BE AGRI EASE
AG & INDUSTRIAL

BE-AMxx
Hedge Cutter

Operations & Parts Manual

For Models:

- BE-AM60
- BE-AM80
- BE-AM100

Purchase Date	Model No.	Serial No.

Dealer	

ATTENTION! BE-AMxx

READ THE BOOK FIRST.
It might save hours and dollars later!

When ordering spare parts always quote:

- The Machine Type
- The Machine Serial Number
- The Part Number

Factory re-built service exchange units of the major hydraulic components are available from your Dealer.

NOISE

The equivalent daily personal noise exposure from this machine, measured at the operator's ear, is within the range of 78-85 DB. These figures apply to a normal distribution of use where the noise fluctuates between zero and maximum. The figures assume that the machine is fitted to a tractor with a quiet cab with the windows closed in a generally open environment. We recommend that the windows are kept closed. With the cab rear window open the equivalent daily personal noise exposure will increase to a figure within the range of 82-88DB. At equivalent daily noise exposure levels of between 85 and 90 DB, ear protection is recommended, it should be used if any window is left open.

Record the serial number of your machine on this page and always quote this number when ordering spares. Whenever information concerning the machine is requested remember to also state the type of tractor to which it is fitted.

MACHINE SERIAL NUMBER	INSTALLATION DATE
MODEL DETAILS	
DEALERS NAME	
DEALERS TELEPHONE NUMBER	

Read this manual bore fitting or operating the machine. Whenever any doubt exists contact your local dealer.

Use only BE Genuine spare parts on BE equipment and machines.

DEFINITIONS

The following definitions apply throughout this manual:

WARNING!
An operating procedure, technique, etc., which can result in personal injury or loss of life if not observed carefully.

CAUTION!
An operating procedure, technique, etc., which can result in the damage of either machine or equipment if not observed carefully.

Note:
An operating procedure, technique, Etc., which is considered essential to emphasize.

Left and Right Hand:
This term is applicable to the machine when fitted to the tractor and viewed from the rear. This also applies to tractor references.

This machine has the potential to be extremely dangerous, in the wrong hands it can kill or maim.
It is therefore imperative that the owner, and the operator of this machine, read the following section to ensure that they are both fully aware of the dangers that do, or may exist, and their responsibilities surrounding its use.

The operator of this machine is responsible not only for their own safety nut equally for the safety of others who may come into the close proximity of the machine, as the owner you are responsible for both.

POTENTIAL SIGNIFICANT DANGERS ASSOCIATED WITH THE USE OF THIS MACHINE:

- Being hit by debris thrown by rotating components.
- Being hit by machine parts ejected through damage during use.
- Being caught on a rotating power take-off (PTO) shaft.
- Being caught in other moving parts i.e.: belts, pulleys and cutting heads.
- Electrocution from Overhead Power Lines (by contact with or “flash-over” from)
- Becoming trapped between tractor and machine when hitching or unhitching.
- Tractor overbalancing when machine arm is extended.
- Injection of high pressure oil from hydraulic hoses or couplings.
- Machine overbalancing when freestanding (out of use).
- Road traffic accidents due to collision or debris on the road.

BEFORE USING THIS MACHINE YOU MUST:

- Ensure you read all sections of the operator handbook
- Ensure the operator is, or has been, properly trained to use the machine.
- Ensure the operator has been issued with and reads the operator handbook.
- Ensure the operator understands and follow the instructions in operator handbook.
- Ensure the tractor front, rear and side(s) are fitted with metal mesh or polycarbonate guards of suitable size and strength to protect the operator against thrown debris or parts.
- Ensure tractors guards are fitted correctly, are undamaged and kept properly maintained.
- Ensure that all machine guards are in position, are undamaged and are kept maintained in accordance with the manufacturer’s recommendations.
- Ensure flails and their fixings are of a type recommended by the manufacturer, are securely attached and that none are missing or damaged.
- Ensure hydraulic pipes are carefully and correctly routed to avoid damage by chaffing, stretching or pinching and that they are held in place with the correct fittings.
- Always follow the manufacturer’s instructions for attachment and removal of the machine from the tractor.
- Check that the machine fittings and couplings are in good condition.
- Ensure the tractor meets the minimum weight recommendations of the machine manufacturer and the ballast is used as necessary.
- Always inspect the work area thoroughly before starting to note obstacles and remove wire, bottles, cans and other debris.
- Use clear suitably sized warning signs to alert others to the nature of the machine working within that area. Signs should be placed at both ends of the work site. (It is recommended that signs used are of a size and type specified by the Department of Transport and positioned in accordance with their and the Local Highways Authority guidelines).
- Ensure the operator is protected from noise. Ear defenders should be worn and tractor cab doors and windows must be kept closed. Machine controls should be routed through proprietary openings in the cab to enable all windows to be shut fully.

BEFORE USING THIS MACHINE YOU MUST: (CONT.)

- Always work at a safe speed taking account of the conditions i.e.: terrain, highway proximity and obstacles around and above the machine.
- Extra special attention should be applied to Overhead Power Lines. Some of our machines are capable or reach in excess of 8 meters (26 feet) this means they have the potential to well exceed, by possibly 3 meters (9' 9"), the lowest legs minimum height of 5.2 meters from the ground for 11,000 and 33,000 volt power lines. It cannot be stressed enough the dangers that surround this capability, it is therefore vital that the operator is fully aware of the maximum height and reach of the machine, and that they are fully conversant with all aspects regarding the safe minimum distances that apply when working with machines in close proximity to Power Lines. (Further information on this subject can be obtained from the Health & Safety Executive or your Local Power Company).
- Always disengage the machine, kill the tractor engine, remove and pocket the ignition key before dismounting for any reason.
- Always clear up all debris left at work area, it may cause hazards to others.
- Always ensure when you remove your machine from the tractor that it is left in a safe and stable position using the stands and props provided and secured if necessary.

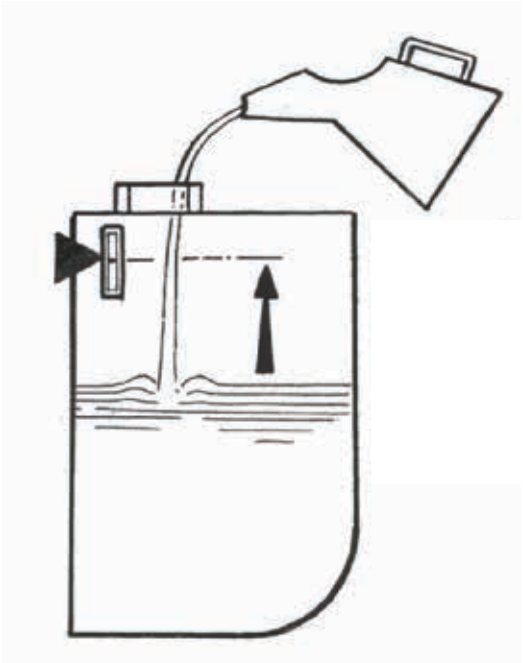
WHEN NOT TO USE THIS MACHINE:

- Never attempt to use this machine if you have not been trained to do so.
- Never use a machine until you have read and understood the operator handbook, are familiar with, and practiced the controls.
- Never use a machine that is poorly maintained.
- Never use a machine if guards are missing or damaged.
- Never use a machine on which the hydraulic system shows signs of wear or damage.
- Never fit, or use, a machine on a tractor that does not meet the manufacturer's minimum specification level.
- Never use a machine fitted to a tractor that does not have suitable front, rear and side(s) cab guarding made of metal mesh or polycarbonate.
- Never us the machine if the tractor can guarding is damaged, deteriorating or badly fitted.
- Never turn a machine cutting head to an angle that cause debris to be ejected towards the cab.
- Never start or continue to work a machine if people are nearby or approaching. Stop and wait until they are at a safe distance before continuing.

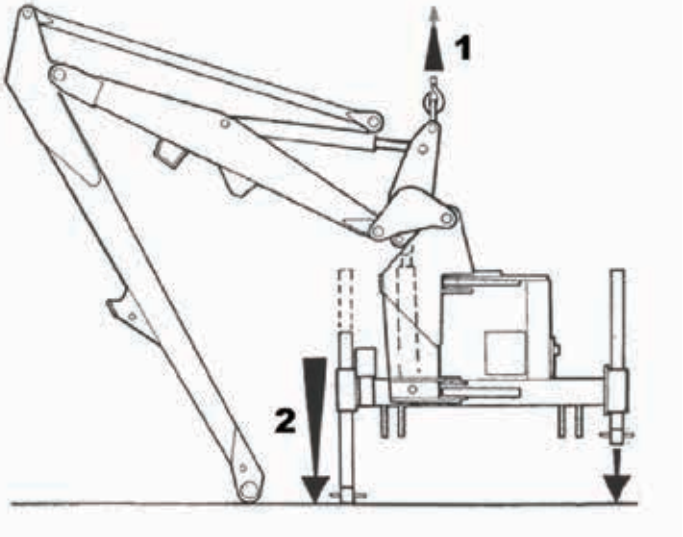
WARNING: Some Cutting Heads may continue to "freewheel" for up to 40 seconds after being stopped.

- Never attempt to use a machine on materials in excess of it capability.
- Never use a machine to perform a task it has not been designed to do.
- Never operate the tractor or machine controls from any position other than from the driving seat, especially whilst hitching or unhitching the machine.
- Never carry out maintenance of a machine or tractor whilst the engine is running. The engine should be switched off, the key removed and pocketed.
- Never leave a machine unattended in a raised position - it should be lowered to the ground in a safe position on a level firm site.
- Never leave a tractor with the key in or the engine running.
- Never carry out maintenance on any part or component of a machine that is raised, unless that part or component has been properly substantially braced or supported.
- Never attempt to detect a hydraulic leak with your hand - use a piece of cardboard.
- Never allow children near to, or play on, a tractor or machine under any circumstances.

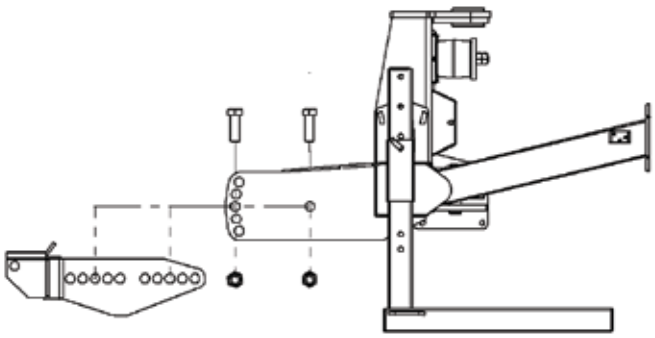
The machine will be delivered in a partially dismantled condition, secured with transport strap and banding.

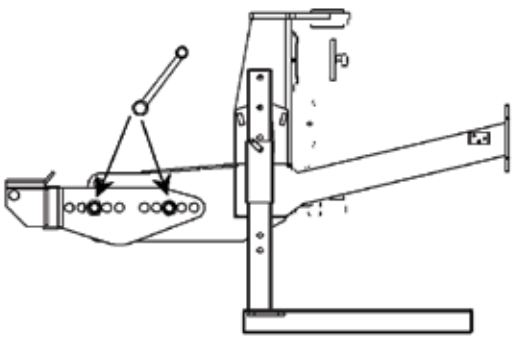


- Chose a firm level site.
- Remove the transport strap, banding straps and loose items.
- Check hydraulic fluid is at recommended level.



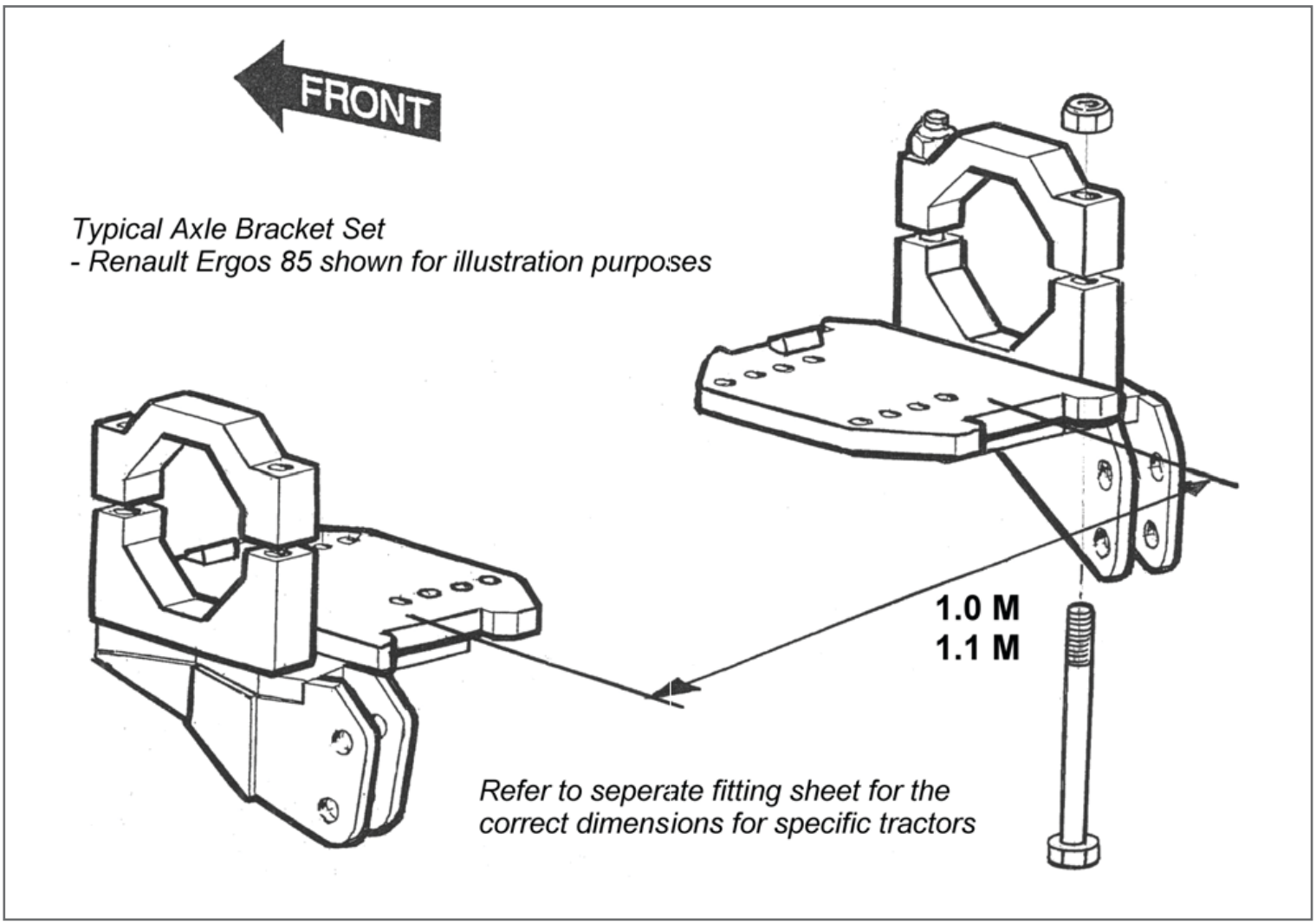
- Raise the machine using overhead lifting equipment with a minimum capacity of 1500kg SWL. **LEAVE IN POSITION AT THIS STAGE.**
- Lower the legs and pin in position selecting the holes that position the machines gearbox stub shaft approx. 75mm below the tractors PTO shaft **Note**: Leg pin position used.
- Unbolt stabilizer from machine and remove stabilizer nose quadrant pin.





Locate axle mounting arms onto the mainframe and secure in position using the correct nuts and bolts supplied, tighten nuts when correct hole location has been selected
(See following page for details on mounting hole selection).

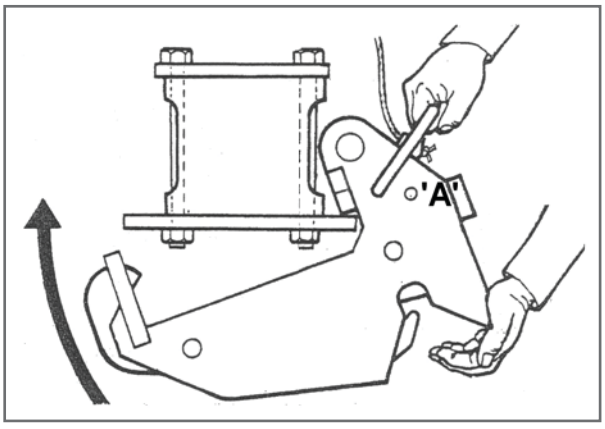
AXLE BRACKET/CATCH ASSEMBLY - FITTING BY DEALER BE-AMxx



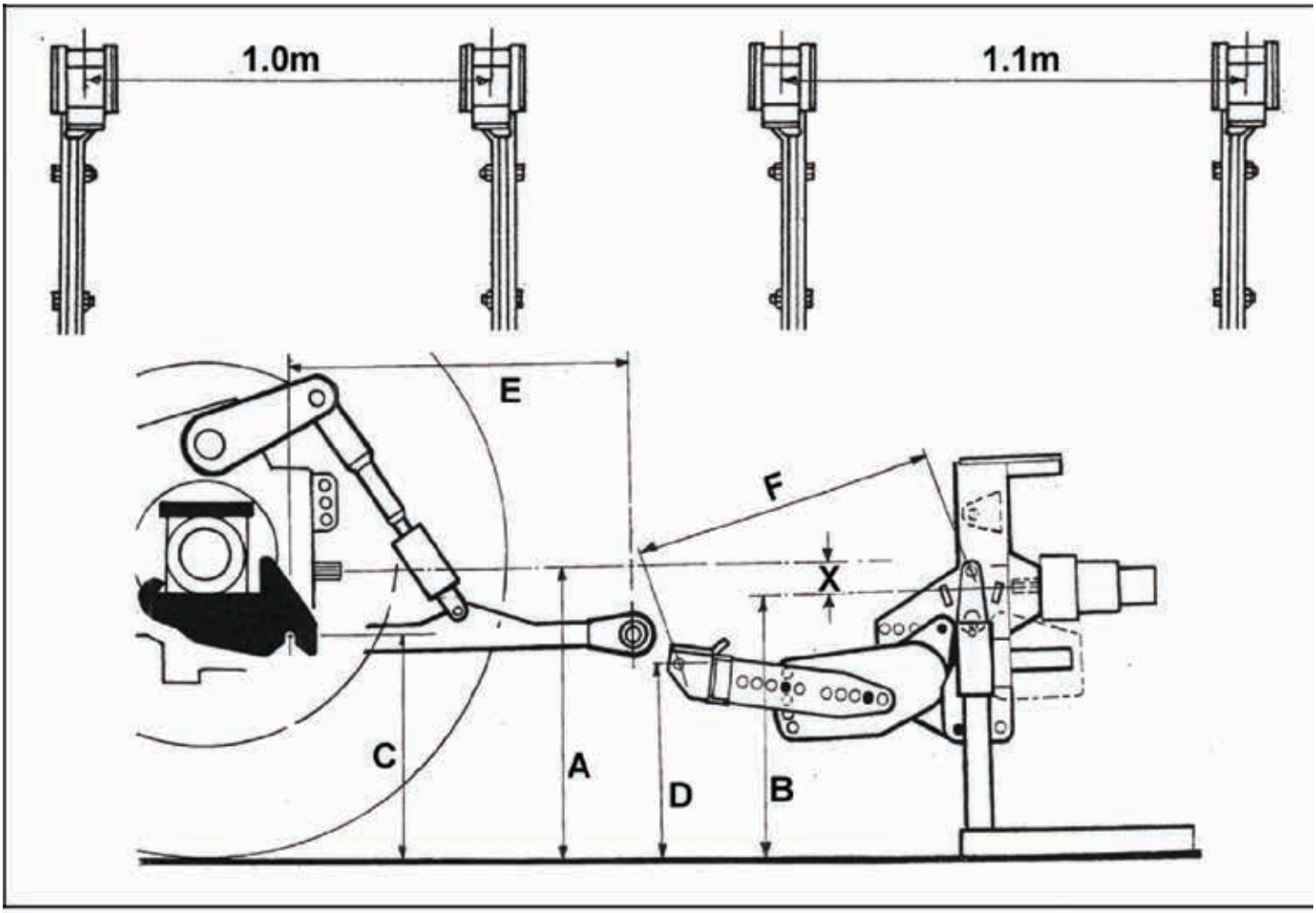
Bolt axle plates to the tractor axle at either 1.0 M or 1.1 M apart - this may necessitate the removal of the tractor's check chains and/or assister ram brackets, if this is the case, the axle plate will include replacement brackets for these functions. The axle brackets supplied will be accompanied by a fitting sheet with instruction for their attachment to your tractor, follow the instructions exactly as they are specific to your particular make and model of tractor. Replace assister ram(s) if fitted.

