

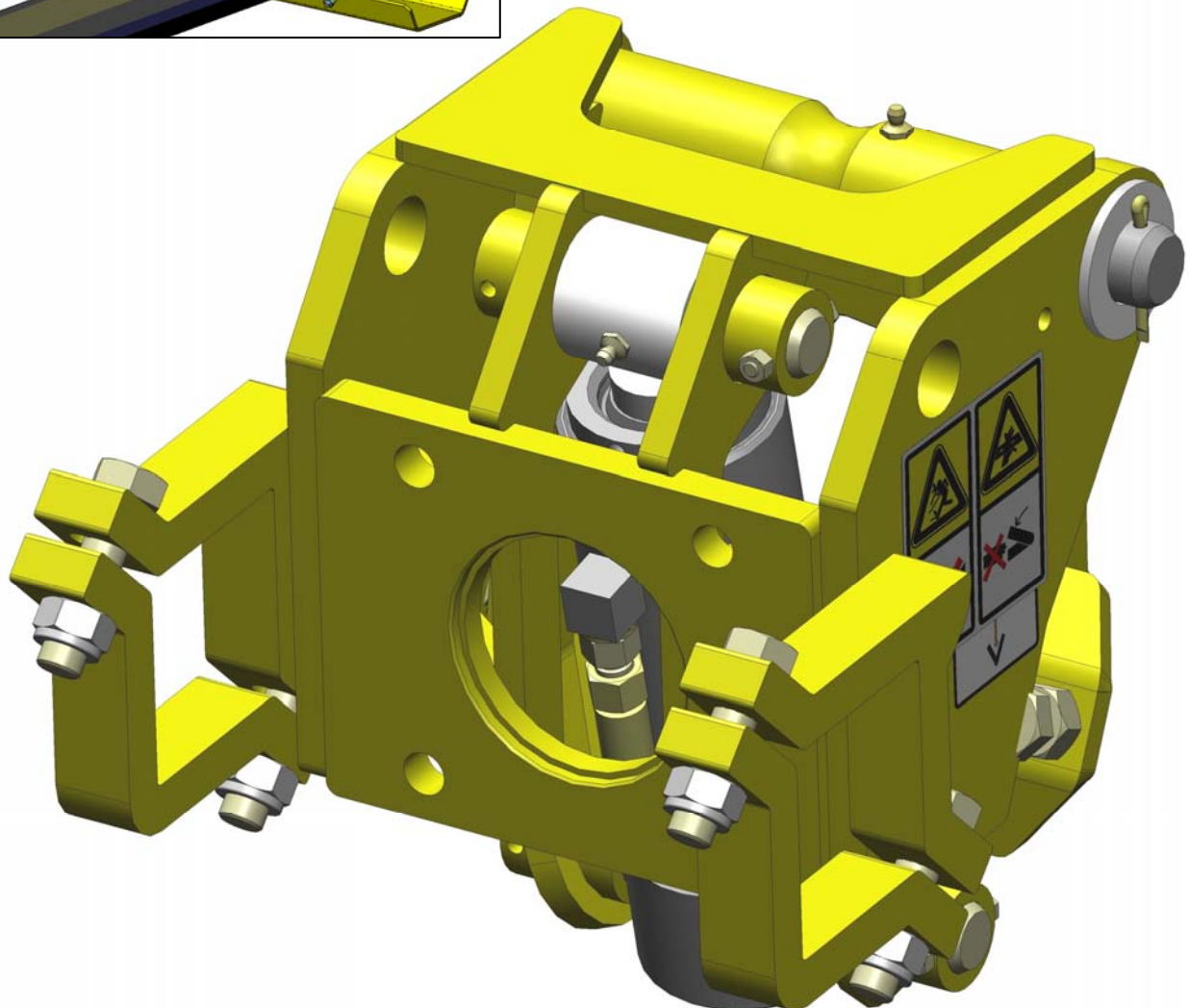
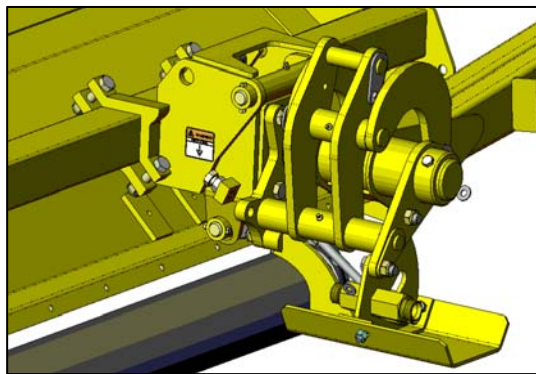
Publication 541  
June 2008  
Part No. 41571.41  
Revised: 25.02.11



# ORBITER HEAD KITS

Single Ø70mm Ram Versions

Operation & Parts Manual





# IMPORTANT

## VERIFICATION OF WARRANTY REGISTRATION



### Dealer Warranty Information & Registration Verification

It is imperative that the selling dealer registers this machine with McConnel Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines; log onto <https://my.mcconnel.com> and select 'Machine Registration' which can be found in the 'Warranty' section of the site. **Confirm to the customer that the machine has been registered by completing the verification form below.**

<b>Registration Verification</b>	Serial No. <input type="text"/>
Dealer Name: .....	
Dealer Address: .....	
Customer Name: .....	
Date of Warranty Registration: ...../...../..... Dealer Signature: .....	

### Note to Customer / Owner

Please ensure the section above has been completed and signed by the dealer to verify your machine has been registered with McConnel Limited.

**IMPORTANT:** During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below*. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machine's general maintenance procedure.

CAUTION: DO NOT OVER TORQUE HYDRAULIC FITTINGS AND HOSES

### Torque Settings for Hydraulic Fittings

Hydraulic Hose Ends		
BSP	Setting	Metric
1/4"	18 Nm	19 mm
3/8"	31 Nm	22 mm
1/2"	49 Nm	27 mm
5/8"	60 Nm	30 mm
3/4"	80 Nm	32 mm
1"	125 Nm	41 mm
1.1/4"	190 Nm	50 mm
1.1/2"	250 Nm	55 mm
2"	420 Nm	70 mm

Port Adaptors with Bonded Seals		
BSP	Setting	Metric
1/4"	34 Nm	19 mm
3/8"	47 Nm	22 mm
1/2"	102 Nm	27 mm
5/8"	122 Nm	30 mm
3/4"	149 Nm	32 mm
1"	203 Nm	41 mm
1.1/4"	305 Nm	50 mm
1.1/2"	305 Nm	55 mm
2"	400 Nm	70 mm



# WARRANTY POLICY

## WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with McConnel Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

### 1. LIMITED WARRANTIES

- 1.01. *All mounted machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.*  
*All Self Propelled Machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months or 1500 hours. Engine warranty will be specific to the Manufacturer of that unit.*
- 1.02. *All spare parts supplied by McConnel Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*
- 1.03. *The warranty offered by McConnel Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*
- 1.04. *This warranty does not extend to any product from which McConnel Ltd's serial number plate has been removed or altered.*
- 1.05. *The warranty policy is valid for machines registered in line with the terms and conditions detailed and on the basis that the machines do not extend a period of 24 months or greater since their original purchase date, that is the original invoice date from McConnel Limited.*  
*Machines that are held in stock for more than 24 months cannot be registered for warranty.*
- 1.06. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*
- 1.07. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*
- 1.08. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*
- 1.09. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which McConnel Ltd cannot be held liable, and may have safety implications.*
- 1.10. *If in exceptional circumstances a non McConnel Ltd part is used to effect a repair, warranty reimbursement will be at no more than McConnel Ltd's standard dealer cost for the genuine part.*

