

**IM1870**

***WREN***  
**2.7 & 3.1**  
**Compact Flail Mower**

Instruction Book & Replacement Parts Listing  
Issue No: 2

## **IMPORTANT**

NOTE HERE THE SERIAL NUMBER OF YOUR MACHINE AND ALWAYS QUOTE IT IN ANY COMMUNICATION WITH US OR YOUR DEALER. THIS IS PARTICULARLY IMPORTANT WHEN ORDERING SPARES. REMEMBER TO INCLUDE ALL NUMBERS AND LETTERS.

MACHINE SERIAL NUMBERS \_\_\_\_\_

THE INFORMATION GIVEN THROUGHOUT THIS MANUAL IS CORRECT AT THE TIME OF PUBLICATION. HOWEVER, IN THE COURSE OF CONSTANT DEVELOPMENT OF BOMFORD TURNER MACHINES, CHANGES IN SPECIFICATION ARE INEVITABLE. SHOULD YOU FIND THE INFORMATION GIVEN IN THIS BOOK TO BE AT VARIANCE WITH THE MACHINE IN YOUR POSSESSION, YOU ARE ADVISED TO CONTACT THE BOMFORD TURNER SERVICE DEPARTMENT WHERE UP-TO-DATE INFORMATION WILL BE PROVIDED.

THE MANUAL CAN CONTAIN STANDARD AND OPTIONAL FEATURES AND IS NOT TO BE USED AS A MACHINE SPECIFICATION.

THE MACHINE HAS BEEN TESTED AND IS CONSIDERED SAFE IF CAREFULLY USED. ENSURE YOUR OPERATOR IS PROPERLY TRAINED IN ITS USE AND MAINTENANCE.

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## **IMPORTANT**

NOTEZ ICI LES NUMEROS DE SERIE DE VOTRE MACHINE ET MENTIONNEZ LES DANS TOUTE COMMUNICATION AVEC NOS SERVICES OU VOTRE REVENDEUR. CECI EST IMPORTANT POUR LA COMMANDE DE PIECES DETACHEES. PENSEZ A NOTER TOUS LES NUMEROS ET TOUTES LES LETTERS.

NUMEROS DE SERIE DE LA MACHINE \_\_\_\_\_

LES INFORMATIONS DONNEES DANS CE MANUEL SONT CORRECTES CEPENDANT, DU FAIT DE DEVELOPPEMENT CONSTANT DES MACHINES BOMFORD TURNER.

CHANGEMENTS DANS LES CARACTERISTIQUES SONT INEVITABLES.

SI VOUS TROUVEZ QUE LES INFORMATIONS DONNEES NE CORRESPONDENT PAS A VOTRE MACHINE VEUILLEZ CONTACTER LE SERVICE DES REPARATIONS OU DES INFORMATIONS PLUS RECENTES VOUS SERONT DONNEES.

CE MANUEL PEUT MONTRER DES CARACTERISTIQUES OPTIONNELLES ET NE PEUT PAS ETRE CONSIDERE COMME SPECIFICATION DE LA MACHINE.

CETTE MACHINE A ETE TESTEE, ET ELLE EST CONSIDEREE COMME FIABLE A CONDITION D'UNE BONNE UTILISATION. ASSUREZ-VOUS QUE VOTRE OPERATEUR EST QUALIFIE EN CE QUI CONCERNE L'UTILISATION DE LA MACHINE AINSI QUE SON ENTRETIEN.

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## **WICHTIG**

TRAGEN SIE HIER DIE SERIENNUMMERN IHRER MASCHINE EIN UND GEBEN SIE DIESE IMMER AN, WENN SIE SICH AN UNS ODER IHREN HÄNDLER WENDEN. DAS IST BESONDERS BEI ERSATZTEILBESTELLUNGEN WICHTIG. VERGESSEN SIE NICHT, ALLE ZAHLEN UND BUCHSTABEN ZU NOTIEREN.

SERIENNUMMERN DER MASCHINE \_\_\_\_\_

DIE ANGABEN INDIESEM HANDBUCH SIND BEI VERÖFFENTLICHUNG KORREKT. AUFGRUND DER KONSTANTEN WEITERENTWICKLUNG VON BOMFORD TURNER MASCHINEN SIND JEDOCHÄNDERUGDEN IN DER SPEZIFIKATION UNVERMEIDLICH. WENN DIE INFORMATION IN DIESEM HANDBUCH NICHT MIT IHRER MASCHINE ÜBEREINSTIMMEN, NEHMEN SIE BITTE KONTAKT MIT DER BOMFORD TURNER KUNDENDIENSTABTEILUNG AUF, DIE IHNEN GERNE DIE AKTUELLEN INFORMATION ZUKOMMEN LÄSST.

DAS HANDBUCH KANN SOWOHL BESCHREIBUNGEN FÜR DIE STANDARD AUSFÜHRUNG ALS AUCH FÜR ZUBEHÖR ENTHALTEN UND IST NICHT ALS MASCHINENSPEZIFIKATION ZU VERWENDET.

DIE MASCHINE IST GETESTET UND BEI SACHGEMÄSSEM BETRIEB ALS SICHER BEFUNDEN WORDEN. SORGEN SIE DAFÜR, DASS IHR BEDIENPERSONAL IN ANWENDUNG UND WARTUNG RICHTIG GESCHULT WIRD.

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**THIS MANUAL IS TO BE HANDED TO THE  
CUSTOMER BEFORE THE MACHINE IS USED FOR  
THE FIRST TIME.**

All dimensions and capacities mentioned in this book are approximate. In pursuance of the Company's policy of constant development, the right is reserved to depart, without notice, from any detail illustrated or specified in this book, without incurring the obligation to provide such modifications on machines previously delivered.

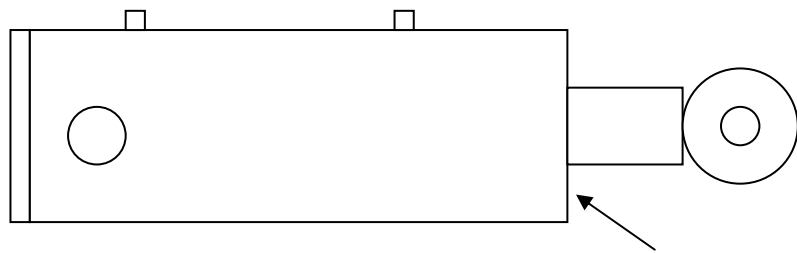
Bomford Turner Limited will accept no responsibilities for any injury, damage or loss arising from the improper use or lack of maintenance of any machinery supplied by them. Or, from any failure of the user to comply with all instructions published by tractor or loader manufacturers, particularly with regard to maximum load capacities, tyre pressures and stability, or with instructions and regulations pertaining to tractor cabs.

## RAM IDENTIFICATION

When ordering SEAL SETS, RAM PARTS etc. please follow the simple guidelines below to ensure receipt of COMPATIBLE PARTS.

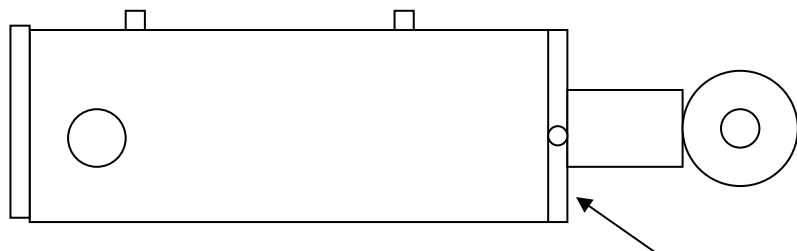
Examine the ram in question at the GLAND NUT.  
It will be one of THREE TYPES.

### TYPE 'A'



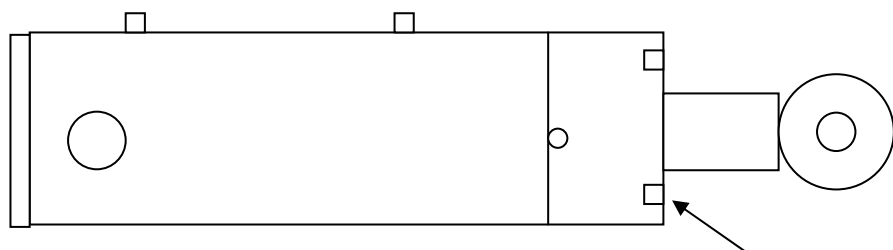
Gland nut internal and flush

### TYPE 'B'



Gland nut external and same diameter as cylinder

### TYPE 'C'



Gland nut is "large cast collar type"

**WHEN ORDERING PARTS,  
STATE WHETHER TYPE 'A', 'B' OR 'C'**

This does **NOT** apply when a **COMPLETE RAM** is required, since all ram types are **FULLY INTERCHANGEABLE**.

