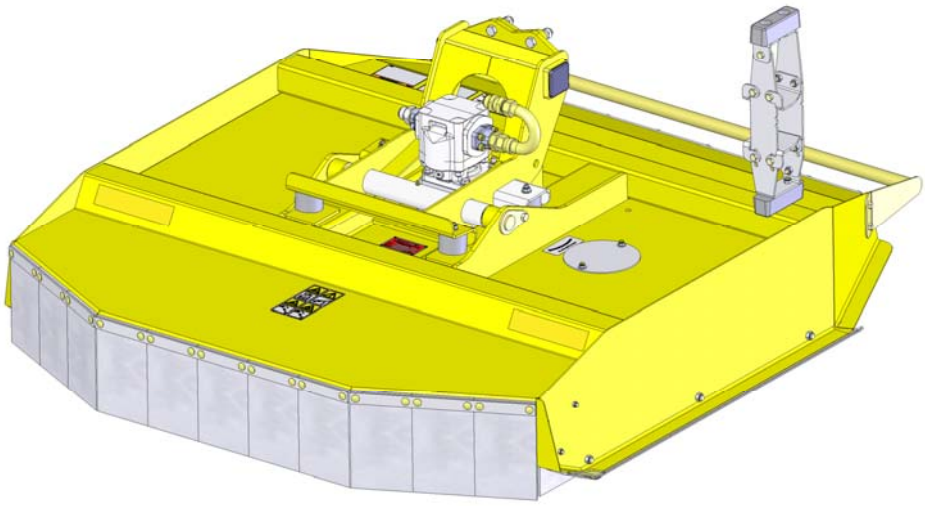
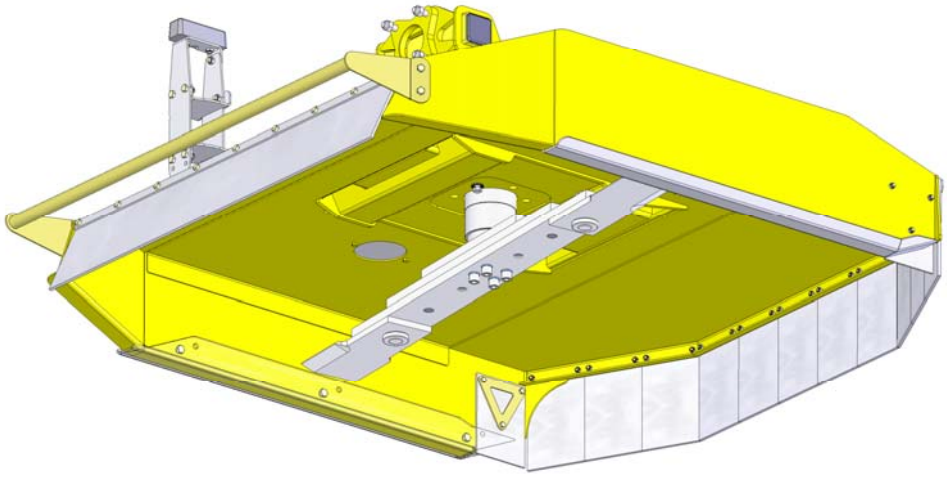
Publication 711
April 2012
Part No. 22675.11
Revised: 21.05.18

Tiger

RBM60
ROTARY HEAD

Operator Manual





For Safety and Performance …

ALWAYS READ THE BOOK FIRST

Tiger Corporation

3301 N. Louise Ave
Sioux Falls, SD 57107

Toll-Free: 1-800-843-6849
Fax: 1-800-716-7620

- NOISE STATEMENT -

The equivalent daily personal noise exposure from this machine measured at the operators' ear is within the range 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 82 – 88 dB. At an equivalent daily noise exposure level of 85 – 90 dB ear protection is recommended and must always be used if any window is left open.

Operating, servicing and maintaining this equipment can expose you to chemicals including gasoline, diesel fuel, lubricants, petroleum products, engine exhaust, carbon monoxide, and phthalates, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. This website, operated by California's Office of Environmental Health Hazard Assessment, provides information about these chemicals and how individuals may be exposed to them.

CONTENTS

GENERAL INFORMATION

Read this manual before fitting or operating this equipment. Whenever any doubt exists contact your dealer or the Tiger Service Department for assistance.

Always use 'Genuine Tiger Parts' on Tiger machinery and accessories.

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 emphasise.

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.

Note: The illustrations in this manual are for instructional purposes only and may on occasion not show some components in their entirety. In some instances an illustration may appear slightly different to that of your particular model but the general procedure will be the same. E&OA.

