

POWERSPREAD 500, 640 & 770 OPERATORS MANUAL & PARTS LISTING



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OPERATORS / PARTS MANUAL

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SECTION 1

INTRODUCTION

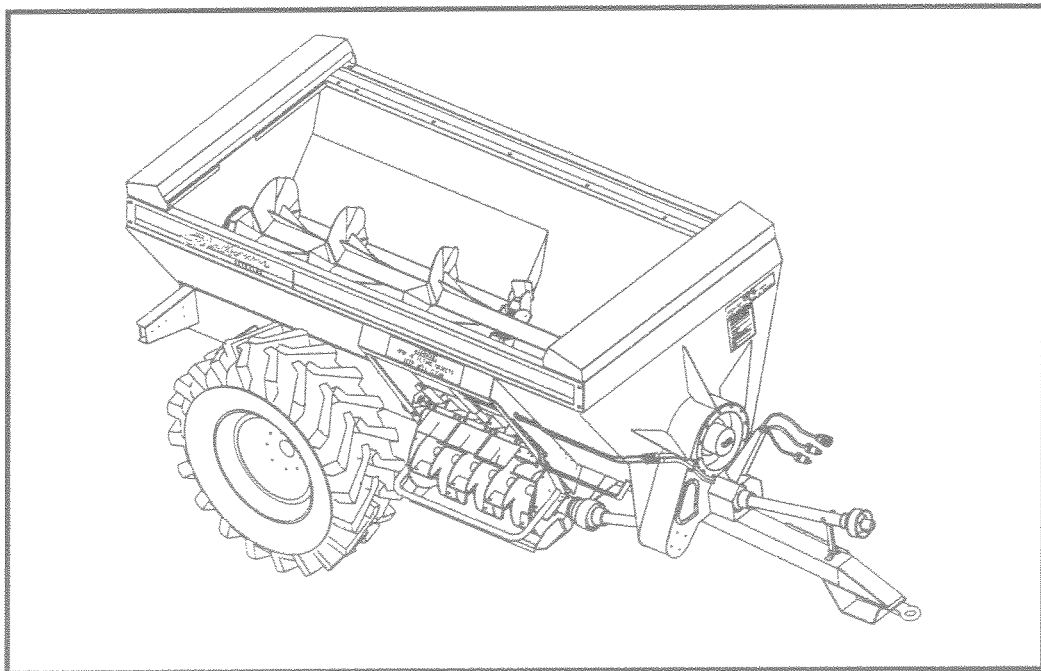
1.1 FOREWORD

This manual will assist the operator to set, operate and service the Shelbourne Reynolds Powerspreads 500, 640 and 770 to give safe, efficient and optimum spreading throughputs. It should be read carefully before putting the machine to work. Later sections illustrate and list all relevant spare parts.

The Powerspread 500 manure spreader has a capacity dependent on material of up to 6.5 tonnes, the Powerspread 640 up to 8 tonnes and the Powerspread 770 up to 9.5 tonnes.

The machines have been designed to spread all types of material from thin slurry, to the heaviest farmyard manure.

As with all machinery, routine maintenance is a necessary condition for long life and it will repay the operator to read this manual and to follow the operating and maintenance instructions carefully.



1.2 IMPROVEMENTS AND CHANGES

Shelbourne Reynolds Engineering are continually improving their products to meet the farmers needs and therefore reserve the right to make improvements and changes when practical to do so, without incurring any obligation to make changes and additions to equipment which has been sold previously.

1.3 SERVICE PARTS

Use guaranteed and genuine Shelbourne Reynolds Engineering service parts on Shelbourne Reynolds machinery to ensure maximum life and best performance. These are available through your Shelbourne Reynolds Engineering dealer.

When ordering service parts always quote the model, serial number and machine number.

1.4 MACHINE IDENTIFICATION

The serial and machine numbers of the Powerspread 500, 640 and 770 spreaders are located on the left hand side of the main drawbar beam.

1.5 SHELBOURNE REYNOLDS ENGINEERING LTD - WARRANTY TERMS AND CONDITIONS TO THE PURCHASER

GENERAL

1. This warranty will become available to you when you have paid for the equipment and returned, duly completed, the delivery and warranty registration forms. It will expire on the anniversary of purchase from the dealer. After that date Shelbourne Reynolds will have no further liability under this warranty to you except in respect of claims already notified. This warranty is not transferable and is available only to the original purchaser from our dealer. In the case of purchasers having leasing or similar arrangements the first user shall be deemed the original purchaser and you shall be deemed to have paid for the equipment.

USE AND MAINTENANCE

2. To maintain the benefit of the warranty throughout the twelve month period you must have the machine serviced in accordance with our recommendations and use the machine properly. If on inspection the machine appears to have been either misused, overloaded, improperly operated, neglected, not properly maintained, altered or repaired without our consent this will invalidate the warranty. We shall have no further liability under it to you at all. (If you require any guidance as to use you should contact the dealer.)
3. Our liability under this warranty is dependent upon your making the equipment and facilities available, for inspection and testing.
4. In this warranty the expression, "defective product" means any part of the equipment you have purchased which shows evidence of a defect in the materials, design (due regard being given for the state of the art at the time we designed it) or Shelbourne Reynolds' workmanship.

Wearing parts, such as chain tension blocks, are excluded. Parts not manufactured by Shelbourne Reynolds, for example wheels and tyres, are also excluded.

OUR OBLIGATIONS

5. If you discover a defective product you should contact the dealer from whom your machine was purchased. The dealer will notify us of your claim. Our obligation will then be to either replace, or if we consider it appropriate, repair the defective product. Alternatively, we may arrange for our dealer to carry out this work. YOU MUST NOTIFY THE DEALER OF THE DEFECT WITHIN SEVEN DAYS OF THE DAY ON WHICH IT IS DISCOVERED AND YOU MUST NOT USE THE EQUIPMENT AFTER DISCOVERY. FAILURE TO OBSERVE EITHER OF THESE OBLIGATIONS WILL INVALIDATE THE WARRANTY AS IS APPLIES TO THAT DEFECT. Any defective products replaced must be returned to SRE for inspection.

NO ADMISSION

6. On occasions we may, to preserve goodwill, replace parts even though they are not in our opinion defective. Accordingly, our agreeing to repair or replace a part cannot in any circumstance be deemed an admission that it was defective.

LIMITATIONS

7. This warranty shall not apply to products made up in accordance with customer originated designs.
8. No warranty, condition or other term implied by statute or common law as to the merchantability or fitness for a particular purpose, is intended or given by this warranty. All such warranties which may apply between Shelbourne Reynolds and yourself are excluded to the fullest extent permitted by law.
9. In any case, except in respect of death or personal injury caused by our negligence, we shall not be liable to you by reason of any representation or implied warranty, condition or other term, or any duty at, law or under the express terms of any contract, for the consequential loss or damage (whether for loss or profit or otherwise and including delay in field work, expense incurred for labour, additional or substitute material, rental whatsoever and whether caused by our negligence, the negligence of our employees or agents or otherwise) which arises out of or in connection with the use of the goods by you.
10. Time of repair is not of the essence.
11. No person or persons are authorised to alter, modify or enlarge this warranty on behalf of Shelbourne Reynolds.

Shelbourne Reynolds shall not be liable for any failure to comply with any part of the warranty where such failure is due to circumstances beyond their reasonable control, including difficulty in obtaining materials or replacement parts.

CALL OUT CHARGES

13. Shelbourne Reynolds and all dealers reserve the right to make a reasonable charge for call outs made at your request which do not turn out to relate to defective products.

IMPORTANT NOTES

14. The chassis and wheel equipment are designed to carry the maximum load of the model of Powerspread supplied; as stated on the specification plate. The fitting of "greedy boards" around the top of the hopper which enable weight loadings in excess of those specified will invalidate the warranty and Shelbourne Reynolds liability.

YOUR STATUTORY RIGHTS ARE UNAFFECTED.

2.1

**ACCIDENT PREVENTION**

Accident programmes can only prevent accidents with the co-operation of the persons responsible for the operation of the equipment.
For safety of yourself and others, operate equipment with care and do not take unnecessary risks which could cause an accident.

ALL WARNING INSTRUCTIONS MUST BE OBEYED.

THE FOLLOWING LABELS ON THE MACHINE MUST AT ALL TIMES BE KEPT CLEAN AND LEGIBLE.

"WARNING :- OPERATOR MUST NOT WORK AT THIS
MACHINE WHEN IN MOTION."

"WARNING :- RISK OF FLYING OBJECTS
KEEP WELL CLEAR."

**CAUTION**

In addition to the following list, this symbol will appear throughout this manual whenever your safety is involved.

PRECAUTIONS -**2.2 BEFORE STARTING THE MACHINE**

1. Read the manuals thoroughly.
2. Check that all guards are properly secured.
3. Ensure that no person is working on or inside the machine.
4. Check that all observers are clear of the machine.

2.3 THE MACHINE IN THE FIELD

5. Do not permit anyone to ride on the Powerspread or climb on the machine when the spreader is in operation.
6. Always stop the engine and apply the handbrake on the tractor before removing or opening any guards or clearing a blockage in the spreader.
7. NEVER allow anyone to walk alongside the right hand side of the machine whilst operating, or injury from flying objects may occur.
8. Be aware that small stones and other similar hard objects can be thrown further than manure. Care should be taken when working near highways, public footpaths, buildings, etc...
9. Always replace all guards after making any adjustments or lubricating the machine. Replace or repair any damaged or missing guards immediately.

10. Do not work around the machine in loose clothing that might get caught in moving parts.
11. Keep hands away from moving parts.
12. Keep children away from and off the machine at all times.

2.4 LEAVING THE MACHINE

13. Park the machine on reasonably level ground.
14. Apply the tractor's parking brake.
15. Stop the tractor's engine before leaving the cab.
16. When unhooking the spreader apply the machine's parking brake before moving the tractor away.
17. Position the PTO shaft on the stand provided and locate the hydraulic hoses in the hose parking station on the front of the machine.

2.5 SERVICING THE POWERSPREAD

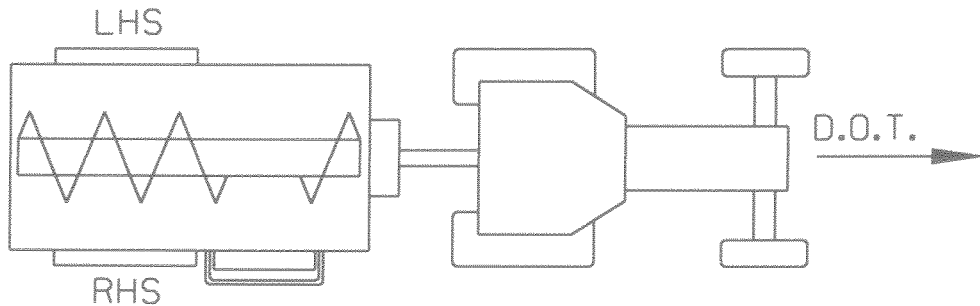
17. Stop tractor engine and apply handbrake before performing any adjustments or lubrication and before opening or removing any guard.
18. Always re-install all safety guards on completion of servicing.

2.6 SPREADER ATTACHMENT AND TRANSPORTATION

19. Follow the procedure described further through this manual for spreader attachment and detachment.
20. Follow the section on loading the Newgen Powerspread and ENSURE THAT THE MACHINE IS NOT OVERLOADED. The specification plate on the left hand side of the drawbar beam will state the safe maximum working weights and loads.
21. When towing the loaded Shelbourne Reynolds Powerspread on the highway, ensure that material cannot over-flow or spill out of the hopper.
22. When towing the Powerspread, ensure that the P.T.O. shaft and hydraulic hoses are attached correctly and not able to interfere with the ground or foul any moving parts.

SECTION 3 SPECIFICATION & DESCRIPTION

RIGHT AND LEFT HAND OF THE MACHINE AS TERMED IN THE MANUAL IS AS VIEWED WHEN IN THE DRIVERS SEAT.



THE SHELBOURNE REYNOLDS POWERSPREAD 500, 640 AND 770

FEATURES

Gear box drive to main auger.

Patented centre discharge auger provides boiling movement of manure.

Automatic spring-back paddles.

Vertical centre lift door.

Overshot impeller.

Impeller can pivot away from door.

BENEFITS

No need for heavy chains & sprockets.
Minimal wearing parts.

High rates of discharge and material well broken up in hopper.

Maximum protection against stones and foreign objects.
No need to climb in to reset.

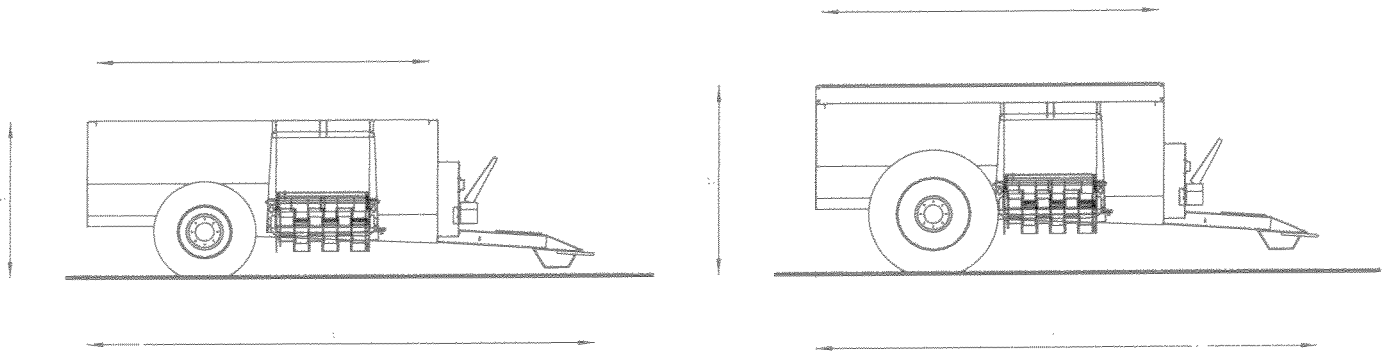
Allows an even discharge of manure at any door setting, utilising the total impeller width.

Provides a fine even spread at widths of up to 14 metres.

Allows full access to door for easy removal of large stones and obstructions.

TECHNICAL SPECIFICATIONS:

Sizes and weights are as follows:- (all dimensions and weights are approximate)



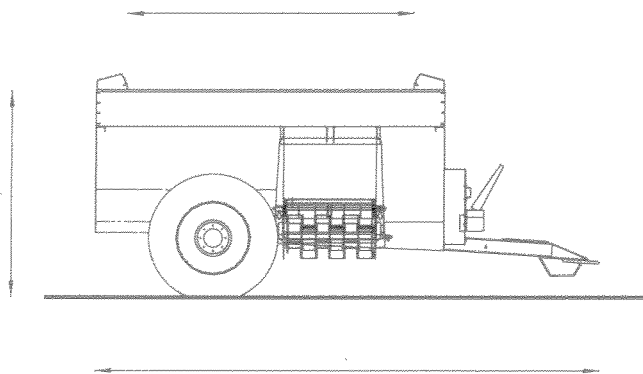
POWERSPREAD 500

POWERSPREAD 640

Capacity(litres)	4920	6365
Capacity(tonnes)	up to 6.5	up to 8
Length (A)	5475mm	5475mm
Width	2365mm	2410mm
Loading height (B)	1735mm	2065mm
Opening length (C)	3580mm	3580mm
Opening width	1703mm	1690mm
Tyre size	18x19.5/14 16 ply	18.4-26 12 ply
PTO speed	540rpm	540rpm
Recommended size of tractor	70-90 hp	70-90 hp
Unladen weight	2280kg	2490kg
Spread width	8-14 m	8-14 m
Door size	955mm	955mm
Door operation	Double acting hydraulic ram	

TECHNICAL SPECIFICATIONS:

Sizes and weights are as follows:- (all dimensions and weights are approximate)



POWERSPREAD 770

Capacity(litres)	7710
Capacity(tonnes)	up to 9.5
Length (A)	5475mm
Width	2480mm
Loading height (B)	2255mm
Opening length (C)	3060mm
Opening width	1690mm
Tyre size	18.4-26 12 ply
PTO speed	540rpm
Recommended size of tractor	70-90 hp
Unladen weight	2700kg
Spread width	8-14 m
Door size	955mm
Door operation	Double acting hydraulic ram

OPTIONAL EXTRAS

Optional Extras on Powerspread 500;

- narrow 16.5/85 x 28 tyres
- slurry canopy (KIT-02607)
- brake relief kit (for use when brakes are not connected direct to tractor brake line i.e. when brakes are connected into tractor spool valves) See section 4.4

Optional Extras on Powerspread 640;

- slurry canopy (KIT-02604)
- narrow 16.5/85 x 28 tyres
- larger 21.3 x 24 12 ply tyres
- brake relief kit (for use when brakes are not connected direct to tractor brake line i.e. when brakes are connected into tractor spool valves) See section 4.4

Optional Extras on Powerspread 770;

- larger 21.3 x 24 12 ply tyres
- brake relief kit (for use when brakes are not connected direct to tractor brake line i.e. when brakes are connected into tractor spool valves) See section 4.4

SECTION 4

TRANSPORTATION AND ATTACHMENT

4.1 ATTACHING SPREADER TO TRACTOR

The Powerspread is only supplied with a 50mm diameter ring hitch as the drawbar loading is too high for use on a tractor drawbar. The machine should only be used on the automatic pick up hitch of the tractor.

A parking jack is not supplied with the spreader but a shoe is welded to the underside of the drawbar. This enables the automatic pick up hitch hook to easily move under the drawbar lug when attaching the spreader.

The PTO is equipped with a standard 1 3/8" six spline suitable for all 540 rpm tractor PTO shafts. The length of shaft may have to be adjusted to cater for your particular tractor/Powerspread combination.

With the Powerspread attached to the tractor and parked in the straight ahead position, slide the PTO shaft apart and connect the respective ends to the tractor and Powerspread.

Lay the shafts side by side and make sure they have at least 150mm of distance between the end of the shaft and the adjacent joint.

Shaft lengths can be adjusted by sawing off equally a proportion of tube from the inner and outer PTO tube together with a corresponding amount off the plastic protection tubes. The tubes should always have at least 300mm overlap whilst operating.

If necessary check the length of the shafts by steering the tractor into a full lock in one direction and seeing that the shafts do not "bottom."

Make sure the tractor 540 P.T.O. speed is selected at all times.