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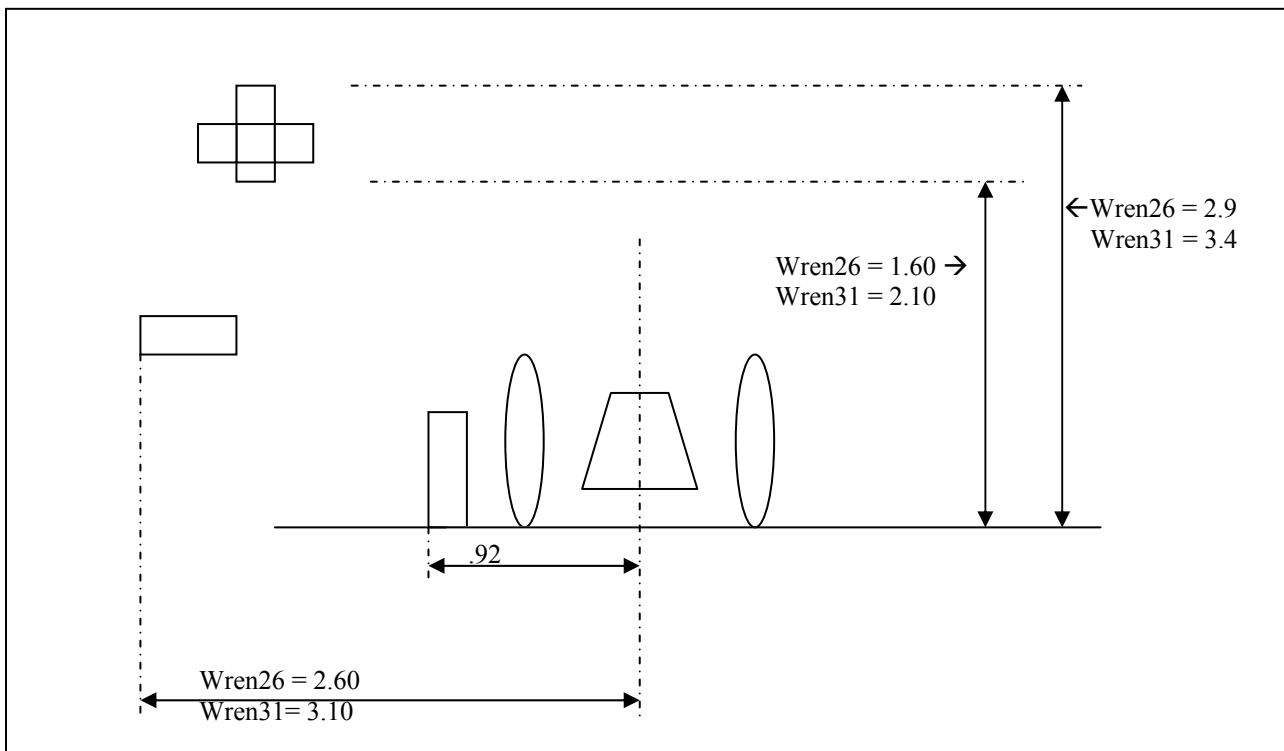
## SPECIFICATION

### Wren 2.7m & 3.1m Compact Flail Trimmer

Overall Height – machine folded for transport	(2.7m machine) = 1.600m (3.1m machine) = 1.900m
Overall Width – machine folded for transport	(2.7m machine) = 1.570m (3.1m machine) = 1.570m
Overall Length of machine (less PTO shaft (taken from linkage pin hole centre)	(2.7m machine) = 0.750m (3.1m machine) = 0.750m
Total Weight of machine	(2.7m machine) = 322 KGs (3.1m machine) = 341 KGs

#### AIRBORNE NOISE EMISSIONS

The equivalent continuous A – weighted sound pressure level at the workstation (tractor seat) is 88dB (A). This value was achieved cutting hedges using a Dawe 1405C Sound Meter (BS3489) on a Kubota B1750 tractor without a cab.



**NOTE:** All weights, dimensions and details are approximate and are for guidance only.

## GENERAL INFORMATION

**NOTE:** The provision of this information is a requirement of the Health & Safety at Work Act 1974.

**NOTE:** This handbook has been designed to help the Operator and Service/Mechanic to use and understand the machine fully, safely and efficiently, bearing in mind the Health & Safety requirements and the CE requirements which came into force in January 1995.

**NOTE:** The handbook/manual will include its own part number, which includes information as to machine type and issue date of the manual.

### **DANGER**

**NOTE:** It is very important that the handbook/manual has been read thoroughly – throughout, and is completely understood before attempting to attach or use the machine in any way.

**CAUTION:** When ordering spares, please state clearly:-

- a Machine type and model number
- b Part number of component
- c Description of component
- d Quantity required
- e Full address to which spares are to be sent
- f Method of delivery required

**CAUTION:** Always insist on genuine and correct spare parts.

**NOTE:** Further copies of this handbook/manual can be obtained from:

**BOMFORD TURNER LIMITED  
SALFORD PRIORS  
EVESHAM  
WORCS  
WR11 5SW**

**TELE: 01789 773383**

**Fax: 01884 255189**

**Email: [sales@bomford-turner.com](mailto:sales@bomford-turner.com)**

## SAFETY NOTES AND WARNINGS

Throughout the handbook, the following sub-headings are used to draw attention to various points of importance:



DANGER  
WARNING

Never attempt to assemble, couple up, or operate machinery until you understand fully the functions, controls and safety precautions required, as shown in the operators manual.

This is to draw attention to very important instructions, which MUST be followed precisely to avoid injury or death.

### CAUTION

This is used to draw attention to instructions that MUST be followed to avoid damage to Operator, machine, process or the environment.

### NOTE

This is used to highlight points used for supplementary information.



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## ABOUT THIS MACHINE

This is a Hedgetrimmer of the type known throughout the Agricultural Industry as a “Flail Type” Hedgetrimmer.

It is intended to be attached to a compact tractor from 11kW upward by means of the “three-point-linkage” couple-up system. The addition of an “A” frame, which acts as a lock-frame, ensures a rigid system.

The purpose for its production, and its sole intention, is to cut/trim hedges, banks, verges etc.

**AT NO TIME** must this machine be used for anything other than, or to do any job – other than that for which it has been designed (see note above).

## HEALTH & SAFETY



DANGER  
WARNING

Never attempt to assemble, couple up, or operate machinery until you understand fully the functions, controls and safety precautions required, as shown in the operator's manual.



DANGER  
WARNING

Always follow tractor safety operations and instructions **VERY** carefully.

**NEVER TAKE RISKS**



DANGER  
WARNING

**NEVER LEAVE TRACTOR SEAT WHILST ENGINE, OR MACHINE, IS RUNNING**



DANGER  
WARNING

**NEVER USE HEDGETRIMMER JIB/BOOM AS A CRANE IN ANY FORM**



DANGER  
WARNING

It may be found necessary to stabilise the whole unit once coupled together – by ballasting tractor rear wheels and/or fitting counter-balance weights to tractor.

Tractor rear wheels could also be set out to a wider track setting as a method of increasing stability (check with agent).

### **CAUTION**

Be aware of warning stickers and instruction stickers on machine as care must be taken and instructions obeyed.

**CAUTION**

Contact your dealer should you need advise, assistance, or if you do not understand the manual or machine.  
**NEVER ASSUME – if not sure ASK.**

**CAUTION**

Machine **MUST NOT** be altered or modified in any way without permission. No liability will be accepted in respect of machines that have been modified without the manufacturer's permission.



DANGER  
WARNING

Never drive machinery at speeds that could cause danger to other persons or properties or in a manner that may cause accidents.



DANGER  
WARNING

Never attempt to service/adjust or work on any machinery in an unsupported state.

For example: any three-point linkage mounted machinery  
front loaders  
digger booms  
hedgetrimmer booms etc

Always ensure that the wheels of any wheeled implement/machinery are “chocked” firmly and implement will not move, before attempting to service or work on in any way or form.

**CAUTION**

Always **switch off** tractor engine before attempting to carry out adjustment or service repairs and inspections on machinery.



DANGER  
WARNING

Always be aware of your surroundings and operate machinery accordingly. Beware of confined, tight areas, low height restrictions, building and overhangs etc. Also, drive and operate bearing in mind weather conditions such as sun, rain, ice, snow, wind etc (make allowances in all situations).

### **CAUTION**

Never operate in a reckless or uncaring manner. Respect other road users and be patient.

### **HIGHWAY USE:**

When operating machinery on the highways, the local “Highways Department” should be consulted for approval and notification as rules and regulations vary from area to area.

**Highways Department regulations must be followed.**

### **NOTE:**

In general, it is expected that the “tractor/implement will follow (with) the flow of traffic” – but local highway rules will confirm this.

Always use “STOP/GO” boards, or whatever system the local Highways Department advise, and ensure these are positioned correctly in relation to machine operating area.

Have respect for passing traffic and keep passing-lane free from obstruction.

Allow time for walkers and cyclists to clear the site. Also, when using on the highway, consult the “lighting regulations” for correct procedure.

### **CAUTION**

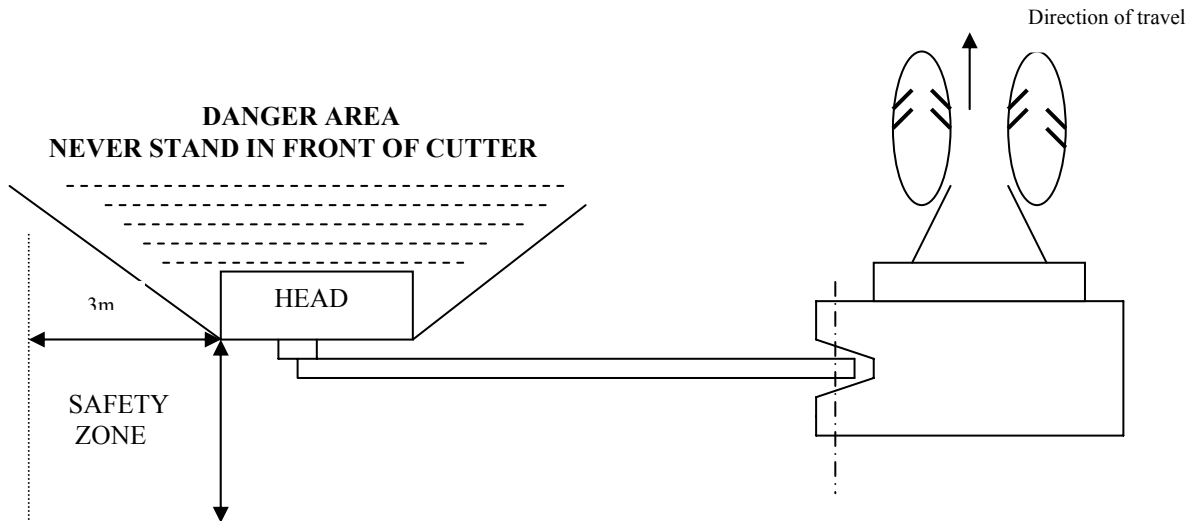
Never carry “passengers” on machinery or on the tractor.

