

M1170 and M1240 Windrowers

**Gear Pump Replacement Kit (MD #306272)
Installation Instructions**

215093 Revision B

Original Instruction

M1 Series Windrower



1016391

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Introduction

The Gear Pump Replacement kit (MD #306272) can be installed on M1170 and M1240 Windrowers. The new gear pump provides increased durability/reliability.

This document explains how to install the kit. A list of parts included in the kit is provided in Chapter [2 Parts List, page 5](#).

Installation time

The approximate installation time for this kit is 3 hours.

Conventions

The following conventions are used in this document:

- Right and left are determined from the operator's position, facing forward with the windrower in cab-forward position.
- Unless otherwise noted, use the standard torque values provided in the windrower operator's manual and technical manual.

NOTE:

Keep your MacDon publications up-to-date. The most current version of this instruction can be downloaded from our Dealer-only site (<https://portal.macdon.com>) (login required).

NOTE:

This document is currently available in English only.

Summary of Changes

At MacDon, we're continuously making improvements, and occasionally these improvements affect product documentation. The following list provides an account of major changes from the previous version of this document.

Section	Summary of Change	Internal Use Only
3 Installation Instructions, page 7	Added step to update windrower software.	Product Support

TABLE OF CONTENTS

Introduction i

Summary of Changes..... ii

Chapter 1: Safety 1

1.1 Signal Words 1

1.2 General Safety 2

Chapter 2: Parts List..... 5

Chapter 3: Installation Instructions 7

Chapter 1: Safety

1.1 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information.

Signal words are selected using the following guidelines:



DANGER

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



WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.



CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

IMPORTANT:

Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

NOTE:

Provides additional information or advice.

1.2 General Safety

Protect yourself when assembling, operating, and servicing machinery.

CAUTION

The following general farm safety precautions should be part of your operating procedure for all types of machinery.

Wear all protective clothing and personal safety devices that could be necessary for the job at hand. Do **NOT** take chances. You may need the following:

- Hard hat
- Protective footwear with slip-resistant soles
- Protective glasses or goggles
- Heavy gloves
- Wet weather gear
- Respirator or filter mask

In addition, take the following precautions:

- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.



Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. Be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry. Take time to consider the safest way. **NEVER** ignore warning signs of fatigue.

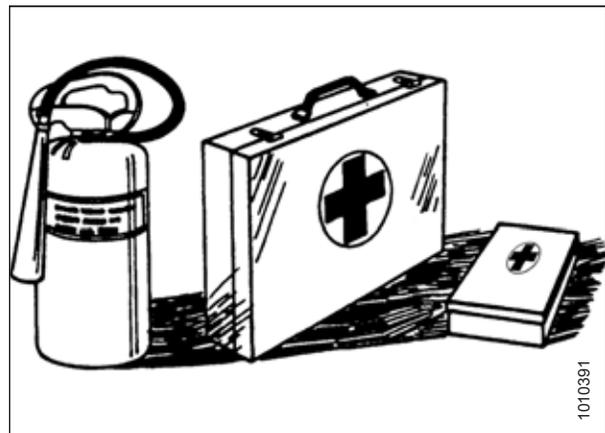


Figure 1.3: Safety Equipment

SAFETY

- Wear close-fitting clothing and cover long hair. **NEVER** wear dangling items such as scarves or bracelets.
- Keep all shields in place. **NEVER** alter or remove safety equipment. Make sure driveline guards can rotate independently of shaft and can telescope freely.
- Use only service and repair parts made or approved by equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.



Figure 1.4: Safety around Equipment

- Keep hands, feet, clothing, and hair away from moving parts. **NEVER** attempt to clear obstructions or objects from a machine while the engine is running.
- Do **NOT** modify the machine. Unauthorized modifications may impair machine function and/or safety. It may also shorten the machine's life.
- To avoid injury or death from unexpected startup of the machine, **ALWAYS** stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

