

INSTRUCTION MANUAL AND PARTS CATALOGUE FOR

MDE SLAYER
TREE SHEARS

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EU CERTIFICATE OF CONFORMITY

CONFORMING TO EC Machinery Directive 2006/42 EC

We:

MDE Machinery

110 Seagahan Road

Collone

Co. Armagh

BT60 2BJ



declare in sole responsibility, that the products

Type: SLAYER TREE SHEAR

to which this certificate applies, conforms to the basic safety and health requirements of the EC Machinery Directive 2006/42 EC, and the Transposed Harmonised Standards:

BS EN 1553 (2000)

Mark Belford

Managing Director

SAFETY INSTRUCTIONS

IMPORTANT - READ BEFORE USE

This manual is provided to assist you in getting the best results from your machine and ensure that you do so safely. If you have any queries about the use of the machine contact your dealer before use. Please keep this manual for future reference.

INTENDED USE

The intended use of a Slayer Tree Shear is exclusively for cutting trees, large branches, and other woody vegetation.

FUNDAMENTAL PRECAUTIONS

On delivery, your dealer gave you an explanation of the operation and maintenance of this MDE Slayer Tree Shear. Please read and understand these operating instructions before operating the machine for the first time. It is essential that you observe all safety instructions.

DO NOT OPERATE THE SLAYER TREE SHEAR WITHOUT FIRST CONSULTING PROFESSIONAL PERSONNEL FOR INSTRUCTIONS AND GUIDANCE. IF THIS IS NOT AVAILABLE CONSULT MOE DIRECTLY FOR SUPPORT.

Incorrect use or mishandling of the machine can endanger:

Life and Limb of the operator, other persons or animals within the vicinity of the machine. The machine and other material assets of the owner or third persons. The performance of the machine.

Anyone who is involved in the commissioning, operation or maintenance of the Slayer Tree Shear must read and understand these instructions very carefully and observe them at all times.

NEVER DISTRACT ANYONE WHO IS USING A MACHINE

AUTHORISED OPERATORS

Youths under the age of 16 must not operate this implement. The owner of the machine must provide the operator with the operating instructions and make sure they have read and understood them. Only then may the machine be put into operation.

The owner must ensure that only authorised persons operate/work on this machine. He is responsible for keeping any third persons or animals out of the working area of the machine.

Appropriate licensing / permit should be held for carrier vehicle and Slayer Tree Shear abiding by state law and country.

THE OPERATOR MUST BE FULLY TRAINED BEFORE USING THE IMPLEMENT. A SAFE DISTANCE OF AT LEAST 50M MUST BE OBSERVED BY ANYONE WITHIN THE VICINITY OF THE SLAYER TREE SHEAR.

GENERAL SAFETY AND ACCIDENT PREVENTION REGULATIONS

Familiarise yourself with the tree shear before use. Then simulate the individual work processes (cutting, setting down, etc.) on a suitable training area. First practice without material, then practice with already cut material. Knowledge about wood felling and tree maintenance is also preferred.

Ensure the implement is correctly and securely attached to the operating vehicle. Only use genuine MDE pins.

Always use the correct mounting bracket and ensure that it is fitted by a trained and competent operator who has been approved by your MDE dealer. It is recommended to use an MDE interface plate for optimum performance.

NEVER attach to a excavator which would be rendered unstable when the implement is operated at its full capacity. Take note of the maximum load permissible on excavator.

NEVER remove Slayer Tree Shear guards.

If working on public roads, safety signs, traffic lights, and flashing beacons should be used to alert on-coming traffic. Machines should always be stopped if pedestrian / vehicles are passing.

People should never walk under boom/Slayer in operation.

The Operator should never get out of the excavator while machine is running, always turn it off, set it down on the ground and only get out when the engine has stopped.

If the Slayer becomes damaged it should be turned off straight away. Contact your MDE agent.

Take extra care when operating machinery on sloping ground. NEVER operate on ground where there is a risk of the machine becoming unstable.

When the unit is stationary always ensure it is lowered to the ground.

When detaching the implement from the machine always ensure that it is stable and safely positioned on a level surface.

The attaching and detaching of the implement must be carried out by only one operator.

There should not be any other people in the vicinity of the implement or in the excavator.

Before operation make yourself familiar with all elements and controls of the machine as well as their functions.

