

Potato Digger

AMAZONE S 56 R

Instructions for Use

and

Parts List

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The figures shown in brackets behind any part of the digger mentioned in the descriptive text of this leaflet refer to the parts list in Sect. N. The figures were added to assist the reader and to indicate at the same time the number of the drawing involved.

To cite an example, "share (1/4)" means that the share is shown in drawing Nr. 1 under the reference number 4.

A) Delivery of the machine:

The AMAZONE S 56 R potato digger is delivered to Buyer as specified in his order, after a trial run at the factory. The required tools and spares (as listed below) are in the tool box.

List of parts supplied with the unit

- 1 spanner (wrench) 10/11
- 1 spanner (wrench) 14/17
- 1 spanner (wrench) 17/19
- 1 spanner (wrench) 22/24
- 1 spanner (wrench) 30
- 1 socket (wrench) 14
- 1 grease gun
- 1 chain joint $\frac{5}{8}'' \times \frac{3}{8}''$
- 1 chain joint $\frac{3}{4}'' \times \frac{7}{16}''$
- 1 chain link, offset $\frac{5}{8}'' \times \frac{3}{8}''$
- 1 chain link, offset $\frac{3}{4}'' \times \frac{7}{16}''$
- 2 cotter pins, spring type 3 mm
- 2 cotter pins, spring type 6 mm
- 2 fitting keys $8 \times 7 \times 20$
- 2 fitting keys $8 \times 7 \times 30$
- 1 fitting key $8 \times 7 \times 80$
- 2 retainer rings A 25×1.2
- 2 retainer rings A 30×1.5
- 6 pressure grease nipples, various types

It is recommended to check the machine upon arrival at the railroad station or on the carrier's truck for transportation damages.

Defective parts must be reported at once, and a claim must be filed at once with the transportation agency in question.

Before removing the digger from the freight car or truck the throwout lever (1/2) must be pulled forward so that the share (1/4), the haulm lifter (1/6), the haulm cutter (1/8), and the haulm harrow (1/12) are raised into full road clearance position.

After the potato digger with all its accessories is unloaded, the platform (1/15), or the platform trailer, or the dump hopper cart (13) are bolted to the attachment lugs and secured with a cotter pin (1/13). If the potato digger is to be towed over a greater distance the land wheels (S 11 and 12) must be lubricated.

After the digger is hitched to the tractor the front support wheel (1/1) must be pulled up and out of its two holding straps.

To prevent the front support wheel from getting lost it must be placed across the lateral displacement spindle (2/30) and fastened in that position, using the upper bolt. Before starting all parts of the digger must be examined to make sure that they are securely fastened and cannot work loose during transportation.

N. B. displacement spindle (2/29, 2/31)

B) Mode of operation:

The AMAZONE digger is a one-row machine. It lifts the potato ridge with a divided two-piece share (1/4).

The shape of the share is selected in such a manner that it meets the requirements of a great variety of soils. Where special conditions prevail the AMAZONEN-WERKE supply adequately developed special shares which can easily be exchanged to replace the standard shares.

The ridge lifted by the share is passed on to the elevator apron belt (4/24) through which a large part of the soil is removed while the balance is fed into the revolving drum (1/10). At this spot, however, the potatoes must still be imbedded in a sufficient amount of soil to prevent them from being damaged. Where necessary we suggest to have the standard type elevator apron belt No. 2 (slot width 29 mm = 1¹/₈"), replaced by the apron belt No. 1 (slot width 24 mm = 1"), in the case of light dry sandy soils, or by the apron belt No. 3 (slot width 34 mm = 1³/₈"), for loamy wet soils.

Cleaning is then continued in the drum; depending on the amount of cleaning required the 3 guide forks (2/20) may be left inside the drum or taken out.

The lifting flaps (2/14) arranged at the far side of the drum lift the potatoes and the greatly reduced amount of soil onto the front vibrating grid (1/11). The screening continues while the remnants of haulm and weeds are being picked out by the operator standing next to the drum on the right side of the machine.

Whatever extraneous material is still left is picked off the rear vibrating grid (1/14) by one or two other helpers so that only clean potatoes will be fed into the potato bin.

Depending on harvesting conditions in the field and the speed of the tractor power take-off the rpm of the potato digger may be adjusted for three different working speeds by selecting the proper shaft to which the articulated power drive shaft is attached. In addition, to improve cleaning efficiency where necessary, the shaking frequency of the grids may be varied by interchanging the two V-belts sheaves on the crankshaft and at the rear bevel gear.

Picking work is greatly eased by the following equipment:

- | | |
|----------------------------|--|
| Haulm lifter (1/6) | It lifts the haulm in the left furrow of the next row. |
| Haulm cutter (1/8) | It cuts the haulm of the next row and throws it underneath the digger. |
| Haulm harrow (1/12) | It removes haulm from the right furrow of the next row. |

C) First test run of the digger:

In spite of the fact that every potato digger is properly lubricated before it leaves the factory it is recommended that all lubricating points should be checked once more before making the first test run (Please refer to Section M - Serving directions and lubrication chart).

Before the digger is hitched to the tractor the front support wheel crank (1/1) is turned until the lowermost projection of the 3-pronged hitchbar fork (2/1) has reached a clearance of about 350 mm (= 14") above ground. In addition, the hitchbar (1/3) must be shifted by means of the lateral displacement spindle until it forms a right angle with the front tubular cross member of the digger frame.

When the tractor is backed up attention should be paid to have the hitchbar fork (2/1) point to a spot offset with relation to the center line of the tractor drawbar, to an extent of 20 cm = 8" to the left (see Fig. 3). The hitching is greatly facilitated by shifting the hole in the coupling to the right or left by means of the lateral displacement spindle, until the hole matches with the corresponding hole in the drawbar of the tractor.

The telescoping shaft of the articulated drive-shaft is inserted in the shaft sleeve, and the telescoping shields into one another, (5/4-7). When fitting the quick action coupling (5/1) into the power take-off one must push down the coupling pin until the pin engages with the groove in the power take-off shaft (perceptible to the touch but not to the eye). Let go the coupling pin and continue pushing the knuckle joint forward until the pin catches and emerges from the coupling.

Before the idling test all loose parts (bolts, keys, etc.) must be secured; the front support wheel must be removed.

Special warning. Watch out for haulm cutter (1/8), as the rapidly turning cutters may inflict serious injuries.

Then the clutch is engaged and the tractor engine is slowly brought up to full speed. If any moving parts should chafe or hit against others, the power drive shaft must be disengaged at once and a repair man called in, as such troubles may be the consequence of damages during transportation.

With all parts and accessories set for full road clearance a few left and right turns are made at a moderate speed. **The telescoping shield and the sleeve and tube of the power intake shaft must not bump into the knuckle joint, on the one hand and remain in close contact with one another, on the other hand.** If necessary, the telescoping parts must be shortened or exchanged for longer ones.

Upon completion of this first test run the digger is ready for field work.

D) Man power requirements:

The AMAZONE potato digger must be manned with two to four farmhands and a tractor driver, depending on the method of work selected and the prevailing soil conditions.

The first operator has his place on the right side of the machine (seen in the direction of drive) next to the vibrating grid. He is responsible, jointly with the second operator, for the proper operation of the digger. He lowers the share and adjusts it to the proper digging depth. He picks most of the haulm stalks and of the weeds off the front vibrating grid and throws them away, onto the cleared portion of the field.

When the end of the row is reached the share is lifted out of the soil and cleaned, if necessary; the digger is checked and whenever haulm or weeds have collected they are removed by him. If the digger is operated with a hopper cart in tow, the first operator actuates the hopper tilting lever (13/12) (please refer to Section F 4).

The second operator stands on the foot board on the left side of the potato digger (seen in the direction of drive). He is in charge of centering the digger to the first ridge; he picks whatever extraneous material should reach the rear vibrating grid. As the left side of the digger travels along the uncleared portion of the field, this operator must throw the picked weeds across the vibrating grid to the cleared ground. In addition, this operator is responsible for the proper functioning of the haulm cutter, the haulm lifter, and the haulm harrow and must raise the haulm harrow at the end of the cut.

A third operator will be required whenever the digger is operated with a platform or a platform trailer. He puts the bags or sacks and the baskets underneath the discharge funnel and drops the filled containers from the platform onto the field or stows them away on the platform of the trailer.

Under extremely difficult conditions due to excessively stony or weedy soil it may become necessary to arrange for a fourth picker at the vibrating grid. This farmhand may assist in placing the filled containers on the field if the yield is high.

The tractor driver must develop the proper feel of an adequate power take-off speed and of the right forward speed of the digger. The better he adapts his speed to prevailing conditions the better the digger will function. After the team is sufficiently trained he will take charge of lowering and raising the share at the beginning or end of the cut.

It is of the greatest importance that the crew learns to work as a team.

E) Use during the potato harvest:

The first test run is decisive for familiarizing the team with the operation of the digger. In view of that one should avoid to select the most difficult and the weediest potato field for the first test.

Before the start the land wheels (2/12) of the digger are adjusted to the proper track width, depending on the width of the rows:

The locking screws at the axle brackets are loosened; the axles are pulled out to the desired track width; the lock screws are tightened. It must be considered that there will be three ridges between the left and the right land wheel.

An example: width of rows: 62.5 cm (24½ in.) - width of track: 187.5 cm (74 in.). If the field is cleared from the outer edge inwards only the left land wheel need be adjusted, as the right land wheel will run on cleared ground.

Then the digger is towed to the ridge to be cleared in such a manner, that the left wheels of the tractor run in the furrow to the left of that ridge. The left wheel of the digger will run in the second furrow to the left (see Fig. 3).

With a short forward pull on the share-lifter handle (4/1) the share is lowered and the estimated digging depth is adjusted by means of the precision adjustment spindle, (4/4). If it should prove impossible to adjust the share deep enough or shallow enough, the two share depth setting rods (4/8) are disengaged from the lifter bar and secured again one hole higher or lower.

Before starting, the share must be centered to the ridge, by way of a few turns of the lateral adjustment spindle (2/29).

With a turn to the right, the digger and with it the share are shifted towards the right.

With a turn to the left, the digger and the share are shifted towards the left.

During that time the second operator must adjust, with the power take-off cut out, the cutter head of the haulm cutter (1/8) by loosening the counter nut (11/16) and turning the handwheel (11/17) in such a manner that the lower cutter blades barely skim the surface of the ridge.

Following this adjustment the counter nut must be retightened.

Besides that he adjusts the turnbuckle (3/1) of the lifter rope (3/2) in such a way that the haulm lifter tip is close to the ground.

The clutch of the power drive shaft is thrown in and the tractor proceeds into the potato field in starting gear with the throttle three-quarter open for a distance of 5 to 10 meters (15—30 feet). The depth of the share, of the haulm cutter and the haulm lifter as well as the lateral displacement of the digger are checked and corrected, whenever necessary.

The potatoes should not be bruised or show any cuts. On the other hand, the share should not turn up the soil nor lift too much soil onto the elevator apron belt.

With the operators at their places the digger clears the first ridges in first gear with the throttle three-quarter open, with all details being closely watched. If the digger is to perform to satisfaction the share must be kept bright and keen and for that reason it is recommended to have the share properly cleaned at the end of each row.

If any potatoes should spill over the upper edges of the shares, the angle of incidence can be reduced in the following manner:

The two clamping screws (4/21) on both sides of the apron belt frame are loosened.

The two share halves are pulled outward by about 20 mm. The tips of the shares are forced up and the share halves pushed back until the upper edge of the share carrier (4/23) has close contact with the click-stop pin of the clamp plate (9/5). If the digger should still fail in properly taking up the ridge after this adjustment the standard share A must be replaced by the peaty soil share C.

If the cleaning efficiency of the digger is not satisfactory, the speed of the crankshaft operating the vibrating grid must be increased by interchanging the two V-belt sheaves on the crankshaft and at the bevel gear.

For other ways and means to increase the cleaning efficiency see section L 10.

After the operators have become familiar with the digger and all parts were properly adjusted, the tractor driver may continue in first or shift to second gear, depending on soil and weather conditions.

F) Description of the various work methods:

The AMAZONE digger is an implement developed in many years of hard work to enable the farmer to harvest his root crops at the most favorable time with a minimum of manpower.

On the other hand, the AMAZONE digger should not be regarded as a fair weather implement, capable of doing satisfactory work only under favorable conditions nor as a "miracle machine" which the tractor driver may pull across the potato cut, smoking his pipe, while all other farmhands stand idle and watch how the potatoes are cleaned, selected, and filled into bags.

The acquisition of a digger is tantamount to the motorization of the entire root crop harvesting work, i. e. not only of the harvesting crop, but also of all other work connected therewith, such as the transportation of the crop, the storage of the potatoes, the sorting, etc. Beyond that it has an important bearing on cultivation problems and even on the selection of the potato grades to be grown.

In view of the above the farmer finds himself compelled to throw many traditional habits over board and to determine by thorough calculation, taking into account the local soil and weather conditions, which one of the many possible harvesting methods he should select. He must try to avoid idling or waiting periods, he must find out how many farmhands will be available during harvest and what duties must be assigned to them in order not to overtax them or to have them stand around without doing anything. He must find out whether all available manpower should be mustered to handle the root crop harvest, or whether it may not be more suitable to separate harvesting and transportation operations and to do some other work on the farm or in the fields with the balance of his staff.

Even if we are not in a position to assist the individual farmers in drawing up their local working schedules, we nevertheless want to give them a few important hints with respect to the problems which may arise in connection with the various working methods:

1. Operation of the digger with platform

In this combination the AMAZONE digger is the implement best suited for medium-size family farms. The potatoes are filled into bags or sacks. The full sacks are pulled one by one from the platform and placed on the field to be picked up later. This work method does not involve any radical change of the usual harvesting and transportation schedules. It is recommended to have the filled bags fetched from the field and to have the potatoes sorted right out of the bags in the barn, in order to protect the potatoes from the risk of being bruised or damaged when the bags are emptied and the potatoes subsequently handled with a fork.

