

# **Standen**

## **TORNADO**

**2 ROW SELF PROPELLED  
SUGAR BEET HARVESTER**

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## INTRODUCTION

This manual provides the information for adjustment and maintenance of your Standen Tornado to help you to obtain the best results from the machine. Before putting the machine to work, read this manual through carefully to obtain a full understanding of what the machine should do and how to obtain it.

Adjustments may have to be made singly or in combination according to crop and soil conditions. Allow the machine to settle to a new setting before making more adjustments.

Throughout this manual the term 'Front', 'Rear', 'Left Hand' and 'Right Hand' are derived from the tractor driver's position, facing forward and the normal forward directions of travel of the two row harvester.

When ordering spare parts always quote the machine serial number.

Date Purchased \_\_\_\_\_

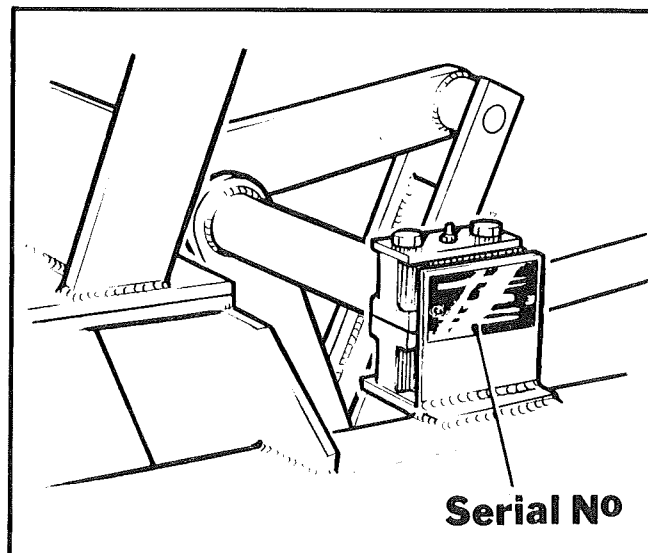
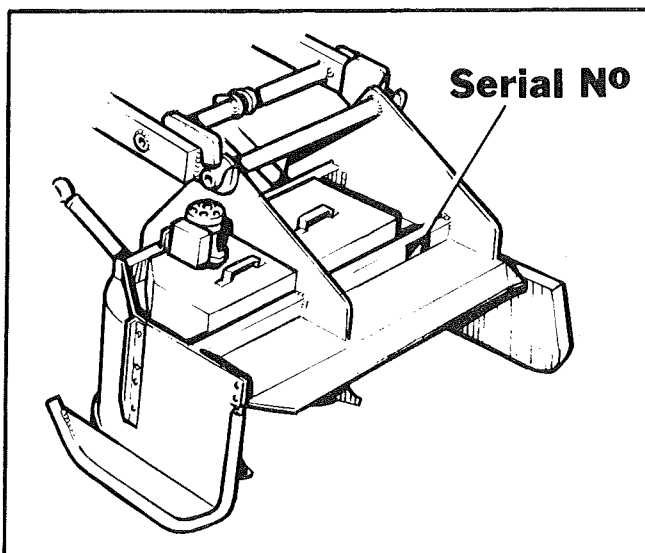
Date Started Work \_\_\_\_\_

Serial Number \_\_\_\_\_

Agent's Name \_\_\_\_\_

Agent's Address \_\_\_\_\_

Agent's Telephone Number \_\_\_\_\_



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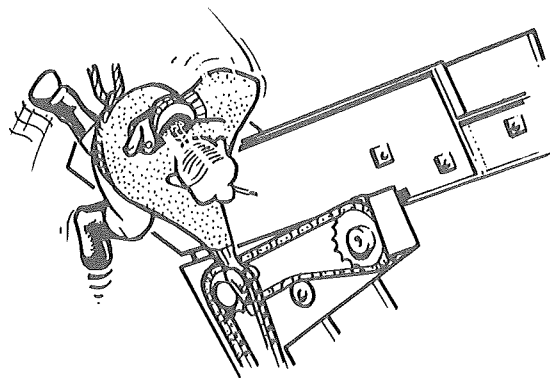
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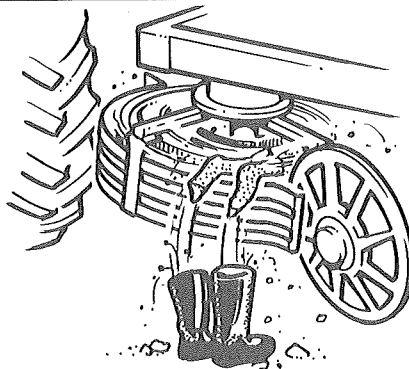
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# SAFETY PRECAUTIONS

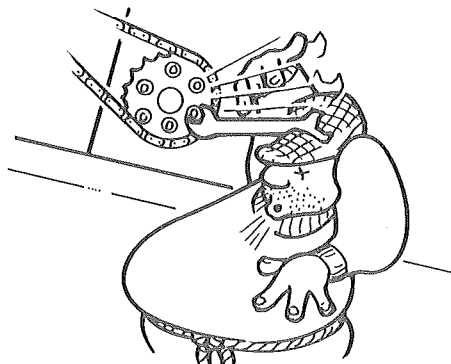
**NEVER** Operate the machine with any of the safety guards removed, remember they are fitted for two reasons – to keep dirt out, and more important to protect you and others from the various working parts. So, make sure they are always kept in good condition and they are fitted correctly when the machine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



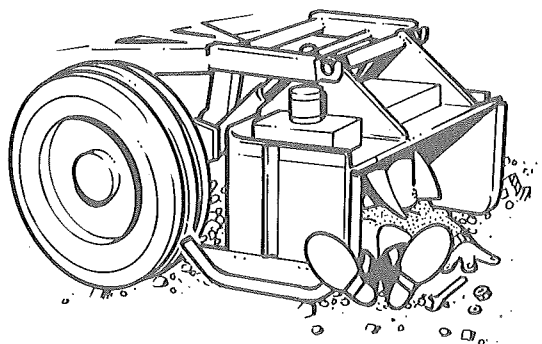
**NEVER** Attempt to adjust or clean any part of the machine with the tractor power take-off in motion and always stop the tractor engine.



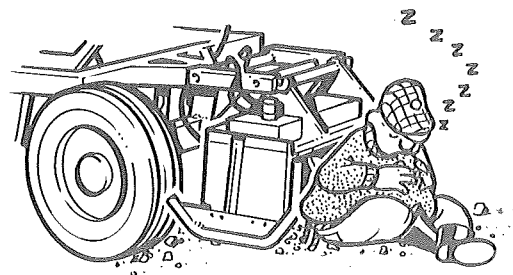
**NEVER** Fit drive chains or drive belts while the drive sprockets or drive pulleys are in motion.



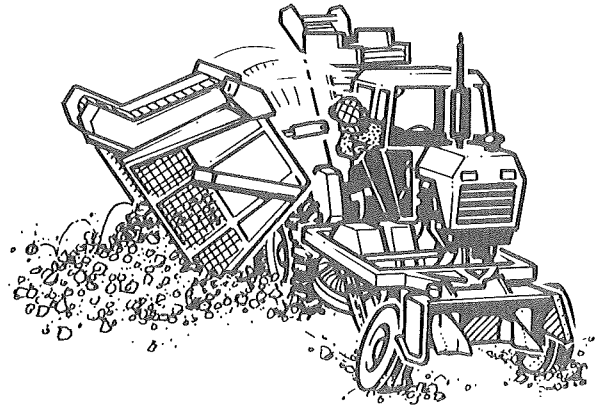
**NEVER** Work under the machine when it is in a raised position on the tractor hydraulic lift linkage.



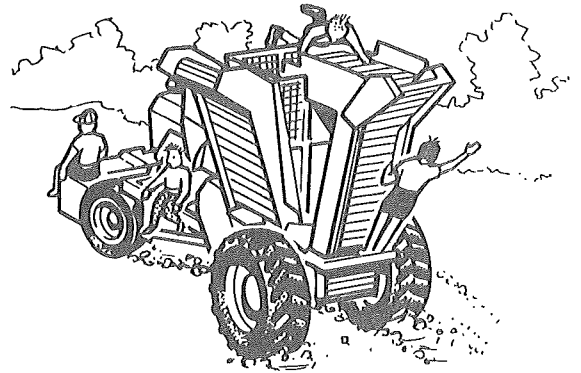
**NEVER** Set the machinery in motion before ensuring that every one in the vicinity is aware of your intention.



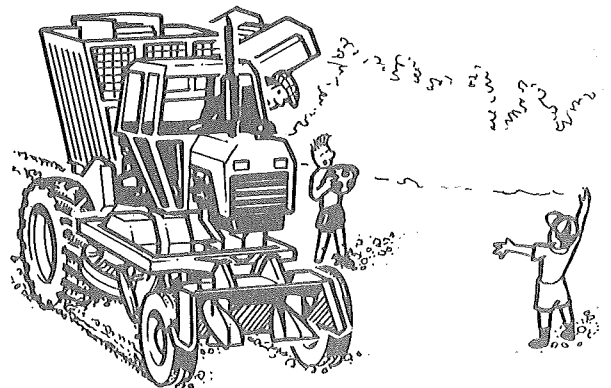
**NEVER** Operate the machine in a state of disrepair



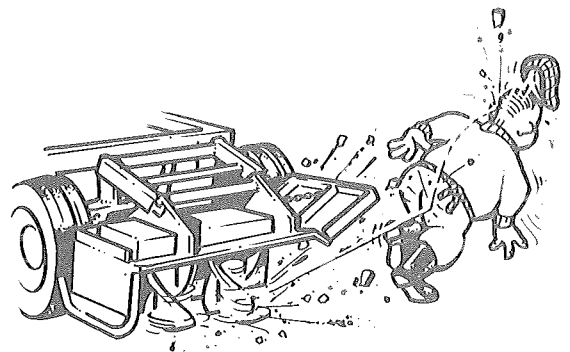
**NEVER** Allow any one *especially children* to ride on the machine.



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



**NEVER** Stand near the discharge end of the topper while machine is running.



The above list of precautions is not exhaustive. All machinery is potentially dangerous and great care must be exercised by the operator(s) at all times.

Standen Engineering Limited will not accept liability for damage or injury caused by their products except when such liability is specifically imposed by English Statute.

## INSTALLATION

The Standen Tornado is a self propelled two row sugar beet harvester designed to top, lift and carry the beet. A discharge elevator is incorporated to unload the holding tank once it becomes full.

Check that the nuts, bolts and sprocket 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.

Do not reverse or turn unless the Turbo Topper and the inner frame containing the topping units, cage wheels, lifting wheels and cyclone wheel are in their raised position.

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

Pay particular attention to the safety precautions. They are written as a warning to protect you and others.

**IMPORTANT:-** The stay item 6 on page 2.13 must be removed before setting into work, conversely the stay must be refitted for transport.

## CAB CONTROLS

The various functions of the harvester are operated from inside the tractor cab. All the hydraulic rams are operated via the tractor's external hydraulics. The only other controls required are for engaging and disengaging the discharge elevator drives. For this reason we have fitted a control lever which is situated to the LH side of the operator. To engage the discharge elevator drive push the lever marked "Discharge Elevator Drive" forward. The lever that is fitted is a three-way lever, therefore if it is pulled backwards the discharge elevator drive becomes engaged until the lever is allowed to return to its stop position.

## TURBO TOPPER

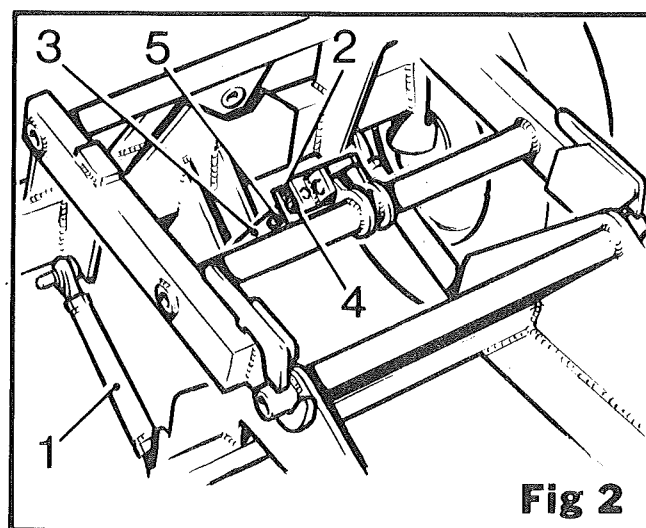
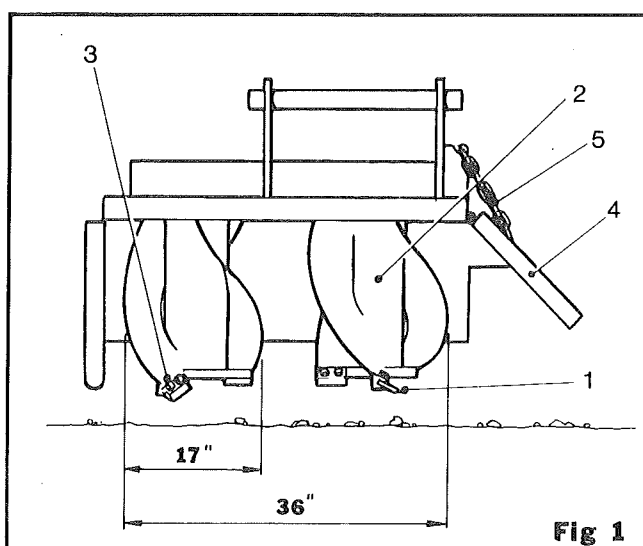
The Turbo Topper is a unit designed to cut the leaf from the beet by means of rotating cutters (item 1 fig 1) prior to the beet being topped by the topping units.

The tops are transferred from one rotor to the other and then out of the side by means of the rotating speed of the rotor (item 2 fig 1). The suction of the spiral fins welded around the rotors lift away loose leaf and trash leaving a clean path for the lifter.

The cutting width of each individual rotor (item 2 fig 1) is 17 inches (43 cms.) the overall cutting width of both the rotors is 36 inches (91.5 cms.).

The topper is fully floating on a pivoting linkage and is raised and lowered by a hydraulic ram, the ram being fed and operated by a tractor single acting spool valve.

When the topper is in work the front should be lower than the rear. To achieve this, turn the stabilizer links (item 1 fig 2) clockwise or anticlockwise.



The amount of tops removed from the beet by the rotors is determined by the size of the crown that can be removed by the topping units. As a guide to the amount of top to be removed, prior to topping, set the depth of cut of the rotor knives (item 1 fig 1) to just top the highest beet. The depth of cut is determined by the amount the stop plate (item 2 fig 2) will allow the hydraulic ram (item 3 fig 2) to close. To adjust slacken the lock nuts (item 4 fig 2) and turn the adjusting nuts (item 5 fig 2), so moving the stop plate.

Steel knives (item 1 fig 1) are fitted to the rotors (item 2 fig 1) and can be removed or replaced by removing the retaining bolts (item 3 fig 1). When fitting or removing these bolts care should be taken not to overheat the nylon locking material fitted to the bolts. Always replace the bolts with new after they have been removed or fitted twice. Never set the topper so that the knives (item 1 fig 1) touch the soil as damage to the knives will occur.

The sugar beet tops discharge end of the topper is fitted with a hinged tops deflector flap (item 4 fig 1), which can be adjusted to a high or low position, according to the amount of beet tops, to form a windrow or to spread the tops. Adjustment is made by lengthening or shortening the support chain (item 5 fig 1).

## WHEEL TRACK SETTINGS

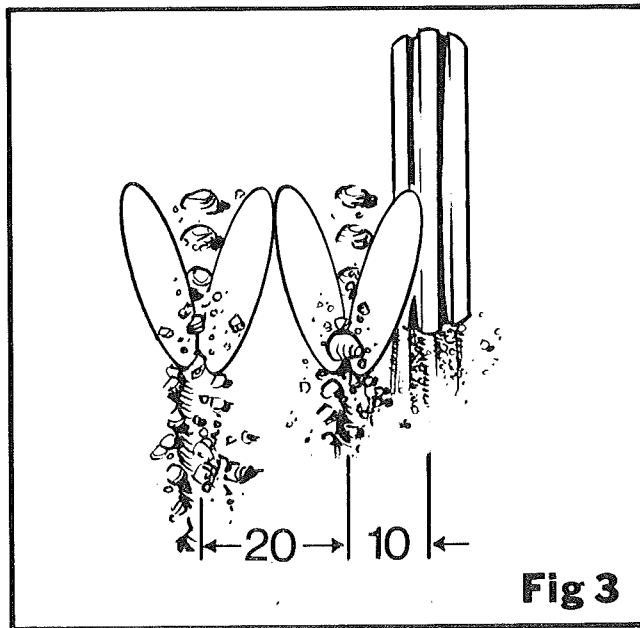
With the exception of the right hand wheel the row widths will determine the wheel settings required.

### Right Hand Rear Wheel

The right hand rear wheel is pre-set and does not require adjusting, but check to ensure the right hand pair of lifting wheels are set in front of the rear right hand wheel, so allowing the wheel to run in the groove made by the lifting wheels.

### Right hand Front Wheel

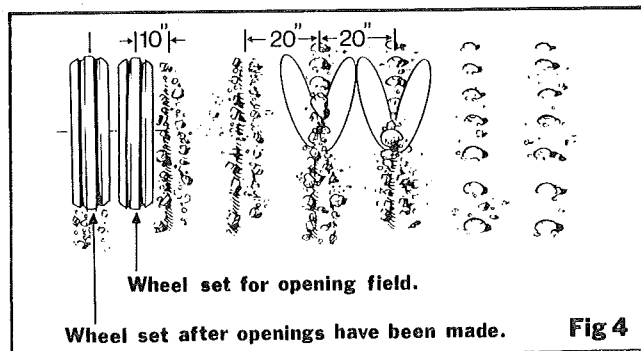
The adjustment of the right hand front wheel is as described in the paragraph "Front Axle, Adjustment". The wheel should be set to run half-way between the centre of the right hand lifting wheels and the next row i.e.:- If the row widths are 20ins the centre of the wheel should be 10ins from the centre of the lifting wheels (see fig 3)



### Left Hand Front Wheel

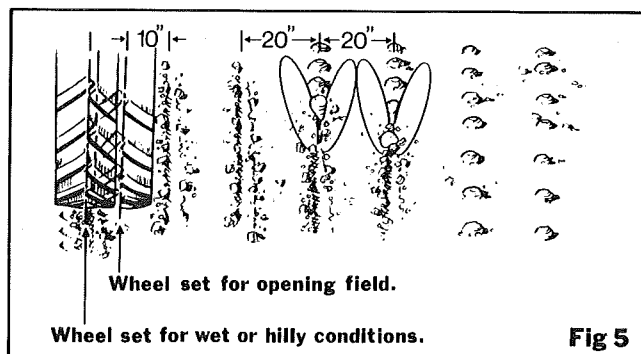
The adjustment of the left hand front wheel is carried out as described in photograph, "Front Axle Adjustment". The wheel should be set to run between the rows when making the first openings in the field. When enough rows have been lifted, the wheel should be moved to run in the groove made by the lifting wheels.

NOTE:- This setting should be used in all conditions to increase steering control. (see fig 4)



## Left Hand Rear Wheel

The adjustment of the left hand rear wheel is carried out as described in photograph "Rear Wheel Adjustment". The wheel should be set to run between the rows when making the first opening in the field. When enough rows have been lifted the wheel should be moved to run in the groove made by the lifting wheels (see fig 5) NOTE:- This setting may be required when working in very wet or hilly conditions to increase stability of the machine and not required during normal or reasonably dry conditions.

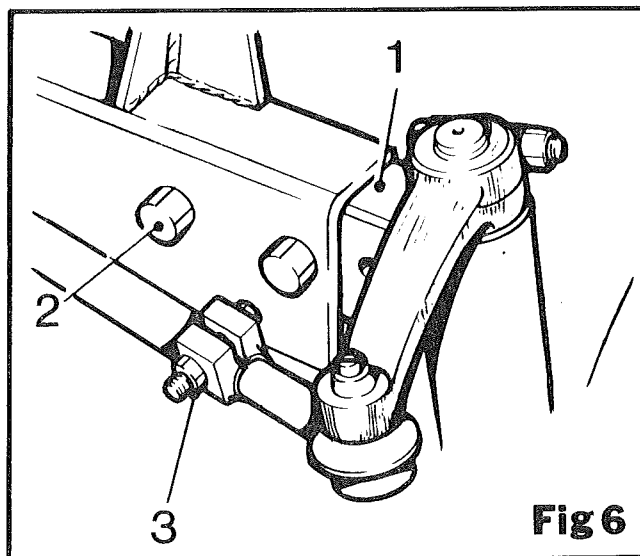


## FRONT AXLE ADJUSTMENTS

The axle extension (item 1 fig 6) is secured by two bolts (item 2 fig 6). To adjust the track width jack up the axle, remove the adjustment nut and bolt (item 3 fig 6) from the track rod, remove completely the two bolts (item 2 fig 6) and slide the axle extension to the required position and re-fit the bolts. When both halves of the axle have been adjusted, re-fit the nut and bolt through the track rod to position the wheels parallel when straight ahead.

### SAFETY FIRST

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





## TOPPING UNIT

The purpose of the topping unit is to crown the beet cleanly and squarely by the use of a feeler wheel (item 1 fig 7) which runs on top of the beet holding it steady while the knife (item 2 fig 7) crowns it.

The topping unit frame (item 3 fig 7) is adjustable for angle of pitch.

The angle of pitch of the topping unit frame is determined by the depth at which the harvester is lifting beet. As a general rule, the topping unit frame (item 3 fig 7) should run parallel with the ground after the depth of lift has been established. To adjust the angle of pitch, slacken the retaining bolts (item 4 fig 7) and pivot the frame around the lower retaining bolt.

The topping units are adjustable for varying row widths. To adjust slacken the two collars (item 5 fig 7) and the drive sprocket (item 6 fig 7) and slide the topping unit along the pivot shaft (item 24 fig 7) to the required position and resecure with the stop collars (item 5 fig 7). Reposition the drive sprocket (item 6 fig 7) to align the feeler wheel sprocket. Simultaneously when adjusting the topping unit for varying row widths, the tension rod (item 7 fig 7) and the tie bar (item 8 fig 7) will require repositioning. The left hand topping unit is usually the one to adjust, although the right hand can be adjusted if it is found necessary. **NOTE:—** It is important to ensure that the right hand topping unit is positioned to successfully top the beet directly in front of the right hand pair of lifting wheels, before setting the left hand topping unit.

A very important part of the topping unit is the tension of the spring (item 9 fig 7). The spring is designed to give a downward pressure on the knife (item 2 fig 7). Enough pressure should be given to return the feeler wheel and knife to successfully top a low beet after topping a high beet, simultaneously. Too much pressure will force the knife to dig into the highest beet causing too much to be removed or the beet may be pushed over.

To adjust the spring (item 9 fig 7) remove the quick release pin (item 10 fig 7) and reposition it to give the right amount of pressure.

The feeler wheel (item 1 fig 7) is fitted with a scraper (item 11 fig 7) to keep it clear of tops and dirt, etc. The scraper should be adjusted with the fingers central to the feeler wheel teeth and as close into the wheel as possible without fouling the wheel. To adjust, slacken the retaining bolt (item 12 fig 7) and pivot the scraper to the required position.

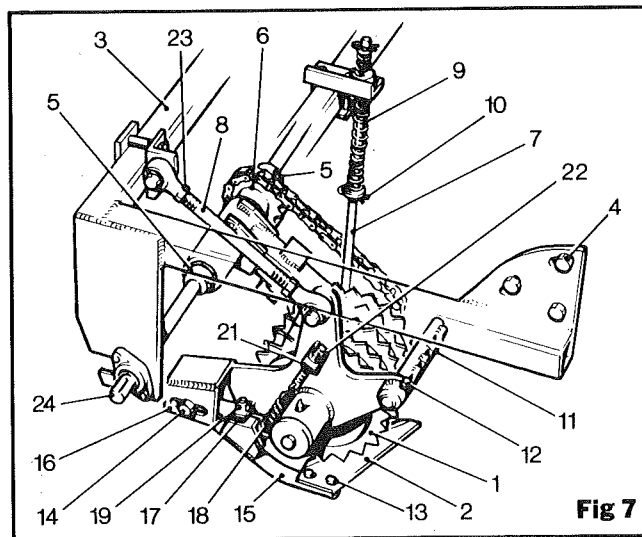
## TOPPING KNIFE SETTING

The feeler wheel should ride onto the beet before the knife starts to cut. As a pre-setting before starting off, set the knife so that the rear setscrew (item 13 fig 7) holding the knife (item 2 fig 7) to the knife arm, so that it is approximately in line with the centre of the feeler wheel (item 1 fig 7). The knife should be forward for small beet and back for large beet. To make the adjustment slacken the pivot bolt (item 14 fig 7) and slide the knife arm (item 15 fig 7) along the slot in the mounting plate

(item 16 fig 7). Before carrying out the adjustments it may be found necessary to slacken off the stop screw (item 17 fig 7) and the tension of the spring (item 18 fig 7). Retension spring and reset stop screw after adjustment has been made. The amount of crown removed is determined by the distance between the knife (item 2 fig 7) and the feeler wheel (item 1 fig 7). To adjust, slacken the lock nut (item 19 fig 7) and turn the stop screw (item 17 fig 7) to achieve the required gap.

Stones passing between the knife and the feeler wheel push the knife arm (item 15 fig 7) out against the tension of the spring (item 18 fig 7) until the obstruction has cleared, then the spring pulls the knife back into position. To tension the spring, slacken the lock nut (item 21 fig 7) and turn the adjusting nut (item 22 fig 7) to obtain the required tension. Finally tighten the lock nut (item 21 fig 7).

The pitch of the knife can be altered by releasing the lock nut (item 23 fig 7) and turning the tie bar (item 8 fig 7). As a general rule the knife is usually set parallel with the ground.

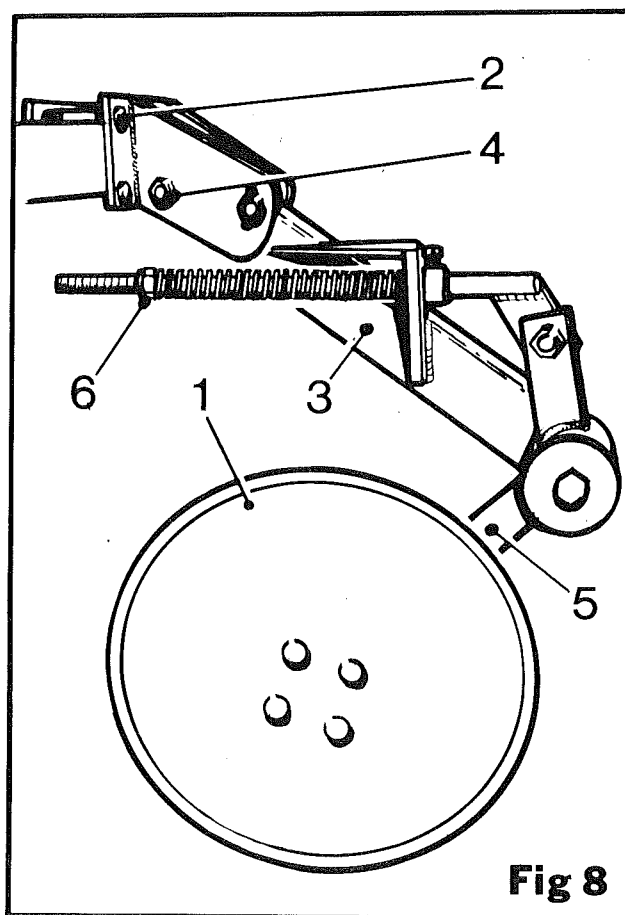


## DISC COULTER

The concave disc coultter, located in front of the topping unit, prevents the clogging of the topping knife by cutting away weeds and broken leaves.

The disc (item 1 fig 8) should align with the knife arm (item 15 fig 7) so that the knife arm runs into the furrow left by the disc. To adjust, slacken the four securing bolts (item 2 fig 8) and slide the disc coultter leg (item 3 fig 8) to the required position.

Under normal conditions the disc (item 1 fig 8) should be set to cut the 1½ inches (38 mm) below ground level. To adjust, slacken the two retaining bolts (item 4 fig 8) and pivot the disc coultter leg (item 3 fig 8) to give the required depth.



There should be enough spring tension on the disc arm (item 5 fig 8) to make the disc cut into soil, but the arm must also be able to lift up when the disc rides over obstructions. To vary the spring tension, turn the adjusting nut (item 6 fig 8).

## LIFTING WHEELS

The lifting wheels (item 1 fig 9) are designed to lift the beet from the ground and transfer them to the cyclone wheel. The working depth of the lifting wheels is determined by the depth control on the tractor and according to the depth required to lift the beet from the ground without breaking off the root or lifting too much soil.

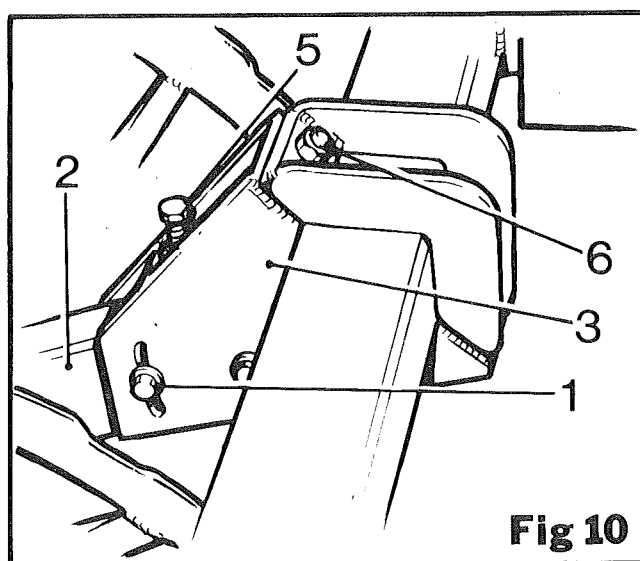
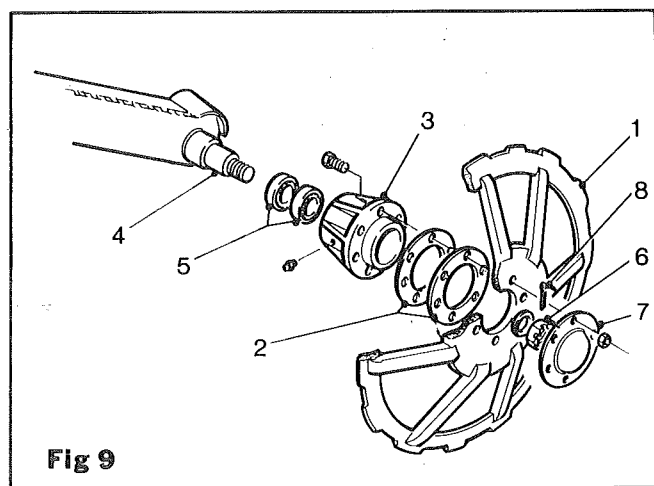
Further depth control can be effected by the angle of the lifting wheels (item 1 fig 9). This adjustment is made by loosening the nut and bolts (item 1 fig 10) holding the lifting wheel mounting (item 2 fig 10) to the lifting wheel mounting bracket (item 3 fig 10) which is provided with slotted holes either side to allow the lifting wheel mounting to be adjusted both up and down. At the top of the lifting wheel mounting bracket (item 3 fig 10) is fitted an adjusting set screw (item 5 fig 10) which is provided to push down onto the lifting wheel mounting (item 2 fig 10). The adjustment described allows the lifting wheels (item 1 fig 9) to be raised or lowered irrespective of the harvester. It will also alter the point of the lifting of the beet in relation to the width of the lifting wheels.

The working depth of the lifting wheels is approximately 2 inches (5.1 cm).

The width of the wheels at the narrowest point is from 1½ inches (3.8 cm) to 1¾ inches (4.5 cm) and they can be adjusted by removing or adding spacers (item 2 fig 9) between the lifting wheels and the lifting wheel hubs (item 3 fig 9).

The lifting wheel spindles (item 4 fig 9) are fitted with tapered roller bearings (item 5 fig 6) and are adjusted by a castle nut (item 6 fig 9) after removing the hub cap (item 7 fig 9).

Care should be taken not to over tighten the bearings (item 5 fig 9). Adjust by turning the castle nut (item 6 fig 9) as tight as possible while slowly rotating the lifting wheel, then slacken off one or two castlerations of the nut. Secure with a new split pin (item 8 fig 9).



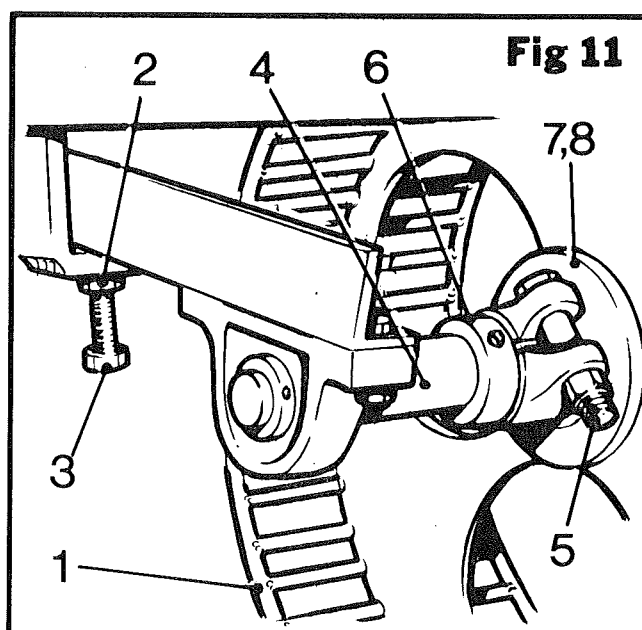
The lifting wheels (item 1 fig 9) can be adjusted to follow rows of from 18 inches (46 cm) to 22 inches (56 cm).

To obtain these settings loosen the nuts and bolts (item 6 fig 10) in the lifting wheel mounting bracket and move the lifting wheel assembly horizontally along the beam of the main frame.

## CAGE WHEELS

The cage wheels (item 1 fig 11) are fitted between the lifting wheels, to transfer the beet onto the cyclone wheel. The cage wheels are fully floating, therefore preventing any jamming or blocking. Provision is made to raise or lower the cage wheels, which generally should be higher for large beet and lower for when the beet are small. To adjust loosen the lock nut (item 2 fig 11) and turn the adjusting bolt (item 3 fig 11).

When various row distance settings are carried out as described in paragraph (Lifting Wheels) it is also necessary to move the cage wheel horizontally across the cage wheel drive shaft (item 4 fig 11) to correspond with the final position of the lifting wheels.



To adjust the cage wheels, loosen the nut and bolt (item 5 fig 11) and the setscrew in the collars (item 6 fig 11) and move the cage wheel complete with the clamp (item 7 fig 11) and the securing key (item 8 fig 11) along the shaft to the desired position. Retighten the nut and bolt (item 5 fig 11) and slide the collars (item 6 fig 11) back up against the clamps and resecure.

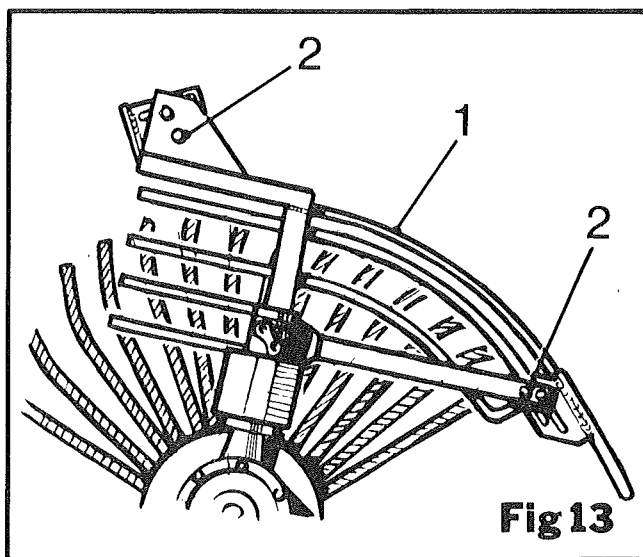
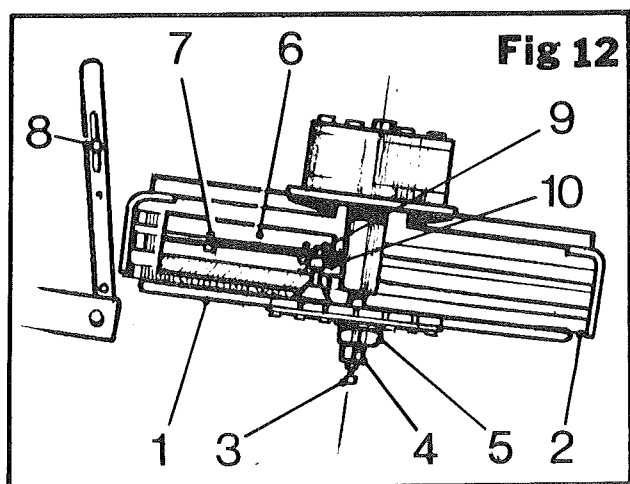
The cage wheel mud guards (item 9 fig 11) are designed to fit directly over the top of the cage wheels to eliminate the danger of dirt and stones being thrown from the wheels. Always ensure they are positioned correctly; especially when moving the cage wheels to a new setting.

**NOTE:**— When repositioning the various components to different row widths it is only necessary to alter the left hand unit i.e. lifting wheels, cage wheel and topping unit. The right hand components stay in their positions, in line with the right hand near wheel of the machine.

## CYCLONE WHEEL

A cyclone wheel is provided to convey the beet from the lifting wheels to the bottom elevator, and also to clean the crop. The cyclone wheel is adjustable to give added cleaning if required. The gap between the cyclone wheel (item 1 fig 12) and the bottom of the surrounding guards (item 2 fig 12) determines how much dirt and stones are allowed out of the wheel. Too larger gap could result in beet loss. To adjust the cyclone wheel, loosen the retaining bolt (item 3 fig 12) which allows the spacer (item 4 fig 12) to drop, then slacken the clamp bolt (item 5 fig 12) after which the cyclone wheel can be pushed down onto the spacer (item 4 fig 12). If the wheel has dropped too low, readjust by retightening the retaining bolt (item 3 fig 12). Once the cyclone wheel is in the required position, resecure with the clamp bolt (item 5 fig 12). After the cyclone wheel has been adjusted, it will be found necessary to adjust the height of the beet deflector (item 6 fig 12). To adjust slacken the two retaining bolts (item 7 fig 12) and move the deflector either up or down to the required position. Also fitted to the cyclone wheel is a scraper (item 9 fig 12), this scraper is adjustable and should be positioned so as the blade just misses the cyclone wheel. To adjust slacken the retaining bolt (item 10 fig 12) and slide the scraper to the desired position.

The inner guard (item 1 fig 13) has been provided with adjustment slots so as to allow the cyclone wheel to be adjusted for different row centres. To adjust slacken the four retaining bolts (item 2 fig 13) and slide the guard towards or away from the lifting wheel. Too larger gap between the inner guard and the lifting wheel, could result in the loss of beet.

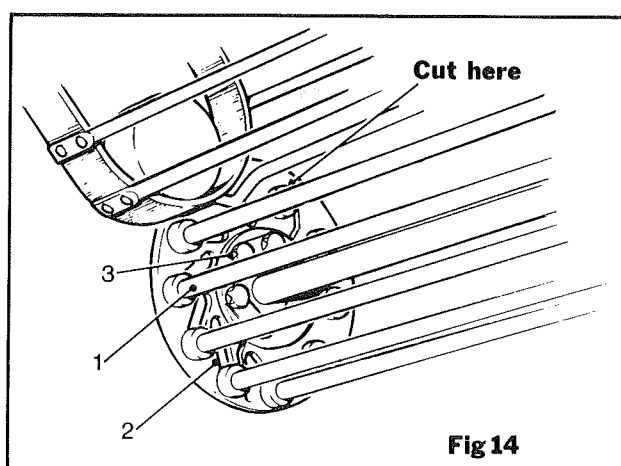


Once the position of the cyclone wheel has been established, the height of the bottom elevator may require adjusting. For adjustment see paragraph headed "Bottom Elevator".

## BOTTOM ELEVATOR

The bottom elevator conveys the crop from the cyclone wheel to the rear elevator. Incorporated in the bottom elevator is a cleaner cage. The cleaner is designed so that when it rotates, the rods (item 1 fig 14) will be thrown out to the extremities of the slots in the end plates (item 2 fig 14). Heavy density material such as stones, clods or trash force the rods inwards, allowing such material to fall to the ground, whilst the beet pass over the roller cage and onto the rear elevator.

After a period of working it may be found necessary to replace the rods (item 1 fig 14) and the end plates (item 2 fig 14). Therefore the end plates have been made for easy removal. To remove the rods and plates firstly hack saw the plates as shown in fig 14 and open the locking tab, locking the retaining bolts (item 3 fig 14) and remove them. The end plate can now be removed together with half of the rods. With the rods removed the other end plate half can be removed. Repeat the above sequence for the remaining rods and plates.

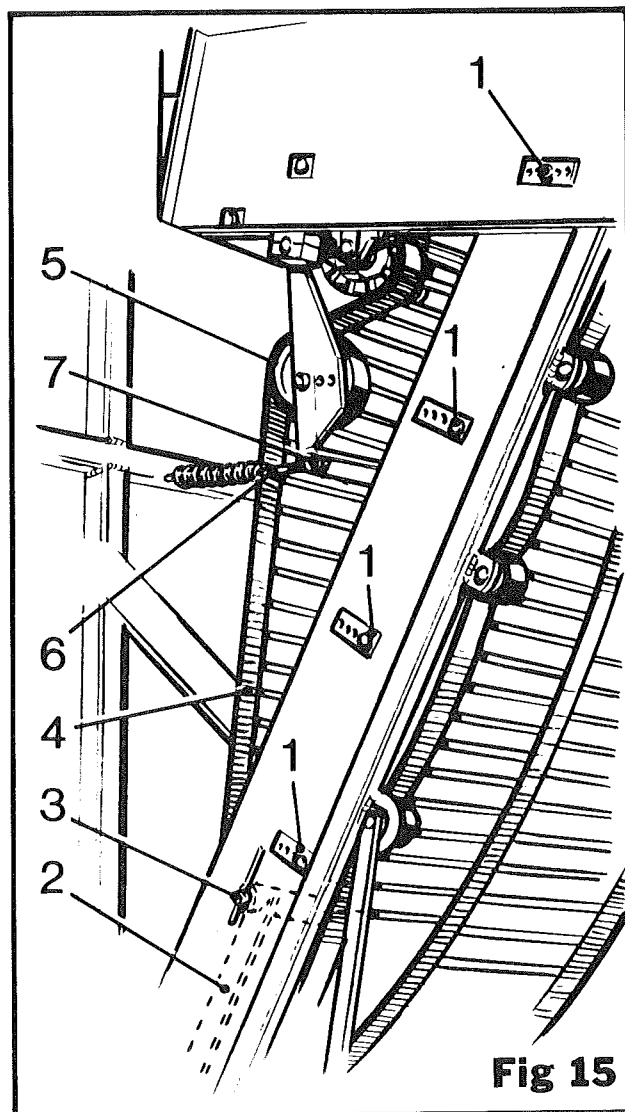


Provision has been made to allow for any height adjustment that may be required for the front of the bottom elevator. To adjust slacken the two retaining bolts (item 8 fig 12) and lift or lower the elevator to the required position. The gap between the cyclone wheel and the bottom elevator should not be large enough to allow beet through.

## REAR ELEVATOR AND TANK FEED ELEVATOR

The rear elevator transfers the beet from the bottom elevator to the tank feed elevator and then into the tank.

