



Installation Instructions

Jacobsen GP400 Three Wheel Drive Kit LMAC418

WARNING


WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.

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PRODUCT IDENTIFICATION

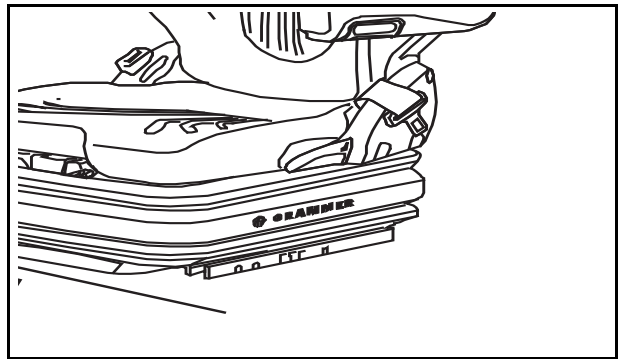
Machine Serial Plate

- A Maximum front axle load in Kg (for machines being driven on the highway)
- B Gross weight (mass) in Kg
- C Maximum rear axle load in Kg (for machines being driven on the highway)
- D Power in Kw
- E Date code
- F Machine type (Designation)
- G Product code
- H Product name
- J Serial number

		West Road Ransomes Europark Ipswich IP3 9TT England		
A	B	C	D	E
Kg	Kg	Kg	Kw	
F				G
H				J

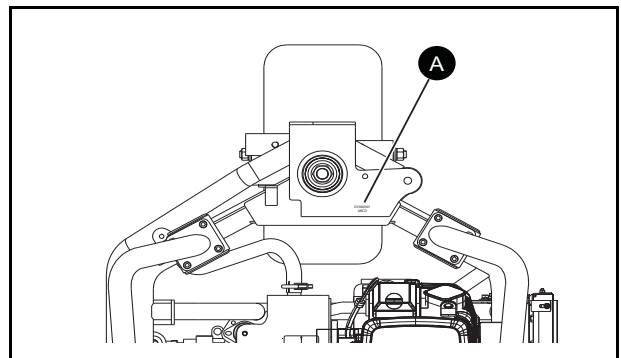
Serial Plate Location

The serial plate is located on the chassis at the rear of the machine.




Chassis Stamping

The Serial number and date code (A) are stamped on the chassis rear axle support plate.



ROPS Serial Plate

- A Weight of ROPS
- B Date Code
- C Standard Used
- D Part Number
- E Used on Product
- F Serial Number

		West Road Ransomes Europark Ipswich IP3 9TT England	
A	B		
Kg			
C	D		
E	F		

ROPS Serial Plate Location

The serial plate is located on the ROPS cross beam between the seat and engine cover.



SPARES STOCKING GUIDE

To keep your equipment fully operational and productive, Ransomes suggests you maintain a stock of the more commonly used maintenance items. We have included part numbers for the additional support materials and training aids.

SERVICE SUPPORT MATERIAL			
Part No.	Description	Part No.	Description
97898-72020	Kubota Diesel Engine Parts Manual	MS-2263	Briggs & Stratton Gasoline Engine Parts Manual
IG689-8916-1	Kubota Diesel Engine Operators Manual	MS-5156-5/03	Briggs & Stratton Gasoline Engine Operators Manual

SERVICE PARTS			
Part No.	Description	Part No.	Description
5002644	Engine Oil Filter Diesel	492932S	Engine Oil Filter Gas
840352	Air Filter Element Diesel	5000441	Air Filter Element Gas
550489	Fuel Filter Element Diesel	272490S	Air Pre Cleaner Gas
25000G	Safety, Ops and Maintenance Manual	4199061	Hydraulic Oil Filter Element

HOW TO USE THE PARTS MANUAL

ITEM NUMBER

Each part which is identified in the illustrations has an item number. Parts which do not have an item number may not be readily identified in the illustration but are usually closely associated with the immediately adjacent part.

ASSEMBLIES

A complete assembly, e.g. a wheel motor or hydraulic motor or roll assembly, is listed as a complete item with subsequent individual components listed separately.