- 1.11. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnell Ltd.*
- 1.12. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
  - 1.12.1. *Hoses, exposed pipes and hydraulic tank breathers.*
  - 1.12.2. *Filters.*
  - 1.12.3. *Rubber mountings.*
  - 1.12.4. *External electric wiring.*
  - 1.12.5. *Bearings and seals*
  - 1.12.6. *External Cables, Linkages*
  - 1.12.7. *Loose/Corroded Connections, Light Units, LED's*
  - 1.12.8. *Comfort items such as Operator Seat, Ventilation, Audio Equipment*
- 1.13. *All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.*
- 1.14. *Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.*

***NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. McConnell Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.***

## **2. REMEDIES AND PROCEDURES**

- 2.01. *The warranty is not effective unless the Selling Dealer registers the machine, via the McConnell web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.*
- 2.02. *Any fault must be reported to an authorised McConnell Ltd dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which McConnell Ltd cannot be held liable.*
- 2.03. *Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by McConnell Ltd. Please note that failure by the customer to release the machine for repair will not be accepted as a reason for delay in repair or submitting warranty claims.*
- 2.04. *All claims must be submitted, by an authorised McConnell Ltd Service Dealer, within 30 days of the date of repair.*
- 2.05. *Following examination of the claim and parts, McConnell Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by McConnell Ltd and appropriate labour and mileage allowances if applicable.*
- 2.06. *The submission of a claim is not a guarantee of payment.*
- 2.07. *Any decision reached by McConnell Ltd. is final.*

## **3. LIMITATION OF LIABILITY**

- 3.01. *McConnell Ltd disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.*
- 3.02. *McConnell Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.*
- 3.03. *Except as provided herein, McConnell Ltd shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.*
- 3.04. *No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.*

#### **4. MISCELLANEOUS**

- 4.01. McConnel Ltd may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.*
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.*
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.*

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*McConnel Limited*







*For Safety and Performance...*

**ALWAYS READ THE BOOK FIRST**

**McCONEL LIMITED**

**Temeside Works  
Ludlow  
Shropshire  
England**

**Telephone: +44 (0)1584 873131  
www.mcconel.com**

**▲ WARNING**

**Cancer and Reproductive Harm**  
www.P65Warnings.ca.gov

D960

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](http://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.



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## GENERAL INFORMATION

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

**Use only McConnell Genuine Parts on McConnell equipment and machines.**

DEFINITIONS - The following definitions apply throughout this manual:

**WARNING:**

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

**CAUTION:**

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

**NOTE:**

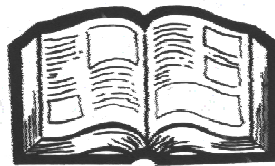
An operating procedure, technique etc., which is considered essential to emphasise.

**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.



# SAFETY INFORMATION



**This component / accessory is primarily designed for fitment to McConnel Power Arm Hedge and Grass Cutters, 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 the tractor front, rear and sides are fitted with metal mesh or polycarbonate guards of suitable size and strength to protect the operator against thrown debris or parts.*
- ▲ *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 flails and their fixings are of a type recommended by the manufacturer, are securely attached and that none are missing or damaged.*
- ▲ *Ensure hydraulic pipes are carefully and correctly routed to avoid damage by chaffing, stretching or pinching and that they are held in place with the correct fittings.*
- ▲ *Always follow the manufacturer's instructions for attachment and removal of the machine from the tractor.*
- ▲ *Check that the machine fittings and couplings are in good condition.*
- ▲ *Ensure the tractor meets the minimum weight recommendations of the machine'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 use a machine fitted to a tractor that does not have suitable front, rear and side(s) cab guarding made of metal mesh or polycarbonate.*
- ▲ *Never use the machine if the tractor cab guarding is damaged, deteriorating or badly fitted.*
- ▲ *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, Dealers and McConnel.

### 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 offences under the Highways Act*’.

### Suggested Warning Signs Required

**“Road works ahead”** warning sign with a supplementary **“Hedge cutting”** plate. **“For 1 mile”** or appropriate shorter distance may be added to the plate.

**“Road narrows”** warning sign with supplementary **“Single file traffic”** plate.

White on blue **“Keep right”** (\*) arrow sign on rear of machine.

\* Note – this applies to UK Market machines where traffic passes to the right of a machine working in the same direction as the traffic flow. The direction, use and colour of the arrow sign will depend on the country of use and the Local Highway Authorities regulations in the locality.

### 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.

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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 McConnel machine.

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# ORBITER HEAD KIT

The Orbiter Head Kit is a device which allows the flail head to be tilted upwards to a maximum of 70°. It is designed to enable a hedgecutter to 'side' hedges in extremely narrow lanes.

Orbiter Head Kits can be fitted to the following McConnell machines and their equivalent export builds:

PA2050, PA2060, PA2070, PA47, PA48, PA50, PA52, PA53, PA55, PA60, PA5600, PA6400.

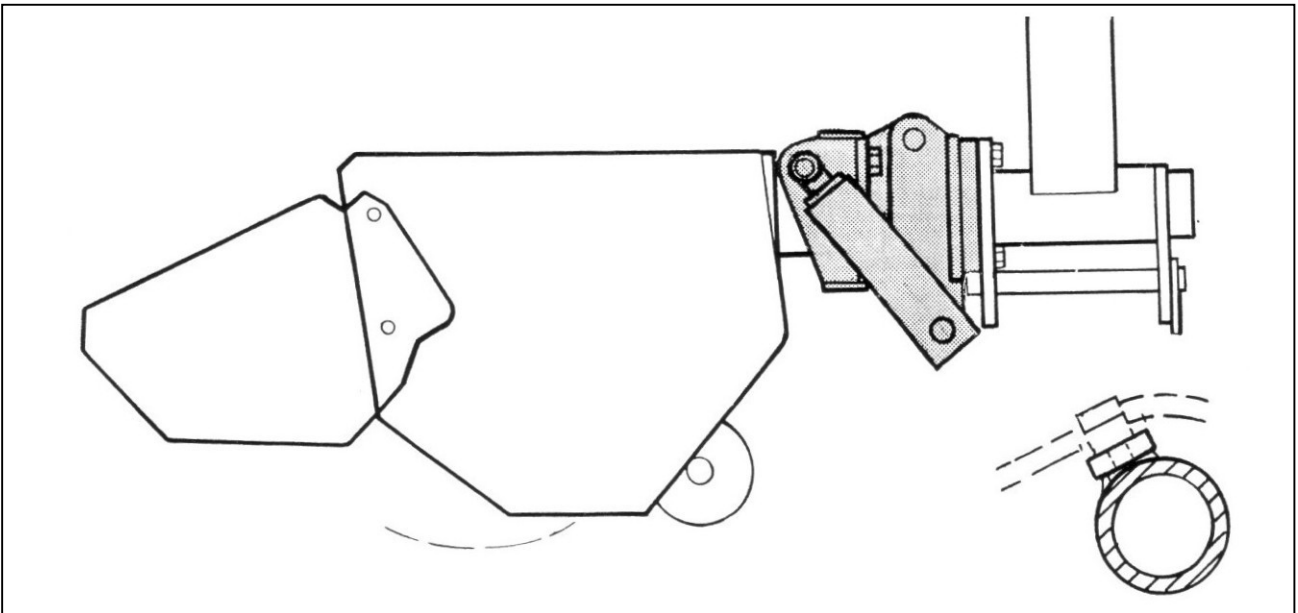
*For Midcut machines, Tele machines or other models not listed above please contact the McConnell Service Department for advice on suitability.*

## FITTING

**NOTE:** Orbiter kits may contain some items which will not be required for certain installations.

Disconnect the existing flail hoses at the dipper arm hose junction bracket – *on sliding mount flail heads this is not necessary.*

Remove the hose protection tray.