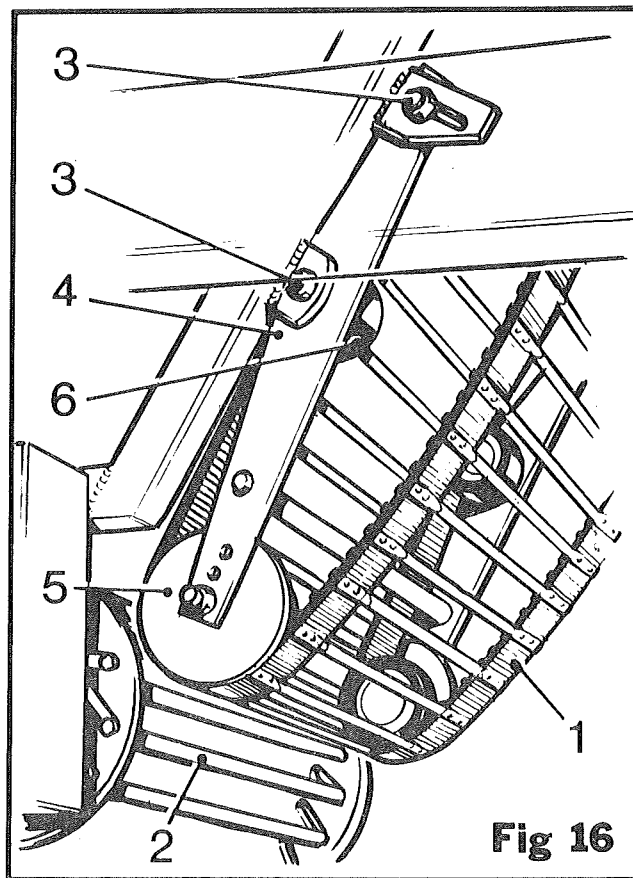
The beet is elevated by means of two webs running in the same direction. The beet are trapped between the two webs and taken up to the rear of the harvester. Whilst the beet are travelling up the elevator, they are being cleaned by being able to rotate and move around. If more cleaning is required, the gap between the two webs should be made larger. This will then allow less grip on the beet and will allow them to roll around, thus removing the soil. The adjustment can be made by repositioning the eight carrying rollers (item 1 fig 15) into the upper or lower holes as required.





The top track frame (item 2 fig 15) is adjustable to allow large beet into the rear elevator. To adjust slacken the two setscrews (item 3 fig 15) and slide the top track frame further up the adjusting slot. When lifting small beet the top track frame should be as low as possible, therefore, allowing the top track web (item 4 fig 15) to grip the beet rather than letting them fall and possibly resulting in blocking the rear elevator.

The top track web (item 4 fig 15) also provides the tank feed web. This web is tensioned by two large rollers (item 5 fig 15). This web should never be allowed to become slack. To tension the web, slacken the lock nut (item 6 fig 15) and turn the adjusting nut (item 7 fig 15) to give the required tension. **NOTE:-** The top track web will require retensioning after carrying out any adjustments to the web. Always loosen the web to lower the top track frame. Tighten the web after the top track frame has been lifted.

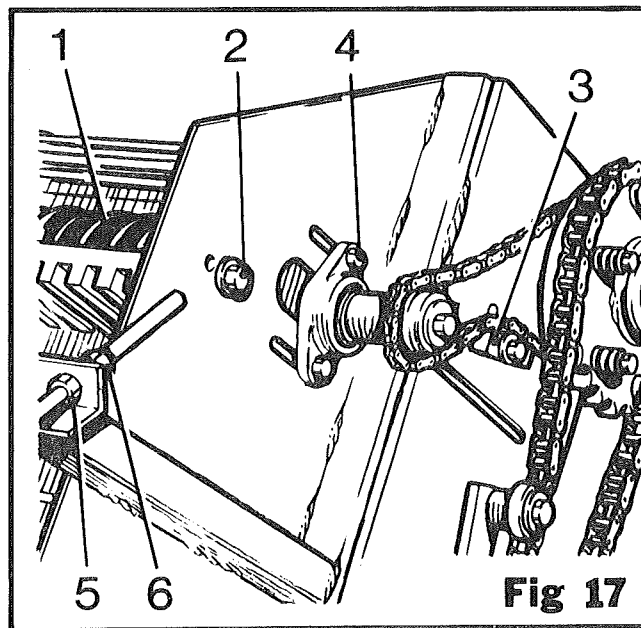


The rear elevator web (item 1 fig 16) is adjustable at the lower end to allow for positioning the web in relationship to the cleaner cage (item 2 fig 16). The larger the gap between the two the more the clods and trash etc., can be removed, although too bigger gap will result in beet loss. To adjust slacken the four securing bolts (item 3 fig 16) and pivot the roller support (item 4 fig 16) to position the bottom roller (item 5 fig 16) correctly. Additional adjustment can be achieved by repositioning the roller in any one of the three adjusting holes (item 6 fig 16).

## TRASH EXTRACTOR

The trash extractor is an extension of the rear elevator. Once the beet reaches the top of the rear elevator they are transferred onto the tank feed elevator, whilst the leaves and trash etc. carry on under the trash roller (item 1 fig 17), to be thrown over the rear of the harvester.

Adjustment is provided to the rubber trash roller to accommodate varying soil conditions. To adjust, slacken to two retaining bolts holding the scraper (item 2 fig 17) in position and swing the scraper away from the roller. Loosen the chain tensioner (item 3 fig 17) and slacken the four retaining bolts (item 4 fig 17) and slide the roller to the required position. Ensure the roller is parallel with the web before resecuring the roller. Once the roller has been adjusted the scraper can then be repositioned. After the adjustment has been completed, it may be found necessary to add or delete a number of links in the drive chain.

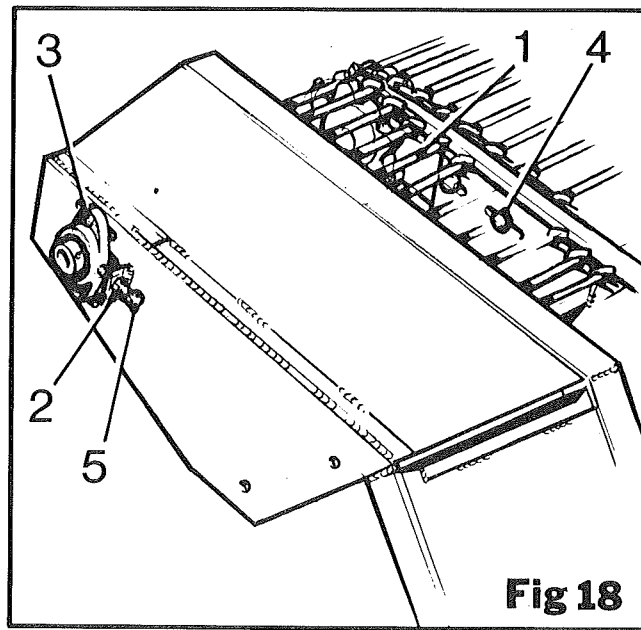


The angle at which the trash extractor operates is adjustable. When the trash is dense the trash extractor should operate at a shallow angle, whereas when a small amount of trash is evident then the trash extractor should operate at a steeper angle. To adjust slacken the two lock nuts (item 5 fig 17) and loosen the four retaining bolts and turn the adjusting nuts (item 6 fig 17) equally until the desired angle is achieved.

## TANK AND DISCHARGE ELEVATOR

Of open slat design the tank has a capacity of about three tons of clean beet. Discharge is effected by a full width elevator which is hydraulically lowered for unloading. A tipping floor in the tank, which is operated by a hydraulic ram allows the tank to be emptied quickly and efficiently. Both these features are operated from inside the tractor cab.

The discharge elevator web links (item 1 fig 18) can be adjusted to allow them to be tensioned. To adjust slacken the two lock nuts (item 2 fig 18) (one either side of the discharge elevator), the four retaining bolts (item 3 fig 18) and the two bearing support bolts (item 4 fig 18). Turn the two adjusting screws (item 5 fig 18) equally until the correct adjustment has been achieved. Additional adjustment can be achieved by removing a web link.



## MECHANICAL DRIVES

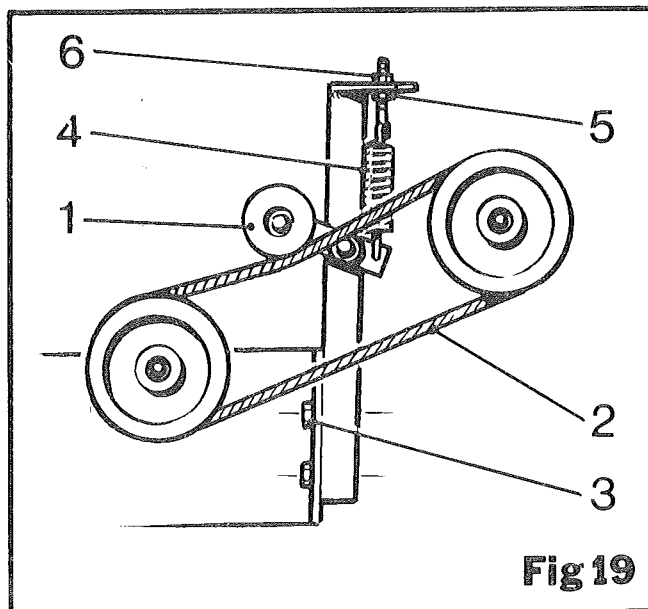
The various mechanical drives that are involved in the operation of the Standen beet harvester consist of clutches, chains, sprockets, pulleys and belts. Each drive chain or belt has its own tension adjustment, either manual or self-adjusting. The chains and belts should be correctly tensioned to ensure the efficient working of the machine. It is important that the drive chains and belts are not over tightened as this will cause excessive chain and sprocket wear.

### CAUTION

All revolving drive machinery chains, shafts and sprockets, etc., are potentially dangerous. Therefore before attempting any adjustment or maintenance of the drive equipment, switch off the engine and set the hand-brake. Failure to observe the above caution could result in serious injury to personnel.

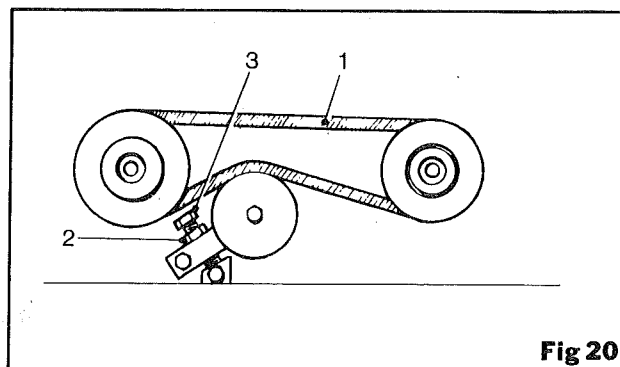
### MAIN DRIVE

The main drive is taken from the tractor PTO via 3 vee belts and two pulleys. Once the PTO of tractor has been engaged the main drive is set in motion. The vee belts are provided with a spring loaded jockey roller (item 1 fig 19). This roller is designed to keep the vee belt (item 2 fig 19) at a constant tension. To adjust the tension of the vee belts slacken the two retaining bolts (item 3 fig 19) and slide the jockey roller assembly to the required position. Additional tension can be achieved by adding extra tension to the spring (item 4 fig 19). To adjust slacken the locking nut (item 5 fig 19) and turn the adjusting nut (item 6 fig 19).



## TURBO TOPPER DRIVE

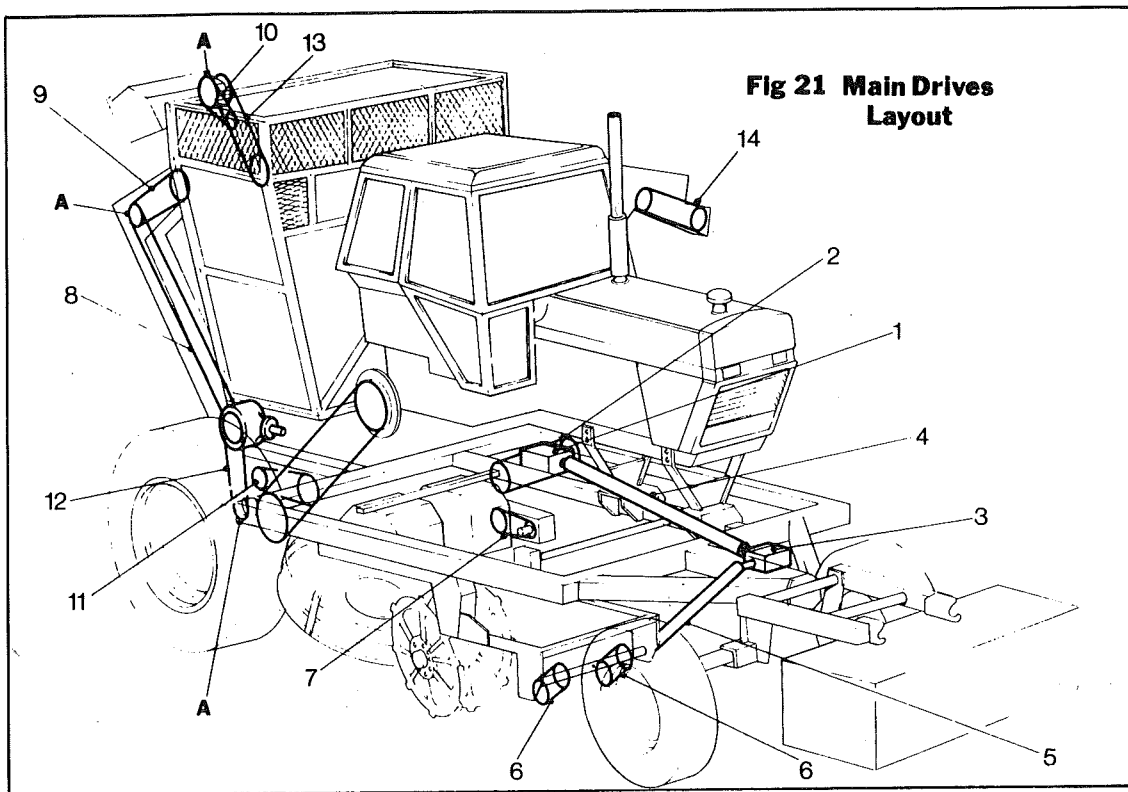
The initial drive to the topper is by a hydraulic motor. From the motor the drive is taken to the rotors by two pulleys and a 'V' belt. The 'V' belt (item 1 fig 20) is adjustable for tension. To adjust slacken the lock but (item 2 fig 20) and turn the adjusting screw (item 3 fig 20) to give the correct tension. Beside providing a drive, 'V' belts also act as a slip clutch. It is therefore important that the belt tension is sufficient to drive under normal harvesting conditions without slip, but not so great that the belt cannot slip when the drive is obstructed.



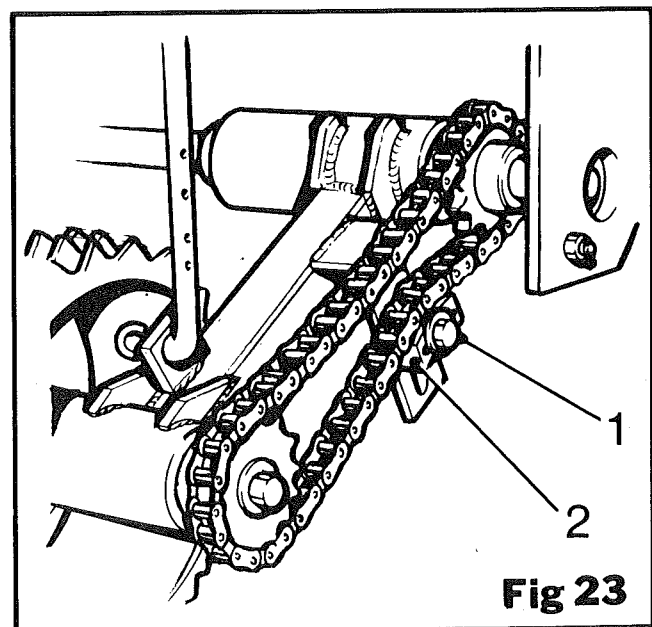
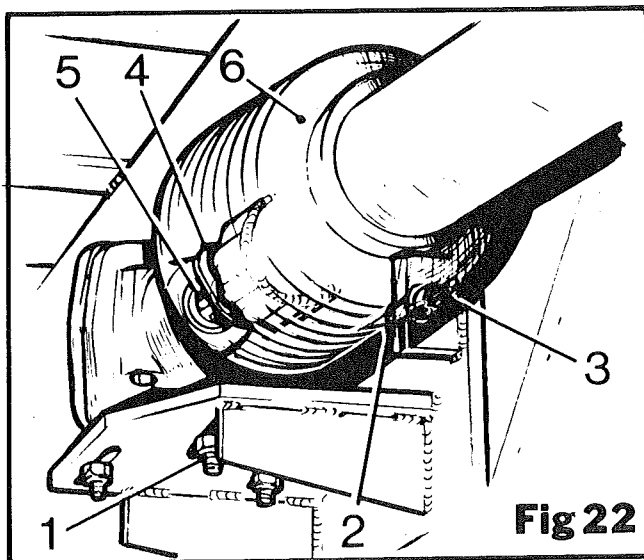
**Fig 20**

## FEELER WHEELER DRIVE

The feeler wheel drive is initially taken from the rear axle. The drive comes from the axle to a gearbox (item 1 fig 21) via a drive chain (item 2 fig 21). To adjust the drive chain for tension slacken the three securing bolts (item 1 fig 22) and lock nut (item 2 fig 22) and turn the adjusting nut (item 3 fig 22) to achieve the correct tension. From the gearbox (item 1 fig 21) the drive is transmitted to the topping unit by a second gearbox (item 3 fig 21) and two universal coupling shafts (items 4 & 5 fig 21). The first shaft (item 4 fig 21) is fitted with a clutch at one end. This clutch protects the shaft and gearboxes should any block occur in the topping unit. The clutch is of a ratchet type therefore if the topping units become blocked a clicking noise will be heard. Both the universal coupling shafts should be checked occasionally to ensure that the inner and outer tubes can slide freely. Binding of the tubes will cause premature failure of the bearings in the gearboxes. An inspection plate has been fitted to the side of RH chain case to allow for easy inspection of the feeler wheel drive chain.



The final drive to both the feeler wheels is by a drive chain (item 6 fig 21). Both these chains are adjusted by a nylon tension block. To adjust, slacken the retaining screw (item 1 fig 23) and slide the tension block (item 2 fig 23) to obtain the desired tension.



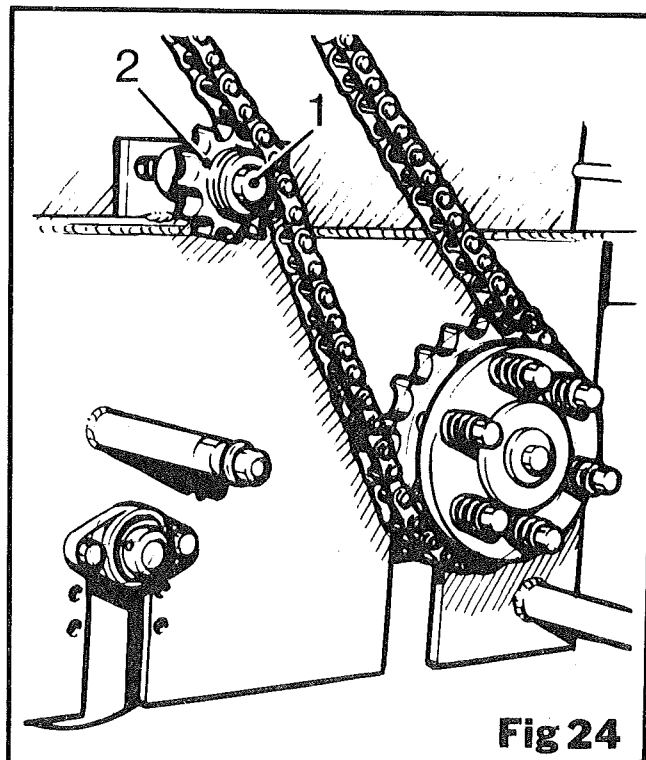
When preparing to travel along a road the feeler wheel drive can be disengaged by pulling the shaft flange (item 4 fig 22) forwards, whilst simultaneously withdrawing the coupling from the gearbox shaft (item 5 fig 22).

## **CAGE WHEEL DISCHARGE ELEVATOR (TOP TRACK) AND TRASH ROLLER DRIVES**

The cage wheel drive chain (item 7 fig 21), the discharge elevator drive chain (item 14 fig 21) the rear elevator (top track), drive chains (item 8 & 9 fig 21) and the trash roller drive chain (item 10 fig 21) are all tensioned by a nylon chain tensioner. Therefore to adjust all the above chains slacken the retaining bolt (item 1 fig 23) and slide the tensioner (item 2 fig 23) to give the desired tension.

## **BOTTOM ELEVATOR AND CLEANER CAGE DRIVES**

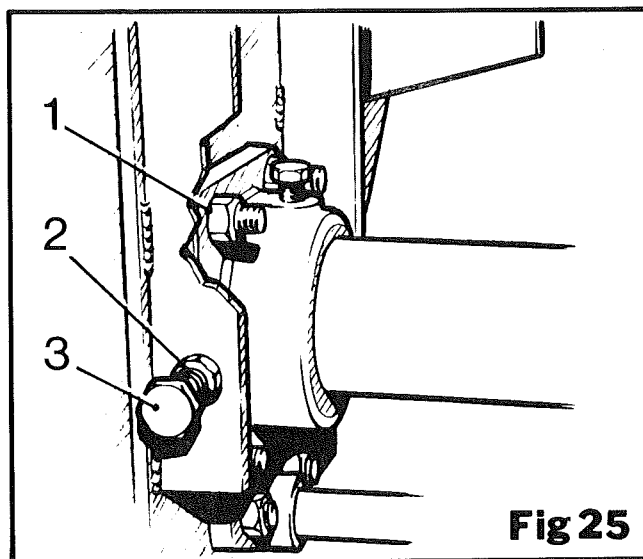
The two chains (items 11 & 12 fig 21) that drive the bottom elevator and cleaner cage are both tensioned by jockey sprockets. To adjust either chain slacken the sprocket securing bolt (item 1 fig 24) and slide the sprocket (item 2 fig 24) to give the desired tension.



**Fig 24**

## **REAR ELEVATOR (REAR TRACK) DRIVE**

The rear elevator drive chain (item 13 fig 21) is tensioned by a self adjusting tensioner, therefore no adjustment is required.



## MAIN DRIVE CHAIN ADJUSTMENTS

To adjust the main drive chain, loosen the eight axle securing bolts (item 1 fig 25) and the two lock nuts (item 2 fig 25). Turn the two adjusting bolts (item 3 fig 25) equally until the desired tension on the chain has been achieved. Whilst adjusting the main drive chain it may be found necessary to adjust the feeler wheel drive chain (see paragraph headed "Feeler Wheel Drive"). Once the tension in the main drive chain is satisfactory, resecure the rear axle, ensuring the spring washers are used and the bolts are fully tightened. Also ensure that the feeler wheel drive sprocket on the axle is in line and that its outer surface is true to the outer surface of the sprocket on the gearbox. If adjustment is required slacken the three securing nuts (item 1 fig 22) and position the gearbox as required.

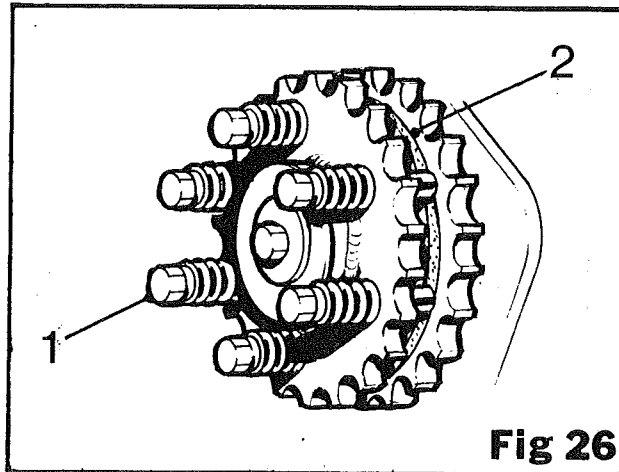


## FRICTION CLUTCH ADJUSTMENT

Within the drives on the Tornado there are three friction clutches used (shown as (A) on figure 21).

Friction Clutches are fitted to prevent overloading and serious damage occurring if the elevators become jammed. The amount of torque required to start the clutch slipping can be varied by turning the nuts (item 1 fig 26) clamping the clutch plates (item 2 fig 26) together. The clutch should be set to adjust drive without slipping under normal conditions.

Overtightening on the adjustment nuts will render the clutch ineffective.



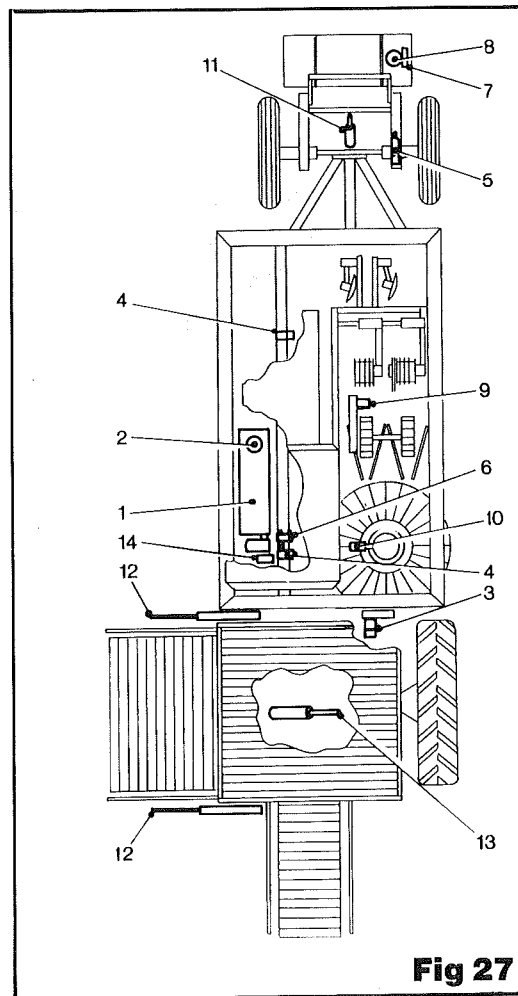
**Fig 26**

Care should be exercised to ensure all six nuts are adjusted equally. This is easily achieved by adjusting each nut one flat at a time.

## HYDRAULIC SYSTEM

Detailed descriptions of the components that make up the hydraulic system of the Tornado follows, together with any relevant maintenance information necessary to ensure the trouble-free operation of the system.

For the location of the various hydraulic items see fig. 27.



### (1) Hydraulic Fluid Tank

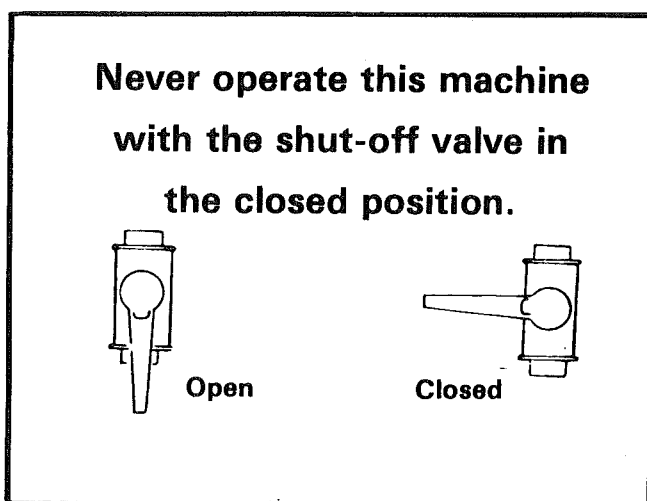
Located on the left hand side of the harvester is the hydraulic tank which provides the necessary hydraulic fluid to drive the components of the hydraulic system. The tank has an eighteen gallon capacity and is fitted with a removable lid for ease of maintenance to the two 125 micron suction strainers.

Situated on top of the tank is a filter unit (item 2 fig 27) which houses a 40 micron filter. This filter must be replaced after the first 50 hours and thereafter every 500 hours.

The hydraulic tank should be filled with H68 Nuto hydraulic oil or equivalent and should always be kept full, especially when storing the machine for long periods of time. A level gauge is mounted on the side of the tank.

A shut off valve has been fitted on the hydraulic tank to allow the undertaking of any maintenance to the hydraulic tank to allow the undertaking of any maintenance to the hydraulic system without draining the tank.

When carrying out any maintenance to the hydraulic system, cleanliness is of the utmost importance, so avoid any dirt entering the system.



### (3) Pump

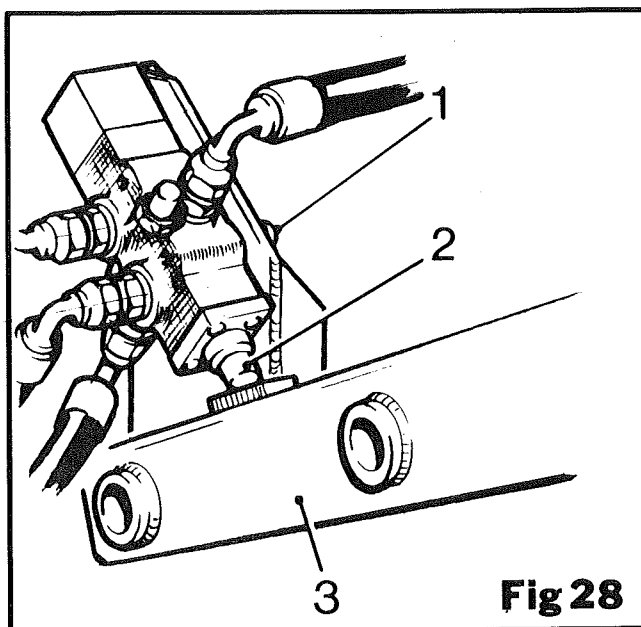
The pump is mechanically driven from power take off of the tractor via 1:2.647 ratio mechanical gearbox. The pump is a double pump. The first section delivers a flow rate of 13 gallons/minute at 1425 r.p.m. to the cage wheel drive motor and the cyclone wheel drive motor. The second section delivers a flow rate of 10 gallons/minute at 1425 r.p.m. to the Turbo Topper drive motor.

### (4) Pressure Relief Valve

There are two pressure relief valves fitted within the hydraulic circuit. The relief valve is an essential safety feature of the Tornado hydraulic circuit. The design of the relief valve is to release pressure from the system should an obstruction occur. Both relief valves are set at 2,800 p.s.i. and should never be tampered with.

## (5) Diverter Valve

The diverter valve fitted to the topper is designed to cut off the flow of oil to the motor when the topper is in its raised position, so stopping the rotors turning. The diverter valve must be adjusted with the topper in the raised position and the valve must also be closed. To adjust loosen the cap screws (item 1 fig 28) securing the valve and slide the valve until the spool (item 2 fig 28) touches centrally on the lift arm (item 3 fig 28).



## (6) Flow Divider

A flow divider is fitted to divide the flow of oil from the pump to the cage wheel motor and the cyclone wheel motor. Four gallons/minute to the cage wheel motor and six gallons/minute to the cyclone wheel motor.

## (7) Check Valve

The check valve enables the rotors to slow down when the oil supply is shut off. The motor must always be connected to the oil supply via the check valve. Failure to do so will cause severe damage to the motor.

## (8) Topper Motor

## (9) Cage Wheel Motor

## (10) Cyclone Wheel Motor

## (11) Turbo Topper Lift Ram

## (12) Discharge Elevator Ram

## (13) Tank Base Ram

## (14) Variable Flow Divider (Optional)

On machines fitted with a cyclone wheel speed control kit a variable flow divider is supplied to control the speed of the cyclone wheel. The higher the number aligning with the point the greater the speed of rotation.

## HYDRAULIC SYSTEM MAINTENANCE

The components utilised in the design of the hydraulic system have been chosen for their maintenance free characteristics. The only components requiring maintenance are the hydraulic fluid tank, strainer and tank filter. The recommended maintenance schedule for these items is as follows:—

After the first 50 hours running:

Replace tank top filter

Every 500 hours:

Replace tank top filter

At the end of every season:

Remove the tank lid, dismantle the strainer and clean thoroughly

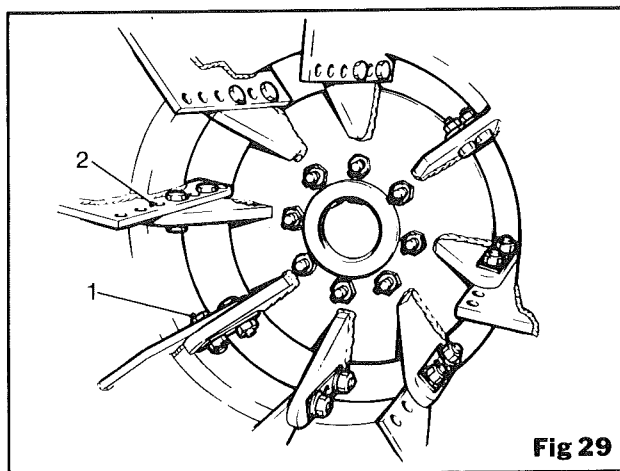
When carrying out any maintenance to the hydraulic system, cleanliness is of the utmost importance, so avoiding any dirt entering the system.

### NOTE

When topping up the tank only ESSO H68 Nuto hydraulic fluid or manufacturer's direct equivalent should be used.

## REAR WHEEL ADJUSTMENT

The LH wheel can be adjusted to suit varying row centres. To adjust the wheel, slacken the 16 bolts (item 1 fig 29) and slide the wheel to the required position and retighten. If extra adjustment is required remove the 16 bolts and relocate them in any of the two holes in each of the eight rim brackets (item 2 fig 29).



## MAINTENANCE AND LUBRICATION

Regular maintenance will ensure that the Standen Tornado provides a long and efficient service life. Depending on the soil and weather conditions, the maintenance time schedule can vary. However, it is recommended that the machine be lubricated and gearbox oil levels checked once a week throughout the season.

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

A general purpose grease should be used for the bearings and the universal coupling drives.

### NOTE:

With reference to fig 30, that some of the bearings are sealed and pre-lubricated (Ref GS), and care should be taken not to flood these bearings with grease, or the seals will burst allowing 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 is required.

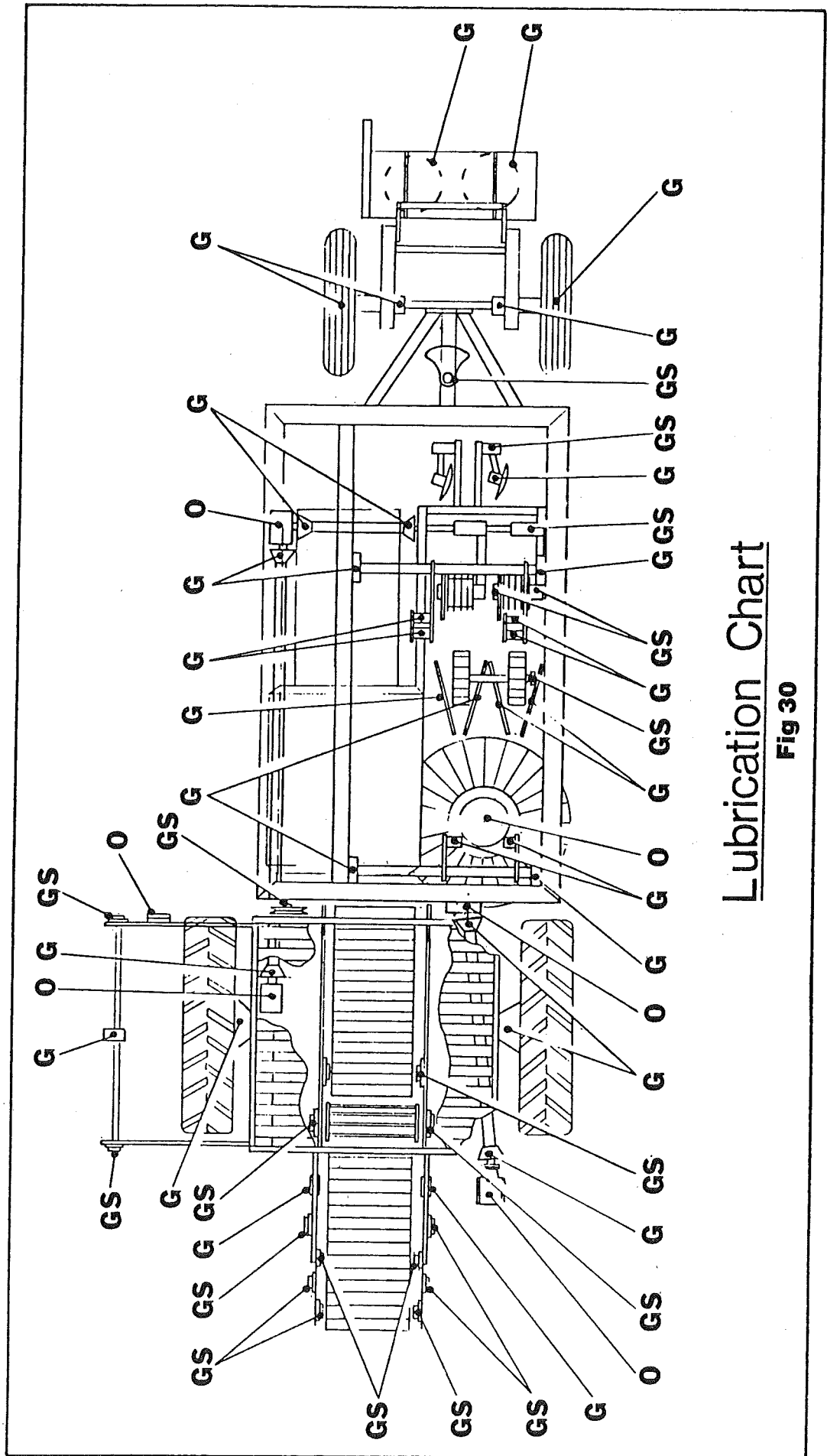
The non-sealed bearings (Ref G) should be greased at least once a day or every ten acres.

Particular care must be taken to ensure that the grease or oil does not come into contact with the 'V' belts.

Grease points requiring individual quantities of lubrication will be found on the lubrication point chart, fig 30.

We recommend that the universal couplings should be dismantled periodically and their shaft smeared with general purpose grease. Also all drive chains should be kept well greased.

The gearboxes (Ref O) should be checked regularly and topped up with SAE 90 oil as necessary.



Lubrication Chart

**Fig 30**

**GENERAL DATA**

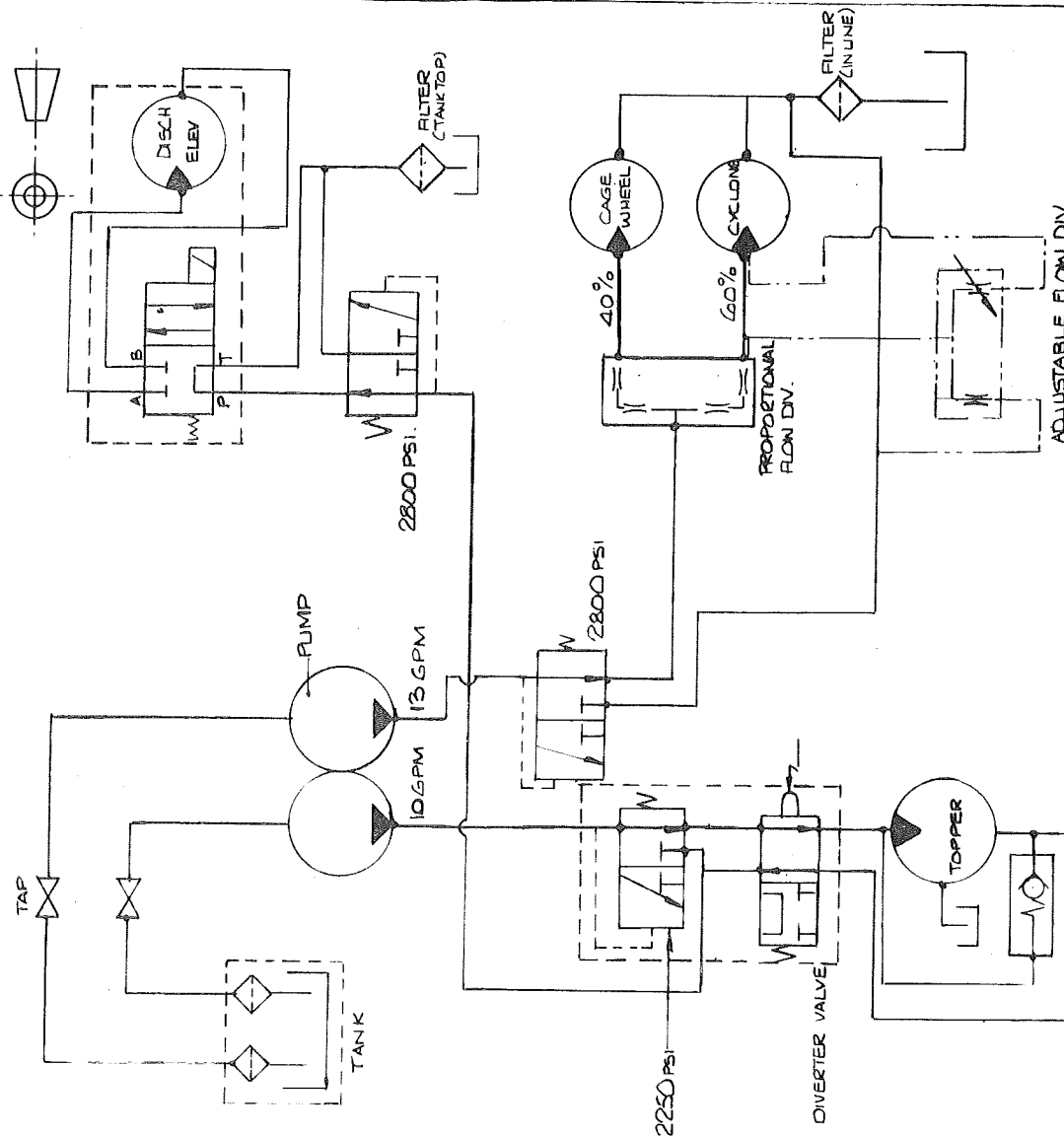
Overall length .....	28' 3"	(8.61 M)
Overall width (discharge elevator in) .....	11' 3"	(3.48 M)
Overall width (discharge elevator out) .....	15' 4"	(4.68 M)
Height (discharge elevator in) .....	13' 10"	(4.22 M)
Height (discharge elevator out) .....	13' 0"	(3.96 M)
Hydraulic tank capacity .....	18 gallons	

DIMENSIONS ARE APPROXIMATE

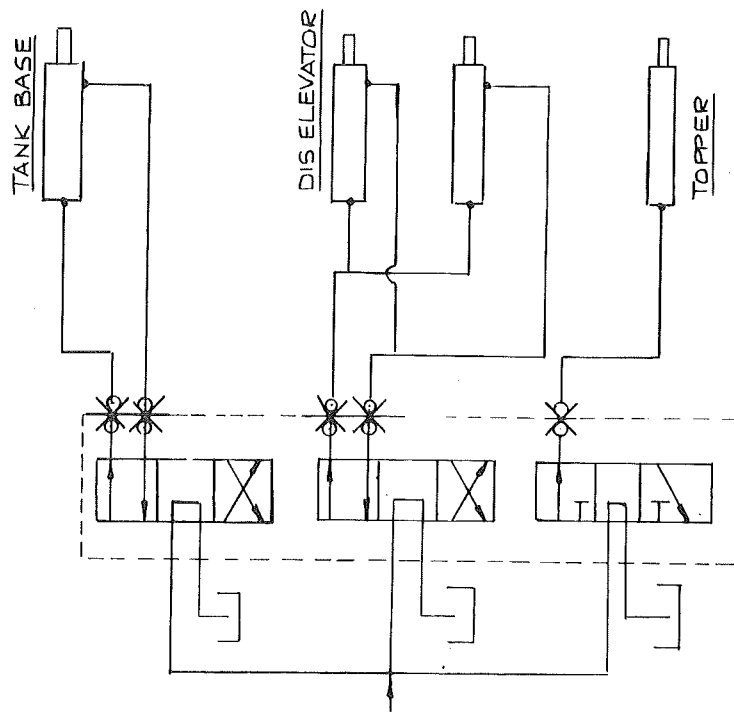
Standen's policy of continual improvements means that the specification may be altered without prior notice.