The assembly is listed under its part number with component parts being listed offset to the right, e.g:-

ITEM	PART NO.	DESCRIPTION	QTY	REMARKS
4295	MBG2504	Bracket	1	
4296	MBG3848	Latch	2	
4298	450865	Screw, M8 X 20, Sckt Csk Hd	2	
4300	450378	Nut, M8 Nyloc	2	
4301	WI001	Set Of Wheels	1	
4301.1	008162130	• Wheel & Hub Assy	1	(Rear)
4301.2	008170390	•• Tyre	1	
4301.3	008161830	•• Rim	1	
4301.4	008169140	•• Hub Assy.	1	
4301.5	008169150	•• Cap	1	
4301.6	002993010	•• Lubricator	1	
4301.7	008161990	• Wheel & Tyre	2	(Front)
4301.8	008170780	•• Tyre	2	

It may not be possible to illustrate every item. With certain items purchased from outside suppliers some component parts may not be available from Ransomes and may need to be specially ordered from the supplier.

QUANTITIES

Quantities shown are for one assembly or sub-assembly.

USING THE PARTS LIST

Determine the function and application of the part required. Turn to the main index page and select the appropriate section. Locate the part on the illustration and parts list and read off the quantity from the appropriate MODEL column.

NUMERICAL INDEX

This is a summary of all part numbers used in the manual arranged in numerical sequence and showing the page and item number under which the parts appear.

ORDERING OF SPARE PARTS

When ordering replacement parts, it is most important to quote the SERIAL NUMBER of the machine, PART NUMBER, DESCRIPTION and QUANTITY required.

Any arbitrary modifications carried out on this machine may relieve the manufacturer of liability for any resulting damage or injury.

ABBREVIATIONS

N/A Not Available

ARAs Required

GUIDELINES FOR THE DISPOSAL OF SCRAP PRODUCTS

DURING SERVICE LIFE

Used oil, oil filters and engine coolant are hazardous materials and should be handled in a safe and environmentally responsible way.

In the event of a fluid leak, contain the spill to prevent it entering the ground or drainage system. Local legislation will dictate how such spills are to be treated.

Following the maintenance procedures laid out in this manual will ensure that the impact the machine has on the local environment is controlled.

When it has been identified that a turf care product has no further functional value and requires disposal, the following actions should be taken.

END OF SERVICE LIFE

These guidelines should be used in conjunction with applicable Health, Safety and Environmental legislation and use of approved local facilities for waste disposal and recycling.

- Position the machine in a suitable location for any necessary lifting equipment to be used.
- Use appropriate tools and Personal Protective Equipment (PPE) and take guidance from the technical manuals applicable to the machine.
- Remove and store appropriately:
 1. Batteries
 2. Fuel residue
 3. Engine coolant
 4. Oils
- Disassemble the structure of the machine referring to the technical manuals where appropriate. Special attention should be made for dealing with 'stored energy' within pressurised elements of the machine or tensioned springs.
- Any items that still have a useful service life as second hand components or can be re-serviced should be separated and returned to the relevant centre.
- Other worn out items should be separated into material groups for recycling and disposal consistent with available facilities. More common separation types are as follows:
 - Steel
 - Non ferrous metals
 - Aluminium
 - Brass
 - Copper
 - Plastics
 - Identifiable
 - Recyclable
 - Non recyclable
 - Not identified
 - Rubber
 - Electrical & Electronic Components
- Items that cannot be separated economically into different material groups should be added to the 'General waste' area.
- Do not incinerate waste.

Finally update machinery records to indicate that the machine has been taken out of service and scrapped. Provide this serial number to Ranmsomes Jacobsen Warranty department to close off relevant records.



This safety symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury, carefully read the message that follows, and inform other operators.

3.1 OPERATING INSTRUCTIONS

- Ensure that the instructions in this book are read and fully understood.
- No person should be allowed to operate this machine unless they are fully acquainted with all the controls and the safety procedures.
- Never allow children or people unfamiliar with these instructions to use this machine. Local regulations may restrict the age of the operator.

3.2 SAFETY SIGNS

- It is essential all safety labels are kept legible, if they are missing or illegible they must be replaced. If any part of the machine is replaced and it originally carried a safety label, a new label must be affixed to the replacement part. New safety labels are obtainable from Ransomes dealers.

