Model M2120A
Pull-Type Peanut Combine
MAN152
1st Edition, Beg. S/N 570000

AMADAS INDUSTRIES

March 2019
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Read this manual before using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury or death.
Model M2120A 6 Row Pull Type Peanut Combines are manufactured by Amadas Industries:

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Albany, GA 31706

Owner’s Name ____________________________ Dealer’s Name ____________________________
Serial Number ____________________________ Model No. ____________________________
Date Purchased ____________________________

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Suffolk, VA 23434  Albany, GA 31701
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Welcome To AMADAS Industries

With origins dating back to 1963, AMADAS Industries and its predecessors have a long history of providing high quality, reliable, and innovative equipment for the farming industry. AMADAS equipment is currently at work throughout the United States and in many other countries. This equipment ranges from the Self-Propelled Peanut Combine, Tree Bark Processing and Packaging Machinery, Hi-Speed Cotton Stalk Puller/Chopper, Reel Rain Traveler Irrigation Systems, to the M2120A Pull-Type Peanut Combines.

Thank you for choosing AMADAS Industries. We are strongly committed to your satisfaction and safety. Our goal is for you to be satisfied with our machinery for many years and it is our hope that you will choose AMADAS again for your equipment needs.

We are confident you will experience many good years of service with your AMADAS combine. If any need should arise, we pledge the best efforts of our people and dealers to assist you.

One of the most important factors to both safety and maximum performance is for every machine operator to understand thoroughly the safe operation of this equipment. Please invest the time to read this manual to ensure that injuries are prevented and to receive the maximum productivity from your AMADAS machine.
Congratulations on your purchase of an AMADAS M2120A Pull-Type Peanut Combine! At AMADAS Industries, we are proud of our equipment and our more than fifty years of service to peanut farmers.

AMADAS peanut combines are the culmination of our years of development, field testing, and continuous improvement.

In response to our customers’ needs and industry demands, the AMADAS peanut combine has evolved into the model M2120A, the most technically advanced pull-type peanut combine available. The combination of innovative technology, low yearly maintenance, and the industry’s largest threshing and separation capacity makes this machine the world leader in pull-type combines.

Benefits
The proven performance of the advanced picking and separating technology of the AMADAS M2120A provides the following benefits:

- Increased harvesting capacity
- Increased harvesting efficiency
- Reduced harvesting costs
- Improved performance in tough harvest conditions
- Reduced field loss, foreign material, LSKs
- Simplified disk separator chain drive
- Larger dump and OCS Baskets
- High flotation radial tires
- New camless single motor header
# Specifications

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<tr>
<td>Width</td>
<td>18'-6&quot;</td>
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<td>Height (bin lip in)</td>
<td>15'-0&quot;</td>
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<td>Height (bin lip out)</td>
<td>16'-5&quot;</td>
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<td>Dump Height</td>
<td>13'-6&quot;</td>
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<td>Service height (bin raised)</td>
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<td>Bin capacity</td>
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</tr>
<tr>
<td>Operation/warning light kit</td>
<td>LED</td>
</tr>
<tr>
<td>Remote auger reverse</td>
<td>Standard</td>
</tr>
<tr>
<td>Vine spreader</td>
<td>Optional</td>
</tr>
<tr>
<td>PTO input: 1000 RPM 1-3/4&quot;-20 or 1000 RPM 1-3/8 -21 PTO driveline</td>
<td>790 RPM input (standard) 850 RPM input (optional)</td>
</tr>
<tr>
<td>Tongue:</td>
<td>Hydraulic height adjustable fixed tongue (standard) Hydraulic height adjustable side shift tongue (optional)</td>
</tr>
<tr>
<td>Hitch type:</td>
<td>2&quot;, 1-1/2&quot;, 1-1/4&quot; pin hitch (standard), 2-5/16&quot; ball hitch (optional)</td>
</tr>
<tr>
<td>Picking:</td>
<td>Four 30” Ø spring-tooth picking cylinders Dual speed cylinder drives (optional) Adjustable retention board Two sets adjustable overhead teeth (standard) Five sets adjustable concave teeth (optional)</td>
</tr>
<tr>
<td>Separation system:</td>
<td>Five retractable spring tooth walker cylinders Two beater cylinders 15-roll disc separator 14” Ø 24-blade cross induction cleaning fan</td>
</tr>
<tr>
<td>Elevator system:</td>
<td>12” Ø collection auger to 9-1/2” square duct 28” Ø 12-blade centrifugal fan</td>
</tr>
</tbody>
</table>