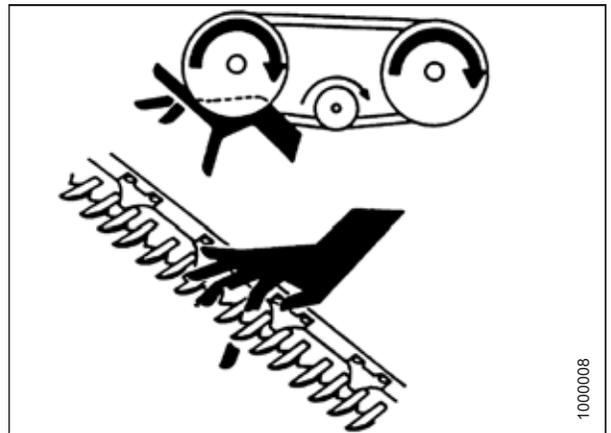


Figure 1.5: Safety around Equipment

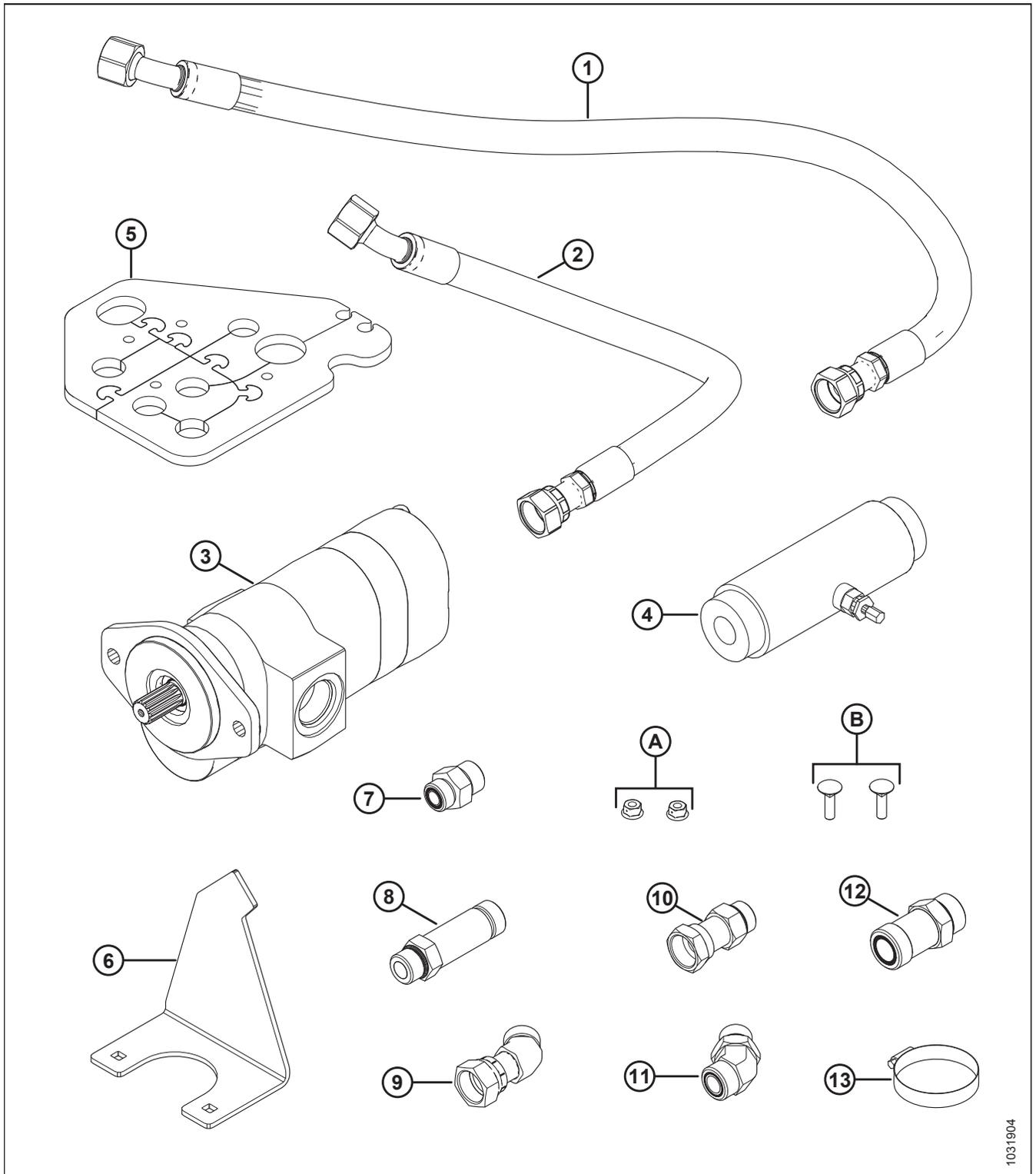
- Keep service area clean and dry. Wet and/or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.
- Keep work area well lit.
- Keep machinery clean. Straw and chaff on a hot engine are fire hazards. Do **NOT** allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before storage.
- **NEVER** use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
- When storing machinery, cover sharp or extending components to prevent injury from accidental contact.