Unbolt the dipper arm from the flail head mounting flange. *On belt drive heads a tapped plate is welded to the flail head mounting tube at the angle shown nearest to the flail motor.*

Bolt the head orbiter between the flail head and the dipper as shown above. *On sliding mount flail heads a spacer block is required between the orbiter and the flail head.*

**NOTE: Sliding heads must be mounted and operated in their 'mid-point' position with the orbiter kit.**

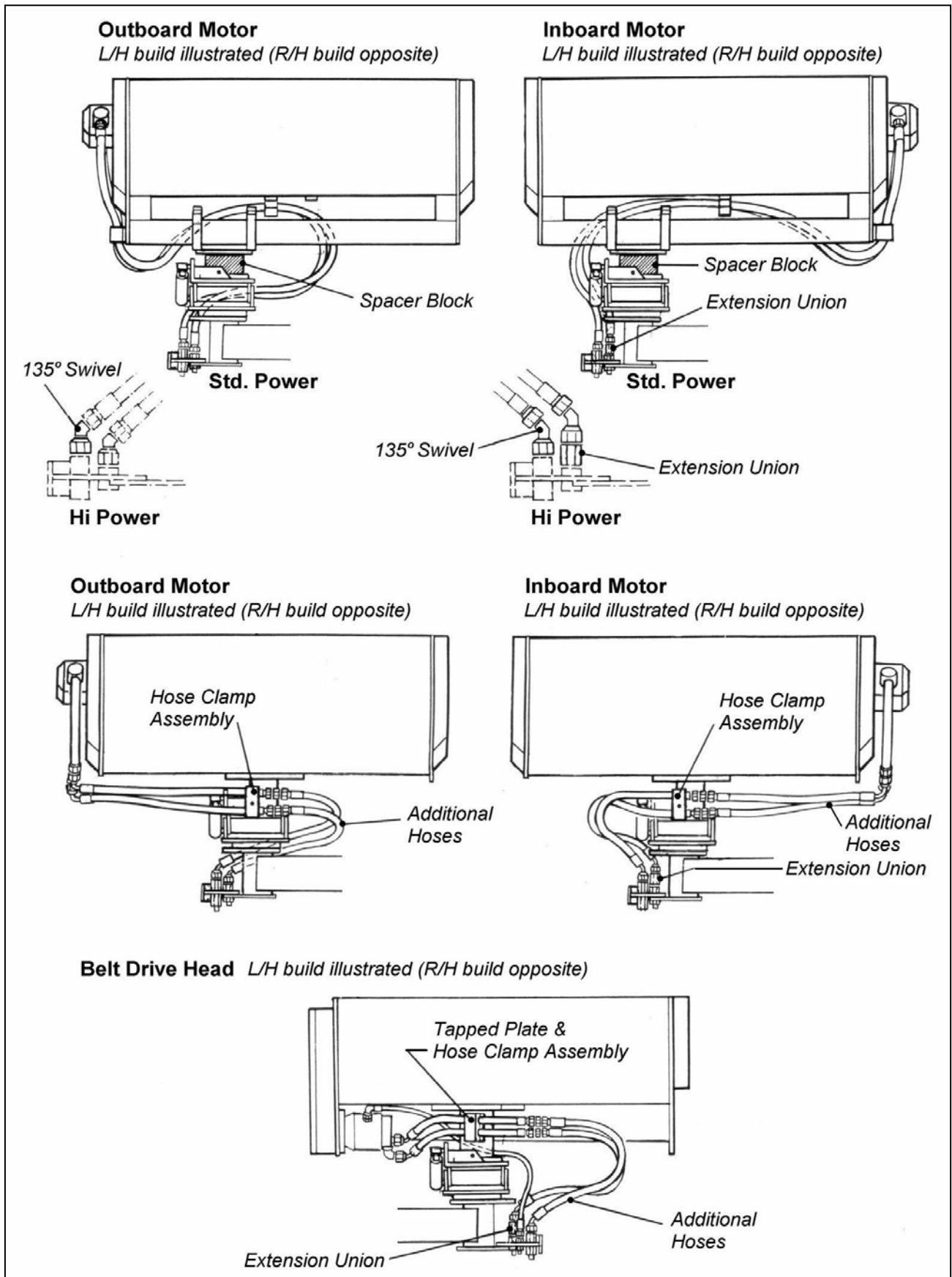
Attach the flail motor extension hoses (if required) and route as shown in the diagrams on the following page using the fittings indicated in the drawings that suit your particular installation.

A selection of the 1/4" BSP hoses supplied are connected to the orbiter ram(s), routed down the arms and connected to the tractor's double acting auxiliary service using the quick-release couplings provided.

The hose guards are removed from the arms and the hoses secured to the existing hoses using the ties supplied. On Tele dipper only the guard remains and the hoses are fixed

using the clamps supplied which are attached to the tapped bosses on the top edge of the guard - ensure there is sufficient slack over the arm pivots to allow the hoses to flex correctly. Refit the hose guards.

## HOSE INSTALLATION & ROUTING DIAGRAMS



# OPERATION

The device has been specifically designed to allow the siding of hedges in extremely narrow lanes.

The slew facility must be selected on the machine controls and the arms must be folded back sufficiently to allow the hedge to be cut. The head can then be tilted inwards until it has regained its normal working approach angle.

*When working in this mode some breakaway angle remains, but after breakaway has occurred the head position will require re-positioning. Take care to replace the head in the same position as prior to breakaway and check that the Orbiter tilt angle is properly aligning the head in relation to the hedge before commencing cutting.*

### WARNING

**Never tilt the head beyond the normal working approach angle in relation to the hedge as the guards will become increasingly ineffective and the likelihood of dangerous debris escaping the flail casing and causing injury or damage is greatly increased.**

Working in the 'broken back' or 'slew back' mode moves the flail head to the rear and inwards and therefore the potential 'debris throw' area may be moved to such a degree that debris may be thrown against the rear window of the tractors cab. If there is a likelihood or risk of this taking place additional operator guarding must be constructed to protect all vulnerable areas.

To further limit the likelihood of escaping debris it is strongly recommended that the flail rotor is set to cut with a 'downhill' cutting rotation.

### WARNING

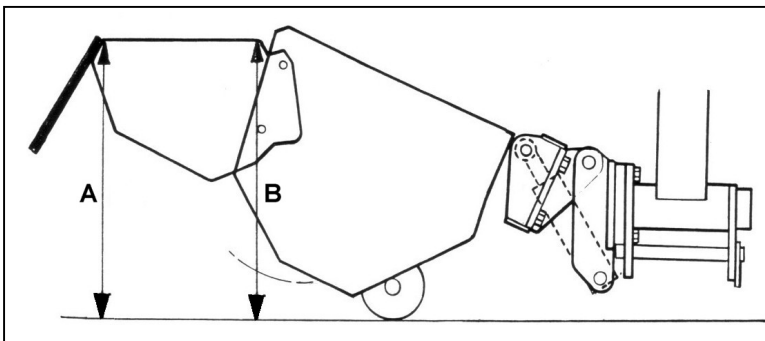
**At no time when 'siding' in the normal working position must the flail head be tilted out of its normal position.**

When hedging it is usual for the hedge front hood to be in the raised position.