Ensure bystanders/onlookers are kept well away from operational area of apparatus.

**NOTE:**

**NEVER ALLOW ONLOOKERS/BYSTANDERS TO STAND IN FRONT OF THE CUTTER HEAD IN LINE WITH FLYING DEBRIS.**

**A sideways and rearward “NO GO” area should also be kept (see sketch below).**

**CAUTION**

Never operate cutting rotor with blades looking towards operator or towards others.

Cutters must always be operated so that debris is directed towards hedge or bank/verge etc. and away from operators and bystanders.

**CAUTION**

**Never** walk underneath the machine for any reason, especially if unit is still in operation.

**CAUTION****“PARKING-UP” MACHINE**

When machine is being removed from tractor linkage and being “parked-up”, it is essential that a good, firm base and level site be found.

Always chock and prop machine to ensure a good, firm position to leave it parked. Ensure that stand-legs of machine are correctly locked into position.

**CAUTION**

**Never** allow children to play on or around parked machinery.

**CAUTION**

**Never** wear loose-fitting or ragged clothing that could get caught in machinery or controls.



DANGER  
WARNING

Always ensure safety screens and mesh guards are fitted to the tractor between the cutting head and operator in a suitable position to give the operator maximum protection from flying debris.

**CAUTION**

Ensure visibility is clean through cab-screens at all times.

**CAUTION**

Ensure workstation controls, joysticks, cable levers etc are positioned correctly to suit operator and not getting in the way of other driving functions.

Make sure controls do not obstruct entry and exit to cab.

**CAUTION**

Always dispose of discarded or worn parts thoughtfully by disposing of them in an approved and specified legal scrap site, bin or skip.

**CAUTION**

Worn-out and spent waste oil, grease and other obnoxious substances must always be disposed of in suitable and legally-approved dumping containers suitable for the waste in question.

**CAUTION**

Ensure booms are folded onto rubber buffers (which are fitted) and that the whole machine is folded-in as close to the tractor as possible whilst transporting.

**CONTROL LEVERS (CABLE MACHINES)****AUTOMATIC SAFETY**

The control levers, which operate the hydraulic boom cylinders on the cable-control machines, will automatically centralise themselves in the “CENTRE/OFF” position as soon as the control lever is let go – thus preventing any chance of unwanted movement or over-run of booms.

**JOYSTICK CONTROL (ELECTRIC MACHINE)****AUTOMATIC SAFETY**

The electronic-proportional control model of hedge-trimmer, which has a single joystick as controller, will also go automatically to the “CENTRE/OFF” position immediately the joystick is released, cancelling all functions.

**JOYSTICK IS NATURALLY SPRUNG-LOADED TO NEUTRAL “CENTRE/OFF” POSITION**

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NOTES:

AMENDMENT

DATE

DETAILS



## GENERAL INSTRUCTIONS



DANGER  
WARNING

- 1 Before attaching any machine to a tractor or loader, make sure that the implement is standing firmly on a good, solid, level site.  
  
Check that any wheels are “chocked” correctly and the supports/props are in position where necessary to prevent booms etc dropping.
- 2 Before and during the manoeuvring of the tractor or vehicle, in order to attach machinery/ implements, make sure that no other persons are in the vicinity.  
  
Keep other persons well clear and make known your intentions, all the while keeping a sharp lookout whilst reversing and aligning machines for coupling up.
- 3 Always secure tractor into selected position by ensuring that brakes are applied correctly in order to prevent vehicle moving off on its own to cause injury and damage.
- 4 Make sure that the lift-arms and top link ball ends of the tractor are properly fitted to the machine/implement by using correct adaptor sleeves where necessary, and that retaining pins of the correct type are used on all three-point linkage points. Secure pins with relevant pin and ring assembly.
- 5 If the machine is of the drawbar type, check that the hitch on the tractor is in good condition and that the hitch-pin used is of the correct size and type, and is properly secured when fitted.
- 6 Should it become necessary to make any adjustments or service on the machine while it is raised on the tractor linkage, or raised on a front-end loader, trestles or suitable supports **must** be positioned to support machine to prevent accidental dropping of lift arms, loader arms or mechanical failure.  
  
MACHINE MUST ALWAYS BE PROPPED AND CHOCKED
- 7 Never attempt to work on, adjust or service repair machinery of any kind whilst it is still running or working. Always stop the machine and STOP THE TRACTOR ENGINE, before any service/repairs begin.

SWITCH OFF TRACTOR ENGINE BEFORE LEAVING TRACTOR SEAT

- 8 In transit, always use transport stays or locking devices where provided. If, as in the case of some longer machines, the unit is transported lengthways, make sure that the front of the tractor is suitably ballasted to maintain stability.

A method of achieving this would be to add suitable weights to a correctly specified and fitted front weight frame.

- 9 Always use machines in a sensible and reasonable manner and do not attempt to use them in work for which they are not intended. Avoid overloading and abusing them, as this can cause damage to machine and tractor and can be very dangerous.

- 10 When un-hitching/detaching a machine from a tractor three-point linkage, or from a front-end loader, ensure that any stands or legs are securely positioned and that the machine is parked where it will not be a safety hazard or cause annoyance to others

Make sure that you chose a parking site that is firm and level.

- 11 Carry out regular periodic maintenance. Always with safety in mind.

- 12 Ensure regular maintenance procedures are maintained for the lifetime of the machine.

- 13 **HEALTH AND SAFETY RULES AND REGULATIONS MUST BE ADHERED TO IN ALL AGRICULTURAL RESPECTS.**

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## INTRODUCTION

The Wren 2.7 & 3.1 Flail Trimmers are machines designed to fit to the small and medium compact tractors.

The 2.7 machine has a reach of approximately 2.7m and is suitable for tractors 11kW (16 HP) plus.

The 3.1 machine has a reach of approximately 3.1m and is suitable for tractors 15kW (20 HP) plus.

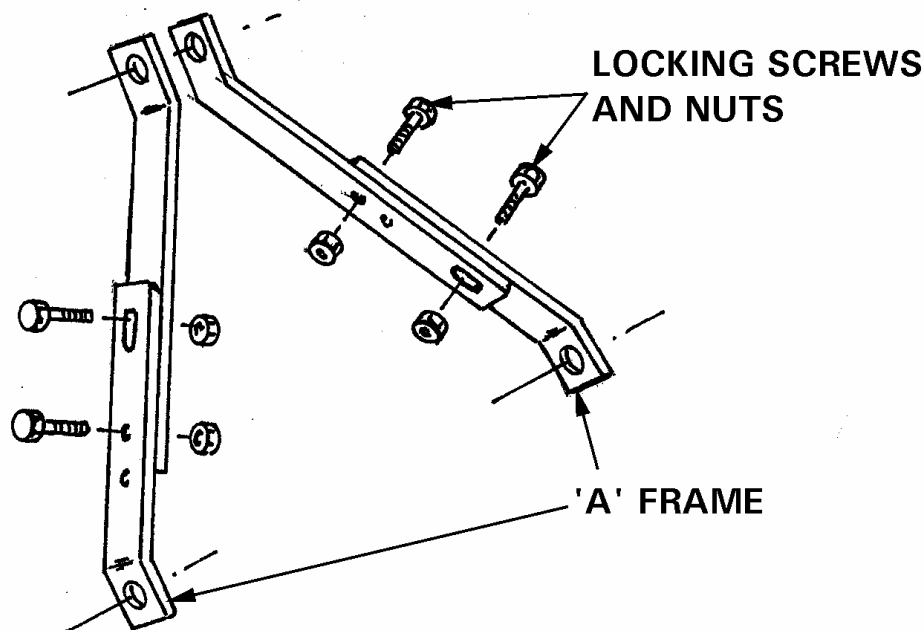
The two machines have basically common parts and assemblies; the sub-frame and cutting head being identical for both size machines as are the hydraulics and control system. The main booms do vary in length (being longer on the 3.1m machine) to give extra reach.

The fixing of Trimmer to tractor is standard three-point linkage with the addition of an 'A' frame to the linkage, which acts as a lock frame.

Only left-hand cut machines are available for the UK market.

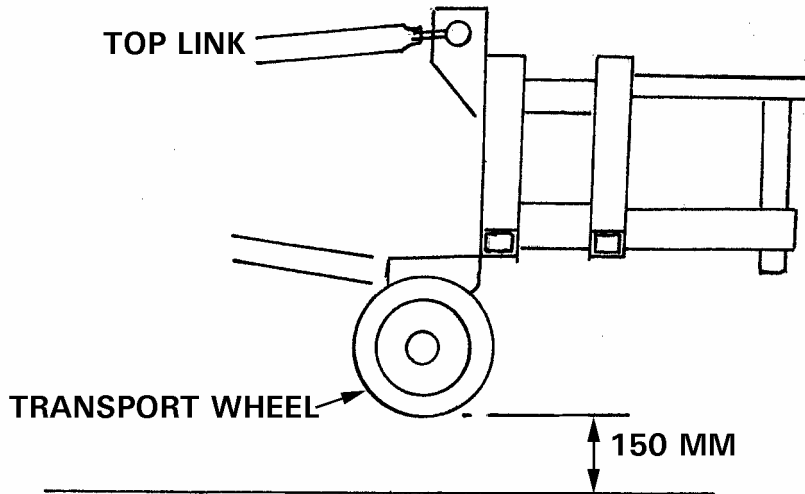
## ATTACHING HEDGETRIMMER TO TRACTOR

- 1 Select a good, level site with sufficient room to manoeuvre tractor and implement.
- 2 Position tractor on selected site, switch off engine and apply handbrake.
- 3 Using Flail Hedge Trimmer handlebar (in extended setting), position flail machine behind tractor (move on transport wheels) to such a position that three-point linkage of tractor and implement is aligned.
- 4 Move the Trimmer towards tractor and couple up the three-point linkage. Ensure all linkage pins are located and securing clips are fitted.
- 5 The three-point linkage lock 'A' frame should be attached at the same time as three-point linkage pins are fitted. This 'A' frame has 2 setting positions 'short' and 'long', this can be set prior to actually fitting to tractor and will vary depending on tractor size.