3.3 ADJUSTMENTS, LUBRICATION, MAINTENANCE & CLEANING

- Stop the engine and make sure all moving parts are stationary.
- Apply brakes and disengage all drives.
- Read all the appropriate servicing instructions.
- Use only the replacement parts supplied by the original manufacturer.
- When adjusting the cutting cylinders take care not to get hands and feet trapped when rotating cylinders.
- Make sure that other people are not touching any cutting units, as rotation of one cylinder can cause the others to rotate.
- To reduce the fire hazard, keep the engine, silencer and battery compartments free of grass, leaves or excessive grease.
- Replace worn or damaged parts for safety.

- When working underneath lifted parts or machines, make sure adequate support is provided.
- Do not dismantle the machine without releasing or restraining forces which can cause parts to move suddenly.
- Do not alter engine speed above maximum quoted in Engine Specification. Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speed may increase the hazard of personal injury.
- When refuelling, STOP THE ENGINE, DO NOT SMOKE. Add fuel before starting the engine, never add fuel while the engine is running.
- Use a funnel when pouring fuel from a can into the tank.
- Do not fill the fuel tank beyond the bottom of the filler neck.
- Replace all fuel tank and container caps securely.
- Store fuel in containers specifically designed for this purpose.
- Refuel outdoors only and do not smoke while refuelling.
- If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapours have dissipated.
- Allow the engine to cool before storing in any enclosure.
- Never store the equipment with fuel in the tank inside a building where fumes may reach an open flame or spark.
- If the fuel tank has to be drained, this should be done outdoors.
- Do not spill fuel onto hot components.
- When servicing batteries, DO NOT SMOKE, and keep naked lights away.
- Do not place any metal objects across the terminals.
- When Pressure Washing the Mower. Turn the engine off and remove the starter key. If the engine has been running, it should be allowed to cool sufficiently to prevent damage to the block and exhaust manifold. Never force water into any electrical components,

the air cleaner or exhaust muffler as water could enter the engine cylinder and cause damage.

DANGER:

Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

WARNING:

Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION:

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

IMPORTANT:

Transport speed is for highway use only. Never select transport speed on grass areas or uneven or unsurfaced roads or tracks.

4.1 PREPARATION

CAUTION: Read the mower's manual and become familiar with the mower, the controls and proper use of the equipment.

Stay alert for potential hazards and follow all safety precautions. Read all instructions completely and make sure you understand them before proceeding with the assembly

1. Park the mower on a flat and level surface, fully lower the implements to the ground, engage parking brake, stop the engine and remove key from ignition switch.
2. Wait for all movement to stop before making any adjustments or modifications.
3. Take this opportunity to thoroughly inspect the equipment and perform other maintenance.

The "Right" and "Left", "Front" and "Rear" of the machine are referenced from the operator's right and left when seated in the operator's seat facing the direction of forward travel.

4.2 DESCRIPTION

The following instruction details the process of installing the Three Wheel drive kit LMAC418 to the GP 400 machine.

4.3 FITTING INSTRUCTIONS

WARNING

- If any part of this instruction is not understood, contact your Jacobsen dealer for clarification, before proceeding.
- These Instructions will alert you to certain things you should do very carefully to avoid hurting yourself or others.

CAUTION

Never perform service or maintenance on or near a hot engine. Always allow ample time for the engine to cool. Severe burns can result if engine has not been allowed to cool.

Allow time for the hydraulic oil to cool. Installation of this kit requires handling of hydraulic oil. Hot hydraulic oil can cause severe burns.

WARNING

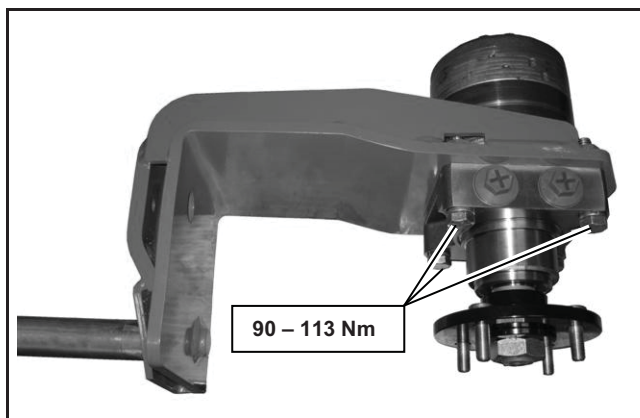
When raising the vehicle for repairs or maintenance, ALWAYS use jack stands to provide adequate support. NEVER rely on hydraulic or mechanical jacks for support. If not supported properly, the vehicle may fall unexpectedly resulting in serious personal injury or death.

