



PORTABLE DRIVE OVER PIT

10" & 13"

ASSEMBLY & OPERATION MANUAL



Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.

Part Number: 30734 R0

Revised: Jun/11



This product has been designed and constructed according to general engineering standards^a. Other local regulations may apply and must be followed by the operator. We strongly recommend that all personnel associated with this equipment be trained in the correct operational and safety procedures required for this product. Periodic reviews of this manual with all employees should be standard practice. For your convenience, we include this sign-off sheet so you can record your periodic reviews.

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- a. Standards include organizations such as the American Society of Agricultural and Biological Engineers, American National Standards Institute, Canadian Standards Association, International Organization for Standardization, and/or others.

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1. Introduction

Congratulations on your purchase of a Westfield Portable Pit. This piece of equipment will complement your agricultural operation by aiding in the safe and efficient movement of grain, pulse crops, fertilizer, or any other granular materials.

Your new Westfield Portable Pit will serve you well if you understand how it operates, if you use it properly, and if you care for it properly. This manual is intended to help you learn how to operate and maintain your equipment in a safe, efficient, and trouble-free manner. So please read this manual all the way through before you use your new Portable Pit.

This manual covers all Portable Pit augers built by Westfield Manufacturing, so please use the Table of Contents as a guide when searching for specific information. Keep this manual in a safe place for future reference and for ordering replacement parts.

Should any information remain unclear after thoroughly reviewing this manual, contact your Westfield Dealer for clarification before operating your Portable Pit. Knowing the serial number and date of purchase will save time in getting your questions answered. Please write down this information in the space provided below.



MODEL NUMBER: _____	DATE PURCHASED: _____
SERIAL NUMBER: _____	DEALER NAME: _____

2. Safety First



The Safety Alert symbol to the left identifies important safety messages on the product 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 messages. Why is SAFETY important to you?

Three big reasons:

- Accidents disable and kill.
- Accidents cost.
- Accidents can be avoided.

SIGNAL WORDS

Note the use of the signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using the definitions below as a guideline.

The Safety Alert symbol means: "ATTENTION, BE ALERT! YOUR SAFETY IS INVOLVED".

DANGER



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

WARNING



Indicates a hazardous situation that, if not avoided, could result in serious injury or death.

CAUTION



Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

NOTICE

Indicates a potentially hazardous situation that, if not avoided, may result in property damage.

2.1. GENERAL SAFETY

Important: *The general safety section includes instructions that apply to all safety practices. Any instructions specific to a certain safety practice (e.g., assembly safety), can be found in the appropriate section. Always read the complete instructional sections and not just these safety summaries before doing anything with the equipment.*

YOU are responsible for the **SAFE** use and maintenance of your equipment. **YOU** must ensure that you and anyone else who is going to work around the equipment understands all procedures and related **SAFETY** information contained in this manual.

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.



- It is the equipment owner and the operator's responsibility to read and understand **ALL** safety instructions, safety decals, and manuals and follow them before assembling, operating, or maintaining the equipment. All accidents can be avoided.
- Equipment owners must give instructions and review the information initially and annually with all personnel before allowing them to operate this product. Untrained users/operators expose themselves and bystanders to possible serious injury or death.
- Use this equipment for its intended purposes only.
- 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. Any modification to the equipment voids the warranty.
- Do not allow children, spectators, or bystanders within the work area.
- Have a first-aid kit available for use should the need arise, and know how to use it.
- Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
- Wear appropriate protective gear. This list includes, but is not limited to:
 - a hard hat
 - gloves
 - protective shoes with slip-resistant soles
 - protective goggles
 - hearing protection
 - dust mask or respirator
- For Powered Equipment: before servicing, adjusting, or repairing powered equipment, unplug, place all controls in neutral or off position, stop the engine or motor, remove ignition key or lock out power source, and wait for all moving parts to stop.



- 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
 - Think SAFETY! Work SAFELY!



2.2. OPERATION SAFETY

- Have another person nearby who can shut down the equipment in case of accident.
- Do not operate with any of the safety guards removed.
- Keep body, hair, and clothing away from moving parts. Stay away from intake during operation.

2.3. TRANSPORT SAFETY

- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Consult local authorities for further details. Use cautions when turning corners or meeting traffic.
- Use extreme care and minimum ground speed when operating or transporting on hillsides, over rough ground, or near ditches or fences.
- Make sure the SMV (slow moving vehicle) emblem and all the lights and reflectors that are required by local authorities are in place, are clean, and can be seen by all traffic.
- Do not allow riders on the equipment or towing vehicle during transport.
- Stay away from overhead obstructions and power lines when operating and transporting. Electrocution can occur without direct contact.
- Ensure that tires are inflated to the manufacturer's recommended pressure.

2.4. PLACEMENT SAFETY

- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when turning corners or meeting traffic.
- Keep away from overhead and buried power lines / gas lines. Arcing and possible electrocution can occur without direct contact.
- Consult local utility companies before operating machine near overhead or buried power lines / gas lines.
- Use extreme care and minimum ground speed when operating or transporting on hillsides, over rough ground, or near ditches or fences.
- Review the work safety area diagram before starting work.

- Take special care and precautions when transporting during times of limited visibility such as rain, snow, fog, dusk, or at night. It is recommended that you wait for a more appropriate time to move.
- DO NOT transport faster than 20 mph unless GVWR is more than 7000 lb. Never exceed 40 mph.

2.5. STORAGE SAFETY

1. Store in an area away from human activity.
2. Do not permit children to play on or around the stored machine.

2.6. MAINTENANCE SAFETY


- Before applying pressure to a hydraulic system, make sure all components are secure, hoses are in good condition, and couplings are tightly connected and undamaged.
- Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
- Place stands or blocks under the frame before working beneath the machine.
- After maintenance is complete, replace and secure all safety guards and safety devices, and if applicable, service doors and cleanout covers.
- Remove all tools and unused parts from machine before operation.
- Remove buildup of grease, oil, and debris.
- Inspect all parts. Ensure parts are in good condition and installed properly.

Use only genuine Westfield replacement parts or equivalent. Replacement parts must meet ASAE standards or serious injury may result. Use of unauthorized parts will void the warranty. If in doubt, contact Westfield or your Westfield dealer.