For the finishing ground cut it is strongly recommended that the roller is adjusted down to prevent the flails 'scalping' the ground, however it is permissible to tilt the head up by a certain amount sufficient only to lower the roller in relation to the flails to a point where the flails do not 'scalp' the ground. *If the latter procedure is used as an alternative to adjusting the roller position, the front hood must be adjusted to its lowest position to compensate for the upward angle of head tilt prior to commencing - It is strongly recommended that a front flap kit is fitted if this practise is adopted.*

### WARNING

**The head must never be tilted back to a point where the leading edge of the front hood is higher than the trailing edge.**



### WITH FRONT FLAP KIT

A < B ✓

A = B ✓ = 25° Max tilt permitted

A > B ✗

### WITHOUT FRONT FLAP KIT

A < B - 100mm ✓

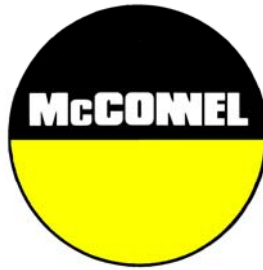
A = B ✓ = 15° Max tilt permitted

A > B - 100mm ✗

When topping hedges in areas that are well away from public access the head may be tilted upwards when in the normal working position to enable the flails to cut closer to obstacles such as trees and telegraph poles - If this is done be aware that debris will be thrown and therefore great care must always be taken to ensure that no one or any thing that may be hurt or damaged is within the 'danger area'. ***NOTE: This danger area may extend for anything up to 400 or 500 metres from the working machine.***

**WARNING**

**If areas of public access come within the potential debris danger area the flail head must never be tilted backwards under any circumstances when topping hedges.**



*For best performance ...*

## **USE ONLY GENUINE McCONEl SERVICE PARTS**

*To be assured of the latest design improvements purchase your  
'Genuine Replacements' from the 'Original Equipment Manufacturer'*

# **McCONEl LIMITED**

*Through your local Dealer or Stockist*

**Always quote:**

- ***Machine Type***
- ***Serial Number***
- ***Part Number***

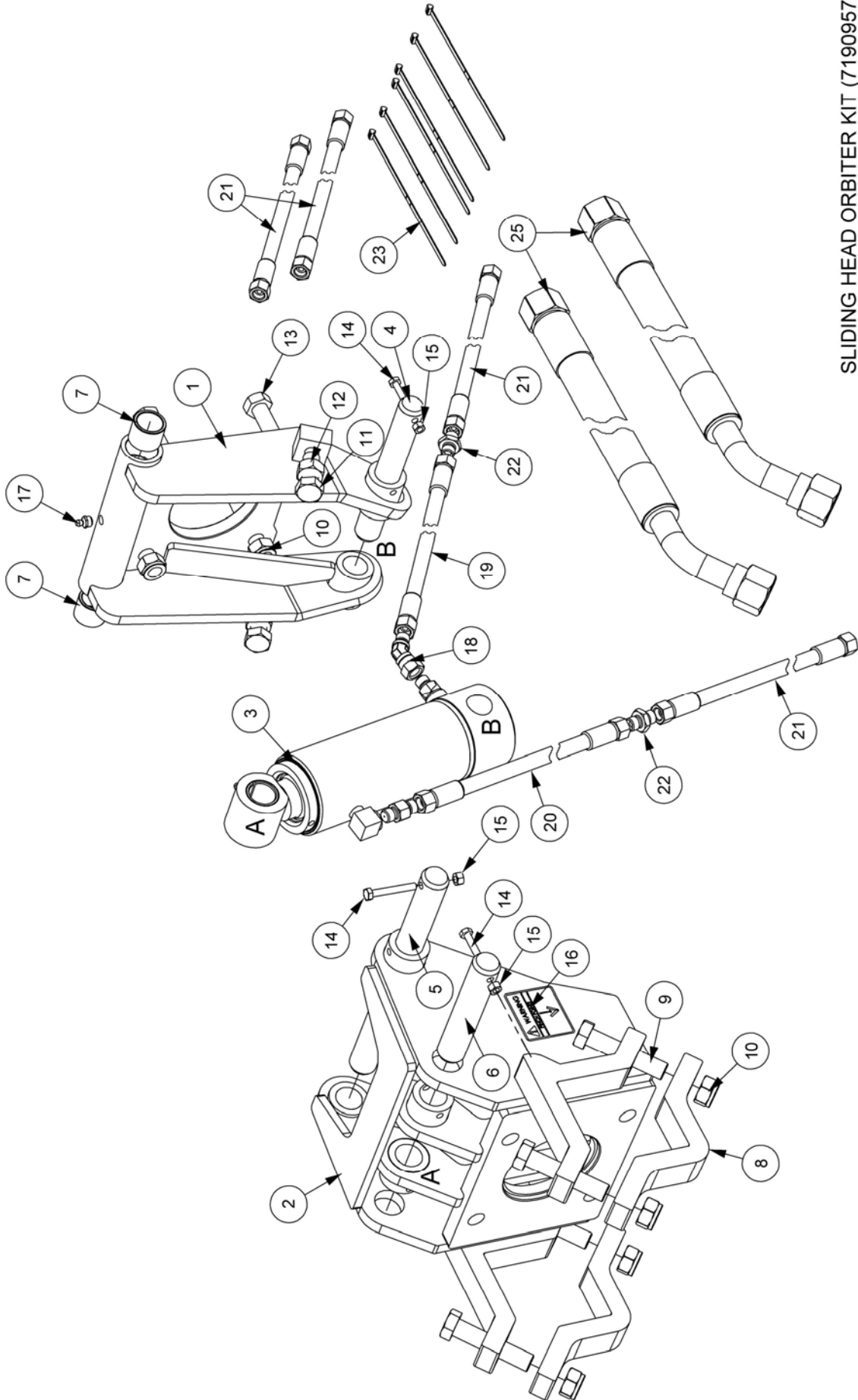
*Design improvements may alter some of the parts listed in this manual –  
the latest part will always be supplied when it is interchangeable with an earlier one.*

# ORBITER KIT – SLIDING HEAD VERSION

**McCONEL**

Module(s): 7190957 (Rev.B)

## Early Builds



SLIDING HEAD ORBITER KIT (7190957)

**ORBITER KIT – SLIDING HEAD VERSION**

**McCONNEL**

Module(s): 7190957 (Rev.B)