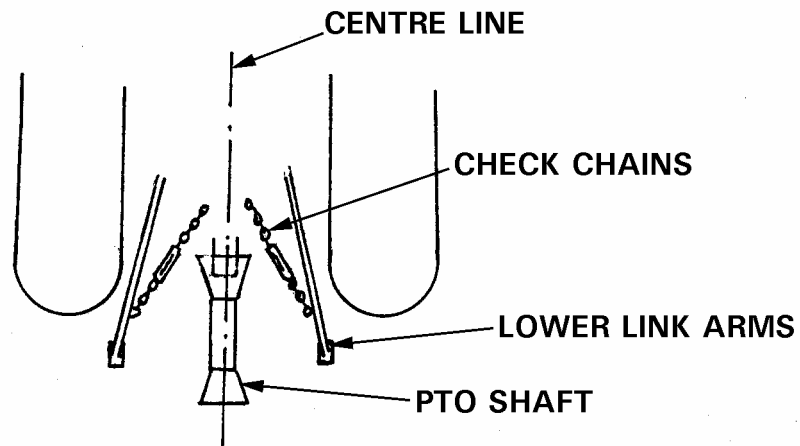


The 4 bolts (2 each side) of 'A' frame, once fitted to bars at chosen length setting position, **MUST** be left slack at this stage of the assembly.

- 6 With the linkage now coupled (tractor to implement), raise the Trimmer hydraulically on linkage to give a height under transport wheel to floor of 150mm. Ensure linkage 'A' frame chosen setting is correct whilst setting height.



- 7 Adjust tractor linkage levelling rod to ensure the Trimmer is parallel to the ground.
- 8 Adjust tractor tie-rods/check-chains to lock lower links ensuring P.T.O on machine is on centre line of tractor.



- 9 Tighten the 4 bolts through linkage lock 'A' frame (2 each side). This will totally stabilise linkage in required position.
- 10 Remove parking stand locating pin and clip, raise stand to maximum height setting and replace locating pin and clip at this setting.
- 11 Remove handlebar locating pin and clip – push handle in to minimum setting, replace locating pin and clip.
- 12 Move tractor hydraulic linkage control lever to down position and lock, this will allow the weight of the Trimmer to be taken on the now locked 'A' frame and linkage.

- 13 Couple the PTO drive shaft from Trimmer to tractor. **NOTE: It may be necessary to cut PTO shaft and guard to suit individual tractors.**

**ENSURE MALE-FEMALE SHAFTS DO NOT BOTTOM**

- 14 Fit protection mesh screen and polycarbonate guards to all tractors before using. When using tractors without a safety cab in addition to the mesh screen operators should wear a hard hat and protective visor and suitable protective clothing.
- 15 Mount the hydraulic control cables and levers to suit Operator.

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## **TRACTOR SELECTION FOR 2.7m & 3.1m MACHINE AND CHARACTERISTICS REQUIRED**

- 1 The tractor must be equipped with three-point linkage attachment facility.
  
- 2 The tractor must be equipped with a Power Take Off shaft, which must run at the generally accepted standard 540 r.p.m.  
  
The PTO shaft should run clockwise when looking at the rear of the tractor and, ideally, should be the 1 $\frac{3}{8}$ " SAE 6-splined shaft enabling standard PTO shaft to be fitted.
  
- 3 The tractor run-up power should be 11 kW (15 HP) for the 2.7m machine and kW (20 HP) for the 3.1 machine.

## FLAIL TRIMMER OPERATION INFORMATION

The vehicle driver should be conversant with all tractor controls and capabilities.

It is always advisable for the tractor driver to practice the controls and operations of the Flail Trimmer prior to setting off into work.

The speed of operation of Trimming will depend on the size, quality and type of growth to be cut. A slow speed to suit the conditions should be selected, ensuring that engine speed gives a P.T.O. speed of 540 r.p.m.

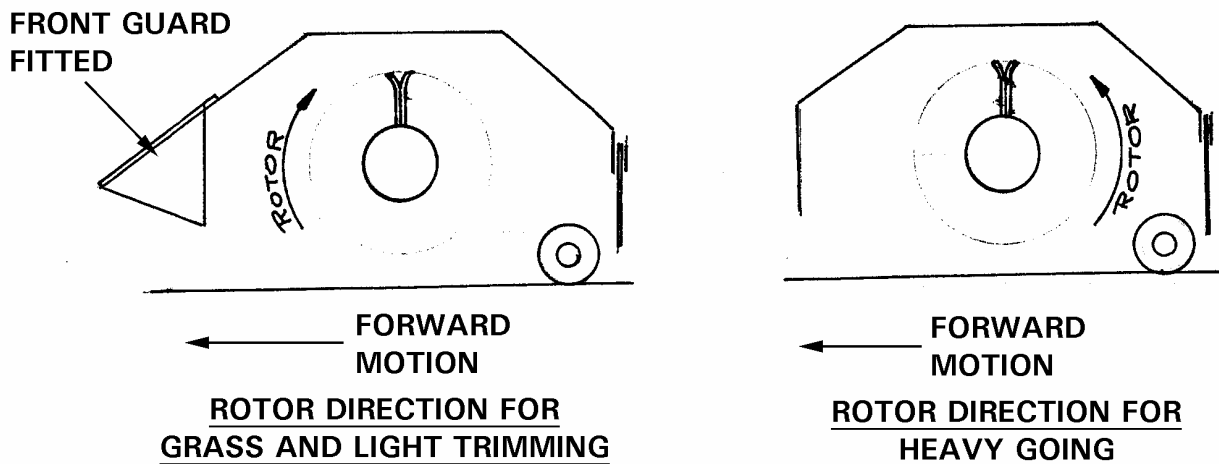
**IMPORTANT:** Always ensure tractor PTO speed is 540 r.p.m. to give correct rotor speeds.

Ensure the operator is suitably protected – see Page 19 – par. 13

### ROTOR ROTATION – DIRECTION

Depending on the type of hedge to be cut, an option of rotation direction is offered. The ‘Upward’ cut is recommended for trimming grass and light growth such as one/two years’ growth.

For heavier going, such as larger sticks and thick untrimmed hedges, the rotor must be set to cut ‘downwards’. In order for this downward cut to operate, the front cowl of the Flailhead must be removed.



**IMPORTANT** For cutting upwards, the cutting head front guard must be **FITTED**.

For cutting downwards, the cutting head front guard must be **REMOVED**.



## **CUTTING POSITION**

The cutting head must at all times must be lowered gently into the work position. Never drop the head into a hedge at speed.

When cutting at ground level (grass etc) the head must be lowered gently to give a slight contact pressure of roller to ground.

### **IMPORTANT:**

Ensure rotor and roller do not get involved in high obstacle forces such as rocks, stones, stumps etc. Keep rotor away and free from wire, as to entangle wire into the rotor can be very dangerous.

Should large obstacles be encountered or wire becomes entangled in the rotor STOP IMMEDIATELY. Reset or clear before restarting. DO NOT RUN ROTOR IN REVERSE DIRECTION TO CLEAR ITS SELF. Disengage PTO, stop tractor engine and remove ignition key before attempting to unblock or free a rotor.

Normal obstacles and level variations should be overcome by the operator reducing speed and raising or lowering the arms of the machine to suit.

## **CUTTING HEAD**


The rotor shaft has been balanced prior to fitting and this will ensure a vibration free cutting unit.

Should the rotor become blocked, hit an obstacle or loose a flail it may become unbalanced. This will result in vibration being transmitted through the head.

Should this happen STOP IMMEDIATELY, to continue could have serious consequences.

Once stopped clean rotor and check for loss of flails or bolts and replace if required.

In serious cases and as a result of hitting solid objects the rotor can be bent, this will obviously cause vibrations. In such cases the only answer will be to get the rotor shaft repaired and rebalanced or fit a replacement shaft.

**HYDRAULIC OILS****Approved Oils For Use In Bomford Turner Hydraulic Equipment**


ANTAR	-	Agria FM 10W/30
B.P.	-	Energol SHF 32 (ISO)
	-	Energol SHF 46 (ISO)
	-	Energol HLP 32 (ISO)
BRASWAY	-	HO.32V
CALTEX	-	Rando HD 46
	-	Five Star Motor Oil 10W
	-	RPM Delo 200 10W
CASTROL	-	Hyspin AWH 46 (not AWS 46)
	-	Hyspin AWH 68 (not AWS 68)
	-	Agricastral Multi-use 10W/30 (not 20/30)
	-	Agricastral Hydraulic Oil
CENTURY OILS	-	Nevis 10
COMMA OIL	-	Comma LIC 10 Hydraulic Oil
DALTON	-	Silkolene - Grade 219
DUCKHAMS	-	Fleetol Multilite 10W/30
	-	ZirconQ32
	-	Zircon 68
ELF	-	Multiperformance 2B 10W/30
	-	Olna 46
	-	Hydelf 32
	-	Hydelf 68
ESSO	-	Univis N46
FILTRATE	-	Hydraulic Oil 10W/30
FORD	-	M2C-48-C Multi-purpose Hydraulic Oil
GULF	-	Gulflube Motor Oil XHD 10W/30
	-	Gulf Hydrasil 32
	-	Multi G 10W/30
J.O. BUCHANAN	-	Alpha 'O' 10W/30
	-	Hydroil 66
LORCO	-	FVT 46 Fourfold Treated Hydraulic Oil
MOBIL	-	DTE 15
DTE 24	-	Delvac Special 10W/30
PETROFINA	-	Fina Delta Multigrade 10W/30
	-	Fina Hydran 32
	-	Fina Hydran 68
SHELL	-	Tellus T46
	-	Tellus T37
TEXACO	-	Rando AZ 32
	-	Rando CZ 68
TOTAL	-	Equivis ZS32
	-	Equivis ZS46

**TANDEM PUMP – GEARBOX**

The gearbox is filled with S.A.E. EP 90 oil. Oil of this grade must be used when “topping up”. The level should be checked regularly.

