

# **Standen**

**Three-row  
Topper**

## **Parts Catalogue**

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# Introduction

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The manual provides the information for the adjustments and maintenance to help you to obtain the best results from your new Standen Three Row Topper. Before putting the machine to work, read the manual through carefully to get a full understanding of what the machine should do and how to achieve it.

The instructions have been compiled to describe the operation of the various components, then to describe the different settings of those components. At the rear of the book is a chart of possible faults and how to correct them.

The information is based on the current model but in most parts could also relate to earlier machines. Adjustments may have to be made singly or in combination with other settings according to crop and soil conditions. When making an adjustment, allow the machine to settle to its new setting before making more adjustments.

All references to right hand and left hand apply to the machine as viewed from the rear.

Serial Number stamped on: Front of Main Frame.

Always quote Serial Number when ordering spare parts.

Record details of your machine in the space provided below:

Date purchased .....

Date started work .....

Agent's Name .....

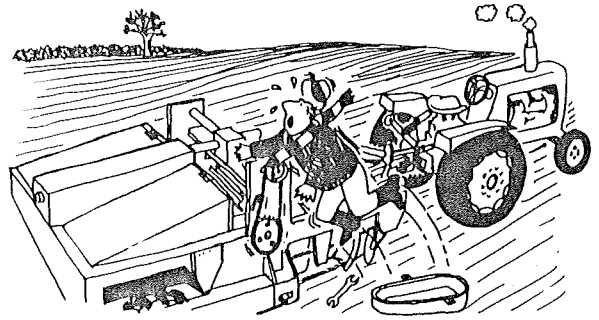
Agent's Address .....

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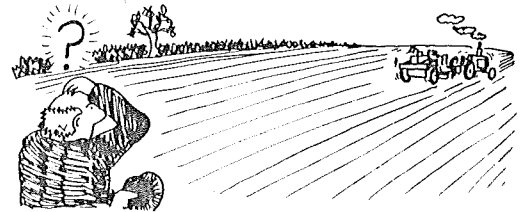
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# Safety Precautions

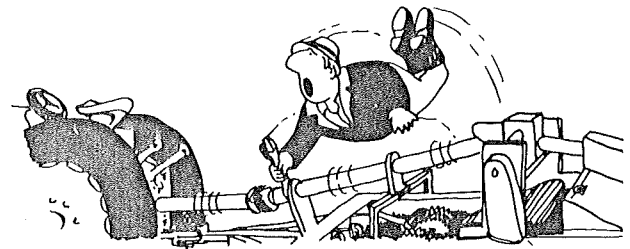
**NEVER** Operate the machine with any of the safety guards removed; remember they are fitted for two reasons — to keep out the dirt and, more important, to protect you and others from the various working parts. So, make sure they are properly fitted when the machine is in work.



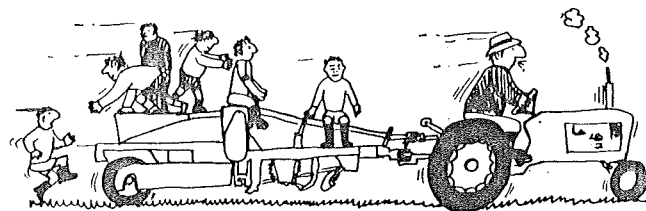
**ALWAYS** Stop the engine.



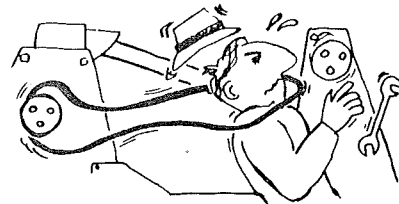
**NEVER** Attempt to adjust or clean any part of the machine with the power-take-off in gear.



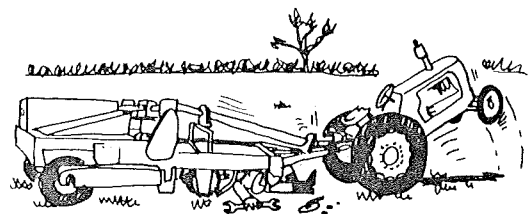
**NEVER** Allow anyone, **especially** children, to ride on the machine.



**NEVER** Fit or remove drive chains or drive belts while the drive sprockets or drive pulleys are in motion.



**NEVER** Work under the machine when it is in the raised position on the tractor hydraulics.



**NEVER** Allow children to be in the vicinity where machines are working.



## INSTALLATION

The Standen Three Row Topper is designed to top the beet by the use of feeler wheels and knives and to transfer the sugar beet tops to the side to leave clean rows of topped beet for the lifter loader. In its standard form the topper delivers the three rows of tops into one windrow but by the addition of an optional extra windrowing attachment it is possible to put six rows into one for ease of collection.

Other alternatives are a spreader to distribute the tops for ploughing in and a direct loading elevator which will deliver lacerated tops direct to an accompanying trailer for feeding or silage making.

The power required is 50-60 hp with PTO revs of 540 and a three point linkage.

Check that the nuts and bolts and gib head keys are tight, also the grub screws in the bearings, especially before starting off a new machine and during the first day or two of work.

Always keep the machine moving at a good working speed. Do not use a high PTO speed and a low ground speed when conditions are good; change into a higher gear and throttle back.

Never reverse unless the topper is in the raised position.

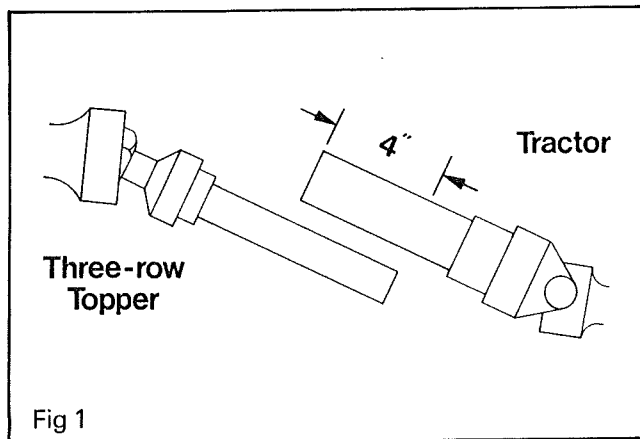
Do not raise the machine, turn at the end of the row or reverse with the PTO engaged.

Pay particular attention to the lubrication and maintenance of the machine.

Always use a sharp topping knife.

## PTO COUPLING TO TRACTOR AND TOPPER

The PTO coupling supplied with the harvester may require cutting to the correct length to suit an individual tractor. To do this the coupling should be parted and the two ends fitted to the tractor and topper respectively. The male and female squares can then be measured alongside each other and adjustments made by cutting the surplus bar from both male and female squares. At least 4" (10 cm) overlap should be allowed (fig 1).



After the correct length of the coupling has been obtained, the PTO coupling guard should be cut to correspond with the coupling.

Also ensure that the rubber hood is in place to protect the knuckles of the PTO coupling.

## TRACTOR LIFT LINKAGE SETTING

The drawbar, supplied with the topper, has been made to fit category two and should be fitted between the two lower lift arms and secured with a linch pin.

The levelling lever, between the top lift arm and the lower lift arm, should be fitted in the fixed position.

Fit the stabilizer bar and adjust so that the topper is central to the tractor.

The tractor top link is not required.

## TRACTOR WHEEL SETTING

Both front and rear tractor wheels must be set to straddle the rows of beet. For example, if the crop is growing at 20" (50.80 cm) the distance measured between the tractor tyre centres must be 60" (152.40 cm); this will ensure that the wheels run in a centre line between the rows of beet.

When carrying out wheel adjustments take care to place the jack on firm ground under a solid part of the tractor. Before removing the wheel place a stout support under the tractor frame in case the jack should become dislodged.

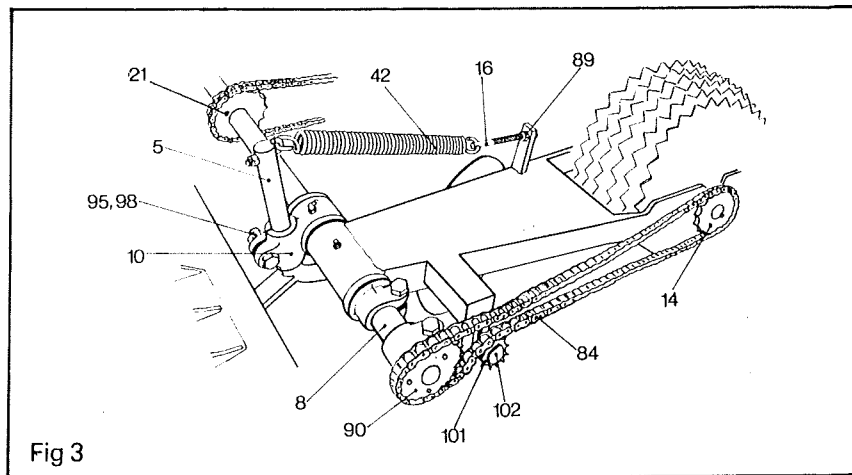
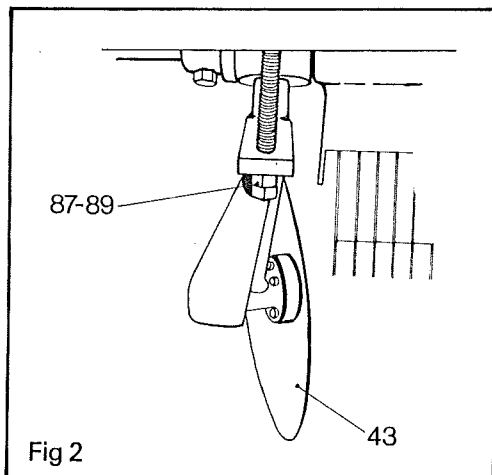
The instructions for adjusting tractor wheels are given in the tractor manufacturer's handbook.

## DISC COULTERS

The purpose of the Disc Coulters (Item 43 fig 2) fitted in front of the topping unit is to cut sugar beet leaves and trash to prevent them from building up and clogging on the knives (Item 23 fig 4), also to cut a 1 1/2 in (38 mm) deep furrow for the knife arms (Item 4 fig 4) to follow; this furrow enables the knife arms to drop down when topping beet at ground level.

The depth of the cut of the disc coulters is determined by adjusting the set screw (Item 87-89 fig 2) on the disc coulters stalk (Item 5 fig 3). The adjuster is situated under the front main beam of the topper. To lower the disc coulters (Item 43 fig 2), turn the set screw (Item 87-89 fig 2) anti-clockwise, to raise the disc coulters turn the set screw clockwise. At the same time ensure that the disc coulters tension spring (Item 42 fig 3) is adjusted to hold the disc coulters firmly to the ground or it will ride over the tops or trash instead of cutting them. To adjust the tension spring (Item 42 fig 3) turn the adjusting nut (Item 89 fig 3) on the spring tensioner (Item 16 fig 3). To adjust the disc coulters horizontally, first loosen the nut and bolt (Item 95-98 fig 3) in the disc coulters bracket (Item 10 fig 3) and move the disc to the right or left allowing the disc to pass the widest beet without cutting it. When the correct position is obtained, tighten the nut and bolt (Item 95-98 fig 3).

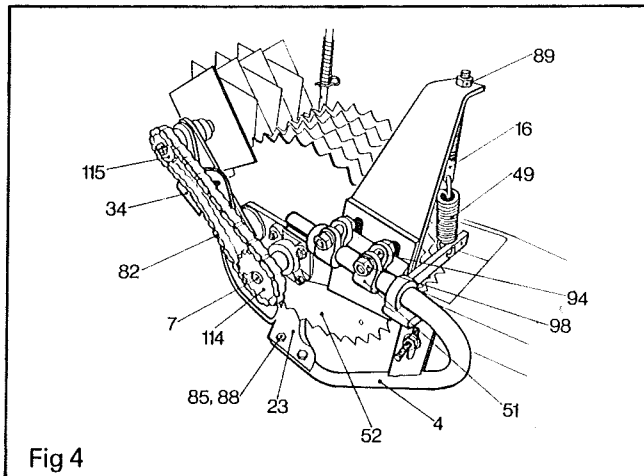
Note, the disc coulters stalk (Item 5 fig 3) should be as high up in the disc coulters bracket (Item 10 fig 3) as possible during all the above adjustments.



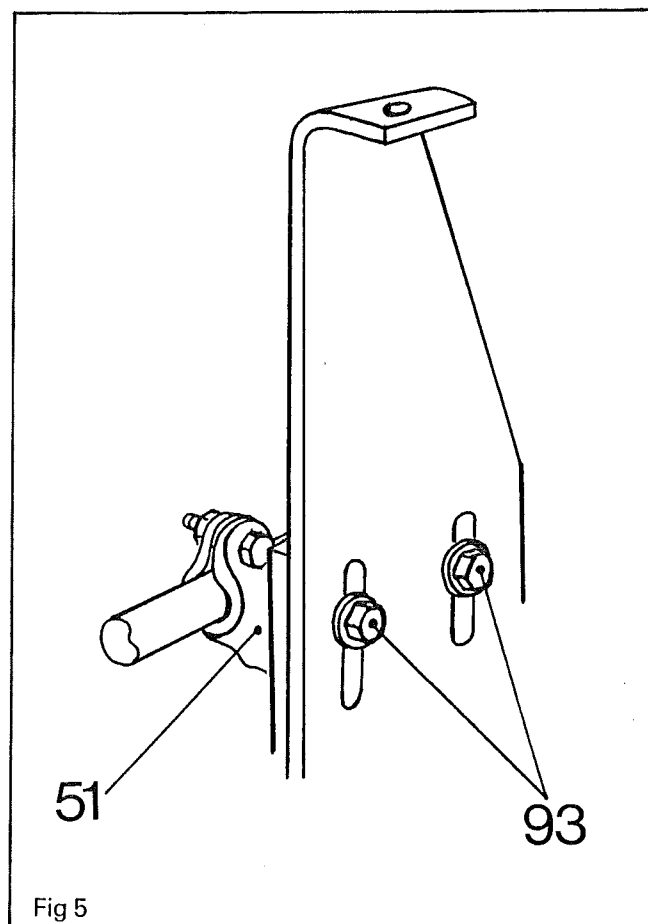
## TOPPING UNITS

Before attempting to set up the topping units ensure that the frame of the machine is horizontal or the front slightly raised, **NEVER LOWERED**. The level of the frame of the machine is determined by the amount of sugar beet tops in the crop. If the tops are dense the frame will need to be higher than where the tops are few. When the correct level is obtained set the **stop** on the depth control on the tractor to that position and maintain that position during the whole operation of the machine.

The purpose of the topping units is to top the beet cleanly and squarely by use of a feeler wheel (Item 52 fig 4) which runs on top of the sugar beet holding it steady while the knife (Item 23 fig 4) crowns it. The feeler wheel should be well on the beet when the knife starts its cut.



As a pre-setting before harvesting, set the depth of the cut of the knife by allowing the thickness of the middle finger between the knife blade and the feeler wheel teeth at the knife arm (Item 4 fig 4) side. A guide to the pitch of the knife is that the rear set screw (Item 85-88 fig 4) holding the knife (Item 23 fig 4) to the knife arm (Item 4 fig 4) should be approximately in line with the centre of the feeler wheel shaft (Item 7 fig 4) or slightly to the rear. A guide to the horizontal setting is that the knife arm (Item 4 fig 4) needs to be adjusted towards the feeler wheel until the knife blade is in the flat position. On the opposite side of the feeler wheel from the knife arm, the first tine, welded to the back of the knife, will be seen and the second tine will be just level with the side of the feeler wheel. Always set the knife to top the beet as close to the knife arm as possible as this is the most rigid part, whereas the end of the knife is springy and not constant in pressure. To adjust the depth and the pitch of the



knife, loosen the two set screws (Item 93 fig 5) in the knife arm bracket (Item 51 fig 5) and loosen the nut (Item 89 fig 4) on the spring tensioner (Item 16 fig 4) to release the spring tension. The knife arm (Item 4 fig 4) can then be raised or lowered or pitched as required. When the correct setting has been obtained tighten the set screws and nuts ensuring a good tension to the tension spring (Item 49 fig 4). To adjust horizontally, loosen the nuts (Item 98 fig 4) on the set screw (Item 94 fig 4) fitted in the knife arm bracket (Item 51 fig 4) and adjust to the required setting. The topping unit is fitted with a spring loaded knife which allows stones to be released should they become embedded in the feeler wheel. The tension of the spring (Item 49 fig 4) is controlled by a threaded spring tensioner (Item 16 fig 4) and nut (Item 89 fig 4) and should be adjusted to spring the knife firmly back into position after releasing an obstruction. Do not tighten the set screws (Item 94 fig 4) in the knife arm bracket (Item 51 fig 4) or the knife arm (Item 4 fig 4) will become fixed.

A very important part of the topping mechanism is the tension of the springs (Item 41 fig 6) on the lift rod (Item 15 fig 6). If this tension is not correct poor topping can occur because where the volume of the sugar beet tops is low less tension is required than where the volume is

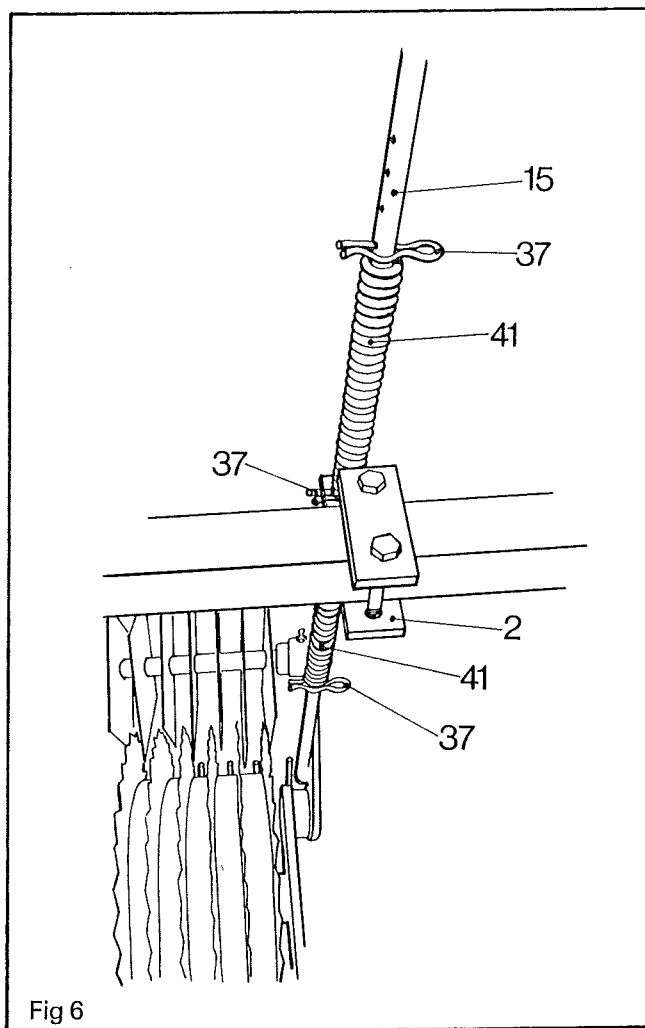


Fig 6

greater. Two springs are fitted to the lift rod (Item 15 fig 6), one above and one below the sliding bracket (Item 2 fig 6). The bottom spring (Item 41 fig 6) below the sliding bracket (Item 2 fig 6), is tensioned to give a downward pressure on the topping unit by adjusting the quick release pin (Item 37 fig 6) below the spring. The top spring (Item 41 fig 6) is to give the topper a lift when climbing high beet by adjusting the quick release pin (Item 37 fig 6) above the spring. The quick release pin fitted between the sliding bracket (Item 2 fig 6) and the top spring is fitted for transport purposes only and should be removed from that position before setting up the machine and placed in the top hole of the lift rod (Item 15 fig 6) until it is required when transporting the machine from one field to another.

It is very important that all the topping unit drive chains from the rear axle through to the feeler wheels are tensioned correctly or bad topping will occur. With the drive chains tensioned correctly there should be no more than two inches of play backwards and forwards on the feeler wheels.

Explanation of the adjusters will be found under Main Drives.

Check that the main axle drive clamp (Item 1 fig 7) is tightly clamped to the axle (Item 17 fig 7) as any slipping of the clamp will result in bad topping and a worn axle and clamp.

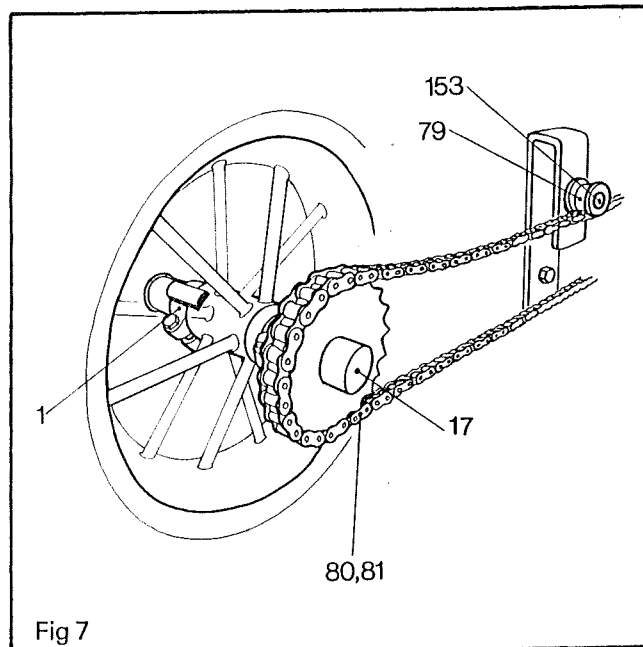


Fig 7

Always ensure the topping knife is kept sharp. Do not sharpen the blade on a grinder until the edge turns blue or the edge will turn up as soon as the blade is put to work. Whenever possible sharpen with a file.

## MAIN ELEVATOR

The main elevator is positioned to collect the sugar beet crowns and tops from the topping knives and transport them to the cross elevator.

The main elevator consists of a continental web, rubber covered rollers, plain steel rollers and web sprockets. No lubrication is required to any of the rollers or webs but the following points must be observed. When fitting the web, ensure that the spiked links (Item 40-41 fig 8) are sloping down away from the direction of travel. This allows the tops to fall away from the web as it proceeds over the top of the elevator.

To adjust the web to run square in the elevator first slacken off the U-bolt (Item 46 fig 8) and the two stop collars (Item 30 fig 8) and adjust by lengthening or shortening the adjustment straps (Item 4 fig 8) in the adjustment strap bracket (Item 5 fig 8) fitted at the lower end of the elevator.