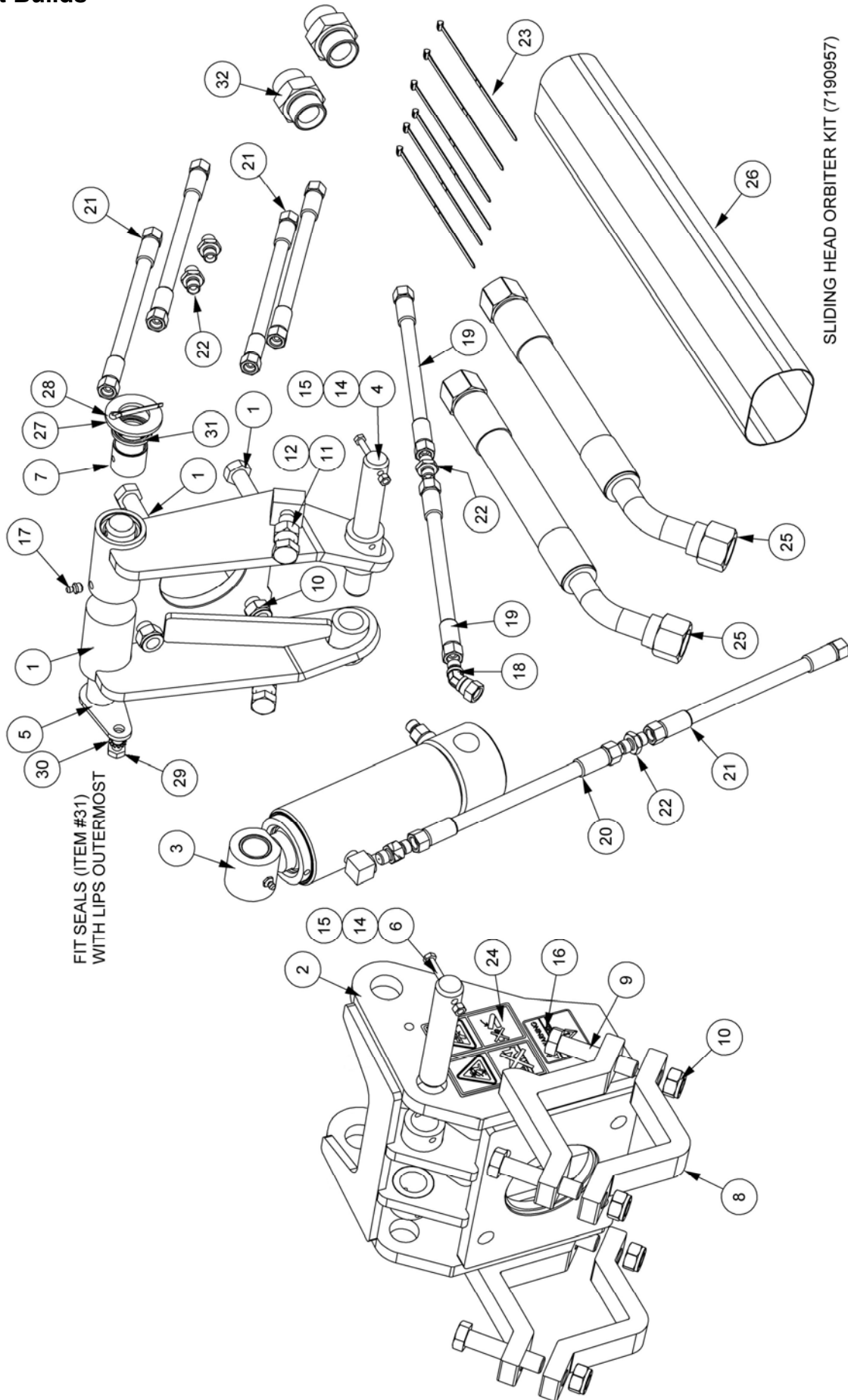
<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
		<b>7190957</b>	<b>SLIDING HEAD ORBITER KIT</b>
1	1	22373.02	MOUNTING BRACKET
2	1	22374.03	PIVOT BRACKET
3	1	43377.06	ORBITER RAM - Ø70.0mm
4	1	22375.03	PIN - RAM BASE
5	1	22375.01	PIVOT PIN
6	1	22375.04	PIN - ROD END
7	2	7101083	LINK BUSH
8	2	7198417	CLAMP
9	4	12.714.75	BOLT
10	8	9100028	SELF-LOCKING NUT
11	2	9313087	SETSCREW
12	2	9113007	NUT
13	4	9200025	BOLT
14	3	30.068.88	BOLT
15	3	9143003	SELF-LOCKING NUT
16	2	02962764	DECAL - PINCH POINTS
17	1	0901121	GREASE NIPPLE
18	1	8581347	STEEL ELBOW - 135°
19	2	10.001.71	HOSE - 1/4" BSP FS/FS x 6100mm
20	1	10.001.75	HOSE - 1/4" BSP FS/FS x 6500mm
21	3	10.001.20	HOSE - 1/4" BSP FS/FS x 1000mm
22	2	8581169	ADAPTOR
23	6	7135084	CABLE TIE
24	1	09.821.26	DECAL - ORBIT HEAD
25	2	10.025.20	HOSE - 1" BSP FS/F135 x 1000mm
26	1	00999588	HOSE SLEEVING

# ORBITER KIT – SLIDING HEAD VERSION

**McCONEL**

Module(s): 7190957 (latest revision)

## Current Builds





**ORBITER KIT – SLIDING HEAD VERSION**
**McCONNEL**

Module(s): 7190957 (latest revision)

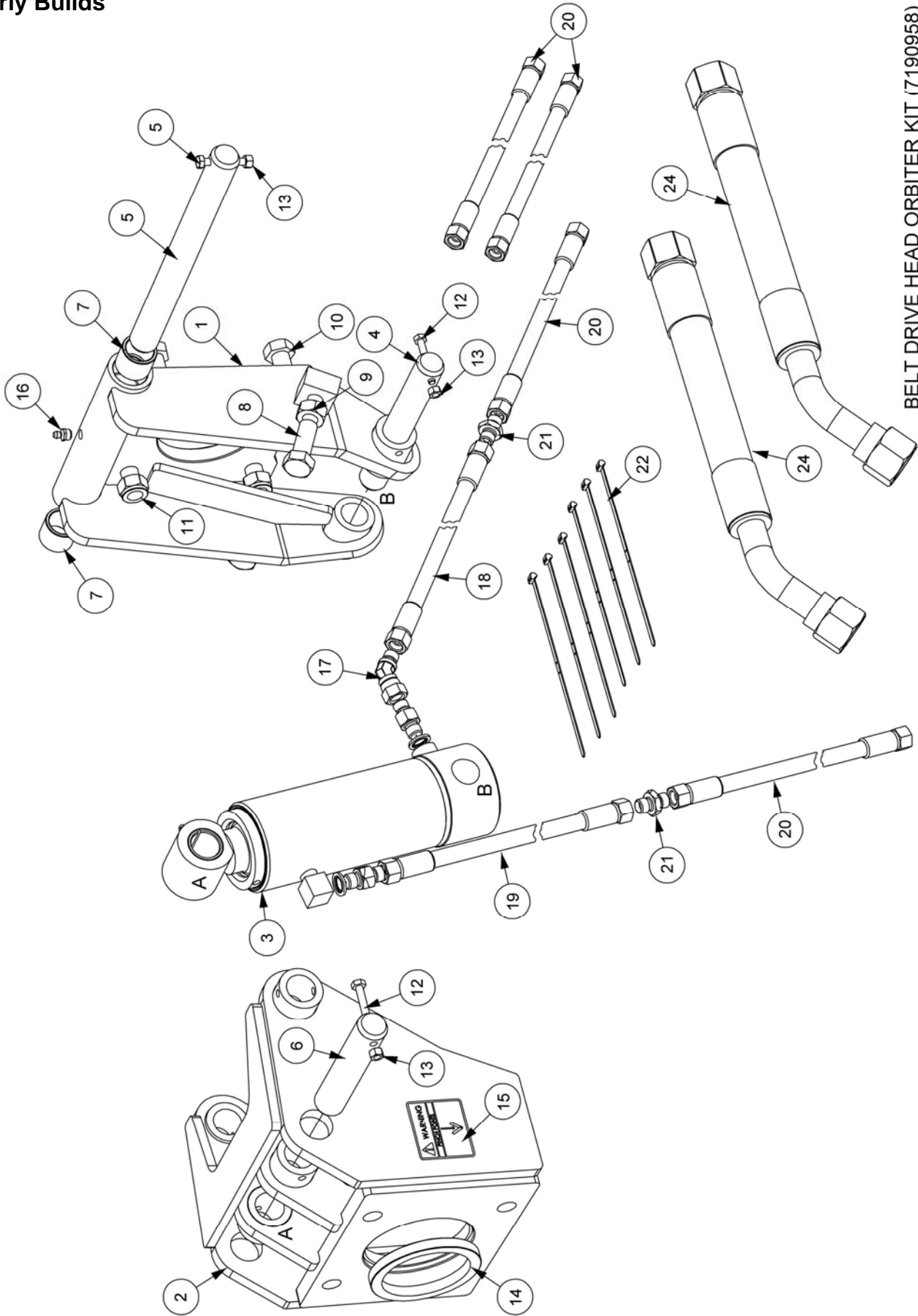
REF.	QTY.	PART No.	DESCRIPTION
		<b>7190957</b>	<b>SLIDING HEAD ORBITER KIT</b>
1	1	22373.02	MOUNTING BRACKET
2	1	22374.03	PIVOT BRACKET
3	1	43377.06	ORBITER RAM - Ø70.0mm
4	1	22375.03	PIN - RAM BASE
5	1	42684.15	PIVOT PIN
6	1	22375.04	PIN
7	2	42654.01	BUSH
8	2	7198332	CLAMP
9	4	12.714.75	BOLT
10	8	9100028	SELF-LOCKING NUT
11	2	9313087	SETSCREW
12	2	9113007	NUT
13	4	9200025	BOLT
14	2	30.068.88	BOLT
15	2	9143003	SELF-LOCKING NUT
16	2	02962764	DECAL - PINCH POINTS
17	1	0901121	GREASE NIPPLE
18	1	8581347	STEEL ELBOW - 135°
19	2	10.001.71	HOSE - 1/4" BSP FS/FS x 6100mm
20	1	10.001.75	HOSE - 1/4" BSP FS/FS x 6500mm
21	5	10.001.20	HOSE - 1/4" BSP FS/FS x 1000mm
22	4	8581169	ADAPTOR
23	6	7135084	CABLE TIE
24	1	09.821.26	DECAL - ORBIT HEAD
25	2	10.025.20	HOSE - 1" BSP FS/F135 x 1000mm
26	1	00999588	HOSE SLEEVING
27	1	05.281.18	FLAT WASHER
28	1	9501406	SPLIT PIN
29	1	9313045	SETSCREW
30	1	9100405	SHAKEPROOF WASHER
31	2	8629218	LIP SEAL
32	2	05.434.01	ADAPTOR

