

Farm King

OPERATOR'S & ASSEMBLY MANUAL

Conventional Auger Mover

for 8" & 10" x 41', 51' & 61' Model CX Series



Table of Contents

Foreword.....	vii
Serial Number Locations	viii
Introduction	ix
Section 1	
Safety Alert Symbol	1-1
General Safety.....	1-2
Equipment Safety Guidelines.....	1-3
Safety Training, Safety Signs	1-4
Preparation	1-5
Operating Safety, Placement Safety	1-6
Assembly Safety, Hydraulic Safety, Tire Safety.....	1-8
Transport Safety	1-9
Maintenance Safety, Storage Safety, Refueling Safety, Battery Safety.....	1-10
Gas Engine Safety	1-11
Sign-Off Form	1-12
Safety Sign Locations.....	1-13
Section 2	
Overview and Function	2-1
Machine Components.....	2-2
Section 3	
Operation Safety, Break-In.....	3-1
Pre-Operation Checklist, Equipment Matching.....	3-2
Controls.....	3-3
Machine Placement	3-4
Transport Safety	3-6
Transport, Attaching/Unhooking	3-6
Storage Safety, Storage	3-13
Section 4	
Introduction, Fluids and Lubricants, Greasing	4-1
Service Intervals.....	4-2
Service Record	4-4
Hydraulic Pump Belt Tension and Alignment.....	4-5
Hydraulic Winch Gearbox Oil Change.....	4-6
Hydraulic System Oil Filter Change	4-7
Section 5	
Troubleshooting	5-1

Table of Contents

Section 6

Assembly Safety	6-1
Receiving.....	6-2
Tools	6-3
Tires/Rims.....	6-4
Engine.....	6-4
Battery Mounting Frame	6-5
Engine Flange	6-5
Inner Belt Guard.....	6-7
Engage Lever Mounting Frame	6-8
Belt Trays	6-9
Springs.....	6-10
Engage/Disengage Handle	6-11
Engage/Disengage Latching Lever.....	6-12
Adjusting Turnbuckle	6-13
Gearbox Pulley	6-14
Engine Drive Pulley.....	6-16
Drive Belts	6-18
Belt Tension.....	6-19
Pulley Alignment	6-20
Engine Platform	6-20
Belt Guard	6-21
Anti-Whip Guides	6-22
Outer Belt Guard	6-22
Belt Guard Covers.....	6-24
Fuel Tank.....	6-25
Fuel Return Line	6-28
Main Fuel Line	6-29
Battery	6-30
Front Cylinder	6-30
Side Arms.....	6-31
Wheel Axle Assembly	6-32
Wheel.....	6-33
Cross Brace.....	6-33
Yoke Assembly	6-34
Cylinder Top End	6-35
Attach Axle Assembly.....	6-36
Hydraulic Winch	6-40

Table of Contents

Hydraulic Fittings	6-41
Winch Cable.....	6-41
Control Panel Base	6-43
Control Valves.....	6-44
Wheel Drive	6-46
Ball Detent Bracket	6-49
Hydraulics	6-51
Hydraulic Oil Reservoir.....	6-55
Hydraulic Pump	6-59
Hydraulic Circuit	6-67
Control Panel Pivot	6-69
Hydraulic Hose Routing.....	6-70
Wheel Drive Gear Meshing.....	6-71
Fluid Levels	6-71
Final Checks	6-72
Section 7	
General Dimensions	7-1
Hardware Torque Values	7-2
Fittings and Hose/Tube Connection Torque Values - Imperial	7-4
Section 8	
Parts	8-1
Section 9	
Index.....	9-1

TO THE OWNER

The warranty coverage that is extended to your CX Series Conventional Auger Mover is explained in the Warranty and Limitation of Liability Form. Your dealer will provide you with a copy of the warranty and retain a copy that you have signed. You are advised to read the warranty and have your dealer explain any points that you may not understand.

 This symbol is used throughout this manual in conjunction with **DANGER**, **WARNING** and **CAUTION** signal banners when potential for personal injury may be present. When you see this symbol take time to read the content and comply accordingly. Pictures in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment. Close or replace all shielding before operating the machine.

HAVE ALL OPERATORS READ THIS MANUAL CAREFULLY AND KEEP IT AVAILABLE FOR READY REFERENCE

This CX Series Conventional Auger Mover is intended for use in normal and customary agricultural applications. DO NOT modify or alter or permit anyone else to modify or alter this CX Series Conventional Auger Mover or any of its components or any function of the CX Series Conventional Auger Mover. You may contact **Farm King at 301 Mountain St. S., Morden, Manitoba, Canada R6M 1X7, E-mail: info@buhler.com, Web: www.farm-king.com**

Your safety and the safety of those around you depend on the care and good judgement used while operating the equipment. If you have any doubt about the safety equipment you can call your Farm King dealer. Read the safety precautions and operators instructions carefully.

For a complete list of the delivery service checks performed by your dealer, refer to the delivery report. The first copy is your record and the second copy is the dealers copy to be retained by the dealer.

MAKE SURE THAT BOTH YOU AND THE DEALER SIGN BOTH COPIES.

All information and data in this manual is subject to variations in production. All dimensions and weights are approximate and illustrations may not show standard configurations. Your Farm King dealer can provide exact information about your CX Series Conventional Auger Mover.

IMPROVEMENTS

Farm King is continually working to improve its products. We reserve the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

DISCLAIMER

Farm King, makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Farm King assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Farm King reserves the right to make changes to this manual at any time without obligation or notice.

Serial Number Location

Serial Number Location

Always give your dealer the serial number of your Farm King CX Series Conventional Auger Mover when ordering parts or requesting service or other information.

The serial number plate is located where indicated. Please mark the number in the space provided for easy reference.



Model Number _____

Serial Number _____

Production Year _____

Introduction

Congratulations on your choice of a Farm King CX Series Conventional Auger Mover to complement your agricultural operation. This equipment has been designed and manufactured to meet the needs of you, our customer for the efficient moving of the Farm King CX Series Conventional Auger.

Use this manual in conjunction with the CX Series Conventional Auger manual when operating. Although this manual applies to the mover operation and assembly, the mover is an attachment to the CX Series Conventional Auger. All usage and instruction information on the CX Series Auger also applies to the mover.

Safe, efficient and trouble-free operation of your auger mover requires that you and anyone else who will be operating or maintaining the auger mover, read and understand the Safety, Operation, Maintenance and Troubleshooting information contained in the Operator's Manual.



This manual covers the Farm King CX Series Conventional Auger Mover Kit. Use the Table of Contents or Index as a guide to locate required information.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call the Distributor or Factory if you need assistance, information or additional copies of the manuals.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are as seen facing in the direction of travel when the auger is being towed with a tow unit.

Safety Alert Symbol

Safety

Safety Alert Symbol

This Safety Alert symbol means
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!



The Safety Alert symbol identifies important safety messages on the Farm King CX Series Conventional Auger Mover and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guidelines:

DANGER Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. 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 also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact the factory at **Farm King at 301 Mountain Street South, Morden, Manitoba R6M 1X7 Ph.: 204.822.4467, Toll Free: 888.524.1004, Fax: 204.822.6348.**

General Safety

YOU are responsible for the SAFE operation and maintenance of your Farm King CX Series Conventional Auger Mover. YOU must ensure that you and anyone else who is going to operate, maintain or work around the auger mover be familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the auger mover.

Remember, YOU are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that EVERYONE operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Auger mover owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining or adjusting the auger mover.



2. Have a first-aid kit available for use should the need arise and know how to use it.



3. Have a fire extinguisher available for use should the need arise and know how to use it.



4. Wear appropriate protective gear. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses or goggles
- Heavy gloves
- Wet weather gear
- Respirator or filter mask



5. Install and secure all guards before starting.

6. Do not allow riders.

7. Wear suitable ear protection for prolonged exposure to excessive noise.



8. Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

9. Clear the area of people, especially small children, before starting the unit.

10. Review safety related items annually with all personnel who will operating or maintaining the auger mover.

Equipment Safety Guidelines

1. Safety of the operator and bystanders is one of the main concerns in designing and developing a machine. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.
2. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
3. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
4. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
5. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and trained in this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
6. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**
7. Do not modify the equipment in any way. Unauthorized modification can result in serious injury or death and may impair the function and life of the equipment.
8. In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Tractor and machine Manuals. Pay close attention to the Safety Signs affixed to the Tractor, engine and the machine.

Safety Training

1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
3. It has been said, "The best safety feature is an informed, careful operator". We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Accidents can be avoided.
4. **Working with unfamiliar equipment can lead to care-less injuries. Read this manual, and the manual for your tractor and engine, before assembly or operating, to acquaint yourself with the machines. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to operating:**
 - a. **Reads and understands the operator's manuals.**
 - b. **Is instructed in safe and proper use.**
5. Know your controls and how to stop tractor, engine, and machine quickly in an emergency. Read this manual and the one provided with your engine.
6. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.

Safety Signs

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 10° C (50° F).
- Determine exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

Preparation

1. Never operate the tractor, engine and machine until you have read and completely understand this manual, the engine manual and the Tractor Operator's Manual, and each of the Safety Messages found on the safety signs on the tractor, engine and machine.
2. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.
3. **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**
We recommend that you wear hearing protection on a full-time basis if the noise in the Operator's position exceeds 80 dB. Noise over 85 dB on a long-term basis can cause severe hearing loss. Noise over 90 dB adjacent to the Operator over a long-term basis may cause permanent, total hearing loss.
4. Transport the machine only with a tractor equipped with an approved Roll-Over-Protective Structure (ROPS). Always wear your seat belt. Serious injury or even death could result from falling off the tractor - particularly during a turnover when the operator could be pinned under the ROPS or the tractor.
5. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
6. Operate only in daylight or good artificial light.
7. Be sure machine is properly attached, adjusted and in good operating condition.
8. Ensure that all safety shielding and safety signs are properly installed and in good condition.

NOTE: Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.

Operating Safety

1. Please remember it is important that you read and heed the safety signs on the auger and auger mover. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
2. All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this auger to be used with all its safety equipment properly attached, to minimize the chance of accidents. Study this manual to make sure you have all safety equipment attached.
3. If a safety shield or guard is removed for any reason, it must be replaced before the machine is again operated.
4. Stop the engine, place all controls in neutral, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
5. Clear the area of bystanders, especially children, before starting.
6. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
7. Do not allow riders on the auger or tractor when transporting.
8. Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.
9. Chock the front and rear wheels before operating.
10. Lower auger to its lowest position before moving or transporting or when not in use.
11. Be sure that auger is empty before raising or lowering.
12. Engage drive wheel gears before moving.
13. Disengage hydraulic pump when hydraulic system is not being used.

Placement Safety

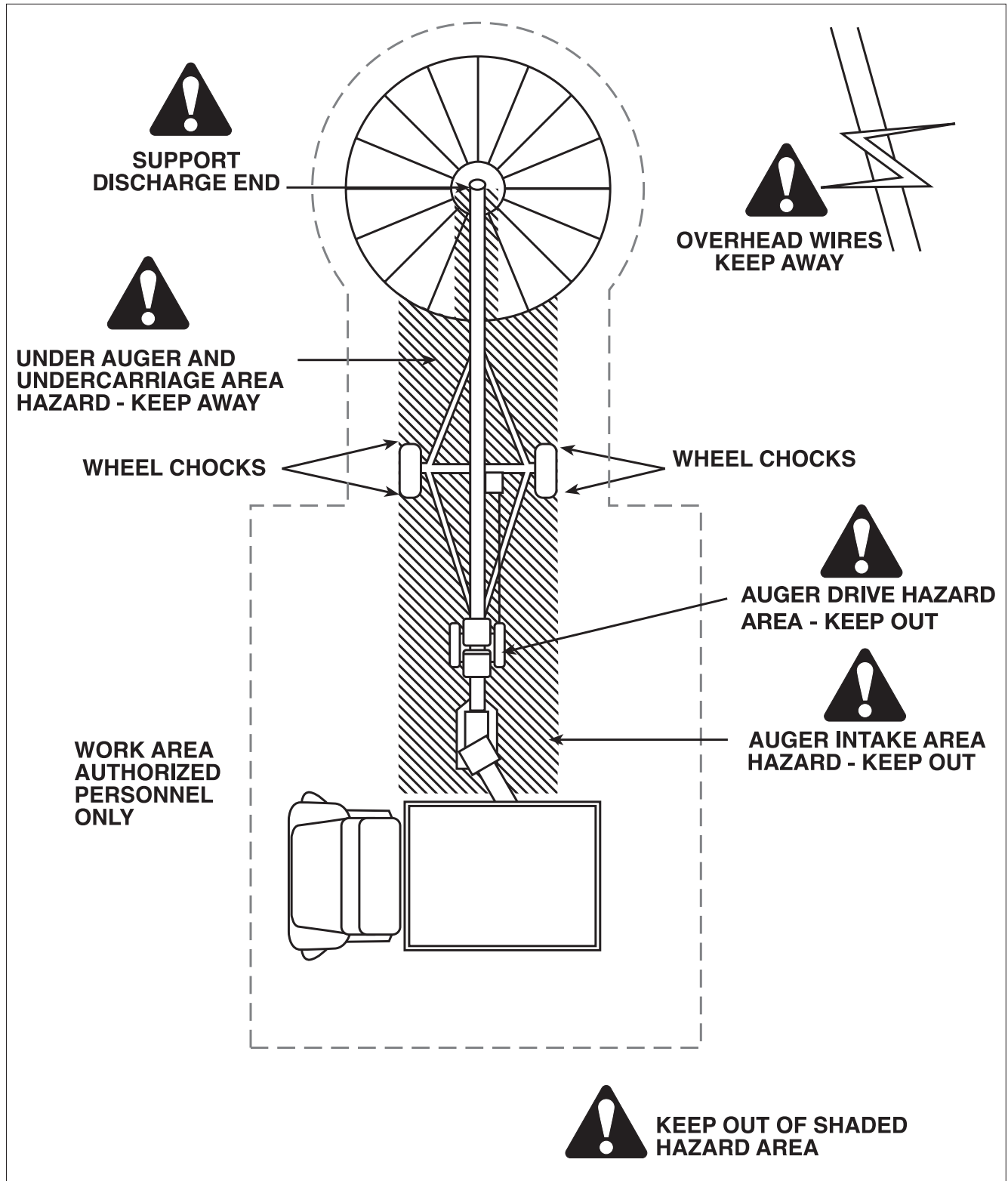
1. Engage drive wheel gears to move auger.
2. Stay away from overhead power lines when moving auger. Electrocution can occur without direct contact.
3. Keep auger as low as possible.
4. Chock auger wheels front and rear before operating.
5. Locate auger to provide ample space for trucks to unload.
6. Keep auger as low as possible when moving. Raise only when it is next to storage facility.
7. Be familiar with the machine hazard area. If anyone enters hazard area, shut down machine immediately. Clear the area before restarting.
8. Operate the auger on level ground free of debris. If ground is uneven, anchor the auger to prevent tipping or upending.



IMPORTANT



Before raising or placement of auger be sure that ground is reasonably level. Auger could topple if ground is too uneven damaging equipment and/or causing personal injury.



Workplace Hazard Area

Assembly Safety

1. Read and understand the Assembly Manual and all safety signs before starting.
2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



3. Use properly sized tools, stands, jacks and hoists at all times.
4. Use two men to handle heavy and/or bulky components.
5. Position in a large open area to allow access from all sides during assembly.
6. Keep the assembly area neat and clean to prevent slipping or tripping.
7. Place safety stands under the machine or components before going underneath the component for assembly.
8. Stay away from overhead obstructions when lifting the machine during assembly. Contact with obstructions can damage components or cause them to fail.
9. Tighten all fasteners to their specified torque before using the machine.

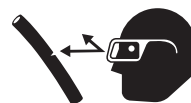
IMPORTANT: *It is recommended that either a supplementary weight be used at the hitch end or a strap/hoist be used to support the tube at the discharge end to insure stability of the machine during the assembly process. Once assembly is complete, the additional supports are no longer required.*

Hydraulic Safety

1. Always place all hydraulic controls in neutral before working on hydraulic system. Always relieve pressure before working on the hydraulic system.
2. Make sure that all components in the hydraulic system are kept in good condition and are clean.
3. Replace any worn, cut, abraded, flattened or crimped hoses.
4. Do not attempt any makeshift repairs to the hydraulic fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
5. Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.



6. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.

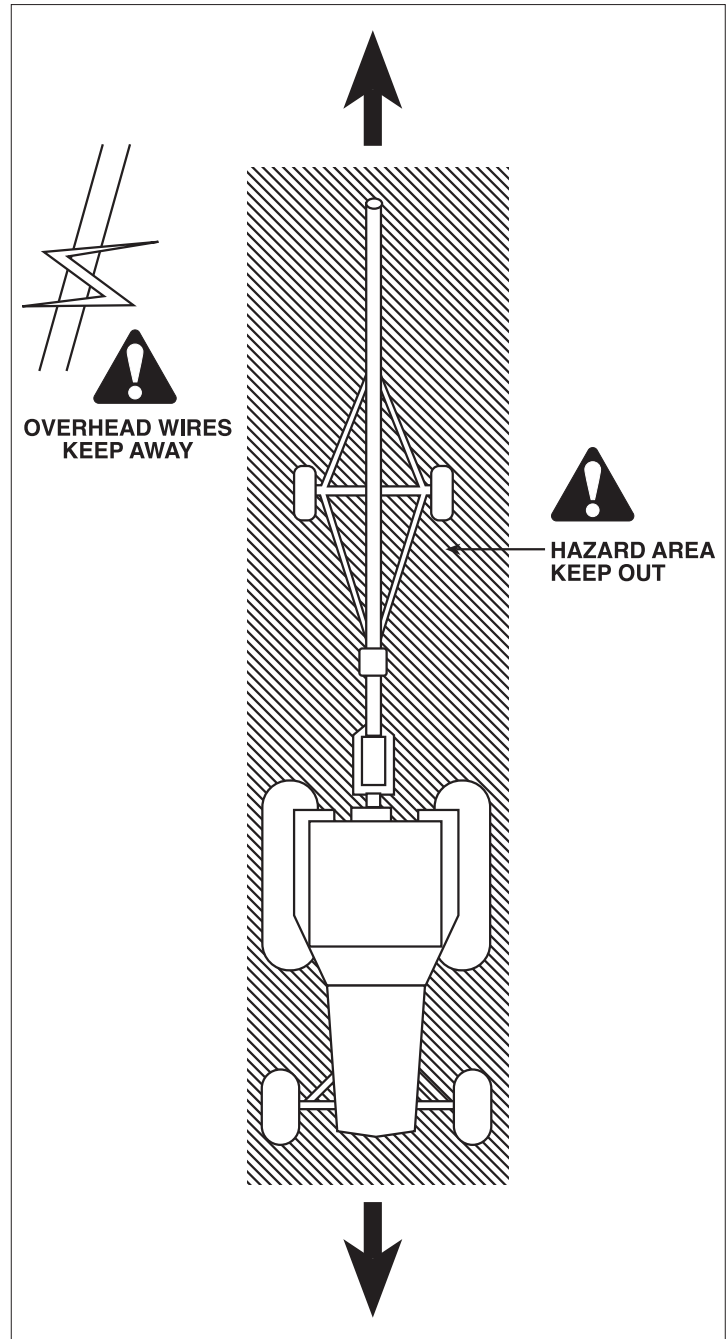


Tire Safety

1. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
3. Have a qualified tire dealer or repair service perform required tire maintenance.
4. When replacing worn tires, make sure they meet the original tire specifications. Never undersize.

Transport Safety

1. Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when moving or transporting the auger.
2. Check with local authorities regarding auger transport on public roads. Obey all applicable laws and regulations.
3. Always travel at a safe speed. Use caution when making corners or meeting traffic.
4. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
5. Do not allow riders on the auger or the tractor when transporting.
6. Attach auger to towing vehicle with a pin and retainer. Always attach the safety chain if so equipped.
7. Lower auger to its lowest position for transporting.
8. Disengage wheel drive gears before transporting.
9. Raise front wheel assembly into its highest position and secure with anchor chain before transporting.
10. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
11. Do not exceed 20 mph (32 km/h). Reduce speed on rough roads and surfaces.
12. Stay away from overhead obstructions and power lines when transporting. Electrocuting can occur without direct contact.
13. Always use hazard warning flashers on tractor when transporting unless prohibited by law.



Maintenance Safety

1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



3. Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.

4. Before working on this machine, shut off the engine, set the brakes, and remove the ignition keys.

5. Never work under equipment unless it is blocked securely.

6. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy gloves when handling sharp components.

7. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

8. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.



9. Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.

10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

11. Keep safety signs clean. Replace any sign that is damaged or not clearly visible.

Storage Safety

1. Store the unit in an area away from human activity.

2. Do not permit children to play on or around the stored machine.

3. Store the unit in a dry, level area. Support the frame with planks if required.

Refueling Safety

1. Handle fuel with care. It is highly flammable.

2. Allow engine to cool for 5 minutes before refuelling. Clean up spilled fuel before restarting engine.

3. Do not refuel the machine while smoking or when near open flame or sparks.



4. Fill fuel tank outdoors.

5. Prevent fires by keeping machine clean of accumulated trash, grease and debris.

Battery Safety

1. Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.

2. Avoid contact with battery electrolyte: wash off any spilled electrolyte immediately.

3. Wear safety glasses when working near batteries.

4. Do not tip batteries more than 45° to avoid electrolyte loss.

5. To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.

Gas Engine Safety

Before starting engine, read and understand the operating and maintenance instructions that came with your engine.

WARNING: DO NOT

1. DO NOT run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odourless and deadly poison.
2. DO NOT place hands or feet near moving or rotating parts.
3. DO NOT store, spill, or use gasoline near an open flame, or devices such as a stove, furnace, or water heater which use a pilot light or devices which can create a spark.
4. DO NOT refuel indoors where area is not well ventilated. Outdoor refuelling is preferred.
5. DO NOT refuel while engine is running. Allow engine to cool for 5 minutes before refuelling. Store fuel in approved safety containers.
6. DO NOT remove fuel tank cap while engine is running.
7. DO NOT operate engine if gasoline is spilled. Move machine away from the spill and avoid creating any ignition until gasoline has evaporated.
8. DO NOT smoke while filling fuel tank.
9. DO NOT choke carburetor to stop engine. Whenever possible, gradually reduce engine speed before stopping.
10. DO NOT run engine above rated speeds. This may result in injury.
11. DO NOT tamper with governor springs, governor links or other parts which may increase the governed speed.
12. DO NOT tamper with the engine speed selected by the original equipment manufacturer.
13. DO NOT check for spark with spark plug or spark plug wire removed.
14. DO NOT crank engine with spark plug removed. If engine is flooded, crank until engine starts.
15. DO NOT strike flywheel with a hard object or metal tool as this may cause flywheel to shatter in operation. Use proper tools to service engine.
16. DO NOT operate engine without a muffler. Inspect periodically and replace, if necessary. If engine is equipped with a muffler deflector, inspect periodically and replace, if necessary with correct deflector.
17. DO NOT operate engine with an accumulation of grass, leaves, dirt or other combustible materials in the muffler area.
18. DO NOT use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.
19. DO NOT touch hot muffler, cylinder or fins because contact may cause burns.
20. DO NOT run engine with air cleaner or air cleaner cover removed.

WARNING: DO

1. ALWAYS DO remove the wire from the spark plug when servicing the engine or equipment to prevent accidental starting. Disconnect the negative wire from the battery terminal if equipped with a 12 volt starting system.
2. DO keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.
3. DO examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.
4. DO use fresh gasoline. Stale fuel can gum carburetor and cause leakage.
5. DO check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

Sign-Off Form

Farm King follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the CX Series Conventional Auger Mover must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual and the auger manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine.

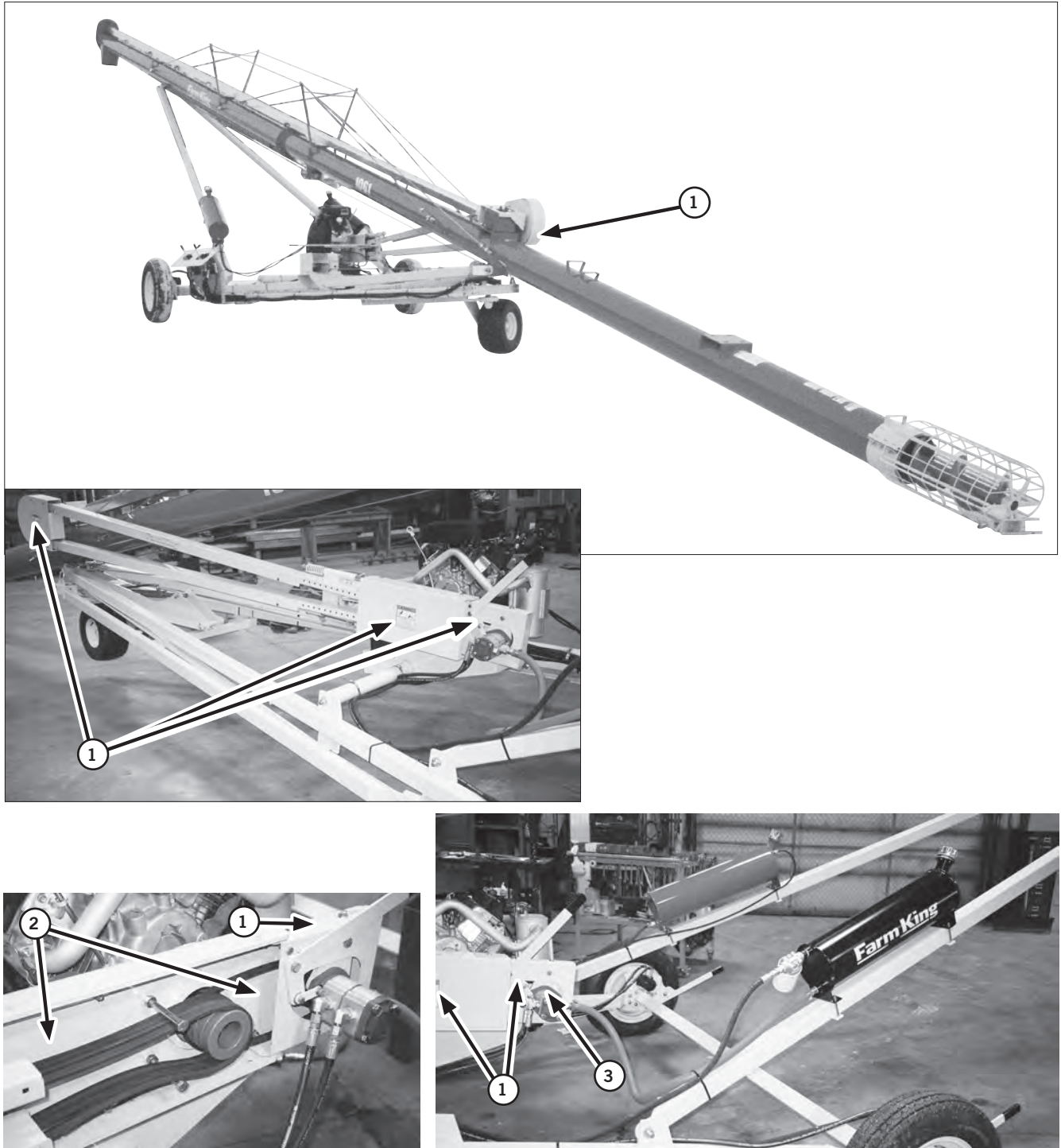
A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

[illegible]

Safety Sign Locations

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

- Think SAFETY! Work SAFELY!

①



②



REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

Machine Components

Overview and Function

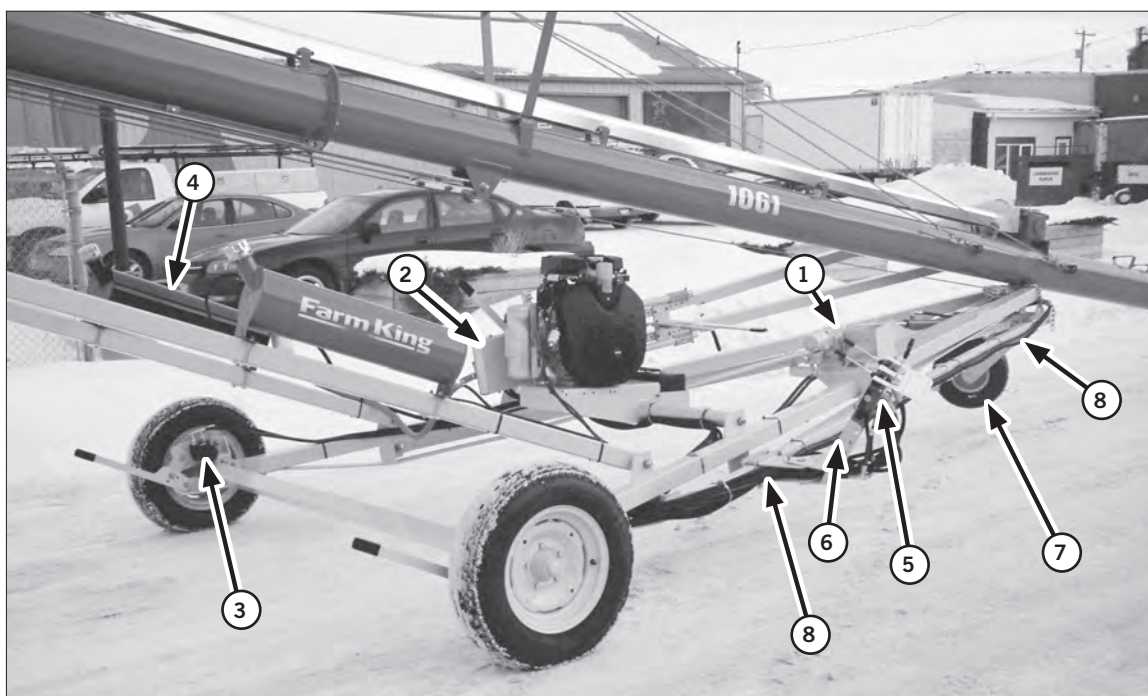
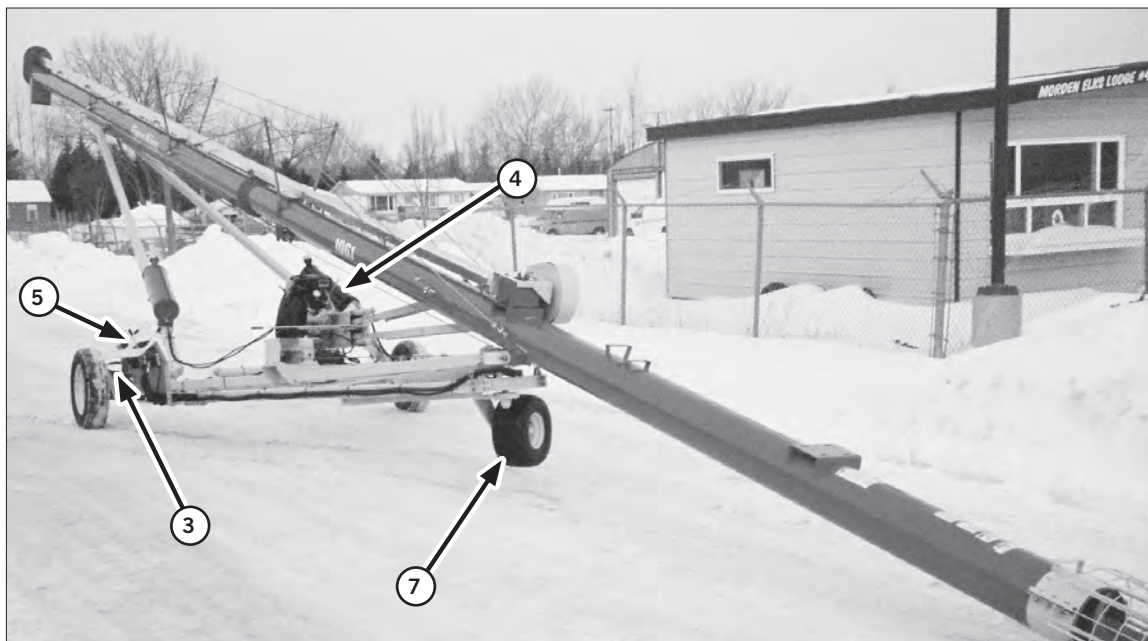
The CX Series Conventional Auger Mover is a gas engine powered attachment to the CX Series Conventional Auger. The mover attachment allows for self-propelled movement around a yard and/or up to storage facilities of the auger. It is a low-speed system operated by the user from the pivoting control panel mounted on the mover frame.

Additional components include a hydraulic pump, hydraulic oil reservoir, hydraulic oil filter, wheel drive mechanism and motors, hydraulic winch, front castor wheel with lift cylinder, and a frame-mounted pivoting control panel with valves for all hydraulic circuits.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual and the auger manual carefully to learn how to operate the machine safely and how to set it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your auger mover will provide many years of trouble-free service.



Ensure all operators are familiar with all the components and functions of this unit before attempting to proceed with the Operation Section of this manual.

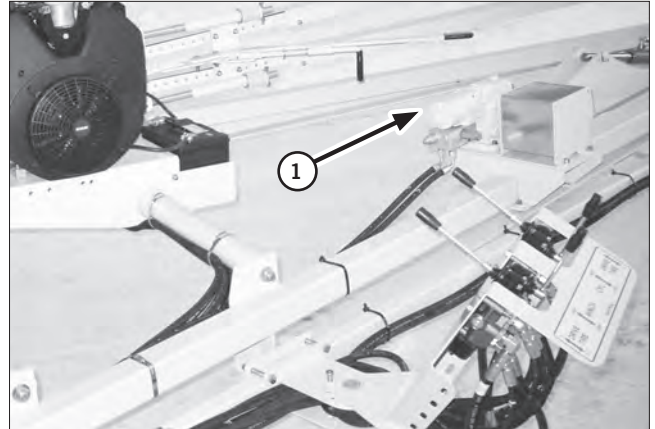


- 1 Hydraulic Winch Drive
- 2 Hydraulic Pump
- 3 Wheel Drives
- 4 Hydraulic Oil Reservoir

- 5 Control Valves
- 6 Pivoting Control Panel
- 7 Castor Wheel
- 8 Hydraulic Hoses

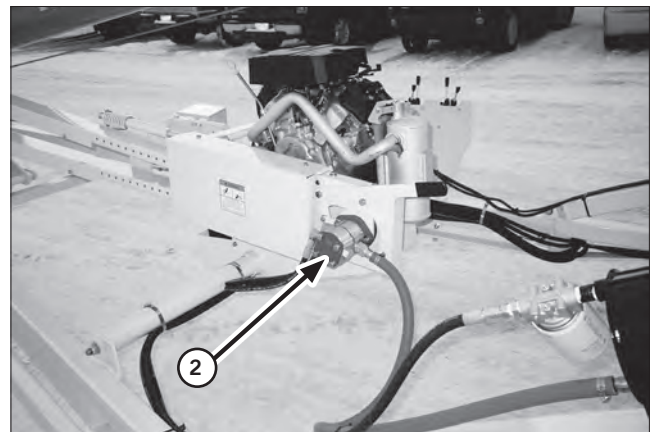
1. Hydraulic Winch Drive

This winch (1) utilizes hydraulic power to adjust the height of the discharge end of the auger.



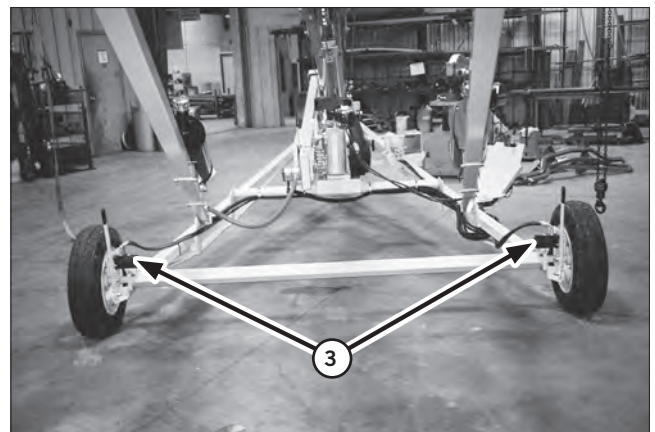
2. Hydraulic Pump

A hydraulic pump (2) is mounted next to the engine drive pulley to provide pressurized oil to the hydraulic system. The pump can be moved into position to provide oil or out of position when pressurized oil is not required.



3. Wheel Drives

Hydraulic motors (3) are attached to a drive linkage that moves a gear into position to mesh with the teeth inside each rear wheel rim to drive each wheel. Disengage the drive gears when not required.



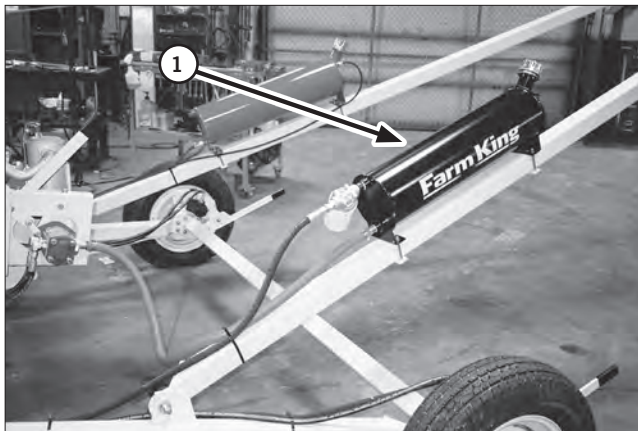
CAUTION



Ensure all operators are familiar with all the components and functions of this unit before attempting to proceed with the Operation Section of this manual.

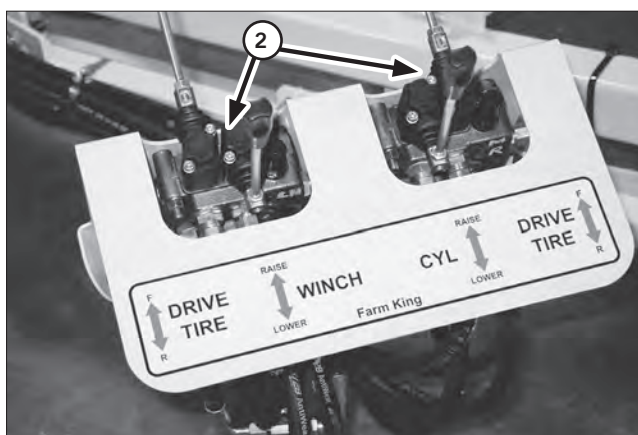
4. Hydraulic Oil Reservoir

An oil reservoir (1) is mounted on the left upper undercarriage arm to provide oil to the pump and hydraulic system.



5. Control Valves

Two valves (2) are mounted at the top of the control panel pivot and are used to control all hydraulic functions of the machine.



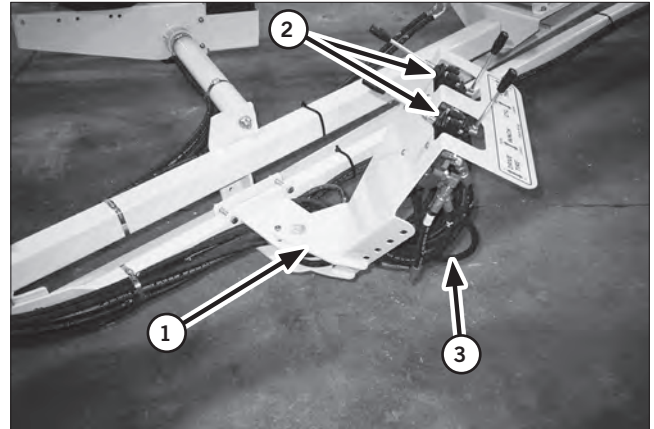
CAUTION



Ensure all operators are familiar with all the components and functions of this unit before attempting to proceed with the Operation Section of this manual.

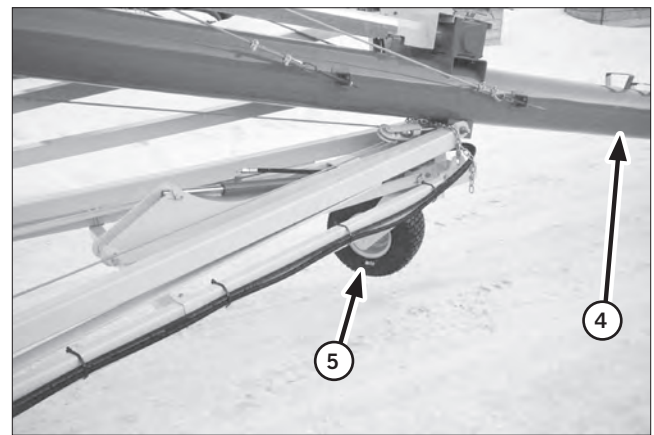
6. Control Panel Pivot

This pivoting frame (1) supports the control valves (2) and required hoses (3) to control the mover. The frame can be positioned facing forward or rearward as well as several midrange directions according to application requirements.



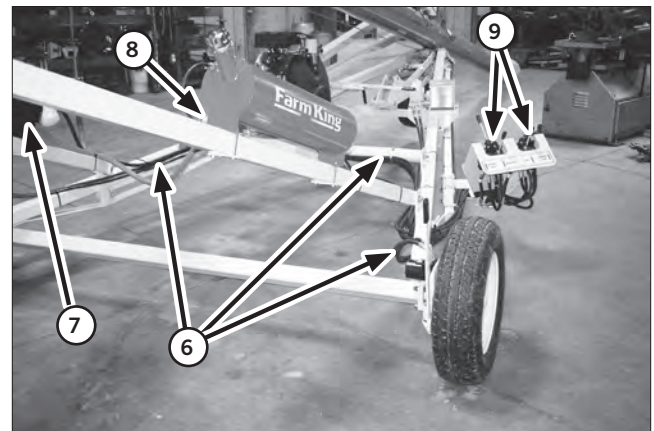
7. Castor Wheel

The mover is designed with an assembly under the intake end (4) of the auger tube that is equipped with a castoring wheel (5) to carry the intake end as the auger is moved into position. The assembly is designed with a cylinder to raise and lower the wheel as required to prevent the intake from contacting the ground.



8. Hydraulic Hoses

Hoses (6) are used to transmit pressurized oil from the reservoir (7) to the pump (8), to the valves (9) and then back to the reservoir.



Operation Safety

-  Read and understand the Operator's Manual and all safety signs before starting, operating, maintaining, adjusting or repairing the CX Series Conventional Auger. Review safety instructions annually.
-  Place all controls in neutral, stop engine, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
-  Clear the area of bystanders, especially children, before starting.
-  Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
-  Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
-  Do not allow riders on the auger or tractor when transporting.
-  Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.
-  Do not operate machine when any guards are removed.
-  Place chocks in front of and behind wheels on auger before starting.
-  Lower auger to its lowest position with the winch cable tight before moving or transporting or when not in use.
-  Be sure that auger is empty before raising or lowering.

Break-In

Although there are no operational restrictions on the auger or auger mover when used for the first time, it is recommended that the following mechanical items be checked:

A. Before starting work:

1. Read the auger mover and power unit Operator's Manuals.

B. After operating for 1/2 hour:

1. Re-torque wheel bolts after travelling for 5 miles.
2. Re-torque all fasteners and hardware.
3. Check the auger and pump drive belt tension and alignment. Tension or align as required.
4. During the machine's first few minutes of operation, check drive belt alignment to ensure preset alignment and tension does not vary under loaded conditions.
5. Check the condition of all hydraulic lines, hoses, fittings and couplers for damage or leaks. Tighten leaking fittings and repair or replace any damaged components.
6. Check that all guards are installed and working as intended.

C. After operating for 5 hours and 10 hours:

1. Repeat items 1 through 6 above.
2. Then go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

Pre-Operation Checklist

Efficient and safe operation of the auger mover requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining the good mechanical condition of the auger mover that this checklist is followed.

Before operating the auger and each time thereafter, the following areas should be checked off:

- 1. Service the machine per the schedule outlined in Section 5 Service and Maintenance.
- 2. Use only an engine of adequate power to operate the machine.
- 3. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
- 4. Check worksite. Clean up working area to prevent slipping or tripping.
- 5. Check the auger and pump drive belt tension and alignment. Tension or align as required.
- 6. Be sure auger mover wheels are chocked.
- 7. Check that discharge and intake areas are free of obstructions.

