GRAIN AUGERS
MK80 X 51’ - 71’
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.
This product has been designed and constructed according to general engineering standards\textsuperscript{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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\textsuperscript{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, EN Standards, and/or others.
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1. Introduction

Thank you for purchasing a Westfield grain auger. Before using, please read this manual and understand the various features of the equipment and precautions for efficient and safe operation.

Keep this manual handy for frequent reference and to review with new personnel. A sign-off form is supplied on the inside front cover to record your safety reviews. Call your local distributor or dealer if you need assistance or additional information.

This manual should be regarded as part of the equipment. Suppliers of both new and second-hand equipment are advised to retain documentary evidence that this manual was provided with the machine.

<table>
<thead>
<tr>
<th>Serial Number:</th>
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<tr>
<td>*Serial number is located on the lower tube.</td>
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1.1. Equipment Purpose

1.1.1. Intended Use

This equipment is designed solely for use in customary agricultural or similar operations. Use in any other way is considered as contrary to the intended use. Compliance with and strict adherence to the conditions of operation and maintenance as specified by the manufacturer, also constitute essential elements of the intended use.

This equipment should be operated, maintained, serviced, and repaired only by persons who are familiar with its particular characteristics and who are acquainted with the relevant safety procedures.

Accident prevention regulations and all other generally recognized regulations on safety and occupational medicine must be observed at all times.

Any modifications carried out to this equipment may relieve the manufacturer of liability for any resulting damage or injury.
1. INTRODUCTION

1.1. EQUIPMENT PURPOSE

WESTFIELD - GRAIN AUGERS
MK80 x 51' - 71'
2. Safety

2.1. Safety Alert Symbol and Signal Words

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

**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.

- **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.

2.2. Basic Operator Safety, Responsibilities, & Qualifications

The safety information found throughout this complete Safety Section of the manual applies to all safety practices. Additional instructions specific to a certain safety practice (such as Operation Safety), can be found in the appropriate section.

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. All accidents can be avoided.

- It is the equipment owner, operator, and maintenance personnel’s responsibility to read and understand **ALL** safety instructions, safety decals, and manuals and follow them when assembling, operating, or maintaining the equipment.
- 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.
- This equipment is not intended to be used by children.
- Use this equipment for its intended purposes only.
- Do not modify the equipment in any way without written permission from the manufacturer. Unauthorized modification may impair the function and/or safety, and could affect the life of the equipment. Any unauthorized modification of the equipment will void the warranty.
2.2.1. Personal Protective Equipment (Required to be Worn)

**Ear Protection**
- Wear ear protection to prevent hearing damage.

**Work Gloves**
- Wear work gloves to protect your hands from sharp and rough edges.

**Steel-Toe Boots**
- Wear steel-toe boots to protect feet from falling debris.

**Safety Glasses**
- Wear safety glasses at all times to protect eyes from debris.

**Dust Mask**
- A dust mask may be needed to prevent breathing potentially harmful dust.

**Hard Hat**
- Wear a hard hat to help protect your head.

**Coveralls**
- Wear coveralls to protect skin.

2.2.2. Safety Equipment Required

**First-Aid Kit**
- Have a properly-stocked first-aid kit available for use should the need arise, and know how to use it.

**Fire Extinguisher**
- Provide a fire extinguisher for use in case of an accident. Store in a highly visible and accessible place.

2.3. Drives and Lockout Safety

Inspect the power source (drive) before using and know how to shut down in an emergency. Whenever you service or adjust your equipment, make sure you shut down and lock out your power source to prevent inadvertent start-up and hazardous energy release. Know the procedure(s) that applies to your equipment from the following power sources.
2.3.1. PTO Driveline Safety

**WARNING**

**Driveline**
- Keep body, hair, and clothing away from rotating PTO driveline.
- Make certain the driveline shields telescope and rotate freely on driveline before attaching.
- Make certain the driveline is securely attached at both ends.
- Do not operate equipment unless all driveline, tractor, and equipment shields are in place and in good working order.
- Do not exceed operating speed of 540 rpm.
- Keep universal joint angles small and equal. Do not exceed maximum recommended length for PTO driveline.
- Engage tractor park brake and/or chock wheels.

**Lockout**
- Position all controls in neutral, shut off tractor’s engine, and remove key from tractor.
- If removing key is impossible, remove PTO driveline from tractor.

2.3.2. Hydraulic Drive Safety

**WARNING**

**Power Source**
- Refer to the rules and regulations applicable to the power source operating your hydraulic drive.
- Do not connect or disconnect hydraulic lines while system is under pressure.
- Keep all hydraulic lines away from moving parts.
- Escaping hydraulic fluid under pressure will cause serious injury if it penetrates the skin surface (serious infection or toxic reaction can develop). See a doctor immediately if injured.
- Use metal or wood as a backstop when searching for hydraulic leaks and wear proper hand and eye protection.
- Check all hydraulic components are tight and in good condition. Replace any worn, cut, abraded, flattened, or crimped hoses.
- Clean the connections before connecting to equipment.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses with tape, clamps, or adhesive. The hydraulic system operates under
extremely high pressure; such repairs will fail suddenly and create a hazardous and unsafe condition.

**Lockout**

- Always place all hydraulic controls in neutral and relieve system pressure before disconnecting or working on hydraulic system.

### 2.4. Rotating Parts Safety

**WARNING**

- Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
- Do not operate with any guard removed or modified. Keep guards in good working order.
- Shut off and remove key or lock out power source before inspecting or servicing machine.

### 2.5. Rotating Flighting

**DANGER**

- KEEP AWAY from rotating flighting.
- DO NOT remove or modify flighting guards, doors, or covers. Keep in good working order. Have replaced if damaged.
- DO NOT operate the equipment without all guards, doors, and covers in place.
- NEVER touch the flighting. Use a stick or other tool to remove an obstruction or clean out.
- Shut off and lock out power to adjust, service, or clean.

### 2.6. Overhead Power Lines

**DANGER**

- When operating or moving, keep equipment away from overhead power lines and devices.
- This equipment is not insulated.
- Electrocution can occur without direct contact.
2.7. Tire Safety

- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion that may result in serious injury or death.
- DO NOT attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Have a qualified tire dealer or repair service perform required tire maintenance.
- When replacing worn tires, make sure they meet the original tire specifications. Never undersize the replacement tire.
- DO NOT weld to the tire rim with the tire mounted on the rim. This action may cause an explosion which could result in serious injury or death.
- Inflate tires to the manufacturer’s recommended pressure.
- Tires should not be operated at speeds higher than their rated speed.
- Keep wheel lug nuts tightened to manufacturer’s recommendations.
- Never reinflate a tire that has been run flat or seriously under-inflated without removing the tire from the wheel. Have the tire and wheel closely inspected for damage before remounting.

2.8. Safety Decals

- 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.
- Replacement safety decals are available free of charge from your distributor, dealer, or factory.

2.8.1. Decal Installation/Replacement

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.
2.8.2. Safety Decal Locations and Details

Replicas of the safety decals that are attached to the equipment and their messages are shown in the figure(s) that follow. Safe operation of the equipment requires 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.

Westfield reserves the right to update safety decals without notice. Safety decals may not be exactly as shown.

* Westfield reserves the right to update safety decals without notice. Safety decals may not be exactly as shown.

Figure 2.1
To prevent serious injury or death:

- Read and understand the manual before assembling, operating, or maintaining the equipment.
- Only trained personnel may assemble, operate, or maintain the equipment.
- Do not use the equipment if the decals are missing or damaged.
- Do not attempt to remove or modify safety guards, doors, or covers.
- Keep all safety guards, doors, or covers in place and in good working order.
- If the manual, guards, or decals are missing or damaged, contact a factory or dealer for replacements.
- Lock out power before performing maintenance.
- To prevent equipment collapse, a trained equipment failure discharge must be taken.

The equipment must be properly maintained. Disconnect power before moving or servicing the equipment.

To prevent serious injury or death:

- Securely attach equipment to vehicle with correct pin and safety chains.
- Use a tow vehicle to move equipment.
- If attached, driveline will bottom out, seriously damaging the CV U-joint and lower flight shaft.
- See manual for maintenance.

To prevent damage, wheels must be free to move when raising or lowering the equipment.
- When equipment is positioned, chock all wheels.

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- Use a tow vehicle to move equipment.
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- If the manual, guards, or decals are missing or damaged, contact a factory or dealer for replacements.
- Lock out power before performing maintenance.
- To prevent equipment collapse, a trained equipment failure discharge must be taken.

The equipment must be properly maintained. Disconnect power before moving or servicing the equipment.

To prevent serious injury or death:

- Securely attach equipment to vehicle with correct pin and safety chains.
- Use a tow vehicle to move equipment.
- If attached, driveline will bottom out, seriously damaging the CV U-joint and lower flight shaft.
- See manual for maintenance.

To prevent damage, wheels must be free to move when raising or lowering the equipment.
- When equipment is positioned, chock all wheels.

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- If the manual, guards, or decals are missing or damaged, contact a factory or dealer for replacements.
- Lock out power before performing maintenance.
- To prevent equipment collapse, a trained equipment failure discharge must be taken.

The equipment must be properly maintained. Disconnect power before moving or servicing the equipment.

To prevent serious injury or death:

- Securely attach equipment to vehicle with correct pin and safety chains.
- Use a tow vehicle to move equipment.
- If attached, driveline will bottom out, seriously damaging the CV U-joint and lower flight shaft.
- See manual for maintenance.

To prevent damage, wheels must be free to move when raising or lowering the equipment.
- When equipment is positioned, chock all wheels.
WARNING

HIGH PRESSURE FLUID HAZARD

Hydraulic fluid can cause serious injury if it penetrates the skin. If it does, see a doctor immediately.

- Relieve pressure before disconnecting hydraulic hose.
- Wear proper hand and eye protection and use wood or cardboard, not hands, when searching for leaks.