Daily acreage: 1.0 to 1.5 hectares (2 $\frac{1}{2}$ to 3 $\frac{2}{3}$ acres).

Manpower required: without transportation and with normal harvesting conditions:
1 tractor driver, 3—4 farmhands.

2. Operation of the digger in combination with the platform trailer

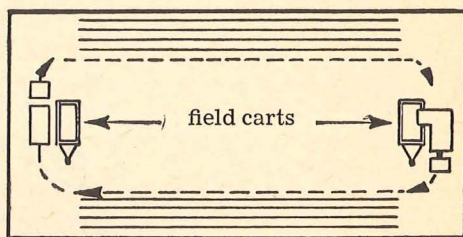
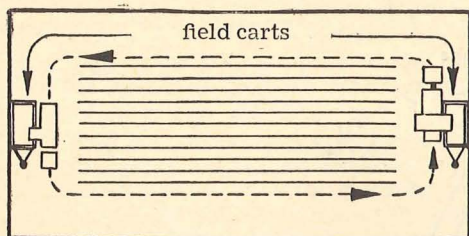
With the platform trailer in tow up to 12 cwt. of potatoes filled into bags or baskets may be taken along to the end of the cut, where the containers may be transferred to a field cart or placed on the headlands for later transportation. If the containers are emptied into the field carts the number of bags or baskets required can be reduced, but that advantage is more than offset by the prevention of damages to the potatoes which may easily get bruised when they are dumped into the field cart, and again when they must be handled with a fork during the discharge of the cart at the farm. It is recommended to have the potatoes sorted and classed at once in the farm yard or barn, or at a gathering station. Wherever early potatoes can be sold right off the field this bagging method saves much unnecessary transportation and handling.

Daily acreage: 1.0 to 1.25 hectares (2½ to 3 acres).

Manpower required: without transportation and with normal harvesting conditions:
1 tractor driver, 3—4 farmhands.

3. Operation of the digger in combination with the dump hopper trailer

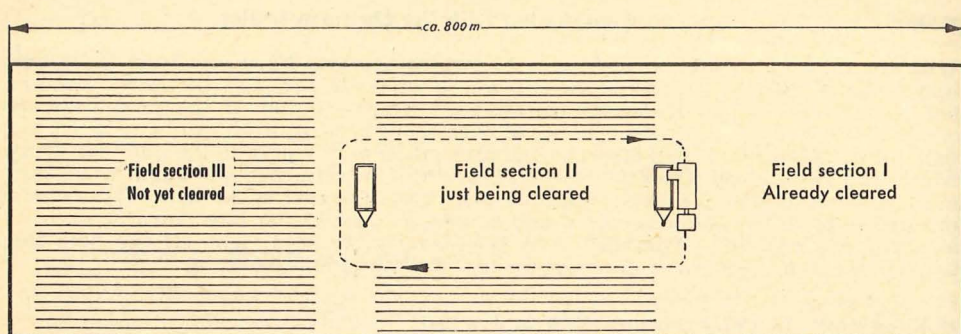
This method makes it possible to dump the potatoes in bulk into field carts located on the headlands (see drawing).



Arrangement of the field carts

When clearing from the outside inwards - When clearing from the inside outwards

As the capacity of the dump hopper is equivalent, with its 8 cwt., to a clearing distance of about 250 meters (750 feet), it is recommended to restrict the length of the rows to this maximum length during potato planting operations. Should that prove impossible even if the potatoes are planted in cross rows, it is suggested to first clear some headlands as shown in the drawing below:

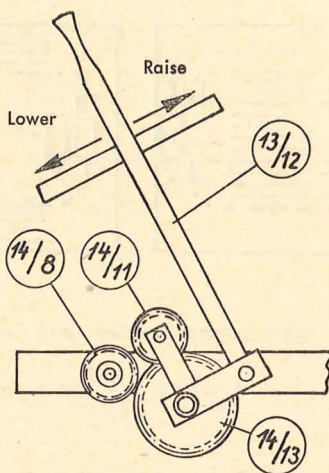


Subdivision of a long potato field to make possible harvesting operations with a digger/dump hopper trailer combination.

The dump hopper is discharged as follows:

The extension grid (13/11) is folded back. The triangular flap of the dump hopper is raised from the lower strap into the upper one. The tilting lever (13/12) is pushed towards the drum of the digger, while the engine runs at low speed.

The driving gear (14/13) meshes with the gear 14/8. The dump hopper is pulled upward until it reaches its uppermost position. Then the gears are automatically disengaged. As soon as all potatoes are discharged from the hopper, the lever is pulled back in the opposite direction. The intermediate gear (14/11) engages in its turn with the gear 14/8. The hopper is returned into its original position; the tilting lever is placed into neutral position while the triangular flap and the extension grid are likewise returned into their previous positions.



Both the digger/dump hopper trailer combination and the swath depositing method are well suited for sugar beet harvesting. If a sufficient number of field carts should not be available the cleaned sugar beets may be dumped in single piles to be picked up and loaded into field carts by means of a front-end loader at a later time.

Daily acreage: 1.0 to 1.25 hectares (2½ to 3 acres).

Manpower required: 1 tractor driver and 2 helpers.

G) Special supplementary equipment for potato digging:

1. Haulm removal

Three haulm removal appliances free the ridge to be cleared of both haulm and weeds before the ridge is lifted by the share.

1. 1) **The haulm cutter** (1/8) cuts and chops the haulm of the adjacent ridge and throws it underneath the digger. The haulm cutter can be adjusted in such a manner that the cutter head with its blades skims the surface of the ridge (see section E). **If the haulm cutter is set too low, a large amount of dust is kicked up, and the cutter shaft (11/14) and the tubular shaft (11/10) may be bent by the excessive stress.**

If the operation of the haulm cutter in this position is continued for any length of time serious damages may result. As to the measures to be taken to prevent such damages see section M - Servicing directions and lubrication chart.

1. 2) **The haulm lifter** (1/6) is designed to lift the haulm reaching over into the furrow to the left of the next ridge, to divide it, and to place it in the path of the cutter head.
1. 3) **The haulm harrow** removes whatever is left of the haulm from the right slope of the ridge to be cleared next so that that ridge is cleaned and free of any haulm or weeds when it will be lifted during the next trip of the digger.

2. Lifting of the ridge

Instead of the standard share best suited for a variety of soils the following types of shares may be supplied upon request to cope with special conditions:

2. 1) Shares for loamy soils which are similar to the standard shares in their shape but lift a smaller amount of soil on account of their slender design. They should be given preference in the case of heavy soil.
2. 2) Shares for peaty soils are fitted with higher wings or sides starting nearer to the tips of the shares. This design prevents the soil of the ridge from spilling over the edges of the shares during operations on peaty soil.
2. 3) Shares for sandy soils are fitted with two limiting discs or coulter on both sides of the shares so that a satisfactory lifting of the ridge is assured even in the case of quick-sand soils.

The shares are exchanged by loosening the clamping screws (4/21) on both sides; the share halves are removed and the halves of the special shares are shoved instead underneath the guide rails until they hit against the stop in the clamping plate (9/5). The clamping screws must be retightened firmly and thoroughly.

3. Cleaning mechanism

The following special equipment can be supplied upon request to improve or reduce the cleaning efficiency of the digger and to facilitate the picking of extraneous material, or to make possible the elimination of fodder potatoes during the harvesting operations:

3. 1) Elevator apron belt No. 1 with a reduced clearance between links and a slot width of 24 mm = 1", best suited for light dry sandy soils and for digging early potatoes.
3. 2) Elevator apron belt No. 3 with a slot width of 34 mm = 1³/₈" for heavy soils.
3. 3) To exchange the apron belts the tension adjusting nuts (4/20) are loosened on both sides. Next, the fastening screws are removed, the standard belt is taken apart, pulled forward and upward. When installing the new belt special attention should be paid to place the rear part of the belt on top of the belt return roller (4/19). The tension adjustment nuts must be tightened in a uniform manner after joining the ends of the belt with the fastening screws.

Caution! The ends of the new belt must be joined in such a way that the longer end is on the inside and points towards the rear during the return trip of the belt.

Whether the belt was inserted and fastened correctly or not can be easily found out in a short idling test run. If the belt creeps towards one side the tension adjustment screw on that side must be tightened to a slight extent.

3. 3) The agitator shaft (see Fig. 8) which is installed between the supporting rollers (8/1 and 4/22) of the elevator apron belt causes a stronger oscillation of the ridge soil taken up by the share and improves the separating efficiency of the elevator apron.

This shaft must be installed as follows:

The cotter pin (8/5) is removed from the intermediate tube (8/4). The complete agitator shaft assembly is inserted from below between the lower part of the apron belt section which travels towards the front and the belt frame. Should the belt turn out to be too taut it can be slackened by loosening the tension adjustment nuts (4/20).

The holes in the agitator discs (8/3) are placed over the centering pins provided on the supporting rollers; next, the cotter pin is reinserted (8/5).

It is essential that the agitating shaft with the agitator discs No. 2 (9 teeth) be used in connection with the apron belt No. 2 (standard-type belt), and the agitating shaft with the discs No. 3 (8 teeth) in connection with the belt No. 3. A mistake made in this respect will result in rapid wear of the apron belts and of the cams of the agitator discs.

In addition, the identification openings in the two intermediate tubes (8/4 and 8/6) must be visible from one side of the digger.

3. 4) The stone and clod screen with 2 lateral stone chutes will be required wherever cleaning operations are hampered by a high proportion of stones or clods in the soil lifted by the digger share. This stone screen is installed in the place of a rear vibrating grid (15/15) which must be removed first by loosening the 8 fastening screws. Where the number of stones is excessively large it is recommended to pick the potatoes and not the extraneous material into the lateral chutes and to detach the discharge funnel so that the waste can drop down to the ground. (This is possible only where the digger is operated either with the platform, or with the platform trailer in tow). In addition, the discharge chute (15/15) and the two lateral discharge chutes (15/22) must be screwed into place to make possible the filling of bags.
3. 5) The preliminary sorting appliance makes possible the immediate separation of fodder potatoes (stock feed). This appliance is of particular importance when early potatoes are harvested as it is then possible to sell pre-sorted potatoes. The appliance consists of a two-piece discharge chute (15/15), two lateral discharge chutes (15/22), and a set of sorting grids (15/16).

The pre-sorting appliance is attached to the digger as follows: The 4 fastening screws of the extension grid (15/16) are removed and the extension grid is replaced by a sorting grid. The discharge chute (15/15) is fastened to the 4 upper fastening screw discs of the rear supporting spring (15/24).

The lateral discharge chutes are fastened with their chute brackets (15/14) and 15/23) to the tubular frame members.

It should be noted, however, that this pre-sorting appliance is only meant as a device designed to help the farmer to separate fodder potatoes during digging operations. The sorting and grading of potatoes to be sent to the market, to be used for seed or for human consumption should be done as before on our AMAZONE potato sorting and grading machines.

4. **Land wheel steering mechanism.** In order to ensure satisfactory operation of the AMAZONE S 56 R potato digger during work on hillsides at right angle to the slopes the digger may be fitted with a special land wheel steering mechanism.

5. Drive gear

The articulated power drive shaft may be fitted with the shield type "S" (Walter-scheid Form C) instead of the shield type "D". The protective tubes of the shield "S" run on bearings fitted on the inner telescoping tube and do not rotate, while the tubes of the shield type "D" are rotating during operation although they come to a stop as soon as they come into contact with something, as e. g. the human hand.

Both protective devices are approved by the German Farmers' Association. **No machine should be operated without these protective shields!**

H) Special equipment for sugar beet digging:

1. Absolutely essential accessory equipment.
1. 1) The one-row sugar beet digger (Fig. 9) must be installed after removal of the two-piece potato share (see section I, 2) to ensure a clean lifting of the beets.
1. 2) The lifter rod (15/1) should be installed only if the lifting capacity of the lifting flaps should prove insufficient.
2. Supplementary equipment to improve cleaning efficiency.
2. 1) The beet cleaning chain (10/2) assists greatly in knocking off soil adhering to the beets, especially where the soil is loamy. After fastening the side rails (10/1) with screws to the wooden side boards (1/5) of the elevator apron belt frame the chains are inserted on both sides into the chain hooks.
2. 2) Removable screens with larger slits may be ordered from the factory where field conditions are such that the large cleaning area of the digger should prove insufficient to bring about a satisfactory cleaning of the sugar beets.
These replacement screens or grids are exchanged for the standard grids in the front or rear vibrating frames by loosening the fastening screws.
3. Land wheel steering mechanism. Where the digger is to be used on sloping fields it is recommended to have an extension steering rod with handwheel fitted to the machine. Together with that appliance a seat with footrest will be supplied from which the operator may currently adjust the sugar beet lifter fork (9/2) to keep it astraddle of the ridge. If this appliance is ordered at a later date full operating instructions will be included.

I) Conversion of a potato digger into a beet harvesting unit:

The AMAZONE potato digger can be converted in no time for use in sugar beet harvesting operations.

1. **Exchange of the potato share against the sugar beet lifter fork.** Loosen the clamping screws (4/21) on both sides of the elevator apron belt. Remove the two share halves by pulling them forward and out. Insert the one-row sugar beet lifter fork into the two holder straps until they come to rest against the clamping plate (9/5). Tighten the clamping screws and counternuts.
2. **Removal of the haulm lifter**
Detach the lifter rope (3/2) from the lifting arm of the haulm lifter. Loosen the clamp screw on the lifter lever. Lift haulm lifter bodily out of the guide straps. Watch out for parts that may fall to the ground during this work and pick them up at once, as e. g. the lifter lever (3/4) or the intermediate tubes (3/3).
3. **Disengagement of haulm cutter**
Unscrew chain lock and take off drive chain. Loosen counter nut (11/16). Turn haulm cutter shaft (11/14) upwards into its uppermost position by means of the handwheel.
Tighten the counter nut.