Ensure that the tractor link arms do not foul the P.T.O.

4.2 CONNECTING THE DOOR RAM HYDRAULIC HOSES

The hydraulic hoses are equipped with 1/2" quick release coupling ends as standard, and the Powerspread requires a double acting supply to raise and lower the discharge door.

If couplings are not compatible, change to suitable connections for the required application.

If the tractor is fitted with a flow control valve, adjust to minimum flow rate.

Having pushed the hose ends into the tractor spool valves, ensure that the hoses do not hang down and obstruct the tractor lift arms or any moving parts.

SECTION 4 (continued)

4.3 CONNECTING THE BRAKE HYDRAULIC HOSE

The Powerspread flexible hydraulic brake pipe is fitted with a quick release female coupling to suit the ISO standard tractor brake system.

Having pushed the hose end into the tractor spool valve, ensure that the hose does not hang down and obstruct the tractor lift arms or any moving parts.

4.4 THE POWERSPREAD BRAKING SYSTEM AND HANDBRAKE

In order to comply with the Health & Safety Executive code of practice on trailer braking together with the Construction and Use Regulations, the Powerspread is fitted with brakes, which must be coupled to the tractor when travelling. Ideally the spreader should be connected directly to the tractor braking system, as will be the case on all modern tractors. However, earlier tractors without this facility can be fitted with a trailer braking kit which enables this direct connection to be made. This ensures that when the tractor brakes are applied, the brakes on the Powerspread are also brought into operation, usually slightly in advance of the tractor brakes.

IMPORTANT NOTE

A Shelbourne Reynolds brake relief kit must be used if the brakes are to be operated through the spool valves at the rear of the tractor due to the excessive pressures released by the valves.
(The part number of this kit is KIT-02602)



AT ALL TIMES WHEN THE MACHINE IS IN MOTION, EITHER TRAVELLING OR WORKING, THE HYDRAULIC BRAKE LINE MUST BE CONNECTED.

The parking brake is applied by pulling the lever towards the tractor. **WHEN THE MACHINE IS TO BE DISCONNECTED FROM THE TRACTOR THE PARKING BRAKE MUST BE APPLIED BEFORE DISCONNECTION, EVEN ON LEVEL GROUND.** The parking brake must be released prior to towing the machine, after re-connection to the tractor.

When the machine is attached to the tractor the cable must be connected between the tractor and the parking brake lever such that, should the machine become inadvertently detached from the tractor, the spreader brakes would be automatically applied.

Similarly, when detaching from the tractor, ensure that the brake hose and other hydraulic hoses are pushed into the hose parking station. Also, make sure the PTO is supported on the stand provided on the drawbar.

SECTION 5

FIELD OPERATION AND SPREADING

OPERATING THE SHELBOURNE REYNOLDS POWERSPREAD.



Read this manual carefully before operating the spreader in the field.

To get optimum performance from your Shelbourne Reynolds Powerspread the operator should keep to the following procedures of operation.

5.1 GENERAL

The machine is designed to run at 540 rpm PTO speed. Spreading should be done in straight line bouts, avoiding spreading while turning corners as this will cause vibration in the PTO drive.

5.2 LOADING THE POWERSPREAD

Always close the door before loading the Powerspread.

All free flowing muck/slurry must not be overfilled or the material will be discharged over the side during transport.

If thin slurries are to be spread, then the correct setting of the discharge deflectors above the door is required. (See settings for deflector paddles - Section 5.11)

When travelling on the highway the Powerspread should not be overloaded and when carrying thin slurries allow sufficient room at the front of the spreader to prevent "forward surge" and consequent over-spill if emergency braking should be required.

A Shelbourne Reynolds optional extra canopy kit is available for the Powerspread 500 and Powerspread 640 to also prevent this over-spill when carrying slurry. The kit part numbers are KIT-02607 and KIT-02604, respectively.

While loading dry straw or clamp manure precautions should be taken if large slabs or lumps, particularly from the front of feeding troughs, are encountered.

Always endeavour to slide these down the side into the hopper and do not position them directly onto the top of the auger as this may cause bridging and will cause high start up power requirement.

Where possible, break down such slabs or lumps when loading the spreader to avoid this occurring and also help improve spreader discharge rates.

When spreading sugar beet factory sludge (waste lime) and like materials, the machine should not be filled above the top of the auger flights.

SECTION 5 (continued)

5.3 DISCHARGE RATE

The standard machine is designed with a 9.5rpm speed auger so that with the door wide open a reasonably fast discharge rate can be obtained. This auger speed is the optimum speed for the majority of different manure types; but it can be slowed to 7rpm for particularly fine chicken muck where low application rates are required, or increased to 13rpm for spreading wet muck or slurry at high application rates. This is particularly useful when large loads are being spread, and therefore the quicker the unloading time the better. The auger speed is reduced or increased by changing the drive sprocket and chain (as shown in Section 6.4).

For a finely shredded spread with a low discharge rate the door opening will be small. The auger still transports the manure to the discharge position at the same speed though, and the resultant "bottle-neck" of material causes a "boiling up" effect. This helps break down the manure further before it is finally ejected onto the impeller blades and discharged.

IMPORTANT NOTE

Some manure types are not suited to this method, especially if they are already tightly packed or layered before loading. In these cases the door should be opened wide to allow fast ejection and the forward speed of the tractor increased to achieve a suitable spread rate on the field.

The discharge or spread rate of the Powerspread depends very much on the type of material being spread. For a given material it will be found that there is an ideal door position for maximum throw of the material and maximum shredding of the manure. It is essential that the standard PTO speed of 540 rpm is maintained at all times and the discharge rate varied according to the door opening and the forward speed of the tractor. A further variant is the amount of overlap between each run which, in most cases, will average 6m (20ft).

5.4 FOREIGN OBJECTS

If during the spreading, a knocking sound is heard or sparks are seen coming from the impeller, then there will be a foreign object such as a stone in the machine. Open the discharge door wide to allow the object to be thrown out. If the object is not cleared immediately, stop the machine and stop the tractor and investigate.

5.5 DOOR OPENING

As a general rule it is better in heavy straw manure to open the door wide when starting the machine running, and then closing the door to give the desired spread rate and shredding capabilities.

The opposite applies with thin slurry, as a very small door opening will be required (possibly as low as 25mm / 1").

When spreading slurry the machine should be running at the correct 540 rpm PTO speed before the door is opened. The door should be opened slowly, watching the door indicator and the spread width to gauge a satisfactory spread rate.

The door opening will depend completely on the type and consistency of the material being spread and the spread rate desired by the operator.

5.6 SPREADING SEMI-SOLID MATERIALS / LAGOON SCRAPINGS

Start with discharge door closed, engage PTO gently at low engine rpm's and gradually and positively bring up to 540 rpm. At the same time move forward at the required speed and then immediately open the hydraulic door to the required position on the indicator. This position will depend on the type of consistency of the material being spread, and the operator's judgement of spread rate and pattern. It may be that this type of material will cause partial blockage of the discharge door,(also when the auger flights are not fully covered the discharge rate will reduce), therefore it may be necessary to increase the door opening for the last part of the load.

See notes in section 5.11 on spread pattern for adjustment of deflector paddles.

5.7 SPREADING SOLID MATERIALS

When spreading solid material open the hydraulic door to the required position on the indicator. This position will depend completely on the type and consistency of the material being spread, and the operator's judgement of spread rate and pattern. Then engage the PTO gently at lower engine rpms, gradually and positively bring up to 540 rpm and at the same time move forward at the required speed.

In order to achieve higher discharge rates when spreading unrotted, compressed material, the material should be broken up when loading into the machine. The use of grab-buckets should be avoided; always use manure forks.

When clearing stockyards the areas around the feed troughs will be compacted and so breaking up the manure with the loader forks will speed up the spreader discharge rates.

5.8 SHEAR BOLT PROTECTION

To prevent damage to the Powerspread by foreign objects, a shear bolt protection is provided on the impeller drive and on the auger drive.

SECTION 5 (continued)

IMPELLER SHEAR BOLT

If the impeller encounters an obstruction and shears a bolt, stop the tractor and the machine immediately. Disconnect the PTO shaft from the tractor and clear the impeller area and remove the obstruction. Replace the shear bolt and reconnect the PTO before continuing to spread.

The impeller shear bolts on the Powerspread are made from special material. Normal commercially available bolts are not suitable.

The shear bolts must be genuine Shelbourne Reynolds service parts. If not, the company will not consider any claim made under the warranty and no liability shall be attached to the company.

Powerspread impeller shear bolt part no.	605123 01
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AUGER SHEAR BOLT

If the main auger is stopped by an obstruction, the shear bolt system will disengage the drive to the auger. The drive will still rotate the impeller but the auger will have become disconnected and so the feed of the material will gradually stop.

Stop the tractor engine and then disconnect the PTO shaft from the tractor to the machine at the machine end. Remove the small "top-hat" guard from the front of the drive casing by loosening the four bolts, rotating and withdrawing it. Do not remove these bolts, gasket or the split division plates. Remove all pieces of the broken shear bolt from it's hole in the drive discs and from inside the casing.

Fit the new shear bolt and the "top hat" guard.

The auger shear bolts on the Powerspread are made from special material. Normal commercially available bolts are not suitable.

The shear bolts must be genuine Shelbourne Reynolds service parts. If not, the company will not consider any claim made under the warranty and no liability shall be attached to the company.

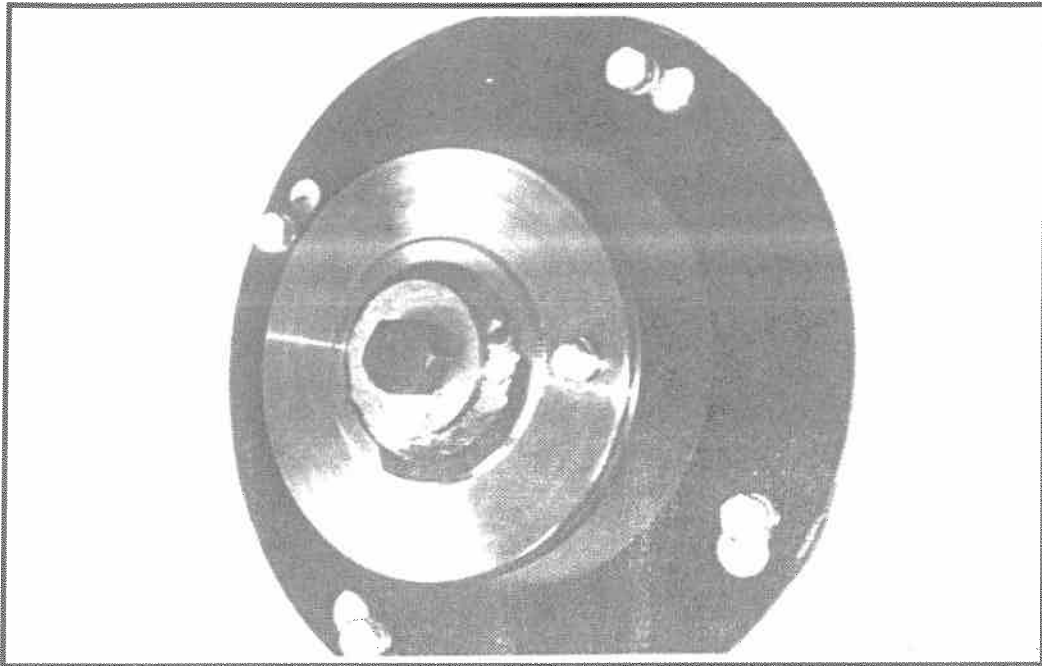
Powerspread auger	shear bolt part no.	BLTA06230
	nut part no.	NUT-0260

Note ;

The photograph Fig.1 shows the auger shear bolt.

It is important not to allow any muck, dirt or foreign objects to fall into the chain casing and oil bath.

Fig.1



Now that the auger drive is re-engaged it is highly advisable to use the splined boss end of the tool to reverse the auger by turning over the PTO intake shaft in a clockwise direction (see arrow direction "R" on the resetting tool).

By reversing the main auger at least half a revolution (ie. approximately 27 revolutions of the input PTO shaft), you will effectively create a cushioned start-up for the tractor and so the Powerspread drives would build up momentum before the auger encounters the obstacle which broke the shear bolt in the first place.

Finally reconnect the tractor PTO shaft and replace the "top-hat" guard on the front of the drive casing.

5.9 DROP-DOWN IMPELLER

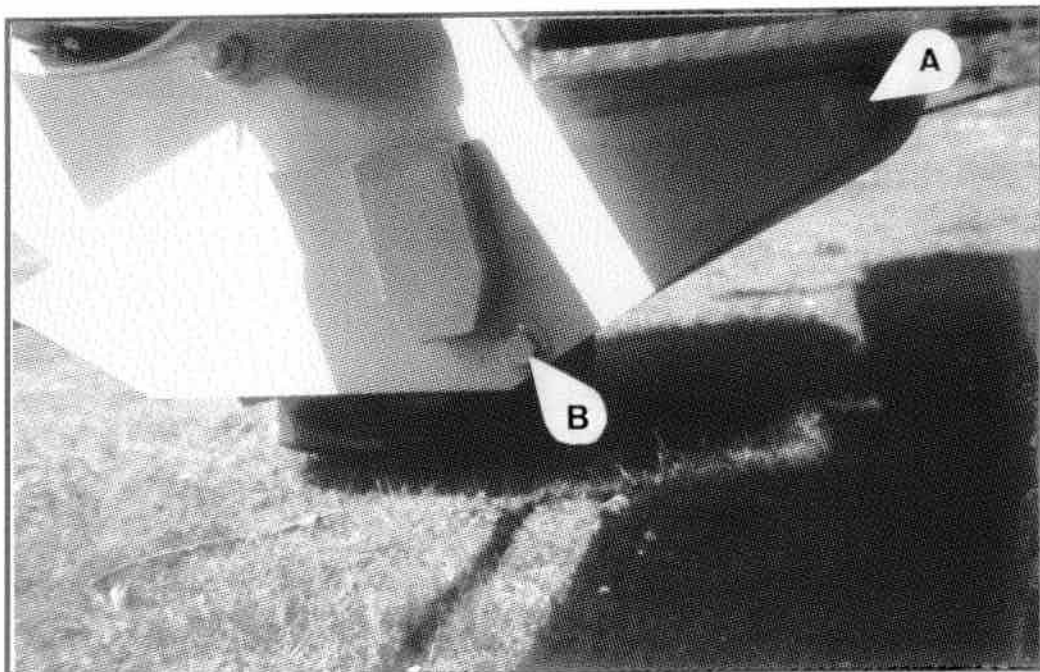
If an obstruction is encountered which is large enough to continuously shear the auger shear bolt then it must be removed through the door. Stop the tractor engine and remove the tractor PTO at the Powerspread end.

SECTION 5 (continued)

By lifting the door fully up, there may be enough distance between the impeller and the door to remove the offending object. If the gap is still not big enough then it is necessary to drop the impeller down away from the door area to gain access. The operation is easily done by following this procedure ; (See Fig.2)

- (1) Loosen the two anti-drip tray pivot bolts {(a) in Fig.2}
- (2) Remove the two anti-drip tray retaining bolts {(b) in Fig.2}

Fig.2



The anti-drip tray will now drop away underneath; thus giving access to the impeller pivot bolts behind {(a) in Fig.3}.

- (3) Loosen the two impeller pivot bolts {(a) in Fig.3}.
- (4) Undo the four locking nuts on the impeller adjuster studs {(b) in Fig.3}.
- (5) Loosen the two coach bolts {(c) in Fig.3} which clamp the impeller side plates to the side of the Newgen Powerspread.

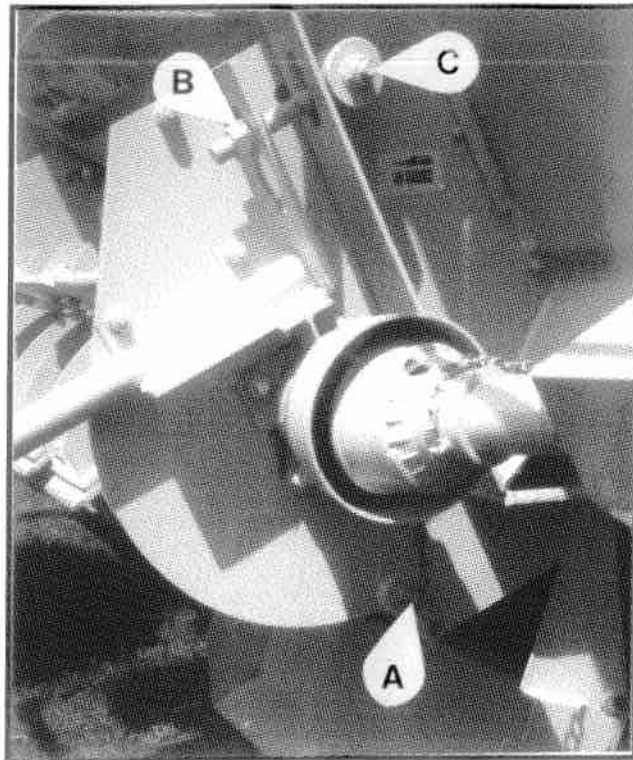


Safety Note :

The impeller is now free to pivot about the bottom two bolts {(a) in Fig.3} and so great care should be taken to lower the impeller down onto a suitable stand or block. By using a stand or block it will enable the impeller guard rail to stay clear of the ground, allowing it to be easily picked up again afterwards. Also, more importantly, if the impeller is dropped away too far then the two halves of the impeller drive PTO are likely to become disconnected in the middle.

- (6) Once supported in its lowered position the drop-down impeller will now allow access to the total area of the door to remove any offending obstacle or obstruction from the hopper.
- (7) Having removed the blockage, the reverse procedure must be followed to lift and set the impeller back in its previous working position. See Section 6.1 for the correct setting.
- (8) Tighten up all bolts which were loosened or removed.

Fig.3



Occasionally check the machine for build up of foreign materials such as plastic baling twine wrapped around the auger core. Normally this causes no problems but should not be allowed to build up too much as it will impair the performance of the auger. From time to time cut the twine and remove it.

Always keep the side of the hopper clean, never allow a build up of material or this will obstruct the feed of material to the auger.

The Powerspread impeller is equipped with replaceable wear plates. Being double serrated edged, when one edge is worn the blades can be reversed.