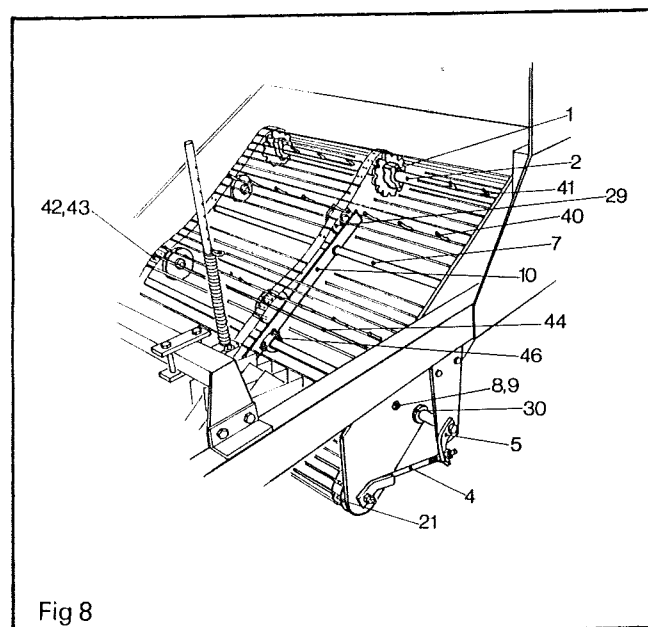


Fig 8

When the web is correctly in line check that the rollers (Item 29 fig 8) and the rubber roller (Item 21 fig 8) fitted to the centre support (Item 10 fig 8) are in the correct position, with the rollers (Item 29 fig 8) supporting the rod links and the rubbered rollers (Item 21 fig 8) supporting the webbing. Adjustments can be made by loosening the U-bolt (Item 46 fig 8) and the grub screw, fitting the centre support (Item 10 fig 8) to the top tie bar (Item 7 fig 8) and sliding the centre support (Item 10 fig 8) to the left or the right until the correct position is achieved. Note the hole in each elevator side (Item 8-9 fig 8) above the flange rubbered rollers. They are provided for the easy removal of the web connecting rod (Item 44 fig 8).

To remove the connecting rod (Item 44 fig 8) turn the elevator continental web until the connecting link is in line with a hole in the elevator side (Item 8-9 fig 8) and with a suitable drift drive out the connecting rod from between the male and female connectors (Item 42-43 fig 8).

The web sprockets (Item 1 fig 8) are the split type sprockets and can be removed and new sprockets fitted without the need to remove the web shaft (Item 2 fig 8).

The main elevator is protected by a safety clutch fitted at the end of the main elevator drive shaft (Item 5 fig 9), designed to allow the clutch sprocket (Item 41 fig 9) to turn independently of the web shaft (Item 2 fig 8 & 9) if the continental web becomes obstructed. The efficiency of the safety clutch is determined by the correct adjustment of the clutch springs (Item 91 fig 9). To adjust the spring tension turn the adjusting nut (Item 132-133 fig 9) down the bolt (Item 131 fig 9) giving each nut an equal number of turns until all the looseness is taken up. If the continental web stops turning when in work and fully loaded, adjust each spring equally until the continental web revolves.

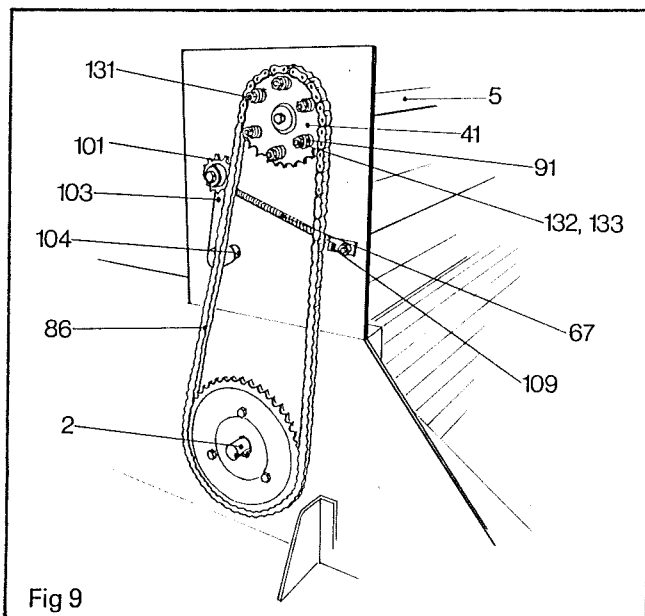


Fig 9

## CROSS ELEVATOR

From the main elevator the sugar beet crowns and tops are transported to the cross elevator and then elevated to the side clear of the rear wheel. The cross elevator consists of a continental web, web sprockets, plain steel rollers and web sprockets. No lubrication or maintenance is required to any of the rollers or the continental web, but the following points must be observed.

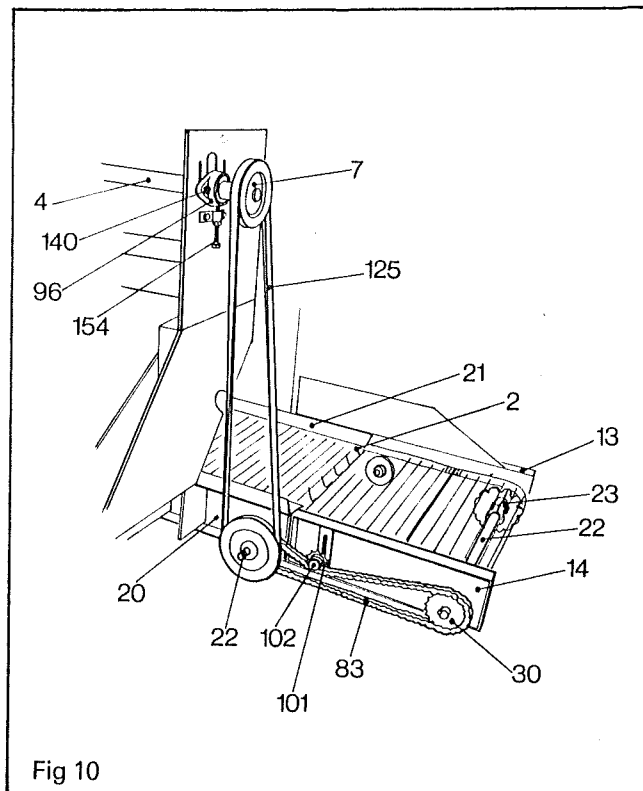


Fig 10

It will be noted that the cross elevator sides are in four parts, the main elevator sides, front side panel (Item 20 fig 10), rear side panel (Item 21 fig 10), the extension front panel (Item 14 fig 10) and extension rear side panel (Item 13 fig 10). The extension panels can be removed for the fitting of a direct loader.

The continental web is made in two different lengths; the shorter length is removed at the same time as the extension panels (Item 13-14 fig 10) when fitting the direct loading elevator. As the continental web spike links (Item 2 fig 10) are not set at an angle there is no specified way to fit the web, either way is correct. There is no adjustment for the alignment or tension of the continental web.

The web sprockets (Item 23 fig 10) are the split type sprockets and can be removed and new sprockets fitted without removing the web shaft (Item 22 fig 10). The cross elevator drive is not protected by a safety clutch but by a V-belt (Item 125 fig 10) which, if adjusted with just enough tension to drive when under load, should slip in the pulleys when the cross elevator web is overloaded or obstructed. Belt tension adjustment is provided at the rear of the drive pulley (Item 7 fig 10) at the end of the cross elevator drive shaft (Item 4 fig 10). Tensioning instructions are given under Main Drives.

## FLAILS

The flails are situated at the rear of the machine and are designed to clear any loose leaf or trash from the rows of beet previously topped by the topping unit. The tops are moved to the side clear of the beet to be lifted. Note that the banks of flails are not mounted in line but are built one slightly forward of the other. Each is set at an angle so that it throws the trash in front of the other, starting from the right hand side. The flails are fitted to the flail arm



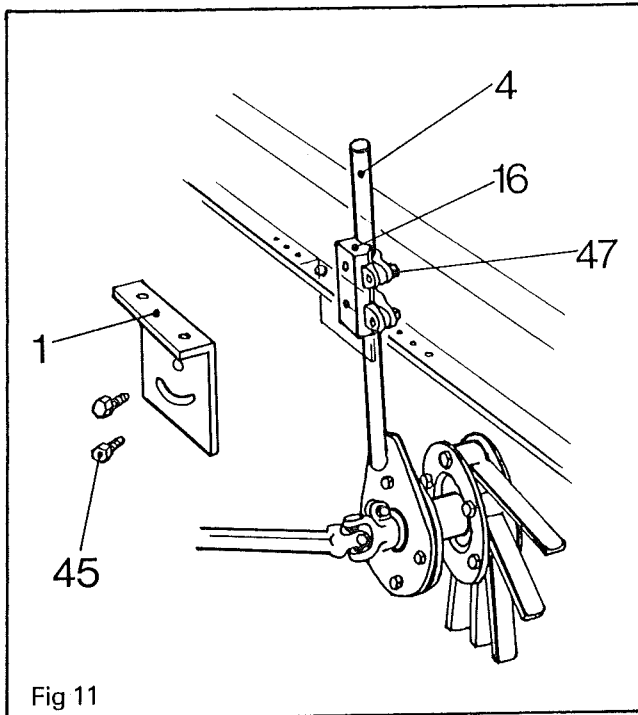


Fig 11

bracket (Item 16 fig 11) which is fitted to the flail mounting bracket (Item 1 fig 11) on the machine frame. In the frame area there are a number of holes to accommodate the various row widths. The flail bracket (Item 1 fig 11) also has a slotted hole with which to make the finer adjustment by first loosening the set screws (Item 45 fig 11) and swinging the flail to the left or the right.

Vertical adjustment is obtained by loosening the two set screws (Item 47 fig 11) securing the flail arm (Item 4 fig 11) to the flail arm bracket (Item 16 fig 11). The flail can then be raised or lowered according to the bulk of trash to be moved. Note that if the flails are set too low the beet growing out of the ground will be knocked out with consequent beet losses. In a beet crop with very high beet, losses can be decreased by setting the flails to the left of the row of beet rather than over the top.

The flails are driven by V-belts which also act as a safety precaution by slipping in the pulleys if the flails become obstructed. Adjustment instruction under Main Drives.

## MAIN DRIVES

The various main drives consist of drive shafts, drive chains and sprockets or belts and pulleys. Each drive chain and belt is fitted with a tensioner which is either self adjusting by means of a spring and jockey or is tensioned by manual adjustment. When adjustment is by spring tension the chain is kept under constant pressure by the force of the spring pulling jockey on to the drive chain so that any slack in the chain caused by wear or stretching is immediately overcome. Check the chain tensioner daily to ensure that the spring is in good condition and that the jockey is free to move on the jockey spigot.

When tensioning by manual adjustment care should be taken not to overtighten the drive chains or belts as wear will result to the drive chains, sprockets and bearing, and to the drive belts and pulleys. It is important that the chains and belts are kept to the correct tension to ensure the efficient working of the machine.

After all adjustments have been taken up by the drive chain adjusters, remove the required number of links from the chains to obtain the correct adjustments.

## MAIN ELEVATOR DRIVE (Self-Adjusting)

A self-adjusting tensioner is fitted to the main elevator drive chain (Item 86 fig 9). The tensioner consists of a jockey arm (Item 103 fig 9) fitted with a jockey sprocket (Item 101 fig 9) and a jockey spigot (Item 104 fig 9) and is tensioned by a spring (Item 67 fig 9). Extra tension can be obtained by turning the spring anchor (Item 109 fig 9) to the rear.

## CROSS ELEVATOR DRIVE (Manual Adjusting)

To tension the cross elevator drive belt (Item 125 fig 10) loosen the nuts and bolts (Item 140 fig 10) securing the bearing (Item 96 fig 10) behind the cross elevator pulley (Item 7 fig 10) and turn the adjusting screw (Item 154 fig 10) to lift the cross elevator drive shaft (Item 4 fig 10) until the slack is taken from the belt (Item 125 fig 10).

## FLAIL DRIVES (Manual Adjusting)

To tension the flail belt (Item 126 fig 12) loosen the bearing housing bolts securing the bearing housing (Item 15 fig 12) to the upper flail drive mounting plate (Item 21 fig 12) and turn the set screw (Item 154 fig 12) to lift the bearing housing (Item 15 fig 12) until the slack is taken from the belt.

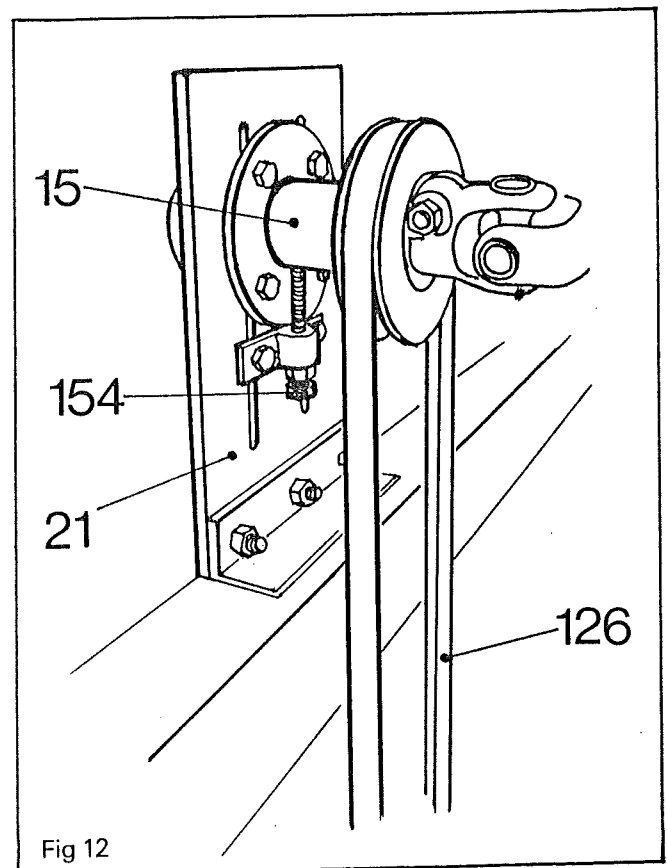


Fig 12

To tension the two flail belts (Item 127 fig 13) loosen the bearing housing bolts (Item 146 fig 13) securing the bearing housing (Item 15 fig 13) to the flail drive mounting plate (Item 20 fig 13); turn the set screw (Item 154 fig 13) until the slack is taken from the belts. Note: this applies to the right hand and left hand bearing housing only. The centre bearing is not adjustable.

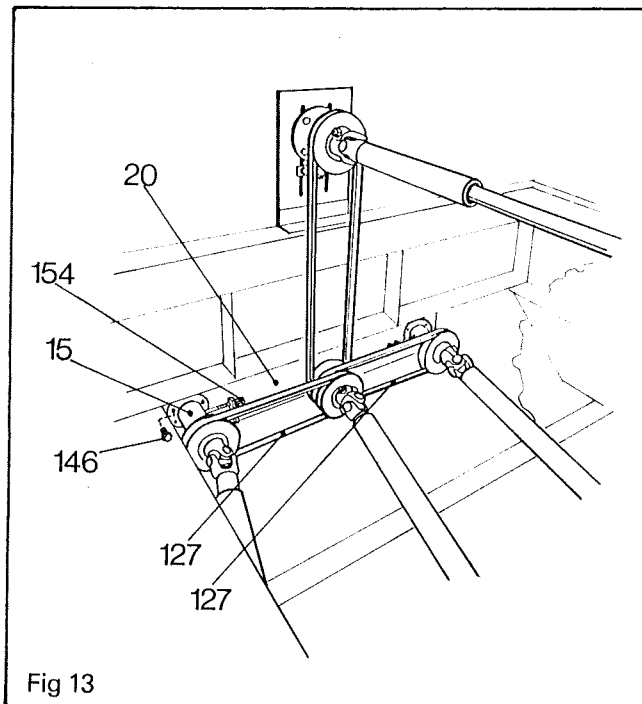


Fig 13

## TOPPING UNIT DRIVE CHAINS (Manual Adjusting)

Two main drive chains (Item 80-81 fig 7) are fitted to drive the topping units. They are situated along the right hand side of the machine from the rear axle to the topping unit drive shaft sprocket and forward to the pivot shaft sprocket (Item 21 fig 3). The chain tension adjusters are situated along the chain and consist of jockey rollers (Item 79 fig 7) fitted to shoulder bolts (Item 153 fig 7).

The shoulder bolt is passed through a slot in the tensioning bracket. To adjust the tension on both drive chains (Item 80-81 fig 7) situate the roller on the top of the top run of the drive chains and press the tensioner down on to the drive chain.

Three topping unit drive chains (Item 84 fig 3) are fitted to the plate sprocket (Item 90 fig 3) on the pivot shaft to drive the feeler wheel sprocket (Item 14 fig 3). The adjusters are fitted close to the pivot shaft (Item 8 fig 3) and consist of a jockey sprocket (Item 101 fig 3) fitted to shoulder bolt (Item 102 fig 3). To adjust the drive chain place the jockey sprocket (Item 101 fig 3) to the underside of the bottom run of the drive chain (Item 84 fig 3) and pull the jockey sprocket (Item 101 fig 3) upwards. This adjustment applies to all three topping units.

Three cleaner drive chains (Item 82 fig 4) from the 17-tooth drive sprockets (Item 114 fig 4) to the 11-tooth (Item 115 fig 4) are situated at the top of the feeler wheels. The adjusters consists of a chain tensioner (Item 34 fig 4) which is a slotted bracket designed to fit the underside of the bottom run of the drive chain (Item 82 fig 4). This should be pulled upwards to tension the chain. This adjustment applies to all three units.

## EXTENSION ELEVATOR DRIVE CHAINS (Manual Adjustment)

The extension elevator is driven from the cross elevator by the extension elevator drive chain (Item 83 fig 10) from the 19-tooth sprocket (Item 30 fig 10) fitted to the web shaft (Item 22 fig 10) to the 19-tooth sprocket (Item 30 fig 10) fitted to the extension elevator drive shaft (Item 22 fig 10). The adjuster consists of a jockey sprocket (Item 101

fig 10) fitted to a shoulder bolt (Item 102 fig 10). To adjust the drive chain fit the tension jockey sprocket (Item 102 fig 10) on the top of the top run of the chain (Item 83 fig 10). Press the tensioner down onto the chain to tension the chain.

## FLAIL DRIVE CHAIN (Manual Adjusting)

The flail drive chain (Item 85 fig 14) is situated in front of the gear box and fitted to the 15-tooth sprocket (Item 40 fig 14) driving the 15-tooth sprocket (Item 113 fig 14). Adjust by loosening the nuts and bolts (Item 141 fig 14) in the slotted holes of the bearing plate (Item 11 fig 14) and by pressing the plate downwards to tension the chain.

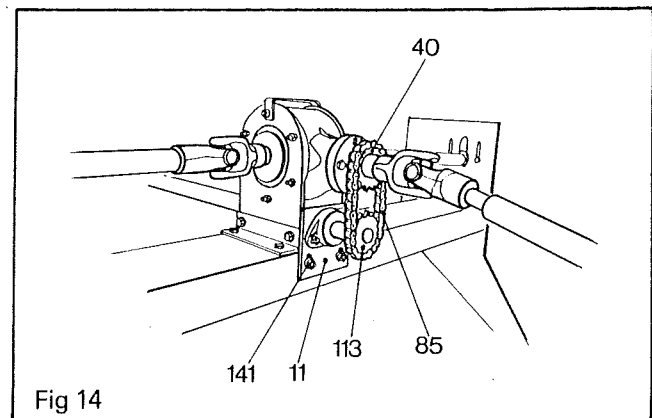


Fig 14

## OPTIONAL EXTRAS Double Windrower

The double windrow attachment puts six rows of beet tops into one windrow. It is fitted to the end of the cross elevator and is raised and lowered by a hydraulic ram controlled from the tractor seat.

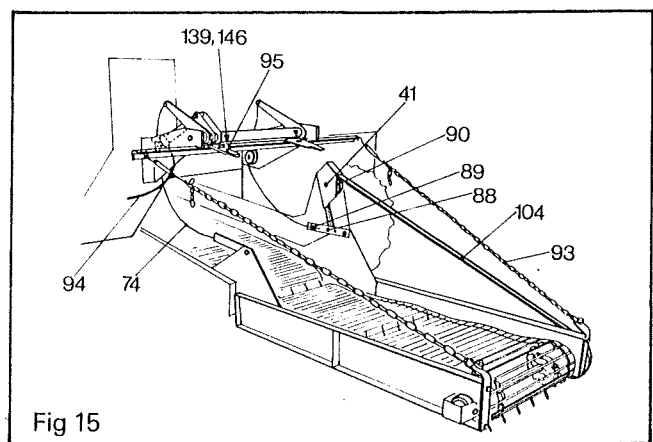


Fig 15

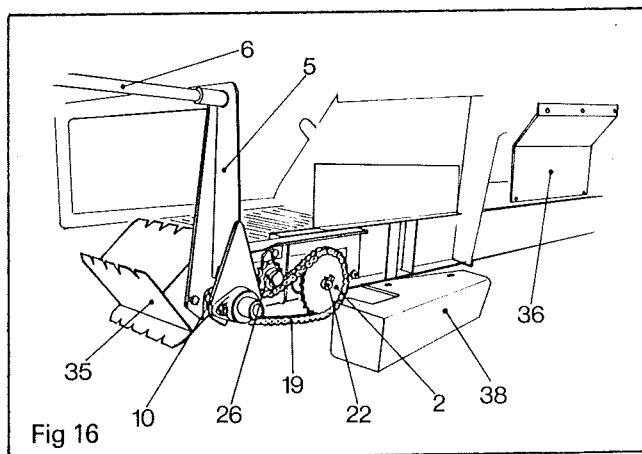
The extension elevator is raised in the vertical position during the first round of topping and is then lowered to place the second round of sugar beet tops on to the first round. When the extension elevator is in the raised position the drive belt (Item 104 fig 15) is automatically slackened to stop the elevator turning. When the elevator is lowered the drive belt (Item 104 fig 15) is tensioned causing the elevator to rotate. The elevator is fitted with support chains (Item 93 fig 15) to take the weight of the elevator when in the down position and it should be adjusted in conjunction with the drive belt (Item 104 fig 15) to enable the belt to be tight enough to drive but not to take the weight of the elevator. The two wire cables (Item 74 fig 15) provided to lift the elevator should also be slack when in the lowered position but not slack enough to cause the cables to snatch when first starting to lift.