MACHINE & DEALER INFORMATION

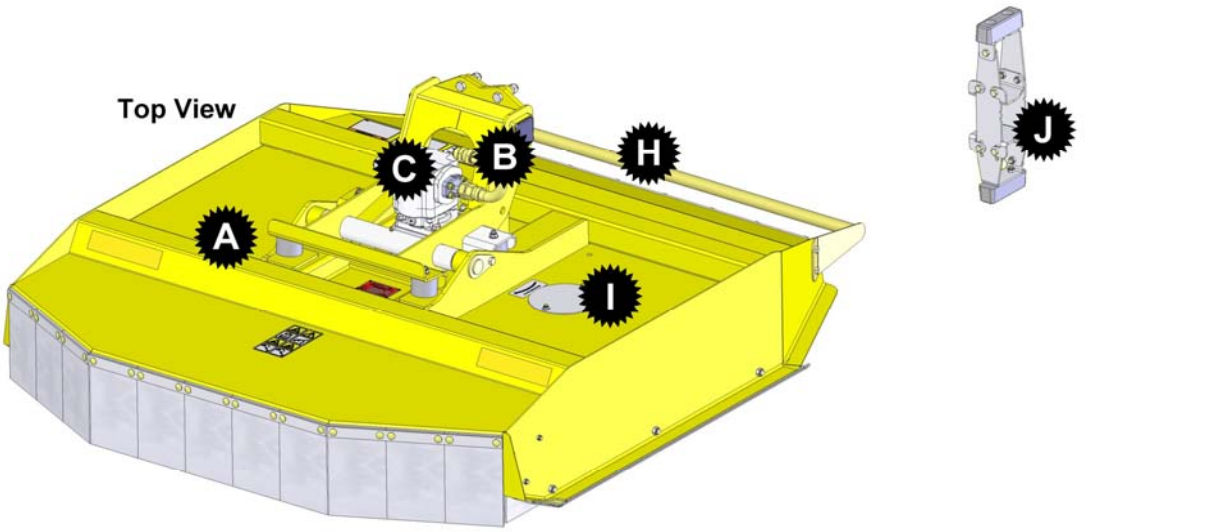
Record the Serial Number of your machine on this page and always quote this number when ordering parts. Whenever information concerning the machine is requested remember also to state the make and model of tractor to which the machine is fitted.

Machine Serial Number:	**Installation Date:**
Machine Model details:	
Dealer Name:	
Dealer Address:	
Dealer Telephone No:	
Dealer Email Address:	

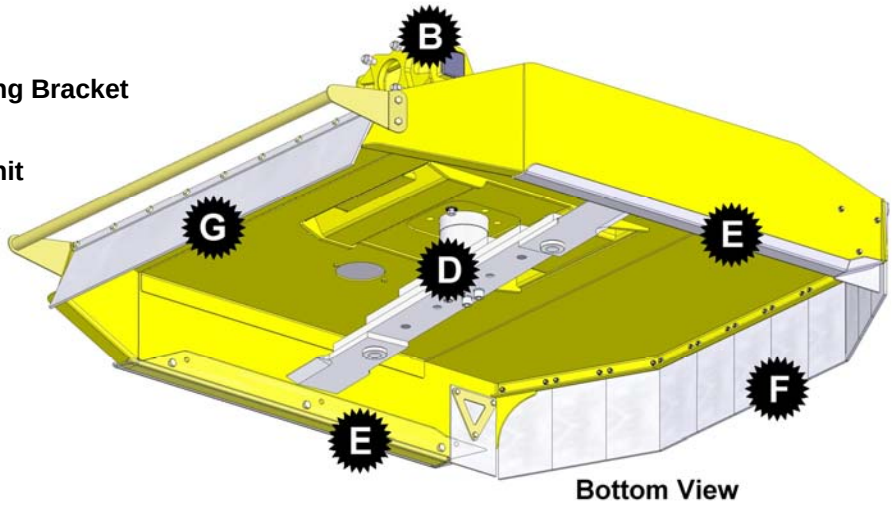
NOISE STATEMENT

The equivalent daily personal noise exposure from this machine, measured at the operators' ear, is within the range 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 82 – 88 DB. 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.

COMPONENT LOCATION & IDENTIFICATION



A) Deck
B) Pivoting Mounting Bracket
C) Hydraulic Motor
D) Cutting Blade Unit
E) Side Skids
F) Front Flaps
G) Rear Flap
H) Guard Rail
I) Access Point
J) Stop Assembly



SAFETY INFORMATION

This component / accessory is primarily designed for fitment to boom mowers, therefore all safety aspects for this component relate to the safe use of those machines and will be stated in the safety section of its operation manual. A copy of the same safety information is provided below in order to reiterate and refresh your memory.

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 but 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 A 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 'flashover' from).*
- ▲ *Being hit by cutting heads or machine arms as they move.*
- ▲ *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 A 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 follows the instructions in operator handbook.*
- ▲ *Ensure tractor 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 that blades and all fixings are genuine components supplied by the manufacturer specifically for the machine and are securely attached with no parts 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's manufacturer and that 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.*
- ▲ *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 of reach in excess of 8 metres (26 feet) this means they have the potential to well exceed, by possibly 3 metres (9' 9"), the lowest legal minimum height of 5.2 metres 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 key before dismounting for any reason.*

▲ *Always clear up all debris left at the work area, it may cause hazard 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 it, 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 turn a machine cutting head to an angle that causes 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 its 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 a 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.*

ADDITIONAL SAFETY ADVICE

Training

Operators need to be competent and fully capable of operating this machine in a safe and efficient way prior to attempting to use it in any public place. We advise therefore that the prospective operator make use of relevant training courses available such as those run by the Agricultural Training Board, Agricultural Colleges and Dealers.