Figure 1.6: Safety around Equipment

Chapter 2: Parts List

The following parts are included in this kit:



1031904

PARTS LIST

Ref	Part Number	Description	Quantity
1	209109	HOSE – HYDRAULIC, 1015 MM	1
2	209111	HOSE – HYDRAULIC, 650 MM	1
3	205125	PUMP – TRIPLE GEAR	1
4	209069	SUPPRESSOR – HYDRAULIC	1
5	306323	STRAP – LINE SUPPORT	1
6	209104	SUPPORT – SUPPRESSOR	1
7	135786	FITTING – ADAPTER	1
8	320238	FITTING – CONNECTOR HYD SPECIAL	1
9	136809	FITTING – ELBOW 45° HYD	1
10	136501	FITTING – ADAPTER HYD	1
11	136418	FITTING – ELBOW 45° HYD	1
12	320202	FITTING – CONNECTOR HYD SPECIAL	1
13	21995	CLAMP – HOSE GEAR TYPE	1
A	135337	NUT – HEX FLG CTR LK M8 X 1.25-8-AA1J	2
B	190752	BOLT – RHSN M8 X 1.25 X 30-8.8-AA1J	2

Chapter 3: Installation Instructions

WARNING

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

1. Park the windrower on a hard, level surface and engage the parking brake.
2. Turn off the engine.
3. Update the harvest performance tracker, and master controller software to latest version available on the MacDon Dealer Portal (<https://portal.macdon.com>). For instructions, refer to the M1170 or M1240 technical manual.
4. Remove the key.
5. Open the hood.
6. Drain the hydraulic tank. For instructions, refer to the windrower operator's or technical manual.
7. Locate the pump stack (A), and clean any debris off the pump stack to avoid contamination of hydraulic system during disassembly.

NOTE:

The M1240 has one support strap (B), and the M1170 has two support straps (B) and (C). The replacement strap (MD #306323) included in the kit is required to replace strap (C), and is used on M1170 Windrowers only.

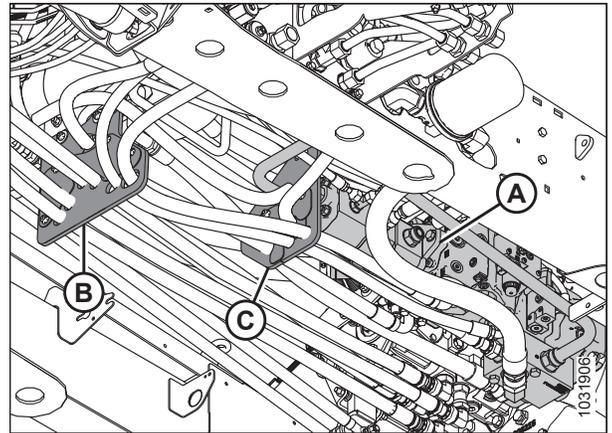


Figure 3.1: Pump Stack – M1170

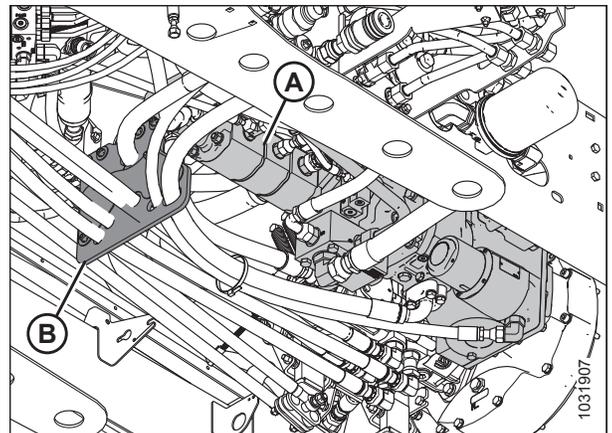


Figure 3.2: Pump Stack – M1240

INSTALLATION INSTRUCTIONS

WARNING

Use the following precautions when working around high pressure fluids:

- Relieve pressure before disconnecting hydraulic lines.
- Tighten all connections before applying pressure.
- Use a piece of cardboard or paper to search for leaks.
- Keep away from pinholes and nozzles that eject fluids under high pressure. Escaping fluid can penetrate the skin, causing serious injury. If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene may result.

NOTE:

Mark the line locations for reassembly.

8. Disconnect the seven hydraulic lines (A, B, C, D, E, F, and G) that connect to the triple gear pump. Cap hoses and lines to prevent contamination.