To adjust the drive belt (Item 104 fig 15) and cables (Item 74 fig 15) first adjust the support chains (Item 93 fig 15) tight enough to raise the discharge end of the windrow elevator clear of the first row of beet tops, tension the drive belt (Item 104 fig 15) by loosening the nut of the adjusting pulley spigot (Item 41 fig 15) and lift the belt pulley (Item 90 fig 15) in the adjusting slot to the required belt tension and tighten nut. Tension the wire cables (Item 74 fig 15) by loosening the cable clamps (Item 89 fig 15) fitted to the lift strap (Item 88 fig 15) and draw the cable through; retighten clamp. The elevator guide (Item 95 fig 15) is adjusted to support the elevator when in the raised position. To adjust, loosen the nut and bolt (Item 139-146 fig 15) and move the bracket (Item 95 fig 15) so as to support either side of the elevator.

The hydraulic pipe (Item 94 fig 15) is fitted to the auxiliary outlet of the tractor hydraulics.

## Tops Spreader

The Tops Spreader is designed to separate the sugar beet tops and to spread them thinly for easier ploughing in. It is fitted to the end of the cross elevator and consists of a spreader barrel (Item 35 fig 16), on to which half the beet tops fall. To assist in the separation of the beet tops, a tops deflector (Item 36 fig 16) is fitted into the back of the cross elevator. This places half the beet tops forward on the cross elevator web and allows half to fall to the back of the web. The beet tops at the back of the web are fed onto the barrel (Item 35 fig 16) and scattered while the beet tops at the front of the web fall short off the end of the web.



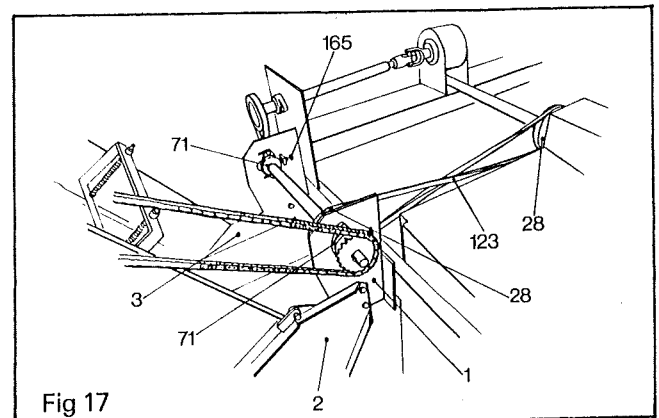
The barrel (Item 35 fig 16) is chain driven (Item 19 fig 16) from the web shaft (Item 22 fig 16) from a 25-tooth sprocket (Item 2 fig 16) to an 11-tooth sprocket (Item 10 fig 16) so increasing the speed of the barrel by two to one. The drive chain (Item 19 fig 16) is fitted with a tensioner (Item 26 fig 16). The tops spreader frame (Item 5 fig 16) is hinged to the cross elevator for easy transport. To lift the unit, first remove the chain guard (Item 38 fig 16) and the drive chain (Item 19 fig 16).

Always ensure that the guard rail (Item 6 fig 16) is securely in place when machine is in work.

## Direct Loading Elevator

The direct loading elevator is fitted to the end of the cross elevator after first removing the extension side panels (front Item 13 rear Item 14 fig 10) the sugar beet tops are transported from the cross elevator up to the chopper assembly fitted at the top of the direct loading elevator. The tops are lacerated by the chopper assembly and discharged into a trailer running alongside.

The main drive to the elevator is by a V-belt (Item 123 fig 17), fitted to the two pulleys (Item 28 fig 17). Provision for belt tensioning is provided in the anchor plate (Item 1 fig 17). To adjust the belt loosen the bolts and nuts securing the bearings (Item 71 fig 17) to the anchor plate (Item 1 fig 17) and turn the setscrew (Item 165 fig 17) until the required tension is achieved.



From the V-belt the drive is by drive chains (Items 60-61 fig 18). The chains are self adjusting by a jockey sprocket (Item 72 fig 18) fitted to a jockey arm (bottom, Item 30 fig 18) (top, Item 109 fig 18) and tensioned by a tension spring (Item 45 fig 18). The chopper blade shaft (Item 16

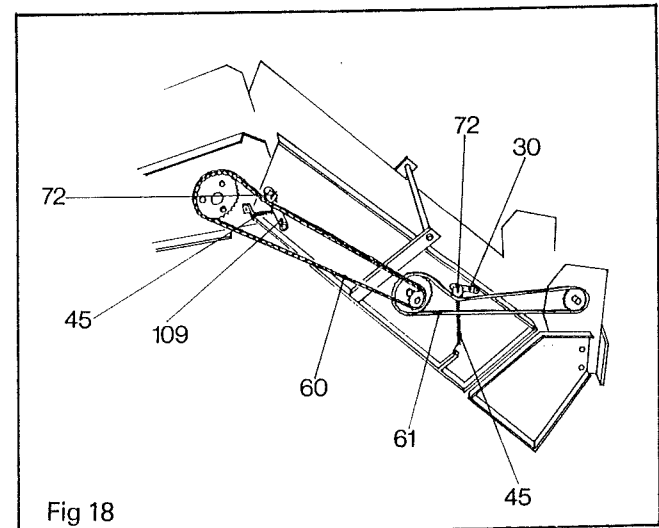
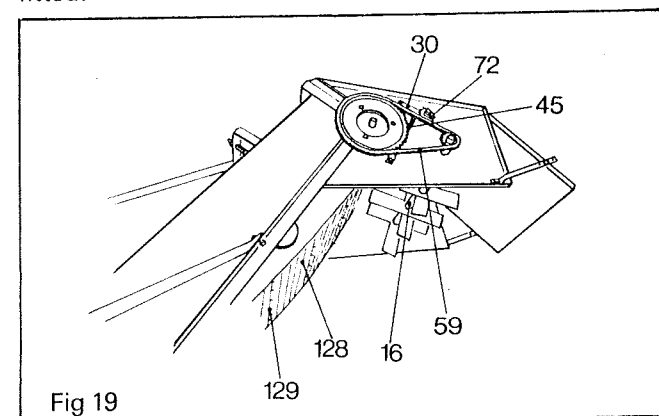


fig 19) is driven by drive chain (Item 59 fig 19) and fitted with a self adjusting tensioner consisting of a jockey sprocket (Item 72 fig 19) fitted to jockey arm (Item 30 fig 19) and tensioned by a spring (Item 45 fig 19).

The elevator is fitted with a continental web to which is attached a spiked link (Item 129 fig 19) at every fifth web link (Item 128 fig 19). As the spike links are not set at an angle it does not matter which way round the web is fitted.



Suspended above the web is a conveyor cover (Item 113 fig 20) which is fitted to stop the sugar beet tops rolling back down the web. Pressure is applied onto the tops by springs (Item 116 fig 20) fitted between the conveyor cover (Item 113 fig 20) and the brackets (Items 111 and

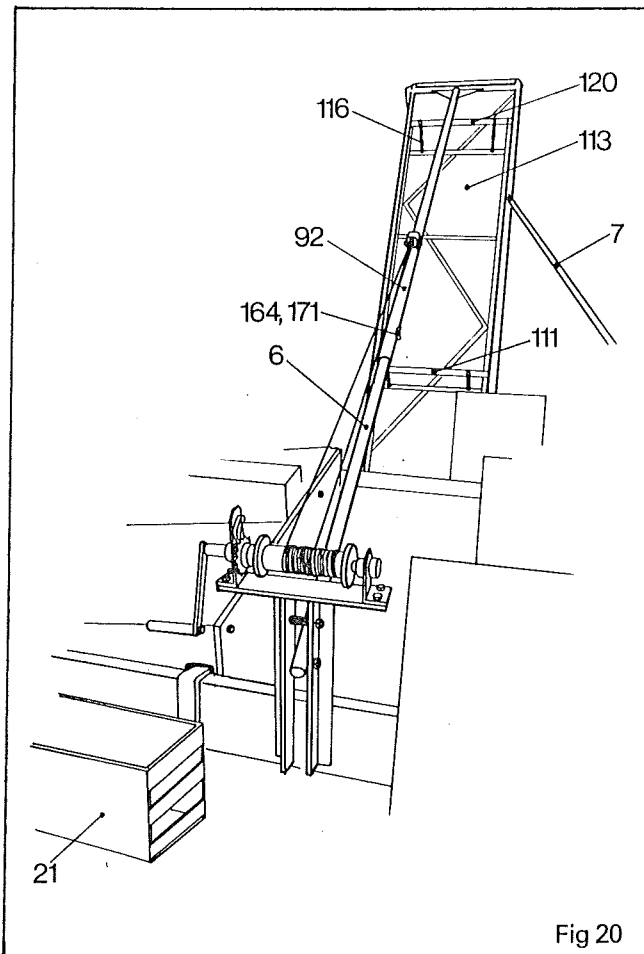


Fig 20

120 fig 20). From the discharge elevator the tops are discharged into the chopper assembly onto the chopper blade shaft (Item 16 fig 19) and passed through the chopper blades (Item 91 fig 21). Six chopper blades are fitted as standard but blades can be removed according to the volume of sugar beet tops going through. Provision is also made to adjust the chopper blades (Item 91 fig 21) to or from the chopper blade shaft (Item 16 fig 19) according to the volume of tops.

Fitted to the top cover (Item 19 fig 21) is a top flap (Item 107 fig 21) which is adjustable to control the throw of the chopped beet tops according to the size of the trailer or the amount of beet tops. This can be adjusted by moving the nuts and bolts in the top flap (Item 107 fig 21) and the cranked support (Item 100 fig 21).

Fitted to the right hand side of the machine is a weight tray (Item 21 fig 20) to carry weights to balance the overhang of the discharge elevator.

A winch is provided to raise the discharge elevator to the upright position making for easier transport from one field to another and to take the weight of the elevator on the tension tube (Item 92 fig 20) the inner tension tube (Item 6 fig 20) and the elevator stay (Item 7 fig 20) when the machine is in operation.

To raise the elevator remove the stay (Item 7 fig 20) and loosen the four nuts and bolts fitting the LH-RH support panels (Items 2-3 fig 17) to the anchor plate (Item 1 fig 17); do not remove the bolts. Remove the bolts and wing nut (Items 164-171 fig 20) from the tension tubes (Items 6

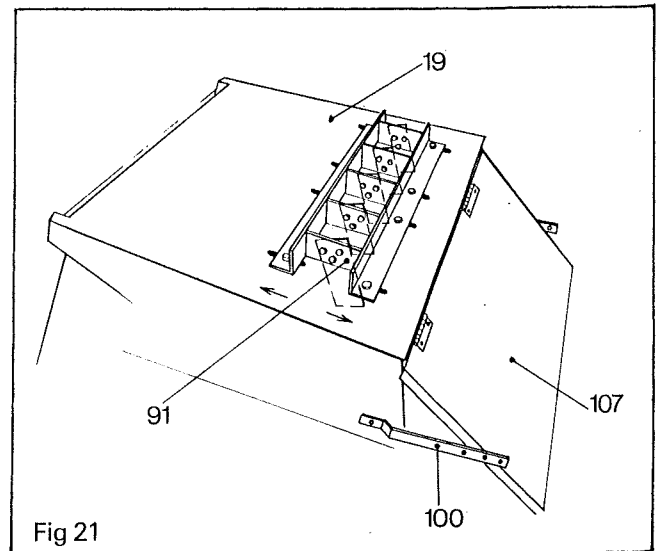


Fig 21

and 92 fig 20). Turn the winch handle and raise the elevator until the lowest hole in the inner tension tube (Item 6 fig 20) corresponds with the hole in the tension tube (Item 92 fig 20). Fit the bolt (Item 164 fig 20) into the two holes and replace wing nut (Item 171 fig 20), retighten the four nuts and bolts in the support panels (Items 2-3 fig 17) and the anchor plate (Item 1 fig 17). To lower the elevator reverse the process.

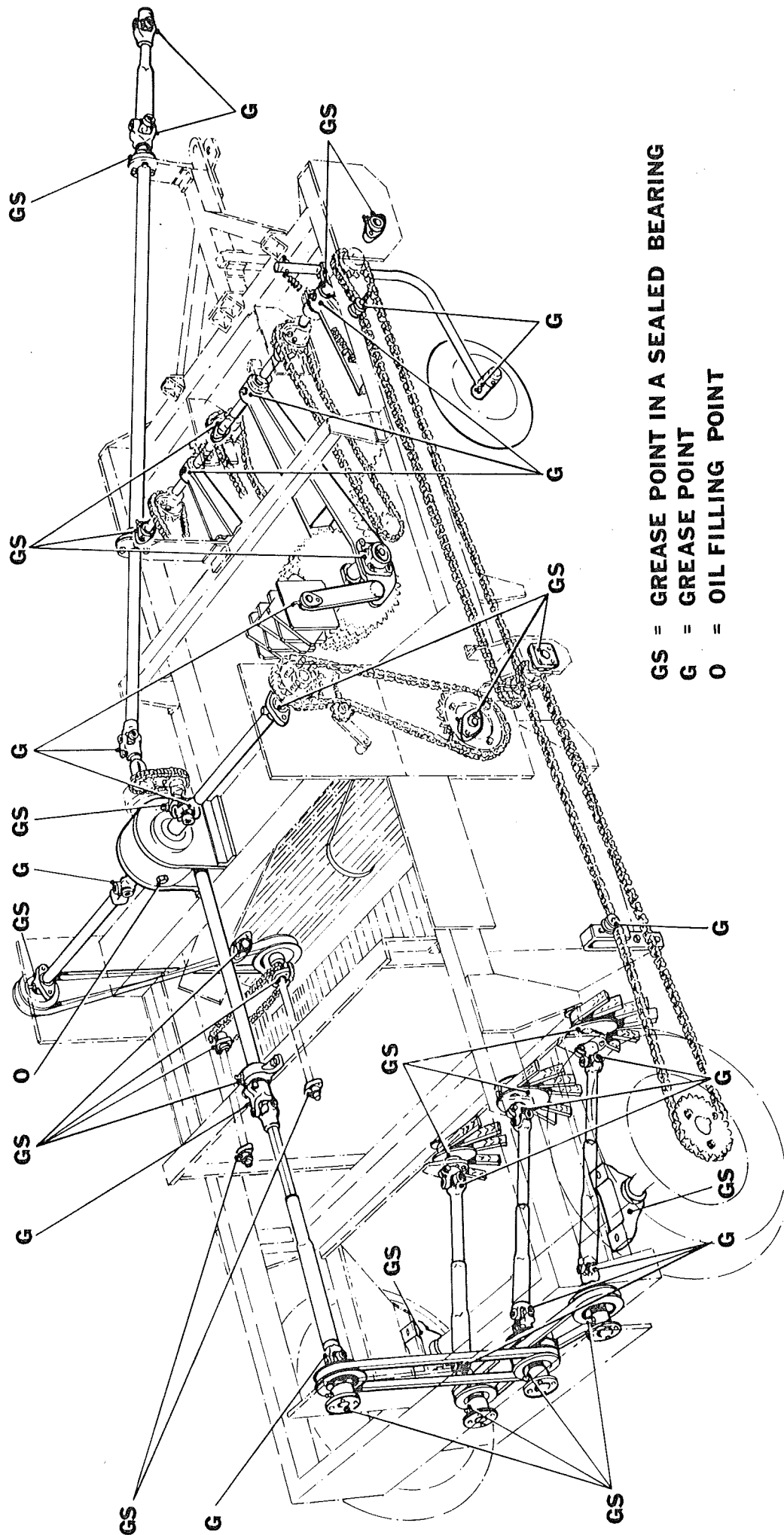
## LUBRICATION

Correct lubrication should be employed to ensure the full life of the various working parts and the efficient operation of the machine.

A general purpose grease should be used for the bearings and the universal coupling drives. The gear box should be filled with a sae90 oil to an inch below the gear box filler hole (ref 'O').

Note that some of the bearings are felt sealed (ref 'GS') and care should be taken not to flood these bearings with grease or the seals will burst allowing the grease to escape and dirt to get in. Should this happen, more frequent greasing will be required in order to keep the dirt at bay. When lubricating sealed bearings, only two or three strokes of the grease gun every twenty acres of work are all that is required.

The non sealed bearings (ref 'G') should be greased at least once a day or every ten acres. Grease points requiring this quantity of lubrication will be found on fig 22.



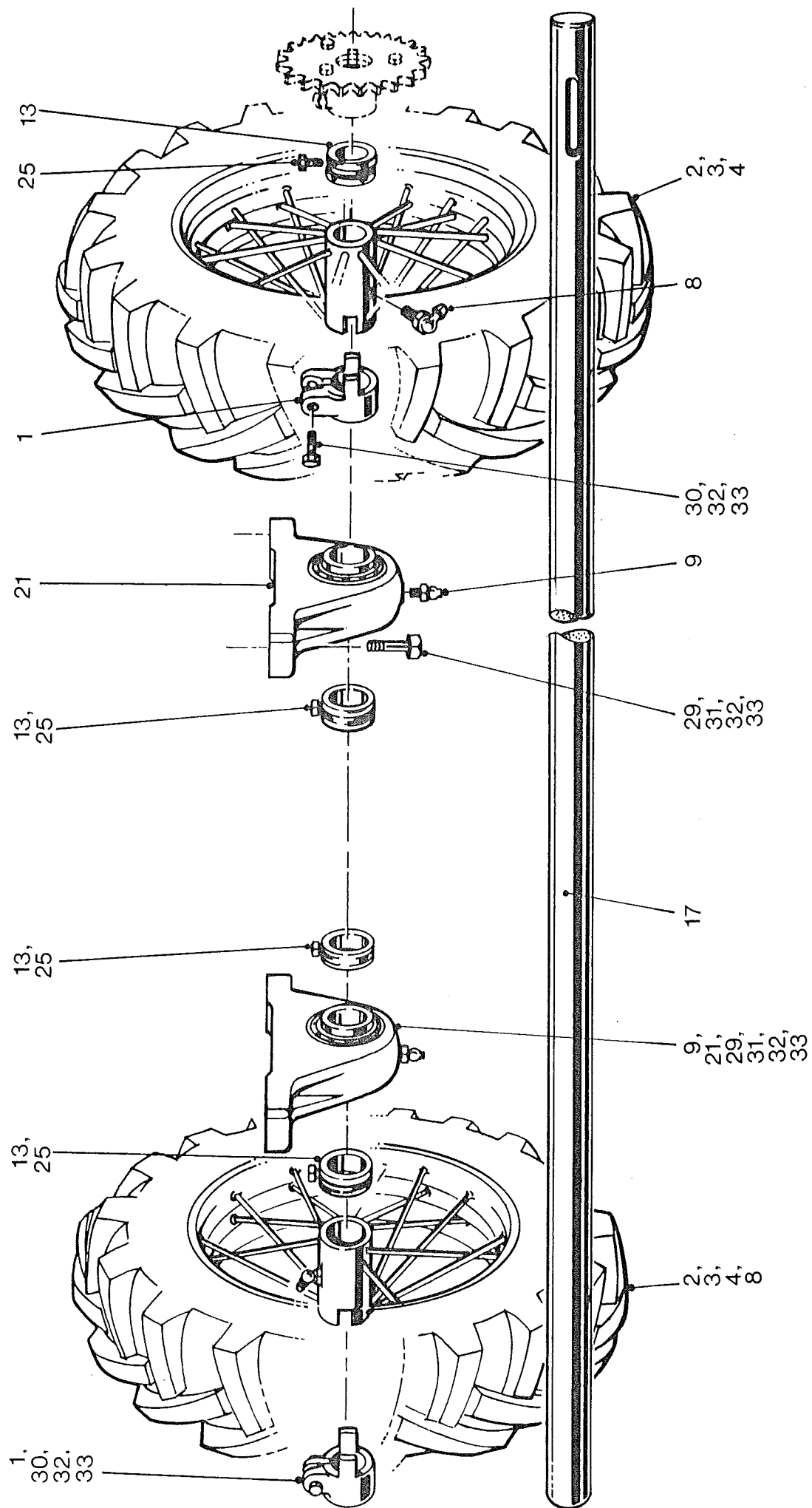
GS = GREASE POINT IN A SEALED BEARING  
 G = GREASE POINT  
 O = OIL FILLING POINT

## LUBRICATION POINTS

## FAULTS — CAUSES AND CORRECTIONS

When considering faults and pinpointing the causes, most if not all problems can be overcome by the correct setting of tractors and machines. Although throughout this book we have been considering the topper only, some of the faults can be attributed to the lifter, so, examine the quality of the work of both machines to try to isolate causes of problems.