**Note:** The above specifications are for an 8750-pound Bin Dump equipped combine.

**Table 2: Recommended Lubricants**

<table>
<thead>
<tr>
<th>Lubricant Type</th>
<th>Supplier/Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grease, Synthetic NLGI #2</td>
<td>O.E.M. equipped Permalube Xtreme Grease, p/n 81088</td>
</tr>
<tr>
<td>Gear oil, Synthetic 50WT</td>
<td>O.E.M. equipped Lubemaster Synthetic SAE 50, p/n 81087</td>
</tr>
</tbody>
</table>

**Table 3: Tire & Wheel Fasteners Torque Specifications**

<table>
<thead>
<tr>
<th>Fasteners Type</th>
<th>Diameter</th>
<th>Thread</th>
<th>Grade</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange type lug nuts</td>
<td></td>
<td></td>
<td></td>
<td>400 ft/lb</td>
</tr>
<tr>
<td>Budd type lug nuts</td>
<td></td>
<td></td>
<td></td>
<td>475 ft/lb</td>
</tr>
</tbody>
</table>
Dimensions - OCS

Figure I-1: Dimensions Side View - OCS

Figure I-2: Dimensions Front View - OCS
**Dimensions - Dump Basket**

**Figure I-1: Dimensions Side View - BDS**

**Figure I-2: Dimensions Front View - BDS**
1. Safety

Safety

Safety Practices
Safety Practices–Operator
Safety Practices–Equipment
Safety Practices–Maintenance
Safety Decals
Safety Decal Locations
Safety

Look for the Safety Alert Symbol!

This symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert Symbol indicates a potential safety hazard to personnel and extra precaution must be taken. When you see this symbol on the machine, remain alert and read the message that follows it carefully. ALWAYS follow the recommended precautions and safe operating procedures accompanying this symbol. If you have any questions, please contact your dealer or the manufacturer.

⚠️ DANGER

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

⚠️ WARNING

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

⚠️ CAUTION

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

⚠️ NOTICE

Used with messages not related to personal injury, such as related to property damage only.
Safety Practices

Safety at All Times!

You, the operator, can help avoid accidents or injury by observing the precautions in this section and insisting that others working for, or with, you also follow them.

- Do NOT attempt to operate this equipment under the influence of drugs or alcohol, or prescription/over-the-counter drugs that can cause impairment.
- Never allow children and persons unfamiliar with this equipment to operate this machinery, or remain in its vicinity, while it operates.
- Make sure all bystanders are at a safe distance before operating or maintaining this equipment.
- Do not allow anyone to ride on any part of the equipment for any reason.
- Do NOT allow any person to operate or perform maintenance on this machine until he or she has read this manual and understands the safety precautions.
- Only a trained operator familiar with this machinery and trained in its operation should be allowed to operate this machine.
- Do not read, eat, drink, talk, text, or use a mobile phone while using this equipment.
- Use a tractor equipped with a Rollover Protective System (ROPS) to prevent injury or death.
- Do not paint over, remove, or deface any safety signs or warning decals on your equipment.
- NEVER exceed the limits of a piece of machinery. If its ability to perform a job safely is in question, DO NOT TRY TO DO THAT JOB.
- Stay clear of any moving parts such as shafts, couplings, and universal joints.
- Make adjustments, if necessary, in small steps. Shut down all motions for each adjustment.

Prepare for Emergencies

- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy
- Keep emergency numbers near the phone for:
  - Doctors
  - Ambulance Service
  - Hospital
  - Fire Department

Wear Protective Clothing

- Wear close-fitting clothing.
- Use safety equipment appropriate to the job.
Safety Practices (cont.)

⚠️ Dispose of Waste Properly

Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste includes items such as oil, fuel, coolant, brake fluid, filters, and batteries.

- Use leak-proof containers when draining fluids.
- Do NOT use food or beverage containers that can mislead someone into eating or drinking from them.
- Do NOT pour waste onto the ground, down a drain, or into a water source.
- Inquire about the proper way to recycle or dispose of waste from your local environmental or recycling center, EPA, or from your AMADAS dealer.