Figure 2.3
DANGER

ROTATING FLIGHTING HAZARD
To prevent death or serious injury:
- KEEP AWAY from rotating auger flighting.
- DO NOT remove or modify auger flighting guards, doors, or covers. Keep in good working order. Have replaced if damaged.
- DO NOT operate the auger without all guards, doors, and covers in place.
- NEVER touch the auger flighting. Use a stick or other tool to remove an obstruction or clean out.
- Shut off and lock out power to adjust, service, or clean.

ELECTROCUTION HAZARD
To prevent death or serious injury:
- When operating or moving, keep equipment away from overhead power lines and devices.
- Fully lower equipment and truck box before moving.
This equipment is not insulated. Electrocution can occur without direct contact.

Figure 2.4 Safety Decal Details
**DANGER**

**ROTATING PTO DRIVELINE HAZARD**

To prevent serious injury or death:

- Keep body, hair, and clothing away from rotating PTO driveline.
- Do not operate equipment unless all driveline, tractor, and equipment shields are in place and in good working order.
- Make certain the driveline shields turn freely on driveline.
- Make certain the driveline is securely attached at both ends.
- Do not exceed operating speed of 540 rpm.
- Keep u-joint angles small and equal. Do not exceed maximum recommended length for PTO driveline.

**WARNING**

To prevent serious injury or death:

- Keep away from rotating cable sheaves and lift cables.
- Inspect lift cable periodically; replace if damaged.
- Inspect cable clamps periodically; tighten if necessary.

Figure 2.5 Safety Decal Details
**WARNING**

**ENTANGLEMENT HAZARD**

To prevent serious injury or death:

- Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
- Do not operate with any guard removed or modified. Keep guards in good working order.
- Shut off and remove key or lock out power source before inspecting or servicing machine.

**WARNING**

**UPENDING HAZARD**

To prevent death or serious injury:

- Anchor intake end and/or support discharge end to prevent upending.
- Auger intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.
- Do not raise auger intake end above tow bar height.
- Empty auger and fully lower before moving.

Made in Canada

Decal #20804

Decal #20811

Figure 2.6 Safety Decal Details
WARNING

To prevent serious injury or death:

• Read and understand the manual before assembling, operating, or maintaining the equipment.

• Only trained personnel may assemble, operate, or maintain the equipment.

• Children and untrained personnel must be kept outside of the work area.

• If the manual, guards, or decals are missing or damaged, contact factory or dealer for replacements.

• Lock out power before performing maintenance.

• To prevent equipment collapse, support equipment tube while disassembling certain components.

• Electric motors must be grounded. Disconnect power before resetting overloads.

HIGH PRESSURE FLUID HAZARD

Hydraulic fluid can cause serious injury if it penetrates the skin. If it does, see a doctor immediately.

• Relieve pressure before disconnecting hydraulic line.

• Wear proper hand and eye protection and use wood or cardboard, not hands, when searching for leaks.

Made in Canada 20807

Decal #20807

Decal #20805

Figure 2.7 Safety Decal Details
WARNING
MISSING GUARD HAZARD
To prevent serious injury or death, shut off power and reattach guard before operating machine.

TRANSPORT HAZARD
To prevent serious injury or death:
- Securely attach equipment to vehicle with correct pin and safety chains.
- Use a tow vehicle to move equipment.

CAUTION
To prevent personal injury or damage to equipment, close valve in lift cylinder hydraulic line after raising equipment into position.
**NOTICE**

Disconnect PTO driveline from tractor before moving equipment.

If attached, driveline will bottom out, severely damaging the CV u-joint and lower flight shaft.

See manual for maintenance.

Decal #18859

**NOTICE**

To prevent damage, wheels must be free to move when raising or lowering equipment.

When equipment is positioned, chock all wheels.

Decal #19960

**NOTICE**

Lubricate angle drive after each 8 hours of use with high-temperature grease.

Decal #17093

**NOTICE**

To prevent damage during auger-to-tractor hookup:

- Follow dimensions above for correct auger-to-tractor hookup.
- Auger must be on level ground and in full down position when measuring.
- Adjust drawbar as needed.
- See operation manual for complete details.

Decal #17531

**Figure 2.9 Safety Decal Details**
3. Assembly

Before continuing, ensure you have completely read and understood this manual’s Safety chapter, in addition to the safety information in the section(s) below.

3.1. Assembly Safety

⚠️ WARNING

- Do not take chances with safety. The components can be large, heavy, and hard to handle. Always use the proper tools, rated lifting equipment, and lifting points for the job.
- Always have two or more people assembling the equipment.
- Make sure you have sufficient lighting for the work area.
- Tighten all fasteners according to their specifications. Do not replace or substitute bolts, nuts, or other hardware that is of lesser quality than the hardware supplied by the manufacturer.

3.2. Check Shipment

Unload the parts at the assembly site and inspect them thoroughly while comparing the packing slip to the shipment. Ensure that all items have arrived and that none are damaged.

It is important to report missing or damaged parts immediately to ensure that proper credit is received from either the manufacturer or from your distributor/dealer, and to ensure that any missing parts can be shipped quickly to avoid delaying the assembly process.

Note: Do not attempt to assemble or install a damaged component.

3.3. List of Required Tools

- 11-14 support stands (tube section supports, three per tube)
- Four sawhorses (1200 lb / 544.3 kg bearing capacity)
- One standard socket set and wrench set
- One torque wrench
- One standard 25’ (7.62 m) tape measure
- One 2’ level
- One 8” level magnetic
- Two C-clamps or vise grips
- One picker with minimum reach of 12’ (3.66 m) and 4000-6000 lb and (1814 - 2722 kg) lifting capacity
- One 100’ (30 m) measuring tape
- One tire gauge
- One tire chuck
3.4. Before You Begin

- Perform assembly on a firm and level surface in an area large enough to allow access to all sides of the equipment.
- Before beginning assembly, familiarize yourself with all the sub-assemblies, components, and hardware that make up the equipment.
- Have all parts and components on hand, and arrange them for easy access.
- Separate the hardware (bolts, nuts, etc.) and lay them out into groups for easier identification during assembly.

**Note:** When options or more than one configuration is available for the equipment and the assembly information varies, additional instructions will be included.

- If assembling inside a building, be sure the ceiling is at least 14’ (4.27 m) high to provide clearance when installing the undercarriage.
- Ensure there is adequate space to remove the assembled machine from the assembly area.

3.5. Tubes & Flighting

1. Position tube sections. Align tube sections on a flat surface or on a series of benches.

   **WARNING** Do not drop. Damage to equipment or serious personal injury will result.

   **Note:** When assembling more than 2 sections, start from spout end and work towards hopper.

2. Screw or slide lower flight shaft onto upper flight shaft until flight ends butt together and flighting spiral matches up (see Figure 3.1). Secure with hardware listed in table below. Repeat, if necessary, for any remaining flight shafts.

3. Slide tube sections together and secure. Make sure to align upper and lower track ends (see Figure 3.2) and then tighten bolts. Secure with hardware in table below.

   **Important:** Track ends must align to allow track shoe to smoothly slide over track joint. Misalignment may cause jamming.
3.6. Track Shoe, TrackStop, & Lift-Assist Arm

1. Slide the double roller track shoe onto track. Attach the angle trackstop to correct position on track (see Figure 3.3) using two 7/16” x 1-1/4” bolts, locknuts, and flat iron washers. The flat iron washers must be on top of track (see Figure 3.4) and the trackstop must be centered on the track.

---

**Hardware:**

<table>
<thead>
<tr>
<th></th>
<th>For Flighting</th>
<th>Qty</th>
<th>For Tubes</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/16” x 2-1/4” GR 8 bolts and locknuts</td>
<td>2</td>
<td></td>
<td>7/16” x 1” bolts and locknuts</td>
<td>8</td>
</tr>
</tbody>
</table>
2. Slide track shoe along full length of track to make certain there is no binding and that track ends are properly aligned. The upper and lower tracks must be aligned to allow track shoe to roll smoothly over this joint (see Figure 3.5).

3. Attach the lift-assist arm to center hole on track shoe (see Figure 3.6) with one 3/4” x 6-1/2” bolt and locknut. **Do not over-tighten.** Tighten snug only; this bolt acts as a pivot point.
3.7. Boot

**Note:** The gearbox is sent from the factory filled halfway with EP90 oil. Before further assembly, check oil level to make certain the gearbox is half full. Add oil if necessary. Do not use grease.

**Important:** Complete assembly in the order listed to prevent premature failure of the lower bearing.

1. Slide short flight section onto lower flight shaft and secure (see Figure 3.7). Make sure flight ends butt together and spiral matches up.
2. At upper end of auger tube, loosen set screw and remove lock collar from upper bearing.
3. Slip boot over lower flight shaft and attach to flange on lower tube. Tighten securely.
4. Slide the wide rim flat washer onto lower flight shaft.
5. Install lower bearing. Grease zerk must be positioned on the left (when standing behind boot, facing auger discharge).
6. Seat flight shaft shoulder against washer and lower bearing.
7. Secure lock collar and tighten set screw on lower bearing, then on upper bearing.

**Note:** MK augers with hydraulic drive hoppers are shipped without the mechanical drive components (gearboxes, universal joint, and lower chain drive). On these augers, disregard steps for mechanical drive units.

![Figure 3.7](image-url)
For mechanical drive units only:

a. Install 1/4” x 3” square key and slide sprocket onto flight shaft.

b. Align lower sprocket with upper sprocket using straight edge, then tighten set screws.

c. Loosen four bolts on lower bearing and install roller chain (see Figure 3.8) on sprockets and adjust tension to approximately 1/4” deflection. Tighten the 4 bolts on lower bearing. Oil chain lightly.

Note: Attach sprocket guard after installing the PTO driveline.