Drain and replace oil after 30/50 hours work and thereafter every 1000 hours or 12 months whichever is sooner.

Gearbox Capacity :- 125 cc

## ROUTINE MAINTENANCE & LAYING-UP



DANGER  
WARNING

Check oil level in main oil tank.  
Grease pivot points regularly.



DANGER  
WARNING

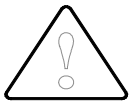
Keep the cutting blades VERY SHARP – daily inspection is required.



DANGER  
WARNING

Check all nuts and bolts for tightness.

### WEEKLY



DANGER  
WARNING

Check all hydraulic fittings and hoses

### LAYING-UP



DANGER  
WARNING

Clean the machine and note any damage or repairs needed. Arrange for spares and repairs as required. Prepare machine for next season.



DANGER  
WARNING

Fully lubricate the machine.



DANGER  
WARNING

Store the machine in dry, undercover conditions.

## HANDLING & TRANSPORTATION OF MACHINERY

The picture highlighted below indicates safe lifting points for the machinery.



The unladen weight of this machinery is given in the specification sheet of this book.

A form of lifting gear is required in order to move or handle this machinery safely. The lifting gear can be attached (using a chain, rope or strap of sufficient strength) to the positions shown above.

Once the machinery has been moved, ensure that it come to rest in a safe position. Supports or stay-bars may be necessary to ensure stability of the machinery. Make sure the supports/stay-bars are used whenever the machinery is transported.

## PARTS LIST

Always order Bomford genuine spares for your machine. They are correctly designed to give the best operational results.

When ordering spare parts, please specify:-

Type and Serial No. of machine  
Part No., description and quantity of spares required.

**Always** make sure that you have ordered a sufficient quantity to complete the job.

**Always** made sure that you have ordered the correct parts. In some instances, e.g. hydraulic rams, parts or assemblies are, in the course of time, modified due to introduction of new materials or improved design.

**Always** state by what means you wish the goods to be sent. In the absence of specific instructions, consignments will be sent by post or carrier, if it is not possible to deliver by our own transport.

**Always** state the number of our invoice or sales slip, and the reason for return, should it become necessary to return any items for exchange or credit.

**Remember** that we operate a Service Department for hydraulic equipment that means that we can normally supply, by return, complete serviced and tested replacements.

### WARRANTY AND SPARE PARTS

**All enquiries** regarding these machines are orders for spare parts must be addressed to

BOMFORD TURNER LTD  
SALFORD PRIORS  
EVESHAM  
WORCS  
WR11 5SW

TELE: 01789 773383

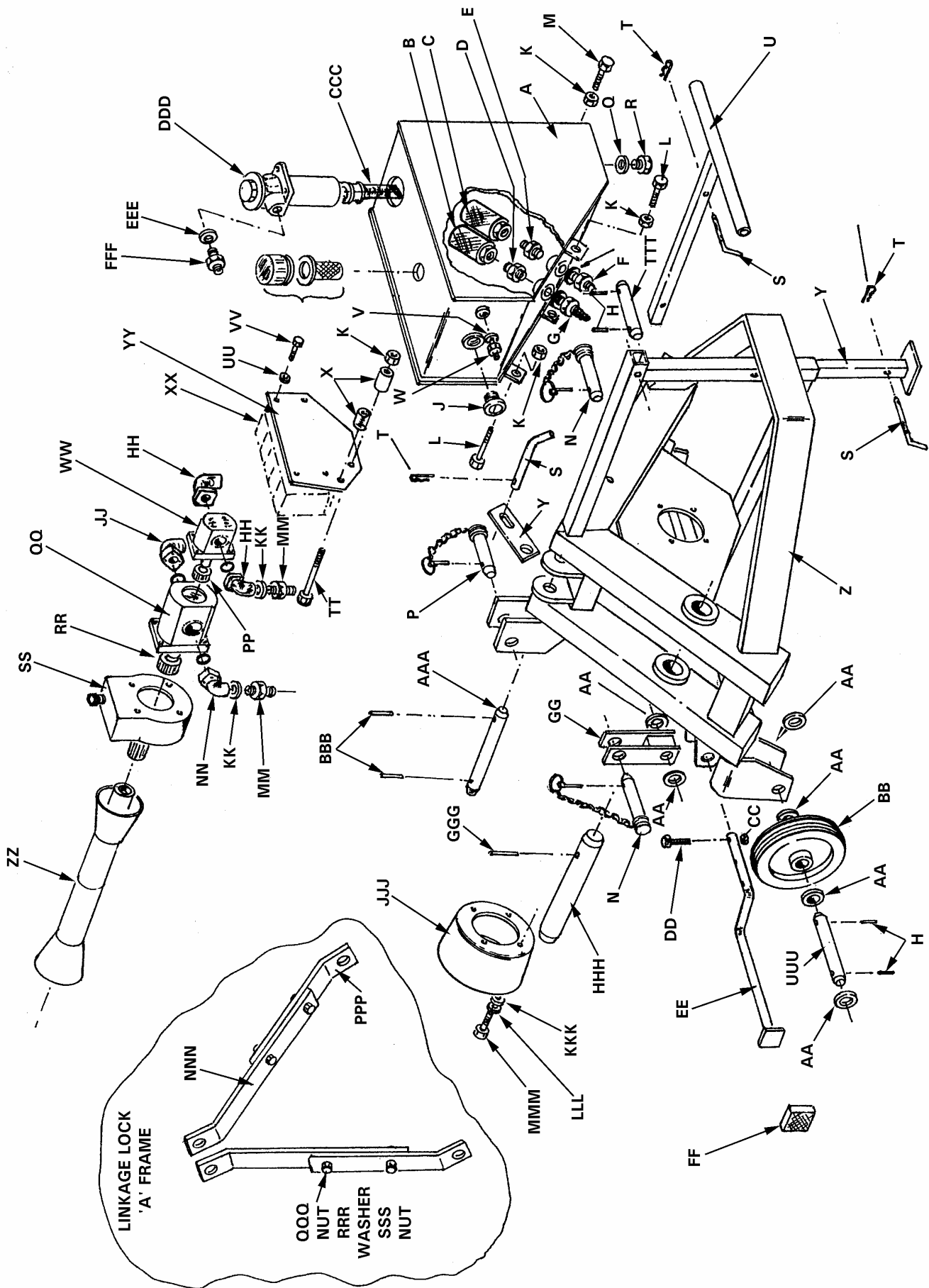
FAX: 01789 773238

Email: [sales@bomford-turner.com](mailto:sales@bomford-turner.com)

Website: [www.bomford-turner.com](http://www.bomford-turner.com)