Before operation inspect the area around you. Keep children away. All visitors and unauthorised persons should be kept well away from work area at all times.

ENSURE that the operator is aware of the overhang when the implement is mounted on the front of the excavator.

Always keep the tree shear and load as low as possible to maximise stability.

NEVER attempt to move the implement manually.

During overhead work, fragments or blocks of material can fall. Make sure that the machine on which the attachment is installed has the necessary protections for performing this type of work and has an FOPS cabin (Fig. 2.2.1). Base machine (excavator) should have appropriate guarding/armoured glass. It is mandatory to check that all safety devices of operating machine must be activated.

Use the appropriate individual protection devices (gloves, goggles, hard hat, and safety shoes) during both work and maintenance.

Do not use the attachment if it is not working properly.

Before cutting the tree it's mandatory to check that the area involved for the breakdown is enough and free from any obstacles.

The unloading of tree must be done only when the material is parallel and near to the ground.

Do not exceed the attachment clamping load of 750kg.

For correct use of the Slayer Tree Shear, trees should be cut down in sections no longer than 5 meters. Use weight calculator before cutting trees. For example, 5 meters of 400mm diameter alder, red logs density of 736.8kg per m3 weighs 463kg.

Pay attention to place tree onto ground in a safe manner.

Never perform hasty or makeshift repairs that could compromise the good operation of the attachment. In the case of doubt, always request service by specialised personnel.

It is forbidden to perform checks and/or replace parts during work. Unless expressly specified by this manual, avoid repairing or adjusting the attachment (or parts of it) during work, in order to avoid being hooked by moving parts.

The attachment can only be used after checking alignment with all specification of the operating machine, particularly the stability, and properly installed.

The operator, before leaving the operating machine control, must stop the attachment in safety condition.

The arm must be moved safely, with slow, precise movements. Avoid brisk movements.

Do not use the attachment to: pull, push on the front or side, pound or hit.

Do not bring the operating machine closer than 50 meters from aerial power lines under voltage.

Do not make any adaptations or changes that the manufacturer has not previously agreed to and approved in writing.

Do not operate under the attachment if not safely supported.

Do not operate the attachment and operating machine in a closed area without proper ventilation.

The operator should never use drugs or alcohol while operating the machine.

Only operate the attachment in ambient conditions (enough light, no fog, low wind, without snow load), stable ground, operating area is totally free and guaranteed the operator visibility from the machine.

Do not remove safety devices or protective guards.

Under NO circumstances should anyone, authorised or otherwise attempt to use the tree shear as a means of personal transport. It is designed as a specialist purpose tree felling implement and is unsuitable for the safe transportation of passengers. NEVER allow anyone especially children to travel anywhere between the excavator and an implement.

NEVER use this implement to lift items other than wood it has felled. Do not extract parts stuck in the ground.

Any attempt to overload the machine will risk life and limb of the operator and immediately invalidate warranty.

To avoid personal injury keep hands and limbs well away from the moving parts.

The working area should be examined, all power lines should be thoroughly observed and noted in the completed risk assessment and your electric line company should be consulted before any work continues.

It is absolutely prohibited for anyone to use the attachment for any purpose other than that expressly allowed and documented. The attachment must always be used in the manner and at the times and places required by good practice and in conformity with the current laws of every country, even if there are no laws regulating the sector in the country of use.

PUTTING INTO OPERATION

Warn persons in its vicinity that the attachment is going into operation.

Check all the safety systems.

Check the protections and signage. Before putting the attachment in operation, it is necessary to perform a series of checks and controls to prevent errors or accidents while putting it in operation. In case of problems, it's necessary to solve it immediately.

Check that the attachment has not been damaged during mounting;

Check the blade condition and tightening torque of related fixing bolts;

Carefully check the integrity of the hydraulic hoses, valves and various components;

Check that all moving parts are moving freely.

Check that the hydraulic connections are tight to prevent dangerous leaks.

In case of working on public area the end user must check the correspondence of system (operating machine & attachment) to the local compliance.

Connecting the hydraulic lines / electrics

Connect the hydraulic lines of the machine to the carrier vehicle. Observe the enclosed mounting data sheet or wiring diagram and the labels displaying the hydraulic connection designations on the machine (depending on the model and specifications). Notify your dealer for help and guidance of correct installation.

Always ensure sufficiently dimensioned hydraulic lines and hydraulic couplings.