1. Block the front tyres and raise rear of mower (Figure 1).

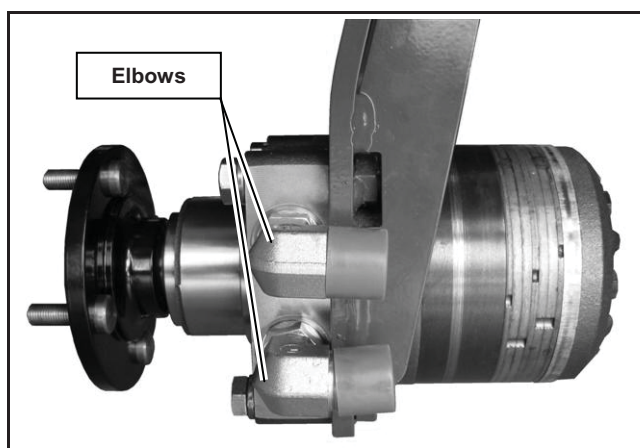


Figure 1

2. Remove rear fork and wheel assembly. Retain the wheel and hardware for reinstallation on new fork and hub assembly.
3. Install the hydraulic motor, part 008006930, into the new rear fork assembly, part 894728, as indicated in Figure 2, using the supplied hardware. Tighten the retaining bolts, part 451110346, to approximately 90 - 113 Nm (67 - 83 ft-lbs). Motor Hub Standard or Castled Nut Torqued to 400-540Nm. Then secure Split Pin

**Figure 2**

4. Using previously retained hardware, install the new rear fork assembly. Tighten the lower nut until washer will not turn by hand, then back off nut until washer will turn freely. Prevent lower nut from turning, then install and tighten upper nut to 68 Nm (50 ft-lbs).
5. Using previously retained hardware, install and secure steering cylinder to the rear fork.
6. Install two elbows, part W158007-05, into the hydraulic motor, as shown in Figure 3.

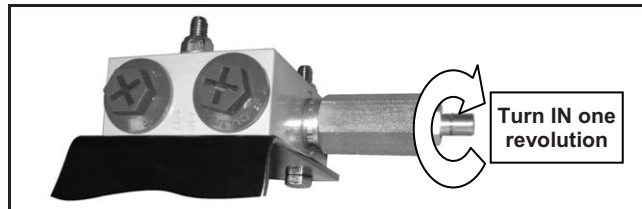
**Figure 3**

7. Install and secure tyre. Tighten retaining nuts to approximately 95 - 140 Nm (70 - 100 ft-lbs).
8. Lower the mower.
9. Mount the flushing valve, part 4187320, to the bracket 4268492 (as indicated in Figure 4), using two M8 x 55 bolts, washers and nuts Figure 4.

Figure 4



Figure 5



10. Undo the lock-nut on the flushing valve, turn the adjuster IN one revolution and lock the lock-nut Figure 5.
11. Raise fuel tank frame and secure with support rod A Figure 6.

Figure 6

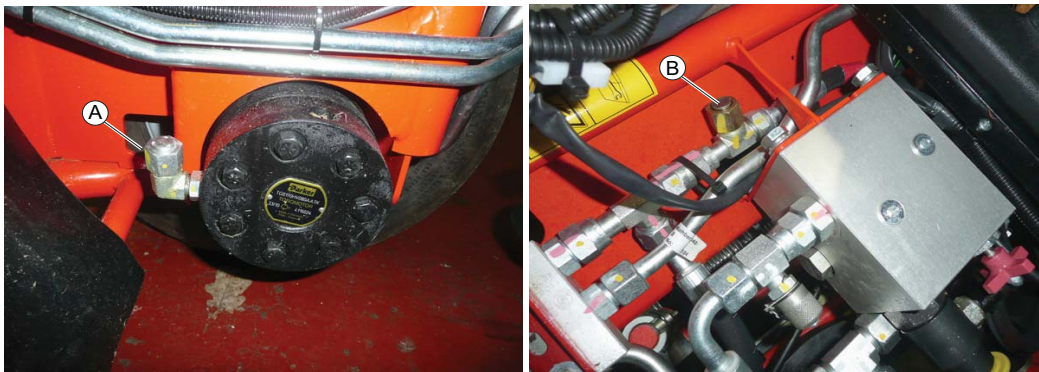


12. Install and secure the flushing valve bracket to the ROPS rear left bracket on the chassis using M10 x 25 cap screw bolts.