| FAULTS   | POSSIBLE CAUSES  | CORRECTIONS   |
|--|--|---|
| Sides of beet shaved off.<br>Too much top removed from beet. | Trash disc set too close to beet.<br>Knife too far below lowest point of feeler wheel.<br>Insufficient spring tension on spring loaded knife arm.  | Move disc to clear side of widest beet.<br>Set knife to a higher position.<br>Increase spring tension on knife but ensure that movement is enough to release stones.  |
| Not enough top removed from beet.                            | Too much spring tension on topping unit lift rod.<br>Knife set too close to feeler wheel teeth.  | Decrease tension by fitting the lower quick release pin into a lower hole in the lift rod.<br>Set knife in a lower position.  |
| Beet crowns split; beet scored across the top.               | Not enough spring tension on topping unit lift rod.<br>Main drive and feeler wheel drive chains too slack causing wheel to rock and skid back across top of beet.  | Increase tension by fitting the lower quick release pin into a higher hole in the lift rod.<br>Tension drive chains.  |
| Beet knocked over<br>1. By Feeler Wheel.                     | Too much spring tension on topping unit lift rod in relation to the number of high beet and the density of the beet tops.<br>Pressure of topping unit on beet too great in relation to the number of high beet and the density of the beet tops.<br>Main drive chains and feeler wheel drive chains too slack.<br>Too much movement in the spring loaded knife arm; gap between knife and feeler wheel not constant.<br>Too much pitch on knife arm.<br>Topping unit drive clamp slipping on the axle.<br>Peripheral speed of feeler wheel too slow in relation to ground speed. | Release pressure by fitting the lower quick release pin into a lower hole in the topper unit lift rod.<br>Reduce pressure by fitting the lower quick release pin into a lower hole in the topper unit lift rod.<br>Tension drive chains.<br>Increase tension on knife tension spring.   |
| 2. By Flail.   | Flails set too low.<br>Centre of flails set over centre of beet row.   | Adjust knife.<br>Tighten clamp; periodically check for tightness.<br>Increase the speed of the feeler wheel by changing the 19-tooth sprocket with the 17-tooth fitted to each end of the feeler wheel shaft.   |
| 3. By Tractor Wheels.  | Wheels set too narrow, causing the sides of the tyre to loosen the beet.<br>Safety clutches adjusted too tight.<br>Safety clutch, ferodo discs, rusted to the clutch plate.  | Raise flails so that the tips of the rubbers clear the tops of the high beet.<br>Adjust the lateral position of flails so that the centre is 1-2 inches (25-50 mm) to the left of the centre of the row.<br>Adjust wheels to run central between the rows of beet.<br>Adjust safety clutch by turning adjusting nuts on tension springs.<br>Slacken off the tension springs until clutch slips to remove rust. If badly rusted, clean with emery cloth or wire brush. |
| Uneven Topping<br>1. Knife cutting upwards.                  | Knife not set squarely to the beet, front of knife arm higher than the rear.<br>Knife set too far forward causing the knife to climb as knife begins to cut.<br>Knife too far back causing feeler wheel to drop off beet before finishing cut.<br>Driving too fast for field conditions.<br>Topping unit set too far to the right on the pivot shaft.<br>Retaining nut and bolt loose in clamp.  | Adjust the knife arm pitch.<br>Move knife arm back.<br>Move knife arm forward.  |
| 2. Knife cutting downwards breaking off front edge of beet.  |  | Reduce speed.   |
| 3. Topping unit bouncing.                                    |  | Move unit to the left so that the knife arm misses the side of the widest beet.   |
| 4. Beet being topped by the end of the knife.                |  | Tighten nut.  |
| 5. Topping unit drive clamp slipping on rear axle.           |  |   |
| 6. Machine not running in a straight line.                   | Left hand wheel of machine not running in groove made by previous lifted row.  | After openings have been made, set left hand wheel to follow lifted row.  |



## Axle & Wheels

# Axle & Wheels

| Item No. | Part No. | Description                | Qty per Assy | Remarks |
|----------|----------|----------------------------|--------------|---------|
| 1        | BM5A     | Clamp                      | 2            |         |
| 2        | BM221A   | 7.50 x 20 4 Ply Cover      | 2            |         |
| 3        | BM221B   | 7.50 x 20 Inner Tube       | 2            |         |
| 4        | BM221C   | Wheel (Slotted)            | 2            |         |
| 5        |          |                            |              |         |
| 6        |          |                            |              |         |
| 7        |          |                            |              |         |
| 8        | GS409    | Grease Nipple              | 2            |         |
| 9        | GS450    | Grease Nipple              | 2            |         |
| 10       |          |                            |              |         |
| 11       |          |                            |              |         |
| 12       |          |                            |              |         |
| 13       | PS353A   | Collar                     | 4            |         |
| 14       |          |                            |              |         |
| 15       |          |                            |              |         |
| 16       |          |                            |              |         |
| 17       | TRT71    | Axle                       | 1            |         |
| 18       |          |                            |              |         |
| 19       |          |                            |              |         |
| 20       |          |                            |              |         |
| 21       | SL2¼     | Bearing                    | 2            |         |
| 22       |          |                            |              |         |
| 23       |          |                            |              |         |
| 24       |          |                            |              |         |
| 25       |          | M12 x 25mm Hex HD Setscrew | 4            |         |
| 26       |          |                            |              |         |
| 27       |          |                            |              |         |
| 28       |          |                            |              |         |
| 29       |          | M16 x 70mm Hex Hd Bolt     | 4            |         |
| 30       |          | M16 x 90mm Hex Hd HT Bolt  | 2            |         |
| 31       |          | M16 Plain Washer           | 4            |         |
| 32       |          | M16 Spring Washer          | 6            |         |
| 33       |          | M16 Nut                    | 6            |         |
| 34       |          |                            |              |         |
| 35       |          |                            |              |         |
| 36       |          |                            |              |         |





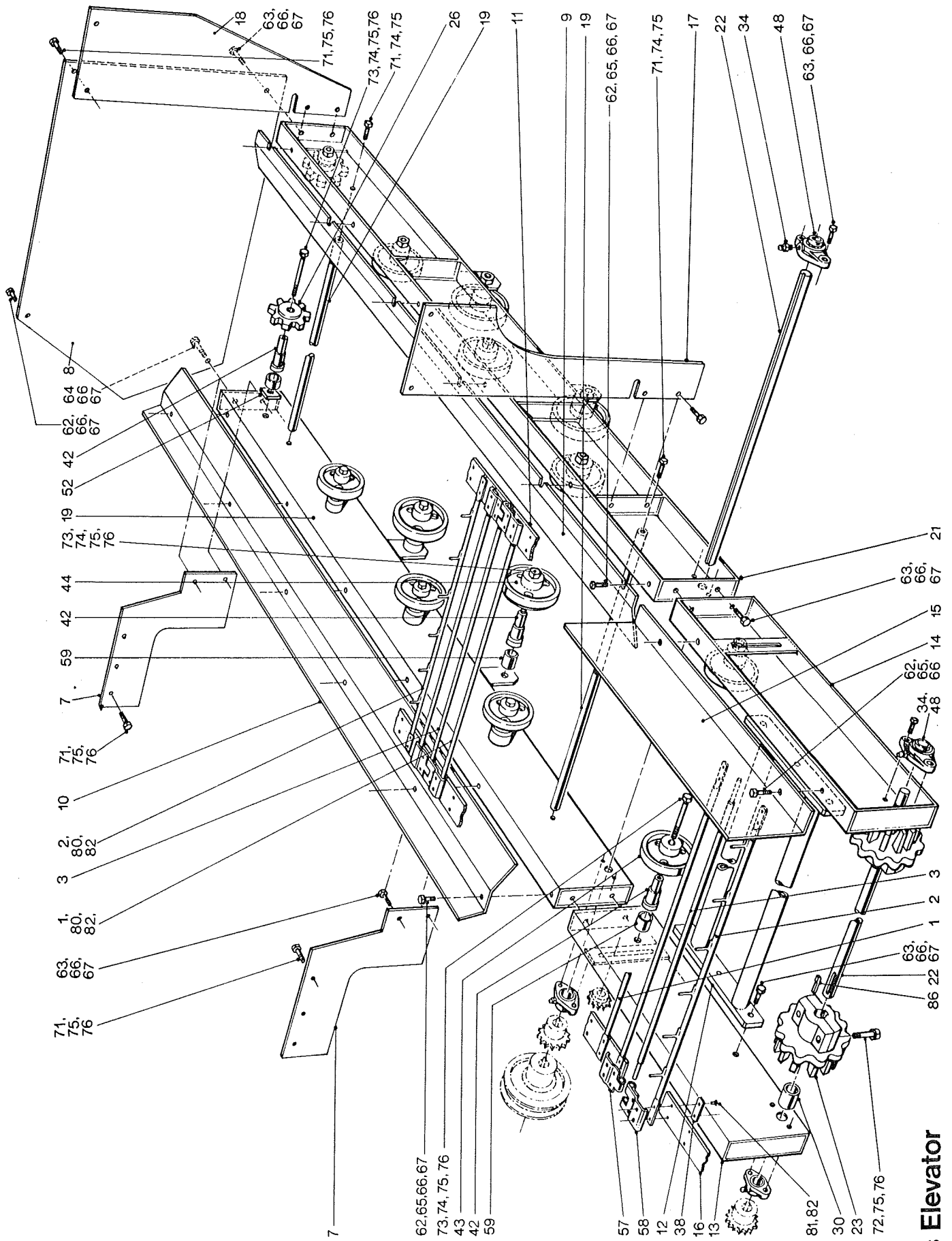
## Main Frame

| Item No. | Part No. | Description                              | Qty per Assy | Remarks |
|----------|----------|--|--------------|---------|
| 1        | 19010    | Main Frame                               | 1            |         |
| 2        | 19011    | Axle Mounting Plate                      | 2            |         |
| 3        | 19012    | Topping Unit Support Bar                 | 1            |         |
| 4        | 19013    | Gearbox Support Frame                    | 1            |         |
| 5        | 19014    | LH Support Plate                         | 1            |         |
| 6        | 19015    | RH Support Plate                         | 1            |         |
| 7        | 19016    | Rear Panel Mounting Frame                | 1            |         |
| 8        | 19017    | Rear Panel                               | 1            |         |
| 9        | 19021    | Machine Stand                            | 1            |         |
| 10       | 19022    | Drive Shaft Bearing Support              | 1            |         |
| 11       | 19023    | Bearing Plate                            | 1            |         |
| 12       | 19026    | Corner Plate                             | 2            |         |
| 13       | 19027    | Joining Strip                            | 2            |         |
| 14       | 19030    | Pivot Bar Bracket                        | 2            |         |
| 15       | 19031    | Clamp Plate                              | 2            |         |
| 16       | 19044    | Draw Bar                                 | 1            |         |
| 17       | 19056    | Topping Unit Drive Mounting Plate        | 1            |         |
| 18       | 19057    | Topping Unit Drive Bearing Support Plate | 1            |         |
| 19       | 19060    | Topping Unit Drive Tie Bar               | 1            |         |
| 20       | 19513    | Flail Drive Mounting Plate               | 1            |         |
| 21       | 19516    | Upper Flail Drive Mounting Plate         | 1            |         |
| 22       | 19613    | Gearbox Support Angle                    | 2            |         |
| 23       |          |  |              |         |
| 24       |          |  |              |         |
| 25       |          |  |              |         |
| 26       |          |  |              |         |
| 27       |          |  |              |         |
| 28       | SP149    | Gearbox Mounting Plate                   | 2            |         |
| 29       |          |  |              |         |
| 30       |          |  |              |         |
| 31       |          |  |              |         |
| 32       | TRT5     | Main Drive Bracket                       | 1            |         |
| 33       |          |  |              |         |
| 34       |          |  |              |         |
| 35       |          |  |              |         |
| 36       |          | M10 x 20mm Hex Hd Setscrew               | 14           |         |
| 37       |          | M10 Plain Washer                         | 6            |         |
| 38       |          | M10 Spring Washer                        | 14           |         |
| 39       |          | M10 Nut                                  | 14           |         |
| 40       |          |  |              |         |
| 41       |          |  |              |         |
| 42       |          |  |              |         |
| 43       |          | M12 x 30mm Hex Hd Setscrew               | 48           |         |
| 44       |          | M12 x 40mm Hex Hd Setscrew               | 10           |         |
| 45       |          | M12 x 60mm Hex Hd Bolt                   | 1            |         |
| 46       |          | M12 x 140mm Hex Hd Bolt                  | 4            |         |
| 47       |          | M12 Plain Washer                         | 9            |         |
| 48       |          | M12 Spring Washer                        | 62           |         |
| 49       |          | M12 Nut                                  | 61           |         |
| 50       |          |  |              |         |
| 51       |          |  |              |         |
| 52       |          |  |              |         |
| 53       |          | M16 x 30mm Hex Hd Setscrew               | 3            |         |
| 54       |          | M16 x 40mm Hex Hd Setscrew               | 4            |         |
| 55       |          | M16 Spring Washer                        | 7            |         |
| 56       |          | M16 Nut                                  | 7            |         |



## Main Elevator

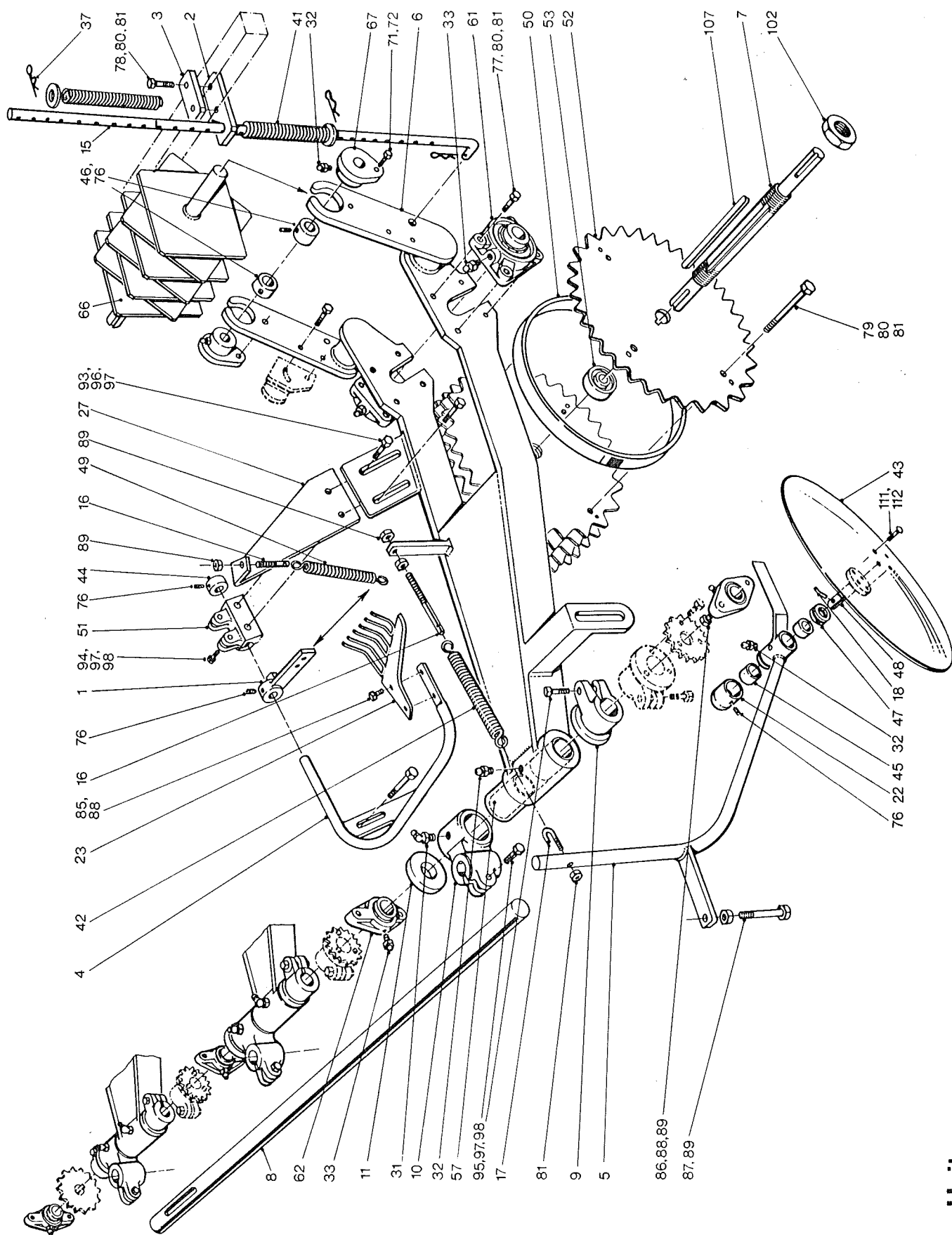
| Item No. | Part No.   | Description                  | Qty per Assy | Remarks |
|----------|------------|------------------------------|--------------|---------|
| 1        | 19032      | Web Sprocket                 | 3            |         |
| 2        | 19037      | Web Shaft                    | 1            |         |
| 3        | 19086      | Web Belting                  | 3            |         |
| 4        | 19105      | Adjustment Strap             | 2            |         |
| 5        | 19106      | Adjustment Strap Bracket     | 2            |         |
| 6        | 19019      | Tie Bar                      | 1            |         |
| 7        | 19176      | Tie Bar                      | 1            |         |
| 8        | 19350      | RH Side                      | 1            |         |
| 9        | 19351      | LH Side                      | 1            |         |
| 10       | 19352      | Centre Support               | 1            |         |
| 11       | 19353      | Mounting Angle               | 2            |         |
| 12       | 19354      | Support                      | 2            |         |
| 13       |            |                              |              |         |
| 14       |            |                              |              |         |
| 15       | C150       | Spacer                       | 2            |         |
| 16       |            |                              |              |         |
| 17       |            |                              |              |         |
| 18       |            |                              |              |         |
| 19       | PH51AR     | Flanged Rubber Roller        | 2            |         |
| 20       | PH57/1     | Clamp Plate                  | 201          |         |
| 21       | PH77AR     | Plain Rubber Roller          | 3            |         |
| 22       | PH406AM    | Spindle                      | 5            |         |
| 23       | PH407      | Inner Plastic Seal           | 5            |         |
| 24       | PH408      | Outer Plastic Seal           | 5            |         |
| 25       |            |                              |              |         |
| 26       |            |                              |              |         |
| 27       |            |                              |              |         |
| 28       | PS212B     | Roller Bush                  | 8            |         |
| 29       | PS213B     | Roller                       | 8            |         |
| 30       | PS326M     | Stop Collar                  | 2            |         |
| 31       | PS843      | Circlip                      | 5            |         |
| 32       |            |                              |              |         |
| 33       |            |                              |              |         |
| 34       |            |                              |              |         |
| 35       | TRT133     | Packing Piece                | 2            |         |
| 36       |            |                              |              |         |
| 37       |            |                              |              |         |
| 38       |            |                              |              |         |
| 39       | TRT141     | Web Link                     | 52           |         |
| 40       | TRT142     | Spiked Web Link              | 7            |         |
| 41       | TRT143     | Spiked Web Link              | 6            |         |
| 42       | TRT145     | Male Connector               | 3            |         |
| 43       | TRT146     | Female Connector             | 3            |         |
| 44       | TRT147     | Connecting Rod               | 1            |         |
| 45       | TRT303     | Spacer Tube                  | 1            |         |
| 46       | TRT306     | 'U' Bolt                     | 1            |         |
| 47       | TRT309     | Spacer                       | 6            |         |
| 48       |            |                              |              |         |
| 49       |            |                              |              |         |
| 50       |            |                              |              |         |
| 51       |            |                              |              |         |
| 52       | 6005RS     | Roller Race                  | 10           |         |
| 53       |            |                              |              |         |
| 54       |            |                              |              |         |
| 55       |            | M8 x 25mm Hex Hd Setscrew    | 8            |         |
| 56       |            | M8 Spring Washer             | 8            |         |
| 57       |            | M8 Nut                       | 8            |         |
| 58       |            |                              |              |         |
| 59       |            |                              |              |         |
| 60       |            |                              |              |         |
| 61       |            | M10 x 10mm Hex Soc Setscrew  | 3            |         |
| 62       |            | M10 Spring Washer            | 2            |         |
| 63       |            | M10 Nit                      | 2            |         |
| 64       |            |                              |              |         |
| 65       |            |                              |              |         |
| 66       |            |                              |              |         |
| 67       |            | M12 x 20mm Hex Hd Setscrew   | 4            |         |
| 68       |            | M12 x 30mm Hex Hd Setscrew   | 10           |         |
| 69       |            | M12 x 120mm Hex Hd Bolt      | 2            |         |
| 70       |            | M12 x 130mm Hex Hd Bolt      | 6            |         |
| 71       |            | M12 Spring Washer            | 22           |         |
| 72       |            | Special Flat Washer 35mm O/D | 16           |         |
| 73       |            | M12 Nut                      | 20           |         |
| 74       |            |                              |              |         |
| 75       |            |                              |              |         |
| 76       |            |                              |              |         |
| 77       |            | M16 Spring Washer            | 7            |         |
| 78       |            | M16 Plain Washer             | 5            |         |
| 79       |            | M16 Nut                      | 5            |         |
| 80       |            | M16 x 30mm Hex Hd Setscrew   | 2            |         |
| 81       |            |                              |              |         |
| 82       |            |                              |              |         |
| 83       |            |                              |              |         |
| 84       | 2611-06-06 | Fixing Pin                   | 378          |         |
| 85       | 2611-06-08 | Fixing Pin                   | 24           |         |
| 86       | 2662-06-00 | Fixing Collar                | 402          |         |
| 87       |            |                              |              |         |
| 88       |            |                              |              |         |
| 89       |            |                              |              |         |
| 90       |            | 7mm x 8mm x 50mm Gib Hd Key  | 3            |         |