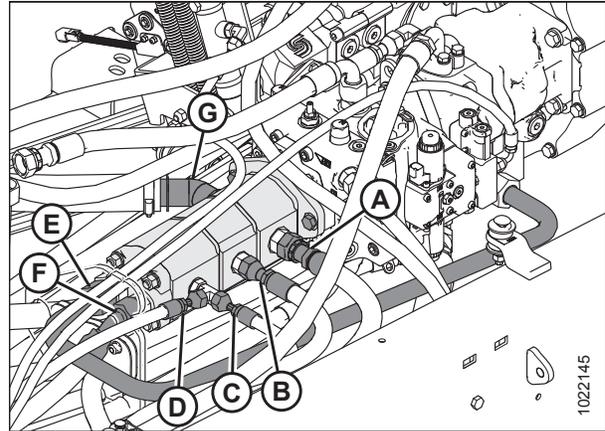


Figure 3.3: Triple Gear Pump Assembly

9. Disconnect the opposite end of hose (F) from the tee fitting, and discard hose (F). This is the only hose not reused on the new pump.

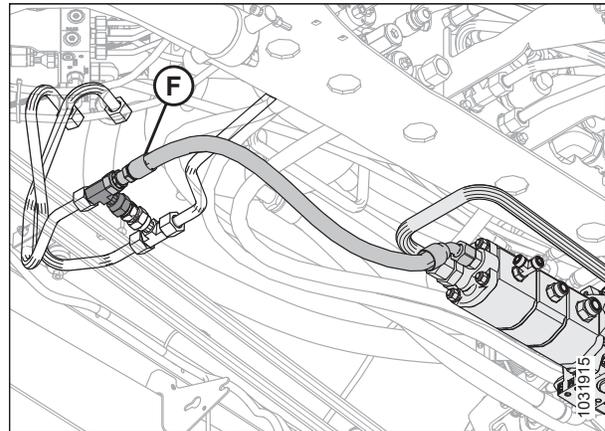


Figure 3.4: Triple Gear Pump Assembly

INSTALLATION INSTRUCTIONS

10. Remove bolts (A) that secure the triple gear pump to the header drive pump. Retain bolts (A) for installing the new pump.
11. Remove triple gear pump (B) from the pump stack.

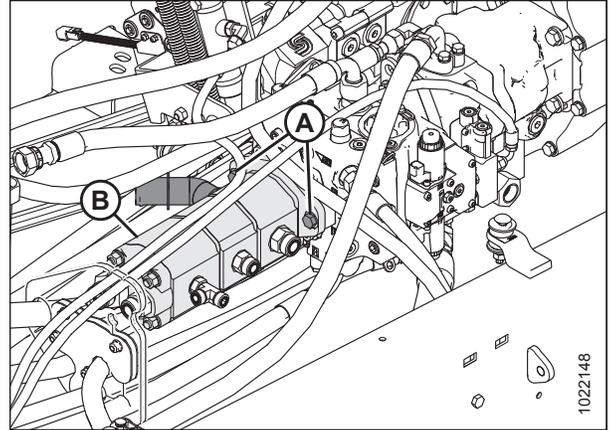


Figure 3.5: Triple Gear Pump Assembly

12. **M1170 only:** In front of pump stack (B), remove and retain two plates (C) and hardware from support strap (A), and remove the support strap from the hoses and lines.

NOTE:

The kit includes a new support strap (MD #306323), which has revised hole cutouts to account for the port locations on the new pump. This support strap is for M1170 Windrowers only; it is not used on M1240 Windrowers.