Putting the Slayer Tree Shear into service for the first time

After correct installation has been followed, and operator is in the cabin with all personnel at a safe distance. Begin operating vehicle engine at idle with low flow and low pressure, open and close all functions starting with grapple and shear. Make sure all functions are working correctly, and ensure that all air is out of the hydraulic circuit. Inspect Slayer Tree Shear for defects and oil leaks. When operator is back in the cabin with all personnel at a safe distance, set the operating vehicle to working RPM flow and pressures, test all functions starting with the shear arm and grapple. Reinspect the tree shear for any defects or oil leaks.











OPERATING CYCLE FOR SINGLE CUTTING

First of all check that the material to be cut does not exceed the load capacity of the attachment and the lifting capacity of operating machine. In order to avoid problems of instability operate with the load closer to the operating machine.

Activate all the safety devices provided on the operating machine checking the functionality.

Operate with slow movements and only after having reached full confidence with the attachment operating machine especially when working on sloping ground.

Reach with the operating machine the working area.

Inspect to ensure the tree is in sound condition (not rotten or dead) and strong enough to be held firmly so that it can be lowered to the ground safely after cutting.

The Slayer Tree Shear should never be used for cutting dead or rotten trees.

Make sure that nobody is in the range of action of the operating machine and attachment or, in any case, in the danger area.

Ensure that there is no foreign objects at the trunk base that may damage the blade during the cutting phase, and ensure the full visibility of the entire working area for safe operation.

Bring the attachment with arms open to the trunk to be cut. Check the proper alignment of the tree with the vertical axis of the attachment, eventually adjust it with the articulations available for improving the grip

In case of a high tree it's necessary to make more cuts starting from the top.

Close the grapple to take a grip of the tree you're looking to cut.

Operate the hydraulic control of the main line to close the grapple seizing the trunk. Arise in the condition that the load cannot reach the operating machine.

Check that the tree is completed clamped into the grapple; If you cannot complete the cutting operation of the single trunk it is necessary to repeat the cut.

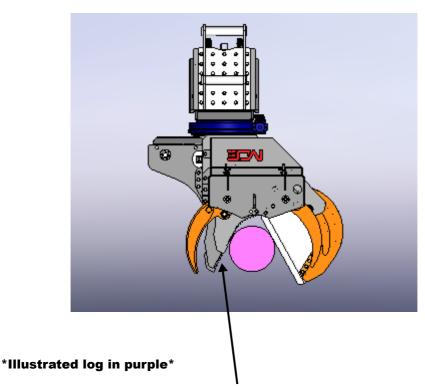
Now the cutting cycle is completed and it's necessary to start the dumping phases.

As first, fix store area for the material ensuring the necessary safety conditions without hindering the work area of the operating machine, for the subsequent phases of work that will follow.

With the articulation of the operating machine work equipment put the trunk in parallel to the ground.

Now drive the machine to the tree to be cut. Align the machine using the swivel device of the excavator by actuating the auxiliary circuit so that the middle section and the material to be cut form one line.

Place the trunk as much as possible closer to the ground, ensuring the minimum distance for the articulation of the grapples, in order to avoid conditions of instability of the operating machine during the dumping phase.



Ensure log is against counter cut shelf on left, this relief's pressure from worm drive rotation unit and ensures maximum cut and grip of the log for the grapple.

Ensure to centralise all logs / trees with the Slayer tree shear, this prevents damage to the slayer tree shear.

STOP

First of all it is mandatory to put in place safety conditions before the attachment is stopped. The attachment is stopped by simply leaving the controls of the relative hydraulic distributors in their rest positions. Under normal conditions, if the controls are not activated, the attachment does not perform any movements. Before leaving the operating machine it is necessary to stop the engine. Attachment is safely set onto the ground

TAKING OUT OF SERVICE

On the occasion of long periods of inactivity, it is necessary to close all articulations and then disconnect the hydraulic power from the attachment.

Check that all parts are intact, and all bolts are right tightening torque, in case of trouble it is necessary to repair.

Clean the attachment removing all residual material in order to avoid rust problem.

Spray a protective product on the attachment in order to avoid rust and seizure problems. Grease all articulation.

Recover the attachment in safety condition; in covered area with low humidity..