# ORBITER KIT – BELT DRIVE HEAD VERSION

Module(s): 7190958 (Rev.B)

**McCONEL**

## Early Builds



BELT DRIVE HEAD ORBITER KIT (7190958)

Module(s): 7190958 (Rev.B)

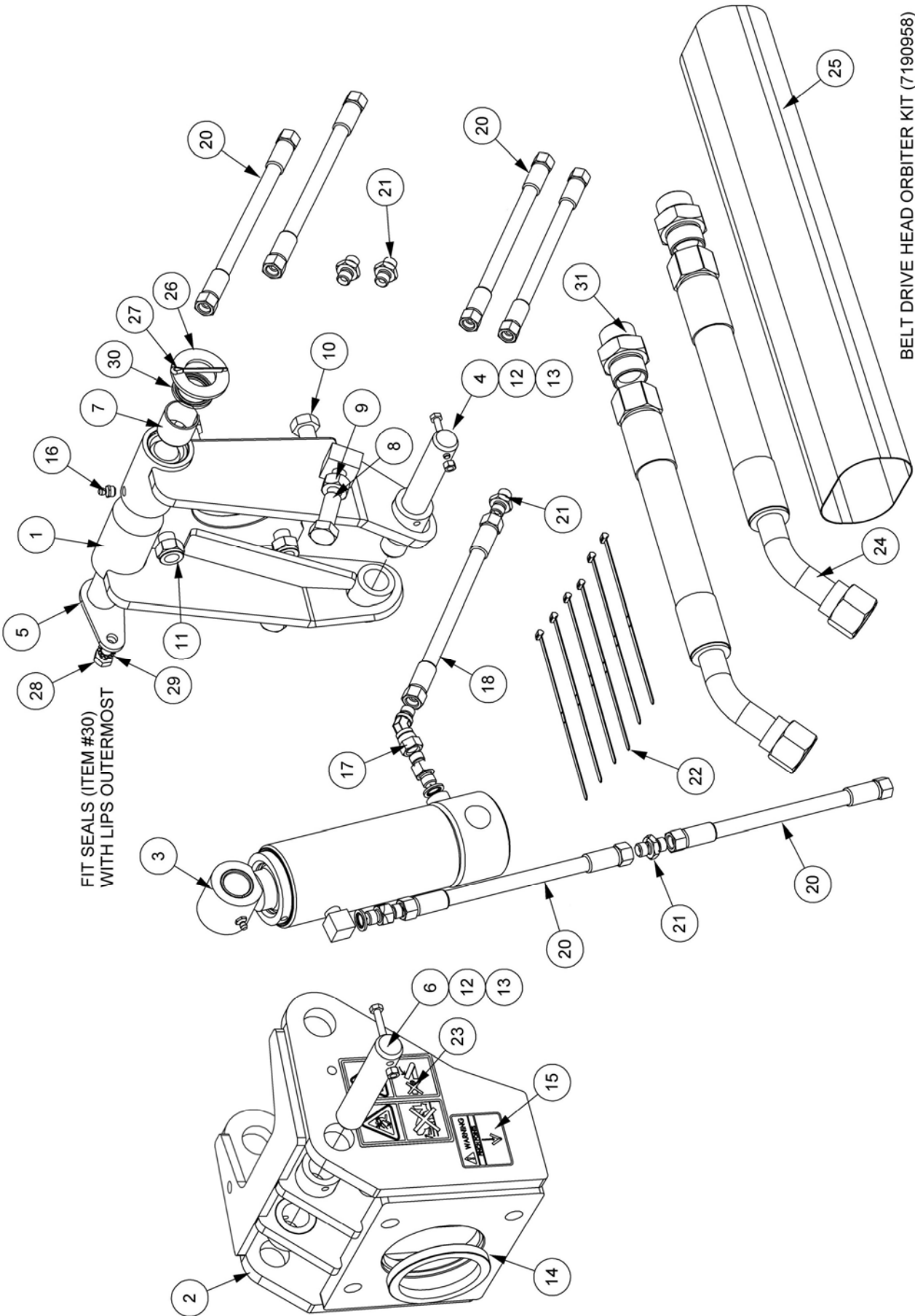
REF.	QTY.	PART No.	DESCRIPTION
		<b>7190958</b>	<b>HEAD ORBITER KIT</b>
1	1	22373.02	MOUNTING BRACKET
2	1	22374.04	PIVOT BRACKET
3	1	43377.06	ORBITER RAM ASSEMBLY
4	1	22375.03	PIN
5	1	22375.01	PIVOT PIN
6	1	22375.04	PIN
7	2	7101083	LINK BUSH
8	2	9313087	SETSCREW
9	2	9113007	NUT
10	4	9200025	BOLT
11	4	9100028	SELF-LOCKING NUT
12	3	30.068.88	BOLT
13	3	9143003	SELF-LOCKING NUT
14	1	22377.01	LOCATING RING
15	2	02962764	DECAL - PINCH POINT
16	1	0901121	GREASE NIPPLE
17	1	8581347	STEEL ELBOW -135°
18	1	10.001.71	HOSE - 1/4" BSP FS/FS x 6100mm
19	1	10.001.75	HOSE - 1/4" BSP FS/FS x 6500mm
20	4	10.001.20	HOSE - 1/4" BSP FS/FS x 1000mm
21	2	8581169	ADAPTOR
22	6	7135084	CABLE TIE
23	1	09.821.26	DECAL - ORBIT HEAD
24	2	10.025.20	HOSE - 1" BSP FS/F135 x 1000mm
25	1	00999588	HOSE SLEEVING

# ORBITER KIT – BELT DRIVE HEAD VERSION

Module(s): 7190958 (latest revision)