5.10 "SPRING-BACK" PADDLES

The Powerspread is fitted with automatic "spring-back" paddles on its main auger. These remove any need for entering the hopper to reset "break-back" paddles by hand.

SECTION 5 (continued)

If a large obstruction is encountered, the paddle will try and push it round with the auger as it rotates. If the blockage is too large to move then the paddle is designed to "give" and move back against the tension of a spring. Once the paddle passes the obstruction, the spring forces the paddle back to it's original position again - thus enabling more muck to be spread.

However, if the machine is not stopped and the obstruction removed, then damage will occur as the paddle continually strikes it and bends fully back with each revolution of the auger.

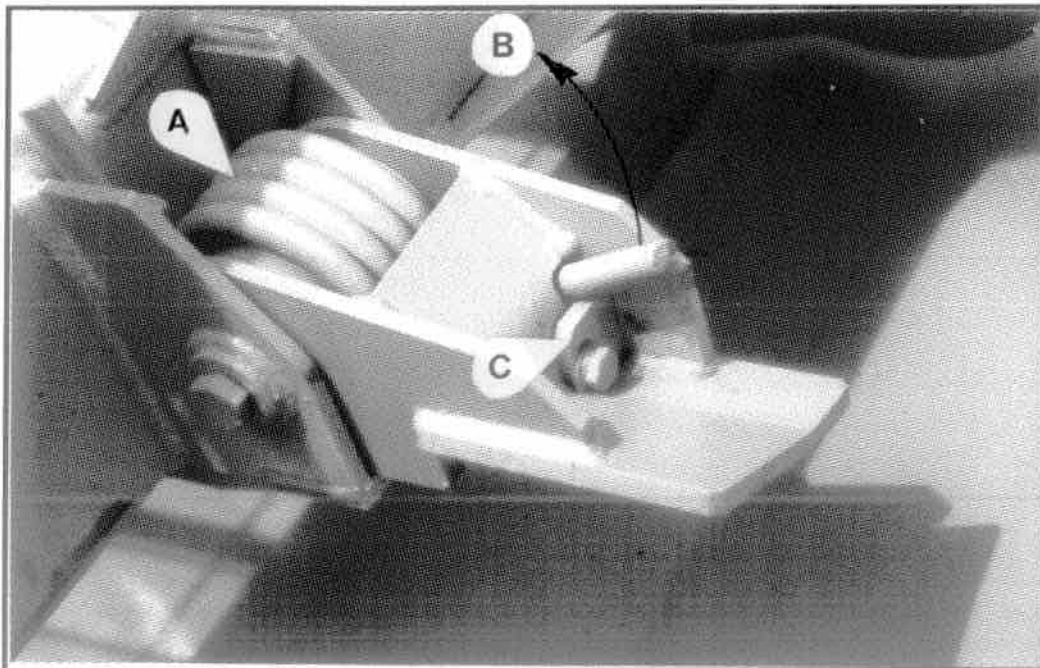
Note ;

The principle of the "spring-back" paddle is to reset itself automatically after bending back against an obstruction - not to allow the operator to ignore the obstruction inside the hopper and continue spreading regardless.

During normal spreading of well rotted manure the paddles may not spring back at all. With dryer or strawy muck it may be possible for the operator to occasionally hear a deep "thud" as the paddles are operating inside the hopper and continually "flicking" and pushing the muck towards the door. This is normal, but if the noise becomes excessive or the body actually shakes, the machine should be stopped and the problem investigated.

Pre-tensioning the "spring-back" paddle torsion springs

Fig.4



The Powerspread "spring-back" paddle torsion springs are pre-tensioned at the factory before the machine is supplied. This gives the paddles extra strength and makes it harder for them to be pushed back by the muck.

When continually spreading tough, dryer types of manure it may be necessary to eventually change the torsion springs {(a) in Fig.4} for new ones. This is easily done by firstly taking up the tension on the spring with the aid of a hollow tube slipped onto the end of the torsion spring and pulling it in the direction of arrow (b) in Fig.4. While holding the tension it will now be possible to remove the bolt clamping down the spring retaining plate {(c) in Fig.4}. Once the plate is removed, the spring tension can be released which means the paddle assembly will become loose. The large pivot bolt running through the centre of the paddle can now be removed which allows the whole paddle assembly to be dismantled. The torsion spring should be replaced and then the paddle re-assembled as before.

Finally, by using a piece of tube again, pre-tension the new spring and replace the spring retaining plate {(c) in Fig.4}.

Note ;

The ability of the paddle to "flex" and pivot against the force of the torsion spring when an obstruction is encountered, reduces the risk of damage to the body, door or impeller.

Under **NO** circumstances should the "spring-back" paddles be fixed solid in any way or warranty of the Powerspread will be invalidated.

5.11 SPREAD PATTERN

The patented adjustable impeller flights or deflectors, have been designed to give you the optimum spread pattern to suit your conditions when spreading slurry.

Each flight can be adjusted separately along the pivoting bar by loosening the coach bolts and rotating the flight on the bar. The flights are then adjustable together by operating the spring lever into any one of three positions; the lower two positions are for spreading slurry and the top position for spreading manures.

IMPORTANT NOTE

After adjusting the flights to a suitable place, care should be taken so when the spring lever is in its top position, the deflector flights do not obstruct the door ram when the door is raised and lowered.

See Fig.5 and Fig.6 which show the Powerspread discharge door with flights in the top position and flights in the middle position.

Fig.7 shows a suitable spread pattern for spreading slurry which is obtained by adjusting the deflector flights as described.

Fig.5

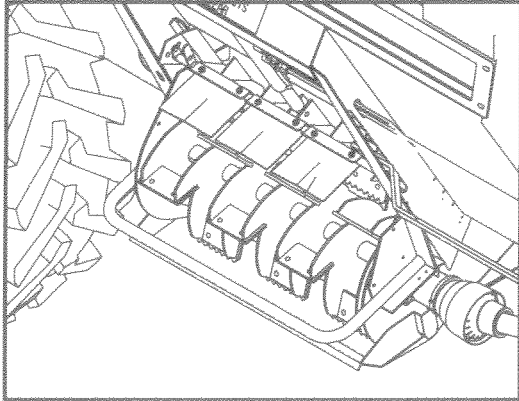
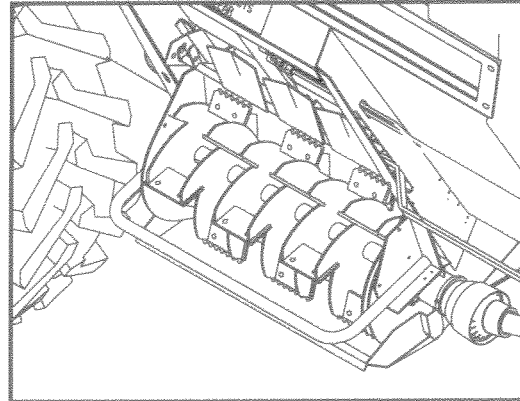


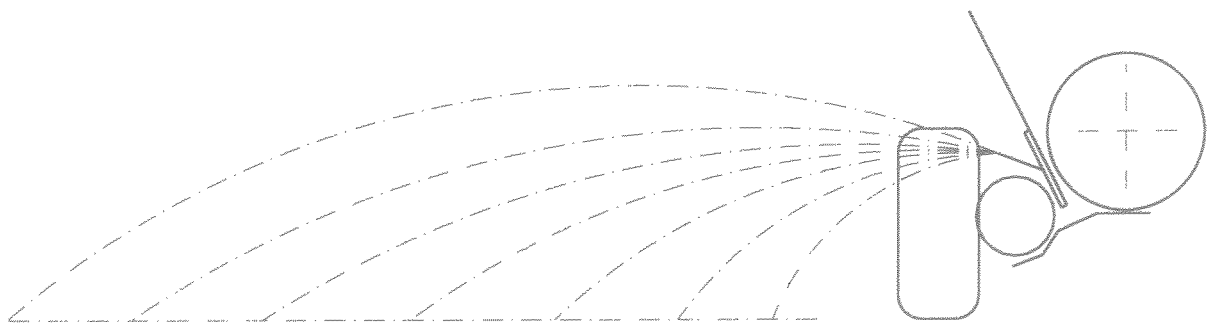
Fig.6



Flights in the top position

Flights in the centre position

Fig.7



Flights set to give a good band of spread when using slurry.



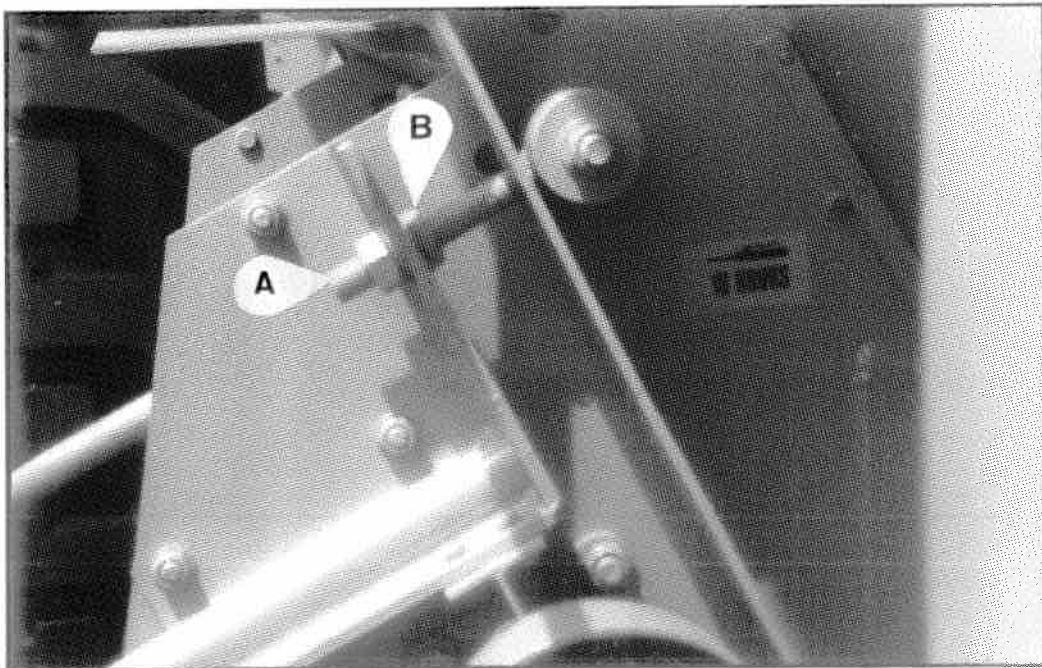
NEVER CARRY OUT ANY ADJUSTMENTS OR MAINTENANCE WHEN THE TRACTOR ENGINE IS RUNNING AND NEVER USE THE SPREADER UNLESS ALL GUARDS ARE SECURELY FITTED.

6.1 IMPELLER BLADE ADJUSTMENT

It is important to maintain a good spread pattern and a fine fragmentation of material being spread. This is achieved by ensuring that the impeller blades pass as close to the door as shown in Fig.9.

Impeller blades are attached to the impeller through a central hole and the impeller should be adjusted to give approximately 5mm (3/16") clearance between the tip of the blades and the outside face of the discharge door when closed. Fig. 8 shows the blades bolted to the impeller and the adjuster studs {{a} in Fig.8} used to alter the impeller's position relative to the door.

Fig.8



The smooth blades should protrude approximately 2mm (5/64") further than the teeth on the serrated blades.

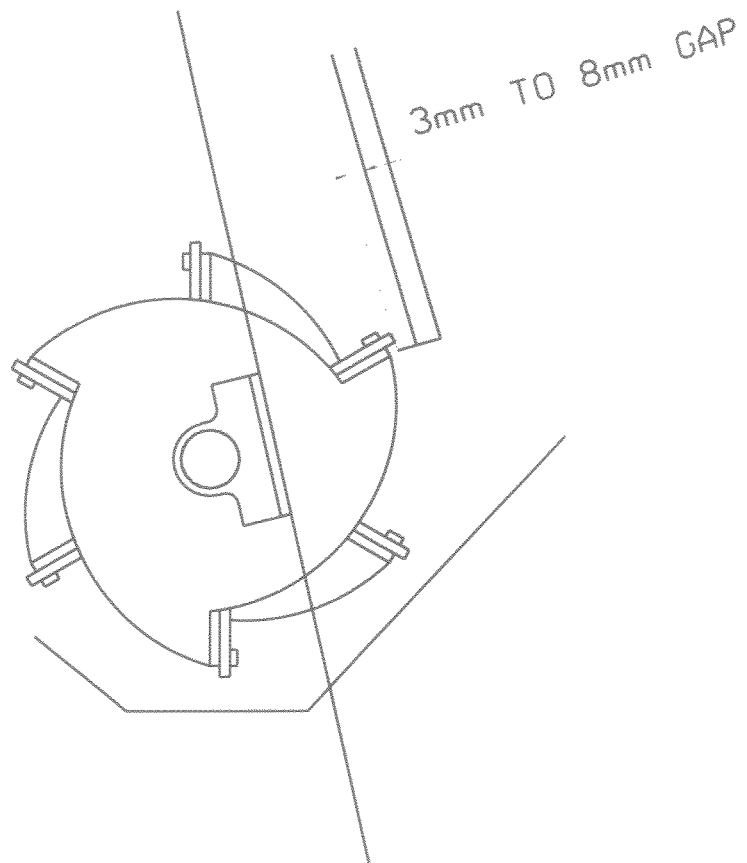
As the impeller blades wear, the whole impeller can be adjusted inwards so as to maintain spreading capability. The distance can be easily adjusted by slackening or tightening the four nuts {{b} in Fig.8} on the impeller adjuster studs {{a} in Fig.8}. In order to get the impeller to move easily it will also be necessary to slacken off the impeller pivot bolts {{a} in Fig.3} and the coach bolts {{c} in Fig.3}.

SECTION 6 (continued)

Once adjusted to within the required distance from the door, all bolts should be tightened up and set again.

When blades are fully worn on one edge they can be turned over and the second edge can be used. Failure to adjust the impeller position on a regular basis will impair the performance of the Powerspread.

Fig. 9



6.2 DRIVE CHAIN TENSIONING

The Powerspread is fitted with a simplex drive chain to transmit the input from the tractor to the auger gearbox and impeller drive shaft. The chain is fitted with a tension adjuster.

The correct chain tension will have been set at the factory but it should be periodically checked after the machine has been used in the field.

This will ensure good performance and life from the Powerspread chain drive system.

The chain can be seen through the clear inspection panel on the front of the drive casing. There is a nylon tube between the downward and upward strand of the chain which stops the two from touching should the chain ever become loose enough.

In reality, if the chain becomes this slack, there will be a risk of it jumping teeth on the drive sprockets and causing damage.

To tension the chain there is a large set-screw adjuster underneath the chain casing. This can be screwed in or out which lifts or lowers the tensioner assembly inside the chain casing. By screwing the set-screw in, the chain becomes tighter. This process is best done with the front inspection panel removed so that the chain tension can be physically felt and checked as it is tightened.

NOTE : BE CAREFUL NOT TO OVERTIGHTEN THE DRIVE CHAIN.

The drive chain is totally enclosed in the front casing, and it is designed to pass through oil in the bottom of the casing to continually lubricate the drive components inside. See Section 7 on lubrication for quantity and oil type.

Ensure after adjustment that sprockets are in line and paralleled to each other; this can be checked using a straight -edge across one sprocket onto the next.

6.3 SHEAR BOLTS

A shear bolt is provided on the impeller drive and on the auger drive; always ensure that these bolts are kept tight.

6.4 CHANGING THE AUGER SPEED SPROCKET

The Powerspread auger rotates at the standard speed of 9.5rpm. This is the optimum speed that has been set by Shelbourne Reynolds after comprehensive field testing and successful results with the auger at this speed. This speed is perfect for spreading nearly all types of manure but Shelbourne Reynolds also offer 7rpm and 13rpm kits for slowing down or speeding up the auger.

The slower speed is advisable when spreading fine or dry material such as chicken muck. On the other hand, where the material is well rotted and very easily spread, (like weathered pig muck), or the spreader is being operated on stubble fields and not grassland where a fine metered spread is required, the auger can be speeded up to 13rpm.

7rpm auger speed kit = Shelbourne Reynolds part no. KIT-02608

13rpm auger speed kit = Shelbourne Reynolds part no. KIT-02609

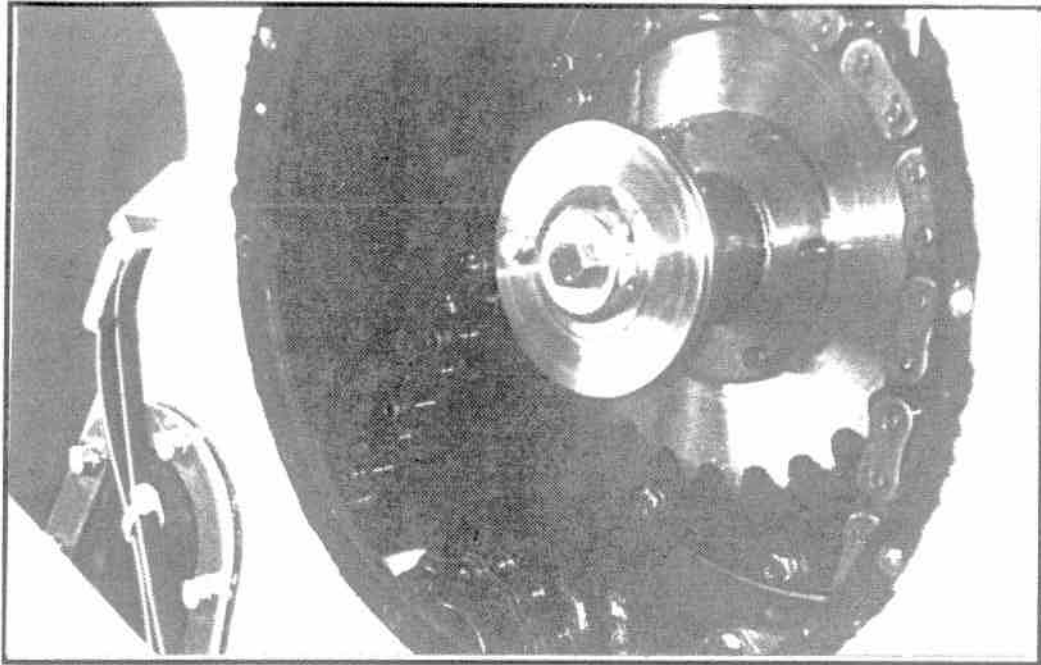
The speeds are changed by replacing the main auger drive sprocket {(a) in Fig.10} with an alternative, and reducing or increasing the length of drive chain.