2.7. HYDRAULIC SAFETY

- Always place all hydraulic controls in neutral and relieve system pressure before disconnecting or working on hydraulic system.
- Keep all components in the hydraulic system tightly secured and in good condition and clean.
- Replace any worn, cut, abraded, flattened, or crimped hoses.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses with tape, clamps, or concrete. The hydraulic system operates under extremely high pressure; such repairs will fail suddenly and create a hazardous and unsafe condition.

- Before moving a hydraulic cylinder, ensure that the attached component is safely secured.

WARNING	
	<p>Hydraulic fluid can cause serious injury if it penetrates the skin. If it does, see a doctor immediately.</p> <ul style="list-style-type: none">• Relieve pressure before disconnecting hydraulic line.• Wear proper hand and eye protection and use wood or cardboard, not hands, when searching for leaks.

2.8. ENGINE SAFETY

- Be sure to stop engine and remove key or lock out power before inspecting or servicing engine
- Refer to engine operation manual for further details.

2.9. SAFETY DECAL LOCATIONS

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible. See decal location figures that follow.
- Replaced parts must display the same decal(s) as the original part.
- Safety decals are available from your distributor, dealer, or factory.

2.9.1. DECAL INSTALLATION

1. Decal area must be clean and dry, with a temperature above 50°F (10°C).
2. Decide on the exact position before you remove the backing paper.
3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
5. Small air pockets can be pierced with a pin and smoothed out using the sign backing paper.

2.9.2. DECAL LOCATIONS

Replicas of the safety decals that are attached to the equipment are shown in the figure(s) that follow. Proper safety procedures require that you familiarize yourself with the various safety decals and the areas or particular functions that the decals apply to as well as the safety precautions that must be taken to avoid serious, injury, death, or damage.





⚠ WARNING

TRANSPORTING HAZARD

To prevent serious injury or death, before transporting, you must:

- Chain the drive-over ramps together.
- Install and secure the transport wheel lock pins.
- Install and secure the hitch pin retainer.
- Install safety chains between the towing vehicle frame and the drive-over hitch.

To prevent serious injury or death from loss of control:

- Do not exceed rated tire speed.
- Do not tow machine faster than road conditions will safely allow.

Consult local authorities for restrictions on towing speed, weight and length.

Made in Canada

8700004



⚠ WARNING

SHEAR AND CRUSH HAZARD

To prevent serious injury, keep feet, hands and fingers clear of frame and cylinder tabs when operating the transport cylinders.

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

3. Assembly

Warning: Before continuing, please read the safety information relevant to this section in the safety section of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

The Portable Pit, as shipped from the factory, does not have the ramps and ramp lift-springs installed. Follow the procedures below to complete the Portable Pit assembly.

3.1. INSTALLING RAMPS

Refer to Figure 3.1.

1. Align the ramp with the frame tabs so that the frame tabs fit on the outside of the ramp.
2. Install a 3/4" x 2-1/2" bolt, 2 plate washers, and a nylon locknut in the order shown. Do not tighten completely, as ramps must be free to move in slots.
3. Repeat for all 4 ramps.

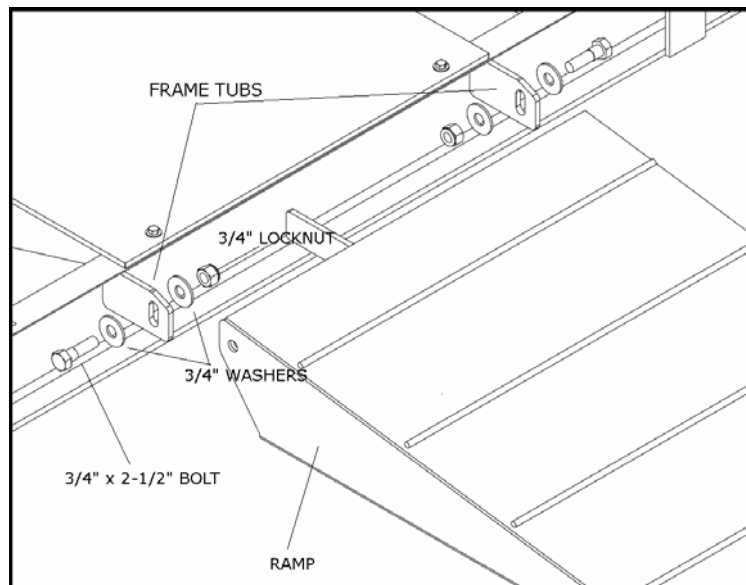


Figure 3.1 Ramp Installation

3.2. INSTALLING RAMP LIFT-SPRINGS

Refer to Figure 3.2.

1. Slide the spring onto the guide rod.
2. Lift the ramp into transport position.
3. Insert the end of the guide rod into the spring plate in the center ramp channel.

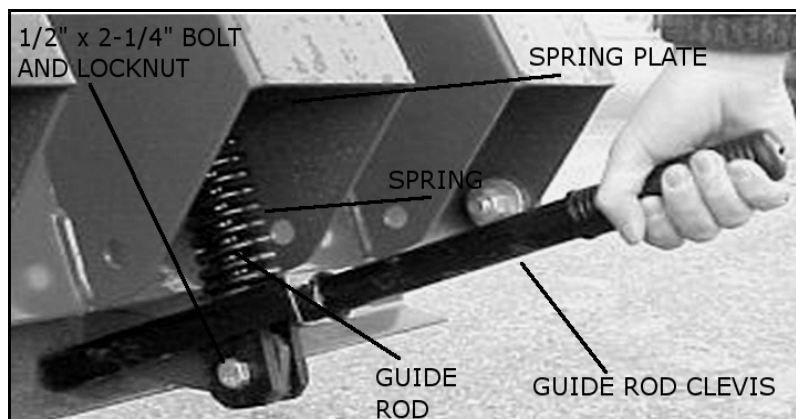



Figure 3.2 Spring Installation

Note: *It may be easier to install springs with ramps tightened at the top of the slotted holes on the ramp mount bracket. Be sure to loosen bolts after ramp install so ramps will slide freely on slots.*

WARNING	
	<p>Compression springs store large amounts of energy and will expand with great force when released. Use caution when compressing springs to avoid serious injury.</p> <p>Ensure tool is in good condition and firmly seated.</p> <p>Stand clear of the path of the spring in case it is accidentally released.</p>

4. Slide the spring installation tool through the guide rod clevis so end of tool is resting solidly on the frame channel.
5. Lift the tool to compress the spring and guide the clevis over the tab on the frame so the bolt holes align.
6. Install a 1/2" x 2-1/4" bolt and a nylock nut in the order shown.
7. Repeat for all 4 lift-springs.