**DANGER**

Always position the auger on level ground to minimize the chance for tipping or upending.

Equipment Matching

The CX Series Conventional Auger Mover is designed to be used with an engine of appropriate power. The following horsepower specifications must be maintained when selecting a engine.

- 1. **Horsepower**
The CX Series Conventional Auger Mover is designed to be powered by an engine with a minimum horsepower as specified in Table 1.

Table 1 - Minimum Horsepower Requirements

Model Tube Diameter	Gas Engine	
	8"	10"
41 foot	16 hp	28 hp
51 foot	20 hp	32 hp
61 foot	24 hp	38 hp

Controls

Before starting to work, all operators should familiarize themselves with the location and function of the controls.

1. Hydraulic Controls

The hydraulic valves are mounted on the control panel pivot frame on the right side of the machine.

a. Right Wheel Drive

This spring-loaded-to-neutral-center lever (1) controls the flow of oil to the right wheel drive motor. Push and hold the lever to move the wheel in the forward direction. Pull and hold the lever to move in the rearward direction. Release the lever and the wheel will stop.

b. Winch

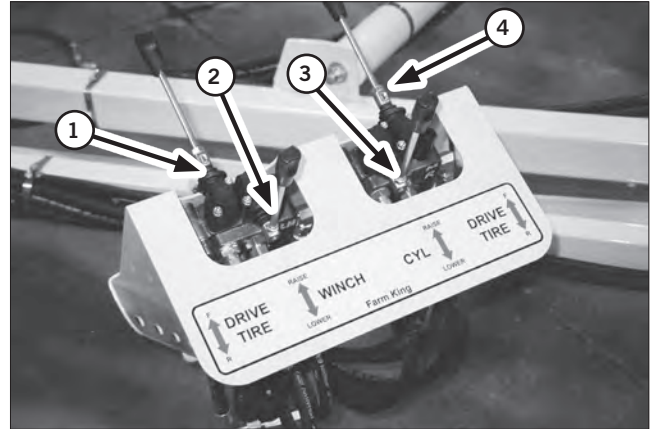
This spring-loaded-to-neutral-center lever (2) controls the flow of oil to the hydraulic winch motor. Push and hold the lever to raise the frame. Pull and hold the lever to lower the frame. Release the lever and the frame will stay at its current angle.

c. Front Wheel Frame

This spring-loaded-to-neutral-center lever (3) controls the flow of oil to front wheel frame cylinder. Pull and hold the lever to extend the cylinder and raise the intake end. Pull and hold the lever to lower the intake end. Release the lever and the intake end will stop at its current position.

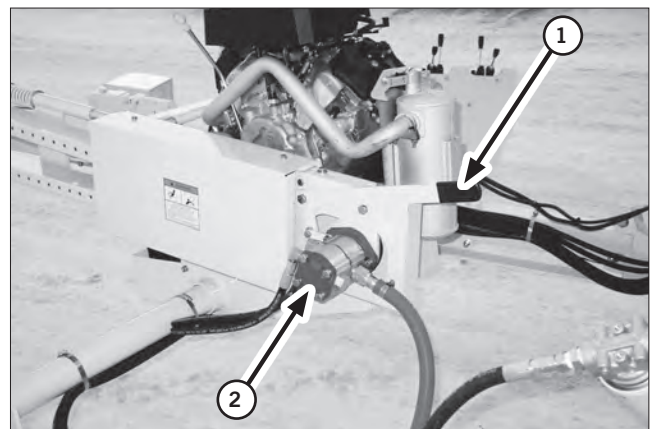
d. Left Wheel Drive

This spring-loaded-to-neutral-center lever (4) controls the flow of oil to the right wheel drive motor. Push and hold the lever to move the wheel in the forward direction. Pull and hold the lever to move in the rearward direction. Release the lever and the wheel will stop.



2. Hydraulic Pump Drive Belt Engage Lever

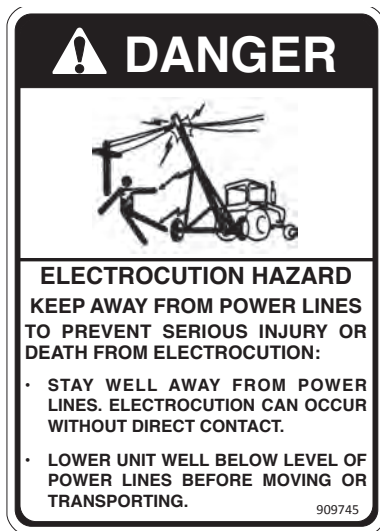
This lever (1) moves the hydraulic pump mounting frame for engaging and disengaging the drive belt. Move the lever up to engage the pump drive (2) and down to disengage. Always move the lever down to disengage pump when the hydraulic system is not being used.



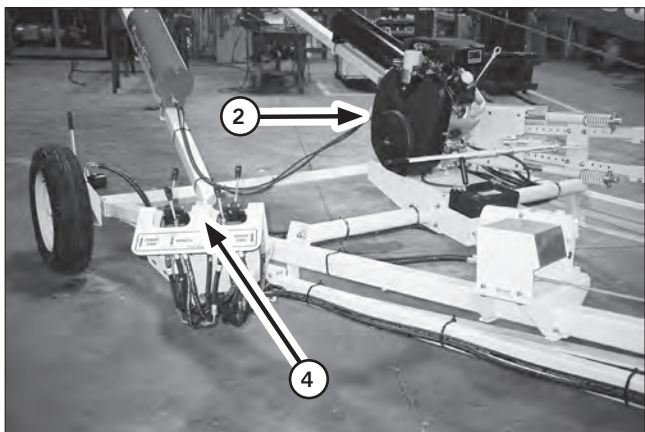
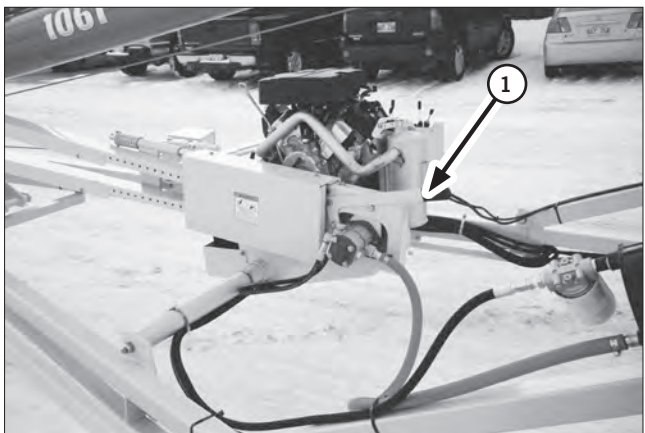
Machine Placement

Follow this procedure when placing the auger into its working position:

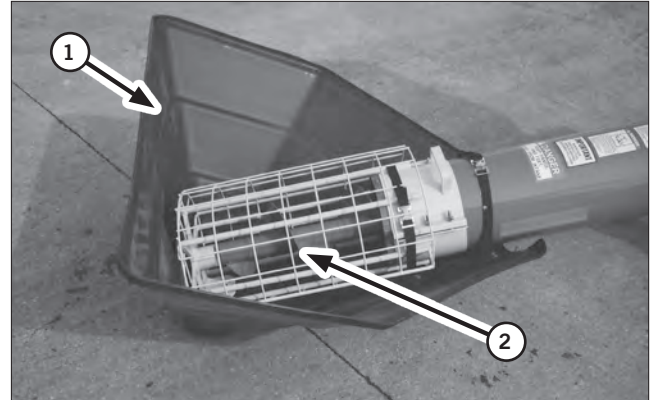
1. Clear the area of bystanders, especially small children, before starting.
2. Be sure there is enough clearance from overhead obstructions and power lines or other equipment to move the machine into its working position.



3. Unhook auger from tow unit and remove hitch and safety chain if so equipped.
4. Remove transport chain from castor wheel assembly.
5. Disengage pump drive (1).
6. Start engine on auger mover (2).
7. Engage pump drive.
8. Engage wheel motor drives (3).
9. Use the control valves (4) to raise input end, drive the wheels and control the winch.



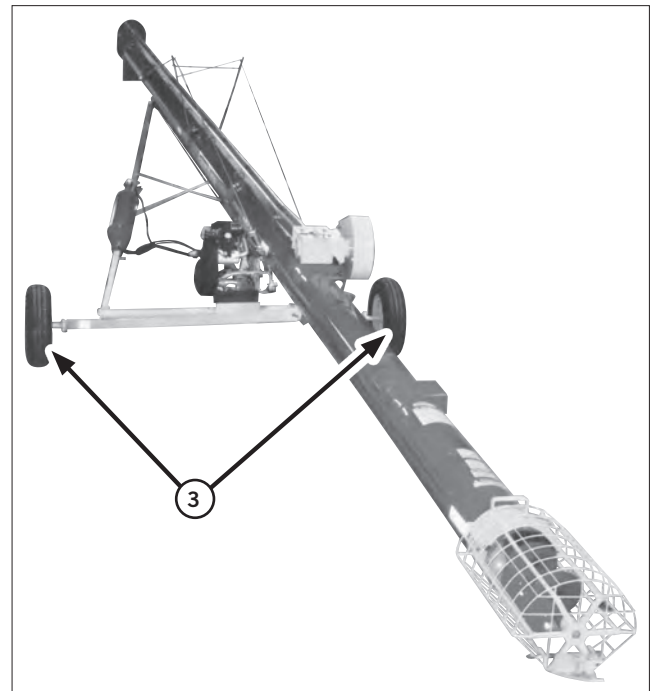
12. Raise the intake end slightly and slide the optional nylon hopper (1) under the intake guard (2) if required. Nest the intake flighting frame guard in the bottom of the hopper and secure with nylon straps.



13. Use the hydraulic winch to slowly raise the machine into position. Stay away from power lines.
14. Slowly back the machine until the discharge is over the opening in the storage facility or until auger intake is positioned to unload bin as appropriate.
15. Use the hydraulic winch to slowly lower the discharge end of the machine until it is just above the storage facility. Be sure the tube does not rest on the storage facility.



16. Place chocks in the front and rear of each wheel (3).



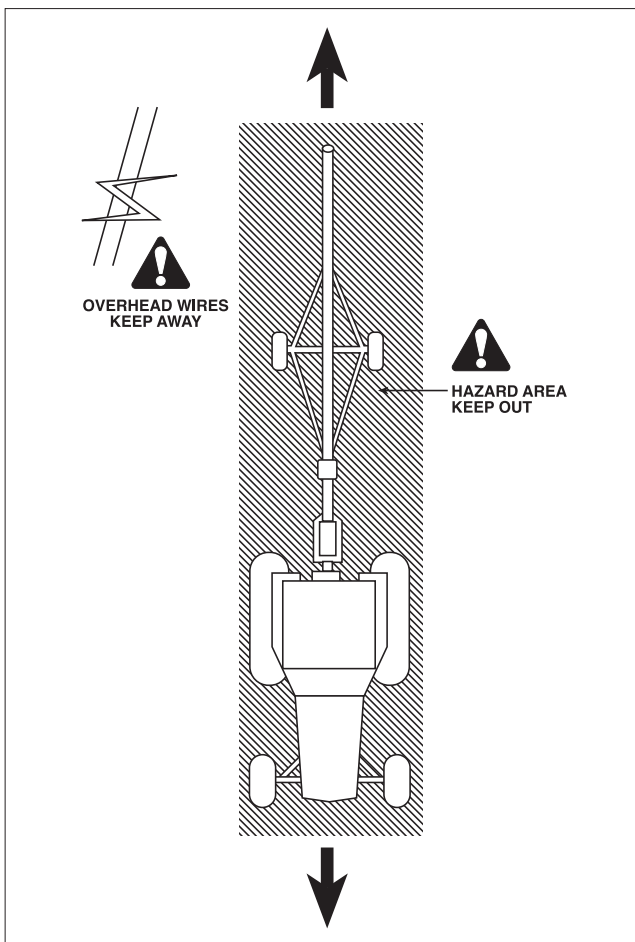
Transport Safety

- Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when moving or transporting the auger.
- Check with local authorities regarding auger transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.
- Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
- Do not allow riders on the auger, mover or the tow unit when transporting.
- Attach auger to tow unit with a pin and retainer. Always attach the safety chain.
- Lower auger to its lowest position for transporting.
- Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
- Do not exceed 20 mph (32 km/h). Reduce speed on rough roads and surfaces.
- Stay away from overhead obstructions and power lines when transporting. Electrocuting can occur without direct contact.
- Always use hazard warning flashers on tractor when transporting unless prohibited by law.

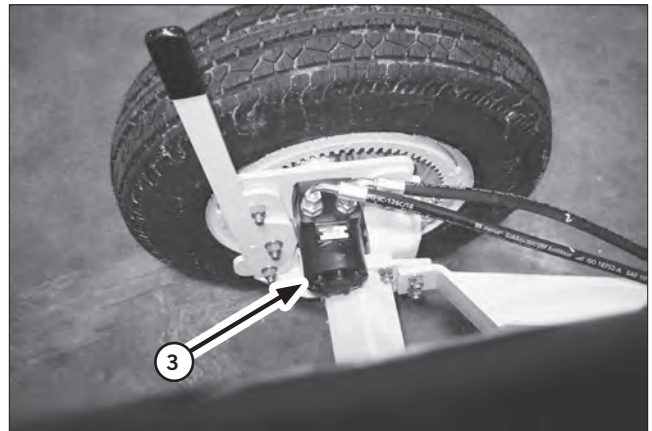
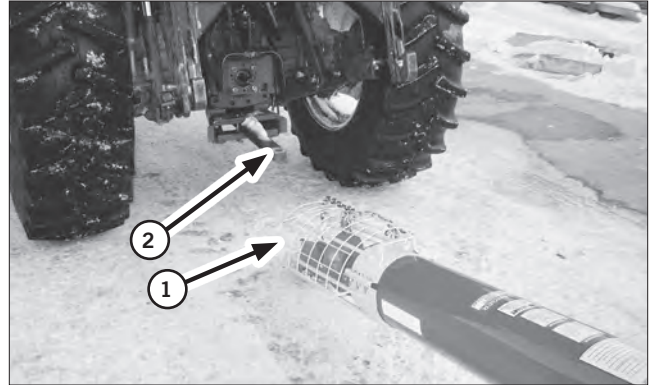
Transport

Farm King CX Series Conventional Auger Movers are designed to be easily and conveniently moved from place to place. When transporting, follow this procedure:

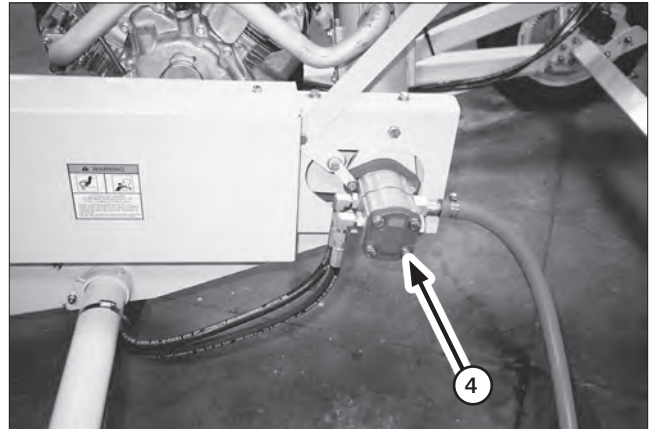
1. Review the Transport Safety Schematic before starting.
2. Be sure all bystanders are clear of the machine.



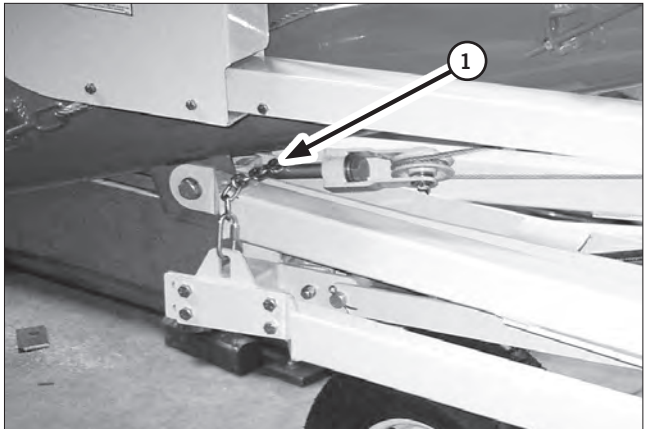
3. Be sure that there is sufficient room and clearance to back up to the machine.
4. Align the drawbar (1) with the hitch (2) of the auger while backing up.
5. Set the park brake before dismounting.
6. When the auger is in its working position next to a bin and resting on the bin, it will have to be raised slightly to allow the intake end to come up.
 - a. Start the engine and run for a few minutes to warm up.
 - b. Engage wheel drives (3).



- c. Engage pump drive (4).



- d. Remove front wheel assembly anchor chain (1).

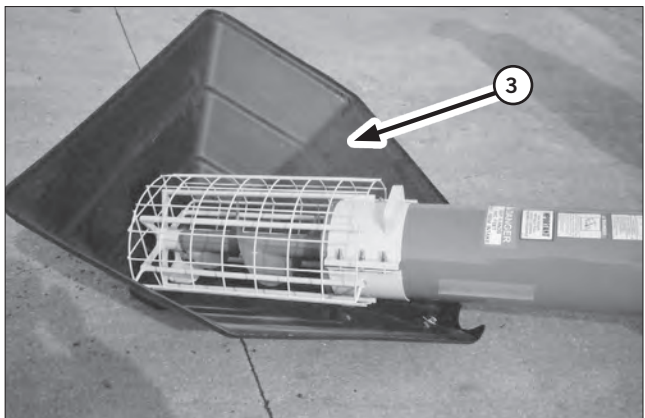


- e. Raise intake/hopper off ground (2).
- f. Use the winch to raise the frame as required to clear storage.
- g. Remove chocks from wheels.
- h. Move auger forward to clear storage facility.
- i. Lower auger into its fully down position with the weight being supported on the winch cable.



IMPORTANT: *Always support weight of auger on winch cable before transporting to prevent damaging auger.*

7. Remove the optional nylon hopper (3) from the intake if so equipped.



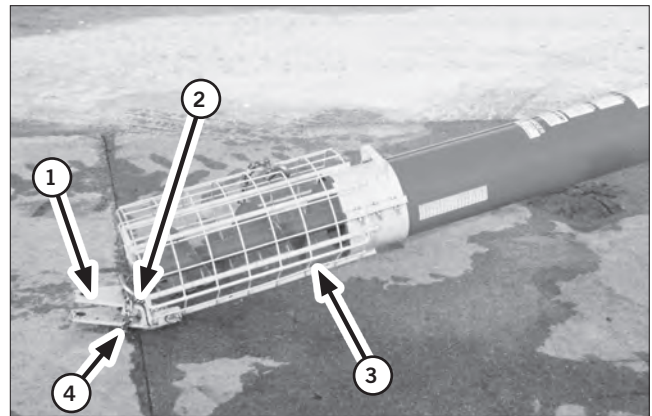
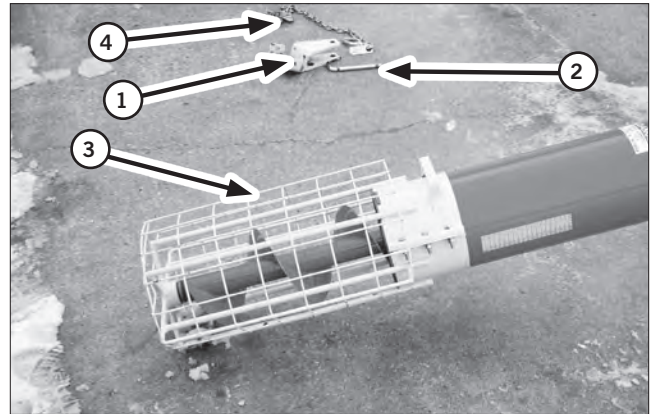
8. Install and secure the hitch (1) to the front of the frame with the anchor pins and retainers (2) if it was removed for operation.

- a. Raise the intake end only high enough to install the hitch.

 **DANGER** 

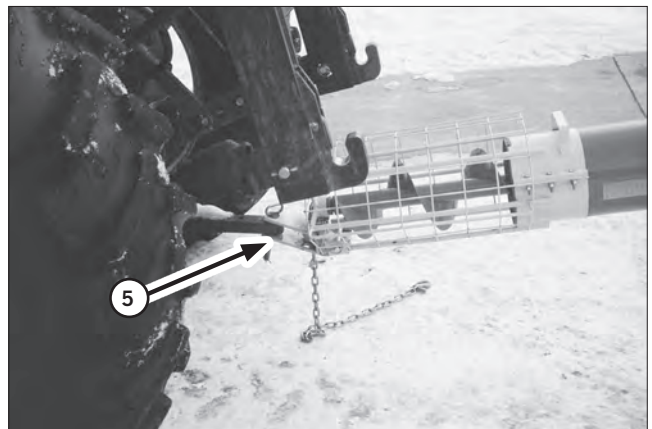
The machine is closely balanced. Do not lift unless there is downward weight on the intake end to prevent upending.

- b. Move the hitch into the front of the intake guard framework (3).
 - c. Install the anchor pin and retainer (2).
 - d. Attach and secure the safety chain (4).

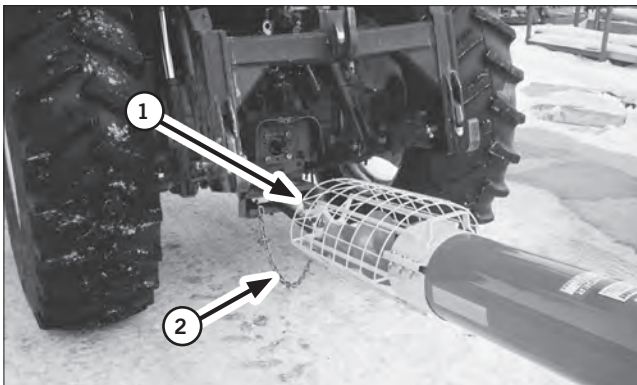


9. To hook up:

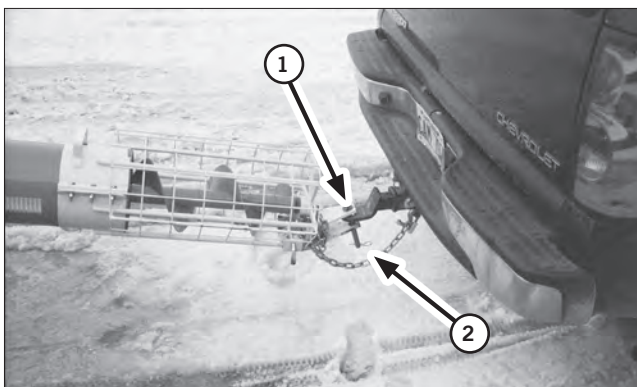
- a. Use the front castor wheel assembly to raise the intake end (5) to the drawbar height or manually lift it.



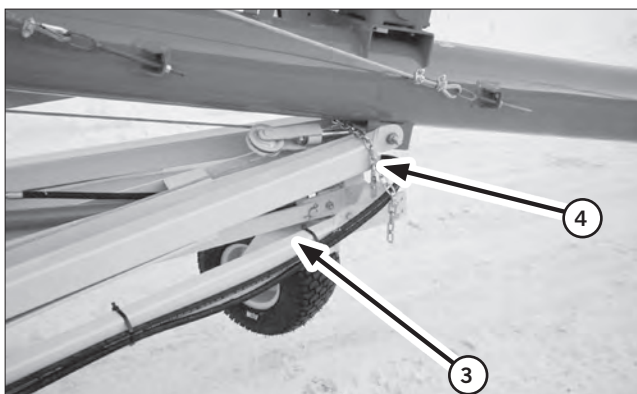
- b. Install the drawbar pin and retainer (1).



- c. Attach safety chain (2) to prevent unexpected separation.



10. Raise front wheel assembly (3) into its fully upward position and secure with anchor chain (4).



11. Disengage both wheel drive linkages (5) or damage to the hydraulic system could occur.

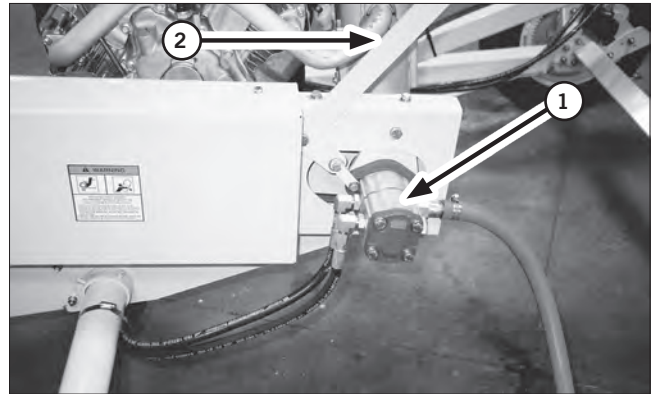


12. Move unit forward to clear storage facility.

13. Move auger into its fully DOWN position but keep the winch cable tight.



14. Disengage pump drive (1) using engage/disengage lever (2).



15. Turn engine off and remove ignition key.

16. Reverse the above procedure when unhooking.

17. Avoid overhead power lines. Electrocutation can occur without direct contact.



Transport / Attaching/Unhooking

18. Never go across slopes of more than 20°. It is better to go straight up or straight down.
19. Make sure the SMV (Slow Moving Vehicle) emblem is installed when towing with a tractor. Insure all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
20. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
21. Do not allow riders on the machine or tractor.
22. During periods of limited visibility, use pilot vehicles or add extra lights to the machine.
23. Always use hazard flashers on the tractor when transporting unless prohibited by law.



Storage Safety

1. Store the unit in an area away from human activity.
2. Do not permit children to play on or around the stored machine.
3. Lower auger to its lowest position for storage supported by winch cable unless supported by a storage facility.

Storage

After the season's use, the machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at the start of next season. To insure a long, trouble free life, this procedure should be followed when preparing the unit for storage:

1. Remove all residual material from the hopper and the flighting.
2. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
3. Lubricate all grease points
4. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove the entangled material.

NOTE: If configured with an optional nylon hopper, remove hopper and store inside.

5. Inspect all hydraulic hoses, fittings, lines, couplers and valves. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
6. Touch up all paint nicks and scratches to prevent rusting.
7. Select an area that is dry, level and free of debris.
8. If the auger is not being left at a storage facility, it should be placed in its lowest position.
9. Follow the procedure given in Section 3-3 when unhooking.



Introduction

Safety Tips

-  Review the Operator's Manual and all safety items before working with, maintaining or operating the auger.
-  Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
-  Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
-  Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition.
-  Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
-  Keep hands, feet, hair and clothing away from moving and/or rotating parts.
-  Clear the area of bystanders, especially small children, when carrying out any maintenance and repairs or making any adjustments.
-  Place stands or blocks under the frame before working beneath the machine.
-  Before resuming work, install and secure all guards when maintenance work is completed.
-  Support auger tube before attempting maintenance on undercarriage assembly. Where possible, the auger should be in the fully down position.
-  Keep safety signs clean. Replace any sign that is damaged or not clearly visible.

Fluids and Lubricants

1. **Grease**
Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium base grease.
2. **Hydraulic Oil**
Use a heavy-duty hydraulic oil for all applications. Reservoir capacity: 6.5 US Gal (26 liters).
3. **Gearbox Oil**
Use an SAE 85W140 gear oil or equivalent for all operating conditions. Gearbox capacity: 1 US qt (0.85 liters).
4. **Storing Lubricants**
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

Greasing

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

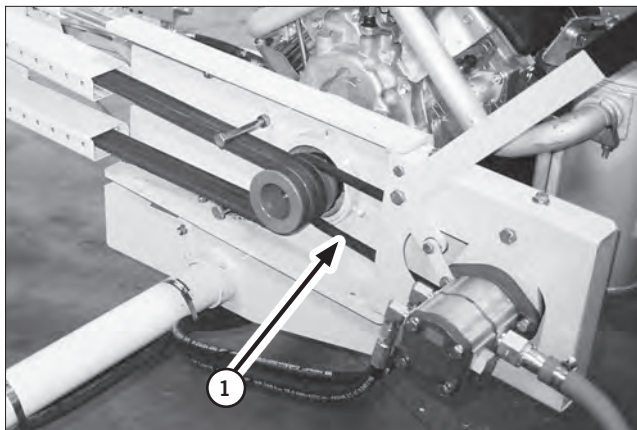
1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

Service Intervals

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication or oil changes.

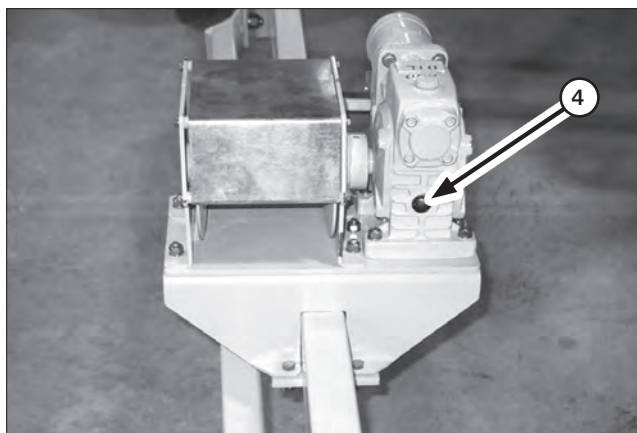
40 Hours or Weekly

1. Check drive belt tension.
 - a. Pump drive belt (1).



100 Hours

1. Check oil level in hydraulic winch gearbox (2).



200 Hours or Annually

1. Repack wheel bearings.
2. Wash machine.

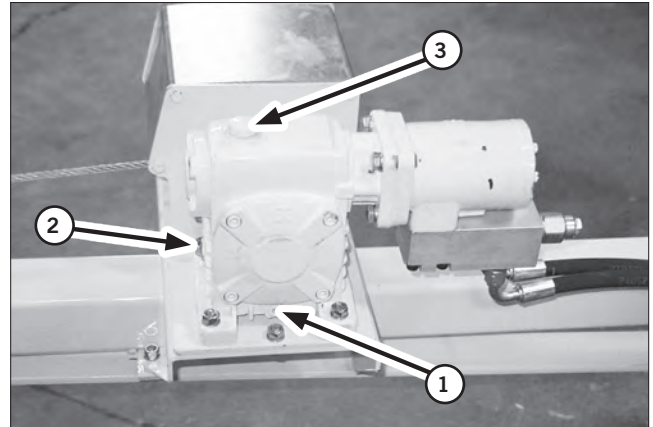


400 Hours or Every Two Years

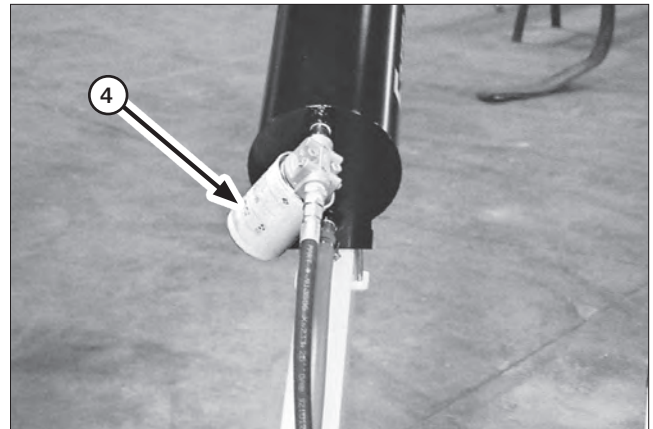
1. Change oil in gearbox.

Hydraulic winch.

- i. Drain plug (1).
- ii. Level plug (2).
- iii. Fill plug (3).



2. Change hydraulic system oil filter (4).



Service Record

See Lubrication and Maintenance sections for details of service. Copy this page to continue record.

#	Description	Service Procedures						
		Check	Clean	Lube	Change	Cover	Repack	Locations
Weekly (or every 40 hours)								
1	Pump Drive Belt Tension	•						
Every 100 Hours								
2	Hydraulic Winch Gearbox	•						
Annually (or every 200 hours)								
3	Wheel Bearings						•	
4	Machine		•					
Two Years (or every 400 hours)								
5	Gearbox Oil (Hydraulic Winch)				•			
6	Hydraulic System Oil Filter				•			

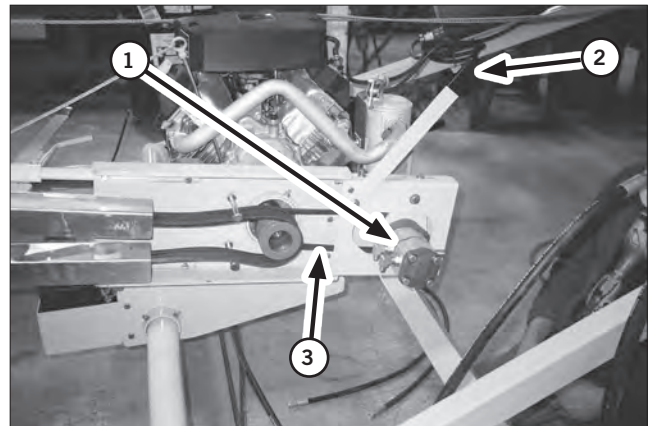
Hydraulic Pump Belt Tension and Alignment

A V belt transmits rotational power from the engine to the hydraulic pump. It must be kept properly tensioned and aligned to obtain the expected performance and life.

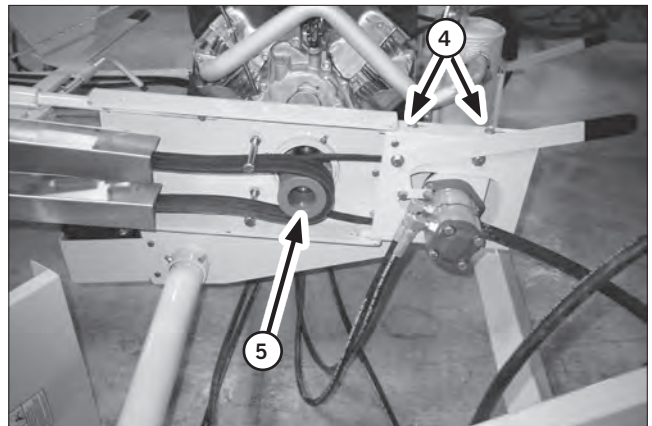
The hydraulic pump (1) is attached to a frame mounting plate equipped with a slotted lever for adjusting the pump belt tension.

To check the tension and alignment, follow this procedure:

1. Move the lever (2) into its UP position to engage the pump belt drive (3). The belt should be tight.



2. Move the lever down to release belt tension when adjusting.
3. Loosen the 4 frame mount anchor bolts (4).
4. Slide pump assembly away from drive pulley (5) slightly to tighten.
5. Tighten anchor bolts.
6. Recheck belt tension.
7. Install and secure guard.

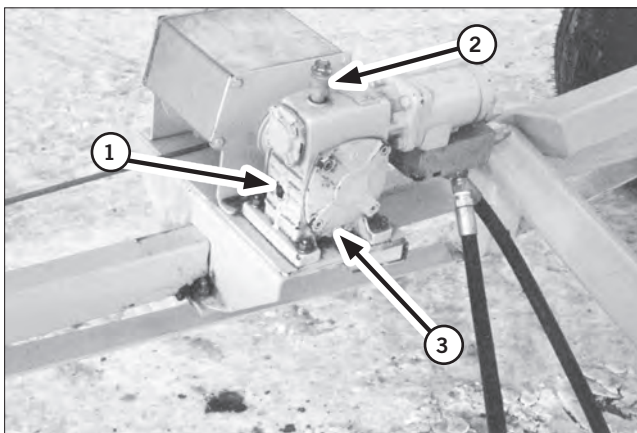


Hydraulic Winch Gearbox Oil Change

Each hydraulic winch system is driven by a motor that is attached to a high ratio speed reducing gearbox to produce the required winch operating speed. Each gearbox is equipped with a drain, level and fill plug. Every 40 hours, the oil level should be checked. Every 400 hours or two years, whichever come first, the oil should be replaced. Check more frequently if there are leaks around any of the plugs or shaft seals.

When checking oil level or changing oil, follow this procedure:

1. Stop the machine.
2. Place all controls in their neutral or off position.
3. Stop engine and remove ignition key.
4. To check oil level:
 - a. When the gearbox is cold, remove the level plug (1) from the side of the gearbox.
 - b. When the oil just fills the threads of the level plug hole it is at the correct level.
 - c. Add oil through the fill plug (2) as required.
 - d. Install and tighten level and fill plugs.
5. To change oil:
 - a. Run the winch until gearbox is warm. Warm oil will remove more contaminants than cold, stagnant oil.
 - b. Place pan under gearbox to catch old oil and spills.
 - c. Remove drain (3), level and fill plugs.
 - d. Allow to drain.
 - e. Install and tighten drain plug.
 - f. Add 0.5 US qt (0.48 liters) of an SAE 85W140 gear oil or equivalent.
 - g. Check that the air passage to the breather is open.
 - h. Install and tighten level and fill plugs.
 - i. Dispose of the used oil in an environmentally safe manner.



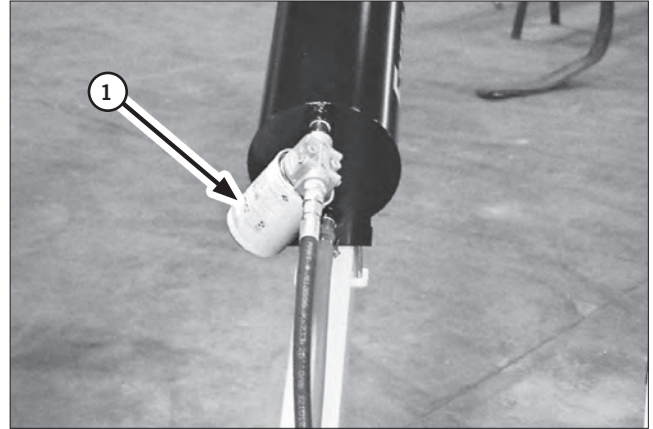
Changing System Hydraulic Oil Filter

To change the hydraulic system oil filter (1), follow this procedure:

1. Start engine, engage hydraulic pump and run until oil is warm.
2. Place all controls in neutral, disengage hydraulic pump, stop engine and remove ignition key before maintaining.

IMPORTANT: Do not run until oil is hot. Hot oil can cause burns if it contacts exposed skin.

3. It is best to change the filter while the hydraulic oil is warm to keep contaminants in suspension.
4. Place a pan under the filter.
5. Use a filter wrench to remove filter.
6. Apply a light film of oil to the O-ring on the new filter and install. Tighten by hand until 'O' ring makes contact with base of filter housing. Then hand-tighten an additional quarter turn.
7. Run the hydraulic system for 1-2 minutes and check for leaks around the filter.
8. If leaks are found, tighten the filter slightly and repeat step 7.
9. Check hydraulic system oil level. Top up as required.
10. Dispose of any spilled oil in an environmentally safe manner.



Troubleshooting

The Farm King CX Series Conventional Auger Mover uses a hydraulic pump, control valves, cylinders and motors for moving the auger. It is a simple system that requires minimal maintenance.

In the following Troubleshooting section, we have listed many of the problems, causes and solutions that can help you to solve the problems that you might encounter.

If you encounter a problem that is difficult to solve, even after having read through this Troubleshooting section, please call your local Farm King dealer or distributor. Before you call, please have this Operator's Manual, the CX Series Auger Manual and the serial number of your auger mover and auger at hand.

Problem	Possible Cause	Correction	Prevention
Auger will not function.		Refer to Troubleshooting section in CX Series Conventional Auger manual.	
No mover functions can be used.	No power.	Start engine and engage pump.	Engage pump before trying to use mover.
	Drive belt slipping.	Adjust drive belt tension.	Check drive belt tension regularly.
	Plugged filter.	Change oil filter.	Keep contaminants out of hydraulic system.
	Low oil level.	Add oil to reservoir.	Check oil level frequently. Top up as required.
Wheel(s) don't move.	Wheel drive linkage not engaged.	Engage wheel drive.	Engage linkages before trying to move auger.
	Drive gears don't mesh.	Adjust linkage to allow gears to mesh.	Check and adjust linkage regularly.
Intake digs into ground.	Front wheel does not lower.	Anchor chain still in place.	Remove anchor chain before trying to use wheel assembly.

Assembly Safety

1. Read and understand the Assembly Manual and all safety signs before starting.



2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



3. Use properly sized tools, stands, jacks and hoists at all times.
4. Use two men to handle heavy and/or bulky components.
5. Position in a large open area to allow access from all sides during assembly.
6. Keep the assembly area neat and clean to prevent slipping or tripping.
7. Place safety stands under the machine or components before going underneath the component for assembly.
8. Stay away from overhead obstructions when lifting the machine during assembly. Contact with obstructions can damage components or cause them to fail.
9. Tighten all fasteners to their specified torque before using the machine.

10. Have a first-aid kit available for use should the need arise and know how to use it.



11. Have a fire extinguisher available for use should the need arise and know how to use it.



12. Wear appropriate protective gear. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses or goggles
- Heavy gloves



13. Install and secure all guards before starting.

14. Do not allow riders.

15. Wear suitable ear protection for prolonged exposure to excessive noise.



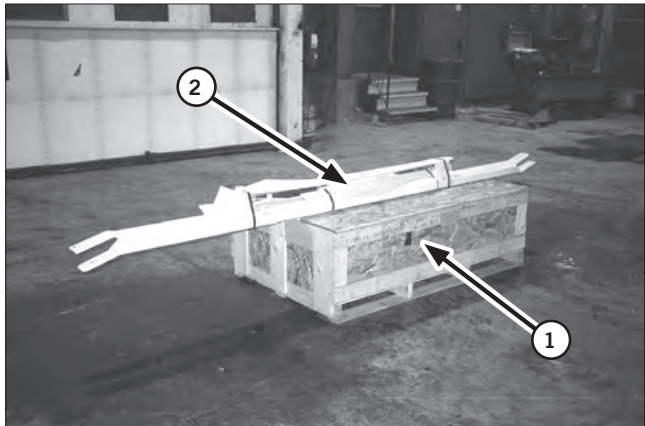
IMPORTANT: It is recommended that either a supplementary weight be used at the hitch end or a strap/hoist be used to support the tube at the discharge end to insure stability of the machine during the assembly process. Once assembly is complete, the additional supports are no longer required.

Receiving

The auger mover is shipped from the factory completely disassembled in a large crate and bundles. Use a forklift to unload the crate and bundles from the truck.

When the machine is unloaded, follow this procedure.

1. Open the crate (1) and bundles (2).



2. Lay out the contents on the ground.
3. Use the packing slip as a guide and confirm that all listed parts and bags have been included in the crate and bundles.