All Augers:

8. Secure lock collar and tighten set screw on bearing at upper end of auger tube.

<table>
<thead>
<tr>
<th>Part</th>
<th>Hardware</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>To attach flighting</td>
<td>7/16” x 3” bolt and locknut</td>
<td>1</td>
</tr>
<tr>
<td>To attach boot to flange</td>
<td>7/16” x 1” bolts and locknuts</td>
<td>8</td>
</tr>
<tr>
<td>Wide rim flat washer</td>
<td>1-1/4”</td>
<td>1</td>
</tr>
<tr>
<td>Square key</td>
<td>1/4” x 3”</td>
<td>1</td>
</tr>
</tbody>
</table>

3.8. Discharge Spout

Attach discharge spout with two 7/16” x 1-3/4” bolts and locknuts.
3.9. Truss

See Figure 3.10 and 3.11.

1. Fasten lower truss anchor to bracket.
   • bracket is welded to lower tube
   • use two 7/16” x 1” bolts and locknuts

2. Fasten 2 truss support brackets to the correct position on the auger tubes with two 7/16” x 1” bolts and locknuts (see Figure 3.11).

The 71’ auger requires a high truss support center bracket located between the 2 standard support brackets. Fasten with two 7/16” x 1” bolts and locknuts (see Figure 3.11).

3. Attach eyebolt to one end of truss cable with a cable clamp. Insert eyebolt into lower truss anchor and thread on nut a short way.

4. Pull truss cable over truss support brackets, around upper truss anchor and back over truss support brackets to lower truss anchor, holding it loosely in place with one 5/16” cable clamp at upper truss anchor, and two 5/16” cable clamps at each truss support bracket.

**Important:** *Do not tighten cable clamps at this time.*

5. The upper end of augers equipped with truss cables should have an upward bow before being placed on the transport undercarriage (auger tube will straighten when fully assembled). Place supports under the discharge end until upward bow is correct.
   • The upward bow should be approximately 2” (51 mm) on the 51’ auger, 3” (76 mm) on the 61’ auger, and 5” (127 mm) on the 71’ auger.

6. Place other eyebolt onto lower truss anchor and thread on nut a short way.

7. Insert other end of truss cable through this eyebolt. Pull out all slack and secure with two cable clamps.

8. Tighten eyebolts to take remaining slack out of truss cable and to maintain the appropriate upward bow. After tension is adjusted, tighten cable clamps on truss support brackets and upper truss anchor. Check for proper side alignment.

**Important:** Once auger is fully assembled, adjust truss cables on all units (because of initial stretching). Cables may also require adjustment for side alignment.
3. ASSEMBLY WESTFIELD - GRAIN AUGERS
3.9. TRUSS MK80 X 51' - 71'

Figure 3.10

Figure 3.11
9. For 71’ Auger Only (see Figure 3.12):

   a. Fasten short truss anchor (A) to lower auger tube with 7/16” x 1” bolts and locknuts.

   b. Fasten standard truss support bracket to mount (C) on bottom of center tube with 7/16” x 1” bolts and locknuts.

   c. Attach eyebolt to one end of truss cable with two 5/16” cable clamps, then insert eyebolt into short truss anchor and thread on nut a short way.

   d. Pull truss cable over truss support bracket, around upper truss anchor (B) and back over truss support bracket to short truss anchor, holding it loosely in place with one cable clamp at upper truss anchor and 2 cable clamps at truss support bracket.

   e. Place other eyebolt into short truss anchor and thread nut on a short way.

   f. Insert other end of truss cable through this eyebolt. **Pull out all slack** and secure with two 5/16” cable clamps.

   g. Tighten eyebolt to take remaining slack out of truss cable and adjust tension to keep auger tube straight. Tighten cable clamps on truss support bracket and upper truss anchor.

**Important:** Once auger is fully assembled, adjust truss cables on all units (because of initial stretching). Cables may also require adjustment for side alignment.
3.10. Transport Undercarriage

1. As shown in Figure 3.13, fasten the lower reach arms to the axle with three 1/2" x 1-1/4" bolts and locknuts on each side.

2. Attach long crossmember to bottom of large frame brackets with two 1/2" x 1-1/4" bolts and locknuts.

   The 51' auger requires 7/16" x 1" bolts and locknuts.

3. Attach short crossmember to small frame brackets loosely with two 1/2" x 1-1/2" bolts and locknuts, sandwiching the flat braces (B) between short crossmember and small frame brackets on each side. Leave this way until step 9.

4. Install the tubing crossbraces to the welded lugs on the lower reach arms with four 1/2" x 1-1/4" bolts and locknuts, and a fifth one where the braces cross. Tighten securely.

5. Wheel hub assembly:
   a. Remove any dirt or paint from spindle and hub.
   b. Thoroughly pack wheel bearings and cups with a good grade of bearing grease.
   c. Place large bearing into hub and carefully tap in seal.
   d. Slip hub onto spindle and insert small bearing.
   e. Tighten slotted spindle nut until hub drags slightly. Back off nut about 1/4 turn until hub turns freely.
   f. Install cotter pin and dust cap.

   Note: Installing tires may not leave you with enough clearance to position and attach undercarriage once auger tube is raised. If so, install wheels after assembly is complete.

   g. Check that pressure of pre-inflated tires matches pressure indicated on tire sidewall. Mount wheels on hubs and attach with six 1/2" x 1-3/4" wheel bolts.
6. Fasten upper lift arms to lower reach arms with two 3/4” x 2” bolts and locknuts. **Do not over-tighten**; tighten snug only as these bolts act as pivot points.

**WARNING** Do not remove tube support until assembly has been completed.

7. Raise the discharge end of auger with a front end loader and a strong sling/chain or block and tackle (see Figure 3.15). The height should be sufficient to clear undercarriage assembly.

8. Place undercarriage beneath tube assembly and tighten 2 bolts that attach the short crossmember to the small frame brackets.

9. Position stabilizer braces (A) and attach lower reach arms to bracket welded on lower end of auger tube with two 3/4” x 2” bolts and locknuts (see Figure 3.16). **Do not over-tighten**. Tighten snug only; these bolts act as pivot points.
3. ASSEMBLY WESTFIELD - GRAIN AUGERS

3.10. TRANSPORT UNDERCARRIAGE MK80 X 51' - 71'

- **MK 71’**: attach lower reach arms to the proper bracket on the auger tube (see Figure 3.11).

10. Fasten flat braces (B) to first set of holes (furthest from intake) on stabilizer braces (A) with a 7/16” x 1-3/4” bolt and locknut. Place a 7/16” x 1” bolt and locknut in other hole of stabilizer brace.

11. Attach the tubing crossbraces to the upper lift arms using five 1/2” x 1-1/4” bolts and locknuts (see Figure 3.17).

12. Attach upper lift arms to center hole on the lift assist arms (see Figure 3.18), with one 3/4” x 7-1/2” bolt and locknut. **Do not overtighten.** Tighten snug only; this bolt acts as a pivot point.

13. Lower upper end of auger slowly until track shoe rests against trackstop and the lift-assist arm rests against track.
3.11. Lift Cylinder / Cable

1. Position cylinder and attach to welded brackets on the lower end of the tubing with 7/16” x 1-1/4” bolts and locknuts (Figure 3.19). Tighten securely.

**Note:** Although the lift cable is factory installed on the cylinder, make certain that the cable clamps on the cylinder are secure and the cable is properly seated in the cable sheaves before attaching the cable to the lift-assist arm.

2. With lift-assist arm seated against the track and the lift cylinder in full down position, thread cable over the rod pulley on the lift-assist arm, pull tight, and secure with 3 cable clamps. Position cable clamps as shown and tighten securely (Figure 3.20).

**MK 71’:** Thread lift cable through truss support bracket on bottom of auger tube as shown in Figure 3.21.

**Important:** Lift cable will stretch with initial use. Check frequently and adjust.

**CAUTION** Lift-assist arm must rest against track when adjusting cable. If this isn’t done the auger can raise higher than design to lift, resulting in damage to auger and serious injury to personnel.

3. Securely attach hose to lift cylinder using pipe thread sealant, and place hose into brackets welded to side of auger tube. Bend bracket tops over to hold hose in place.

4. Recheck bolts for proper tightness on undercarriage, lift cylinder, and cable clamps. If secure, remove tube support.
3.12. PTO (CV) Driveline

1. Clean PTO driveline and flighting shaft ends of any paint or dirt.
2. Slide plain end of PTO driveline onto flighting shaft. Make sure the holes for the 5/16" roll pin are lined up and square key is in place (where necessary).
   • On models with hydraulic drive hoppers, install a 1/4" x 3" square key on the flighting shaft.
3. Making sure eyes are protected, carefully tap in roll pin. Tighten set screw.
4. Install sprocket guard (see Figure 3.22) on boot with four 5/16" x 3/4" bolts.
5. Slide PTO transport saddle through support strap on boot and rest PTO driveline in it until connected to tractor.

3.13. Standard Intake Hopper

See Figure 3.23 and 3.24.

Note: The gearbox has been filled at the factory (half full) with EP90 gear oil. Before further assembly, check oil level to make certain the gearbox is half full as required. Add oil if necessary. Do not use grease. This does not apply to hydraulic drive hoppers.

1. Remove access covers, then clean paint and dirt from flight shaft end. Insert Woodruff key into flight shaft end.
2. Raise hopper tube to correct angle (22.5°) and then bring hopper and tube section together, carefully sliding the flight shaft end with Woodruff key into the angle drive.
   Note: Correct angle is achieved when the flight shaft end is inserted in the angle drive and its weight is fully supported by the block and stand.
3. Connect the hopper and tube section.
   • use eight 7/16" x 1" bolts and locknuts

   NOTICE To prevent damage, you must maintain the correct angle when inserting flight shaft end into angle drive until tube is secured to the hopper section. Allowing tube or hopper to drop will bend the flight shaft end causing it to bind in the angle drive.
4. Thoroughly lubricate the angle drive, then replace access doors. Keep angle drive well lubricated (after every 8 hours of operation) with high-temperature grease.

Important: Check angle drive alignment! You should be able to rotate the hopper flight by hand. If not aligned see Section 6.2. on page 55 for adjustment instructions.