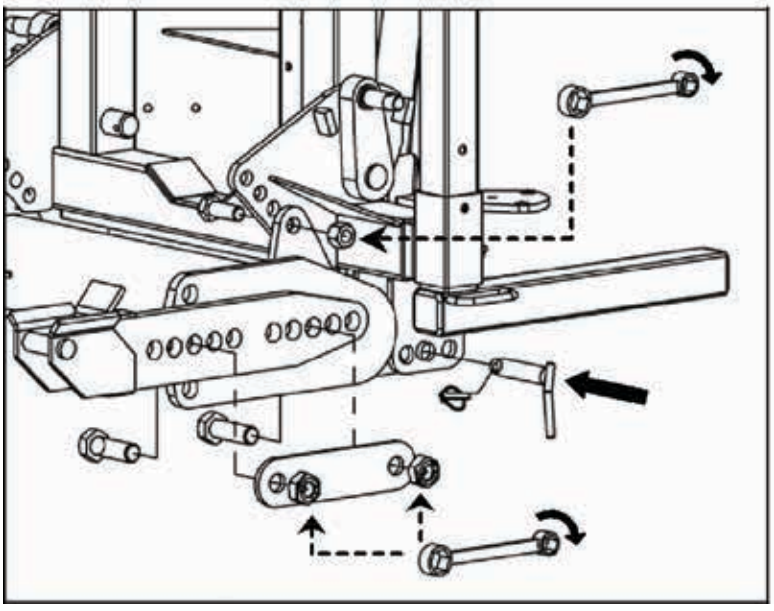
Hook the catch assemblies onto the rear of the axle plates, push firmly against the plate and vigorously pivot the catch in a forward and up direction until the spring loaded hook 'snaps' into position.
Pass the release cords up into the cab.

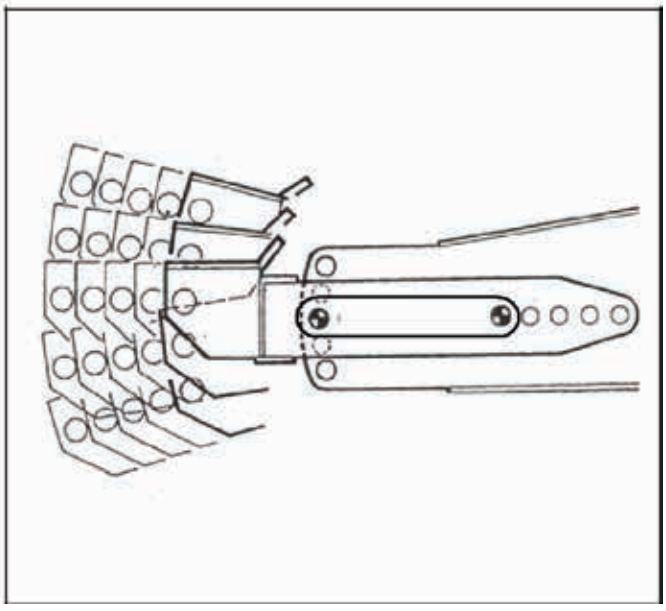
Note:
On some tractors fitted with auxiliary fuel tanks, there is insufficient space for the spring catches to be fitted, in these instances special axle brackets and catches with a 'pin on' facility are available on request.



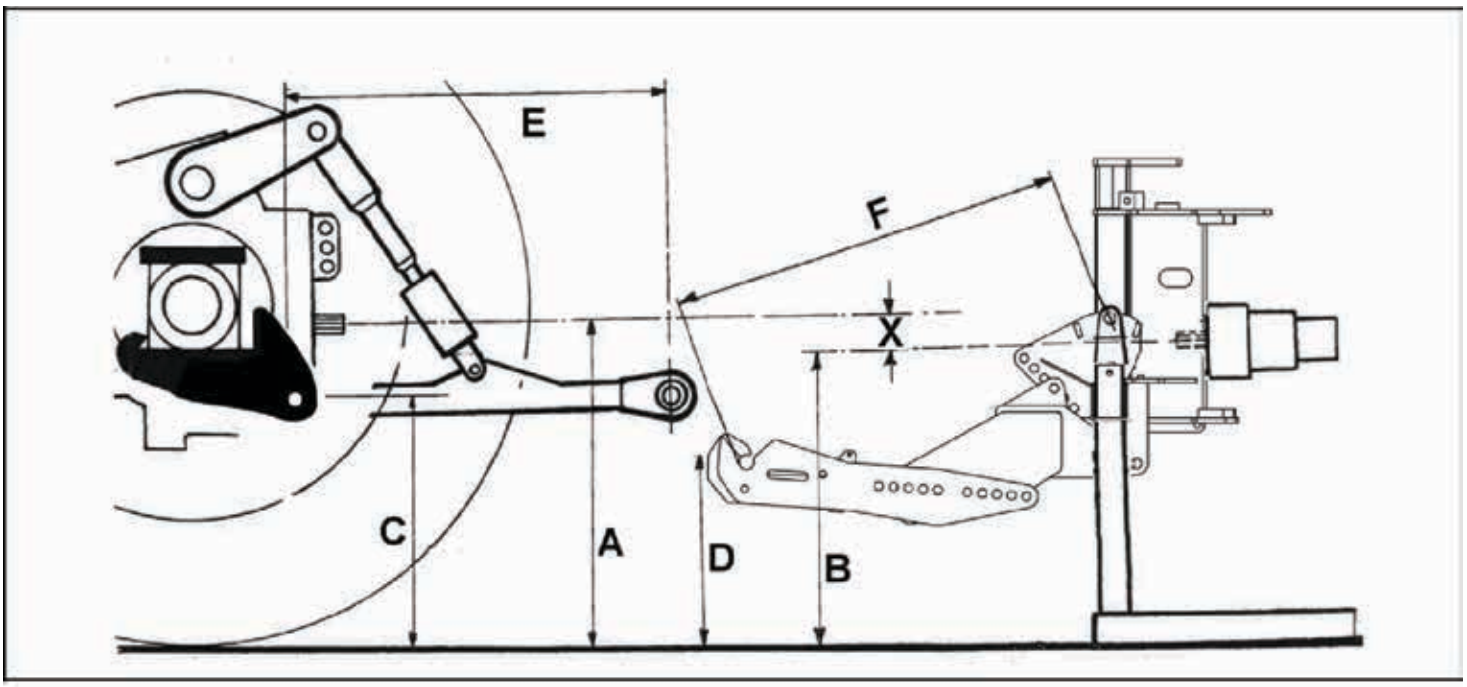
Ensure catch-locking pin 'A' is removed.

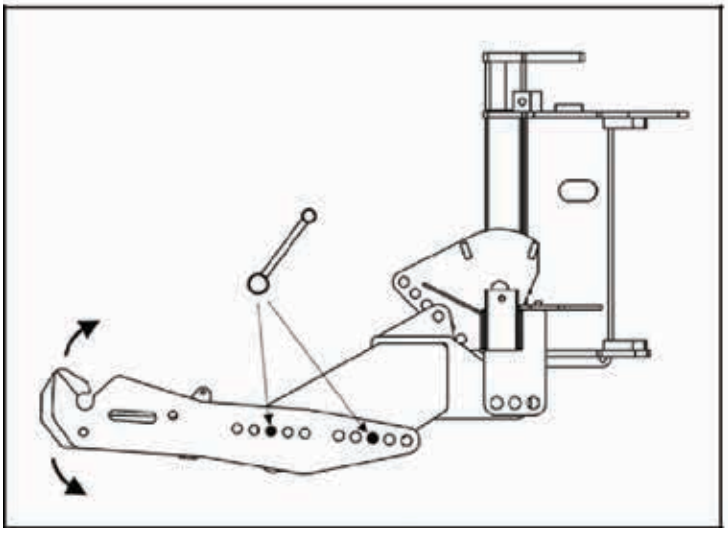


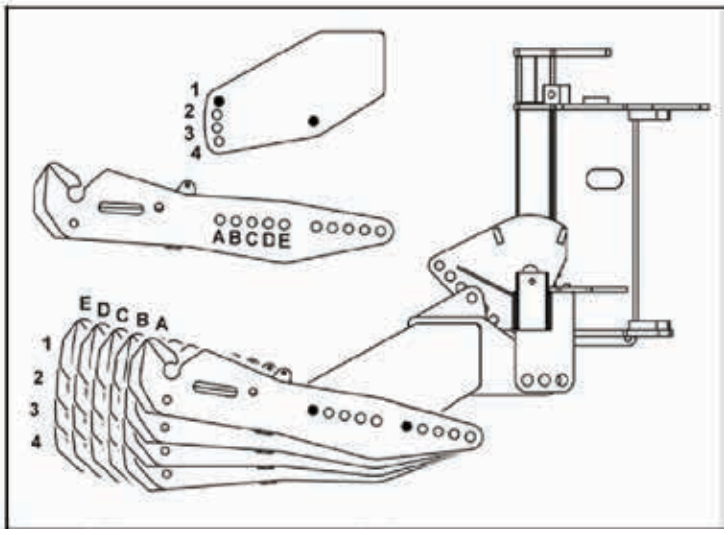




With the frame in the vertical position, measure dimensions ‘A’ and ‘B’, subtract ‘B’ from ‘A’ to obtain measurement ‘X’. Measure dimension ‘C’.
Select mounting holes which position the mounting bars in the end of the latch arms so that dimension ‘D’ equals dimension ‘C’ minus measurement ‘X’ and also when the draft link is horizontal and the rocking draft pin is in the upright position dimensions ‘E’ and ‘F’ are equal.

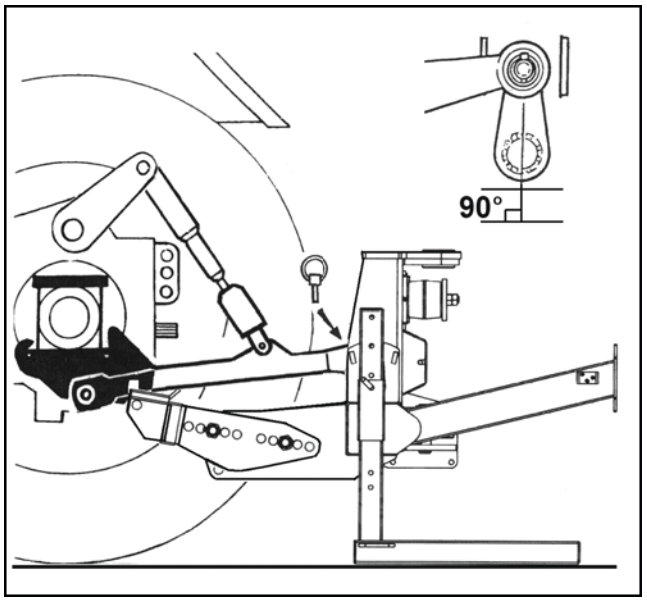




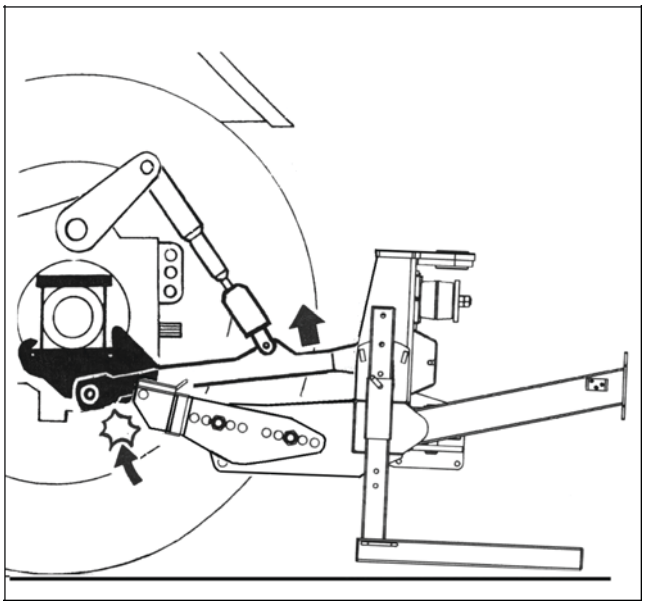


With the frame in the vertical position, measure dimensions ‘A’ and ‘B’, subtract ‘B’ from ‘A’ to obtain measurement ‘X’. Measure dimension ‘C’. Select mounting holes which position the mounting bars in the end of the latch arms so that dimensions ‘D’ equals dimension ‘C’ minus measurement ‘X’ and also when the draft link is horizontal and the rocking draft pin is in the upright position dimensions ‘E’ and ‘F’ are equal.

Reverse tractor squarely into position adjacent to the machine and connect the draft links to the machine. Maneuver tractor until both draft pin rockers are vertical.



Raise the machine on the tractors linkage sufficient only for the latch bar to fully engage in the axle catch.

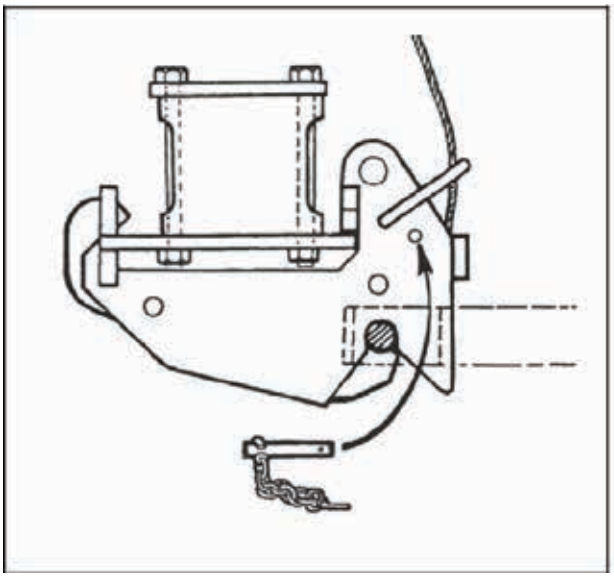


WARNING!

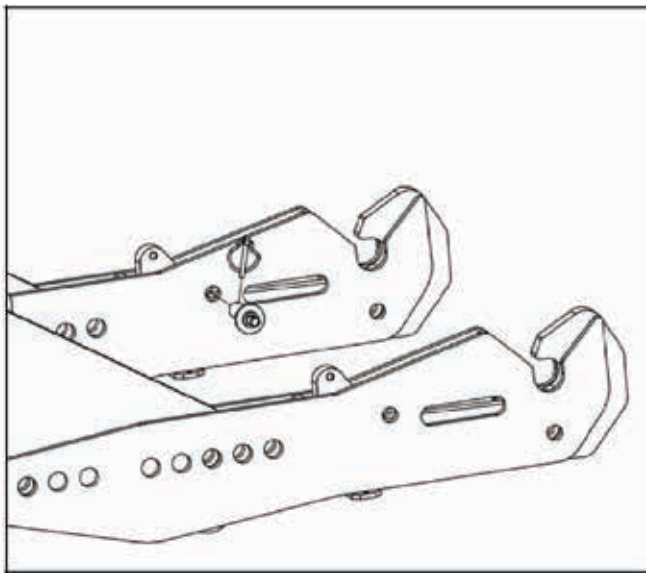
The quadrant lever or machine controls must only be operated from the tractor seat. Ensure no one is standing close to or within the linkage arms or bars.

Note:
Be aware - as lift occurs the machinery may tilt slightly.

Insert catch lock pins - refer to diagram below for specific type.

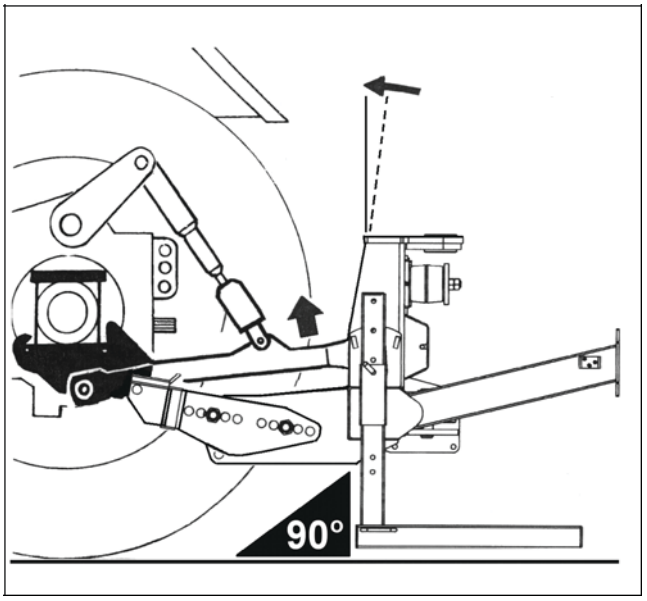


Standard Type Bracket

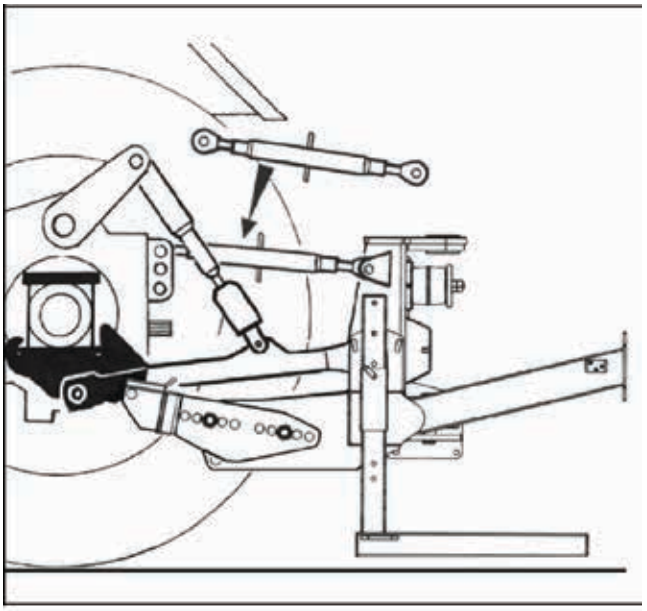


Alternative Type Bracket

Raise the machine on tractors linkage until the frame is vertical.

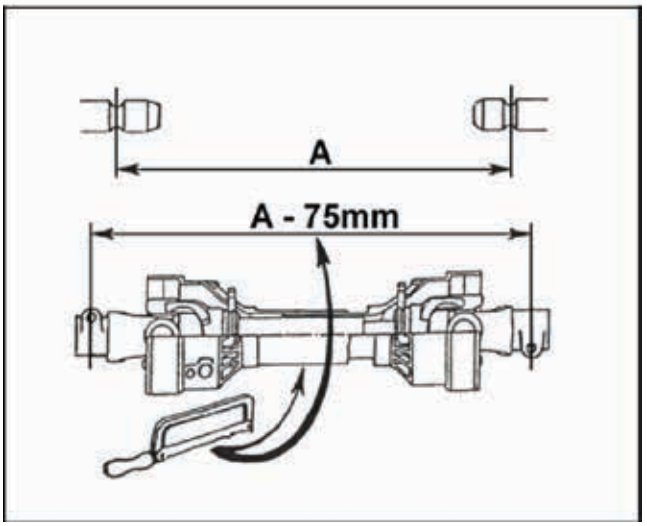


Fit top link.

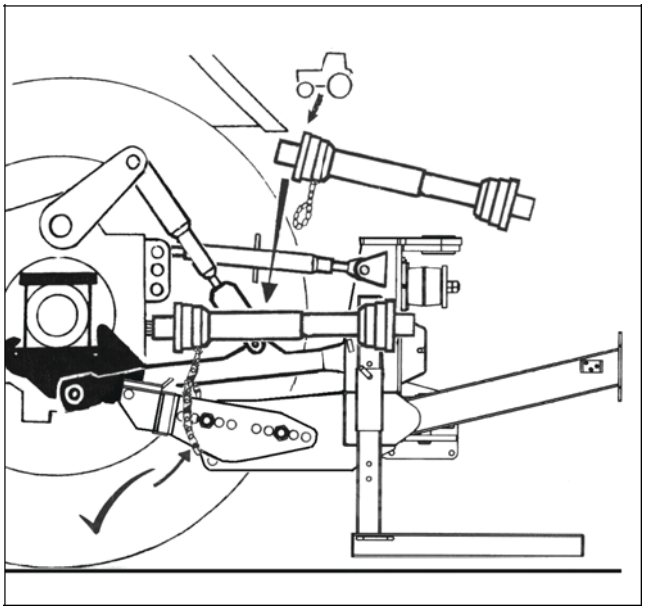


Measure PTO shaft and cut to dimension shown (distance 'A' minus 75mm) - see diagram opposite and refer to maintenance section for further details.