4. Contact the dealer immediately if any components or bags are missing.

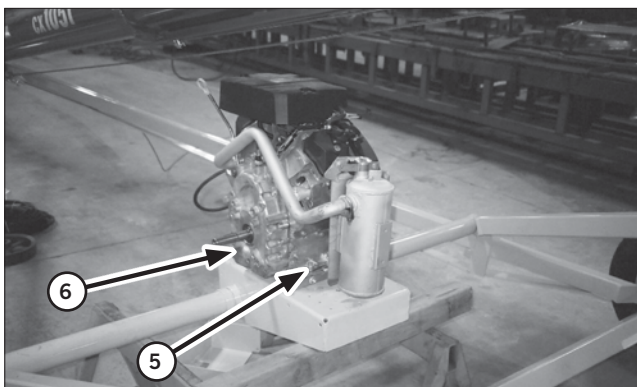
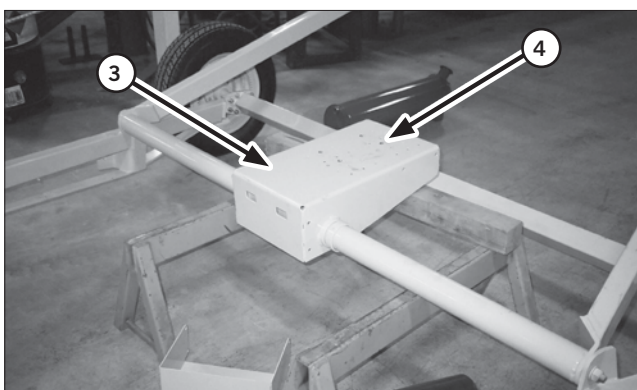
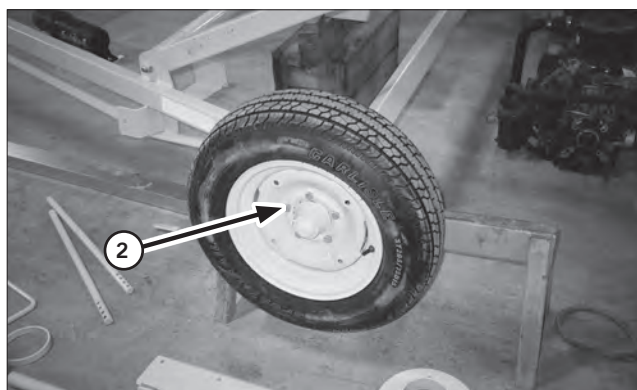
Tools

A variety of tools are required when assembling the auger mover. Gather the required tools and have them ready prior to starting the assembly. Tool requirements include but are not limited to:

- Two ratchets 3/8" drive
 - Shallow socket 3/8" drive: 3/8, 7/16, 1/2, 9/16"
 - Deep socket 3/8" drive: 7/16, 1/2, 9/16"
 - Extension bar 3/8" drive
- One ratchet 1/2" drive
 - Shallow socket 1/2" drive: 9/16, 5/8, 11/16, 3/4 and 15/16"
 - Deep socket 1/2" drive: 3/4 and 15/16"
 - One 3" and one 6" Extension bar 1/2" drive
 - Breaker bar 1/2" drive +/- 16"
- SAE wrench: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8, 15/16 and 1 1/8"
- SAE Ratchet: 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8 and 1 5/16"
- Adjustable wrench: one 6" and one +/- 12"
- Allen keys: 1/16 to 3/8"
- Multi-driver
- Flathead screwdriver
- 24" Flex Magnet pick up tool
- 10" bent nose plier with wide cutter
- 7" cutting plier
- 32 oz ball peen hammer
- Cordless impact wrench heavy duty 18 V 1/2" drive, 1/2 to 3/8" reducer
- Two (2) 10" aligning punch 1/4" diameter
- One 6" centering punch
- One 6" cold chisel
- One 500 watts light with a 100' extension wire
- Grease gun
- Two (2) rolls of electrical tape
- One good quality marker
- Level

Tire/Rims

1. Remove the tires/rims (1) from the auger undercarriage.
 - a. Loosen wheel bolts (2).
 - b. Lift wheel frame and support on a stand.
 - c. Remove wheel bolts and dismount rims.
2. Take tires and rims to tire shop to transfer tires to new rims.
3. Mount tires/rims to hub.
 - a. Install wheel bolts and snug up.
 - b. Lower frame to floor.
 - c. Tighten wheel bolts to their specified torque.



 **CAUTION** 

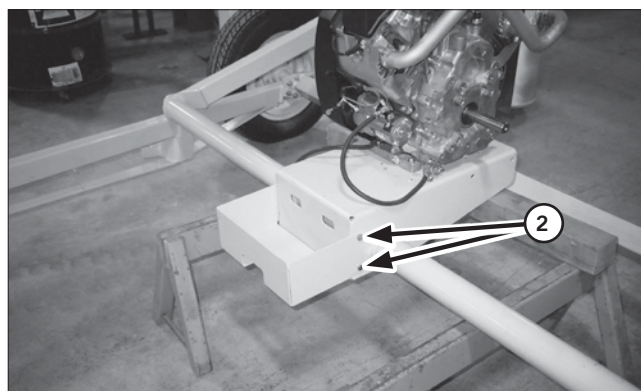
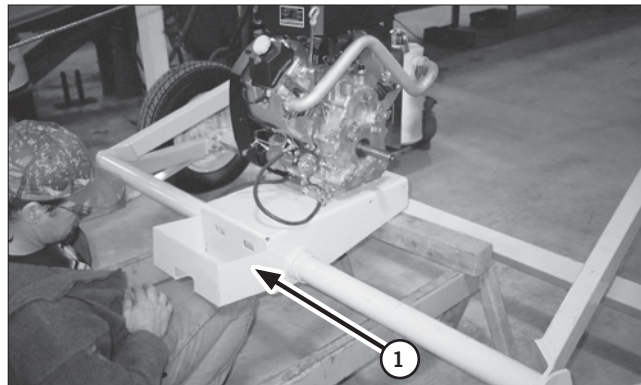
It is recommended that either a supplementary weight be used at the hitch end or a strap/hoist be used to support the tube at the discharge end to insure stability of the machine during the assembly process. Once assembly is complete, the additional supports are no longer required.

Engine

4. Mount engine to platform (3).
 - a. Bring stands and place on each side of platform.
 - b. Place timber between stands and support platform.
 - c. Position engine on platform and align holes (4).
 - d. Install mounting bolts (5) into engine base (6).
 - e. Snug up but do not tighten.

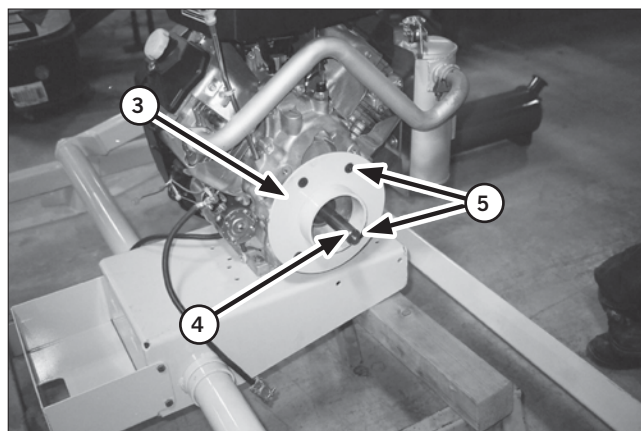
Battery Mounting Frame

5. Attach battery mounting frame (1) and secure with mounting bolts (2) tightened to their specified torque.



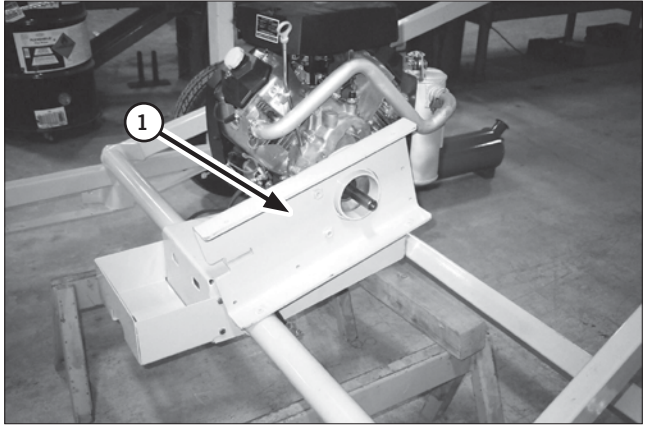
Engine Flange

6. Install engine flange.
 - a. Position inner flange (3) over crankshaft (4) and secure with mounting bolts (5).

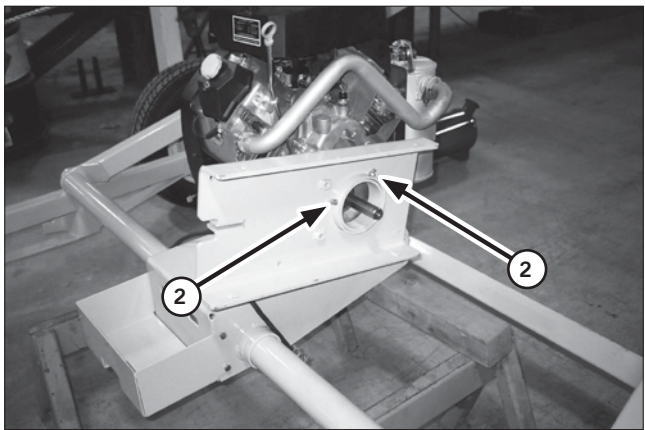


6-6
Section 6 - Assembly
Engine Flange

- b. Position inside belt guard (1) over inner flange.

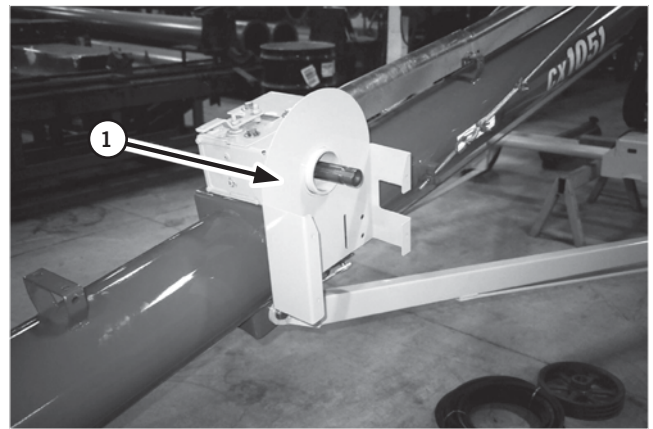
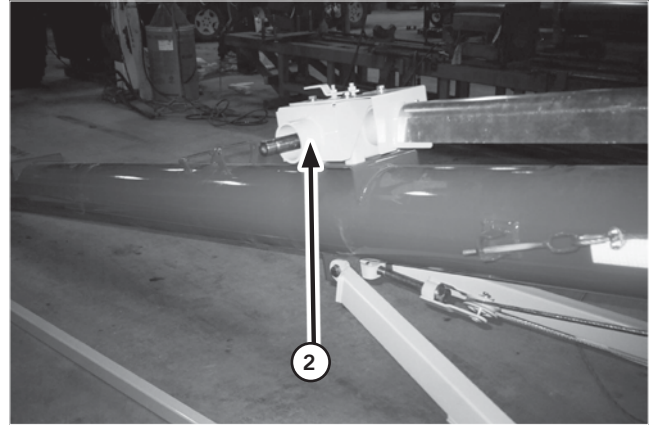


- c. Align guard and install set screws (2) to secure flange.

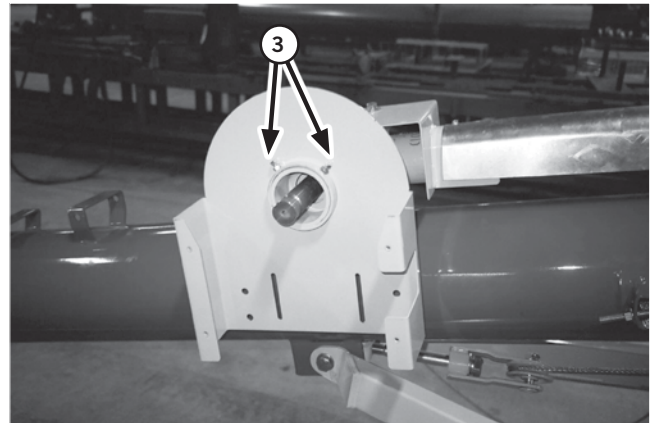


Inner Belt Guard

7. Install inner belt guard to gearbox.
 - a. Place guard (1) over gearbox flange (2).



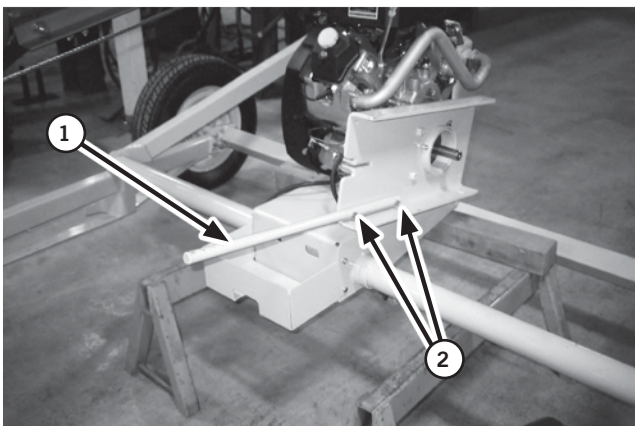
- b. Install set screws and jam nuts (3). Snug up at this time.



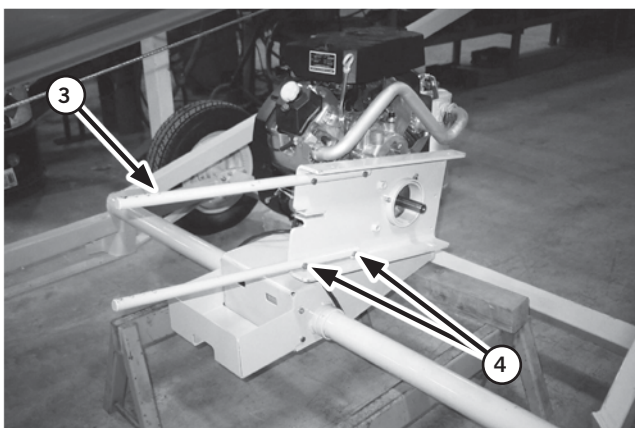
Inner Belt Guard / Engage Lever Mounting Frame

8. Mount the belt guard frame supports.

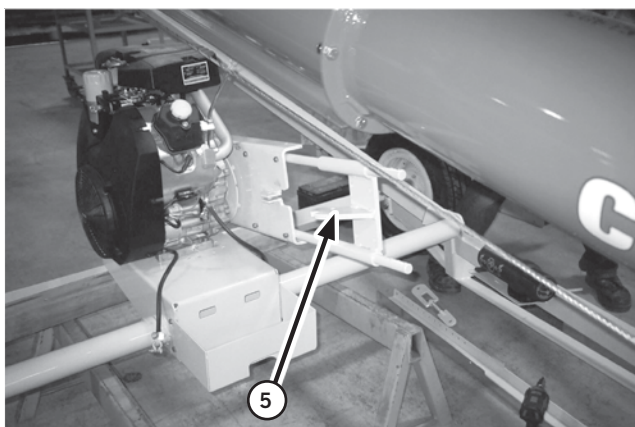
- a. Install lower rod (1) and secure with mounting bolts (2). Snug up but do not tighten.



- b. Install upper rod (3) and secure with mounting bolts (4). Snug up but do not tighten.

**Engage Lever Mounting Frame**

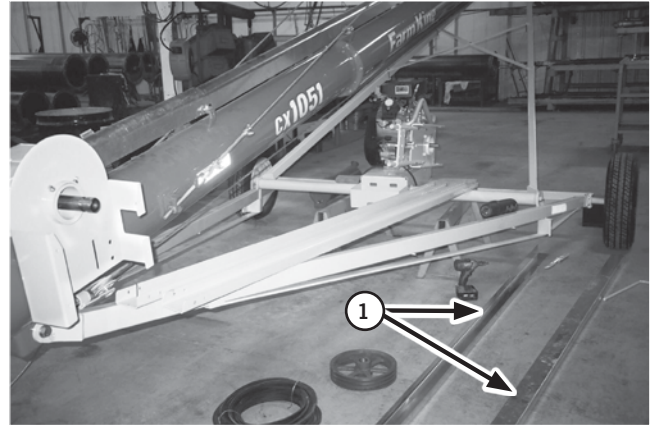
9. Slide engage lever mounting frame (5) over belt guard frame supports.



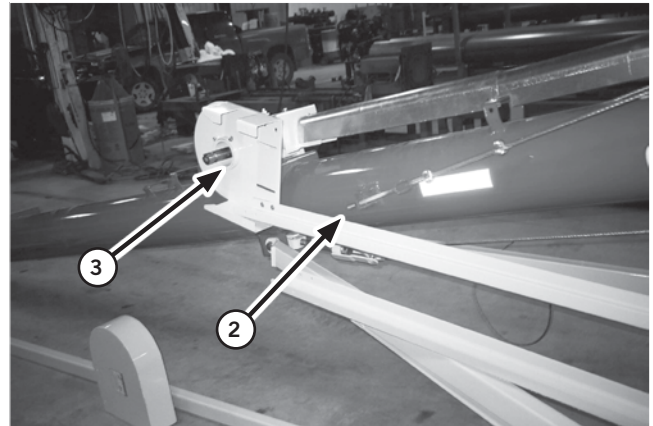
Belt Trays

10. Install belt trays.

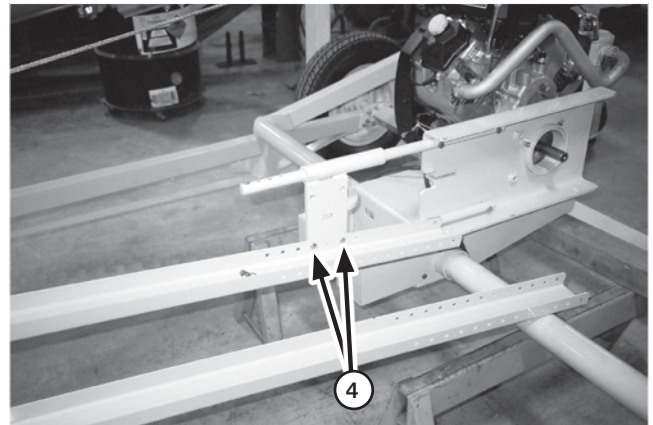
a. Lay out belt trays (1) along side of unit.



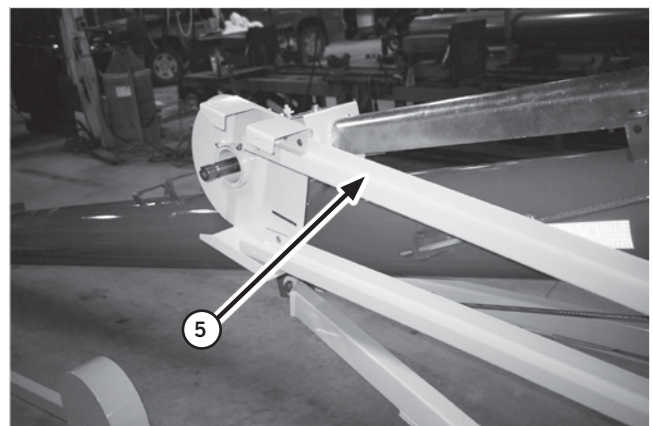
b. Mount lower tray (2) to bottom side of gearbox belt guard (3).



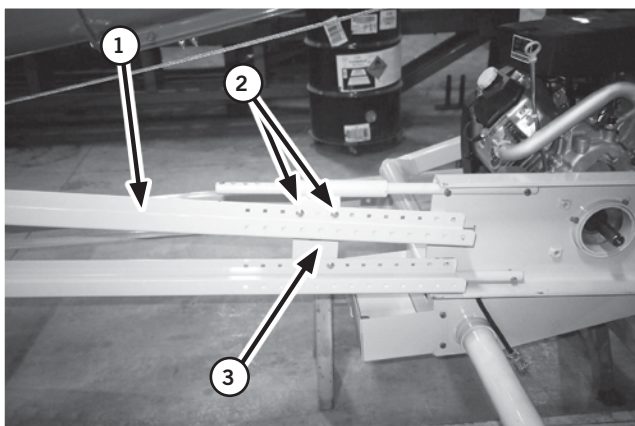
c. Mount lower tray to bottom holes (Numbers 4 and 6 for 51 foot model (4)).



d. Mount top tray (5) to top side of gearbox belt guard.



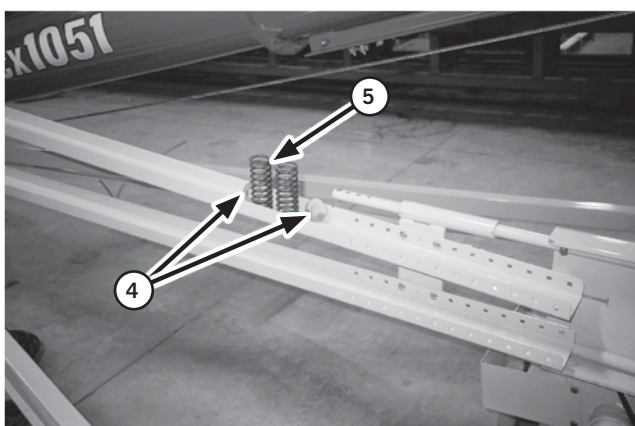
- e. Mount top tray (1) to top holes (2) on lower mounting frame (3).



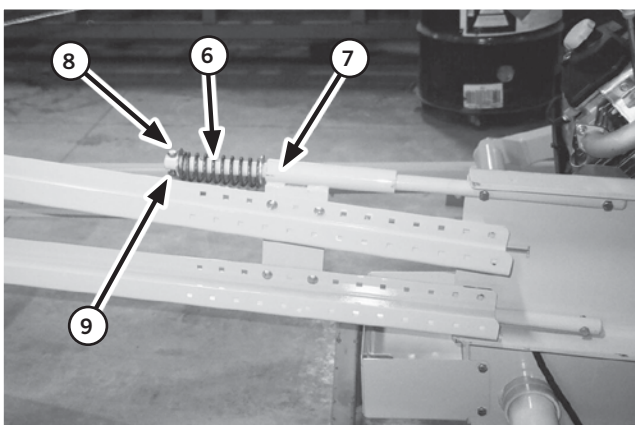
Engage/Disengage Springs

11. Install springs on engage/disengage frame.

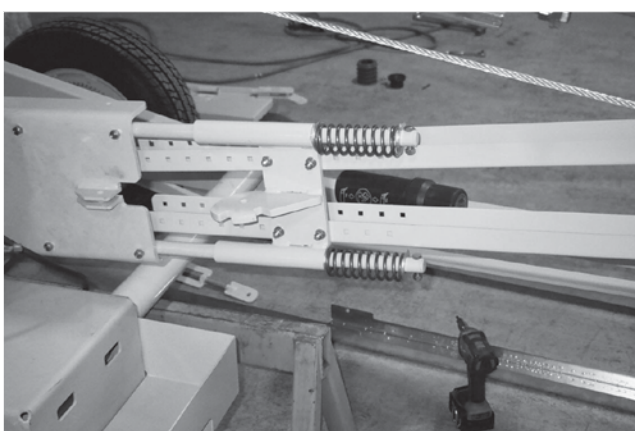
- a. Lay out washers (4), springs (5) and bolts in tray.



- b. Slide washer, first spring (6) and washer over top rod (7).



- c. Secure with bolt (8) and nut (9) tightened to specified torque.

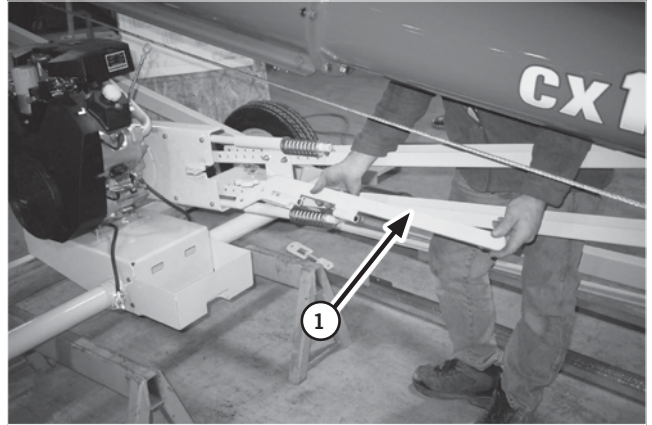


- d. Repeat with other spring.

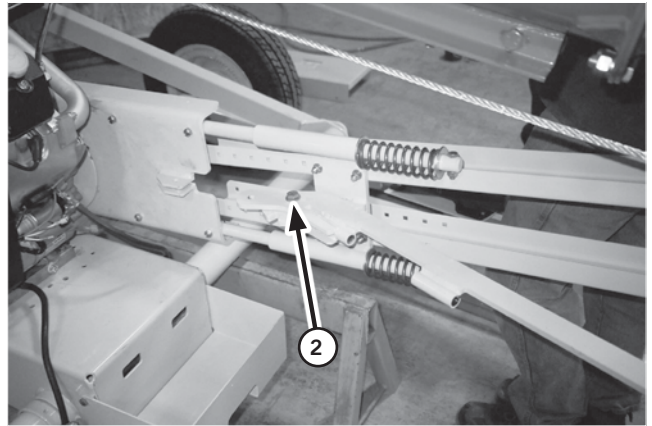
Engage/Disengage Handle

12. Mount engage/disengage handle (1).

a. Position next to frame.



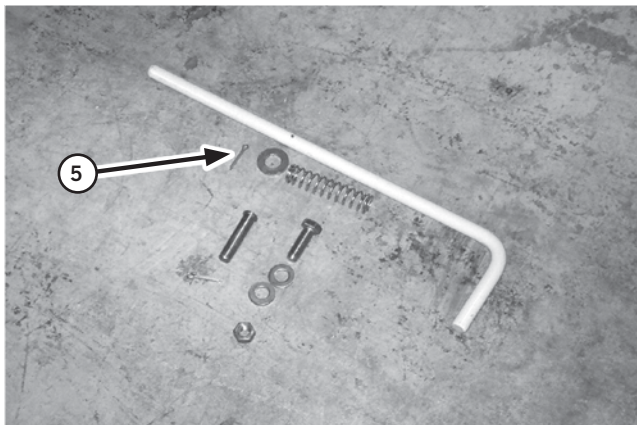
b. Secure with pivot bolt (2) but do not tighten yet.



Engage/Disengage Latching Lever

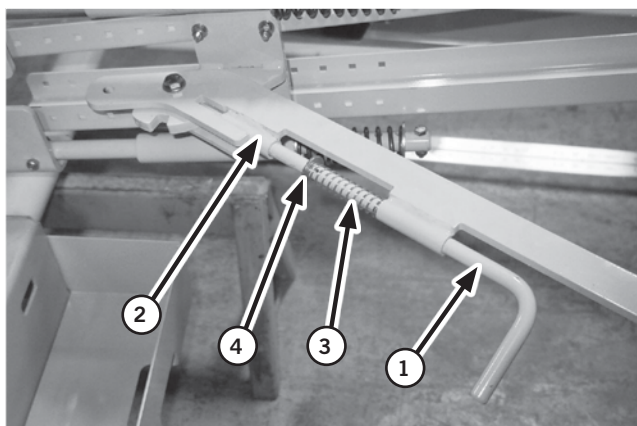
13. Install engage/disengage latching lever.

a. Lay out latching lever assembly components.



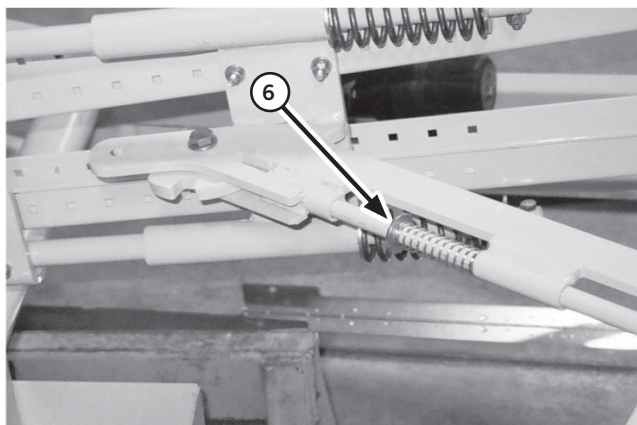
b. Slide latching lever (1) into engage handle (2).

c. Slide spring (3) and washer (4) over lever.



d. Compress spring and install cotter pin (5) through hole (6).

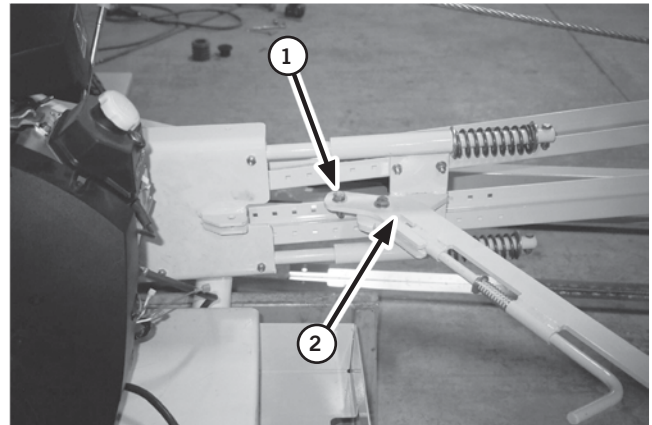
e. Spread ends of cotter pin to secure.



Adjusting Turnbuckle

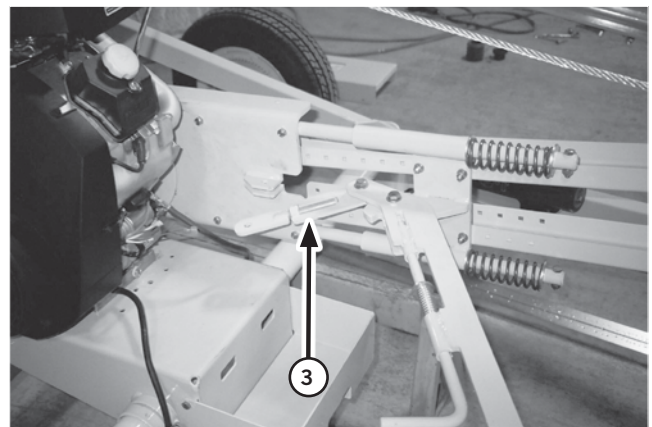
14. Install adjusting turnbuckle.

- a. Install anchor pin (1) in handle assembly (2).

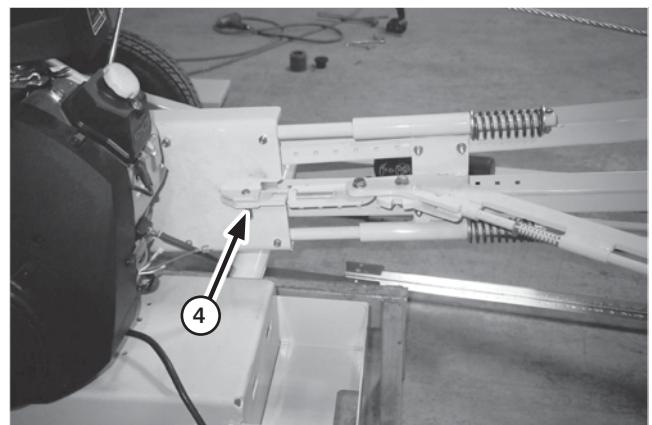


- b. Attach turnbuckle (3).

NOTE: Be sure turnbuckle is as short as possible before installing.



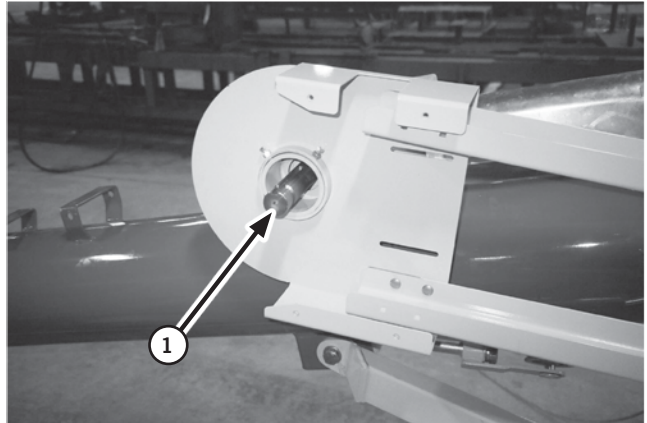
- c. Secure turnbuckle with anchor pin (4) and cotter pin.



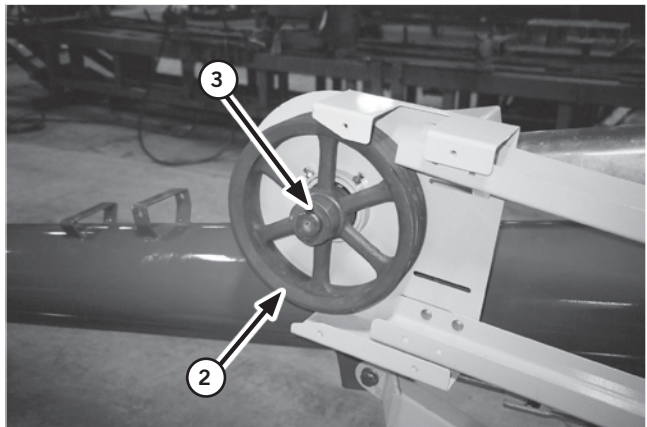
Gearbox Pulley

15. Mount pulley on gearbox shaft.

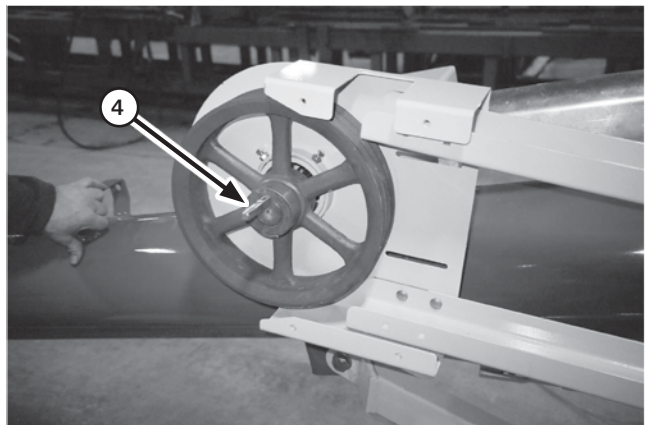
a. Clean gearbox input shaft (1).



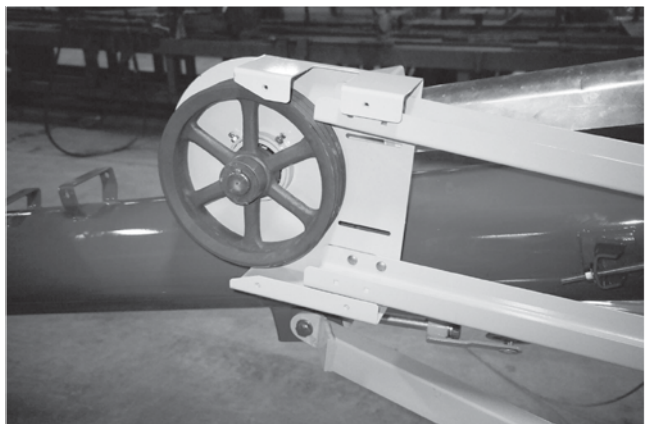
b. Slide pulley (2) over shaft and align keyway grooves (3).



c. Install key (4).

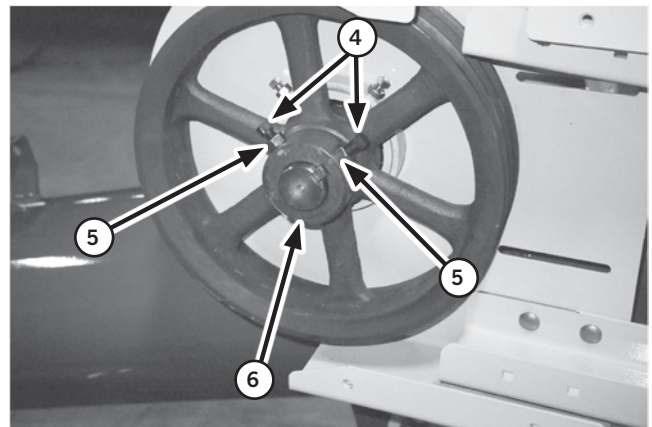
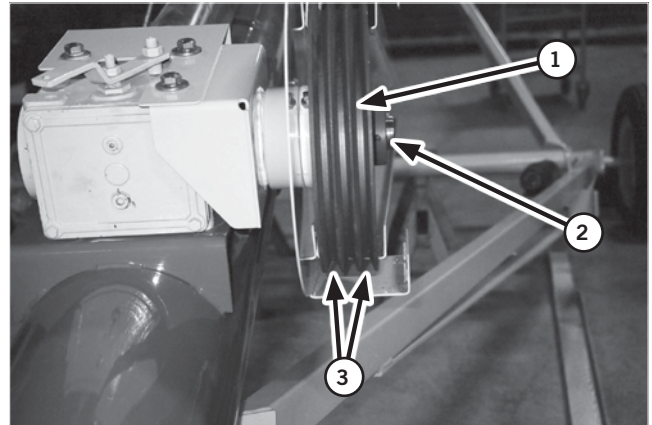


d. Slide or tap key to insert it until it is almost flush with pulley face.

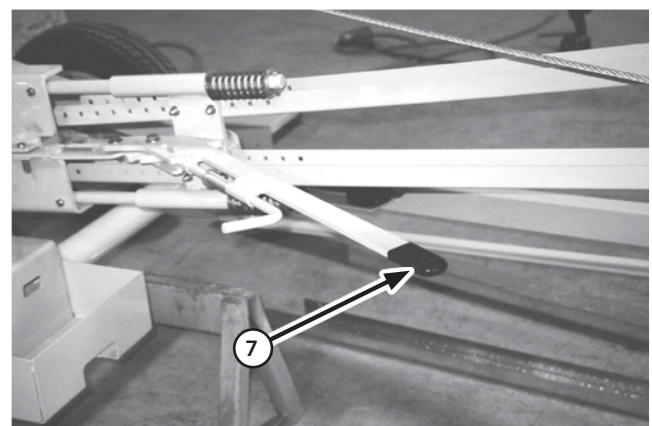
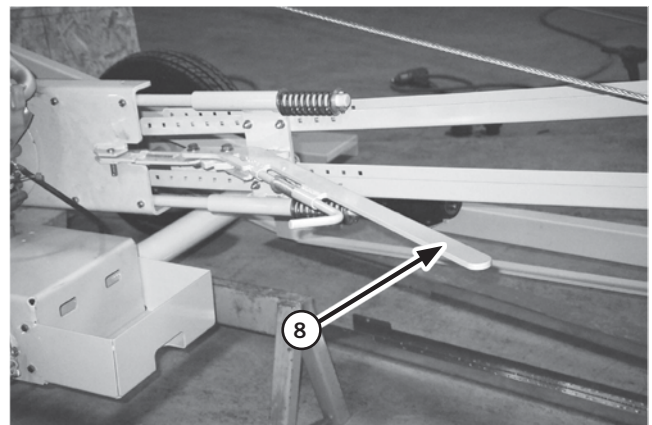


16. Align and secure pulley.

- a. Sight along pulley (1) toward belt tray (2).
- b. Slide pulley on shaft (3) until the grooves are centered in belt tray.
- c. Install set screws (4) and jam nuts (5) through pulley hub (6).
- d. Tighten screws and jam nuts to their specified torque.



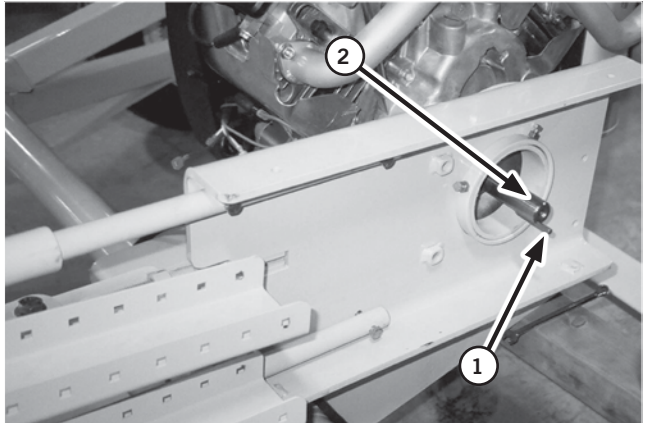
17. Install plastic cover (7) over engage lever (8).



Engine Drive Pulley

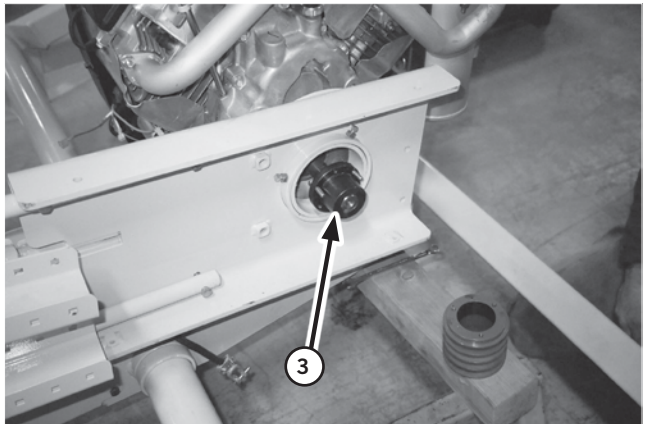
18. Mount engine drive pulley.

- a. Insert key (1) into keyway on engine shaft (2).

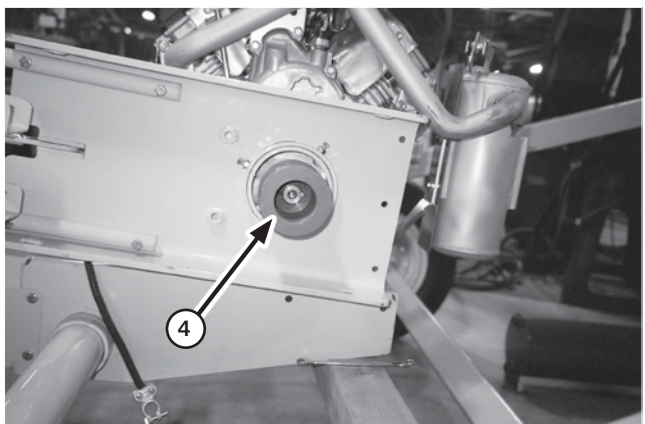
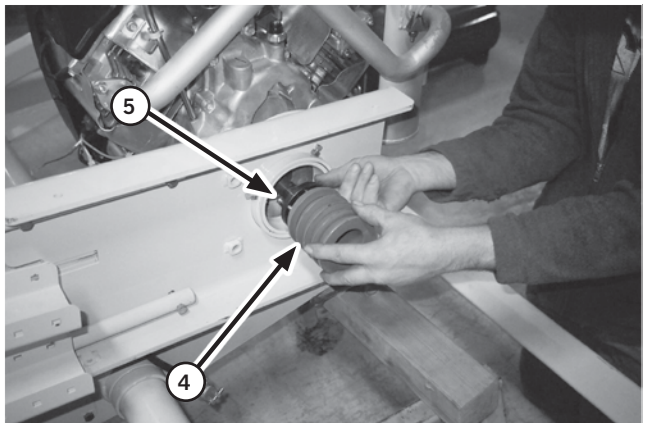


- b. Remove pulley hub (3) from shipping box.
- c. Slide hub over shaft while aligning key.

NOTE: Generally the pulley needs to be pushed on the shaft so far that it is difficult to tighten hub bolts when the pulley grooves are centered in the belt tray. A crow-foot wrench may be required to tighten the bolts.

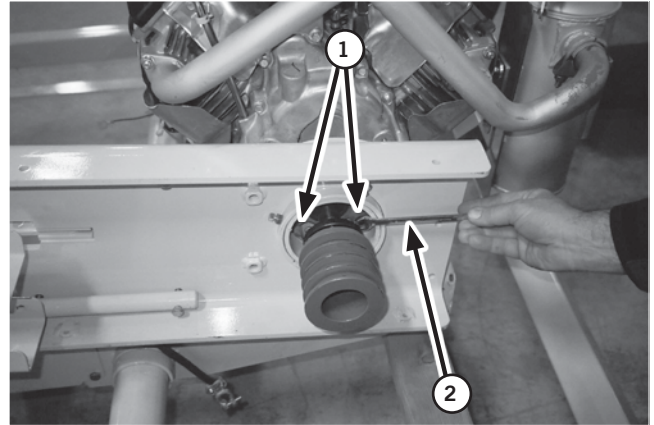


- d. Slide pulley (4) over hub and align hub bolts (5).