Note: The angle drive requires a break-in period of at least 2 to 3 loads.
5. Clean any dirt or paint from the wheel axles on the hopper bottom.
6. Install the 2 wheels to the hopper bottom with a washer and cotter pin each.
7. Install rubber extension on inside hopper lip with twenty 5/16" x 3/4" bolts and washer locknuts, and 8 long and 2 short flat iron straps.

8. **For mechanical drive hoppers only**: Open safety discharge door to connect intake hopper to auger boot.
   - This door is held in place internally with two springs. To open, pull the door down and then up and over the gearbox enclosure. Hold open with a C-clamp vise grip.
   - a. Clean universal joint spline and lower gearbox spline, then apply a light film of grease on splined shaft.
   - b. Slide wide rim 1-1/4" flat washer over splined shaft on lower gearbox. See Figure 3.7 on page 25.
c. Guide splined universal joint onto splined shaft as the intake hopper is lowered onto the boot. Once positioned, the swivel ring rests flat on the boot surface and inside the four spacer nuts.

d. Install four large washers with 3/8" x 3/4" bolts to keep the intake hopper in place on the boot (see Figure 3.25).

e. Lubricate the universal joint and close the safety discharge door.

9. **For hydraulic drive hoppers only:** These units are shipped without the mechanical drive components (gearboxes, universal joint, and lower chain drive).

   a. Lower intake hopper onto boot with swivel ring resting flat on the boot surface and inside the 4 spacer nuts.

   b. Install 4 large washers with 3/8" x 3/4" bolts to keep intake hopper in place on the boot.

   c. Securely attach the 2 hydraulic hoses to the hydraulic motor (see Figure 3.26). The correct end of hose has the 7/8" thread and O-ring.

   d. Attach tractor coupler to tapered pipe thread on the other end of hose. These couplers are not supplied. When not in use, store hoses in handy hose holder on powerhead.
3.14. Hopper Lift Arm and Winch

1. Considering your specific use of the auger, determine which side of the auger is best for the hopper to be operating on.

   **Note:** Feed side of hopper must face the main auger when in transport.

2. Position the hopper lift arm on the mount bracket on top of the lower auger tube with the arm overhanging the side of the auger for which you have chosen the hopper to be located.

3. Fasten the hopper lift arm assembly to the mount bracket on top of the lower auger tube with two mount pins and hairpins (see Figure 3.27).

![Figure 3.27 Installing the Lift Arm](image-url)
4. Install winch and winch bracket assembly to auger boot (opposite to side of hopper operation) with one mount pin and a hairpin (see Figure 3.28).

![Figure 3.28 Connecting Manual Winch to the Boot](image)

5. Install the transport hook assembly to the lift arm using a 7/16” x 1-1/4” bolt, 7/16” washer, and 7/16” locknut (see Figure 3.27).

6. Thread the cable through the hopper lift arm and pull the cable to the winch.

7. Wrap the cable over and around the winch spool at least three times, then insert the cable end through the hole provided in the side of the spool and secure the end with the provided cable clamp (see Figure 3.29).

![Figure 3.29 Connecting Winch Cable to Spool](image)
8. To place hopper into transport position, attach cable hook to hook on the hopper transition, then fully raise hopper with intake side facing main auger. Secure hopper to lift arm by connecting the safety chain (see Figure 3.30) to the hopper cable attach bracket.

Figure 3.30 Transport Position, Safety Chain and Winch Hook

If you want to change the side of intake feed hopper operation:

a. Raise auger hitch jack and disconnect from tractor.

b. Swing intake feed hopper to opposite side of auger.

c. Reverse the position of the hopper lift arm assembly.

d. Position the winch upside down on the other side of the boot (see Figure 3.31).

e. Reconnect to tractor.

Figure 3.31 Positioning winch on the other side of the boot
3.15. Hitch Jack

The jack is attached to the auger with a pin at the pivot point. To install:

1. Elevate the auger boot (intake end) approximately 2’ (5.08 cm) with a front-end loader and sling, and install the jack in a vertical position. Secure with supplied pin.

2. Place a board beneath the jack before setting it on the ground, then lower the auger until the jack is seated. Remove front-end loader from auger.

**Note:** Jack can be rotated 90° for transport or operation.

**WARNING:** Jack is designed for raising or lowering auger hitch only. Do not get on or beneath auger while supported by jack or while jack is being operated.

3.16. Auger-to-Tractor Hookup

**Important:** Auger must be hooked up to tractor for all operations including transport, raising, placement, and augering grain.

3.16.1. PTO Driveline / Drawbar

The final stage of the MK assembly is attaching the auger to the tractor.

**Hitch Pin**

When attaching the MK auger to your tractor, you must leave space between the bottom of the tractor drawbar and the top of the securing device on the hitch pin.

- To secure, use 2 nuts locked against each other.
- The space should be about 3/4” (1.91 cm) to 1” (2.54 cm) as shown below.

![Figure 3.32](image)

**Measurements between Drawbar and Driveline**

Since the auger and tractor become an integral unit during transport, placement, and operation, the configuration and measurements between the tractor drawbar and the tractor PTO driveline are very important.

The figure below illustrates the ideal measurements. Most tractors fall into this range.
- Dimension (B) may range from 6" (15.2 cm) to 10" (25.4 cm) with 8" (20.3 cm) being ideal.
- If dimensions (A) and (B) on your tractor are as shown, then dimension (C), which is critical, will be correct.
- If (A) and (B) vary on your tractor from the recommended dimensions, consult the table below for potential problems and their solutions.

A. ..........14" (35.6 cm)
B. ..........6" to 10" (15.2 cm - 24.5 cm)
C. ..........34-1/2" to 36-1/2" (87.6 cm - 92.7 cm)
(MUST BE TAKEN WITH AUGER ON LEVEL GROUND AND IN FULL DOWN POSITION)

RAISE TRACTOR DRAWBAR IF NECESSARY TO MAINTAIN (B) DIMENSION OF 6" TO 10" (15.2 cm - 24.5 cm)

![Diagram](image)

Figure 3.33

Table 3.1

<table>
<thead>
<tr>
<th>MEASUREMENT</th>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF (A) IS LESS THAN 14&quot; (35.6 CM)</td>
<td>(C) WILL BE LESS THAN THE RECOMMENDED 34-1/2&quot; (87.6 CM) TO 36-1/2&quot; (92.7 CM)</td>
<td>THE PTO DRIVELINE WILL BOTTOM OUT WHEN AUGER IS IN RAISED POSITION. THIS WILL CAUSE DAMAGE TO THE PTO DRIVELINE, THE BEARING, OR THE BOOT HOUSING. PULL OUT OR LENGTHEN THE TRACTOR DRAWBAR AS NEEDED TO MAKE (C) 34-1/2&quot; (87.6 CM) TO 36-1/2&quot; (92.7 CM) WHEN THE AUGER IS IN FULL DOWN POSITION.</td>
</tr>
<tr>
<td>IF (A) IS MORE THAN 14&quot; (35.6 CM)</td>
<td>(C) MAY BE MORE THAN THE RECOMMENDED 34-1/2&quot; (87.6 CM) TO 36-1/2&quot; (92.7 CM)</td>
<td>THE PTO DRIVELINE WILL SEPARATE FROM THE AUGER IN THE LOWERED POSITION. THIS WILL CAUSE DAMAGE TO EQUIPMENT AND/OR INJURY TO PERSONNEL. SHORTEN DISTANCE (C) TO THE RECOMMENDED (C) 34-1/2&quot; (87.6 CM) TO 36-1/2&quot; (92.7 CM) BY ATTACHING HITCH TO TRACTOR DRAWBAR AT A POINT CLOSER TO THE TRACTOR PTO SHAFT.</td>
</tr>
<tr>
<td>IF (B) IS MORE THAN 10&quot; (25.4 CM)</td>
<td>(BETWEEN TRACTOR PTO SHAFT AND AUGER INPUT SHAFT) SHORTENS MORE QUICKLY WHEN AUGER IS BEING RAISED</td>
<td>THE U-JOINT ANGLE ON THE PTO DRIVELINE WILL BE TOO SEVERE IN THE RAISED POSITION. THE PTO DRIVELINE WILL BOTTOM OUT BEFORE AUGER IS FULLY RAISED. THIS WILL CAUSE DAMAGE TO THE PTO DRIVELINE, FLIGHT SHAFT, BEARING, AND BOOT. RAISE THE TRACTOR DRAWBAR UNTIL DIMENSION (B) IS WITHIN THE RECOMMENDED 6&quot; (15.2 CM) TO 10&quot; (25.4 CM).</td>
</tr>
</tbody>
</table>

3.16.2. Hydraulic Hose Couplers

Check in your tractor manual or with your dealer regarding the correct type of coupler to use on your auger. Make sure hose ends are free of dirt before securing to coupler.

Refer to Section 8. on page 65 for information on the hydraulic system.
3.17 Plastic Manual Container

1. Attach the manual container bracket to the lower frame arm using a 3/8” x 2-1/2” U-bolt, two 3/8” washers, and two 3/8” locknuts.
2. Slide the tab on the bottom of the manual container into the raised slot in the bracket.
3. Bolt the manual container to the bracket using two 1/4” x 3/4” bolts, two 1/4” washers, and two 1/4” locknuts.

Figure 3.34 Installing the Plastic Manual Container
3.18. Model Decal Placement

**Important:** Do not cover any existing safety or instruction decals with the model decals.

For most decal placement, follow the figure above. Apply decals to both sides of auger tube.

**Lower Tubes:** Place decals just below the angle flange, centered on the tube. Decals must be easily seen from the ground when auger assembly is complete. (For 36’ augers, the model decal can be located in the center of the lower tube.)

**Upper Tubes:** Place Westfield decals in the center of the upper tube, where they are easily seen from the ground when auger assembly is complete. For the W130 & MK130 series, the Westfield decal is located at the top end of the upper middle tube.
3. ASSEMBLY
3.18. MODEL DECAL PLACEMENT

WESTFIELD - GRAIN AUGERS
MK80 x 51' - 71'
4. Transport & Placement

Before continuing, ensure you have completely read and understood this manual’s Safety chapter, in addition to the safety information in the section(s) below.