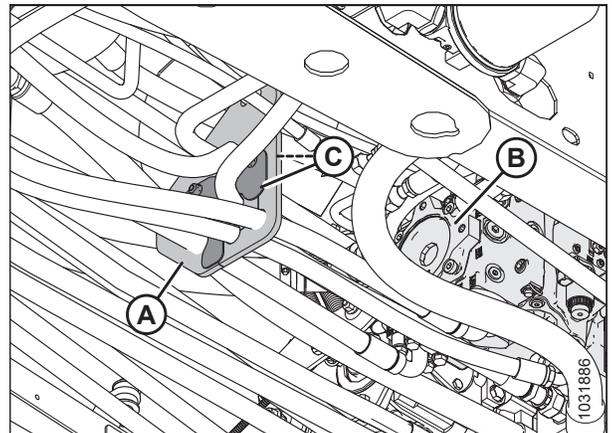


Figure 3.6: Line Support Strap – M1170 Only

13. Remove tee fitting (A), adapter fitting (B), and elbow fitting (C) from the pump for use with the new pump.

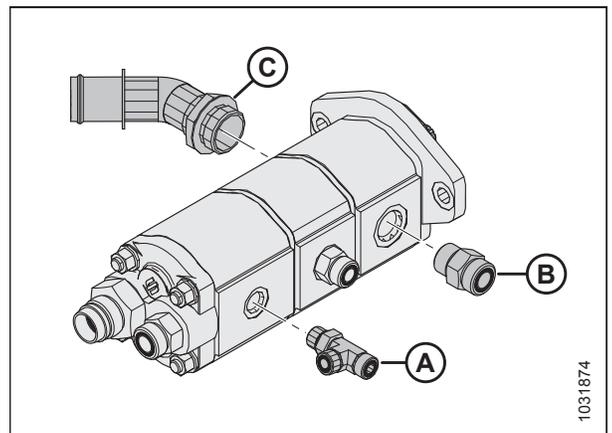


Figure 3.7: Retained fittings

INSTALLATION INSTRUCTIONS

14. Carefully remove O-ring (A) from the shaft end of triple gear pump (B) for use on the new pump. Ensure the O-ring is not damaged. If new O-ring is required, order MD #30045.

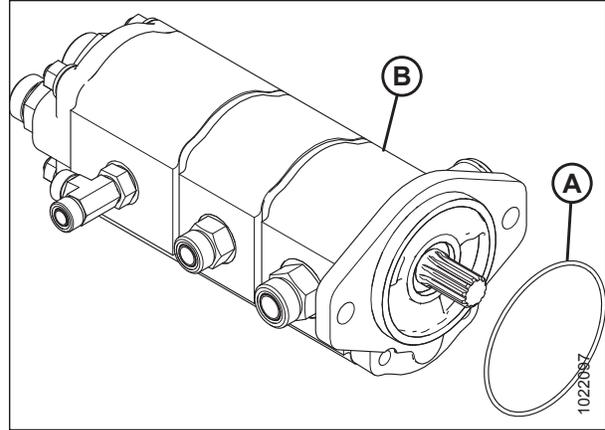


Figure 3.8: Triple Gear Pump Assembly

15. Ensure O-ring (A) is lubricated, and install the O-ring on the pilot diameter of new triple gear pump (B)(MD #205125).

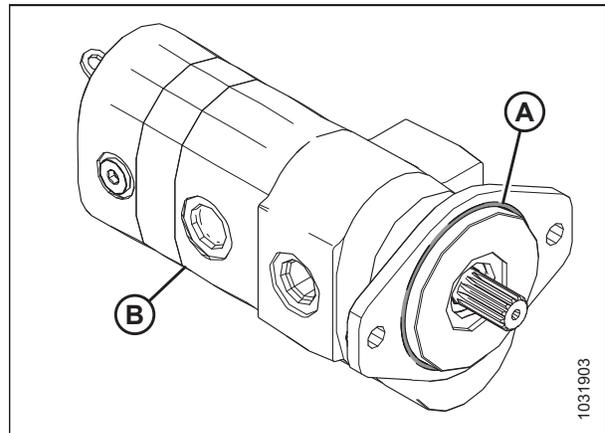


Figure 3.9: New Triple Gear Pump MD #205125

16. Install three retained fittings (A), (B), and (C) onto the new triple gear pump as shown.

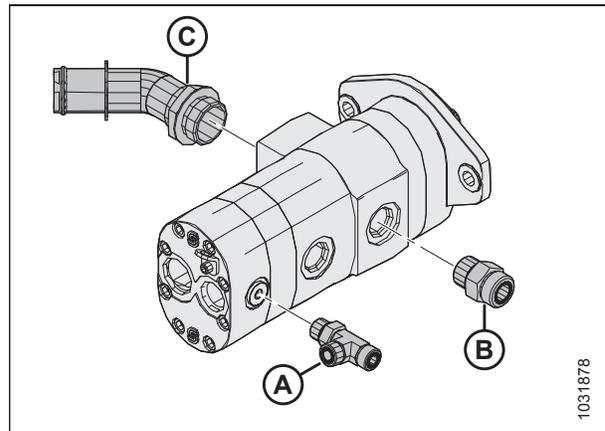


Figure 3.10: New Pump and Retained Fittings

INSTALLATION INSTRUCTIONS

17. Install fittings included in the kit onto the new triple gear pump as follows:

- Adapter fitting (A) (MD #135786)
- Connector fitting (B) (MD #320238)
- Connector fitting (C) (MD #320202)