Cross Elevator

## Cross Elevator

| Item No. | Part No.   | Description                 | Qty per Assy | Remarks |
|----------|------------|-----------------------------|--------------|---------|
| 1        | 18070      | Web Link                    | 121          |         |
| 2        | 18071      | Spiked Web Link             | 5            |         |
| 3        | 18077      | Connecting Rod              | 2            |         |
| 4        |            |                             |              |         |
| 5        |            |                             |              |         |
| 6        |            |                             |              |         |
| 7        | 19019      | Front LH Support Plate      | 2            |         |
| 8        | 19043      | End Panel                   | 1            |         |
| 9        | 19047      | Tops Deflector Plate Rear   | 1            |         |
| 10       | 19048      | Tops Deflector Plate Front  | 1            |         |
| 11       | 19087      | Web Belting                 | 2            |         |
| 12       | 19160      | Double Tie Bar              | 1            |         |
| 13       | 19161      | Extension Front Side Panel  | 1            |         |
| 14       | 19162      | Extension Rear Side Panel   | 1            |         |
| 15       | 19171      | Extension Deflector Plate   | 1            |         |
| 16       | 19172      | Extension Web Belting       | 2            |         |
| 17       | 19173      | Rear LH Support Plate       | 1            |         |
| 18       | 19174      | Rear RH Support Plate       | 1            |         |
| 19       | 19175      | Tie Bar                     | 2            |         |
| 20       | 19310      | Front Side Panel            | 1            |         |
| 21       | 19311      | Rear Side Panel             | 1            |         |
| 22       | 19317      | Web Shaft                   | 2            |         |
| 23       | 19318      | Web Sprocket                | 2            |         |
| 24       |            |                             |              |         |
| 25       |            |                             |              |         |
| 26       | BMT3       | Web Sprocket                | 2            |         |
| 27       |            |                             |              |         |
| 28       |            |                             |              |         |
| 29       |            |                             |              |         |
| 30       | D90        | Spacer                      | 2            |         |
| 31       |            |                             |              |         |
| 32       |            |                             |              |         |
| 33       |            |                             |              |         |
| 34       | GS450      | Grease Nipple               | 4            |         |
| 35       |            |                             |              |         |
| 36       |            |                             |              |         |
| 37       |            |                             |              |         |
| 38       | PH57/1     | Clamp Plate                 | 260          |         |
| 39       |            |                             |              |         |
| 40       |            |                             |              |         |
| 41       |            |                             |              |         |
| 42       | PS212B     | Bush                        | 14           |         |
| 43       | PS213A     | Roller                      | 8            |         |
| 44       | PS213B     | Roller                      | 4            |         |
| 45       |            |                             |              |         |
| 46       |            |                             |              |         |
| 47       |            |                             |              |         |
| 48       | SFT25      | Bearing                     | 4            |         |
| 49       |            |                             |              |         |
| 50       |            |                             |              |         |
| 51       |            |                             |              |         |
| 52       | TRH133     | Packing Piece               | 2            |         |
| 53       |            |                             |              |         |
| 54       |            |                             |              |         |
| 55       |            |                             |              |         |
| 56       |            |                             |              |         |
| 57       | TRT145     | Male Connector              | 4            |         |
| 58       | TRT146     | Female Connector            | 4            |         |
| 59       | TRT309     | Spacer                      | 14           |         |
| 60       |            |                             |              |         |
| 61       |            |                             |              |         |
| 62       |            | M10 x 20mm Hex Hd Setscrew  | 15           |         |
| 63       |            | M10 x 30mm Hex Hd Setscrew  | 22           |         |
| 64       |            | M10 x 40mm Hex Hd Setscrew  | 2            |         |
| 65       |            | M10 Plain Washer            | 14           |         |
| 66       |            | M10 Spring Washer           | 37           |         |
| 67       |            | M10 Nut                     | 35           |         |
| 68       |            |                             |              |         |
| 69       |            |                             |              |         |
| 70       |            |                             |              |         |
| 71       |            | M12 x 30mm Hex Hd Setscrew  | 12           |         |
| 72       |            | M12 x 60mm Hex Hd Bolt      | 4            |         |
| 73       |            | M12 x 120mm Hex Hd Bolt     | 14           |         |
| 74       |            | M12 Special Plain Washer    | 32           |         |
| 75       |            | M12 Spring Washer           | 30           |         |
| 76       |            | M12 Nut                     | 26           |         |
| 77       |            |                             |              |         |
| 78       |            |                             |              |         |
| 79       |            |                             |              |         |
| 80       | 2611-06-06 | Fixing Pin                  | 488          |         |
| 81       | 2611-06-08 | Fixing Pin                  | 32           |         |
| 82       | 2662-06-00 | Fixing Collar               | 520          |         |
| 83       |            |                             |              |         |
| 84       |            |                             |              |         |
| 85       |            |                             |              |         |
| 86       |            | 7mm x 8mm x 50mm Gib Hd Key | 4            |         |



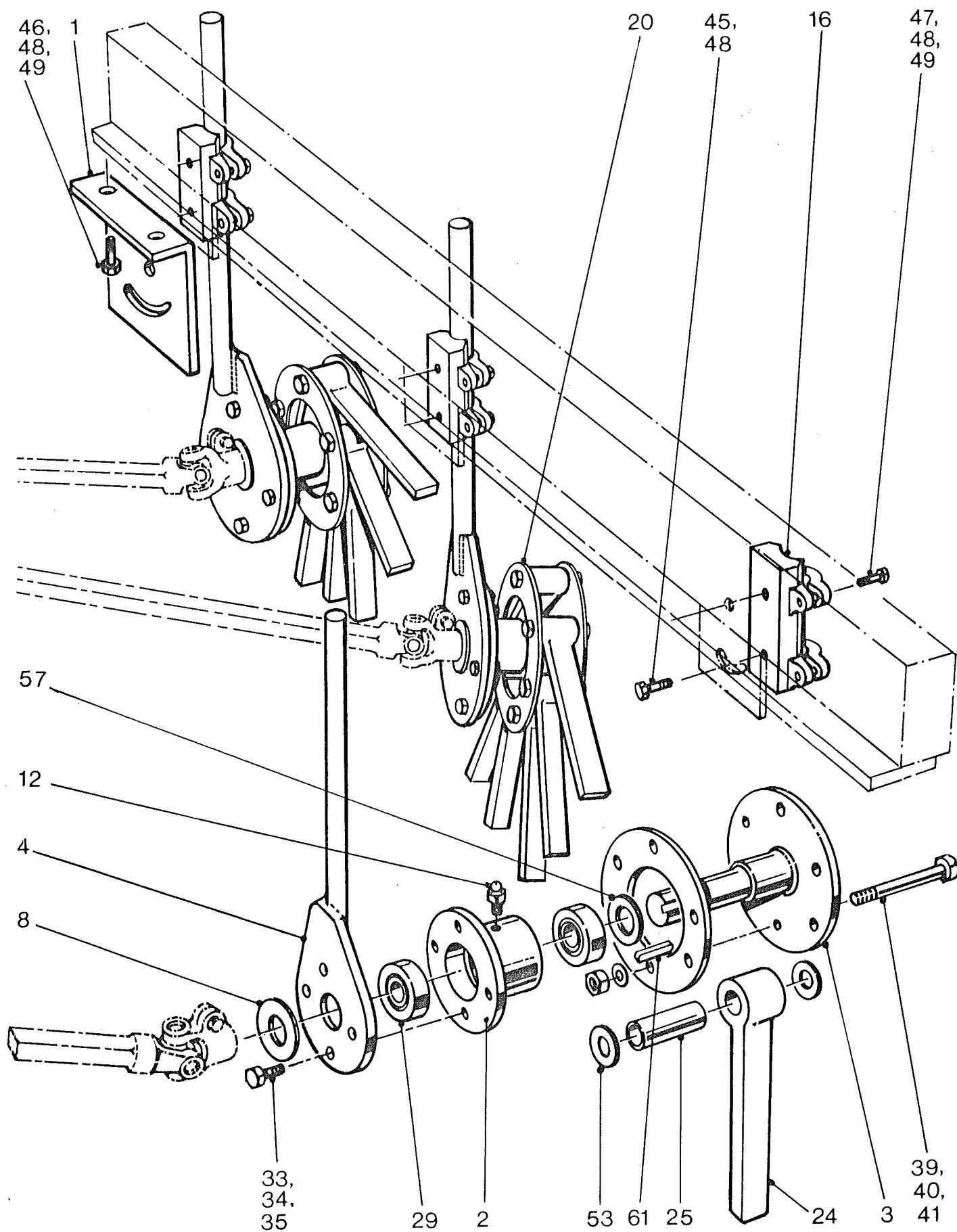
# Topping Unit

| Item No. | Part No. | Description                       | Qty per Assy | Remarks |
|----------|----------|-----------------------------------|--------------|---------|
| 1        | 19020    | Spring Loaded Knife               | 3            |         |
| 2        | 19028    | Tension Arm                       | 3            |         |
| 3        | 19029    | Lift Rod Bracket                  | 3            |         |
| 4        | 19045    | Knife Arm                         | 3            |         |
| 5        | 19210    | Disc Coulter Stalk                | 3            |         |
| 6        | 19701    | Frame                             | 3            |         |
| 7        | 19702    | Shaft                             | 3            |         |
| 8        | 19751    | Pivot Shaft                       | 1            |         |
| 9        | 19754    | Clamp                             | 4            |         |
| 10       | 19755    | Disc Coulter Bracket              | 3            |         |
| 11       | 19756    | Spacer                            | 2            |         |
| 12       |          |                                   |              |         |
| 13       |          |                                   |              |         |
| 14       |          |                                   |              |         |
| 15       | BM75B    | Lift Rod                          | 3            |         |
| 16       | BM82M    | Spring Tensioner                  | 6            |         |
| 17       | BM213    | Hook Bolt                         | 3            |         |
| 18       | BM218    | Retaining Pin                     | 3            |         |
| 19       |          |                                   |              |         |
| 20       |          |                                   |              |         |
| 21       |          |                                   |              |         |
| 22       | BMT81M   | Dust Cap                          | 3            |         |
| 23       | BMT87M   | Knife                             | 3            |         |
| 24       |          |                                   |              |         |
| 25       |          |                                   |              |         |
| 26       |          |                                   |              |         |
| 27       | BMZ165A  | Spring Loaded Knife Tension Plate | 3            |         |
| 28       |          |                                   |              |         |
| 29       |          |                                   |              |         |
| 30       |          |                                   |              |         |
| 31       | GS411    | Grease Nipple                     | 3            |         |
| 32       | GS412    | Grease Nipple                     | 12           |         |
| 33       | GS450    | Grease Nipple                     | 10           |         |
| 34       |          |                                   |              |         |
| 35       |          |                                   |              |         |
| 36       |          |                                   |              |         |
| 37       | H105     | Quick Release Pin                 | 9            |         |
| 38       |          |                                   |              |         |
| 39       |          |                                   |              |         |
| 40       |          |                                   |              |         |
| 41       | PS165    | Spring                            | 6            |         |
| 42       | PS194    | Spring                            | 3            |         |
| 43       | PS224    | Disc Coulter                      | 3            |         |
| 44       | PS326M   | Stop Collar                       | 3            |         |
| 45       | PS386M   | Bush                              | 6            |         |
| 46       | PS488M   | Stop Collar                       | 6            |         |
| 47       | PS588    | Oil Seal                          | 3            |         |
| 48       | PS596AM  | Spindle                           | 3            |         |
| 49       | PS766    | Spring                            | 3            |         |
| 50       | PS872    | Feeler Wheel Ring                 | 15           |         |
| 51       | PS1002AM | Knife Arm Bracket                 | 3            |         |
| 52       | PS1003MA | Feeler Wheel Plate                | 18           |         |
| 53       | PS1005   | Feeler Wheel Spacer               | 15           |         |
| 54       |          |                                   |              |         |
| 55       |          |                                   |              |         |
| 56       |          |                                   |              |         |
| 57       | RH43M    | Bush                              | 12           |         |
| 58       |          |                                   |              |         |
| 59       |          |                                   |              |         |
| 60       |          |                                   |              |         |
| 61       | SF25     | Bearing                           | 6            |         |
| 62       | SFT40    | Bearing                           | 4            |         |
| 63       |          |                                   |              |         |
| 64       |          |                                   |              |         |
| 65       |          |                                   |              |         |
| 66       | TBMW508  | Cleaner                           | 3            |         |
| 67       | TBMW509  | Bearing                           | 6            |         |
| 68       |          |                                   |              |         |
| 69       |          |                                   |              |         |
| 70       |          |                                   |              |         |
| 71       |          | M8 x 20mm Hex Hd Setscrew         | 6            |         |
| 72       |          | M8 Spring Washer                  | 6            |         |
| 73       |          |                                   |              |         |
| 74       |          |                                   |              |         |
| 75       |          |                                   |              |         |
| 76       |          | M10 x 10mm Hex Soc Setscrew       | 15           |         |
| 77       |          | M10 x 40mm Hex Hd Setscrew        | 24           |         |
| 78       |          | M10 x 80mm Hex Hd Setscrew        | 6            |         |
| 79       |          | M10 x 175mm Hex Hd Setscrew       | 12           |         |
| 80       |          | M10 Spring Washer                 | 42           |         |
| 81       |          | M10 Nut                           | 45           |         |
| 82       |          |                                   |              |         |
| 83       |          |                                   |              |         |
| 84       |          |                                   |              |         |
| 85       |          | M12 x 25mm Hex Hd Setscrew        | 6            |         |
| 86       |          | M12 x 30mm Hex Hd Setscrew        | 8            |         |
| 87       |          | M12 x 100mm Hex Hd Setscrew       | 3            |         |
| 88       |          | M12 Spring Washer                 | 14           |         |
| 89       |          | M12 Nut                           | 11           |         |
| 90       |          |                                   |              |         |



Topping Unit (continued)

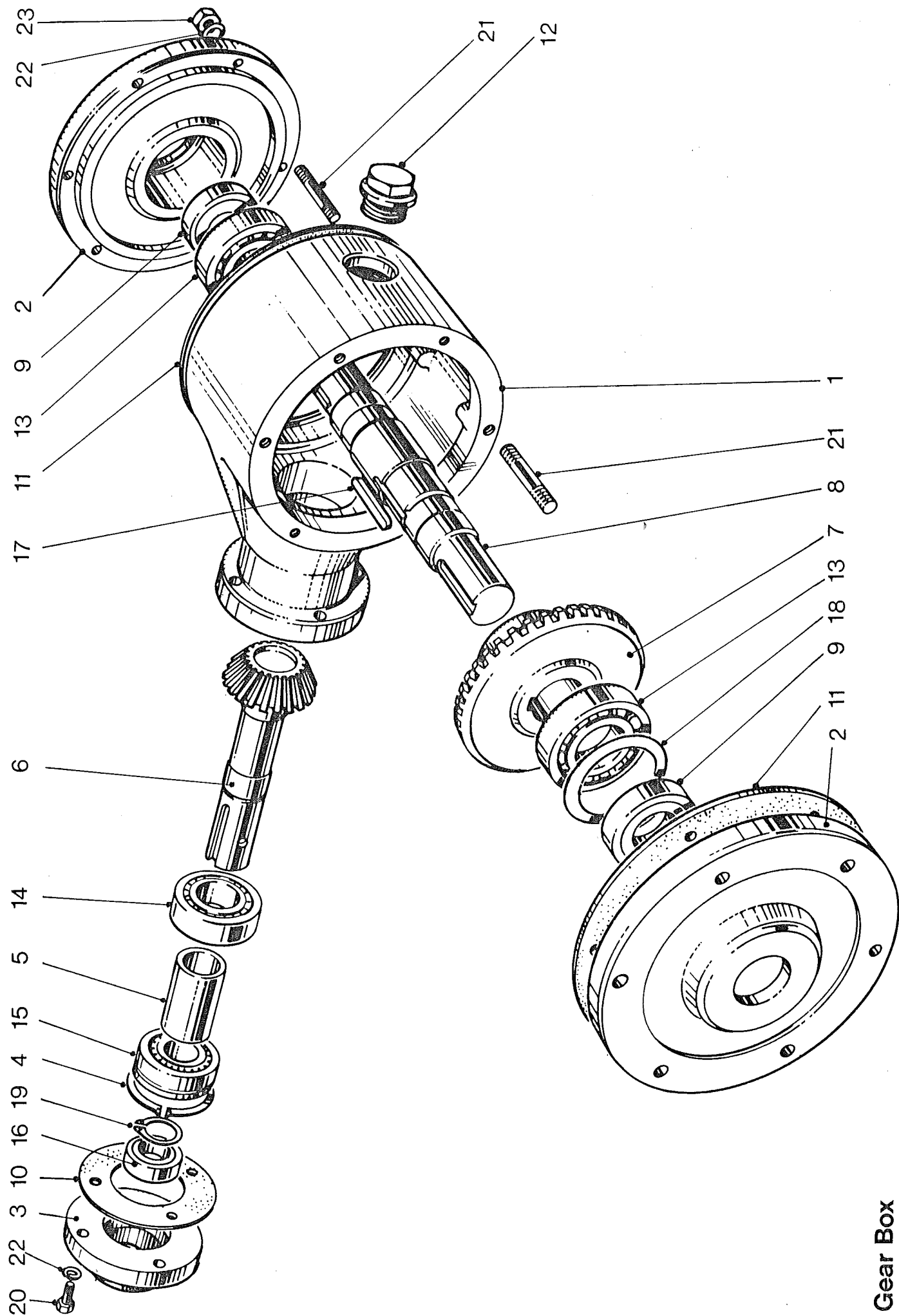
| Item No. | Part No.  | Description                  | Qty per Assy | Remarks |
|----------|-----------|------------------------------|--------------|---------|
| 91       |           |                              |              |         |
| 92       |           |                              |              |         |
| 93       |           | M16 x 25mm Hex Hd Setscrew   | 6            |         |
| 94       |           | M16 x 60mm Hex Hd Bolt       | 6            |         |
| 95       |           | M16 x 70mm Hex Hd Bolt       | 7            |         |
| 96       |           | M16 Plain Washer             | 6            |         |
| 97       |           | M16 Spring Washer            | 19           |         |
| 98       |           | M16 Nut                      | 25           |         |
| 99       |           |                              |              |         |
| 100      |           |                              |              |         |
| 101      |           |                              |              |         |
| 102      |           | M30 RH Nut                   | 3            |         |
| 103      |           | M30 LH Nut (not illustrated) | 3            |         |
| 104      |           |                              |              |         |
| 105      |           |                              |              |         |
| 106      |           |                              |              |         |
| 107      |           | 7mm x 8mm x 165mm RBE Key    | 3            |         |
| 108      |           |                              |              |         |
| 109      |           |                              |              |         |
| 110      |           |                              |              |         |
| 111      | 2611-1007 | Fixing Pin                   | 12           |         |
| 112      | 2682-1000 | Fixing Collar                | 12           |         |



Flails

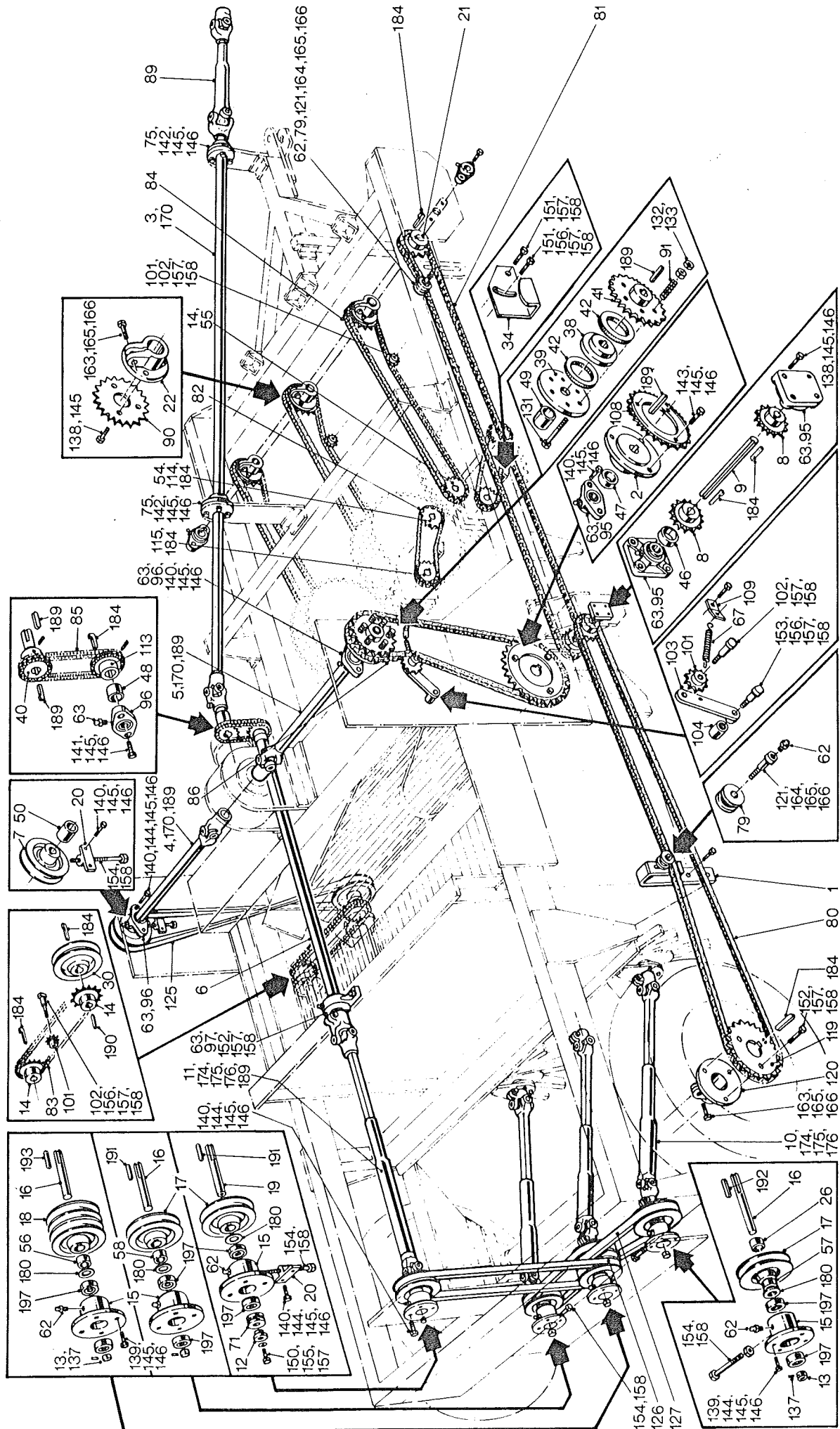
# Flails

| Item No. | Part No. | Description                | Qty per Assy | Remarks |
|----------|----------|----------------------------|--------------|---------|
| 1        | 19050    | Flail Mounting Bracket     | 1            |         |
| 2        | 19411    | Bearing Housing            | 3            |         |
| 3        | 19412    | Flail Shaft                | 3            |         |
| 4        | 19413    | Flail Arm                  | 3            |         |
| 5        |          |                            |              |         |
| 6        |          |                            |              |         |
| 7        |          |                            |              |         |
| 8        | BM12     | Washer                     | 3            |         |
| 9        |          |                            |              |         |
| 10       |          |                            |              |         |
| 11       | GS412    | Grease Nipple              | 3            |         |
| 12       |          |                            |              |         |
| 13       |          |                            |              |         |
| 14       |          |                            |              |         |
| 15       |          |                            |              |         |
| 16       | PS1002AM | Flail Arm Bracket          | 3            |         |
| 17       |          |                            |              |         |
| 18       |          |                            |              |         |
| 19       |          |                            |              |         |
| 20       | RP15     | Flail Plate                | 3            |         |
| 21       |          |                            |              |         |
| 22       |          |                            |              |         |
| 23       |          |                            |              |         |
| 24       | SP245    | Flail Rubber               | 18           |         |
| 25       | SP253    | Flail Spacer               | 18           |         |
| 26       |          |                            |              |         |
| 27       |          |                            |              |         |
| 28       |          |                            |              |         |
| 29       | 6005RS   | Roller Race                | 6            |         |
| 30       |          |                            |              |         |
| 31       |          |                            |              |         |
| 32       |          |                            |              |         |
| 33       |          | M10 x 30mm Hex Hd Setscrew | 12           |         |
| 34       |          | M10 Spring Washer          | 12           |         |
| 35       |          | M10 Nut                    | 12           |         |
| 36       |          |                            |              |         |
| 37       |          |                            |              |         |
| 38       |          |                            |              |         |
| 39       |          | M12 x 80mm Hex Hd Bolt     | 18           |         |
| 40       |          | M12 Spring Washer          | 18           |         |
| 41       |          | M12 Nut                    | 18           |         |
| 42       |          |                            |              |         |
| 43       |          |                            |              |         |
| 44       |          |                            |              |         |
| 45       |          | M16 x 25mm Hex Hd Setscrew | 6            |         |
| 46       |          | M16 x 40mm Hex Hd Setscrew | 2            |         |
| 47       |          | M16 x 60mm Hex Hd Setscrew | 6            |         |
| 48       |          | M16 Spring Washer          | 14           |         |
| 49       |          | M16 Nut                    | 8            |         |
| 50       |          |                            |              |         |
| 51       |          |                            |              |         |
| 52       |          |                            |              |         |
| 53       |          | 5/8in Plain Washer         | 36           |         |
| 54       |          |                            |              |         |
| 55       |          |                            |              |         |
| 56       |          |                            |              |         |
| 57       |          | 1in Plain Washer           | 3            |         |
| 58       |          |                            |              |         |
| 59       |          |                            |              |         |
| 60       |          |                            |              |         |
| 61       |          | 7mm x 8mm x 25mm RBE Key   | 3            |         |