WASTE DISPOSAL

The user is responsible for the correct disposal of the waste produced by the attachment in conformity with the current law in the country of use. Lubricants and replaced parts must be disposed of in conformity with the current law in the country of use of the attachment.

MAINTENANCE

As a rule, disengage the driving system and stop the engine prior to carrying out maintenance, servicing, cleaning or repair work. ALWAYS remove the ignition key.

Prop the machine with appropriate supports before carrying out any maintenance work. The manufacturer will not be responsible for any damages or injuries caused by unauthorised repair, alterations or mishandling of the product.

Wear protective clothing during maintenance.







Maintain product with care. Check periodically for damage that would affect the safe operation of the implement.

Only use original MDE replacement parts to replace worn parts.

ALWAYS ensure all warning stickers are kept clean and in good condition.

Regularly check the bolts at the hinge points and tighten if necessary.

Regularly lubricate the hydraulic cylinder and hinges using clean grease.

Cover the chromed area of the hydraulic cylinder with a layer of grease during prolonged periods of inactivity.;

The maintenance required for this attachment is divided into:

- 1. Regular
- 2. Scheduled
- Extraordinary

They include operations relative to lubrication, cleaning, adjustment, replacement, inspection, tightening, etc. In performing maintenance and/or repairs, it is a good idea to follow these recommendations:

Before beginning work, display a card, "ATTACHMENT BEING MAINTAINED" in a visible position;

Do not use solvents or inflammable materials:

Take care not to spill lubricants on the ambient;

When accessing parts of the attachment, use suitable means for the operations to be performed;

Do not operate under the attachment if not safely supported

When finished working, correctly replace and attach all the protections that were removed and/or opened:

Carefully clean individual components with an appropriate degreaser and without using compressed air (which just moves dirt around);

Determine the frequency of maintenance based on the specific need in relation to the production cycle of the attachment;

Before putting the attachment in operation every day, the operator should visually check the general state of its components and request maintenance if he notices strange noises or anomalous situations:

Check that the mechanical parts are always well lubricated (only those components that need lubrication).

When performing cleaning, mounting, dismounting, maintenance and transport, take care to place the attachment in a condition of perfect stability.

Maintenance - Entire machine

- Check screw connections to ensure they are tight and tighten them if necessary. Observe the permissible tightening torque.
- Check bolt connections and tighten it necessary
- Check machine for contamination, clean if contaminated.
- Visually inspect for damage, particularly for damage that could endanger machine safety.
- Lubricate the machine according to lubrication schedule.
- Check condition of stickers for legibility and completeness, and replace if necessary

Maintenance - Collector

After assembling collector, check that fixing screws are tight.

Maintenance - Cutter

- Check cutter to ensure it is tight and tighten if necessary, Observe the permissible tightening torque.
- Resharpen blunt cutters with the angle grinder.
- Replace worm or deformed cutters.

Maintenance - Hydraulics

- Check hydraulic hose connections to ensure it is tight and re-tighten if necessary. Observe the permissible tightening torque.
- Check hydraulic hoses for damage such as cuts, cracks, abrasion points and deformations.
 Replace if needed.
- Check hydraulic hoses for leaks.
- Replace hydraulic hose lines.

HYDRAULIC SAFETY

All regulation, maintenance, repair or cleaning must be performed with the engine stopped and the attachment stably supported on the ground and no residual hydraulic pressure. The residual hydraulic pressure must be discharged by activating the opening and closing controls of the attachment several times with the motor stopped and depressurize the oil tank. The intervention must be marked on the card in the cabin.

For the hydraulic connections, only and exclusively use hydraulic hoses and fittings conforming to the SAEJ517 or DIN20066 standards for the specified pressures. Failure to observe the above could compromise the safety of the attachment.

Always check the integrity of the hoses to make sure they have not been damaged. If so, have them replaced immediately. Search for leaks using small pieces of paper or cardboard and never with your fingers to avoid possible subcutaneous injections of oil under pressure. The oil can reach very high temperatures. Before performing any service on external surfaces, wait for them to completely cool.

CAUTION The hydraulic system is under high pressure.

Ensure that only high-pressure hoses are used to connect supply to the attachments hydraulic cylinder. Check hoses regularly and renew any that are damaged or worn. Hydraulic supply must not exceed what is recommended in the specification table in this document.

Before working on the hydraulics lower the tree shear to the ground, release the pressure from the system and stop the tractor engine.