13. Disconnect the case drain tube from the front right wheel motor and install and secure 11/16 ORFS cap, part 002498400, to the end of the elbow in the motor A Figure 7. Cap the tee piece under the seat B Figure 7 with 11/16 ORFS cap, part 002498400.
14. Disconnect the hose A Figure 8 from the T-piece on the pump and remove hose completely from the lower T-Piece connecting the front 2 wheel motors located underneath the seat plate and discard hose.
15. Remove cap at position B Figure 8 and fit to position C Figure 8

NOTICE

ENSURE fittings are clean to prevent contamination in hydraulic system.



Fig

ure 7



Figure 8

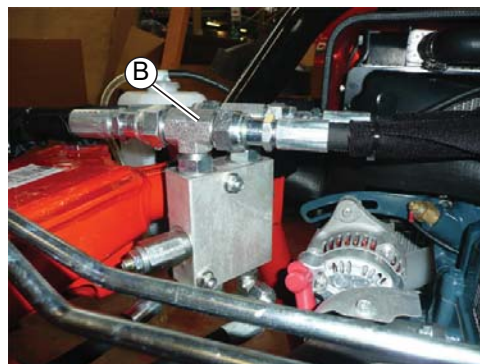


Figure 9

15. At the top of the flushing valve, install two T-pieces B Figure 9 1" ORFS, part 544071.

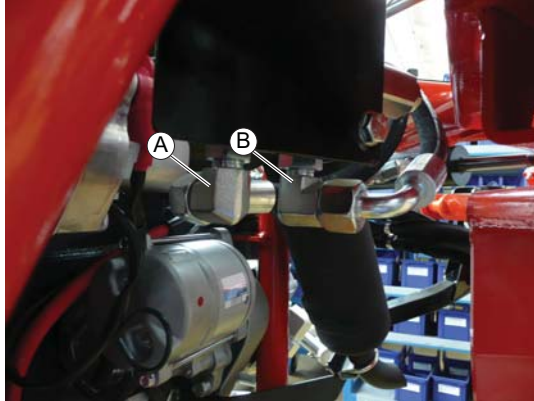


Figure 10

16. On the bottom face of the flushing valve, install and secure elbows 158007-01 and orientate as shown in Figure 10.

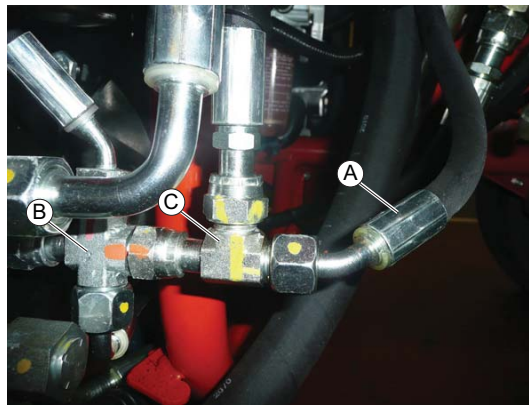


Figure 11

17. Remove hose A Figure 11 from cross B. Fit tee from kit C to cross B then temporarily refit hose A to tee C.

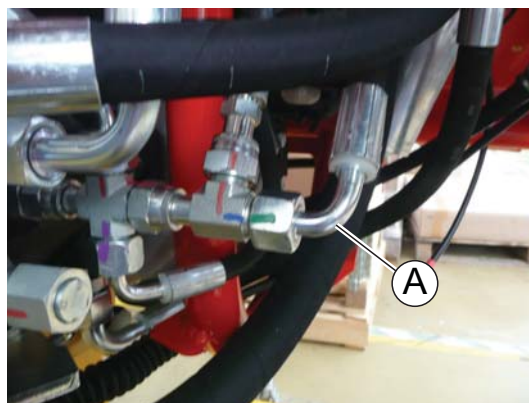