# THIRD ANGLE PROJECTION



CIRCUIT DIAGRAM - DRIVES



TRACTOR VALVES  
2 x D.A. + 1 x S.A.

CIRCUIT DIAGRAM - RAM SERVICES

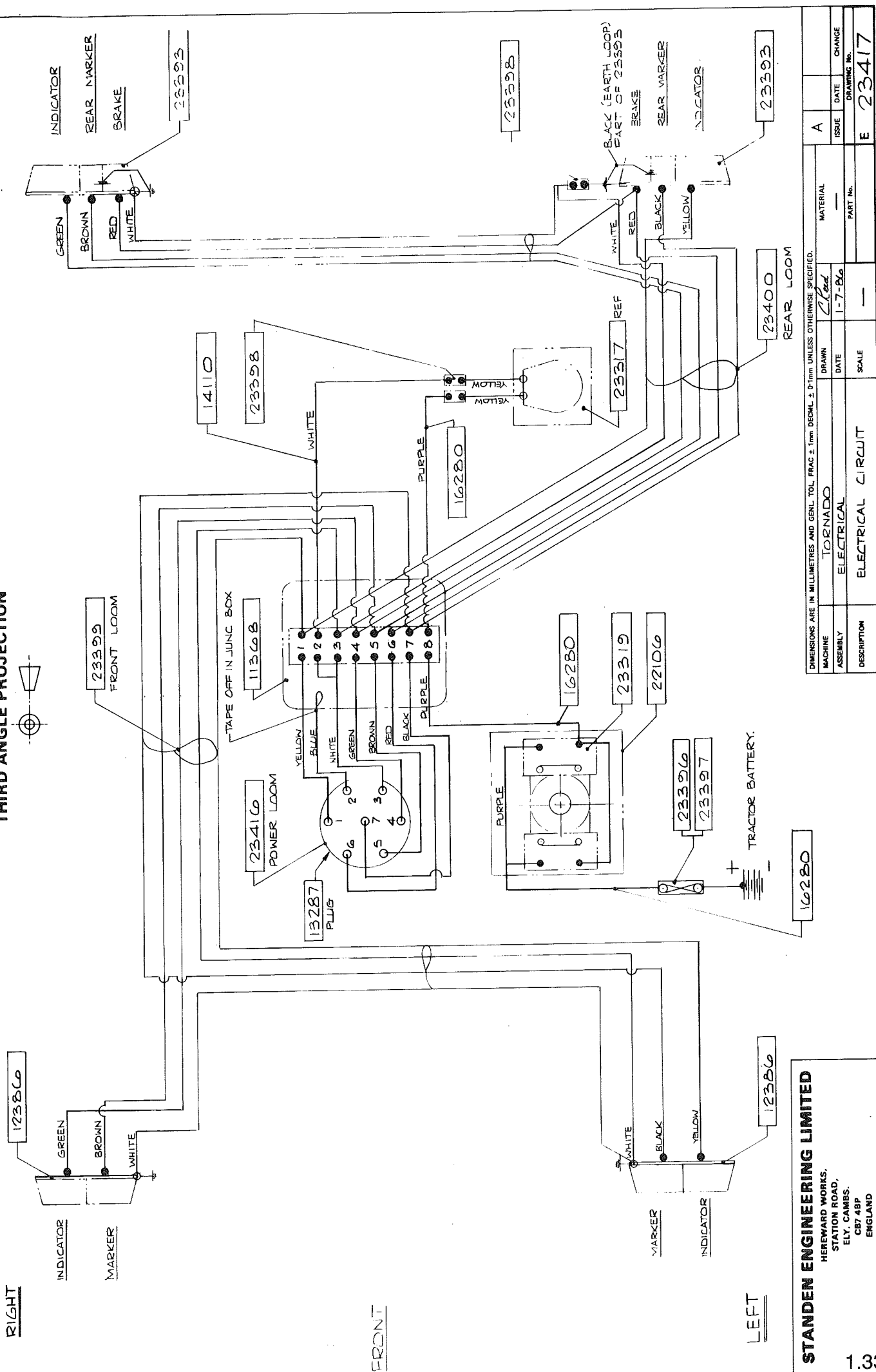
STANDEN ENGINEERING LIMITED HERWARD WORKS, STATION ROAD, ELY, CAMBS. CB7 4BP ENGLAND.	MACHINE	TORNADO	DRAWN		C. Reed		GENERAL TOLERANCES, FRACTIONS $\pm 1$ mm DECIMALS $\pm 0.1$ mm. UNLESS SPECIFIED MACHINE WHERE MARKED '✓' DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED		IF IN DOUBT	A	
	ASSEMBLY	HYDRAULIC	DATE		20-6-80				ASK	ISSUE	CHANGE
	DESCRIPTION	CIRCUIT DIAGRAM	CHKD						PART No.	23369	DRAWING No.
			SCALE							J	23369

# THIRD ANGLE PROJECTION

RIGHT

FRONT

LEFT



**STANDEN ENGINEERING LIMITED**  
 HEREFORD WORKS,  
 STATION ROAD,  
 ELY, CAMBS.  
 CB7 4BP  
 ENGLAND

DIMENSIONS ARE IN MILLIMETRES AND GENL. TOL. FRAG. ± 1mm. DESM. ± 0.1mm UNLESS OTHERWISE SPECIFIED.

MACHINE	TORNADO		MATERIAL	
	DRAWN	DATE	ISSUE	CHANGE
ASSEMBLY	1-7-86	1-7-86	—	—
DESCRIPTION	ELECTRICAL CIRCUIT		PART NO.	
	SCALE		DRAWING NO.	
	—		E 23417	

## SCALPERS

The purpose of the scalper unit is to crown the beet cleanly and squarely by the use of a comb (item 1. fig. 31) which runs on top of the beet holding it steady while the knife (item 2. fig. 31) crowns it.

The topping unit frame is adjustable for angle of pitch. The angle of pitch of the topping unit is determined by the depth at which the harvester is lifting beet. As a general rule, the topping unit frame (item 3. fig. 31) should run parallel with the ground, after the depth of lift has been established. To adjust the angle of pitch, slacken the retaining bolts (item 4. fig. 31) and pivot the frame around the lower retaining bolt.

The angle at which the knife is set can be altered by slackening the bolts holding the support bar (item 5. fig. 31) to the mounting plate (item 12 fig. 31). In addition the height of the knife can also be adjusted by removing the same bolts and repositioning the support bar in a different set of holes in the mounting plate.

The scalper units are adjustable for varying row widths. To adjust, slacken the retaining bolt (item 6. fig. 31) and slide the complete unit along the support bar, (item 5. fig 31) to the required position. Ensure that the knife is topping the beet as close to the knife arms (item 7. fig 31) as possible. The left hand scalper unit is usually the unit to adjust, although the right hand unit can be adjusted if it is found necessary.

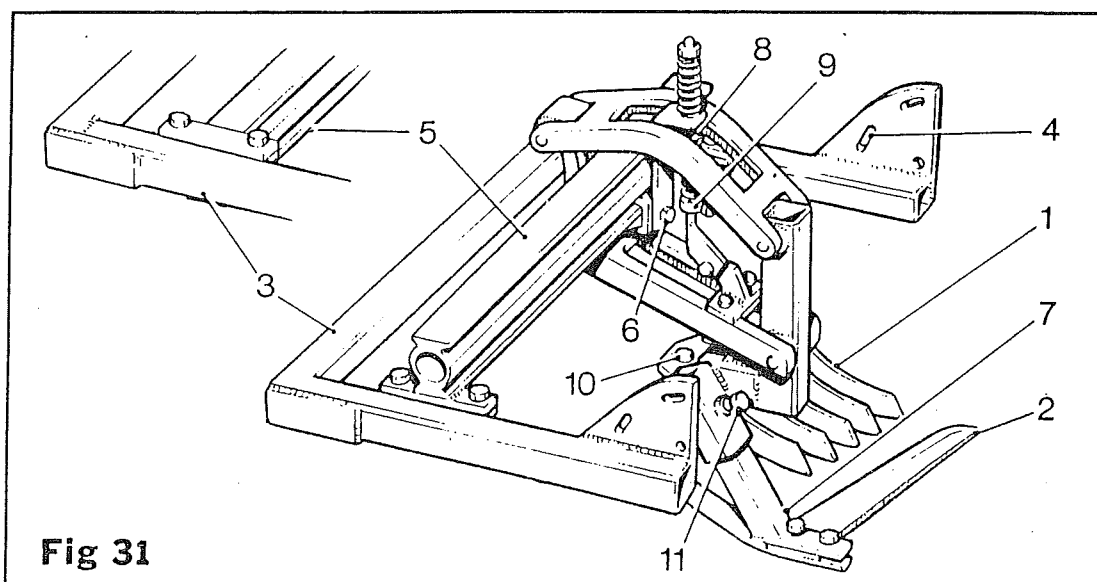
**NOTE:-** It is important that the right hand scalper unit is positioned to successfully top the beet directly in front of the right hand pair of lifting wheels, before setting the left hand scalper unit.

A very important part of the scalper unit is the tension of the spring (item 8. fig 31). The spring is designed to give a downward pressure on the knife. Enough pressure should be given to return the comb (item 1 fig. 31) and knife to successfully top a low beet after topping a high beet. Simultaneously too much pressure will force the knife to dig into the highest beet causing too much to be removed or the beet may be pushed over. To adjust the spring slacken the retaining screw in the stop collar (item 9 fig. 31) and reposition it to give the required amount of pressure.

## TOPPING KNIFE SETTING

The comb (item 1 fig. 31) should ride onto the beet before the knife starts to cut. For this reason the comb is made adjustable backwards and forwards. The comb should be forward (further away from the knife) for large beet and backwards for small beet. To adjust slacken the two setscrews (item 10 fig 31) and slide the comb in the required direction to the correct position.

The amount of beet crown removed by the knife is determined by the distance between the comb and the knife. To adjust slacken the retaining bolt (item 11 fig. 31) and slide the knife arm (item 7 fig. 31) to the required position.



**Fig 31**



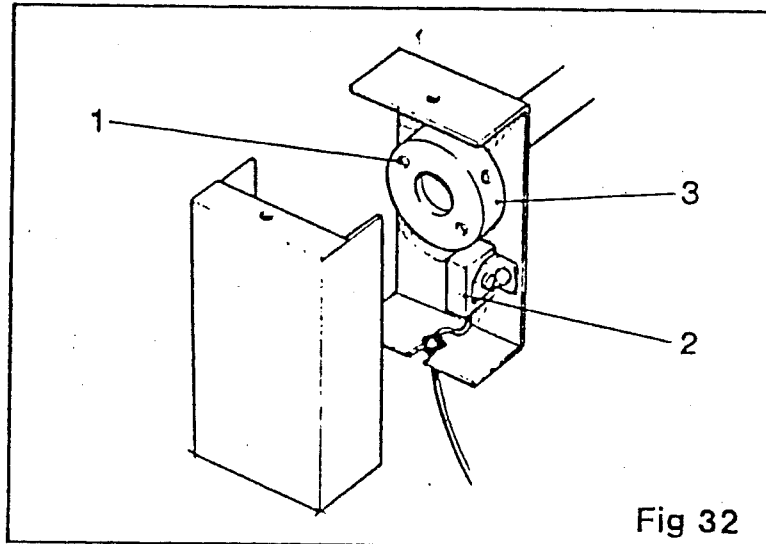
## SHAFT MONITOR KIT (OPTIONAL)

A shaft monitor kit is fitted to indicate if a shaft slows down due to an obstruction on the elevator becoming overloaded.

Connect the seven pin plug into the monitor box. When the system is correctly installed it will operate as follows:-

When the tractor ignition is switched on, the monitor lights will come on and the buzzer will sound for approximately 10 to 20 seconds and then stop. The lights will remain on until the harvester is operated.

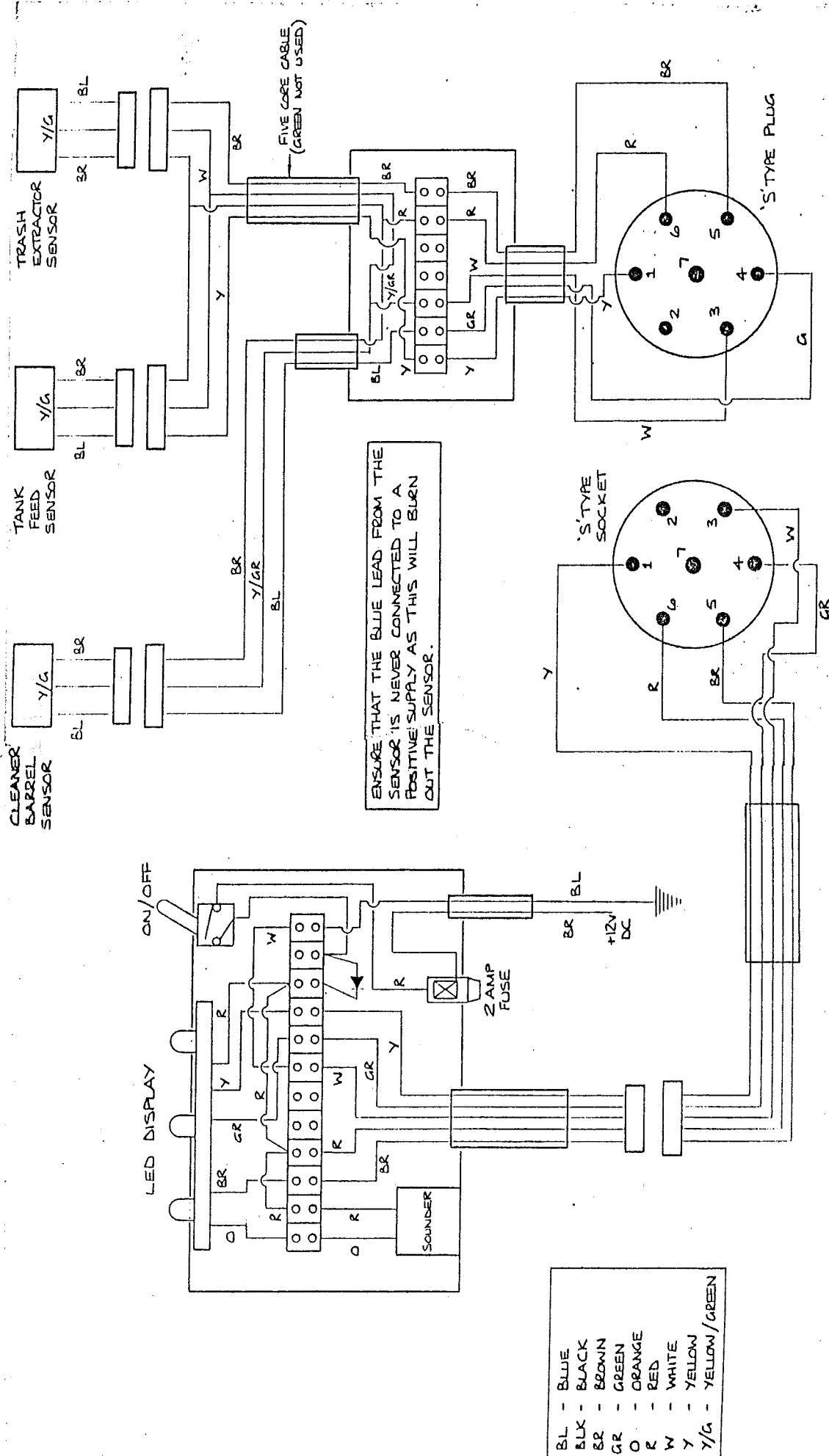
Once the harvester is in work if one of the shafts slows down, the relevant light will flash and the buzzer will sound intermittently. If the shaft stops rotating then the light will come on and the buzzer will sound for about 10 to 20 seconds and then stop. The light will remain on until the shaft rotates again.



In the event of the system not working, the following checks should be made:-

1. Check the fuse in the monitor box.
2. Check that there is a live supply at the terminals in the junction box.
3. Check that the brown lead at the sensor is live by using a test light between the brown lead and the green earth lead.
4. Check that an earth exists back to the tractor.
5. If one monitor works and the other one does not, check the wiring first and secondly interchange one sensor with another. Failure here will indicate a faulty sensor.
6. Check that the magnets (item 1 fig 32) are in place and that the sensor (item 2 fig 32) is in close proximity of the nylon roller (item 3 fig 32), 0.25 in (6 mm) maximum.

# SHAFT MONITOR WIRING DIAGRAM

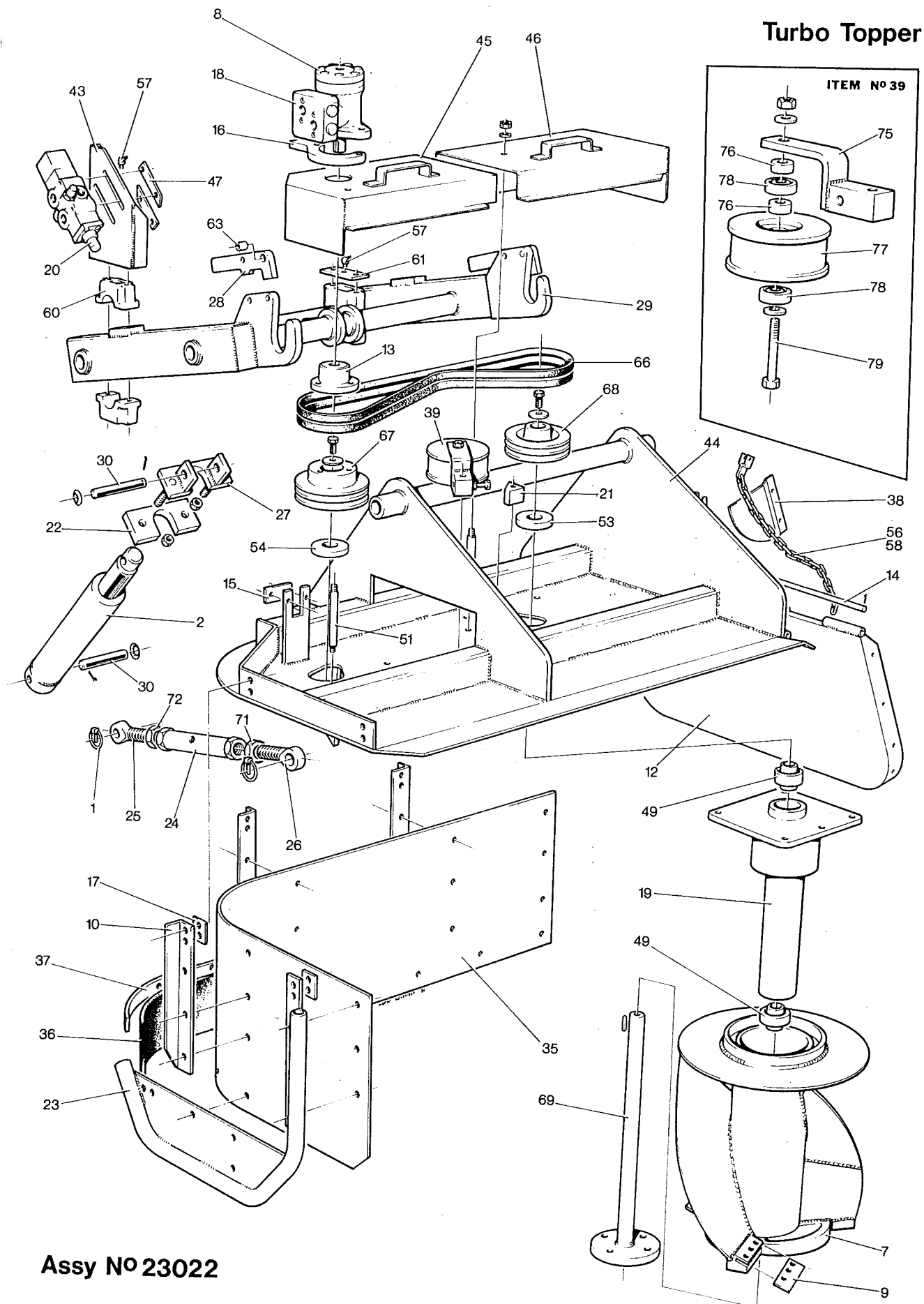








# Turbo Topper



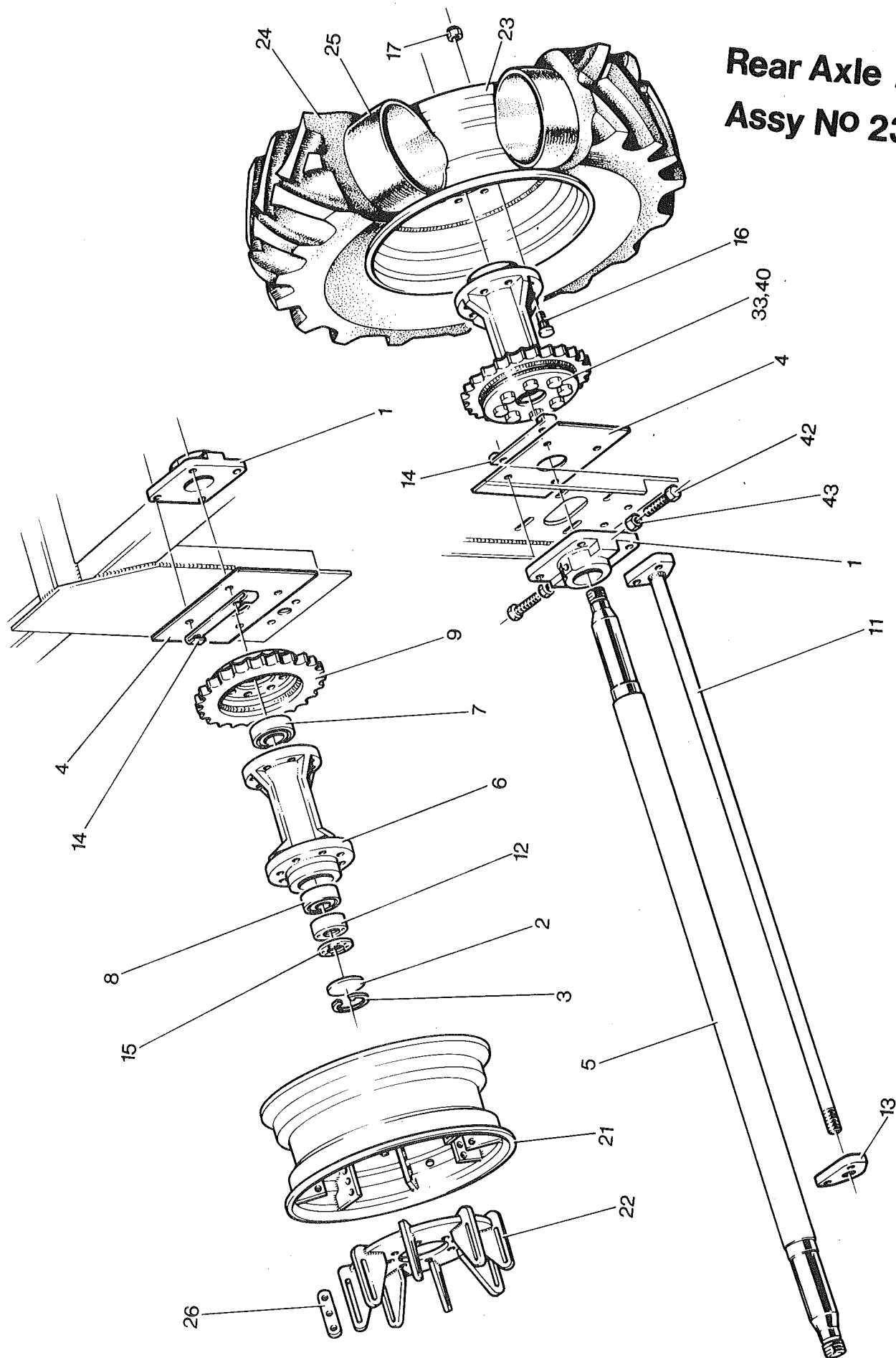
Item No.	Part No.	Description	Qty	Remarks
1	PS714/5	Quick Release Pin	4	
2	10379	Ram	1	
3				
4				
5				
6				
7	11001	Rotor	2	(Ref)
8	11201	Hydraulic Motor	1	
9	11205	Knife	6	
10	11209	Skirt Stay	3	
11				
12	11215	Deflector Flap	1	
13	11223	Motor Fixing Support	1	
14	11226	Hinge Pin	1	
15	11227	Motor Stop Bracket	1	
16	11228	Motor Reaction Bar	1	
17	11241	Spacer	2	
18	11288	Check Valve Block	1	(Ref)
19	11427	Bearing Housing	2	
20	11490	Diverter Valve	1	
21	11660	Stop Block	1	
22	23497	Stop Plate	1	
23	11693	Side Foot Guard	1	
24	11709	Stay	2	
25	11718	Rod End (RH)	2	
26	11719	Rod End (LH)	2	
27	11733	Ram Stop Bracket	1	
28	11734	Latch	2	
29	11735	Lift Arm	1	
30	11816	Ram Pin	2	
31				
32				
33				
34				
35	16282	Skirt	1	
36	16283	Rubber Skirt	1	

Prior to Serial NoTOR046D  
Part No was 11673

Item No.	Part No.	Description	Qty	Remarks
37	16284	Rubber Clamp Strip	1	
38	16287	Deflector Stone Guard	1	
39	16383	Jockey Roller Assembly	1	
40				
41				
42				
43	23016	Diverter Valve Bracket	1	
44	23017	Top Plate	1	
45	23018	Motor Guard	1	
46	23019	Drive Guard	1	
47	23230	Diverter Valve Clamp Plate	2	
48	23498	Securing Plate	1	
49	1130-30	Bearing	4	
50				
51	BM192M	Guard Bolt	2	
52				
53	C12	Spacer	1	
54	C17	Spacer	1	
55				
56	H171	Shackle	1	
57	GS412	Grease Nipple	2	
58	GS506/15	Chain	1	
59				
60	SPCT132	Bearing Block	4	
61	SPCT143	Clamp Plate	1	
62				
63	SS016013/014	Spacer	2	
64				
65				
66	TBMW303	Drive Belt	2	
67	TBMW304	Motor Pulley	1	
68	TBMW305	Pulley	1	
69	TBMW343	Rotor Spindle	2	
70				
71		1½ UNC Locknut LH	2	
72		1½ UNC Locknut RH	2	

Item No.	Part No.	Description	Qty	Remarks
73				
74				
	16383	JOCKEY ROLLER ASSEMBLY (ITEM 39) CONSISTS OF:-		
75	11661	Support Bracket	1	
76	11706	Spacer	2	
77	16382	Jockey Roller	1	
78	6301RS	Bearing	2	
79		M12 x 85 Hex HD Bolt	1	
		M12 Lock Nut	1	
		M12 Flat Washer	2	

# **Rear Axle Assy** **Assy No 23002**



# REAR AXLE ASSEMBLY

(ASSY. NO 23002)

Item No.	Part No.	Description	Qty	Remarks
1	23005	Axle Adjusting Bracket	2	
2	23009	Wheel Hub Sealing Plate	2	
3	23010	Wheel Hub Circlip	2	
4	23011	Axle Sealing Plate	2	
5	23288	Rear Axle	1	Replaces 23003 from Serial No TOR 05B
6	23287	Hub	2	Replaces 23004 From Serial No TOR 05B
7	23297	Taper Roller Bearing	2	Replaces 23007 From Serial No TOR 05B
8	23298	Taper Roller Bearing	2	Replaces 23006 From Serial No TOR 05B
9	23300	32T x 1.5P Axle Sprocket	2	Replaces 23023 From Serial No TOR 05B
10				
11	SP17AM	Tie Bar	1	
12	SP91	Axle Nut	2	
13	SP165M	Tie Bar Plate	1	
14	SP187	Locking Strip	4	
15	SP217	Locking Washer	2	
16	SP440	Wheel Stud (3/4 UNF)	16	
17	SP441	Wheel Nut (3/4 UNF)	16	
18				
19				
20				
21	SPCL533	Adjustable Rim	1	Assy SPCL 736
22	SPCL534	Adjustable Wheel Pan	1	
23	SPCL535	Fixed Wheel Rim	1	Assy SPCL 737
24	SPCL574	Tyre 16.9 x 26	2	
25	SPCL575	Tube 16.9 / 1.4 x 26	2	
26	SPCL674	Clamp Strip	8	
27				
28				
29				
30		M8 x 16 Hex HD Setscrew	2	
31		M8 Spring Washer	2	
32				
33		M16 x 69 Hex HD Setscrew	16	
34		M16 x 40 Hex HD Setscrew	18	

# REAR AXLE ASSEMBLY

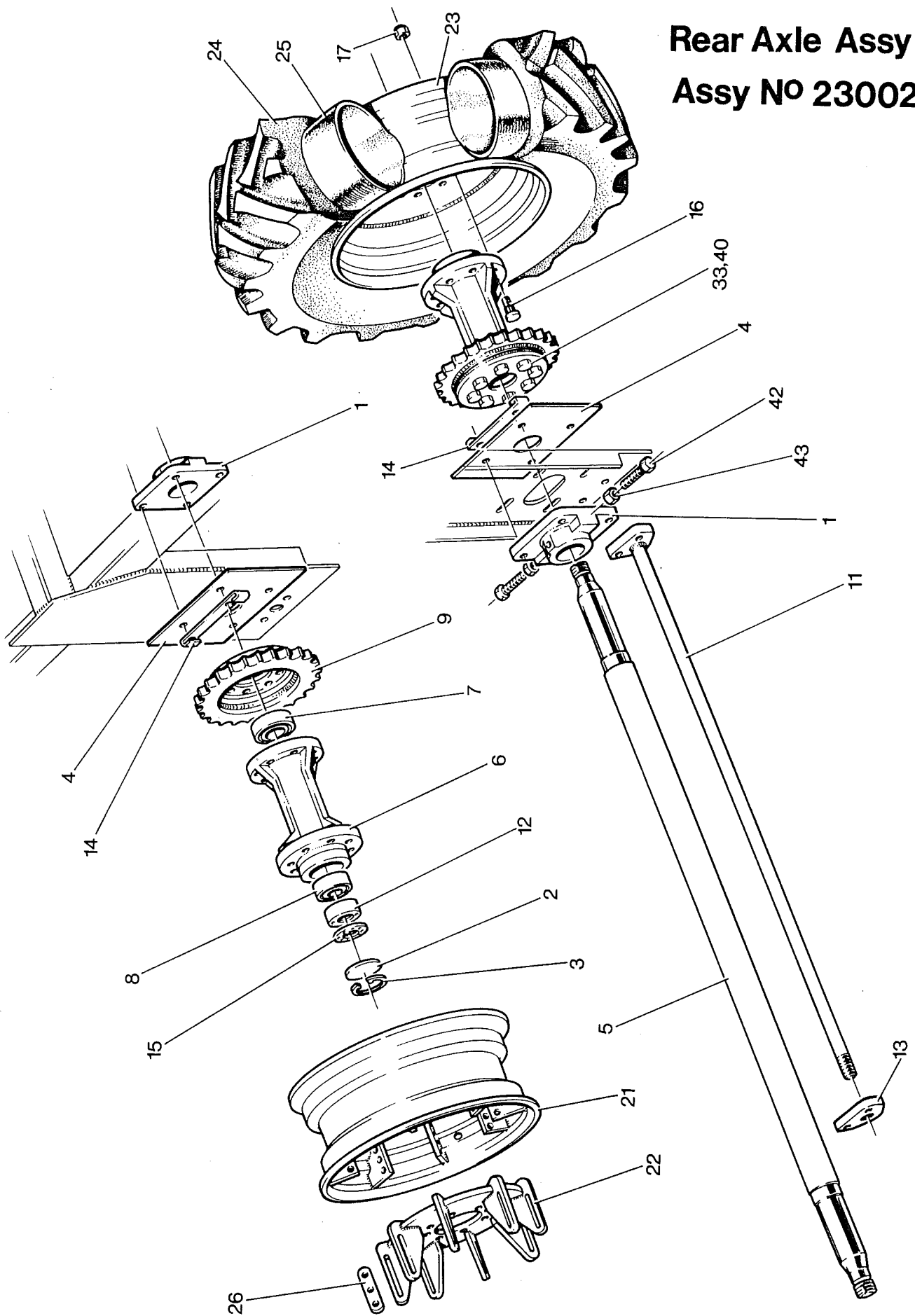
(ASSY. NO 23002)

Item No.	Part No.	Description	Qty	Remarks
35		M16 x 50 Hex HD Setscrew	12	With Nylon Insert
36		M16 Flat Washer	16	
37		M16 Spring Washer	24	
38		M16 Nut	24	
39		M16 Lock Nut	4	
40		M16 Full Locking Nut	16	
41				
42		M20 x 130 Hex HD Setscrew	4	
43		M20 Nut	4	





# Rear Axle Assy Assy No 23002



**REAR AXLE ASSEMBLY****(ASSY. NO 23002)**

FROM SERIAL NoTOR 046D

Item No.	Part No.	Description	Qty	Remarks
1	23005	Axle Adjusting Bracket	2	
2	23009	Wheel Hub Sealing Plate	2	
3	23010	Wheel Hub Circlip	2	
4	23011	Axle Sealing Plate	2	
5	23288	Rear Axle	1	
6	23521	Hub	2	
7	23297	Taper Roller Bearing	2	
8	23298	Taper Roller Bearing	2	
9	23300	32T x 1.5P Axle Sprocket	2	
10				
11	SP17AM	Tie Bar	1	
12	SP91	Axle Nut	2	
13	SP165M	Tie Bar Plate	1	
14	SP187	Locking Strip	4	
15	SP217	Locking Washer	2	
16	SP440	Wheel Stud (3/4 UNF)	16	
17	SP441	Wheel Nut (3/4 UNF)	16	
18				Assy SPCL 736
19				
20				
21	SPCL533	Adjustable Rim	1	
22	23523	Adjustable Wheel Pan	1	
23	23524	Fixed Wheel Rim	1	
24	SPCL574	Tyre 16.9 x 26	2	
25	SPCL575	Tube 16.9 / 1.4 x 26	2	
26	SPCL674	Clamp Strip	8	
27				
28				
29				
30		M8 x 16 Hex HD Setscrew	2	
31		M8 Spring Washer	2	
32				
33		M16 x 69 Hex HD Setscrew	16	
34		M16 x 40 Hex HD Setscrew	18	

**REAR AXLE ASSEMBLY****(ASSY. NO 23002)**

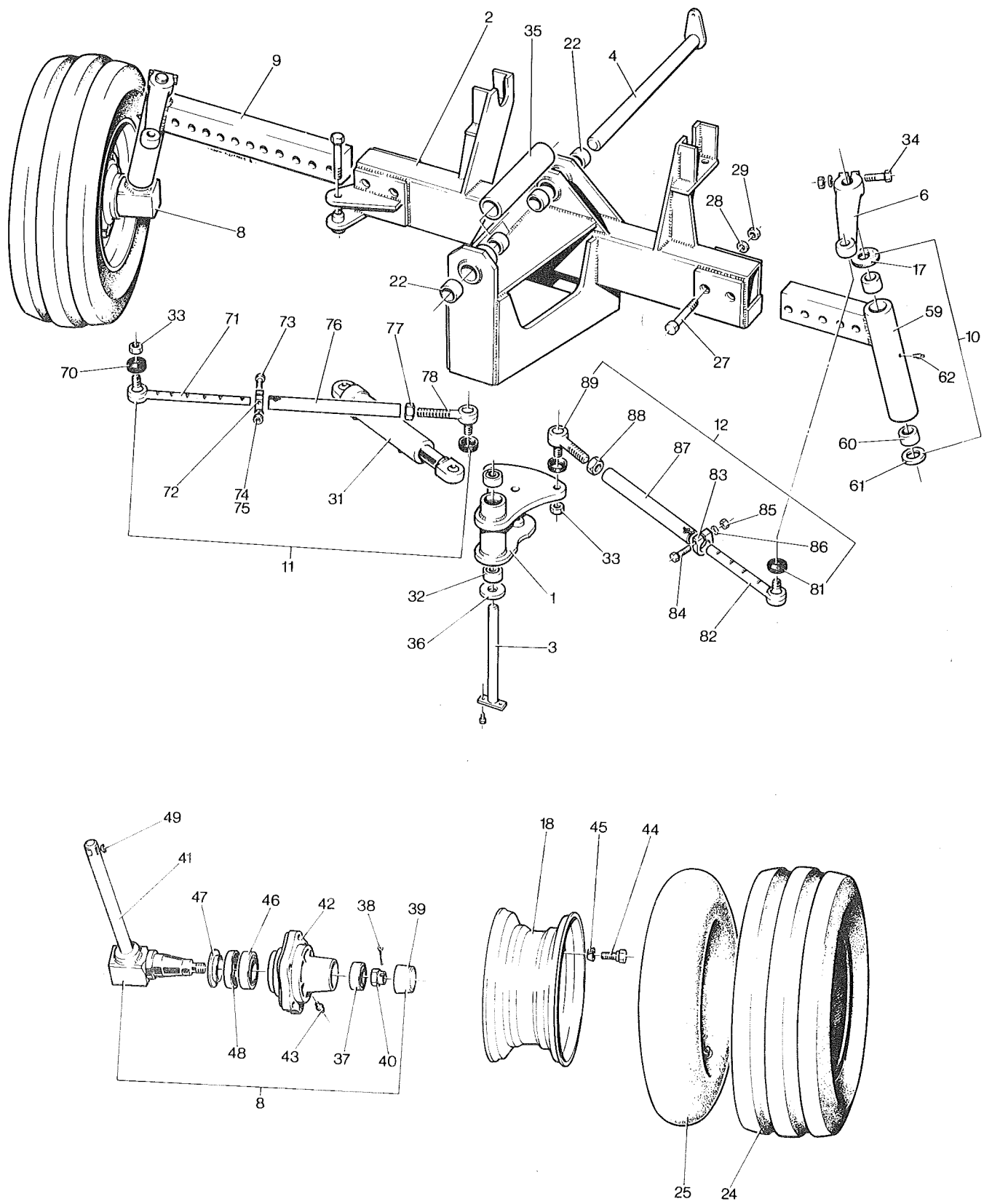
FROM SERIAL NoTOR 046D

Item No.	Part No.	Description	Qty	Remarks
35		M16 x 50 Hex HD Setscrew	12	With Nylon Insert
36		M16 Flat Washer	16	
37		M16 Spring Washer	24	
38		M16 Nut	24	
39		M16 Lock Nut	4	
40		M16 Full Locking Nut	16	
41				
42		M20 x 130 Hex HD Setscrew	4	
43		M20 Nut	4	



# Steer Axle Assembly

Assy NO 23284



**STEER AXLE ASSY****(ASSY. NO 23284)****FROM SERIAL No. TOR 05B**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	23012	Steering Crank	1	
2	23013	Mounting Frame	1	
3	23014	Pivot Pin	1	
4	23020	Pivot Pin	1	
5				
6	23240	Steer Arm	2	Casting 23240X
7				
8	23263	Stub Axle, Hub & Spindle Assy	2	See breakdown
9	23264	Steer Leg Assy. LH	1	"
10	23265	Steer Leg Assy. RH	1	"
11	23266	Track Rod Assy-Long	1	"
12	23267	Track Rod Assy-Short	1	"
13				
14				
15				
16				
17	23279	Felt Seal	2	
18	23280	Front Wheel	2	
19				
20				
21				
22	12123	Oilite Bush 40 I/D x 25 LG	4	
23				
24	12199	Front Wheel Tyre	2	
25	12200	Front Wheel Tube	2	
26				
27	12288	Front Axle Bolt	4	
28	12289	Front Axle Washer	4	
29	12290	Front Axle Nut	4	
30				
31	14019	Hydraulic Ram	1	Ref
32	6206RS	Bearing	2	
33		Nut-Nyloc 5/8" UNF	4	
34		Bolt M16 x 80 Long	1	
35	A278	Spacer Sleeve	1	
36	SS057032-003	Spacer	1	

**STEER AXLE ASSY****(ASSY. NO 23284)****FROM SERIAL No. TOR 05B**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
	23263	ITEM 8 COMPRISES:-		
37	23247	Bearing LM102 949/910	1	Outer Cup & Cone
38	23248	Split Pin 6 x 63 Long	1	
39	23249	Dust Cap	1	
40	23250	Nut M36 x 1.5	1	
41	23243	Stub Axle & Spindle	1	
42	23252	Hub	1	
43	23253	Grease Nipple - M6	1	
44	23254	Bolt M18 x 2.5 x 47.5	6	
45	23255	Lock Washer	6	Inner Cup & Cone
46	23256	Bearing	1	
47	23257	Seal Ring	1	
48	23258	Oil Seal	1	
49	12179	Woodruf Key 32 Dia x 8 Wide	1	
50				
51				
52				
	23264	ITEM 9 COMPRISES:-		
53	23241	Steer Leg - LH	1	
54	12173	Bush 47 O/D x 38 I/D x 60 LNG	2	
55	12176	Thrust Washer	1	
56	GS412	Grease Nipple	1	
57				
58				
	23265	ITEM 10 COMPRISES:-		
59	23242	Steer Leg - RH	1	
60	12173	Bush 47 O/D x 38 I/D x 60 LNG	2	
61	12176	Thrust Washer	1	
62	GS412	Grease Nipple	1	
63				
64				
65				
66				
67				
68				
69				

**STEER AXLE ASSY****(ASSY. NO 23284)****FROM SERIAL No. TOR 05B**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
	23266	ITEM 11 COMPRISES:-		
70	23268	Dust Seal	2	
71	23269	Ball Joint Arm	1	
72	23270	Clamp	1	
73	23271	Bolt ½" UNC	1	
74	23272	Nut ½" UNC	1	
75	23273	Lockwasher	1	
76	23274	Connecting Tube	1	
77	23275	Special Nut	1	
78	23276	Ball Joint	1	
79				
80				
	23267	ITEM 12 COMPRISES:-		
81	23268	Dust Seal	2	
82	23277	Ball Joint Arm	1	
83	23270	Clamp	1	
84	23271	Bolt ½" UNC	1	
85	23272	Nut ½" UNC	1	
86	23273	Lockwasher	1	
87	23278	Connecting Tube	1	
88	23275	Special Nut	1	
89	23276	Ball Joint	1	