4.1. Transport & Placement Safety

- Transport auger in full down position with slight tension on cable.
- Properly place hitch pin and securely attach safety chain. Use a type of hitch pin that will not allow auger to separate from towing vehicle.
- Always attach an SMV (slow moving vehicle) sign before transporting auger. Equip the auger with the necessary lights for transportation where required by law. Always use hazard warning flashers on the tractor/towing vehicle when transporting unless prohibited by law.
- Always travel at a safe speed, never exceeding 15 mph (24 km/hr). Reduce speed on rough surfaces and be cautious when turning corners or meeting traffic.
- Before raising/lowering/moving the auger, make sure the area around the auger is clear of obstructions and/or untrained personnel. Never allow anyone to stand on or beneath auger while transporting or placing auger.
- Do not transport auger on slopes greater than 20°.
- Wheels must be free to move when raising or lowering auger.
- Never attempt to move auger manually. To do so will result in serious injury.
- Before moving auger, check for overhead obstructions and/or electrical wires. Electrocution can occur without direct contact.
- Disconnect PTO driveline from tractor before moving auger or tractor and secure driveline in transport saddle.
- Raise intake feed hopper into transport position and lock hopper lift winch before transporting or moving auger. Intake feed side of hopper must face main auger when in transport position.

This auger is designed to be transported and operated without unhitching unit from tractor.
4.2. Transport Procedure

1. Place auger in full down position.
   - Disconnect PTO driveline from tractor and secure in transport saddle, see Figure 4.1.
   - Seat lift-assist arm against the track and the track shoe against the track-stop with slight tension on the lift cable. See “Low-ering & Completion” on page 53.

   **NOTICE** If PTO is not disconnected, driveline will bottom out, severely damaging the CV universal joint end lower flight shaft. See manual for maintenance.

2. Position and secure hitch pin and safety chain. Place safety chain through clevis welded to auger hitch tube and bolt together before attaching to tractor. Refer to Figure 4.2.

   **Important:** Use a type of hitch pin that will not allow auger to separate from towing vehicle.

3. Raise intake feed hopper into transport position by attaching winch cable hook to the hopper as shown in Figure 4.3. Then fully raise hopper with intake side facing toward main auger. Secure hopper to lift arm with the transport chain hook.
4.3. Placement Procedure

1. PTO driveline must be disconnected from tractor and secure in transport saddle for placement.

   **WARNING** Auger must be hooked up to tractor for all operations, including transport, raising, placement, and augering grain.

2. Ensure that towing hitch is in place and secure.

   **Important:** Use a type of hitch pin (see Figure 4.2) that will not allow auger to separate from tractor.

3. Ensure auger is on reasonably level ground when raising, lowering, or positioning.

4. Before raising or positioning auger, make sure that entire area in line of travel, both on the ground and overhead, is clear of any obstructions or electrical wires.
4. TRANSPORT & PLACEMENT

4.3. PLACEMENT PROCEDURE

**CAUTION** If auger wheels are partially or fully buried in snow or grain, failure to clear the area around the wheels before moving may cause damage to the auger or result in serious injury.

**Important:** Because of the many different kinds of tractor hydraulic systems, the quick-connect coupler must be supplied by the owner. Please consult your tractor manual or dealer for the proper coupler.

5. Before connecting hose, wipe off quick-connect coupler on auger and tractor.

**NOTICE** Dirt in the hydraulic system can damage the cylinder O-rings, causing leakage and the possible failure of the system and personal injury.

6. Connect hydraulic hoses, ensure connections are tight. Check for leaks, binding, flattening, kinks, or wear.

**Important:** Wheels must be free to move when raising or lowering auger.

7. If the auger must be raised for positioning:
   a. Check that valve on hose to lift cylinder is open.
   b. Raise auger to the desired height.
   c. Close hose valve (after auger is positioned).

**Important:** The hydraulic cylinders are shipped without oil and must be charged with oil before auger is operated. See "Intake Feed Hopper Hydraulics" on page 65 for charging instructions.

**WARNING** Fluid leaks in the hydraulic cylinder or hose will allow auger to lower inadvertently. Repair all leaks and breaks immediately.

**CAUTION** If hose valve remains open, a loss of hydraulic pressure within the tractor system will allow the auger to lower inadvertently, damaging equipment and/or causing personal injury.

For MK augers with hydraulic drive intake hoppers: If your tractor is equipped with a single hydraulic system, relieve pressure and disconnect lift hose to connect hydraulic motor hoses.

**WARNING** Do not disconnect coupler under pressure. Relieve pressure and then disconnect.

8. Move the auger into working position slowly. Do not unhitch and attempt to move auger by hand.

**WARNING** Never attempt to increase height of auger by positioning wheels on lumber, blocks, or by any other means. To do so will result in damage to equipment and/or serious injury.

**NOTICE** When positioning the auger, the PTO driveline must be disconnected from the tractor and placed in the transport saddle to prevent damage to the auger and PTO driveline.

9. Once auger is in position, chock wheels on both sides and apply the park brake on the tractor (or chock its wheels as well) to prevent movement during operation.

10. When operating auger in the raised position, rest the discharge end lightly on the bin roof, or tie to bin to prevent wind from toppling auger.

11. Fully lower hopper to the ground and remove lift cable from the hopper.

12. See Section “Lowering & Completion” on page 53 for correct lowering procedure.
5. Operation

Before continuing, ensure you have completely read and understood this manual’s Safety chapter, in addition to the safety information in the section(s) below.

5.1. Operational Safety

- Keep children and untrained people away from auger work area, see Figure 5.1. The area around the auger is not safe for untrained personnel and especially not safe for children.
- Have another trained person nearby who can shut down the auger in case of an accident. Always work with a second trained person around augers.
- 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.
- Inspect lift cable before using auger. Replace if frayed or damaged. Make sure it is seated properly in the cable sheaves and that cable clamps are secure.
- Operate auger on level ground free of debris. If ground is uneven, anchor the auger to prevent tipping or upending.
- Augers are not insulated. Keep away from electrical lines. Electrocution can occur without direct contact.
- Support the discharge end and/or anchor the intake end before operating to prevent upending.
- Do not use auger as a hoist.
- Empty auger before raising or lowering.
- Lower auger at completion of operation or when not in use. Auger could drop rapidly in case of cable break or hydraulic failure (where applicable).
- Do not operate auger with the service or cleanout doors open or unlatched.
- Do not get on or beneath auger when raising or lowering intake hitch jack, or when auger is supported by hitch jack.
5.2. Pre-Operational Checklist

Before operating auger each time, the operator must confirm the following:

- All fasteners are secure as per assembly instructions.
- Lift cable is not frayed or damaged.
- Lift cable is properly seated in cable sheaves.
- Cable clamps are secure.
- Hydraulic hoses are in good condition.
• Hydraulic connections are in place and secure.
• PTO driveline is connected and secure.
• PTO driveline shield rotates freely.
• PTO driveline is not exceeding the maximum operating length of 40-5/8”.
• Clean-out and service doors and access covers are in place and secure and safety discharge door is closed.
• All safety guards are in place and secure.
• Tube alignment is reasonably straight.
• Intake area and discharge spout are free of obstructions.
• Auger wheels are chocked, and if necessary, tractor wheels are chocked or the parking brake has been engaged.
• Proper maintenance has been performed.
• Tractor and auger are in line or as close to being in line as possible.
• Know how to safely shut down the auger in an emergency.

5.3. Auger Drive & Lockout

**Note:** If shear bolt in the PTO driveline fails, shut down and lock out tractor to replace bolt.

- The MK80 uses a 5/16” x 1” grade 8 bolt with the shear point through the thread.

![WARNING] Escaping hydraulic fluid under pressure can cause serious injury if it penetrates the skin. Wear protective clothing when working around hydraulic equipment.

5.4. Operating Procedure

5.4.1. Start-Up and Break In

**CAUTION:** Auger must be hooked up to tractor for all operations, including transport, raising, placement, and augering of grain.

**Note:** The angle drive on the standard intake hopper requires a break-in period of at least 2 or 3 loads of grain.

1. Ensure auger is properly placed and complete the pre-operational checklist. If everything is satisfactory, prepare for one hour of operation at half speed.
2. Ensure that the intake hopper is correctly positioned.
3. Ensure that the PTO drive on the tractor is in the OFF position.

**Important:** When starting auger for the first time, be prepared for an emergency shutdown in case of excessive vibration or noise. Auger may run rough until tube is polished.

4. Start tractor and idle at low rpm. Slowly engage PTO drive and hydraulics (on units with hydraulic drive hoppers).
5. Gradually begin feeding grain into hopper, bringing auger speed up to about 300 rpm. Do not overfeed the hopper on initial loads; keep feed of grain at about half capacity.
6. After auger tube is polished and runs fairly smoothly, proceed to unload at full speed of 540 rpm.

7. After initial run, slow auger down until empty of grain and then stop.

8. Lock out tractor and conduct a complete inspection of auger following the pre-operational checklist.

After initial start-up and inspection, auger should be operated and inspected at least 3 more times during the first 10 hours of operation.

NOTICE Running auger empty at high speeds results in excessive wear. Do not exceed 540 rpm.

Keep operation of empty auger to a minimum, as this results in excessive wear.

**After Break-in:** Maintain auger speed of 300 to 540 rpm under normal use for maximum efficiency and to reduce chance of plugging.

Once auger is broken in, the checklist should be a part of the daily routine before operating auger.

### 5.4.2. Operating with a Full Load

1. When operating the auger, always work with a second person in a position to monitor the operation and initiate a shutdown in case of emergency.

2. Monitor the auger during operation for abnormal noises or vibrations.

3. Shut off all power before making adjustments, servicing, or clearing the machine.

4. If grain overflows through safety discharge door, then the auger is loaded beyond its capacity; reduce volume of feed to intake hopper. Remember, auger capacity will decrease at steeper angles of operation.

5. Engage and disengage PTO drive with tractor engine at idle speed. This will reduce stress on drive components and on shear bolts.