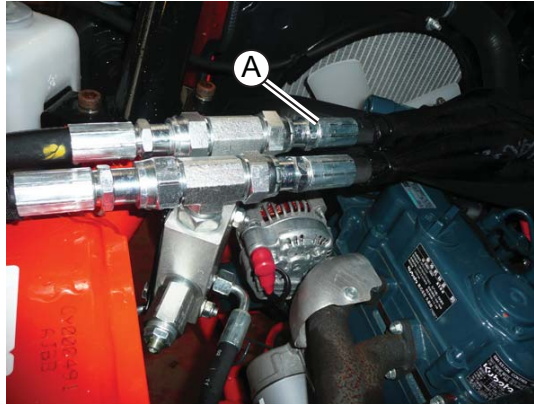
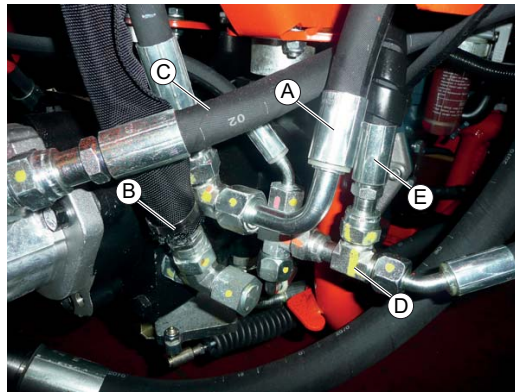


Figure 12

18. Replace hose A in Figure 11 from machine completely and by using hose 4250912 supplied within kit reconnect to tee piece and return tank fitting. Orientate hose to position indicated in Figure 12.

**Figure 13**

19. Install and secure hydraulic hose 4268495, connecting top left T-piece of flushing valve to lower T-piece of front motor drive piping A, Figure 13.

**Figure 14**

20. Install and secure hydraulic hose 4268494, connecting top right T-piece of flushing valve to lower T-piece of the pump B, Figure 14.

Figure 15

21. Remove cap from the upper T-piece on the pump. Install and secure hydraulic hose 4240304 C Figure 16, connecting the upper T-piece of the pump with the bottom left elbow on the flushing valve A Figure 15.

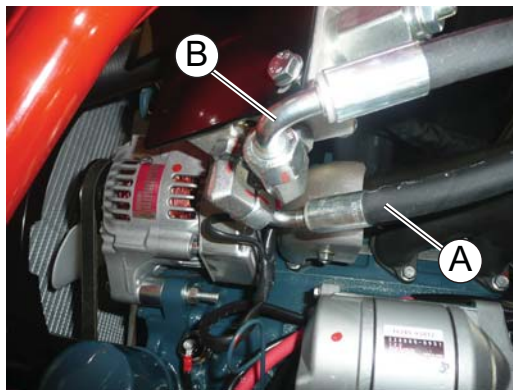


Figure 16

22. Secure 11/16 ORFS T-piece D Figures 16, part 002498400, to existing cross. Reinstall and secure original hose to the end of the T-piece E Figures 16 4147141. Install and secure to connector the T-piece branch part and connect to bottom right hand connector B Figures 17 of the flushing valve.