Working in Public Places

When working in public places such as roadsides, consideration should be paid to others in the vicinity. Stop the machine immediately when pedestrians, cyclists and horse riders etc. pass. Restart only when they are at a distance that causes no risk to their safety.

Warning Signs

It is advisable that any working area be covered by suitable warning signs and statutory in public places. Signs should be highly visible and well placed in order to give clear advanced warning of the hazard. Contact the Department of Transport or your Local Highways Authority to obtain detailed information on this subject. The latter should be contacted prior to working on the public highway advising them of the time and location of the intended work asking what is required by way of signs and procedure. – '*Non-authorised placement of road signs may create an offence under Highway Regulations'.*

Use of Warning Signs

- ▲ *On two-way roads one set of signs is needed facing traffic in each direction.*
- ▲ *Work should be within 1 mile of the signs.*
- ▲ *Work only when visibility is good and at times of low risk e.g.: NOT during 'rush-hour'.*
- ▲ *Vehicles should have an amber-flashing beacon.*
- ▲ *Ideally, vehicles should be conspicuously coloured.*
- ▲ *Debris should be removed from the road and path as soon as practicable, and at regular intervals, wearing high visibility clothing and before removing the hazard warning signs.*
- ▲ *Collect all road signs promptly when the job is completed.*

Although the information given here covers a wide range of safety subjects, it is impossible to predict every eventuality that can occur under differing circumstances whilst operating this machine. No advice given here can replace 'good common sense' and 'total awareness' at all times, but will go a long way towards the safe use of your Tiger machine.

Vehicle Ballast
It is imperative when attaching 'third-party' equipment to a vehicle that the maximum possible stability of the machine and vehicle combination is achieved – this can be accomplished by the utilisation of 'ballast' in order to counter-balance the additional equipment added.

Front Weights
Front weights may be required for rear mounted machines to place 15% of total outfit weight on the front axle for stable transport on the road and to reduce 'crabbing' due to the drag of the cutting unit when working on the ground.

Rear Weights
Rear weights may be required to maintain a reasonable amount of rear axle load on the opposite wheel from the arms when in work; for normal off-ground work i.e. hedge cutting this should be 20% of rear axle weight or more for adequate control, and for ground work i.e. verge mowing with experienced operators, this can be reduced to 10%.
All factors must be addressed in order to match the type and nature of the equipment added to the circumstances under which it will be used – in the instance of Power Arm Hedgecutters it must be remembered that the machines centre of gravity during work will be constantly moving and will differ from that during transport mode, therefore balance becomes critical.

Factors that affect stability:

- *Centre of gravity of the tractor/machine combination.*
- *Geometric conditions, e.g. position of the cutting head and ballast.*
- *Weight, track width and wheelbase of the tractor.*
- *Acceleration, braking, turning and the relative position of the cutting head during these operations.*
- *Ground conditions, e.g. slope, grip, load capability of the soil/surface.*
- *Rigidity of implement mounting.*