Note ;

This operation is best performed in a workshop environment and not out in the field.

SECTION 6 (continued)

Fig.10



The procedure for changing speed is as follows ;

- (1) Remove the main front guard from the chain casing and disconnect the tractor PTO at the machine end.
- (2) Release the chain tension and "back-off" the tensioner as far as possible.
- (3) Remove five of the six sprocket retaining screws {(d) in Fig.10}. Leave the final screw in at the top to hold the sprocket on.
- (4) Split the drive chain at the joiner and unwrap the chain from the auger drive sprocket.
- (5) Remove the final sprocket retaining screw. The whole shear bolt assembly including the quill shaft and sprocket will now slide out.
- (6) Replace the drive sprocket with the new one and insert the shear bolt assembly back in place.
- (7) Replace and tighten the six sprocket retaining screws.
- (8) If a larger sprocket is fitted, then the drive chain must be lengthened by the links provided. If a smaller sprocket is fitted then the drive chain must be shortened by a suitable number of links to maintain a good tension. Re-join the chain and take up the tension with the adjuster.

6.5 WASHING INSTRUCTIONS

Wash down the Powerspread frequently. Protect the body by touching up damaged paintwork immediately.

Clean out any muck or dirt from the door runners.

If storing the Powerspread for any length of time, ensure that grease is squirted in through the four greasing points at the sides of the door with the door down, and then leave the empty spreader with the door in the "up" position.

6.6 TYRE PRESSURES

Check tyre pressures occasionally:

Powerspread 500
18 x 19.5 16 ply = 50 psi (3.00 bar)

Powerspread 640
18.4 x 26 12 ply = 38 psi (2.58 bar)

Powerspread 770
21.3 x 24 12 ply = 38 psi (2.58 bar)

6.7 HARDWARE AND FIXINGS

Check all hardware and fixings after the first 10 hours of work, then after this every 50 hours work.

Pay particular attention to wheel nuts and bolts securing bearings.

SECTION 7 LUBRICATION

- a) Lubricate sliding tubes of P.T.O. shaft every 25 hours with good quality moly-disulphide grease.
- b) Grease nipples on P.T.O. shaft every 10 hours.
Grease nipples on the door runners every 10 hours.
- c) Grease every 50 hours or once a working week.
 - 1. Auger rear bearing
 - 2. Impeller front bearing
 - 3. Impeller rear bearing
 - 4. P.T.O. drive shaft front bearing
- d) The epicyclic gearbox inside the end of the auger housing should be completely drained of oil after 50 hours continuous use. It should be re-filled with 1.25 litres of EP 90 gearbox oil as follows ;
With one of the plugs done up tight and the auger rotated until the plug is bottom-dead-centre, the other plug should be just below half-way up the auger. This is now the filler plug and oil should be put in slowly until it reaches this level.
- e) The oil in the front chain casing should be EP 90 gear oil or a standard chain lubrication oil. A quantity of 1 litre should be enough for the chain to pass through as it travels around the bottom impeller sprocket.
- f) Oil ram pivot pins
Oil guard latches and hinges
- g) Pack wheel hubs with grease once a year

SECTION 8 PARTS LISTINGS

SHELBOURNE REYNOLDS POWERSPREAD PARTS MANUAL

MACHINE IDENTIFICATION

The Powerspread machine and serial identification numbers are engraved on a plate on the left hand side of the machine.

Record serial, machine and any kit option numbers in the space below ;

POWERSPREAD SERIAL NUMBER _____

POWERSPREAD MACHINE NUMBER _____

OTHER KIT OPTIONS _____

ORDERING SPARE PARTS

To ensure that you order the correct part from your SRE dealer please use the following procedure.

ALWAYS QUOTE THE MACHINE AND SERIAL NUMBERS WHEN ORDERING.

Refer to the front page of this parts list section (machine assemblies), listing all the sub assemblies.

The appropriate assemblies part number (in the top left hand corner) will match the machine number from the Powerspread identification plate.

Use the following sub assembly numbers and descriptions to find the area of the machine that your part is required, i.e. you need a part which is fitted to the impeller, your part will be in the impeller assembly parts list.

Having decided which sub-assembly your part should be under, use the number beside that sub-assembly description which will begin with 6090-- -- to find the parts listing of the sub-assembly further on in the manual. The number will be printed in the top left hand corner, the sub-assemblies are in numerical order.

Having found the correct parts list, you will find the corresponding drawing by either looking at the facing page or progressing through the manual to the next drawing.

The drawings indicate the components by item numbers which you will find are repeated in the left hand side of your parts listing, and therefore referring to the correct part.

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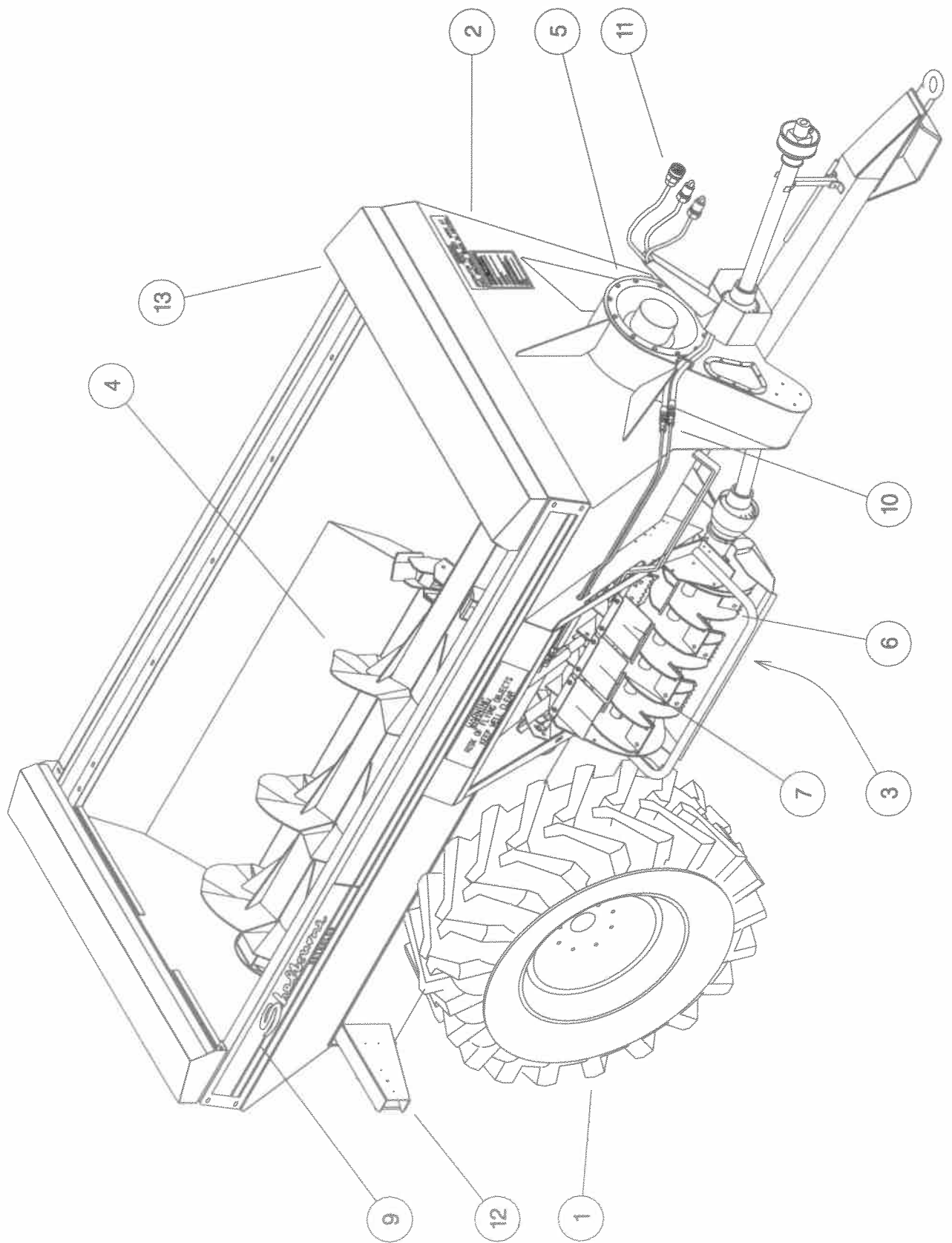
ASSY NUMBER: 60901 01		ASSY DESCRIPTION: NEWGEN POWERSPREAD 500 ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	609026 01	AXLE & WHEELS SUB ASSY	1				
2	609012 01	BODY & FRAME SUB ASSY	1				
3	609001 01	HANDBRAKE SUB ASSY	1				
4	609013 01	AUGER SUB ASSY	1				
5	609014 01	AUGER FIXING KIT SUB ASSY	1				
6	609015 01	IMPELLER SUB ASSY	1				
7	609023 01	DOOR & RAM SUB ASSY	1				
8	609016 01	MAIN DRIVES SUB ASSY	1				
9	609017 01	GUARDS & FIXTURES SUB ASSY	1				
10	609018 01	DOOR HYDRAULICS SUB ASSY	1				
11	609019 01	BRAKE HYDRAULICS SUB ASSY	1				
12	609021 01	LIGHTS SUB ASSY	1				

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ASSY NUMBER: 609901 02		ASSY DESCRIPTION: NEWGEN POWERSPREAD 640 ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	609026 01	AXLE & WHEELS SUB ASSY	1				
2	609012 01	BODY & FRAME SUB ASSY	1				
3	609001 01	HANDBRAKE SUB ASSY	1				
4	609013 01	AUGER SUB ASSY	1				
5	609014 01	AUGER FIXING KIT SUB ASSY	1				
6	609015 01	IMPELLER SUB ASSY	1				
7	609023 01	DOOR & RAM SUB ASSY	1				
8	609016 01	MAIN DRIVES SUB ASSY	1				
9	609017 01	GUARDS & FIXTURES SUB ASSY	1				
10	609018 01	DOOR HYDRAULICS SUB ASSY	1				
11	609019 01	BRAKE HYDRAULICS SUB ASSY	1				
12	609021 01	LIGHTS SUB ASSY	1				
13	609020 01	640 EXT SIDES SUB ASSY	1				

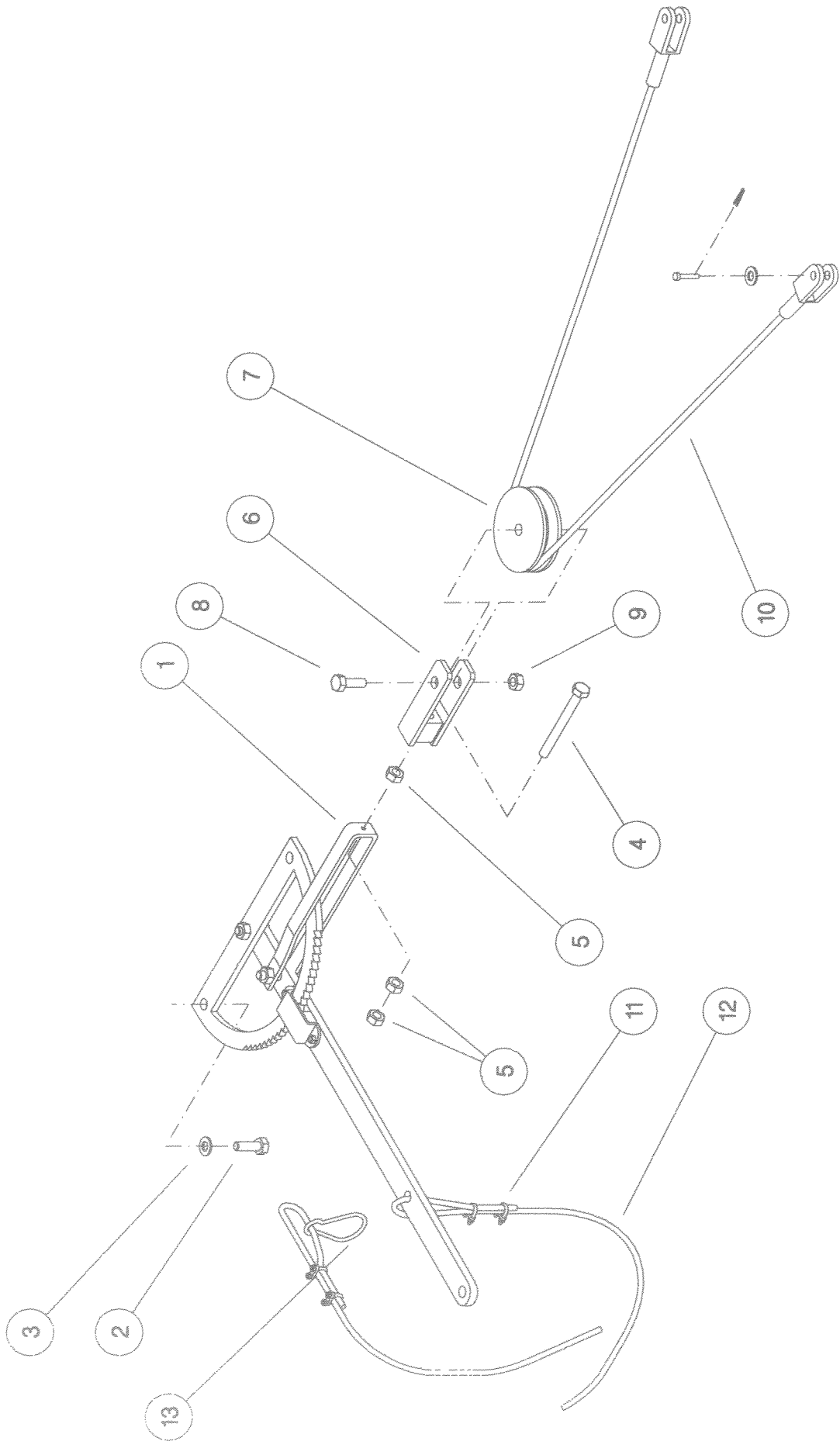
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ASSY NUMBER: 609901 03		ASSY DESCRIPTION: NEWGEN POWERSPREAD 770 ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	609026 01	AXLE & WHEELS SUB ASSY	1				
2	609012 01	BODY & FRAME SUB ASSY	1				
3	609001 01	HANDBRAKE SUB ASSY	1				
4	609013 01	AUGER SUB ASSY	1				
5	609014 01	AUGER FIXING KIT SUB ASSY	1				
6	609015 01	IMPELLER SUB ASSY	1				
7	609023 01	DOOR & RAM SUB ASSY	1				
8	609016 01	MAIN DRIVES SUB ASSY	1				
9	609017 01	GUARDS & FIXTURES SUB ASSY	1				
10	609018 01	DOOR HYDRAULICS SUB ASSY	1				
11	609019 01	BRAKE HYDRAULICS SUB ASSY	1				
12	609021 01	LIGHTS SUB ASSY	1				
13	609020 02	770 EXT SIDES SUB ASSY	1				



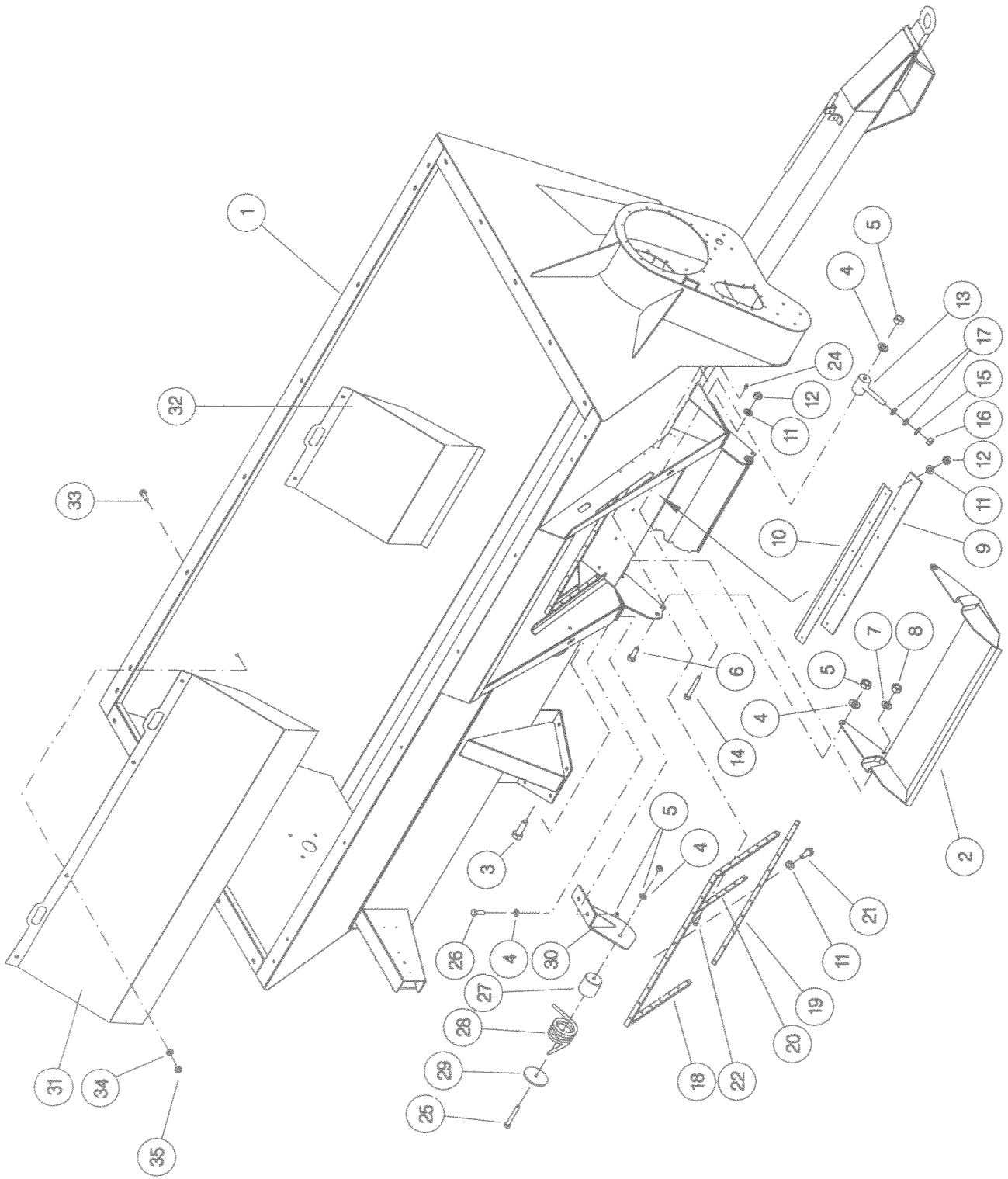
Shelbourne Reynolds Engineering Limited

ASSY NUMBER: 609001 01		ASSY DESCRIPTION: HANDBRAKE SUB ASSY			QTY	
ITEM	PART NO	DESCRIPTION	ITEM	PART NO	DESCRIPTION	QTY
1	590222 01	HANDBRAKE LEVER ASSY				1
2	HSS-0238	SETSCREW				2
3	WSH-0065	WASHER				2
4	HSSA10680	SETSCREW				1
5	NUT-0167	NUT				3
6	590060 01	PULLEY CLEVIS W/ASSY				1
7	590101 01	NYLON PULLEY				1
8	BLT-2252	BOLT				1
9	NUT-0269	NUT				1
10	590072 01	CABLE ASSY				1
11	WRP-02040	WIRE ROPE CLAMPS				4
12	WRP-00040	CABLE				3.6m
13	WRP-03000	SNAP HOOK				1