When connecting hydraulic rams make sure that the hydraulic hoses are coupled correctly. Pressure should be released from the system both on the excavator and on the implement side prior to coupling the hoses to the tractor hydraulics.

CAUTION Hydraulic oil forced out under pressure can break the skin and cause severe injury. In the event of a hydraulic oil leak stop the excavator flow immediately. DO NOT PUT HANDS NEAR A LEAKING PIPE.

In hydraulic fluid power systems, power is transmitted and controlled through liquid under pressure within an enclosed circuit. Solid particle contaminant is always present in the hydraulic fluid, and the amount needs to be determined because the contaminant may cause serious problems. The operating machine must have clean hydraulic in-line filters. These in-ine filters prevent contaminants from entering sensitive hydraulic components such as valves, cylinders and motors.

To ensure the attachment and operating machine are kept free from solid particle contaminant, all auxiliary lines powering the attachment must have clean in-line filters. Keeping the hydraulic fluid clean is extremely important for performance and hydraulic oil should be inspected regularly.

Transport and mounting on the carrier vehicle - Safety information

WARNING

Risk of losing the load or unpredictable movements if transported incorrectly. Risk of material damage to the Slayer Tree Shear or risk of injury from falling machine components.

- Mount the supplied support leg depending on the model.
- Only transport the Slaver Tree Shear when it is secured!
- Only use means of transport that function perfectly and are authorised for road transport.
- Lash the machine to suitable points only. Note the weight printed on the serial plate. Adjust the lifting gear and slings to the weight and dimensions of the machine.

Do not subject the machine to impermissible mechanical loads. Do not place any objects on or against the product.

Do not stack the machine with other objects.

NOTICE!

Risk due to incorrect assembly

Risk of damage to the machine or the carrier vehicle.

Only mount the machine using trained and qualified personnel.

Follow the mounting instructions in the manual for the carrier vehicle.

TRANSPORT

Observe the following instructions when transporting your Slayer Tree Shear:

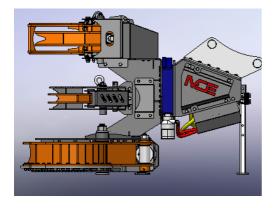
- Ensure that the transport vehicle is approved for the machine weight and machine size.
- Place the machine on a level and stable surface when preparing for transport (dismantling, servicing & cleaning).
- Secure the machine and all individual components with lashings in accordance with the applicable national regulations.
- Proceed with the same caution when unloading as when loading
- After loading, the machine must be stored and secured so that it or parts of it cannot slip, roll over, fall over, tilt or fall off during the journey.
- Increasing the degree of friction will help to keep the load securing work to a minimum. This can be effectively achieved by using anti-slip mats.

Anti-slips mats must not be used as edge protectors. This means that lashing materials can no longer be tensioned evenly.

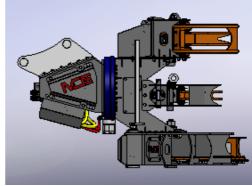
Only lash and lift the machine at the lashing points and lifting points.

Conveyor belts, old car tires and the like are not anti-slip surfaces!

SLAYER SUPPORT LEG



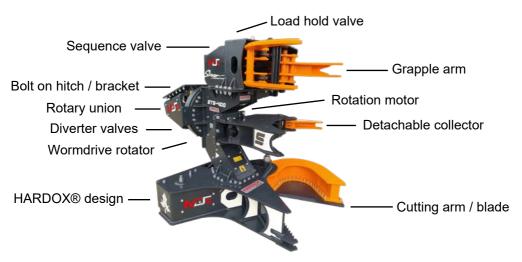
Support leg in transport / set down position (ensure locking pin is in place)



Support leg in working position (ensure locking pin is in place)

Description and function of the components

The Slayer Tree Shear can be fitted with optional extras to suit customer needs. The technical data for the Slayer can be found in specification table.



Grapple

The grapple has two moving arms that hold the material firmly in place.

Collector Unit (Option)

The collector unit will collect several thinner branches. It can be used in short rotation plantations to set down thin trees in a bundle. The collector is operated via the auxiliary circuit of the carrier vehicle.