4. Removal of the front share guide wheel

Where the heads of the sugar beets protrude to a great height above the ground the front share guide wheel must be removed. To achieve that the 4 cotter pins are taken out so that the upper cross rod of the wheel frame (4/31) can be pulled out. The 2 cotter pins at the wheel frame guides are taken out, too, and the entire wheel frame assembly with the wheel in it is lifted out after rocking it to and fro a few times.

K) Use of the digger during sugar beet harvesting:

It is essential to have the leaves of the sugar beets cut off and removed from the rows to be cleared before the digger may be operated.

When adjusting the track width of the land wheels of the machine the width of the sugar beet rows must be taken into account.

Width of row 41.7 cm ($16\frac{3}{8}$ "")

Width of track abt. 208 cm ($81\frac{7}{8}$ "")

Width of row 50.0 cm (20")

Width of track abt. 190 cm ($74\frac{3}{4}$ "")

To prevent a double compaction of the soil on both sides of the beets by the rear wheels of the tractor the digger is offset sideways with respect to the tractor drawbar centerline and the hitch is connected to the tractor drawbar at a point abt. 20 cm = 200 mm ($7\frac{7}{8}$ in.) to the left of the centerline.

After having reached the field the left wheels of the tractor are placed in line with the first furrow to the left of the row of beets to be cleared. Accordingly, the left land wheel of the digger runs in the third furrow to the left if the rows have a width of 41.7 cm ($16\frac{3}{8}$ ""), and in the second furrow to the left if the row width is 50.0 cm (20.0 in.).

One of the operators now must effect the lateral adjustment of the digger so as to have the beet lifter fork centered exactly to the row of beets to be dug up, and must set the lifter fork to the proper working depth. If the front share guide wheel was removed the wheel frame retaining rod bracket (4/31) connected with the throwout lever (4/2) comes to rest against the front tubular cross member of the digger as soon as the throwout lever is pulled back, so that the digging depth can be adjusted also in this case by means of the precision adjustment spindle (4/4).

As soon as the digger functions properly one operator stations himself on the right footboard next to the vibrating grid to watch for any troubles that may arise and to see to it that the dump hopper trailer is constantly and uniformly supplied with beets. This operator is responsible, moreover, for the hopper being emptied on time. The beet lifter fork is so designed that it will be possible to drive the tractor/digger combination in second or third gear. Where harvesting must be done on sloping ground or hillsides it is suggested to include an extension land wheel steering rod with handwheel in conjunction with a seat and footrest; with the aid of that gear it is rather easy for an operator to keep the lifter fork properly centered astraddle of the row in question.

L) Trouble-shooting hints:

Potato harvesting

Defect or trouble

Cause and remedy

1. The share turns up the soil so that potatoes are spilled to the right and left of the share.

a) Share too shallow; adjust for greater digging depth.

b) Surface of the share too rough or soiled; clean and polish the share with a stone.

c) Burr on share's edge. Lift share out of the soil and remove burr. If necessary sharpen cutting edge.

d) A stone or something else has become wedged in between the 2 share halves. Remove the obstruction.

Defect or trouble

Cause and remedy

2. Share lifts too much soil.
 - e) Share angle too steep. Loosen the 4 clamping screws and reduce angle of share. (See Sect. E).
Where the stone content of the soil is low it is suggested to have the share backed up by abt. 90 mm (3½ in.) after resetting the clamping plate and removing the share bracket extensions and their brackets.
 - f) The share is unsuited for the soil in question and must be replaced by either the peaty soil type (Form C) or the sandy soil type (Form D).
 - g) The share carriers were not pushed all the way in until they came to rest against the stop in the elevator apron belt frame. The share must be pushed home after loosening the 4 clamping screws.
 - h) Share tail ends are bent and must be straightened.
 - i) Share carriers are bent and must be straightened.
 - k) Elevator apron belt comes to a stop (See Sect. 4).
3. Long haulm stalks collect at the left share deflector fairing.
 - l) The digger starts crabbing sidewise during work on sloping ground. Steer land wheels using extension steering rod to offset crabbing.
4. Elevator apron belt has come to a stop.
 - a) Digging depth of share excessive; must be shallower.
 - b) Wherever work must be done in heavy, muddy or tacky soil the standard share (Form A) should be replaced by a loamy soil share (Form B).
 - a) The share is not properly centered and must be readjusted by means of the lateral displacement spindle.
 - b) Digging depth too shallow; adjust for greater depth.
 - c) Haulm cutter and haulm lifter are set too high above ground and must be lowered.
 - a) Apron belts have too much slack. Readjust belt tension by tightening tension adjustment nuts uniformly on both sides. Test proper belt feed in a short idle run.
 - b) Belt creeps towards one side and chafes against elevator side board. Readjust tension nut on the chafing side.
 - c) A stone or compacted haulm have become wedged in between the apron belt and the front end guide roller (4/25) in spite of the deflectors. Remove obstruction.
 - d) A broken link rod got stuck. Link rod must be straightened and re-riveted in place.
 - e) Drive chain (5/19) of the elevator apron belt snapped. Knock out damaged chain link and reconnect chain ends with a new chain joint.

Defect or trouble

Cause and remedy

- | | |
|--|---|
| 5. Revolving drum comes to a stop. | a) Too much soil has collected in the drum. Have drum run idle for a while. Adjust share for a slightly shallower depth. Install an agitator shaft, or replace elevator apron belt by another one with larger slot width. |
| | b) Drum drive chain snapped (5/17). Fix chain by inserting new chain joint. |
| | c) Drum in a raided position and not in contact with guide rollers. Eliminate cause of trouble and lower drum onto guide and drive rollers. |
| | d) Extraneous matter got through slots of the drum and blocks driving mechanisms. Remove cause of trouble. |
| 6. Vibrating grids come to a stop. | a) Drive belt has too much slack or is worn out. Rear bevel drive (7/18) must be loosened by unscrewing fastening screws and lowered to restore proper belt tension. Or else new V-belt must be installed. |
| | b) Tie-rod spring of one of the grids (15/4 or 15/11) has worked loose or broke. Tighten screws or install new spring. |
| 7. Potatoes collect on vibrating grid. | a) Increase the speed of the machine by fitting the knuckle joint (2/3) to another shaft of the three-speed gear (2/4). |
| | b) Increase vibration rate by interchanging the V-belt sheaves (6/13 and 7/9). |
| 8. Potatoes travel too fast across the vibrating grid. | a) Reduce the speed of the machine by fitting the knuckle joint (2/3) to another shaft of the three-speed gear (2/4). |
| 9. Too many haulm stalks and weeds reach the vibrating grid. | a) Haulm cutter too high above ground. Disengage power take-off and reset haulm cutter to proper level. |
| | b) Tip of haulm lifter set too high above bottom of furrow. Reset in a lower and well centered position over the centerline of the furrow. |
| | c) Haulm harrow got disengaged and must be re-engaged. |
| | d) Haulm harrow not properly centered with respect to ridge flank. Shift harrow more to the left (seen in the direction of travel). |
| | e) Haulm cutter drive chain snapped; repair chain by inserting new chain joint, or install a new chain. |
| 10. Cleaning efficiency of machine unsatisfactory. | a) Increase vibrating rate of vibrating grid by interchanging V-belt sheaves as described in Sect. E. |
| | b) Adjust share for a smaller angle of inclination, if possible. |
| | c) Install an agitator shaft. |
| | d) Take out guide forks (2/20). |
| | e) Have an elevator apron belt with greater slot widths installed. |
| | f) Increase the speed of the machine by fitting the knuckle joint (2/3) to the lower shaft of the 3-speed gear (2/4). |

Defect or trouble

11. Potatoes get bruised.

12. Percentage of potatoes lost by being covered over with soil too high.

13. Digger kicks up too much dust during operation.

Sugar beet harvesting

14. Sugar beets are thrown aside to the right and left of the digger fork.

15. Sugar beets not properly cleaned.

16. Sugar beet tails are being torn off.

Cause and remedy

- a) Share too shallow; adjust for greater digging depth.
 - b) Share not properly centered with respect to the ridge. Adjust accordingly.
 - c) Reduce the speed of the machine by fitting the knuckle joint (2/3) to the central shaft of the 3-speed gear (2/4).
 - d) Remove agitator shaft.
 - e) Have a new elevator apron belt with smaller slot widths installed.
 - f) Haulm cutter in too low a position. Raise to proper level.
 - g) Haulm lifter tears out haulm and potatoes from the side of the ridge. Must be readjusted to the centerline of the furrow.
 - h) Haulm cutter turns up the soil of the ridge and must be shifted more to the right.
 - i) Lifter flaps bent; spill potatoes back into drum. Flaps must be straightened.
- a) Extraneous material of some kind or other has become wedged in between the link rods of the vibrating grids so that potatoes squeeze through on account of the increased clearance. Remove cause of the trouble.
- b) Install an elevator apron belt with narrower slot widths.
- c) See Sect. 11, f to h.
- a) Haulm cutter operates in too low a position. Throw out power take-off and raise cutter head to the proper level.
- a) Sugar beet lifter fork is not properly centered to the ridge. Adjust centering.
- b) A single beet or an accumulation of beet leaves have become wedged in between the prongs of the lifter fork. Remove the cause of the trouble.
- c) Beet lifter fork digging depth too shallow; adjust for greater depth.
- a) Beet lifter fork digging depth too deep; adjust for shallower depth.
- b) Revolving drum does not remove soil at a sufficiently high rate. Increase the speed of the machine by fitting the knuckle joint to another shaft of the three-speed gear.
- c) Install sugar beet cleaning chains.
- d) Install elevator apron belt with larger slot widths.
- e) Install agitator shaft (8/1 to 6).
- f) Exchange vibrator grids for other grids with larger slot widths.
- a) Sugar beet lifter fork set for too shallow a depth; must be reset to proper digging depth.
- b) Elevator apron belt, revolving drum and vibrating grids are operated at too high a speed. Reduce the speed of the machine by fitting the knuckle joint to the central shaft of the 3-speed gear.

For any other defects and troubles please refer to remedies mentioned under the caption "Potato harvesting".

M) Servicing directions and lubrication chart:

If a machine is to function properly, and that applies also to the potato digger, it must be used in the right manner and above all it requires good servicing and maintenance. Regular lubrication within the time intervals prescribed by the manufacturer are an "absolute must". An approved grade of high-pressure grease and a high-viscosity gear oil with a low pour point should be selected. To avoid any errors in this direction it is suggested that the special oil formulated for potato diggers should be purchased through your agricultural equipment dealer from the AMAZONEN-WERKE.

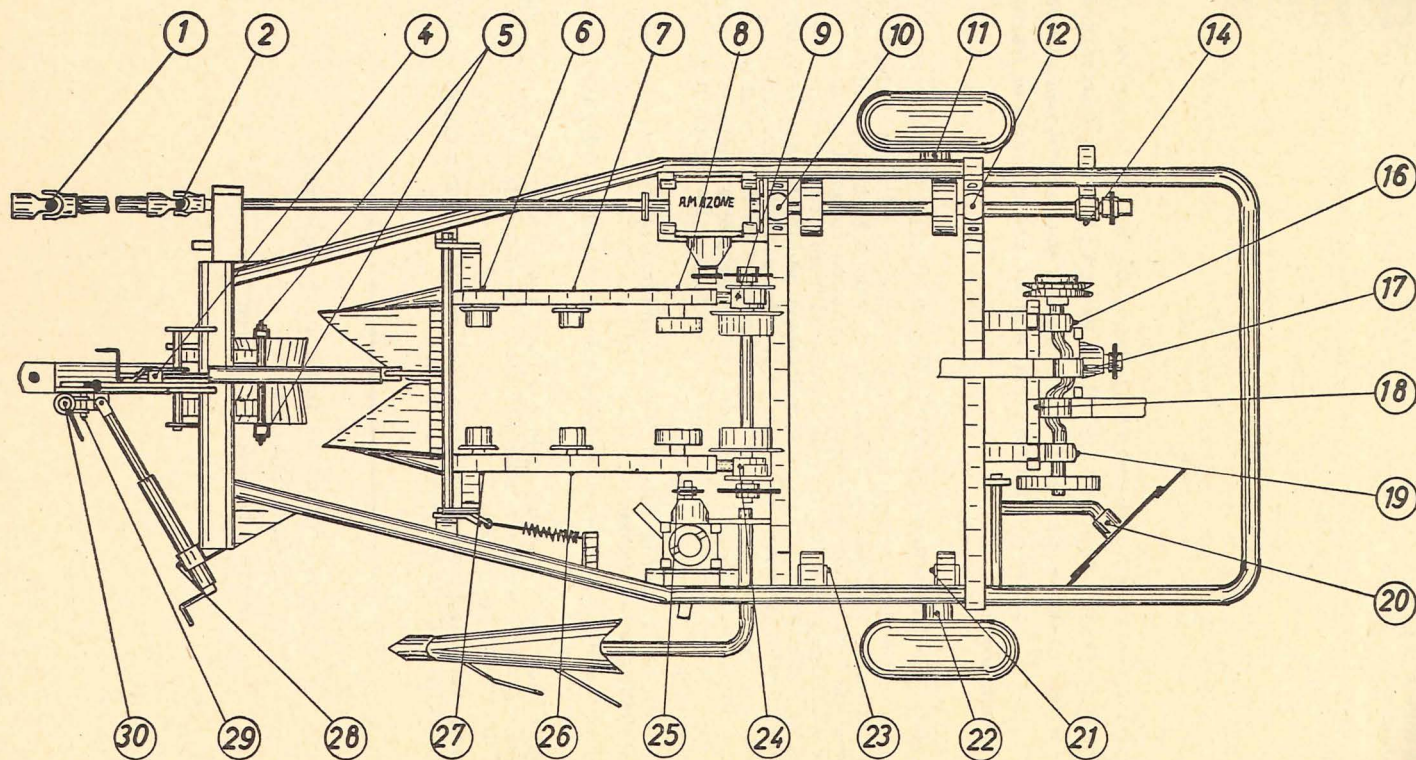
Lubrication Chart (S)