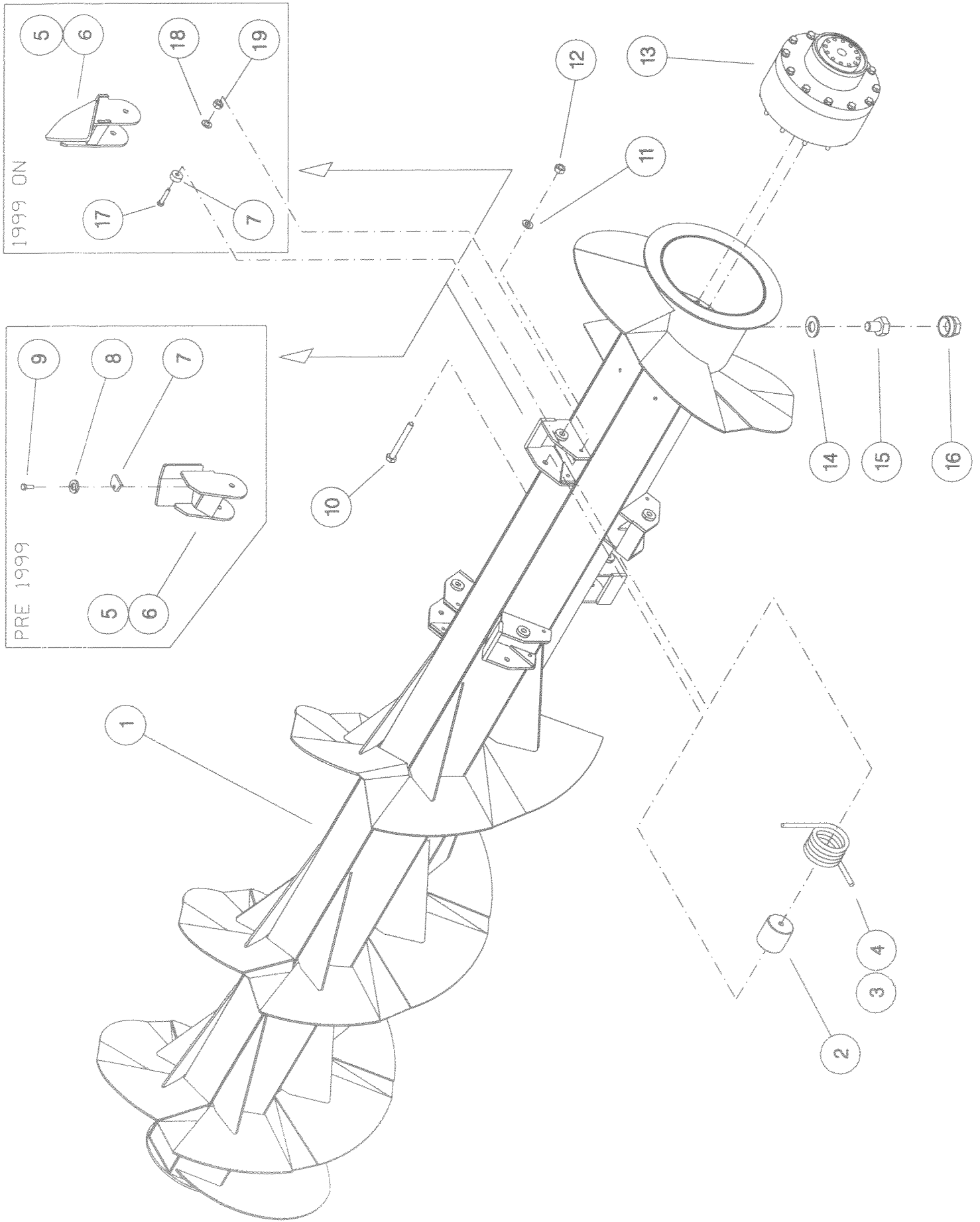
Shelbourne Reynolds Engineering Limited

ASSY NUMBER: 609012 01		ASSY DESCRIPTION: BODY AND DOOR SEALS SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590262 01	POWERSPREAD WELD ASSY	1				
2	590211 01	ANTI-DRIP TRAY	1				
3	HSS-0317	PIVOT BOLT	2				
4	WSH-0024	WASHER	9				
5	NUT-0271	NUT	7				
6	HSS-0238	RETAINING BOLT	2				
7	WSH-0018	WASHER	2				
8	NUT-0269	NUT	2				
9	605328 01	BOTTOM DOOR SEAL	1				
10	605336 01	DOOR SEAL KEEP PLATE	1				
11	WSH-0012	WASHER	28				
12	NUT-0263	NUT	15				
13	590197 01	IMPELLER ADJUSTER	2				
14	BLTF16623	COACHBOLT	2				
15	WSH-0030	WASHER	2				
16	NUT-0185	NUT	2				
17	NUT-0385	NUT	4				
18	590311 01	SQUARE SEAL STRIP	1				
19	590307 01	TOP SEAL CLAMP BAR	1				
20	590308 01	SIDE SEAL CLAMP BAR	2				
21	HSS-0153	SETSCREW	10				
22	HSS-0157	SETSCREW	12				
23							
24	NIP-00600	GREASE NIPPLE	4				
25	BLT-2330	BOLT	1				
26	HSS-0318	SETSCREW	2				
27	590220 01	PIVOT BAR	1				
28	590400 01	LH TORSION SPRING	1				
29	590491 01	PIVOT BAR DISC	1				
30	590488 01	IMPELLER SPRG ASSISTER W/A	1				
31	590529 01	LONG STRAW PLATE	1				
32	590530 01	SHORT STRAW PLATE	1				
33	HSS-0238	SETSCREW	6				
34	WSH-0018	WASHER	12				
35	NUT-0269	NUT	6				



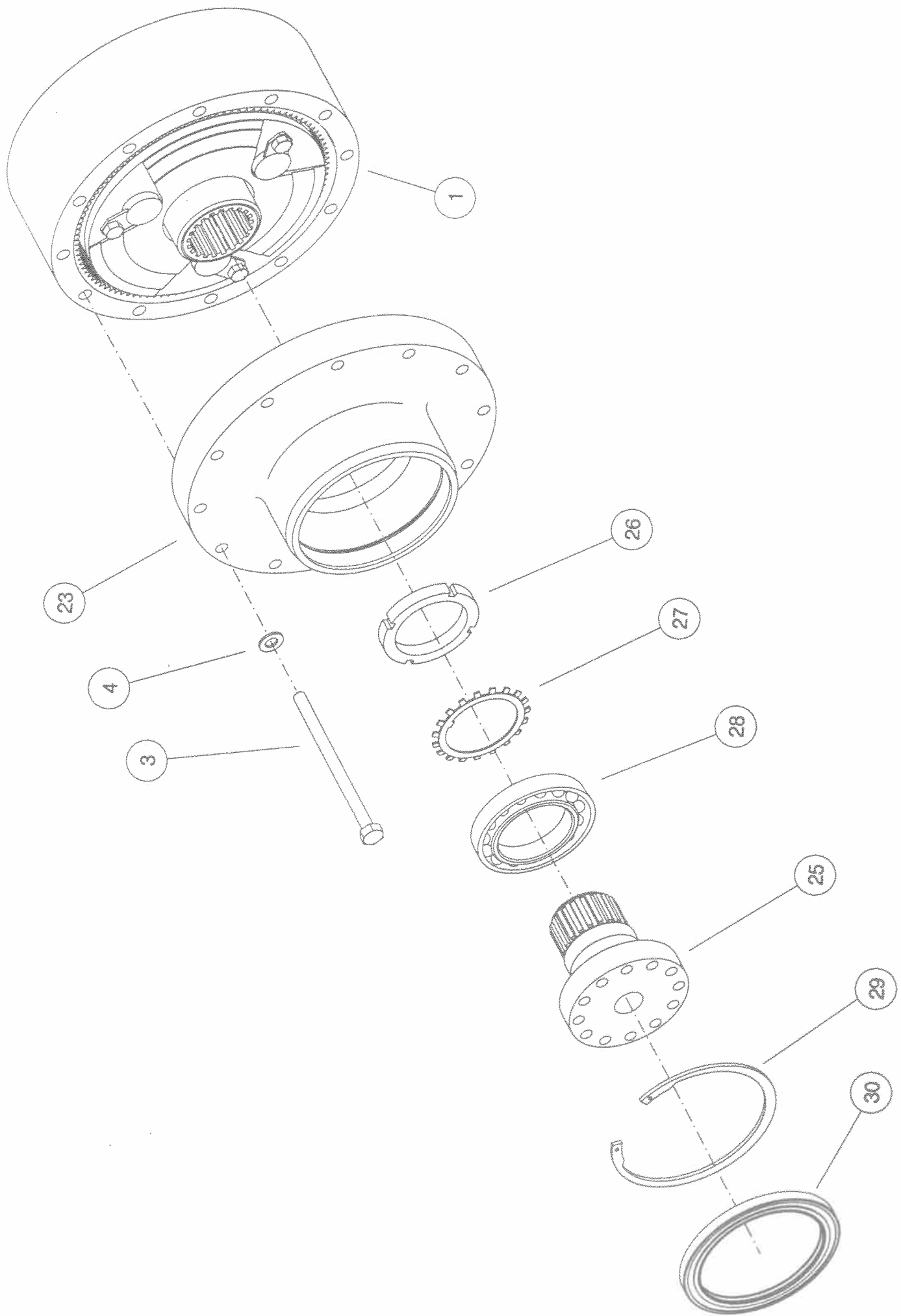
Shelbourne Reynolds Engineering Limited

ASSY NUMBER: 609013 01		ASSY DESCRIPTION: AUGER SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590229 01	AUGER WELD ASSY	1				
2	590220 01	PIVOT BAR	6				
3	590400 01	LH TORSION SPRING	3				
4	590400 02	RH TORSION SPRING	3				
5	590543 01	LH SPRUNG PADDLE (1999 ON)	3				
OR	590230 01	LH SPRUNG PADDLE (PRE 1999)	3				
6	590543 02	RH SPRUNG PADDLE (1999 ON)	3				
OR	590230 02	RH SPRUNG PADDLE (PRE 1999)	3				
7	590593 01	SPRING TENSION BAR (1999 ON)	6				
OR	590443 01	SPRING LOCK PLATE (PRE 1999)	6				
8	WSH-0061	WASHER (PRE 1999)	6				
9	HSS-0188	SETScrew (PRE 1999)	6				
10	BLTA16750	PIVOT BOLT	6				
11	WSH-0024	WASHER	12				
12	NUT-0271	NUT	6				
13	609027 01	EPICYCLIC GEARBOX SUB	1				
14	WSH-1010	DOWTY WASHER	2				
15	FIT-0251	BLANKING PLUG	2				
16	WPF-05000	CAPPING PLUG	2				
17	HSS-0210	SETScrew (1999 ON)	6				
18	WSH-0015	WASHER (1999 ON)	6				
19	NUT-0265	NYLOC NUT (1999 ON)	6				



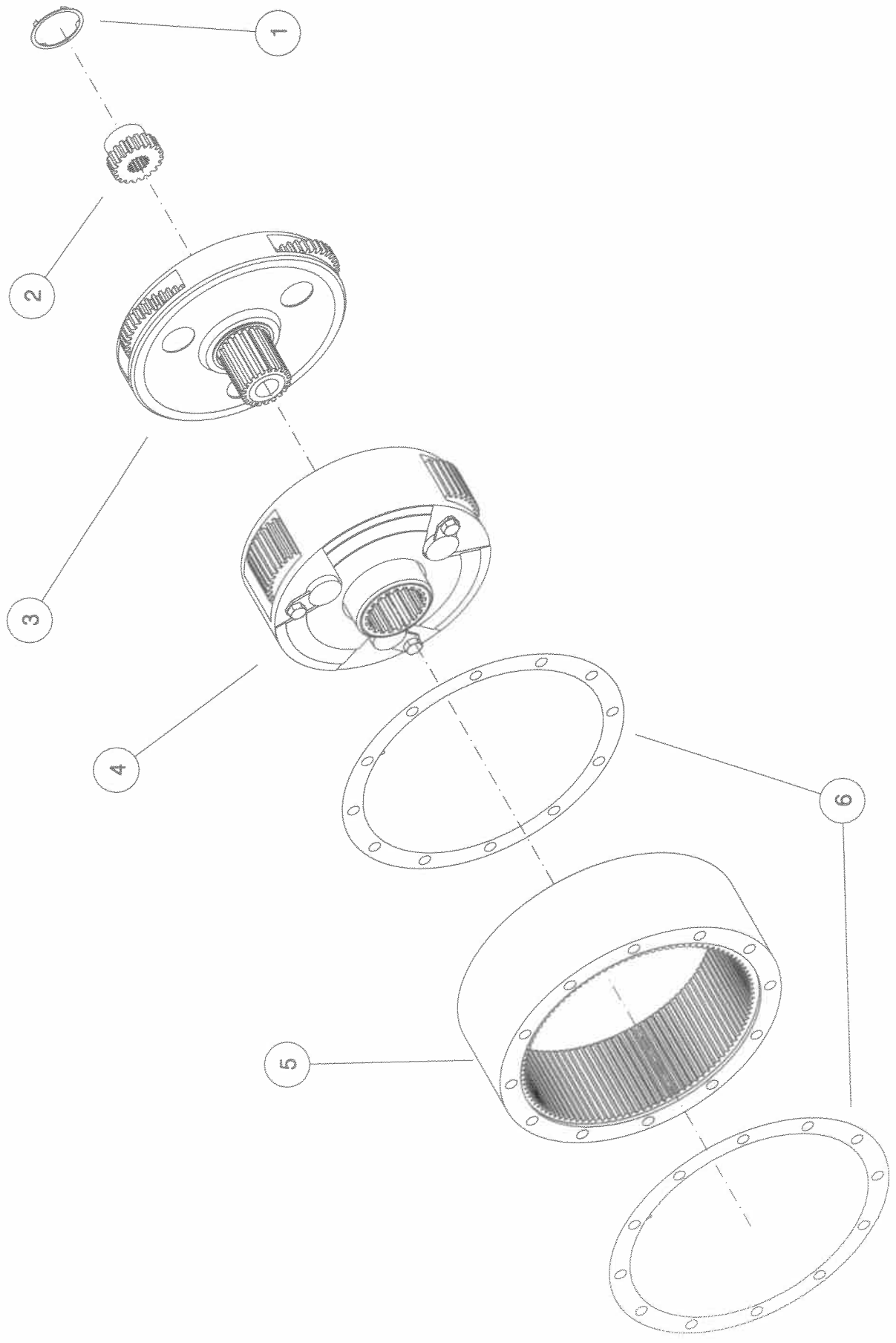
Shelbourne Reynolds Engineering Limited

ASSY NUMBER: 609027 01		ASSY DESCRIPTION: BOUGHT EPICYCLIC GEARBOX SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	GEA-2000	EPICYCLIC GEARBOX KIT	1				
2							
3	BLTA12772	RING GEAR BOLT	12				
4	WSH-0018	WASHER	12				
5							
6							
7							
8							
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12							
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16							
17							
18							
19							
20							
21							
22							
23	590283 01	CAST END CAP	1				
24							
25	590284 01	SPLINED FLANGE HUB	1				
26	BRG-97510	LOCK NUT	1				
27	BRG-97515	LOCK WASHER	1				
28	BRG-17500	BEARING	1				
29	CIR010160	CIRCLIP	1				
30	SEAB12500	SEAL	1				