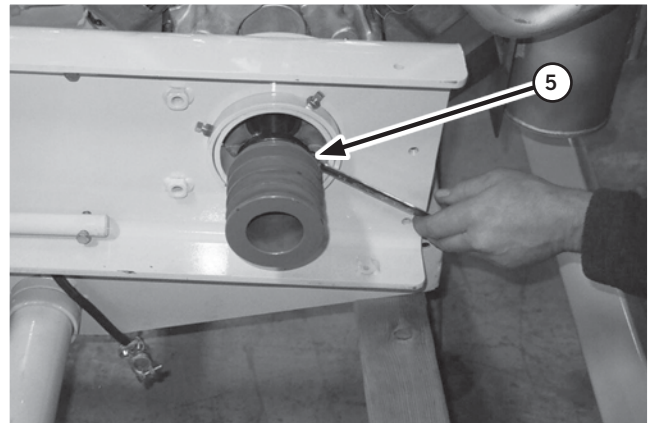
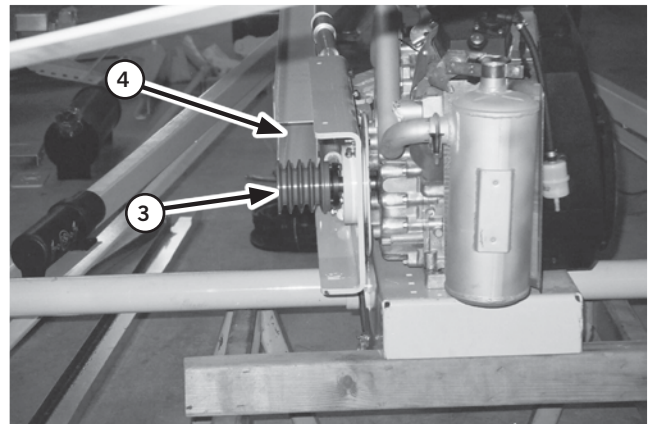
5. Snug up hub bolts (1).

NOTE: Generally the pulley needs to be pushed on the shaft so far that it is difficult to tighten hub bolts when the pulley grooves are centered in the belt tray. A crow-foot wrench (2) may be required to tighten the bolts.



19. Align drive pulley.

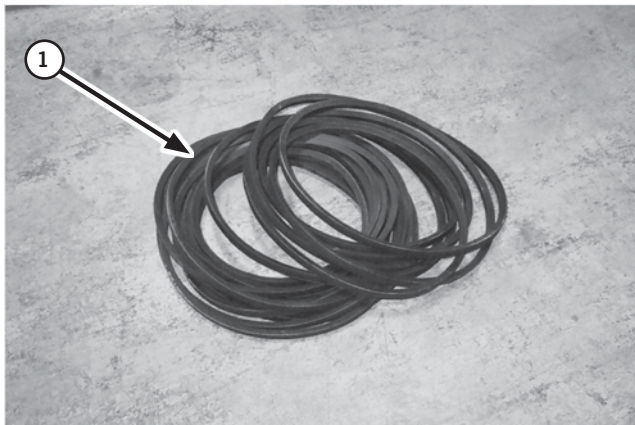
- a. Sight along pulley (3) over the belt tray (4).
- b. The outer 3 grooves should be centered in the tray to be properly aligned.
- c. Adjust pulley position on the engine shaft to center in tray.
- d. Tighten hub bolts and set screw (5) over key to secure pulley in position.



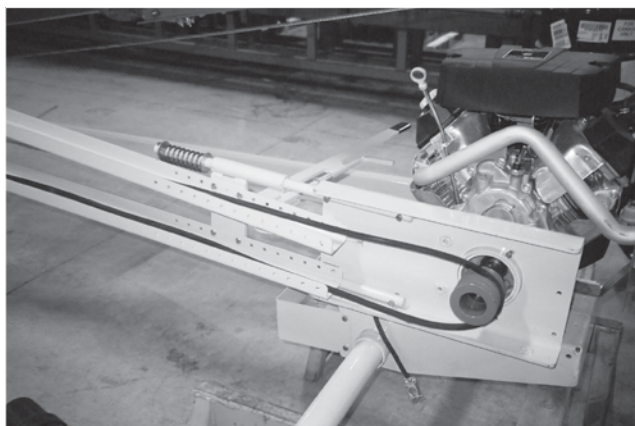
Drive Belts

20. Install drive belts.

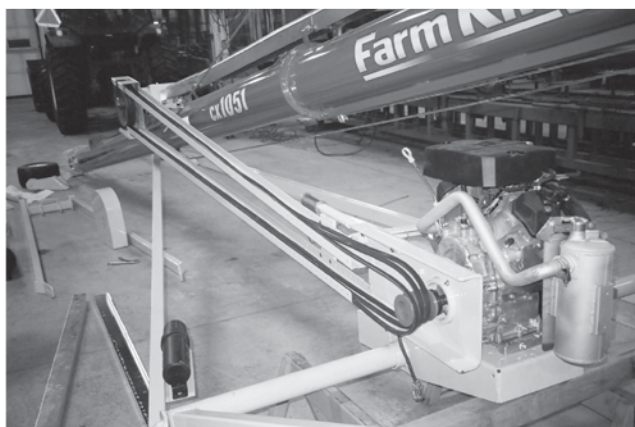
- a. Bring belt (1) to machine and lay out.



- b. Install first belt in the third groove on engine and gearbox pulleys.



- c. Install second and third belts.

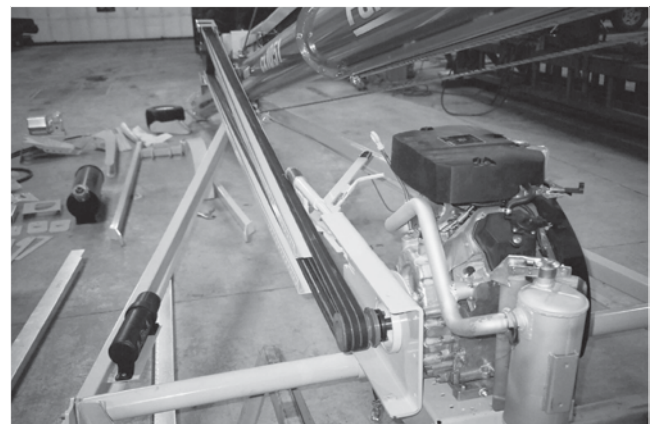
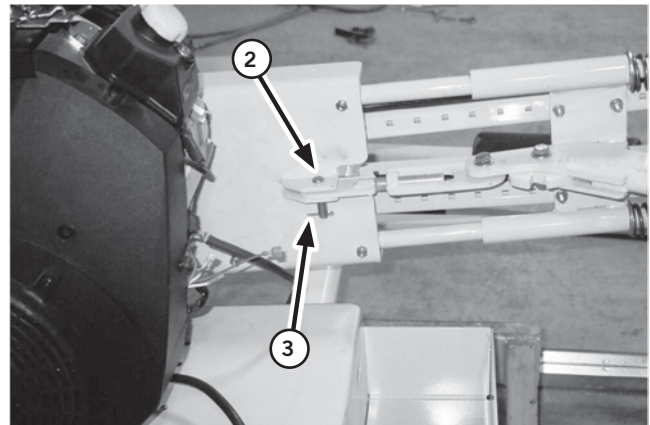
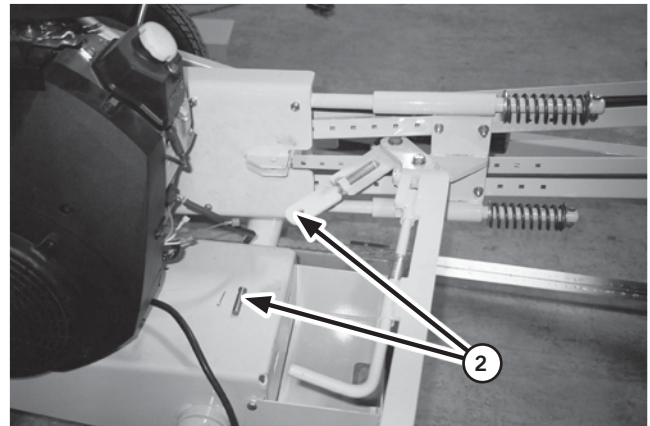
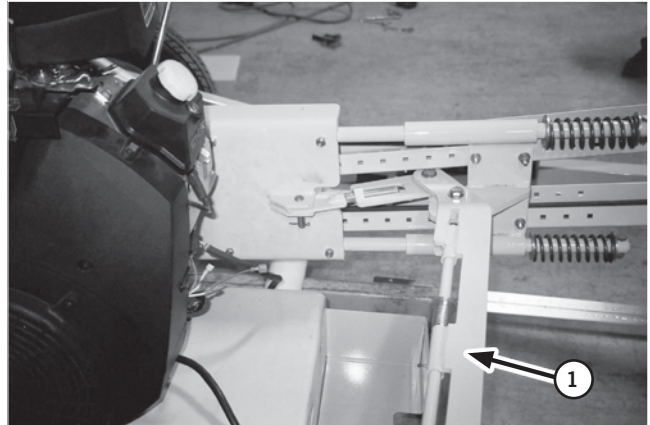


Belt Tension

21. Set belt tension.

- a. Move engage/disengage lever (1) into its engaged position and check belt tension.
- b. Unpin turnbuckle (2) on engage lever base and adjust length to change tension.
 - i. Lengthen turnbuckle to increase belt tension.
 - ii. Shorten turnbuckle to decrease tension.
- c. Pin turnbuckle and secure with cotter pin (3).
- d. Check belt tension each time turnbuckle length is changed to ensure tension is properly set.

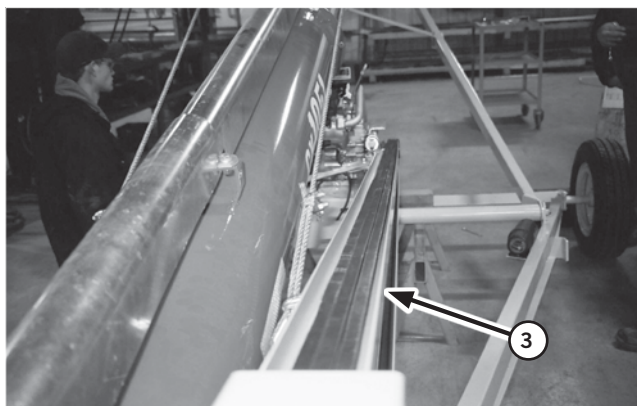
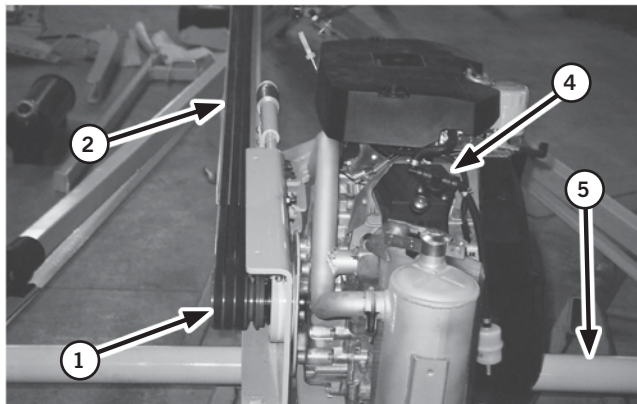
NOTE: Belt tension is properly set when loosest belt is tight. Check tension several times during the first 10 hours of operation and adjust as required. Belts generally have seated themselves by then and checking tension can be performed less frequently.



Pulley Alignment

22. Check pulley alignment.

1. Sight along pulley (1) and over the belts (2).
2. Belts should be parallel to belt trays (3) and centered in tray.
3. Adjust hub/pulley assembly on engine (4) to align if required or slide engine assembly along cross member (5) so belt is parallel to side of tray.

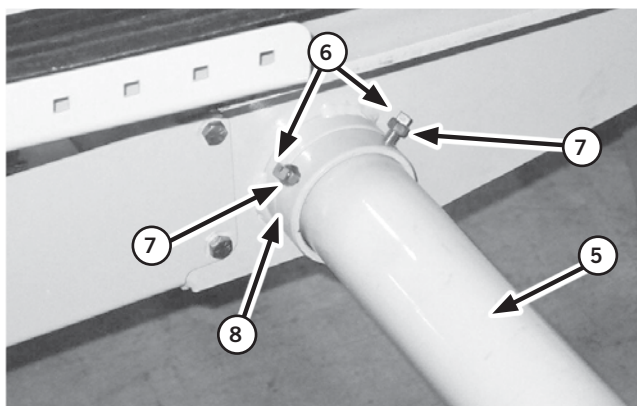


Engine Platform

23. Secure engine platform to cross brace.

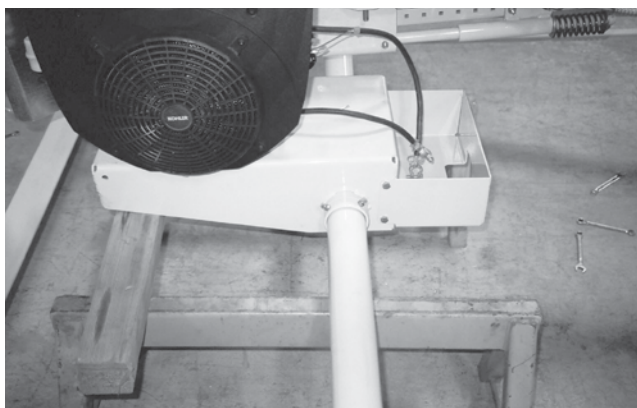
- a. Install setscrews (6) and jam nuts (7) to engine mounting frame ring (8) on left side.

NOTE: Be sure belts are properly tensioned and aligned first.



- b. Repeat on right side.

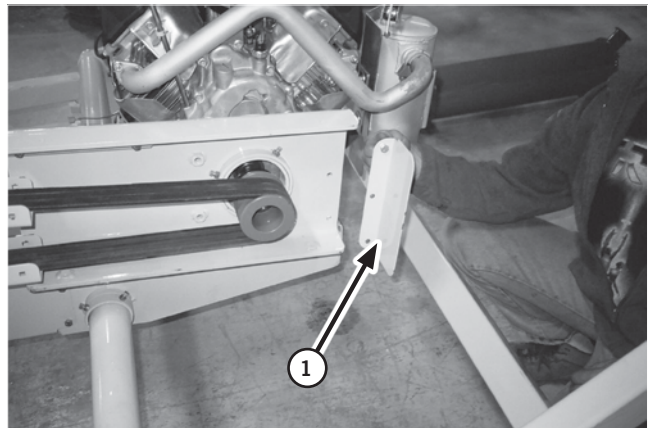
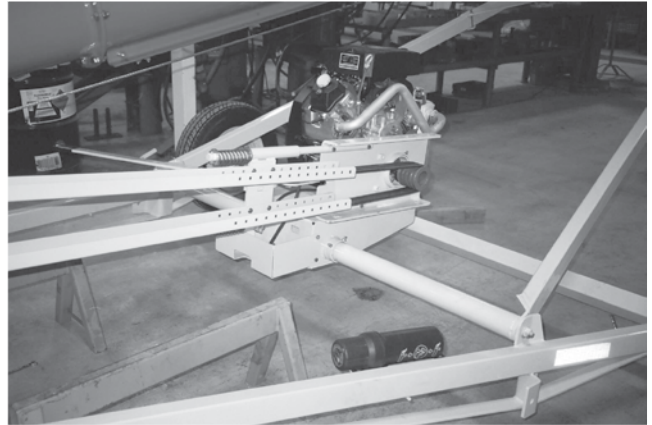
24. Check belt alignment again. Slide engine platform to align if required. Tighten setscrews and jam nuts in each ring to their specified torque.



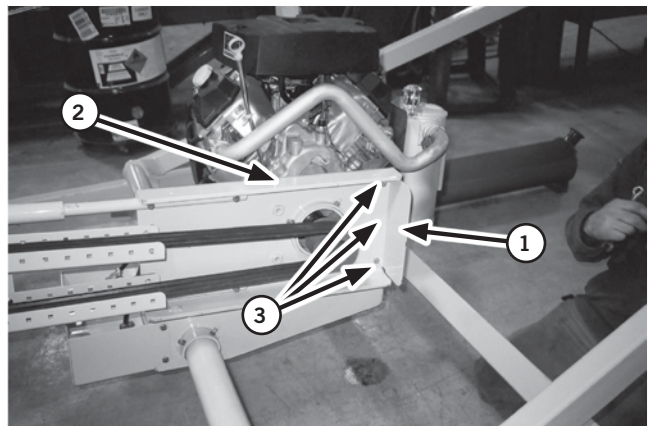
25. Tighten all fasteners in the belt guards installed so far; pulleys, tensioning mechanism and guards.
26. Disengage belt drive and remove stands and cross timber from under engine platform.

Engine Belt Guard

27. Attach belt guard end panel.
 - a. Bring guard end panel (1) from crate.



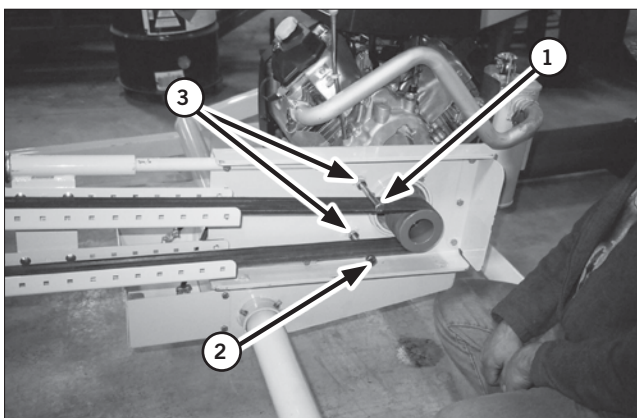
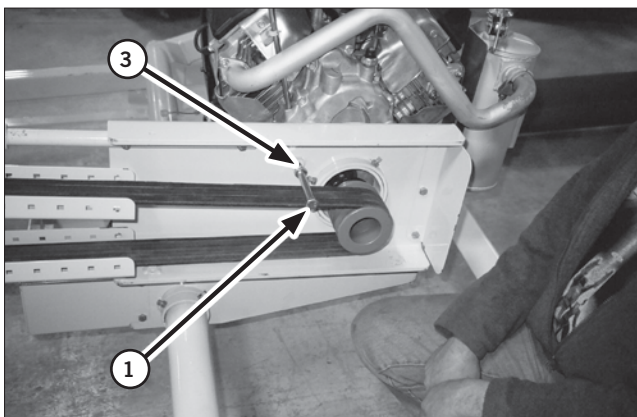
- b. Mount to engine belt guard (2) and secure with mounting bolts (3).



Anti-Whip Guides

28. Install anti-whip guides at engine.

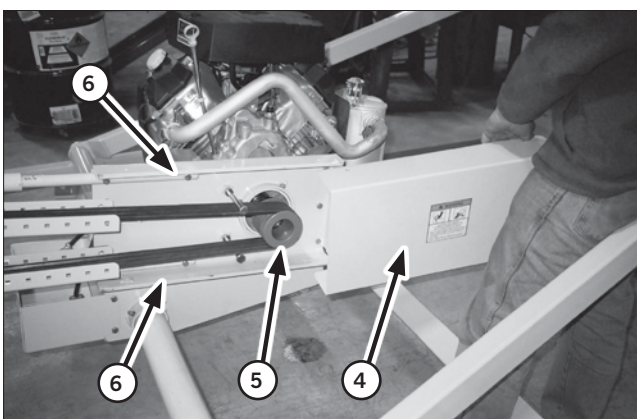
- a. Upper guide (1).
- b. Lower guide (2).
- c. Secure by tightening jam nut (3) on bolt.



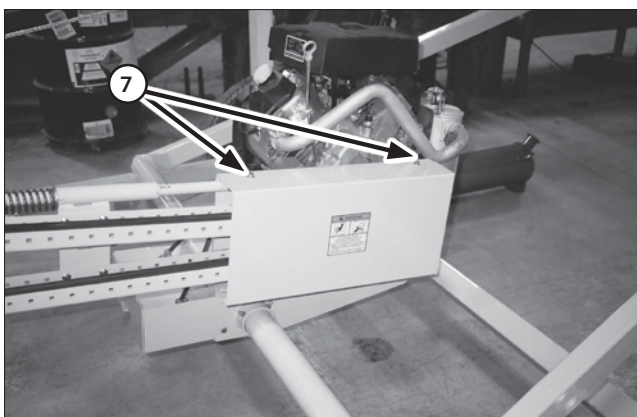
Outer Belt Guard

29. Mount outer belt guard over drive pulley.

- a. Remove guard (4) from lay-out area and position next to drive pulley (5).
- b. Attach to inner guard flanges (6).

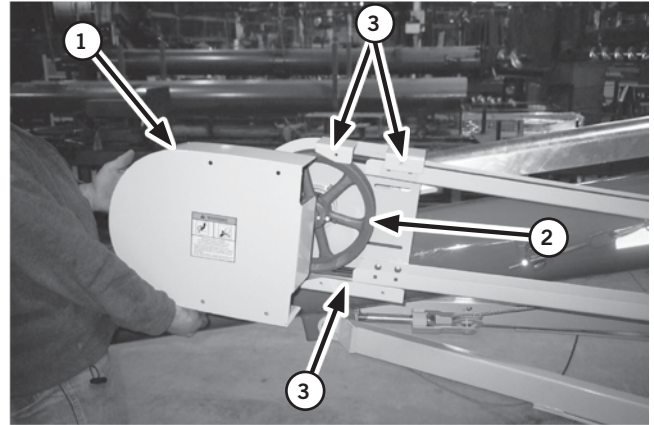


- c. Secure with mounting bolts (7).
- d. Tighten bolts to their specified torque.

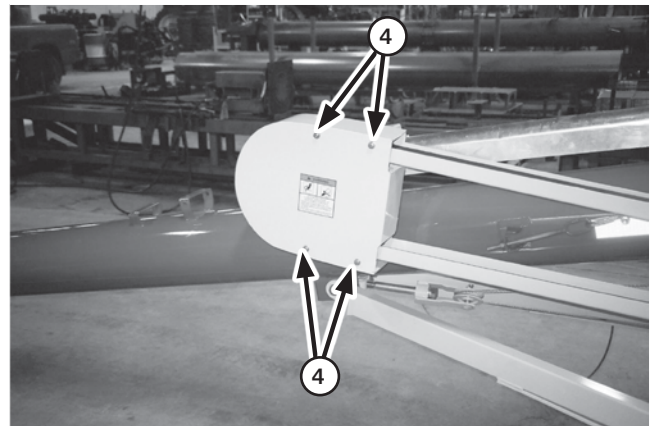


30. Mount outer belt guard over driven (gearbox) pulley.

- a. Remove guard (1) from lay-out area and position next to drive pulley (2).
- b. Attach to inner guard flanges (3).



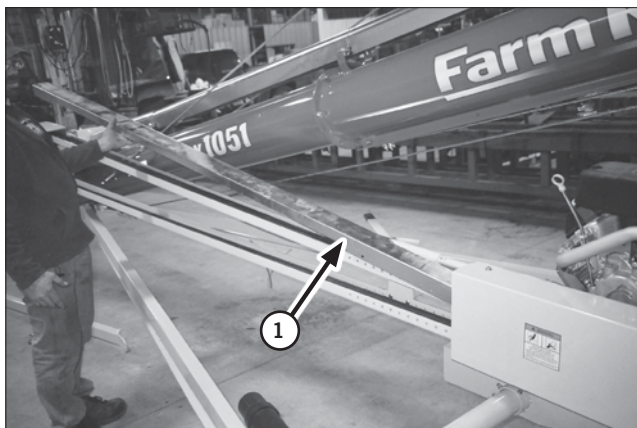
- c. Secure with mounting bolts (4).
- d. Tighten mounting bolts to their specified torque.



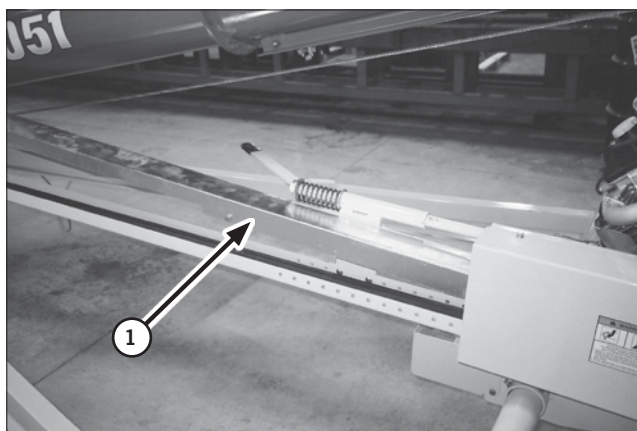
Belt Guard Covers

31. Install belt guard covers.

a. Position next to machine.

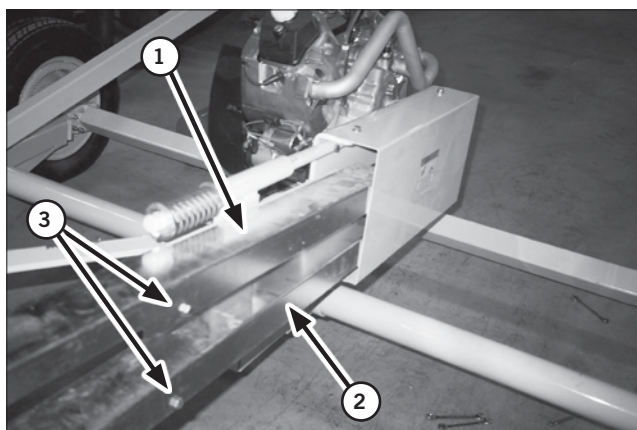


b. Top cover (1).



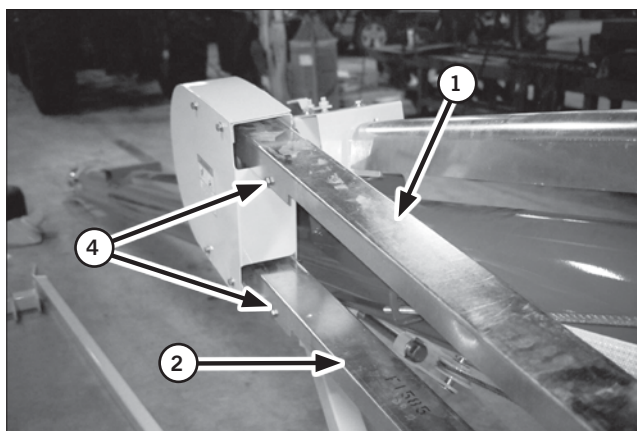
c. Bottom cover (2).

d. Secure with anchor bolts (3) through the cover on the engine end.



e. Secure with anchor bolts (4) through the cover on the gearbox end.

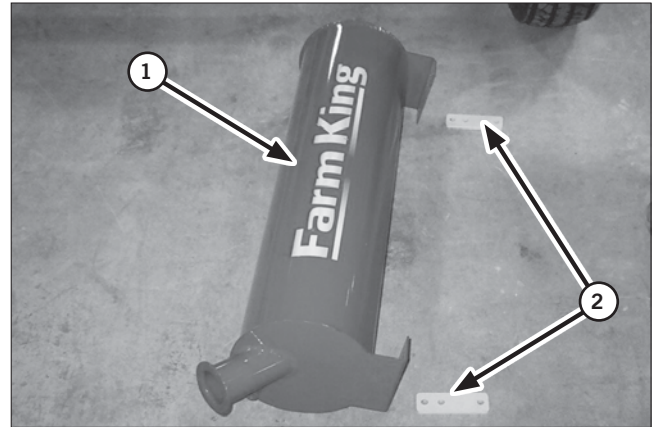
f. Snug up bolts but do not over-tighten and distort covers.



Fuel Tank

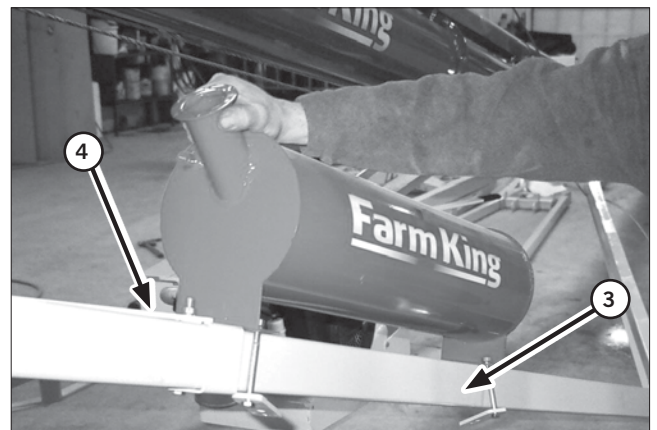
32. Mount fuel tank.

- a. Lay out fuel tank (1) and mounting components (2) next to assembly area.

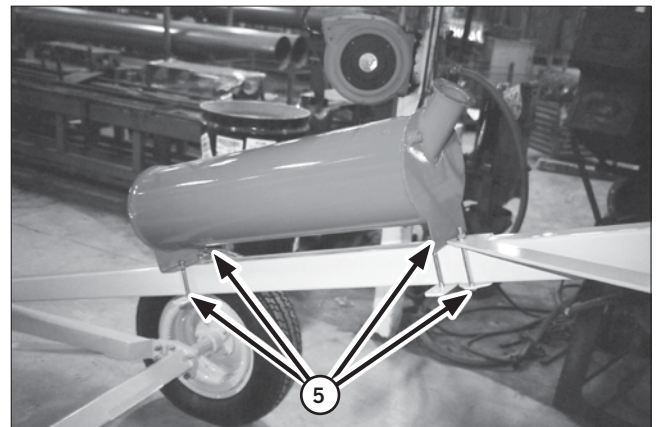


- b. Mount to rear frame support (3) next to cross brace (4) with the fill neck pointing up.

NOTE: The mounting plate is designed with 3 holes that allow it to fit on machines with a 2 or 3 inch square tube frames. Mount using the holes appropriate for your machine.



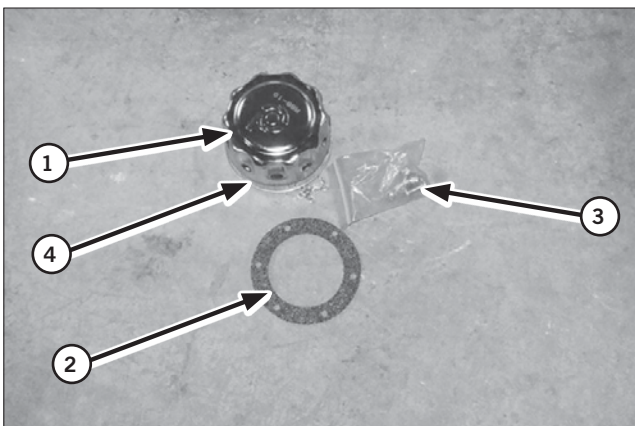
- c. Tighten fasteners (5) to their specified torque.



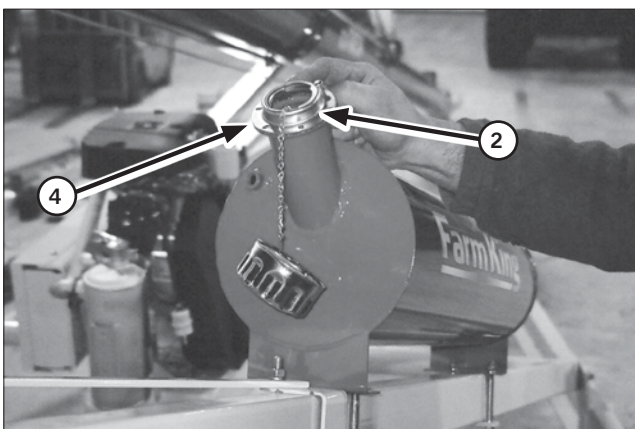
33. Install fuel tank cap.

- a. Remove components from shipping carton and lay out.

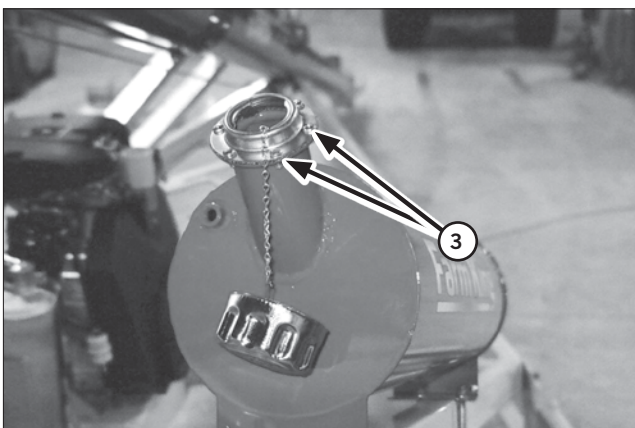
- i. Fuel tank cap (1)
- ii. Gasket (2)
- iii. Fasteners (3)
- iv. Fill fitting (4)



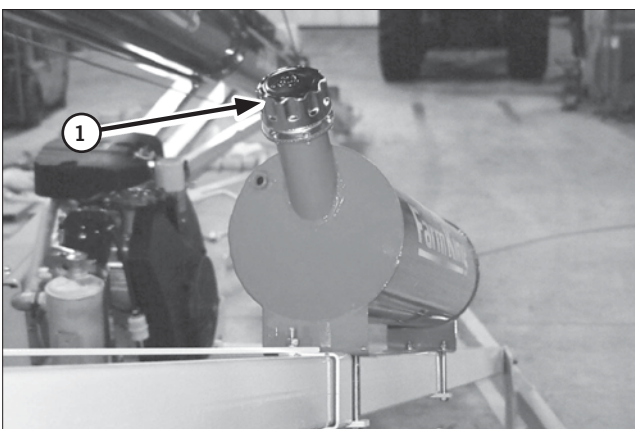
- b. Mount gasket on top of tank.



- c. Mount tank fill fitting and secure with 6 fasteners. Tighten to their specified torque.

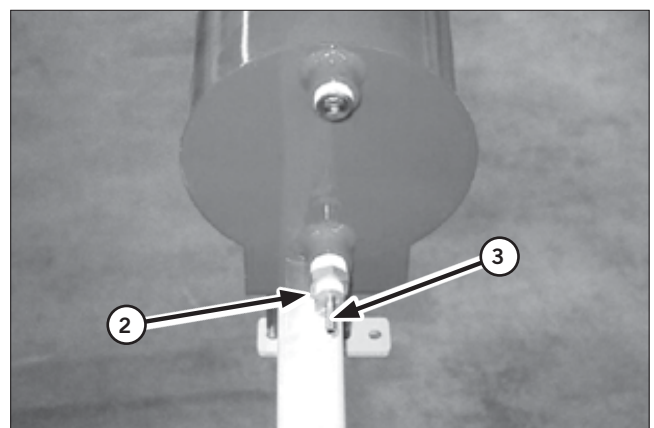
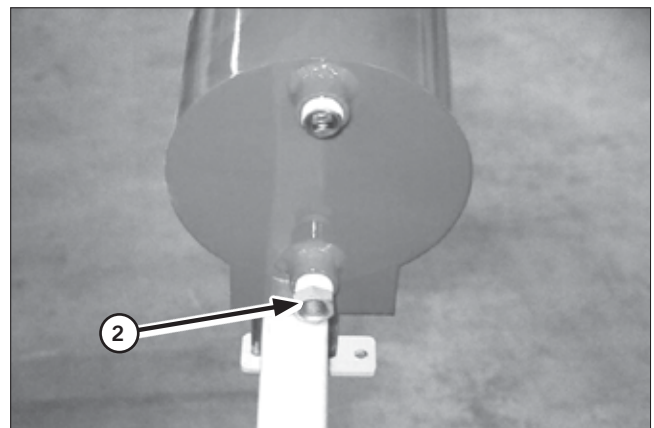
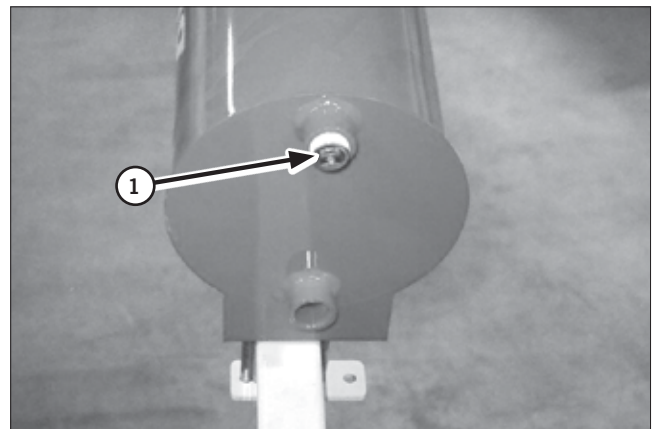
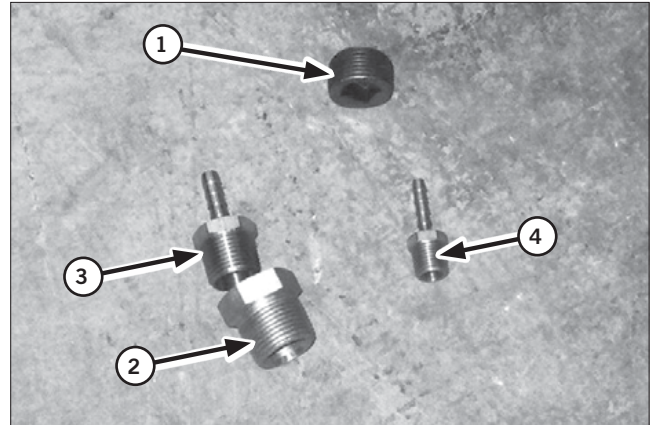


- d. Install fuel tank cap.



34. Install fuel tank fittings.

- a. Lay out fittings next to assembly area.
- b. Apply teflon tape to the threads of each fitting.
- c. Install fittings.
 - i. Top plug in lower end (1)
 - ii. Fuel line plug (2)
 - iii. Fuel line barbed fitting (3)

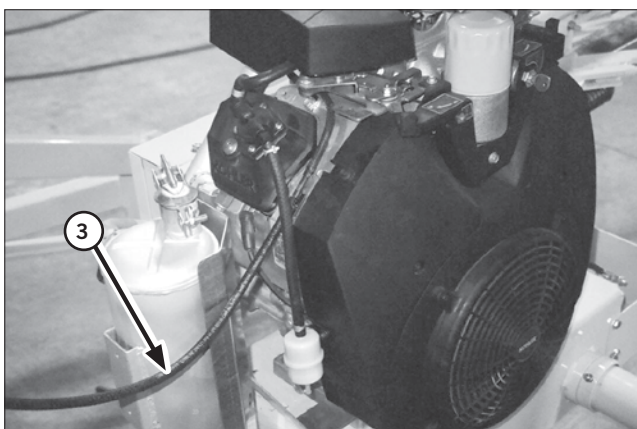
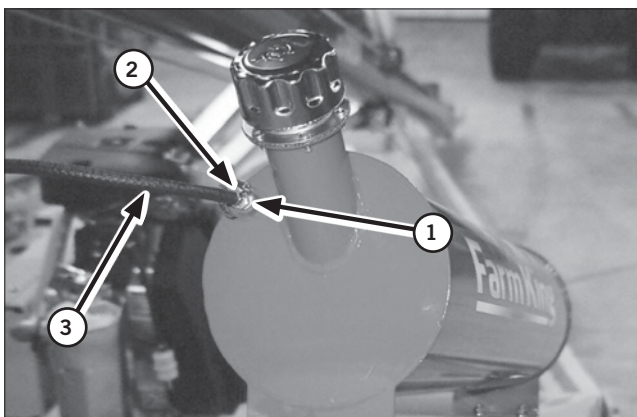
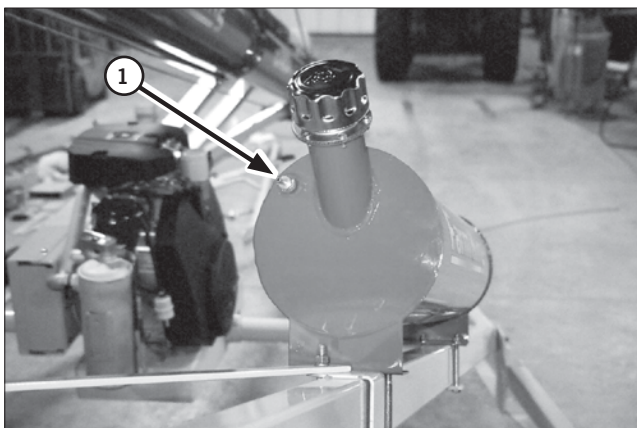


- iv. Return line fitting (1).
- d. Tighten plugs and fittings to their specified torque.

Fuel Return Line

35. Install fuel return line.

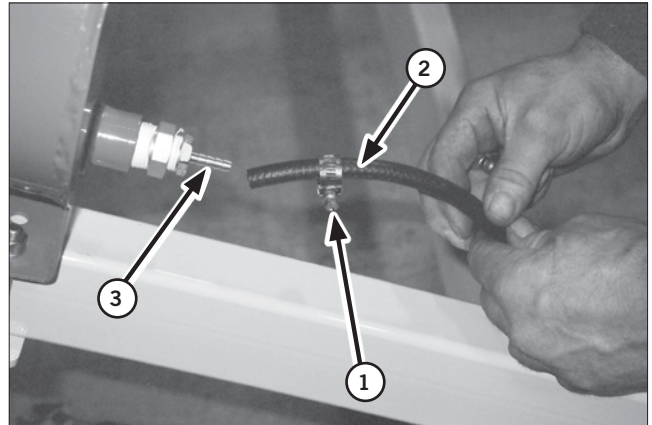
- a. Slide hose clamp (2) over return fuel line (3).
- b. Slide hose over return fitting.
- c. Secure with hose clamp.
- d. Slide opposite end of return fuel line onto the return fuel fitting on the engine.



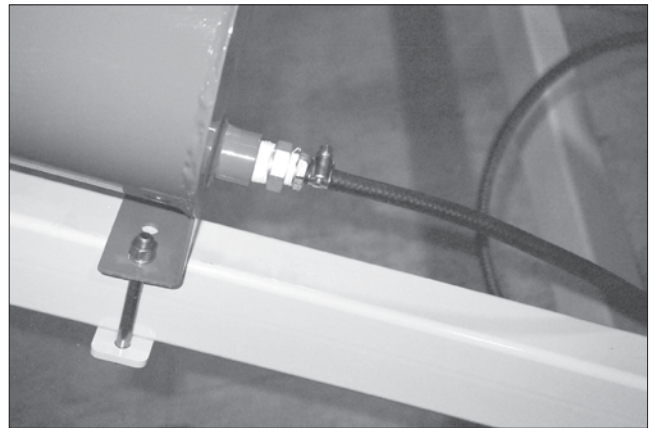
Main Fuel Line

36. Install main fuel line.

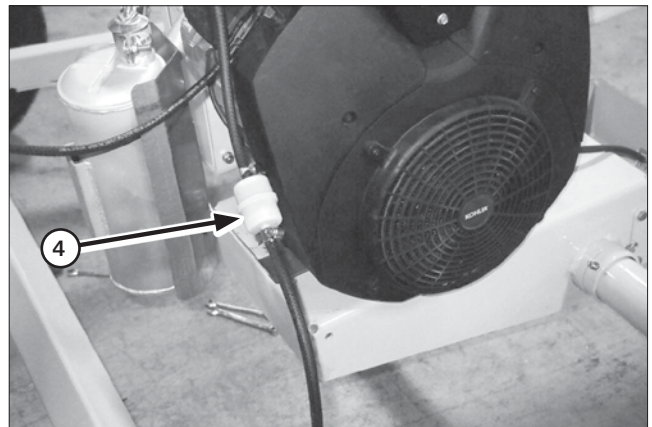
- a. Slide hose clamp (1) over main fuel line (2).



- b. Slide hose end over barbed fitting (3) on tank and secure with hose clamp.



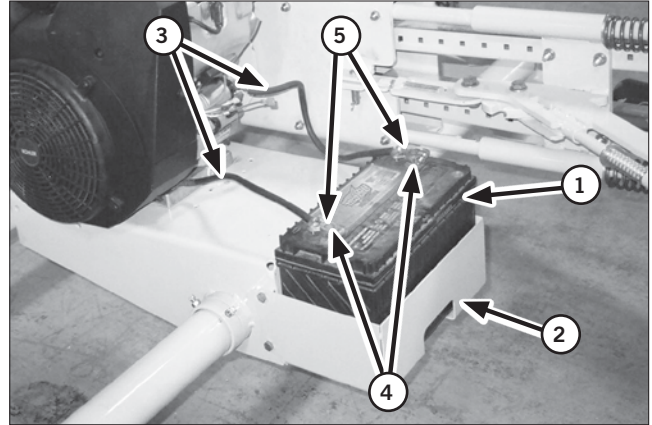
- c. Slide hose clamp over inline filter (4) fitting and secure with hose clamp.