⚠️ Read the Operator’s Manual

- Read the Operator’s Manual before attempting to operate or perform maintenance on this machine.
- Keep a copy of the manual with the machine at all times.
- Contact your AMADAS dealer for a replacement or print a copy from www.amadas.com.

⚠️ Remove the Key

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before you leave the tractor for any reason.
Safety Practices–Operator

Work in Ventilated Area

Engine exhaust fumes can cause sickness or death.

- If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.
- If you do not have an exhaust pipe extension, open the doors and get outside air into the area.
- AMADAS DOES NOT RECOMMEND RUNNING ANY ENGINE IN AN ENCLOSED AREA EVEN WITH VENTILATION.

Handle Fuel Safely–Avoid Fires

- Handle fuel with care. It is highly flammable.
- Do NOT refuel the machine while smoking or when near open flame or sparks.
- ALWAYS stop engine before refueling machine.
- Fill fuel tank outdoors.
- Prevent fires by keeping machine clean of accumulated trash, grease, and debris.
- Always clean up spilled fuel.

Handle Chemical Products Safely

- Direct exposure to hazardous chemicals can cause serious injury. Potentially hazardous chemicals used with AMADAS equipment include such items as lubricants, coolants, paints, and adhesives.
- Before you start any job using a hazardous chemical, check the SDS (formerly MSDS) so that you are aware of the risks and know how to proceed safely. Carefully follow all procedures, using only recommended equipment.
- See your AMADAS dealer for SDS on chemical products used with AMADAS equipment.
Safety Practices–Equipment

Transport Machine Safely

• Comply with state and local laws.
• Be familiar with tractor operations and follow all safety instructions in the tractor’s manual.
• Before moving away, always check immediate vicinity (e.g., for children).
• NEVER exceed a maximum speed of 20 MPH.
• Always adapt ground speed to road or field conditions. Make sure you have adequate control of steering and stopping.
• Avoid sharp turns, holes, ditches, and obstructions which can cause the tractor to tip, particularly on hillsides.

• Use following tow load weight ratios as guidelines:
  ° 20 MPH when weight is less than or equal to the weight of the tractor.
  ° 10 MPH when weight is more than weight of the tractor.
  ° NEVER tow a load more than double the weight of the tractor!

Note: Sudden braking can cause a towed load to swerve and upset. Reduce speed if towed load is not equipped with brakes.

Operate Combine Safely

• ALWAYS stay clear of the header pick up and header auger at all times.
• ALWAYS be sure that the combine is on solid, level ground before you dump the basket.

Tow Combine Safely

If the combine were to separate from the towing vehicle, serious personal injury or death could result.

• NEVER exceed the maximum towing speed of 10 MPH loaded and 20 MPH empty.
• NEVER tow the combine without attaching safety chains from the towing vehicle to the combine.

These chains should have a minimum combined breaking strength of at least 40,000 pounds.
Safety Practices–Equipment (cont.)

![Warning]

Use the Hitch Transport Safety Latch

- Use a hitch transport latch chain to help control machinery if it separates from the tractor drawbar.
- The hitch transport latch chain should have a strength rating greater than the gross weight of the towed machine.
- Attach the chain to the tractor drawbar support, allowing only enough slack in the chain for turning.
- Do NOT use a safety chain for towing.

![Warning]

Use Safety Lights and Devices

Slow moving tractors, self-propelled equipment, and towed implements or attachments can create hazards when driven on public roads. They are difficult to see, especially at night.

- Whenever you drive on public roads, use flashing lights and turn signals according to local regulations. Attach chain to the tractor drawbar support, allowing only enough slack in the chain for turning.
- To increase visibility, use the lights and devices provided with your machine.
- Keep safety items in good condition.
- Replace missing or damaged items.

![Warning]

Keep Riders Off Machine

- Never allow riders on the machine. Riders obstruct the operator’s view, which results in the machine being operated in an unsafe manner.
- Riders are subject to injury such as being thrown off of the machine.
- Children should NEVER be allowed on the machine.

![Warning]

Remove Crop Debris

- The buildup of chaff and crop debris near moving parts or heat sources is a hazard.
- Check and clean these areas frequently.
- Before performing any inspection or service; engage parking brake, turn off engine, and remove key.