6. Do not exceed 540 rpm on the PTO.

---

**USE OF GRAIN SPREADERS:** Many grain spreaders cannot handle the large capacity of some augers. Some augers plug, causing damage to the flighting and other drive components. This type of damage is not covered by warranty. Hints on how to avoid this...

- Get a larger spreader, if available.
- Remove the spreader.
- Make sure spreader is turned on.
- Center auger spout on spreader.
- Do not lower auger spout into spreader.
- Suspend the spreader from bin ceiling leaving extra room for excess grain to flow over the spreader.

**BIN LEVEL INDICATORS:** These augers are fast and bins fill up quickly. A full bin will cause auger to plug, which can damage the flighting and other drive components. Installing quality grain-level indicators on your bins will allow you to monitor bin filling and help prevent damage to your auger.
5.4.3. Shutdown

Normal Shutdown:
1. Near the end of a load, decrease auger speed until all grain is clear of machine.
2. When auger is clear of grain, disengage PTO drive (and hydraulics on units with hydraulic drive hopper).
3. Shut down and lock out tractor.

Emergency / Full-Tube Restart:
1. If cleanout covers or safety doors have been opened or removed, close or replace them before restarting the unit.
2. If the auger is shut down for an emergency, lock out tractor before correcting the problem.
   • If the problem is plugging, clear as much of the grain as possible using a piece of wood, wet/dry vac, or other tool before restarting auger. **Do not reach in and use your hands** even if the tractor has been locked out.
3. If auger tube is full of grain, do not restart at full speed. Engage PTO at low rpm, gradually increasing power until normal operating speed is reached.

**NOTICE** Starting the auger when there is grain blockage will result in damage.

5.4.4. Lowering & Completion

After operation:
1. Clean entire work area.
2. Remove all supports and chocks.
3. Move auger out of working position and lower fully (see Lowering procedure below).
4. Clean out auger (see Clean out procedure below).
5. Prepare for transport and placement or storage (see appropriate chapters for more information).

Lowering:
1. Raise the intake feed hopper slightly. Do not attempt to lift by hand.
   **NOTICE** Never operate auger with intake feed hopper in transport position. This will damage the universal joint.
2. Reconnect hose coupler to tractor, if disconnected.
3. Disconnect PTO driveline from tractor before lowering.
4. Ensure area beneath auger is clear.
5. Open hose valve.
6. Open tractor valve, feathering to prevent too rapid a descent.
   • Once valves are open, auger lowers by gravity. As the auger nears the full down position, the rate of descent increases. Do not operate with tractor valve fully open.

**WARNING** Do not leave auger in raised position when not in use. Auger could drop rapidly due to a cable break.
7. After auger is fully lowered, raise the intake feed hopper into full transport position. Refer to “Transport Procedure” on page 46 step 3.

**NOTICE** Never operate auger with intake feed hopper in transport position. This will damage the universal joint.

**Clean out:**

1. Shut off tractor engine and lock out power.
2. If necessary, open cleanout cover on the boot and manually clean out grain with a piece of wood, vacuum cleaner, or other tool. Do not use hands.
3. Replace cleanout cover.
4. Winch intake feed hopper into transport position and clean out remaining grain using a piece of wood or other tool.
6. Maintenance & Storage

Before continuing, ensure you have completely read and understood this manual’s Safety chapter, in addition to the safety information in the section(s) below.

6.1. Maintenance Safety

- Shut down and lock out all power before attempting maintenance of any kind. If applicable, disconnect PTO driveline from tractor or hydraulic hoses on units with hydraulic drive hoppers.
- After maintenance is complete, replace and secure all safety guards and safety devices, and if applicable, service doors and cleanout covers.
- Support auger tube before attempting maintenance on the undercarriage assembly. Auger should be in full down position for maintenance.
- Use only genuine Westfield replacement parts or equivalent. Replacement parts such as intake guards, pulley guards, PTO driveline shields, winches, and lift cables must meet ASABE standards or serious injury may result. Use of unauthorized parts will void warranty. If in doubt, contact Westfield or your Westfield dealer.
- Do not modify any auger components without authorization from Westfield. Modification can be dangerous and result in serious injuries.

Proper maintenance habits on the MK auger mean a longer life, better efficiency, and safer operation.

6.2. General Maintenance Procedures

Please follow the guidelines below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Maintenance Procedure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>While auger is in use, observe the “” on page 49.</td>
<td>Daily</td>
</tr>
<tr>
<td>General</td>
<td>Check all operating, lifting, and transport components. Replace damaged or worn parts before using auger. For replacement instructions: See “Assembly” on page 21.</td>
<td>Regularly</td>
</tr>
<tr>
<td>Intake Hopper Angle Drive</td>
<td>Lubricate the angle drive with high-temperature grease. If the angle drive in hopper runs hot AFTER the recommended break-in period, this may mean the angle drive is not properly aligned. To align, lock out power, loosen the bolts securing the angle drive, and then adjust or shim up until the flight can be easily rotated by hand.</td>
<td>After every 8 hours of use</td>
</tr>
<tr>
<td>Hydraulic Hose</td>
<td>Using cardboard as a backdrop, check hose and hose coupler for leaks, wear, and damage. Replace if necessary. See “Hydraulic Drive Safety” on page 9. Replacement hose and hose ends must have a minimum strength of 2750 psi (18,961 kPa) working pressure.</td>
<td>Frequently</td>
</tr>
<tr>
<td>Lift Cable</td>
<td>Check and replace if frayed or damaged. Make sure cable clamps are secure.</td>
<td>Periodically</td>
</tr>
<tr>
<td>Cable Sheaves</td>
<td>Oil sheave pins on lift cylinder.</td>
<td>Twice/year</td>
</tr>
<tr>
<td>Truss Cables</td>
<td>Adjust to keep auger tube reasonably straight.</td>
<td>As necessary</td>
</tr>
</tbody>
</table>
### Area Maintenance Procedure Frequency

<table>
<thead>
<tr>
<th>Area</th>
<th>Maintenance Procedure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel Hubs</td>
<td>Repack with lithium-based grease.</td>
<td>Every 2–3 years</td>
</tr>
<tr>
<td>Tire Pressure</td>
<td>Check with a pressure gauge. Pressure should be maintained according to sidewall recommendations.</td>
<td>Monthly, or if it seems low</td>
</tr>
<tr>
<td>Hopper Lift Cable</td>
<td>Check and replace if frayed or damaged.</td>
<td>Periodically</td>
</tr>
<tr>
<td>Hopper Lift Cable Pulleys</td>
<td>Oil lightly for easier raising of hopper.</td>
<td>Several times a year</td>
</tr>
<tr>
<td>Winch</td>
<td>Keep a film of grease on gears.</td>
<td>Regularly</td>
</tr>
<tr>
<td></td>
<td>Oil the bushings, drum shaft, and ratchet.</td>
<td>Occasionally</td>
</tr>
<tr>
<td></td>
<td>Take care not to get oil or grease on brake discs. Service winch with auger in fully lowered position and cable slack.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replace brake discs if less than 1/16&quot; (1.59 mm) thick.</td>
<td>As required</td>
</tr>
<tr>
<td></td>
<td>Service winch with auger in fully lowered position and cable slack.</td>
<td>Regularly</td>
</tr>
<tr>
<td>PTO Driveline</td>
<td>Lubricate all 5 grease fittings (&quot;Mechanical Drive System&quot; on page 58) with good quality Lithium Soap Base E.P. Grease meeting NLGI #2 specifications and containing no more than 1% molybdenum disulfide (example: Shell Super Duty).</td>
<td>After the first 16–24 hours and then regularly afterward</td>
</tr>
<tr>
<td></td>
<td>Grease fittings No. 2 and 3 can be reached through hole in implement end portion of the driveline guard.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grease fitting No. 4 can be reached through hole in center portion of the driveline guard.</td>
<td></td>
</tr>
</tbody>
</table>

### LUBE RECOMMENDATIONS\(^a\)

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>LOCATION</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 HRS.**</td>
<td>CROSS &amp; BEARING</td>
<td>1 PUMP</td>
</tr>
<tr>
<td>8 HRS.</td>
<td>TELESCOPING MEMBERS</td>
<td>4-8 PUMPS</td>
</tr>
<tr>
<td>8 HRS.**</td>
<td>CV BALL &amp; SOCKET</td>
<td>1-2 PUMPS</td>
</tr>
</tbody>
</table>

\(^a\) Constant angle applications must have lube interval of 4 hours.

### NOTICE

Replacement parts are not lubricated!