1. Grease gun lubrication.

Location of lubricating points	Fig. No.	Number of points	Time intervals, in hrs.
Engine			
Knuckle joint at quick-action coupling end of power drive shaft	S 1	1	abt. 8
Knuckle joint at the far end of the power drive shaft	S 2	1	abt. 8
Share depth adjustment spindle bearing	S 4	1	abt. 8
Share guide roller axle	S 5	2	abt. 4
Apron belt rollers	S 6 + 27	2	abt. 4
Supporting rollers	S 7 + 26	2	abt. 4
Return rollers	S 8 + 25	2	abt. 4
Apron belt drive shaft	S 9 + 24	2	abt. 8
Apron belt drive chain tightener		1	abt. 4
Drum drive shaft ball bearing housings	S 10 + 12 + 14	3	abt. 8
Land wheels	S 11 + 22	2	abt. 8
Crankshaft ball bearing housings	S 16 + 19	2	abt. 8
Tie-rod bearings	S 17 + 18	2	abt. 8
Haulm harrow	S 20	1	abt. 4
Revolving drum supporting rollers	S 21 + 23	2	abt. 4
Spherical bearing of lateral displacement spindle	S 28	1	abt. 8
Support wheel	S 29	1	abt. 20
Support wheel adjustment spindle	S 30	1	abt. 20
		<u>29</u>	
Platform trailer			
Wheel		1	abt. 8
Swivel wheel bearing		2	abt. 20
		<u>3</u>	
Dump hopper trailer			
Articulated power drive shaft	14/2 + 5	2	abt. 8
Tilting mechanism	14/7 + 10 + 12	3	abt. 4
Drive shaft bearing	14/9	1	abt. 8
Worm gear	14/19 + 21	4	abt. 8
Drum shaft	14/15 + 30	2	abt. 8
Rope guide roller	13/6	1	abt. 8
		<u>13</u>	

2. Oil can lubrication

In addition, all spindles must be lubricated as required with an oil can.



Lubrication Chart (S)

The drive chains must be taken off their sprockets after the harvesting is over. They must be thoroughly cleaned in kerosene or diesel oil and then placed into a container filled with engine or gear oil. All gears have oil bath lubrication. From time to time the oil level must be checked and whatever make-up oil is required must be filled in through the upper filler opening. Only special gear oil should be used. Tighten fill screw. This applies in particular to the haulm cutter gear assembly as serious damage is bound to result if it should run dry. Check every four hours whether any oil leaks out at the lower end of the housing where the shaft emerges. In case of a leak the oil level must be checked at once and replenished by filling in some oil. After the end of the digging operations the gear must be checked by an expert mechanic as to whether the lower sealing ring should be replaced by a new one.

If these recommendations are not strictly followed during the term of our guarantee and serious damages should have resulted on account of having disregarded them a replacement gear could be supplied from our factory against payment of a lump sum price of on the proviso, however, that no surface cracks or fractures have formed on the housing.

After the end of the harvesting periods the used oil is drained and changed.

Before and after the day's work it is essential to inspect all drive chains and V-belts, especially during the first weeks. If their tension should be insufficient it must be adjusted using the tension adjusting devices. The haulm cutter drive chain and the V-belt of the vibrating grid drive have no tension adjustment devices. In these cases the 4 drive housing attachment screws must be loosened and the housing reset in a forward or downward direction as required. Don't forget to re-tighten the screws. If the elevator apron belt has too much slack its tension must be readjusted by turning the tension adjustment nuts (4/20) on both sides of the apron belt frame, to about the same extent. If this should prove impossible after longer use the apron belt must be renewed, or shortened and re-installed.

It is essential to check during a short idle run whether or not the belt creeps toward one side of the apron belt frame.

At the end of the first day of operation all nuts must be checked for tight seat, and re-tightened where necessary.

If the digger must be left standing in the open the share must be well greased to prevent rusting, and the same applies whenever the digger is set aside after the conclusion of harvesting operations.

To avoid annoying disappointments during harvesting time the digger should be frequently inspected and spares ordered in time.

Do not regard the digger as an implement
you have to put up with —
But as a "real friend in need"!

N) Spare parts list:

When ordering spare parts please indicate, besides the part number, also the designation of the part involved, as e. g.

1 clutch disc Nr. S 56 R - A 3145

If no spare part number should be indicated in the lists of this manual it will do if your order gives the number of the instruction manual (see first cover page, top right corner) and the number of the drawing, as e. g.

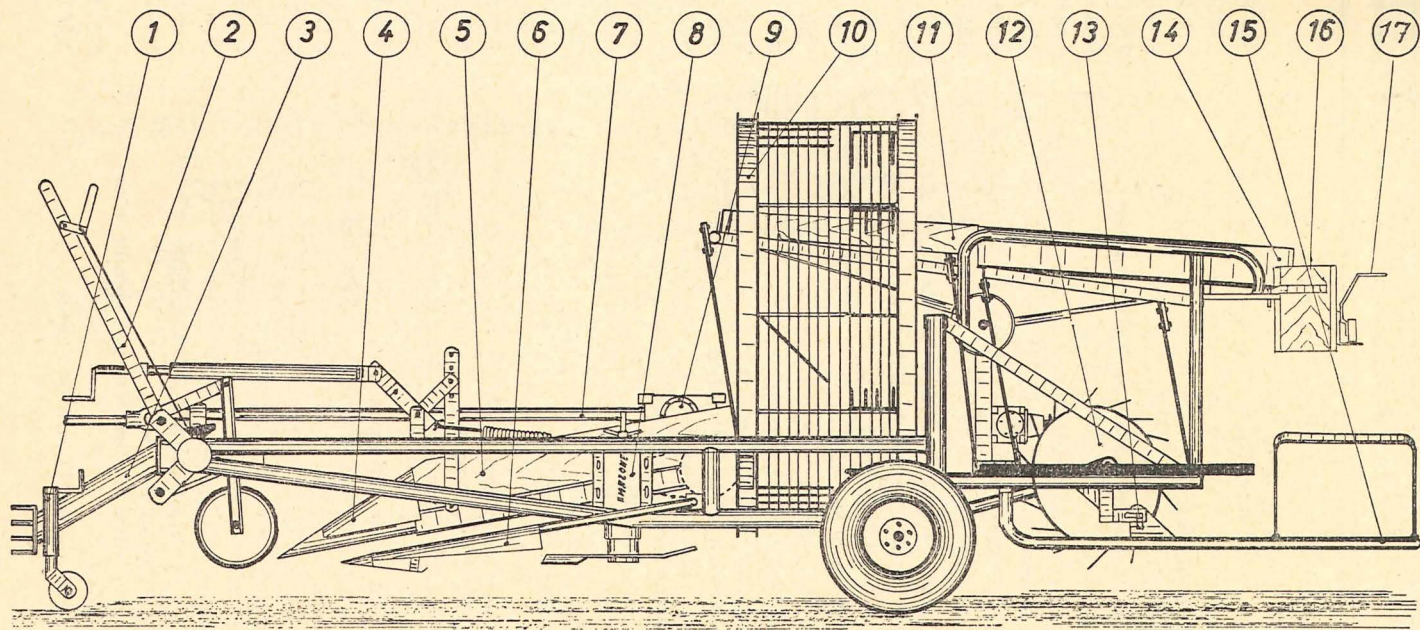
2 tension adjustment nuts RB 365 No. 4/20

To prevent the delivery of wrong parts the factory numbers of machines bought some time ago should be added when ordering replacement parts.

The illustrations on the following pages refer to:

- Fig. 1 AMAZONE DIGGER S 56 R, Lateral view
- Fig. 2 AMAZONE DIGGER S 56 R, Top view
- Fig. 3 AMAZONE DIGGER S 56 R, Hitching to tractor
- Fig. 4 AMAZONE DIGGER S 56 R, Elevator apron belt with share throwout lever
- Fig. 5 AMAZONE DIGGER S 56 R, Front drive
- Fig. 6 AMAZONE DIGGER S 56 R, Rear drive
- Fig. 7 AMAZONE DIGGER S 56 R, Vibrating grid drive
- Fig. 8 AMAZONE DIGGER S 56 R, Agitator shaft
- Fig. 9 AMAZONE DIGGER S 56 R, Sugar beet lifter fork
- Fig. 10 AMAZONE DIGGER S 56 R, Elevator apron belt with beet cleaning chains
- Fig. 11 AMAZONE DIGGER S 56 R, Haulm cutter
- Fig. 12 AMAZONE DIGGER S 56 R, Three-speed gear
- Fig. 13 AMAZONE DIGGER S 56 R, Dump hopper trailer
- Fig. 14 AMAZONE DIGGER S 56 R, Hopper tilting mechanism
- Fig. 15 AMAZONE DIGGER S 56 R, Special supplementary equipment

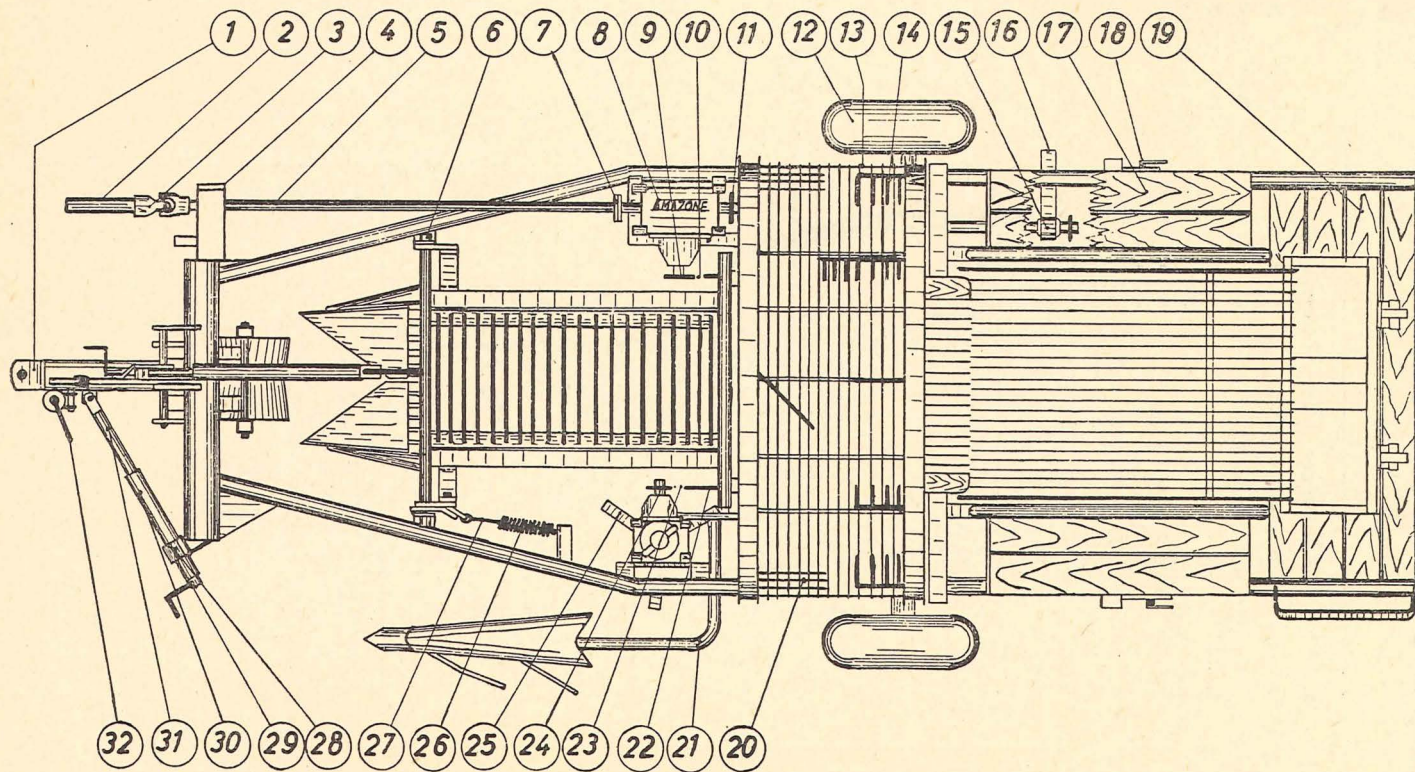
Serial number	Part designation	Spare part No. S 56 R
Fig. 1	AMAZONE S 56 R Digger, Lateral view	
1	Supporting wheel, complete	S 56 R-A 230
2	Share throwout lever, complete	S 56 R-A 413
3	Hitchbar, complete	S 56 R-A 220
4	Left share half of standard share, complete	S 56 R-A 631 L
	Right share half of standard share, complete	S 56 R-A 631 R
	Left share half of heavy soil share, complete	S 56 R-A 632 L
	Right share half of heavy soil share, complete	S 56 R-A 632 R
	Left share half of peaty soil share, complete	S 56 R-A 633 L
	Right share half of peaty soil share, complete	S 56 R-A 633 R
5	Elevator side board, left	S 56 R-A 6133 L
	Elevator side board, right	S 56 R-A 6133 R
6	Haulm lifter, complete	KH-56-F
7	Power drive shaft with knuckle joint yoke	S 56 R-B 314
8	Haulm cutter, complete	KS 50-F
9	Front bevel gear, complete	S 56 R-A 315
10	Revolving drum, complete	S 56 R-B 500
11	Front vibrating grid, complete	S 56 R-A 710
12	Haulm harrow, complete	KE 56-E
13	Cotter pin	S 56 R-A 1188
14	Rear vibrating grid, complete	S 56 R-A 720
15	Bag filling platform	AS 56-B
16	Discharge chute, complete	S 56 R-A 740
17	Bag holding clamps, complete	S 56 R-A 743
	Rubber pressure roller, with bushing	S 56 R-A 7433