# McCONEL

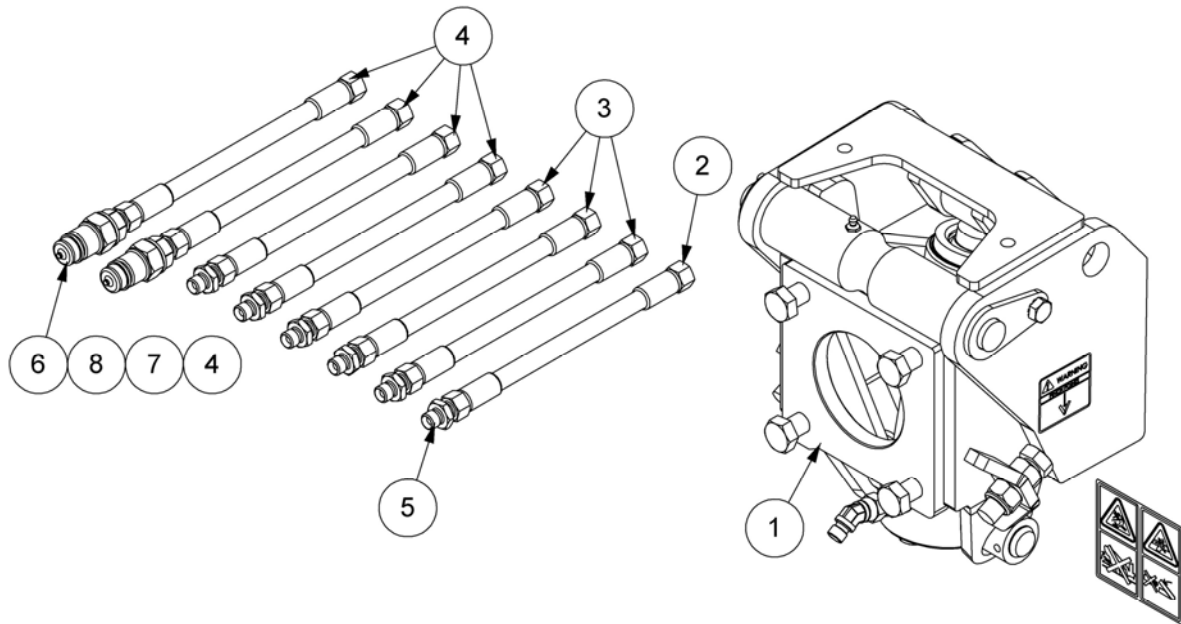
## Current Builds



Module(s): 7190958 (latest revision)

REF.	QTY.	PART No.	DESCRIPTION
		<b>7190958</b>	<b>HEAD ORBITER KIT</b>
1	1	22373.02	MOUNTING BRACKET
2	1	22374.04	PIVOT BRACKET
3	1	43377.06	ORBITER RAM ASSEMBLY
4	1	22375.03	PIN
5	1	42684.15	PIVOT PIN
6	1	22375.04	PIN
7	2	42654.01	BUSH
8	2	9313087	SETSCREW
9	2	9113007	NUT
10	4	9200025	BOLT
11	4	9100028	SELF-LOCKING NUT
12	3	30.068.88	BOLT
13	3	9143003	SELF-LOCKING NUT
14	1	22377.01	LOCATING RING
15	2	02962764	DECAL - PINCH POINT
16	1	0901121	GREASE NIPPLE
17	1	8581347	STEEL ELBOW -135°
18	1	10.001.71	HOSE - 1/4" BSP FS/FS x 6100mm
19	1	10.001.75	HOSE - 1/4" BSP FS/FS x 6500mm
20	4	10.001.20	HOSE - 1/4" BSP FS/FS x 1000mm
21	2	8581169	ADAPTOR
22	6	7135084	CABLE TIE
23	1	09.821.26	DECAL - ORBIT HEAD
24	2	10.025.20	HOSE - 1" BSP FS/F135 x 1000mm
25	1	00999588	HOSE SLEEVING
26	1	05.281.18	FLAT WASHER
27	1	9501406	SPLIT PIN
28	1	9313045	SETSCREW
29	1	9100405	SHAKEPROOF WASHER
30	2	8629218	LIP SEAL
31	2	05.434.01	ADAPTOR

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**NOTES:**

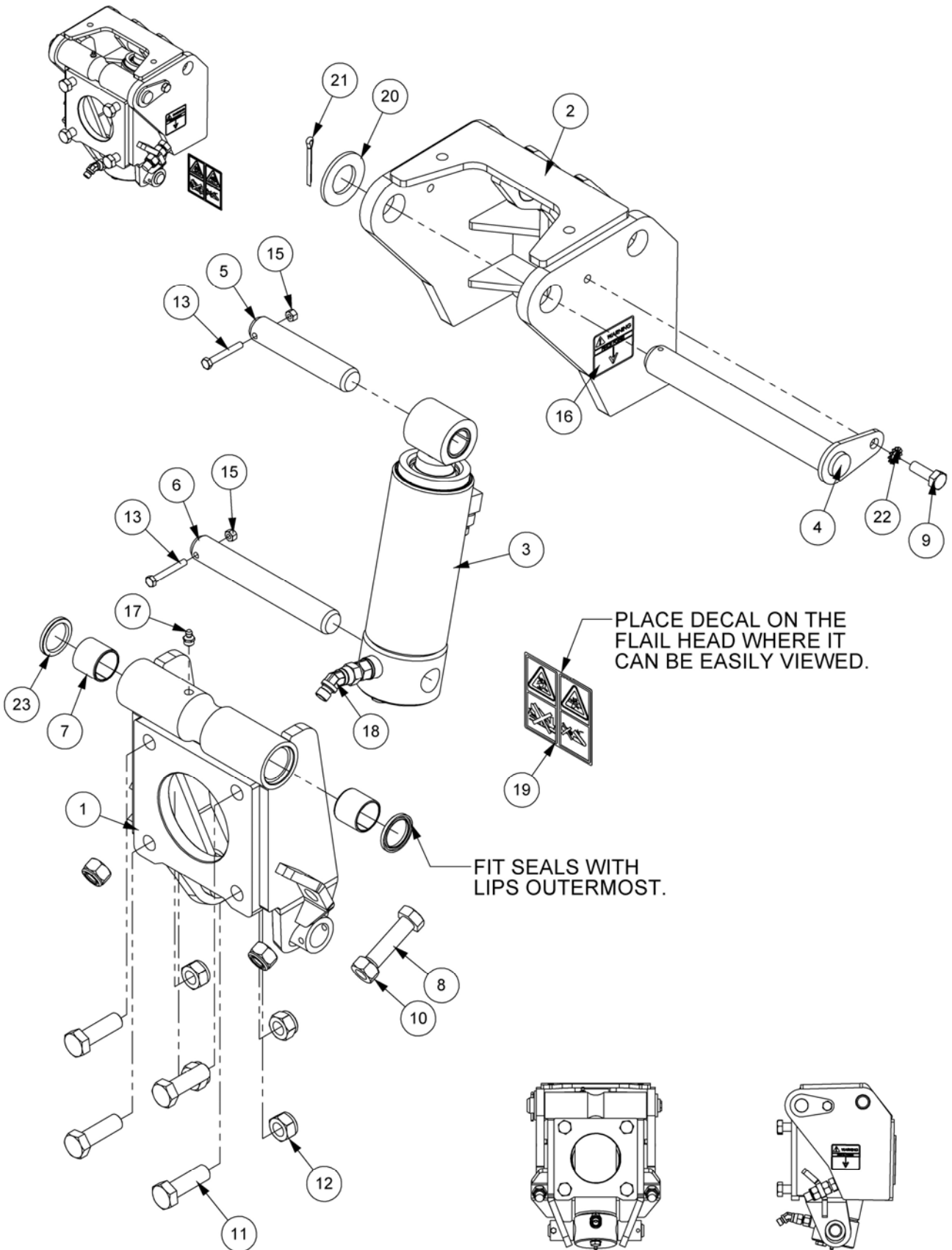
- USE 1/4" BSP HOSES TO CONNECT FROM THE ORBITER TO THE TRACTOR.
- RUN HOSES DOWN THE DIPPER ARM AND MAIN ARM UNDER THE HOSE COVERS AND THROUGH THE HOSE SLEEVING.
- ITEM 4 MAY NOT BE USED ON EVERY MACHINE ONLY USE AS EXTENSION HOSES.
- CONNECT 1/2" QUICK RELEASE COUPLINGS TO TRACTOR SPOOL.
- WHEN FITTING USE EXISTING FLAIL HOSES AND RUN HOSES UNDER THE PIVOT.
- SEE FITTING SHEET NOTES SUPPLIED WITH THE HEAD ORBITER FOR INSTALLATION GUIDE.
- ENSURE THAT YOU HAVE READ AND UNDERSTAND THE OPERATING INSTRUCTIONS SUPPLIED WITH THE HEAD ORBITER BEFORE YOU OPERATE THE MACHINE.