Replacement parts must be lubricated at time of assembly. Use amount listed above per location, then follow lube recommendations outlined above for lubing intervals.
<table>
<thead>
<tr>
<th>Area</th>
<th>Maintenance Procedure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Low Profile Hopper</td>
<td>Loosen the 2 nuts securing the service door. Open door, then grease the 4 bushings and the 2 u-joints. Close door, then securely tighten the two 3/8&quot; nuts.</td>
<td>Frequently</td>
</tr>
<tr>
<td></td>
<td>Check and adjust the hopper drive chain and lubricate the hopper drive chain.</td>
<td>Occasionally</td>
</tr>
<tr>
<td></td>
<td>To adjust chain, loosen the bearing bolts and adjust chain tension to about 1/4&quot; (0.64 cm) deflection. Replace guard.</td>
<td></td>
</tr>
</tbody>
</table>
### 6.3. Mechanical Drive System

<table>
<thead>
<tr>
<th>Area</th>
<th>Maintenance Procedures</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom Chain Drive</td>
<td>Keep drive chain tension adjusted to about 1/4&quot; (0.64 cm) deflection by loosening the four bolts on lower bearing, then re-tighten.</td>
<td>Regularly</td>
</tr>
<tr>
<td></td>
<td>Oil chain often enough to keep film of oil on it (this can be done through the hole in the side of the sprocket guard).</td>
<td>Frequently</td>
</tr>
<tr>
<td>Replace sprocket guard after maintenance!</td>
<td>Flip up safety discharge door and lubricate grease fitting in the u-joint. Check set screws and re-tighten if necessary.</td>
<td>After every 8 hours of operation</td>
</tr>
<tr>
<td></td>
<td>Check set screws and re-tighten if necessary.</td>
<td>Regularly</td>
</tr>
<tr>
<td>Universal Joint</td>
<td>Check oil levels in both gearboxes. They should be half full of EP90 lube oil.</td>
<td>At least once a year, depending on use</td>
</tr>
<tr>
<td></td>
<td>Fill as needed; you may need a flexible funnel. If you notice excessive loss of oil, check more frequently and repair problem.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Each gearbox requires 355 mL or 12-1/2 fl oz. Do not overfill.</td>
<td></td>
</tr>
<tr>
<td>Gearboxes</td>
<td>For more extensive servicing or repairs, remove hopper from boot assembly by removing the 3/8” x 3/4” bolts and large washers. Lift hopper with front-end loader or other secure method.</td>
<td>As required</td>
</tr>
<tr>
<td></td>
<td>Check and re-tighten set screws and connecting bolts. Clean and lightly grease the splined shaft. Reattach hopper to boot assembly as per instructions in Section 3.13 or 3.15.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>WARNING</strong> Do not operate auger with intake hopper not in place. Replace and secure service doors before operating auger.</td>
<td></td>
</tr>
<tr>
<td>Bearing</td>
<td>Lubricate grease fitting on lower flight bearing.</td>
<td>As required</td>
</tr>
<tr>
<td></td>
<td>Replace sprocket guard after maintenance!</td>
<td></td>
</tr>
</tbody>
</table>
6.4. Storage Safety

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored equipment.

6.5. Storage

To protect auger in storage during the off-season:
1. Lower the auger to full down position with slight tension on the cable.
2. Lubricate all grease fittings according to the maintenance procedure.
3. Inspect auger for damage and note any repairs required. Order replacement parts from your dealer.
4. Check tire pressure and inflate if necessary. See tire sidewall for recommendations.
5. Clean and re-lubricate spline on PTO driveline. Cover PTO driveline with plastic bag to protect it from the weather and place in the transport saddle.
6. Tow auger to storage area. Park and chock wheels.

CAUTION: Support discharge end of auger before removing or replacing any parts on the undercarriage.

To prepare auger for use after storage:
1. Check tire pressure and inflate if necessary. See tire sidewall for recommendations.
2. Tow auger to work site.
3. Remove cover from spline of PTO driveline and re-lubricate.
4. Check oil level in gearbox and refill if necessary (half full only).
5. Replace any damaged parts and decals.
6. Conduct general maintenance before using auger.
7. Before raising auger after storage, make certain cable is in good condition, replacing it if frayed or damaged. Also make sure cable is properly seated in roller track and that cable clamps are secure.

Note: Use only genuine Westfield replacement parts or equivalent. Replacement parts such as intake guards, pulley guards, PTO driveline shields, winches and lift cables Must meet ASAE standards or serious injury may result. Use of unauthorized parts will void warranty. If in doubt, contact Westfield or your Westfield dealer. Do not modify any auger components.
7. Troubleshooting

Before continuing, ensure you have completely read and understood this manual’s Safety chapter, in addition to the safety information in the section(s) below.

This chapter covers possible causes and solutions to problems you may encounter. If you encounter a problem that is difficult to solve, even after having read this chapter, please contact your local Westfield dealer or distributor. Before contacting them, please have this operation manual and your machine’s serial number handy.

⚠️ **WARNING** Shut down and lock out all power sources before diagnosing any of the causes or attempting any of the solutions below.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive noise or vibration.</td>
<td>Determine if noise originates in main or swing away section of auger. Disconnecting the chain from the sprocket drive can assist in narrowing down the source of the problem. <strong>If noise disappears when chain is disconnected, problem is likely in the swing away auger.</strong></td>
<td>Check for flight operation by rotating by hand with sprocket chain disconnected and tractor shut off. Grease or replace as necessary.</td>
</tr>
<tr>
<td></td>
<td>Hopper flight support bearings are dry or have failed.</td>
<td>Refer to appropriate troubleshooting section.</td>
</tr>
<tr>
<td></td>
<td>Angle drive is misaligned or has failed (standard hopper).</td>
<td>Refer to appropriate troubleshooting section.</td>
</tr>
<tr>
<td></td>
<td>Universal joint not greased or is faulty (low profile hopper).</td>
<td>Grease or replace as necessary.</td>
</tr>
<tr>
<td></td>
<td>Faulty upper gearbox.</td>
<td>Refer to appropriate troubleshooting section.</td>
</tr>
<tr>
<td></td>
<td>Obstruction in tube.</td>
<td>Visually inspect for cloth or trash wrapped around flighting, or a buildup from oily crops.</td>
</tr>
<tr>
<td></td>
<td>Bent flight stub on swing flighting.</td>
<td>Remove flighting and roll against flat surface to determine if stub is true.</td>
</tr>
<tr>
<td></td>
<td><strong>If noise continues when chain is disconnected, check auger or PTO.</strong></td>
<td></td>
</tr>
<tr>
<td>CV PTO failure.</td>
<td>Refer to appropriate troubleshooting section.</td>
<td></td>
</tr>
<tr>
<td>Incorrectly adjusted truss cables.</td>
<td>Support end of auger and adjust cables so auger is flat or slightly curved upwards.</td>
<td></td>
</tr>
<tr>
<td>Flighting has peeled back due to plugging.</td>
<td>Inspect spout end of auger for flight condition. Remove and replace flight sections as necessary.</td>
<td></td>
</tr>
<tr>
<td>Faulty lower gearbox.</td>
<td>Refer to appropriate troubleshooting section.</td>
<td></td>
</tr>
<tr>
<td>Lower bearing dry or has failed.</td>
<td>Refer to appropriate troubleshooting section.</td>
<td></td>
</tr>
<tr>
<td>Bent flighting section.</td>
<td>Support auger and remove all flight sections. Check for straightness of flight stubs by rolling across flat section of concrete floor. Straighten stub or replace as necessary. Take care not to bend flighting when reinstalling.</td>
<td></td>
</tr>
<tr>
<td>Obstruction in tube.</td>
<td>Visually inspect for cloth or trash wrapped around flighting, or a buildup of gum from oily crops such as flax or canola.</td>
<td></td>
</tr>
<tr>
<td>High spot at flighting joints.</td>
<td>Check with straight edge. If necessary, grind down until even.</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>Possible Cause</td>
<td>Remedy</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CV PTO failure.</td>
<td>Try to determine the operation and maintenance habits of the owner in order to avoid multiple repairs and unnecessary frustration.</td>
<td></td>
</tr>
<tr>
<td>Broken CV ball.</td>
<td>Most frequently occurs when PTO driveline is not disconnected during transport or setup of the auger. Remind all operators to disconnect PTO driveline except when at the bin, in operation.</td>
<td></td>
</tr>
<tr>
<td>Excessive PTO angle.</td>
<td>Check Assembly section for correct dimensions (auger input and tractor PTO output). It may be necessary to raise tractor drawbar to maintain correct dimensions. Extreme side-to-side angles that are necessary because of the bin and tractor placement may be corrected with a right angle drive kit.</td>
<td></td>
</tr>
<tr>
<td>Early series u-joint cross or non-Westfield part used.</td>
<td>Ensure new “E” series u-joint crosses and genuine Westfield replacement parts are used.</td>
<td></td>
</tr>
<tr>
<td>Telescoping part of PTO shaft bottoming out.</td>
<td>Pull out or lengthen tractor drawbar to maintain minimum clearance. Refer to Assembly section.</td>
<td></td>
</tr>
<tr>
<td>Bearings not receiving adequate grease.</td>
<td>Check Maintenance section—CV PTO drivelines should be greased as part of daily maintenance procedures.</td>
<td></td>
</tr>
<tr>
<td>Premature gearbox failure.</td>
<td>While all MK gearboxes come from the factory filled with oil, it should be part of the setup procedure to double check that a half full level is maintained.</td>
<td></td>
</tr>
<tr>
<td>Failed seal.</td>
<td>Check gearbox levels on a regular basis and only fill with EP90 oil.</td>
<td></td>
</tr>
<tr>
<td>1000 rpm tractor input being used.</td>
<td>Use 540 rpm tractor or install speed reducer.</td>
<td></td>
</tr>
<tr>
<td>Angle drive fails or runs hot.</td>
<td>Angle drives require 2–3 loads to break in properly. It is normal for the angle drive to run warm to the touch during operation.</td>
<td></td>
</tr>
<tr>
<td>Bearings not receiving adequate grease.</td>
<td>Grease frequently, especially during break-in period.</td>
<td></td>
</tr>
<tr>
<td>Misaligned angle drive.</td>
<td>Adjust by shimming angle drive until flighting turns freely by hand. See Assembly section for details.</td>
<td></td>
</tr>
<tr>
<td>Swing tube flight stub bent.</td>
<td>Check for straightness of flight stubs by rolling across flat concrete section. Straighten stub or replace as necessary. Maintain correct angle when re-connecting hopper and swing tube.</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>Possible Cause</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>--------</td>
</tr>
<tr>
<td>Shear bolts fail repeatedly.</td>
<td>Incorrect shear bolt type.</td>
<td>Replace with correct part number. Westfield shear bolts are specifically designed to provide correct driveline protection.</td>
</tr>
<tr>
<td></td>
<td>Shear bolt hole worn out-of-round.</td>
<td>Frequent use of an incorrect shear bolt size can wear the mounting hole creating a &quot;scissor effect,&quot; which will require replacement of the affected parts.</td>
</tr>
<tr>
<td></td>
<td>Corn spreaders in bin unable to keep up with auger output.</td>
<td>Slow down auger or remove corn spreaders.</td>
</tr>
<tr>
<td></td>
<td>Flighting &quot;peeled back&quot; as a result of plugging.</td>
<td>Occurs when bin has overfilled or corn spreaders restrict end of discharge. Inspect flighting at discharge end. If necessary, replace flighting.</td>
</tr>
<tr>
<td></td>
<td>Driveline failures (bearing, gearbox, etc.).</td>
<td>Refer to appropriate troubleshooting section.</td>
</tr>
<tr>
<td>Lower bearings repeatedly fail.</td>
<td>Bearings not receiving adequate grease.</td>
<td>See Maintenance section for correct greasing intervals.</td>
</tr>
<tr>
<td></td>
<td>Bearing load not evenly distributed between upper and lower bearings.</td>
<td>Use correct sequence of tightening lock collars when setting up or replacing bearings. On MK130 Plus models, adjust bearing load using threaded upper flight stub.</td>
</tr>
<tr>
<td></td>
<td>Insufficient CV PTO shaft clearance.</td>
<td>Maintain correct tractor hitch dimensions as per manual.</td>
</tr>
<tr>
<td></td>
<td>Failure of bearing seals.</td>
<td>Wet grain or fertilizer will damage seals if left in boot over time. Clean out boot before storing auger.</td>
</tr>
<tr>
<td></td>
<td>Bent lower flight stub.</td>
<td>Check for straightness of flight stub by rolling across flat concrete section. Straighten stub or replace as necessary.</td>
</tr>
<tr>
<td>Premature wear on auger tubes.</td>
<td>Auger being at low capacity or empty for extended periods of time.</td>
<td>Frequently occurs on farms using grain wagons. Auger should not be left unattended when filling bins. Depending on application, a belt conveyor may be more appropriate.</td>
</tr>
<tr>
<td></td>
<td>Bent flighting.</td>
<td>Refer to appropriate troubleshooting section.</td>
</tr>
<tr>
<td></td>
<td>Flighting allowed to wear beyond normal point of replacement.</td>
<td>When flighting becomes razor-thin at intake, replacement is critical. Since flight material is double thickness at welded lap joints, high spots on flight occur and can accelerate spot tube wear.</td>
</tr>
<tr>
<td>Hydraulic lift settles out over time.</td>
<td>Shut off ball valve is open.</td>
<td>Oil is leaking through tractor valve. Auger ball valve should be closed whenever set up at a bin.</td>
</tr>
<tr>
<td></td>
<td>Shut off ball valve is leaking.</td>
<td>Disconnect hose from tractor and check for leakage.</td>
</tr>
<tr>
<td></td>
<td>Lift cylinder cup seal leaking or cylinder barrel scored or pitted.</td>
<td>See if oil leaks from cylinder breather hole (single action cylinders). Remove and replace cup seal and hone cylinder or replace as needed.</td>
</tr>
</tbody>
</table>
8. Appendix