AMAZONE S 56 R Digger, Lateral view

Fig. 1

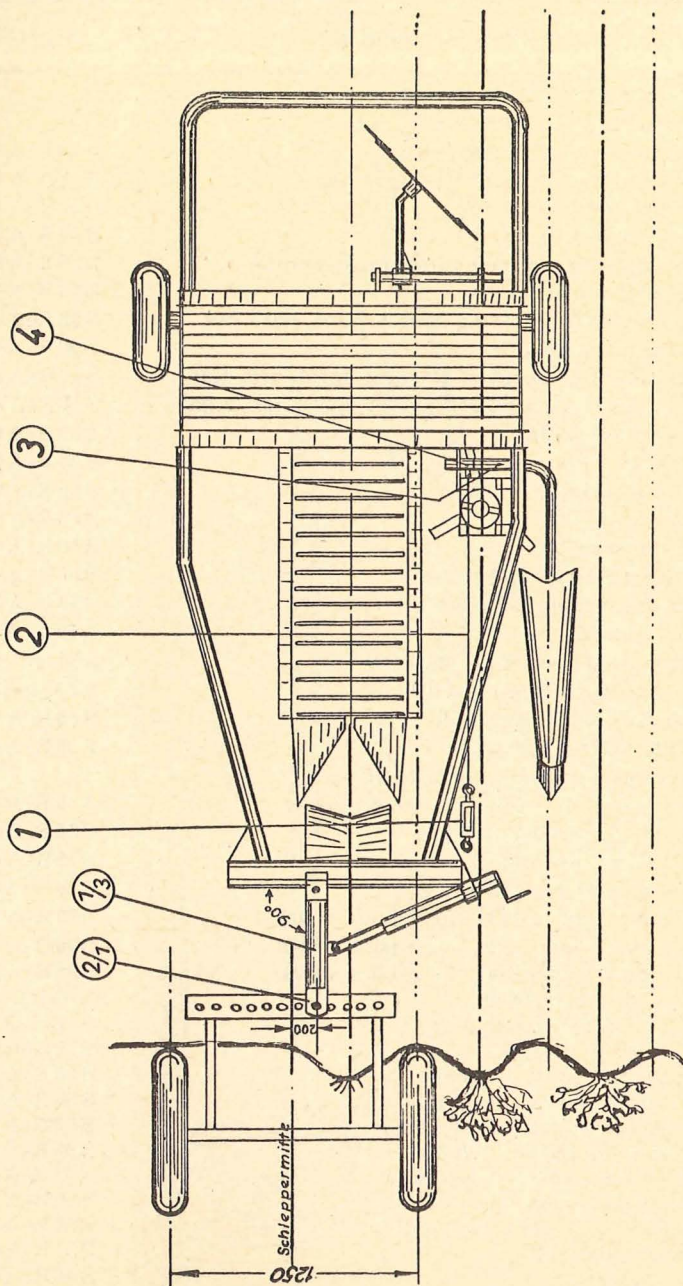
Serial number	Part designation	Spare part No. S 56 R
Fig. 2	AMAZONE S 56 R Digger, Top view	
1	Three-pronged hitch fork	
2	Telescoping tube, Gr. 0	S 56 R-A 3113
3	Knuckle joint, Gr. I/0-30	S 56 R-A 3114
4	Three-speed gear, complete	S 56 R-A 33
5	Power drive shaft	S 56 R-B 314
6	Share throwout gear cross shaft, complete	S 56 R-B 411
7	Clutch disc	S 56 R-A 3145
8	Front bevel gear, complete	S 56 R-A 315
9	Chain sprocket, $z = 16, \frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-B 3171
10	Elevator apron belt drive chain, $\frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 3172
11	Chain sprocket, $z = 16, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3181
	Revolving drum shaft drive chain, $\frac{5}{8}'' \times \frac{3}{8}''$	S 56-A 3182
12	Land wheel tire 7.00-12 AM	S 56-A 2126
	Inner tube 7.00-12 TF 6	S 56-A 2127
	Land wheel rim 4.25-12	S 56-A 2125
13	Revolving drum	S 56 R-B 500
14	Small lifting flap, complete	S 56 R-A 513
	Large lifting flap, complete	S 56 R-A 5134
	Rubber cover for lifting flap	S 56 R-A 5133
15	Pillow block T 206	S 56-A 305
16	Bearing console support	
17	Footboards, left	S 56 R-A 127 L
	Footboards, right	S 56 R-A 127 R
18	Cotter pin	S 56 R-A 1188
19	Platform, complete	AS 56-B
20	Guide fork	S 56 R-B 514
	Guide fork rubber cover	S 56 R-A 5145
21	Haulm lifter, complete	KH-56-F
22	Driven chain sprocket of the haulm cutter $z = 42, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3221
23	Haulm cutter drive chain, $\frac{5}{8}'' \times \frac{3}{8}''$	KS 50-A 41
24	Driving chain sprocket of the haulm cutter $z = 14, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3431
25	Cutter blades	KS 50-C 26
26	Throwout lever tension spring	R 26
27	Pull spring tension adjusting turnbuckle	S 56 R-A 4125
28	Spherical bearing S 6	S 56 R-A 2423
29	Lateral hitchbar displacement spindle	S 56 R-A 2414
30	Protective tube	S 56 R-A 2422
31	Lateral hitchbar displacement spindle tube, complete	S 56 R-A 2411
32	Supporting wheel turning handle	S 56 R-A 2328



AMAZONE S 56 R Digger, Top view

Fig. 2

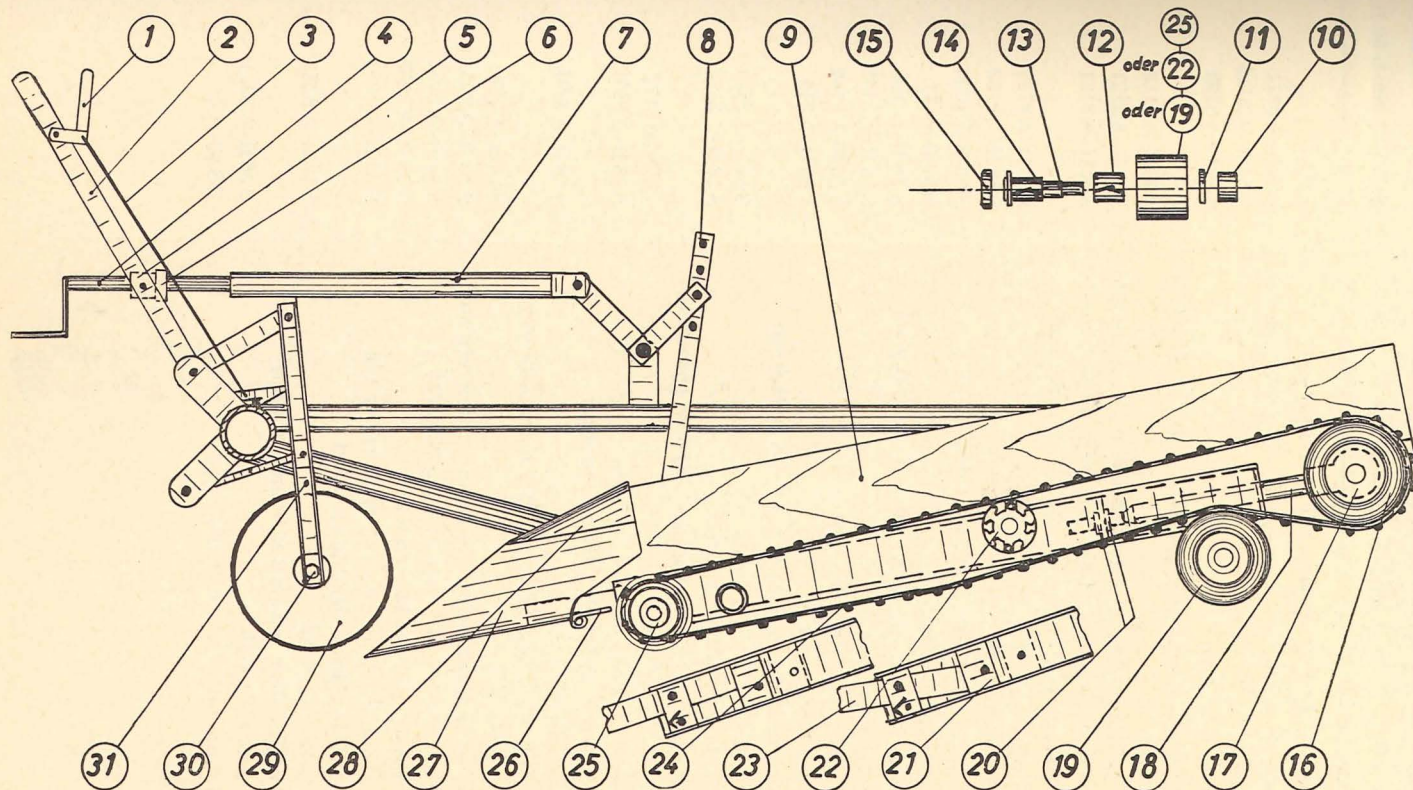
Serial number	Part designation	Spare part No. S 56 R
Fig. 3	AMAZONE S 56 R Digger, Hitching to tractor	
1	Turnbuckle with two eye screws	KH 56-F 126
2	Haulm lifter adjustment rope	KH 56-F 129
3	Intermediate tube	KH 56-F 123
4	Lifting lever	KH 56-F 121



AMAZONE S 56 R Digger, Hitching to tractor

Fig. 3

Serial number	Part designation	Spare part No. S 56 R
Fig. 4	AMAZONE S 56 R Digger , Elevator apron belt with share throwout lever	
1	Share throwout lever handle	S 56 R-A 4133
	Share throwout lever handle spring	S 56 R-A 4137
2	Share throwout lever	S 56 R-A 4131
3	Pawl release rod	S 56 R-A 4135
4	Share depth precision adjustment spindle	S 56 R-A 4151
5	Spindle bearing	S 56 R-A 4161
7	Share depth adjusting spindle tube, with nut	S 56 R-A 4153
8	Share lifter rod	S 56 R-A 4115
9	Elevator side board of elevator apron belt, left	S 56 R-A 6133 L
	Elevator side board of elevator apron belt, right	S 56 R-A 6133 R
10	Distance bushing	S 56 R-A 6246
11	Counter plate	S 56 R-A 6245
12	Fit-in bushing	S 56 R-A 6244
13	Pin	S 56 R-A 6241
14	Fit-on bushing	S 56 R-A 6243
15	Protecting cap screw	S 56 R-A 6247
16	Driving roller, complete	S 56 R-A 3212
	Drive shaft	S 56 R-A 6211
17	Drive shaft bearing, complete	S 56 R-A 6218
	Self-aligning bearing 1206	S 56 R-A 6221
18	Tension adjustment rod	S 56 R-A 6228
19	Belt return roller	S 56 R-A 6231
20	Tension adjustment nuts M 20	
21	Clamping plate with clamping screws	S 56 R-A 6356
22	Supporting roller E 150	S 56 R-A 6236
23	Share carrier, left	S 56 R-A 6347
	Share carrier, right	S 56 R-A 6348
24	Elevator apron belt No. 1 (slot width 1")	S 56 R-A 625
	Elevator apron belt No. 2 (slot width 1 1/8")	S 56 R-A 626
	Elevator apron belt No. 3 (slot width 1 3/8")	S 56 R-A 627
	Elevator belt No. 2	S 56 R-A 6261
	Elevator belt No. 3	S 56 R-A 6271
25	Idle roller E 135 A	S 56 R-A 6238
26	Share tail ends, complete	S 56 R-A 634
27	Standard share - left half	S 56 R-A 631 L
	Standard share - right half	S 56 R-A 631 R
	Heavy soil share - left half	S 56 R-A 632 L
	Heavy soil share - right half	S 56 R-A 632 R
	Peaty soil share - left half	S 56 R-A 633 L
	Peaty soil share - right half	S 56 R-A 633 R
28	Share skirt, left	S 56 R-A 6351
	Share skirt, right	S 56 R-A 6352
29	Front share guide wheel assembly, complete	S 56 R-A 422
30	Front share guide wheel axle	S 56 R-A 4226
31	Front share guide wheel frame	S 56 R-A 4211



AMAZONE S 56 R Digger, Elevator apron belt with share throwout lever

Fig. 4

Serial number	Part designation	Spare part No. S 56 R
Fig. 5	AMAZONE S 56 R Digger, Front drive	
1	Knuckle joint, Gr. I/Z-1 (quick action coupling)	S 56 R-A 3111
2	Knuckle joint shield	S 56 R-A 3115
3	Bearing half 72	S 56 R-A 3123
4	Telescoping shaft sleeve, Gr. I (please indicate length)	S 56 R-A 3112
5	Telescoping shield, outer (please indicate length)	S 56 R-A 3121
6	Telescoping shield, inner (please indicate length)	S 56 R-A 3131
7	Telescoping shaft tube, Gr. 0 (please indicate length)	S 56 R-A 3113
8	Bearing half, 64	S 56 R-A 3133
9	Knuckle joint with bayonet catch	S 56 R-B 3114
11	Three-speed gear	S 56 R-A 33
12	Power drive shaft with clutch plate and yoke	S 56 R-A 314
13	Clutch disc	S 56 R-A 3145
14	Clutch hub plate with yoke	S 56 R-A 3142
15	Front bevel gear	S 56 R-A 315
16	Revolving drum sprocket (driven sprocket) $z = 16, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3181
17	Revolving drum drive chain, $\frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3182
18	Elevator apron belt sprocket (driven sprocket) $z = 16, \frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-B 3171
19	Elevator apron belt drive chain, $\frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 3172
20	Elevator apron belt driving sprocket $z = 27, \frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 6216
21	Revolving drum drive chain tension adjuster, complete	S 56 R-A 323
	Elevator apron belt drive chain tension adjuster	S 56 R-A 325
	Chain tension adjuster bearing 32010/30	S 56 R-A 3254
	Tension adjuster idle roller	S 56 R-A 3253
	Tension adjuster bracket, with roller pin	S 56 R-A 3251
22	Revolving drum driving sprocket $z = 42, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3221
23	Haulm cutter sprocket (driven sprocket) $z = 42, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3221
24	Haulm cutter drive chain, $\frac{5}{8}'' \times \frac{3}{8}''$	KS 50-A 41