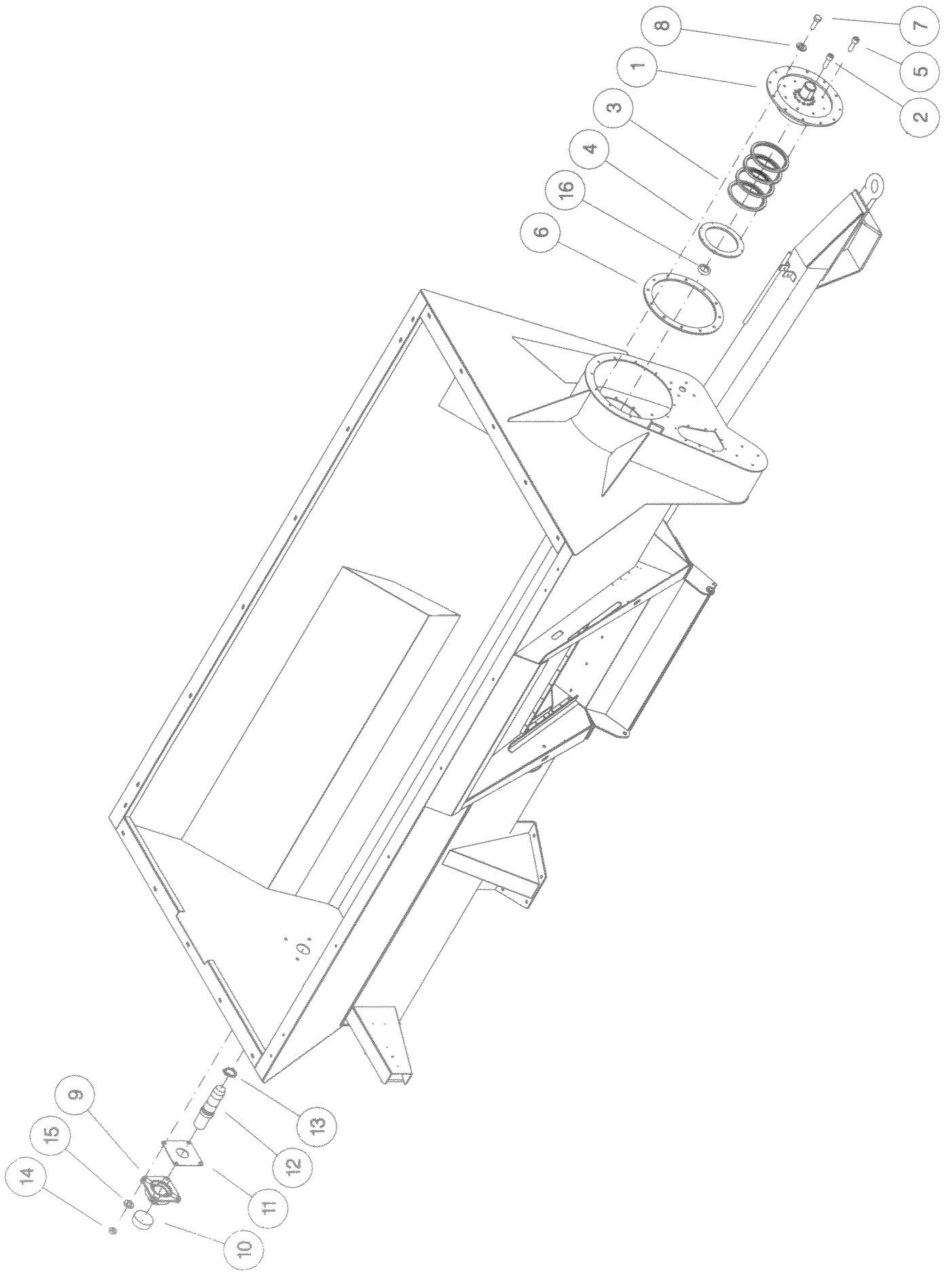
Shelbourne Reynolds Engineering Limited

ASSY NUMBER: GEA-2000		ASSY DESCRIPTION: EPICYCLIC GEARBOX KIT					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	GEA-1500	THRUST WASHER	1				
2	GEA-1501	SUN GEAR	1				
3	GEA-1502	PRIMARY CARRIER ASSY	1				
4	GEA-1503	SECONDARY CARRIER ASSY	1				
5	GEA-1504	RING GEAR	1				
6	GEA-1505	GASKET	2				



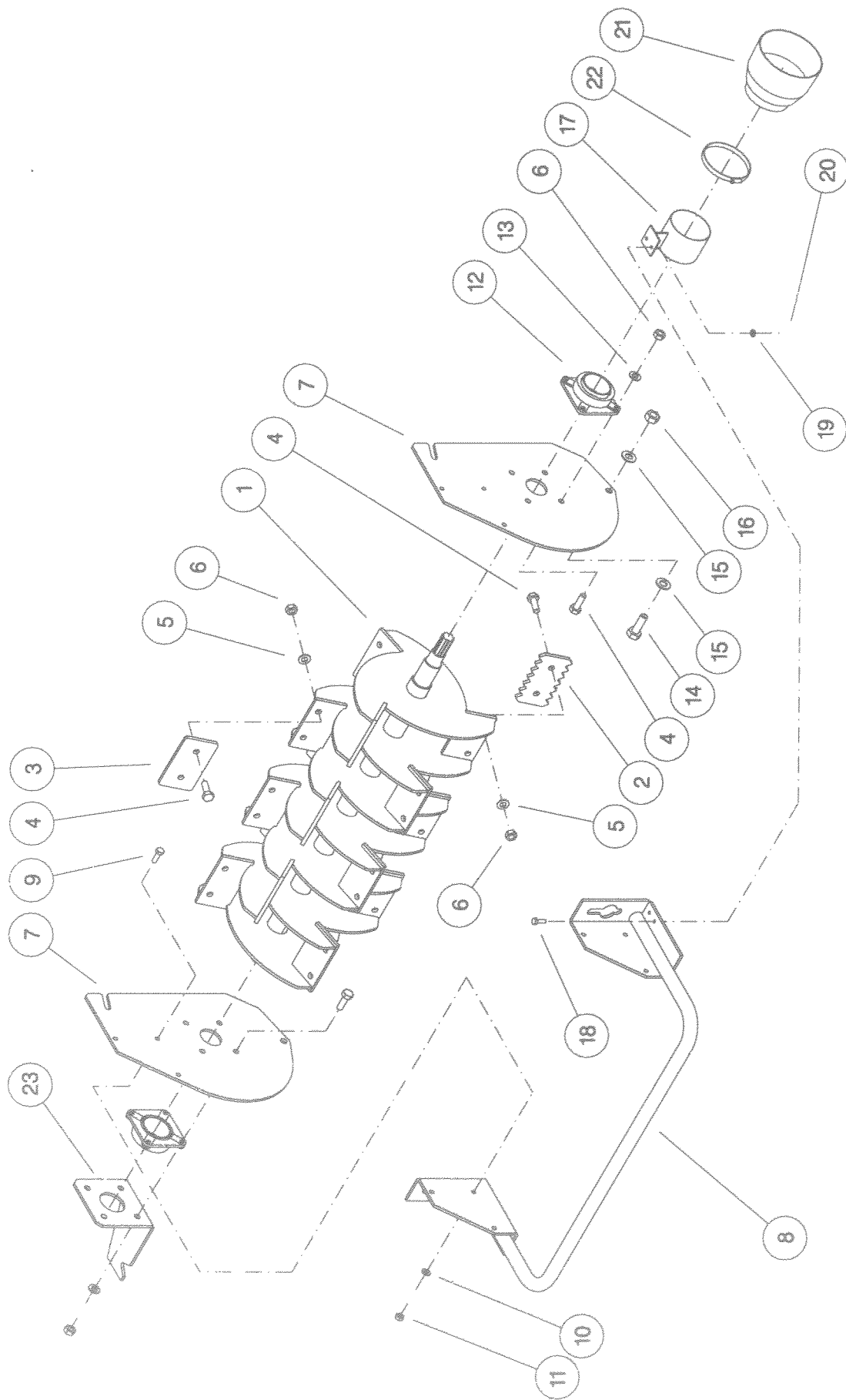
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ASSY NUMBER: 609014 01		ASSY DESCRIPTION: AUGER FIXING KIT					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590269 01	CAST FRONT PLATE	1				
2	SCW-0243	SOCKET HD CAP SCREW	12				
3	SEAE18000	ROTARY SEAL	4				
4	590270 01	SEAL CLAMP RING	1				
5	SCCA08503	SOCKET HD CAP SCREW8	1				
6	590271 01	RING GASKET	12				
7	BLT-2247	BOLT	12				
8	WSH-0065	WASHER	12				
9	BRG-26040	REAR-END BEARING	1				
10	BRG-96000	BEARING CAP	1				
11	590272 01	GASKET SEAL	1				
12	590268 01	AUGER TAIL SHAFT	1				
13	ORA240523	O RING	1				
14	NUT-0271	NUT	4				
15	WSH-0070	WASHER	4				
16	SEAA02500	OIL SEAL	1				



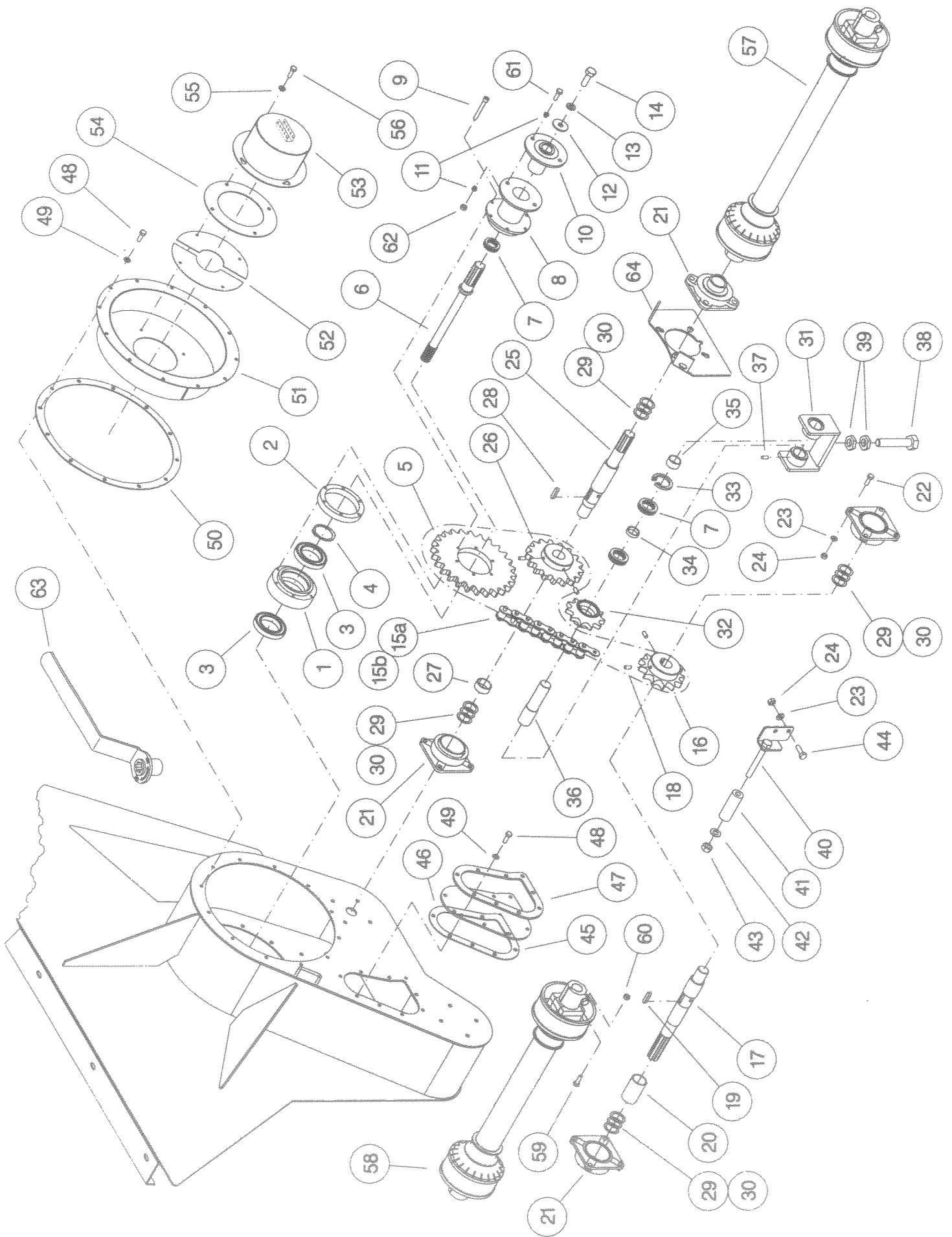
Shelbourne Reynolds Engineering Limited

ASSY NUMBER: 609015 01		ASSY DESCRIPTION: IMPELLER SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590213 01	IMPELLER WELD ASSY	1				
2	590215 01	IMPELLER BLADE (SERRATED)	12				
3	590216 01	IMPELLER BLADE (SMOOTH)	6				
4	HSS-0317	SETSCREW	44				
5	WSHA30161	WASHER	36				
6	NUT-0271	NUT	44				
7	590193 01	IMPELLER SIDE PLATES	2				
8	590194 01	IMPELLER GUARD W/ASSY	1				
9	HSS-0241	SETSCREW	6				
10	WSH-0018	WASHER	6				
11	NUT-0269	NUT	6				
12	BRG-25040	BEARING	2				
13	WSH-0024	WASHER	8				
14	BLT-2365	PIVOT BOLT	2				
15	WSH-0030	WASHER	4				
16	NUT-0030	PIVOT NUT	2				
17	590402 01	RING PLATE W/ASSY	1				
18	HSS-0152	SETSCREW	2				
19	WSH-0012	WASHER	2				
20	NUT-0263	NUT	2				
21	PTO-00901	PLASTIC CONE SHROUD	1				
22	CLP-00585	JUBILEE CLIP	1				
23	590492 01	BEARING PLATE	1				



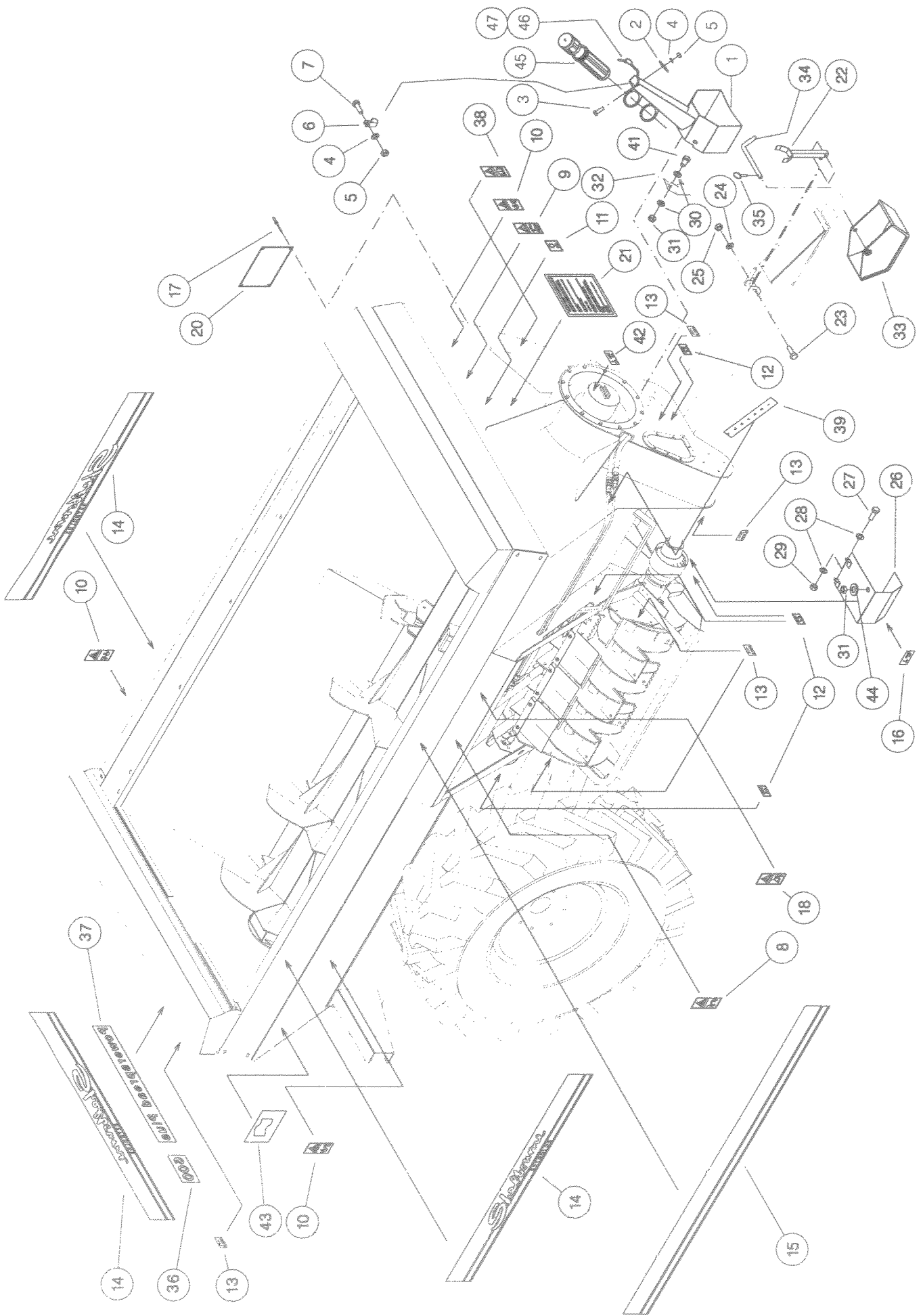
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ASSY NUMBER: 609016 01		ASSY DESCRIPTION: MAIN DRIVE SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590281 01	DRIVE HUB	1	33	CIR-0620	CIRCLIP	1
2	590506 01	SPACER RING	1	34	590247 01	SPACER TUBE SHORT	1
3	BRG-16505	BEARING	2	35	590247 02	SPACER TUBE LONG	1
4	CIR020065	CIRCLIP	1	36	590254 01	STEPPED SHAFT	1
5a	590507 01	19 TOOTH PLATEWHEEL	1	37	SCW-4590	GRUBSCREW	1
5b	590507 02	26 TOOTH PLATEWHEEL	1	38	HSSA24620	JACKING SCREW	1
5c	590507 03	38 TOOTH PLATEWHEEL	1	39	NUT-0390	NUT	2
6	590504 01	QUILL SHAFT	1	40	590362 01	CHAIN SLIPPER BRACKET	1
7	BRG-13505	BEARING	3	41	590363 01	NYLON TUBE	1
8	590508 01	DRIVE HOUSING	1	42	WSH-0024	WASHER	1
9	SCCA08351	CAP HD SCREW	6	43	NUT-0271	NYLOC NUT	1
10	590511 01	SPLINED HUB	1	44	HSS-0241	SETScrew	1
11	BSHJ00623	HEADED PRESS FIT BUSH	2	45	590239 01	INSPECTION PLATE	2
12	590512 01	END WASHER	1	46	590243 01	INSPECTION PLATE GASKET	1
13	WSH-0070	WASHER	1	47	590243 02	CLAMP RING	1
14	HSS-0313	SETScrew	1	48	HSS-0194	SETScrew	21
15a	CHN-03282	DRIVE CHAIN	1	49	WSH-0015	WASHER	21
15b	CHN-03200	CONNECTING LINK	1	50	590242 01	GASKET RING	1
16	590502 01	13T SPROCKET	1	51	590516 01	COVER W/A	1
17	590499 01	IMPELLER SHAFT	1	52	590518 01	DIVIDER PLATE	2
18	SCW-4602	GRUBSCREW	1	53	590521 01	TOP HAT COVER W/A	1
19	K1208040	KEY	4	54	590487 01	GASKET RING	1
20	590505 01	SPACER TUBE	1	55	WSH-0012	WASHER	4
21	BRG-23545	BEARING	1	56	HSSFO8174	SETScrew	4
22	HSS-0250	SETScrew	4	57	PTO-13002	DRIVE PTO SHAFT C\W GUARD	1
23	WSH-0018	WASHER	12	58	PTO-14002	IMPELLER PTO SHAFT C\W GUARD	1
24	NUT-0269	NUT	30	59	605123 01	IMPELLER SHEAR PINS	6
25	590500 01	MAIN DRIVE SHAFT	18	60	NUT-0263	NYLOC NUT	6
26	590503 01	17T SPROCKET	1	61	BLTA06230	SHEARBOLT	6
27	590505 02	SPACER TUBE	1	62	NUT-0260	NYLOC NUT	6
28	K1208045	KEY	1	63	590350 01	REVERSING TOOL	1
29	590509 01	SPACER	1	64	590460 01	GUARD MOUNTING PLATE	1
30	590509 02	SPACER	10				
31	590253 01	TENSIONER W/A	4				
32	590501 01	TENSIONER SPROCKET	1				