# Gear Box

| Item No. | Part No.   | Description                            | Qty per Assy | Remarks |
|----------|------------|--|--------------|---------|
| 1        | PS200/2M   | Housing                                | 1            |         |
| 2        | PS201/2M   | Sideplate                              | 2            |         |
| 3        | PS202      | Tailshaft End Plate                    | 1            |         |
| 4        | PS236      | Bearing Circlip                        | 1            |         |
| 5        | PS237      | Spacer                                 | 1            |         |
| 6        | PS238/241M | Tailshaft & Bevel Pinion               | 1            |         |
| 7        | PS242      | Bevel Gear                             | 1            |         |
| 8        | PS243/3M   | Solid Output Shaft                     | 1            |         |
| 9        | PS245      | Output Shaft Oil Seal                  | 2            |         |
| 10       | PS469      | End Plate Gasket                       | 1            |         |
| 11       | PS470A     | Side Plate Gasket                      | 2            |         |
| 12       | PS869      | Drain Plug                             | 1            |         |
| 13       | 145        | Output Shaft Bearing                   | 2            |         |
| 14       | 330        | Tail Shaft Bearing                     | 1            |         |
| 15       | 330C       | Tail Shaft Bearing With Circlip Groove | 1            |         |
| 16       | 962170A    | Tail Shaft Oil Seal                    | 1            |         |
| 17       |            | 5/16in x 1 1/4in RBE Key               | 1            |         |
| 18       |            | Sideplate Shim                         | AR           |         |
| 19       |            | Tail Shaft Circlip                     | 1            |         |
| 20       |            | M10 x 30mm Hex Hd Setscrew             | 4            |         |
| 21       |            | M10 x 50mm Stud                        | 12           |         |
| 22       |            | M10 Spring Washer                      | 16           |         |
| 23       |            | M10 Nut                                | 12           |         |



## Main Drives

## Main Drives

| Item No. | Part No.  | Description                          | Qty per Assy | Remarks |
|----------|-----------|--------------------------------------|--------------|---------|
| 1        | 19025     | Chain Tension Bracket                | 1            |         |
| 2        | 19033     | Centre Plate                         | 1            |         |
| 3        | 19034     | Main Drive Shaft                     | 1            |         |
| 4        | 19035     | Cross Elevator Drive Shaft           | 1            |         |
| 5        | 19036     | Main Elevator Drive Shaft            | 1            |         |
| 6        | 19038     | Flail Drive Shaft                    | 1            |         |
| 7        | 19046     | Cross Elevator Drive Pulley          | 1            |         |
| 8        | 19058     | Topping Unit Drive Sprocket          | 2            |         |
| 9        | 19059     | Topping Unit Drive Shaft             | 1            |         |
| 10       | 19061     | Universal Coupling                   | 3            |         |
| 11       | 19062     | Universal Coupling                   | 1            |         |
| 12       | 19163     | Stop Collar                          | 1            |         |
| 13       | 19164     | Stop Collar                          | 3            |         |
| 14       | 19320     | 19T Sprocket                         | 3            |         |
| 15       | 19411     | Bearing Housing                      | 4            |         |
| 16       | 19510     | Flail Drive Shaft                    | 3            |         |
| 17       | 19511     | Flail Drive Pulley                   | 3            |         |
| 18       | 19512     | Triple Pulley                        | 1            |         |
| 19       | 19514     | Upper Flail Drive Shaft              | 1            |         |
| 20       | 19515     | Adjustment Bracket                   | 2            |         |
| 21       | 19752     | 12T Sprocket                         | 1            |         |
| 22       | 19753     | Sprocket Clamp                       | 3            |         |
| 23       |           |                                      |              |         |
| 24       |           |                                      |              |         |
| 25       |           |                                      |              |         |
| 26       | B15       | Spacer                               | 1            |         |
| 27       |           |                                      |              |         |
| 28       |           |                                      |              |         |
| 29       |           |                                      |              |         |
| 30       | BM34M     | Pulley                               | 1            |         |
| 32       |           |                                      |              |         |
| 33       |           |                                      |              |         |
| 34       | BMT103A   | Chain Tensioner                      | 3            |         |
| 35       |           |                                      |              |         |
| 36       |           |                                      |              |         |
| 37       |           |                                      |              |         |
| 38       | BMZ95M    | Clutch Plate                         | 1            |         |
| 39       | BMZ96     | Clamp Plate                          | 1            |         |
| 40       | BMZ111M   | 15T Sprocket                         | 1            |         |
| 41       | BMZ114    | Clutch Sprocket                      | 1            |         |
| 42       | BMZ118A   | Ferodo Disc                          | 2            |         |
| 43       |           |                                      |              |         |
| 44       |           |                                      |              |         |
| 45       |           |                                      |              |         |
| 46       | C10       | Spacer                               | 1            |         |
| 47       | C25       | Spacer                               | 1            |         |
| 48       | C30       | Spacer                               | 1            |         |
| 49       | C35       | Spacer                               | 1            |         |
| 50       | C50       | Spacer                               | 1            |         |
| 51       |           |                                      |              |         |
| 52       |           |                                      |              |         |
| 53       |           |                                      |              |         |
| 54       | D8        | Spacer                               | 3            |         |
| 55       | D10       | Spacer                               | 3            |         |
| 56       | D30       | Spacer                               | 1            |         |
| 57       | D32       | Spacer                               | 1            |         |
| 58       | D58       | Spacer                               | 1            |         |
| 59       |           |                                      |              |         |
| 60       |           |                                      |              |         |
| 61       |           |                                      |              |         |
| 62       | GS412     | Grease Nipple                        | 6            |         |
| 63       | GS450     | Grease Nipple                        | 10           |         |
| 64       |           |                                      |              |         |
| 65       |           |                                      |              |         |
| 66       |           |                                      |              |         |
| 67       | H121B     | Spring                               | 1            |         |
| 68       |           |                                      |              |         |
| 69       |           |                                      |              |         |
| 70       |           |                                      |              |         |
| 71       | LT1¼B     | Single Direction Thrust Ball Bearing | 1            |         |
| 72       |           |                                      |              |         |
| 73       |           |                                      |              |         |
| 74       |           |                                      |              |         |
| 75       | MFC30     | Bearing                              | 2            |         |
| 76       |           |                                      |              |         |
| 77       |           |                                      |              |         |
| 78       |           |                                      |              |         |
| 79       | PS215     | Jockey Roller                        | 2            |         |
| 80       | PS429/147 | Main Drive Chain                     | 1            |         |
| 81       | PS429/159 | Main Drive Chain                     | 1            |         |
| 82       | PS666/46  | Cleaner Drive Chain                  | 3            |         |
| 83       | PS666/80  | Extension Elevator Drive Chain       | 1            |         |
| 84       | PS666/105 | Topping Unit Drive Chain             | 3            |         |
| 85       | PS871/30  | Flail Drive Chain                    | 1            |         |
| 86       | PS871/102 | Main Elevator Drive Chain            | 1            |         |
| 87       |           |                                      |              |         |
| 88       |           |                                      |              |         |
| 89       | RH44M     | P.T.O. Coupling                      | 1            |         |
| 90       | RH55D     | Plate Sprocket                       | 3            |         |

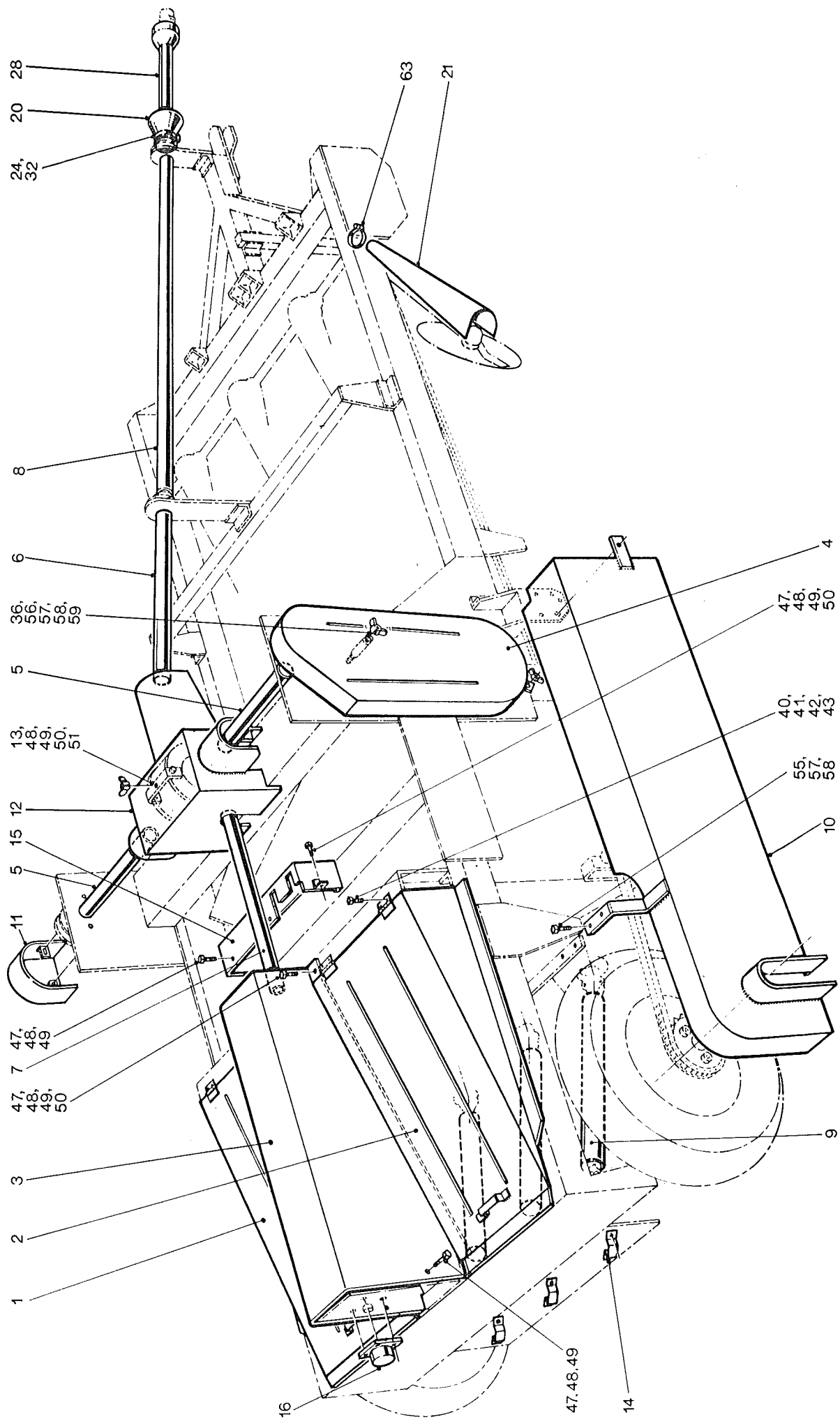
## Main Drives (continued)

| Item No. | Part No. | Description                 | Qty per Assy | Remarks |
|----------|----------|-----------------------------|--------------|---------|
| 91       | RH149    | Clutch Spring               | 6            |         |
| 92       |          |                             |              |         |
| 93       |          |                             |              |         |
| 94       |          |                             |              |         |
| 95       | SF30     | Bearing                     | 2            |         |
| 96       | SFT30    | Bearing                     | 5            |         |
| 97       | SL30     | Bearing                     | 1            |         |
| 98       |          |                             |              |         |
| 99       |          |                             |              |         |
| 100      |          |                             |              |         |
| 101      | SP295    | Jockey Sprocket             | 3            |         |
| 102      | SP296M   | Shoulder Bolt               | 3            |         |
| 103      | SP446    | Jockey Arm                  | 1            |         |
| 104      | SP449    | Jockey Arm Spigot           | 1            |         |
| 105      |          |                             |              |         |
| 106      |          |                             |              |         |
| 107      |          |                             |              |         |
| 108      | TBM51    | 45T Sprocket                | 1            |         |
| 109      | TBM83    | Spring Anchor               | 1            |         |
| 110      |          |                             |              |         |
| 111      |          |                             |              |         |
| 112      |          |                             |              |         |
| 113      | TBMW250  | 15T Sprocket                | 1            |         |
| 114      | TBMW505  | 17T Sprocket                | 3            |         |
| 115      | TBMW510  | 11T Sprocket                | 3            |         |
| 116      |          |                             |              |         |
| 117      |          |                             |              |         |
| 118      |          |                             |              |         |
| 119      | TRT35    | 24T Sprocket                | 1            |         |
| 120      | TRT36    | Sprocket Clamp              | 1            |         |
| 121      | TRT103   | Shoulder Bolt               | 2            |         |
| 122      |          |                             |              |         |
| 123      |          |                             |              |         |
| 124      |          |                             |              |         |
| 125      | VB38     | Cross Elevator Drive Belt   | 1            |         |
| 126      | VB58     | Flail Drive Belt            | 1            |         |
| 127      | VB59     | Flail Belt                  | 2            |         |
| 128      |          |                             |              |         |
| 129      |          |                             |              |         |
| 130      |          |                             |              |         |
| 131      |          | M8 x 75mm Hex Hd Bolt       | 6            |         |
| 132      |          | M8 Spring Washer            | 6            |         |
| 133      |          | M8 Nut                      | 6            |         |
| 134      |          |                             |              |         |
| 135      |          |                             |              |         |
| 136      |          |                             |              |         |
| 137      |          | M10 x 10mm Soc Hd Setscrew  | 3            |         |
| 138      |          | M10 x 20mm Hex Hd Setscrew  | 17           |         |
| 139      |          | M10 x 25mm Hex Hd Setscrew  | 12           |         |
| 140      |          | M10 x 30mm Hex Hd Setscrew  | 16           |         |
| 141      |          | M10 x 35mm Hex Hd Setscrew  | 2            |         |
| 142      |          | M10 x 40mm Hex Hd Setscrew  | 8            |         |
| 143      |          | M10 x 45mm Hex Hd Setscrew  | 3            |         |
| 144      |          | M10 Plain Washer            | 16           |         |
| 145      |          | M10 Spring Washer           | 58           |         |
| 146      |          | M10 Nut                     | 49           |         |
| 147      |          |                             |              |         |
| 148      |          |                             |              |         |
| 149      |          |                             |              |         |
| 150      |          | M12 x 25mm Hex Hd Setscrew  | 1            |         |
| 151      |          | M12 x 30mm Hex Hd Setscrew  | 2            |         |
| 152      |          | M12 x 40mm Hex Hd Setscrew  | 5            |         |
| 153      |          | M12 x 70mm Hex Hd Setscrew  | 1            |         |
| 154      |          | M12 x 100mm Hex Hd Setscrew | 4            |         |
| 155      |          | M12 Special Plain Washer    | 1            |         |
| 156      |          | M12 Plain Washer            | 4            |         |
| 157      |          | M12 Spring Washer           | 13           |         |
| 158      |          | M12 Nut                     | 17           |         |
| 159      |          |                             |              |         |
| 160      |          |                             |              |         |
| 161      |          |                             |              |         |
| 162      |          | M16 x 70mm Hex Hd Bolt      | 3            |         |
| 163      |          | M16 x 90mm Hex Hd Bolt      | 1            |         |
| 164      |          | M16 Plain Washer            | 3            |         |
| 165      |          | M16 Spring Washer           | 6            |         |
| 166      |          | M16 Nut                     | 6            |         |
| 167      |          |                             |              |         |
| 168      |          |                             |              |         |
| 169      |          |                             |              |         |
| 170      |          | ½in BSW Sq Hd Setscrew      | 3            |         |
| 171      |          |                             |              |         |
| 172      |          |                             |              |         |
| 173      |          |                             |              |         |
| 174      |          | 7/16in BSW x 2¼ Sq.Hd.Bolt  | 8            |         |
| 175      |          | 7/16in BSW Spring Washer    | 8            |         |
| 176      |          | 7/16in BSW Nut              | 8            |         |
| 177      |          |                             |              |         |
| 178      |          |                             |              |         |
| 179      |          |                             |              |         |
| 180      |          | 1in Plain Washer            | 4            |         |



## Main Drives (continued)

| Item No. | Part No. | Description                 | Qty per Assy | Remarks |                          |   |
|----------|----------|-----------------------------|--------------|---------|--------------------------|---|
| 181      | 6005RS   | 7mm x 8mm x 50mm Gib Hd Key | 12           |         |                          |   |
| 182      |          |                             |              |         |                          |   |
| 183      |          |                             |              |         |                          |   |
| 184      |          |                             |              |         |                          |   |
| 185      |          |                             |              |         |                          |   |
| 186      |          |                             |              |         |                          |   |
| 187      |          |                             |              |         |                          |   |
| 188      |          |                             |              |         |                          |   |
| 189      |          | 7mm x 8mm x 25mm RBE Key    | 7            |         |                          |   |
| 190      |          |                             |              |         |                          |   |
| 191      |          |                             |              |         | 7mm x 8mm x 40mm RBE Key | 1 |
| 192      |          |                             |              |         | 7mm x 8mm x 65mm RBE Key | 2 |
| 193      |          |                             |              |         | 7mm x 8mm x 75mm RBE Key | 1 |
| 194      |          | 7mm x 8mm x 85mm RBE Key    | 1            |         |                          |   |
| 194      |          | Roller Race                 | 8            |         |                          |   |
| 195      |          |                             |              |         |                          |   |
| 196      |          |                             |              |         |                          |   |
| 197      |          |                             |              |         |                          |   |



## Guards

# Guards

| Item No. | Part No.        | Description                    | Qty per Assy | Remarks |
|----------|-----------------|--------------------------------|--------------|---------|
| 1        | 19039           | LH Flail Cover                 | 1            |         |
| 2        | 19040           | RH Flail Cover                 | 1            |         |
| 3        | 19041           | Upper Flail Drive Guard        | 1            |         |
| 4        | 19042           | Main Elevator Drive Guard      | 1            |         |
| 5        | 19051           | Guard Tube                     | 2            |         |
| 6        | 19052           | Guard Tube                     | 1            |         |
| 7        | 19053           | Guard Tube                     | 1            |         |
| 8        | 19054           | Guard Tube                     | 1            |         |
| 9        | 19055           | Guard Tube                     | 3            |         |
| 10       | 19089           | Main Drive Chain Guard         | 1            |         |
| 11       | 19096           | Cross Elevator Drive Guard     | 1            |         |
| 12       | 19098           | Gearbox Drive Guard            | 1            |         |
| 13       | 19099           | Gearbox Drive Guard Bracket    | 1            |         |
| 14       | 19107           | Flail Shaft End Guard          | 3            |         |
| 15       | 19165           | Cross Elevator Extension Guard | 1            |         |
| 16       | 19167           | Upper Flail Drive Shaft Guard  | 1            |         |
| 17       |                 |                                |              |         |
| 18       |                 |                                |              |         |
| 19       |                 |                                |              |         |
| 20       | BM196           | Coupling Guard                 | 1            |         |
| 21       | BM233           | Disc Coulter Guard             | 3            |         |
| 22       |                 |                                |              |         |
| 23       |                 |                                |              |         |
| 24       | GS407           | Hose Cup No. 7                 | 1            |         |
| 25       |                 |                                |              |         |
| 26       |                 |                                |              |         |
| 27       |                 |                                |              |         |
| 28       | PS859/<br>SNA42 | P.T.O. Coupling Guard          | 1            |         |
| 29       |                 |                                |              |         |
| 30       |                 |                                |              |         |
| 31       |                 |                                |              |         |
| 32       | RH176           | PTO Coupling                   | 1            |         |
| 33       |                 |                                |              |         |
| 34       |                 |                                |              |         |
| 35       |                 |                                |              |         |
| 36       | SP225M          | Guard Bolt                     | 2            |         |
| 37       |                 |                                |              |         |
| 38       |                 |                                |              |         |
| 39       |                 |                                |              |         |
| 40       |                 | M8 x 20mm Hex Hd Setwcrew      | 8            |         |
| 41       |                 | M8 Plain Washer                | 8            |         |
| 42       |                 | M8 Spring Washer               | 8            |         |
| 43       |                 | M8 Nut                         | 8            |         |
| 44       |                 |                                |              |         |
| 45       |                 |                                |              |         |
| 46       |                 |                                |              |         |
| 47       |                 | M10 x 20mm Hex Hd Setscrew     | 7            |         |
| 48       |                 | M10 Plain Washer               | 8            |         |
| 49       |                 | M10 Spring Washer              | 8            |         |
| 50       |                 | M10 Nut                        | 3            |         |
| 51       |                 | M10 Wing Nut                   | 1            |         |
| 52       |                 |                                |              |         |
| 53       |                 |                                |              |         |
| 54       |                 |                                |              |         |
| 55       |                 | M12 x 30mm Hex Hd Setscrew     | 2            |         |
| 56       |                 | M12 Plain Washer               | 2            |         |
| 57       |                 | M12 Spring Washer              | 6            |         |
| 58       |                 | M12 Nut                        | 4            |         |
| 59       |                 | M12 Wing Nut                   | 2            |         |
| 60       |                 |                                |              |         |
| 61       |                 |                                |              |         |
| 62       |                 |                                |              |         |
| 63       |                 | 1½" Jubilee Clip               | 3            |         |