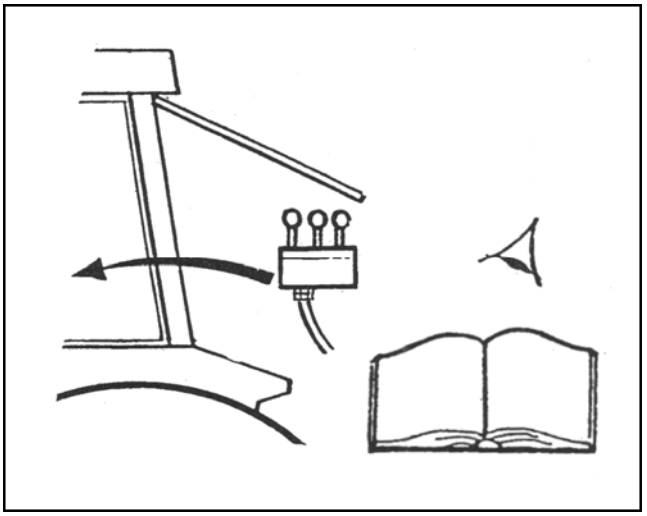
Note:
For subsequent use on a different tractor measure again - there must be a minimum of 6" (150mm) of shaft overlap.



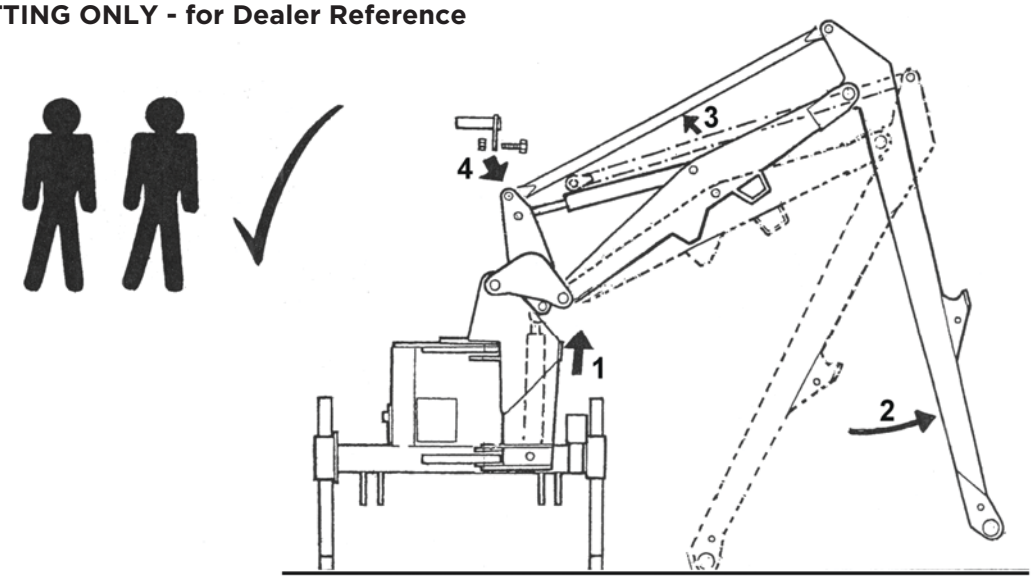
Attach the torque chains to a convenient location to prevent rotation of the shaft guards.



Fit machine controls into the cab - refer to the specific page on this subject for further details.



FIRST FITTING ONLY - for Dealer Reference

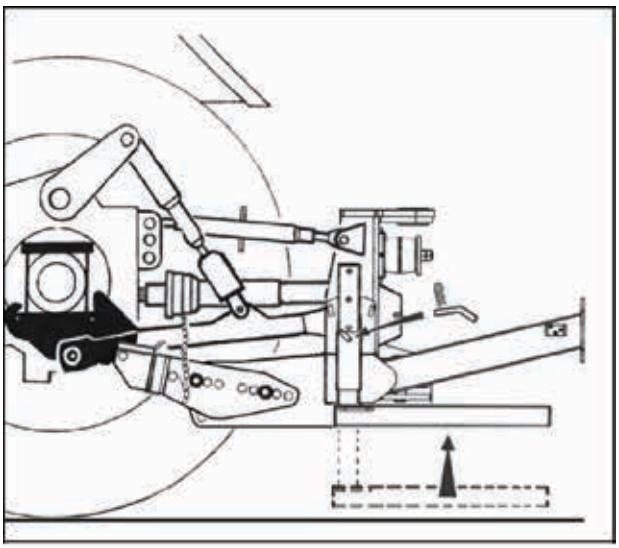


Request assistance. Operate 'Lift up' on machine controls sufficient only for the dipper arm to clear the ground. Pivot out the dipper until the tension link can be reconnected.

Raise the stand legs into the work position and secure with their pins - see diagram opposite.

Tighten check chains and/or stabilizer bars.
The machine should now be carefully operated throughout its full range of movements to check hoses are not being strained, pinched, chafed or kinked and that all movements are functioning correctly.

The machine can now be folded into the transport position ready to proceed to the work site - Refer to this section on Transport Position for details on this subject.

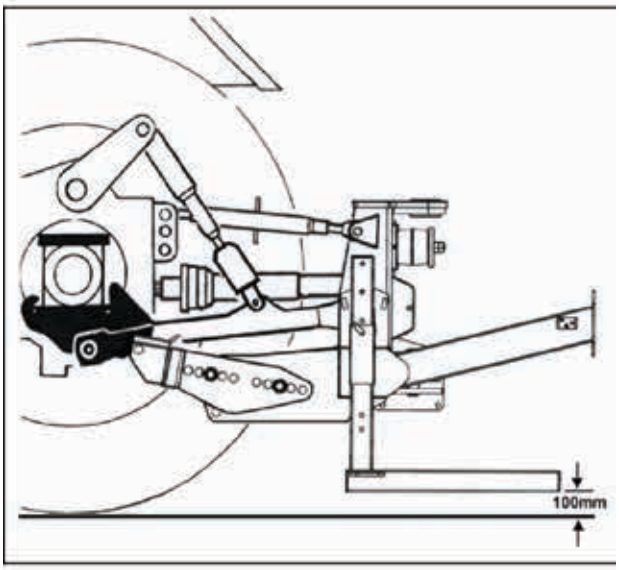


REMOVAL FROM TRACTOR

Select a firm safe site to remove the machine.

Locate parking legs into their housings.

Note:
The correct, and most stable, position for removing the machine from the tractor is with the arm positioned to the rear of the machine.



Position the flail head on the ground directly to the rear of the machine at approximately half reach.

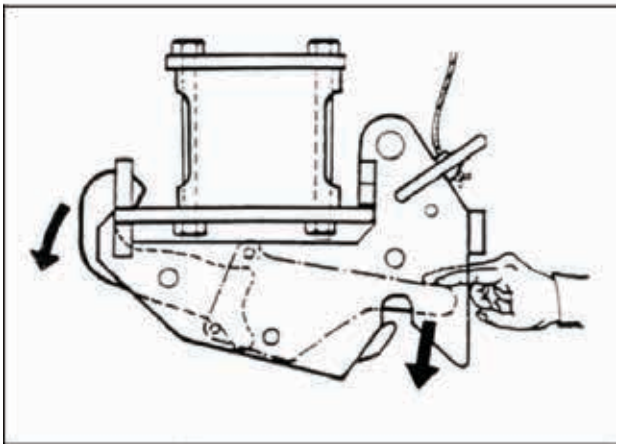
Disengage PTO.

Remove latch security pins.

Take machine weight on draft links sufficient only to allow the top link to be disconnected.

Open axle catches using the release cord and lower the machine.

Disconnect draft links and remove the PTO shaft.



Remove control units from the tractor cab and stow clear of the ground in a location where they are protected from the weather or risk of accidental damage.

Drive tractor away from machine.

Replace check chains / stabilizer bars - the axle plates can remain permanently in position.

STORAGE

If the machine is to be left standing for extended periods of time, lightly coat the exposed portions of the ram rods with grease. Subsequently this grease should be wiped off before the rams are next moved.
If the machine is to be stored outside tie a piece of tarpaulin or canvas over the control assembly.
Do not use a plastic bag as this can lead to corrosion in the unit.

With the machine positioned on a firm level site and securely supported, maneuver the tractor squarely up to the machine with the tractor's draft links set to a height level with the machines lower link brackets. (See Fig.1)

Connect the tractor's draft links to the machine's lower link brackets, retain in position with the linkage and lynch pins supplied. Ensure that the same 'hole position' is selected on each side of the machine.

Note:
The hole on the lower link bracket should be the rear most that permits the machine to be mounted without fouling the tractor.

LIFTING EQUIPMENT MAY NOW BE REMOVED.

Fit and secure stabilizer nose into the tractors top link selecting the highest position available avoiding any load sensing properties.
(See Fig 2.)

Note:
The bolt on nose of the stabilizer is reversible in order to accommodate variations of tractor linkage designs.

Remove the 'R' clip and quadrant pin from the stabilizer and swing it rearwards to locate with one of the holes on the mainframe - Select the hole that is furthest away from the tractor and secure loosely with the bolt provided.

DO NOT TIGHTEN AT THIS STAGE and DO NOT REPLACE QUADRANT PIN AT THIS STAGE. (See Fig 3.)

Fig. 1

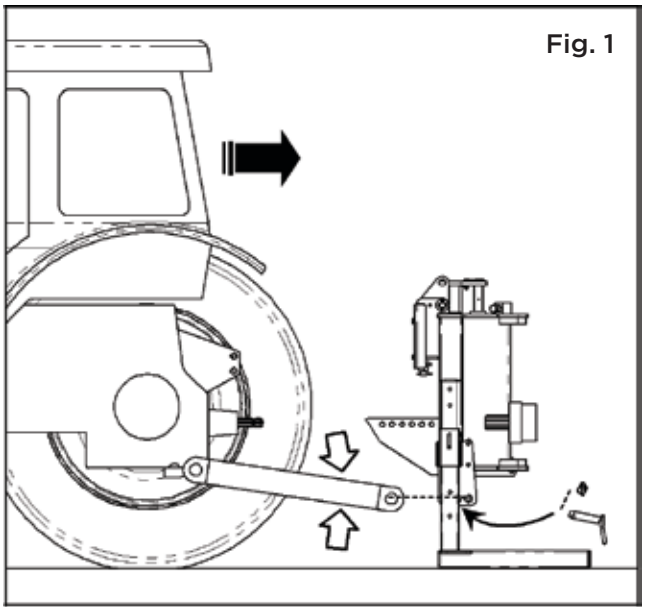


Fig. 2

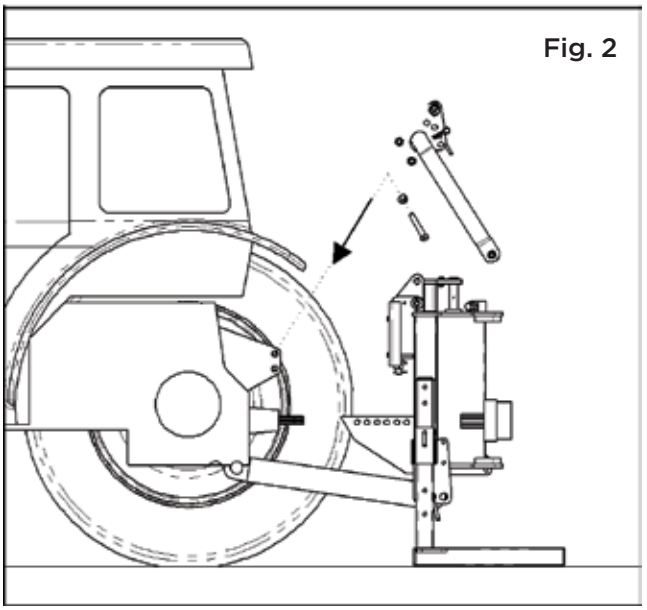
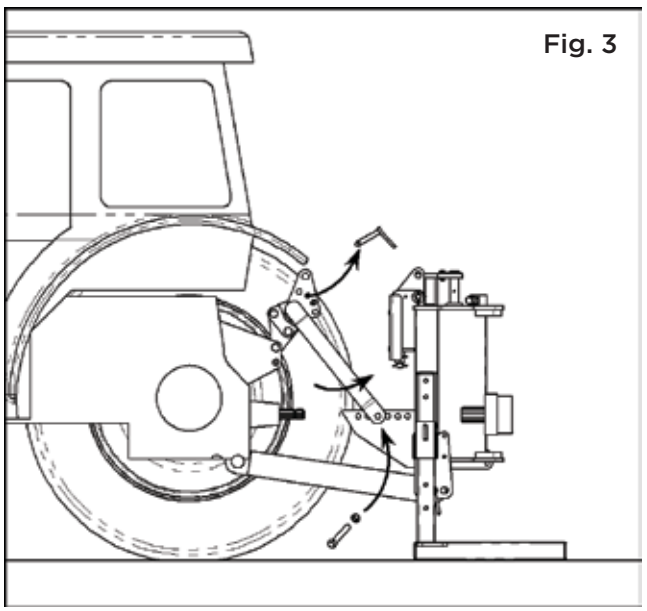


Fig. 3



Fit the machines top link. (See Fig. 4)

Raise the machine on the tractors linkage to a position where the tractor PTO and the machines gearbox stub shaft are approximately in line with each other.

Note:
As lift occurs be aware the machinery may tilt slightly.

WARNING!
The quadrant lever or machine controls must be operated from the tractor seat. Ensure no one is standing on or between the bars linkage arms or bars.

Replace the stabilizer quadrant pin and secure with the 'R' clip. (See Fig. 5)

Note:
The quadrant pin must be fitted in the lowest hole on the stabilizer in order that it acts as a 'bottom stop'. This will prevent the machine from dropping when stopped and permit the tractor's inbuilt transport protection system to function correctly during operation and transportation.

Ensure the tractor's linkage is in 'position control' and the linkage raised sufficiently to hold cutter at the correct
height and remove the load from the quadrant pin.

Never fit the quadrant pin in a location hole that locks the stabilizer as this can cause damage to the machine and/or tractor.

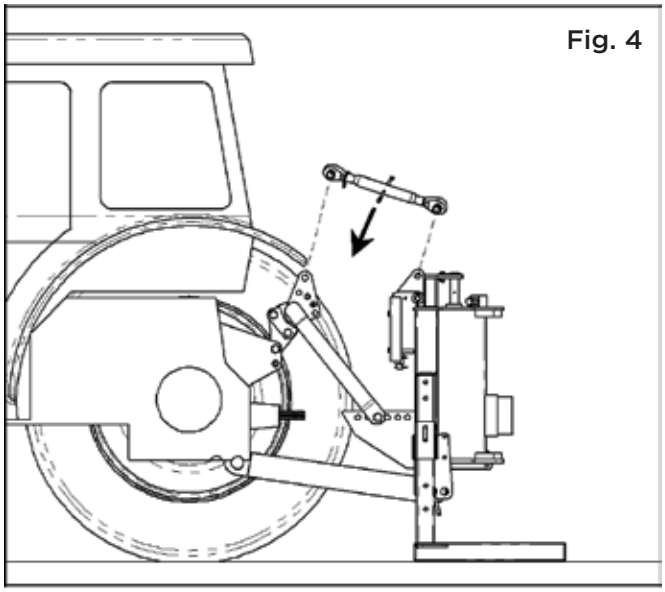


Fig. 4

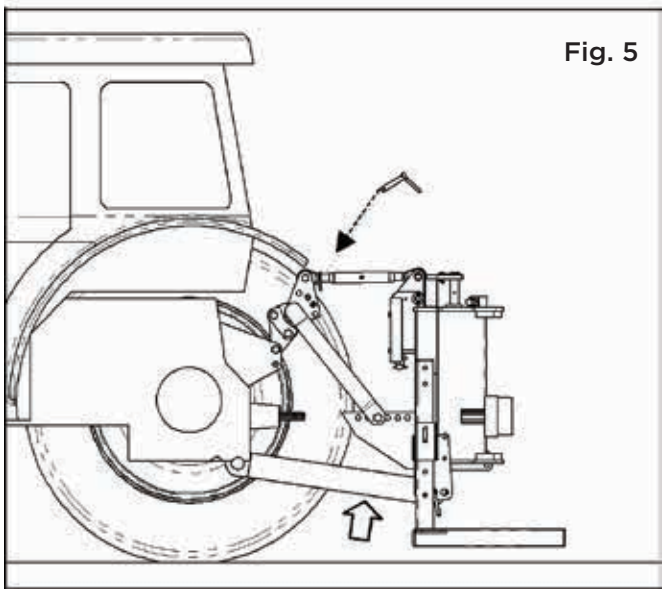
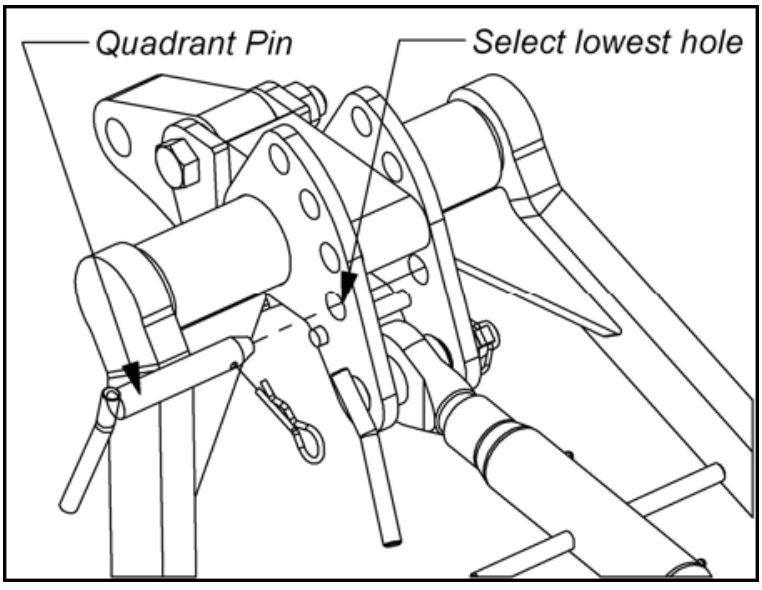


Fig. 5



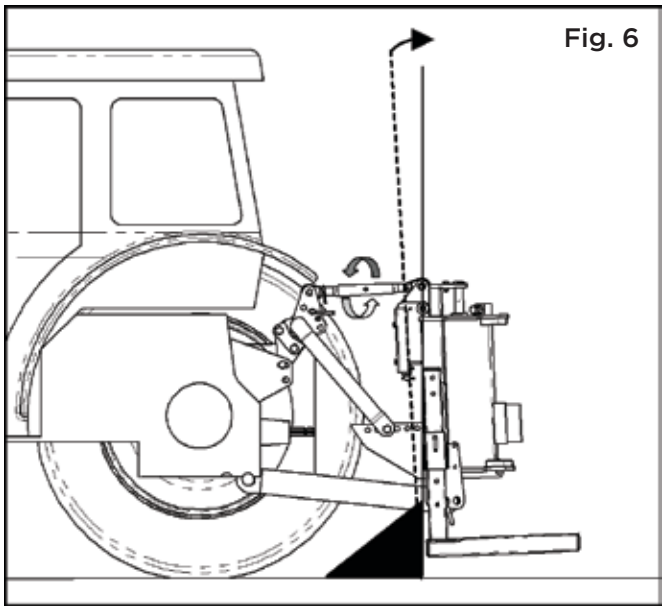


Fig. 6

Filly tighten the stabilizer lower bolts. (See Fig. 7)

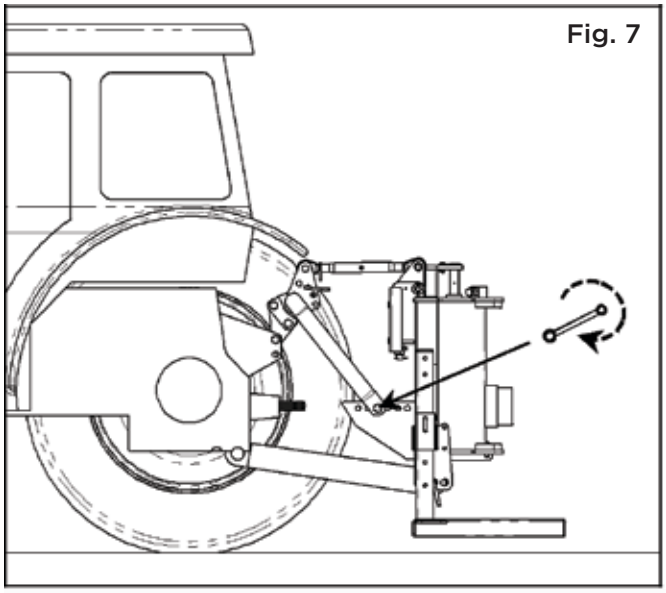


Fig. 7

Measure the PTO shaft and cut to the dimensions shown. The finished length of the PTO shaft should be 75mm (3") less than the measured distance 'A' between tractor shaft and gearbox stub shaft to enable fitting. (See Fig. 8)

Note:
For subsequent use with different tractors measure again, there must be a minimum shaft overlap of 150mm (6").