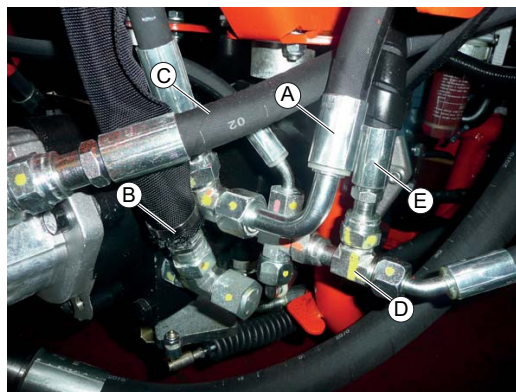


Figure 17

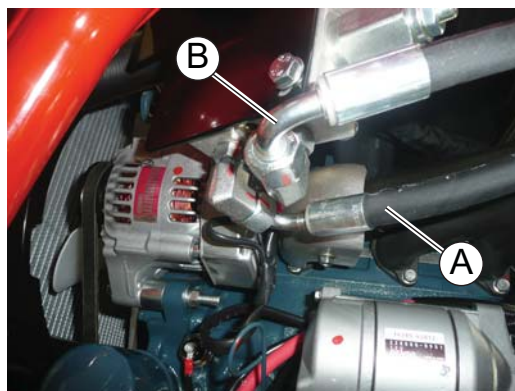


Figure 18

23. Install and secure these two hoses, connecting the bottom elbow on the wheel motor to the top left T-piece on the flushing valve and the top elbow on the wheel motor to the top right T-piece on the flushing valve. Secure the nylon sleeve with cable ties Figure 18.



24. Reposition the fuel pump to the tank retaining bolt to the rear of the current position.
25. BE SURE all hardware and hydraulic connections are tight.
26. Secure and tidy up all loose hoses with cable ties.
27. Fit the bracket hose clamp C Figure 19, part 4248590, to the ROPS rear right bracket A Figure 19. Feed the hydraulic hoses parts 4147141 and 4240403 through the cushioned p-clip B Figure 19, part 523213. Fit the p-clip to the bracket hose clamp as indicated in Figure 19.

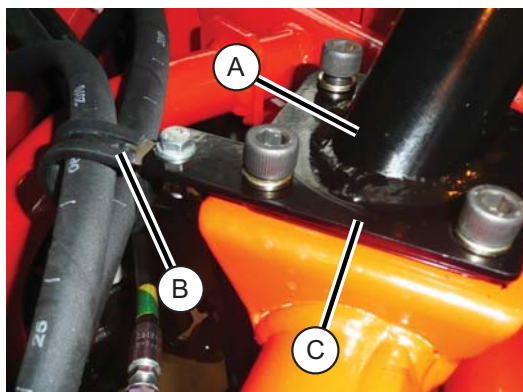


Figure 19

28. Lower and secure the fuel tank frame.
29. Check hydraulic oil level and fill as necessary.
- Recommended hydraulic oil is listed on the right.
30. Start the mower and check for proper operation.
31. Check for any oil leaks and repair as necessary.
32. Recheck hydraulic oil level and fill as necessary.