**FRONT STEER AXLE****(ASSY. NO 23021)****PRIOR TO SERIAL No. TOR 05B (PARTS LIST ONLY)**

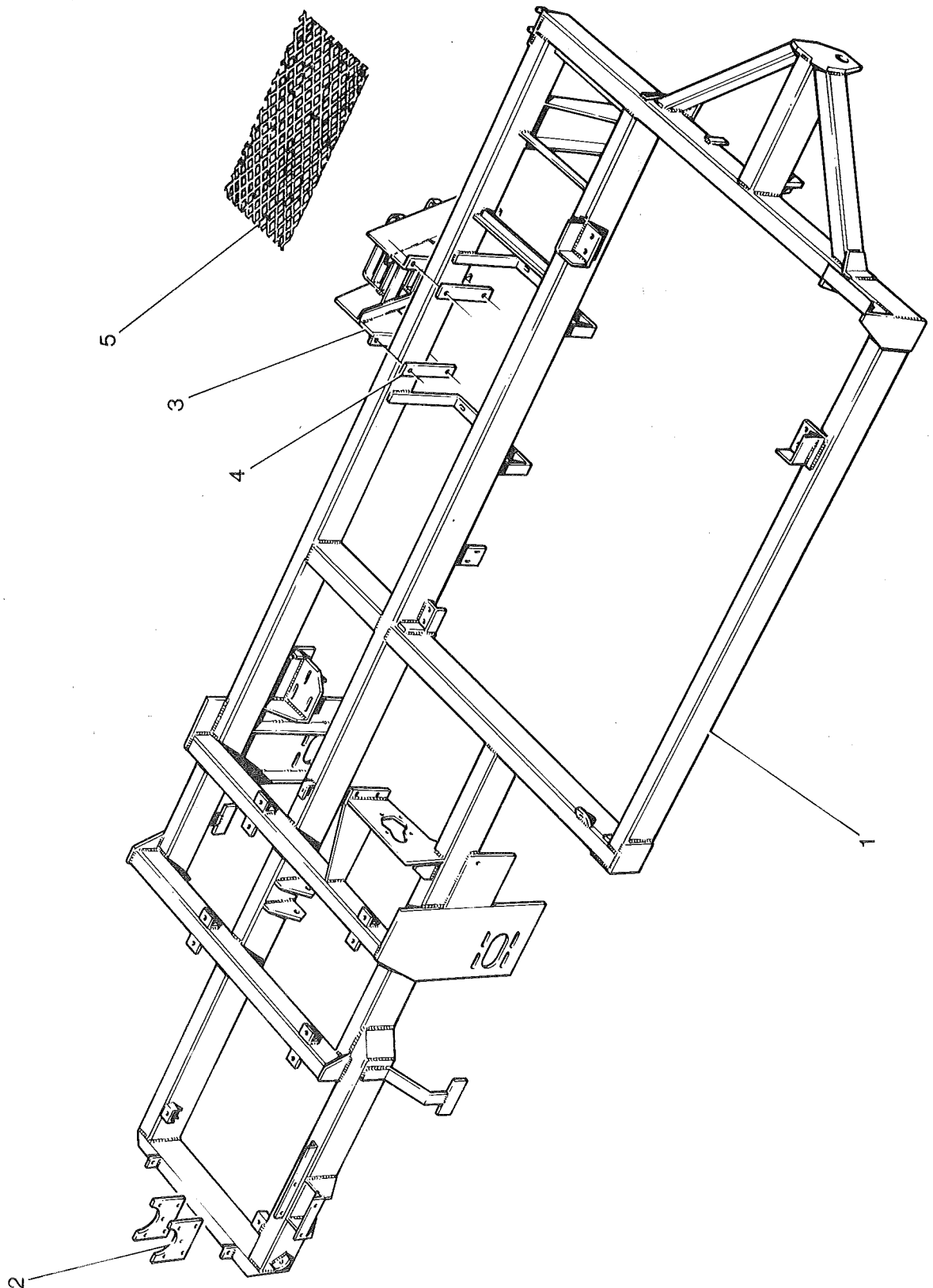
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	12078	Front Wheel	2	
2	12123	Bush (40 I/D x 25 LG)	4	
3	12123	Dustshield	2	
4	12159	Seal	2	
5	12160	Bearing Cup	2	
6	12161	Bearing Cone	2	
7	12162	Hub Assy	2	
8	12163	Bolt	12	
9	12164	Bearing Cup	2	
10	12165	Bearing Cone	2	
11	12166	Washer	2	
12	12167	Slotted Nut	2	
13	12163	Cotter Pin	2	
14	12169	Hub Cap	2	
15	12170	Lubricator	2	
16	12171	Nut	12	
17	12172	R.H. Arm	1	
18	12173	Bush	4	
19	12174	L.H. Arm	1	
20	12175	Spindle	2	
21	12176	Washer	2	
22	12177	Arm	2	
23	12178	Seal	2	
24	12179	Key	2	
25	12180	Lubricator	2	
26	12181	Screw	2	
27	12182	Washer	2	
28	12183	Nut	2	
29	12184	Steering End	2	
30				
31				
32	12187	End	2	
33	12188	Clamp	2	
34	12189	Bolt	2	
35	12190	Washer	2	
36	12191	Nut	2	

**FRONT STEER AXLE****(ASSY. NO 23021)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
37	12192	Seal	4	Ref
38	12193	Nut	4	
39	12199	Tyre (9.00 x 16)	2	
40	12200	Tube	2	
41	12288	Bolt	4	
42	12289	Washer	4	
43	12290	Nut	4	
44				
45				
46				
47	14019	Steering Ram	1	
48				
49				
50				
51	23310	Steering Crank	1	
52	23013	Mounting Frame	1	
53	23014	Pivot Pin	1	
54	23020	Pivot Pin	1	
55	23225	Steering Tube	2	
56	23226	Clamp Nut	2	
57				
58				
59				
60				
61				
62				
63	6206RS	Bearing	2	
64				
65	A278	Sleeve (Spacer Tube)	1	
66				
67	SS057032/003	Spacer	1	
68				
69				
70				
71				
72				

# Main Frame Assembly

Assy N° 23124



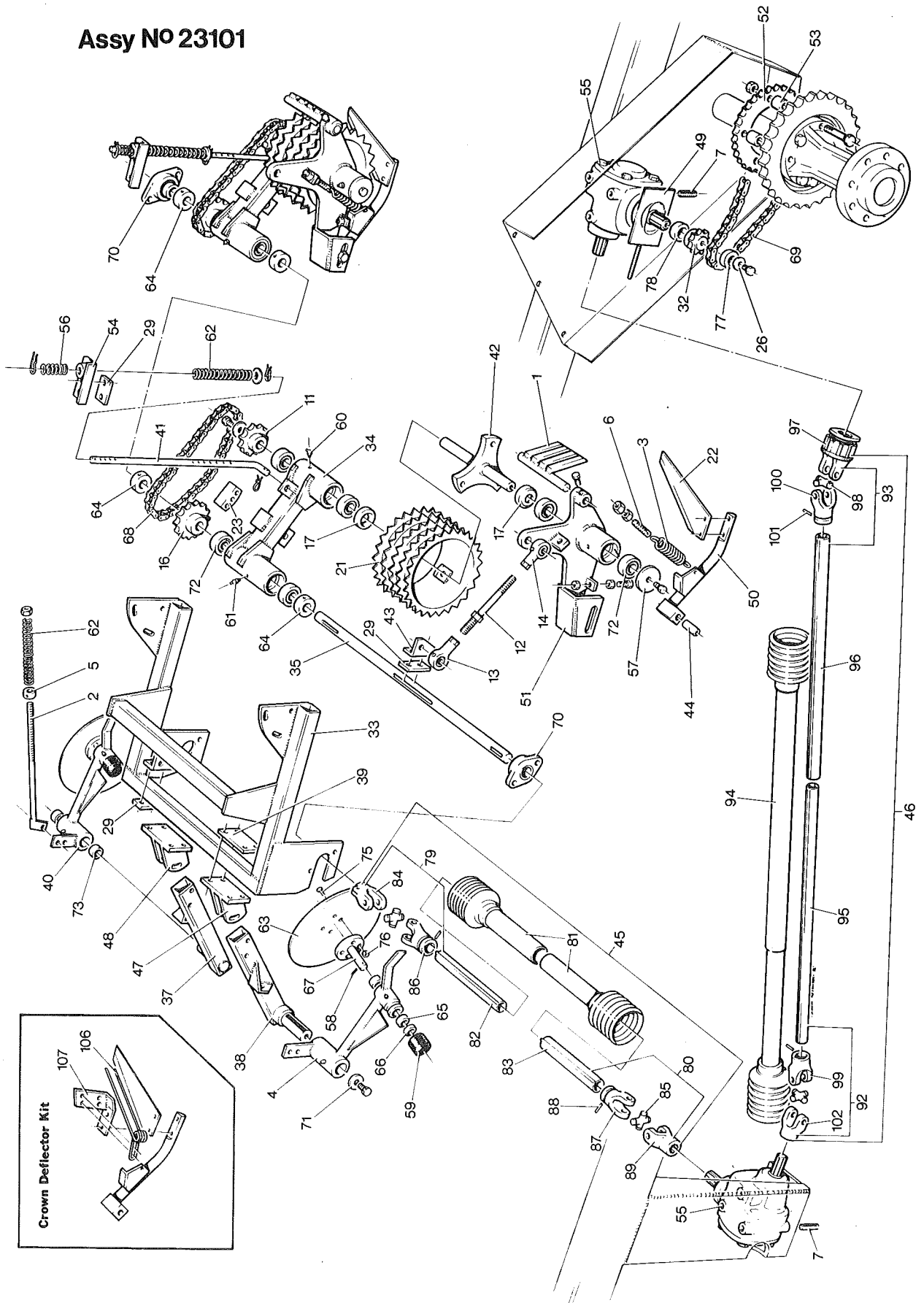
MAIN FRAME

(ASSY. NO 23124)

Item No.	Part No.	Description	Qty	Remarks
1	23001	Frame Assy - Welded	1	
2	23123	Gearbox Plate	2	
3	23426	Footstep Assy	1	Replaces 23125 From Serial No TOR 05B
4	23427	Clamp Plate	2	
5	23428	Footplate	1	Replaces 23134 From Serial No TOR 05B
6				
7				
8				
9				
10				

# Topping Unit Assembly

Assy N<sup>o</sup> 23101



# TOPPING UNIT ASSEMBLY

(ASSY. NO 23101)

Item No.	Part No.	Description	Qty	Remarks
1	11411L	Scraper	2	
2	11636	Tension Screw	2	
3	11648	Spring	2	
4	11679	Disc Arm LH	1	
5	11717	Stop Collar	2	
6	11813	Tensioner	2	
7	11280	Gearbox Stud	6	
8				
9				
10				
11	16068	15T x .75 Pitch Sprocket	2	
12	16074	Parrallel Motion Link	2	
13	16080	Link End RH	2	
14	16081	Link End LH	2	
15				
16	16224	23T Sprocket	2	
17	16415	Spacer	4	
18				
19				
20				
21	17117	Feeler Wheel	2	
22	17125	Topping Knife	2	
23	17155	Tensioner Block	2	
24				
25				
26	SS042011/005	Washer	1	
27				
28				
29	19029	Clamp Strip	4	
30				
31				
32	23028	15T Sprocket (Splined)	1	
33	23087	Topping Unit Frame	1	
34	23088	Feeler Wheel Arm	2	
35	23089	Topping Unit Drive Shaft	1	
36				

# TOPPING UNIT ASSEMBLY

(ASSY. NO 23101)

Item No.	Part No.	Description	Qty	Remarks
37	23091	Disc Support Bracket RH	1	
38	23092	Disc Support Bracket LH	1	
39	23093	Clamp Plate	2	
40	23095	Disc Arm RH	1	
41	23096	Lift Rod	2	
42	23097	Feeler Wheel Shaft	2	
43	23098	Parallel Motion Bracket	2	
44	23100	Knife Arm Pivot Tube	2	
45	23108	Universal Coupling	1	
46	23109	Universal Coupling	1	
47	23220	Disc Coulter Mounting LH	1	
48	23221	Disc Coulter Mounting RH	1	
49	23281	Gearbox Restraining Bracket	1	
50	23285	Knife Arm	2	Replaces 23099 From Serial No TOR 05B
51	23292	Knife Arm Bracket	2	Replaces 23090 From Serial No TOR 05B
52	23294	45T Sprocket	1	Replaces 23025 From Serial No TOR 05B
53	23295	Spacer	4	Replaces 23026 From Serial No TOR 05B
54	23299	Lift Rod Bracket	2	
55	24032	Gearbox	2	See Page 2.33
56	090.33 000.04	Spring	2	
57	BM12	Washer	2	
58	BM218	Disc Retaining Pin	2	
59	BMT81M	Dust Cap	2	
60	GS411	Grease Nipple (Angled)	2	
61	GS412	Grease Nipple (Straight)	6	
62	PS165	Spring	4	
63	PS224/13"	Disc	2	
64	PS326M	Stop Collar	4	
65	PS386M	Bush	4	
66	PS588	Oil Seal	2	
67	PS596AM	Disc Spindle	2	
68	PS871/50	Feeler Wheel Drive Chain	2	
69	PS871/80	Drive Chain	1	
70	SFT30A	Bearing	2	
71	SS060 013/003	Steel Spacer	2	
72	6206RS	Bearing	12	

# TOPPING UNIT ASSEMBLY

(ASSY. NO 23101)

Item No.	Part No.	Description	Qty	Remarks
73	RH43M	Bush	4	
74				
75	2611-1007	Fixing Pin	8	
76	2682-1000	Fixing Collar	8	
77	A10	Spacer	1	
78	A30	Spacer	1	
	23108	ITEM 45 UNIVERSAL COUPLING CONSISTS OF:-		
79	23108/1	Male Coupling (Complete)	1	
80	23108/2	Female Coupling (Complete)	1	
81	23108/3	Guard (Complete)	1	
82	13384/4	Male Lemon Tube	1	
83	13384/5	Female Lemon Tube	1	
84	16218/5	Plain Yoke	1	
85	16218/6	Unit Package	2	
86	16218/7	Male End Inner Yoke	1	
87	16218/8	Female End Inner Yoke	1	
88	16218/9	Spring Pin	1	
89	24005/6	Splined Yoke	1	
90				
91				
	23109	ITEM 46 UNIVERSAL COUPLING CONSIST OF:-		
92	23109/1	Male Coupling (Complete)	1	
93	23109/2	Female Coupling (Complete)	1	
94	23109/3	Guard Complete	1	
95	23109/4	Male Lemon Tube	1	
96	23109/5	Female Lemon Tube	1	
97	23109/6	Ratchet Clutch Yoke	1	
98	16218/6	Unit Package	2	
99	16218/7	Male End Inner Yoke	1	
100	16218/8	Female End Inner Yoke	1	
101	16218/9	Spring Pin	2	
102	24005/6	Splined Yoke	1	
103				
104				



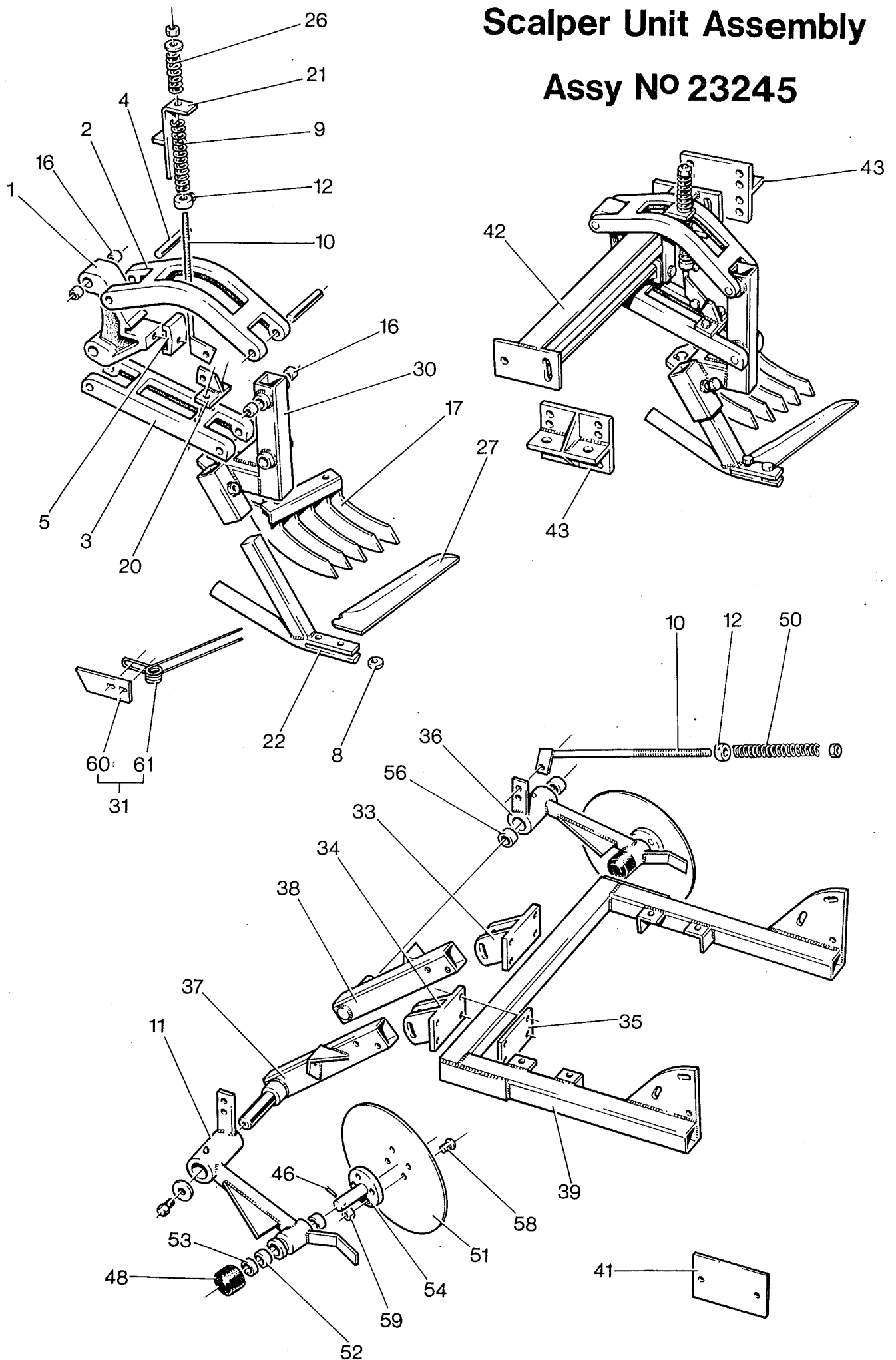
## TOPPING UNIT ASSEMBLY

**(ASSY. NO 23101)**

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# Assy N° 23245



## SCALPER UNIT

(ASSY. NO 23245)

Item No.	Part No.	Description	Qty	Remarks
1	10201	Mounting	2	
2	10202	Arm	2	
3	10203	Arm	2	
4	10207	Pivot Pin	4	
5	10211	Clamp Plate	2	
6				
7				
8	11324	Knife Locking Disc	2	
9	11630	Spring	2	
10	11636	Tension Screw	4	
11	11679	Disc Arm	1	
12	11717	Collar	4	
13				
14				
15				
16	12120	Bush	16	
17	12153	LH Comb	2	
18				
19				
20	15118	Fixing Bracket	2	
21	15121	Support Bracket	2	
22	15128	Knife Support	2	
23				
24				
25				
26	17127	Spring	2	
27	17186	Knife LH	2	
28				
29				
30	22031	Comb Mounting Bracket	2	
31	22116	Crown Deflector	2	
32				
33	23091	Disc Support Bracket RH	1	
34	23092	Disc Support Bracket LH	1	
35	23093	Clamp Plate	2	For 16" Work use 23606
36	23095	Disc Arm	1	

## SCALPER UNIT

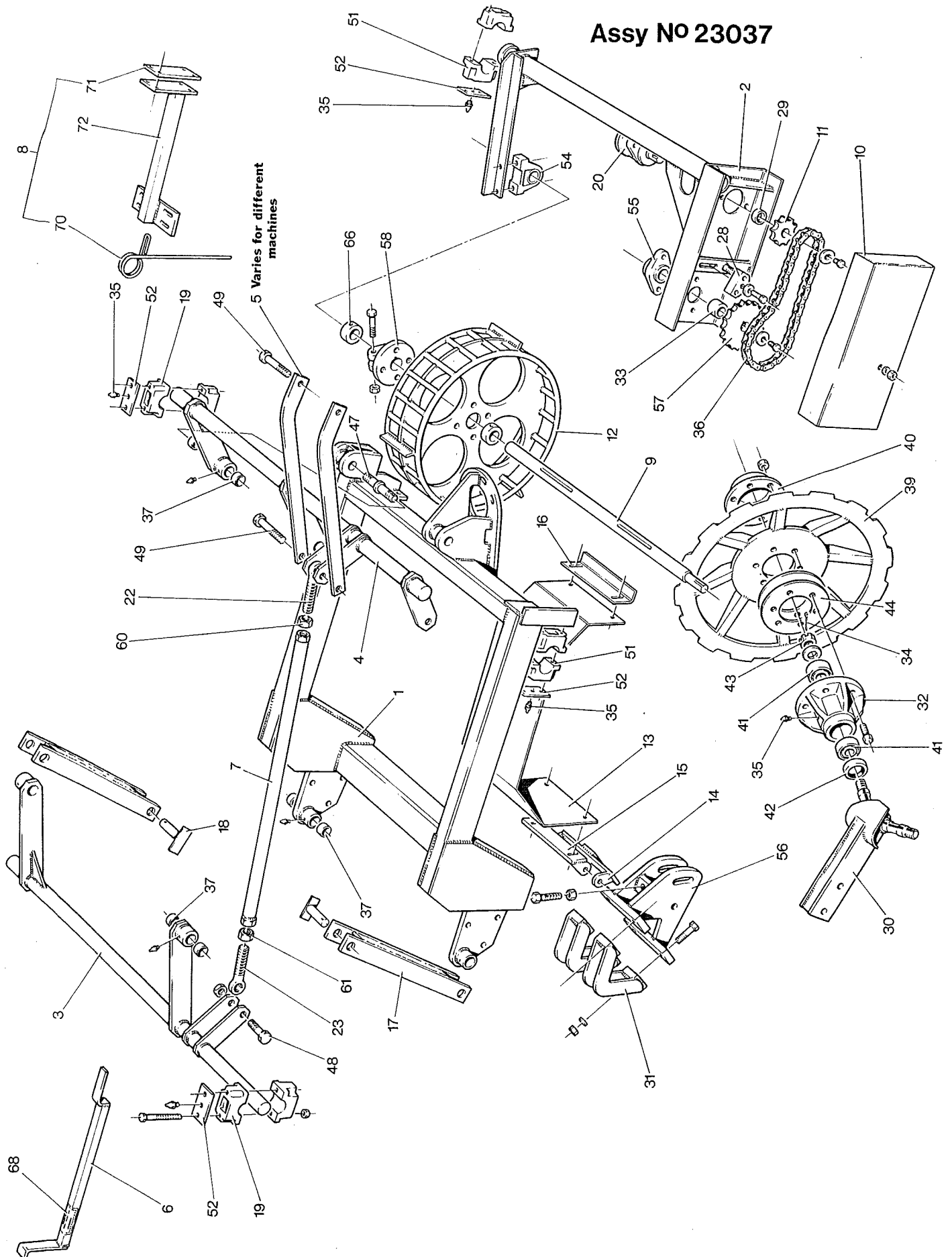
(ASSY. NO 23245)

Item No.	Part No.	Description	Qty	Remarks
37	23220	Disc Coulter Mounting LH	1	Covers Slotted Hole in Axle Plate
38	23221	Disc Coulter Mounting RH	1	
39	23282	Mounting Frame	1	
40				
41	23286	Dirt Shield	2	
42	23485	Support Bar	1	
43	23486	Mounting Plate	2	
44				
45				
46	BM218	Retaining Pin	2	
47				
48	BMT81M	Dust Cap	2	
49				
50	PS165	Spring	2	
51	PS224/13"	Disc	2	
52	PS386M	Bush	4	
53	PS588	Oil Seal	2	
54	PS569AM	Disc Spindle	2	
55				
56	RH43M	Bush	4	
57				
58	2611-1007	Fixing Pin	8	
59	2682-1000	Fixing Collar	8	
	22116	CONSISTS OF:—		
60	24203	Bracket	1	
61	11649	Tine	1	



# Lifter Wheel and Cage Wheel Assembly

Assy No 23037



Item No.	Part No.	Description	Qty	Remarks
1	23033	Lifter Frame Assy	1	
2	23034	Cage Wheel Frame Assy	1	
3	23035	Cross Shaft Assy - Front	1	
4	23036	Cross Shaft Assy - Rear	1	
5	23180	Front Lift Link (J.Deere Pt No 23514)	2	
6	23424	Support Strap	1	(Transport only)
7	23040	Link Assy	1	
8	23496	Scraper Kit	1	(Optional)
9	23042	Cage Wheel Shaft	1	
10	23086	Guard - Cage Wheel Drive	1	
11	13309	Sprocket .75P x 11T	1	13T Sprocket 23222
12	11377	Cage Wheel (For 16" Work use 24248)	2	Up to Serial No TOR 05B 16150 " " " TOR 045C 23244
13	23259	Cage Wheel Guard	2	Replaces 16125 From Serial No TOR 05B
14	23260	Hinge Bracket	2	} Replaces 23041 } From Serial } No TOR 05B
15	23261	Hinge Bracket (Adjustable)	2	
16	23262	Adjustable Guard Rest	2	
17	23312	Link	2	Replaces 23038 From Serial No TOR 05B
18	23313	Link Fixing Pin	4	Replaces 23039 From Serial No TOR 05B
19	10415	Bearing Block	8	
20	12205	Hydraulic Motor	1	(Ref only)
21				
22	13035	Stay End	1	
23	13036	Stay End	1	
24				
25				
26				
27				
28	17155	Chain Tension Block	1	
29		(For 16" Work use 24245)		
30	BMZ3A	Lifting Wheel Mounting	2	
31	BMZ5A	Lifting Wheel Brkt Cap	4	
32	BMZ99	Lifting Wheel Hub	4	
33	C28	Plastic Spacer	1	
34	GS378	Split Pin	1	
35	GS412	Grease Nipple	10	
36	PS871/51	Chain .75 Pitch	1	

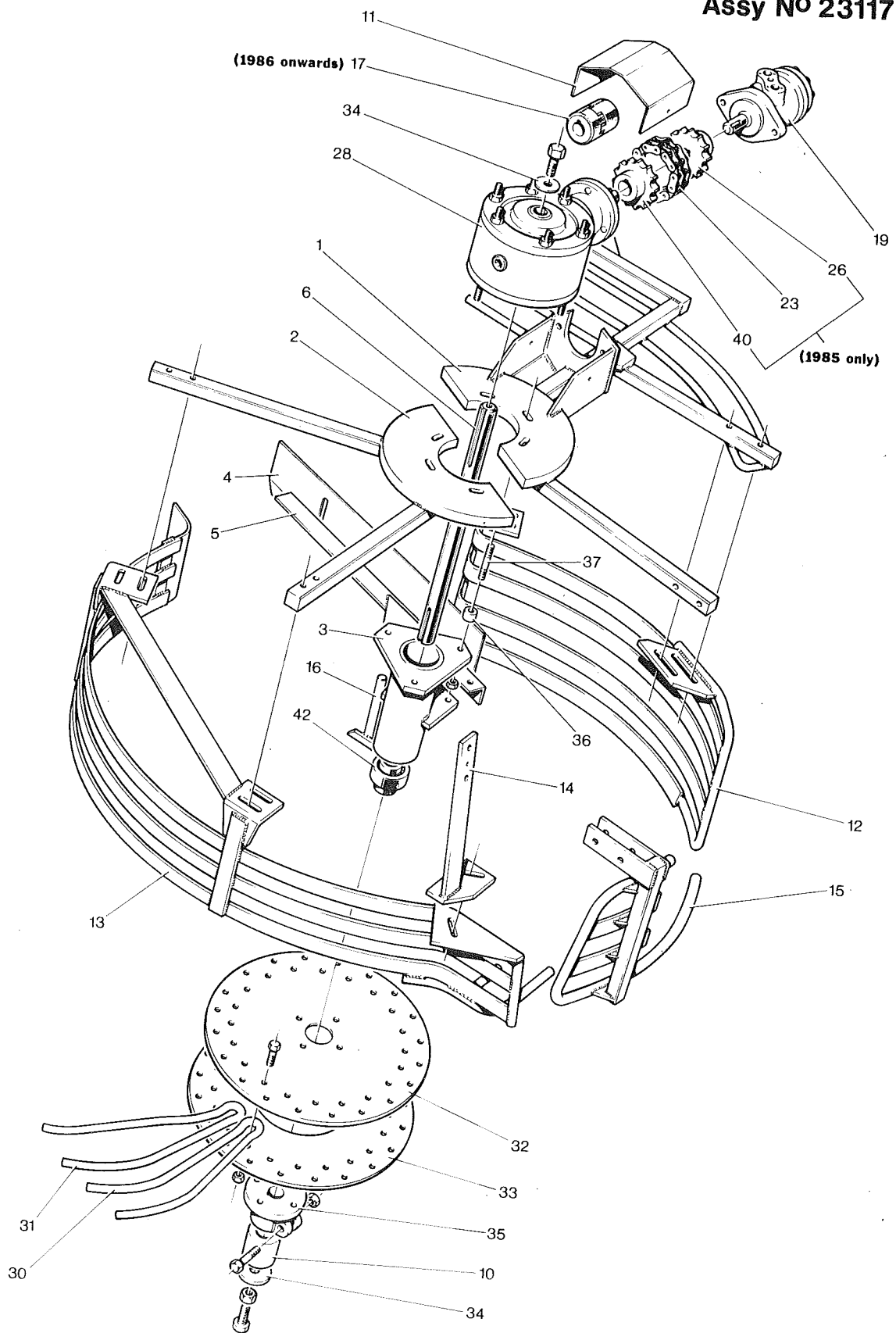


Item No.	Part No.	Description	Qty	Remarks
37	PS386NM	Bush - Nylon	8	
38				
39	24246	Lifter Wheel	4	
40	RP3	Lifter Wheel Hub Cap	4	
41	RP4	Hub Bearing	8	
42	RP5	Hub Oil Seal	4	
43	RP6/1	Hub Nut	4	
44	RP15	Hub Spacer	8	
45				
46				
47	SPCL19AM	Rear Cross Shaft Pivot Pin	2	
48	22028075/350	3/4" UNC x 3 1/2" Hex Hd Setscrew	1	
49	22028075/450	3/4" UNC x 4 1/2" Hex Hd Setscrew	2	
50				
51	SPCT132	Bearing Block	4	
52	SPCT143	Capping Plate	6	
53				
54	SL30A	Bearing	1	
55	SFT30A	Bearing	1	
56	24067	Mounting Bracket	2	Replaces SP236A From Serial No TOR 95B
57	24116	Sprocket .75P x 26T	1	
58	24249	Cage Wheel Clamp	2	Replaces 11389 From Serial No TOR 05B
59				
60		Locknut - 1 1/8" UNC LH	1	
61		Locknut - 1 1/8" UNC RH	1	
62		Bolt M12 x 130 HX HD	12	
63		Bolt M12 x 105 HX HD	6	
64				
65				
66	ST41M	Stop Collar	4	
67				
68	TR150	Transfer	1	
69				
	23496	SCRAPER KIT CONSISTS OF:-		
70	13404	Spring Tine	2	
71	23494	Clamp Plate	1	
72	23495	Support Arm	1	



# Cyclone Assembly

Assy N° 23117



## CYCLONE ASSY

(ASSY. NO 23117)

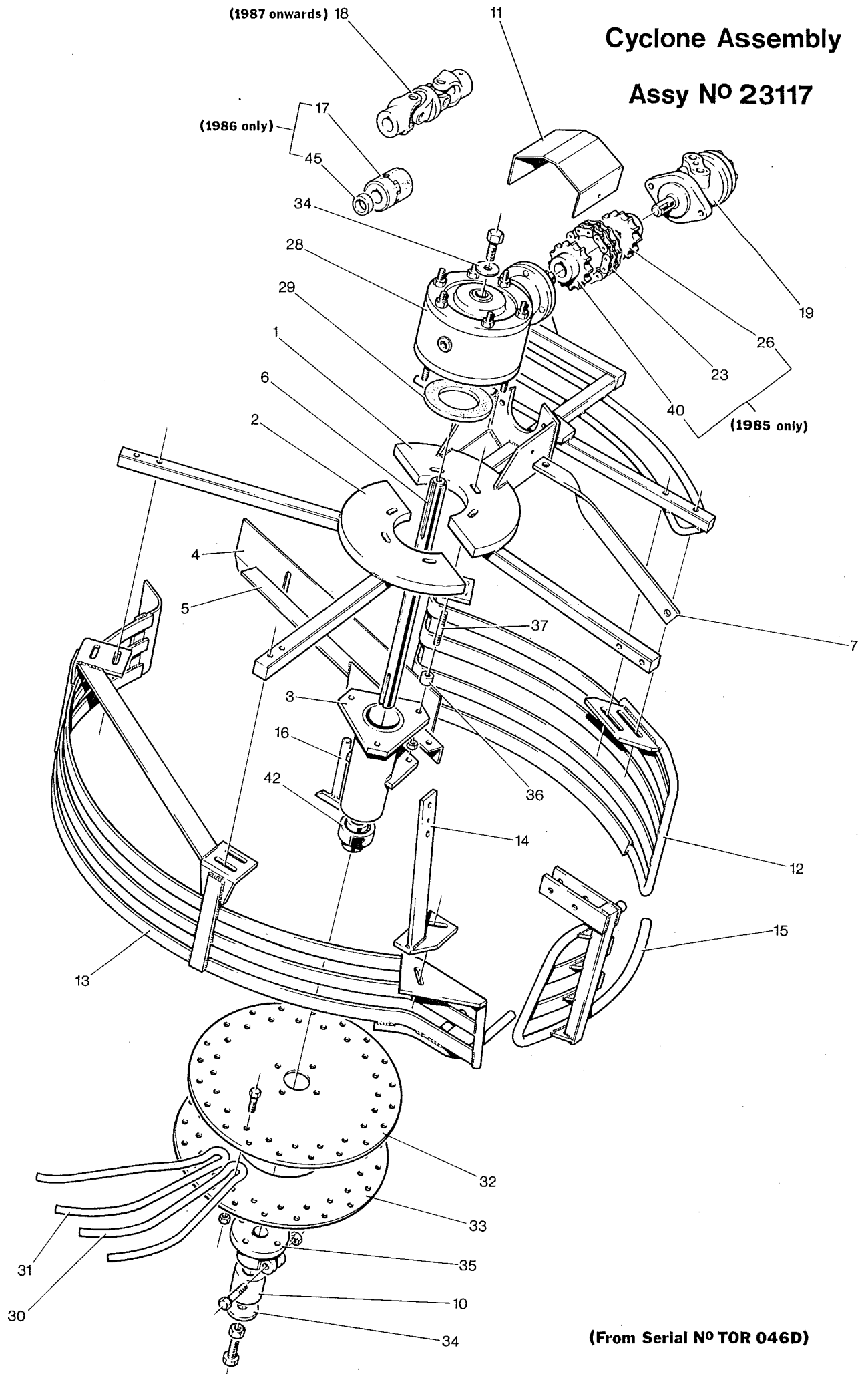
Item No.	Part No.	Description	Qty	Remarks
1	23102	Motor MTG & Top Guard	1	Replaces 23326 From Serial No TOR 05B
2	23103	Side Guard Support	1	
3	23104	Bearing Support	1	
4	23105	Deflector	1	
5	23106	Deflector Support	1	
6	23107	Drive Shaft	1	
7				
8				
9				
10	23118	Spacer	1	
11	23119	Drive Coupling Guard	1	
12	23303	Inner Guard	1	Replaces 23112 From Serial No TOR 05B
13	23304	Outer Guard	1	Replaces 23110 From Serial No TOR 05B
14	23307	Outer Guard Support	1	Replaces 23120 From Serial No TOR 05B
15	23308	Centre Guard	1	Replaces 23113 From Serial No TOR 05B
16	23309	Scraper	1	
17	23442	Flexible Coupling	1	
18				
19	12205	Hydraulic Motor	1	(Ref only)
20				
21				
22				
23	17088-15	Duplex Chain .75 Pitch	1	
24				
25				
26	BMZ112M	Sprocket .75 Pitch x 15T	1	
27				
28	PS450/2TM	Gearbox Assy	1	See page 2.33
29				
30	SPCL56	Cyclone Wheel Tine - Strgt	16	
31	SPCL57	Cyclone Wheel Tine - Looped	6	
32	SPCL83M	Tine Clamp Plate - Top	1	
33	SPCL83AM	Tine Clamp Plate - Bottom	1	
34	SPCL86M	Locking Spacer	2	
35	SPCL339M	Cyclone Wheel Clamp	1	
36	SPCL341M	Spacer	3	

Item No.	Part No.	Description	Qty	Remarks
37	SPCT115M	Gearbox Stud	3	
38				
39				
40	TBMW250	Sprocket .75 Pitch x 15T	1	
41				
42	1130-302RS	Bearing	1	
43				
44				
45				
46				
47				
48				
49				
50				



# Cyclone Assembly

Assy N° 23117



(From Serial N° TOR 046D)

Item No.	Part No.	Description	Qty	Remarks
1	23506	Motor MTG & Top Guard	1	
2	23103	Side Guard Support	1	
3	23104	Bearing Support	1	
4	23105	Deflector	1	
5	23106	Deflector Support	1	
6	23107	Drive Shaft	1	
7	23610	Stay	1	
8				
9				
10	23118	Spacer	1	
11	23507	Drive Coupling Guard	1	
12	23303	Inner Guard	1	
13	23304	Outer Guard	1	
14	23307	Outer Guard Support	1	
15	23308	Centre Guard	1	
16	23309	Scraper	1	
17	23442	Flexible Coupling	1	
18	23508	Drive Coupling	1	
19	12205	Hydraulic Motor	1	(Ref only)
20				See page 2.33
21				
22				
23	17088-15	Duplex Chain .75 Pitch	1	
24				
25				
26	23490	Sprocket .75 Pitch x 15T	1	
27				
28	PS450/2TM	Gearbox Assy	1	
29	SPCL303	Felt Seal	1	
30	SPCL56	Cyclone Wheel Tine - Strgt	16	
31	SPCL57	Cyclone Wheel Tine - Looped	6	
32	SPCL83M	Tine Clamp Plate - Top	1	
33	SPCL83AM	Tine Clamp Plate - Bottom	1	
34	SPCL86M	Locking Spacer	2	
35	SPCL339M	Cyclone Wheel Clamp	1	
36	SPCL341M	Spacer	3	

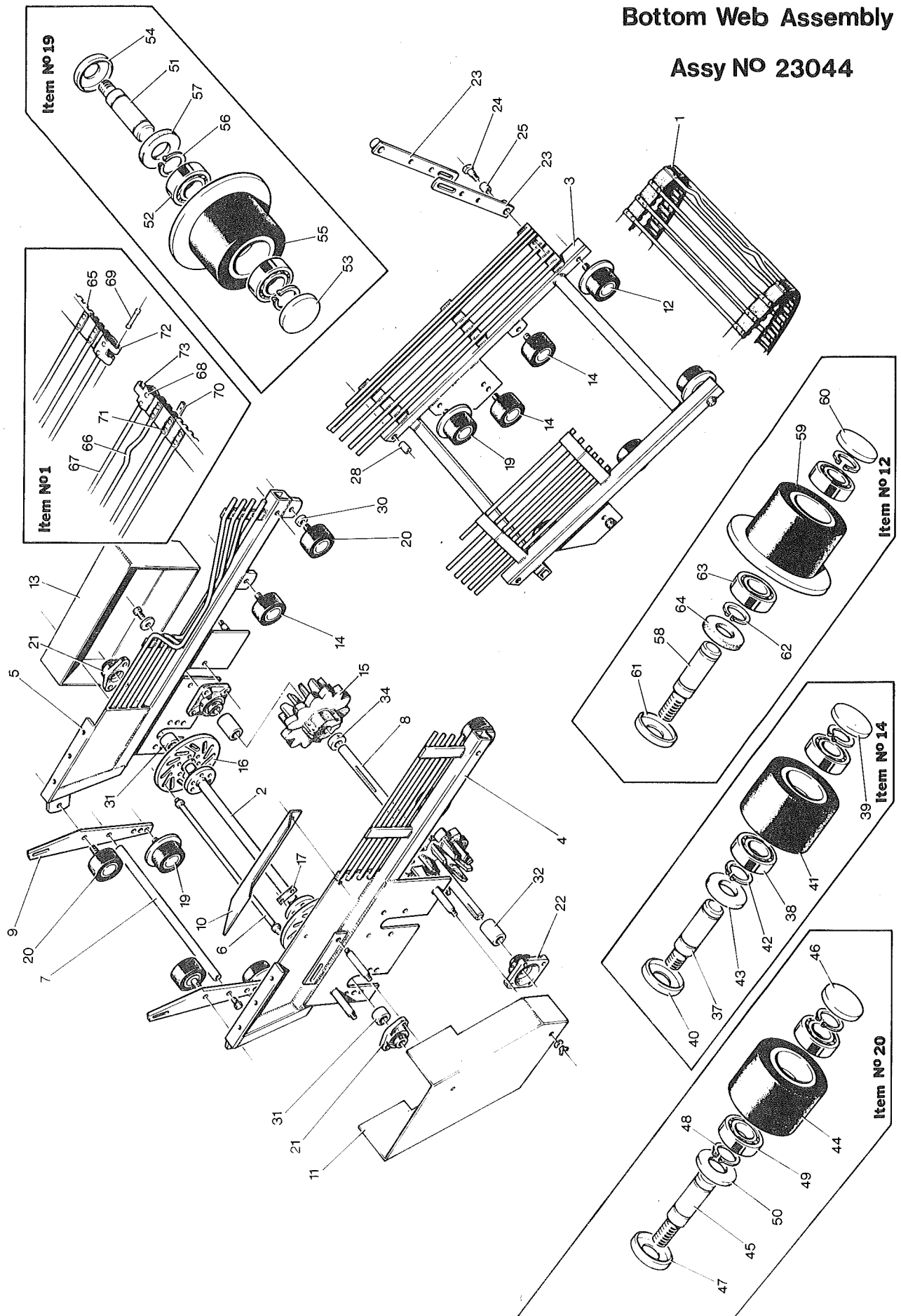


Item No.	Part No.	Description	Qty	Remarks
37	SPCT115M	Gearbox Stud	3	
38				
39				
40	23491	Sprocket .75 Pitch x 15T	1	
41				
42	1130-302RS	Bearing	1	
43				
44				
45	C13	Spacer	1	
46				
47				
48				
49				
50				



# Bottom Web Assembly

Assy NO 23044



**BOTTOM WEB ASSY****(ASSY. NO 23044)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	23030	Web Assy	1	
2	23045	Cleaner Barrel Shaft	1	
3	23046	Pivoting Bottom Web Frame	1	
4	23047	Fixed Bottom Web Side	1	Right Hand
5	23048	Fixed Bottom Web Side	1	Left Hand
6	23051	Cleaner Rod Assy	12	
7	23060	Tie Bar	1	
8	23055	Shaft	1	
9	23075	Roller Adjusting Plate	2	
10	23184	Guard - Bottom Web	1	
11	23185	Guard - Web Drives	1	
12	23330	Roller Assy	2	
13	23429	Cleaner Drive Guard	1	
14	19356	Roller Assy	6	
15	13030	Sprocket (Web Drive)	2	
16	13221	Cleaner Plate	2	
17	13230	Lock Tab	6	
18				
19	12506	Roller (Flanged)	4	
20	11568	Roller	4	
21	SFT30A	Bearing	2	
22	SF30A	Bearing	2	
23	SPCL 29M	Lifting Stay	2	
24	SPCL30M	Shoulder Bolt	2	
25	SPCL61	Bush	2	
26	TBM24M	Guard Bolt	1	
27				
28	SS016013/052	Steel Spacer	2	
29				
30	SS025017/012	Steel Spacer	2	
31	C52	Nylon Spacer	2	
32	C90	Nylon Spacer	2	
33				
34	PS326M	Stop Collar	2	
35				
36				