REF.	QTY.	PART No.	DESCRIPTION
		<b>7190967</b>	<b>FIXED HEAD ORBITER KIT</b>
1	1	7190962	HEAD ORBITER (FIXED MOUNT)
2	1	10.001.75	HOSE - 1/4" BSP FS/FS x 6500mm
3	3	10.001.71	HOSE - 1/4" BSP FS/FS x 6100mm
4	4	10.001.20	HOSE - 1/4" BSP FS/FS x 1000mm
5	6	8581169	ADAPTOR
6	2	8590074	QUICK RELEASE (MALE)
7	2	01.099.03	ADAPTOR
8	2	8650104	BONDED SEAL

# ORBITER HEAD – BELT DRIVE HEAD VERSION

Module(s): 7190962 (Rev.C)

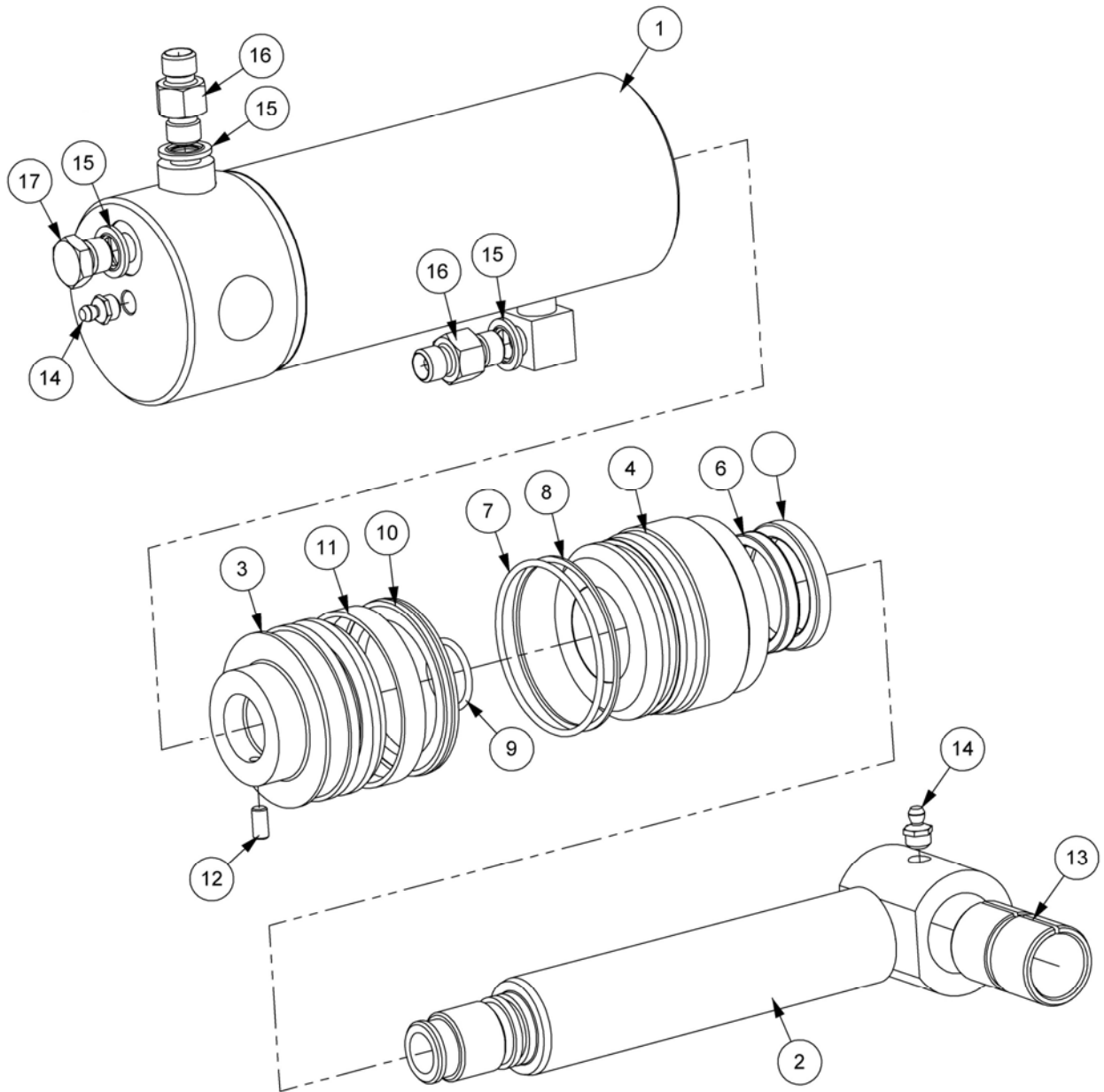
# McCONEL





Module(s): 7190962 (Rev.C)

REF.	QTY.	PART No.	DESCRIPTION
		<b>7190962</b>	<b>FIXED HEAD ORBITER KIT</b>
1	1	22373.02	MOUNTING BRACKET
2	1	22374.04	PIVOT BRACKET
3	1	43377.06	ORBITER RAM
4	1	42684.15	PIVOT PIN
5	1	22375.04	PIN
6	1	22375.03	PIN
7	2	42654.01	BUSH
8	2	9313117	SETSCREW
9	1	9313065	SETSCREW
10	2	9113007	NUT
11	4	9200025	BOLT
12	4	T7942	NYLOC NUT
13	2	30.068.88	BOLT
15	2	9163003	CLEVELOC
16	2	2962764	DECAL - PINCH POINTS
17	1	0901121	GREASE NIPPLE
18	1	8581347	ELBOW
19	1	09.821.26	DECAL - ORBIT HEAD
20	1	05.281.18	FLAT WASHER
21	1	9501406	SPLIT PIN
22	1	9100405	SHAKEPROOF WASHER (EXT.)
23	2	8629218	LIP SEAL
24	1	7190962FS	FITTING SHEET
24	2	9163007	NYLOC NUT



Module(s): 43377.06

REF.	QTY.	PART No.	DESCRIPTION
		<b>43377.06</b>	<b>HYDRAULIC RAM ASSEMBLY</b>
1	1	43377.47	BARREL
2	1	43377.49	PISTON ROD
3	1	7120383	PISTON
4	1	7120384	GLAND HOUSING
5	1	8629147	SCRAPER RING
6	1	8629164	GLAND SEAL
7	1	8600429	O RING
8	1	8609429	AE RING
9	1	8600403	O RING
10	1	8629189	PISTON SEAL
11	1	8629190	GUIDE RING
12	1	9363023	GRUB SCREW
13	1	7105050	ROD END BUSH
14	2	0901121	GREASE NIPPLE
15	3	8650102	BONDED SEAL
16	2	8130037	ADAPTOR RESTRICTOR - 1.15 'S'
17	1	520378	ADAPTOR PLUG







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