**SUB-FRAME TANK SUNDRIES**

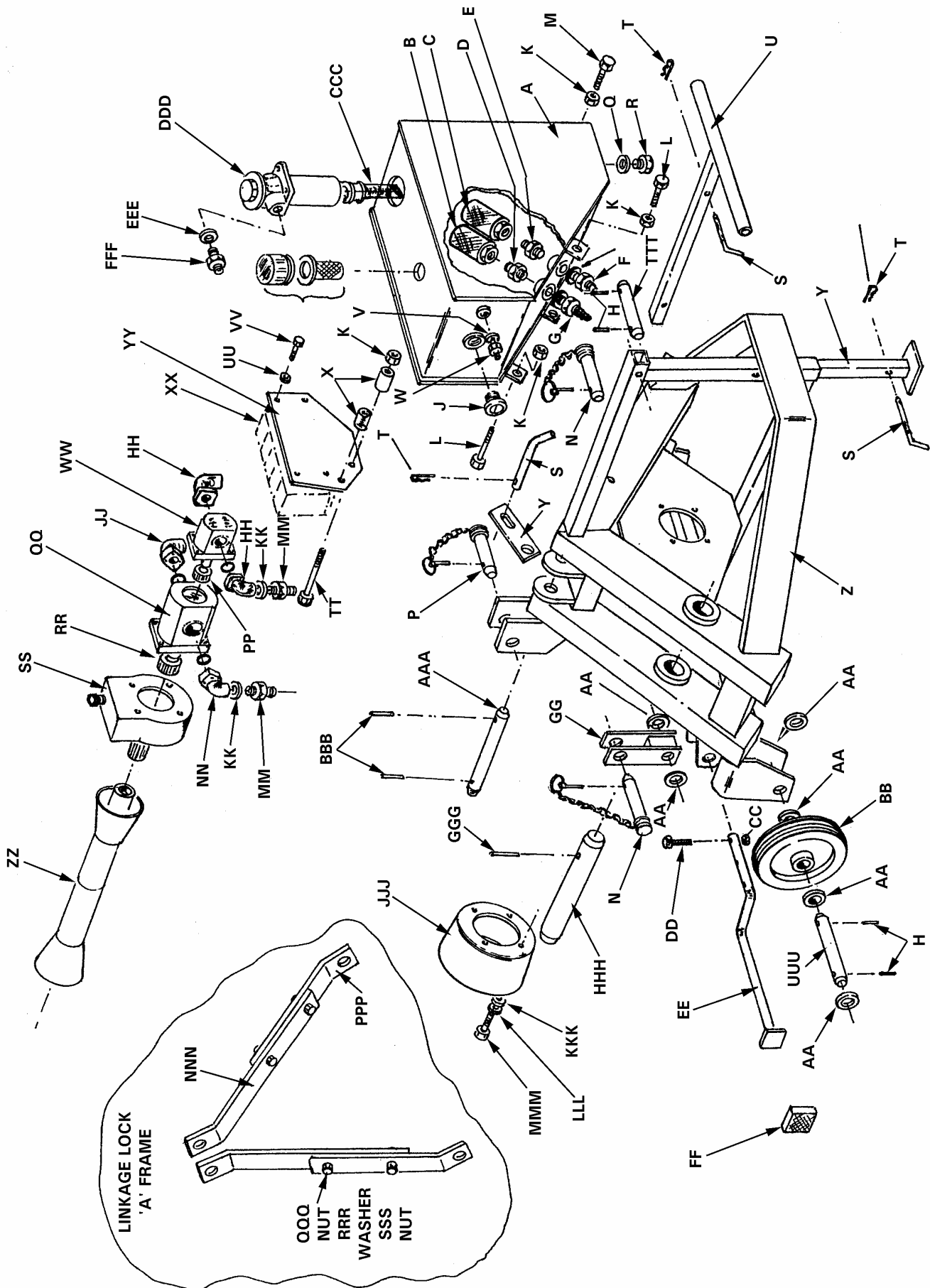
<b>Ref.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
A	178.005	Tank	1
B	6967	Filter	1
C	6968	Filter	1
D	1826	Adaptor	1
E	1836	Adaptor	1
F	6978	Hose (Schrader) 3/4" BSP x 3/4"	1
G	6977	Hose (Schrader) 1/2" BSP x 1/2"	1
H	3939	Groverlock M6 x 40	4
J	6966	Level Indicator (Bullseye)	1
K	3082	M12 Nyloc Stiffnut	6
L	3726	M12 x 120 (8.8) Bolt	3
M	2953	M12 x 100 (8.8) Bolt	1
N	0853	7/8" Pin, Chain, Linch-Pin and Ring Assembly	2
P	1657	3/4" Pin, Chain, Linch-Pin and Ring Assembly	1
Q	1670	3/8" BSP Seal	1
R	0920	3/8" BSP Plug	1
S	178.032	Transport Stay Pin	3
T	2435	'R' Clip	3
U	178.004	Handle	1
V	1181	1/4" Seal	1
W	1823	1/4" x 1/4" BSP Adaptor	1
X	178.054	Spacer for Valve Plate	2
Y	178.031	Transport Stay	1
Z	178.001	Mainframe	1
AA	6979	Flat Washer (M24) Form 'B'	10
BB	6963	Wheel	2
CC	4776	Stiffnut M6 Nyloc	1
DD	6981	M6 x 50 (8.8) Bolt	1
EE	178.028	Head 'Stop' Bar	1
FF	6964	Pedal Rubber	1
GG	178.002	Break-Back Link	1
HH	6974	Elbow IGQ12 c/w 'O' Ring	2
JJ	6975	Elbow 2G34 c/w 'O' Ring	1
KK	0909	Seal	2
LL	0934	Seal	1
MM	0914	Adaptor 1/2" BSP x 3/8" BSP	2
NN	6995	Elbow IG12	1
PP	6972	Coupling 2/1	1
QQ	6970	Pump CPL 16	1
RR	6976	Coupling MO 2/14	1
SS	6962	Gearbox MP2/M/3.8 (1:3.8)	1
UU	3001	M8 Spring Washer	4
VV	2793	M8 x 20 (8.8) Setscrew	4
WW	6971	Pump CPL 4.7	1
XX	6965	Valve Block	1
YY	178.053	Valve Block Plate	1
ZZ	4061	PTO Shaft complete	1
AAA	178.014	Pin (Main Boom, Anchor End)	1



Continued

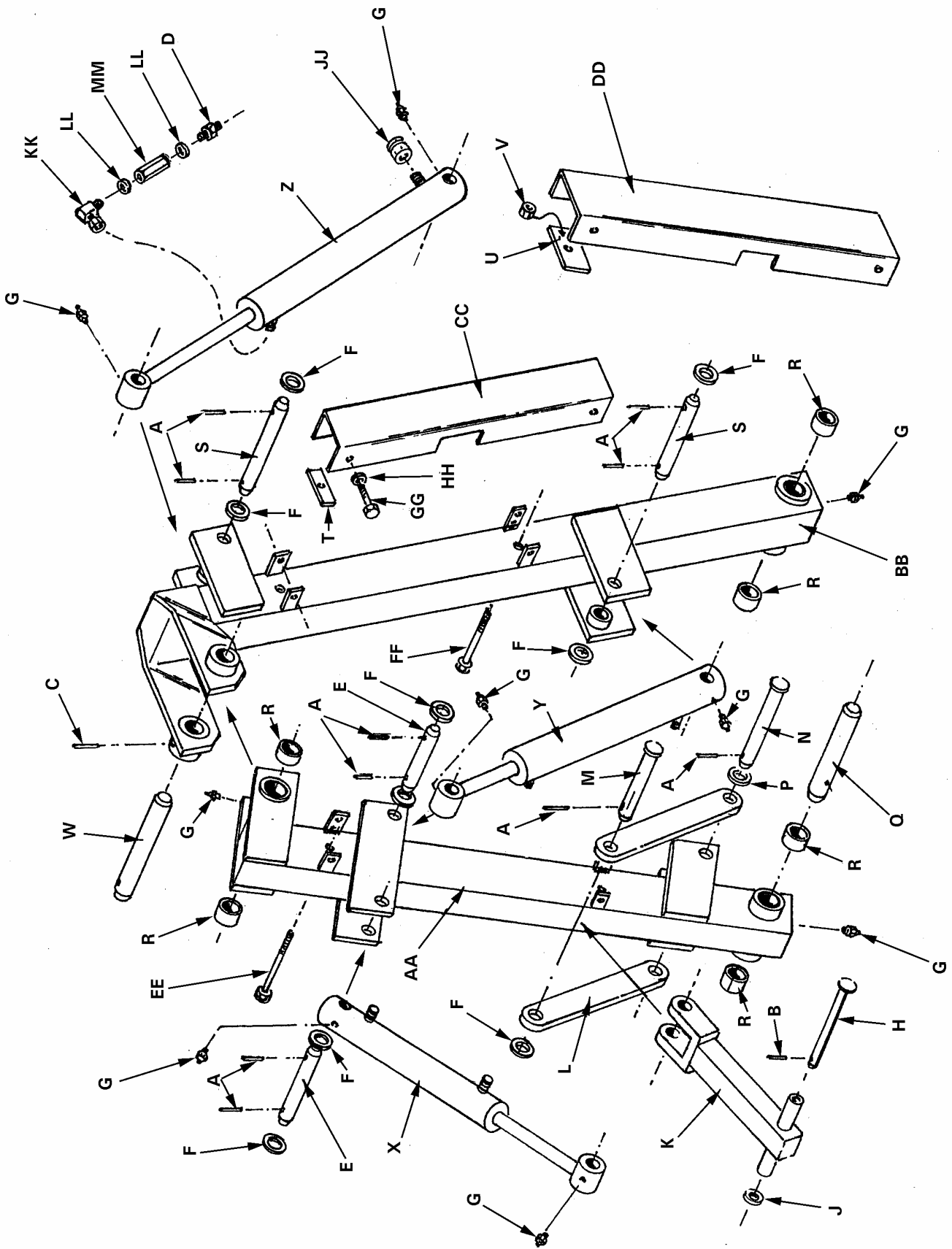
Ref.	Part No.	Description	Qty
BBB	3990	Groverlock Pin M6 x 30	2
CCC	178.010	Filter Drop Tube	1
DDD	4924	Filter (UCC)	1
EEE	3155	1 ¼" BSP Seal	1
FFF	5241	Adaptor 1¼" BSP x 1" BSP	1
GGG	6960	M8 x 55 Groverlock	1
HHH	178.011	Main Boom Pin	1
JJJ	6385	PTO Guard	1
KKK	3219	M10 Flat Washer	4
LLL	2728	M10 Spring Washer	4
MMM	2709	M10 x 20 (8.8) Flat Washer	4
NNN	178.030	Stay for List Arms	2
PPP	178.029	Stay for Lift Arms	2
QQQ	2720	Nut	4
RRR	2716	Washer	4
SSS	2748	Setscrew	4
TTT	178.021	Axle Pin (Short)	1
UUU	178.020	Axle Pin (Long)	1
<b>NOTE:</b>			
	6969	Tandem Pump complete	
		Comprising:-	
	6970	Pump (16)	1
	6971	Pump (4.7)	1
	6972	Coupling	1
<b>NOTE:</b>			
		Bolts for Pump Elbows:-	
		<b>For 6970 Pump CPL16:-</b>	
			4
	6994	M8 x 25 Caphead	
	3001	M8 Spring Washer	4
		<b>For 6971 Pump CPL4.7:-</b>	
	6992	M6 x 30 (8.8) Caphead	4
	6985	M6 x 45 (8.8) Caphead	4
	2731	M6 Spring Washer	8