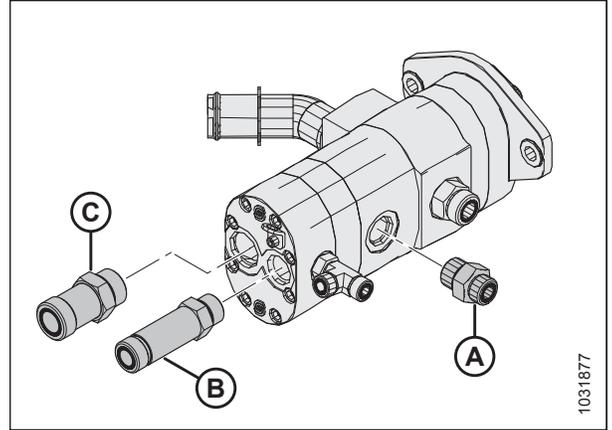


Figure 3.11: Triple Gear Pump and Fittings

18. Install new triple gear pump (A) using retained bolts (B).

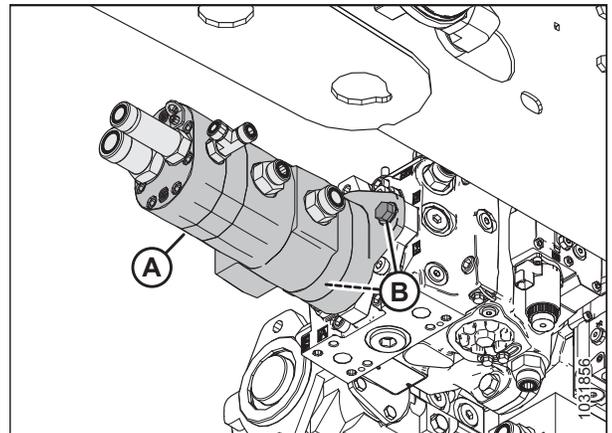


Figure 3.12: Pump MD #205125 Installed

19. Under the hydraulic tank and near tee fitting (A) where the hose was disconnected previously, install suppressor support (B) (MD #209104) to the frame using two bolts (C) (MD #190752) and nuts (MD #135337).

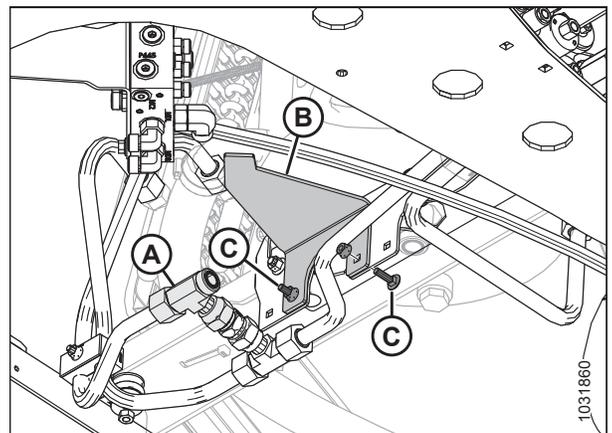


Figure 3.13: Suppressor Support Bracket

INSTALLATION INSTRUCTIONS

20. Loosely assemble suppressor (A) (MD #209069), elbow fitting (B) (MD #136418), adapter fitting (C) (MD #136501), and elbow fitting (D) (MD #136809) as shown. Refer to Figure 3.15, page 12 for fitting angles.