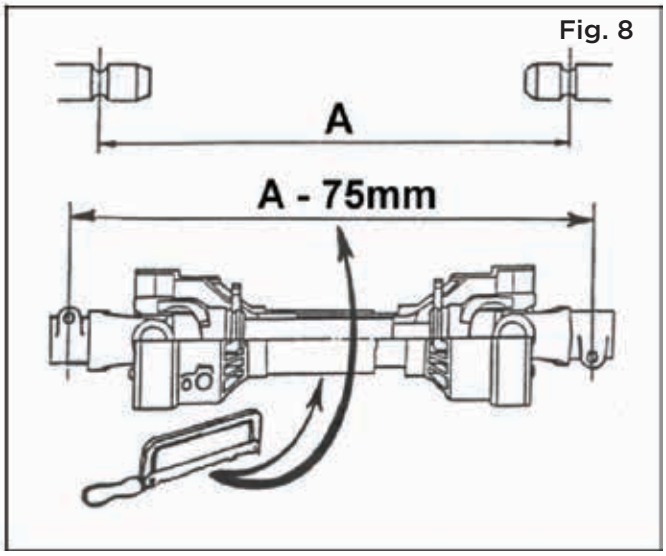


Fig. 8

Fit PTO in position and attach the torque chains to a convenient location to prevent the shaft guards from rotating. (See Fig. 9)

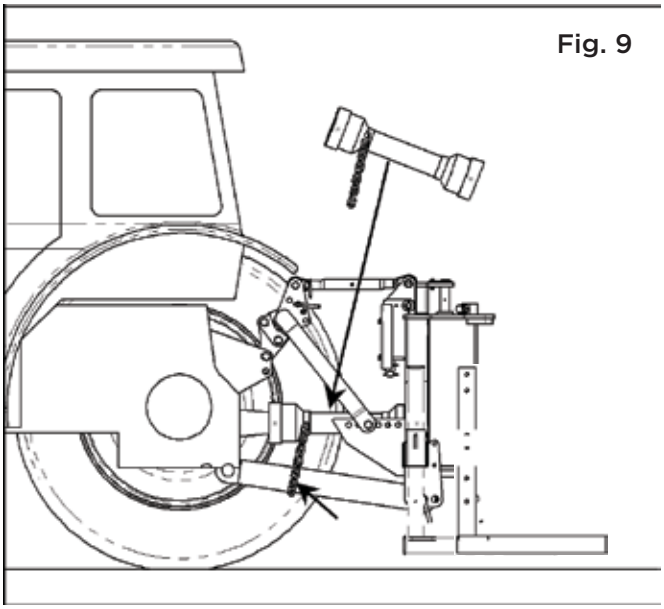


Fig. 9

On semi independent machines only connect up the supply and return hoses.
Supply - from tractors auxiliary service.
Return - to tractors transmission casing (refer to Tractors Handbook).

Fit the machine control unit into the tractor cab.
(See Fig. 10)

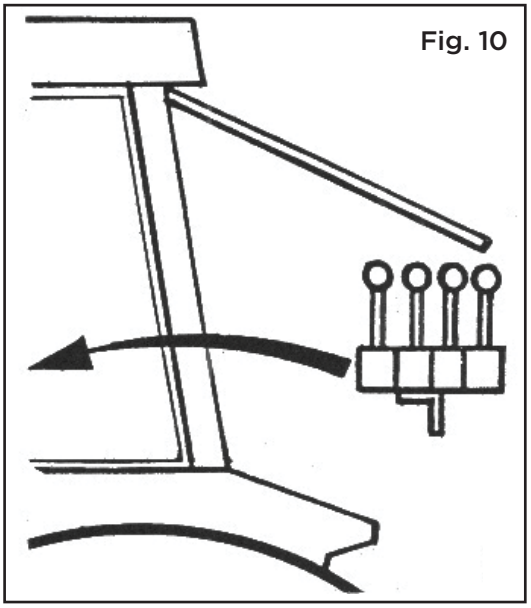


Fig. 10

Note:
On semi independent machines only select tractors external services.

- Ensure the Lift Ram tap and Slew Ram taps are open.

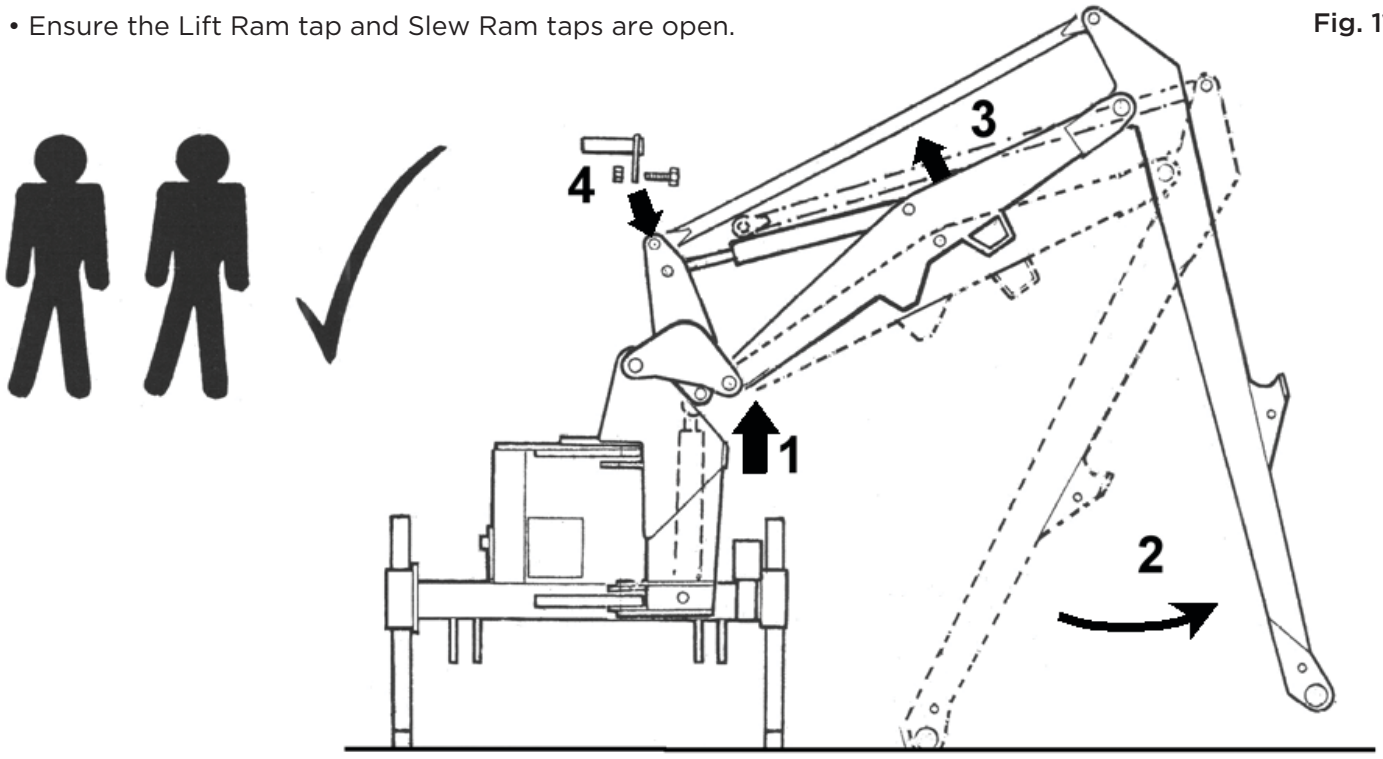


Fig. 11

- Request assistance.
- Operate 'lift up' on machine controls sufficient only for end of the dipper arm to clear the ground.
- Pivot out the dipper arm until the tension link can be connected.

Operate the controls to 'slew' the arms toward the rear only until the frame is horizontal.

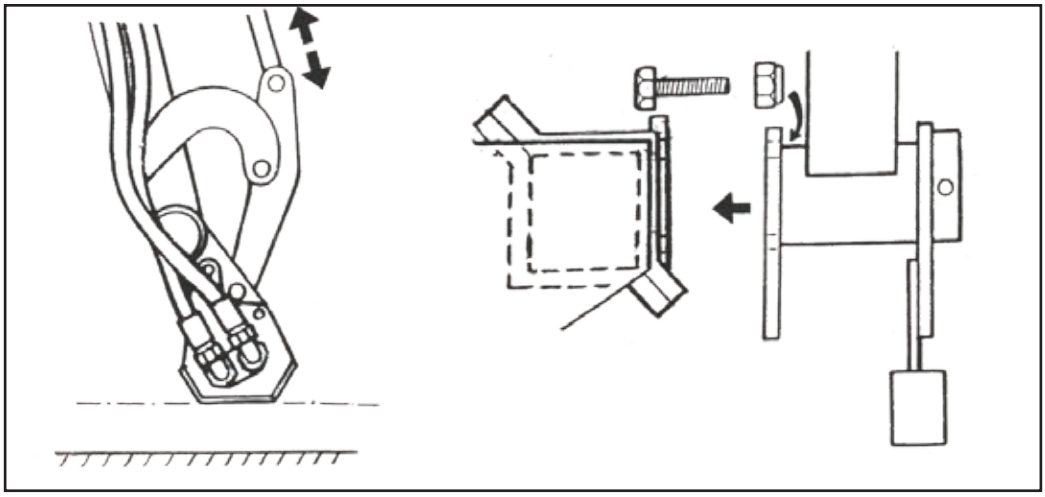
Carefully operate the machine
through its full range of movements whilst checking that hoses are not strained, pinched, chaffed or kinked, and that all machine movements are functioning correctly.

On initial installation, the machine is now ready for attachment of the flail head.

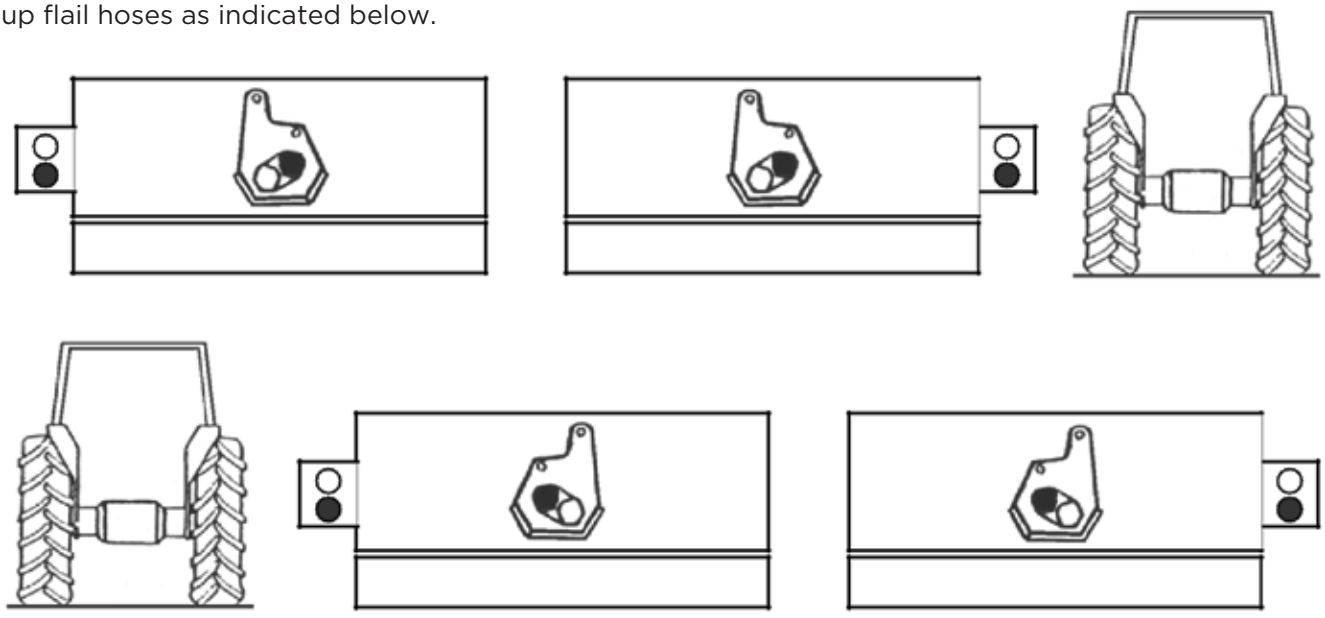
Fold the machine into the transport position. The machine is now ready to proceed to the work site.

FLAIL HEAD ATTACHMENT:

Operate machine controls to maneuver into position
to enable attachment of the flail head. The bottom of
the hose junction bracket must be parallel with the ground.
(Refer to 'Pre-Operational Checks' for correct bolt torque settings.



Connect up flail hoses as indicated below.



With the arms at half reach and the flail head clear of the ground carry out final adjustment of the lift arm leveling box to bring the main frame horizontal.

DANGER!

READ CAREFULLY BEFORE COMMENCING TO REMOVE THE MACHINE FROM THE TRACTOR.

THE ORDER OF THE FOLLOWING STEPS **MUST** BE FOLLOWED **EXACTLY** DISCONNECTING THE TOP LINK **MUST** BE THE LAST OPERATION PRIOR TO DRIVING THE TRACTOR AWAY FROM THE MACHINE.

WARNING!
Do not operate quadrant lever or machine controls through the rear cab window whilst standing on or amongst linkage components. **Always seek assistance.**

- Select a firm level site for parking the machine.
- Replace parking legs in their sockets and secure in their lowest position.
- Raise the machine on the tractor linkage until the weight is taken off the stabilizer.
- Remove the lower stabilizer pins.
- Unscrew the lift ram tap.
- Lower the machine to the ground.
- Extend the arms and place the flail head on the ground at half reach.
- Disengage tractor PTO and remove
- Disconnect stabilizer bars or loosen check chains as applicable
- Unbolt the control unit from the mounting pillar, remove from tractor can and stow the levers or switch box clear of the ground.
- Disconnect the stabilizer from the tractors top hitch position. Allow the stabilizer to slide along the rail until it contacts the eccentric stops.
- Remove draft link pins and drive tractor away from machine.

If machine is to be left standing for an extended period of time, lightly coat the exposed portions of the ram rods with grease. Subsequently this grease should be wiped off before the rams are next moved.

If the machine has to be stored outside tie a piece of tarpaulin or canvas over the control assembly, **do not** use a plastic fertilizer bag which could lead to rapid corrosion.

SUBSEQUENT ATTACHMENT TO IDENTICAL TRACTOR

Refer to and follow steps on **'Initial Attachment To Tractor'**

Connect stabilizer into tractors top hitch position used previously.

Raise the machine on the tractor linkage until the Stabilizer contacts the eccentric stops.

Fit stabilizer lower pins.

Mount controls in the tractor cab.

Fit PTO Shaft and attach torque chain to a convenient pint to prevent the shaft guard rotating.

Place arms in work position at half reach and adjust lift arm leveling box to bring frame horizontal.

Tighten Check Chains if fitted.

Stow parking legs.

Fold machine into transport position.

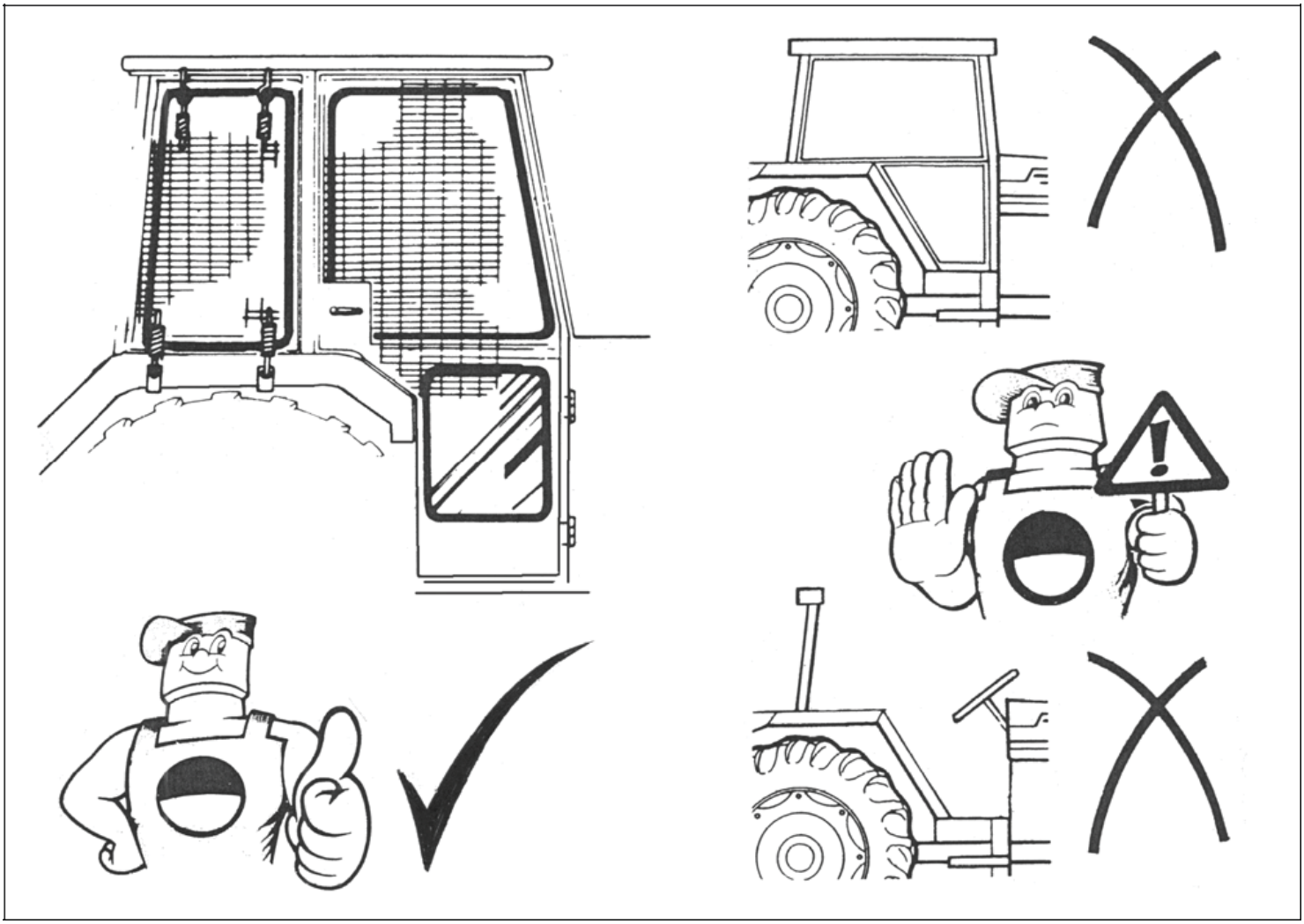
Proceed to the work site.

SUBSEQUENT ATTACHMENT TO DIFFERENT TRACTOR

Remove Stabilizer
and Top Link from machine and separate.