4. Transport

Warning: Before continuing, please read the safety information relevant to this section in the safety section of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

NOTICE

Empty the auger before transporting.

Transporting a full auger will place excessive loads on the discharge tube assembly, frame, axle assembly, hitch, and towing unit.

To reduce the risk of injury or death to people using this equipment, follow basic safety precautions when transporting.

1. Make sure that all lights and reflectors required by the local highway and transport authorities are in place, are functioning, and can be seen clearly by all overtaking and oncoming traffic.
2. Be sure the unit is hitched securely to the towing vehicle.
3. Use hazard-warning flashers when transporting with a tractor unless prohibited.
4. Keep to the right and yield the right-of-way to allow faster traffic to pass.
5. Take special care and precautions when transporting during times of limited visibility such as rain, snow, fog, dusk, or at night. It is recommended that you wait for a more appropriate time to move.
6. DO NOT transport faster than 20 mph unless GVWR is more than 7000 lb. Never exceed 40 mph.

4.1. TRANSPORT PREPARATION

The Westfield Portable Pit is designed to be easily and conveniently readied for transport. Follow this procedure when converting the machine from operating to transport configuration.



Figure 4.1 Securing Ramps

1. Check the wheel bolt torque prior to transporting the unit. See Section 7.3.7. for recommended torque values.
2. Check that tires are inflated to the manufacturer's recommended pressure prior to transporting the unit.
3. Install the jack. Lift the four drive-over ramps into the transport position and secure the ramps together with the safety chains. Refer to Figure 4.1.
4. Remove the transport lock pins from their storage position in the transport frame arms.
5. Raise the rear of the frame off the ground by extending the wheel lift cylinders.

WARNING



To prevent serious injury, keep feet, hands, and fingers clear of frame and cylinder tabs when operating the transport cylinder.

WARNING



Stay clear of machine when raising or lowering. Ensure others remain clear.

6. Install the transport lock pins (Figure 5.4). You may have to extend or retract the wheel lift cylinders slightly to align the holes. Refer to Figure 4.2.



Figure 4.2 Wheels Locked in Raised Position


NOTICE

Secure the hoses to the machine to prevent damage from dragging while transporting.

7. Place the tractor hydraulic system lever in neutral to shut off the flow to the hydraulic circuit selector valve.
8. Disconnect the Portable Pit from the remote hydraulic system.
9. Remove the hydraulic power source. Secure hydraulic lines and any power cords.
10. Raise the front of the frame off the ground with the jack. Refer to Figure 4.3.



Figure 4.3 Transport Position

WARNING	
	<p>To prevent serious injury or death, before transporting, you must:</p> <ul style="list-style-type: none">• Chain the drive-over ramps together.• Install and secure the transport wheel lock pins.• Install and secure the hitch pin retainer.• Install a safety chain between the towing vehicle frame and the Portable Pit hitch tongue.

11. Install the hitch assembly in the frame and secure with the retainer pin and anchor.
12. Back the towing vehicle up to the Portable Pit.
13. Set the park brake before dismounting.
14. Connect the Portable Pit to the towing vehicle and use a retainer to lock the hitch draw pin in place.
15. Install the safety chain between the tongue of the Portable Pit and the frame of the towing unit. Loop the chain under the tongue to form a cradle that will prevent the tongue from digging into the road surface and upsetting the trailer should a break-away occur. Ensure there is enough slack in the chain for turning. When not in use, store the safety chain in a clean dry place. Replace the safety chain if one or more links or end fittings are broken, stretched, or otherwise damaged or deformed. Refer to Figure 4.4.



Figure 4.4 Safety Chain (Not Supplied)

16. Remove and stow the jack.

5. Operation

Warning: Before continuing, please read the safety information relevant to this section in the safety section of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

5.1. DESCRIPTION OF THE EQUIPMENT

The Westfield Portable Pit is a drive-over transfer auger designed to efficiently handle grain, pulse crops, or other granular materials. The four independent ramps and the center frame are built strong and offer a low 7" profile to handle the most challenging drive-over loads. The large center-dump hopper and side-dump hopper allow you to unload from a variety of vehicles with ease.

The drive over transfer auger is available with a 10" or 13" discharge, where the 10" Portable Pit is fed by two 6" hopper augers and the 13" Portable Pit is fed by three 6" hopper augers. The Pit is powered by either a hydraulic or electric motor.

Westfield has incorporated time saving features into the Portable Pit to allow you to spend more time operating and less time setting up. The standard spring assisted ramp lifts and the hydraulic powered transport wheel lift make setting up the Portable Pit a quick and simple operation.

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

5.1.1. EQUIPMENT MATCHING

To ensure safe and reliable operation of your Westfield Portable Pit, it is necessary to equip your machine with a power source of appropriate specifications. As a guideline, ensure that these requirements are met:

HYDRAULIC SYSTEM REQUIREMENTS

- In order to operate the hydraulic drive motor and the wheel pivot system, the tractor hydraulic system must be capable of 14 gpm (53 L/min) at 1500 psi (10,500 kPa) for the 10" Portable Pit, and 14 gpm (53 L/min) at 2000 psi (13,800 kPa) for the 13" Portable Pit. All hoses should be protected and secured during operation.

ELECTRICAL SYSTEM REQUIREMENTS

- A minimum 7.5 hp electric motor (1725-1740 rpm) is required to power the 10" Portable Pit, and a minimum 14 hp electric motor (1725-1740 rpm) is required to power the 13" Portable Pit. Ensure the power source has adequate amperage at the proper voltage. Have a licensed electrician provide power and install weatherproof control switches in a safe and convenient location for the operator. All power cords should be protected and secured during operation.

Note: A hydraulic system will still be required to operate the wheel lift system.

5.2. OPERATOR CONTROLS

5.2.1. HYDRAULIC DRIVE

The Portable Pit is an easy to use transfer auger that offers the convenience of a single point control for switching between the auger and transport wheel lift hydraulic circuits.

The hydraulic circuit selector valve is located on the body of the discharge tube as shown in Figure 5.1.