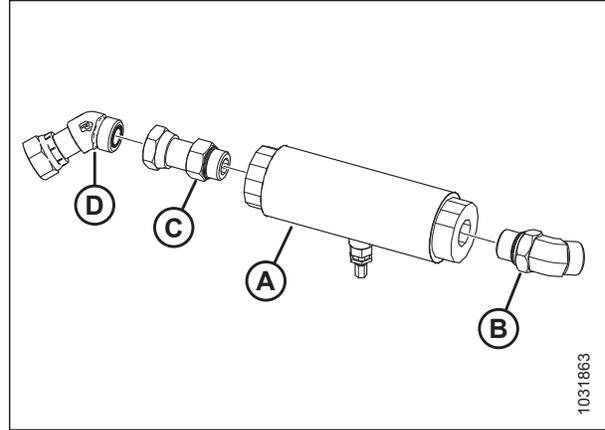


Figure 3.14: Suppressor Assembly

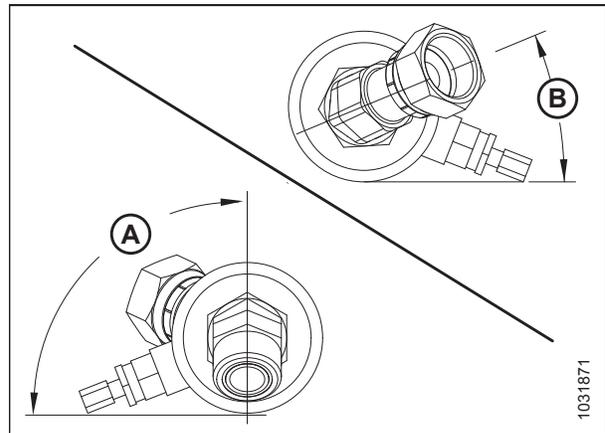


Figure 3.15: Suppressor Fittings Orientation

A - 90°

B - 23°

21. Align suppressor assembly under support (B), and attach elbow fitting (A) (MD #136809) onto tee fitting (C) where the hose was removed previously.

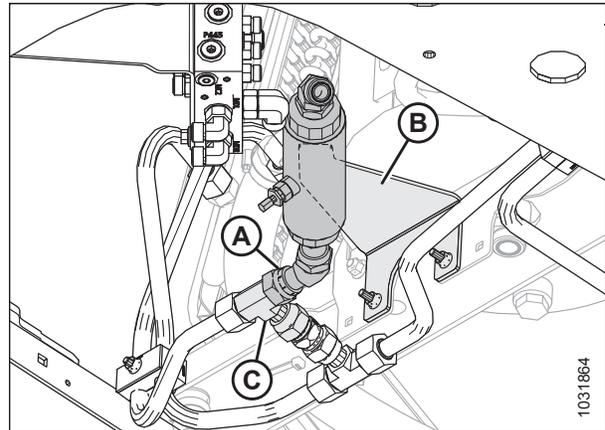


Figure 3.16: Installing Suppressor Assembly – Bottom View

INSTALLATION INSTRUCTIONS

22. Locate the correct hose in the kit for your windrower model:
- For M1170 windrowers, use 1015 mm (40 in.) hose (A) (MD #209109).
 - For M1240 windrowers, use 650 mm (25.6 in.) hose (B) (MD #209111).

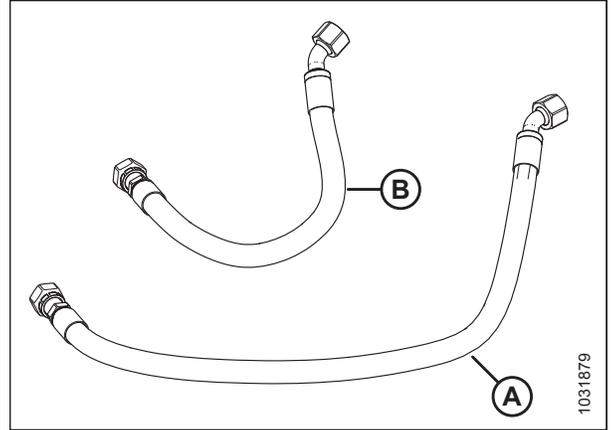


Figure 3.17: Hoses Included in Kit

23. Install the straight end of new hose (A) onto unused elbow fitting (MD #136418) on suppressor (B).

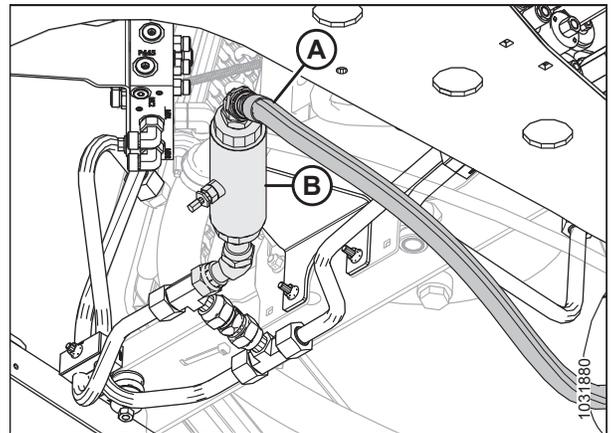


Figure 3.18: Suppressor Hose – Bottom View

24. Secure the suppressor assembly to support bracket (A) using hose clamp (B) (MD #21995).
25. Tighten suppressor fittings and hose (C).