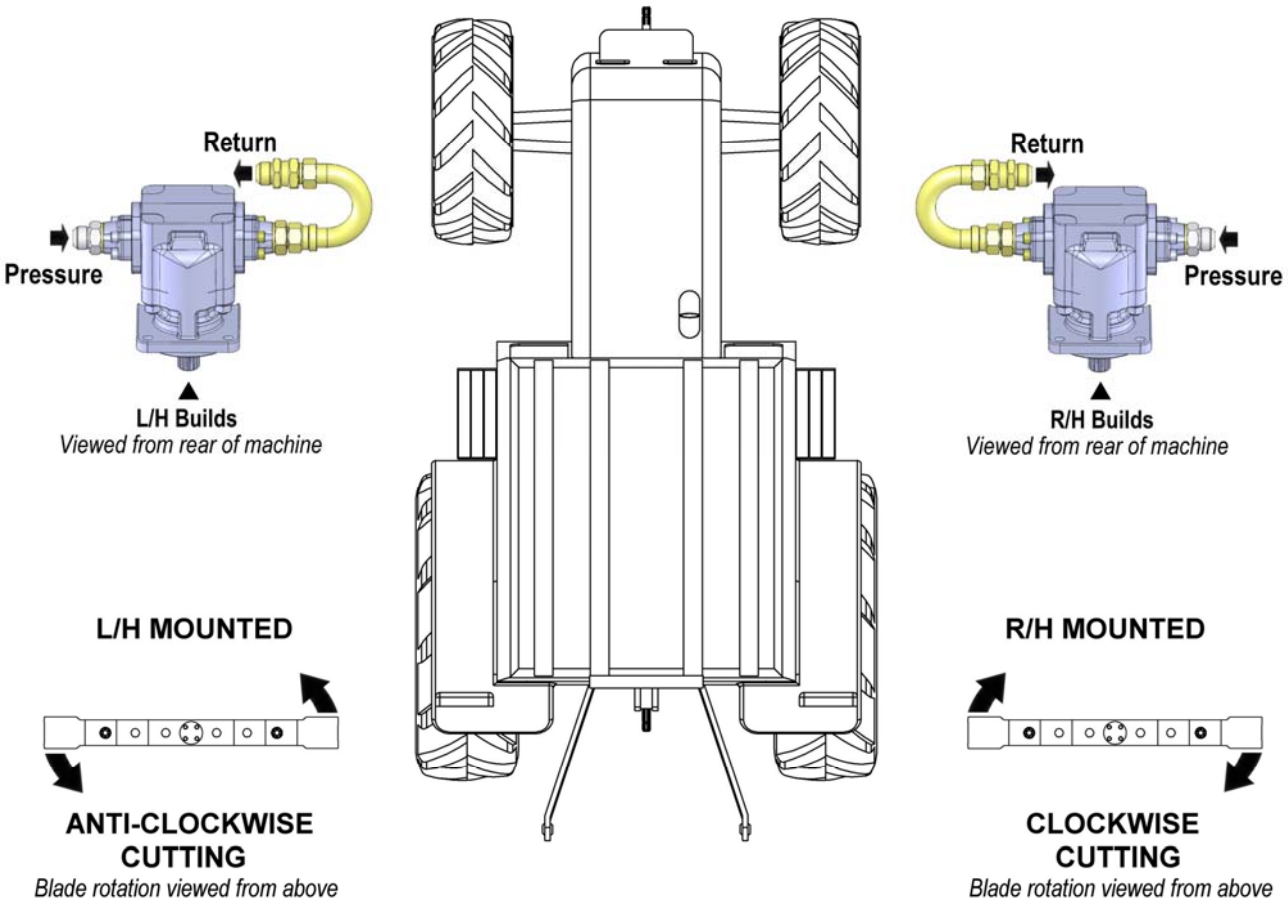
Suggestions to increase stability:

- *Increasing rear wheel track; a vehicle with a wider wheel track is more stable.*
- *Ballasting the wheel; it is preferable to use external weights but liquid can be added to around 75% of the tyre volume – water with anti-freeze or the heavier Calcium Chloride alternative can be used.*
- *Addition of weights – care should be taken in selecting the location of the weights to ensure they are added to a position that offers the greatest advantage.*
- *Front axle locking (check with tractor manufacturer).*

NOTE: The advice above is offered as a guide for stability only and is not a guide to vehicle strength. It is recommended that you consult your vehicle manufacturer or local dealer to obtain specific advice on this subject, additionally advice should be sought from a tyre specialist with regard to tyre pressures and ratings suitable for the type and nature of the machine you intend to fit.

The Rotary Head was designed for cutting scrub, brush and foliage of up to 4" *(100mm)* in diameter or multiple branches that have a total cross section area of equivalent size.

Cutting Direction
It is recommended that the direction of cutting should always be such that the blades are cutting away from the operator at the point where the material first enters the machine; i.e. anti-clockwise for left hand mounted machines and clockwise for right hand mounted machines (when viewed from above). Refer to the illustrations below for the correct hydraulic motor connections to produce the required cutting direction.



WARNING! When rotating parts are in motion, serious injury may occur if caution is not adopted or danger is not recognized. Never allow bystanders within 300 feet of the machine when in operation Extreme care should be taken when operating near loose objects such as gravel, rocks and debris - these conditions should always be avoided.

The rotating parts in this machine have been designed and tested for rugged use. However, they could fail upon impact with heavy solid objects - such as steel guard rails, concrete abutments, etc., causing them to be thrown at a very high velocity. Never allow the cutter head to contact such objects; inspecting the area to be cut for such objects and removing them prior to mowing will help eliminate these potential hazards.

Once on location, lower the mower deck slightly above the material to be cut, so the mower does not have to start under a load. With the tractor at an idle, engage mower. Bring tractor RPM up to the correct working speed (*) and slowly lower deck to ground level. Maintaining even speed will ensure a clean cut.
(*) NOTE: *Working speed will be dependant on the particular machine and model that this accessory is being operated on; refer to the operation manual for that machine for details.*

When mowing on the ground, the unit should always be ‘carried’ rather than ‘dragged’ on the side skids. Dragging the unit will increase the side loads on the boom, decrease the horsepower available to the cutter head, and reduce the ability of the accumulator the carry part of the weight of the boom during mowing operations. It is recommended that it is carried in such a way that a proportion of its weight is supported by the boom of the operating machine, and a proportion carried by the side skids. When worked in this manner the skids, in association with the pivoted mounting, will allow it the freedom to follow the natural contours of the ground.
During mowing operation the correct operating speed should be maintained to prevent radical changes in mower spindle speeds, reducing risk of cutter assembly damage.