(SAVE WEIGHT BY EASILY REMOVING THE COLLECTOR FOR HARD TO REACH OR HEAVY MATERIAL APPLICATIONS)





Switch valve of collector and rotator

These functions are jointly supplied via the auxiliary circuit on a fully equipped Slayer with collector and rotator unit. In this case, an electric switch valve switches between these two functions. The electric switch is activated by the joystick in the driver's cab.

Operating mode of Joystick switch.

Slayer buttons in neutral position carrier machine button one engaged will open the shear arm followed by the grapple

Slayer button in neutral position carrier machine button two engaged grapple will close followed by shear arm.

Slayer button one engaged with carrier machine button one slayer will rotate left.

Slayer button one engaged with carrier machine button two slayer will rotate right.

Slayer button two engaged with carrier machine button one slayer collector will open.

Slayer button two engaged with carrier machine button two slayer collector will close.

(INSURE REST PERIOD BETWEEN FUNCTIONS OR PUSH MULTIPLE BUTTONS AT ONCE THIS CAN CAUSE DAMAGE TO THE MACHINE)



Electrics (Optional)

Power is supplied by the in-vehicle power socket ("'cigarette lighter') in the carrier vehicle

A 12V solenoid is fitted as standard. A 24V solenoid can be supplied on request. Contact a MDE representative if this is the case. An 10 amp fuse is used in the plug.







- 1. Plug power supply, complete
- 3. Position of fuse

2. Adaptor

4. Fuse

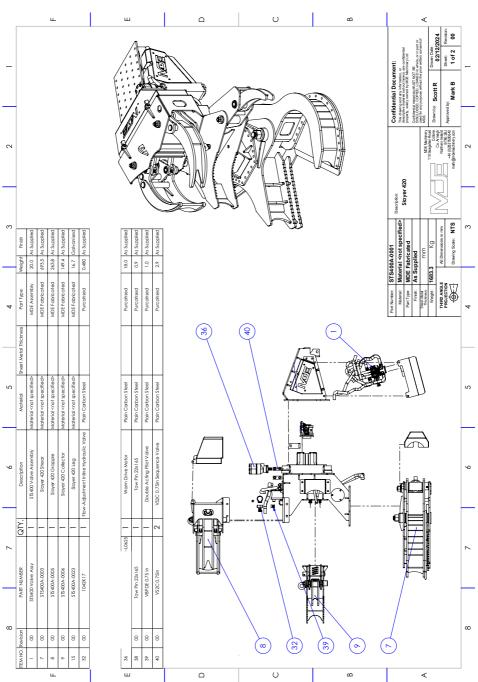
Lubrication system worm gear drive (optional)

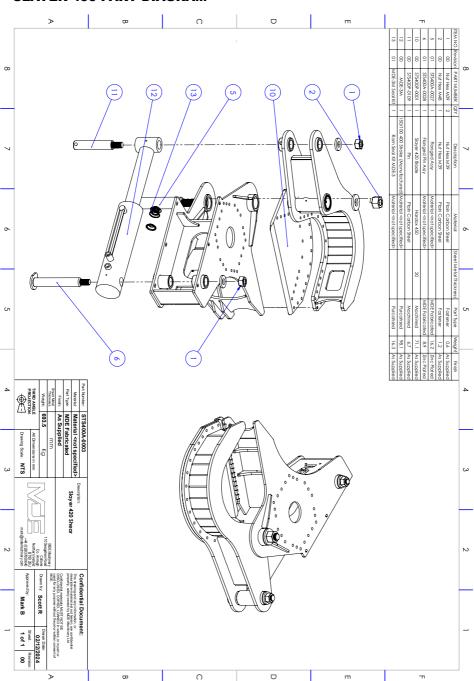
The automatic lubrication system, supplies the worm gear drive of the Titator with lubrication grease. Lubrication is hydraulically controlled - when the oil motor is pressurised, lubrication grease is simultaneously pressed into the worm gear drive.