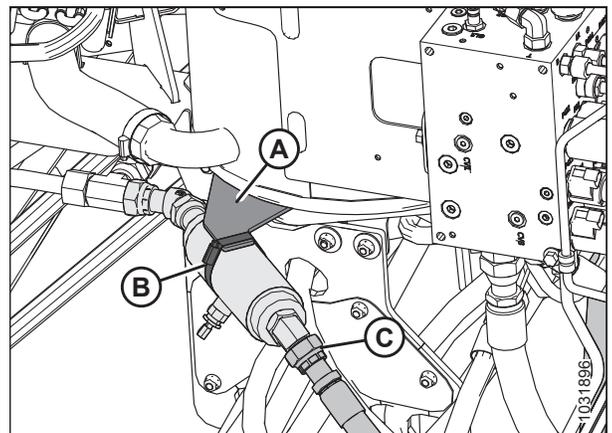


Figure 3.19: Suppressor – Top View

INSTALLATION INSTRUCTIONS

26. **M1170 only:** Install new support strap (A) onto the hoses and lines that were removed from the old strap. Ensure hoses and lines are in the same sequence as before the pump replacement.

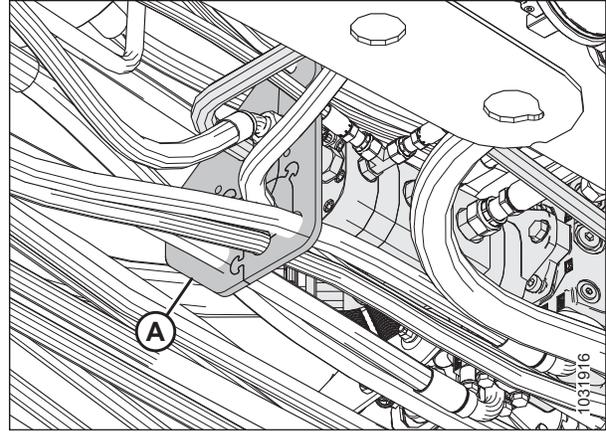


Figure 3.20: Line Support Strap (MD #306323)
Installed – M1170 Only

27. **M1170 only:** Reinstall two plates (A) and hardware removed from the discarded support strap.

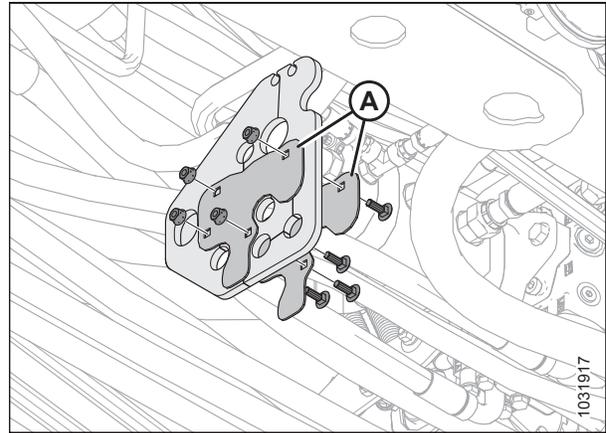


Figure 3.21: Line Support Strap (MD #306323)
Installed – M1170 Only

28. Remove any caps, and connect seven hydraulic lines (A, B, C, D, E, F, and G) to the triple gear pump. Ensure all hoses and lines are installed in the same locations as on the replaced pump.
29. Fill the reservoir with oil. For instructions, refer to the windrower operator's or technical manual.
30. Close the hood.

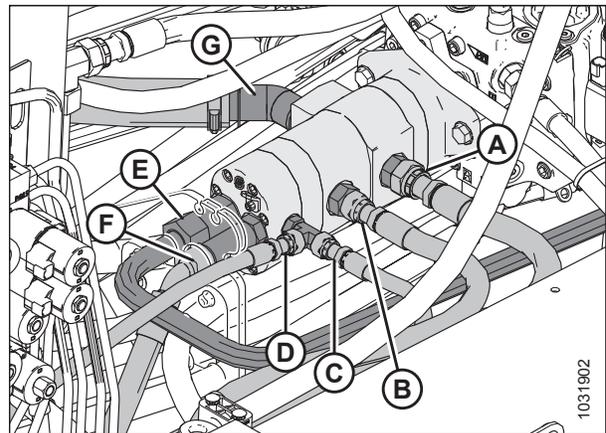


Figure 3.22: Triple Gear Pump Assembly

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