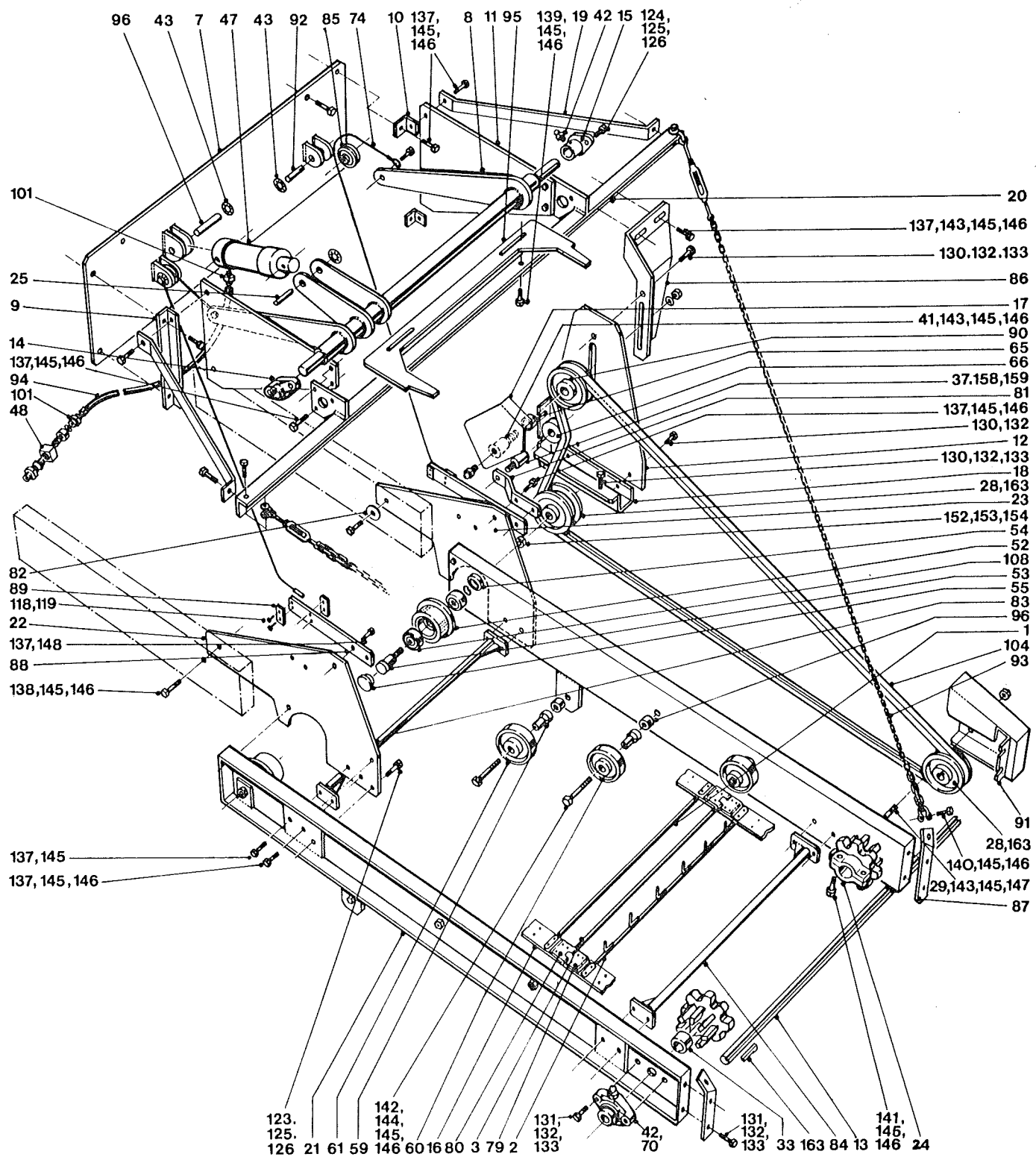
## Direct Loader

| Item No. | Part No.  | Description                  | Qty per Assy | Remarks |
|----------|-----------|------------------------------|--------------|---------|
| 1        | 19049     | Anchor Plate                 | 1            |         |
| 2        | 19075     | LH Support Panel             | 1            |         |
| 3        | 19076     | RH Support Panel             | 1            |         |
| 4        | 19077     | Winch Support                | 1            |         |
| 5        | 19078     | Support Angle                | 2            |         |
| 6        | 19079     | Inner Tension Tube           | 1            |         |
| 7        | 19080     | Stay                         | 1            |         |
| 8        | 19081     | Stay Support Bracket         | 1            |         |
| 9        | 19088     | Drive Shaft                  | 1            |         |
| 10       | 19090     | Web Belting                  | 2            |         |
| 11       | 19091     | Guard Bolt                   | 1            |         |
| 12       | 19092     | Guard Tube                   | 1            |         |
| 13       | 19093     | Guard Tube                   | 1            |         |
| 14       | 19094     | Intermediate Drive Guard     | 1            |         |
| 15       | 19095     | Main Drive Guard             | 1            |         |
| 16       | 19194     | Chopper Blade Shaft Assembly | 1            |         |
| 17       | 19195     | Top Plate Front              | 1            |         |
| 18       | 19196     | Top Plate Rear               | 1            |         |
| 19       | 19197     | Top Cover                    | 1            |         |
| 20       | 19198     | Chopper Blade Support Frame  | 1            |         |
| 21       | 19206     | Weight Tray                  | 1            |         |
| 22       |           |                              |              |         |
| 23       |           |                              |              |         |
| 24       | 19318     | Web Sprocket                 | 2            |         |
| 25       |           |                              |              |         |
| 26       |           |                              |              |         |
| 27       | BM12      | Washer                       | 2            |         |
| 28       | BM35M     | Pulley                       | 2            |         |
| 29       | BM174     | Spigot                       | 1            |         |
| 30       | BM184A    | Jockey Arm                   | 2            |         |
| 31       | BM192M    | Guard Bolt                   | 1            |         |
| 32       | BM212M    | Spring Tensioner             | 1            |         |
| 33       |           |                              |              |         |
| 34       |           |                              |              |         |
| 35       |           |                              |              |         |
| 36       | BMT3      | Idler Sprocket               | 2            |         |
| 37       |           |                              |              |         |
| 38       | C10       | Spacer                       | 1            |         |
| 39       | CH34      | Jockey Spigot                | 1            |         |
| 40       | E64       | Spacer                       | 2            |         |
| 41       |           |                              |              |         |
| 42       |           |                              |              |         |
| 43       | GS412     | Grease Nipple                | 1            |         |
| 44       | GS450     | Grease Nipple                | 4            |         |
| 45       | H121      | Spring                       | 3            |         |
| 46       | H211      | Collar                       | 4            |         |
| 47       | MFC30     | Bearing                      | 2            |         |
| 48       | PH57/1    | Clamp Plate                  | 322          |         |
| 49       | PH101-34  | Wire Rope                    | 1            |         |
| 50       | PH608M    | Guard Bolt                   | 1            |         |
| 51       |           |                              |              |         |
| 52       |           |                              |              |         |
| 53       | PS212B    | Bush                         | 16           |         |
| 54       | PS213A    | Roller                       | 10           |         |
| 55       | PS213B    | Roller                       | 4            |         |
| 56       |           |                              |              |         |
| 57       | PS386N    | Nylon Bush                   | 2            |         |
| 58       | PS488M    | Stop Collar                  | 1            |         |
| 59       | PS871/62  | Drive Chain                  | 1            |         |
| 60       | PS871/156 | Drive Chain                  | 1            |         |
| 61       | PS871/167 | Drive Chain                  | 1            |         |
| 62       |           |                              |              |         |
| 63       |           |                              |              |         |
| 64       | PT37      | Hinge                        | 2            |         |
| 65       |           |                              |              |         |
| 66       | RH56      | Circlip                      | 1            |         |
| 67       | RP37      | Double Sprocket              | 1            |         |
| 68       |           |                              |              |         |
| 69       |           |                              |              |         |
| 70       | SF25      | Bearing                      | 2            |         |
| 71       | SFT30     | Bearing                      | 2            |         |
| 72       | SP295     | Jockey Sprocket              | 3            |         |
| 73       | SP296M    | Shoulder Bolt                | 3            |         |
| 74       | SP426     | Plastic Pulley               | 3            |         |
| 75       |           |                              |              |         |
| 76       |           |                              |              |         |
| 77       | TBM24M    | Guard Bolt                   | 2            |         |
| 78       | TBM51     | 45T Sprocket                 | 2            |         |
| 79       |           |                              |              |         |
| 80       | TBMW40M   | Guard Bolt                   | 2            |         |
| 81       | TBMW204   | 23T Sprocket                 | 1            |         |
| 82       | TBMW505   | 17T Sprocket                 | 1            |         |

## Direct Loader

| Item No. | Part No.   | Description                    | Qty per Assy | Remarks |
|----------|------------|--------------------------------|--------------|---------|
| 83       |            |                                |              |         |
| 84       |            |                                |              |         |
| 85       |            |                                |              |         |
| 86       | TRT105M    | Guard Bolt                     | 1            |         |
| 87       | TRT124     | Spring Tab                     | 1            |         |
| 88       | TRT145     | Male Connector                 | 2            |         |
| 89       | TRT146     | Female Connector               | 2            |         |
| 90       | TRT309     | Spacer                         | 16           |         |
| 91       | TRT400     | Chopper Blade                  | 6            |         |
| 92       | TRT402     | Tension Tube                   | 1            |         |
| 93       | TRT406     | Large Winch Bearing Plate      | 1            |         |
| 94       | TRT407     | Small Winch Bearing Plate      | 1            |         |
| 95       | TRT408     | Winch Ratchet Pawl             | 1            |         |
| 96       | TRT409     | Winch Barrel                   | 1            |         |
| 97       | TRT410     | Wire Rope Guide                | 1            |         |
| 98       | TRT421     | Winch Handle                   | 1            |         |
| 99       | TRT422     | Winch Handle Grip              | 1            |         |
| 100      | TRT423A    | Cranked Support                | 2            |         |
| 101      | TRT426A    | Elevator Front                 | 1            |         |
| 102      | TRT427A    | Elevator Rear                  | 1            |         |
| 103      | TRT432     | Top Shaft                      | 1            |         |
| 104      | TRT433     | Jockey Spigot                  | 2            |         |
| 105      | TRT435     | Tie Bar                        | 5            |         |
| 106      | TRT437     | Bottom Curve Tie Bar           | 1            |         |
| 107      | TRT443     | Top Flap                       | 1            |         |
| 108      | TRT449     | Sprocket Flange                | 2            |         |
| 109      | TRT455A    | Jockey Arm                     | 1            |         |
| 110      | TRT456     | Spring Bracket                 | 1            |         |
| 111      | TRT470     | Conveyor Cover Support Bracket | 1            |         |
| 112      | TRT471     | Conveyor Cover Guides          | 4            |         |
| 113      | TRT474     | Conveyor Cover                 | 1            |         |
| 114      | TRT476     | Bottom Curve                   | 1            |         |
| 115      | TRT477A    | Top Curve                      | 1            |         |
| 116      | TRT478     | Spring                         | 4            |         |
| 117      | TRT480     | 11T Sprocket                   | 1            |         |
| 118      | TRT482     | Top Guard                      | 1            |         |
| 119      | TRT484     | Chopper Drive Guard            | 1            |         |
| 120      | TRT487     | Conveyor Cover Support Bracket | 1            |         |
| 121      |            |                                |              |         |
| 122      |            |                                |              |         |
| 123      | VB10       | Vee Belt                       | 1            |         |
| 124      |            |                                |              |         |
| 125      |            |                                |              |         |
| 126      | 6206       | Roller Race                    | 2            |         |
| 127      |            |                                |              |         |
| 128      | 18070      | Web Link                       | 133          |         |
| 129      | 18071      | Spiked Web Link                | 26           |         |
| 130      | 18077      | Connecting Link                | 1            |         |
| 131      |            |                                |              |         |
| 132      |            |                                |              |         |
| 133      | 2611-06-06 | Fixing Pin                     | 628          |         |
| 134      | 2611-06-08 | Fixing Pin                     | 16           |         |
| 135      | 2662-06-00 | Fixing Collar                  | 644          |         |
| 136      |            |                                |              |         |
| 137      |            |                                |              |         |
| 138      |            |                                |              |         |
| 139      |            | M8 x 16mm Hex Hd Setscrew      | 35           |         |
| 140      |            | M8 x 20mm Hex Hd Setscrew      | 5            |         |
| 141      |            | M8 x 30mm Hex Hd Setscrew      | 1            |         |
| 142      |            | M8 Spring Washer               | 26           |         |
| 143      |            | M8 Nut                         | 26           |         |
| 144      |            | M8 Lock Nut                    | 15           |         |
| 145      |            |                                |              |         |
| 146      |            |                                |              |         |
| 147      |            |                                |              |         |
| 148      |            | M10 x 20mm Hex Hd Setscrew     | 13           |         |
| 149      |            | M10 x 30mm Hex Hd Setscrew     | 16           |         |
| 150      |            | M10 x 35mm Hex Hd Setscrew     | 11           |         |
| 151      |            | M10 x 40mm Hex Hd Setscrew     | 4            |         |
| 152      |            | M10 Plain Washer               | 8            |         |
| 153      |            | M10 Spring Washer              | 37           |         |
| 154      |            | M10 Nut                        | 39           |         |
| 155      |            | M10 Locknut                    | 2            |         |
| 156      |            |                                |              |         |
| 157      |            |                                |              |         |
| 158      |            |                                |              |         |
| 159      |            | M12 x 25mm Hex Hd Setscrew     | 3            |         |
| 160      |            | M12 x 30mm Hex Hd Setscrew     | 31           |         |
| 161      |            | M12 x 40mm Hex Hd Setscrew     | 6            |         |
| 162      |            | M12 x 45mm Hex Hd Setscrew     | 1            |         |
| 163      |            | M12 x 60mm Hex Hd Setscrew     | 5            |         |
| 164      |            | M12 x 70mm Hex Hd Setscrew     | 4            |         |

| Item No. | Part No. | Description                 | Qty per Assy | Remarks |
|----------|----------|-----------------------------|--------------|---------|
| 165      |          | M12 x 80mm Hex Hd Setscrew  | 4            |         |
| 166      |          | M12 x 155mm Hex Hd Bolt     | 1            |         |
| 167      |          | M12 Plain Washer            | 8            |         |
| 168      |          | M12 Spring Washer           | 64           |         |
| 169      |          | M12 Nut                     | 56           |         |
| 170      |          | M12 Lock Nut                | 5            |         |
| 171      |          | M12 Wing Nut                | 9            |         |
| 172      |          |                             |              |         |
| 173      |          |                             |              |         |
| 174      |          |                             |              |         |
| 175      |          | 7mm x 8mm x 40mm Gib Hd Key | 2            |         |
| 176      |          | 7mm x 8mm x 50mm Gib Hd Key | 7            |         |



**Double Windrower**



## Double Windrower

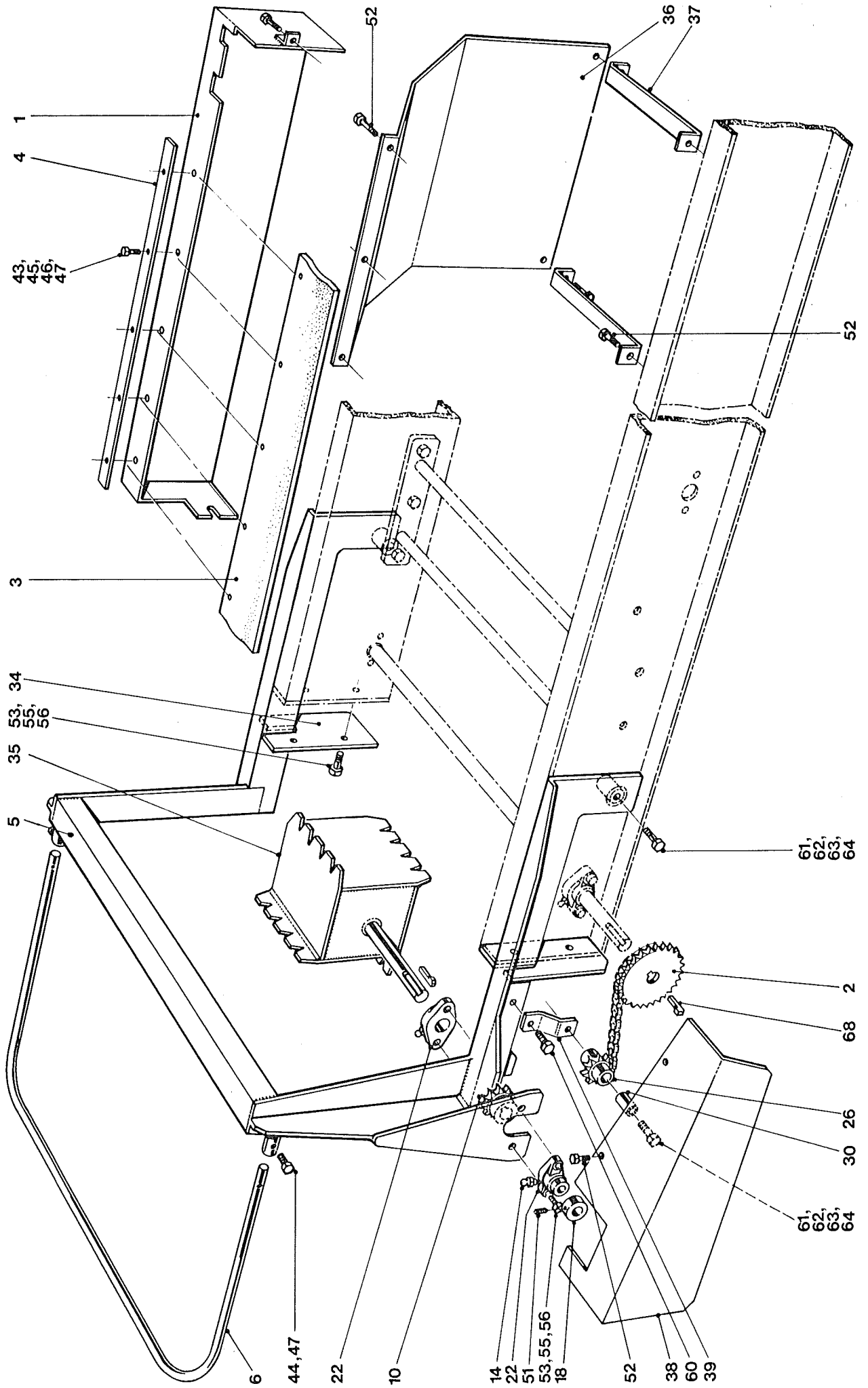
| Item No. | Part No. | Description               | Qty per Assy | Remarks |
|----------|----------|---------------------------|--------------|---------|
| 1        | 18070    | Web Link                  | 54           |         |
| 2        | 18071    | Web Link (Spiked)         | 4            |         |
| 3        | 18077    | Connecting Link           | 1            |         |
| 4        |          |                           |              |         |
| 5        |          |                           |              |         |
| 6        |          |                           |              |         |
| 7        | 19063    | Mounting Plate            | 1            |         |
| 8        | 19064    | Lift Arm Assembly         | 1            |         |
| 9        | 19065    | Support Angle             | 1            |         |
| 10       | 19066    | Support Angle             | 2            |         |
| 11       | 19067    | Lift Support Plate        | 2            |         |
| 12       | 19068    | Belt Guard                | 1            |         |
| 13       | 19101    | Drive Shaft               | 1            |         |
| 14       | 19102    | Lift Arm Bearing LH       | 1            |         |
| 15       | 19103    | Lift Arm Bearing RH       | 1            |         |
| 16       | 19104    | Web Belting               | 2            |         |
| 17       | 19168    | Pulley Inner Guard        | 1            |         |
| 18       | 19169    | Bottom Guard              | 1            |         |
| 19       | 19170    | Stay                      | 2            |         |
| 20       | 19184    | Angle Support             | 1            |         |
| 21       | 19185    | Web Sides                 | 1 pr         |         |
| 22       | 19186    | Hinge Plate LH            | 1            |         |
| 23       | 19187    | Hinge Plate RH            | 1            |         |
| 24       | 19318    | Web Sprocket              | 2            |         |
| 25       | 19322    | Top Ram Pivot Pin         | 1            |         |
| 26       |          |                           |              |         |
| 27       |          |                           |              |         |
| 28       | BM35M    | Pulley                    | 2            |         |
| 29       | BM192M   | Guard Bolt                | 1            |         |
| 30       |          |                           |              |         |
| 31       |          |                           |              |         |
| 32       |          |                           |              |         |
| 33       | D98      | Spacer                    | 2            |         |
| 34       |          |                           |              |         |
| 35       |          |                           |              |         |
| 36       |          |                           |              |         |
| 37       | FPS118   | Bearing                   | 1            |         |
| 38       |          |                           |              |         |
| 39       |          |                           |              |         |
| 40       |          |                           |              |         |
| 41       | GS412    | Grease Nipple             | 1            |         |
| 42       | GS450    | Grease Nipple             | 4            |         |
| 43       | GS463    | Star Washer               | 8            |         |
| 44       |          |                           |              |         |
| 45       |          |                           |              |         |
| 46       |          |                           |              |         |
| 47       | H399     | Hydraulic Ram             | 1            |         |
| 48       | H420     | Exactor Coupling Complete | 1            |         |
| 49       |          |                           |              |         |
| 50       |          |                           |              |         |
| 51       |          |                           |              |         |
| 52       | PH51AR   | Rubber Roller             | 2            |         |
| 53       | PH406AM  | Spindle                   | 2            |         |
| 54       | PH407    | Roller Inner Seal         | 2            |         |
| 55       | PH408    | Roller Outer Seal         | 2            |         |
| 56       |          |                           |              |         |
| 57       |          |                           |              |         |
| 58       |          |                           |              |         |
| 59       | PS212B   | Bush                      | 6            |         |
| 60       | PS213A   | Roller                    | 4            |         |
| 61       | PS213B   | Roller                    | 2            |         |
| 62       |          |                           |              |         |
| 63       |          |                           |              |         |
| 64       |          |                           |              |         |
| 65       | RH53     | Bush                      | 1            |         |
| 66       | RH76     | Roller                    | 1            |         |
| 67       |          |                           |              |         |
| 68       |          |                           |              |         |
| 69       |          |                           |              |         |
| 70       | SFT25    | Bearing                   | 2            |         |
| 71       |          |                           |              |         |
| 72       |          |                           |              |         |
| 73       |          |                           |              |         |
| 74       | SP129    | Lift Cable                | 2            |         |
| 75       |          |                           |              |         |
| 76       |          |                           |              |         |
| 77       |          |                           |              |         |
| 78       |          |                           |              |         |
| 79       | TRT145   | Male Connector            | 2            |         |
| 80       | TRT146   | Female Connector          | 2            |         |
| 81       | TRT154   | Jockey Arm                | 1            |         |