![Warning]

Shields

- Certain photographs or illustrations in this manual may show a safety shield removed. However, NEVER operate this machine without all shields correctly in place!
- If a shield must be removed to make a repair or adjustment, replace the shield prior to use.
Avoid High Pressure Fluids

- Use extreme care when working with hydraulic components and high-pressure sprays.
- Escaping fluid or spray under pressure can penetrate the skin, causing serious injury.
- To avoid injury, relieve pressure before disconnecting hydraulic or other lines.
- Tighten all connections before applying hydraulic or spray pressure.
- Search hoses/connections for leaks with a piece of cardboard.
- Take appropriate safety measures to protect hands, body, and face from high pressure fluids.
- Always wear appropriate safety gear to protect hands, body and face from exposure to high pressure fluids.
- Never try to block the flow or search for leaks of high pressure fluids with your hands even if wearing gloves. High pressure fluids can penetrate gloves as well as your skin.
- Always avoid direct contact of any high-pressure fluid flow.

- If an accident occurs, respond as follows:
  - Seek medical treatment immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result.
    - Alert the medical professionals that a fluid injection or high-pressure spray injury has occurred.
    - Give information on the type of fluid or spray and time the accident occurred. If known, include the amount of fluid injected and/or the system injection pressure.
    - Surgery will most likely be required, so no food or drink for the affected person.

Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

VERY IMPORTANT!! In some cases there is little or no pain from an injection or high pressure spray accident.

THIS IS STILL A SERIOUS EVENT THAT MUST BE TREATED BY MEDICAL PROFESSIONALS!!!
Safety Practices–Equipment (cont.)

Avoid Electrical Power Lines

Contact with electrical lines will cause the operator to suffer severe electrical shock or possible death.

- Make sure all components are secured in the proper position before transporting machine (for example: off-loading conveyor, etc.).
- AVOID all lines, particularly low-hanging electrical cables, during transport.

Be Aware of Machine Height and Width

Contact with an obstruction or overhead electrical line can cause electrocution, death, or serious personal injury.

Be aware of the combine’s height and width which can be found on the Specifications Table in the Introduction Chapter.

Check overhead clearance to make sure no power lines, overhead limbs, or any other obstructions exist.

Avoid Contact with Moving Parts

- Wear close-fitting clothing to avoid entanglement with moving parts.
- Keep hands, feet, and clothing away from power-driven parts.
- Never clean, lubricate or adjust machine when it is running.

Clean Peanut Baskets and Remove Blockages Safely

- NEVER enter the peanut basket when the engine is running.
- Before entering the basket ALWAYS:
  - Shut the engine OFF.
  - Set the parking brake.
  - Remove the key from ignition.
Safety Practices—Maintenance

Practice Safe Maintenance

- Understand the service procedure before doing work. Use proper tools and refer to this Operator’s Manual.
- Keep service area clean and dry.
- Lower machine to ground, engage parking brake, turn off engine, and remove key before performing maintenance.
- Allow time for the machine to cool completely.
- Never lubricate, service, or adjust machine while it is moving.
- Keep hands, feet, and clothing from power-driven parts.
- Securely support any machine elements that must be raised for service work.
- Keep all parts in good condition and properly installed.
- Fix any damage immediately; replace worn or broken parts.
- Keep the machine free of any buildup of grease, oil, or debris.

Maintain Your Machine

- It is crucial to maintain your machine in proper working condition.
- Check and clean around the machine frequently.
- Before performing any inspection or service, engage parking brake, turn off engine, and remove key.

Support Machine Properly

- Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.
- Do NOT support the machine on cinder blocks, hollow tiles, or props that can crumble under continuous load.
- Do NOT work under a machine that is supported solely by a jack.
- Follow all safety procedures in this manual for supporting the machine.
- When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment’s operator’s manual.
Safety Practices—Maintenance (cont.)

Remove Paint/Protective Coating Before Welding or Heating

• Avoid potentially toxic fumes and dust.
• Hazardous fumes can be generated when paint or coatings are heated by welding, soldering, or by using a torch.
• Do all work outside or in a well-ventilated area.
• Remove paint/coatings before welding or heating:
  • Avoid breathing the dust if you sand or grind paint.
  • Wear an approved respirator.
  • Remove stripper with soap and water before welding if you use solvent or paint stripper.
  • Remove solvent or paint stripper containers and other flammable material from the area.