Refer to and follow steps on **'Initial Attachment To Tractor'**

OPERATOR GUARD



PREPARATION

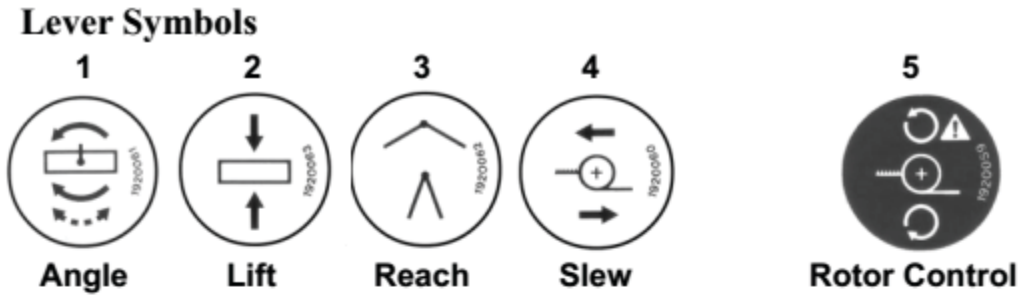
READ THE BOOK FIRST

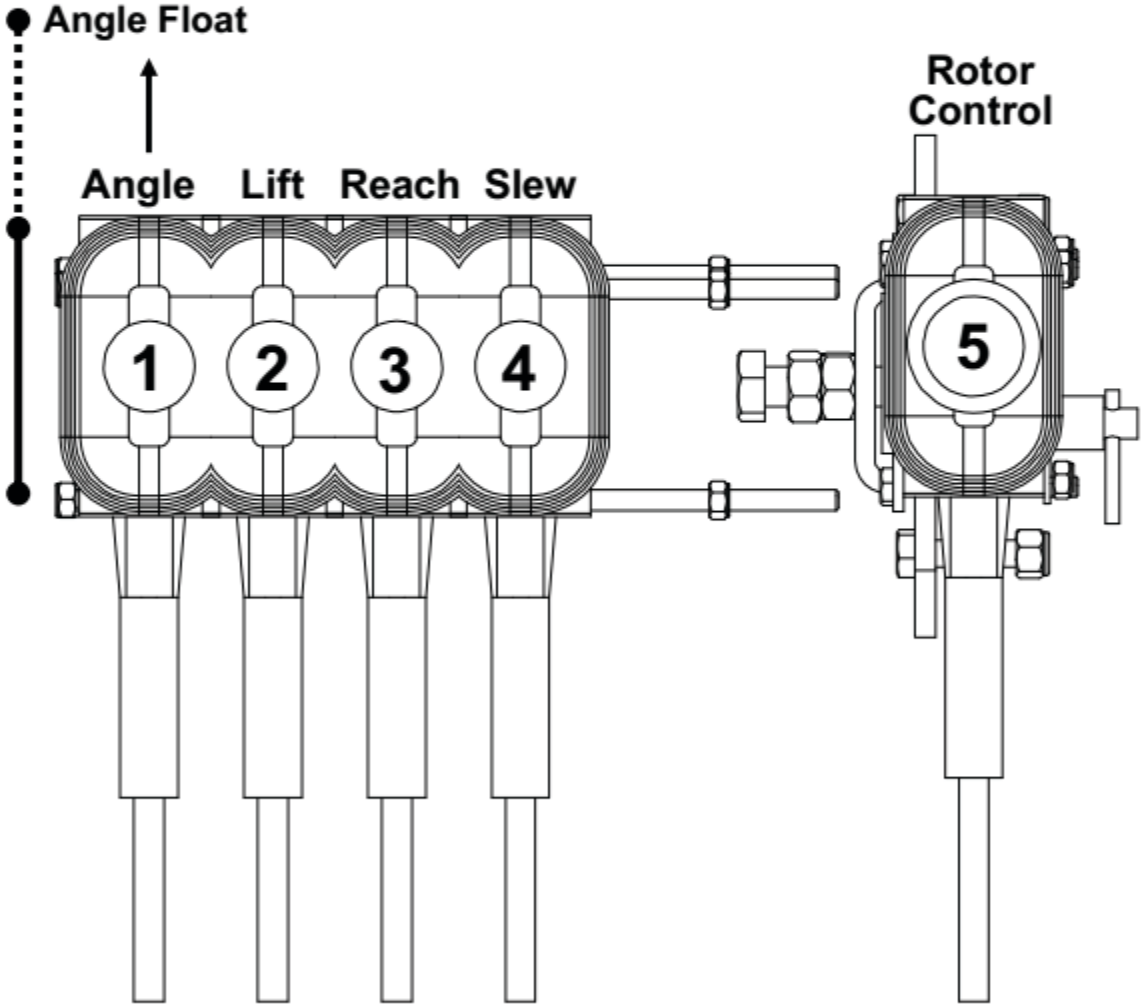
Practice operating the machine in an open space without the rotor running until you are fully familiar with the controls and operation of the machine.

CAUTION!

Care must be taken when working with the flail head close in as it can come into contact with the tractor.

Cable controlled machines only.





Note:
The breakaway function does not relieve the operator of his responsibility to drive carefully.
Be alert and AVOID OBVIOUS HAZARDS BEFORE CONTACT OCCURS.

Breakaway may occur momentarily during normal work should an extra thick or dense patch of vegetation be encountered. In these instances tractor forward motion may be maintained with care. Where breakaway has occurred as a result of contacting a post or tree, etc. the tractor must be halted and the controls of the machine utilized to maneuver the head away from the obstacle.
NEVER CONTINUE FORWARD MOTION TO DRAG THE HEAD AROUND THE OBSTACLE IN BREAK BACK POSITION.

Note:
The force required to activate the breakaway system will vary Dependant upon the gradient of work.
It will require less force when working uphill and vice versa.

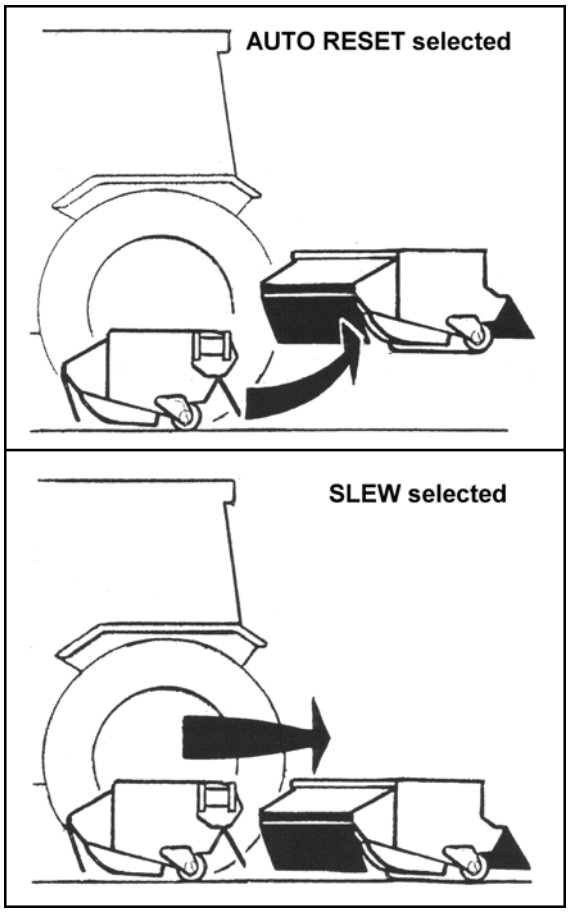
On mid cut machines the geometry of the breakaway will cause the head to initially move outwards in addition to rearwards. Therefore be aware that the breakaway action will be impeded if the outer end of the head is working against a steep bank. In this circumstance extra care must be taken during operation to avoid this occurrence. Breakaway occurs at the slew column pivot. When an obstacle is encountered continued forward motion causes the pressure in the slew ram base to rise until the relief valve setting is exceeded.

With 'AUTO RESET' selected:
When the slew relief valve setting is exceeded oil is displaced from the slew ram into the base of the lift ram which causes the head to rise as the arm pivots backwards to clear the obstruction.

Resetting of the head into the work position occurs automatically.

With 'SLEW' selected:
When the slew relief valve setting is exceeded oil is displaced from the slew ram allowing the arm to pivot backwards horizontally and the obstacle to be cleared.

Resetting the head into the work position is carried out manually by selecting 'SLEW OUT' on the control assembly.

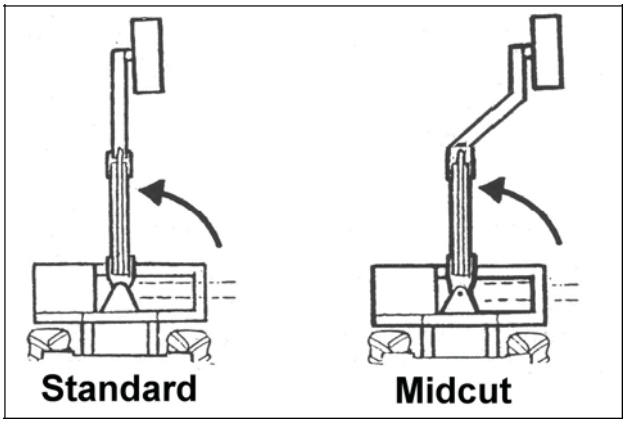


Select 'ROTOR OFF' and wait until the **rotor has stopped turning.**

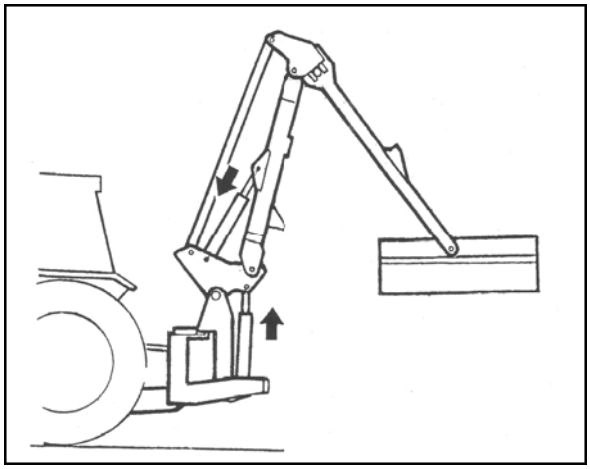
Ensure that the **'lift'** and **'angled float'** are switched **off**.

Select 'SLEW' mode on the control assembly.

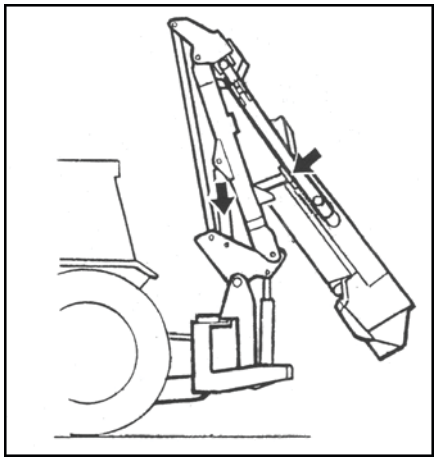
Operate 'SLEW IN'.



Operate 'LIFT' and 'REACH' to position the machine.
(See diagram - right)



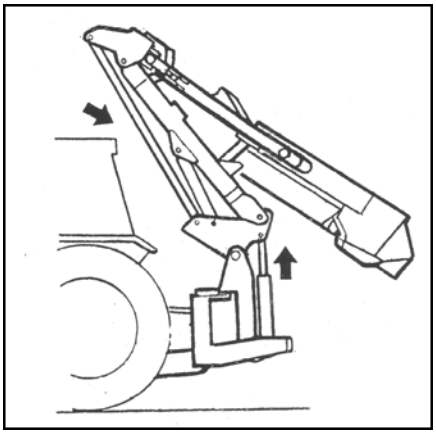
Operate 'REACH IN' until the dipper arm contacts the transport cradle.



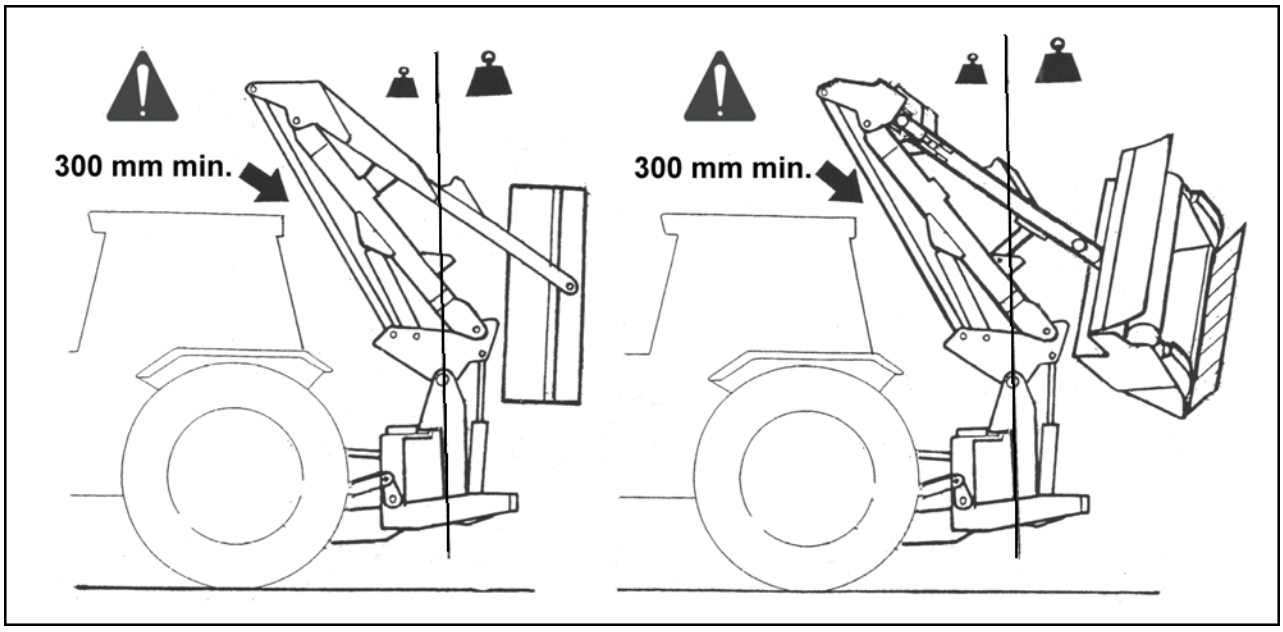
Select 'LIFT UP' and raise the arms until the tension link is 300mm from tractor cab.

Operate 'ANGLE' and position the flail head in as compact position as possible.

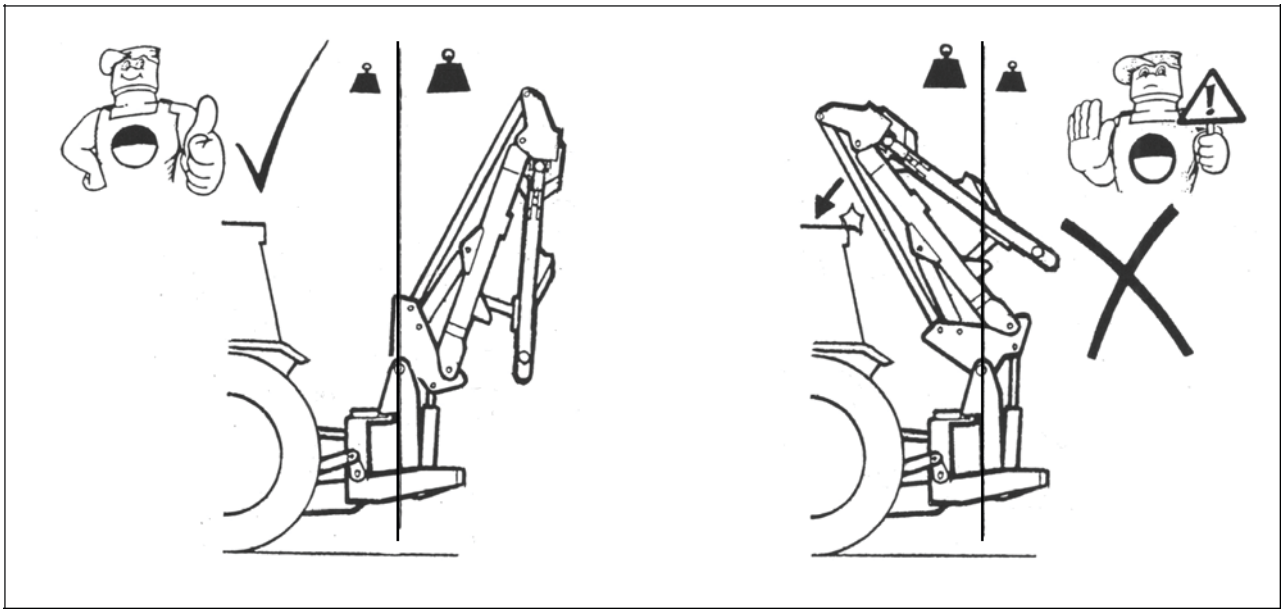
Fully screw in the lift ram and slew ram taps.



The machine is transported in-line to the rear of the tractor with a minimum of 300mm clearance between the tension link and the rear cross member of the tractor cab.



TRANSPORT POSITION - WITH FLAIL HEAD REMOVED



With the flail head removed the arms are fully folded but with the lift ram fully retracted. If the lift ram is extended the weight of the arms will result in the balance of the machine to go 'Over Center' causing the tension link to crash into the rear cross member of the tractor's cab.

WARNING!
During Transport:
The 'SLEW' mode must ALWAYS be selected on the control assembly.

When in transport the PTO must be disengaged and the power to the control box switched off.

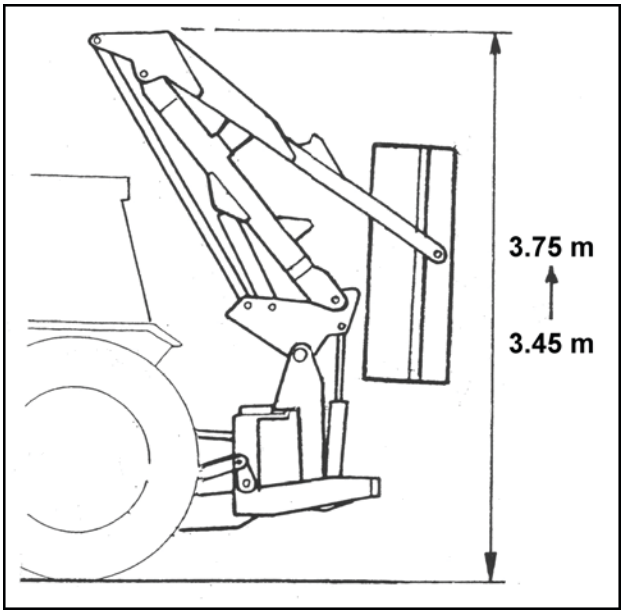
The acceptable speed of transport will very greatly depending upon the ground conditions.

In any conditions avoid driving at a speed which causes exaggerated bouncing as this will put unnecessary strain on the tractors top hitch position and increase the likelihood of the tension link contacting the cab rear cross member.

TRANSPORT HEIGHT

There is no fixed dimension for transport height.
It will vary depending on the height that the machine is carried and the rear of the cab will allow.

For the majority of installations the transport height will generally fall between a minimum of 3.45m and a maximum of 3.65m when the machine is correctly folded.



MOVING FROM TRANSPORT TO WORK POSITION (All Models)

To revert to the work position the previous procedures for the relevant models are largely reversed.

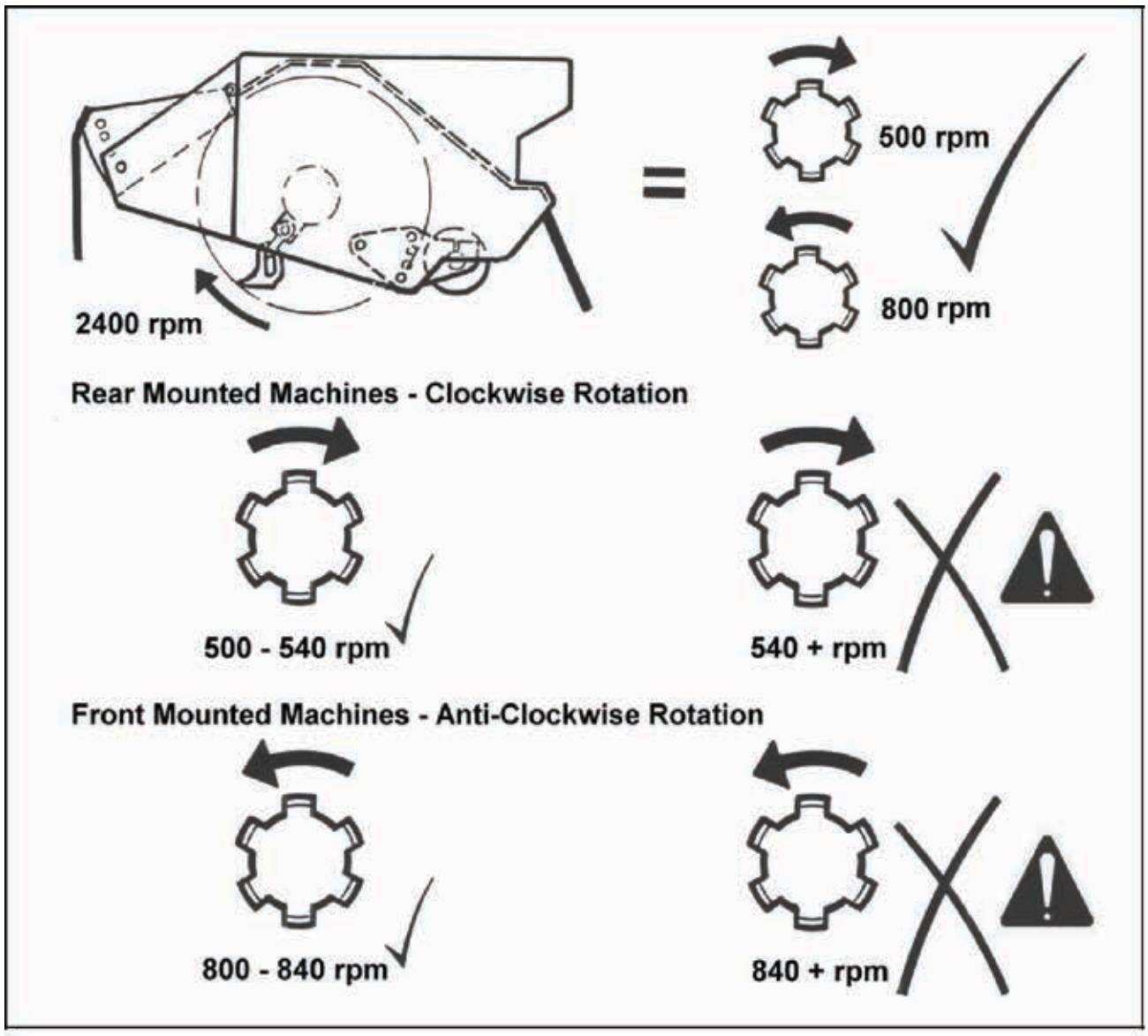
Note:
Remember to unscrew the lift ram tap.