- when located in the neutral position (centered) the augers will operate
- when moved up, the wheel lift cylinder will extend to place the unit in transport position
- when moved down, the wheel lift cylinder will retract to place the unit in the operating position

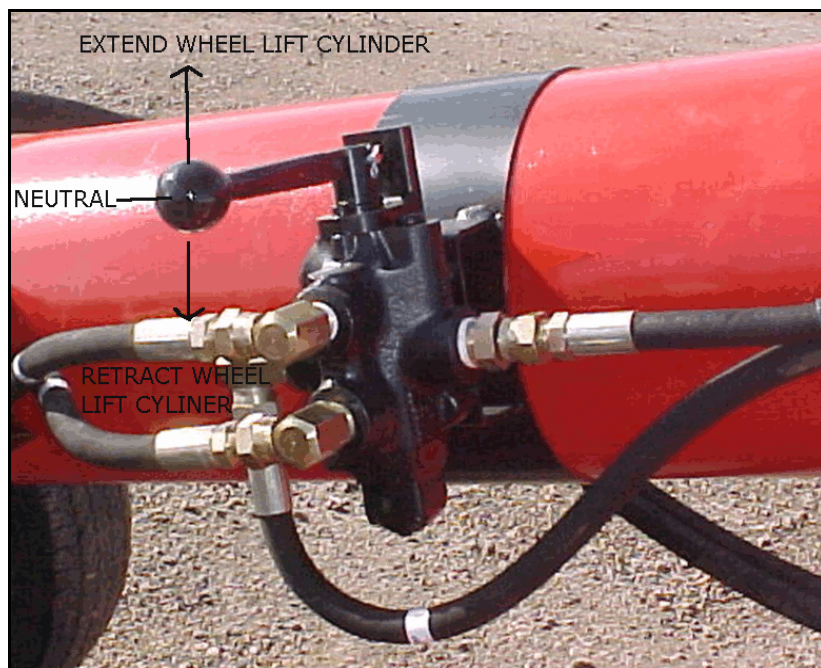



Figure 5.1 Hydraulic Selector Valve

WARNING	
	<p>Stay clear of tires when raising/lowering drive-over pit as tires move back and forth.</p> <p>Ensure pit will rest on level, unobstructed ground.</p>

5.2.2. ELECTRIC DRIVE

Have a licensed electrician provide power to the machine per the National Electric Code ANSI/NFPA 70 and any local codes. Install an ON/OFF switch next to the motor for the convenience of the operator. An example of this is shown in Figure 5.2

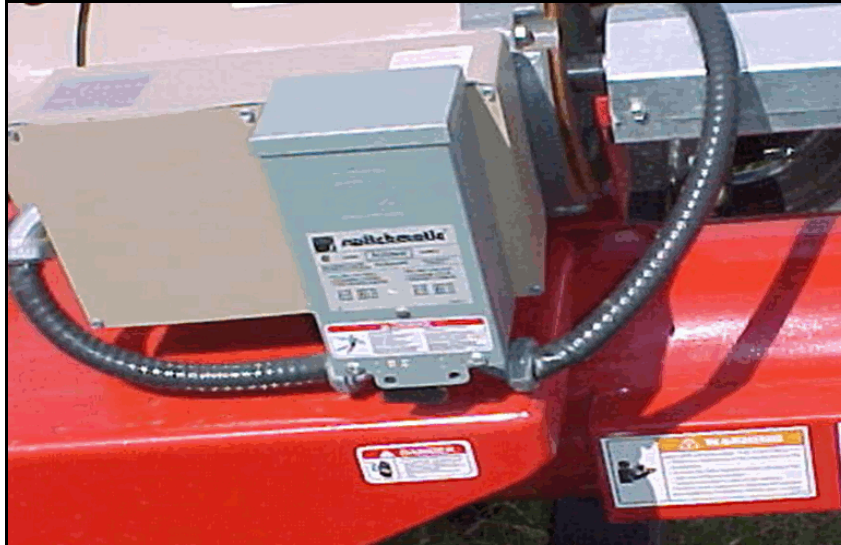


Figure 5.2 Electric Switch Installation

5.3. OPERATING PROCEDURE

5.3.1. SET-UP

Follow this procedure when setting up and converting the machine from transport to operating configuration.

NOTICE

Locate the machine on reasonably flat and firm ground, free from obstructions.

Placement on uneven or soft ground may cause excessive loads on the machine or clearance issues. Corresponding damage to the machine or transport vehicle could result.

1. Move the machine to the desired operating location. Be sure to position the machine so the transport vehicles have sufficient space to maneuver.
2. Set the park brake before dismounting the towing vehicle.
3. Install the jack on the Portable Pit frame.
4. Unhook the unit from the towing vehicle.
5. Remove and stow the hitch assembly and safety chain.

6. Use the jack to lower the frame until it rests on the ground. See Figure 5.3.



Figure 5.3 Front End Lowered

7. HYDRAULIC MODELS: Position the hydraulic power source (tractor, portable unit, etc.) near the Portable Pit so the hydraulic outlets are near the hydraulic motor.

NOTICE

Foreign material can severely damage hydraulic components.

Clean any dirt or debris from the hose ends and hydraulic system couplers with a clean rag or paper towel before connecting.

8. Secure the power source from moving by placing chocks next to the tires and setting the park brake.
9. Connect the hydraulic hoses to the couplers.

WARNING




Disconnect power source before servicing or repairing machine or electrical components.

Protect the power cords from damage during operation.

Keep electrical components in good repair.

10. For Electric Portable Pit, check to be sure switch is in "OFF" position and connect power source securely.
11. Route the hydraulic hoses and power cords away from any potential hazards.


WARNING	
	<p>Damaged hydraulic hoses can fail suddenly causing unexpected movement of the machine that will result in serious injury or death.</p> <ul style="list-style-type: none">• Route hydraulic hoses to prevent pinching, rubbing, or binding.• Keep the hoses away from moving parts.• Secure the hoses to the machine to prevent dragging while transporting.• Cover or protect the hoses from damage during operation.• Repair or replace damaged hoses. DO NOT attempt any makeshift repairs.