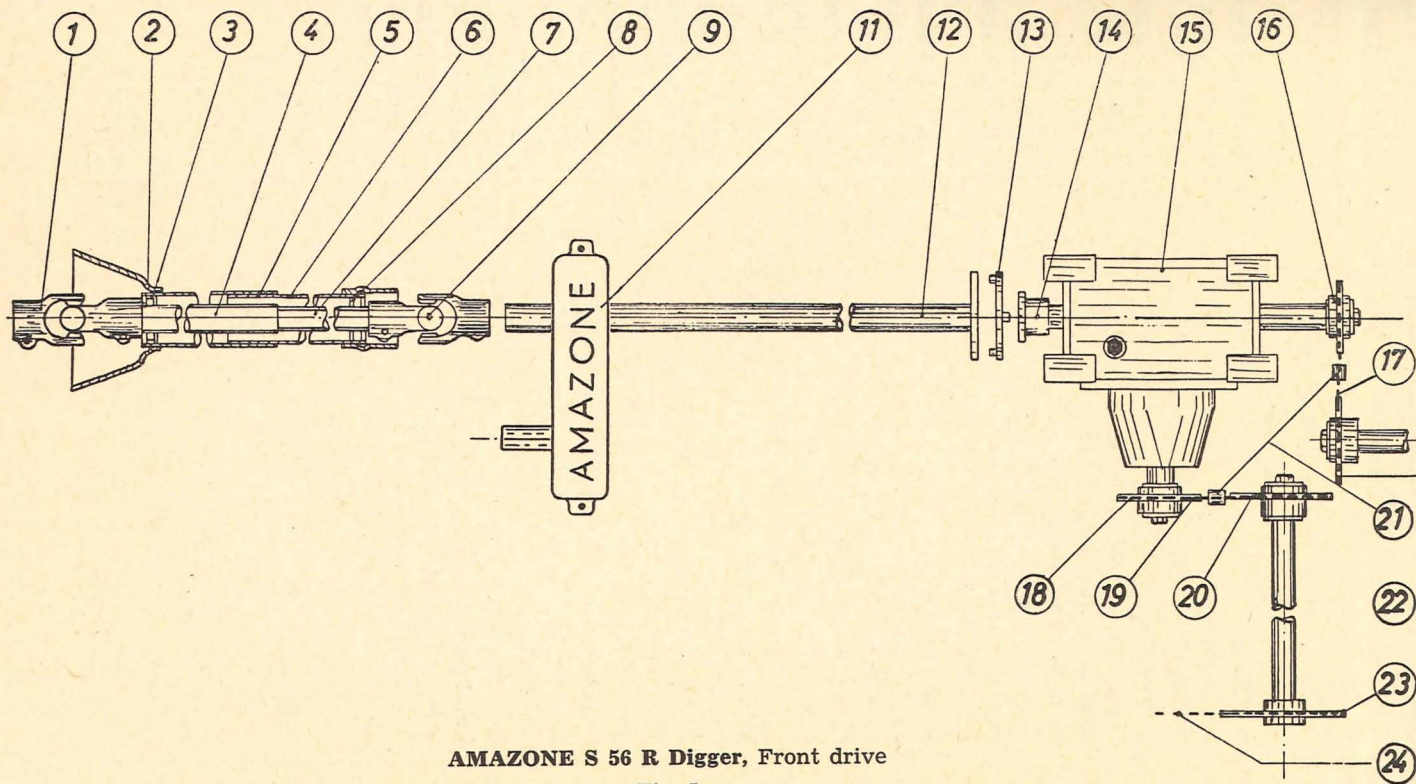
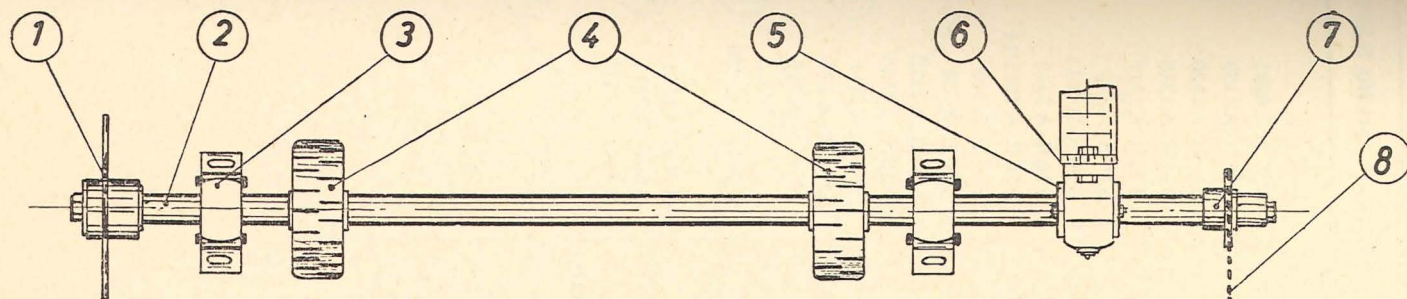
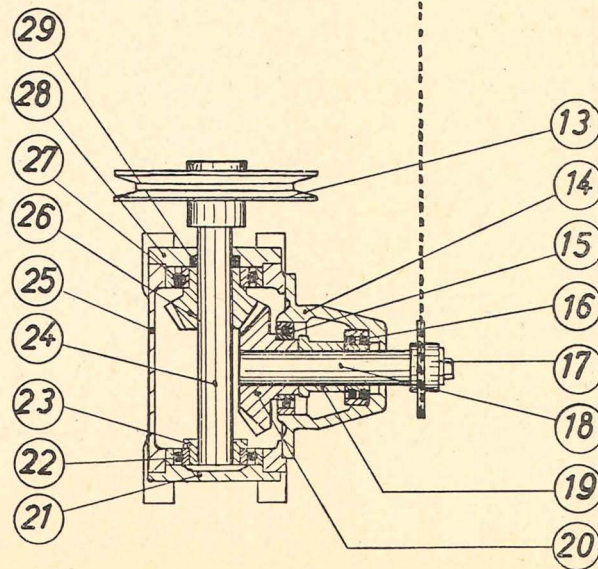


Fig. 5

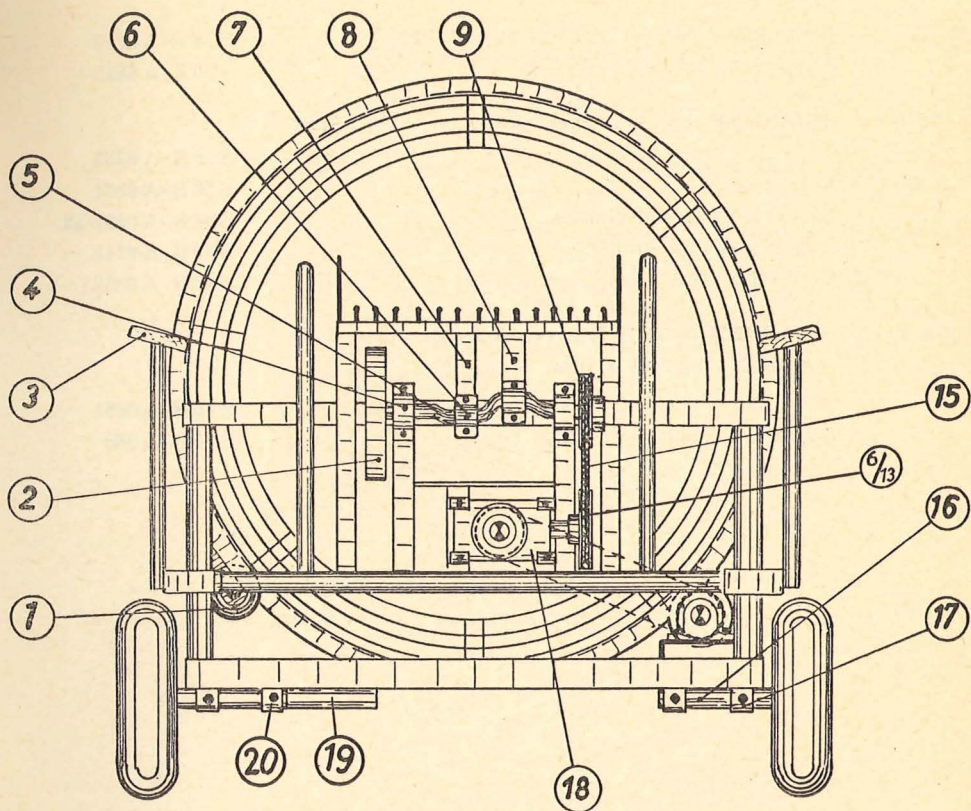
Serial number	Part designation	Spare part No. S 56 R
Fig. 6	AMAZONE S 56 R Digger, Rear drive	
1	Revolving drum drive sprocket $z = 42, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3221
2	Drum drive shaft	S 56 R-B 3211
3	Pillow block T 206, complete	S 56 R-A 305
4	Drive rollers	S 56 R-A 3212
5	Pillow block T 206, complete	S 56 R-A 305
6	Bearing console support	
7	Vibrating grid drive sprocket $z = 20, \frac{5}{8}'' \times \frac{3}{8}''$	S 56-A 3225
8	Chain, $\frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3228
9	Set collar 30 ϕ	
10	Large pressure spring	S 56 R-A 3533
	Small pressure spring	S 56 R-A 3554
13	V-belt sheave, 190 ϕ , E 164	S 56 R-A 3461
14	Cover flange E 129	S 56 R-A 3153
15	Grooved bearing 6009	S 56 R-A 3165
16	2-row angular contact bearing 3206	S 56 R-A 3166
17	Vibrating grid drive sprocket $z = 14, \frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3431
18	Driving shaft	S 56 R-A 3418
19	Distance bushing	S 56 R-A 3161
20	Bevel gear, $z = 22$	S 56 R-A 3159
21	Cover flange E 140	S 56 R-A 3414
22	Angular contact bearing	S 56 R-A 3164
23	Bearing bushing E 130a	S 56 R-A 3162
24	Longitudinal gear shaft	S 56 R-B 3415
25	Gear housing E 131	S 56 R-A 3411
26	Bevel gear, $z = 13$	S 56 R-A 3156
27	Angular contact bearing 7208	S 56 R-A 3164
28	Cover flange E 128a	S 56 R-A 3152
29	Oil sealing ring BA 30 $\phi \times 40 \phi \times 8$	S 56 R-A 3168



AMAZONE S 56 R Digger, Rear drive
Fig. 6



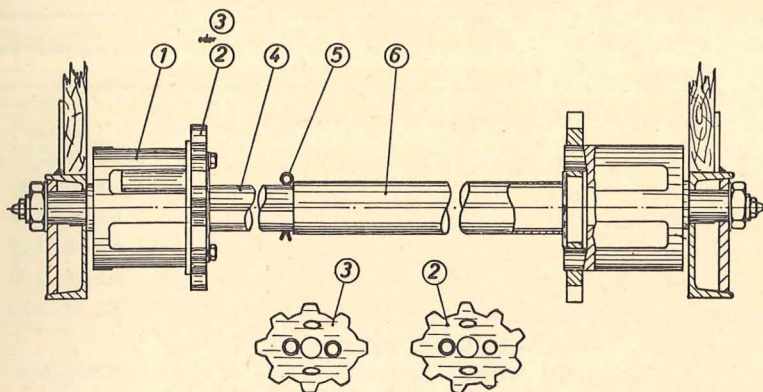
Serial number	Part designation	Spare part No. S 56 R
Fig. 7	AMAZONE S 56 R Digger, Vibrating grid drive	
1	Rear drum support roller, complete	S 56 R-A 6231
	Front drum support roller, complete	S 56 R-A 1159
2	Flywheel F 87	S 56 R-A 3520
3	Seating rail, left	S 56 R-A 1246
	Seating rail, right	S 56 R-A 1247
4	Pillow block T 206, complete	S 56 R-A 305
5	Crankshaft	S 56 R-B 3511
6	Crankshaft bearing PRS 8	S 56 R-A 3512
	self-aligning bearing with sleeve	S 56 R-A 3513/14
7	Rear vibrating grid tie-rod, complete	S 56 R-B 359
8	Front vibrating grid tie-rod, complete	S 56 R-B 358
9	V-belt sheave 200 ϕ	S 56 R-A 3522
15	V-belt 22 $\times$ 1180	S 56 R-B 3555
16	Right land wheel axle	S 56 R-A 2111
	Wheel cap A 152	HDG 2-A 224
	Cotter pin	HDG 2-A 216
	Locking ring A 65a	HDG 2-A 225
	Wheel hub L 27	HDG 2G-A 220
17	Fastening strap for standard-type axle 40 ϕ , complete	S 56 R-A 2121
18	Rear bevel gear	S 56 R-A 341
19	Left-hand land wheel axle	S 56 R-A 2113
20	Fastening straps for left-hand land wheel axle 50 ϕ	S 56 R-B 2122