ENGAGE DRIVE (T.I. Models Only)

Ensure that the rotor control lever is in the 'STOP' position before engaging the PTO shaft.
Allow the oil to circulate for a minute or so before operating the arm head levers. Position the flail head in a safe position, increase the engine speed to a high idle and move rotor control lever to 'START'. After initial surging the rotor will run at an even speed.

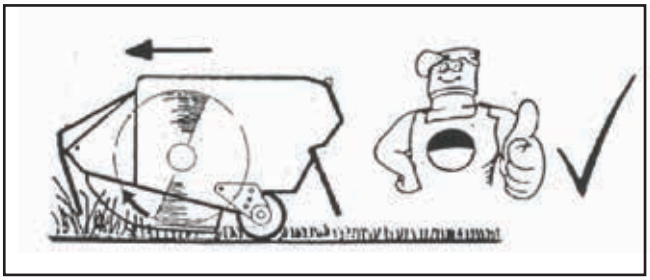
ENGAGE DRIVE (S.I. Models Only)

Place the flail head at a safe attitude and bring the tractor engine revolutions to 1000 RPM.
Engage the PTO and slowly increase revolutions until operating speeds are attained,

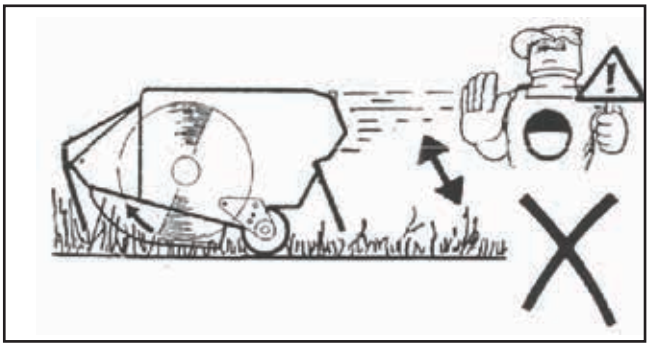


TRACTOR FORWARD SPEED

The material being cut determines tractor forward speed. Forward speed can be as fast as that which allows the flail head sufficient time to cut the vegetation properly.



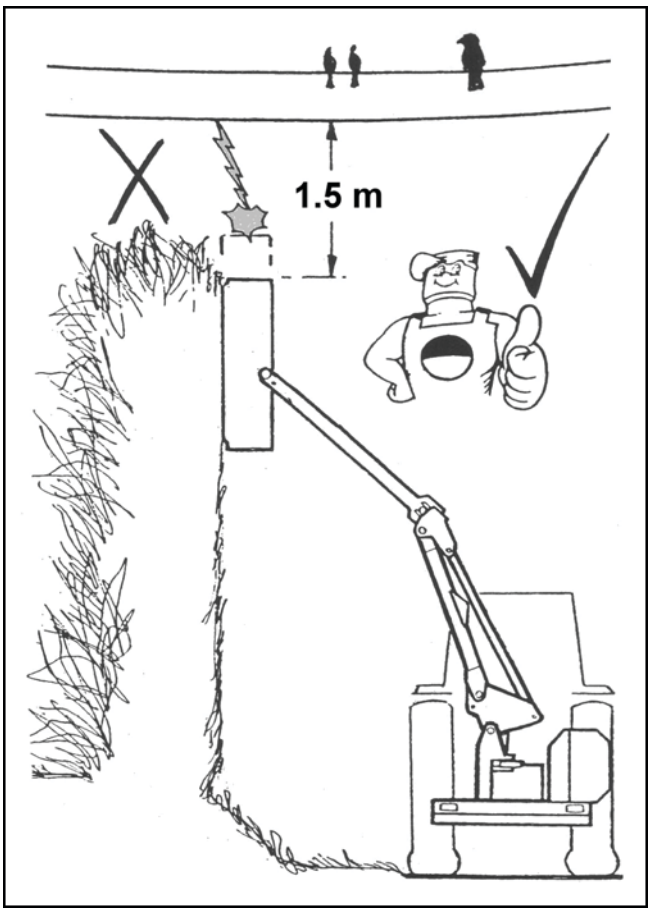
Too fast a speed will be indicated by over-frequent operation of the breakaway system, a fall-off in tractor engine revs and a poor finish to the work leaving ragged uncut tufts and poorly mulched cuttings.



It cannot be stressed enough the dangers involved when working near high voltage electricity cables. Before attempting to work in these areas ensure you have read and fully understood the safety section at the beginning of this manual which includes information on this subject.

ALWAYS MAINTAIN A MINIMUM CLEARANCE DISTANCE OF 1.5M WHEN OPERATING NEAR HIGH VOLTAGE CABLES.

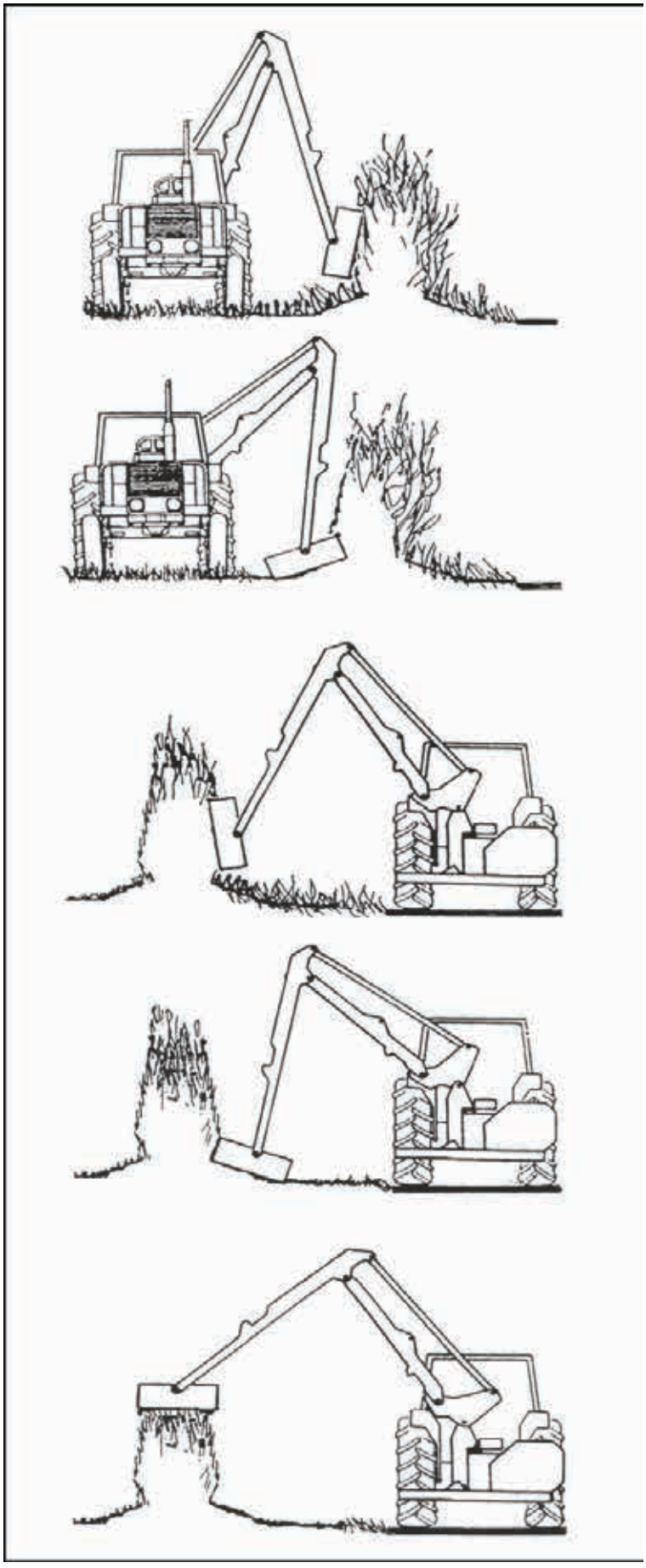
It is advisable that you consult your Local Power Company to obtain information regarding a safe procedure for working.



OVERHEAD OBSTRUCTIONS

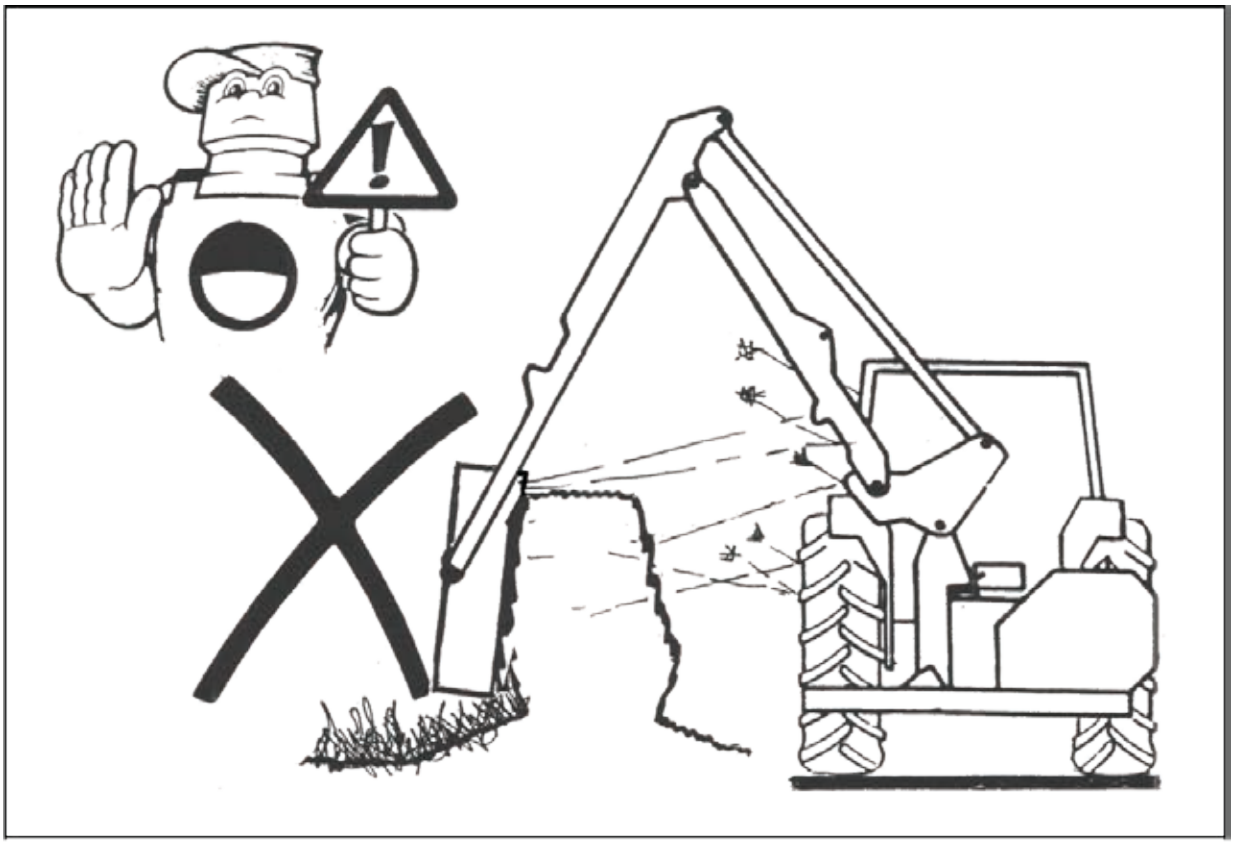
Always be aware of the height of the machine when working or folded and take care especially when maneuvering near or under bridges, buildings, power cables or any other obstacles you may encounter when moving your machine.

1.) Cut the side and bottom of the field side first. This leaves the maximum thickness of hedge on the road side to prevent the possibility of any debris being thrown through the hedge into the path of oncoming vehicles.



2.) Cut the side and bottom of the road side.

3.) Top cut the hedge to the height required.



WARNING!

NEVER CUT ON THE BLIND SIDE OF THE HEDGE.

It is impossible to see potential hazards or dangers and the position of the flail head would possibly allow debris to be propelled through the hedge towards the tractor and the operator.

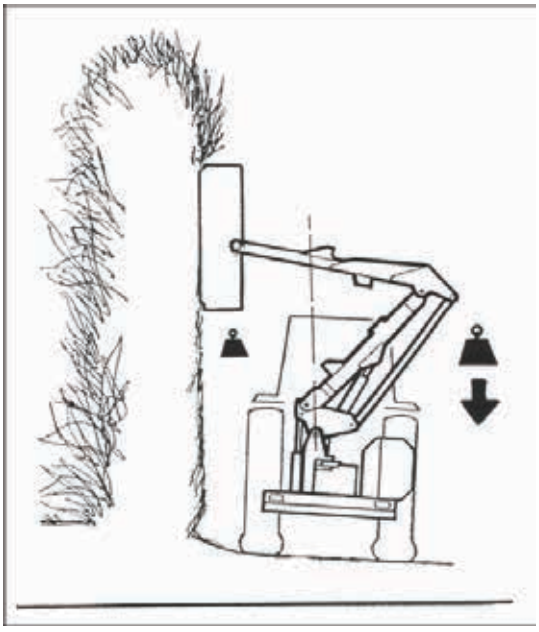
WORKING ON ADVERSE SLOPES

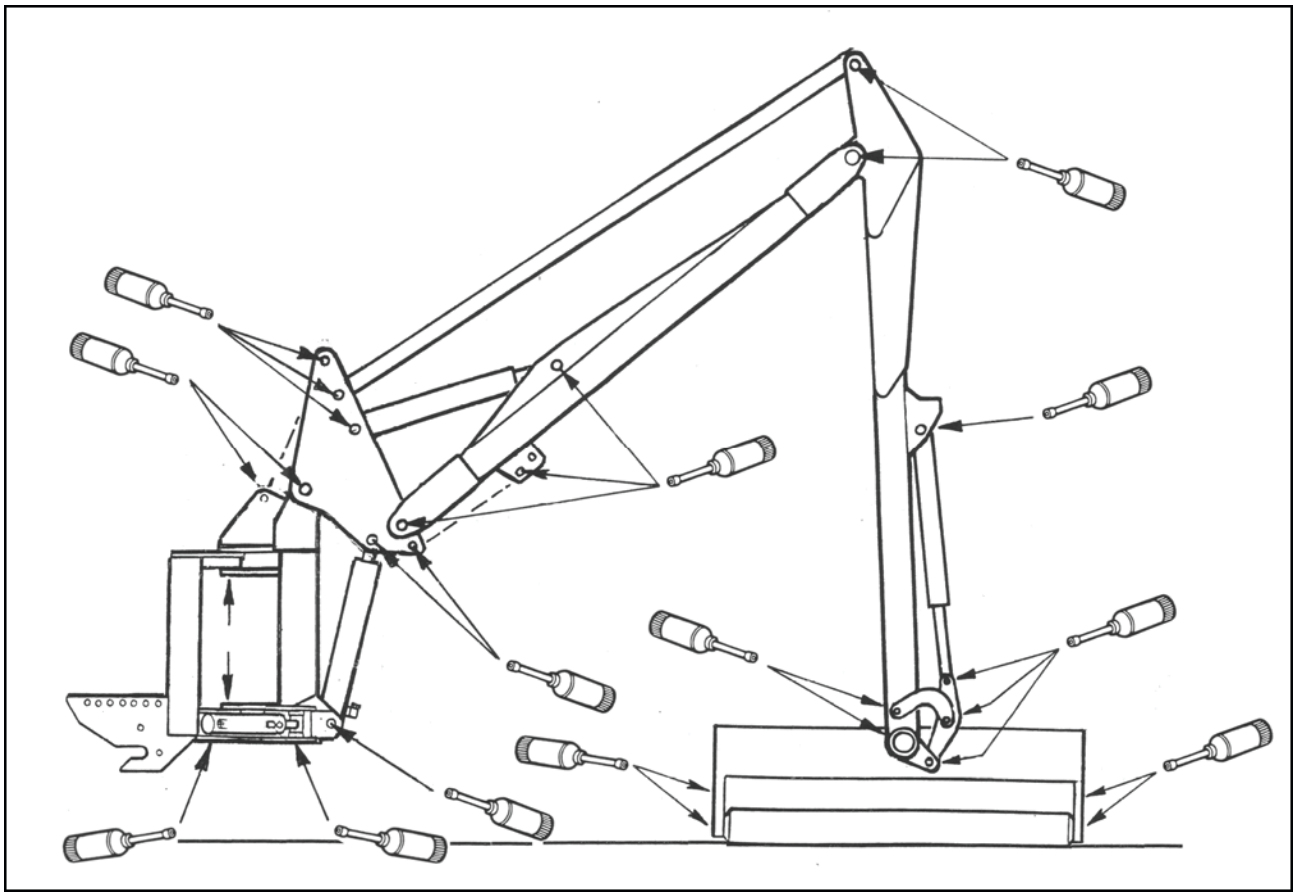
When working high with the reach fully in, it is possible for the main arm balance to go over center and take weight off the lift ram. A restrictor in the gland connection of the lift ram prevents sudden unpredictable movements should this occur.

WARNING!

Do not remove this restrictor from the lift ram gland connection.

The machine is fitted with a cam valve which stops unpredictable movements when working with the machine in a high position.





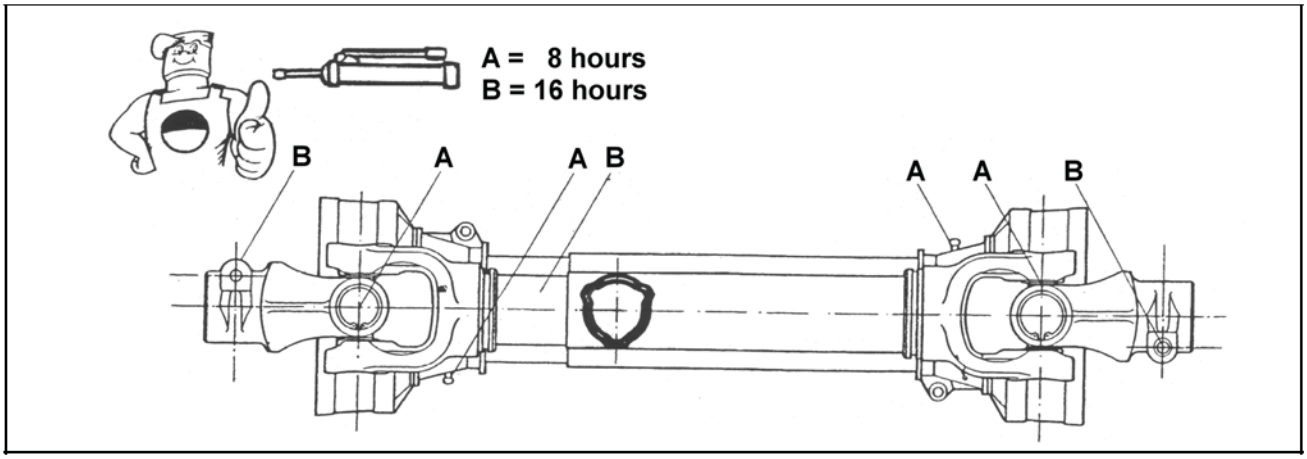
LUBRICATION

GENERAL

Grease daily all the points shown in the diagram above.

PTO SHAFT

Regularly check the PTO guards for damage and ensure the anti-rotation chains are in place and that their anchor points are in good condition. Lubricate the points shown on the diagram below at the intervals indicated using general purpose lithium based grease.



WARNING!

DO NOT OPERATE THE MACHINE WITH ANY DAMAGED GUARDS
REPLACE SUSPECT ITEMS IMMEDIATELY

OIL SUPPLY

Check the oil level in the reservoir daily.

No fixed time period can be quoted for oil changes as operating conditions and maintenance standards vary so widely. Burnt and scorched oil odors and the oil darkening and thickening are all signs of oxidization and indicate the oil should be changed.

Moisture that results from condensation can become entrapped in the oil and cannot be removed by filtration so that water contamination is progressive.

Contamination can be reduced by:

- Cleaning around the reservoir cap before removal, and keeping that area clean.
- Using clean containers when replenishing the system.
- Regular servicing of the filtration system.

FILTRATION MAINTENANCE

The machine is protected by a 125 micron suction strainer and a low pressure 10 micron full flow return line filter.

Suction Strainer:
The strainer is permanently fixed within the reservoir.

Should symptoms of pump cavitation or spongy intermittent operation occur the tank must be drained and flushed out with a suitable cleaning agent e.g. clean diesel oil.

Return Line Filter:
The elements should be changed after the first 50 hours and thereafter at 500-hour intervals.
It is important to note hours worked as if the filter becomes blocked an internal by-pass within the canister will operate and no symptoms of filter malfunction will occur to jog your memory.

