without bubbles. Open hollow screw (64 III. 11) of oil pump III. suction pipe has been blocked well.

b) Ventilation ("bleeding")

High-grade branded for diesel engines (See page 26 C 1 d).

c) Change all in oil tank. Rinse all tank and clean oil filter (70 III. 9) after every 200-250 operation hours. Use only engine service chart F on pages 34 and 35. 

En Service and Maintenance
Clean ventilation filter after every 500 operation hours with diesel oil (19 III. 7).

(e) Hydraulic oil change for the first time after approx. 500 hours, then every 2500 hours. (Approx. 1.5 l/hr. HD 8 SAE 20 engine oil)

(40 III. 2) Drain screw (68 III. 7) Filter screw (43 III. 1).

SAE 80 gear oil in horizontal position of the rearge. The oil should be visible at the center of the sight glass.

Change oil for the first time after approx. 500 hours, then every 2500 hours. The rear gearbox contains 3.2 liters.

(d) Drain screw (15 III. 2) Oil sight glass (41 III. 1) Oil filler screw (44 III. 1).

Change oil after the first time after approx. 500 hours, then every 2500 hours. The front gearbox holds 1.5 liters.

SAE 80 gear oil

(c) Run steering to full lock.

Is available same as grease lubrication nipples of upper and lower universal shafts (2 each). For this purpose.

(b) Grease all lubrication nipples (5 - 9) after every 200 - 250 operation hours (monthly). If „Molykote“ grease above upper edge. Use only distilled water. Grease connection terminals lightly with acid-free vaseline.

Check battery (18 III. 1) every 4 weeks. In tropical countries every two weeks. The acid level must be 10 - 12 mm

(g) Battery maintenance

2. Tractor

(!) See replaced by the manufacturer!

Max. revs. Max. engine revs. must not be exceeded. If set screw (73 III. 9) is recessed any warranty claims must

(!) Tighten ventilation screw only after fuel loss come out without bubbles.

Open ventilation screw (74 III. 9) of injection pump.

(b) When fuel filter is replaced, or if oil has entered pipes.

(!) Before starting engine for the first time if fuel tank is empty

Ventilation ("bleeding" of fuel system)

(!) The fuel system must be ventilated (bled)
Transporting of persons is not permissible unless a suitable seat has been provided. Pay attention to your local safety regulations.

Transporting persons

Before putting fork, cam or governor switch from direct contact with water.

Protect air filter and governor switch from direct contact with water.

Before washing down the machine with water, disconnect battery terminals or, still better, remove battery entirely.

(9) Washing fork

Such as shaft of the clutch, brake pedal bearings etc. should be given a few drops of oil every week.

Service station. This should be particularly done if the tractor is frequently used on public roads. All moving parts, brakes, clutch and, if fitting system should be inspected from time to time, or at least once a year, thorough on accredited
### 2nd Service

**After every 200-250 hour operations:**
- Oil should be changed and all oil filters replaced in the presence of the tractor owner or his authorized person.

### 3rd Service

**After every 450-500 hour operations:**
- Air filter and oil filter should be changed and all oil filters replaced in the presence of the tractor owner or his authorized person.

### 4th Service

**After every 900-1000 hour operations:**
- Air filter should be changed and all oil filters replaced in the presence of the tractor owner or his authorized person.

### Engine

1. Engine:
   - a) Renew oil filling in gearbox for auxiliary pumps (see column E-1).
   - b) Oil should be changed in oil pan filled with HDB oil (see column E-6).
2. Oil should be changed and all oil filters replaced in the presence of the authorized person.
3. Oil should be changed in gearbox and oil filters replaced in the presence of the authorized person.
4. Oil should be changed in gearbox and all oil filters replaced in the presence of the authorized person.

### Transmission

1. Transmission:
   - a) Transmission oil should be changed and all oil filters replaced in the presence of the authorized person.
   - b) Oil should be changed in gearbox and all oil filters replaced in the presence of the authorized person.
2. Oil should be changed in gearbox and all oil filters replaced in the presence of the authorized person.
3. Oil should be changed in gearbox and all oil filters replaced in the presence of the authorized person.
4. Oil should be changed in gearbox and all oil filters replaced in the presence of the authorized person.

### Final Inspection

- In case of excessive loss of oil look for causes.

---

**SAE 80 gear oil:**
- HD-B-20 engine oil: hydraulic system, gearbox for auxiliary pumps (engine) HD-B-20: depending on auxiliary pumps (engine).
MIL-L-2104 B

asked whether their recommended oils are in conformance with the American Military Specification. This means that the reactor manufacturer's recommended oils should be used. Our foreign agents are requested to check the oils they have so recommended, and notify the proper channel of their findings.

<table>
<thead>
<tr>
<th>HD 90 Special</th>
<th>HD 90 Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veedol Engine Oil (Heavy duty plus)</td>
<td>Veedol Engine Oil (Heavy duty plus)</td>
</tr>
<tr>
<td>SAE 30</td>
<td>SAE 30</td>
</tr>
<tr>
<td>SAE 20</td>
<td>SAE 20</td>
</tr>
</tbody>
</table>

4. GASOLIN

| HD 90 Special |
| Veedol Engine Oil (Heavy duty plus) |
| SAE 10 W |

2. VALVOLINE

| SAE 30 |
| SAE 20 |
| SAE 10 W |

6. SHELL

| SAE 30 |
| SAE 20 |
| SAE 10 W |

The following oils correspond to the above mentioned specification and are recommended by us:

MIL-L-2104 B

The oils to be used with Holder diesel engines must be in conformance with the American Military Specification.
A tractor is best valued according to operation hours and age, with the following guiding principles:

A mower is generally valued according to driven kilometers and age.