AMAZONE S 56 R Digger, Vibrating grid drive

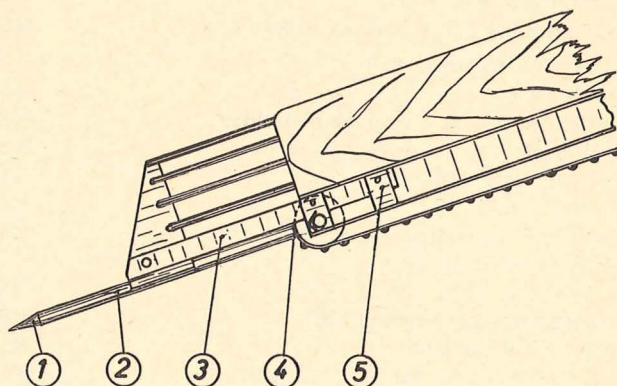
Fig. 7

Serial number	Part designation	Spare part No. S 56 R
Fig. 8	AMAZONE S 56 R Digger, Agitator shaft	
1	Supporting roller E 150	S 56 R-A 6236
2	Agitator disc, z = 9, pitch = 45 E 144 A	S 56 R-A 6811
3	Agitator disc, z = 8, pitch = 50 E 145 A	S 56 R-A 6821
4	Intermediate tube Gr. 0 with end disc	S 56 R-A 6814
5	Cotter pin	
6	Intermediate sleeve Gr. 1 with end disc	S 56 R-A 6813
	Tappet, with screw	S 56 R-A 6815
Fig. 9	AMAZONE S 56 R Digger, Sugar beet lifter fork	
1	Fork tine tips	S 56 R-A 6862
2	Fork tines	S 56 R-A 6861
3	Fork tine holding clamps	S 56 R-A 6851/52
4	Lifter fork tail ends	S 56 R-A 6341
5	Clamping plate	S 56 R-A 6356
Fig. 10	AMAZONE S 56 R Digger, Elevator apron belt with beet cleaning chains	
1	Side rail	S 56 R-A 6881
2	Sugar beet cleaning chains	S 56 R-A 688



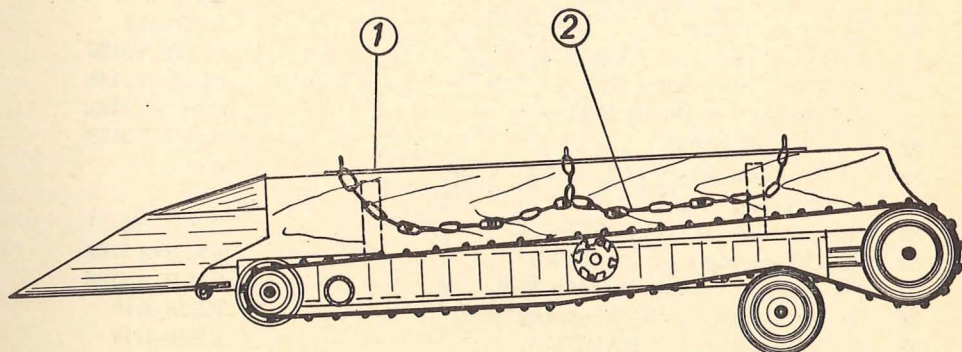
AMAZONE S 56 R Digger, Agitator shaft

Fig. 8



AMAZONE S 56 R Digger, Sugar beet lifter fork

Fig. 9

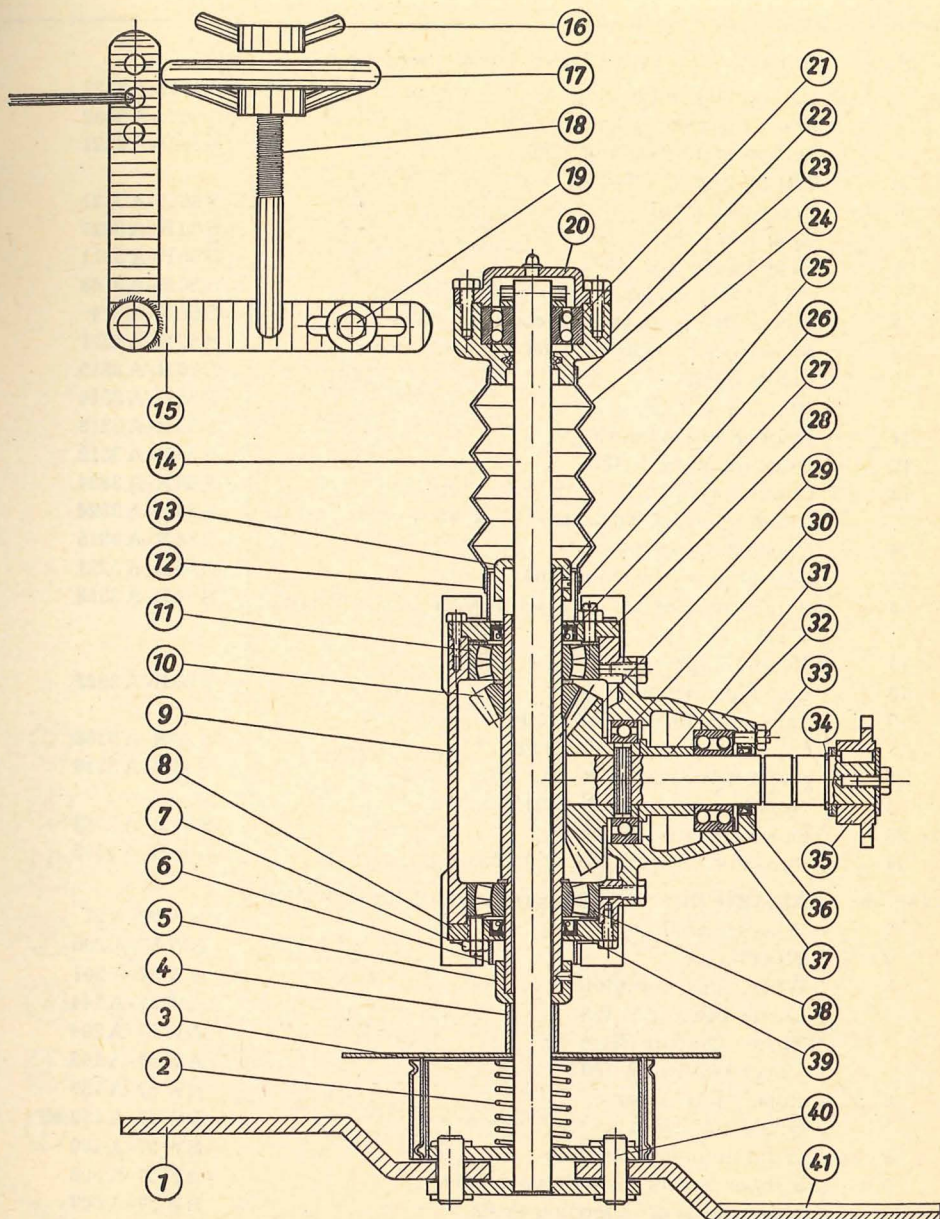


AMAZONE S 56 R Digger

Elevator apron belt with beet cleaning chains

Fig. 10

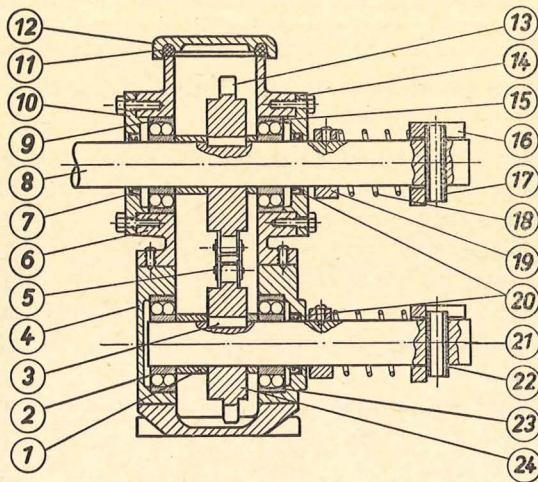
Serial number	Part designation	Spare part No. S 56 R
Fig. 11	AMAZONE S 56 R Digger, Haulm cutter	
1	Auxiliary cutter blade	KS 50-C 28
2	Pressure spring	KS 50-D 23
3	Safety disc	KS 50-D 18
4	Distance sleeve	KS 50-D 20
5	Guide ring	KS 50-D 29
6	Lower protective sleeve	KS 50-A 36
7	Headless screw M 8x20 DIN 539	
8	Cover flange E 128 a	KS 50-D 3
9	Gear housing	KS 50-E 1
10	Pinion	KS 50-D 5
	Tubular shaft	KS 50-D 8
11	Self-aligning roller bearing 21307	KS 50-E 10
12	Upper protective sleeve	KS 50-A 51
13	Guide ring	KS 50-D 29
14	Cutter shaft with cutter blade holder	KS 50-E 21
15	Bell crank	KS 50-A 44
16	Counternut E 148	KS 50-D 33
17	Handwheel E 72	KS 50-A 52
18	Threaded regulating spindle	KS 50-A 53
19	Steel screw M 10x30	
20	Lifter head cover	KS 50-A 43
21	Angular contact bearing 3205	KS 50-A 54
22	Lifter head housing	KS 50-A 42
23	Bellows retainer ring	KS 50-A 55
24	Bellows	KS 50-A 56
25	Bellows retainer ring	KS 50-A 55
27	Oil sealing ring 47/35/7	KS 50-D 17
28	Cover flange	KS 50-D 3
29	Bevel gear, $z = 22$, $m = 5$	S 56 R-A 3159
30	Grooved bearing 6009	S 56 R-A 3165
31	Distance bushings E 130 a	S 56 R-A 3161
32	Bearing flange	S 56 R-A 3153
33	Headless screw M 8 $\times$ 20 DIN 539	
34	Retainer ring 30 $\phi \times 1.5$	
35	Sprocket, 14 teeth, $\frac{5}{8}'' \times \frac{3}{8}''$	S 56 R-A 3431
36	Oil sealing ring BA 40/30/8	S 56 R-A 3168
37	Angular contact bearing 3206	S 56 R-A 3166
38	Self-aligning roller bearing 21307	KS 50-E 10
39	Oil sealing ring BA 47/35/7	KS 50-D 17
40	Cutter blade fastening bolts	KS 50-D 25
41	Cutter blades	KS 50-C 26



AMAZONE S 56 R Digger, Haulm cutter

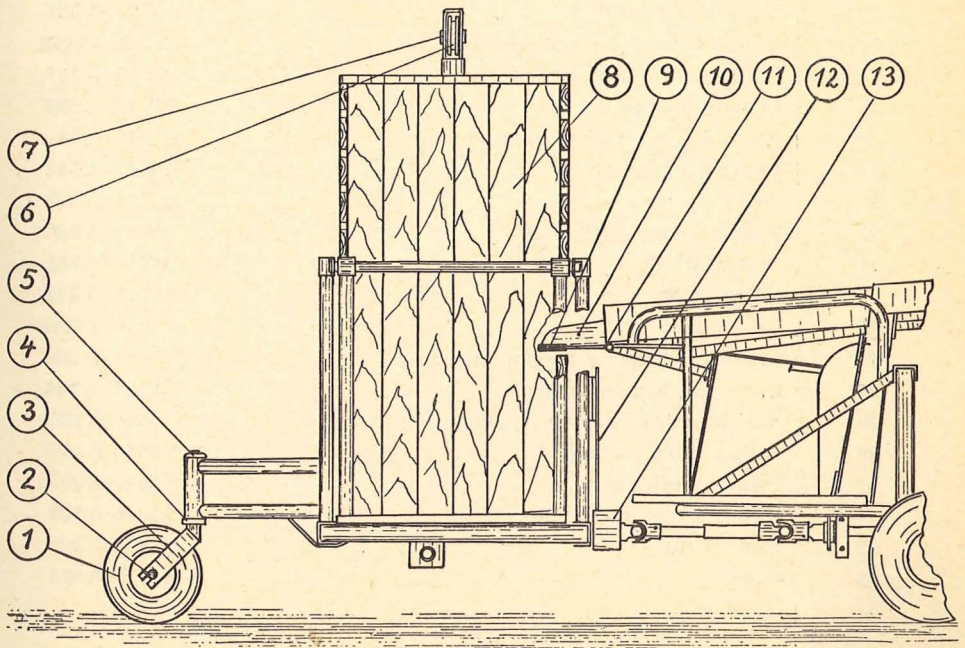
Fig. 11

Serial number	Part designation	Spare part No. S 56 R
Fig. 12	AMAZONE S 56 R Digger, Three-speed gear	
1	Long distance bushing	S 56 R-A 3331
	Short distance bushing	S 56 R-A 3332
2	Self-aligning bearing 1206	S 56 R-A 6221
3	Fitting key $8 \times 7 \times 25$	
4	Eccentric E 161	S 56 R-A 3321
5	Gear chain, $\frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 3327
6	Gear housing E 157	S 56 R-A 3311
7	Oil sealing ring BA 40/30/8	S 56 R-A 3168
8	Power drive shaft with coupling yoke	S 56 R-A 314
9	Self-aligning bearing 1206	S 56 R-A 6221
10	Cover flange	S 56 R-A 3315
	Blank flange	S 56 R-A 3314
11	Rubber sealing cord	S 56 R-A 3313
12	Housing cover E 158	S 56 R-A 3312
13	Chain sprocket, 17 teeth, $\frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 3324
	Chain sprocket, 20 teeth, $\frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 3326
14	Cover flange E 159	S 56 R-A 3315
15	Self-aligning bearing 1206	S 56 R-A 6221
16	Safety lock of knuckle joint with bayonet catch E 167	S 56 R-A 3328
17	Headless screw $12 \phi \times 50$	
18	Locking springs	S 56 R-A 3329
19	Set collar $40 \phi \times 30 \phi \times 16$	
20	Oil sealing ring BA 40/30/8	S 56 R-A 3168
21	Short drive shafts	S 56 R-A 3316
22	Headless screw $12 \phi \times 50$	
23	Open eccentric E 162	S 56 R-A 3322
24	Sprocket, 15 teeth, $\frac{3}{4}'' \times \frac{7}{16}''$	S 56 R-A 3325
Fig. 13	AMAZONE S 56 R Digger, Dump hopper trailer	
1	Wheel, complete	BW 57-A 21
2	Wheel axle	BW 57-A 205
3	Wheel fork, complete	BW 57-A 201
4	Lower bearing E 152	AW 57-A 144
	Thrust bearing SR A 35	AW 57-A 204
5	Upper bearing A 180	AW 57-A 143
6	Rope guide roller	BW 57-A 157
7	Guide roller pin	BW 57-A 159/60
8	Dump hopper, complete	BW 57-A 400
9	Rubber covers for extension grid	BW 57-A 508
10	Side boards of extension grids	BW 57-A 507
11	Extension grid, complete	BW 57-A 500
12	Tilting mechanism control lever	BW 57-A 314
13	Protecting casing	BW 57-A 38