HYDRAULIC HOSES

The condition of all hoses should be carefully checked during a routine service of the machine. Hoses that have been chaffed or damaged on their outer casing should be securely wrapped with waterproof adhesive tape to stop the metal braid from rusting. Hoses that have suffered damage to the metal braid should be changed at the earliest opportunity.

HOSE REPLACEMENT

Replace one hose at a time to avoid the risk of wrong connections.

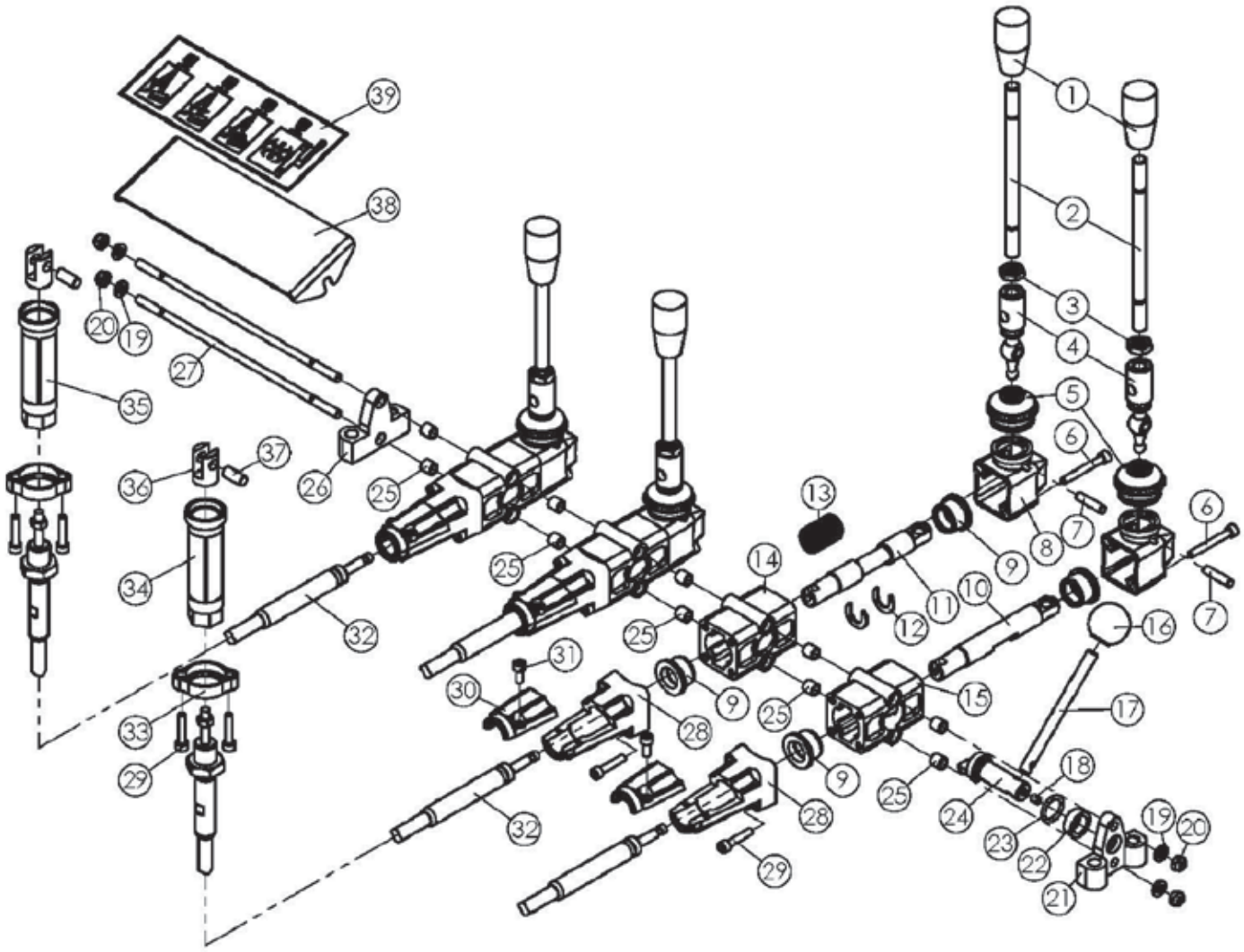
When the hose is screwed to an additional fitting or union, use a second spanner on the union to avoid breaking both seals.

Do not use jointing compound on the threads.

Avoid twisting the hose. Adjust the hose line to ensure freedom from rubbing or trapping before tightening hose end connections.

Before changing hoses, study the installation, these are carefully calculated to prevent hose damage during operation. Always replace hoses in exactly the same manner. This especially important for the flail hoses where they must be crossed, upper to lower, at the dipper and head pivots.

SAFETY NOTE:
Soft Seal hose connections are capable of holding pressure when the nut is only ‘finger tight’.
It is therefore recommended that when dismantling, the hose be manually flexed, to relieve any residual pressure, with the retaining nut slacked prior to complete disassembly.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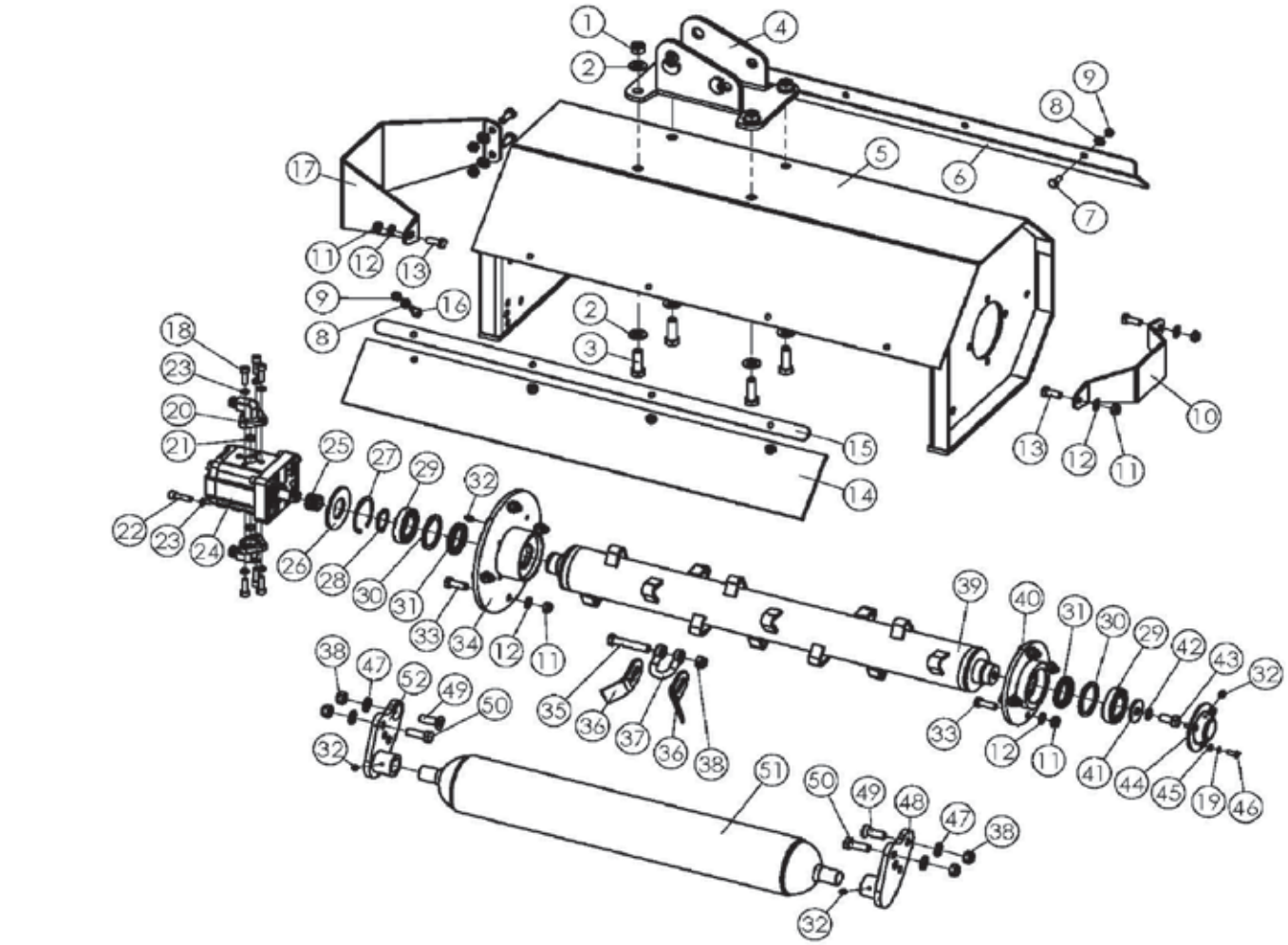
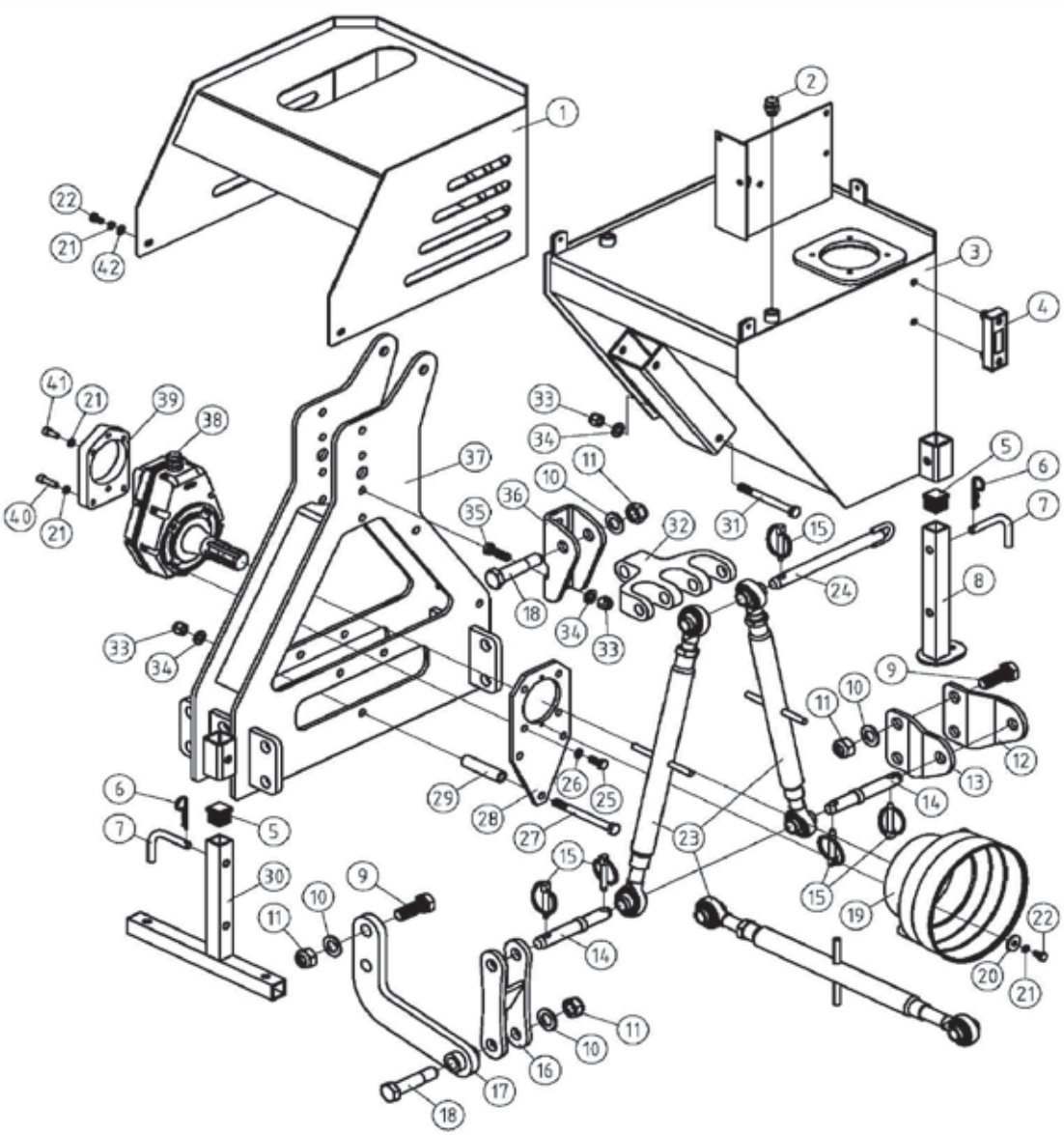
REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
1	BH-6.07.091	Short Hand Shank	702830121	4
2	MBH-6.08.108	Joystick (Short)	702910335	4
3	GB6172.1-M10	Thin Nut	503010099	4
4	AM60.01.120	Shifting Block	702770020	4
5	AM60.01.119	Protecting Bush	702770019	4
6	GB70.1-M5X40	Hexagon Socket Cap Screw	505011396	8
7	GB119.1-B-6X26	B Cylindrical Pin	508010099	4
8	AM60.01.114	Upper Cover	702770015	4
9	AM60.01.109	Flange Bush	702770010	8
10	AM60.01.118A	Pull Rod 2	702770216	1
11	AM60.01.111A	Pull Rod 1	702770213	3
12	AM60.01.122	Check Ring	702770022	6
13	AM60.01.110	Release Spring	702770011	3
14	AM60.01.113	Shell	702770014	3
15	AM60.01.117	Lock Hole Shell	702770017	1
16	AM60.04.092	Bulb Hand Shank	702770171	1
17	AM60.01.107	Lock Joystick	702770008	1
18	GB78-M5X8	Inner Hexagon Set Screw	505020541	1
19	GB97.1-6	GB97.1-6	506010054	4
20	DIN985-M6	DIN985-M6	503010759	4
21	AM60.01.105	AM60.01.105	702770006	1
22	AM60.01.104	Bush	702770005	1
23	GB3452.1-G-16X2.65	0 Sealing	510013130	1
24	AM60.01.106	Lock Shaft	702770007	1
25	AM60.01.103	Locating Sleeve	702770004	10
26	AM60.01.102	Fixed Seat 1	702770003	1
27	AM60.01.101	Screw Rod	702770002	2
28	AM60.01.112A	Lower Cover	702770214	4
29	CB70.1-M5X25	Hexagon Cap Screw	505011393	16
30	AM60.01.123A	Lower Cover	702770215	4
31	GB70.1-M5X12	Hexagon Socket Cap Screw	505011389	8
32	AM60.01.011A	Dragline	802770212	4
33	AM60.01.201	Flange	702770191	4
34	AM60.01.202	Pressure Casting	702770192	3
35	AM60.01.203	Flaring Pressure Casting Pipe	702770193	1
36	AM60.01.204	Aluminum Connector	702770194	4
37	AM60.01.205	Pin	702770195	4
38	AM60.01.115	Label Plate	702770224	1
39		Label		1



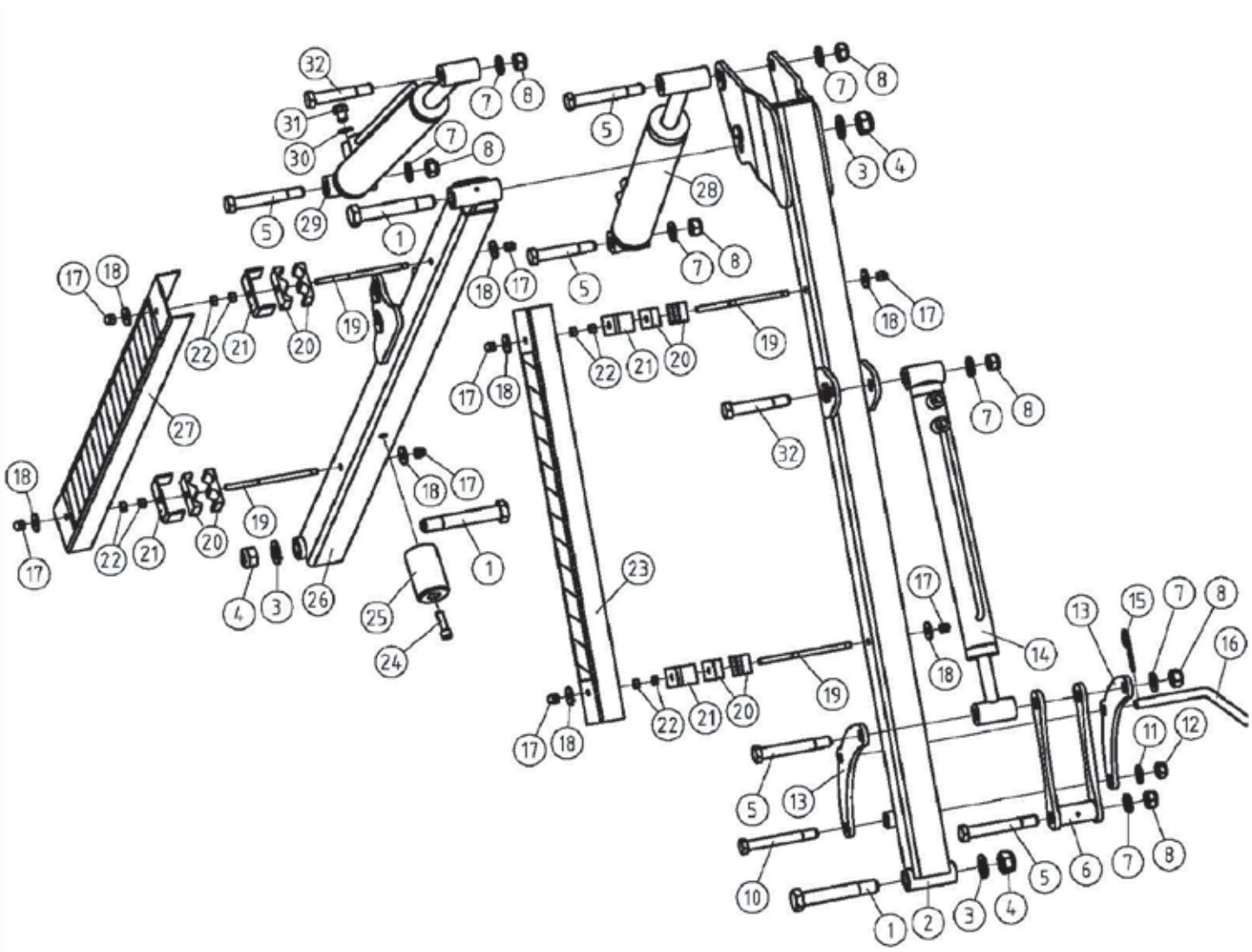
REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
1	DIN985-M14	Hexagon Locking Thin Nut	503010764	4
2	GB97.1-14	Plain Washer	506010058	8
3	GB5783-M14X40	Screw Bolt	501011142	4
4	AM60.02.017	Hitch Frame Weldment	802770061	1
5-1	AM60.02.010	Hood Weldment	802770037	1
5-2	AM80.02.010	Hood Weldment	802780005	1
5-3	AM100.02.010	Hood Weldment	806830004	1
6-1	AM60.02.110	Head Board	702770033	1
6-2	AM80.02.110	Head Board	702780002	1
6-3	AM100.02.110	Head Board	706830001	1
7	GB5783-M8X20	Screw Bolt	501011099	4
8	GB97.1-8	Plain Washer	506010055	8
9	DIN985-M8	Hexagon Locking Thin Nut	503010760	8
10	AM60.02.108	Shaft End Cover Plate	702770031	1
11	DIN985-M10	Hexagon Locking Thin Nut	503010762	13
12	GB97.1-10	Plain Washer	506010056	13
13	GB5783-M10X25	Screw Bolt	501011112	5
14-1	AM60.02.112	Rubber Board	702770035	1
14-2	AM80.02.112	Rubber Board	702780004	1
14-3	AM100.02.112	Rubber Board (L=1050)	706830003	1

REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
16	GB5783-M8X25	Screw Bolt	501011100	4
17	AM60.02.103	Motor Guard Board	702770026	1
18	GB70.1-M8X25	Hexagon Socket Cap Screw	505011416	6
19	GB93-6	Spring Washer	506030034	3
20	AM60.02.104-2	Motor Oil In & Out Connector	702780010	2
21	GB3452.1-G-23.6X2.65	0 Sealing	510013139	2
22	GB70.1-M8X30	Hexagon Socket Cap Screw	505011417	4
23	GB93-8	Spring Washer	506030035	10
24	HPLMA220BMLE5E5B00	Hydraulic Motor	702770169	1
25	AM60.02.102	Splined Hub	702770025	1
26	AM60.02.141	Motor Positioning Plate	702770036	1
27	GB893.1-62	A Checking Ring	506060183	1
28	GB894.1-35	A Shaft Checking Ring	506060317	1
29	GB276-6007	Deep Groove Ball Bearing	51022556	2
30	AM60.02.105	Oil Seal Check Ring	702770028	2
31	GB13871-FB-40X55X8	FB Oil Seal	510020044	2
32	GB1152-M6	Oil Cup	509010007	4
33	GB5783-M10X30	Screw Bolt	501011113	8
34	AM60.02.011	Main Bearing Seat	802770042	1
35	GB5782-M12X60	Half Thread Bolt	501010758	16
36	AM60.02.106	Blade	702770029	32
37	AM60.02.107	Blade Buckle	702770030	16
38	DIN985-M12	Hexagon Locking Thin Nut	503010763	20
39-1	AM60.02.012	Blade Shaft	802770046	1
39-2	AM80.02.012	Blade Shaft	802780008	1
39-3	AM100.02.012	Blade Shaft	806830006	1
40	AM60.02.013	Second Bearing Seat	802770052	1
41	MZ105.115	Locking Gasket	703140005	1
42	GB93-12	Spring Washer	506030037	1
43	GB5783-M12X25	Screw Bolt	501011125	1
44	AM60.02.109	End Cap	702770032	1
45	GB97.1-6	Plain Washer	506010054	3
46	GB5783-M6X16	Screw Bolt	501011088	3
47	GB97.1-12	Plain Washer	506010057	4
48	AM60.02.014	Roller Shaft Seat 1	802770055	1
49	GB70.3-M12X30	Inner Hexagon Sunk Screw	505011750	2
50	GB5783-M12X35	Screw Bolt	501011127	2
51-1	EFG120.012-AM60	Roller Weldment (AM60)	802770207	1
51-2	EFG120.012-AM80	Roller Weldment (AM80)	802780018	1
51-3	EFG120.012-AM100	Pulley Weldment (AM100)	806830008	1
52	AM60.02.016	Roller Shaft 2	802770058	1
15-1	AM60.02.111	Pressing Bar	702770034	1
15-2	AM80.02.111	Pressing Bar	702780003	1
15-3	AM100.02.111	Pressing Bar	706830002	1



REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
1	AM60.03.016	Fuel Tank Cover	802770115	1
2	CBW-00-011	Air Plug M16X1.5	CBW-00-011	2
3	AM60.03.017Y-1	Fuel Tank	802770118	1
4	JB7941.2-B80	Liquid Level Meter	509010012	1
5	EF100.00.117	End Cover	700920105	3
6	1G-150-01-142	Middle R Pin	703190209	4
7	EF100.00.111A	D Square Cotter	800920101	3
8	AM60.03.018	Support Leg 2	802770128	2
9	GB5783-M20X55	Screw Bolt	501011198	4
10	GB97.1-20	Plain Washer	506010061	9
11	DIN985-M20	Hexagon Locking Thin Nut	503010767	9
12	AM60.03.114	Down Hook Plate 1	702770078	1
13	AM60.03.115	Down Hook Plate 1	702770079	1
14	AM60.03.113	Down Pull Rod Pin Shaft	702770077	2

REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
15	200.56.011	Lock Pin Assembly	700080010	5
16	AM60.03.021	Lifting Eye Weldment	802770135	1
17	AM60.03.022	Connecting Lever Weldment	802770138	1
18	GB27-M20X95	Articulation Bolt	501014279	2
19	FM120.00.199	PTO Shaft Cover	703400008	1
20	GB96.1-8	Extra Large Plain Washer	506010035	10
21	GB93-8	Spring Washer	506030035	5
22	GB5783-M8X16	Screw Bolt	501011098	5
23	AM60.03.020	Adjusting Pull Rod	802770134	3
24	AM60.03.019	Upper Pull Rod Pin Shaft Weldment	802770131	1
25	GB5786-M10X1.25X25	Fin Thread Screw Bolt	501011843	4
26	GB93-10	Spring Washer	506030036	4
27	GB5782-M12X130	Half Screwed Bolt	501014700	3
28	AM60.03.102	Gear Box Fixed Plate	702770066	1
29	AM60.03.101	Spacer Bush	702770065	3
30	AM60.03.010	Support Leg 1	802770080	1
31	GB5782-M12X120	Half Thread Bolt	501010765	2
32	AM60.03.112	Three Joint Fork	702770076	1
33	DIN985-M12	Hexagon Locking Thin Nut	503010763	3
34	GB97.1-12	Plain Washer	506010057	8
35	GB5783-M12X40	Screw Bolt	501011128	3
36	AM60.03.111	Upper Hook Frame	702770075	1
37	AM60.03.011	Bed Frame Weldment	802770083	1
38	AM60.03.012	Oil Pump Transmission Box	802770211	1
39	AM60.04.102	Transition Connecting Plate	702770146	1
40	GB70.1-M8X30	Hexagon Socket Cap Screw	505011417	2
41	GB70.1-M8X20	Hexagon Socket Cap Screw	505011415	2
42	GB97.1-6	Plain Washer	506010054	4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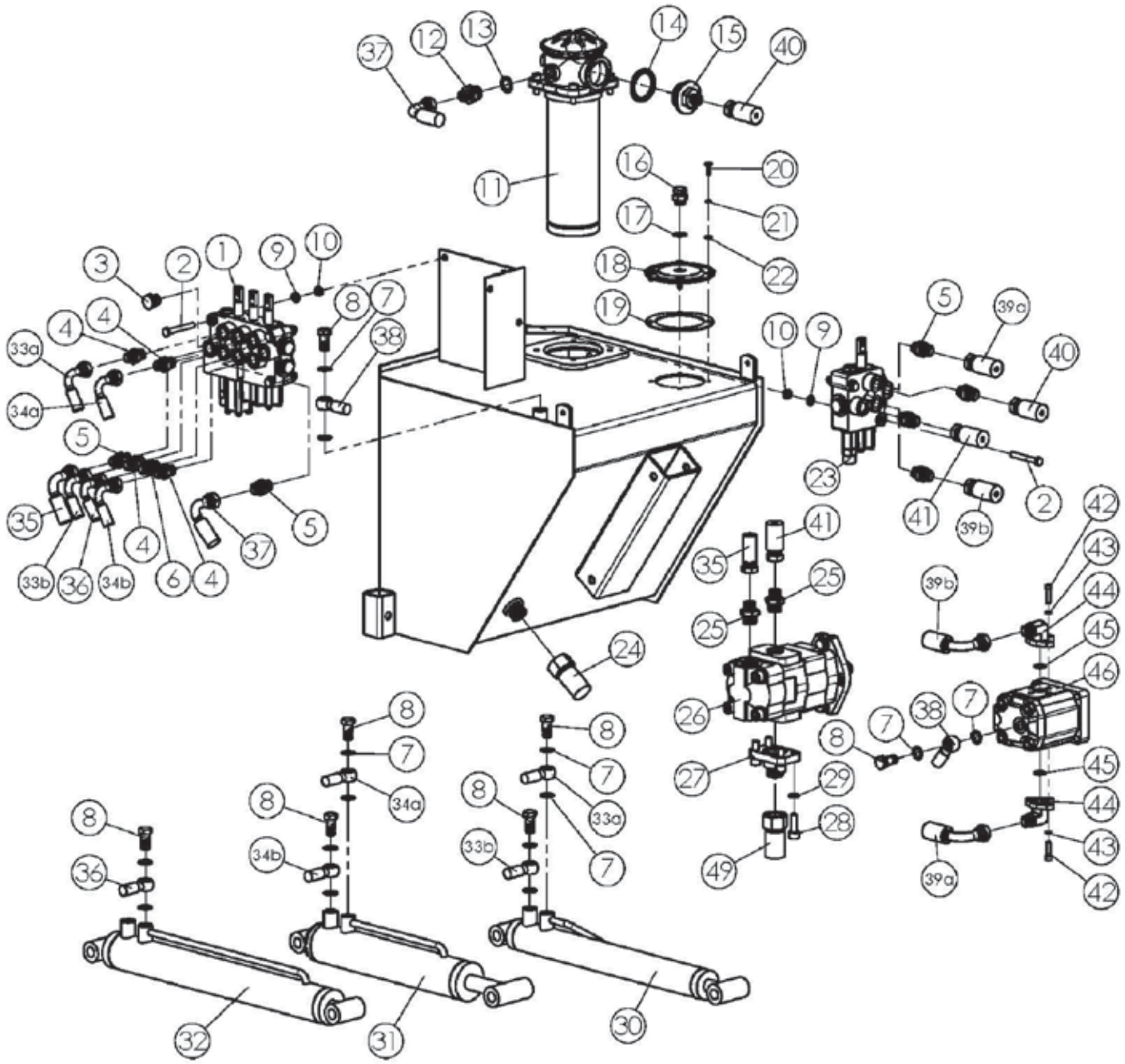
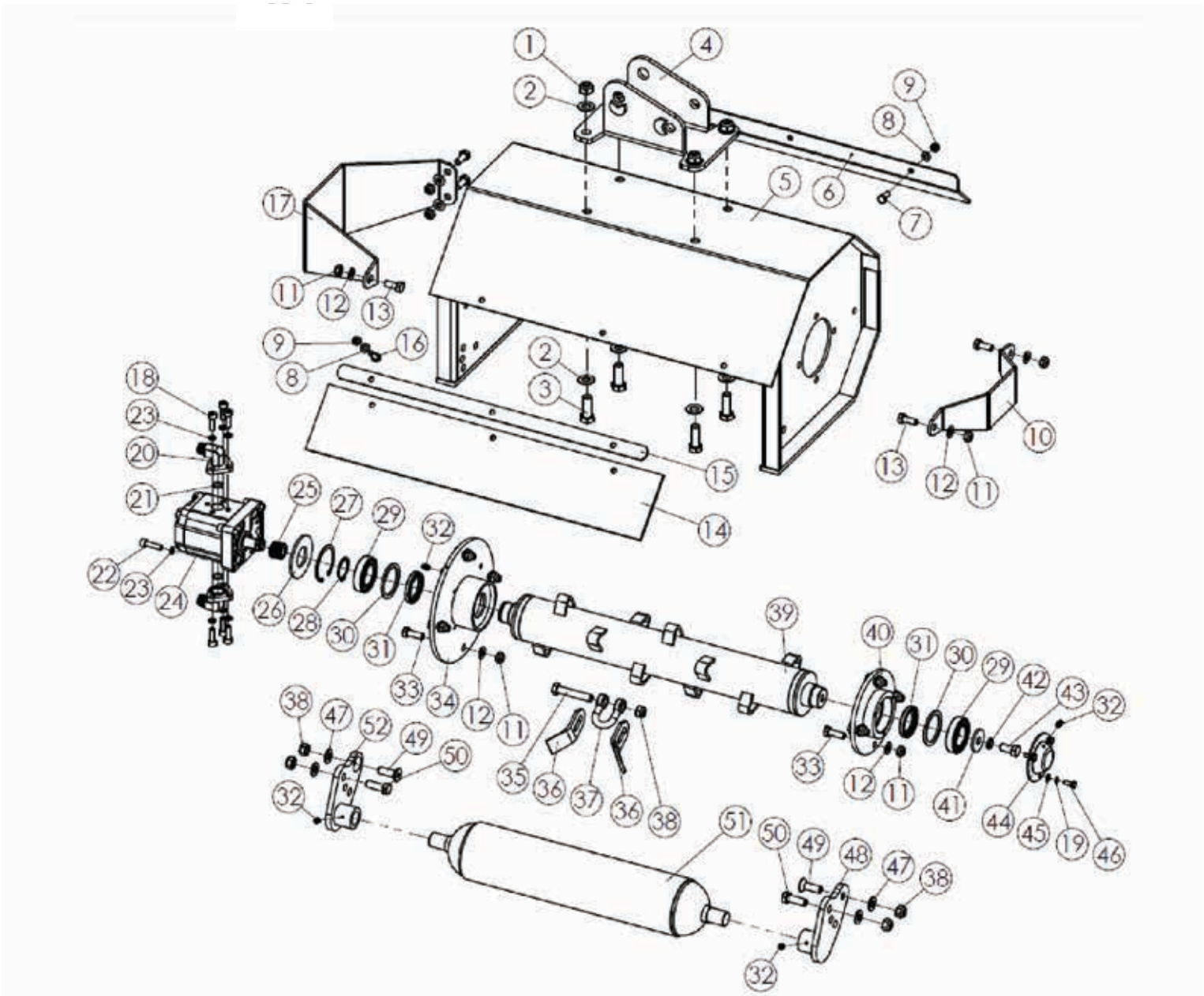
REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
1	200.56.011	Articulation Bolt	501014283	3
2	AM60.03.021	Small Support Arm	802770096	1
3	AM60.03.022	Plain Washer	506010061	9
4	GB27-M20X95	Hexagon Locking Thin Nut	503010767	9
5	FM120.00.199	Articulation Bolt	501014240	4
6	GB96.1-8	Pushing Pull Plate	802770093	4
7	GB93-8	Plain Washer	506010059	7
8	GB5783-M8X16	Hexagon Locking Thin Nut	503010765	7
10	AM60.03.019	Articulation Bolt	501014220	1
11	GB5786-M10X1.25X25	Plain Washer	506010058	1
12	GB93-10	Hexagon Locking Thin Nut	503010764	1
13	GB5782-M12X130	Swing Arm	702770067	2
14	AM60.03.102	Swing Arm Cylinder	702770153	1
15	AM60.03.101	Middle R Pin	703190209	4
16	AM60.03.010	Lock Pin	702770074	1
17	GB5782-M12X120	Nut With Cap	503020124	8
18	AM60.03.112	Extra Large Plain Washer	506010035	10
19	DIN985-M12	Screw Rod	702770073	4
20	GB97.1-12	Oil Tub Clip	702770069	8
21	GB5783-M12X40	Pressing Plate	702770070	4
22	AM60.03.111	Hexagon Nut	503010045	8
23	AM60.03.107	Oil Tube Short Cover	702770071	1
24	GB70.1-M10X35	Hexagon Socket Cap Screw	505011431	1
25	AM60.03.104	Buffering Limited Block	702770068	1
26	AM60.03.015	Big Support Arm	802770108	1
27	AM60.03.108	Oil Tube Long Cover	702770072	1
28	AM60.04.023	Smaller Arm Cylinder	702770160	1
29	AM60.04.015	Big Arm Cylinder	702770152	1
30	JB982-14	Bonded Washer 14.7x22x1.5	510015239	1
31	AM60.04.090	Breath Filter	702770174	1
32	GB27-M16X100	Articulation Bolt	501014238	3



REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
1	AM60.04.022Y	Three Way Valve	702770159	1
2	GB5782-M8X60	Half Thread Bolt	501010741	5
3	ZBT32001.3-ZG3/8-19"	Inner Hexagon Tapered Plug	516010003	1
4	MBH-8.08.302Y	Oil In & Out Connector	702930544	3
5	1CB-18-06WD	Connector M18x1.5-G3/8	700250036	6
6	MBH-8.08.305Y	Valve Throttle Connector	702930546	2
7	JB982-14	Bonded Washer 14.7x22x1.5	510015239	14
8	GB3541-M14X1.5	Hinge Joint Bolt	501014707	6

REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
9	GB97.1-8	Plain Washer	506010055	5
10	DIN985-M8	Hexagon Locking Thin Nut	503010761	5
11	RFA-100X30L	Return Oil Filter	702770173	1
12	1CM-18WD	M18x1.5 (Both End) Adapter	706530042	1
13	GB3452.1-G-18X2.65	O Sealing Ring	510013132	1
14	JB982-42	Bonded Washer M42	510015250	1
15	AM60.04.104-1	Oil Filter Adapter	702770147	1
16	CBW-00-011	Air Plug M16x1.5	703070084	1
17	JB982-16	Bonded Washer M16	510015240	1
18	MBH-8.08.117	Fuel Tank Cap	702930505	1
19	MBH-8.08.118	Fuel Tank Sealing Gasket	702930506	1
20	GB5783-M6X12	Screw Bolt	501011087	4
21	GB93-6	Spring Washer	506030034	4
22	GB97.1-6	Plain Washer	506010054	4
23	AM60.04.017Y	Single Valve	702770154	1
24	AM60.04.011-1	Oil Pump Inlet Tube	702770148	1
25	1CB-18-08WD	Transition Connector M18x1.5-G1/2x14	705190067	2
26	CBHY-G25/F4.5-ATP	Duplex Gear Pump	702770172	1
27	AM60.04.101-1	Oil Pump Oil Inlet Adapter	702770145	1
28	GB70.1-M10X30	Hexagon Socket Cap Screw	505011430	4
29	GB93-10	Spring Washer	506030036	4
30	AM60.04.016-1	Swing Arm Cylinder	702770153	1
31	AM60.04.023	Small Arm Cylinder	702770160	1
32	AM60.04.015	Big Arm Cylinder	702770152	1
33	AM60.04.020	Swing Arm Cylinder Tube	702770157	2
34	AM60.04.018	Small Arm Cylinder Tube	702770155	2
35	AM60.04.025Y	Oil Pump to Triple Valve Tube	702770198	1
36	AM60.04.019	Big Arm Cylinder Tube	702770156	1
37	AM60.04.021Y	Triple Valve Outlet Tube	702770158	1
38	AM60.04.013	Motor Oil Return	702770150	1
39	AM60.04.014	Motor Oil Filing Tube	702770151	2
40	AM60.04.024Y	Single Valve to Oil Filter Tube	702770197	1
41	AM60.04.012Y	Oil Pump Outlet Tube	702770149	1
42	GB70.1-M8X25	Hexagon Socket Cap Screw	505011416	6
43	GB93-8	Spring Washer	506030035	6
44	AM60.02.104-2	Motor Oil In & Out Connector	702780010	2
45	GB3452.1-G-23.6X2.65	0 Sealing Ring	510013139	2
46		Hydraulic Motor	702770169	1



REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
1	DIN985-M14	Hexagon Socket Cap Screw	503010764	4
2	GB97.1-14	Plain Washer	506010058	8
3	GB5783-M14X40	Screw Bolt	501011142	4
4	AM60.02.017	Hitch Frame Weldment	802770061	1
5	AM60.02.010	Hood	802770037	1
6	AM60.02.110	Front Board	702770033	1
7	GB5783-M8X20	Screw Bolt	501011099	3
8	GB97.1-8	Plain Washer	506010055	6
9	DIN985-M8	Hexagon Locking Thin Nut	503010760	5
10	AM60.02.108	End-Shield Plate	702770031	5

REF NO.	PART NO.	DESCRIPTION	ARTICLE NO.	QTY
11	DIN985-M10	Hexagon Locking Thin Nut	503010762	1
12	GB97.1-10	Plain Washer	506010056	1
13	GB5783-M10X25	Screw Bolt	501011112	1
14	AM60.02.112	Rubber Board	702770035	1
15	AM60.02.111	Pressing Bar	702770034	1
16	GB5783-M8X25	Screw Bolt	501011100	1
17	AM60.02.103	Motor Guard Board	702770026	1
18	GB70.1-M8X25	Hexagon Socket Cap Screw	505011416	6
19	GB93-6	Spring Washer	506030034	3
20	AM60.02.104-2	Motor Oil In & Out Connector	702780010	2
21	GB3452.1-G-23.6X2.65	0 Sealing Ring	510013139	2
22	GB70.1-M8X30	Hexagon Socket Cap Screw	505011417	4
23	GB93-8	Spring Washer	506030035	10
24	HPLMA220BMLE5E5B00	Hydraulic Motor	702770169	1
25	AM60.02.102	Spline Housing	702770025	1
26	AM60.02.141	Motor Positioning Plate	702770036	1
27	GB893.1-62	A Hole Check Ring	506060183	1
28	GB894.1-35	A Shaft Check Ring	506060317	1
29	GB276-6007	Deep Groove Ball Bearing	511022556	2
30	AM60.02.105	Oil Seal Check Ring	702770028	2
31	GB13871-FB-40X55X8	FB Oil Seal	510020044	2
32	GB1152-M6	Oil Cup	509010007	4
33	GB5783-M10X30	Screw Bolt	501011113	8
34	AM60.02.011	Main Bearing Seat	802770042	1
35	GB5782-M12X65	Half Screw Bolt	501010759	16
36	AM60.02.106	Blade	702770029	20
37	AM60.02.107	Blade Buckle	702770030	1
38	DIN985-M12	Hexagon Locking Thin Nut	503010763	1
39	AM60.02.012	Blade Shaft	802770046	1
40	AM60.02.013	Second Bearing Seat	802770052	1
41	MZ105.115	Locking Gasket	703140005	1
42	GB93-12	Spring Washer	506030037	1
43	GB5783-M12X25	Screw Bolt	501011125	1
44	AM60.02.109	End Cap	702770032	1
45	GB97.1-6	Plain Washer	506010054	3
46	GB5783-M6X16	Screw Bolt	501011088	3
47	GB97.1-12	Plain Washer	506010057	4
48	AM60.02.014	Roller Shaft Seat 1	802770055	1
49	GB70.3-M12X30	Inner Hexagon Sunk Screw	505011750	2
50	GB5783-M12X35	Screw Bolt	501011127	2
51	EFG120.012-AM80	Roller (AM80)	802780018	1
52	AM60.02.016	Roller Shaft Seat 2	802770058	1