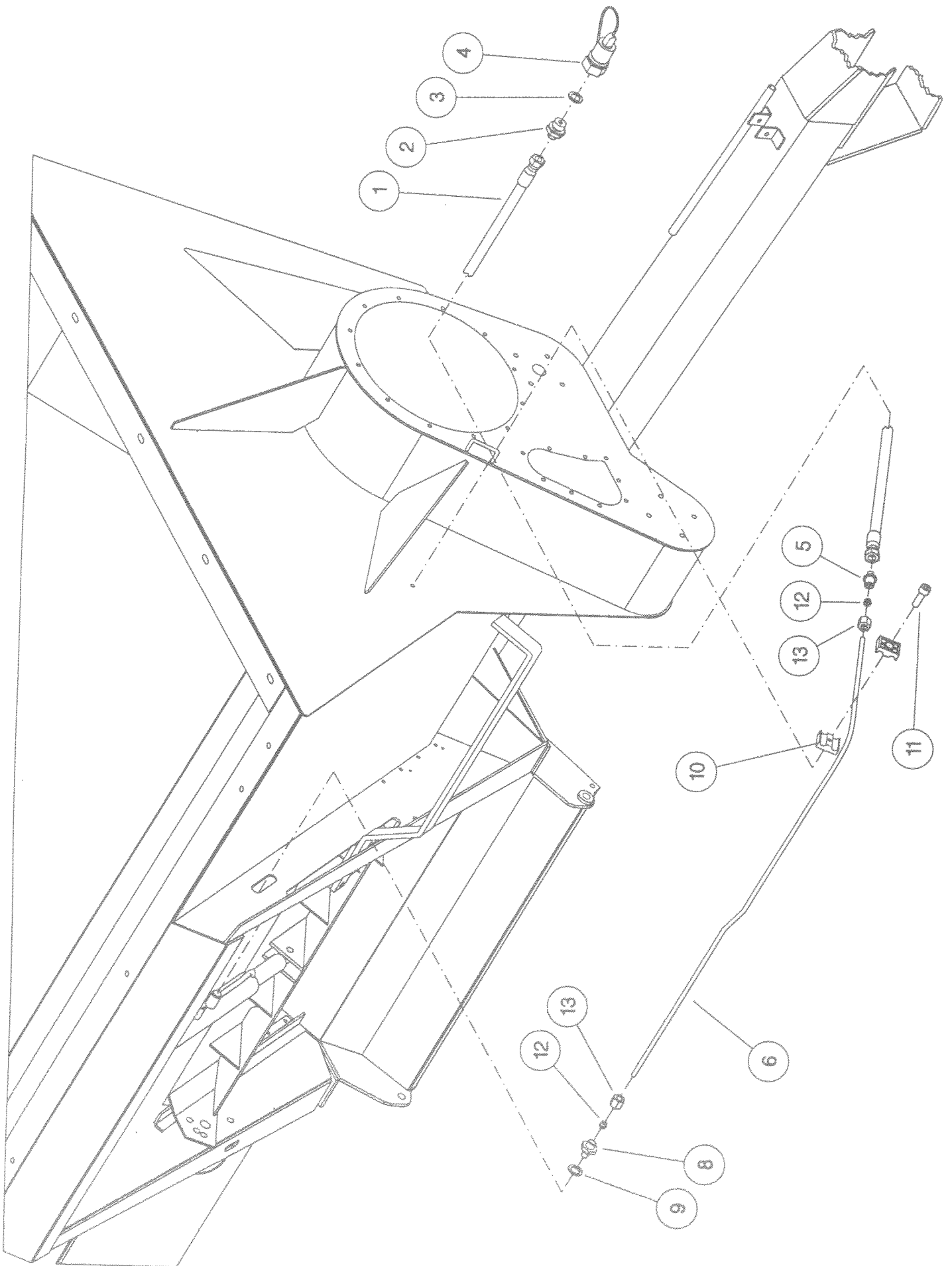
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ASSY NUMBER: 609017 01		ASSY DESCRIPTION: FIXTURES & EMBLEMS SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590461 01	HOSE SUPPORT/PTO GUARD	1	36	590483 01	EMBLEM-POWERSPREAD PLUS	1
2	607029 01	PIPE CLAMP	2	37	590484 01	EMBLEM-500	1
3	HSS-0096	SETSCREW	2	OR	590485 01	EMBLEM-640	1
4	WSH-0009	WASHER	5	OR	590486 01	EMBLEM-770	1
5	NUT-0260	NUT	5	38	610257 01	EMBLEM-READ MANUAL	1
6	CLP-0031	"P"-CLIP	1	39	604968 01	EMBLEM-DOOR CALIBRATION	1
7	HSS-0084	SETSCREW	1	40			
8	590477 01	EMBLEM-WARNING	1	41	HSS-0238	SETSCREW	2
9	610250 01	EMBLEM-WARNING	1	42	590523 01	SHEARBOLT EMBLEM	1
10	590479 01	EMBLEM-DO NOT ENTER....	1	43	610563 01	EMBLEM-UNION JACK	2
11	590475 01	EMBLEM-MAX'PTO SPEED....	3	44	190119 04	WASHER	1
12	127075 12	EMBLEM-10 HOURS GREASE	1	45	WDA-00025	MANUAL CANISTER	1
13	127075 16	EMBLEM-50 HOURS GREASE	4	46	CHN-0145	CHAIN .17	1
14	191981 01	EMBLEM-SHELBOURNE 3 CLR	5	47	RCL-0015	R CLIP	1
15	590000 01	EMBLEM-EXTENSION 3 CLR	3				
16	590474 01	EMBLEM-SHEAR BOLTS-IMPEL.	2				
17	POP-0006	POP RIVET	1				
18	590476 01	EMBLEM-NO STEP	4				
19			1				
20	590145 01	MACHINE INFO PLATE	1				
21	590188 01	EMBLEM-OPERATION PROC.	1				
22	590594 01	PTO REST LH	1				
22	590594 02	PTO REST RH	1				
23	BLTA08500	BOLT	1				
24	HSS-0086	SETSCREW	2				
25	NUT-0265	NUT	1				
26	590404 01	IMPELLER PTO GUARD	1				
27	HSS-0145	BOLT	2				
28	WSH-0012	WASHER	5				
29	NUT-0263	NUT	3				
30	WSH-0018	WASHER	6				
31	NUT-0170	NUT	5				
32	590460 01	MOUNTING PLATE	1				
33	590463 01	DETACHABLE SKID	1				
34	590466 01	LOCKING HANDLE	1				
35	PIN-01950	LYNCH PIN	1				



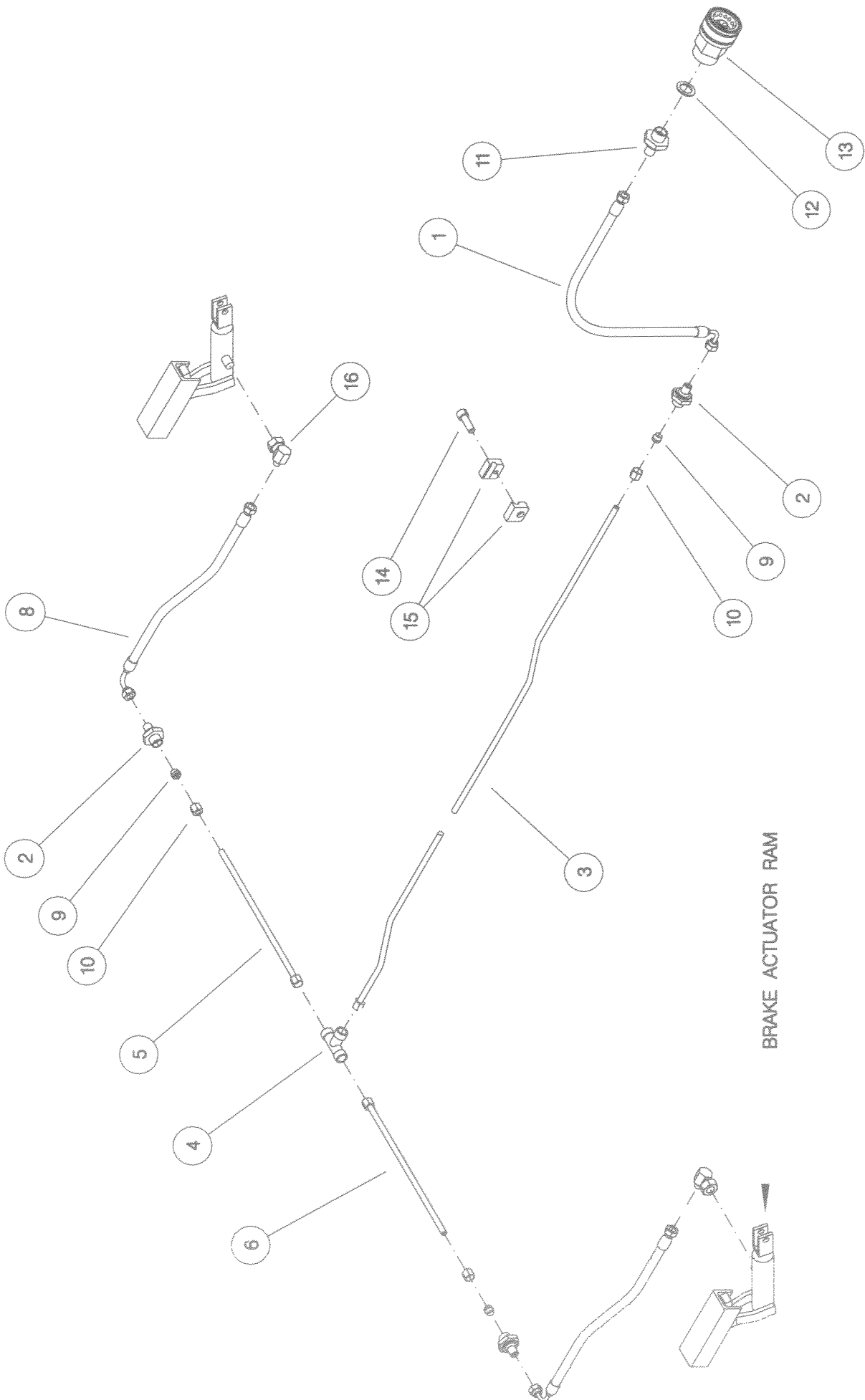
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ASSY NUMBER: 609018 01		ASSY DESCRIPTION: DOOR RAM HYDRAULICS SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	HHAC35005	FLEX HOSE	2				
2	HMA-0055	ADAPTOR	2				
3	WSH-1015	WASHER	2				
4	COU-0162	Q-R COUPLING	2				
5	FIT-0047	STUD COUPLING	2				
6	590446 01	TUBE	2				
7							
8	HPTD01005	STUD COUPLING	2				
9	WSH-1010	WASHER	2				
10	HCPD01000	HYD.PIPE CLAMP	4				
11	SCW-0092	SCREW	3				
12	FIT-0056	OLIVE	4				
13	FIT-0051	NUT	4				
14	SCW-0092	SCREW	1				
15	NUT-0260	NYLOC NUT	1				
16	WSH-0009	PLAIN WASHER	1				



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ASSY NUMBER: 609019 01		ASSY DESCRIPTION: BRAKE RAMS HYDRAULIC SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	HHBC32005	FLEX HOSE	1				
2	FIT-0047	STUD COUPLING	3				
3	590140 01	TUBE	1				
4	FIT-0060	TEE FITTING	1				
5	RP-100330	TUBE	1				
6	RP-100610	TUBE	1				
7							
8	HHBC03005	FLEX HOSE	2				
9	FIT-0056	OLIVE	6				
10	FIT-0051	NUT	6				
11	HMA-0055	ADAPTOR	1				
12	WSH-1015	DOWTY WASHER	1				
13	HQR-10007	HYD. Q. R. COUPLING	1				
14	FIT-1000	HYD. PIPE CLAMP	5				
15	SCW-0083	SCREW	5				
16	HALAA0305	HYDRAULIC ELBOW	2				



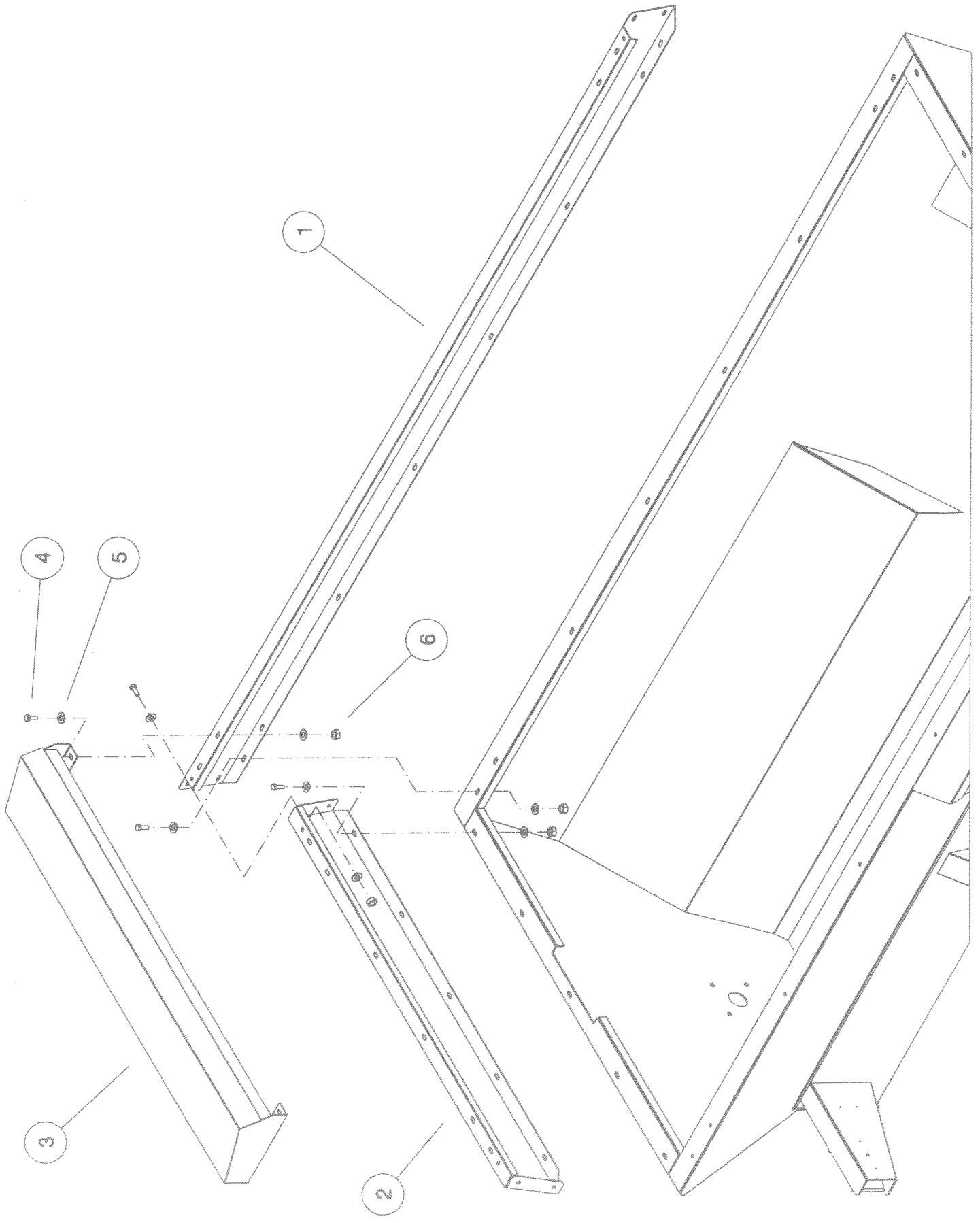
BRAKE ACTUATOR RAM

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ASSY NUMBER: 609020 01		ASSY DESCRIPTION: 640 EXTENSIONS SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590324 01	SIDE EXTENSION PLATE	2				
2	590326 01	END EXTENSION PLATE	2				
3							
4	HSS-0238	SETSCREW	34				
5	WSH-0018	WASHER	68				
6	NUT-0269	NUT	34				