• Allow any fumes to disperse for at least 15 minutes before welding or heating.
• Do NOT use a chlorinated solvent in areas where welding will take place.
• Do all work in an area that is well-ventilated to carry toxic fumes and dust away.
• Dispose of paint/coatings and solvent properly.

Service Drive Belts Safely

When checking and servicing drive belts always observe these precautions:

• Avoid serious injury from hand or arm entanglement. NEVER attempt to clean, check, or adjust belts while the machine is running. ALWAYS shut off the engine, set the parking brake, and remove the key.
• Do NOT attempt to clean belts with flammable cleaning solvents.

Service Chains Safely

When checking and servicing chains always observe these precautions:

• Avoid serious injury from hand or arm entanglement. NEVER attempt to clean, check, or adjust chains while the machine is running. ALWAYS shut off the engine, set the parking brake, and remove the key.
Safety Practices–Maintenance (cont.)

⚠️ Service Tires Safely

Explosive separation of a tire and rim parts can cause serious injury or death.

- Do NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job.
- Always maintain the correct tire pressure.
- Do NOT inflate the tires above the recommended pressure.
- Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.
- Use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of, or over the tire assembly when inflating the tires. Use a safety cage if available.
- Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts. NEVER fill a damaged tire or one that is missing lug bolts or nuts.

⚠️ Avoid Using Heat Near Pressurized Fluid Lines

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders.

- Never clean, lubricate or adjust machine when it is running.
- Do NOT heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.

⚠️ Service Combine Safely Use Basket Safety Strut

Failure to use the basket safety strut properly can result in serious injury or death.

- Always install the basket safety strut over the cylinder ram before working under the raised basket.
Safety Decals

Safety Decals

- Replace any CAUTION, WARNING, DANGER, or instruction safety decal that is not readable or is missing.
- Do NOT paint over, remove, or deface any safety sign or warning decals.

Safety decals identify specific hazards, as well as general safety. A signal word (DANGER, WARNING, or CAUTION) is included on each decal to alert you to the severity of the hazard.

Please note the following about the decals:

- Keep them clean and legible.
- Never remove a safety decal from the machine.
- When you replace a part with a safety decal, also replace that decal.
- For replacement decals, call your AMADAS dealer.
- Replacement safety decals are available free of charge.
- Safety decals used on this machine are shown on the following pages. Decal locations are also included.
**CAUTION**

1. Keep all shields in place.
2. Stop engine and remove key before leaving operator's seat to adjust, lubricate, clean, unclog, or perform other work on the machine.
3. Wait for all motion to stop before servicing this machine.
4. Keep hands, feet, and clothing away from moving parts.
5. Keep off equipment unless seat or platform for operation is provided.
6. Keep all persons off of machine.
7. Make certain everyone is clear of machine before starting engine.

**WARNING**

Read and understand operator's manual before using this machine.

Failure to follow operating instructions could result in death or serious injury.

**WARNING**

CRUSH HAZARD PINCH POINT

To avoid serious injury or death:
- Keep clear of this area.

**WARNING**

MOVING PART HAZARD FAN INTAKE

To avoid serious injury or death:
- Keep clear of this area when fan blades are moving.

**DANGER**

ENTANGLEMENT HAZARD

To avoid serious injury or death:
- Operate this machine only when all shields and guards are securely in place.
Safety Decals (cont.)

**DANGER**

**CRUSH HAZARD**
To prevent severe injury or death:
- Install safety strut over cylinder ram before working under basket

81099

**DANGER**

**OPERATING MACHINE HAZARD**
To prevent serious injury or death when this machine is in operation:
- Do not climb on the machine.
- Do not place hands or feet behind shields.

80933

**DANGER**

**ELECTROCUTION HAZARD**
To prevent severe injury or death:
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Maintain safe clearance from power lines at all times.
- Be especially aware of height of basket when lip is extended.

80945

**DANGER**

**ENTANGLEMENT HAZARD**
**ROTATING AUGER**
To prevent severe injury or death:
- Stay clear of auger while machine is in operation.

80946

**DANGER**

**BODY ENTANGLEMENT HAZARD**
**ROTATING DRIVELINE**
To prevent severe injury or death:
- Avoid all contact with PTO shaft while shaft is in motion.

80949

**DANGER**

**MOVING PARTS HAZARD**
To prevent serious injury or death when performing maintenance on this machine:
- Put the tractor in park.
- Shut off the engine.
- Remove the key.