12. HYDRAULIC MODELS: Position the hydraulic system lever to provide flow to the hydraulic circuit selector valve. The augers will start rotating. Check wheel lift system to ensure all components are able to move unobstructed and pit may be lowered in a safe manner.
13. Remove the transport lock pins. You may have to extend or retract the wheel lift cylinder slightly to release the load on the pins. Refer to Figure 5.4.



Figure 5.4 Remove Pins

14. Lower the frame to the ground by retracting the wheel lift cylinder. The auger will slow down but continue to turn.

CAUTION	
	<p>Axle and wheels move rearward as frame is lowered to the ground.</p> <p>Stand clear when activating the hydraulic controls to avoid personal injury, and ensure others are clear of pit.</p>

15. Stow the transport lock pins in the transport frame arms.


16. Unhook the drive-over ramp safety chains and lower the ramps to the ground.
17. Lock the lid in either open or closed position, as required. Loosen thumb screw on hinge to move lid and be sure to lock lid open during operation by tightening thumb screw.
18. Remove and stow the jack. Refer to Figure 5.5 for drive over operating position.



Figure 5.5 Operating Position

5.3.2. BREAK-IN PERIOD & INITIAL START-UP

Your Portable Pit does not require an elaborate break-in. However, following a few simple tips for the first 5 hours of operation can add to the reliability and life of your machine.

WARNING	
	Be sure to disable or lock out power source before inspecting or servicing machine.

- Follow the service schedule.
- Check hydraulic system oil level.
- Ensure that all hydraulic lines are free from damage, and that all fittings are tight.
- Visually inspect the unit for damage to components. Replace or repair any damaged or questionable parts.
- Check that all guards are installed, secured, and functioning as intended.
- Check the worksite and clean up the area, if needed.
- Regularly inspect the hydraulic motor mounting bolts for tightness (there are 4 bolts).
- Inspect all hydraulic hoses, couplers, and fittings for tightness.

- Check the drive chain tension and alignment. Adjust as required. See Section 7.3.2. for the correct procedure.

After the break-in period refer to the regular maintenance schedule given in Section 7.2. for recommended service intervals.

5.3.3. OPERATION

STARTING

NOTICE

Foreign objects can damage the augers. Remove any obstructions from the intake and discharge areas before operating the unit

The following items should be checked before operating the machine **each time**:

1. Service the machine per the maintenance schedule in Section 7.2.
2. Check the hydraulic system oil level.
3. Visually inspect the unit for damage to components. Replace or repair any damaged or questionable parts.

HYDRAULIC MODEL

1. Place all tractor and Portable Pit controls in neutral.
2. Start the tractor and run at low idle.
3. Place the tractor hydraulic control lever in detent.
4. Increase the engine speed and adjust the hydraulic flow rate to achieve the desired augering speed.

ELECTRIC MODEL

1. Place switch in "ON" position.

NOTICE

Exceeding the maximum flow and pressure ratings may damage the hydraulic motors.

DO NOT operate continuously at flows exceeding 16 gpm (61 l/min) or pressures exceeding 1800 psi (12,500 kPa) for the 10" Portable Pit, and 20 gpm (76 l/min) and 3000 psi (20,700 kPa) for the 13" Portable Pit.

RESTARTING WITH A FULL TUBE

NOTICE

Starting an auger full of material causes excessive loads on the drive components.

Always empty the auger tubes prior to stopping the auger under normal operation.

The discharge tube and hopper may be filled with material if the machine is shut down inadvertently or for an emergency. It is recommended that you restart a full auger at a low speed.

HYDRAULIC MODEL

1. Reduce the tractor engine speed to idle.
2. Adjust the tractor hydraulic system output to a low flow rate on tractors equipped with an adjustment.
3. Once the auger has been started, increase the engine speed and adjust the hydraulic flow rate to achieve the desired augering speed.

ELECTRIC MODEL

1. Place switch in "ON" position.
2. Empty tube and hopper before resuming material unloading.

5.3.4. SHUTDOWN

NORMAL SHUTDOWN

NOTICE

Prolonged operation of an empty auger will cause unnecessary wear.

HYDRAULIC MODEL

1. Run the Portable Pit until the hopper and discharge tube are empty.
2. Place the tractor hydraulic controls in neutral.
3. Shut off the tractor engine and remove the ignition key.

ELECTRIC MODEL

1. Place switch in "OFF" position. Disconnect power supply or lock out switch to prevent accidental start-up.

EMERGENCY STOP

Although it is recommended that the machine is emptied before stopping, in an emergency situation:

1. Stop or shut down the power source immediately.

2. Stop the flow of material from the transport vehicle.
3. Correct the emergency before resuming work.

5.3.5. UNLOADING

NOTICE

Align the transport vehicle tires with the drive-over ramps.
Severe damage will occur to the Portable Pit if the vehicle is not properly aligned.

1. Set up the machine according to the instructions in Section 5.3.1.
2. Review the pre-start checklist in Section 5.3.2.
3. Position the transport vehicle for unloading. Ensure the tires are aligned with the drive-over zone. Refer to Figure 5.6.



Figure 5.6 Align Truck with Pit

4. Drive the vehicle over the Portable Pit.
5. Align the vehicle's discharge chute with either the center or side hopper. Start the Portable Pit according to the instructions in Section 5.3.3.
6. Begin unloading material into the Portable Pit. Direct the flow of grain into the hopper and keep the hopper full for maximum capacity.

NOTICE

Ensure your vehicle does not exceed 100000 lb (45400 kg) GVW, with a maximum tire load of 6600 lb (3000 kg).
Exceeding the maximum weight ratings may cause structural damage to the Portable Pit.

5.3.6. CLEANOUT

1. Remove any excess grain from on top and around the hopper.
2. Run the unit to clean out the majority of the grain.

3. Raise the transport wheels so that access can be gained to the underside of the machine.
4. Install transport lock pins or block the machine from falling.
5. Disable and lock out all power sources (hydraulic or electric).
6. Remove drive-over plates, center hopper guard, and side hopper guard. Refer to Figure 5.7.



Figure 5.7 Cleanout

7. Place a container, such as a 5 gal pail, under the cleanout door.
8. Remove the cleanout door located underneath the bottom of the transfer auger.
9. Clean grain from around augers and hoppers.
10. To wash pit, slope unit towards hitch. Dry the Pit sufficiently to prevent rusting.
11. Replace parts removed in step 6.