For cutting brush it is usually best to stop the tractor and swivel the boom and mower into foliage. The horizontal positioning action of the boom is designed to position the cutting head and provide a limited pressure relief when excessive pressure is applied to the boom. Never force the cutting head into heavy branches or stumps - damage to the unit may result.

CAUTION! When using the rotary cutting head for trimming trees and shrubs, let the mower ‘saw' into them. Do not lower the mower head down directly onto a tree or stump. The mower blades are designed to cut with the end, any misuse can cause damage to the blade and risks placing the operator in a hazardous situation.

CAUTION! Powering the boom down, forcing mower deck onto ground may damage mower deck and it's attachment to the boom, creating a potentially hazardous situation.

CAUTION! DO NOT use excessive force when positioning cutting head into heavy branches or stumps. Damage to the unit may result. It is best to let the cutter head ‘eat away’ slowly at heavy cutting jobs.

CAUTION! If foliage falls on top of mower deck causing tractor to become unstable, move the boom ‘Forward’ and ‘Out’ to relieve tipping of the tractor. Lower mower deck to ground and shut down unit. After all motion stops, remove foliage from mower deck.

The mower will operate more efficiently in tougher conditions and with less power if the knives are kept sharp. If the mower begins to vibrate, stop the tractor, check for wire wrapped in the spindle or damaged knives. When replacing knives; replace all knives with new knives to ensure proper balance so the mower will not vibrate. Severe vibration will result if knives with unequal wear are used.

Begin a pass at the top side of the trees and work down with each consecutive pass. When cutting trees and shrubs; use a lower speed to allow the knives time to cut as well as mulch the foliage.

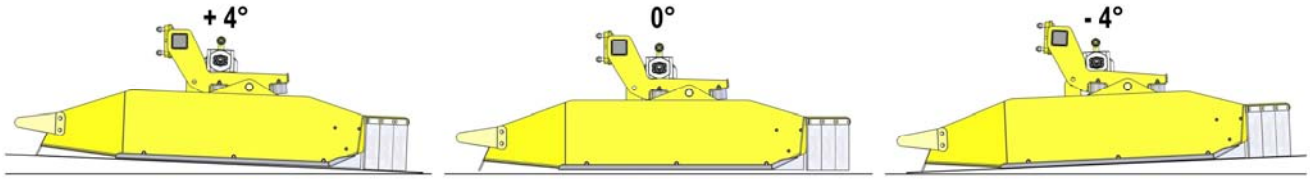
WARNING! If bystanders approach within 300 feet while mower is in operation turn mower switch 'OFF' immediately. After shutdown, never leave the tractor or allow bystanders to approach within 300 FEET of the unit until all motion stops completely.

If cutter shaft jams and stops, turn mower switch to 'OFF', and swivel boom 'AFT'. Normally this action will clear the cutter head. If not, roll mower deck until adjacent to the secondary boom, and then lower boom to rest mower deck on ground. Shut off the tractor, set parking break, allow all motion to cease. At that point it is safe to leave the tractor and clear the cutter heads manually.
If wires, rope or chains should become entangled in the rotor stop immediately to prevent damage or dangerous situations; stop the rotor and tractor and remove the starting key. Put working gloves on and clear the rotor with the aid of pliers or shears. Do not attempt to disentangle by inverting the rotational direction of the rotor.

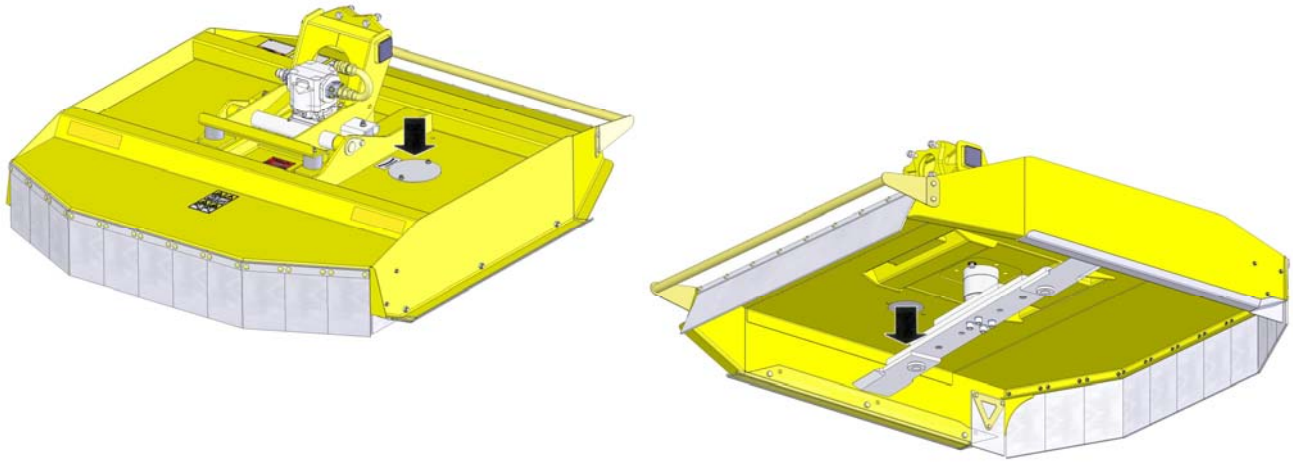
Begin each pass at the top side of the trees and work down with each consecutive pass. Use a low speed to allow the cutting blades time to mulch as well as cut the foliage. When the initial pass has been made, disengage the mower, and return boom to a safe travel position. Return to starting point and make next pass, etc.