Battery

37. Install battery.

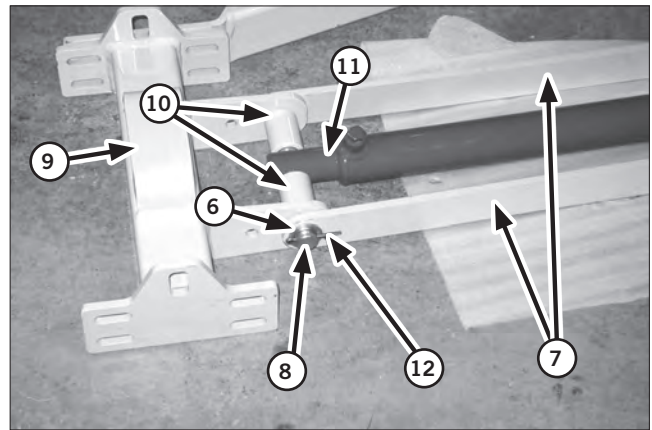
- a. Place battery (1) in battery mounting frame (2).
- b. Secure battery cables (3) to their respective posts (4). Tighten cable clamps (5) to their specified torque.



Front Cylinder

38. Mount front cylinder.

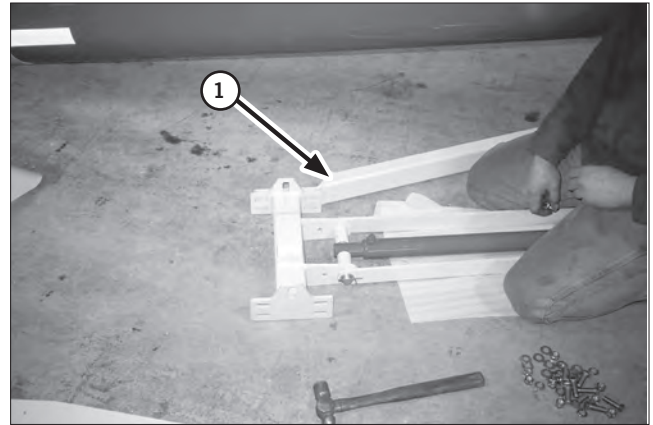
- a. Bring all front wheel assembly components to the work area.
- b. Move the front cross member (6) into position.
- c. Move side arms (7), pin (8), washers (9), spacers (10) and cylinder end (11) into position.
- d. Slide pin through holes: Washer, side arm, front frame, spacer, cylinder end, spacer, front frame, side arm, washer and cotter pin (12).
- e. Insert the cotter pin and spread on both sides when assembly is complete.



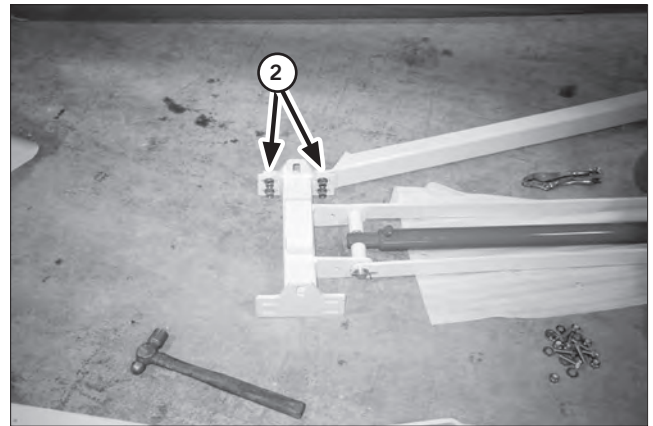
Side Arms

39. Attach side arms.

- a. Move right side arm into position (1).

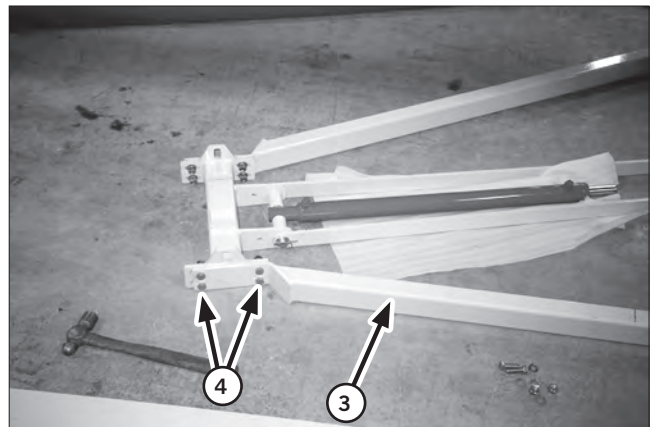


- b. Install fasteners (2).



- c. Move left side arm (3) into position and install fasteners (4).

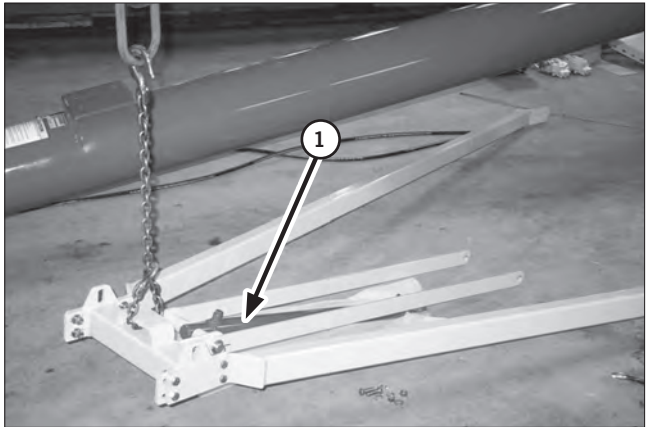
- d. Tighten fasteners to their specified torque.



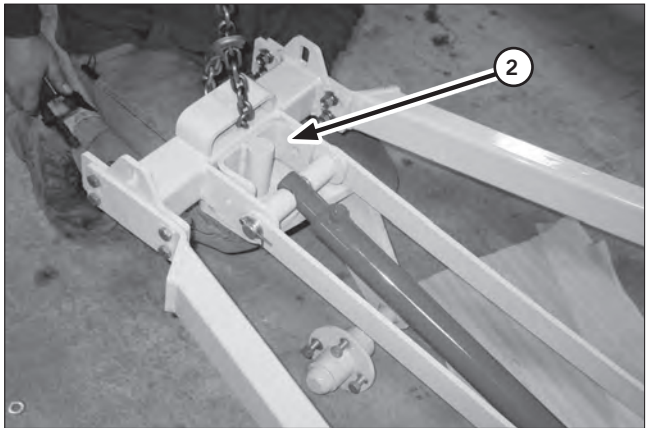
Wheel Axle Assembly

40. Mount wheel axle assembly.

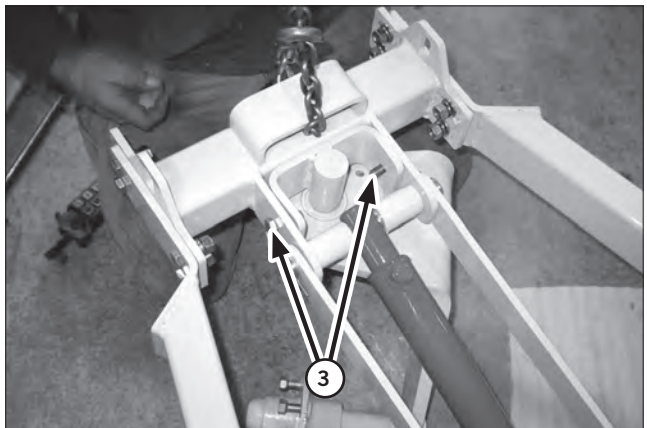
- a. Use a hoist to raise the cylinder assembly (1) high enough to slide axle assembly into position.



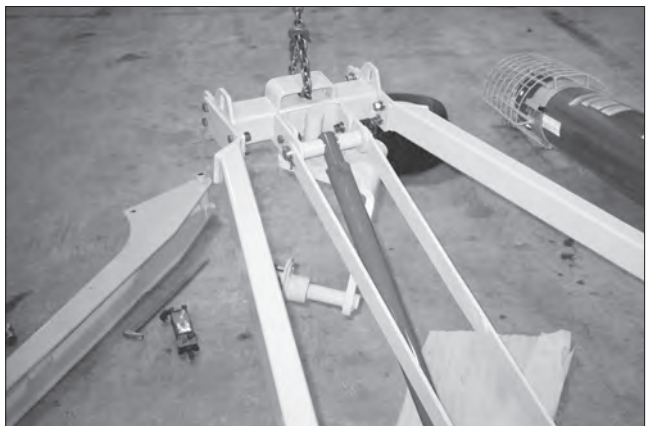
- b. Move axle assembly (2) into position.



- c. Align hardware mounting holes and install fasteners on both sides (3).



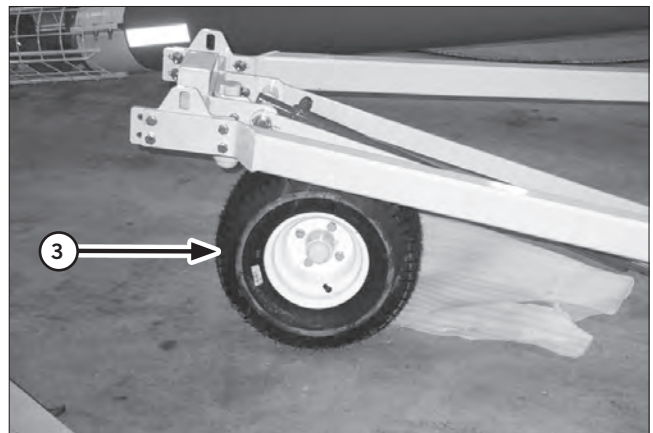
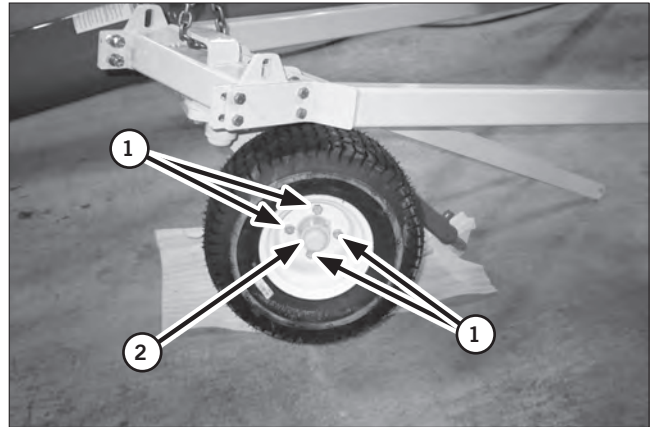
- d. Tighten fasteners to their specified torque.



Wheel

41. Mount wheel.

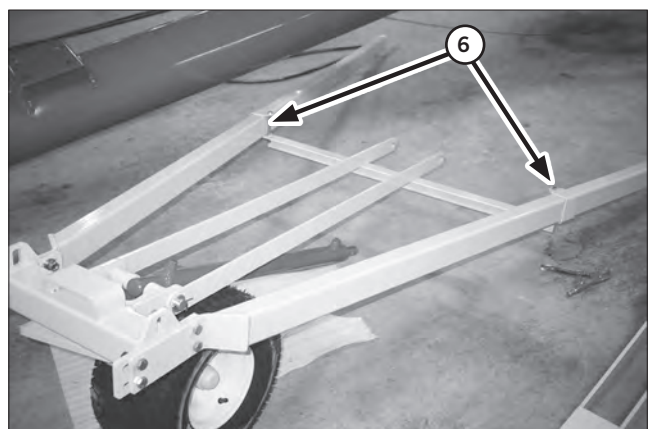
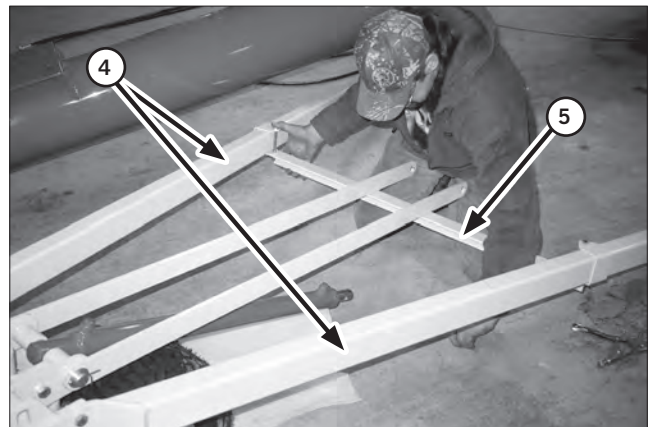
- a. Remove wheel bolts (1) from hub (2).
- b. Mount wheel (3) and tighten wheel bolts to their specified torque.



Cross Brace

42. Mount cross brace between side arms.

- a. Lower wheel axle assembly to the ground.
- b. Lift extension arms (4) and position on top of cross brace (5).
- c. Mount cross brace and tighten fasteners (6) to their specified torque.



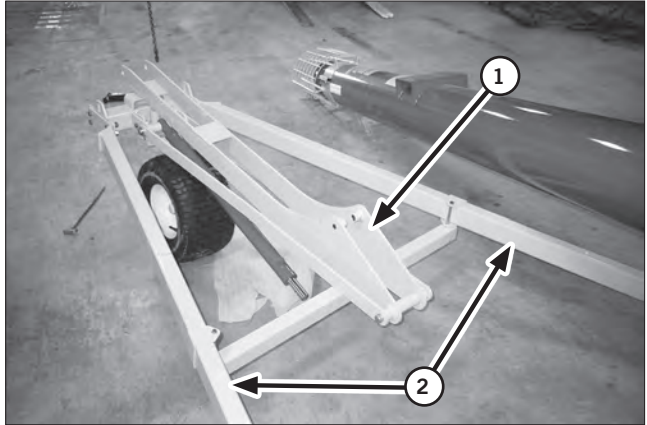
 **CAUTION** 

It is recommended that either a supplementary weight be used at the hitch end or a strap/hoist be used to support the tube at the discharge end to insure stability of the machine during the assembly process. Once assembly is complete, the additional supports are no longer required.

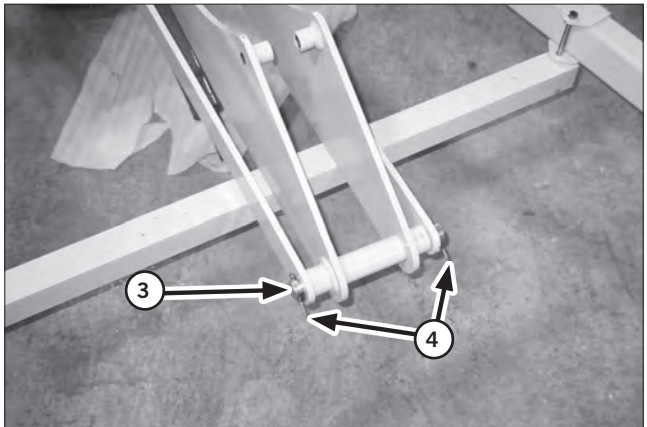
Yoke Assembly

43. Mount yoke assembly.

- a. Position yoke assembly (1) between arms (2).



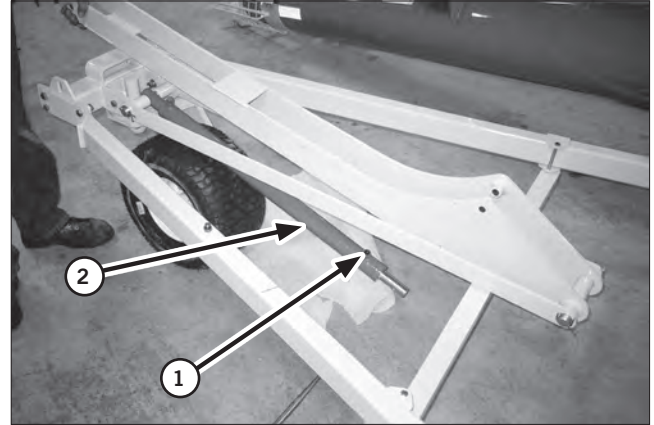
- b. Install pivot pin (3) and cotter pins (4) on each end of pin.
- c. Spread cotter pins to secure.



Cylinder Top End

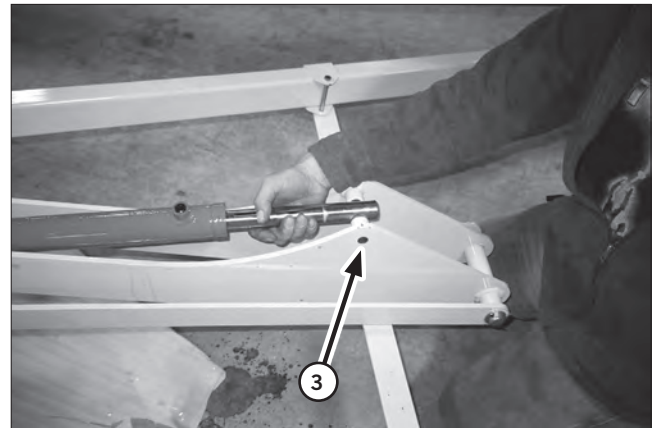
44. Connect top end of cylinder.

- a. Remove plastic plug (1) from fitting next to cylinder rod (2).

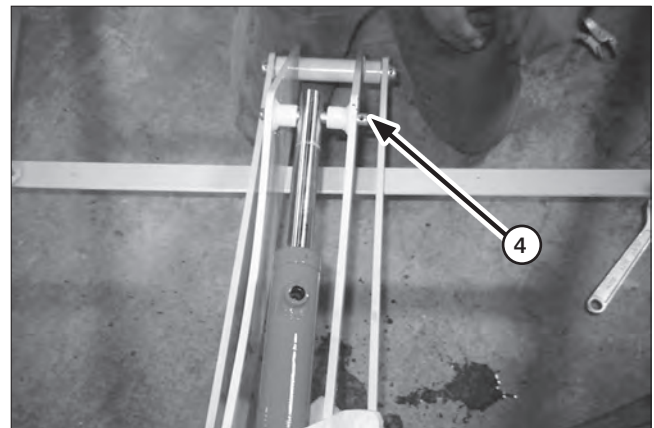


- b. Pull rod out to align mounting holes (3).

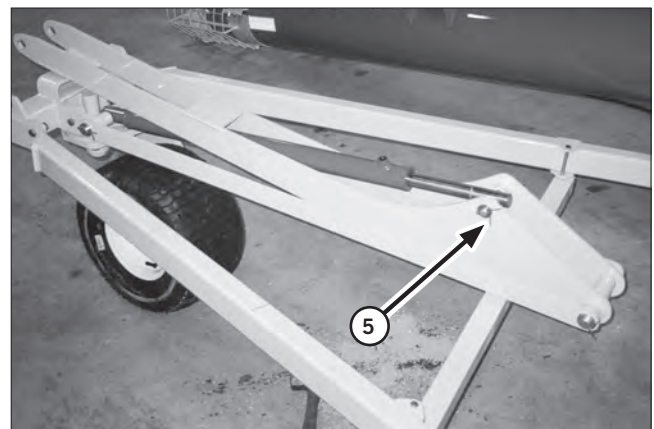
NOTE: Some oil may come out of the fitting when the rod is extended.



- c. Install pivot pin (4).



- d. Install and spread cotter pin retainers (5) on each end of pin.



Attach Axle Assembly

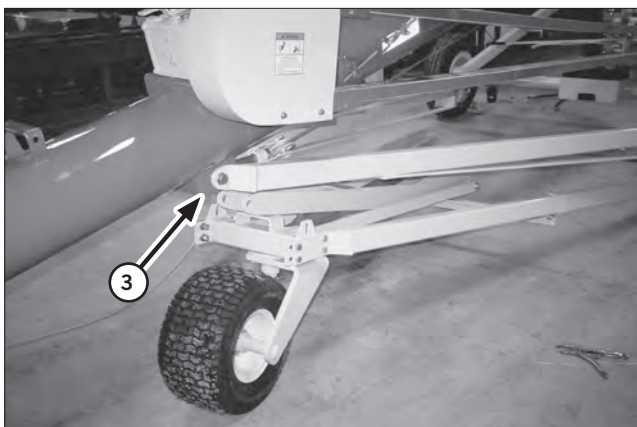
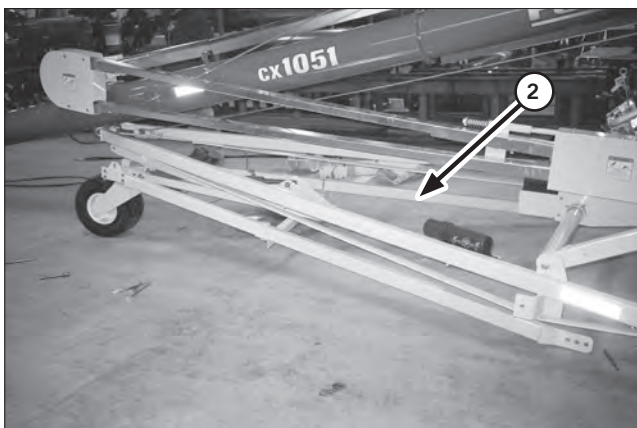
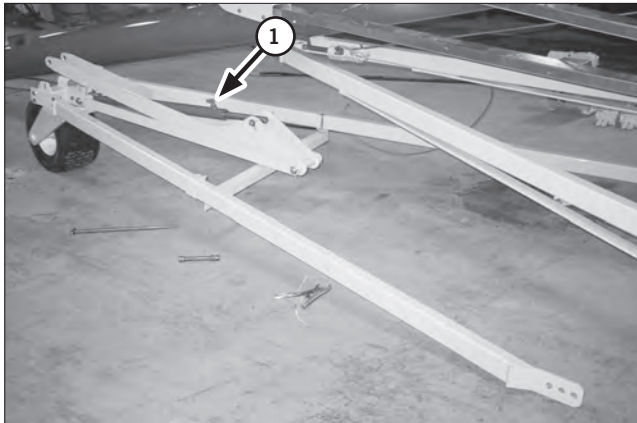
45. Attach wheel assembly to auger.

- a. Remove both plastic plugs from cylinder and install fittings (1).

NOTE: Apply a drop of oil to the "O" ring before installation to minimize the chance of damage when tightening.

- b. Tighten fittings until they point forward.
- c. Move assembly next to auger.
- d. Slide right side arm (2) under undercarriage.

- e. Raise hopper a little and move wheel assembly under front pivot point (3) of undercarriage.



46. Mount axle assembly to front pivot point.

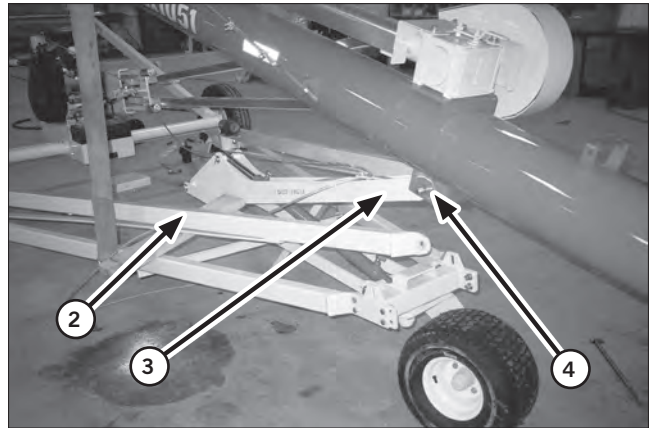
- a. Remove front pivot bolt (1).



- b. Lower side arms (2).

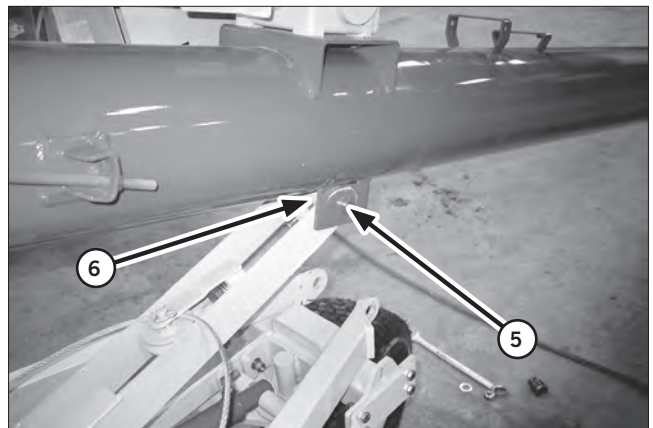
NOTE: Support side undercarriage arms with a 2 x 4.

- c. Move yoke (3) up to pivot point (4).



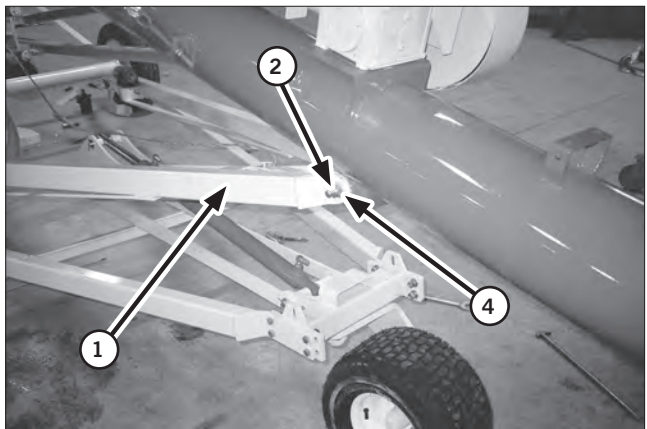
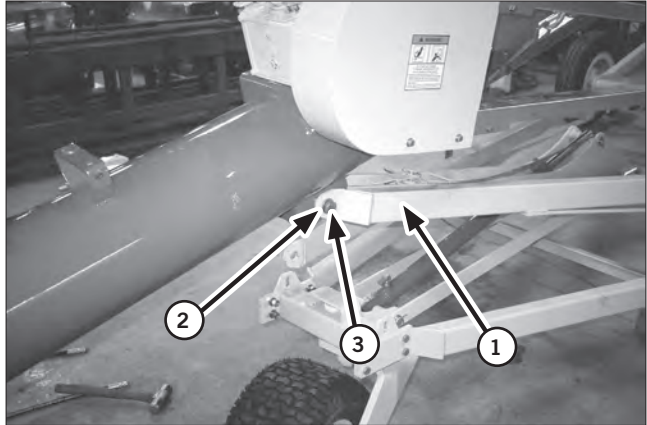
- d. Insert bushing (5) through yoke arm, winch pulley frame (6) and yoke arm.

- e. Center bushing in frame.



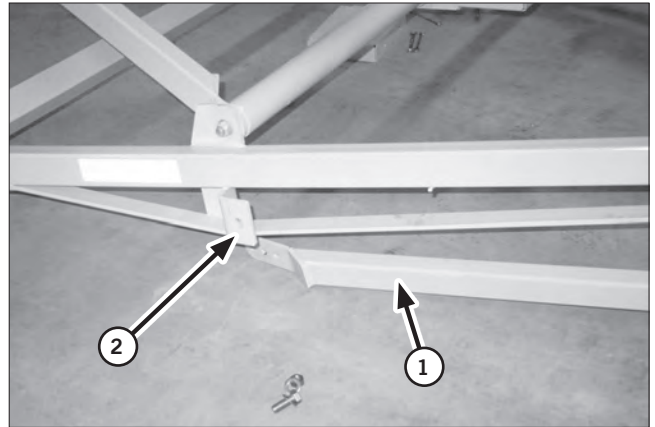
6-38
Section 6 - Assembly
Attach Axle Assembly

- f. Remount under carriage side arms (1).
- g. Place washer (2) under bolt head (3) and nut (4).
- h. Tighten but not enough to prevent the joint from pivoting.



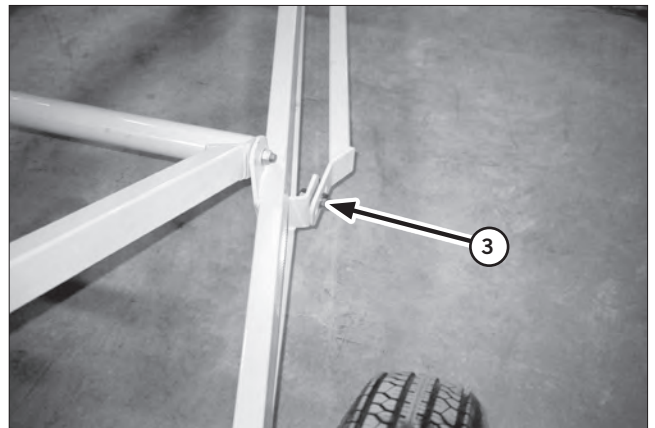
47. Mount the outer axle assembly side frames to undercarriage.

- a. Position side frames (1) next to brackets (2) extending below engine rock shaft mount on each side.



- b. Install fastener (3) on right side and tighten to specified torque.

NOTE: Raise and lower front axle assembly to align mounting holes into their centered position.



- c. Repeat procedure on left side.

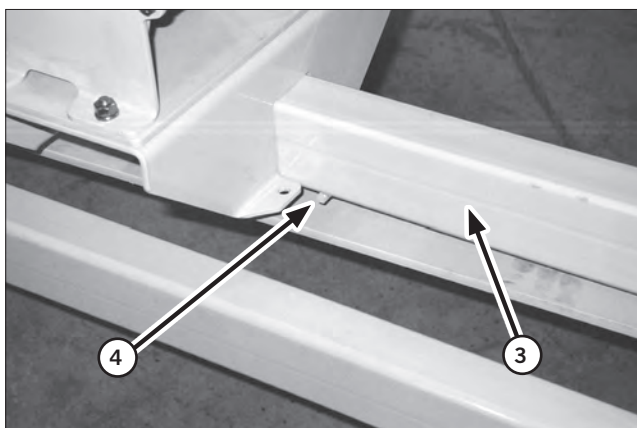
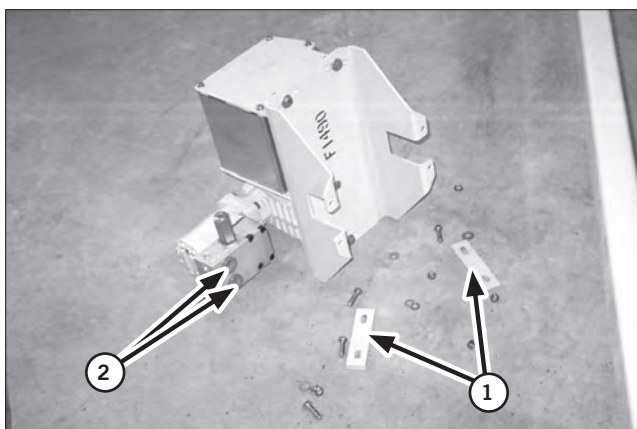
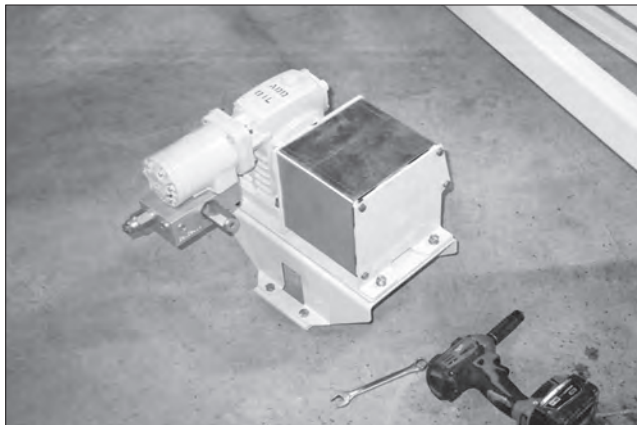
NOTE: It may be necessary to loosen and slide front side arm anchors to mount rear anchors. Be sure both sides have the same dimension. Tighten all fasteners to their specified torque.



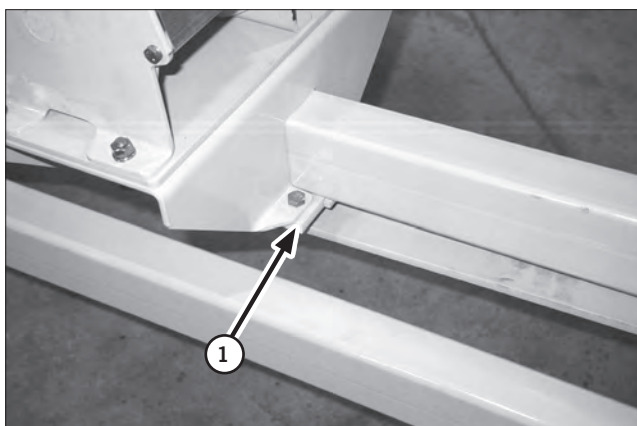
Hydraulic Winch

48. Mount hydraulic winch.

- a. Lay out winch components.
- b. Remove anchor brackets (1) and fasteners.
- c. Note location of plastic plugs (2) in outlets where fittings will be installed.
- d. Position on undercarriage side frame (3) next to anchor key (4).



- e. Secure with anchor brackets and tighten fasteners to their specified torque.



CAUTION

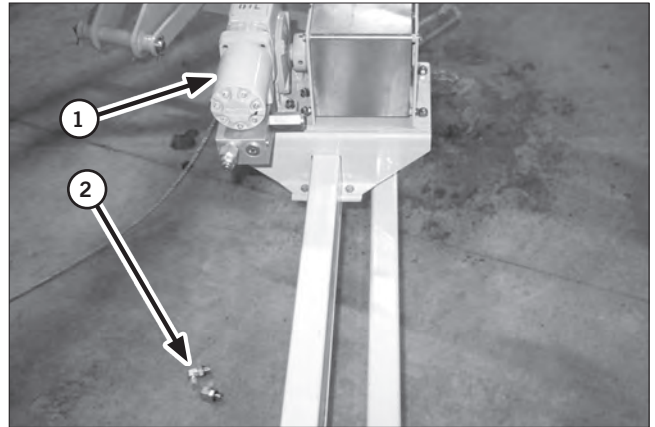


It is recommended that either a supplementary weight be used at the hitch end or a strap/hoist be used to support the tube at the discharge end to insure stability of the machine during the assembly process. Once assembly is complete, the additional supports are no longer required.

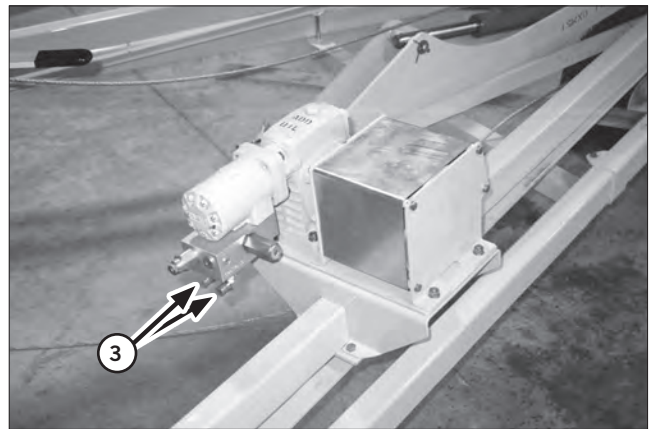
Hydraulic Fittings

49. Connect fittings to hydraulic motor (1).

- a. Lay out fittings (2).
- b. Remove plastic plugs from the bottom of the hydraulic motor (see previous page).
- c. Place a drop of oil on "O" ring on fitting.



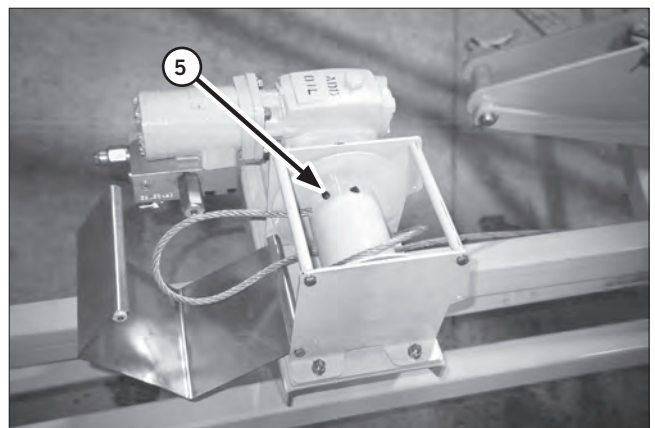
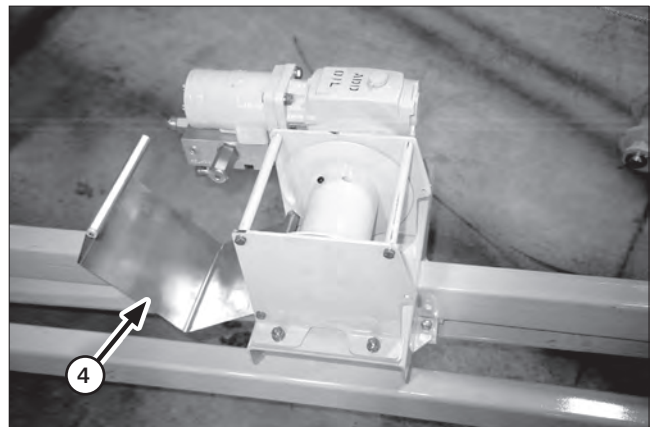
- d. Install fittings (3) and position them facing the intake end of the auger.



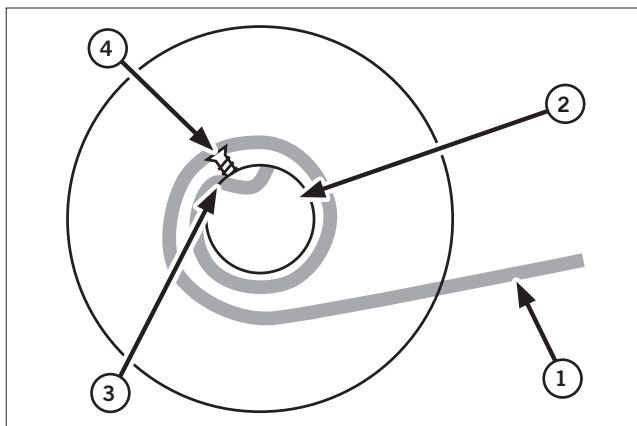
Winch Cable

50. Attach cable to winch spool.

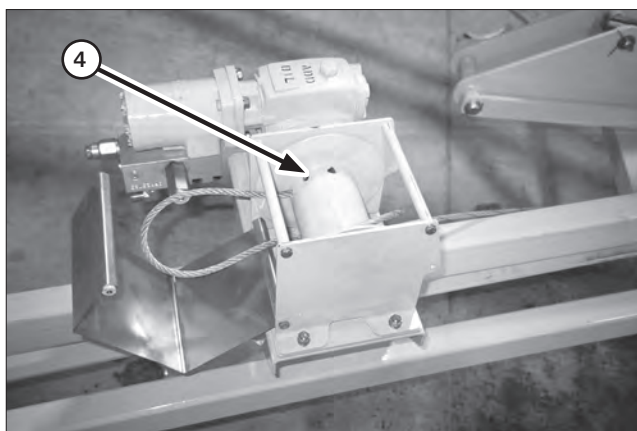
- a. Open cover of winch reel (4) and pivot back out of the way.
- b. Back out cable anchor set screw (5).
- c. Release the end of the cable.



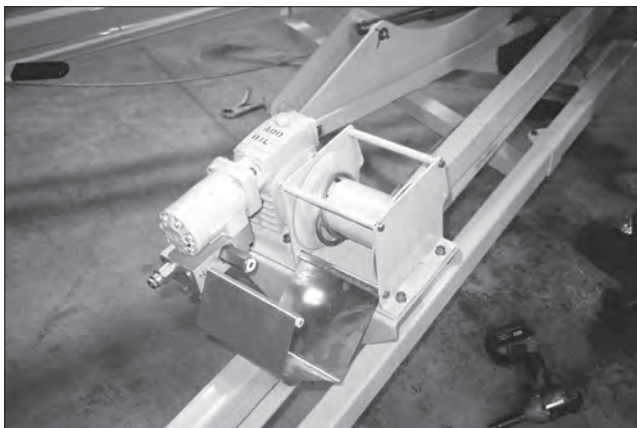
- d. Thread cable (1) once completely around spool (2) and then partly around with the end going into the anchor slot (3) and just flush with spool.



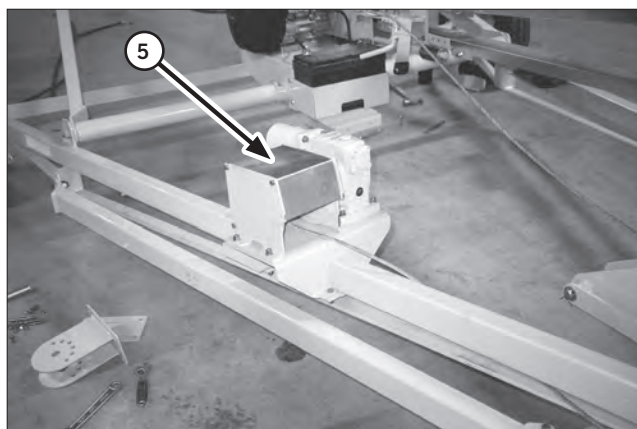
- e. Tighten set screw (4) to its specified torque.



- f. Turn reel until there are 5 to 6 full turns of cable on the spool and all the slack in the cable is taken up.



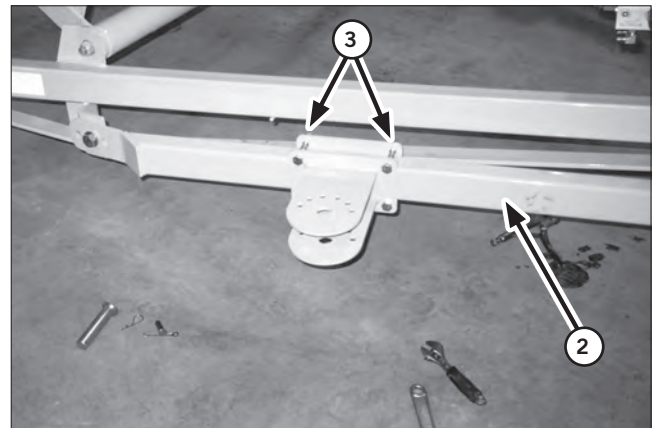
- g. Close and secure winch reel cover (5).



Control Panel Base

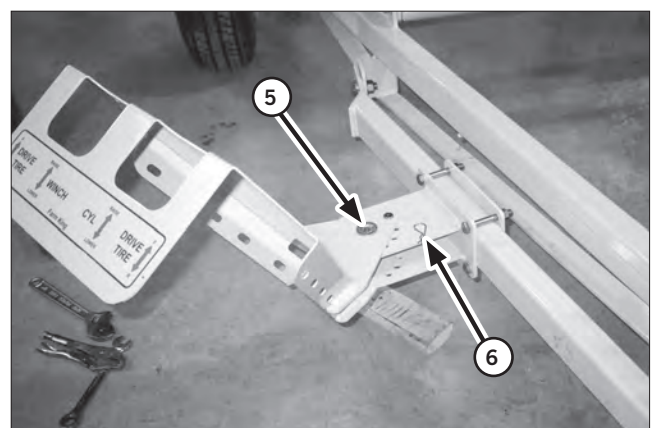
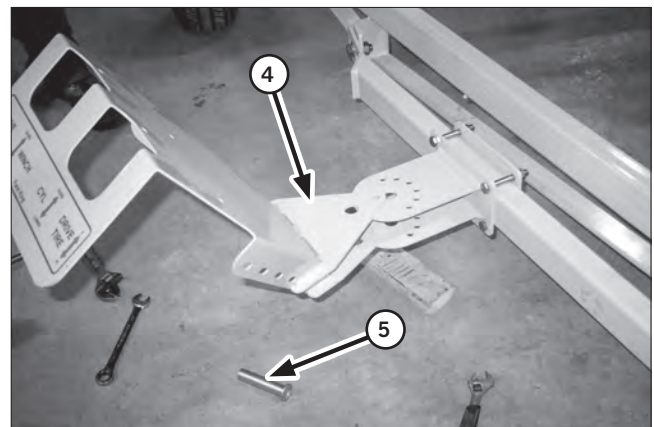
51. Mount control base.

- a. Lay out control base (1) mounting components.
- b. Mount to right side front of the wheel-side frame (2).
- c. Position 2 feet forward of right wheel and secure.
- d. Tighten fasteners (3) to their specified torque.



20. Mount control bracket.

- a. Align control bracket (4) with base.
- b. Install with pivot pin (5).
- c. Secure pivot pin with hairpin (6) through pivot pin.