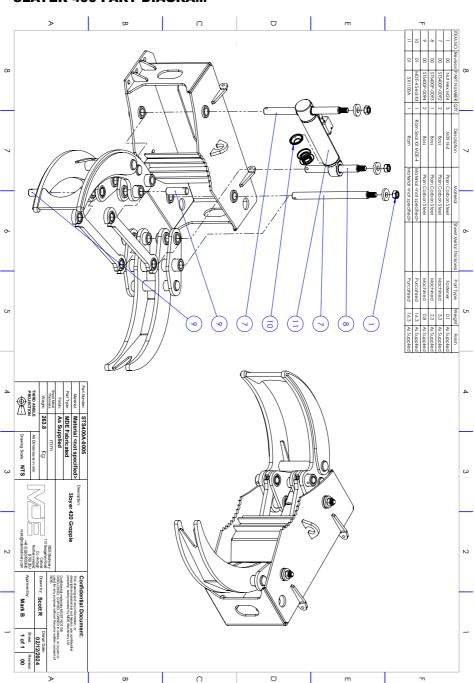
The automatic lubrication system only supplies the worm gear drive with lubrication grease, the bearing of the worm gear shaft must be lubricated manually according to the lubrication schedule.

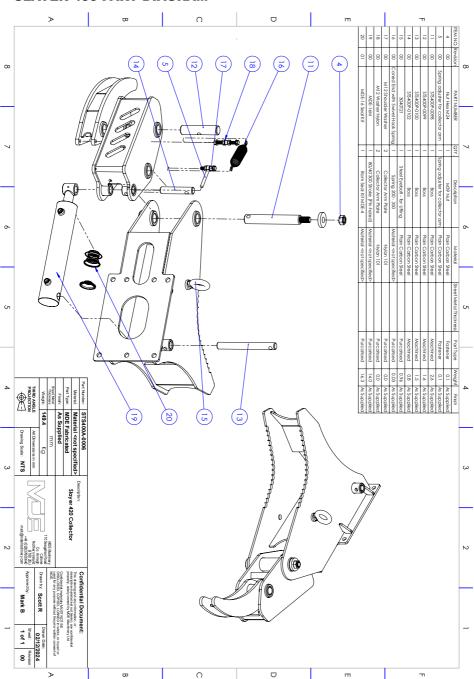
SLAYER SPECIFICATION

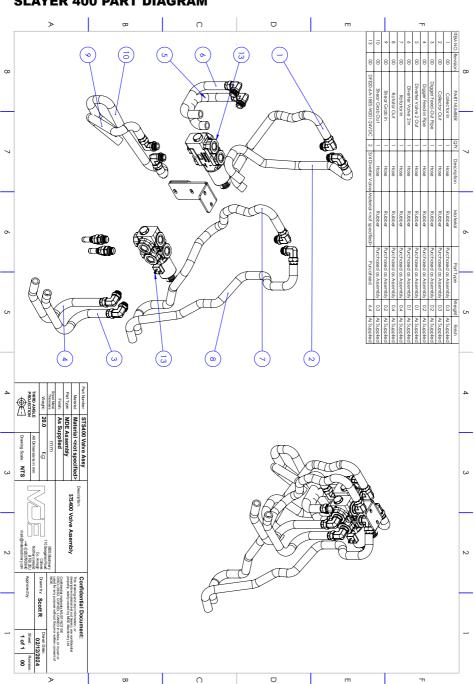
	070 100
	STS -400
SPECIFICATION	
Excavator Size (tonne)	14 - 26
Excavator Size (lbs)	30,864 - 57,320
Weight from (kilogram/lbs)	1,132 / 2,495
Weight to (kilogram/lbs)	1,415 / 3,119
Cutting Diameter (mm/inch)	400 / 16"
Pressure (bar)	250 - 300
Flow (litre)	80 - 110
Flow (US gallon)	21.13 - 29.05
OPTIONS	
360° Tilt Unit	igotimes
Smart Grip Collector	igotimes
OPERATING VEHICLE	
Excavator	igoremsize
Skid Steer	⊗
Telehandler	⊗
Mini Loader	⊗
Crane	8











WARNING STICKERS











! CAUTION

Mechanical Hazard

Shelf has sharp edges **AVOID CONTACT**



STAY CLEAR OF **MOVING MECHANISM**































INSPECTION / SERVICE RECORD

Notes

Work Carried Out	Date	Hours	Completed
Guard Inspection			
Blade Inspection			
Blade Bolts Torqued			
Arm Inspection			
Grease Used			
All Bolts Torqued			
Hydraulic Hose Inspections			
Hydraulic Fitting Inspections			
Visual Check Over			
Notes			

Work Carried Out	Date	Hours	Completed
Guard Inspection			
Blade Inspection			
Blade Bolts Torqued			
Arm Inspection			
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Hydraulic Fitting Inspections			
Visual Check Over			