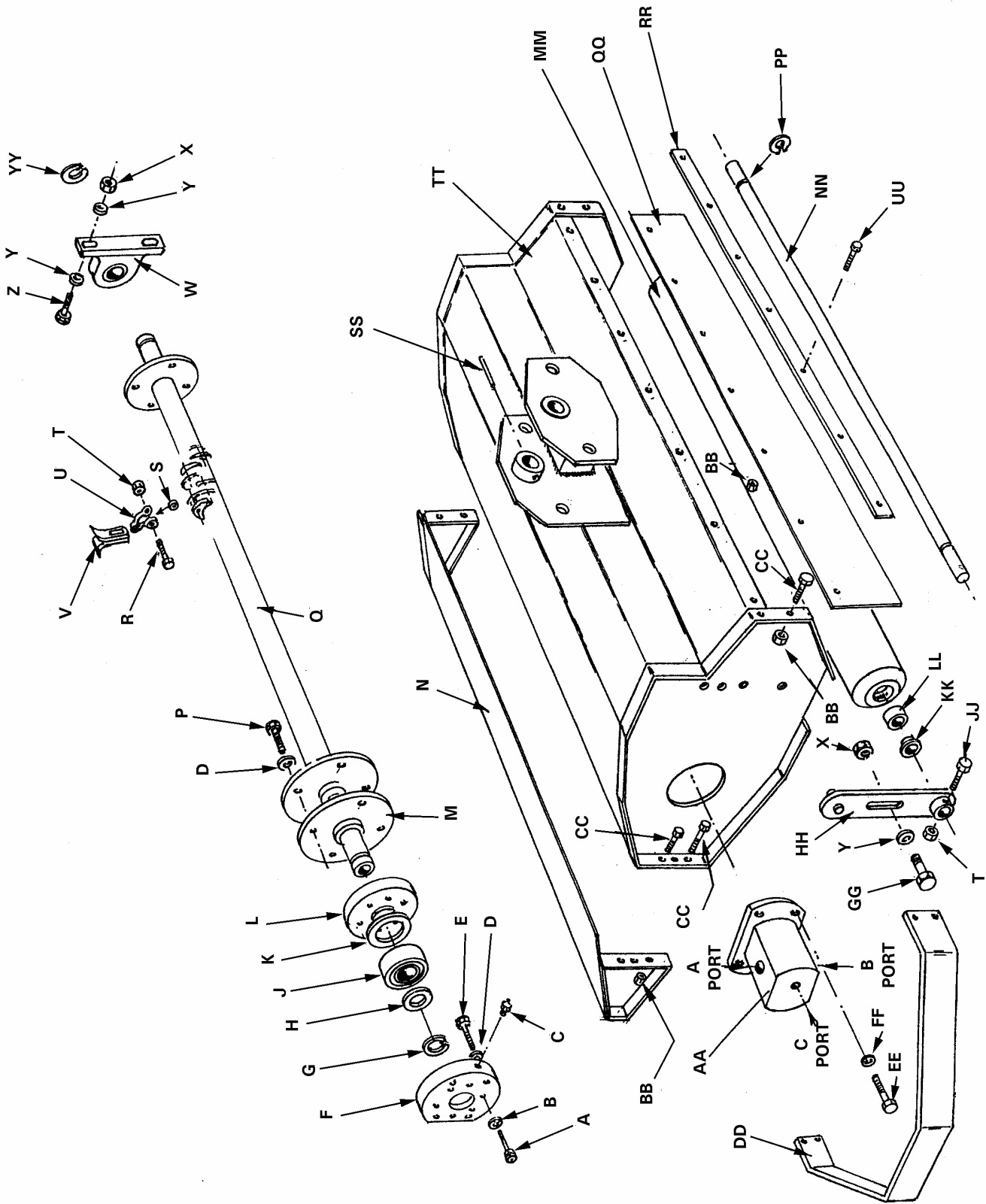
MAIN BOOMS etc.

Ref.	Part No.	Description	Qty
A	3939	M6 x 40 Groverlock	9
B	6351	M4 x 30 Groverlock	2
C	6960	M8 X 55 Groverlock	1
D	1180	Adaptor 3/8" BSP x 1/4"	1
E	178.014	Pin	2
F	6979	M24 Washer (Form 'B')	9
G	6956	M6 Straight Grease Nipple	9
H	178.019	Pin	1
J	2716	Washer	1
K	178.008	Head Angling Link	1
L	178.009	Link Plate	2
M	178.017	Pin – Head Andgling Ram (Rod)	1
N	178.018	Pin (Link Plate Pivot)	1
P	2716	Washer 12 O Bore	2
Q	178.013	Pin – Second Boom/Head Pin	1
R	6542	Bush 405M	6
S	178.015	Pin – Main Boom Ram (Rod End)	2
T	178.026	Clamp Plate	2
U	178.027	Clamp Plate	2
V	2732	Stiffnut M10	4
W	178.012	Pin – Main Boom/Second Ram	1
X	1780035	Ram	1
Y	1780034	Ram	1
Z	1780033	Ram	1
AA	178.007	Outer Boom 2.7	1
BB	178.006	First Boom 2.7	1
CC	178.022	Hose Cover (First Boom)	1
DD	178.023	Hose Cover (Outer Boom)	1
EE	4063	Bolt M10 x 130	2
FF	3139	Bolt M10 x 140	2
GG	4894	Setscrew M6 x 12	8
HH	2731	Washer M6	8
JJ	149.049	Breather c/w 'O' Ring	1
KK	6988	3/8" x 3/8" M/F Loosenut Short 90	1
LL	0670	3/8" Seal	2
MM	6986	Restrictor	1
<b>Booms for WREN 3.1</b>			
	<b>1<sup>st</sup> Boom</b>		
	178.059		
	<b>2<sup>nd</sup> Boom</b>		
	178.060		



**CUTTING HEAD AND ROTOR**

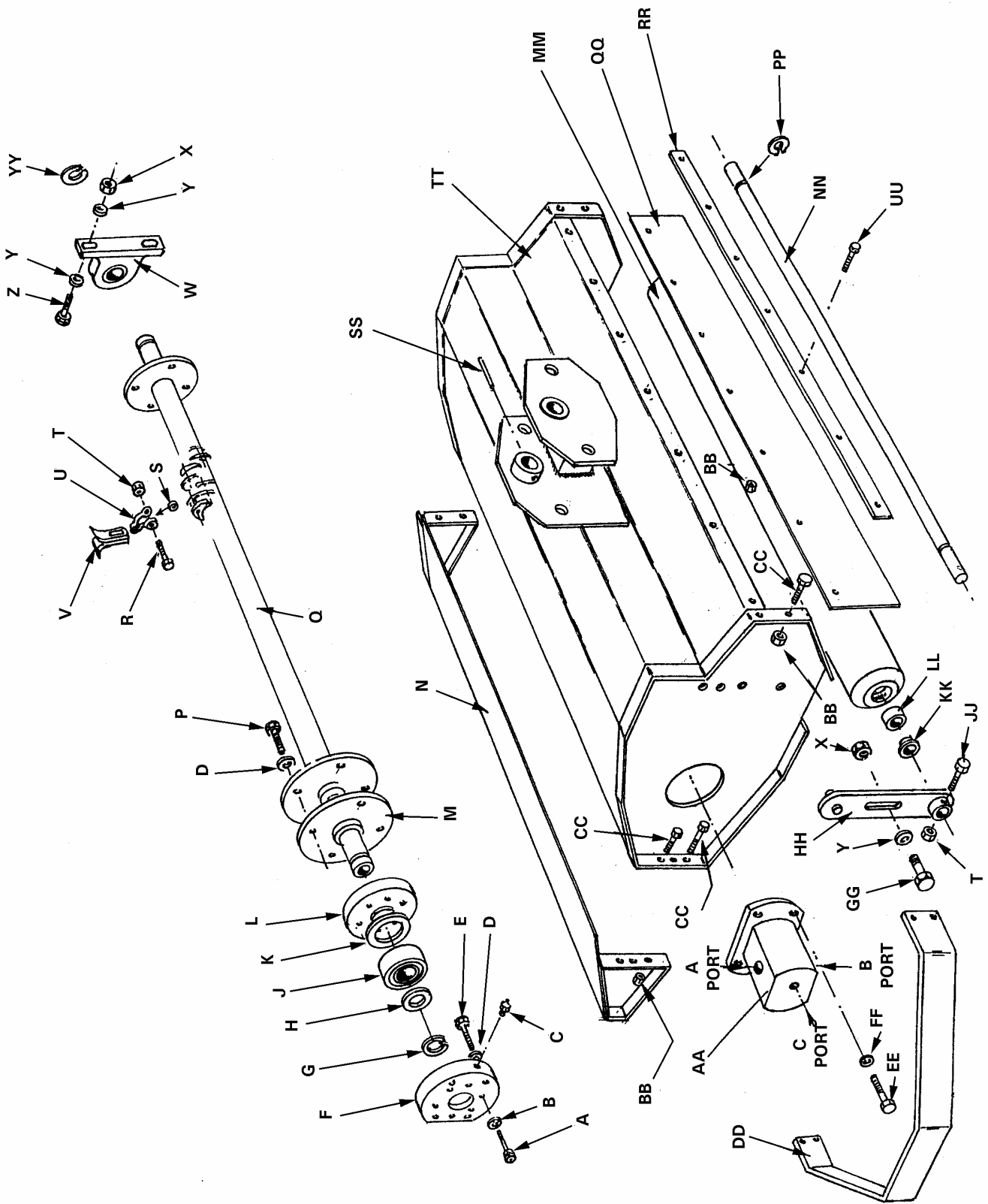
<b>Ref.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
A	6985	Caphead M6 x 45	4
B	2731	Spring Washer M6	4
C	6956	M6 Grease Nipple	1
D	2728	Spring Washer M6	4
E	2917	M10 x 25 (8.8) Setscrew	4
F	178.041	Motor Mounting Plate	1
G	6957	Circlip (Ext)	1
H	178.046	Special Washer	1
J	6959	Bearing	1
K	178.045	Spacer	1
L	178.044	Bearing End Cap	1
M	178.043	Drive Coupling	1
N	178.040	Head Extension	1
P	5573	Caphead Screw M10 x 20	4
Q	178.048	Rotor	1
R	3183	M8 x 48 (8.8) Bolt	36
S	178.061	Spacer for Shackle	36
T	7558	Stiffnut M8 Binx	36
U	1780037	Shackle	36
V	1780036	Blade	72
W	6958	Bearing	1
X	3082	M12 Stiffnut	4
Y	2716	Flat Washer M12	2
Z	2702	Bolt M12 x 60	2
AA	6961	Head Motor	1
BB	4776	Stiffnut M6 (Nyloc)	17
CC	2707	Setscrew M6 x 20	10
DD	178.047	Motor Guard	1
EE	3122	Setscrew M6 x 20	1
FF	3001	Motor Guard	4
GG	2950	Bolt	4
HH	178.039	Roller Bracket	2
JJ	3730	M8 x 40 (8.8) Setscrew	2
KK	178.051	Bearing Retaining Washer	2
LL	6939	Bearing (6004)	2
MM	178.049	Roller	1
NN	178.050	Roller Axle	1
PP	6398	Circlip (1400/20)	2
QQ	1780055	Curtain	1
RR	178.056	Clamp Strip	1
SS	6960	M8 x 55 Groverlock	1
TT	178.038	Head Assembly	1
UU	2913	Setscrew M6 x 16	7
VV	6980	Circlip 30	1
*	178.066	Rotor End Guard	2