Control Valves

52. Assemble winch control valves.

NOTE: Always assemble valves in a clean environment on a bench to allow for visibility and access.

a. Lay out valves and fittings.

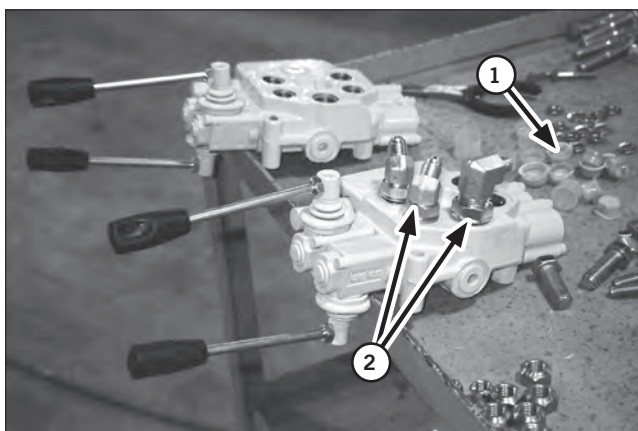


b. Remove the plastic plugs (1) from the top of valves.

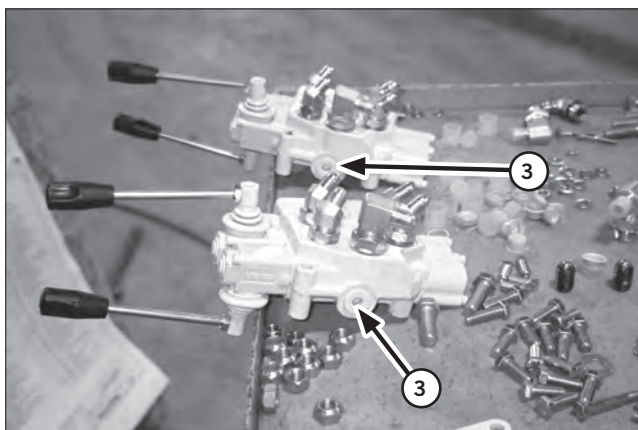
IMPORTANT: Prevent dirt from contaminating valves when plugs are removed.

c. Install fittings in valve blocks (2).

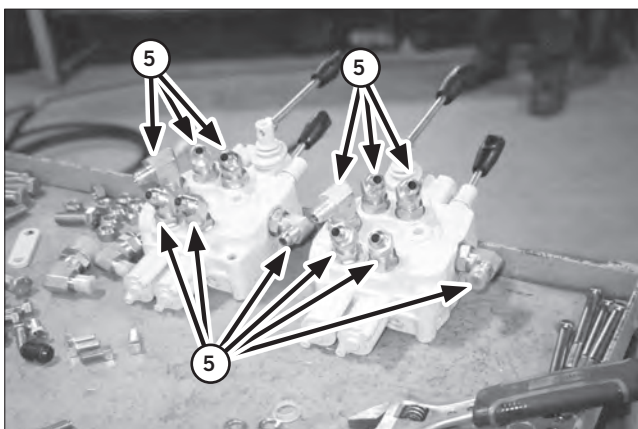
NOTE: Apply a drop of oil to "O" ring on fittings before installing.



d. Remove plastic plugs (3) from side of sides of valve blocks and install fittings (4).



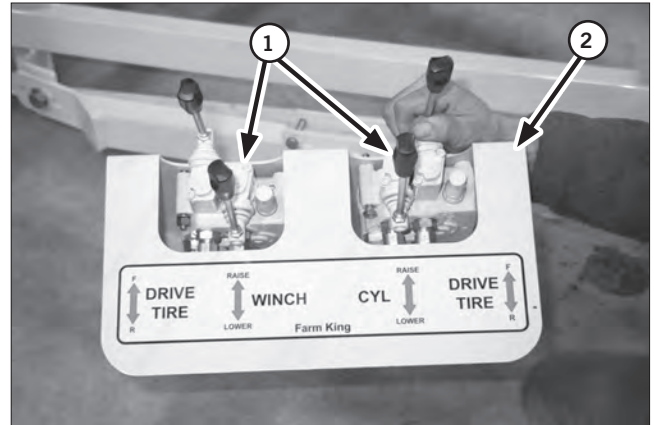
e. Tighten fittings until they are oriented as shown (5).



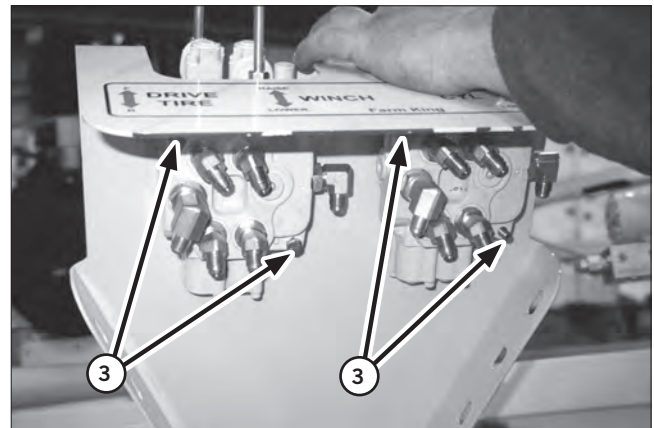
53. Mount valves to control bracket.

- a. Position valves (1) in control bracket (2).

IMPORTANT: Mount valves exactly as shown in picture to allow for correct hose routing and machine function.



- b. Secure with 2 fasteners (3) through each valve.



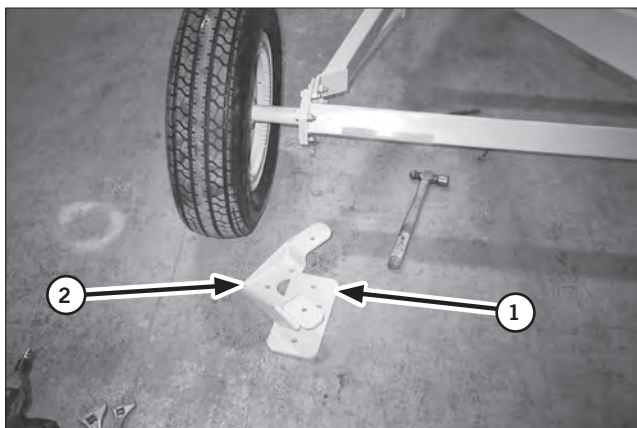
- c. Tighten fasteners to their specified torque.



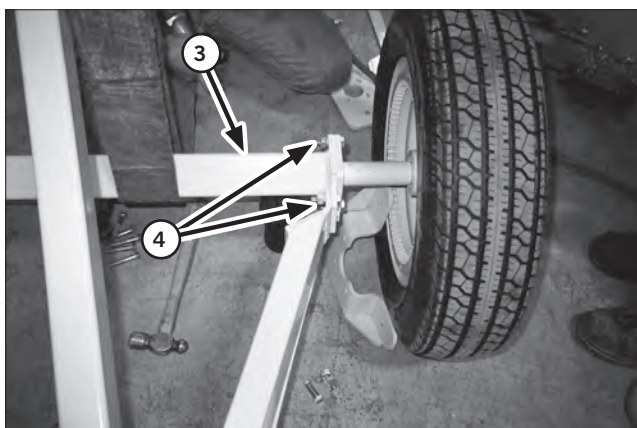
Wheel Drive

54. Assemble left wheel drive motor mounting components.

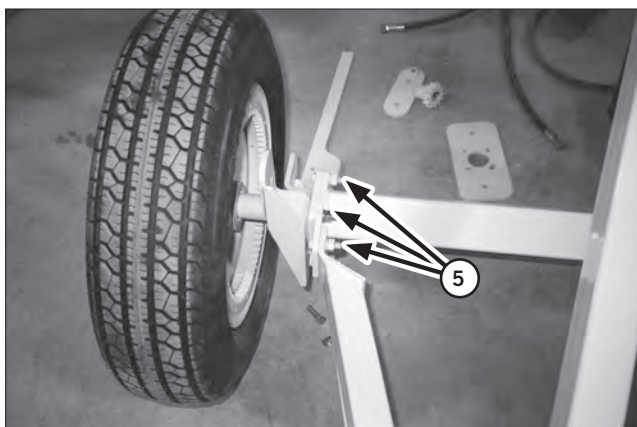
- a. Lay out mounting bracket (1) and motor base (2).



- b. Mount bracket to undercarriage (3).
- i. Use 3 fasteners to secure mounting bracket to undercarriage.



- ii. Remove short fasteners (4), install bracket and secure using longer fasteners (5).
- iii. Tighten fasteners to their specified torque.

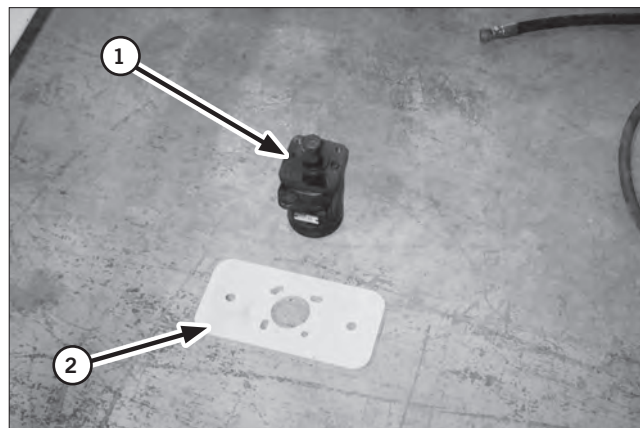


55. Repeat on right wheel.



56. Assemble wheel drive motor components.

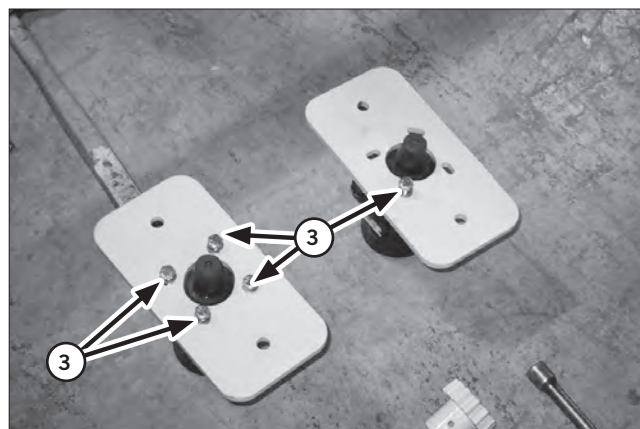
- a. Bring motors (1) and mounting brackets (2) to the assembly area.



- b. Mount bracket to motor and secure with 4 bolts (3).

NOTE: 3 holes are slotted to allow the motor position to be adjusted for mounting geometry.

- c. Snug up fasteners but do not tighten yet.

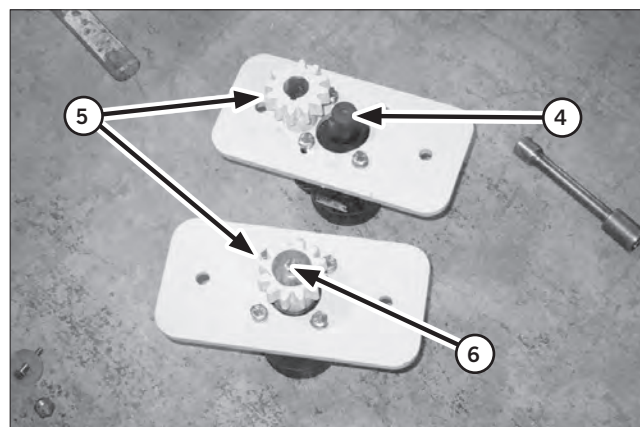


- d. Remove key from motor shafts (4).

- e. Install sprockets (5) and keys.

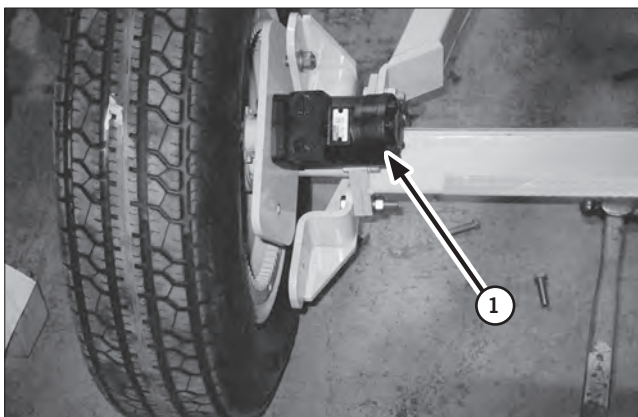
- f. Secure with bolts and washers into end of each shaft.

- g. Install and tighten set screws (6) holding keys in place.



57. Install wheel drive motors to undercarriage.

a. Install left side drive motor (1).



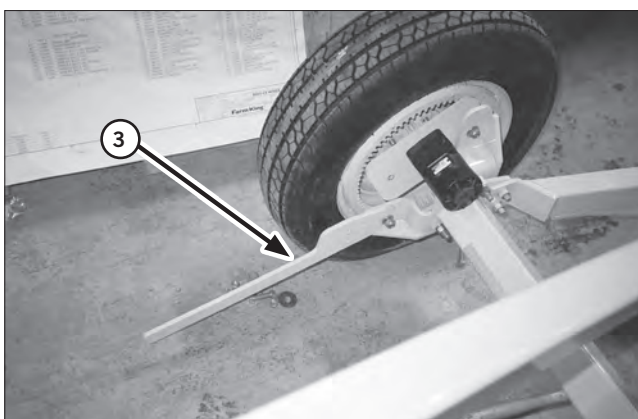
b. Install right side drive motor (2).

c. Snug up fasteners.



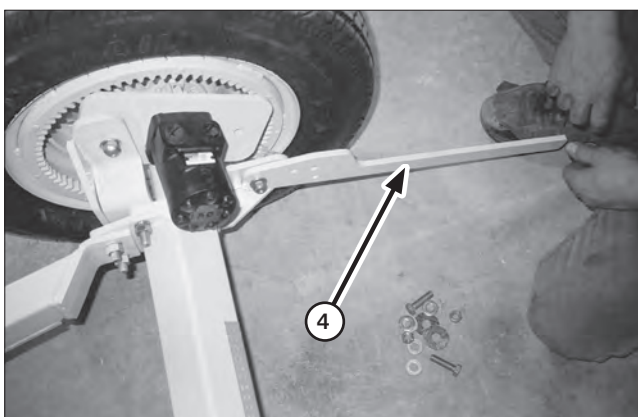
58. Attach motor assembly handle.

a. Install left side handle (3)



b. Install right side handle (4).

c. Snug up fasteners.

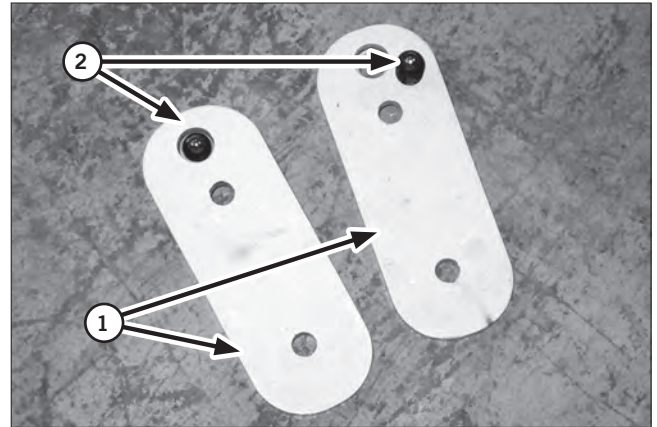


Ball Detent Bracket

59. Install ball detent into bracket.

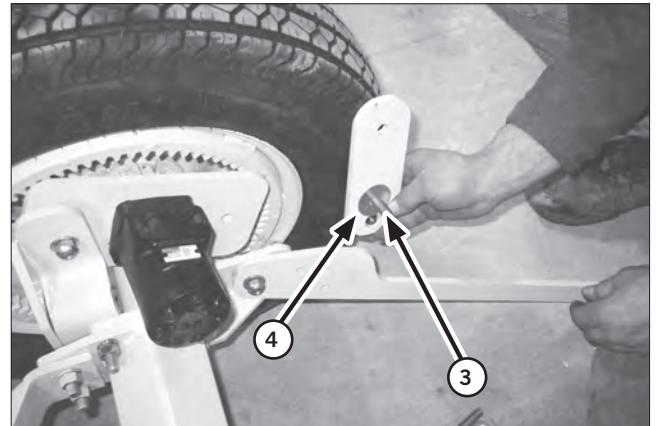
- a. Bring bracket (1) and ball detent (2) to assembly area.
- b. Install ball detent into bracket and tighten.

NOTE: Spring-loaded ball must extend above surface of bracket so it can contact adjacent frame member.

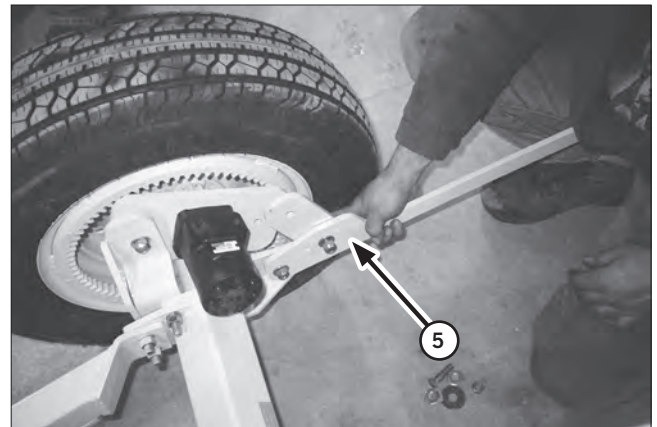


60. Mount ball detent bracket into the right motor linkage system.

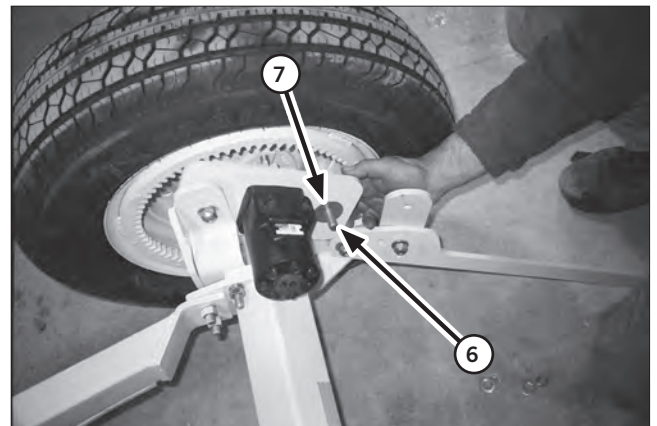
- a. Insert bolt (3) through large washer (4) and detent bracket.



- b. Mount to base of handle (5) and secure with nut and washer.

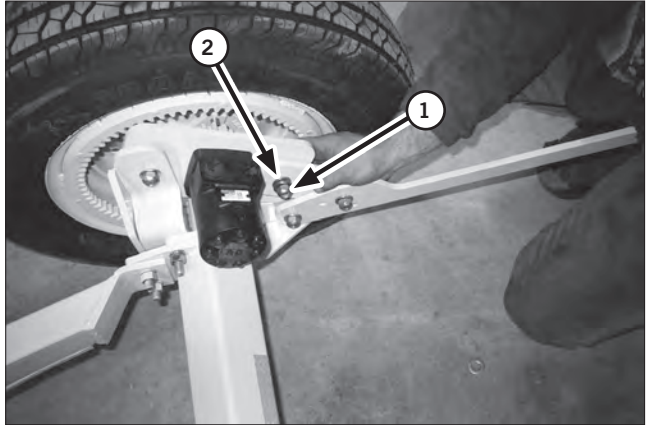


- c. Insert bolt (6) through large washer (7) and motor mount bracket.



6-50
Section 6 - Assembly
Ball Detent Bracket

- d. Secure with nut (1) and washer (2).
- e. Snug up fasteners.



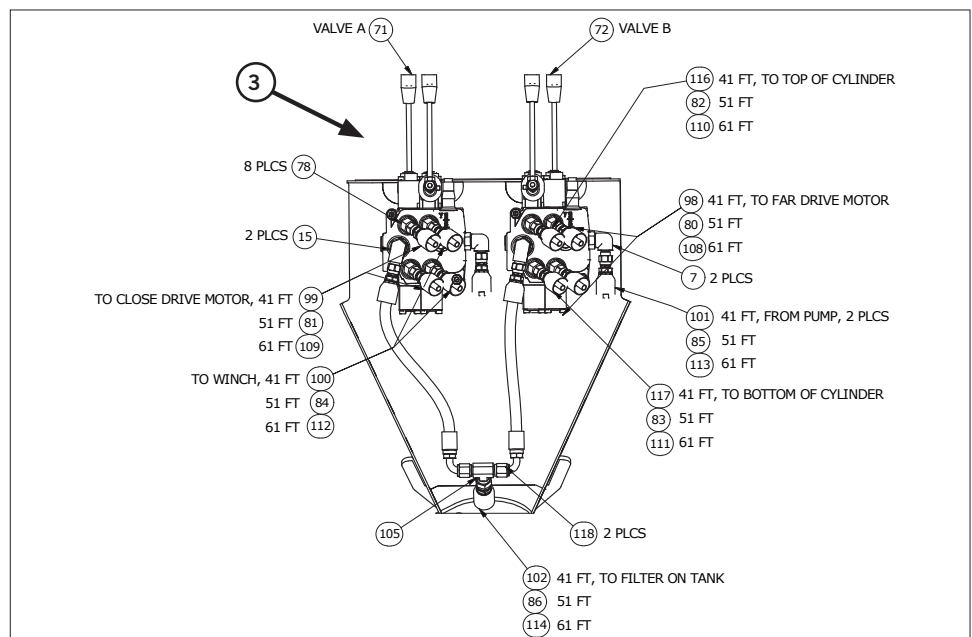
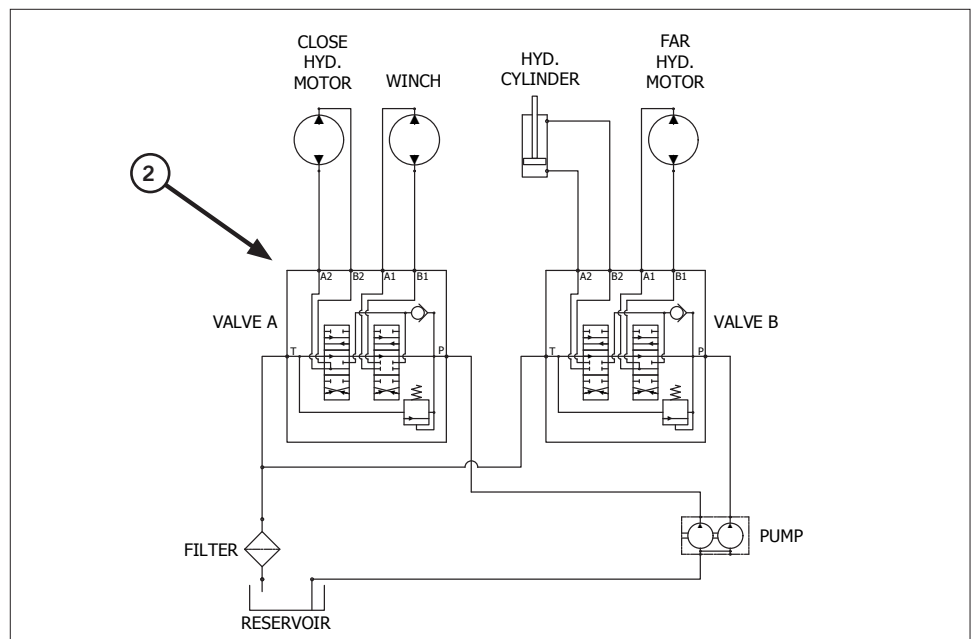
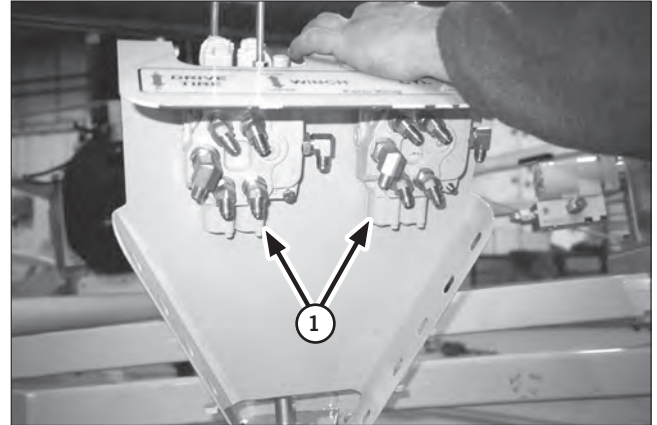
61. Repeat ball detent bracket installation on left side.



Hydraulics

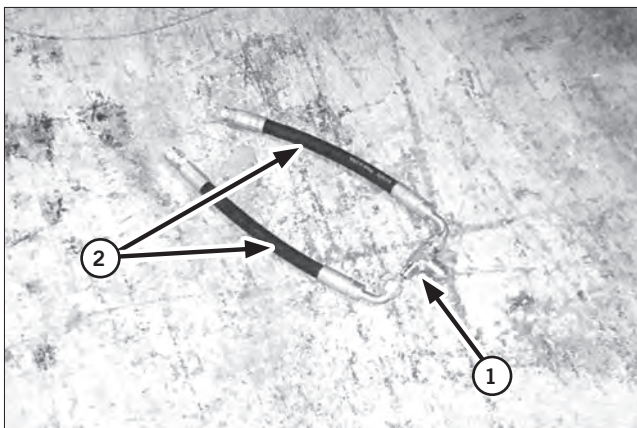
62. Attach hoses to bottom of valve block (1) per the following picture, circuit diagram (2) and schematic (3). Refer to Specifications Section for larger circuit diagram and schematic.

NOTE: Schematic applies to 41, 51 and 61 foot augers. Each assembler must place the appropriate hoses in mounting location prior to installing.

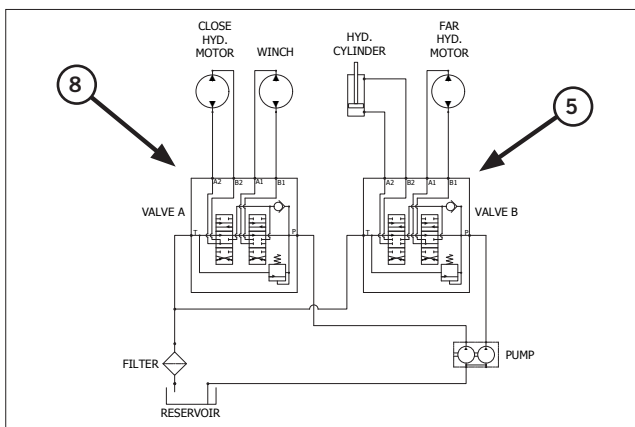
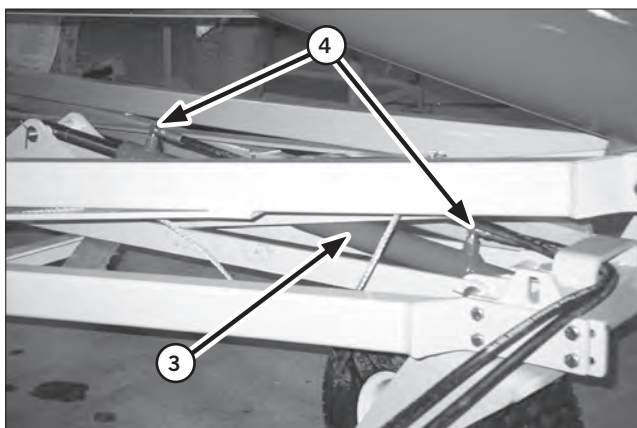


63. Assemble "T" fitting (1) to the 2 short hoses (2). Mount to their fittings in bottom of valve block for return circuit.

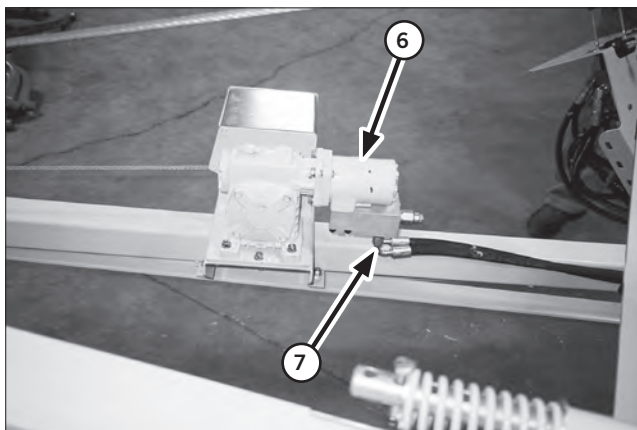
IMPORTANT: Always keep hydraulic components clean during assembly.



64. Lay out hoses to front wheel assembly cylinder (3). Attach hoses to fittings (4) on cylinder and tighten. Route them to the front wheel pivot. Attach hose ends to fittings on valve B (5).



65. Lay out hoses to winch motor (6). Attach hoses to fittings (7) on winch motor and valve A (8).



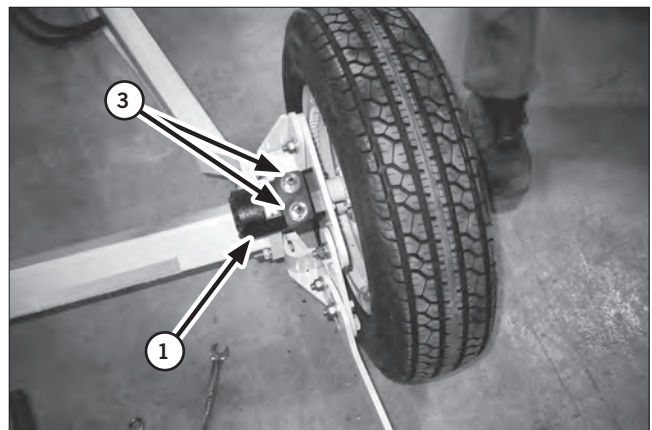
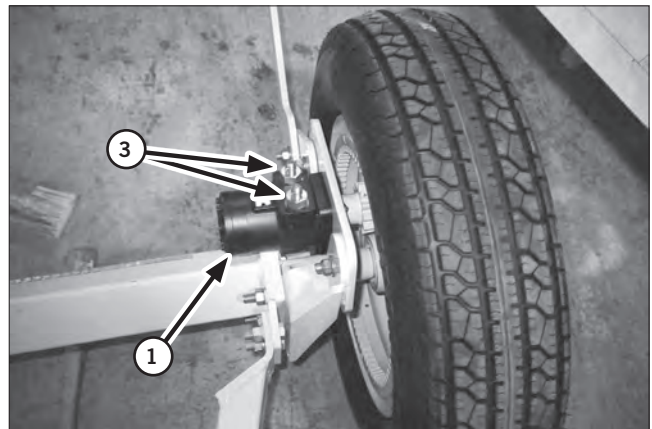
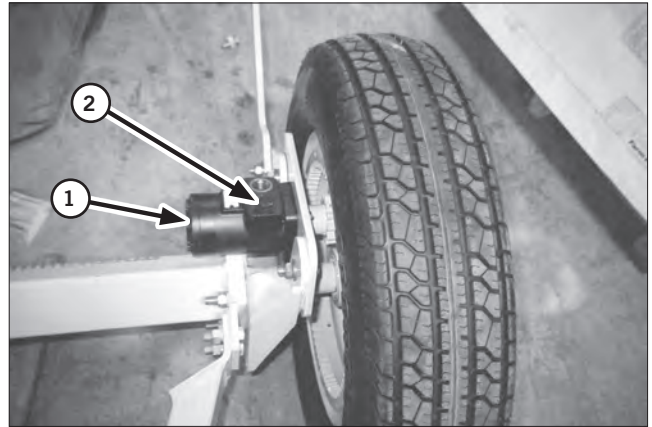
Hydraulics

66. Install hydraulic fittings to wheel drive motors (1).

- a. Remove plastic plugs (2) from motor case.

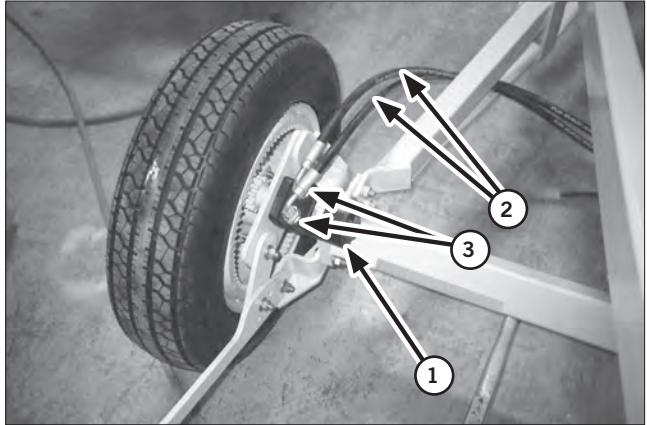
NOTE: Be sure to keep working area clean to prevent contaminating the hydraulic system.

- b. Place a drop of oil on each "O" ring before installing fittings (3).
- c. Install and tighten fittings.



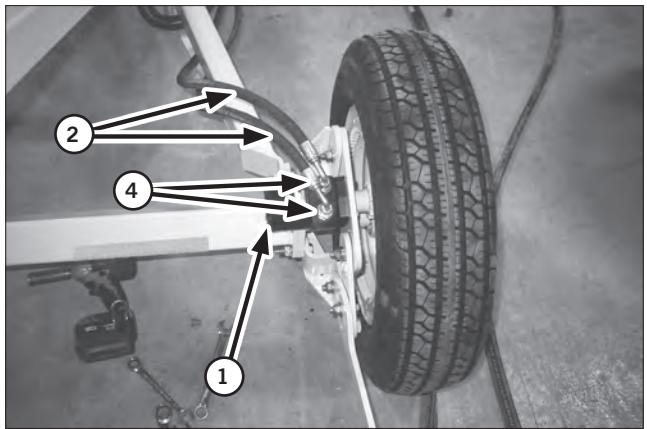
67. Attach hoses to fittings on wheel motors (1).

a. Attach hoses (2) to left side fittings (3).



b. Attach hoses to right side fittings (4).

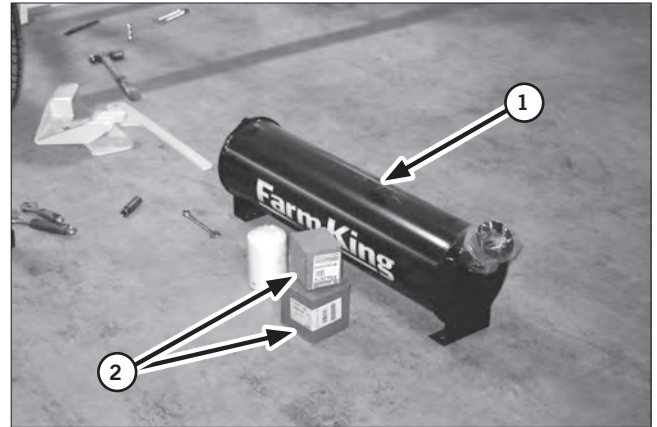
c. Tighten fittings to their specified torque.



Hydraulic Oil Reservoir

68. Mount hydraulic oil reservoir to left undercarriage arm.

- a. Bring reservoir (1) and mounting components (2) to assembly area and lay out.



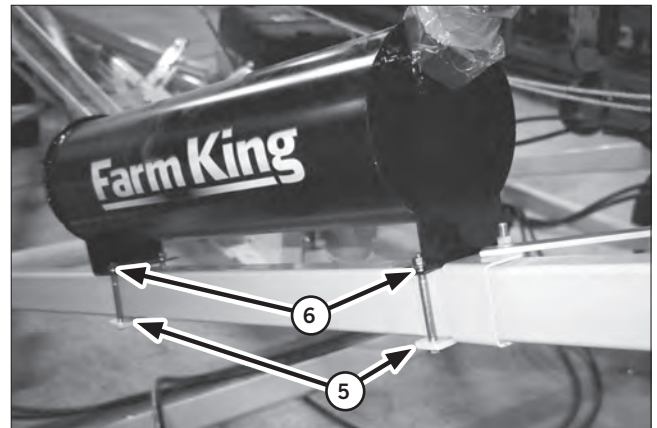
- b. Remove reservoir fill cap (3) oil filter head and oil filter from packaging.



- c. Mount reservoir to left undercarriage arm and secure with brackets (5).

NOTE: Brackets are designed with 3 mounting holes. Install with bolts close to undercarriage arm.

- d. Tighten fasteners (6) to their specified torque.



69. Mount fill cap to reservoir.

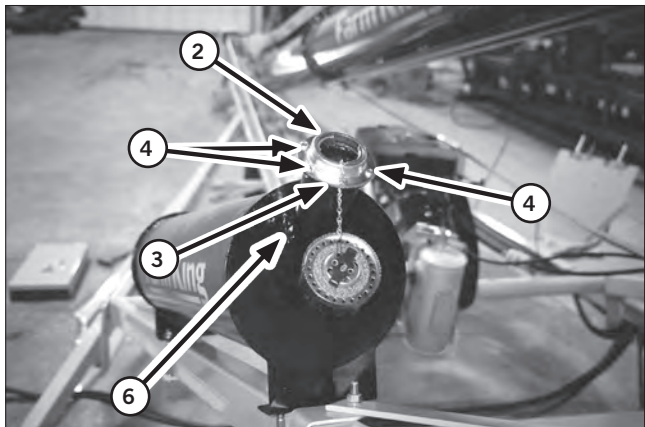
- a. Remove the plastic plug from the fill tube (1).

NOTE: Do not allow dirt or contaminants to enter tank when plugs are removed.

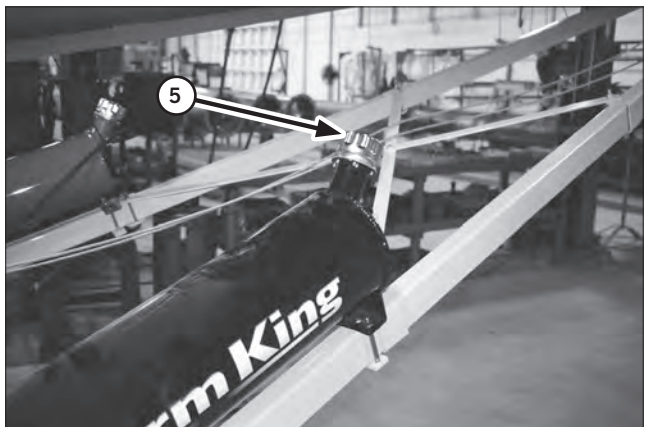
- b. Place cap mount (2) and gasket (3) on fill tube and secure with mounting bolts (4).



- c. Tighten mounting bolts to their specified torque.

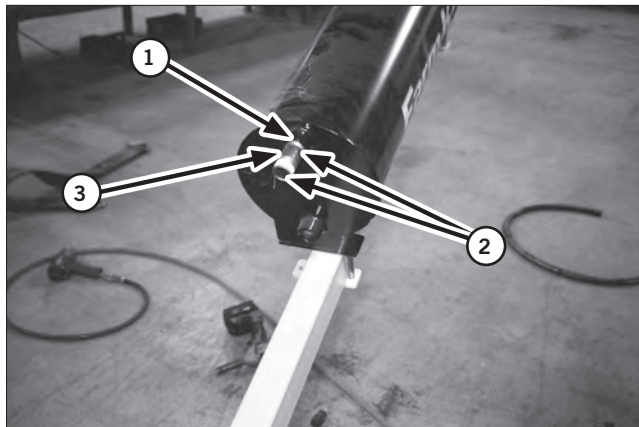


- d. Install cap (5) and tighten.
- e. Remove plastic plug from vent hole and install vent plug (6).



70. Install upper fitting into bottom of reservoir.

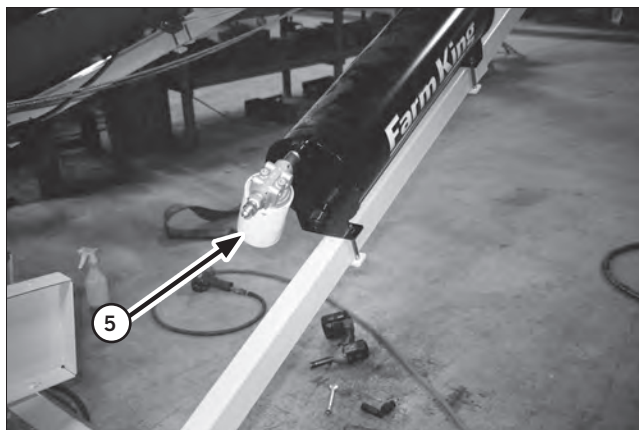
- a. Remove the plastic plug from the opening (1).
- b. Apply teflon tape (2) on both ends of threads of pipe (3).
- c. Install pipe into opening and tighten.



- d. Mount filter head (4) to end of pipe and tighten until filter head is facing down.

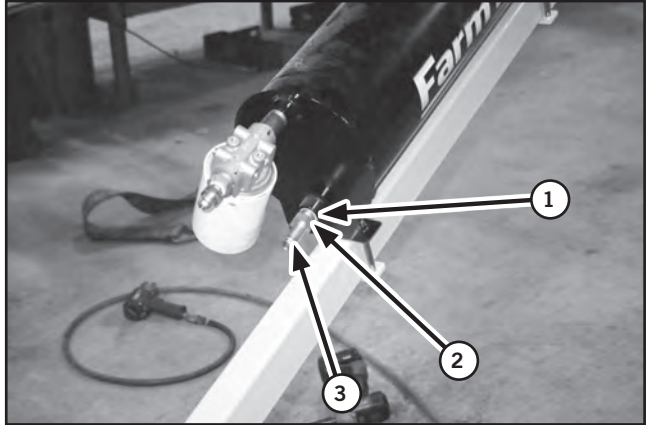


- e. Apply teflon tape to male end of fitting and install fitting into port (4) of filter head
- f. Apply oil to "O" ring on Oil Filter (5) then install by hand until contact is made to filter head, then tighten an additional quarter turn.

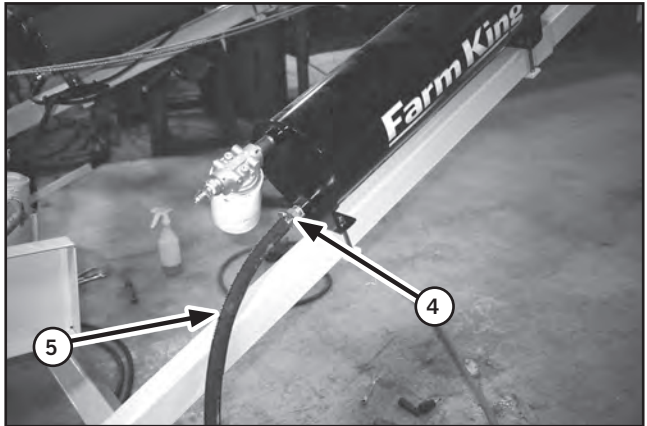


71. Install lower fitting into reservoir.

- a. Remove the plastic plug from the opening (1).
- b. Apply teflon tape (2) to threads on barbed fitting.
- c. Install barbed fitting (3) into opening in tank and tighten.



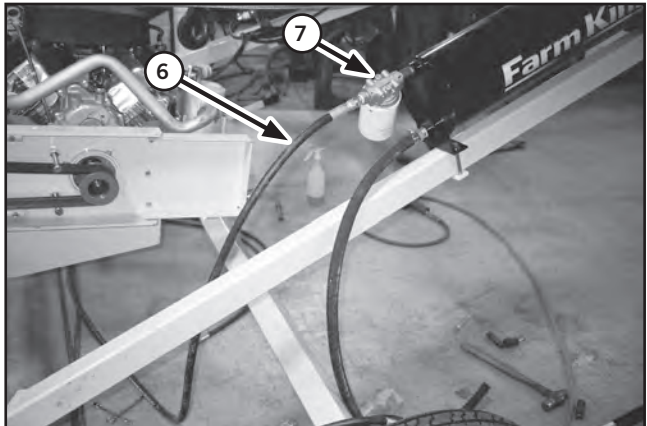
- d. Slide small hose clamp (4) over suction hose (5).
- e. Push suction hose over fitting.
- f. Slide clamp along the hose and over the fitting.