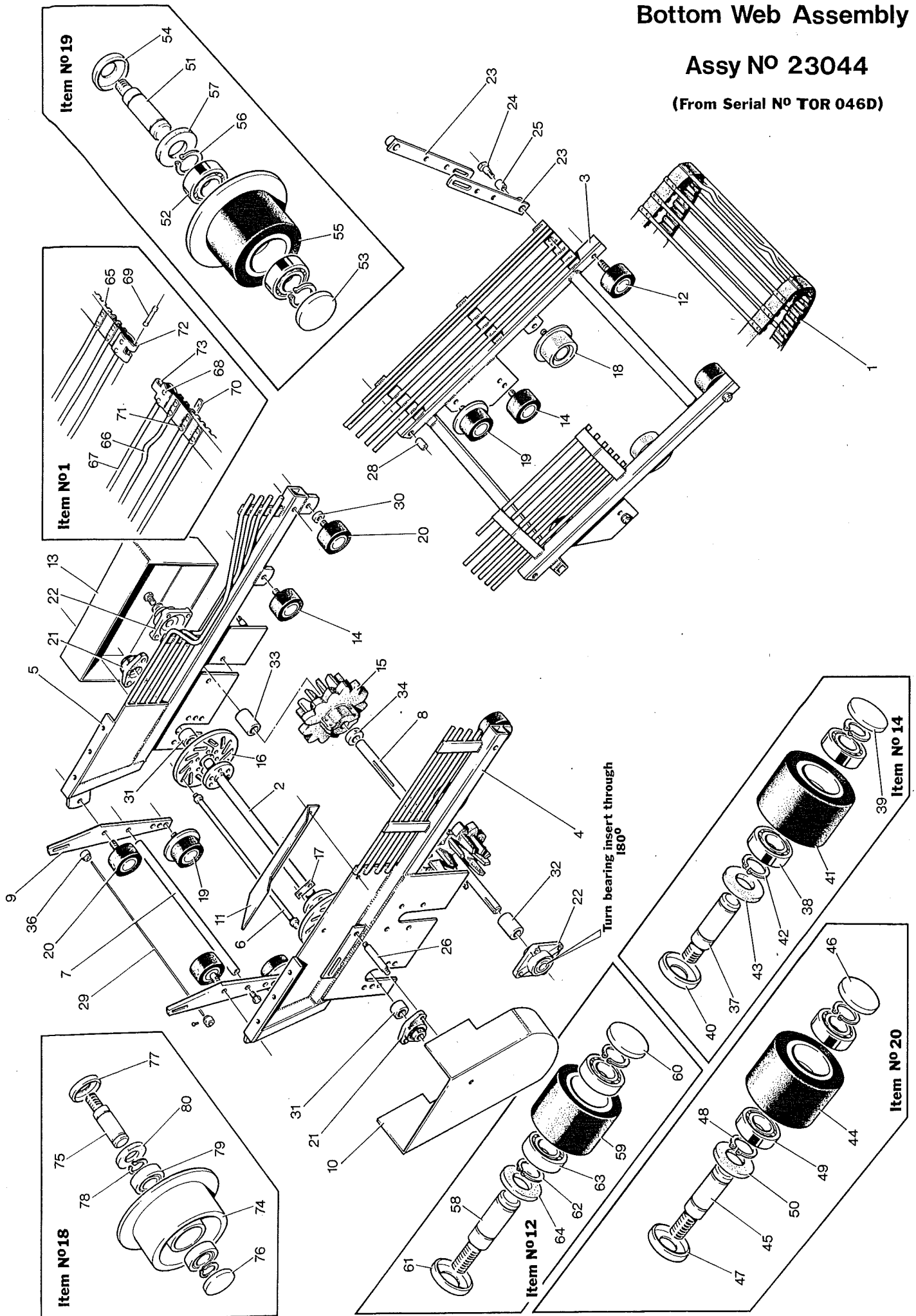
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
	19356	ROLLER ASSY CONSISTS OF:-		
37	11265	Roller Spindle	1	
38	6005RS	Bearing	2	
39	PH407	Seal	1	
40	PH408	Seal	1	
41	PH77AR	Roller	1	
42	PS843	Circlip	2	
43	000 03 005 04	Felt Seal	1	
	11568	ROLLER ASSY CONSIST OF:-		
44	PH77AR	Roller	1	
45	PH406AM	Spindle	1	
46	PH407	Seal	1	
47	PH408	Seal	1	
48	PS843	Circlip	2	
49	6005RS	Bearing	2	
50	000 03 005 04	Felt Seal	1	
	12506	ROLLER ASSY CONSIST OF:-		
51	11265	Spindle	1	
52	6005RS	Bearing	2	
53	PH407	Seal	1	
54	PH408	Seal	1	
55	PH51AR	Roller	1	
56	PS843	Circlip	2	
57	000 03 005 04	Felt Seal	1	
	23330	ROLLER ASSY CONSISTS OF:-		
58	23351	Spindle	1	
59	PH51AR	Roller	1	
60	PH407	Seal	1	
61	PH408	Seal	1	
62	PS843	Circlip	2	
63	6005RS	Bearing	2	
64	000 03 005 04	Felt Seal		

Item No.	Part No.	Description	Qty	Remarks
	23030	WEB ASSEMBLY CONSISTS OF:-		
65	23030/1	Web Belt	2	
66	11037/1	Looped Link	15	
67	11037/2	Link	55	
68	12238/4	Long Rivet	8	
69	12238/5	Connecting Pin	2	
70	12238/6	Plate	140	
71	12238/7	Rivet	272	
72	12238/9	Connector Female	2	
73	12238/10	Connector Male	2	

# Bottom Web Assembly

Assy No 23044

(From Serial No TOR 046D)



# BOTTOM WEB ASSY

(ASSY. NO 23044)

FROM SERIAL No TOR 046D

Item No.	Part No.	Description	Qty	Remarks
1	23030	Web Assy	1	Right Hand Left Hand
2	23045	Cleaner Barrel Shaft	1	
3	23046	Pivoting Bottom Web Frame	1	
4	23047	Fixed Bottom Web Side	1	
5	23048	Fixed Bottom Web Side	1	
6	23051	Cleaner Rod Assy	12	
7	23060	Tie Bar	1	
8	23567	Shaft	1	
9	23075	Roller Adjusting Plate	2	
10	23184	Guard - Bottom Web	1	
11	23185	Guard - Web Drives	1	
12	23475	Roller Assy	2	
13	23429	Cleaner Drive Guard	1	
14	19356	Roller Assy	6	
15	13030	Sprocket (Web Drive)	2	
16	13221	Cleaner Plate	2	
17	13230	Lock Tab	6	
18	11570	Roller Assy	2	
19	12506	Roller (Flanged)	4	
20	11568	Roller	4	
21	SFT30A	Bearing	2	
22	SF30A	Bearing	2	
23	SPCL 29M	Lifting Stay	2	
24	SPCL30M	Shoulder Bolt	2	
25	SPCL61	Bush	2	
26	TBM24M	Guard Bolt	1	
27				
28	SS016013/052	Steel Spacer	2	
29	23525	Wire Rope	1	
30				
31	C52	Nylon Spacer	2	
32	C147	Nylon Spacer	1	
33	C138	Nylon Spacer	1	
34	PS326M	Stop Collar	2	
35				
36	23526	Collar	2	

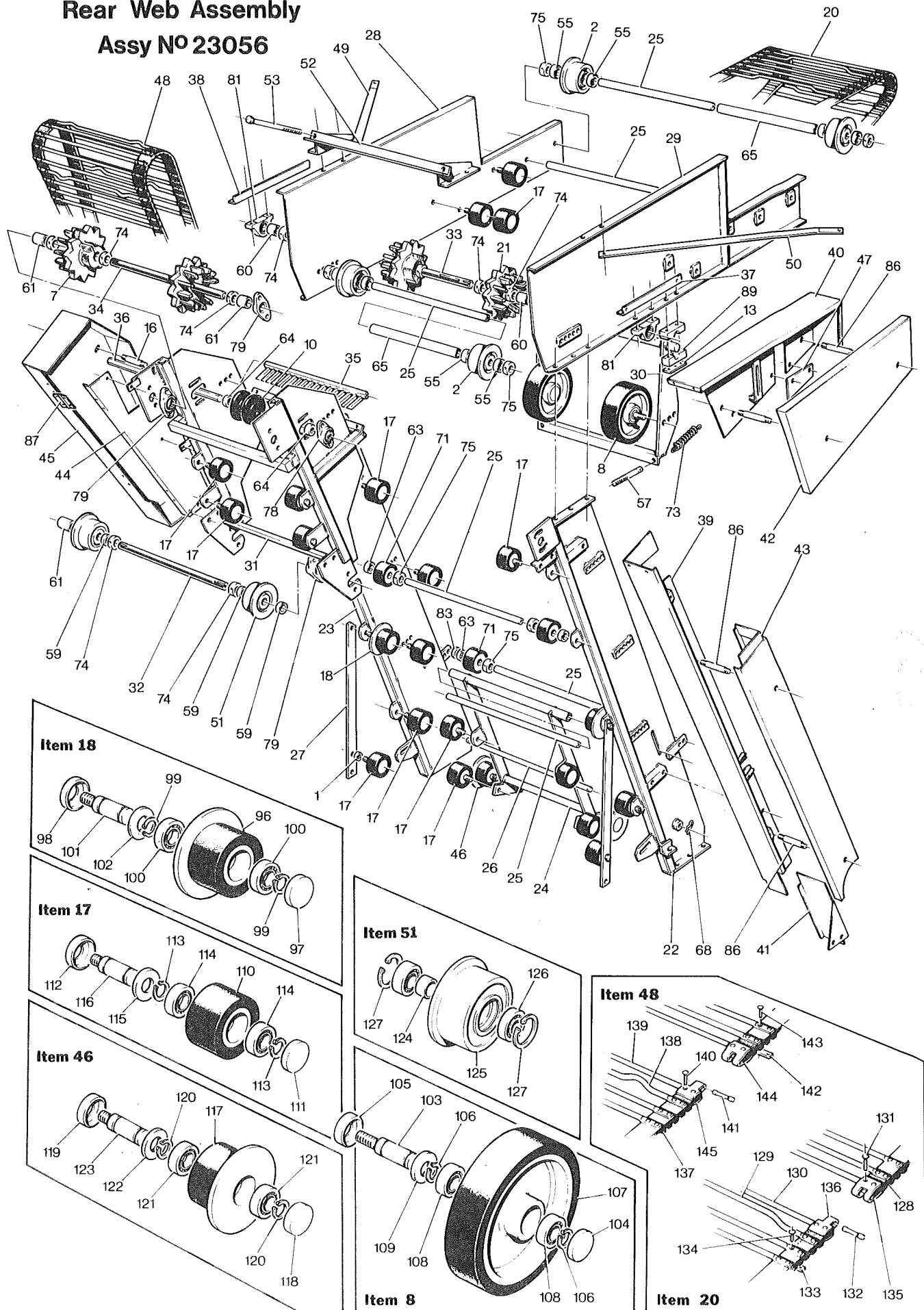


Item No.	Part No.	Description	Qty	Remarks
	19356	ROLLER ASSY CONSISTS OF:-		
37	11265	Roller Spindle	1	
38	6005RS	Bearing	2	
39	PH407	Seal	1	
40	PH408	Seal	1	
41	PH77AR	Roller	1	
42	PS843	Circlip	2	
43	000 03 005 04	Felt Seal	1	
	11568	ROLLER ASSY CONSIST OF:-		
44	PH77AR	Roller	1	
45	PH406AM	Spindle	1	
46	PH407	Seal	1	
47	PH408	Seal	1	
48	PS843	Circlip	2	
49	6005RS	Bearing	2	
50	000 03 005 04	Felt Seal	1	
	12506	ROLLER ASSY CONSIST OF:-		
51	11265	Spindle	1	
52	6005RS	Bearing	2	
53	PH407	Seal	1	
54	PH408	Seal	1	
55	PH51AR	Roller	1	
56	PS843	Circlip	2	
57	000 03 005 04	Felt Seal	1	
	23475	ROLLER ASSY CONSISTS OF:-		
58	23351	Spindle	1	
59	PH77AR	Roller	1	
60	PH407	Seal	1	
61	PH408	Seal	1	
62	PS843	Circlip	2	
63	6005RS	Bearing	2	
64	000 03 005 04	Felt Seal		

FROM SERIAL No TOR 046D

Item No.	Part No.	Description	Qty	Remarks
	23030	WEB ASSEMBLY CONSISTS OF:-		
65	23030/1	Web Belt	2	
66	11037/1	Looped Link	15	
67	11037/2	Link	55	
68	12238/4	Long Rivet	8	
69	12238/5	Connecting Pin	2	
70	12238/6	Plate	140	
71	12238/7	Rivet	272	
72	12238/9	Connector Female	2	
73	12238/10	Connector Male	2	
	11570	ROLLER ASSY CONSISTS OF:-		
74	11032	Roller	1	
75	11265	Spindle	1	
76	PH407	Seal	1	
77	PH408	Seal	1	
78	PS843	Circlip	2	
79	6005RS	Bearing	2	
80	0000300504	Felt Seal	1	

# **Rear Web Assembly** **Assy N° 23056**



<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	11020/5	Spacer	2	
2	11032	Flanged Roller	4	
3				
4				
5				
6				
7	13030	Web Sprocket	2	
8	13264	Roller Assembly	2	
9				
10	14725	Roller	19	
11				
12				
13	17133	Keep Plate	2	
14				
15				
16	19220	Guard Bolt	1	
17	19356	Roller Assembly	26	
18	19357	Roller Assembly	2	
19				
20	23031	Web Assembly	1	
21	23050	Web Sprocket	2	
22	23057	Rear Web Side R.H.	1	
23	23058	Rear Web Side L.H.	1	
24	23059	Pivot Frame	1	
25	23060	Tie Bar	6	
26	23061	Stop Bar	1	
27	23062	Support Stay	2	
28	23063	Feed Web Side L.H.	1	
29	23064	Feed Web Side R.H.	1	
30	23065	Frame-Spring Return Roller	1	
31	23066	Trash Extractor Frame	1	
32	23070	Shaft	1	
33	23071	Shaft	1	
34	23072	Shaft	1	
35	23073	Roller Scraper	1	
36	23074	Shaft	1	

Item No.	Part No.	Description	Qty	Remarks
37	23076	Support Angle	1	
38	23077	Support Angle	1	
39	23187	Backplate - Rear Elevator	1	
40	23188	Backplate - Feed Elevator	1	
41	23207	Side Guard	1	
42	23211	Guard - Feed Elevator	1	
43	23212	Guard - Rear Elevator	1	
44	23213	Backplate - Trash Extractor	1	
45	23214	Guard - Trash Extractor	1	
46	23228	Roller Assembly	2	
47	23231	Top Guard Tie Plate	1	
48	23311	Web Assembly	1	
49	23341	Tank Top Stay	1	
50	23342	Tank Top Stay	1	
51	23365	Roller Assembly	2	
52	23394	Adjusting Bracket	1	
53	23395	Adjusting Bolt	2	
54				
55	6005RS	Bearing	8	
56				
57	BM82M	Spring Tensioner	2	
58				
59	C14	Spacer	3	
60	C84	Spacer	2	
61	C86	Spacer	3	
62				
63	D12	Spacer	4	
64	D22	Spacer	2	
65	D512	Spacer	2	
66				
67				
68	H105	Quick Release Pin	2	
69				
70				
71	PH77BR	Roller	4	
72				

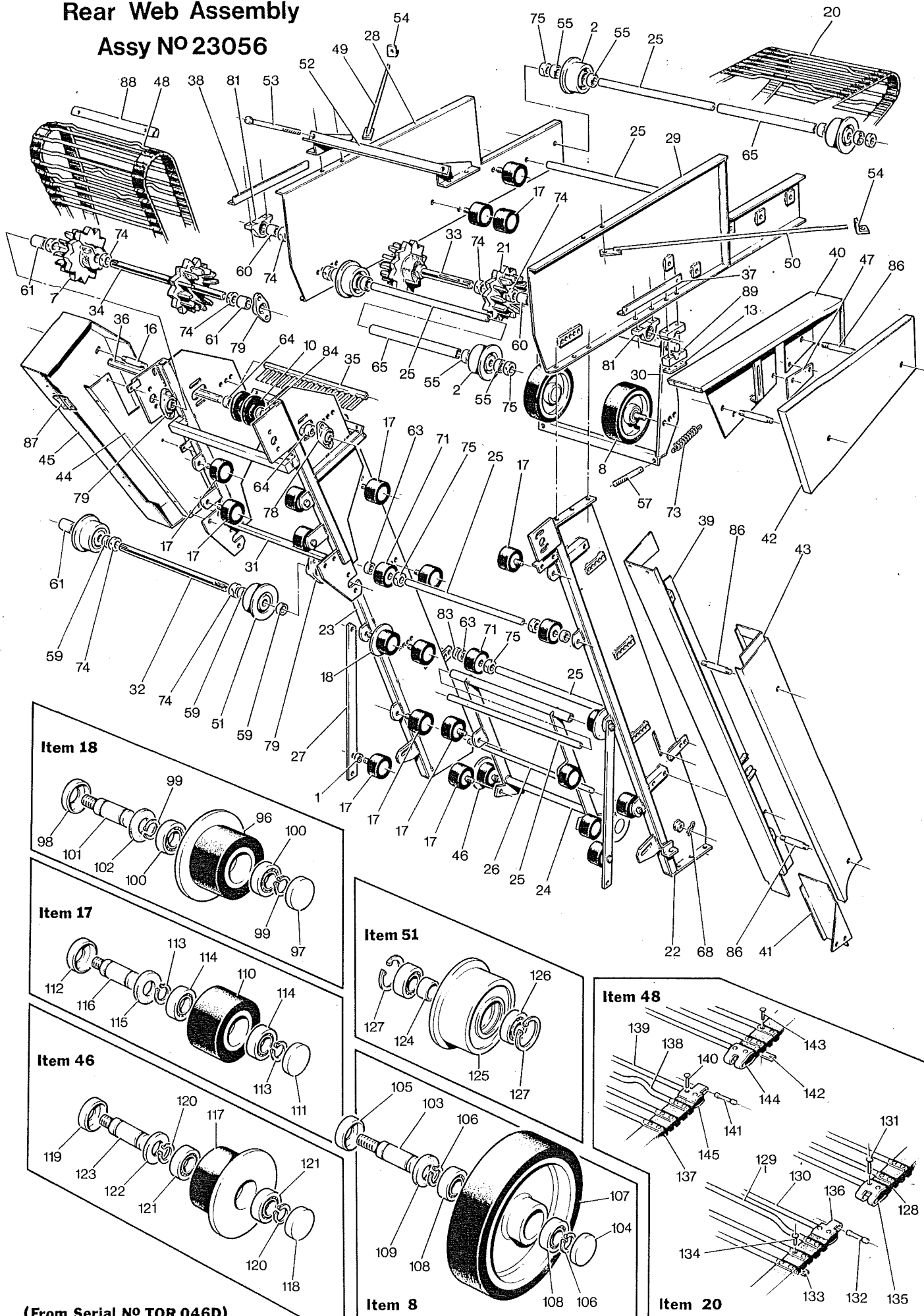
Item No.	Part No.	Description	Qty	Remarks
73	PS194	Spring	2	
74	PS326M	Stop Collar	10	
75	PS488M	Stop Collar	8	
76				
77				
78	SFT25A	Bearing	2	
79	SFT30A	Bearing	4	
80				
81	SL30A	Bearing	2	
82				
83	SS025 013/003	Spacer	2	
84				
85				
86	TBM24M	Guard Bolt	4	
87	TBMW739	Hinge	2	
88				
89	TRT298	Bearing Block	4	
90				
91				
92				
93				
94				
95				
	19357	ROLLER ASSEMBLY CONSISTS OF:-		
96	PH51AR	Roller	1	
97	PH407	Seal	1	
98	PH408	Seal	1	
99	PS843	Circlip	2	
100	6005RS	Bearing	2	
101	PH406AM	Spindle	1	
102	000 03 005 04	Felt Seal	1	
	13264	ROLLER ASSEMBLY CONSISTS OF:-		
103	PH406AM	Spindle	1	
104	PH407	Seal		
105	PH408	Seal		

Item No.	Part No.	Description	Qty	Remarks
106	P843	Circlip	1	
107	12156	Roller	1	
108	6005RS	Bearing	2	
109	000 03 005 04	Felt Seal	1	
	19356	ROLLER ASSEMBLY CONSISTS OF:-		
110	PH77AR	Roller	1	
111	PH407	Seal	1	
112	PH408	Seal	1	
113	PS843	Circlip	2	
114	6005RS	Bearing	2	
115	000 03 005 04	Felt Seal	1	
116	11265	Spindle	1	
	23228	ROLLER ASSEMBLY CONSISTS OF:-		
117	PH51AR	Roller	1	
118	PH407	Seal	1	
119	PH408	Seal	1	
120	PS843	Circlip	1	
121	6005RS	Bearing	2	
122	000 03 005 04	Felt Seal	1	
123	PH406AM	Spindle	1	
	23365	ROLLER ASSEMBLY CONSISTS OF:-		
124	010 30 013 001	Spacer	1	
125	015 04 000 01	Roller	1	
126	6006RS	Bearing	2	
127	W0111	Circlip	2	
	23031	WEB ASSEMBLY CONSISTS OF:-		
128	23031/1	Web Belt	2	
129	23032	'Up' Link	32	
130	11037/2	Link	126	
131	12238/4	Long Rivet	8	
132	12238/5	Connecting Pin	2	
133	12238/6	Plate	316	
134	12238/7	Rivet	624	

Item No.	Part No.	Description	Qty	Remarks
135	12238/9	Connector - Female	2	
136	12238/10	Connector - Male	2	
	23311	WEB ASSEMBLY CONSISTS OF:-		
137	23311/1	Web Belt	2	
138	11037/1	Looped Link	27	
139	11037/2	Link	106	
140	12238/4	Long Rivet	8	
141	12238/5	Connecting Pin	2	
142	12238/6	Plate	266	
143	12238/7	Rivet	524	
144	12238/9	Connector - Female	2	
145	12238/10	Connector - Male	2	



# **Rear Web Assembly** **Assy N° 23056**



(From Serial N° TOR 046D)

Item No.	Part No.	Description	Qty	Remarks
1	11020/5	Spacer	2	
2	11032	Flanged Roller	4	
3				
4				
5				
6				
7	13030	Web Sprocket	2	
8	13264	Roller Assembly	2	
9				
10	TBMW781	Roller	19	
11				
12				
13	17133	Keep Plate	2	
14				
15				
16	19220	Guard Bolt	1	
17	19356	Roller Assembly	26	
18	19357	Roller Assembly	2	
19				
20	23031	Web Assembly	1	
21	23050	Web Sprocket	2	
22	23057	Rear Web Side R.H.	1	
23	23058	Rear Web Side L.H.	1	
24	23059	Pivot Frame	1	
25	23060	Tie Bar	6	
26	23061	Stop Bar	1	
27	23062	Support Stay	2	
28	23063	Feed Web Side L.H.	1	
29	23064	Feed Web Side R.H.	1	
30	23065	Frame-Spring Return Roller	1	
31	23066	Trash Extractor Frame	1	
32	23070	Shaft	1	
33	23071	Shaft	1	
34	23072	Shaft	1	
35	23073	Roller Scraper	1	
36	23479	Shaft	1	

Item No.	Part No.	Description	Qty	Remarks
37	23076	Support Angle	1	
38	23077	Support Angle	1	
39	23187	Backplate - Rear Elevator	1	
40	23188	Backplate - Feed Elevator	1	
41	23207	Side Guard	1	
42	23211	Guard - Feed Elevator	1	
43	23212	Guard - Rear Elevator	1	
44	23213	Backplate - Trash Extractor	1	
45	23214	Guard - Trash Extractor	1	
46	23228	Roller Assembly	2	
47	23231	Top Guard Tie Plate	1	
48	23311	Web Assembly	1	
49	23476	Tank Top Stay (LH Adjustable Stay)	1	
50	23477	Tank Top Stay (RH Adjustable Stay)	1	
51	23365	Roller Assembly	2	
52	23394	Adjusting Bracket	1	
53	23395	Adjusting Bolt	2	
54	23478	Stay Bracket	2	
55	6005RS	Bearing	8	
56				
57	BM82M	Spring Tensioner	2	
58				
59	C14	Spacer	3	
60	C84	Spacer	2	
61	C86	Spacer	3	
62				
63	D12	Spacer	4	
64	D27	Spacer	2	
65	D512	Spacer	2	
66				
67				
68	H105	Quick Release Pin	2	
69				
70				
71	PH77BR	Roller	4	
72				

Item No.	Part No.	Description	Qty	Remarks
73	PS194	Spring	2	
74	PS326M	Stop Collar	10	
75	PS488M	Stop Collar	8	
76				
77				
78	SFT25A	Bearing	2	
79	SFT30A	Bearing	4	
80				
81	SL30A	Bearing	2	
82				
83	SS025 013/003	Spacer	2	
84	SS050 026/002	Spacer	2	
85				
86	TBM24M	Guard Bolt	4	
87	TBMW739	Hinge	2	
88	TRH262	Lat	5	
89	TRT298	Bearing Block	4	
90				
91				
92				
93				
94				
95				
	19357	ROLLER ASSEMBLY CONSISTS OF:--		
96	PH51AR	Roller	1	
97	PH407	Seal	1	
98	PH408	Seal	1	
99	PS843	Circlip	2	
100	6005RS	Bearing	2	
101	PH406AM	Spindle	1	
102	000 03 005 04	Felt Seal	1	
	13264	ROLLER ASSEMBLY CONSISTS OF:--		
103	PH406AM	Spindle	1	
104	PH407	Seal		
105	PH408	Seal		

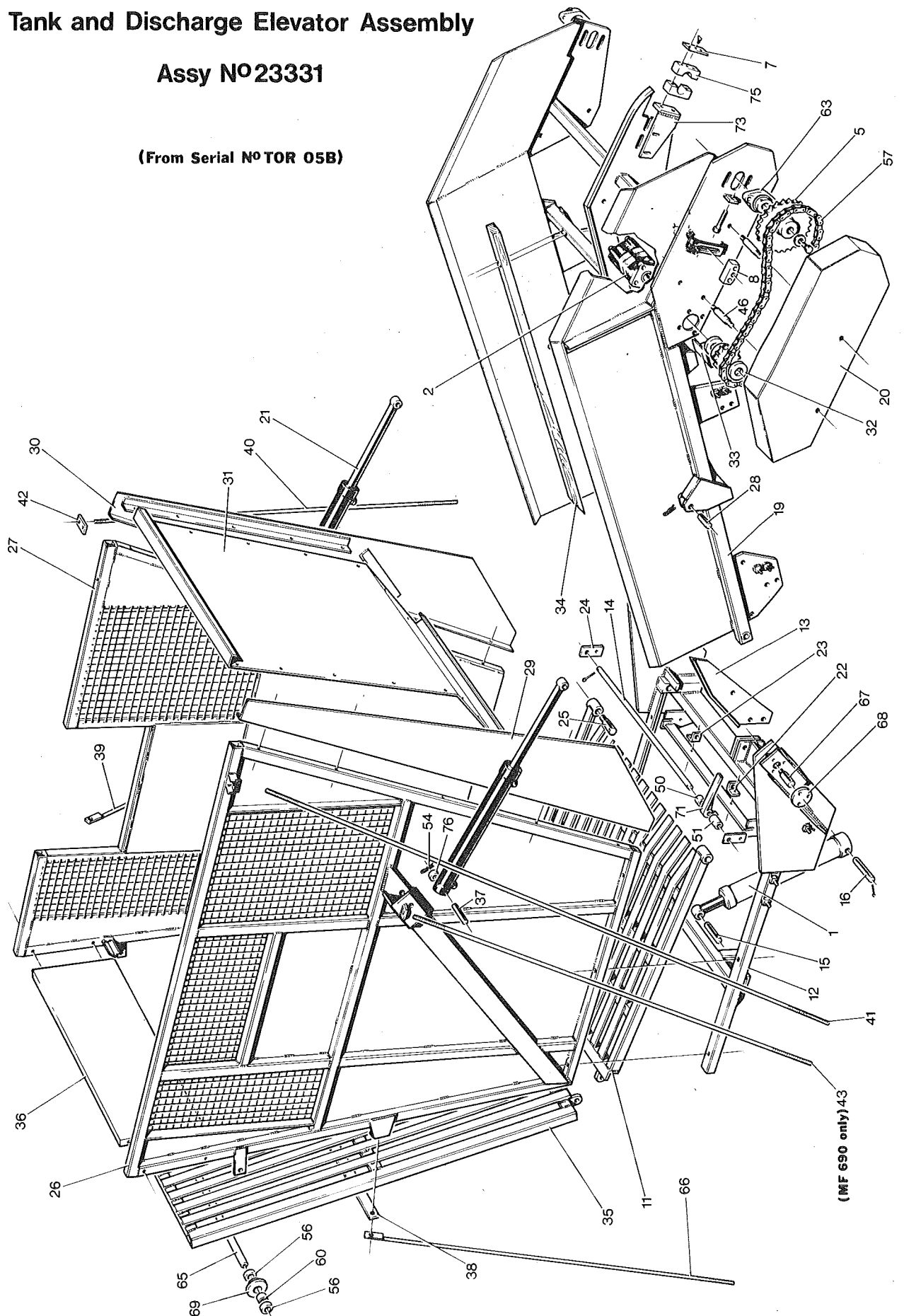
Item No.	Part No.	Description	Qty	Remarks
106	P843	Circlip	1	
107	12156	Roller	1	
108	6005RS	Bearing	2	
109	000 03 005 04	Felt Seal	1	
	19356	ROLLER ASSEMBLY CONSISTS OF:--		
110	PH77AR	Roller	1	
111	PH407	Seal	1	
112	PH408	Seal	1	
113	PS843	Circlip	2	
114	6005RS	Bearing	2	
115	000 03 005 04	Felt Seal	1	
116	11265	Spindle	1	
	23228	ROLLER ASSEMBLY CONSISTS OF:--		
117	PH51AR	Roller	1	
118	PH407	Seal	1	
119	PH408	Seal	1	
120	PS843	Circlip	1	
121	6005RS	Bearing	2	
122	000 03 005 04	Felt Seal	1	
123	PH406AM	Spindle	1	
	23365	ROLLER ASSEMBLY CONSISTS OF:--		
124	010 30 013 001	Spacer	1	
125	015 04 000 01	Roller	1	
126	6006RS	Bearing	2	
127	W0111	Circlip	2	
	23031	WEB ASSEMBLY CONSISTS OF:--		
128	23031/1	Web Belt	2	
129	23032	'Up' Link	32	
130	11037/2	Link	126	
131	12238/4	Long Rivet	8	
132	12238/5	Connecting Pin	2	
133	12238/6	Plate	316	
134	12238/7	Rivet	624	

Item No.	Part No.	Description	Qty	Remarks
135	12238/9	Connector - Female	2	
136	12238/10	Connector - Male	2	
	23311	WEB ASSEMBLY CONSISTS OF:-		
137	23311/1	Web Belt	2	
138	11037/1	Looped Link	27	
139	11037/2	Link	106	
140	12238/4	Long Rivet	8	
141	12238/5	Connecting Pin	2	
142	12238/6	Plate	266	
143	12238/7	Rivet	524	
144	12238/9	Connector - Female	2	
145	12238/10	Connector - Male	2	

# Tank and Discharge Elevator Assembly

Assy N°23331

(From Serial N°TOR 05B)



**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23331)****FROM SERIAL No TOR 05B**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	11858	Hydraulic Ram	1	Ref Only
2	12209	Hydraulic Motor	1	Ref only
3				
4				
5	16223	Sprocket 40T	1	
6				
7	17133	Keep Plate	1	
8	17155	Chain Tensioner	1	
9				
10				
11	23043	Tank Floor	1	
12	23082	Tank Base	1	
13	23154	Roller Support	1	
14	23159	Pivot Finger Rod	1	
15	23168	Ram Pin	1	
16	23169	Ram Pin	1	
17				
18				
19	23289	Elevator Frame	1	
20	23293	Drive Guard	1	
21	23296	Hudraulic Ram	2	Ref only
22	23301	Finger Rod Bracket L.H.	1	
23	23302	Finger Rod Bracket R.H.	1	
24	23305	Retaining Plate	2	
25	23306	Floor Pivot Pin	2	
26	23314	Tank Side - Front	1	
27	23315	Tank Side - Rear	1	
28	23318	Ram Pin	2	
29	23322	Blinker Plate - Front	1	
30	23323	Blinker Plate - Rear	1	
31	23324	Baffle Plate	1	
32	23327	Spacer	2	
33	23328	Solenoid Guard	1	
34	23333	Wooden Runner	4	
35	23337	Tipping Side	1	
36	23338	Filler Plate	1	



**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23331)****FROM SERIAL No TOR 05B**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
37	23339	Ram Pin	2	MF 690 only.
38	23340	Middle Strap	1	
39	23436	Tank Stay (RH Rear)	1	
40	23437	Tank Stay (LH Rear)	1	
41	23438	Tank Stay (LH Front)	1	
42	23439	Tank Stay Bracket	2	
43	23452	Tank Stay (LH Front)	1	
44				
45				
46	24243	Guard Bolt	2	
47				
48				
49				
50	E42	Spacer	2	
51	E48	Spacer	10	
52				
53				
54	H105	Quick Release Pin	4	
55				
56	PS488	Stop Collar	4	
57	PS871/95	Chain	1	
58				
59				
60	RH53NM	Bush	2	
61				
62				
63	SFT30A	Bearing	2	
64				
65	SPCL345M	Top Tie Bar	1	
66				
67	SPCT35AM	Pivot Pin	2	
68	SPCT36	Keep Plate	2	
69	SPCT52	Guide Roller	2	
70				
71	SPTT15M	Pivot Finger	13	
72				

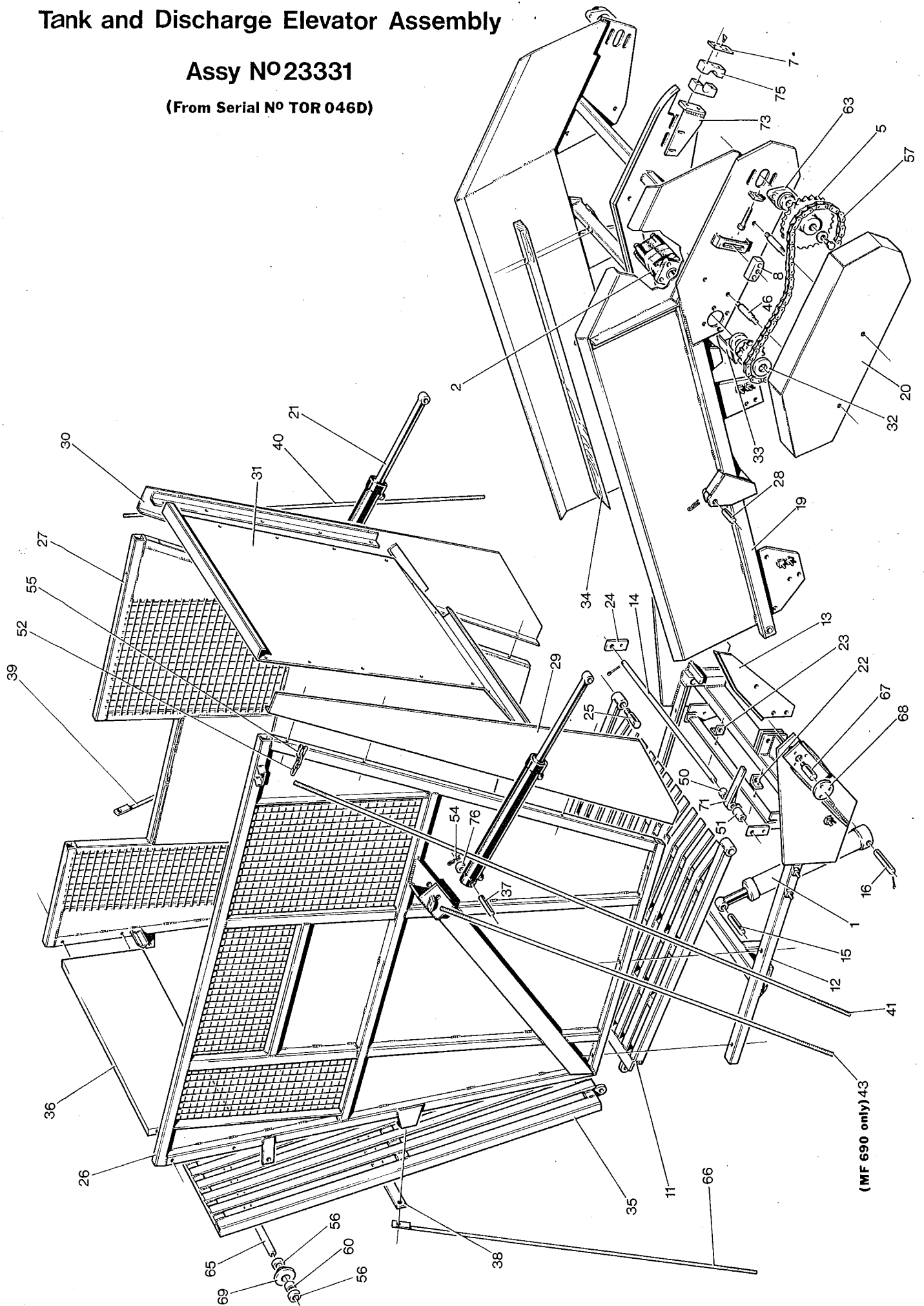
**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23331)****FROM SERIAL No TOR 05B**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
73	TBMW244	Shaft Support	1	
74				
75	TRT298	Bearing Block	2	
76	SS040 022/018	Steel Spacer	2	
77				
78				
79				
80				
81				
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# Tank and Discharge Elevator Assembly

Assy N°23331

(From Serial N° TOR 046D)



**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23331)****FROM SERIAL No TOR 046D**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	11858	Hydraulic Ram	1	Ref Only
2	12209	Hydraulic Motor	1	Ref only
3				
4				
5	16223	Sprocket 40T	1	
6				
7	17133	Keep Plate	1	
8	17155	Chain Tensioner	1	
9				
10				
11	23043	Tank Floor	1	
12	23082	Tank Base	1	
13	23513	Roller Support	1	
14	23159	Pivot Finger Rod	1	
15	23168	Ram Pin	1	
16	23169	Ram Pin	1	
17				
18				
19	23509	Elevator Frame	1	
20	23293	Drive Guard	1	
21	23296	Hudraulic Ram	2	Ref only
22	23301	Finger Rod Bracket L.H.	1	
23	23302	Finger Rod Bracket R.H.	1	
24	23305	Retaining Plate	2	
25	23306	Floor Pivot Pin	2	
26	23314	Tank Side - Front	1	
27	23315	Tank Side - Rear	1	
28	23318	Ram Pin	2	
29	23510	Blinker Plate - Front	1	
30	23511	Blinker Plate - Rear	1	
31	23512	Baffle Plate	1	
32	23327	Spacer	2	
33	23328	Solenoid Guard	1	
34	23333	Wooden Runner	4	
35	23337	Tipping Side	1	
36	23338	Filler Plate	1	

**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23331)**

FROM SERIAL No TOR 046D

Item No.	Part No.	Description	Qty	Remarks
37	23339	Ram Pin	2	MF 690 only.
38	23340	Middle Strap	1	
39	23436	Tank Stay (RH Rear)	1	
40	23437	Tank Stay (LH Rear)	1	
41	23438	Tank Stay (LH Front)	1	
42				
43	23452	Tank Stay (LH Front)	1	
44				
45				
46	24243	Guard Bolt	2	
47				
48				
49				
50	SS022018/042	Spacer	2	
51	SS022018/048	Spacer	10	
52	GS506/3	Chain	1	
53				
54	H105	Quick Release Pin	4	
55	H171	Shackle	1	
56	PS488	Stop Collar	4	
57	PS871/95	Chain	1	
58				
59				
60	RH53NM	Bush	2	
61				
62				
63	SFT30A	Bearing	2	
64				
65	23489	Top Tie Bar	1	
66	SPCL511	Tank Stay (RH Front)	1	
67	SPCT35AM	Pivot Pin	2	
68	SPCT36	Keep Plate	2	
69	SPCT52	Guide Roller	2	
70				
71	SPTT15M	Pivot Finger	13	
72				

**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23331)****FROM SERIAL No TOR 046D**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
73	TBMW244	Shaft Support	1	
74				
75	TRT298	Bearing Block	2	
76	SS040 022/018	Steel Spacer	2	
77				
78				
79				
80				
81				
82				
83				
84				
85				
86				
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105				
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108				

**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23081)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
1	11706	Spacer	3	Ref only
2				
3	11858	Hydraulic Ram	1	
4				
5	12135	Pivot Pin	2	
6				
7	13327	11T Sprocket	3	
8				
9	16068	15T Sprocket	2	
10	16223	40T Sprocket	1	
11				
12	17133	Keep Plate	1	
13				
14	19220	Guard Bolt	1	
15				
16				
17	23043	Tank Floor	1	
18	23082	Tank Base	1	
19	23083	Pulley	1	
20	23141	Elevator Frame	1	
21	23149	Tank Side Front	1	
22	23150	Tank Side Rear	1	
23	23151	Blinker R.H.	1	
24	23152	Blinker L.H.	1	
25	23153	Side Panel	1	
26	23154	Centre Roller Plate	1	
27	23155	Front Tank Extension	1	
28	23156	Side Tank Extension	2	
29	23157	Back Right Tank Extension	1	
30	23158	Back Left Tank Extension	1	
31	23159	Pivot Finger Rod	1	
32	23160	Rod Bracket	2	
33	23161	Tank Top Stay	1	
34	23162	Tank Top Stay	1	
35	23168	Ram Pin	1	
36	23169	Ram Pin (Base)	1	

**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23081)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
37	23172	Drive Shaft	1	
38	23173	Jockey Arm	1	
39	23174	Wooden Runner	4	
40	23176	Gearbox	1	
41	23181	Drive Spigot	1	
42	23189	Bottom Guard	1	
43	23190	Top Guard	1	
44	23223	Tank Stay	1	
45				
46				
47	C7	Spacer	2	
48	C70	Spacer	1	
49	C160	Spacer	1	
50				
51	E42	Spacer	2	
52	E48	Spacer	10	
53				
54	GS411	Grease Nipple (Angled)	2	
55	GS412	Grease Nipple	2	
56				
57				
58	H121	Spring	2	
59				
60				
61	PS212B	Roller Bush	28	
62	PS213	Roller	4	
63	PS213B	Roller	24	
64	PS326M	Stop Collar	6	
65	PS488	Stop Collar	4	
66	PS871/110	Chain	1	
67	PS871/200	Chain	1	
68				
69				
70	RH53NM	Bush	2	
71	RH56	Circlip	3	
72				



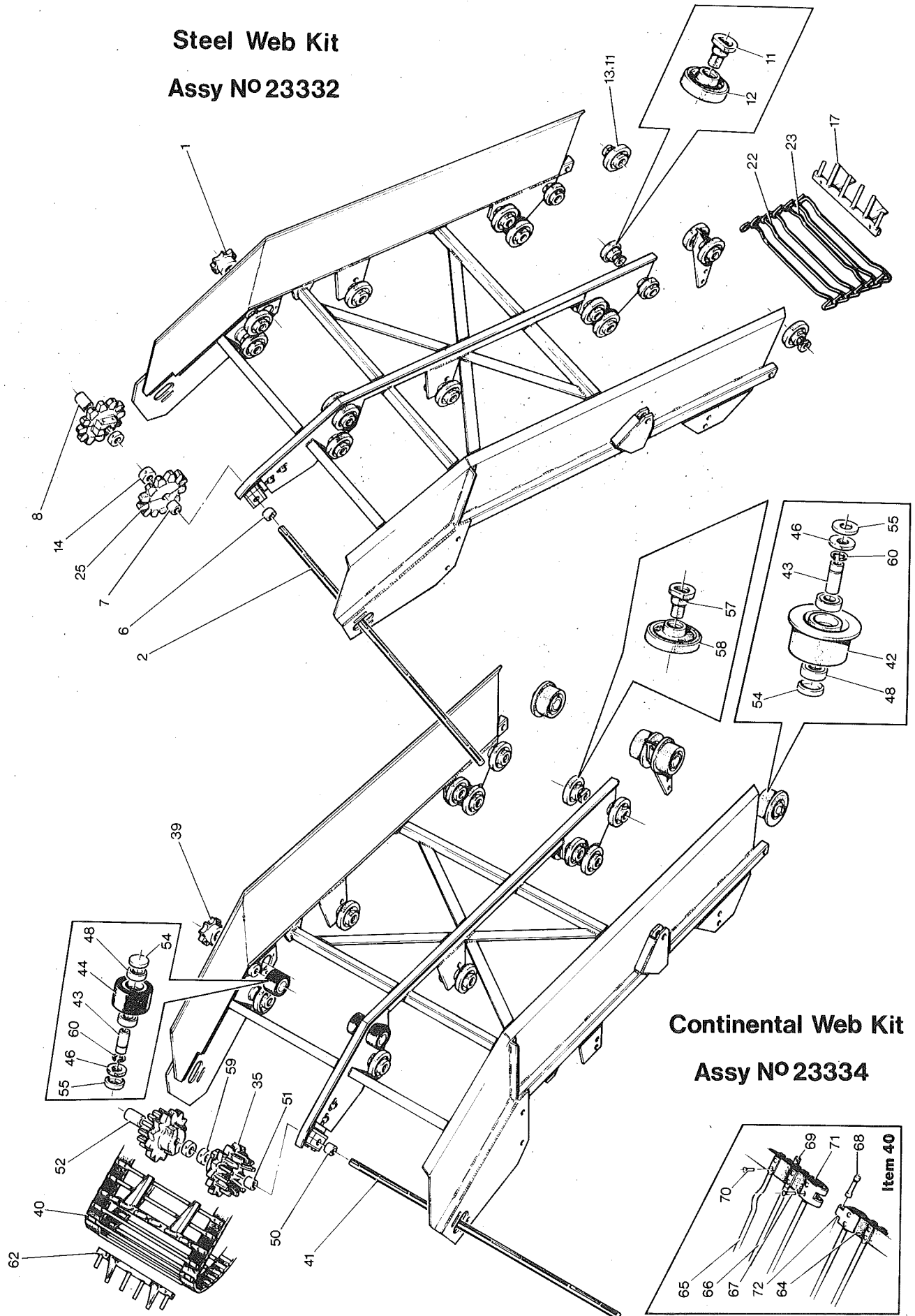
**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23081)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