AMAZONE S 56 R Digger, Three-speed gear

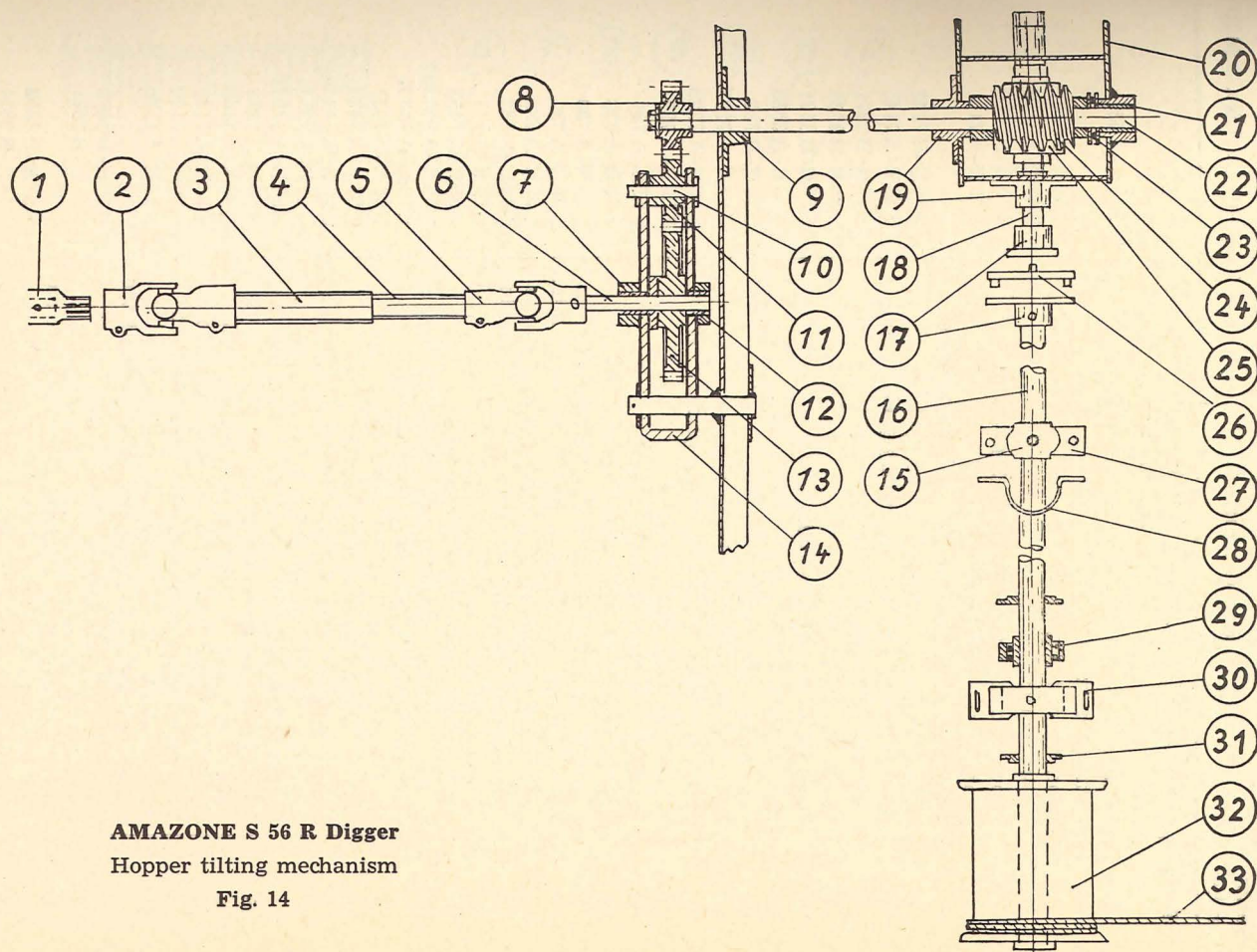
Fig. 12



AMAZONE S 56 R Digger, Dump hopper trailer

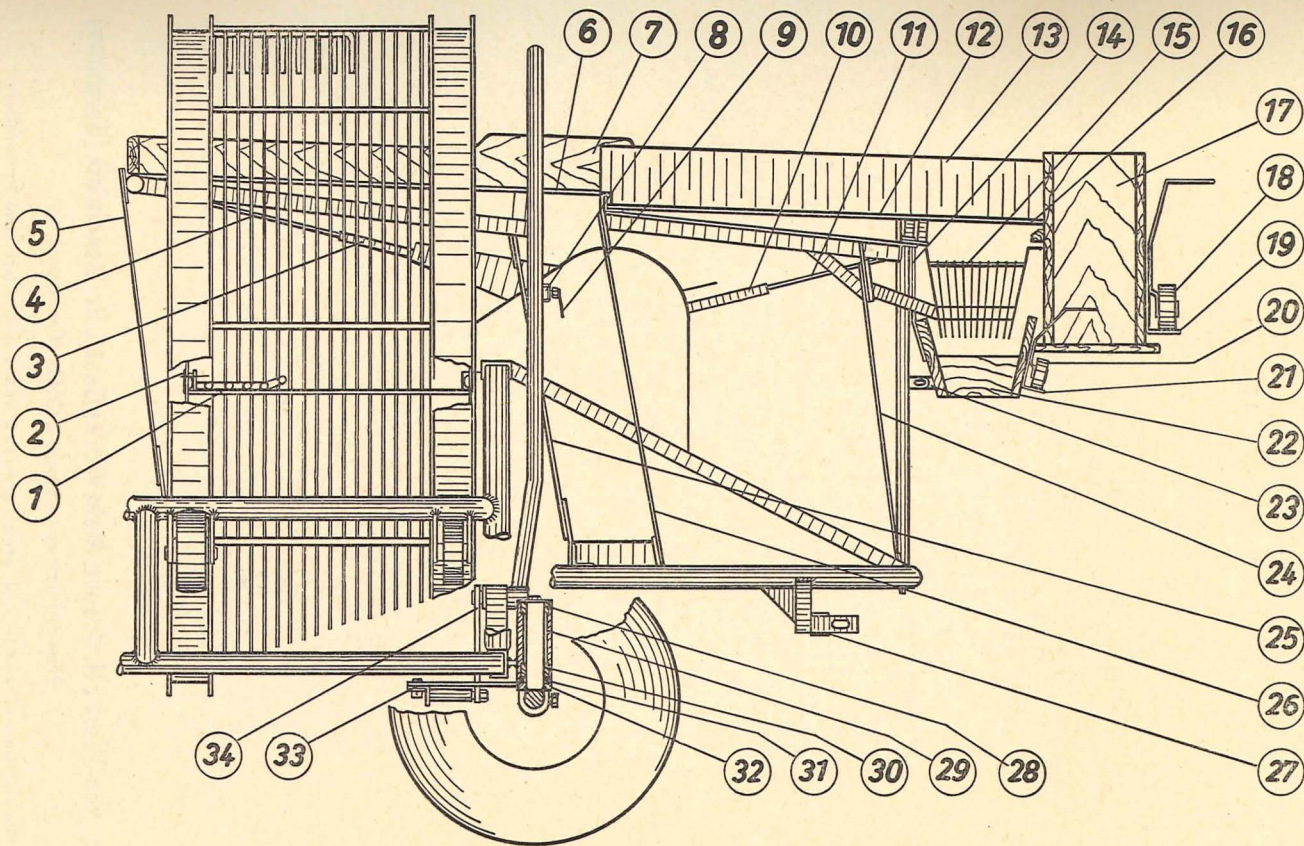
Fig. 13

Serial number	Part designation	Spare part No. S 56 R
Fig. 14	AMAZONE S 56 R Digger, Hopper tilting mechanism	
1	Power drive shaft coupling rod	BW 57-A 301
2	Knuckle joint, Gr. I/Z-1	BW 57-A 302
3	Outer sleeve Gr. 1	BW 57-A 303
4	Inner tube Gr. 0	BW 57-A 304
5	Knuckle joint, Gr. I/0-25	BW 57-A 305
6	Drive shaft	BW 57-B 319
7	Long roller bearing	BW 57-B 327
8	Driving gear	BW 57-A 334
9	Drive shaft bearing E 154	BW 57-A 339
10	Intermediate gear shaft	BW 57-A 320
11	Intermediate gear	BW 57-A 318
12	Short roller bearing	BW 57-B 326
13	Gear, driven E 151	BW 57-A 317
14	Gear shift fork, complete	BW 57-A 31
15	Spherical bearing	BW 57-A 362
16	Rope drum shaft	BW 57-A 361
17	Clutch hub plates with yokes	S 56 R-A 3142
18	Worm gear shaft, driven	BW 57-A 337
19	Bearing flange E 153	BW 57-A 338
20	Worm gear housing, complete	BW 57-A 34
21	Bearing flange E 153	BW 57-A 338
22	Drive shaft	BW 57-A 333
23	Thrust bearing SR A 30	BW 57-A 336
24	Worm M 76	BW 57-A 331
25	Worm gear	BW 57-A 332
26	Clutch disc	S 56 R-A 3145
27	Spherical bearing supporting strap	BW 57-A 363
28	Spherical bearing clip	BW 57-A 364
29	Self-aligning bearing 11 206	S 56 R-A 3053
30	Pillow block casing	S 56 R-A 3051
31	Pillow block cover	S 56 R-A 3052
	Pillow block, complete	S 56 R-A 305
32	Rope drum	S 56 R-A 371
33	Rope	S 56 R-A 374



AMAZONE S 56 R Digger
Hopper tilting mechanism
Fig. 14

Serial number	Part designation	Spare part No. S 56 R
Fig. 15	AMAZONE S 56 R Digger, Special supplementary equipment	
1	Lifter rod	S 56 R-A 581
2	Cotter pin 6x50	
3	Front vibrating grid tie-rod	S 56 R-B 3581
4	Tie-rod spring	S 56 R-A 3583
5	Front vibrating grid supporting spring	S 56 R-A 7140
6	Front screen, removable	S 56 R-A 716
	Front screen, removable, with rubber covering	
7	Left sideboard of front vibrating grid	S 56 R-B 7142
	Right sideboard of front vibrating grid	S 56 R-A 7143
8	Control lever strap	S 56 R-B 2871
9	Tommy screw	S 56 R-B 2865
10	Rear vibrating grid tie-rod	S 56 R-B 3591
11	Tie-rod spring	S 56 R-A 3583
12	Rear screen, removable	S 56 R-B 722
13	Left sideboard of rear vibrating grid	S 56 R-A 7225
	Right sideboard of rear vibrating grid	S 56 R-A 7226
14	Large discharge chute brackets	S 56 R-A 7351
15	Discharge chute, complete	S 56 R-A 734
16	Extension grid, slot width 20 mm = $\frac{3}{4}$ in.	S 56 R-A 723
	Sorting screen No. 1, slot width 25 mm = 1 in.	S 56 R-A 730
	Sorting screen No. 2, slot width 30 mm = $1\frac{3}{16}$ in.	S 56 R-A 731
	Sorting screen No. 3, slot width 35 mm = $1\frac{3}{8}$ in.	S 56 R-A 732
	Sorting screen No. 4, slot width 40 mm = $1\frac{5}{8}$ in.	S 56 R-A 733
17	(Potato) discharge chute	S 56 R-A 741
18	Rubber pressure roller with bushing	S 56 R-A 7433
19	Bag fastening clamp, left, complete	S 56 R-A 743 L
	Bag fastening clamp, right, complete	S 56 R-A 743 R
20	Rubber pressure roller with bushing	S 56 R-A 7433
21	Bag fastening clamp, left, complete	S 56 R-A 743 L
	Bag fastening clamp, right, complete	S 56 R-A 743 R
22	Lateral discharge chute, left	S 56 R-A 735 L
	Lateral discharge chute, right	S 56 R-A 735 R
23	Small discharge chute bracket	S 56 R-A 7352
24	Rear supporting spring of rear vibrating grid	S 56 R-A 7140
25	Rear supporting spring of front vibrating grid	S 56 R-A 7140
26	Front supporting spring of rear vibrating grid	S 56 R-A 7140
27	Rubber stops	S 56 R-A 1186
28	Upper bearing bushing for the adjustment of the land wheel to sloping ground	S 56 R-B 2813
29	Guide sleeve	S 56 R-B 2811
30	Lower bearing bushing for the adjustment of the land wheel to sloping ground	S 56 R-B 2812
31	Longitudinal bearing 51 109	S 56 R-B 2814
32	Swivel quadrant, complete	S 56 R-B 282
33	Track rod, complete	S 56 R-B 283
34	Steering lever, complete	S 56 R-B 284



AMAZONE S 56 R Digger, Special supplementary equipment

Fig. 15

Amazonen-Werke H. Dreyer, Main Works Gaste, Kr. Osnabrück (Germany)

Branch Factory at Hude i. Oldb. (Germany)

Manufacturers of fertilizer and manure spreaders, potato sorting and grading machinery,
conveyor belts, row crop harvesting machines and grain drills.