- g. Tighten clamp to secure suction hose.



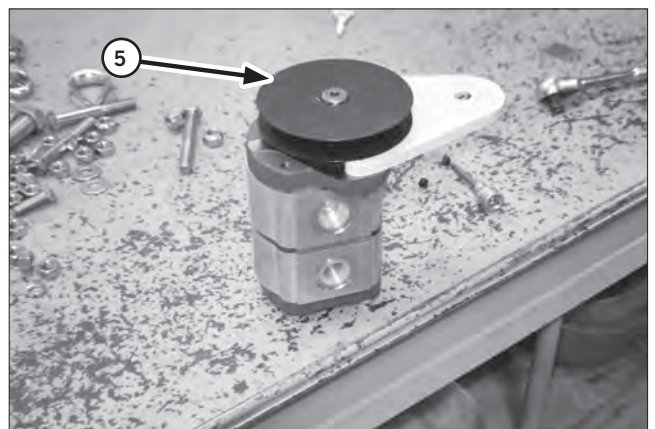
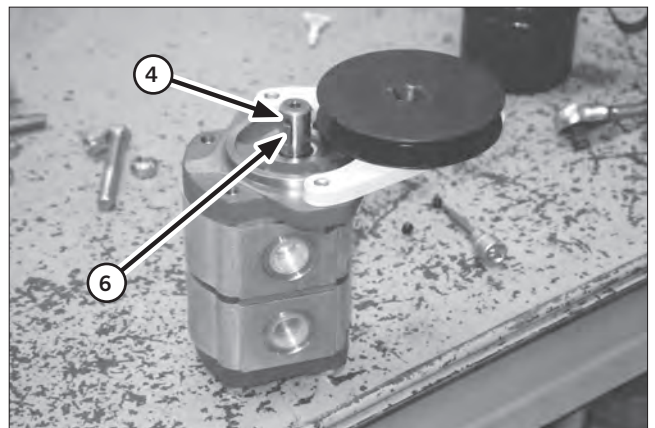
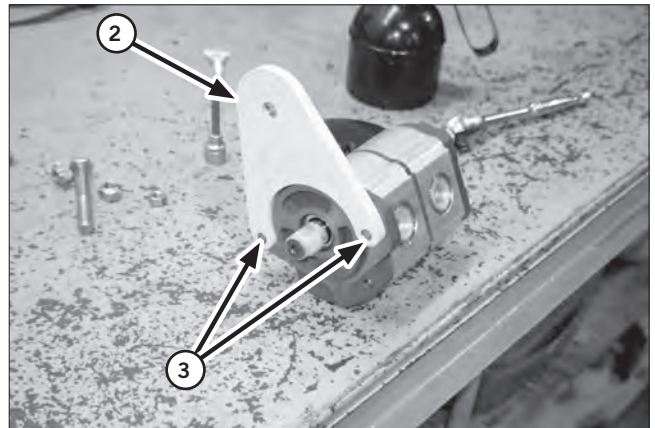
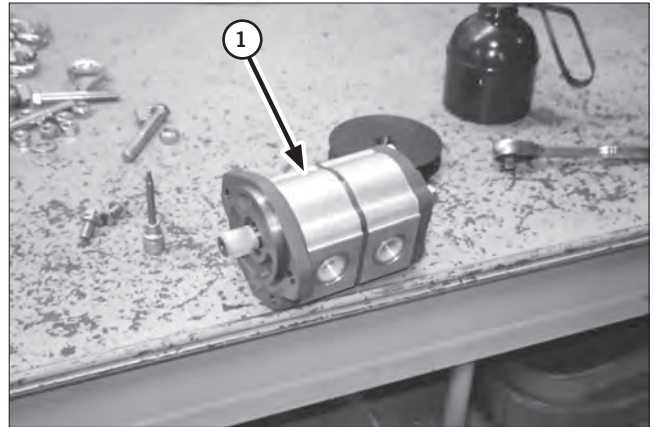
72. Connect return hose (6) to filter head (7) and tighten.



Hydraulic Pump

73. Assemble hydraulic pump frame and pulley.

- a. Bring pump (1) and adjacent parts to assembly work bench.
- b. Attach mounting frame (2) to pump and tighten fasteners (3).
- c. Remove tape from pump shaft (4) and clean shaft.
- d. Slide pulley (5) over shaft and key (6). Key should be flush with pulley face.



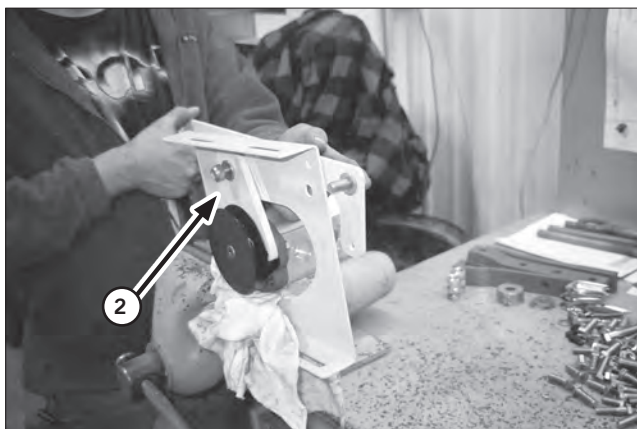
74. Attach pump mount to frame.

- a. Secure pump mounting frame (1) in a vise.

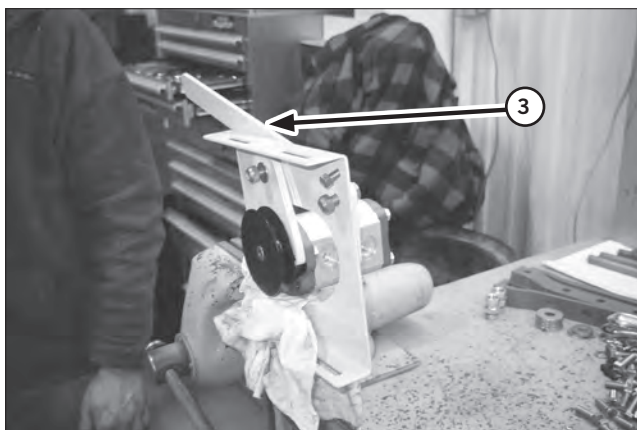
NOTE: Use shop rags on both sides of plate to prevent the vise from damaging the paint.



- b. Attach the pump mount to frame (2).



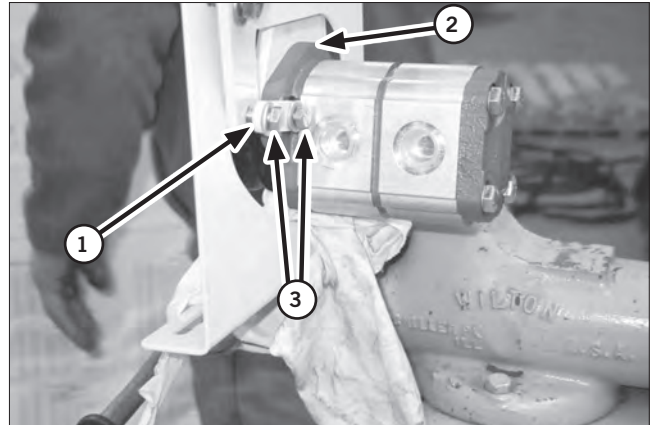
- c. Attach handle (3) to frame.



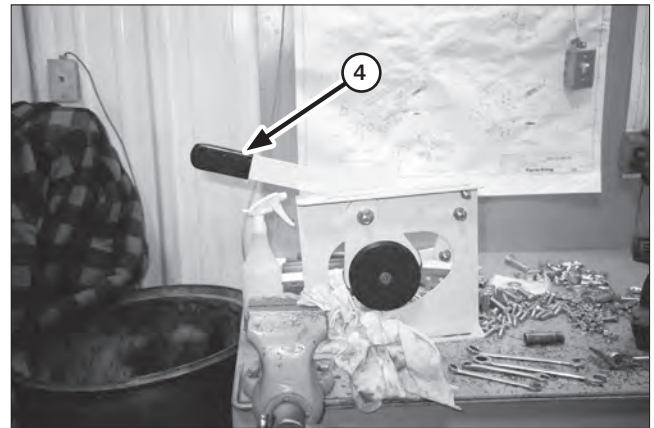
- d. Attach linkage bracket (4) to handle.



- e. Attach linkage (1) to motor casing (2).
- f. Snug up fasteners (3) but do not tighten.



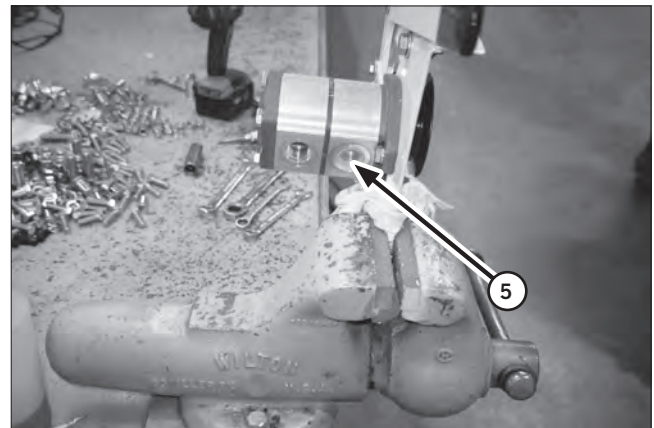
- g. Slide plastic cover (4) over the end of the handle.



75. Install hydraulic fittings to pump.

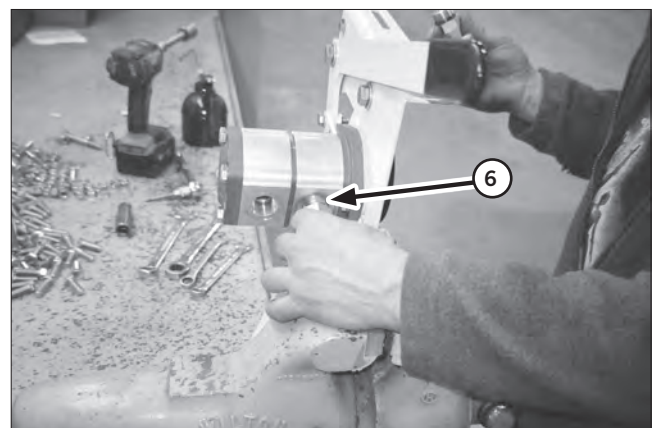
- a. Remove plastic plugs (5).

NOTE: Do not allow dirt or contaminants into openings.

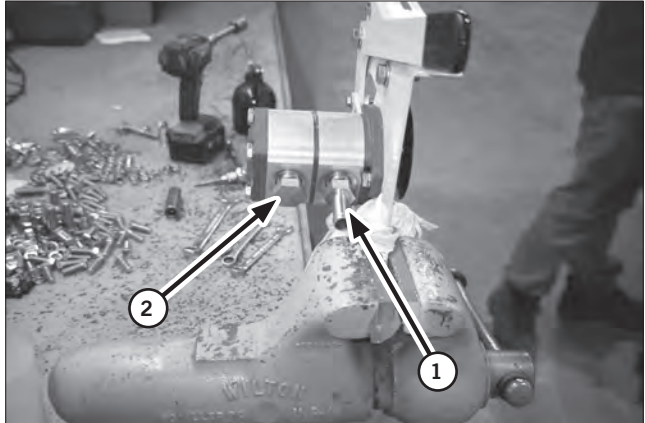


- b. Install fitting (6) into each port.

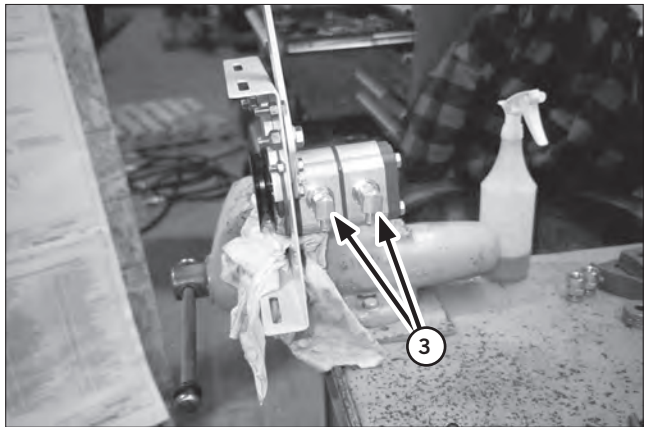
NOTE: Apply a drop of oil to each "O" ring before installing fitting.



- i. Barbed fitting (1).
- ii. Plug (2).



- c. Remove plastic plugs from opposite side of pump.
- d. Install fittings (3).

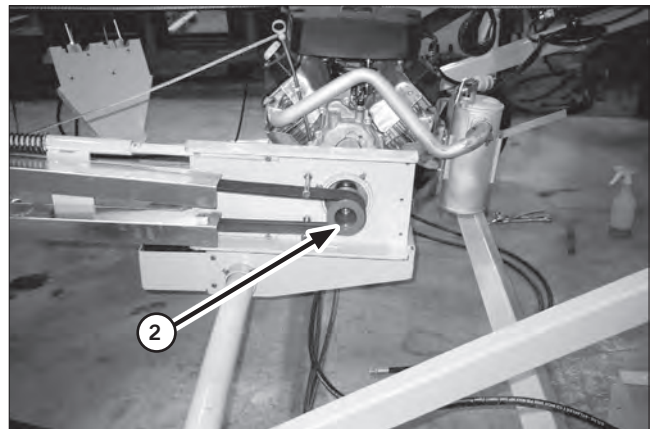
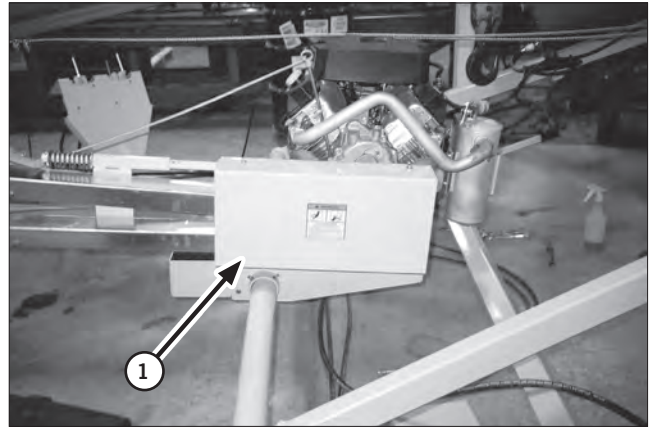


- e. Tighten fittings so they point down.

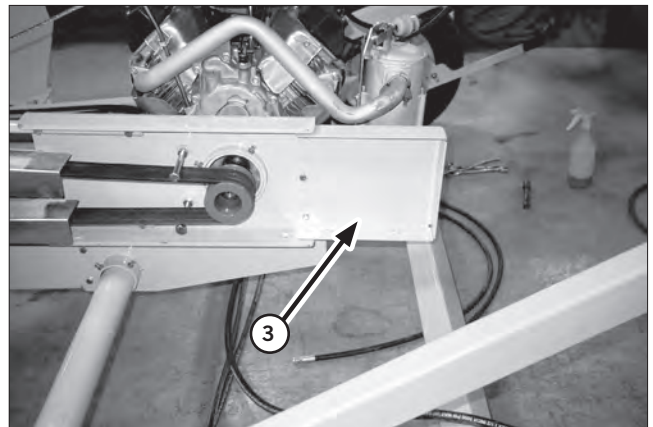


76. Install pump mounting frame at engine.

- a. Remove guard (1) over engine drive pulley (2).

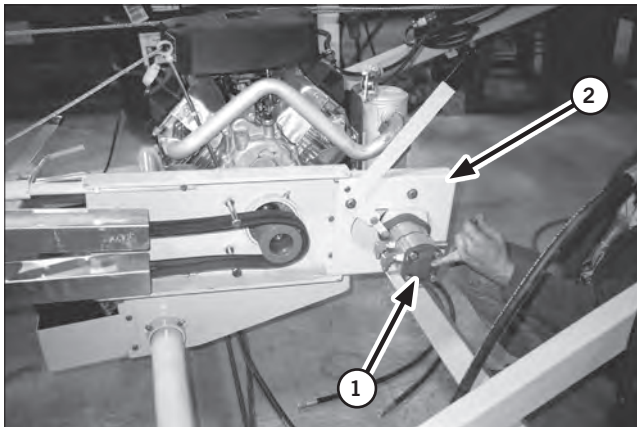


- b. Attach pump mounting frame (3).
- c. Tighten fasteners to their specified torque.

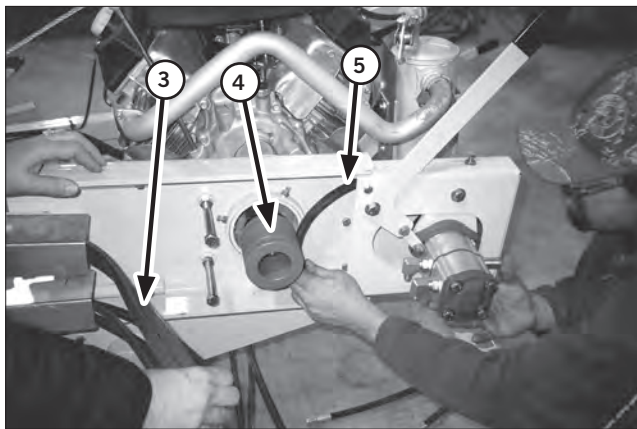


77. Mount pump to drive system.

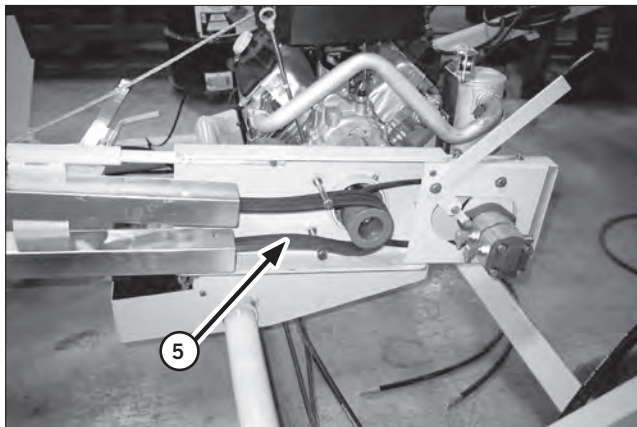
- a. Attach pump assembly (1) to drive frame (2).
- b. Place engine assembly in its loosest belt position.



- c. Remove the 3 drive belts (3) from the pulley (4).
- d. Mount pump drive belt (5).

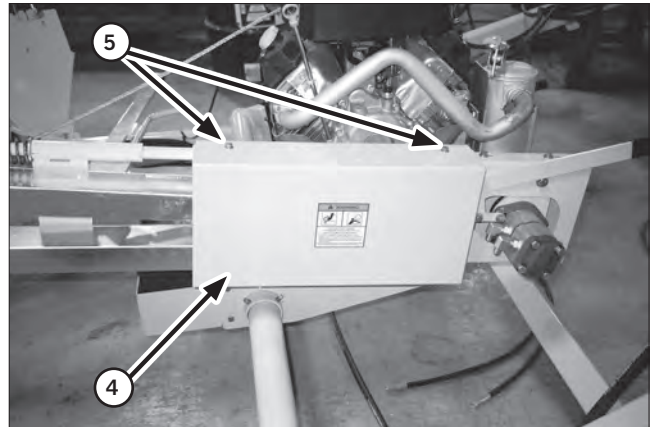
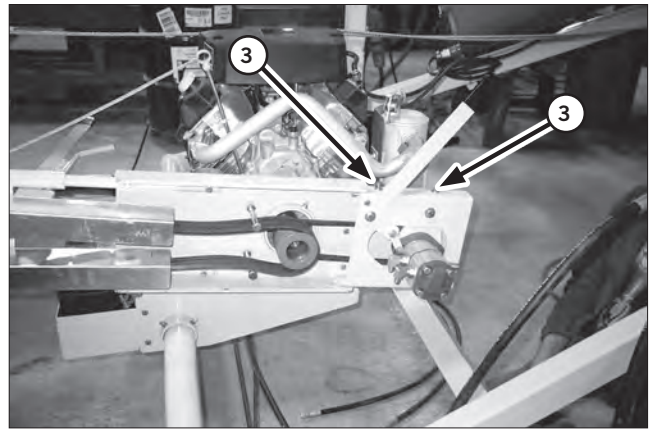
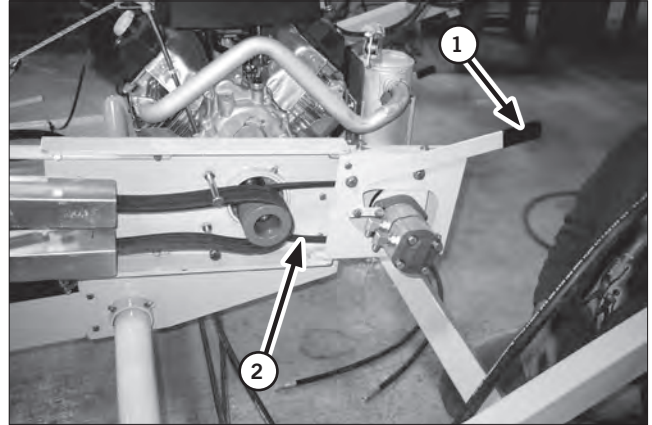


- e. Re-mount the 3 drive belts (5).



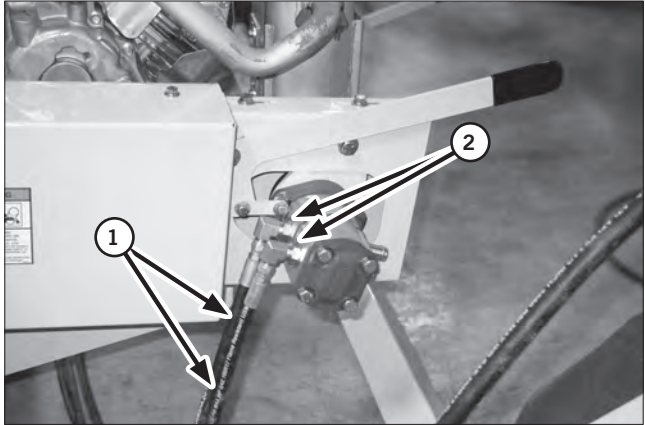
78. Set pump drive belt tension.

- a. Use the pump engage/disengage handle (1) to check belt tension.
- b. Belt (2) should be tight and not slip during operation.
- c. Tighten top and bottom pump mounting frame anchor bolts (3) after the required belt tension is set.
- d. Tighten anchor bolts to their specified torque.
- e. Install and secure drive guard (4).
- f. Tighten fasteners (5) to their specified torque.

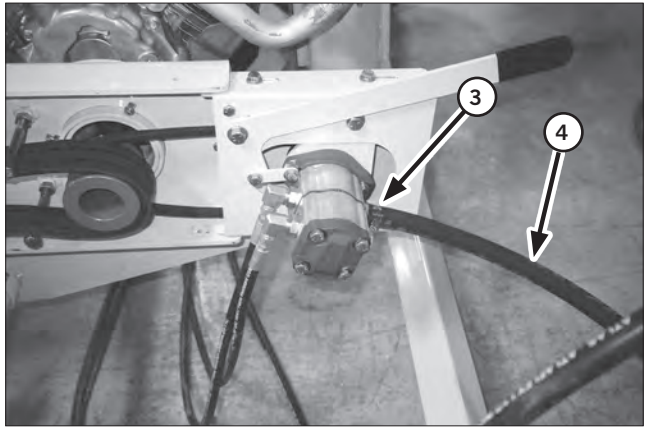


79. Attach hoses to pump.

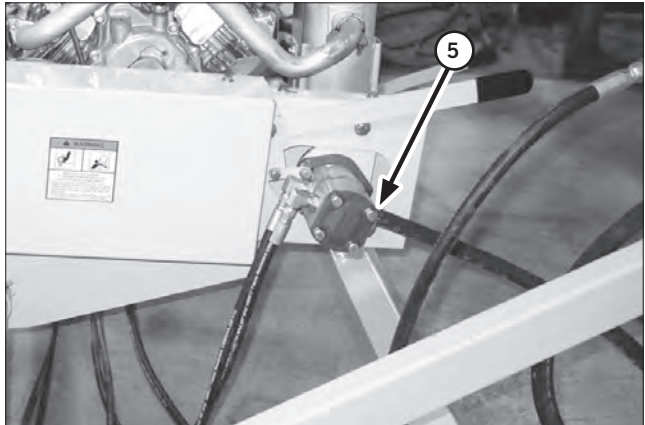
- a. Connect hoses (1) to pump output fittings (2) and tighten.



- b. Slide hose clamp (3) onto suction hose (4).



- c. Slide hose clamp over pump suction fitting (5).
- d. Tighten clamp to secure hose on fitting.



Hydraulic Circuit

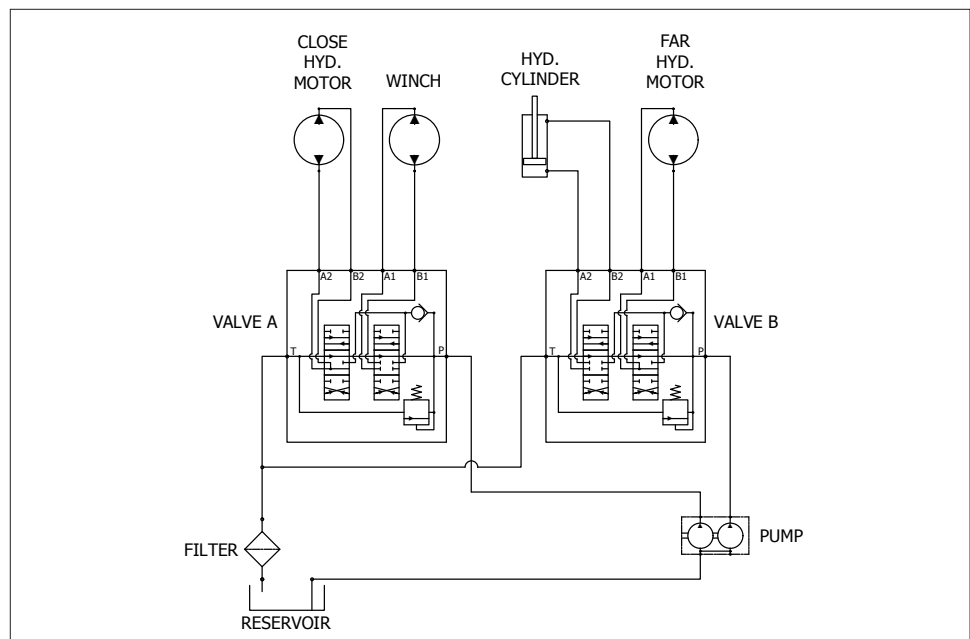
80. Check hydraulic circuit and tighten all fittings at control valves.

a. Control valves.

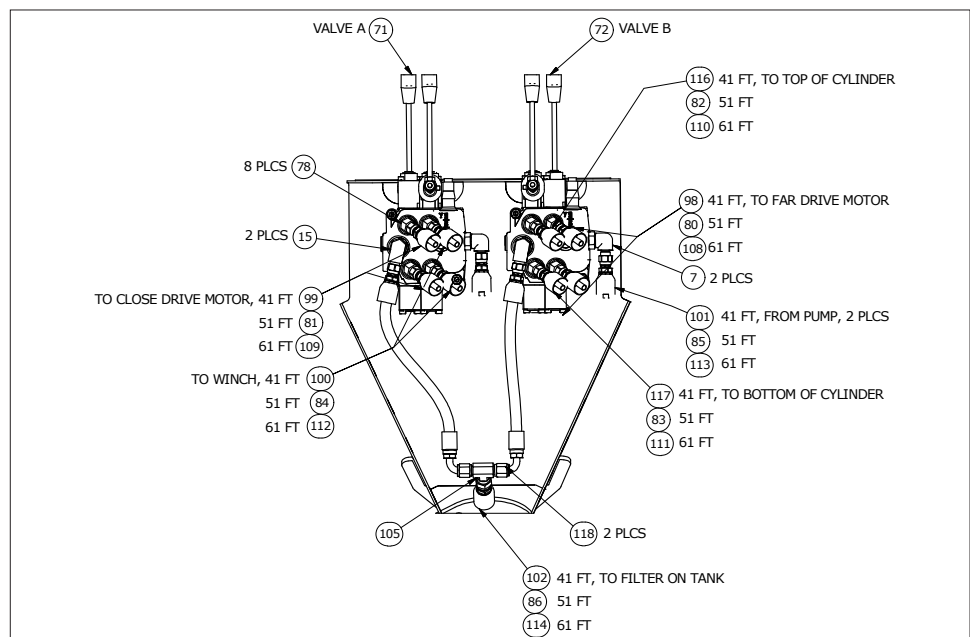
NOTE: Refer to Specification Section for full page display of circuit diagram and schematic of hydraulic circuit.



b. Circuit diagram.

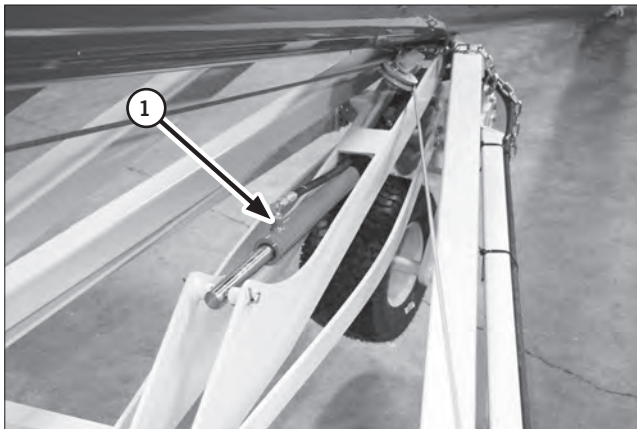


c. Schematic.



81. Check and tighten all hydraulic fittings to minimize the chance of leaks when starting machine.

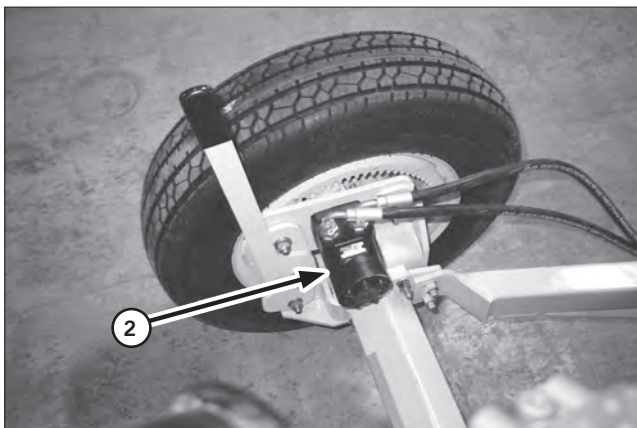
a. Wheel lift cylinder (1).



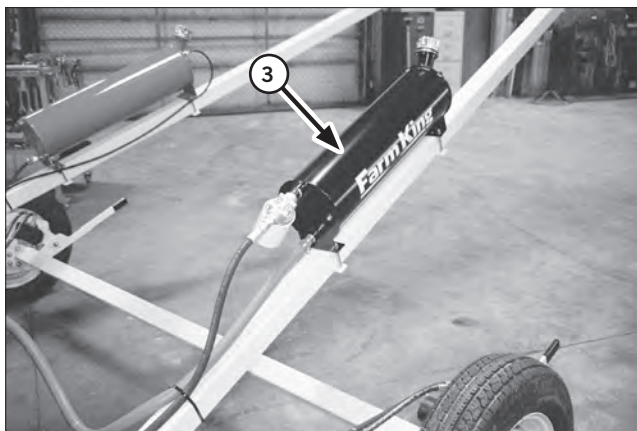
b. Control valves.



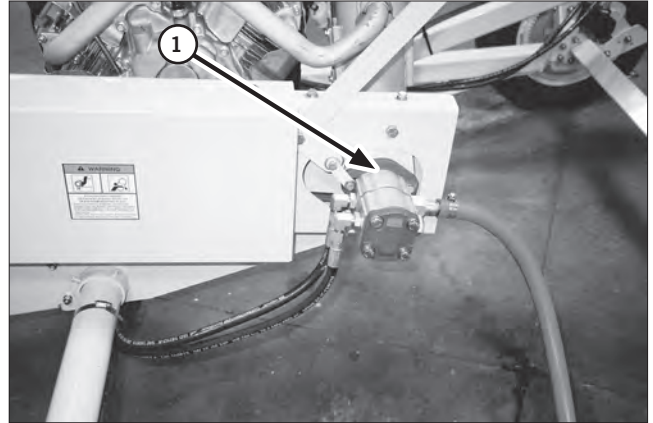
c. Wheel drive motors (2).



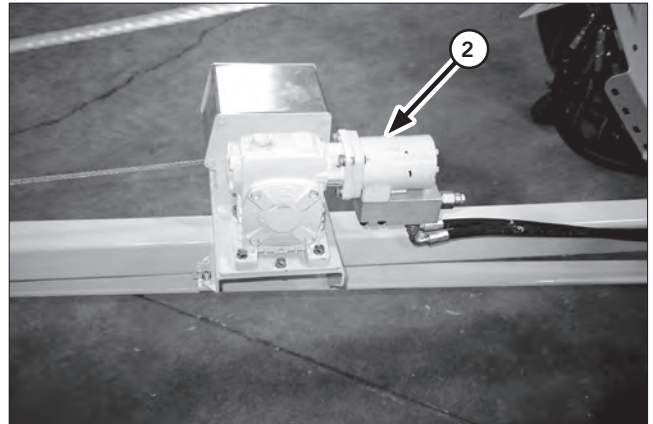
d. Hydraulic reservoir (3).



e. Hydraulic pump (1).

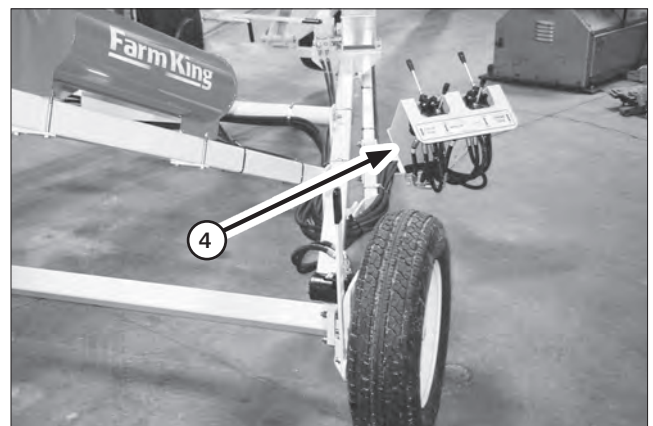
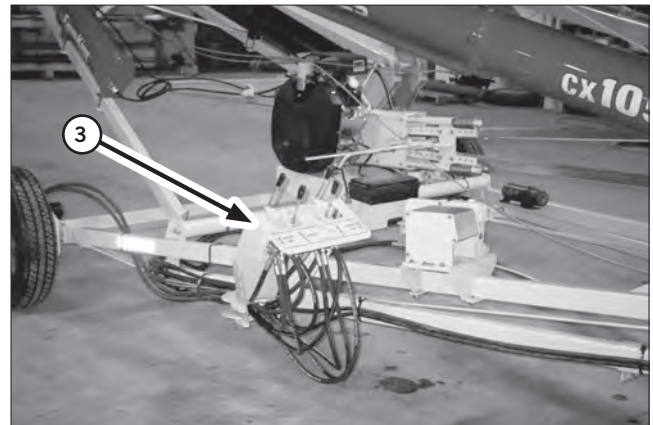


f. Hydraulic winch motor (2).



Control Panel Pivot

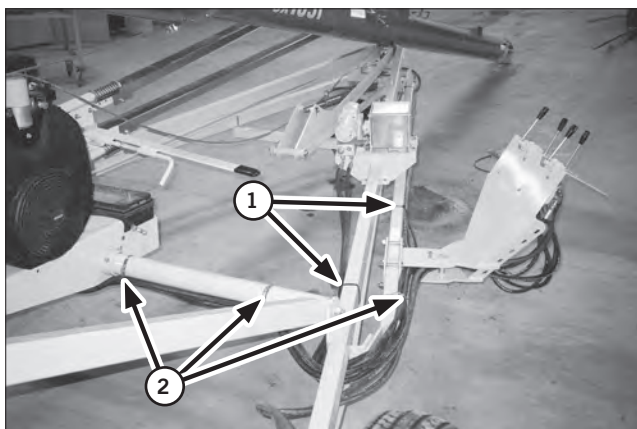
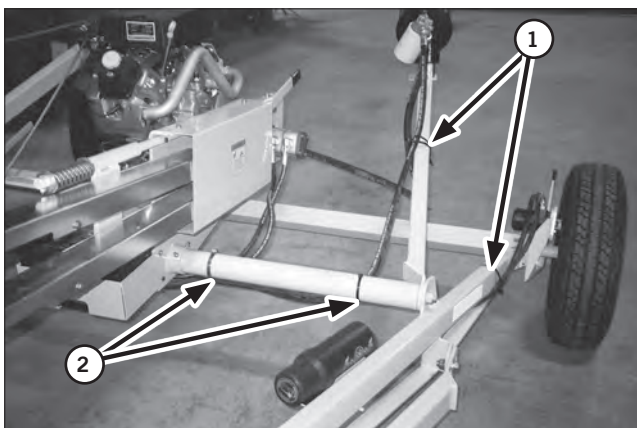
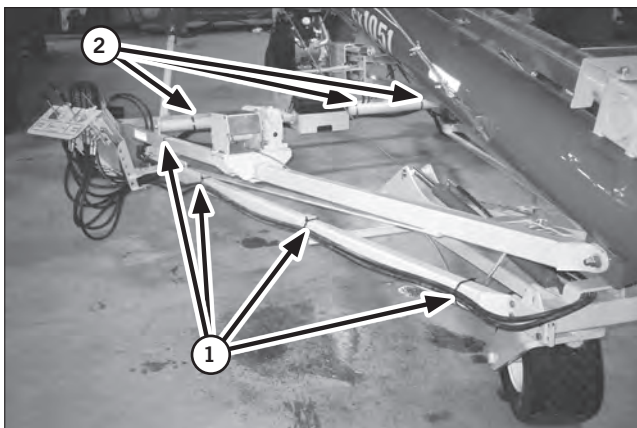
82. Remove anchor pin and pivot the control panel assembly fully forward (3) and rearward (4) to be sure no hoses are being pinched or kinked. Align, adjust and/or move hoses as required to allow the assembly to move. Re-pin and secure control panel assembly.



Hydraulic Hose Routing

83. Route and secure all hydraulic hoses with plastic ties and hose clamps.

- a. Lift cylinder.
 - i. Plastic ties.
 - ii. Hose clamps.
- b. Pump and reservoir.
- c. Under engine.



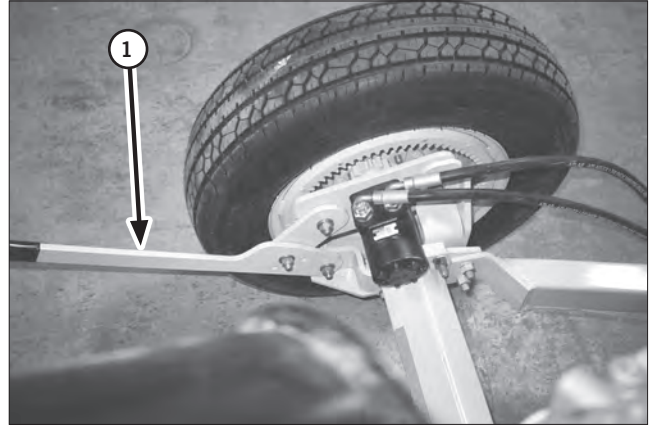
- d. Clip ends of plastic ties and tighten hose clamps.

NOTE: In order to prevent cutting into hose or stripping of clamps, **DO NOT** over-tighten.

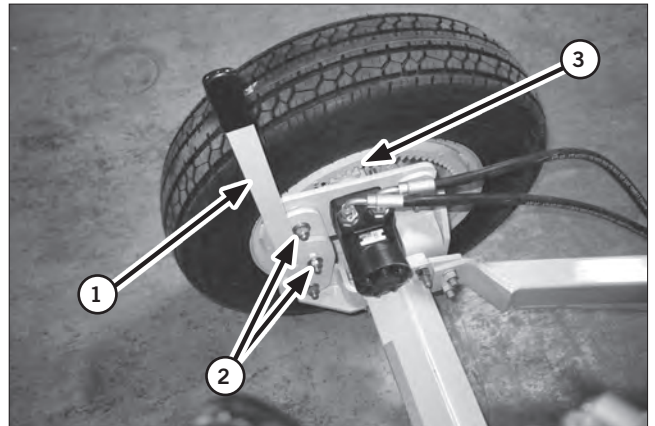
Wheel Drive Gear Meshing

84. Check wheel drive gear meshing.

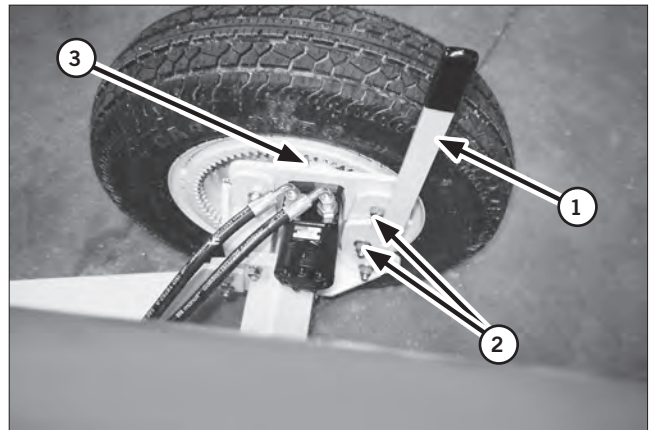
- a. Move wheel drive engage/disengage lever (1) through its engage/disengage positions.



NOTE: Loosen linkage fasteners (2) slightly if required and reposition to allow full gear meshing (3). Tighten fasteners.



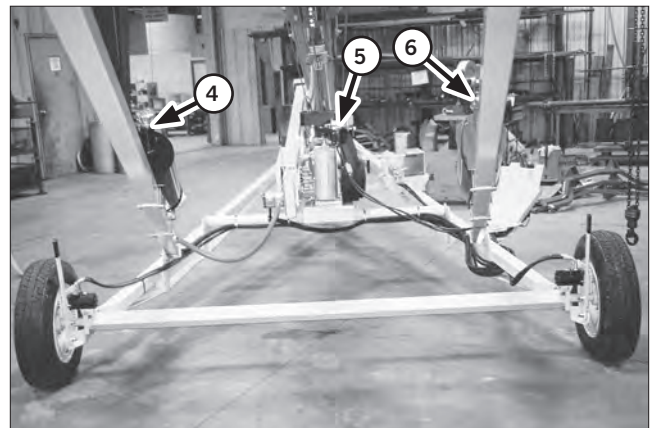
- b. Repeat on opposite side.



Fluid Levels

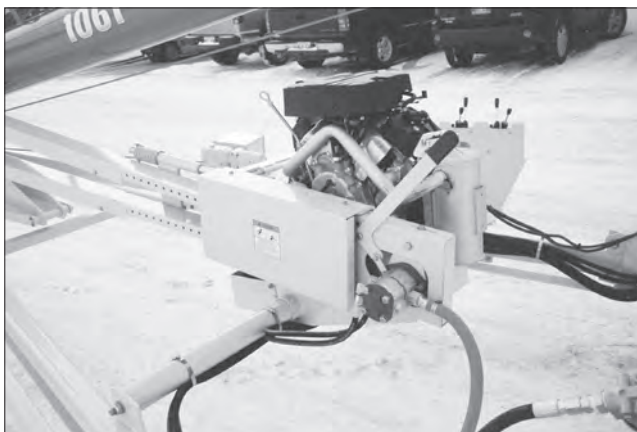
85. Check fluid levels on machine.

- a. Fuel level (4).
- b. Engine crankcase oil level (5).
- c. Hydraulic oil level (6).