Side Skids
The side skids have 2 mounting positions allowing the machine to cut at a height of either 2" *(50mm)* or 3" *(75mm).* Altering the cutting height is by selection of either the upper or lower skid mounting holes on the main frame; ensure that the same hole positions are selected on both sides of the machine. Never attempt to use the machine without skids fitted or with the skids mounted at different heights.

Pivoted Mounting
The mounting bracket is pivoted to permit the unit deviation from the horizontal by ±4°; this allows the machine to follow the contours of the terrain on ground cutting work, thus providing a cleaner finish.



Blade Nut Access Point
A removable cover is located on the deck of the machine to allow access to the blade bolt nut. If removed for service or maintenance work always ensure it is correctly replaced before using the machine.

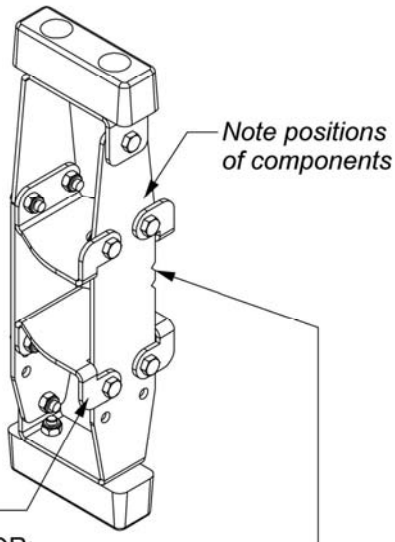


Deck Stop

A Stop assembly is provided for placement on the connecting boom of the operating machine; it is multi-adjustable for use on 100mm square section or 100/110mm tapered section booms.

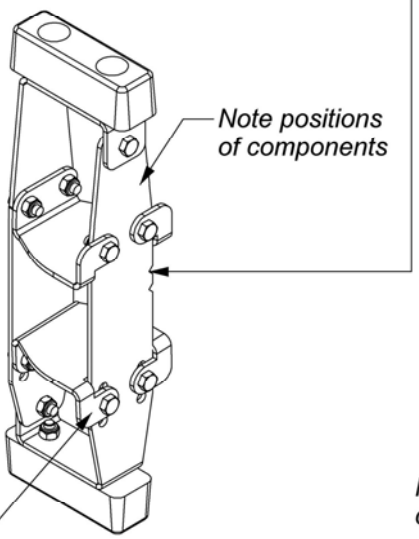
Its function is primarily to stop the deck coming into contact with the machines arm components when the head is fully angled, but also acts as a support for the unit during transportation.

The stop should be assembled to the required configuration to fit the specific boom and positioned on the boom at a height where the rubber buffers contact an outer point on the top of the deck when the unit is fully angled in either direction.

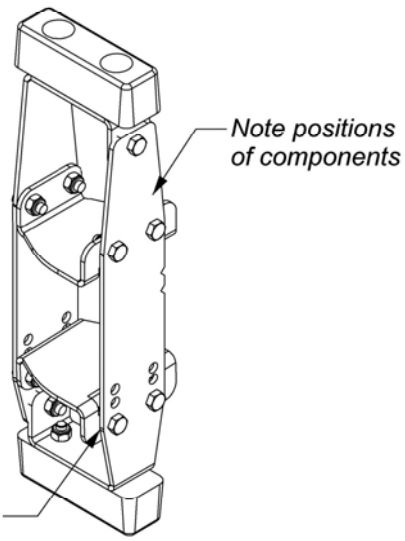


ASSEMBLED FOR:
100MM SQUARE ARM SECTION

ASSEMBLY NOTE:
The notches should be nearest to the top of the dipper arm and facing towards the head pivot tube.