Item No.	Part No.	Description	Qty	Remarks
73	SFT30A	Bearing	2	Ref only
74				
75	SP446	Jockey Arm	1	
76				
77	SPCL345M	Tie Bar	1	
78				
79	SPCL346M	Middle Strap	1	
80	SPCL504	Shoulder Bolt	2	
81	SPCL509	Tank Stay	1	
82	SPCL511	Tank Stay	2	
83	SPCL730	Lat	30	
84	SPCT1M	Hydraulic Ram	2	
85				
86	SPCT35AM	Elevator Pivot Pin	2	
87	SPCT36	Keep Plate	1	
88	SPCT48M	Tank Tipping Side	1	
89	SPCT52	Guide Roller	2	
90	SPTT15M	Pivot Finger	13	
91				
92	SS020 013/009	Steel Spacer	1	
93				
94	SS025 013/012	Steel Spacer	1	
95	SS025 013/030	Steel Spacer	1	
96	TBM15	Web Link	180	
97				
98	TBM16	Web Link Looped	30	
99	TBM172M	Guard Bolt	1	
100				
101	TBMW162	Web Sprocket	4	
102				
103	TBMW162	Web Sprocket	4	
104				
105	TBMW162	Web Sprocket	4	
106				
107	TBMW162	Web Sprocket	4	
108				

**TANK & DISCHARGE ELEVATOR****(ASSY. NO 23081)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
109	TBMW181	Flanged Sprocket (19T)	1	
110	TBMW244	Centre Support	1	
111				
112				
113	TRH210	Tensioner Bracket	2	
114				
115				
116	TRT298	Bearing Block (Nylon)	2	
117				
118				
119	6206-RS	Bearing	2	
120	6301-RS	Bearing	6	
121				
122				
123				
124				
125				
126				
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**Steel Web Kit**  
**Assy N° 23332**



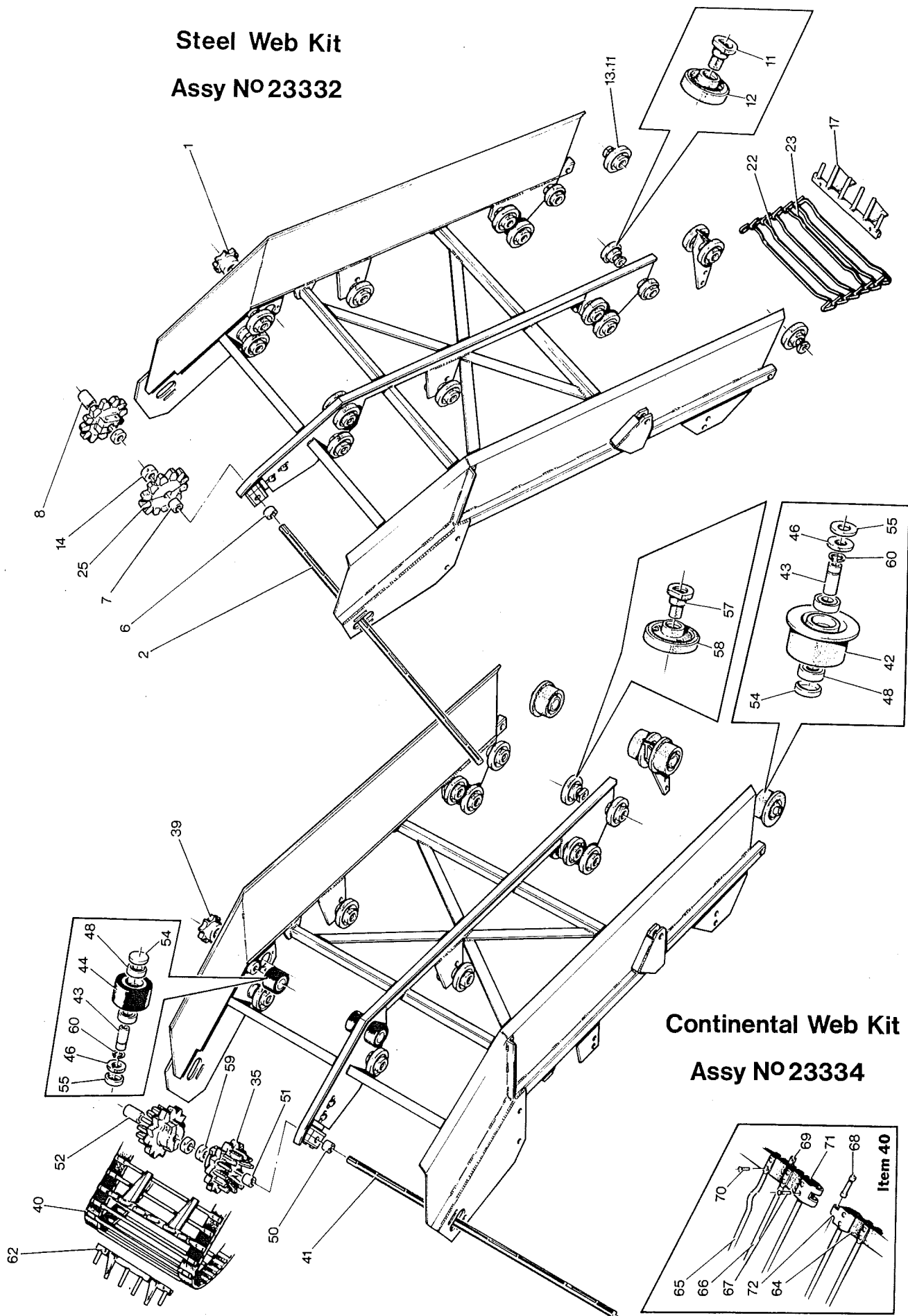
**Continental Web Kit**  
**Assy N° 23334**

Item No.	Part No.	Description	Qty	Remarks
1	23290	Drive Sprocket 15T	1	
2	23291	Drive Shaft	1	
3				
4				
5				
6	C40	Plastic Spacer	1	
7	C45	Plastic Spacer	1	
8	C115	Plastic Spacer	2	
9				
10				
11	PS212B	Roller Bush	28	
12	PS213	Roller	4	
13	PS213B	Roller	24	
14	PS326M	Stop Collar	4	
15				
16				
17	SPCL730	Lat	30	
18				
19	SS057 013/040	Steel Spacer	4	
20				
21				
22	TBM15	Web Link	180	
23	TBM16	Looped Web Link	30	
24				
25	TBMW162	Web Sprocket	4	
26				
27				
28				
29				
30				
31				
32				
33	23334	CONTINENTAL WEB KIT		
34		CONSISTS OF:-		
35	13030	Web Sprocket	4	
36				

Item No.	Part No.	Description	Qty	Remarks
37				
38				
39	23231	13T x 0.75P Sprocket	1	
40	23316	Web Assembly	2	
41	23325	Drive Shaft	1	
42	23430	Flanged Roller	4	
43	23431	Spindle	8	
44	23432	Roller	4	
45				
46	000 03 005 04	Felt Seal	8	
47				
48	6005RS	Bearing	16	
49				
50	C70	Spacer	1	
51	C75	Spacer	1	
52	C145	Spacer	2	
53				
54	PH407	Seal	8	
55	PH408	Seal	8	
56				
57	PS212B	Roller Bush	16	
58	PS213B	Roller	16	
59	PS326M	Collar	4	
60	PS843	Circlip	8	
61				
62	SPCL 730	Lat	28	
63				
	23316	WEB ASSEMBLY CONSISTS OF:-		
64	23316/1	Web Belt	2	
65	11037/1	Looped Link	14	
66	11037/2	Link	97	
67	12238/4	Long Rivet	8	

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**Steel Web Kit**  
**Assy N° 23332**



**Continental Web Kit**  
**Assy N° 23334**

Item No.	Part No.	Description	Qty	Remarks
1	23290	Drive Sprocket 15T	1	
2	23291	Drive Shaft	1	
3				
4				
5				
6	C40	Plastic Spacer	1	
7	C45	Plastic Spacer	1	
8	C115	Plastic Spacer	2	
9				
10				
11	PS212B	Roller Bush	28	
12				
13	PS213B	Roller	24	
14	PS326M	Stop Collar	4	
15				
16				
17	SPCL730	Lat	30	
18				
19				
20				
21				
22	TBM15	Web Link	180	
23	TBM16	Looped Web Link	30	
24	TBM133	Roller (Large Dia)	8	
25	TBMW162	Web Sprocket	4	
26				
27				
28				
29				
30				
31				
32				
33	23334	CONTINENTAL WEB KIT		
34		CONSISTS OF:-		
35	13030	Web Sprocket	4	
36				



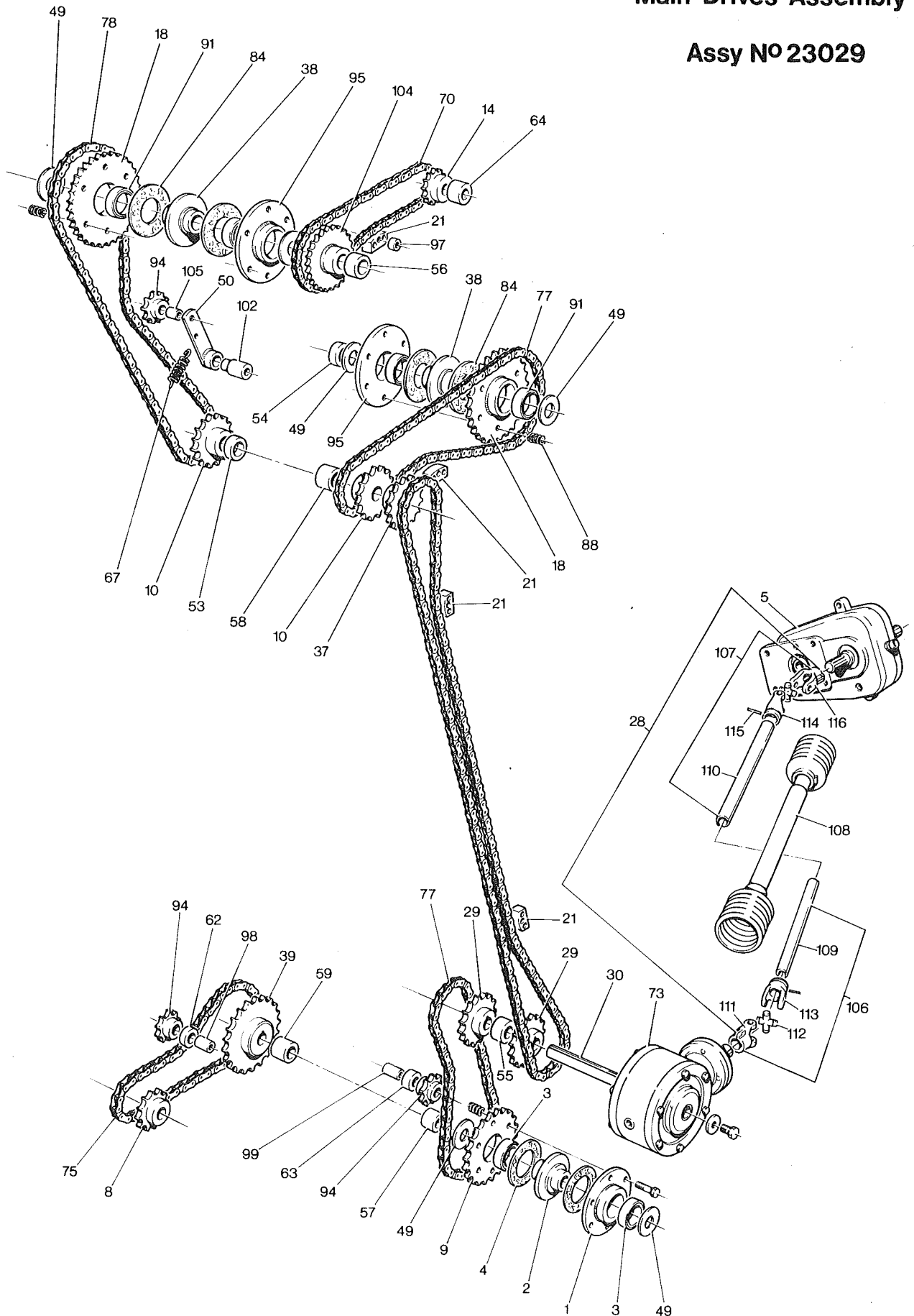
Item No.	Part No.	Description	Qty	Remarks
37				
38				
39	23231	13T x 0.75P Sprocket	1	
40	23316	Web Assembly	2	
41	23325	Drive Shaft	1	
42	23430	Flanged Roller	8	
43	23431	Spindle	8	
44				
45				
46	000 03 005 04	Felt Seal	8	
47				
48	6005RS	Bearing	16	
49				
50	C70	Spacer	1	
51	C75	Spacer	1	
52	C145	Spacer	2	
53				
54	PH407	Seal	8	
55	PH408	Seal	8	
56				
57	PS212B	Roller Bush	16	
58	PS213B	Roller	16	
59	PS326M	Collar	4	
60	PS843	Circlip	8	
61	SS025013/007	Steel Spacer	2	
62	SPCL 730	Lat	28	
63	TBM133	Roller (Large Dia)	4	
	23316	WEB ASSEMBLY CONSISTS OF:-		
64	23316/1	Web Belt	2	
65	11037/1	Looped Link	14	
66	11037/2	Link	97	
67	12238/4	Long Rivet	8	

FROM SERIAL NoTOR 046D

Item No.	Part No.	Description	Qty	Remarks
68	12238/5	Connecting Pin	2	
69	12238/6	Plate	222	
70	12238/7	Rivet	624	
71	12238/9	Connector Female	2	
72	12238/10	Connector Male	2	

# Main Drives Assembly

Assy N° 23029



Item No.	Part No.	Description	Qty	Remarks
1	11002	Clutch Plate	1	See Page 2.33
2	11004	Clutch Centre	1	
3	11005	Bearing	2	
4	11006	Ferodo Disc	2	
5	11876	Gearbox (1:2.647 Ratio)	1	
6				
7				
8	13308	13T x 0.75P Sprocket	1	
9	13311	Clutch Sprocket 26T	1	
10	13314	19T x 0.75P Sprocket	2	
11				
12				
13				
14	14423	17T x 0.5P Sprocket	1	
15				
16				
17				
18	16056	35T x 0.75P Sprocket	2	
19				
20				
21	17155	Chain Tensioner	4	
22				
23				
24				
25				
26				
27				
28	23111	Universal Coupling Shaft	1	
29	23114	17T x 0.75P Sprocket	1	
30	23115	Gearbox Shaft	1	
31				
32				
33				
34				
35				
36				

# MAIN DRIVES

(ASSY. NO 23029)

Item No.	Part No.	Description	Qty	Remarks
37	24022	19T x 0.75P Sprocket	1	
38	24027	Clutch Centre	2	
39	24116	26T x 0.75P Sprocket	1	
40				
41				
42				
43				
44				
45				
46				
47				
48				
49	BM12	Washer	6	
50	BM184A	Jockey Arm	1	
51				
52				
53	C14	Spacer	1	
54	C16	Spacer	1	
55	C22	Spacer	1	
56	C24	Spacer	1	
57	C36	Spacer	1	
58	C42	Spacer	1	
59	C54	Spacer	1	
60				
61				
62	D10	Spacer	1	
63	D18	Spacer	1	
64	D27	Spacer	1	
65				
66				
67	H121B	Spring	1	
68				
69				
70	PH526/68	0.5P Drive Chain	1	
71				
72				

# MAIN DRIVES

(ASSY. NO 23029)

Item No.	Part No.	Description	Qty	Remarks
73	PS450/2TM	Gearbox (1:2 Ratio)	1	See page 2.33
74				
75	PS871/49	0.75P Drive Chain	1	
76				
77	PS871/106	0.75P Drive Chain	2	
78	PS871/128	0.75P Drive Chain	1	
79	PS871/226	0.75P Drive Chain	1	
80				
81				
82				
83				
84	PT51	Ferodo Disc	4	
85				
86				
87				
88	RH149	Clutch Spring	18	
89				
90				
91	S/72/16	Bearing	4	
92				
93				
94	SP295A	Jockey Sprocket	3	
95	SP525	Clutch Plate	2	
96				
97	SS025013/015	Steel Spacer	1	
98	SS025013/050	Steel Spacer	1	
99	SS025013/058	Steel Spacer	1	
100				
101				
102	TBM18A	Jockey Spigot	1	
103				
104	TBMW169	34T x 0.5P Sprocket	1	
105	TBMW178	Jockey Spindle	1	
	23111	(ITEM 28) UNIVERSAL COUPLING SHAFT CONSISTS OF:-		
106	23111/1	Male Coupling (Complete)	1	

# MAIN DRIVES

(ASSY. NO 23029)

Item No.	Part No.	Description	Qty	Remarks
107	23111/2	Female Coupling (complete)	1	
108	23111/3	Guard Complete	1	
109	TBMW643/4	Male Lemon Tube	1	
110	TBMW643/5	Female Lemon Tube	1	
111	16218/5	Plain Yoke	1	
112	16218/6	Unit Package	2	
113	16218/7	Male End Inner Yoke	1	
114	16218/8	Female End Inner Yoke	1	
115	16218/9	Straight Spring Pin	2	
116	24005/6	Splined Yoke	1	
117				
118				

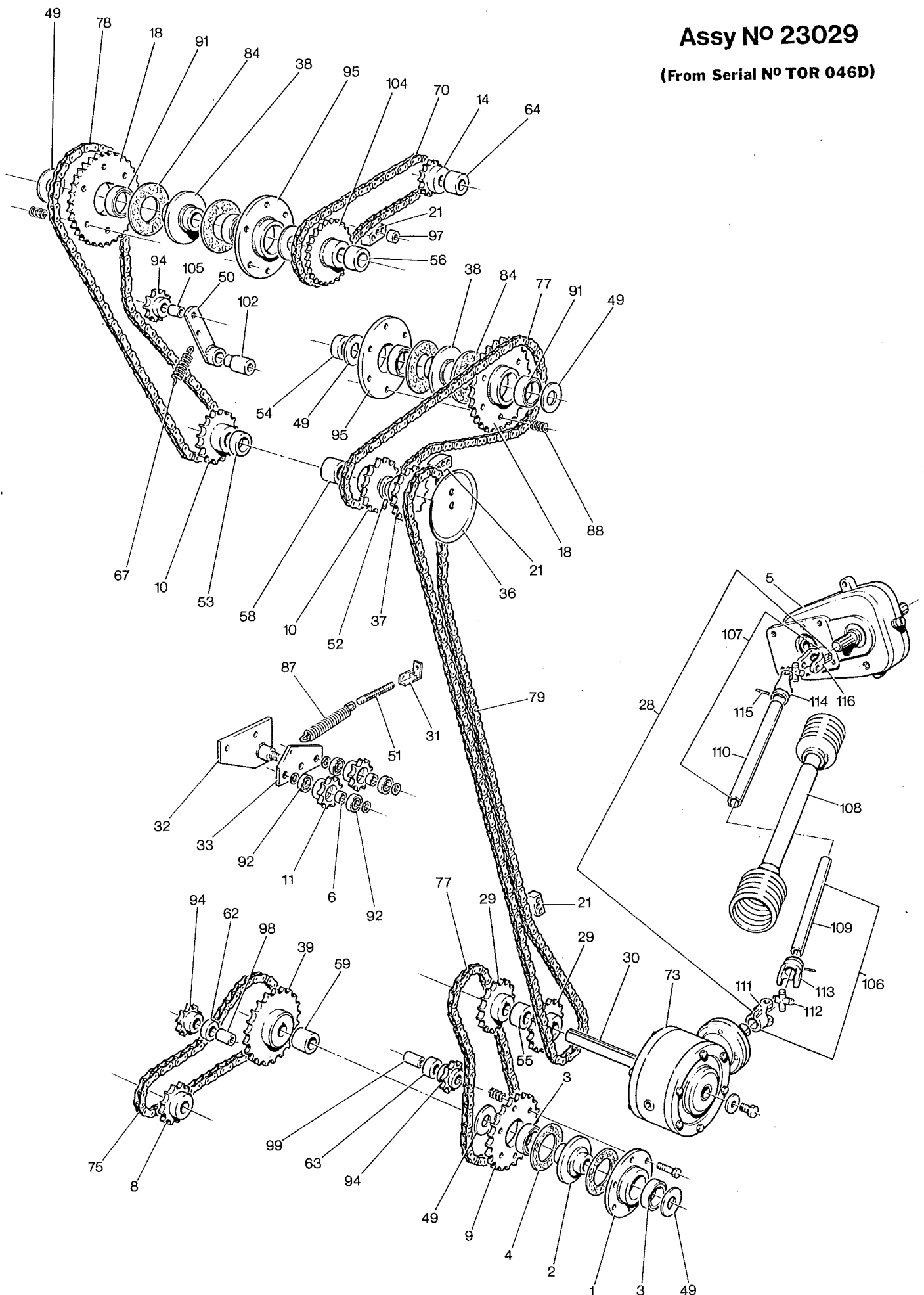




# Main Drives Assembly

Assy N° 23029

(From Serial N° TOR 046D)



Item No.	Part No.	Description	Qty	Remarks
1	11002	Clutch Plate	1	See Page 2.33
2	11004	Clutch Centre	1	
3	11005	Bearing	2	
4	11006	Ferodo Disc	2	
5	11876	Gearbox (1:2.647 Ratio)	1	
6	11706	Spacer	2	
7				
8	13308	13T x 0.75P Sprocket	1	
9	13311	Clutch Sprocket 26T	1	
10	13314	19T x 0.75P Sprocket	2	
11	13327	11T Sprocket	2	
12				
13				
14	TBMW783	17T x 0.5P Sprocket	1	
15				
16				
17				
18	16056	35T x 0.75P Sprocket	2	
19				
20				
21	17155	Chain Tensioner	4	
22				
23				
24				
25				
26				
27				
28	23111	Universal Coupling Shaft	1	
29	23114	17T x 0.75P Sprocket	1	
30	23115	Gearbox Shaft	1	
31	23499	Tension Bracket	1	
32	23500	Jockey Arm Bracket	1	
33	23501	Jockey Arm	1	
34				
35				
36	00050 00016	Flange Washer	1	

**MAIN DRIVES****(ASSY. NO 23029)**

FROM SERIAL NoTOR 046D

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
37	24022	19T x 0.75P Sprocket	1	
38	24027	Clutch Centre	2	
39	11722	29T x 0.75P Sprocket	1	
40				
41				
42				
43				
44				
45				
46				
47				
48				
49	BM12	Washer	6	
50	BM184A	Jockey Arm	1	
51	BM82M	Spring Tensioner	1	
52	C5	Spacer	1	
53	C14	Spacer	1	
54	C16	Spacer	1	
55	C8	Spacer	1	
56	C24	Spacer	1	
57				
58	C42	Spacer	1	
59				
60				
61				
62	D18	Spacer	1	
63	D38	Spacer	1	
64	D27	Spacer	1	
65				
66				
67	H121B	Spring	1	
68				
69				
70	PH526/68	0.5P Drive Chain	1	
71				
72				

# MAIN DRIVES

(ASSY. NO 23029)

FROM SERIAL NoTOR046D

Item No.	Part No.	Description	Qty	Remarks
73	PS450/2TM	Gearbox (1:2 Ratio)	1	See page 2.33
74				
75	PS871/49	0.75P Drive Chain	1	
76				
77	PS871/106	0.75P Drive Chain	2	
78	PS871/128	0.75P Drive Chain	1	
79	PS871/223	0.75P Drive Chain	1	
80				
81				
82				
83				
84	PT51	Ferodo Disc	4	
85				
86				
87	RH80	Spring	1	
88	RH149	Clutch Spring	18	
89				
90				
91	S/72/16	Bearing	4	
92	63012RS	Bearing	4	
93				
94	SP295A	Jockey Sprocket	3	
95	SP525	Clutch Plate	2	
96				
97	SS025013/015	Steel Spacer	1	
98	SS025013/058	Steel Spacer	1	
99	SS025013/078	Steel Spacer	1	
100				
101				
102	TBM18A	Jockey Spigot	1	
103				
104	TBMW169	34T x 0.5P Sprocket	1	
105	TBMW178	Jockey Spindle	1	
	23111	(ITEM 28) UNIVERSAL COUPLING SHAFT CONSISTS OF:-		
106	23111/1	Male Coupling (Complete)	1	

**MAIN DRIVES****(ASSY. NO 23029)**

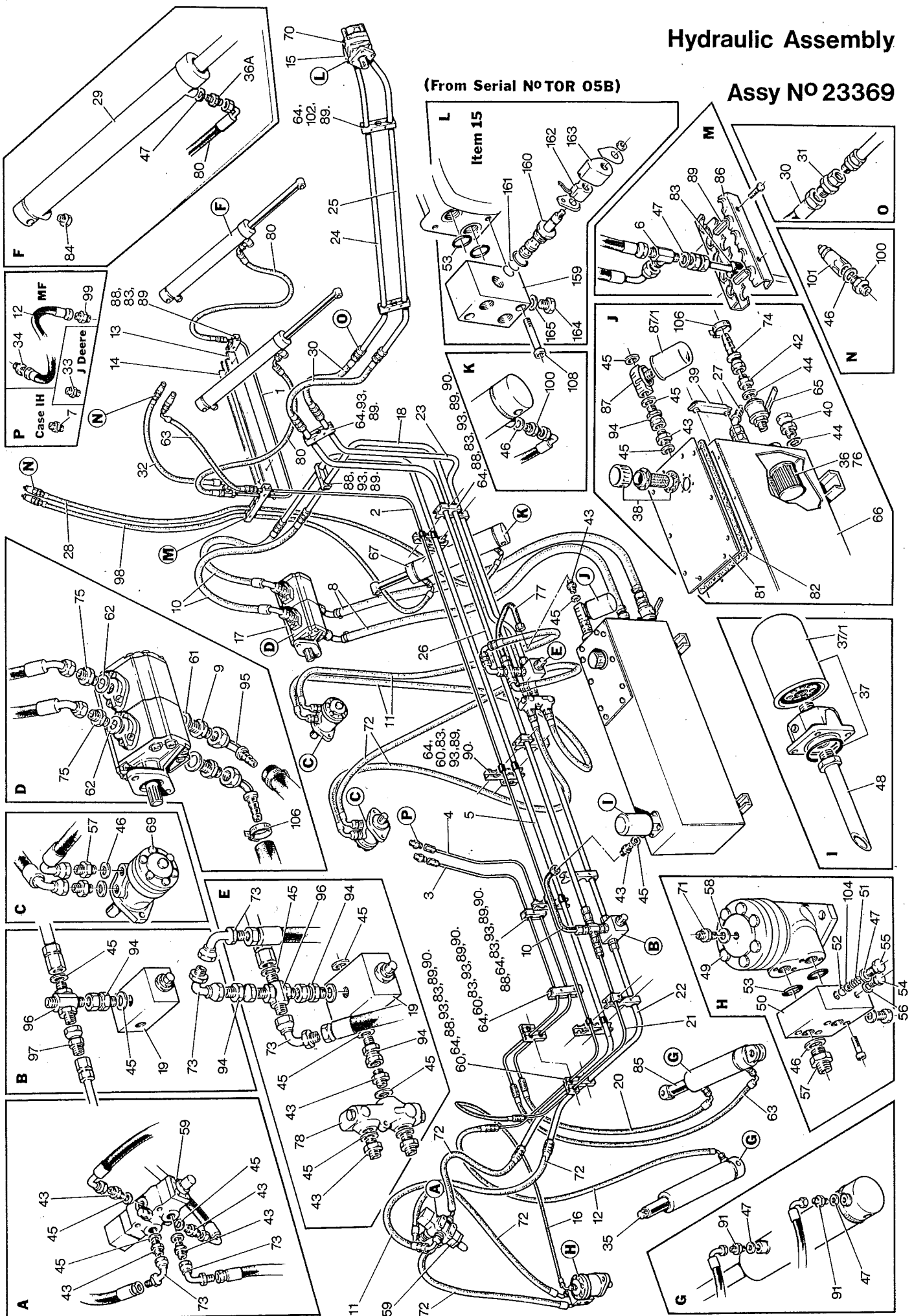
FROM SERIAL NoTOR 046D

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
107	23111/2	Female Coupling (complete)	1	
108	23111/3	Guard Complete	1	
109	23111/5	Male Lemon Tube	1	
110	23111/6	Female Lemon Tube	1	
111	16218/5	Plain Yoke	1	
112	16218/6	Unit Package	2	
113	16218/7	Male End Inner Yoke	1	
114	16218/8	Female End Inner Yoke	1	
115	16218/9	Straight Spring Pin	2	
116	24005/6	Splined Yoke	1	
117				
118				



(From Serial N° TOR 05B)

Assy N° 23369



## HYDRAULIC ASSY

(ASSY. NO 23369)

FROM SERIAL No TOR 05B

Item No.	Part No.	Description	Qty	Remarks
1	23126	Steel Pipe Assy	1	For Breakdown See End of Parts List
2	23129	Steel Pipe Assy	1	" " "
3	23130	Steel Pipe Assy	1	" " "
4	23131	Steel Pipe Assy	1	" " "
5	23133	Steel Pipe Assy	1	" " "
6	23139	Male Tee - 3/8 BSP	1	Qty was 2 prior to Serial No TOR 046D
7	23140	Male-Male Adap 3/8 BSP 3/4 JIC	2	Case 1394 & 1494
8	23142	Suction Hose 1" Bore	2	
9	23143	Male-Male Adap 1" - 1 1/4" BSP	2	
10	23144	Hose Assy 3/4 BSP (540)	3	
11	23147	Hose Assy 3/4 BSP (1250)	3	
12	23148	Hose Assy 3/8 BSP (1400)	1	Plus 2 for Massey Ferguson
13	23217	Pipe Guard	1	
14	23218	Pipe Guard	1	
15	23317	Valve Assy	1	
16	23320	Hose Assy 1/4" BSP (2200)	1	
17	23329	Double Pump Assy	1	
18	23349	Steel Pipe Assy	1	
19	23350	Relief Valve	2	RV125 3000psi
20	24137	Hose Assy 3/8" BSP (300)	1	Prior to Serial No TOR 046D Part No was 13183
21	23357	Steel Pipe Assy	1	For Breakdown see End of Parts List
22	23358	Steel Pipe Assy	1	" " "
23	23359	Steel Pipe Assy	1	" " "
24	23360	Steel Pipe Assy	1	" " "
25	23361	Steel Pipe Assy	1	" " "
26	23366	Steel Pipe Assy	1	" " "
27	23435	Angled 1" BSP Push on Swivel	1	
28	23368	Hose Assy 3/8 BSP (2200)	1	
29	23296	Ram	2	
30	23433	Hose Assy	2	
31	23434	1/2 FM - 3/4 M Swivel Adaptor	2	
32	24136	Hose Assy 3/8 BSP (750)	1	
33	23450	Stud Coupling 3/8 BSP M-18mm F/M	2	J. Deere
34	23451	3/8" BSP - 9/16 JIC M/M Adaptor	2	Massey Ferguson
35	10379	Ram	1	
36	11056	Strainer	2	
36A	10291	Restrictor	2	



FROM SERIAL No TOR 05B

Item No.	Part No.	Description	Qty	Remarks
37	11057	Filter Assy	1	11058 - Element UCC 240B
38	11059	Air Breather	1	
39	11060	Level Gauge	1	
40	11808	1" BSP M/FM Swivel Adaptor	2	
41	11117	3/4 BSP Blanking Plug	1	
42	11114	Male-Male Adaptor 1" BSP	2	
43	11115	Male-Male Adaptor 3/4 BSP	10	
44	11122	Dowty Seal 1" BSP	4	
45	11123	Dowty Seal 3/4" BSP	22	
46	11124	Dowty Seal 1/2" BSP	12	
47	11125	Dowty Seal 3/8" BSP	8	
48	11126	Oil Return Pipe	1	
49	11201	Hydraulic Motor	1	
50	11288	Check Valve Block	1	
51	11289	Spring	1	
52	11290	Ball Bearing	1	
53	11291	'O' Ring	4	
54	11292	Plug 1/8" BSP	2	
55	11293	Plug 3/8" BSP	1	
56	11294	Dowty Seal 1/8" BSP	2	
57	11295	Male-Male Adap 1/2" - 3/4" BSP	6	
58	11337	Dowty Seal 1/4" BSP	1	
59	11490	Diverter Valve	1	
60	11510	Pipe Clamp (1 Loop)	8	
61	11740	Dowty Seal 1 1/4" BSP	2	
62	11741	Dowty Seal 1" BSP	2	
63	11746	Hose Assy 3/8" BSP (500)	2	On Steer Ram prior to Serial No TOR 046D Part No was 13183
64	11373	Pipe Clamp (3 Loop)	20	
65	11807	Shut Off Tap 1" BSP	2	
66	23544	Tank	1	
67	11858	Ram	1	OMP100 OMS160
68				
69	12205	Hydraulic Motor	2	
70	12209	Hydraulic Motor	1	
71	12316	Male-Male Adaptor 1/4" BSP	1	
72	12346	Hose Assy 3/4" BSP (1000)	5	

FROM SERIAL No TOR 05B

Item No.	Part No.	Description	Qty	Remarks
73	12350	90° M-F Bent Stem ¾" BSP	5	20125 Element
74	12508	Fem S/Pipe Adap 1" BSP	1	
75	12560	Male-Male Adap 1"-¾" BSP	2	
76	12579	Barrel Nipple	2	
77	12344	Hose Assy ¾" BSP (100)	1	
78	13059	Flow Divider	1	
79	13183	Hose Assy - ¾" BSP (700)	2	
80	13192	Hose Assy - ¾" BSP (1000)	2	
81	13293	Tank Lid	1	
82	13294	Gasket	1	
83	13386	Grommet	17	
84	13342	Breather Plug	2	
85	14019	Ram	1	
86	16305	Pipe Clamp (5 Loops)	2	
87	20124	Filter Assy - In Line	1	
88	SPCT208	Pipe Clamp (2 Loops)	10	
89	SPCT210	Nut	34	
90	SPCL212	Stud	12	
91	UC31A	Male-Male Adap-¾" BSP	3	
92	SPCT98	Banjo Flow Restrictor	2	
93	SPCT222	Grommet	26	
94	TBMW338	Swivel Adap M-F ¾" BSP	4	Massey Ferguson  MLE Portion
95	TBMW340	Female S/Pipe 90° 1" BSP	2	
96	TBMW605	Male Cross ¾" BSP	2	
97	TBMW607	Swivel Adap M-F ¾"-¾" BSP	1	
98	TBMW653	Hose Assy ¾" BSP (2000)	1	
99	UC31A	¾" M/M Adaptor	2	
100	UC25	Male-Male Adap ½"-¾" BSP	6	
101	W0848	Quick Release ½" BSP	4	
102	W0944	Grommet	4	
103				
104		M6 Plain Washer	1	
105				
106	GS406	Jubilee Clip	4	
107		Socket HD Screw M10x65	2	
108	22015010/070	M10x70 Socket HD Setscrew	2	

## HYDRAULIC ASSY

(ASSY. NO 23369)

FROM SERIAL No TOR 05B

Item No.	Part No.	Description	Qty	Remarks
109	16316	ITEM 1 23126 STEEL PIPE ASSY CONSISTS OF:- Male Stud 3/8" BSP - 10 Pipe	1	) Not Shown
110	23146	Fem Stud 3/8" BSP - 10 Pipe	1	
111				
112				
113	16316	ITEM 2 23129 STEEL PIPE ASSY 10 Dia CONSISTS OF:- Male Stud 3/8" BSP - 10 Pipe	2	) Not Shown
114				
115				
116	16316	ITEM 3 23130 STEEL PIPE ASSY 10 Dia CONSISTS OF:- Male Stud 3/8" BSP - 10 Pipe	1	) Not Shown
117	23146	Fem Stud 3/8" BSP - 10 Pipe	1	
118				
119				
120	16316	ITEM 4 23131 STEEL PIPE ASSY 10 Dia CONSISTS OF:- Male Stud 3/8" BSP - 10 Pipe	1	) Not Shown
121	23146	Fem Stud 3/8" BSP - 10 Pipe	1	
122				
123				
124	16312	ITEM 5 23133 STEEL PIPE ASSY 20 Dia CONSISTS OF:- Male Stud 3/4" BSP -20 Pipe	2	) Not Shown
125				
126				
127	16312	ITEM 18 23349 STEEL PIPE ASSY 20 Dia CONSISTS OF:- Male Stud 3/4" BSP 20 Pipe	2	) Not Shown
128				
129				
130	16312	ITEM 20 23352 STEEL PIPE ASSY 20 Dia CONSISTS OF:- Male Stud 3/4" BSP - 20 Pipe	1	) Not Shown
131	23145	Fem Stud 3/4" BSP - 20 Pipe	1	
132				
133				
134	16315	ITEM 21 23357 STEEL PIPE ASSY 10 Dia CONSISTS OF:- Male Stud 1/4" BSP 10 Pipe	1	) Not Shown
135	23146	Fem Stud 3/8" BSP 10 Pipe	1	
136				

FROM SERIAL No TOR 05B

Item No.	Part No.	Description	Qty	Remarks
137	16312	ITEM 22 23358 STEEL PIPE ASSY 20 Dia CONSISTS OF:- Male Stud ¾" BSP - 20 Pipe	2	Not Shown
138				
139				
140	16312	ITEM 23 23359 STEEL PIPE ASSY 20 Dia CONSISTS OF:- Male Stud ¾" BSP - 20 Pipe	2	Not Shown
141				
142				
143	23363	ITEM 24 23360 STEEL PIPE ASSY 18 Dia CONSISTS OF:- Throttle Free Banjo ½" BSP - 18 Pipe	1	) Not Shown
144	23364	Male Stud ¾" BSP - 18 Pipe	1	
145				
146				
147	23363	ITEM 25 23361 STEEL PIPE ASSY 18 Dia CONSISTS OF:- Throttle Free Banjo ½" BSP - 18 Pipe	1	) Not Shown
148	23364	Male Stud ¾" BSP - 18 Pipe	1	
150				
151				
152	16312	ITEM 26 23366 STEEL PIPE ASSY 20 Dia CONSISTS OF:- Male Stud ¾" BSP - 20 Pipe	1	) Not Shown
153	23145	Fem Stud ¾" BSP - 20 Pipe	1	
154				
155				
156				
157				
158				
159	23336	ITEM 15 23317 VALVE ASSY CONSISTS OF:- Valve Block	1	
160	13112	NO Valve	1	
161	13114	Seal Kit	1	
162	16123/3	12v Coil	1	
163	13116	Coil Cover	1	
164	11293	Plug	1	
165	11125	Dowty Seal	1	

# HYDRAULIC ASSY

(ASSY. NO 23116)

PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)

Item No.	Part No.	Description	Qty	Remarks
1	23008	Pump Assy	1	
2	23126	Steel Pipe Assy	2	
3	23127	Steel Pipe Assy	1	
4	23128	Steel Pipe Assy	1	
5	23129	Steel Pipe Assy	1	
6	23130	Steel Pipe Assy	1	
7	23131	Steel Pipe Assy	1	
8	23232	Steel Pipe Assy	1	
9	23133	Steel Pipe Assy	1	
10	23139	Male Tee $\frac{3}{8}$ x $\frac{3}{8}$ x $\frac{3}{8}$ BSP	2	
11	23140	Male/Male Adaptor	2	$\frac{3}{8}$ BSP x $\frac{3}{4}$ JIC
12	23142	Suction Hose 1" (1500)	2	
13	23143	Male/Male Adaptor	2	1 $\frac{1}{4}$ " BSP - 1" BSP
14	23144	Hose Assy $\frac{3}{4}$ BSP (540)	2	
15	23147	Hose Assy $\frac{3}{4}$ BSP (1250)	1	
16	23148	Hose Assy $\frac{3}{8}$ BSP (1400)	1	
17	23217	Pipe Guard	1	
18	23218	Pipe Guard	1	
19				
20	10379	Hydraulic Ram	1	
21	11056	Strainer	2	
22	11057	Filter Assy	1	
23	11059	Air Breather	1	
24	11060	Level Gauge	1	
25				
26				
27				
28	11114	Male/Male Adaptor	4	1" BSP
29	11115	Male/Male Adaptor	18	$\frac{3}{4}$ " BSP
30	11122	Dowty Seal - 1"	4	
31	11123	Dowty Seal - $\frac{3}{4}$ "	20	
32	11124	Dowty Seal - $\frac{1}{2}$ "	7	
33	11125	Dowty Seal - $\frac{3}{8}$ "	11	
34	11132	Relief Valve (RV125)	1	
35	11201	Hydraulic Motor (OMR80)	1	
36	11288	Check Valve Block	1	

**HYDRAULIC ASSY****(ASSY. NO 23116)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
37	11289	Spring	1	
38	11290	Ball Bearing	1	
39	11291	O. Ring	2	
40	11292	Plug 1/8" BSP	2	
41	11293	Plug 3/8" BSP	1	
42	11294	Dowty Seal 1/8"	2	
43	11490	Diverter Valve	1	
44	11740	Dowty Seal 1 1/4"	2	
45	11746	Hose Assy 3/8 BSP (500)	5	
46	11807	Shut Off Tap 1" BSP	2	
47	11854	Tank	1	
48	11858	Ram	1	
49				
50				
51	12205	Hydraulic Motor (OMP100)	2	
52	12346	Hose Assy 3/4 BSP (1000)	7	
53	12350	90° Bent Stem Adaptor 3/4 BSP	2	
54	12508	Fem Standpipe Adaptor 1"	2	
55				
56				
57	13059	Flow Divider	1	
58	13183	Hose Assy - 3/8 BSP (700)	2	
59	13192	Hose Assy - 3/8 BSP (1000)	4	
60	13293	Tank Lid	1	
61	13294	Gasket	1	
62				
63				
64	14019	Ram	1	
65				
66	20124	Filter Assy - In Line	1	UCMX-1518-102
67				
68				
69	SPCT1M	Ram	2	
70	SPCT69	Male-Male Adaptor	5	
71	SPCT98	Ram Flow Restrictor	2	
72				