6. Storage

Warning: Before continuing, please read the safety information relevant to this section in the safety section of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

To ensure a long, trouble-free life, the following procedure should be followed when preparing the unit for storage after the season's use:

Follow maintenance schedule, see section 7.

- Store the machine on a level surface, free of debris, and in an area away from human activity. Store in a dry place, or use a tightly secured tarp to protect the equipment from the weather.
- Ensure that the unit is in transport position.
- Remove all residual material and clean the machine thoroughly.
- Inspect the unit at stress points for cracks.
- Repair or replace any worn or damaged components to prevent any unnecessary downtime at the start of the next season.
- Touch up paint nicks and scratches to prevent rusting.
- Check hydraulic fittings, hoses, lines, couplers, and valves. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded, or is separating from the crimped end of the fitting. Secure the hoses to the machine.
- Inspect and tighten all fasteners; replace fasteners if required.
- Coat exposed cylinder shaft with a light film of grease to protect from the environment.

NOTICE

Prolonged contact with the ground or with water may damage the equipment.

- Store the machine in transport position or store it in the operating position with the frame placed on blocks.
- Store the unit with the hitch end of the machine slightly lowered to provide for drainage (using drain holes).

7. Maintenance

Warning: Before continuing, please read the safety information relevant to this section in the safety section of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

The Westfield Portable Pit has been designed and manufactured to meet the highest standards, while requiring minimal maintenance. Following a careful service and maintenance program will provide many years of trouble-free service.

To reduce the risk of injury or death to persons using this equipment, follow basic safety precautions when performing adjustments, service, or repair.

1. Use extra caution when cleaning and servicing augers because flighting edges can become sharp.
2. Follow proper procedures when mounting a tire on a rim. If in doubt, have a qualified tire repair service perform the required maintenance.

7.1. FLUIDS & LUBRICANTS

GREASE

Use SAE multi-purpose high temperature grease with extreme pressure (EP) performance or SAE multi-purpose lithium based grease.

STORAGE & HANDLING

1. Always follow manufacturer's guidelines for the safe and effective storage and handling of lubricants.
2. 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.

7.2. MAINTENANCE INTERVALS

Refer to Section 7.3. for details of service.

Table 7.1 Maintenance Intervals

	Maintenance Procedure	Time Period			
		Daily (8 hrs)	Weekly (40 hrs)	Annually (Before storage)	Annually (After Storage)
Visually Inspect the Unit	7.3.1.	✓			
Service Drive Chains	7.3.2.		✓		
Grease Machine	7.3.3.		✓		
Clean Machine	7.3.4.			✓	
Coat Exposed Cylinder Shaft with Grease	7.3.5.			✓	
Repack Wheel Bearings	7.3.6.				✓
Tighten Wheel Bolts	7.3.7.				✓

7.3. MAINTENANCE PROCEDURES

7.3.1. VISUAL INSPECTION

When inspecting:

- Ensure all guards are in place, and in good working order.
- Examine the auger for damage or unusual wear.
- Inspect the machine for evidence of oil leaks.
- Examine hydraulic hoses and fittings for leaks and cracks.
- Be sure all safety decals are in place and are legible.
- Examine all flighting for damage or unusual wear.
- Examine tires for gashes, uneven wear, or loss of air pressure.
- Inspect auger shaft bushing for unusual wear or discoloration.

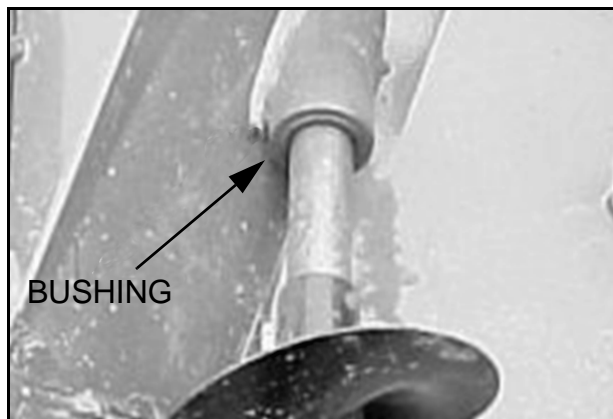


Figure 7.1 Bushing

7.3.2. SERVICING DRIVE CHAIN

1. Remove drive-over plates from the front of the portable pit. Check chain slack.
 - Chain slack is checked at the midpoint of the longest span. It should be approximately 3/8" (10 mm). Do not over-tighten chain as it can deflect augers. Refer to Figure 7.2.

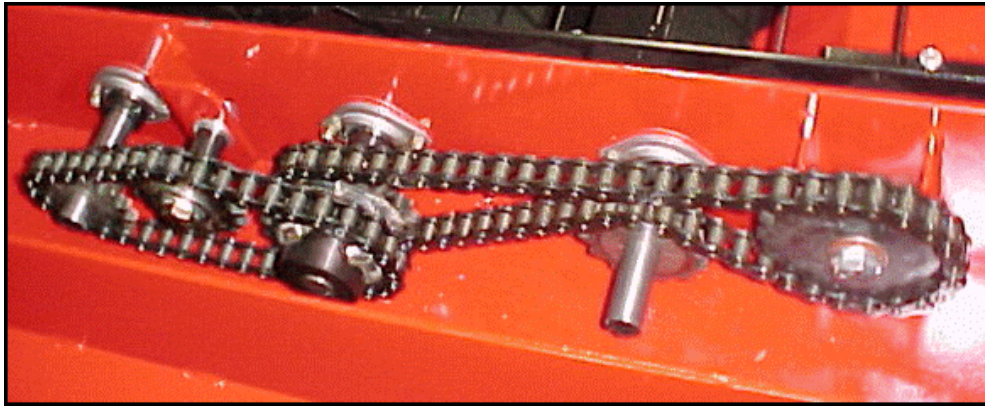


Figure 7.2 Hopper Drive Chains

2. Adjust the chain slack.
 - Loosen idler sprockets.
 - Reposition idler sprockets until chain slack is adequate. If idler sprockets run out of travel, remove a link from the chain.
3. Oil the chain with appropriate lubricant.
4. Replace drive-over plates and any other guards that were removed.

NOTICE

Improperly adjusted drive chain will result in premature wear and failure.

7.3.3. GREASING MACHINE

Important: Original equipment bearings used by Westfield are sealed units and will not accept grease.