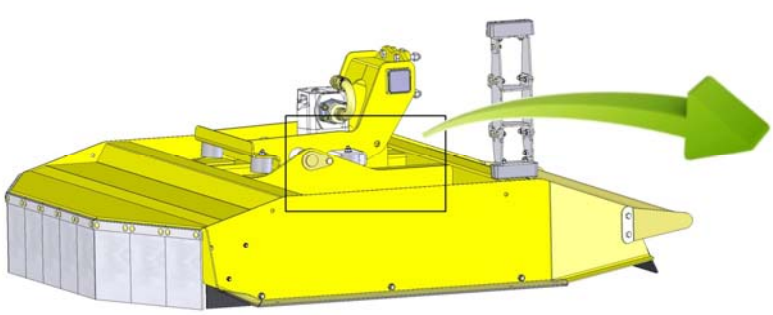
ASSEMBLED FOR:
100MM WIDE TAPERED ARM SECTION

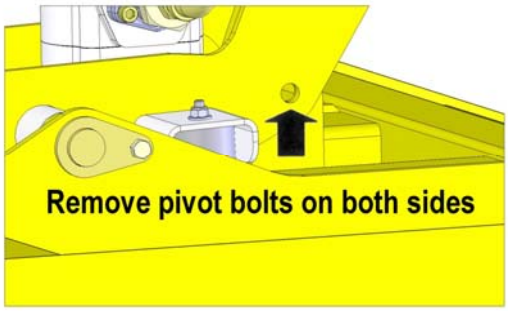


ASSEMBLED FOR:
110MM WIDE TAPERED ARM SECTION

OPERATING WITH LIFT FLOAT KIT

For lift float operation pivot bolts must be removed from both sides of the pivot assembly.





To Test Operation
Set the height of the skids to the required approximate cut height above ground level.

From the operating position in the tractor cab, extend the machines arm fully and place the cutting head on the ground.

Activate the float - *this can be done either manually or with the switch kit option*.

Operate lift up - *it is normally for there to be an initial delay as the oil fills the float bottle first before transferring to the ram.*

Return lift control to the neutral when the cutting head lifts off the ground. ***Caution! the arm may continue to lift for a few seconds.***

It will be noticed that lift operation is now spongy.

Gently operate 'lift down' and stop when the skids touch the ground.

During Operation
The weight carried on the skids is now controlled by the amount of oil trapped in the lift circuit. The lighter the load on the skids the less they will wear, therefore their working life will be extended. Adding oil (lift up) will make the load on the skids lighter, removing oil (lift down) will make the load on the skids heavier.

Adjust the amount of oil when the ground height of the work changes relative to the tractor and /or when altering the working distance of the cutting head to the tractor. Continual adjustment will be required on uneven or undulating terrain.

CAUTION! the cutting head will still be need to be lifted over objects and in places where the ground is raised between the skids; there may be some delay on lift so extra care and reduced forward speed should be adopted.

After Operation
Place the cutting head fully on the ground to release the trapped pressure from the float circuit, switch off the floats to revert to normal arm operation for work and/or transport.

DANGER! Never loosen lift connections with pressure trapped in the lift circuit.

DANGER! Float should not be used in transport.

CAUTION! The work area should be inspected prior to work and all hazardous objects removed or suitably marked so that they can be avoided during operations.

TRANSPORTATION

Transport Position

When transporting between job sites, or between cutting passes, the following procedure should be followed; shut off the power to the cutting head and allow all motion to come to a complete stop. Raise the boom to its highest position taking care to avoid all overhead obstructions such as power cables, trees etc. Rotate the deck to a position where it contacts the stop buffer before then folding the arms of the machine into a position where it is as compact as possible. Fit and secure any transport locks and close the lift ram tap if applicable.

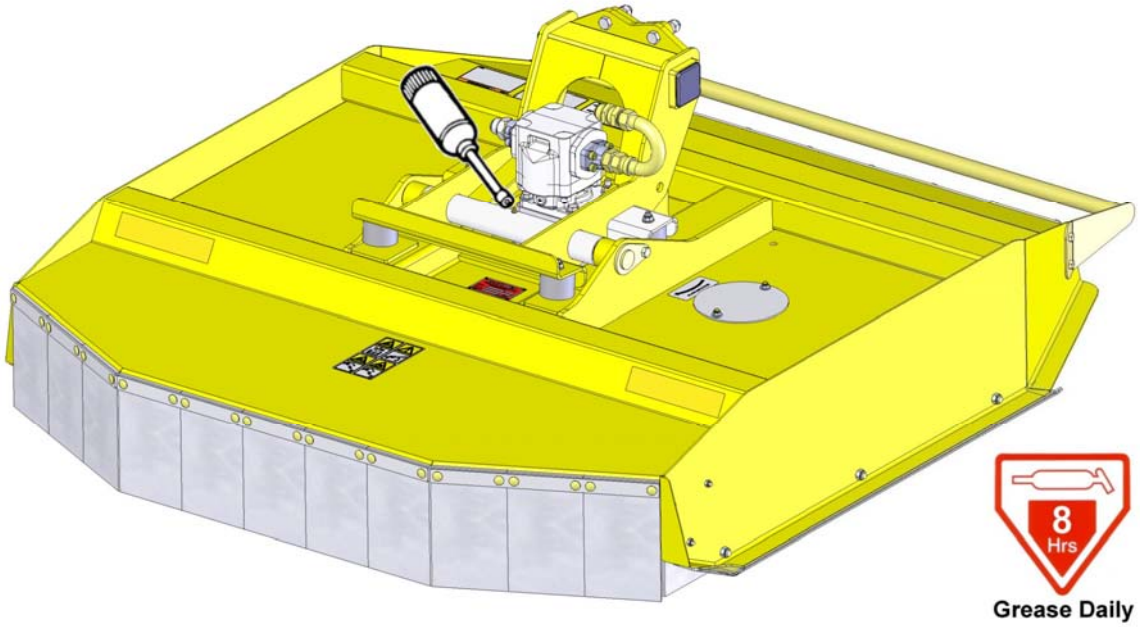
Check before transporting that the unit has ample clearance from the tractor tyres and other tractor or machine components. The unit is now in position for transportation.