8.1. Lift Cylinder Hydraulics

This auger is elevated with a 4” bore, and single acting hydraulic cylinder and cable. The following table lists the psi required to raise specific auger sizes (as determined by Westfield testing).

These tests used a hydraulic pressure gauge (4000 psi maximum rating) and are solely intended to be used as a guide. The psi requirements for specific augers may vary slightly. Should your auger require a significantly higher psi to raise, contact either your dealer or Westfield Industries.

<table>
<thead>
<tr>
<th>AUGER</th>
<th>SIZE</th>
<th>psi</th>
<th>kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK80 51’</td>
<td>8” x 51’</td>
<td>850</td>
<td>5865</td>
</tr>
<tr>
<td>MK80 61’</td>
<td>8” x 61’</td>
<td>950</td>
<td>6555</td>
</tr>
<tr>
<td>MK80 71’</td>
<td>8” x 71’</td>
<td>1200</td>
<td>8280</td>
</tr>
</tbody>
</table>

The approximate quantity of hydraulic fluid required to raise auger:

<table>
<thead>
<tr>
<th>AUGER</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MK 51’</td>
<td>6.2 L</td>
</tr>
<tr>
<td>MK 61’</td>
<td>7.5 L</td>
</tr>
<tr>
<td>MK 71’</td>
<td>9.0 L</td>
</tr>
</tbody>
</table>

8.2. Intake Feed Hopper Hydraulics

This Section Only Applies to MK Augers with Hydraulic Drive Intake Hoppers!

Intake feed hopper speed is regulated by the volume and pressure generated by the hydraulic system of the tractor. When tractor engine rpm is increased, the speed of the flighting in the hopper is increased.

The speed of the main auger will also increase, effectively preventing the overloading of the main auger under normal conditions. If the intake feed hopper is overloading the main auger, decrease the amount of grain flow from your truck or trailer.

For proper intake feed hopper functioning, the hydraulic motor must receive adequate gallons per minute (gpm) at the proper pressure (psi). The minimum volumes and pressures are:

- The intake feed hopper must receive a minimum of 8 gpm (36.3 Lpm) at 1500 psi (10,342 kPa).

**Note:** The minimum requirements listed are essential for efficient auger operation. Additional gallons per minute will increase the speed of the hydraulic motor (flighting rpm) while a higher pressure will create additional torque to maintain motor speed under load.

8.2.1. Hydraulic Motor Notes

Do not exceed a constant back pressure of 300 psi (2068 kPa) in the hydraulic motor.

- The hydraulic system on some tractors is designed so that the return flow of hydraulic fluid from the hydraulic motor to the tractor is restricted. This creates excessive back pressure inside the hydraulic motor and deprives it of an adequate flow of hydraulic fluid. The result will be seal failure, overheating, rough running, and loss of power.
To date, these problems occur primarily with certain John Deere tractors. Kits to correct the problem are available from your John Deere dealer (Figure 8.1).

**Important:** John Deere Series 50 tractors with a single hydraulic lever will require this kit. Series 50 tractors with double hydraulic levers have the kit pre-installed.

**Note:** The problem discussed in this section may exist on tractors other than the John Deere. Should you experience this situation, contact your tractor dealer or Westfield Industries.

A remote cylinder control valve oil return kit, which returns oil to the oil filter cover, is available for more efficient use of tractor hydraulics. Order AR71945 Remote Cylinder Control Valve Oil Return kit and AT30197 Ported Cover for transmission filter.

**IMPORTANT**
A steel-encased filter element must be used with the AT30197 Ported Filter Cover.

**W8058**
INFORMATION COURTESY JOHN DEERE MANUAL “PREPARING THE TRACTOR.”

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**8.3. Bolt Torque Values**

Tables 8.1 and 8.2 give correct torque values for various bolts and capscrews. The bolt diameter is measured to the outside of the threads. When tightening all bolts, tighten the nut on the bolt to the torque specified in the tables, unless otherwise specified. Do not replace or substitute bolts, nuts, or other hardware that is of lesser strength than the hardware supplied by the manufacturer.

Torque values indicated below are valid for non-greased or non-oiled threads and head, unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.
### Table 8.1 SAE Bolt Torque

<table>
<thead>
<tr>
<th>Bolt Diameter</th>
<th>(N·m)</th>
<th>(ft·lb)</th>
<th>(N·m)</th>
<th>(ft·lb)</th>
<th>(N·m)</th>
<th>(ft·lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>8</td>
<td>6</td>
<td>12</td>
<td>9</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>13</td>
<td>10</td>
<td>25</td>
<td>19</td>
<td>36</td>
<td>27</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>27</td>
<td>20</td>
<td>45</td>
<td>33</td>
<td>63</td>
<td>45</td>
</tr>
<tr>
<td>7/16&quot;</td>
<td>41</td>
<td>30</td>
<td>72</td>
<td>53</td>
<td>100</td>
<td>75</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>61</td>
<td>45</td>
<td>110</td>
<td>80</td>
<td>155</td>
<td>115</td>
</tr>
<tr>
<td>9/16&quot;</td>
<td>95</td>
<td>60</td>
<td>155</td>
<td>115</td>
<td>220</td>
<td>165</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>128</td>
<td>95</td>
<td>215</td>
<td>160</td>
<td>305</td>
<td>220</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>225</td>
<td>165</td>
<td>390</td>
<td>290</td>
<td>540</td>
<td>400</td>
</tr>
<tr>
<td>7/8&quot;</td>
<td>230</td>
<td>170</td>
<td>570</td>
<td>420</td>
<td>880</td>
<td>650</td>
</tr>
<tr>
<td>1&quot;</td>
<td>345</td>
<td>225</td>
<td>850</td>
<td>630</td>
<td>1320</td>
<td>970</td>
</tr>
</tbody>
</table>

### Table 8.2 Metric Bolt Torque

<table>
<thead>
<tr>
<th>Bolt Diameter</th>
<th>(N·m)</th>
<th>(ft·lb)</th>
<th>(N·m)</th>
<th>(ft·lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3</td>
<td>0.5</td>
<td>0.4</td>
<td>1.8</td>
<td>1.3</td>
</tr>
<tr>
<td>M4</td>
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<td>2.2</td>
<td>4.5</td>
<td>3.3</td>
</tr>
<tr>
<td>M5</td>
<td>6</td>
<td>4</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>M6</td>
<td>10</td>
<td>7</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>M8</td>
<td>25</td>
<td>18</td>
<td>35</td>
<td>26</td>
</tr>
<tr>
<td>M10</td>
<td>50</td>
<td>37</td>
<td>70</td>
<td>52</td>
</tr>
<tr>
<td>M12</td>
<td>90</td>
<td>66</td>
<td>125</td>
<td>92</td>
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<td>148</td>
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<tr>
<td>M16</td>
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<td>166</td>
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<tr>
<td>M20</td>
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<td>610</td>
<td>450</td>
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<td>M24</td>
<td>750</td>
<td>553</td>
<td>1050</td>
<td>774</td>
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<tr>
<td>M30</td>
<td>1495</td>
<td>1103</td>
<td>2100</td>
<td>1550</td>
</tr>
<tr>
<td>M36</td>
<td>2600</td>
<td>1917</td>
<td>3675</td>
<td>2710</td>
</tr>
</tbody>
</table>
8. APPENDIX
8.3. BOLT TORQUE VALUES

WESTFIELD - GRAIN AUGERS
MK80 x 51' - 71'
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.

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