80934
Safety Decals (cont.)

**WARNING**

Retorque wheel lugs after every 25 hours or any towing over 25 miles.

Check after any distance of high speed towing (30 mph or more)

**WARNING**

TO AVOID MACHINE DAMAGE AND ACHIEVE PROPER PEANUT FLOW AS ILLUSTRATED:

- Keep within 20 gal/min hydraulic flow to OCS maximum.
- Set conveyor shaft speed to 250 RPM to avoid sheeling and decreased life of components.
- Connect return line to direct-to-tank port, if possible.

**CAUTION**

TO PREVENT INJURY OR MACHINE DAMAGE FROM LOSS OF CONTROL WHILE TOWING:

- Make sure spindle and axle extension bolt torque is set to 400 ft./lbs.
- Check yearly and after towing every 50 miles.

**NOTICE**

TO PREVENT MACHINE DAMAGE, MAINTAIN PROPER TIRE INFLATION

- 20.8 X 38 – 14 PLY: 32 PSI
- 24.5L X 32 – 12 PLY: 24 PSI
- 30.5 X 32 – 16 PLY: 26 PSI
- 600/50 – 22.5 – 12 PLY: 39 PSI
- 400 FT-LB LUG NUT torque (flanged)
- 475 FT-LB LUG NUT torque (Budd)
Retorque wheel lugs after every 25 hours or any towing over 25 miles.

Check after any distance of high speed towing (30 mph or more).

WARNING

ENTANGLEMENT HAZARD
To avoid serious injury or death:
• Operate this machine only when all shields and guards are securely in place.

DANGER
OPERATING MACHINE HAZARD
To prevent serious injury or death when this machine is in operation:
• Do not climb on the machine.
• Do not place hands or feet behind shields.

NOTICE
TO PREVENT MACHINE DAMAGE, MAINTAIN PROPER TIRE INFLATION
20.8 X 38 – 14 PLY: 32 PSI
24.5L X 32 – 12 PLY: 24 PSI
30.5 X 32 – 16 PLY: 26 PSI
600/50 – 22.5 – 12 PLY: 39 PSI
400 FT-LB LUG NUT torque (flanged)
475 FT-LB LUG NUT torque (Budd)
Safety Decal Locations (cont.)

Figure 1-2: Safety Decal Locations–Left Side View

**DANGER**

**ENTANGLEMENT HAZARD**

To prevent severe injury or death:
- Stay clear of auger while machine is in operation.

**DANGER**

**OPERATING MACHINE HAZARD**

To prevent serious injury or death when this machine is in operation:
- Do not climb on the machine.
- Do not place hands or feet behind shields.

**WARNING**

Retorque wheel lugs after every 25 hours or any towing over 25 miles.

Check after any distance of high speed towing (30 mph or more)

**DANGER**

**MOVING PARTS HAZARD**

To prevent serious injury or death when performing maintenance on this machine:
- Put the tractor in park.
- Shut off the engine.
- Remove the key.

**WARNING**

**CRUSH HAZARD PINCH POINT**

To avoid serious injury or death:
- Keep clear of this area.

**WARNING**

**MOVING PART HAZARD FAN INTAKE**

To avoid serious injury or death:
- Keep clear of this area when fan blades are moving.
Safety Decal Locations (cont.)

Figure 1-4: Safety Decal Locations–Front View

**WARNING**

![Safety Decal Locations](image)

**DANGER**

ENTANGLEMENT HAZARD
ROTATING AUGER
To prevent severe injury or death:
- Stay clear of auger while machine is in operation.

![Safety Decal Locations](image)

**WARNING**

Retorque wheel lugs after every 25 hours or any towing over 25 miles.
Check after any distance of high speed towing (30 mph or more)

![Safety Decal Locations](image)

**DANGER**

ELECTROCUTION HAZARD
To prevent severe injury or death:
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Maintain safe clearance from power lines at all times.
- Be especially aware of height of basket when lip is extended.

![Safety Decal Locations](image)

790 PTO RPM

![Safety Decal Locations](image)
DANGER!
MOVING PARTS HAZARD
To prevent serious injury or death when performing maintenance on this machine:
• Put the tractor in park.
• Shut off the engine.
• Remove the key.