Transport Speed

Transport speeds should be kept to a minimum on uneven terrain, and in all conditions avoid driving at a speed which causes exaggerated bouncing as this will put unnecessary strain on the tractors top hitch position

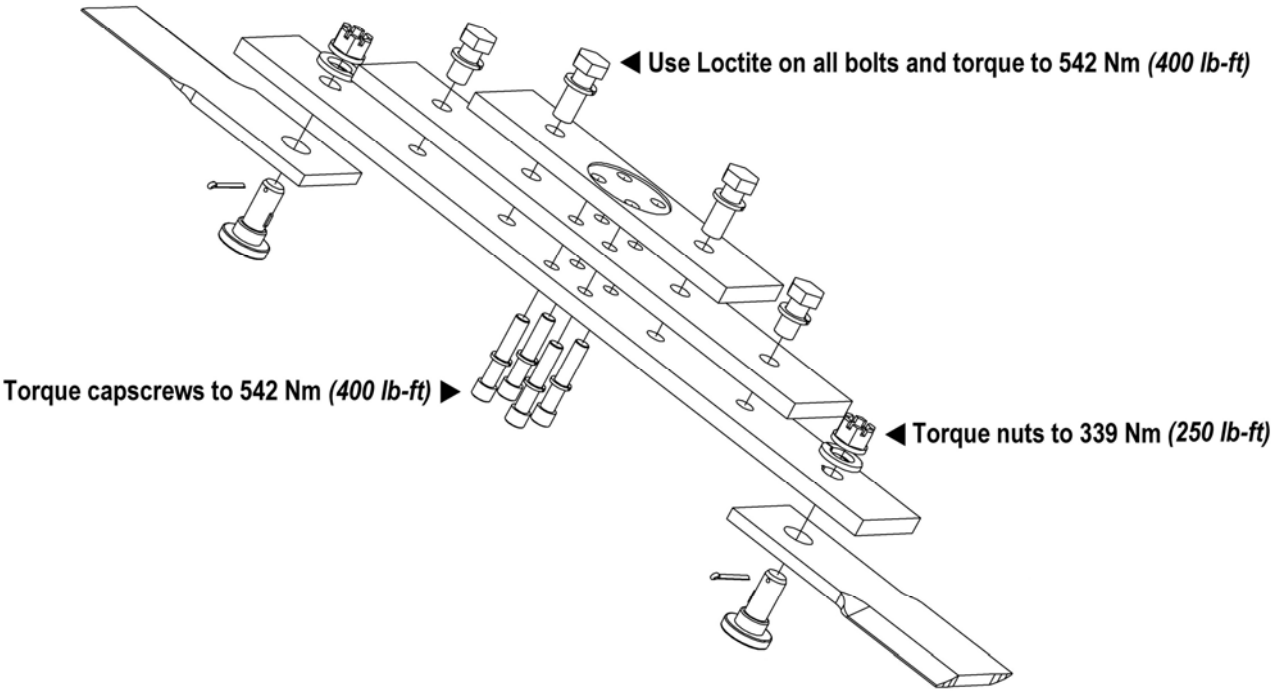
MAINTENANCE

Maintenance duties on the machine have been kept to a minimum, the grease point indicated below should be lubricated on a daily basis prior to work. Check for oil leakage around the spindle assembly on a daily basis. Top up the bearing assembly to plug level (as and when required) using EP90 gearbox oil. Oil capacity is 560ml (18.9 US fl.oz.). Rolling torque of bearing unit to be no more than 15Kgcm - 1.08 lb ft, measure without motor and blade assembly fitted.



After work and always prior to storage the machine should be cleaned to remove dirt and debris. Grease the point indicated above prior to storage. Wherever possible the machine should be stored in a clean dry location protected from the elements.

Blade Bar Torque Figures



Tiger Corporation
3301 N. Louise Ave
Sioux Falls, SD 57107

Toll-Free: 1-800-843-6849
Fax: 1-800-716-7620