**HYDRAULIC ASSY****(ASSY. NO 23116)****PRIOR TO SERIAL No TOR 05B (PARTS LIST ONLY)**

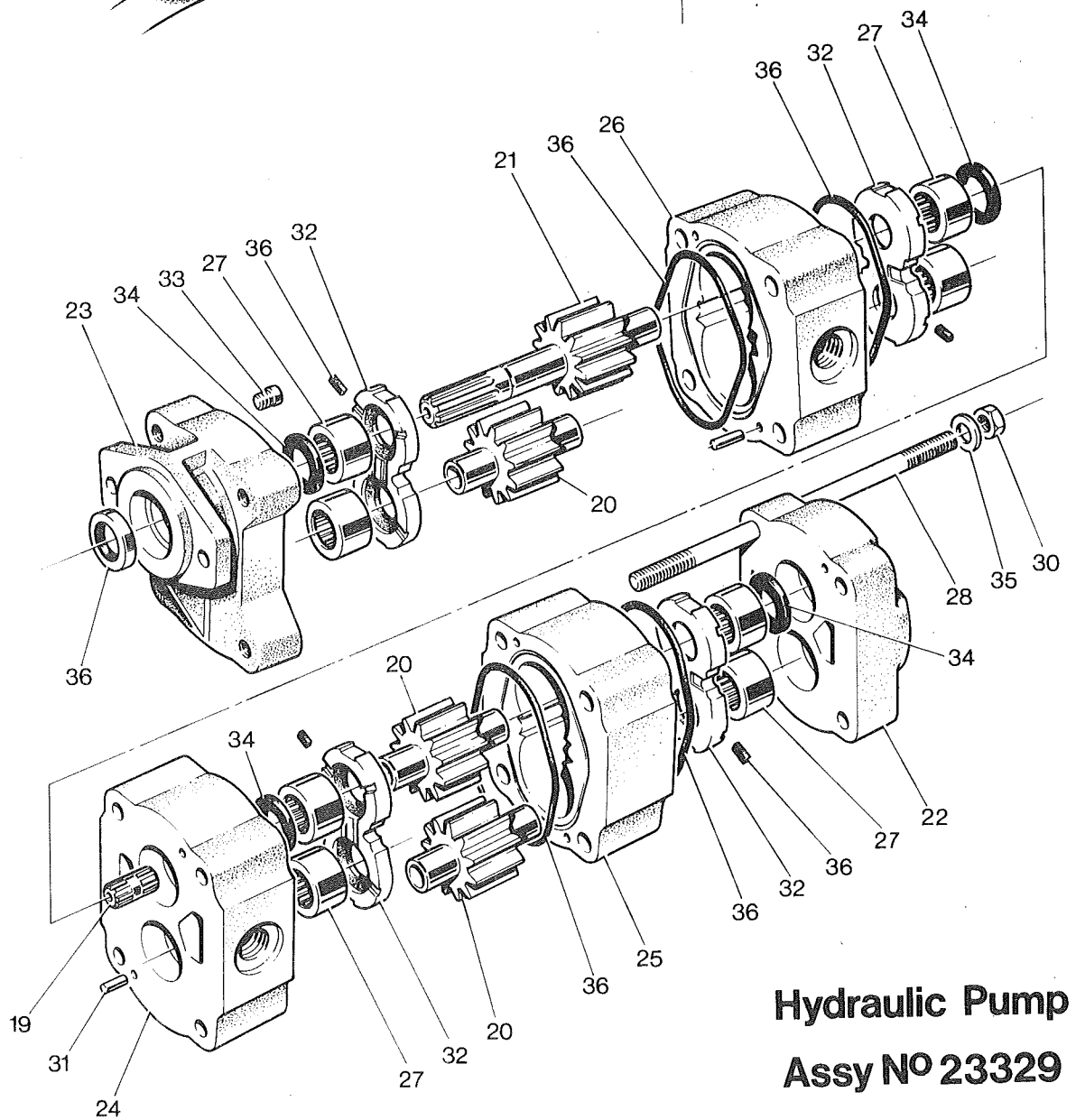
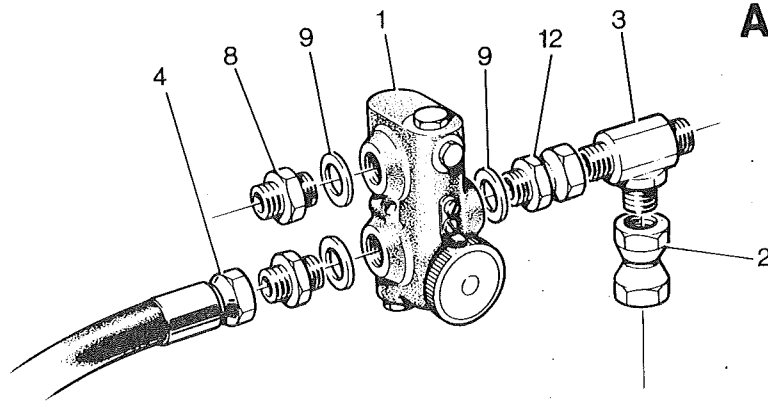
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>
73				
74	TBMW338	Swivel Adaptor M-F 3/4 BSP	3	
75	TBMW340	Female Standpipe 90° 1" BSP	2	
76	TBMW605	Male Cross 3/4" BSP	1	
77	TBMW653	Hose Assy 3/8" BSP (2000)	2	
78				
79	UC25	Male-Male Adaptor	7	1/2" BSP x 3/8" BSP
80				
81	W0848	1/2" Quick Release Coupling	5	Male Portion
82				
83	—	Jubilee Clip 1"	4	
84				
85				
86	11618	Pipe Clamp	4	
87	SPCT210	Nut	10	
88	SPCT212	Stud	10	
89		Grommet - 10 I/D	16	UCMCG10-6
90		Grommet - 20 I/D	12	UCMCG10-12
91				
92				
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106				
107				
108				





## Cyclone Speed Control Kit

Assy N° 23381



## Hydraulic Pump

Assy N° 23329

# CYCLONE SPEED CONTROL KIT and HYDRAULIC PUMP

Item No.	Part No.	Description	Qty	Remarks
	23381	CYCLONE SPEED CONTROL KIT CONSISTS OF:-		
1	12273	Adjustable Flow Divider	1	
2	12318	3/4" BSP FM/FM Swivel Adaptor	1	
3	12322	3/4" BSP Male Tee	1	
4	12344	Hose Assy 3/4" BSP (1000LG)	1	
5				
6				
7				
8	11115	3/4" BSP Male-Male Adaptor	2	
9	11123	3/4" Dowty Seal	3	
10				
11				
12	TBMW338	3/4 BSP Male - Fem Adaptor	1	
13				
14				
15				
16				
17				
18				
	23329	HYDRAULIC PUMP CONSISTS OF:-		
19	23329/1	Shaft	1	
20	23329/2	Gearset	1	
21	23329/3	Gear-Shaft Set	1	
22	23329/4	Port End Cover	1	
23	23329/5	Shaft End Cover	1	
24	23329/6	Bearing Carrier	1	
25	23329/7	Gear Housing	1	
26	23329/8	Gear Housing	1	
27	23329/9	Roller Bearing	8	
28	23329/10	Stud	4	
29	23329/11	Drivescrew	2	
30	23329/12	Nut	4	
31	23329/13	Dowel Pin	8	
32	23329/14	Thrust Plate	4	
33	23329/15	Plug	1	

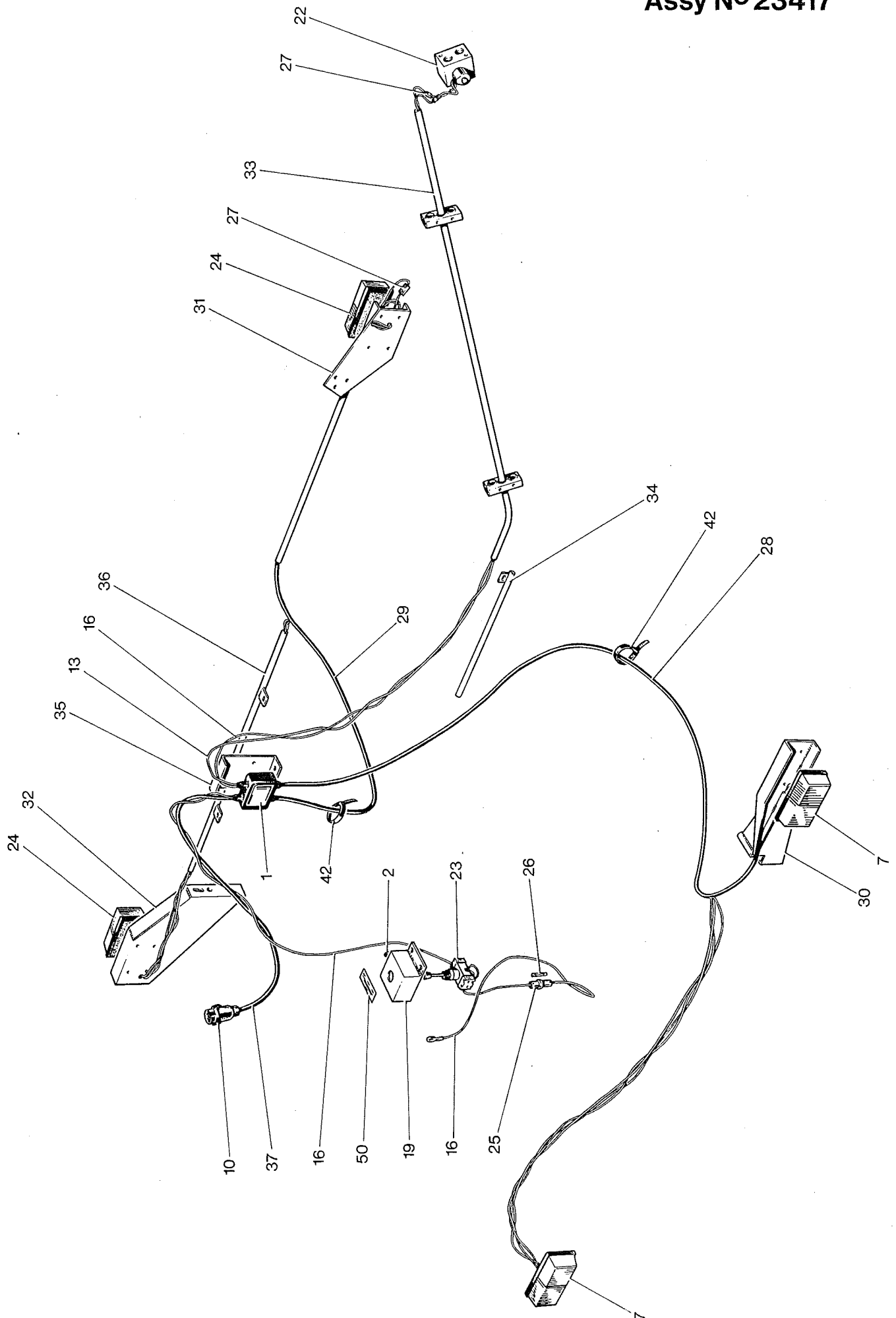
## CYCLONE SPEED CONTROL KIT and HYDRAULIC PUMP

Item No.	Part No.	Description	Qty	Remarks
34	23329/16	Ring Seal	4	
35	23329/17	Washer	4	
36	23329S	Seal Kit	1	



# Electrical Assembly

Assy N° 23417



Item No.	Part No.	Description	Qty	Remarks
1	11368	Junction Box	1	(Ref)
2	11460	Rubber Grommet	1	
3	11510	Pipe Clamp	6	
4				
5				
6				
7	12386	Front Light/Indicator Unit	2	(Ref)
8				
9				
10	13287	7 Pin Plug Male	1	
11				
12				
13	14110	Cable - Single Core White	9 mtrs	
14				
15				
16	16280	Cable - Single Core Purple	5 mtrs	
17				
18				
19	22106	Switch Box	1	
20				
21				
22	23317	Valve Block	1	(Ref)
23	23319	Switch	1	
24	23393	Rear Brake/Indicator Unit	2	
25	23396	Fuse Holder	1	
26	23397	Fuse (8amp)	1	
27	23398	Terminal Strip - (12 sec)	1	
28	23399	Wiring Loom - Light Front	1	
29	23400	Wiring Loom - Light Rear	1	
30	23405	Front LH Light MTG Brkt	1	
31	23406	Rear LH Light MTG Brkt	1	
32	23407	Rear RH Light MTG Brkt	1	
33	23412	Dis/Elev. Side Conduit Pipe	1	
34	23413	Dis/Elev. Bottom Conduit Pipe	1	
35	23420	Junction Box MTG Brkt	1	
36	23441	Conduit Pipe	1	

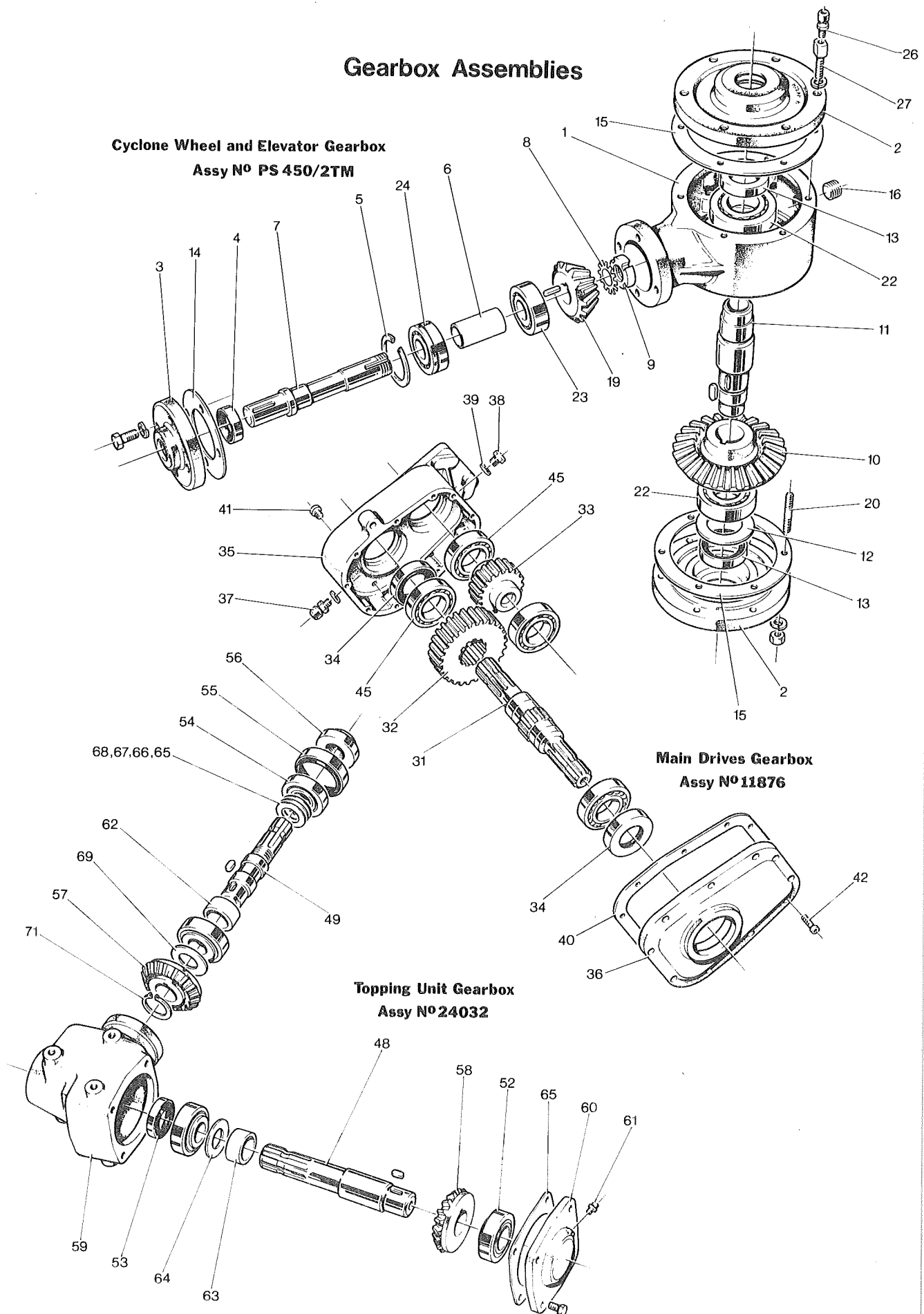
Item No.	Part No.	Description	Qty	Remarks
37	23416	Power Loom	1	
38				
39				
40				
41				
42	H418	Cable Tie	14	
43				
44				
45	SPCT210	Stacking Nut	3	(Ref)
46	SPCT212	Stacking Stud	3	(Ref)
47	SPCT222	Rubber Grommet	3	(Ref)
48				
49				
50	TR179	Switch Box Deal	1	





# Gearbox Assemblies

**Cyclone Wheel and Elevator Gearbox**  
**Assy N° PS 450/2TM**



**Main Drives Gearbox**  
**Assy N° 11876**

**Topping Unit Gearbox**  
**Assy N° 24032**

## GEARBOX ASSEMBLIES

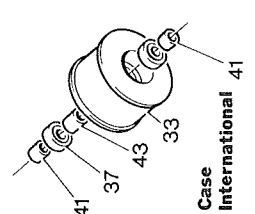
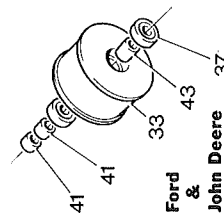
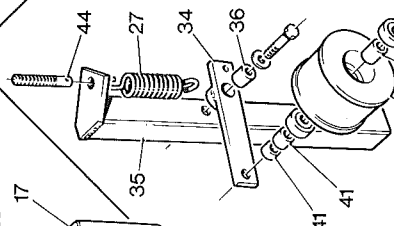
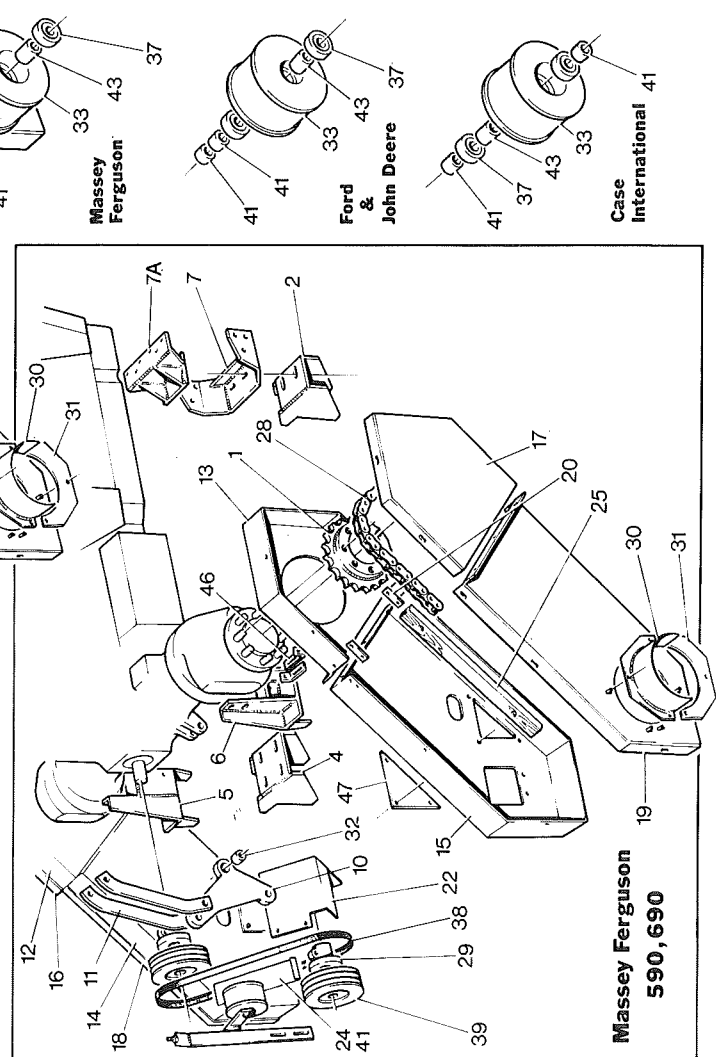
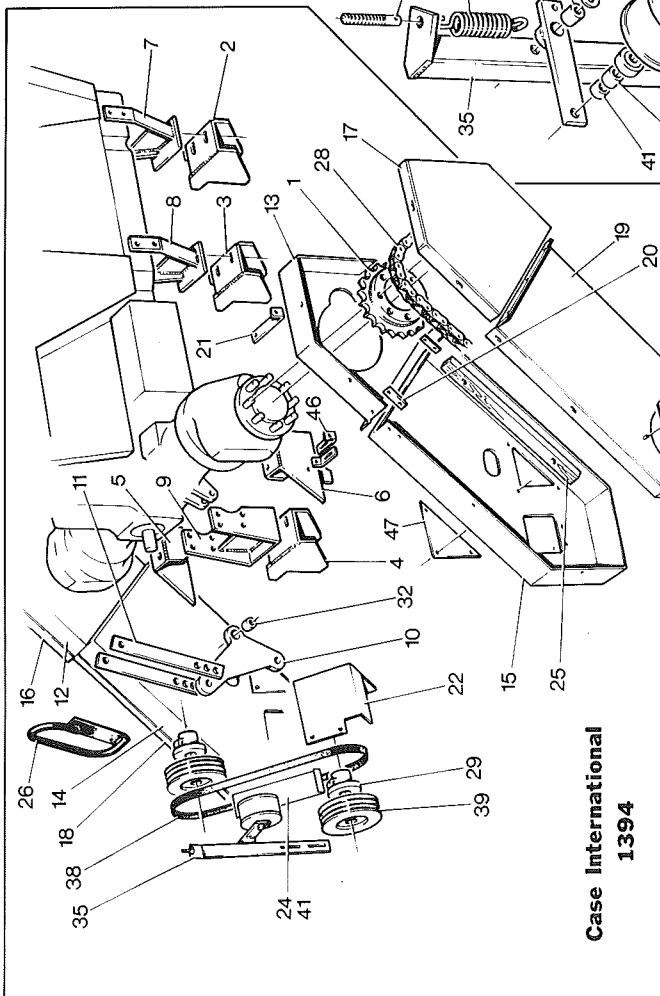
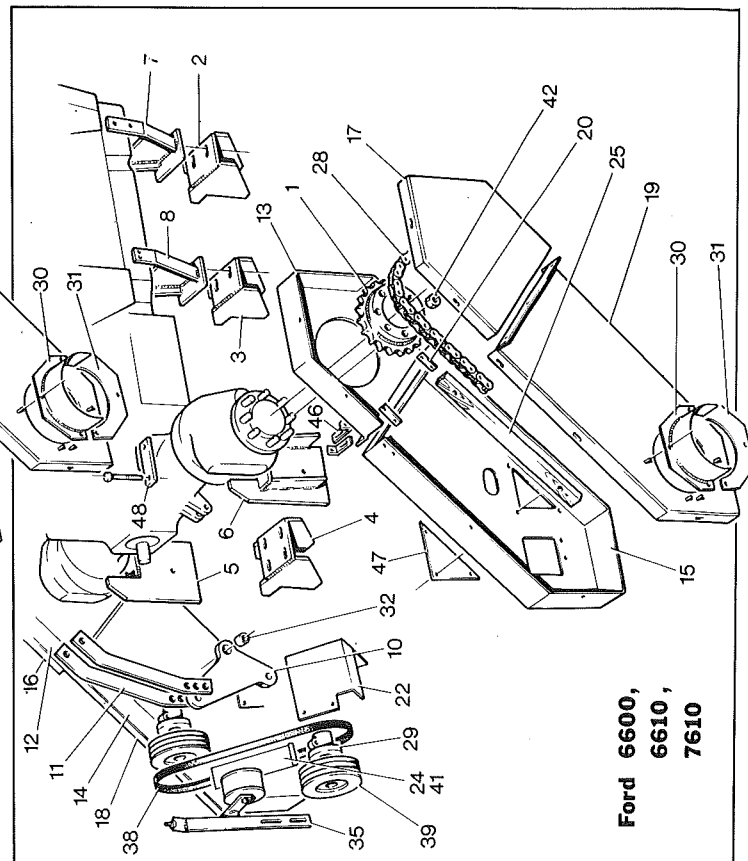
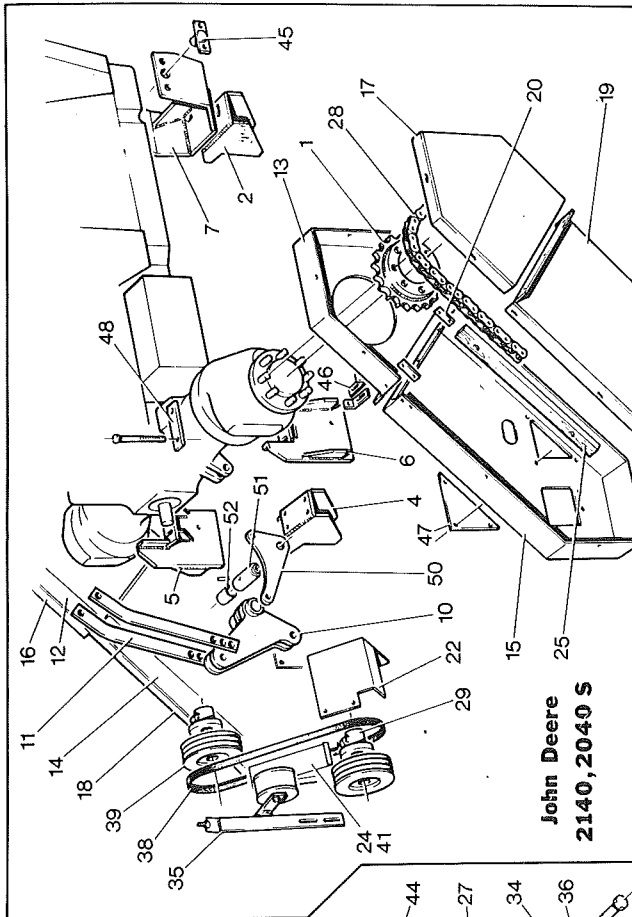
Item No.	Part No.	Description	Qty	Remarks
		GEARBOX ASSEMBLY PS450/2TM CONSISTS OF:-		
1	PS200/2/M	Housing	1	
2	PS201/2/M	Sideplate	2	
3	PS202	End Plate	1	
4	PS233	Oil Seal	1	
5	PS236	Circlip	1	
6	PS237	Spacer	1	
7	PS238M	Input Shaft	1	
8	PS239	Locking Washer	1	
9	PS240/1	Lock Nut	1	
10	PS242	Bevel Gear	1	
11	PS243/M	Tubular Output Shaft	1	
12	PS243/SHIM	SHIM	A/R	
13	PS245	Output Shaft Oil Seal	2	
14	PS469/A	End Plate Gasket	1	
15	PS470/A	Side Plate Gasket	2	
16	PS869	Drain Plug	1	
17				
18				
19	11278	Bevel Gear	1	
20	11874	Stud	11	
21				
22	6209	Output Shaft Bearing	2	(145)
23	6306	Input Shaft Bearing	1	
24	6306NR	Input Shaft Bearing	1	With Circlip
25				
26	11066	Breather	1	
27	11069	Breather Plug	1	
28				
29				
30				
		GEARBOX ASSEMBLY 11876 CONSISTS OF:-		
31	11876/1	Input Shaft	1	
32	11876/2	Input Gear	1	

# GEARBOX ASSEMBLIES

Item No.	Part No.	Description	Qty	Remarks
33	11876/3	Output Gear	1	
34	11876/4	Oil Seal	2	
35	11876/5	Main Body	1	
36	11876/6	End Plate	1	
37	11876/7	Breather	1	
38	11876/8	Drain Plug	1	
39	11876/9	Washer	1	
40	11876/10	Gasket	1	
41	11876/11	Level Plug	1	
42	11876/12	Screw	10	
43				
44				
45	6210	Bearing	4	
46				
47				
		GEARBOX ASSEMBLY 24032		
		CONSISTS OF:-		
48	24032/1	Input Shaft	1	
49	24032/2	Output Shaft	1	
50				
51				
52	11051/1	Bearing	2	
53	11051/2	Oil Seal	1	
54	11051/3	Bearing	2	
55	11051/4	Oil Seal	1	
56	11051/7	Nut	1	
57	11051/8	Output Gear	1	
58	11051/9	Input Gear	1	
59	11051/10	Main Body	1	
60	11051/11	End Plate	1	
61	11051/13	Filler Plug	1	
62	11051/14	Spacer	1	
63	11051/15	Spacer	1	
64	11051/16	Shim	1	
65	11051/17	Shim	1	
66	11051/18	Shim	A/R	

## GEARBOX ASSEMBLIES

Item No.	Part No.	Description	Qty	Remarks
67	11051/19	Shim	A/R	
68	11051/20	Shim	A/R	
69	11051/21	Bearing Shield	1	
70				
71	W0119	Circlip	1	



# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 06C TO TOR 045C INCLUSIVE  
Tractor Type

Item No	Description	I. H. Case 1394	J. Deere 2140, 2040S	Massey Ferguson 290 590 690	Ford 6600 6610, 7610
1	Tractor Sprocket	23024	23388	See Note *	23386
2	Mounting Pad (Front) Weld On	23163	23163	23163	23163
3	Mounting Pad (Middle)	23163	----	----	23163
4	Mounting Pad (Rear)	23163	23345	23378	23362
5	LH Axle MTG Brkt Weld On	23165	23344	23377	23354
6	RH Axle MTG Brkt	23164	23343	23376	23353
7	Front Mounting Brkt	23167	23346	Item 7 - 23379 or Item 7A - 23380	23356
8	Middle Mounting Brkt	23166	----	----	23355
9	Rear Mounting Brkt	23177	----	----	----
10	Lift Segment	23178	See Note **	23178	23374
11	Rear Lift Link	23179	23370	23372	23371
12	Chain Case Upper Back Plate LH	23191	23463	L/Duty 23403 H/Duty 23453	23408
13	Chain Case Upper Back Plate RH	23192	23464	L/Duty 23404 H/Duty 23454	23409
14	Chain Case Lower Back Plate LH	23193	23461	23193	23193
15	Chain Case Lower Back Plate RH	23194	23462	23194	23194
16	Chain Case Upper Lid LH	23195	23465	L/Duty Axle 23195 H/Duty Axle 23445	23195
17	Chain Case Upper Lid RH	23196	23466	L/Duty Axle 23196 H/Duty Axle 23446	23196
18	Chain Case Lower Lid LH	23197	23467	23401	23197
19	Chain Case Lower Lid RH	23198	23468	23402	23198
20	Joining Strap	23199	23199	23199	23199
21	Support Strap	23200	----	----	----
22	Pulley Guard	23201	23201	23201	23201
23	Pulley Guard Bracket	23202	23202	23202	23202

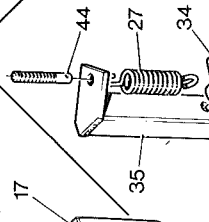
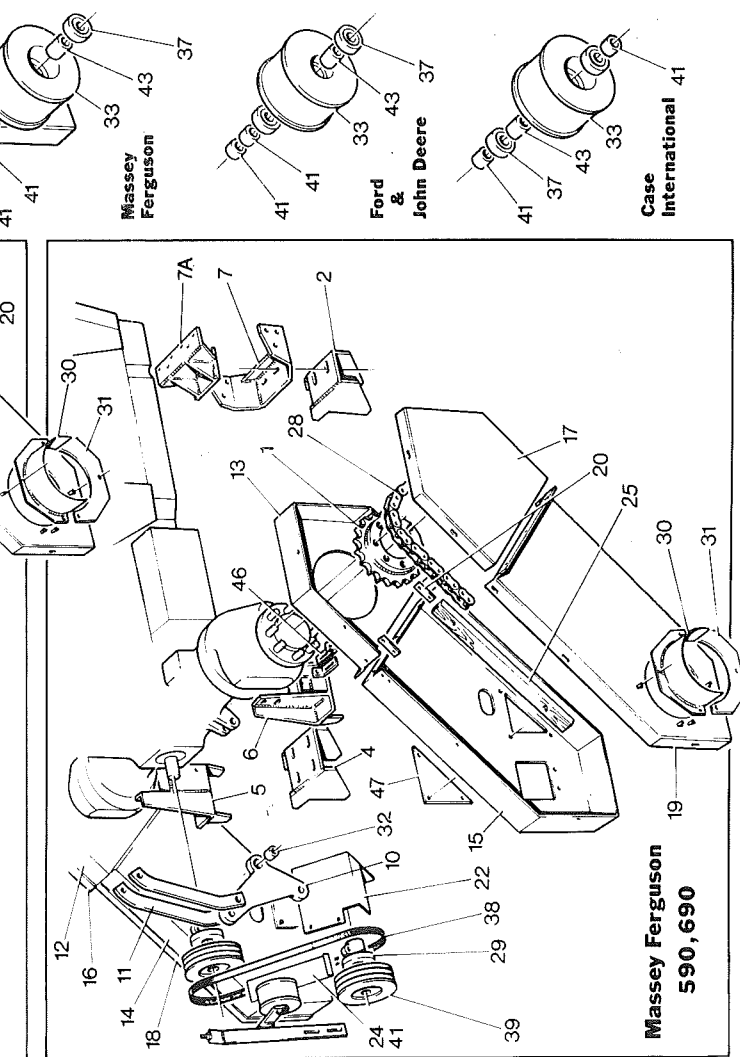
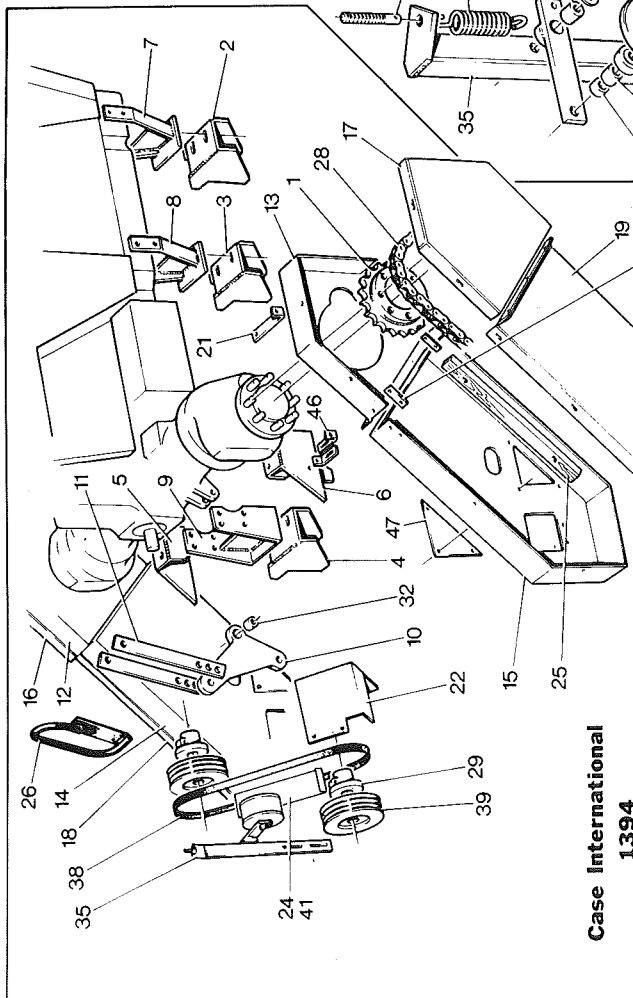
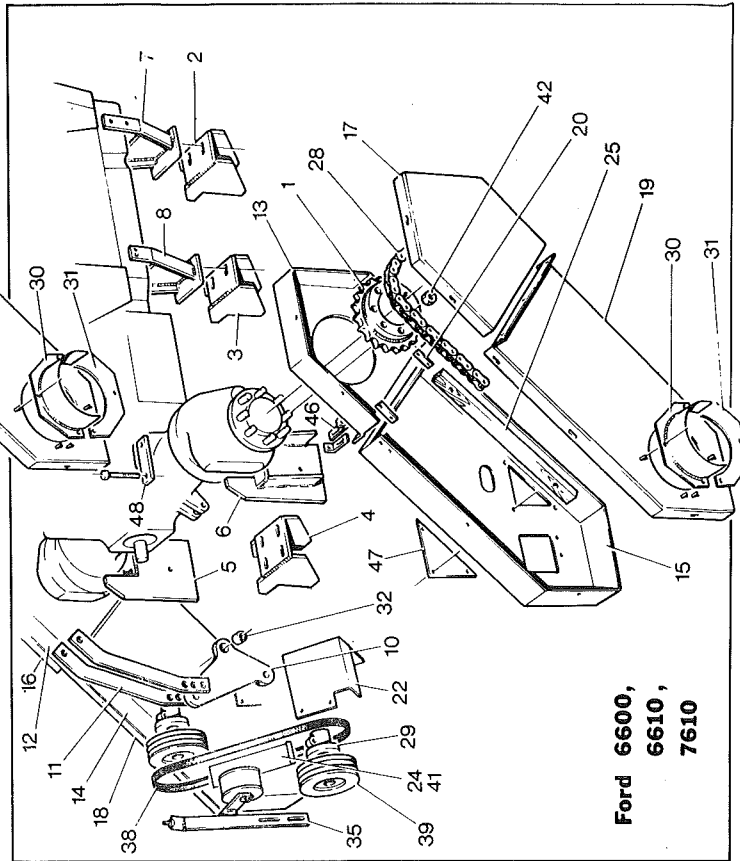
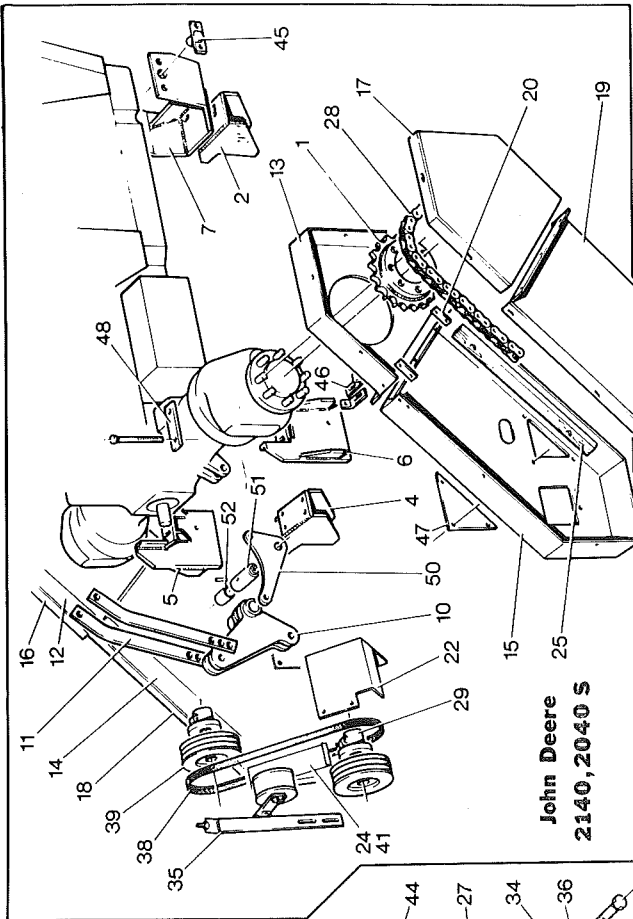
# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 06C TO TOR 045C INCLUSIVE  
Tractor Type

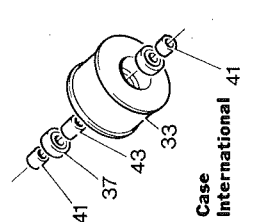
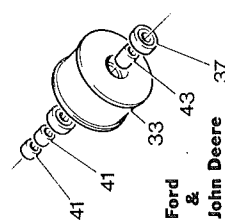
Item No	Description	I. H. Case 1394	J. Deere 2140, 2040S	Massey Ferguson 290 590 690	Ford 6600 6610, 7610
24	Belt Guard	23203	23203	23203	23203
25	Wooden Runner	23208	23208	23208	23208
26	Hand Grip	23215	----	----	----
27	Spring	PS766	PS766	PS766	PS766
28	Drive Chain	SP93A/99	SP93A/100	SP93A/99	SP93A/102
29	Splined Flange	SP182	SP182	SP182	SP182
30	Hub Shield (Top)	SP463	SP463	SP463	SP463
31	Hub Shield (Bottom)	SP465	SP465	SP465	SP465
32	Bronze Bush	23375	SPCT129	SPCT129	SPCT129
33	Jockey Roller	23389	23389	23389	23389
34	Jockey Arm	23391	23391	23391	23391
35	Support Angle	23390	23390	23390	23390
36	Jockey Arm Spigot	TBMW205	TBMW205	TBMW205	TBMW 205
37	Bearing	6301RS	6301RS	6301RS	6301RS
38	Vee Belts	VB72	VB71	SB70	VB71
39	Pulley	23239	23239	23239	23239
			(Double Vee 23455)		
40					
41	Steel Spacer		SS 025 013 / 020		
42	Wheel Nuts	----	----	----	SP441
43	Jockey Roller Spacer	23392	23392	23392	23392
44	Spring Tensioner	BM212M	BM212M	BM212M	BM212M
45	Locating Brkt	----	23347	----	----
46	Support Strap	23421	23421	23421	23421
41	Inspection Cover	23422	23422	23422	23422
48	Clamp Strip	-----	23447	----	23448
<p><b>NOTE •</b></p> <p>Sprockets for MF 290, 590 &amp; 690</p> <p>1800mm Axle Part No. is 23387</p> <p>1873mm Axle Part No. is 23443</p> <p>1772mm Axle Part No. is 23444</p> <p><b>NOTE ** J. DEERE LIFT SEGMENT CONSISTS OF:-</b></p> <p>23474 Support Bracket</p> <p>23480 Lift Segment</p> <p>23481 Pivot Pin</p> <p>23482 Sleeve</p>					







**Massey  
Ferguson**



# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 046D TO TOR 060D INCLUSIVE