1. Use only a hand-held grease gun.
2. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
3. Use SAE multi-purpose high temperature grease with extreme pressure (EP) performance or SAE multi-purpose lithium based grease.
4. Grease the two pivot points (as shown in Figure 7.3) and the u-joint in the portable pit. There are three grease points in total.

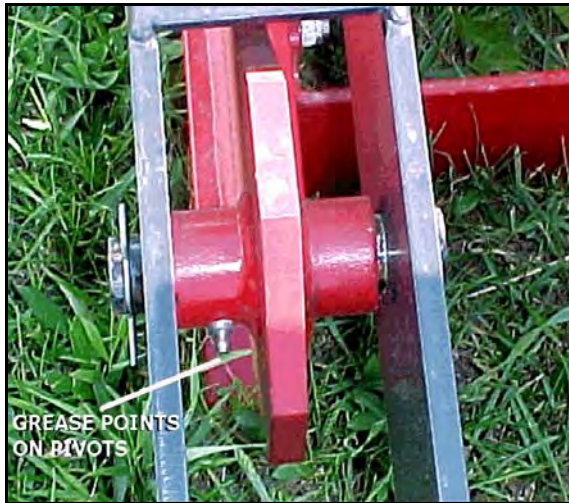


Figure 7.3 Grease Point on Pivots

5. If a fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
6. Replace broken fittings immediately.

WARNING



Ensure transport lock pins are securely in place or pit is on the ground. Ensure power is locked out.

7.3.4. CLEANING MACHINE

1. Clean out excess grain according to the procedure in Section 5.3.6.
2. Elevate front of machine and remove cleanout door so water can run out.
3. Wash the discharge tube and the hopper with a water hose or pressure washer until all dirt, mud, debris, or residue is washed from the portable pit.
4. Provide sufficient time for the water to drain from the discharge tube and hopper.

7.3.5. GREASE EXPOSED CYLINDER SHAFT

Coat the exposed surface of the cylinder shaft with SAE multi-purpose high temperature grease with extreme pressure (EP) performance or SAE multi-purpose lithium based grease.

To prevent corrosion during long term storage. Refer to Figure 7.4.



Figure 7.4 Grease Cylinder Shaft

7.3.6. REPACKING WHEEL BEARINGS

1. Remove the wheel bolts and the wheels after securely placing blocks under axle.
2. Remove the wheel bearing and pack with grease. (Use SAE multi-purpose high temperature grease with extreme pressure (EP) performance or SAE multi-purpose lithium based grease.)

7.3.7. TIGHTENING WHEEL BOLTS

1. Tighten the wheel bolts with a torque wrench to 90 ft/lb (± 10 ft/lb) of torque.
2. Tighten the wheel bolts in a diagonal pattern.

7.4. REPAIR & OVERHAUL PROCEDURES

7.4.1. DISCHARGE AUGER FLIGHTING

REMOVAL - HYDRAULIC OPTION

1. Place unit in transport position, making sure lock pins are secured.
2. Disable and lock out power source.

3. Remove flange bolts on hydraulic motor mount plate. Remove hydraulic motor shaft bolt from end of flighting. Remove plate with motor attached.
4. Lock side hopper lid in the open position and remove side hopper guard.
5. Loosen set screws on u-joint.
6. Remove flighting assembly and lay it down.

REPLACEMENT - HYDRAULIC OPTION

7. Insert new flighting in tube.
8. Align keyway on the stub shaft with keyway in u-joint. Insert stub shaft and key.
9. Tighten set screws.
10. Reinstall hydraulic motor mount plate by aligning hole on motor with hole in shaft. Insert bolt and nylock nut.
11. Install and tighten flange bolts in a diagonal pattern to ensure uniform tightness.

REMOVAL - ELECTRIC OPTION

12. Place unit in transport position, making sure lock pins are secured.
13. Disable power source.
14. Remove end drive unit lid. Remove slowly as the unit will be packed with grease.
15. Remove end drive mounting bolts and the bolt mounting the coupler shaft at the end of the auger.
16. Remove driveshaft guards.
17. Loosen set screw on chain coupler to remove driveshaft from electric motor.
18. Remove end drive unit with driveshaft still attached to the unit.
19. Lock side hopper lid in the open position and remove side hopper guard.
20. Loosen set screws on u-joint.
21. Remove flighting assembly and lay it down.

REPLACEMENT - ELECTRIC OPTION

22. Insert new flighting in tube.
23. Align key on the stub shaft with keyway in u-joint. Insert stub shaft and tighten set screws.
24. Reinstall end drive unit by inserting coupling shaft into flighting and aligning shaft to accept coupler bolt. Align key on driveshaft with keyway on chain coupler and insert driveshaft. Tighten set screws on chain coupler.
25. Install and tighten flange bolts in a diagonal pattern to ensure uniform tightness.
26. Reinstall driveshaft guards.
27. Clean mating surface of the lid and end drive plate. Apply silicone sealant to perimeter of the end drive lid. Install and tighten lid bolts.

7.4.2. HOPPER AUGER FLIGHTING

REMOVAL

1. Place portable pit in transport position, making sure lock pins are secured.
2. Disable power source.
3. Remove center hopper guard, side hopper guard, and both drive-over plates.
4. Remove bolts that attach stub shafts to auger shafts. Refer to Figure 7.5.

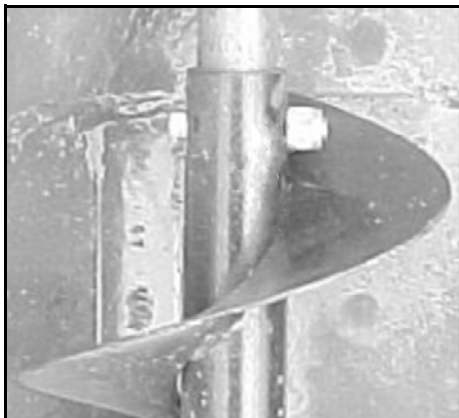


Figure 7.5 Stub Shaft Bolts

5. Remove stub shafts.
6. Remove auger drive chains.
7. Loosen sprocket set screws and remove sprockets.
8. Remove bearing bolts and remove bearings.
9. Remove augers.

REPLACEMENT

10. Reverse above procedure to replace hopper augers.

TIGHTENING HYDRAULIC FITTINGS

When servicing the hydraulics, take appropriate safety precautions.