**HEAD MOTOR 'PORTS'**

(the following items are not illustrated)

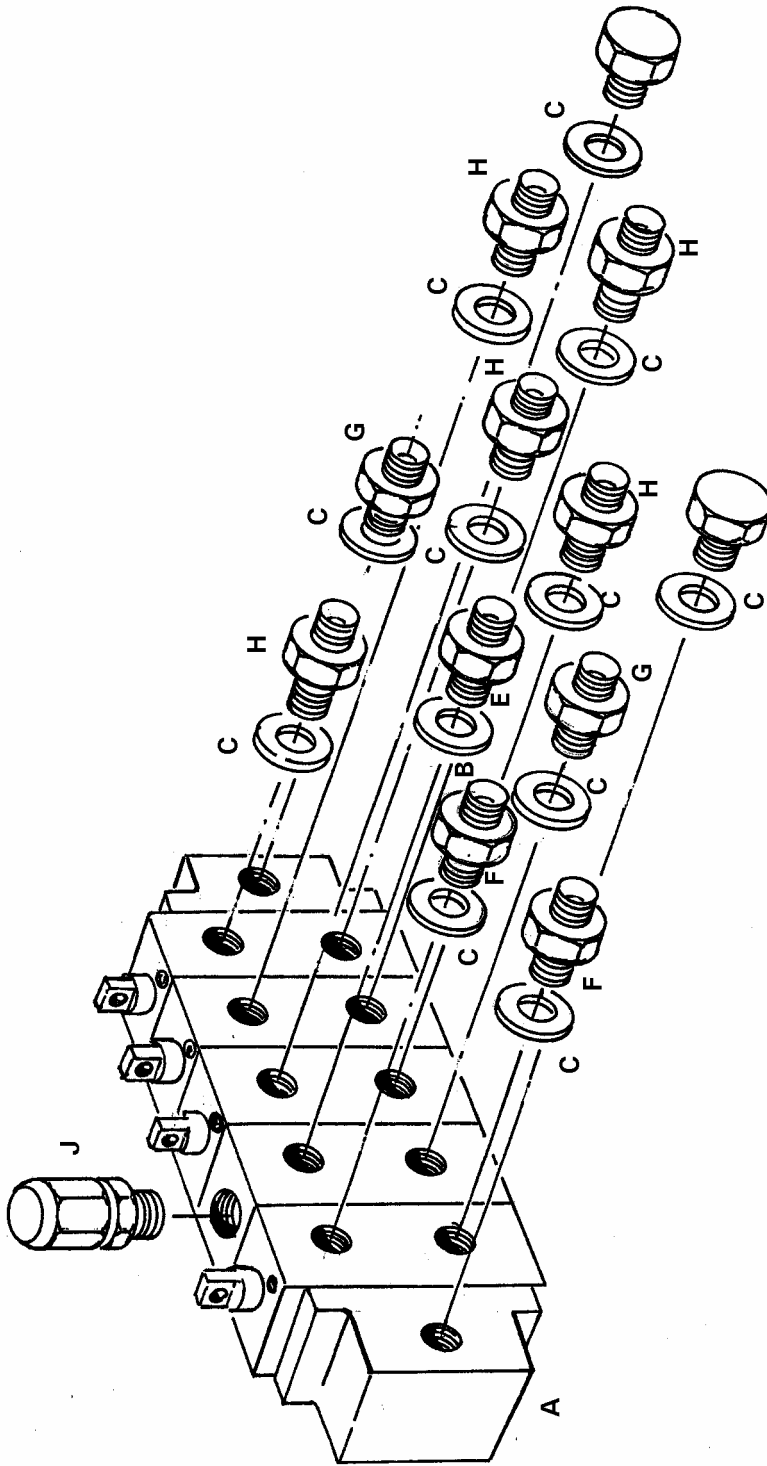
Ref.	Part No.	Description	Qty
<b>PORT A</b>			
*	6995	Elbow	1
*	0909	Seal 1/2" BSP	1
*	1826	Adaptor 1/2" BSP x 1/2" BSP	1
<b>PORT B</b>			
*	6975	Elbow	1
*	0934	Seal 3/4" BSP	1
*	1834	Adaptor 3/4" x 1/2" BSP	1
<b>PORT C (BLEED LINE)</b>			
*	1181	Seal 1/4" BSP	1
*	1823	Adaptor 1/4" X 1/4" BSP	1
<b>Screws for Motor Elbow:-</b>			
<b>PORT 'A'</b>			
	4415	M6 x 20 (8.8) Caphead	2
	2731	M6 Spring Washer	2
<b>PORT 'B'</b>			
	6994	M8 x 25 (8.8) Caphead	2
	3001	M8 Spring Washer	2



**VALVE BLOCK AND FITTINGS**

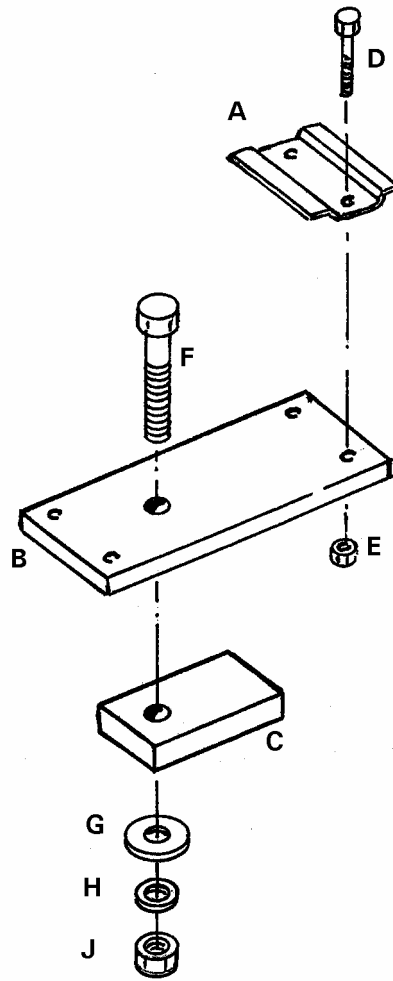
<b>Ref.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
A	6965	Valve Block	1
B	0909	Seal 1/2" BSP	1
C	0670	Seal 3/8" BSP	11
D	0920	Plug 3/8" BSP	2
E	1826	Adaptor 1/2" X 1/2" BSP	1
F	0914	Adaptor 1/2" x 3/8" BSP	2
G	0665	Adaptor 3/8" x 3/8" BSP	2
H	1180	Adaptor 3/8" x 1/4" BSP	5
J	6996	Relief Valve (2000 PSI)	1





**CABLE CONTROL AND MOUNTING BRACKET**

<b>Ref.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
A	6990	Bulk Head Mounting Plate	2
B	178.062	Mounting Plate for Control Handle	1
C	178.063	Rubber Mounting Block	1
D	2913	M6 x 16 (8.8) Bolt Setscrew	4
E	4776	M6 Stiffnut	4
F	2765	M8 x 70 (8.8) Bolt	1
G	3770	Washer	1
H	3111	M8 Flat Washer	1
I	2719	M8 Stiffnut	1
J	6945	Control Head	1
*	178.064	Control Head (Short) 'Motor Drive'	1
*	6989	Cables	4
*	6946	Cable Fitting kit complete	4
*	4695	M6 x 15 Caphead Screw (Trumpet Valve)	8
*	2731	M6 Spring Washer	8
*	178.065	Tie Bolts for Handles	2
*	4776	M6 Stiffnut	4
<b>SAFETY SCREEN</b>			
*	178.067	Mesh Screen	1
*	3770	Penny Washer	8
*	3110	M8 x 30 Setscrew	4
*	3111	M8 Spring Washer	4
*	2766	M8 Nut	4
*	Denotes parts not illustrated		



**HYDRAULIC PIPING DIAGRAM**

<b>Ref.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
A-A	4/205	½" Hose 90 x 90 @ 110 x 365	1
B-B	4/213	¼" Hose 91 x 91 x 4280	1
B-B	4/220	¼" Hose 91 x 91 5020	1
C-C	4/211	½" Hose 90 x 90 @ 90 x 4280	1
C-C	4/218	½" Hose 90 x 90 @ 90 x 5020	1
D-D	4/211	½" Hose 90 x 90 @ 90 x 4280	1
D-D	4/218	½" Hose 90 x 90 @ 90 x 5020	1
E-E	4/203	⅜" Hose 91 x 19 x 850	1
F-F	4/224	¼" Hose ST x 90 x 3850	1
F-F	4/228	¼" Hose ST x 91 x 3060	1
G-G	4/225	¼" Hose ST x 91 x 3800	1
G-G	4/227	¼" Hose ST x 90 x 3100	1
H-H	4/223	¼" Hose ST x 90 x 2360	1
H-H	4/226	¼" Hose ST x 90 x 2080	1
I-I	4/208	¼" Hose 90 x ST x 2030	1
I-I	4/215	¼" Hose 91 x ST x 2310	1
J-J	4/206	¼" Hose 90 x ST x 1520	1
K-K	4/204	⅜" Hose 91 x 91 x 940	1
L-L	4/202	¾" Return Hose x 535	1
M-M	4/201	½" Return Hose x 770	1