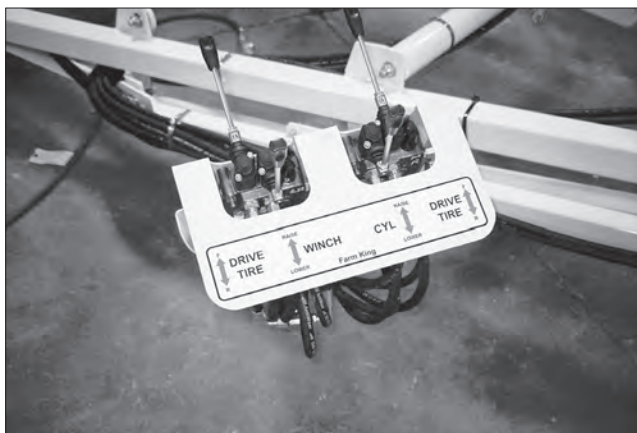


Final Checks

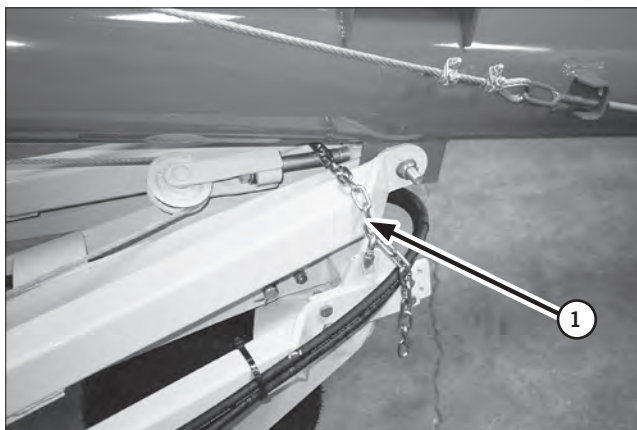
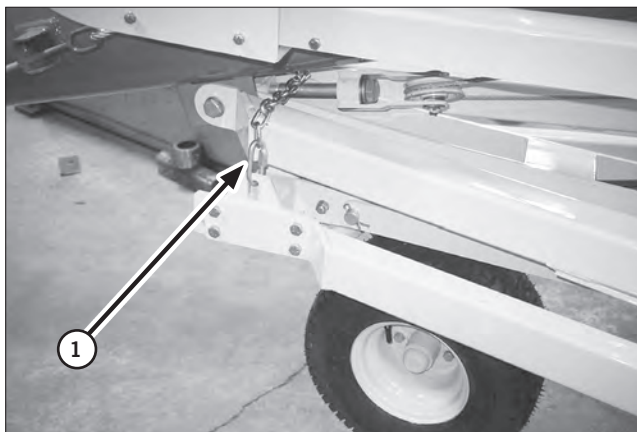
- 86. Prior to initial engine start-up, insure all hardware is torqued and area is free of all obstructions.
- 87. Start engine and run at low idle for a few minutes to allow systems to stabilize.
- 88. Engage hydraulic pump and run for 2 minutes.



- 89. Engage and disengage each control to cycle the system through its operating range and purge/bleed the air out of the system.
- 90. Release controls, stop engine, remove ignition key and wait for all moving parts to stop.



- 91. Install front wheel assembly transport chain (1).



92. Go over entire machine and make sure all fasteners are tightened to their specified torque.
93. Check all fluid levels and top up as required.



General Dimensions

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Hardware Torque Values

Check the tightness of hardware periodically.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware on the tractor.

IMPORTANT: DO NOT use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Make sure fastener threads are clean and not damaged.

IMPORTANT: Ensure the torque wrench that is being used is calibrated to specs.

NOTE: A torque wrench is necessary to properly tighten hardware.

Minimum Hardware Tightening Torques for Metric Bolt Sizes

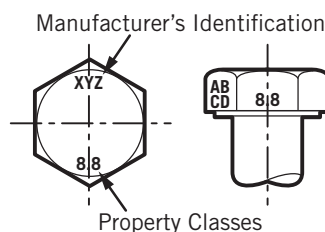
In newton-meters (foot pounds) for normal assembly applications.

Metric Hardware and Locknuts

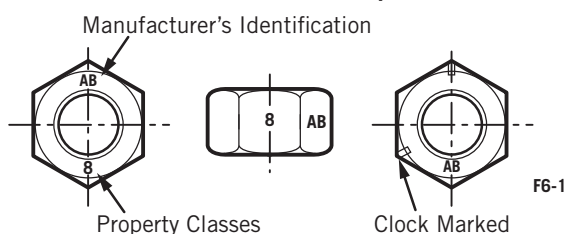
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Locknut CL.8 w/ CL8.8 Bolt
	Unplated	Plated w/zncr	Unplated	Plated w/zncr	Unplated	Plated w/zncr	
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

NOTE: Torque values shown with* are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts - Classes 5, 6 and Up



Hex Nuts and Locknuts Classes 05 and Up



Minimum Hardware Tightening Torques for Imperial Bolt Sizes

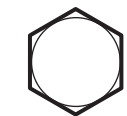
In **newton-meters (foot pounds)** for normal assembly applications.

Inch Hardware and Locknuts

Nominal Size	SAE Grade 2		SAE Grade 5		SAE Grade 8		Locknuts	
	Unplated or Plated Silver	Plated w/zncr Gold	Unplated or Plated Silver	Plated w/zncr Gold	Unplated or Plated Silver	Plated w/zncr Gold	GR.B w/GR5 Bolts	GR.C w/GR5 Bolts
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	13 (112*)	14 (121*)	18 (157*)	6.9 (61*)	9.8 (86*)
5/16	13 (115*)	17 (149*)	20 (178*)	26 (229*)	28 (250*)	37 (324*)	14 (125*)	20 (176*)
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	26 (19)	35 (26)
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	41 (30)	57 (42)
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	61 (45)	88 (64)
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	88 (65)	125 (92)
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	122 (90)	172 (127)
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	217 (160)	306 (226)
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	350 (258)	494 (364)
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	523 (386)	739 (545)

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts



Grade 2 SAE Bolts



Grade 5 SAE Bolts



Grade 8 SAE Bolts



Grade 2 SAE Nuts

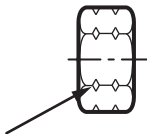


SAE Grade 5 Hex Nuts

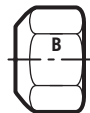


SAE Grade 8 Hex Nuts

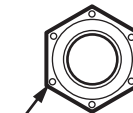
Locknuts



Grade Identification
Grade A: No Notches
Grade B: One Circumferential Notch
Grade C: Two Circumferential Notches



Grade Identification
Grade A: No Mark
Grade B: Letter B
Grade C: Letter C



Grade Identification
Grade A: No Marks
Grade B: Three Marks
Grade C: Six Marks
Marks need not be located at corners

Fittings and Hose/Tube Connection Torque Values for Imperial Sizes

Check the tightness of all fittings and hose/tube connections periodically.

Use the following charts to determine the correct torque when checking, adjusting or replacing fittings, hoses, and tubes.

IMPORTANT: DO NOT use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Minimum Hardware Tightening Torques for Imperial Fittings, Hose and Tube Connections

In newton-meters (foot pounds) for normal assembly applications.

Torque Requirements for all Flare Fittings

Thread Size	Torque (N·m)	Torque (ft-lb)
7/16 - 20	14	10
1/2 - 20	19	14
9/16 - 18	22	16
3/4 - 16	42	31
7/8 - 14	64	47
1 1/16 - 12	94	69
1 3/16 - 12	110	82
1 5/16 - 12	150	110
1 5/8 - 12	195	140

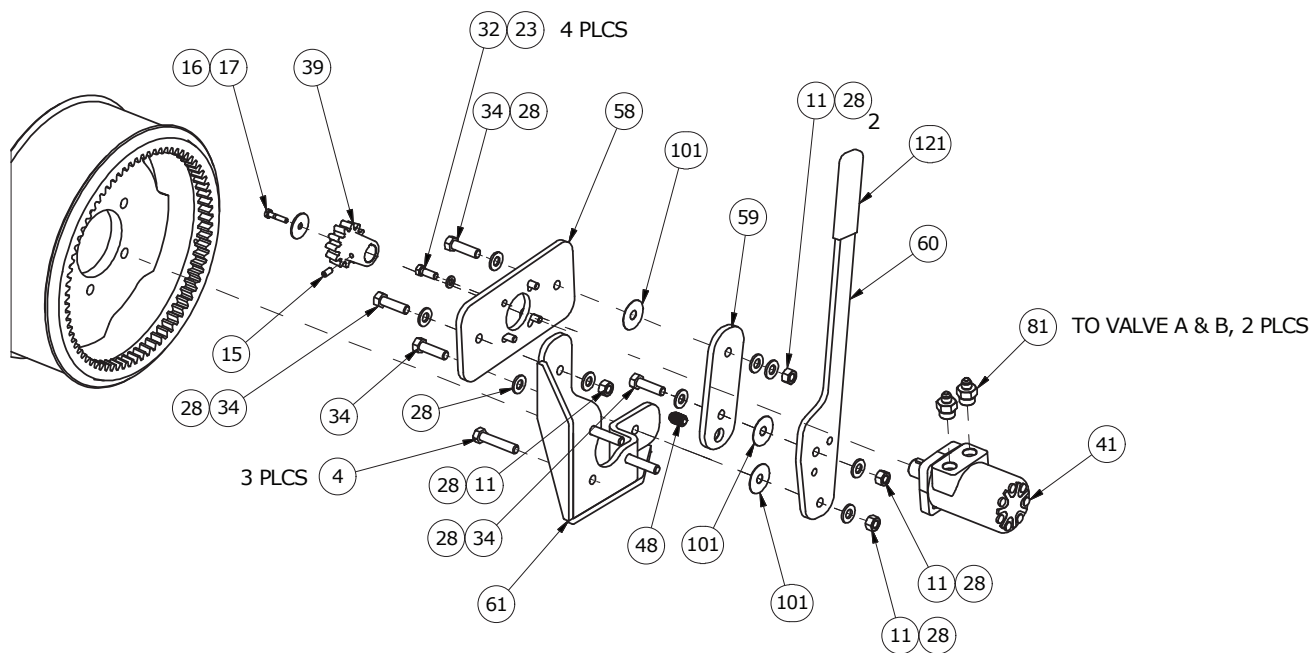
Torque Requirements for all SAE O-ring Fittings

Thread Size	Torque (N·m)	Torque (ft-lb)
7/16 - 20	9	7
1/2 - 20	14	10
9/16 - 18	19	14
3/4 - 16	29	21
7/8 - 14	40	29
1 1/16 - 12	80	59
1 3/16 - 12	90	66
1 5/16 - 12	100	74
1 5/8 - 12	150	110

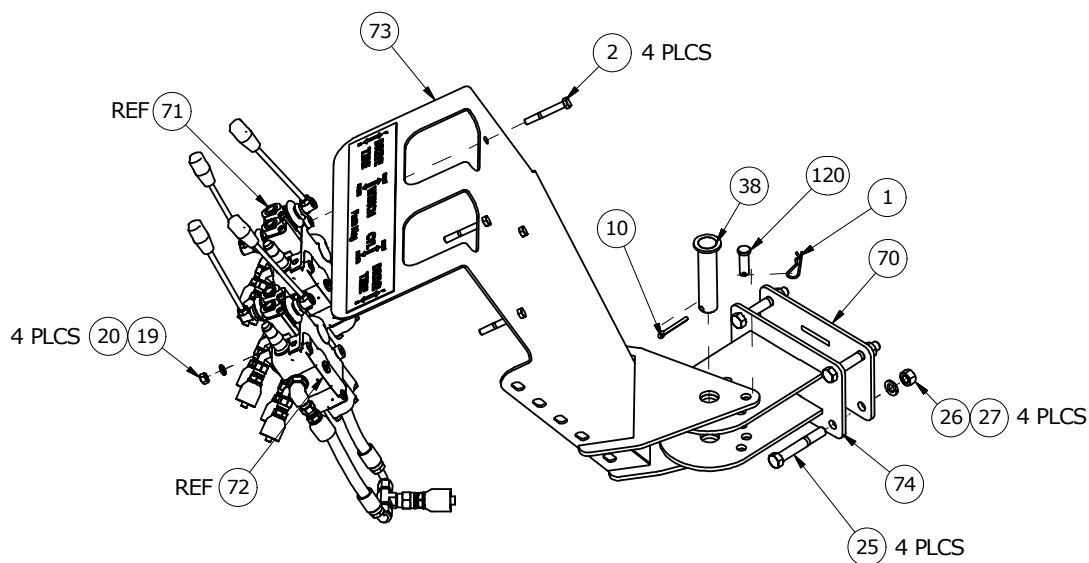
Torque Requirements for all

O-ring Face Seal Fittings

Thread Size	Torque (N·m)	Torque (ft-lb)
9/16 - 18	14	10
11/16 - 16	25	18
13/16 - 16	46	33
1 - 14	65	48
1 3/16 - 12	95	70
1 7/16 - 12	132	97
1 11/16 - 12	175	129
2 - 12	224	165



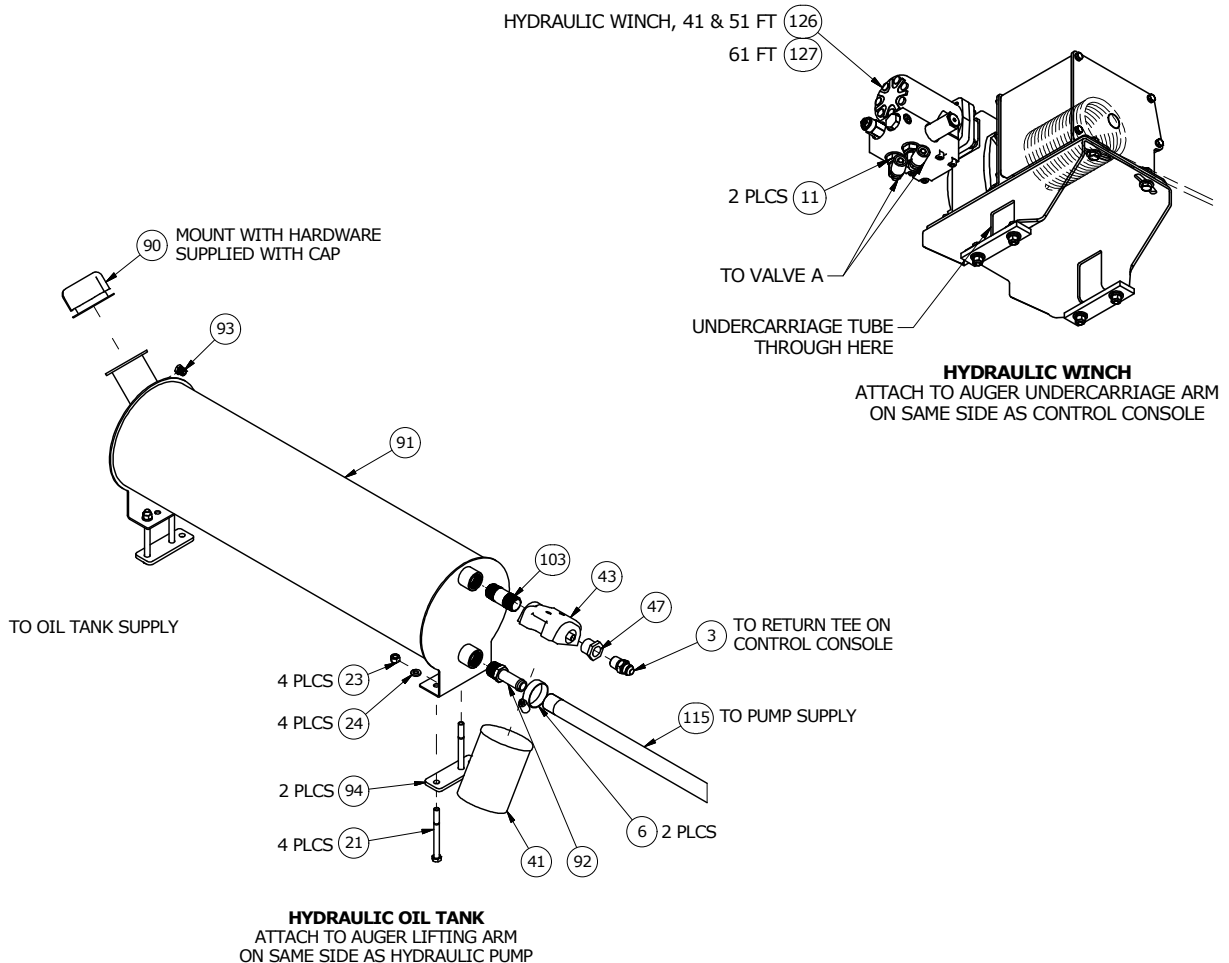
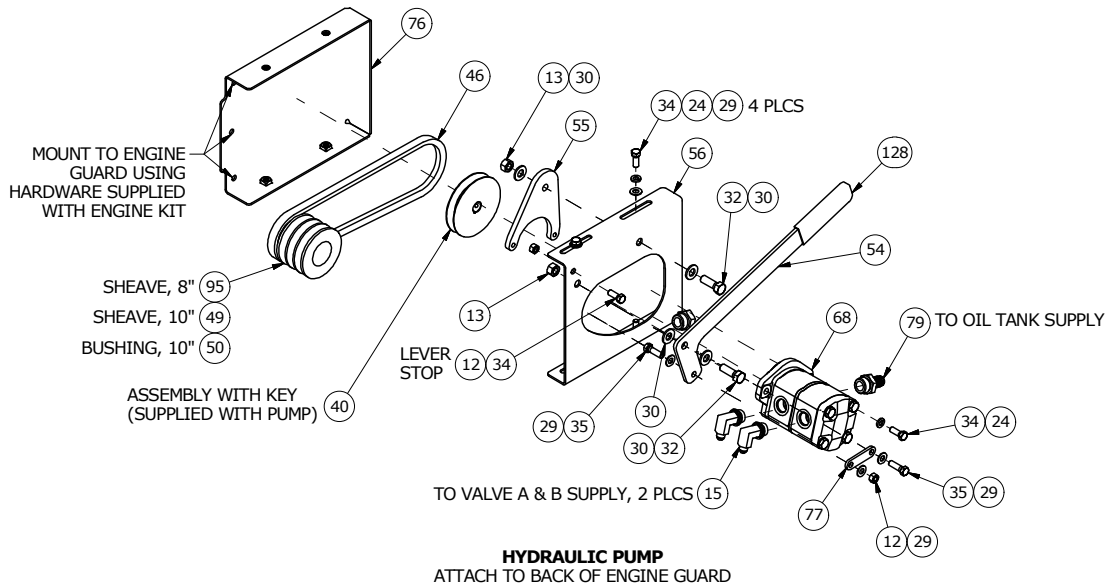
DRIVE WHEEL



CONTROL CONSOLE
ATTACH TO MOVER TUBE

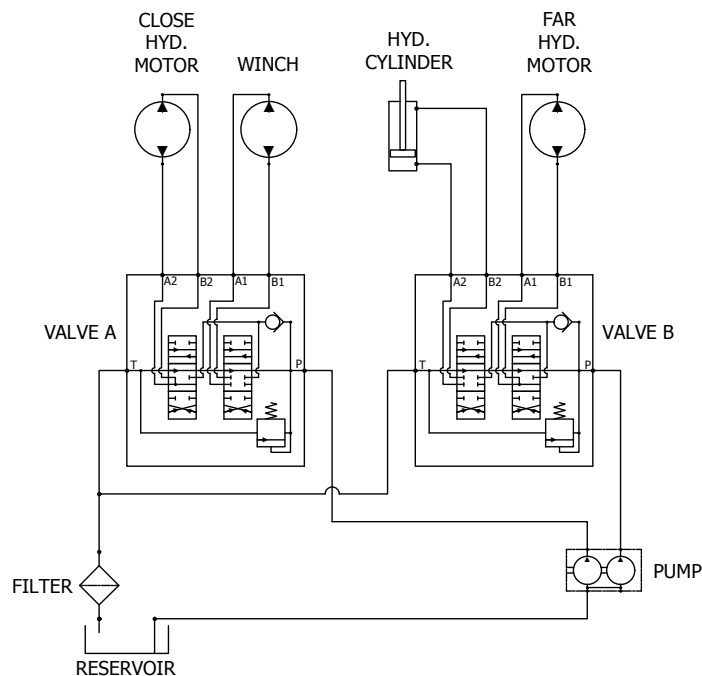
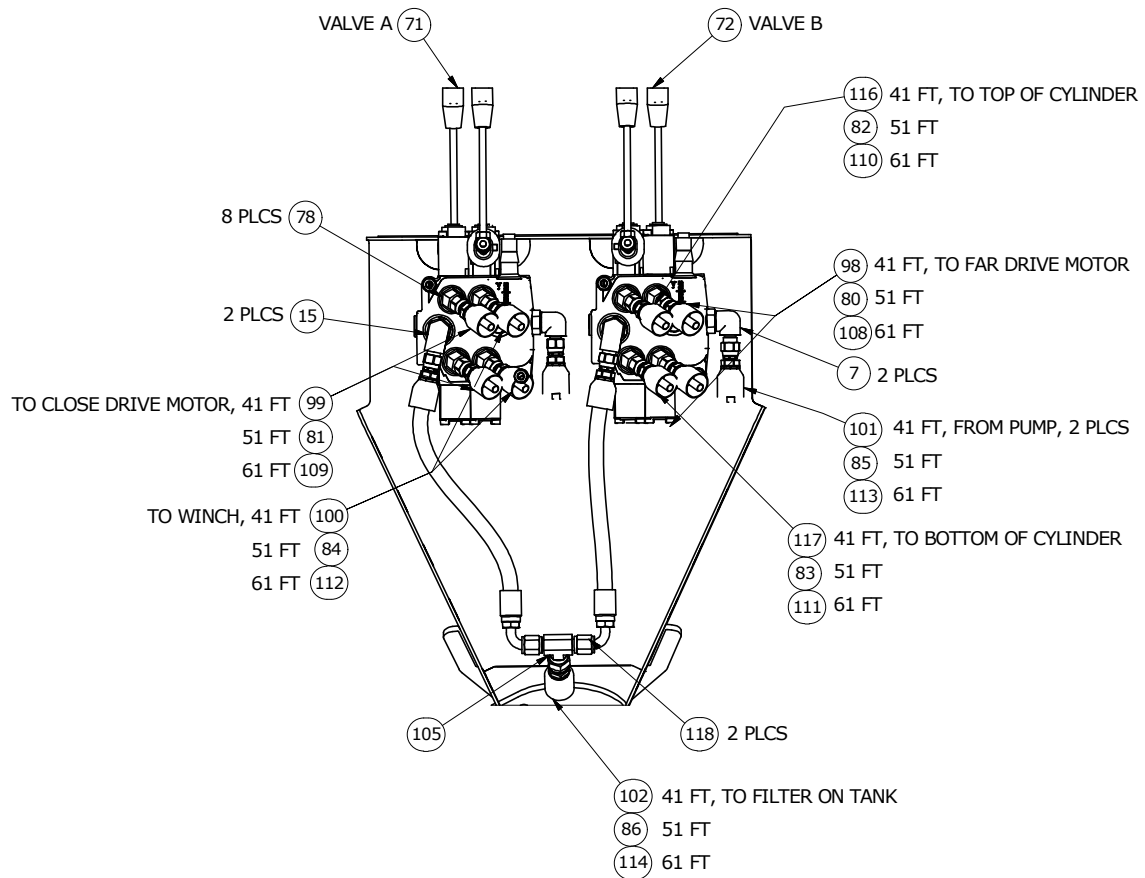
Drive Wheel & Control Console

Item#	Part#	Description	CX841E	CX851E	CX1041E	CX1051E	CX1061E
1	12780	#7 HAIR PIN CLIP	1	1	1	1	1
2	810761	5/16" X 2 1/2" HEX BOLT (PL)	4	4	4	4	4
4	811796	1/2" X 2 1/2" HEX BOLT GR5 (PL)	6	6	6	6	6
8	81210	1/4" X 2" COTTER PIN (PL)	1	1	1	1	1
11	812364	1/2" LOCK NUT (PL)	A/R	A/R	A/R	A/R	A/R
15	813544	SETSCREW, SOCKET SER. 5/16" X 1/2"	2	2	2	2	2
16	813748	WASHER, FENDER, 1 1/2" OD X 5/16" ID (PL)	2	2	2	2	2
17	81528	1/4" x 1-1/4" HEX BOLT (PL)	2	2	2	2	2
18	81568	5/16" HEX NUT (PL)	4	4	4	4	4
19	81569	5/16" LOCK WASHER PL	4	4	4	4	4
23	81593	3/8" LOCK WASHER (PL)	A/R	A/R	A/R	A/R	A/R
24	81629	1/2" X 3 1/2" HEX BOLT (PL)	4	4	4	4	4
25	81636	1/2" HEX NUT (PL)	A/R	A/R	A/R	A/R	A/R
26	81637	1/2" LOCK WASHER (PL)	A/R	A/R	A/R	A/R	A/R
28	84048	1/2" SAR FLAT WASHER (PL)	A/R	A/R	A/R	A/R	A/R
32	86170	3/8" X 1" HEX BOLT GR.5 (PL)	A/R	A/R	A/R	A/R	A/R
34	87553	1/2" X 1.75" HEX BOLT UNC GR5 (PL)	8	8	8	8	8
35	900705	PIN WELDMENT 1"	1	1	1	1	1
39	910204	GEAR-PINION, MOVER	2	2	2	2	2
41	910245	HYD MOTOR EATON 101-1011-009	2	2	2	2	2
41	SZ60540	SEAL KIT FOR HYD. MOTOR 910245	1	1	1	1	1
48	913158	PLUNGER-5/8 BALL NOSE SPRING	2	2	2	2	2
58	913319L	PLATE-HYD MOTOR	2	2	2	2	2
59	913321	WELDT-HYD MOTOR LINK	2	2	2	2	2
60	913322L	PLATE-MOVER ENGAGE	2	2	2	2	2
61	913325	WELDT-HYD MOTOR MOUNT	2	2	2	2	2
64	913469L	PLATE-CONSOLE MOUNT CA MOVER	1	1	1	1	1
65	913482	VALVE-2 SPOOL, WINCH AND MOTOR	1	1	1	1	1
66	913495	VALVE-2 SPOOL, MOTOR AND CYLINDER	1	1	1	1	1
67	913496	WELDT-CONSOLE CA MOVER	1	1	1	1	1
68	913497	WELDT-CONSOLE PIVOT CA MOVER	1	1	1	1	1
81	913557	ADAPTER-10 MORB X -6 MJIC	4	4	4	4	4
101	913747L	SPACER-0.53 ID X 1.75 OD X 20 GA	6	6	6	6	6
116	961876	1/2" X 1 1/2" CLEV PIN (PL)	1	1	1	1	1
121	JDCW25634	RUBBER GRIP	2	2	2	2	2



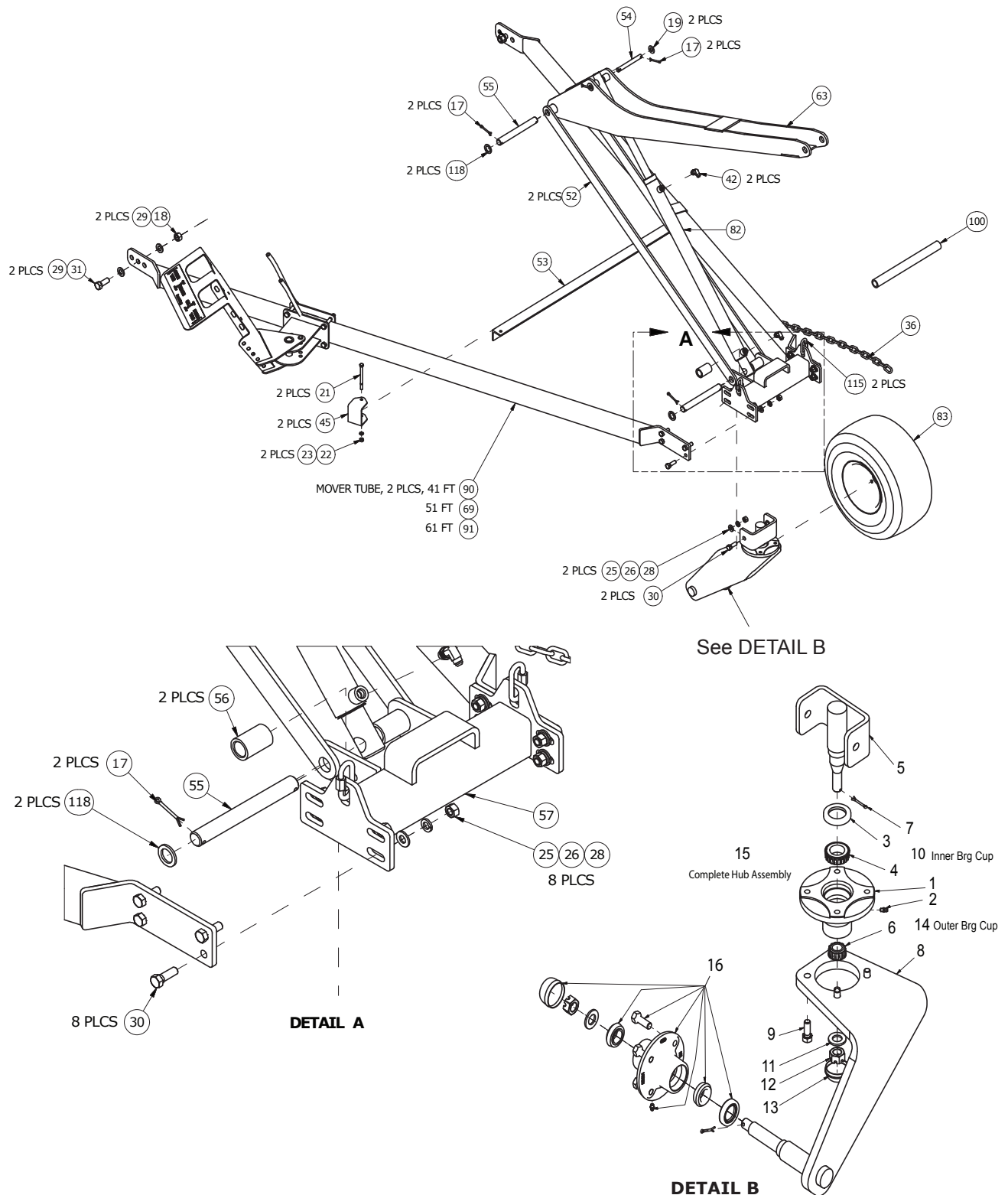
Hydraulic Pump, Oil Tank & Winch

Item#	Part#	Description	CX841E	CX851E	CX1041E	CX1051E	CX1061E
3	811422	ADAPTER - 1/2 MNPT X 3/4 MJIC	1	1	1	1	1
5	811864	CLAMP HOSE-0.75 TO 1.75	2	2	2	2	2
9	812107	ADAPTOR STR 3/4MORB X 9/16MJI	2	2	2	2	2
10	812363	3/8" LOCK NUT (PL)	2	2	2	2	2
11	812364	1/2" LOCK NUT (PL)	A/R	A/R	A/R	A/R	A/R
13	812457	ELBOW-10 MORB X -6 MJIC, 90 DEG	4	4	4	4	4
20	81587	3/8" X 4" HEX BOLT (PL)	4	4	4	4	4
22	81592	3/8" HEX NUT (PL)	6	6	6	6	6
23	81593	3/8" LOCK WASHER (PL)	A/R	A/R	A/R	A/R	A/R
27	84039	3/8" FLAT WASHER (PL)	7	7	7	7	7
28	84048	1/2" SAE FLAT WASHER (PL)	A/R	A/R	A/R	A/R	A/R
30	84277	1/2" X 1 1/2" HEX BOLT (PL)	A/R	A/R	A/R	A/R	A/R
32	86170	3/8" X 1" HEX BOLT GR.5 (PL)	A/R	A/R	A/R	A/R	A/R
33	86171	3/8" X 1 1/4" HEX BOLT (PL)	2	2	2	2	2
37	910199	SGL GRV 4 1/2" SHEAVE C/W HUB	1	1	1	1	1
38	910202	10 MICRON OIL FILTER	1	1	1	1	1
40	910212	FILTER HEAD	1	1	1	1	1
43	910263	BELT B-35	1	1	1	1	1
44	910442	REDUCER, 3/4"MNPT X 1/2"FNPT	1	1	1	1	1
46	912848	SHEAVE-4B34	-	-	1	1	1
47	912850	SHEAVE BUSHING-SDX1-1/8	-	-	1	1	1
49	913184L	PLATE-HYD PUMP HANDLE	1	1	1	1	1
50	913186	PLATE-HYD PUMP ARM	1	1	1	1	1
51	913209	BRKT-HYD PUMP MOUNT	1	1	1	1	1
62	913444	PUMP-GEAR TANDEM SALAMI	1	1	1	1	1
70	913514	WELDT-HYD PUMP MOUNT CA MOVER	1	1	1	1	1
71	913520L	PLATE-HYD LINK CA MOVER	1	1	1	1	1
73	913547	ADAPTER-12 MORB X -12 BARB	1	1	1	1	1
84	913565	FILL CAP-3.14", TANK	1	1	1	1	1
85	913568	WELDT-TANK CA	1	1	1	1	1
86	913571	ADAPTER-12 MPT X -12 HOSE BARB	1	1	1	1	1
87	913582	PLUG-4 MPT HEX	1	1	1	1	1
88	913590L	PLATE-TANK MOUNT	2	2	2	2	2
89	913592	SHEAVE-3B34	1	1	-	-	-
97	913695	NIPPLE-12 MPT X 2.5"	1	1	1	1	1
109	913758	HOSE-12 SUCTION	1	1	1	1	1
119	F1490	HYDRAULIC WINCH, 2" TUBE BRACKET	1	1	1	1	-
120	F1491	HYDRAULIC WINCH, 3" TUBE BRACKET	-	-	-	-	1
121	JDCW25634	RUBBER GRIP	1	1	1	1	1



8-6
Section 8 - Parts
Hydraulics

Item #	Part#	Description	CX841E	CX851E	CX1041E	CX1051E	CX1061E
6	811916	ELBOW 90 3/4MORBX9/16MJIC	2	2	2	2	2
13	812457	ELBOW-10 MORB X -6 MJIC, 90 DEG	4	4	4	4	4
65	913482	VALVE-2 SPOOL, WINCH AND MOTOR	1	1	1	1	1
66	913495	VALVE-2 SPOOL, MOTOR AND CYLINDER	1	1	1	1	1
72	913534	ELBOW-45 DEG -8 MORB X -6 MJIC	8	8	8	8	8
74	913550	HOSE-6 X -6JIC X -6JIC ELBOW X 24	-	2	-	2	-
75	913551	HOSE-6 X -6JIC X -6JIC 90 ELBOW	-	2	-	2	-
76	913552	HOSE-6 X -6JIC X -6JIC	-	1	-	1	-
77	913553	HOSE-6 X -6JIC X -6JIC	-	1	-	1	-
78	913554	HOSE-6 X -6JIC X -6JIC 90 ELBOW	-	2	-	2	-
79	913555	HOSE-6 X -6JIC X -6JIC	-	2	-	2	-
80	913556	HOSE-8 X -8JIC X -6JIC	-	1	-	1	-
92	913650	HOSE-6 X -6JIC X -6JIC ELBOW X 24	2	-	2	-	-
93	913651	HOSE-6 X -6JIC X -6JIC 90 ELBOW	2	-	2	-	-
94	913654	HOSE-6 X -6JIC X -6JIC 90 ELBOW	2	-	2	-	-
95	913655	HOSE-6 X -6JIC X -6JIC	2	-	2	-	-
96	913656	HOSE-8 X -8JIC X -8JIC	1	-	1	-	-
99	913716	TEE-8 MJIC X-6 MJIC	1	1	1	1	1
102	913750	HOSE-6 X -6JIC X -6JIC ELBOW X 24	-	-	-	-	2
103	913751	HOSE-6 X -6JIC X -6JIC 90 ELBOW	-	-	-	-	2
104	913752	HOSE-6 X -6JIC X -6JIC	-	-	-	-	1
105	913753	HOSE-6 X -6JIC X -6JIC	-	-	-	-	1
106	913754	HOSE-6 X -6JIC X -6JIC 90 ELBOW	-	-	-	-	2
107	913755	HOSE-6 X -6JIC X -6JIC	-	-	-	-	2
108	913756	HOSE-8 X -8JIC X -8JIC	-	-	-	-	1
110	913852	HOSE-6 X -6JIC X -6JIC	1	-	1	-	-
111	913853	HOSE-6 X -6JIC X -6JIC	1	-	1	-	-
112	913967	HOSE-6 X -6JIC X -6JIC 90 ELBOW	2	2	2	2	2



8-8
Section 8 - Parts
Mover Assembly

Item#	Part#	Description	CX841E	CX851E	CX1041E	CX1051E	CX1061E
1	105173	4-BOLT HUB W/BEARING CUPS ONLY	1	1	1	1	1
2	967900	1/4" GREASE FITTING	1	1	1	1	1
3	961891	OIL SEAL (SE11)	1	1	1	1	1
4	967712	INNER BEARING CONE (LM67048)	1	1	1	1	1
5	913317	WELDT-MOVER PIVOT STUB	1	1	1	1	1
6	968406	OUTER BEARING CONE (LM11949)	1	1	1	1	1
7	9812486	1/8" X 1 1/2" COTTER PIN (BR)	1	1	1	1	1
8	913170	WELDT-CASTOR	1	1	1	1	1
9	968404	WHEEL BOLT	4	4	4	4	4
10	967711	INNER BRG CUP (LM67010)	1	1	1	1	1
11	9812416	3/4" SAE FLAT WASHER (BR)	1	1	1	1	1
12	81834	3/4" SLOTTED HEX NUT	1	1	1	1	1
13	968409	DUST CAP	1	1	1	1	1
14	968405	OUTER BRG CUP (LM11910)	1	1	1	1	1
15	900145	4-BOLT HUB ASSY	1	1	1	1	1
16	913148	HUB-4 ON 4	1	1	1	1	1
17	81207	3/16" x 2" COTTER PIN (BR)	6	6	6	6	6
18	812365	3/4" LOCK NUT (PL)	2	2	2	2	2
19	812639	5/8" SAE FLAT WASHER (PL)	2	2	2	2	2
21	81588	3/8" X 4 1/2" HEX BOLT (PL)	2	2	2	2	2
22	81592	3/8" HEX NUT (PL)	6	6	6	6	6
23	81593	3/8" LOCK WASHER (PL)	A/R	A/R	A/R	A/R	A/R
25	81636	1/2" HEX NUT (PL)	A/R	A/R	A/R	A/R	A/R
26	81637	1/2" LOCK WASHER (PL)	A/R	A/R	A/R	A/R	A/R
28	84048	1/2" SAE FLAT WASHER (PL)	A/R	A/R	A/R	A/R	A/R
29	84050	3/4" S.A.E. FLAT WASHER (PL)	4	4	4	4	4
30	84277	1/2" X 1 1/2" HEX BOLT (PL)	A/R	A/R	A/R	A/R	A/R
31	84467	3/4" X 2" HEX BOLT (PL)	2	2	2	2	2
36	906714	1/4" CHAIN - 21 LINKS (PL)	1	1	1	1	1
42	910262	FTG-6MORBX-6MJIC 90 DEG ELBOW	2	2	2	2	2
45	912443	CROSS BRACE CLAMP	2	2	2	2	2
52	913266L	PLATE-MOVER LIFT ARM	2	2	2	2	2
53	913275	ANGLE-MOVER ARM REST	1	1	1	1	1
54	913300	PIN-0.625X5.51	1	1	1	1	1
55	913312	PIN-1.00X8.82	2	2	2	2	2
56	913313	SPACER-1.02	2	2	2	2	2
57	913316	WELDT-MOVER FRONT	1	1	1	1	1
63	913464	WELDT-LIFTING ARM CA MOVER	1	1	1	1	1
69	913498	WELDT-MOVER 51 FT	-	2	-	2	-
82	913560	ASSY-CYLINDER, 1.75X28.50 WITH SPACER	1	1	1	1	1
82		SEAL KIT FOR 913560 CYLINDER	1	1	1	1	1
83	913561	ASSY-18X9.5-8 TIRE WITH RIM	1	1	1	1	1

83	913082	TIRE-18X9.50-8	1	1	1	1	1
83	913318	WHEEL-4 X 4 BOLT	1	1	1	1	1
90	913598	WELDT-MOVER 41 FT	2	-	2	-	-
91	913643	WELDT-MOVER 61 FT	-	-	-	-	2
100	913729	HOSE 1.0 ID X 15	1	1	1	1	1
115	960167	QUICK LINK (PL)	2	2	2	2	2
118	967140	1" X 10GA NARROW RIM WASH (PL)	4	4	4	4	4

Index

A

Adjusting Turnbuckle	6-13
Anti-Whip Guides	6-22
Assembly Safety	6-1
Assembly Safety, Hydraulic Safety, Tire Safety	1-8
Attach Axle Assembly	6-36
Attaching/Unhooking	3-3
Auger Operation	3-13

B

Ball Detent Bracket	6-49
Battery	6-30
Battery Mounting Frame	6-5
Belt Guard	6-21
Belt Guard Covers	6-24
Belt Tension	6-19
Belt Trays	6-9

C

Changing In-Line Fuel Filter	4-6
Controls	3-8
Cross Brace	6-33
Control Panel Base	6-43
Control Panel Pivot	6-69
Control Valves	6-44
Cylinder Top End	6-35

D

Drive Belts	6-18
-----------------------	------

E

Engage/Disengage Handle	6-11
Engage/Disengage Latching Lever	6-12
Engage Lever Mounting Frame	6-8
Engine	6-4
Engine Drive Pulley	6-16
Engine Flange	6-5
Engine Platform	6-20
Equipment Safety Guidelines	1-3

F

Final Checks	6-72
Fittings and Hose/Tube Connection Torque Values - Imperial	7-4
Fluid Levels	6-71
Foreword	vii
Front Cylinder	6-30
Fuel Return Line	6-28
Fuel Tank	6-25

G

Gas Engine Safety	1-11
Gearbox Pulley	6-14
General Dimensions	7-1
General Safety	1-2

H

Hardware Torque Values	7-2
Hydraulic Circuit	6-67
Hydraulic Fittings	6-41
Hydraulic Hose Routing	6-70
Hydraulic Oil Reservoir	6-55
Hydraulic Pump	6-59
Hydraulics	6-51
Hydraulic Pump Belt Tension and Alignment	4-7
Hydraulic System Oil Filter Change	4-9
Hydraulic Winch	6-40
Hydraulic Winch Gearbox Oil Change	4-8

I

Index	9-1
Inner Belt Guard	6-7
Introduction	ix
Introduction, Fluids and Lubricants, Greasing	4-1

M

Machine Components2-2

Machine Placement 3-11

Main Fuel Line. 6-29

Maintenance Safety, Storage Safety, Refueling Safety,
Battery Safety 1-10

O

Operating Safety, Placement Safety1-6

Operation Safety, Break-In3-1

Outer Belt Guard 6-22

Overview and Function2-1

P

Parts5-1

Pre-Operation Checklist, Equipment Matching . . .3-2

Preparation1-5

Pulley Alignment 6-20

R

Receiving.6-2

S

Safety Alert Symbol1-1

Safety Sign Locations 1-13

Safety Training, Safety Signs.1-4

Serial Number Location viii

Service Intervals.4-2

Service Record.4-5

Side Arms 6-31

Sign-Off Form 1-12

Springs 6-10

Storage Safety, Storage. 3-20

T

Tires/Rims6-4

Tools6-3

Transport Safety1-9

Transport Safety, Transport 3-17

Troubleshooting5-1

W

Wheel 6-33

Wheel Axle Assembly 6-32

Wheel Drive 6-46

Wheel Drive Gear Meshing 6-71

Winch Cable 6-41

Y

Yoke Assembly 6-34

www.farm-king.com

Farm King

301 Mountain Street S
Morden, MB R6M 1X7
Ph.: 204.822.4467 | Fax: 204.822.6348
E-mail: info@buhler.com
www.farm-king.com

Equipment shown is subject to change without notice.
©2012 Buhler Trading Inc. Printed in USA. TSX: BUI

bühler | a division of Buhler Industries Inc.