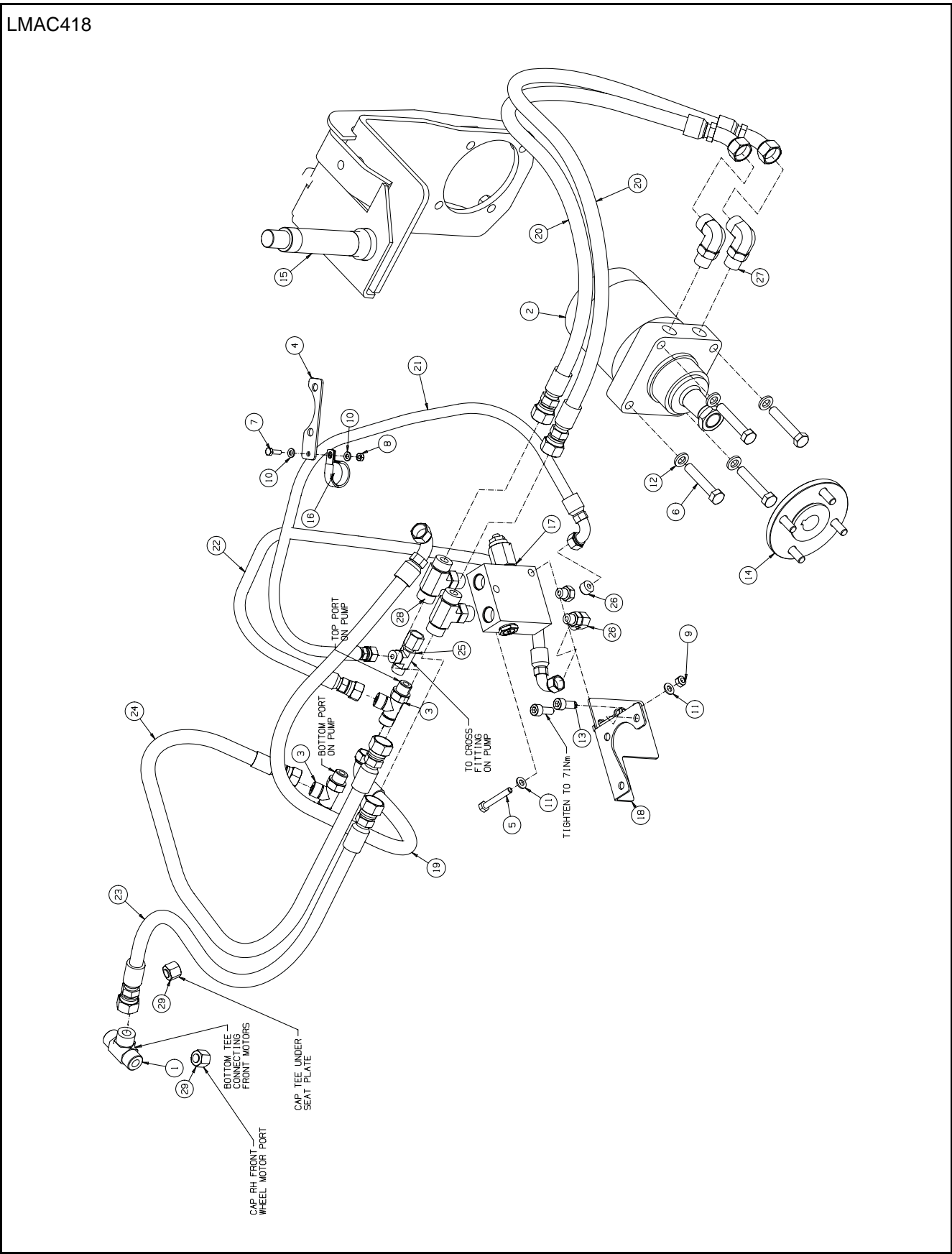
WARNING

- If a hydraulic oil leak is suspected, use a piece of cardboard or wood, NOT your hands, to check for leaks.
- Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious injury.
- If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

NOTICE**HYDRAULIC OIL**

The hydraulic fluid reservoir is filled at the factory with GreensCare 46.

5.1PARTS LIST



ITEM	PART NO.	DESCRIPTION	QTY.	REMARKS
1	002540050	TEE-M/F/M 1" ORFS	1	
2	008006930	MOTOR, HYD	1	
3	158056-01	TEE-3/4 SAE - 13/16" ORFS	2	
4	4248590	BRACKET-3WD HOSE CLAMP	1	
5	450019	BOLT-HEX M8 x 55	2	
6	451110346	BOLT-HEX 1/2-13 x 2-3/4	4	
7	450171	SCRW-HEX M6 x 20	1	
8	450377	NUT-HEX M6 NYLOC	1	
9	450378	NUT-HEX M8 NYLOC	2	
10	450389	WSHR-M6 x 12.5 x 1.8	2	
11	450390	WSHR-M8 x 17 x 1.8	4	
12	452200176	LOCKWSHR-1/2 x .873 x .125	4	
13	450738	CAPSCRW-SCKT M10 x 25	2	
14	844679.6	WHEEL HUB	1	
15	894728.6	WLDMT-3WD FORK	1	
16	523213	CUSHIONED P-CLIP	1	
17	4187320	3WD VALVE	1	
18	4268492	BRACKET 3WD VALVE	1	
19	4250912	HYDRAULIC HOSE	1	
20	4268493	HYDRAULIC HOSE	2	
21	4147141	HYDRAULIC HOSE	1	
22	4240304	HYDRAULIC HOSE	1	
23	4268495	HYDRAULIC HOSE	1	
24	4268494	HYDRAULIC HOSE	1	
25	002498400	TEE-M/F/M 11/16 ORS	1	
26	158007-01	90-M/M 11/16 ORS x 9/16 SAE	1	
27	158007-05	90-M/M 1 ORS x 7/8 SAE	2	
28	844071	TEE 1" ORFS	2	
29	002568020	CAP-11/16 ORS	2	
*	158059-04	FITTING-45 ORS/ORB ADJ	1	



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