Tractor Type

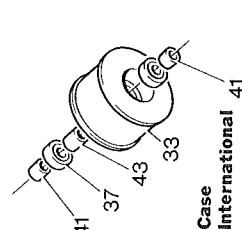
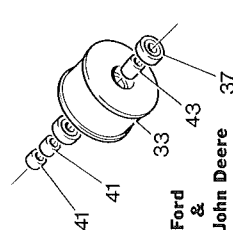
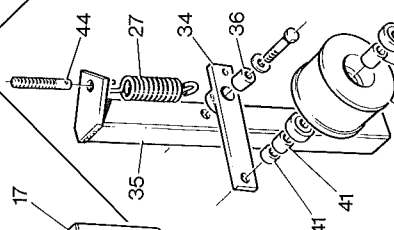
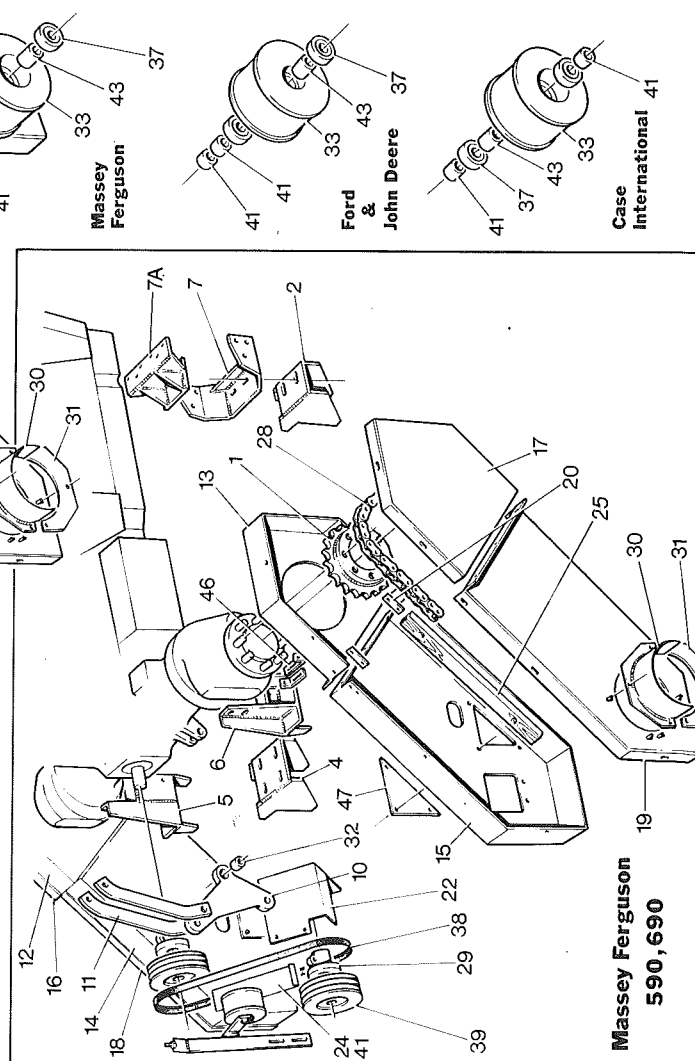
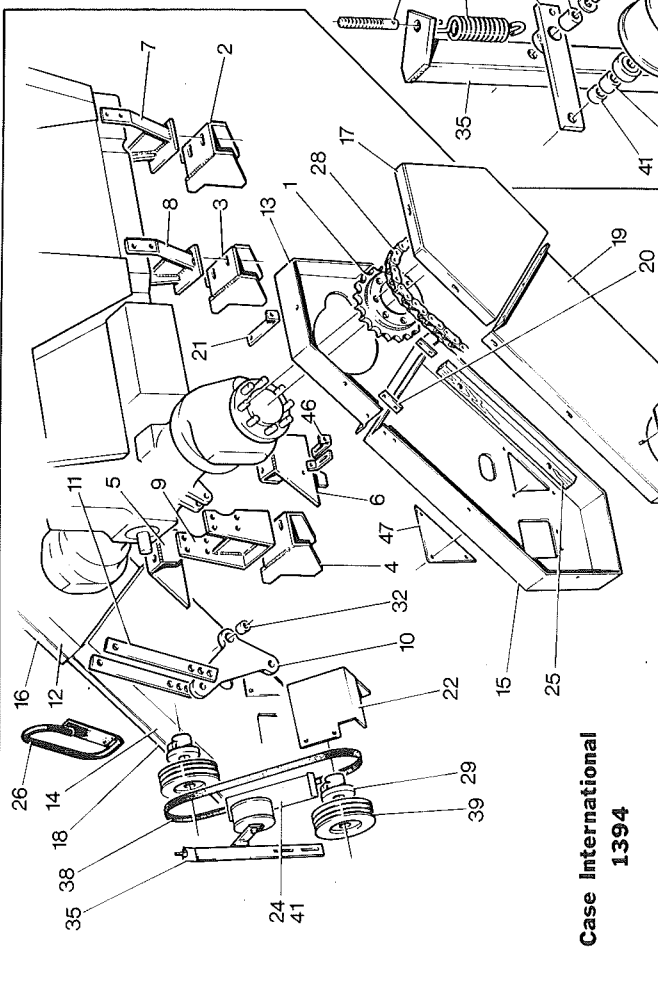
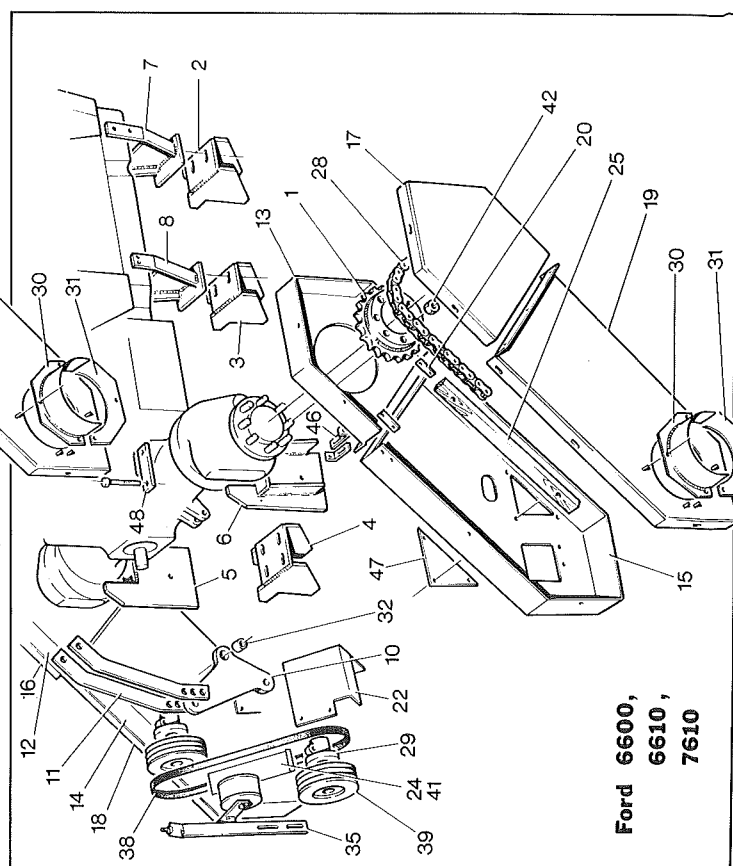
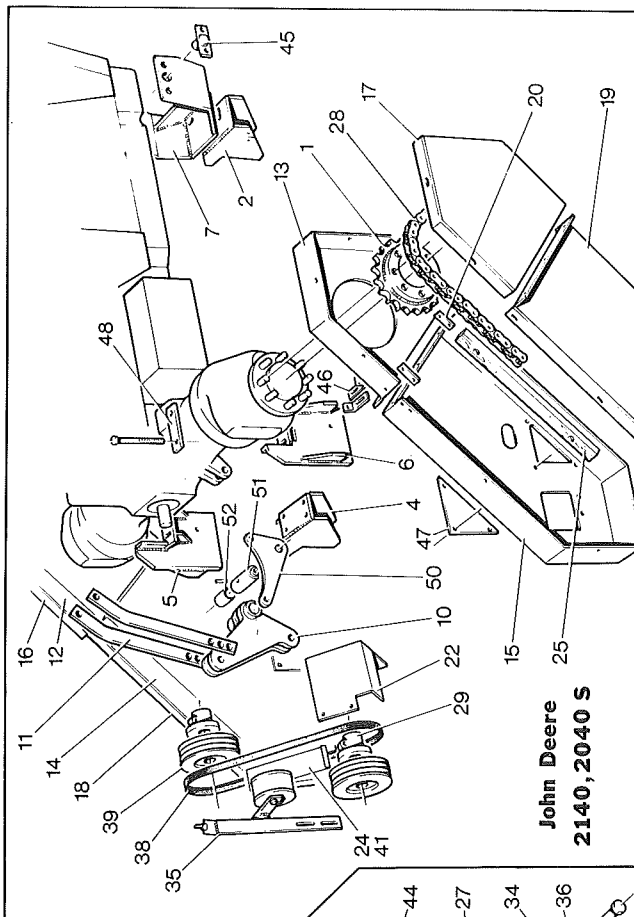
Item No	Description	I. H. Case 1394	J. Deere 2140, 2040S	Massey Ferguson 290 590 690	Ford 6600 6610, 7610
1	Tractor Sprocket	23024	23388	See Note *	23386
2	Mounting Pad (Front) Weld On	23163	23163	23163	23163
3	Mounting Pad (Middle)	23163	----	----	23163
4	Mounting Pad (Rear)	23163	23345	23378	23362
5	LH Axle MTG Brkt Weld On	23165	23344	23377	23354
6	RH Axle MTG Brkt	23164	23343	23376	23353
7	Front Mounting Brkt	23167	23346	Item 7-23379 or Item 7A-23380	23356
8	Middle Mounting Brkt	23166	----	----	23355
9	Rear Mounting Brkt	23177	----	----	----
10	Lift Segment	23178	23480	23178	23374
11	Rear Lift Link	23179	23370	23372	23371
12	Chain Case Upper Back Plate LH	23191	23463	L/Duty 23403 H/Duty 23453	23408
13	Chain Case Upper Back Plate RH	23192	23464	L/Duty 23404 H/Duty 23454	23409
14	Chain Case Lower Back Plate LH	23193	23461	23193	23193
15	Chain Case Lower Back Plate RH	23194	23462	23194	23194
16	Chain Case Upper Lid LH	23195	23465	L/Duty Axle 23195 H/Duty Axle 23445	23195
17	Chain Case Upper Lid RH	23196	23466	L/Duty Axle 23196 H/Duty Axle 23446	23196
18	Chain Case Lower Lid LH	23197	23467	23401	23197
19	Chain Case Lower Lid RH	23198	23468	23402	23198
20	Joining Strap	23199	23199	23199	23199
21	Support Strap	23200	----	----	----
22	Pulley Guard	23527	23527	23527	23527
23					

# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 046D to TOR 060D INCLUSIVE  
Tractor Type

Item No	Description	I. H. Case 1394	J. Deere 2140, 2040S	Massey Ferguson 290 590 690	Ford 6600 6610, 7610
24					
25	Wooden Runner	23208	23208	23208	23208
26	Hand Grip	23215	----	----	----
27	Spring	PS766	PS766	PS766	PS766
28	Drive Chain	SP93A/99	SP93A/100	SP93A/99	SP93A/102
29	Splined Flange	23529	23529	23529	23529
30	Hub Shield (Top)	SP463	SP463	SP463	SP463
31	Hub Shield (Bottom)	SP465	SP465	SP465	SP465
32	Bronze Bush	23375	SPCT129	SPCT129	SPCT129
33	Jockey Roller	23389	23389	23389	23389
34	Jockey Arm	23391	23391	23391	23391
35	Support Angle	23390	23390	23390	23390
36	Jockey Arm Spigot	TBMW205	TBMW205	TBMW205	TBMW 205
37	Bearing	6301RS	6301RS	6301RS	6301RS
38	Vee Belts	VB72	VB71	VB70	VB71
39	Pulley	23528	23528	23528	23528
40					
41	Steel Spacer	SS 025 013 / 020			
42	Wheel Nuts	----	----	----	SP441
43	Jockey Roller Spacer	23392	23392	23392	23392
44	Spring Tensioner	BM212M	BM212M	BM212M	BM212M
45	Locating Brkt	----	23347	----	----
46	Support Strap	23421	23421	23421	23421
47	Inspection Cover	23422	23422	23422	23422
48	Clamp Strip	----	23447	----	23448
49	Belt Guard	23611	23611	23611	23611
50	Support Bracket	----	23474	----	----
51	Pivot Pin	----	23481	----	----
52	Sleeve	----	23482	----	----
<p>NOTE *</p> <p>Sprockets for MF 290, 590 &amp; 690</p> <p>1772mm L/D Axle Part No. is 23444</p> <p>1800mm M/D Axle Part No. is 23387</p> <p>1873mm H/D Axle Part No. is 23443</p>					





# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 061E

## Tractor Type

Item No	Description	I. H. Case 1394	J. Deere 2650 2140, 2040S	Massey Ferguson 290 590 690	Ford 6600 6610, 7610
1	Tractor Sprocket	23024	23388	See Note *	23386
2	Mounting Pad (Front) Weld On	23163	23163	23163	23163
3	Mounting Pad (Middle)	23163	----	----	23163
4	Mounting Pad (Rear)	23163	23345	23378	23362
5	LH Axle MTG Brkt Weld On	23165	23344 (J.D. 26 50-23612)	23377	23354
6	RH Axle MTG Brkt	23164	23343 (J.D. 2650-23613)	23376	23353
7	Front Mounting Brkt	23167	23346	Item 7 - 23379 or Item 7A-23380	23356
8	Middle Mounting Brkt	23166	----	----	23355
9	Rear Mounting Brkt	23177	----	----	----
10	Lift Segment	23178	23480	23178	23374
11	Rear Lift Link	23179	23370	23372	23371
12	Chain Case Upper Back Plate LH	23625	23463	L/Duty 23621 H/Duty 23623	23619
13	Chain Case Upper Back Plate RH	23626	23464	L/Duty 23622 H/Duty 23624	23620
14	Chain Case Lower Back Plate LH	23461	23461	23461	23461
15	Chain Case Lower Back Plate RH	23462	23462	23462	23462
16	Chain Case Upper Lid LH	23465	23465	L/Duty Axle 23465 H/Duty Axle 23617	23465
17	Chain Case Upper Lid RH	23466	23466	L/Duty Axle 23466 H/Duty Axle 23618	23466
18	Chain Case Lower Lid LH	23467	23467	23469	23467
19	Chain Case Lower Lid RH	23468	23468	23470	23468
20	Joining Strap	23199	23199	23199	23199
21	Support Strap	23200	----	----	----
22	Pulley Guard	23527	23527	23527	23527

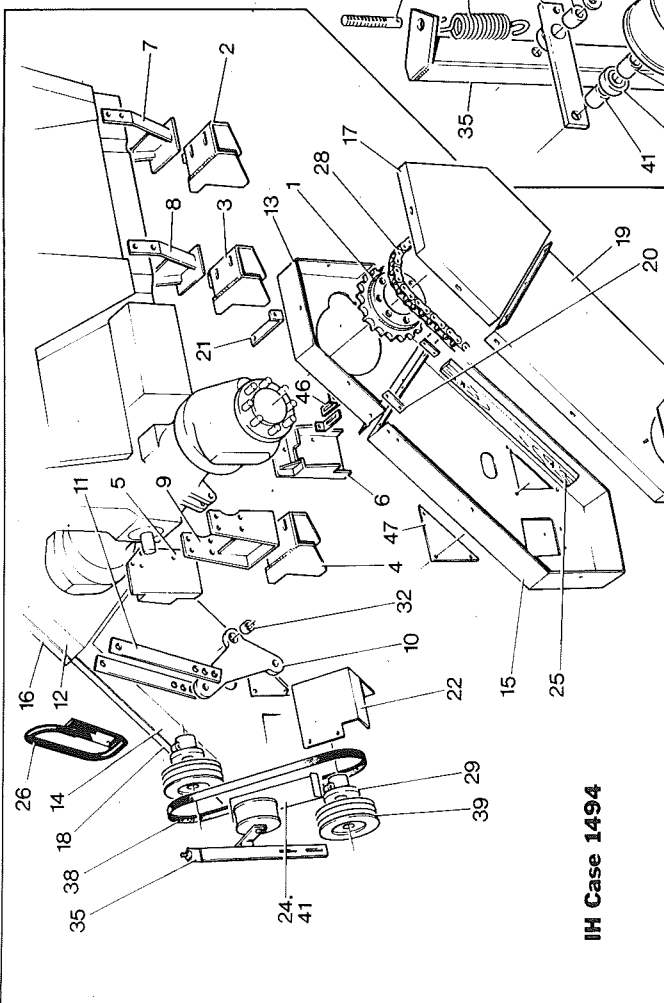
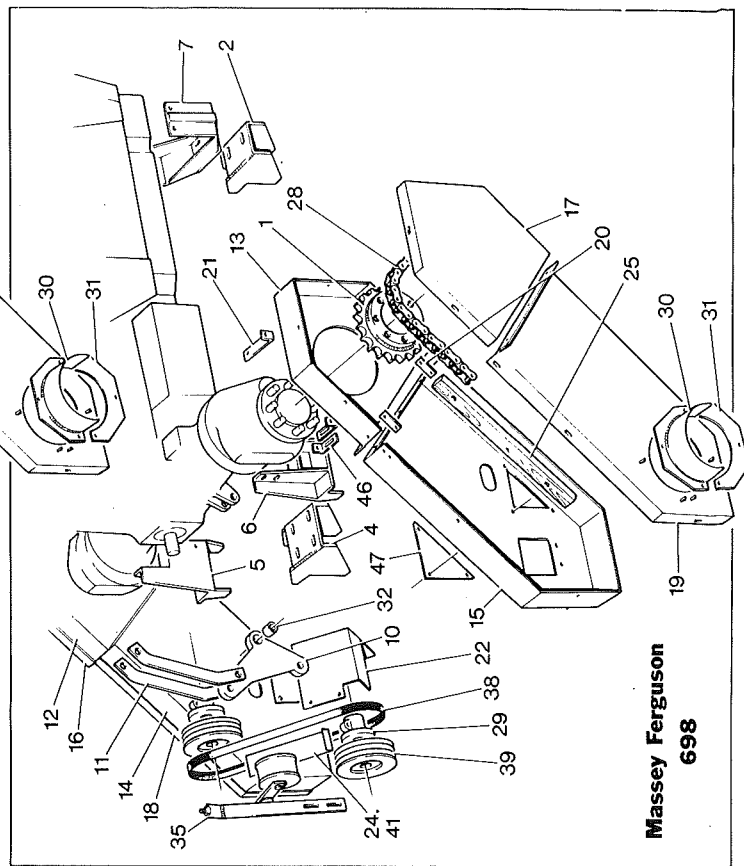
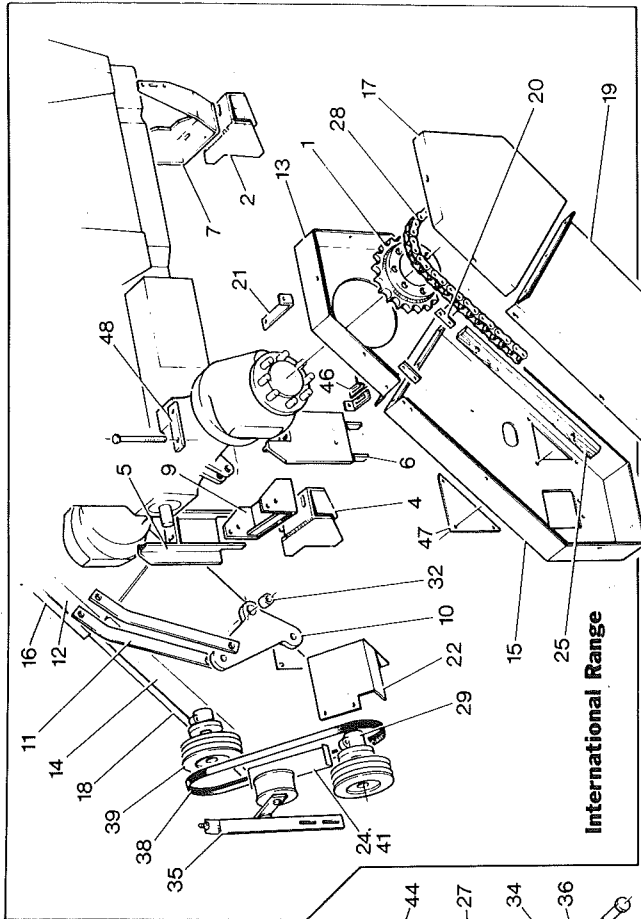
# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 061E  
Tractor Type

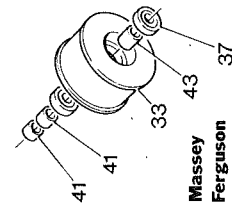
Item No	Description	I. H. Case 1394	J. Deere 2140, 2040S	Massey Ferguson 290 590 690	Ford 6600 6610, 7610
24					
25	Wooden Runner	23208	23208	23208	23208
26	Hand Grip	23215	----	----	----
27	Spring	PS766	PS766	PS766	PS766
28	Drive Chain	SP93A/99	SP93A/100	SP93A/99	SP93A/102
29	Splined Flange	23529	23529	23529	23529
30	Hub Shield (Top)	SP463	SP463	SP463	SP463
31	Hub Shield (Bottom)	SP465	SP465	SP465	SP465
32	Bronze Bush	23375	SPCT129	SPCT129	SPCT129
33	Jockey Roller	23389	23389	23389	23389
34	Jockey Arm	23391	23391	23391	23391
35	Support Angle	23390	23390	23390	23390
36	Jockey Arm Spigot	TBMW205	TBMW205	TBMW205	TBMW 205
37	Bearing	6301RS	6301RS	6301RS	6301RS
38	Vee Belts	VB72	VB71	VB70	VB71
39	Pulley	23528	23528	23528	23528
40					
41	Steel Spacer	SS 025 013 / 020			
42	Wheel Nuts	----	----	----	SP441
43	Jockey Roller Spacer	23392	23392	23392	23392
44	Spring Tensioner	BM212M	BM212M	BM212M	BM212M
45	Locating Brkt	----	23347	----	----
46	Support Strap	23421	23421	23421	23421
47	Inspection Cover	23422	23422	23422	23422
48	Clamp Strip	----	23447	----	23448
49	Belt Guard	23611	23611	23611	23611
50	Support Bracket	----	23474	----	----
51	Pivot Pin	----	23481	----	----
52	Sleeve	----	23482	----	----
<p>NOTE *</p> <p>Sprockets for MF 290, 590 &amp; 690</p> <p>1772mm L/D Axle Part No. is 23444</p> <p>1800mm M/D Axle Part No. is 23387</p> <p>1873mm H/D Axle Part No. is 23443</p>					







IH Case 1494 &  
International Range



Massey  
Ferguson

**TRACTOR FITTING KITS**

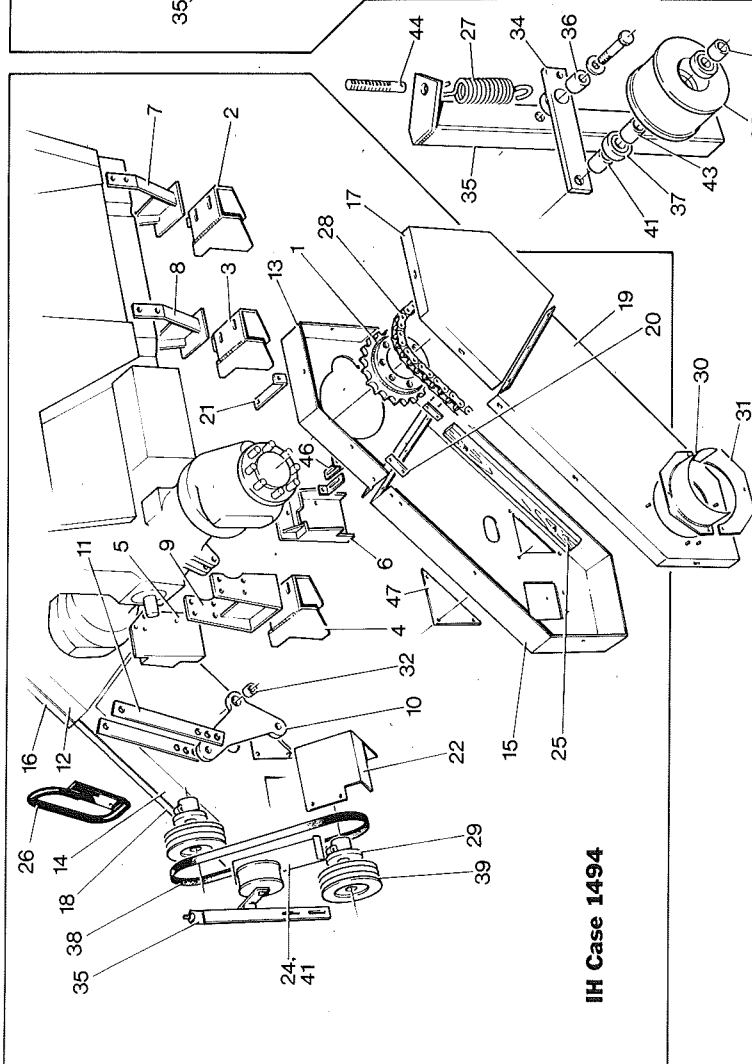
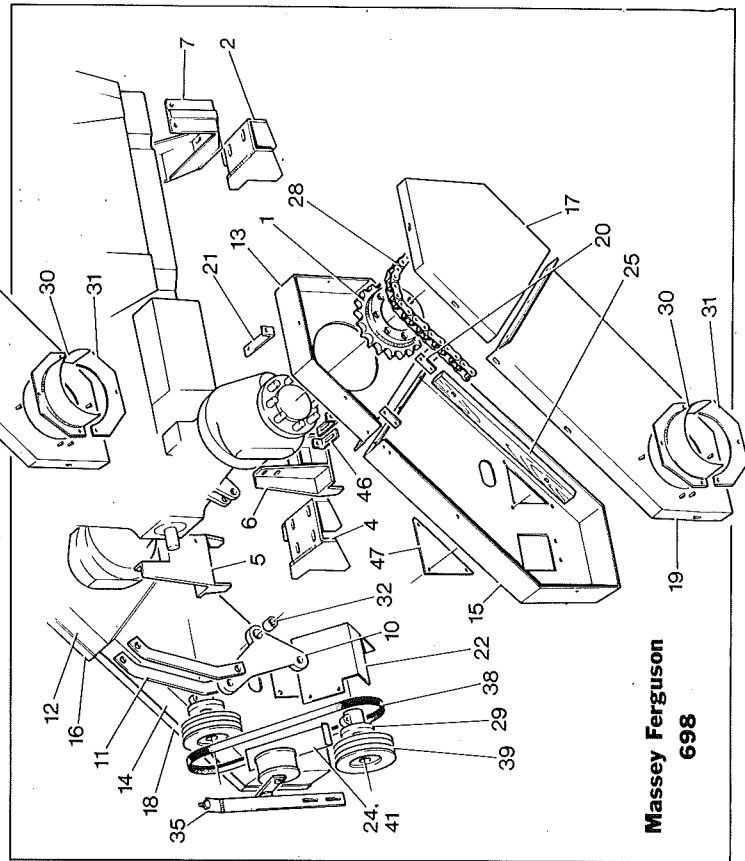
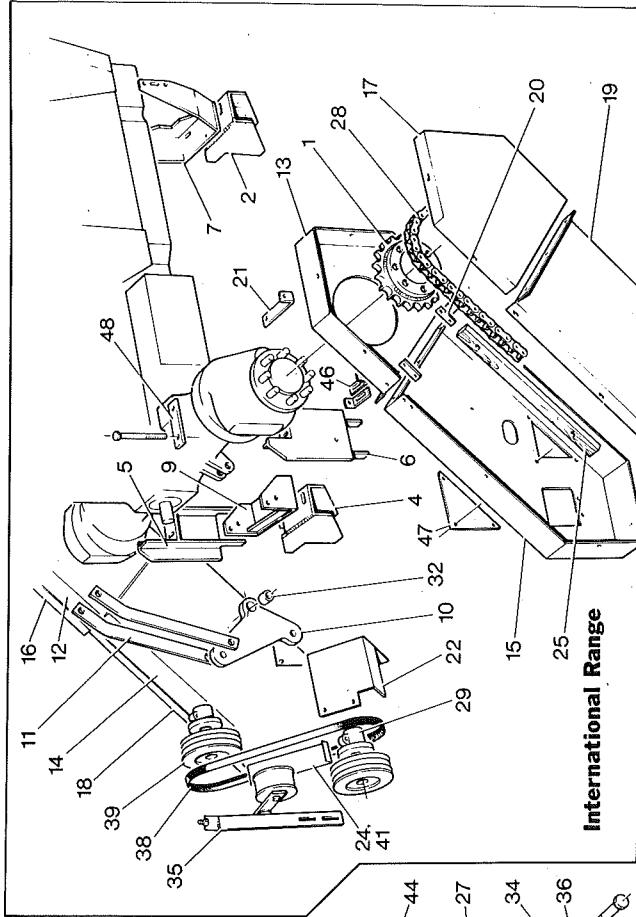
Item No	Description	I. H. CASE 1494	International 784, 785, 884 & 885	Massey Ferguson 698	
1	Tractor Sprocket	23024	23556	23443	
2	Mounting Pad (Front) Weld On	23163	23163	23163	
3	Mounting Pad (Middle)	23163	----	----	
4	Mounting Pad (Rear)	23163	23163	23378	
5	LH Axle MTG Brkt Weld On	23516	23550	23377	
6	RH Axle MTG Brkt	23515	23551	23376	
7	Front Mounting Brkt	23566	23552	23586	
8	Middle Mounting Brkt	23566	----	----	
9	Rear Mounting Brkt	23177	23553	----	
10	Lift Segment	23614	23547	23178	
11	Rear Lift Link	23179	23548	23372	
12	Chain Case Upper Back Plate LH	23191	23554	23453	
13	Chain Case Upper Back Plate RH	23192	23555	23454	
14	Chain Case Lower Back Plate LH	23193	23461	23193	
15	Chain Case Lower Back Plate RH	23194	23462	23194	
16	Chain Case Upper Lid LH	23195	23465	23195	
17	Chain Case Upper Lid RH	23196	23466	23196	
18	Chain Case Lower Lid LH	23197	23467	23197	
19	Chain Case Lower Lid RH	23198	23468	23198	
20	Joining Strap	23199	23562	23199	
21	Support Strap	23200	----	----	
22	Pulley Guard	23527	23527	23527	
23					

# TRACTOR FITTING KITS

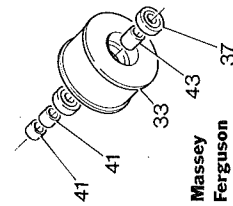
FROM SERIAL NO. TOR 046D TO TOR 060D INCLUSIVE  
Tractor Type

Item No	Description	I. H. CASE 1494	International 784, 785, 884 & 885	Massey Ferguson 698	
24	Belt Guard	23611	23611	23611	
25	Wooden Runner	23208	23208	23208	
26	Hand Grip	23215	----	----	
27	Spring	PS766	PS766	PS766	
28	Drive Chain	SP93A/99	SP93A/103	SP93A/99	
29	Splined Flange	23529	23529	23529	
30	Hub Shield (Top)	SP463	SP463	SP463	
31	Hub Shield (Bottom)	SP465	SP465	SP465	
32	Bronze Bush	23375	SPCT129	SPCT129	
33	Jockey Roller	23389	23389	23389	
34	Jockey Arm	23391	23391	23391	
35	Support Angle	23390	23390	23390	
36	Jockey Arm Spigot	TBMW205	TBMW205	TBMW205	
37	Bearing	6301RS	6301RS	6301RS	
38	Vee Belts	VB72	VB72	VB72	
39	Pulley	23528	23528	23528	
40					
41	Steel Spacer	SS 025 013 / 020			
42	Wheel Nuts	----	----	----	
43	Jockey Roller Spacer	23392	23392	23392	
44	Spring Tensioner	BM212M	BM212M	BM212M	
45	Locating Bracket	----	23347	----	
46	Support Strap	23421	23421	23421	
47	Inspection Cover	23422	23422	23422	
48	Clamp Strip	----	23561	----	





**IH Case 1494 & International Range**



# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 061E  
Tractor Type

Item No	Description	I. H. CASE 1494	International 784, 785, 884 & 885	Massey Ferguson 698	
1	Tractor Sprocket	23024	23556	23443	
2	Mounting Pad (Front) Weld On	23163	23163	23163	
3	Mounting Pad (Middle)	23163	----	----	
4	Mounting Pad (Rear)	23163	23163	23378	
5	LH Axle MTG Brkt Weld On	23516	23550	23377	
6	RH Axle MTG Brkt	23515	23551	23376	
7	Front Mounting Brkt	23566	23552	23586	
8	Middle Mounting Brkt	23566	----	----	
9	Rear Mounting Brkt	23177	23553	----	
10	Lift Segment	23614	23547	23178	
11	Rear Lift Link	23179	23548	23372	
12	Chain Case Upper Back Plate LH	23625	23554	23623	
13	Chain Case Upper Back Plate RH	23626	23555	23624	
14	Chain Case Lower Back Plate LH	23461	23461	23461	
15	Chain Case Lower Back Plate RH	23462	23462	23462	
16	Chain Case Upper Lid LH	23465	23465	23617	
17	Chain Case Upper Lid RH	23466	23466	23618	
18	Chain Case Lower Lid LH	23467	23467	23469	
19	Chain Case Lower Lid RH	23468	23468	23470	
20	Joining Strap	23199	23562	23199	
21	Support Strap	23200	----	----	
22	Pulley Guard	23527	23527	23527	
23					

# TRACTOR FITTING KITS

FROM SERIAL NO. TOR 061E  
Tractor Type

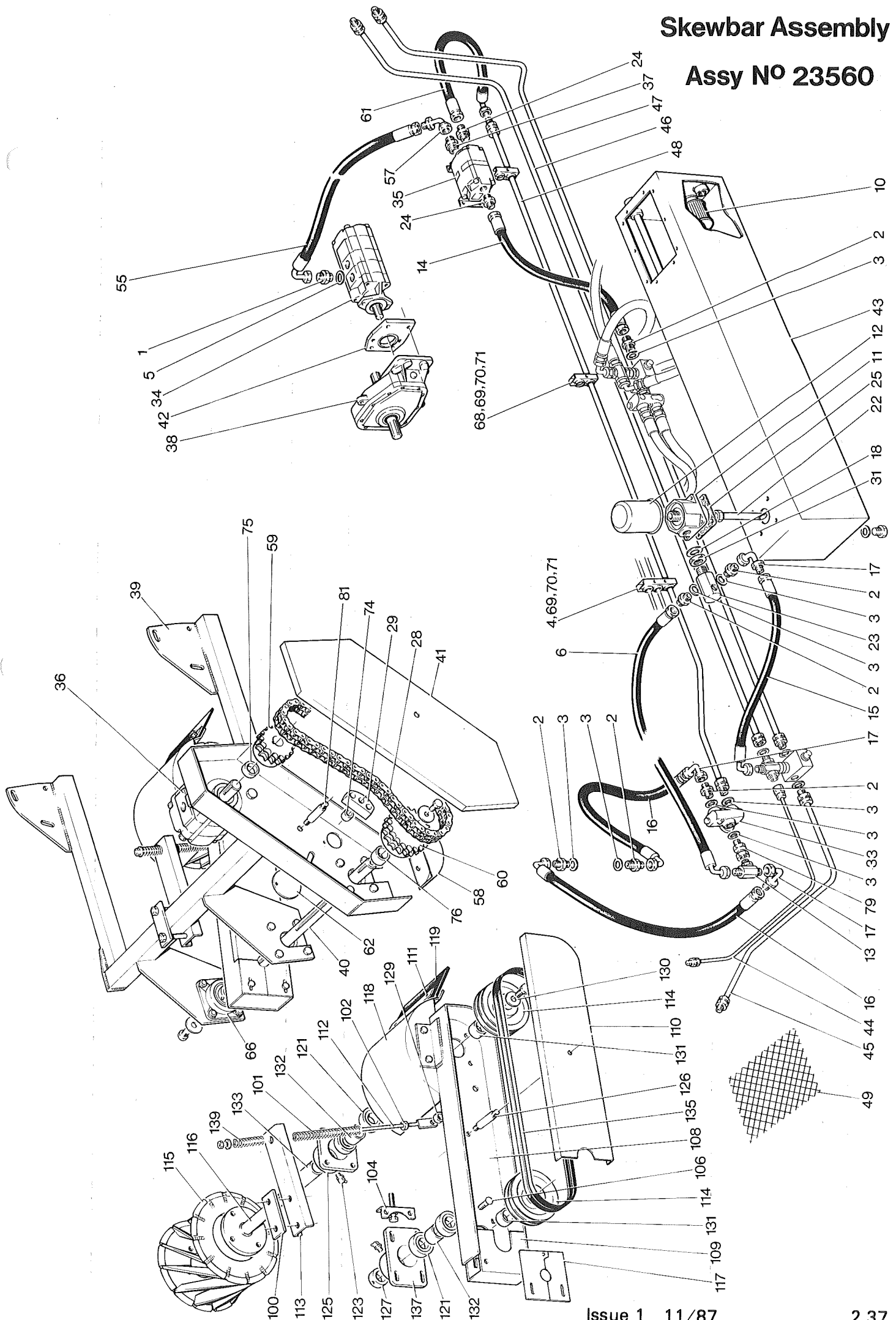
Item No	Description	I. H. CASE 1494	International 784, 785, 884 & 885	Massey Ferguson 698	
24	Belt Guard	23611	23611	23611	
25	Wooden Runner	23208	23208	23208	
26	Hand Grip	23215	----	----	
27	Spring	PS766	PS766	PS766	
28	Drive Chain	SP93A/99	SP93A/103	SP93A/99	
29	Splined Flange	23529	23529	23529	
30	Hub Shield (Top)	SP463	SP463	SP463	
31	Hub Shield (Bottom)	SP465	SP465	SP465	
32	Bronze Bush	23375	SPCT129	SPCT129	
33	Jockey Roller	23389	23389	23389	
34	Jockey Arm	23391	23391	23391	
35	Support Angle	23390	23390	23390	
36	Jockey Arm Spigot	TBMW205	TBMW205	TBMW205	
37	Bearing	6301RS	6301RS	6301RS	
38	Vee Belts	VB72	VB72	VB72	
39	Pulley	23528	23528	23528	
40					
41	Steel Spacer	SS 025 013 / 020			
42	Wheel Nuts	----	----	----	
43	Jockey Roller Spacer	23392	23392	23392	
44	Spring Tensioner	BM212M	BM212M	BM212M	
45	Locating Bracket	----	23347	----	
46	Support Strap	23421	23421	23421	
47	Inspection Cover	23422	23422	23422	
48	Clamp Strip	----	23561	----	





## Skewbar Assembly

**Assy N° 23560**



**SKEW BAR TOPPER**
**(ASSY. No. 23560)**

Item No.	Part No.	Description	Qty	Remarks
1	11114	1" BSP Male Adaptor	1	
2	11115	3/4" BSP Male Adaptor	6	
3	11123	3/4" BSP Washer	7	
4	11373	Pipe Clamp (3 loops)	1	
5	11741	1" BSP Washer	1	
6	11743	Hose Assembly - 3/4" BSP (800)	1	
7				
8				
9				
10	12278	Strainer	1	
11	12279	Filter Unit	1	
12	12280	Filter Element	1	
13	12322	3/4" BSP Male Tee	1	
14	12343	Hose Assembly - 3/4" BSP (700)	1	
15	12345	Hose Assembly - 3/4" BSP (700)	1	
16	12346	Hose Assembly - 3/4" BSP (1000)	2	
17	12350	3/4" BSP Male/Female Bent Stem Adaptor	3	
18	12352	1.5" BSP Washer	1	
19				
20				
21				
22	13140	Oil Return Pipe	1	
23	13176	Filter Fitting	1	
24	13199	3/4" BSPT x 3/4" BSP Adaptor	2	
25	13341	Gasket	1	
26				
27				
28	17088/64	3/4" Pitch Duplex Chain	1	
29	17155	Chain Tensioner	1	
30				
31	22066150	1.5" BSP Lock Nut	1	
32				
33	23549	Variable Flow Divider	1	
34	23557	Hydraulic Double Pump	1	
35	23558	Rotary Flow Divider	1	
36	23559	Hydraulic Motor	1	
37	23569	3/4" NPT - 1" BSP Male-Male Adaptor	1	

## SKEW BAR TOPPER

(ASSY. No. 23560)

Item No.	Part No.	Description	Qty	Remarks
38	23584	Gearbox	1	
39	23591	Mounting Frame	1	
40	23592	Drive Shaft	1	
41	23593	Drive Cover	1	
42	23594	Pump Adaptor Plate	1	
43	23595	Hydraulic Tank	1	
44	23596	Steel Pipe Assembly	1	
45	23597	Steel Pipe Assembly	1	
46	23598	Steel Pipe Assembly	1	
47	23599	Steel Pipe Assembly	1	
48	23600	Steel Pipe Assembly	1	
49	23601	Footplate	1	
50				
51				
52				
53				
54				
55	24145	Hose Assembly-1"BSP (1100)	1	
56	24280	Skew Bar Unit Arm Assembly	2	
57	24299	1"BSP M/FM 90Deg Adaptor	1	
58	24361	Bottom Dirt Shield	1	
59	24362	17T x 3/4"P Duplex Sprocket	1	
60	24373	21T x 3/4"P Duplex Sprocket	1	
61	24385	Hose Assembly-3/4"BSP (550)	1	
62	24390	Cover Disc	1	
63				
64				
65				
66	SF35A	Bearing	3	
67				
68	SPCT 208	Pipe Clamp (2 Loops)	2	
69	SPCT 210	Stacking Nut	3	
70	SPCT 212	Stacking Stud	3	
71	SPCT 222	Grommet	3	
72				
73				
74	SS025013/020	Steel Spacer	1	
75	SS045032/008	Steel Spacer	1	
76	SS045036/026	Steel Spacer	1	

## SKEW BAR TOPPER

(ASSY. No. 23560)

Item No.	Part No.	Description	Qty	Remarks
77				
78				
79	TBMW 338	3/4" BSP M/FM Swivel Adaptor	1	
80				
81	TRT 105M	Guard Bolt	1	
82				
83				
	<b>23596</b>	<b>Steel Pipe Assy Consists Of:-</b>		
84	16315	Male Stud 1/4" BSP 10 Pipe	1	
85	23146	Fem Stud 3/8" BSP 10 Pipe	1	
	<b>23597</b>	<b>Steel Pipe Assy Consists Of:-</b>		
87	16312	Male Stud 3/4" BSP 20 Pipe	2	
88				
	<b>23598</b>	<b>Steel Pipe Assy Consists Of:-</b>		
89	16312	Male Stud 3/4" BSP 20 Pipe	1	
90	23145	Fem Stud 3/4" BSP 20 Pipe	1	
91				
	<b>23599</b>	<b>Steel Pipe Assy Consists Of:-</b>		
92	16312	Male Stud 3/4" BSP 20 Pipe	2	
93				
	<b>23600</b>	<b>Steel Pipe Assy Consists Of:-</b>		
94	16312	Male Stud 3/4" BSP 20 Pipe	2	
95				
96				
97				
98				
99				
	<b>24280</b>	<b>Skewbar Arm Assy. Consists of:-</b>		
100	11145	Support Plate Clamp	1	
101	11630	Spring	1	
102	11717	Stop Collar	1	
103				
104	16183	Bearing Housing Adjuster Bracket	1	
105				
106	22070012/050	M12 x 50 Cup Sq. Bolt	4	
107				

# SKEW BAR TOPPER

(ASSY. No. 23560)

Item No.	Part No.	Description	Qty	Remarks
108	24265	Mounting Arm	1	
109	24266	End Bracket	1	
110	24267	Mounting Arm Cover	1	
111	24274	Clamp Strip	1	
112	24276	Bounce Damper	1	
113	24277	Support Bracket	1	
114	24355	SH Locking Pulley/Bush Assembly	2	
115	24360	Skewbar Barrel	1	
116	24364	Skewbar Drive Shaft	1	
117	24366	Side Dirt Shield	1	
118	24367	Skewbar Barrel Guard	1	
119	24368	Barrel Rubber Flap	1	
120				
121	6207 RS	Bearing	4	
122				
123	GS 412	Grease Nipple	2	
124				
125	SP 44M	Bearing Housing	1	
126	SP 279M	Guard Bolt	1	
127	SPCT 131	Stop Collar	1	
128				
129	SS025017/015	Steel Spacer	1	
130	SS042011/005	Steel Spacer	1	
131	SS045036/022	Steel Spacer	2	
132	SS045036/042	Steel Spacer	2	
133	SS045036/130	Steel Spacer	1	
134				
135	VB 73	Vee Belt	2	
136				
137	VRT 23M	Bearing Housing	1	
138				
139	WO668	Spring	1	
140				



**Assy N° 23537**



# **Shaft Monitor Kit      Assy NO 23537**

Item No.	Part No.	Description	Qty	Remarks
1	11368	Junction Box	1	
2	11460	Grommet	3	
3	11560	Guard Plate	3	
4	11561	Guard	3	
5	11581	Censor Support Bracket	3	
6	11584	Magnet	7	
7				
8				
9				
10				
11	23460	Electrical Components	1	
12	23518	Nylon Reaction Collar	3	
13	23519	Guard Plate Mounting Bracket	1	
14	23520	Conduit	1	
15				
16				
17				
18	SS040011/030	Steel Spacer	2	
19	SS025011/030	Steel Spacer	1	
20				
21				
22				
	<b>23460</b>	<b>Electrical Components Consists of:-</b>		
23	23457	Display Unit	1	
24	23458	Censor C/W Connectors	2	
25	23459	Censor C/W Connectors	1	
26	23538	4.5M Cable C/W Connector	1	
27	23539	3.5M Cable C/W Connector	1	
28	23540	3.5M Cable C/W Two Connectors	1	
29	23541	0.8M Cable C/W One Connector	1	