NOTICE

DO NOT apply excessive force when tightening hydraulic fittings. Damaged fittings may result in leaks and loss of pressure.

Use only wrenches which match the fitting. Do not use crescent or pipe wrenches.

WARNING



High-Pressure Hydraulic Fluid

To prevent serious injury or death:

- relieve pressure on system before repairing, adjusting, or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands to find leaks.
- Keep all components in good repair.

Seek medical attention immediately if any hydraulic fluid penetrates your skin.

8. Troubleshooting

The following table lists the causes and solutions to some potential problems you may encounter in operating your hydraulic or electric Portable Pit.

PROBLEM	CAUSE	SOLUTION
None of the augers turn.	• oil is bypassed to the wheel lift cylinder	• move the circuit selector valve to the centre neutral position
	• no hydraulic flow is coming from the power source	• ensure the correct hydraulic lever is engaged
		• hydraulic power source must be started
	• electric motor not functioning	• check that overheat protection on motor has not been thrown
		• check that breaker has not been thrown on supply line
		• have licensed electrician check wiring

PROBLEM	CAUSE	SOLUTION
All of the augers run backwards.	• oil flow is in the wrong direction	• switch direction of flow from hydraulic power source – either by reversing lever or by switching hose connections
	• electric motor is wired backwards	• have a licensed electrician check and repair wiring
One, but not all, augers have stopped.	• drive chain broken or disconnected	• check the drive chain; repair or replace
	• obstruction in the auger	• identify and remove obstruction
Augers are noisy.	• auger shaft bolts are loose or damaged	• tighten or replace bolts
	• auger shaft is bent	• repair or replace auger
	• flighting is damaged	
Low material augering rate.	• hydraulic flow is too low	• increase rpm of hydraulic pump
		• increase flow rate from hydraulic power source
		• ensure hydraulic system meets flow and pressure specification requirements
	• inadequate material flow from truck	• increase flow of material
	• uneven material distribution in hopper	• keep hopper full
		• ensure truck is dumping in the centre of the hopper
	• flow into the auger intake is restricted	• clear grating of obstructions
	• material too wet or heavy	• unloading rates are for dry grain
	• flighting is worn	• repair or replace as required
Ramps difficult to lift.	• leaky motor seals	• service the hydraulic motor
	• assist springs not installed	• install springs per Section 3.2.
	• ramps binding in tabs	• check for damage; repair as required
	• obstruction between ramp and ground	• remove obstruction
	• springs improperly installed	• install springs per Section 3.2.

9. Appendix

9.1. SPECIFICATIONS

Important: *The capacity of the Portable Pit is dependent on the hydraulic power source. Hydraulic flow or pressure below the nominal requirements will reduce the rated output.*

Westfield Manufacturing reserves the right to change specifications without notice.

CAPACITIES			
		10"	13"
Unloading Rate		5000 Bu / Hr (175m ³ /hr)	8000 Bu / Hr (280m ³ /hr)
Max Vehicle Weight		100,000 LB GVW (45000kg)	100,000 LB GVW (45000kg)
HYDRAULICS			
Hydraulic Flow	Nominal	14 GPM (US) (53 l/min)	14 GPM (US) (53 l/min)
	Maximum	16 GPM (US) (60 l/min)	20 GPM (US) (76 l/min)
Hydraulic Pressure	Nominal	1500 PSI (10500kPa)	2000 PSI (14000kPa)
	Maximum	1800 PSI (12500kPa)	3000 PSI (21000kPa)
ELECTRIC			
Electric Motor Size	Nominal	7.5HP(5.6kW)	14HP(10.5kW)
	Maximum	10HP(7.5kW)	15HP(11.2kW)
DIMENSIONS			
Transport	Length	250" (6350mm)	253" (6426mm)
	Width	75" (1905mm)	75" (1905mm)
	Height	67" (1702mm)	72" (1829mm)
Operating	Length	250" (6350mm)	253" (6426mm)
	Width	147" (3734mm)	147" (3734mm)
	Height – Frame	7-1/2" (191mm)	7-1/2" (191mm)
	Height – Belting	13" (330mm)	13" (330mm)
Ramp	Length	48" (1219mm)	48" (1219mm)
	Width	30" (762mm)	30" (762mm)
	Centre to Centre	78" (1981mm)	78" (1981mm)
Discharge Clearance		26" (660mm)	24 3/4" (629mm)
Under-Vehicle Clearance		7-1/2" (191mm)	7-1/2" (191mm)
TIRES			
Type		P225/70R15	P225/70R15
Inflation Pressure		Refer to Rating on Tire	Refer to Rating on Tire
HOPPERS			
Centre		43" x 47" (1092x1194mm)	43" x 47" (1092x1194mm)
Side		30" x 35-3/4" (762x908mm)	30" x 35-3/4" (762x908mm)
WEIGHT			
Hitch Tongue Weight		1040 LB (475kg)	1230 LB (558kg)
Total Weight		2900 LB (1315kg)	3000 LB (1360kg)

WARRANTY

Westfield Industries Ltd. warrants products of its manufacture against defects in materials or workmanship under normal and reasonable use for a period of one year after date of delivery to the original purchaser.

Our obligation under this warranty is limited to repairing, replacing, or refunding defective part or parts which shall be returned to a distributor or a dealer of our Company, or to our factory, with transportation charges prepaid. This warranty does not obligate Westfield Industries Ltd. to bear the cost of labor in replacing defective parts. Any defects must be reported to the Company before the end of the one year period.

This warranty shall not apply to equipment which has been altered, improperly assembled, improperly maintained, or improperly repaired so as to adversely affect its performance. Westfield Industries Ltd. makes no express warranty of any character with respect to parts not of its manufacture.

The foregoing is in lieu of all other warranties, expressed or implied, including any warranties that extend beyond the description of the product, and the IMPLIED WARRANTY of MERCHANTABILITY is expressly excluded.

WESTFIELD INDUSTRIES LTD.

ROSENORT, MANITOBA

CANADA

R0G 1W0



Westfield Industries

Part of the Ag Growth International Inc. Group

P.O. Box 39

Rosenort, Manitoba, Canada R0G 1W0

Phone: (866) 467-7207 (Canada & USA)

Fax: (866) 768-4852

website: www.grainaugers.com

email: sales@grainaugers.com

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