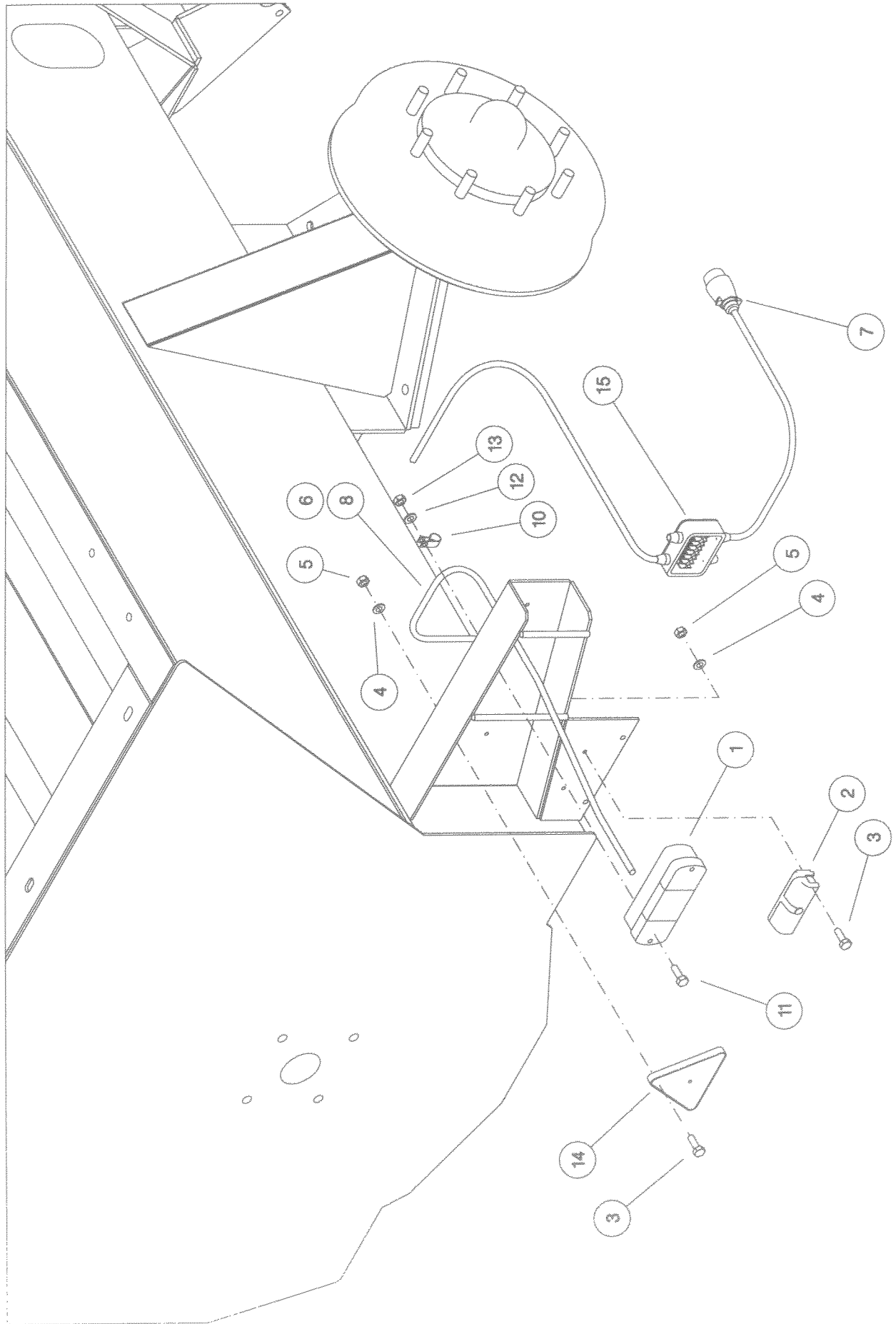
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ASSY NUMBER: 609020 02		ASSY DESCRIPTION: 770 EXTENSIONS SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590323 01	SIDE EXTENSION PLATE	2				
2	590325 01	END EXTENSION PLATE	2				
3	590157 01	SLURRY CANOPY	2				
4	HSS-0238	SETSCREW	54				
5	WSH-0018	WASHER	108				
6	NUT-0269	NUT	54				



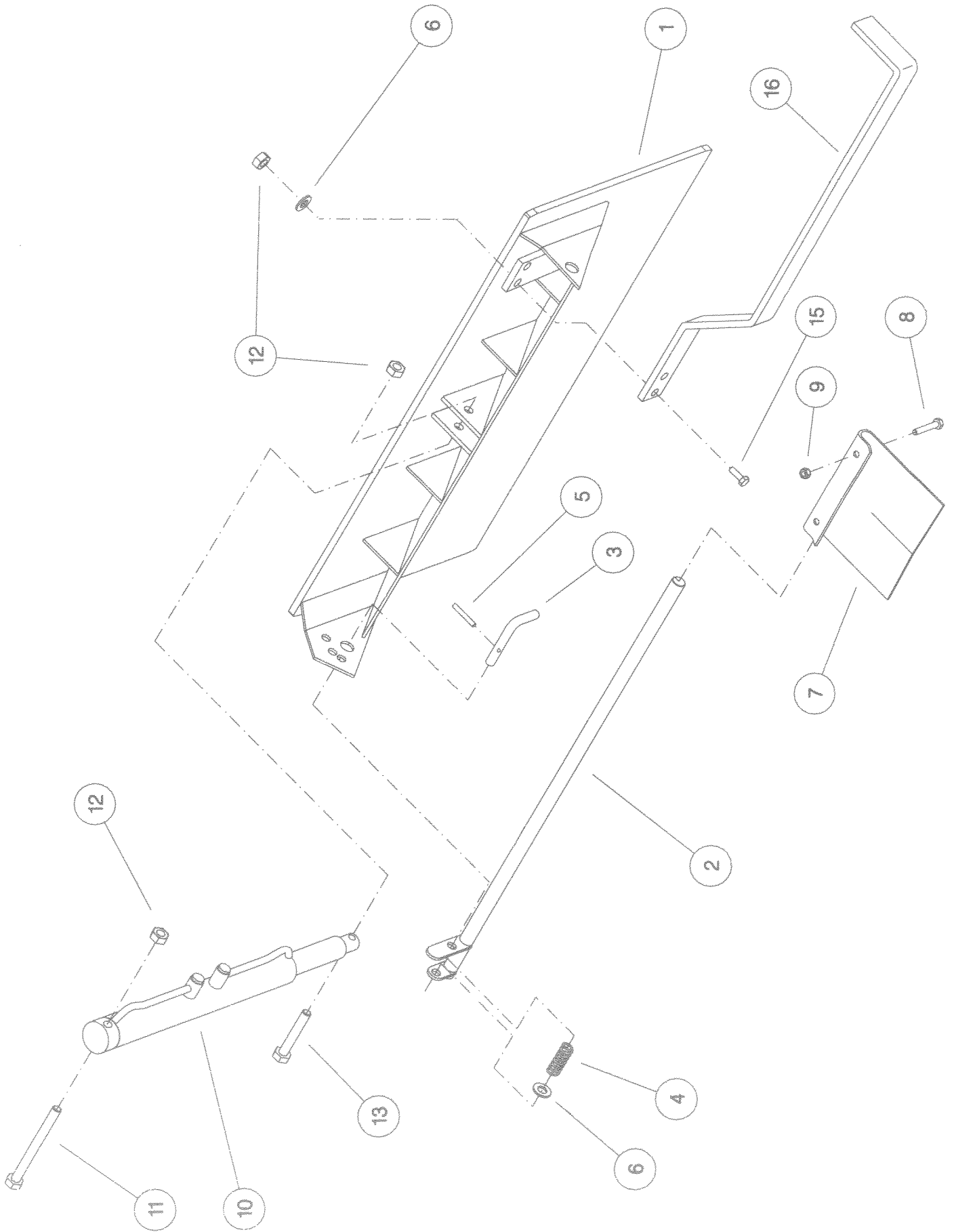
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ASSY NUMBER: 609021 01		ASSY DESCRIPTION: LIGHTS SUB ASSY					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	LMP-0007	REAR LIGHT CLUSTERS	2				
2	LMP-0009	No. PLATE LIGHT	1				
3	HSS-0065	SETSCREW	6				
4	WSH-0006	WASHER	6				
5	NUT-0258	NUT	6				
6	CBL-03530	CABLE	8m				
7	PLG-0005	7 PIN MALE PLUG	1				
8	SLV-00020	SLEEVING	2				
9	210341 01	No. PLATE FEED WIRE	1				
10	CLP-0030	"P" CLIP	12				
11	HSS-0084	SETSCREW	16				
12	WSH-0009	WASHER	16				
13	NUT-0260	NUT	16				
14	REF-0030	REFLECTOR TRI-ANGLE	2				
15	JNC-00000	JUNCTION BOX	1				



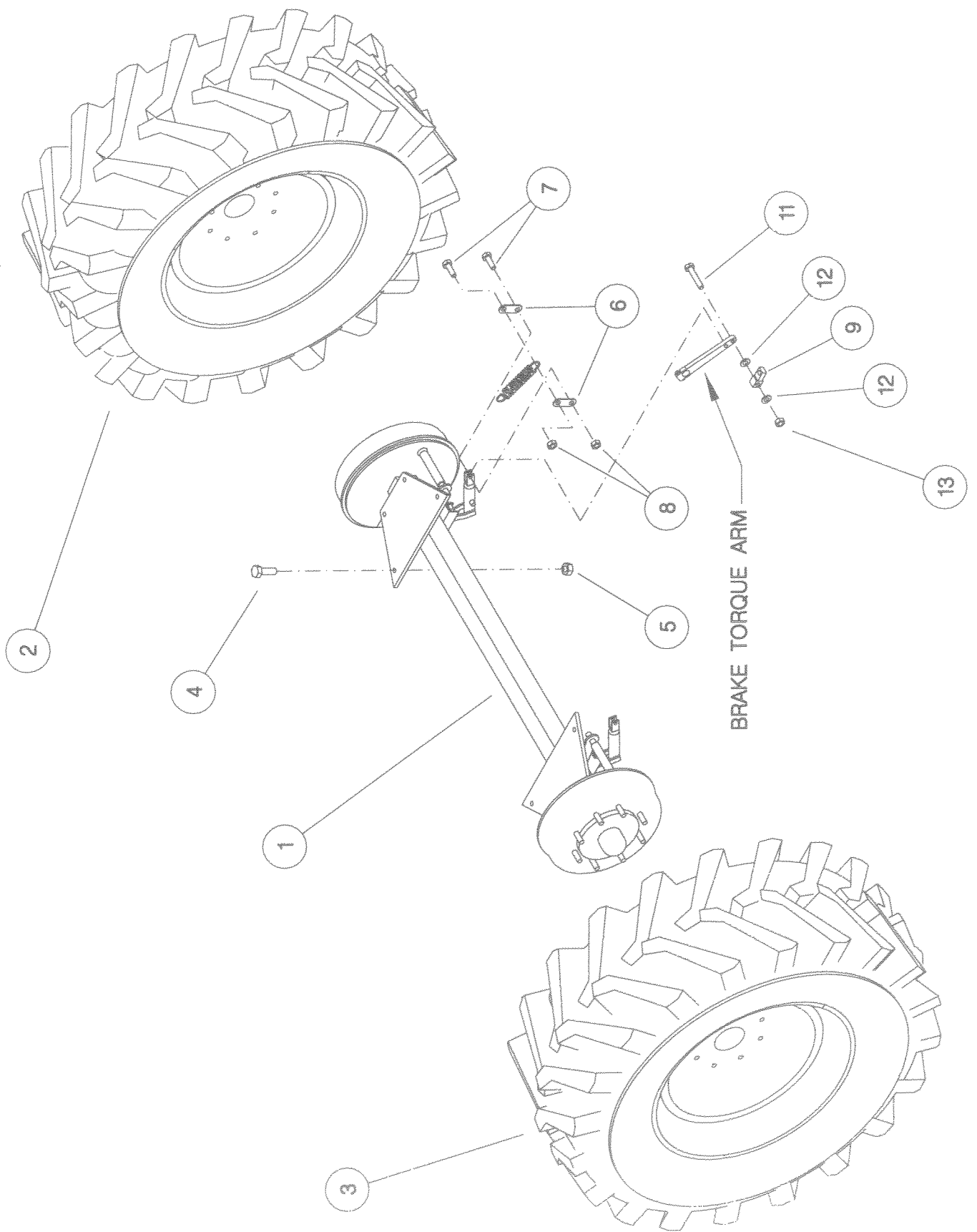
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ASSY NUMBER: 609023 01		ASSY DESCRIPTION: DISCHARGE DOOR SUB ASSY	
ITEM	PART NO	DESCRIPTION	QTY
1	590315 01	DISCHARGE DOOR W/ASSY	1
2	604992 05	DOOR LEVER	1
3	605085 01	HANDLE	1
4	SPGC32021	SPRING	1
5	PIN-1775	ROLL PIN	1
6	WSH-0024	WASHER	3
7	605018 01	DEFLECTOR PADDLE	3
8	BLTF10323	COACH BOLT	6
9	NUT-0265	NUT	6
10	590114 01	DOOR RAM	1
11	BLT-2330	BOLT	1
12	NUT-0271	NUT	6
13	BLT-2313	BOLT	1
14			
15	HSS-0317	SETSCREW	4
16	590408 01	INDICATOR BAR	1



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ASSY NUMBER: 609026 01		ASSY DESCRIPTION: AXLE SUB ASSY-POWERSPREAD					
ITEM	PART NO	DESCRIPTION	QTY	ITEM	PART NO	DESCRIPTION	QTY
1	590445 01	AXLE WELD ASSY	1				
2a	WHL-02801	L.H.WHEEL/TYRE (500, 640 OPT) 16.5/85-28	1				
2b	WHL-02601	L.H.WHEEL/TYRE (640, 770 STD) 18.4-26	1				
2c	WHL-02402	L.H.WHEEL/TYRE (640, 770 OPT) 21.3-24	1				
2d	WHL-01901	L.H.WHEEL/TYRE (500 STD) 18-19.5	1				
3a	WHL-02800	R.H.WHEEL/TYRE (500, 640 OPT) 16.5/85-28	1				
3b	WHL-02600	R.H.WHEEL/TYRE (640, 770 STD) 18.4-26	1				
3c	WHL-02403	R.H.WHEEL/TYRE (640, 770 OPT) 21.3-24	1				
3d	WHL-01900	R.H.WHEEL/TYRE (500 STD) 18-19.5	1				
4	HSS-0318	BOLT	8				
5	NUT-0271	NUT	8				
6	590153 01	BRAKE RAM PLATE	4				
7	HSS-0265	SETSCREW	4				
8	NUT-0269	NUT	4				
9	590062 01	BRAKE LINK PIVOT	2				
10							
11	HSS-0210	SETSCREW	2				
12	WSH-0015	WASHER	4				
13	NUT-0265	NUT	2				



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191981 01	54	590324 01	61	604968 01	54
210341 01	64	590325 01	62	604992 05	66
590000 01	54	590326 01	61	605018 01	66
590060 01	38	590350 01	52	605085 01	66
590062 01	68	590362 01	52	605123 01	52
590072 01	38	590363 01	52	605328 01	40
590101 01	38	590400 01	40	605336 01	40
590114 01	66		42	607029 01	54
590140 01	58	590400 02	42	609027 01	42
590145 01	54	590402 01	50	610250 01	54
590153 01	68	590404 01	54	610257 01	54
590157 01	62	590408 01	66	BLB-0015	64
590188 01	54	590443 01	42	BLB-0020	64
590189 01	54	590445 01	68	BLT-2313	66
590193 01	50	590446 01	56	BLT-2330	40
590194 01	50	590460 01	54		66
590197 01	40	590461 01	54	BLT-2365	50
590211 01	40	590463 01	54	BLTA06230	52
590213 01	50	590466 01	54	BLTA10350	54
590215 01	50	590474 01	54	BLTA12290	48
590216 01	50	590475 01	54	BLTA12350	38
590220 01	40	590476 01	54	BLTA12772	44
	42	590477 01	54	BLTA16750	42
590222 01X	38	590479 01	54	BLTF10323	66
590229 01	42	590483 01	54	BLTF16623	40
590230 01	42	590487 01	52	BRG-13505	52
590230 02	42	590488 01	40	BRG-16505	52
590239 01	52	590491 01	40	BRG-17500	44
590242 01	52	590492 01	50	BRG-23545	52
590243 01	52	590499 01	52	BRG-25040	50
590243 02	52	590500 01	52	BRG-26040	48
590247 01	52	590501 01	52	BRG-96000	48
590247 02	52	590502 01	52	BRG-97510	44
590253 01	52	590503 01	52	BRG-97515	44
590254 01	52	590504 01	52	BSHJ00623	52
590262 01	40	590505 01	52	CBL-03530	64
590268 01	48	590505 02	52	CHN-03282	52
590269 01	48	590506 01	52	CIR-0620	52
590270 01	48	590507 02	52	CIR010160	44
590271 01	48	590508 01	52	CIR020065	52
590272 01	48	590509 01	52	CLP-0030	64
590281 01	52	590509 02	52	CLP-0031	54
590283 01	44	590511 01	52	CLP-00585	50
590284 01	44	590512 01	52	COU-0162	56
590307 01	40	590516 01	52	FIT-0047	56
590308 01	40	590518 01	52		58
590311 01	40	590521 01	52	FIT-0051	56
590313 01	40	590523 01	54	FIT-0056	56

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FIT-0251	42	NUT-0170	54	SEAE18000	48
FIT-1000	58	NUT-0185	40	SPGC32021	66
GEA-2000	44	NUT-0258	64	WRP-00040	38
HALAA0305	58	NUT-0260	52	WRP-02040	38
HCPD01000	56		54	WRP-03000	38
HHAC35005	56		64	WSH-0006	64
HHBC03005	58	NUT-0263	40	WSH-0009	54
HHBC32005	58		50		64
HMA-0055	56		52	WSH-0012	40
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HQR-10007	58		66		54
HSS-0065	64		68	WSH-0015	52
HSS-0084	54	NUT-0269	38		54
	64		40		68
HSS-0096	54		40	WSH-0018	40
HSS-0145	54		42		40
HSS-0152	50		50		50
HSS-0153	40		52		52
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HSS-0238	38		48	WSH-0024	40
	40		50		42
	40		52		50
	54		66		52
	61		68		66
	62	NUT-0385	40	WSH-0030	40
HSS-0241	50	NUT-0390	52		50
	52	ORA240523	48	WSH-0061	42
HSS-0250	52	PIN-01950	54	WSH-0065	38
HSS-0265	68	PIN-1775	66		48
HSS-0313	52	PLG-0005	64	WSH-0070	48
HSS-0317	40	POP-0006	54		52
	50	PTO-00901	50	WSH-1010	42
	66	PTO-13002	52		56
HSS-0318	40	PTO-14002	52	WSH-1015	56
	68	REF-0030	64		58
HSSA10680	38	RP-100330	58	WSHA30161	50
HSSA24620	52	RP-100610	58		
HSSF08174	52	SCCA08351	52		
JNC-00000	64	SCCA08503	48		
K1208040	52	SCW-0083	56		
K1208045	52		58		
LMP-0007	64	SCW-0243	48		
LMP-0009	64	SCW-4590	52		
NIP-00600	40	SCW-4602	52		
NUT-0030	50	SEAA02500	48		