# Double Windrower

| Item No. | Part No.   | Description                               | Qty per Assy | Remarks         |
|----------|------------|---|--------------|-----------------|
| 82       | TRT160     | Elevator Hinge Disc                       | 2            |                 |
| 83       | TRT161     | Elevator Tie Inner                        | 1            |                 |
| 84       | TRT162     | Elevator Tie Outer                        | 1            |                 |
| 85       | TRT163     | Cable Guide Roller                        | 2            |                 |
| 86       | TRT165     | Elevator Drive Pulley Plate               | 1            |                 |
| 87       | TRT166     | Elevator Support Chain Strap              | 1 pr         |                 |
| 88       | TRT167     | Clamp Strip                               | 2            |                 |
| 89       | TRT167A    | Clamping Strip                            | 4            |                 |
| 90       | TRT168     | Drive Engage Pulley                       | 1            |                 |
| 91       | TRT173     | Belt Guard Outer                          | 1            |                 |
| 92       | TRT177A    | Cable Guide Pin                           | 2            |                 |
| 93       | TRT182     | Check Chain                               | 2            |                 |
| 94       | TRT184     | 17' 6" Hydraulic Pipe                     | 1            |                 |
| 95       | TRT188     | Adjustable Guides                         | 1            |                 |
| 96       | TRT189     | Bottom Ram Pivot Pin                      | 1            |                 |
| 97       | TRT309     | Spacer                                    | 6            |                 |
| 98       |            |   |              |                 |
| 99       |            |   |              |                 |
| 100      |            |   |              |                 |
| 101      | UC31       | Double Ended Male Adaptor                 | 1            |                 |
| 102      |            |   |              |                 |
| 103      |            |   |              |                 |
| 104      | VB13       | Drive Belt                                | 1            |                 |
| 105      |            |   |              |                 |
| 106      |            |   |              |                 |
| 107      |            |   |              |                 |
| 108      | 60052      | Roller Race                               | 4            |                 |
| 109      |            |   |              |                 |
| 110      |            |   |              |                 |
| 111      |            |   |              |                 |
| 112      | 2611-06-06 | Fixing Pin (For Web Links)                | 240          | Not Illustrated |
| 113      | 2611-06-08 | Fixing Pin (For Male & Female Connectors) | 16           | Not Illustrated |
| 114      | 2682-1000  | Collar (For Web Links and Connectors)     | 256          | Not Illustrated |
| 115      |            |   |              |                 |
| 116      |            |   |              |                 |
| 117      |            |   |              |                 |
| 118      |            | M6 x 25mm Hex Hd Setscrew                 | 8            |                 |
| 119      |            | M6 Nut                                    | 8            |                 |
| 120      |            |   |              |                 |
| 121      |            |   |              |                 |
| 122      |            |   |              |                 |
| 123      |            | M8 x 30mm Hex Hd Setscrew                 | 4            |                 |
| 124      |            | M8 x 35mm Hex Hd Setscrew                 | 2            |                 |
| 125      |            | M8 Spring Washer                          | 6            |                 |
| 126      |            | M8 Nut                                    | 6            |                 |
| 127      |            |   |              |                 |
| 128      |            |   |              |                 |
| 129      |            |   |              |                 |
| 130      |            | M10 x 20mm Hex Hd Setscrew                | 5            |                 |
| 131      |            | M10 x 30mm Hex Hd Setscrew                | 8            |                 |
| 132      |            | M10 Spring Washer                         | 13           |                 |
| 133      |            | M10                                       | 11           |                 |
| 134      |            |   |              |                 |
| 135      |            |   |              |                 |
| 136      |            |   |              |                 |
| 137      |            | M12 x 30mm Hex Hd Setscrew                | 30           |                 |
| 138      |            | M12 x 30mm Flat Hd Csk Setscrew           | 2            |                 |
| 139      |            | M12 x40mm Hex Hd Setscrew                 | 2            |                 |
| 140      |            | M12 x 50mm Hex Hd Bolt                    | 4            |                 |
| 141      |            | M12 x 60mm Hex Hd Bolt                    | 4            |                 |
| 142      |            | M12 x 120mm Hex Hd Bolt                   | 6            |                 |
| 143      |            | M12 Plain Washer                          | 4            |                 |
| 144      |            | M12 Special Plain Washer (35mm %)         | 12           |                 |
| 145      |            | M12 Spring Washer                         | 48           |                 |
| 146      |            | M12 Nut                                   | 43           |                 |
| 147      |            | M12 Wing Nut                              | 1            |                 |
| 148      |            | M12 Lock Nut                              | 2            |                 |
| 149      |            |   |              |                 |
| 150      |            |   |              |                 |
| 151      |            |   |              |                 |
| 152      |            | M16 Plain Washer                          | 2            |                 |
| 153      |            | M16 Spring Washer                         | 2            |                 |
| 154      |            | M16 Nut                                   | 2            |                 |
| 155      |            |   |              |                 |
| 156      |            |   |              |                 |
| 157      |            |   |              |                 |
| 158      |            | ½ in Spring Washer                        | 1            |                 |

# Double Windrower

| Item No. | Part No. | Description                 | Qty per Assy | Remarks |
|----------|----------|-----------------------------|--------------|---------|
| 159      |          | ½ in BSW Nut                | 1            |         |
| 160      |          |                             |              |         |
| 161      |          |                             |              |         |
| 162      |          | 7mm x 8mm x 50mm Gib Hd Key | 3            |         |
| 163      |          |                             |              |         |



Tops Spreader

# Tops Spreader

| Item No. | Part No. | Description                  | Qty per Assy | Remarks |
|----------|----------|------------------------------|--------------|---------|
| 1        | 19188    | Cross Elevator Guard         | 1            |         |
| 2        | 19189    | 25T Sprocket                 | 1            |         |
| 3        | 19190    | Cross Elevator Guard Rubber  | 1            |         |
| 4        | 19191    | Rubber Clamp Strip           | 1            |         |
| 5        | 19201    | Frame                        | 1            |         |
| 6        | 19202    | Guard Rail                   | 1            |         |
| 7        |          |                              |              |         |
| 8        |          |                              |              |         |
| 9        |          |                              |              |         |
| 10       | BMT32    | 11T Sprocket                 | 1            |         |
| 11       |          |                              |              |         |
| 12       |          |                              |              |         |
| 13       |          |                              |              |         |
| 14       | GS450    | Grease Nipple                | 2            |         |
| 15       |          |                              |              |         |
| 16       |          |                              |              |         |
| 17       |          |                              |              |         |
| 18       | PS488    | Stop Collar                  | 1            |         |
| 19       |          |                              |              |         |
| 20       |          |                              |              |         |
| 21       |          |                              |              |         |
| 22       | SFTG1"   | Bearing                      | 2            |         |
| 23       |          |                              |              |         |
| 24       |          |                              |              |         |
| 25       |          |                              |              |         |
| 26       | SP295    | Jockey Sprocket              | 1            |         |
| 27       |          |                              |              |         |
| 28       |          |                              |              |         |
| 29       |          |                              |              |         |
| 30       | TBMW178  | Jockey Spindle               | 1            |         |
| 31       |          |                              |              |         |
| 32       |          |                              |              |         |
| 33       |          |                              |              |         |
| 34       | TRT200A  | Hanger Bracket               | 2            |         |
| 35       | TRT202   | Barrel                       | 1            |         |
| 36       | TRT203A  | Tops Deflector               | 1            |         |
| 37       | TRT204   | Tops Deflector Support Strap | 2            |         |
| 38       | TRT205   | Drive Chain Guard            | 1            |         |
| 39       | TRT206A  | Jockey Arm                   | 1            |         |
| 40       |          |                              |              |         |
| 41       |          |                              |              |         |
| 42       |          |                              |              |         |
| 43       |          | M6 x 25mm Hex Hd Setscrew    | 6            |         |
| 44       |          | M6 x 35mm Hex Hd Setscrew    | 2            |         |
| 45       |          | M6 Plain Washer              | 6            |         |
| 46       |          | M6 Spring Washer             | 6            |         |
| 47       |          | M6 Nut                       | 8            |         |
| 48       |          |                              |              |         |
| 49       |          |                              |              |         |
| 50       |          |                              |              |         |
| 51       |          | M10 x 10mm Hex Soc Setscrew  | 1            |         |
| 52       |          | M10 x 20mm Hex Hd Setscrew   | 9            |         |
| 53       |          | M10 x 30mm Hex Hd Setscrew   | 8            |         |
| 54       |          | M10 Plain Washer             | 9            |         |
| 55       |          | M10 Spring Washer            | 17           |         |
| 56       |          | M10 Nut                      | 17           |         |
| 57       |          |                              |              |         |
| 58       |          |                              |              |         |
| 59       |          |                              |              |         |
| 60       |          | M12 x 25mm Hex Hd Setscrew   | 1            |         |
| 61       |          | M12 x 70mm Hex Hd Bolt       | 3            |         |
| 62       |          | M12 Plain Washer             | 3            |         |
| 63       |          | M12 Spring Washer            | 4            |         |
| 64       |          | M12 Nut                      | 4            |         |
| 65       |          |                              |              |         |
| 66       |          |                              |              |         |
| 67       |          |                              |              |         |
| 68       |          | 8mm x 7mm x 50mm Gib Hd Key  | 1            |         |



## Blower

| Item No. | Part No. | Description                                | Qty per Assy | Remarks |
|----------|----------|--|--------------|---------|
| 1        |          |  |              |         |
| 2        | 19111    | Blower Housing                             | 1            |         |
| 3        | 19112    | Transfer Chute                             | 1            |         |
| 4        | 19113    | Lobster Back Chute                         | 1            |         |
| 5        | 19114    | Adjustable Top Chute                       | 1            |         |
| 6        | 19115    | Adjustment Handle                          | 1            |         |
| 7        | 19116    | Front Cover                                | 1            |         |
| 8        | 19117    | Paddle Assembly                            | 1            |         |
| 9        | 19118    | Bearing Housing                            | 1            |         |
| 10       | 19119    | Paddle Shaft                               | 1            |         |
| 11       | 19120    | Paddle Drive Pulley                        | 1            |         |
| 12       | 19121    | Pulley & Clutch Housing                    | 1            |         |
| 13       | 19122    | Pulley Shaft                               | 1            |         |
| 14       | 19123    | Bearing Mounting Block                     | 1            |         |
| 15       | 19124    | Drive Pulley Support Frame                 | 1            |         |
| 16       | 19125    | Main Drives LH Support Plate               | 1            |         |
| 17       | 19126    | Main Drives RH Support Plate               | 1            |         |
| 18       | 19127    | LH Support Frame                           | 1            |         |
| 19       | 19128    | RH Support Frame                           | 1            |         |
| 20       | 19129    | Auger Trough                               | 1            |         |
| 21       | 19130    | Support Roller Shaft                       | 2            |         |
| 22       | 19131    | Auger Support Roller                       | 2            |         |
| 23       | 19132    | Auger Trough Support Frame                 | 1            |         |
| 24       | 19133    | Rear Panel                                 | 1            |         |
| 25       | 19134    | Auger                                      | 1            |         |
| 26       | 19135    | Auger Drive Bearing Housing                | 1            |         |
| 27       | 19136    | Auger Drive Shaft                          | 1            |         |
| 28       | 19137    | End Plate                                  | 1            |         |
| 29       | 19138    | Support Frame Tie                          | 1            |         |
| 30       | 19139    | Chute Clamp                                | 2            |         |
| 31       | 19140    | Gearbox Support Angle                      | 1            |         |
| 32       | 19141    | Inspection Cover                           | 1            |         |
| 33       | 19142    | Sprocket Centre Plate                      | 1            |         |
| 34       | 19143    | Main Drive Front Bracket                   | 1            |         |
| 35       | 19144    | Main Drive Bearing Support                 | 1            |         |
| 36       | 19145    | Main Drive Shaft                           | 1            |         |
| 37       | 19146    | Gearbox Shaft                              | 2            |         |
| 38       |          |  |              |         |
| 39       | 19148    | Paddle Drive Guard                         | 1            |         |
| 40       | 19149    | Main Elevator Drive Guard                  | 1            |         |
| 41       | 19150    | Chain Tension Bracket                      | 1            |         |
| 42       | 19151    | Chain Tension Bracket                      | 1            |         |
| 43       | 19152    | Clutch (Morse GFR 40 F1-F2)                | 1            |         |
| 44       | 19153    | Rubber Mounting                            | 3            |         |
| 45       | 19154    | Guard Tube (2 1/4" I/D x 680mm Lg)         | 1            |         |
| 46       | 19155    | Guard Tube (2 1/4" I/D x 1650mm Lg)        | 1            |         |
| 47       | 19156    | Spacer Tube (1" O/D x 1/4" Wall x 44mm Lg) | 8            |         |
| 48       | 19157    | Roller Support Bracket                     | 2            |         |
| 49       | 19158    | Roller                                     | 2            |         |
| 50       | 19159    | Gearbox Mounting Frame                     | 2            |         |
| 51       | 19177    | Oil Seal                                   | 4            |         |
| 52       | 19193    | Auger Trough Support Angle                 | 2            |         |
| 53       | 19199    | Inspection Hatch                           | 1            |         |
| 54       | 19203    | Circlip                                    | 4            |         |
| 55       | 19204    | Auger Trough Guard                         | 2            |         |
| 56       | 19205    | Gear Box Gasket                            | 1            |         |
| 57       | 19207    | Gear Box Guard                             | 1            |         |
| 58       | 19208    | Main Drive Guard                           | 1            |         |
| 59       | 19209    | Deflector Plate                            | 1            |         |
| 60       |          |  |              |         |
| 61       |          |  |              |         |
| 62       | 19924    | Gear Box Side                              | 1            |         |
| 63       | 19925    | Gear Box Side                              | 1            |         |
| 64       | 12403    | 16T Spur Gear                              | 1            |         |
| 65       | 12404    | 32T Spur Gear                              | 1            |         |
| 66       | C25      | Spacer                                     | 1            |         |
| 67       | C50      | Spacer                                     | 1            |         |
| 68       | H1218    | Spring                                     | 2            |         |
| 69       |          |  |              |         |
| 70       | PH91m    | Shoulder Bolt                              | 1            |         |
| 71       | PS215    | Jockey Roller                              | 1            |         |
| 72       | PS871/85 | Auger Drive Chain                          | 1            |         |
| 73       | PS871/92 | Main Elevator Drive Chain                  | 1            |         |
| 74       |          |  |              |         |
| 75       |          |  |              |         |
| 76       | SF40     | Bearing                                    | 4            |         |
| 77       |          |  |              |         |
| 78       |          |  |              |         |
| 79       |          |  |              |         |

| Item No. | Part No.                  | Description                                  | Qty per Assy | Remarks |
|----------|---------------------------|--|--------------|---------|
| 80       |                           |  |              |         |
| 81       | SP295                     | Jockey Sprocket                              | 2            |         |
| 82       | SP296m                    | Shoulder Bolt                                | 2            |         |
| 83       | SP426                     | Guide Roller                                 | 1            |         |
| 84       | SP446                     | Jockey Arm                                   | 1            |         |
| 85       | SP449                     | Jockey Arm Spigot                            | 1            |         |
| 86       | SPCL53m                   | Universal Coupling                           | 2            |         |
| 87       |                           |  |              |         |
| 88       |                           |  |              |         |
| 89       |                           |  |              |         |
| 90       | TBM51                     | 45 T Sprocket                                | 2            |         |
| 91       | TBM83                     | Spring Anchor                                | 1            |         |
| 92       |                           |  |              |         |
| 93       | TBMW204                   | 23T Sprocket                                 | 1            |         |
| 94       | TBMW206                   | 26T Sprocket                                 | 1            |         |
| 95       | TRT103                    | Shoulder Bolt                                | 1            |         |
| 96       | VB61                      | Vee Belt                                     | 3            |         |
| 97       | 17062                     | Clutch Spring Ferrule                        | 12           |         |
| 98       | 17063                     | Clutch Spring                                | 12           |         |
| 99       | 17064                     | Ferodo Disc                                  | 4            |         |
| 100      | 17065                     | Clutch Centre Plate                          | 2            |         |
| 101      | 17066                     | Clutch Pressure Plate Outer                  | 2            |         |
| 102      | 17067                     | Clutch Pressure Plate Inner                  | 2            |         |
| 103      | 17068                     | Heavy Duty Gear Box 1:1<br>(PS 450/3)        | 1            |         |
| 104      | 11066                     | Breather                                     | 1            |         |
| 105      | 11069                     | Breather Plug                                | 1            |         |
| 106      | PS200/2/M                 | Housing                                      | 1            |         |
| 107      | PS201/4/M                 | Side Plate                                   | 2            |         |
| 108      | PS202                     | Tail Shaft End Plate                         | 1            |         |
| 109      | PS233/1                   | Tail Shaft Oil Seal                          | 1            |         |
| 110      | PS236                     | Bearing Clip                                 | 1            |         |
| 111      | PS237                     | Spacer                                       | 1            |         |
| 112      | PS238/1                   | Tail Shaft                                   | 1            |         |
| 113      | PS240/1                   | Locknut                                      | 1            |         |
| 114      | PS241/1A                  | Bevel Gear                                   | 1            |         |
| 115      | PS241/1B                  | Bevel Gear                                   | 1            |         |
| 116      | PS243/2                   | Output Shaft                                 | 1            |         |
| 117      | PS245                     | Output Shaft Oil Seal                        | 2            |         |
| 118      | PS469                     | End Plate Gasket                             | 1            |         |
| 119      | PS470/A                   | Side Plate Gasket                            | 2            |         |
| 120      | PS869                     | Drain Plug                                   | 1            |         |
| 121      | 145                       | Output Shaft Bearing                         | 2            |         |
| 122      | 330                       | Tail Shaft Bearing                           | 1            |         |
| 123      | 330/C                     | Tail Shaft Bearing (Circlip Groove)          | 1            |         |
| 124      |                           | Side Plate Shim                              | As req'd     |         |
| 125      |                           | M10 x 90mm Stud                              | 11*          |         |
| 126      |                           | M10 x 30mm Hex Hd Setscrew                   | 4            |         |
| 127      |                           | M10 Spring Washer                            | 15           |         |
| 128      |                           | M10 Nut                                      | 11           |         |
| 129      |                           | 5/16" x 1.5/8" RBE Key                       | 1            |         |
| 130      |                           | 1/2" x 1 1/4" RBE Key                        | 1            |         |
| 131      |                           |  |              |         |
| 132      |                           |  |              |         |
| 133      | 17080                     | Auger Drive Bearing (SP337)<br>Inner & Outer | 1            |         |
| 134      | 6306RS                    | Roller Race                                  | 1            |         |
| 135      | 6200RS                    | Roller Race                                  | 4            |         |
| 136      | <del>6206RS</del> 6206ZRS | Roller Race                                  | 4            |         |
| 137      | 6310RS                    | Roller Race                                  | 2            |         |
| 138      |                           |  |              |         |
| 139      |                           |  |              |         |
| 149      | GS412                     | Grease Nipple                                | 4            |         |
| 150      | GS450                     | Grease Nipple                                | 4            |         |
| 151      |                           |  |              |         |
| 152      |                           |  |              |         |
| 153      |                           |  |              |         |
| 154      |                           | M8 x 20mm Hex Hd Setscrew                    | 3            |         |
| 155      |                           | M8 x 25mm Hex Hd Setscrew                    | 11           |         |
| 156      |                           | M8 Spring Washer                             | 15           |         |
| 157      |                           | M8 Ordinary Washer                           | 1            |         |
| 158      |                           | M8 Nut                                       | 14           |         |
| 159      |                           |  |              |         |
| 160      |                           |  |              |         |



| Item No. | Part No. | Description                | Qty per Assy | Remarks |
|----------|----------|----------------------------|--------------|---------|
| 161      |          | M10 x 25mm Hex Hd Setscrew | 33           |         |
| 162      |          | M10 x 35mm Hex Hd Setscrew | 1            |         |
| 163      |          | M10 x 40mm Hex Hd Setscrew | 8            |         |
| 164      |          | M10 x 65mm Hex Hd Setscrew | 6            |         |
| 165      |          | M10 x 75mm Hex Hd Setscrew | 8            |         |
| 166      |          | M10 x 120mm Hex Hd Bolt    | 1            |         |
| 167      |          | M10 Spring Washer          | 54           |         |
| 168      |          | M10 Ordinary Washer        | 4            |         |
| 169      |          | M10 Nut                    | 54           |         |
| 170      |          | M10 Locknut                | 3            |         |
| 171      |          | M10 Special Washer         | 1            |         |
| 172      |          | M10 Wing Nut               | 1            |         |
| 173      |          |                            |              |         |
| 174      |          | M12 x 25mm Hex Hd Setscrew | 4            |         |
| 175      |          | M12 x 30mm Hex Hd Setscrew | 26           |         |
| 176      |          | M12 x 35mm Hex Hd Bolt     | 10           |         |
| 177      |          |                            |              |         |
| 178      |          | M12 x 40mm Hex Hd Setscrew | 23           |         |
| 179      |          | M12 x 80mm Hex Hd Setscrew | 3            |         |
| 180      |          | M12 x 110mm Hex Hd Bolt    | 4            |         |
| 181      |          |                            |              |         |
| 182      |          | M12 Spring Washers         | 51           |         |
| 183      |          | M12 Ordinary Washers       | 5            |         |
| 184      |          | M12 Nuts                   | 65           |         |
| 185      |          | M12 Locknuts               | 17           |         |
| 186      |          | M12 Special Plain Washer   | 1            |         |
| 187      |          | M16 x 120mm Hex Hd Bolt    | 12           |         |
| 188      |          | M16 Spring Washer          | 1            |         |
| 189      |          | M16 Plain Washer           | 1            |         |
| 190      |          | M16 Hex Nut                | 1            |         |
| 191      |          | M16 Locknut                | 12           |         |
| 192      |          |                            |              |         |
| 193      |          | ¼" dia x 1½" Lg Cotter Pin | 3            |         |
| 194      |          | 8 x 7 x 50 Gib Hd Key      | 2            |         |
| 195      |          | 8 x 7 x 70 Gib Hd Key      | 1            |         |
| 196      |          | 8 x 7 x 100 Gib Hd Key     | 1            |         |