H) How to Value a Tractor?

Permissible weight not exceeding 2000 kg.
The trailer hitch type 3050 is not automatic and must only be used for the attachment of single-axle trailers with a permissible weight not exceeding 2000 kg.
The trailer hitch type 3050 is not automatic and must only be used for the attachment of single-axle trailers with a permissible weight not exceeding 2000 kg.
Three-point linkage for vertical lift.

A) Three-point Linkage

The linkage assembly (30 III, 6 and 7) is fixed in two different positions, depending on implement for attachment.

Bobcat is insured through 1800 (see III, 7).

1800 driven km = 187500 driven km
2000 operation hours = 185000 driven km
1000 operation hours = 185000 driven km
500 operation hours = 190000 driven km
250 operation hours = 187500 driven km
10 operation hours = 75 driven km
1 operation hour = 75 driven km
42. Hydraulic cylinder
42. Front gearbox
69. Hydraulic lifts
67. Upper linkage arm, short
67. Upper linkage arm, long for 2-point linkage
67. Link carrier assy. Short
67. Link carrier assy. Long for vertical lift
68. Link carrier assy. Short
62. Standard spindle, T.O. short
69. Right downrods (adjustable)
69. Lower linkage arm
58. Upper linkage arm, long
58. Field bar
57. Lock
56. Lock
55. Left drawbar
55. Receiver
32. Trolley lever
auxiliary pumps (engines)
31. Oil level gauge (gearbox)
30. Oil level gauge (gearbox)
29. Fuel filler
28. Sport plug holder
27. V-belt for dynamo
26. Dynamo
25. Second hydraulic connection
24. Oil Regulator and cut-out
23. Air filter
44. Oil filter screw - front gearbox
32. Oil filter screw - front gearbox
42. Oil filter screw - rear gearbox
41. Oil level sight glass, rear gearbox
40. Oil level sight glass
39. Auxiliary pumps (engine)
38. Cooling water drain plug RH
37. Starter knob (blue)
36. Clutch pedal
35. Foot lever for front diff-lock
34. Hydraulic operation lever
33. Starter
33. Trolley lever
auxiliary pumps (engine)
32. Oil filter screw (gearbox)
31. Oil filter screw (gearbox)
30. Oil filter screw (gearbox)
29. Oil filter screw (gearbox)
28. Oil filter screw (gearbox)
27. Oil filter screw (gearbox)
26. Oil filter screw (gearbox)
<table>
<thead>
<tr>
<th>Blade</th>
<th>71. Graphite seal</th>
<th>77. Oil collector strainer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76. Oil drip plate (cover)</td>
<td>75. Oli return filter</td>
</tr>
<tr>
<td></td>
<td>74. Fuel return screw</td>
<td>73. Set screw for idling speed</td>
</tr>
<tr>
<td></td>
<td>72. Set screw for idling speed</td>
<td>70. Oil filter</td>
</tr>
<tr>
<td></td>
<td>71. Oil suction pipe, filter, oil pump</td>
<td>69. Ventilation screw for oil filter</td>
</tr>
<tr>
<td></td>
<td>70. Oil filter</td>
<td>68. Oil drain screw, rear trans.</td>
</tr>
<tr>
<td></td>
<td>69. Ventilation screw for oil filter</td>
<td>68. Oil drain screw, rear trans.</td>
</tr>
<tr>
<td></td>
<td>78. Engine serial number</td>
<td>55. Universal shortings</td>
</tr>
<tr>
<td></td>
<td>55. Universal shortings</td>
<td>56. Column pedal</td>
</tr>
<tr>
<td></td>
<td>57-8. Lubrication nipple of front pump</td>
<td>59. Oil pressure pump</td>
</tr>
<tr>
<td></td>
<td>84. Oil suction pipe for oil</td>
<td>82. Oil filter</td>
</tr>
<tr>
<td></td>
<td>83. Oil return pipe to oil tank</td>
<td>81. Dynamo fixing screws</td>
</tr>
<tr>
<td></td>
<td>80. Hex. nut for Y-bell housing</td>
<td>79. Filter cartridge (wire gauze)</td>
</tr>
<tr>
<td></td>
<td>79. Filter cartridge (wire gauze)</td>
<td>31. Lubrication nipple of fan</td>
</tr>
</tbody>
</table>
blade

51 Lubrication nipple of Fan
55 Oil pressure pipe
delivery pump

54 Oil suction pipe for oil
53 Oil return pipe to oil tank

52 Oil suction pipe of oil return pump

50 Hex. nut for Y-bel housing

49 Filter cartridge (tine gauge)
(embossed)

48 Engine serial number

47 Oil drain screw, rear trans.

77 Graphite seal

76 Oil collector strainer

75 Oil dip plate (cover)

74 Fuel ventilation scree

73 Set screw for max. revs.

72 Set screw for idling speed

71 Oil outlet pipe, filter-oil pump

70 Oil filter

69 Ventilation screw of oil filter

mission