Safety Decal Locations (cont.)
Figure 1-5: Safety Decal Locations-Top View
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2. Preparation

Overview..............................................................24
Basket Safety Strut................................................24
Pre-Delivery Checks.............................................25
**Overview**

Go over the section in this Chapter titled “Pre-Delivery Checks” with your dealer to verify that the combine is ready for operation before operating the machine for the first time.

Every combine is test run at the AMADAS plant, however, a thorough pre-delivery inspection is important. Items can shift during shipping.

Chapter 3. *Operation* contains a “Daily Pre-Start Check” section. It is important that you perform these checks each day you intend to use your combine. These checks are intended to help you detect problems early, reduce downtime, and extend the life of your combine.

---

**Basket Safety Strut**

Read Chapter 1. *Safety*, before performing any checks on your machine. In addition, be aware of the basket safety strut that locks the basket in the open position.

**Always** use the basket safety strut as intended before checking or working around the open basket. The safety decal, shown below, is located below the strut and provides instructions for using the strut.
**Pre-Delivery Checks**


2. Check bushing bolts, set screws, and jam nuts on all sprockets, sheaves, shafts, etc., for tightness.

3. Torque all lug nuts to proper specifications (400 ft/lb for flange type lug nuts, 475 ft/lb for Budd type lug nuts).

4. Remove the level plug in the side of the tongue gearbox. Check oil level.

   **WARNING**

   Escaping fluid or spray under pressure can penetrate the skin causing serious injury.
   - Read “Avoid High Pressure Fluids” in Chapter 1. *Safety*.
   - Relieve pressure before disconnecting hydraulic lines.
   - Tighten all connections before applying hydraulic or spray pressure.

5. Check the hydraulic oil level in tank if equipped with combine hydraulics (approximately 32 gallon capacity).

   **Note:** Level should be above midway in sight gauge when cold.

6. Check and lubricate all lubrication points. Refer to the Chapter 7. *Maintenance*, “Lubrication Schedule”.

7. Hitch the combine to a tractor.

8. Connect all hydraulic hoses to the tractor.


10. Slowly raise tongue to maximum position.

   **DANGER**

   Death, or serious personal injury could result if the basket were to fall.

   ALWAYS install the basket safety strut over the hydraulic cylinder before working around or under the raised bin.

11. Raise basket and lock basket in raised position with basket safety strut.

12. Check for loose bolts or obstructions in the picking chamber.
Pre-Delivery Checks (cont.)

13. Remove basket safety strut.

**NOTICE**

Misalignment between basket and elevator air duct will cause machine damage.

14. Lower the basket SLOWLY.

15. Carefully check basket alignment with the duct.

16. Shorten or lengthen the two turnbuckles that support the duct, as needed, if realignment is necessary.

![Figure 2-4: Duct Alignment](image)

17. Check the peanut elevator air duct for proper alignment at the bottom of the basket.

**DANGER**

Contact with an obstruction, or high voltage power line, could result in death, or serious personal injury.

Be aware of the combine’s height and width which can be found on the Specifications Table in the Introduction Chapter.

Check overhead clearance to make sure no power lines, overhead limbs, or any other obstructions exist.

18. Slowly raise and lower the basket and header several times to work out air in the lines.

19. Open cleaning fan adjustment to maximum.

20. Check the damper door opening on cleaning fan intake. It must be at least 10-3/8”.

![Figure 2-5: Duct Support Turnbuckles Locations](image)

![Figure 2-6: Damper Door](image)
Pre-Delivery Checks (cont.)

**DANGER**

Death or serious injury can result from entanglement if shields and guards are not in place.

Replace all shields before starting combine operation.

Driveline shields and guards must be in place anytime the combine is in operation.

21. Replace or close all shields.

22. Install the PTO driveline and grease.
   Make sure to set the tractor hitch pin at the specified length from the PTO output shaft. Refer to Figure 2-7.

---

**Note:** Refer to the PTO RPM on your machine. 790 PTO RPM is standard for most machines. Some combines are equipped with optional drives that require different input speeds.

**Stop the combine and do final pre-checks.**

1. Check the tightness of all bolts, nuts, chains, belts, and sprockets.

2. Check all pulleys and belts for heat indicating looseness.

3. Check belt and chain alignments.

4. Check for overheated gearboxes and hot bearings.

5. Check machine to make sure all safety decals are in place.

---

**NOTICE**

TO PREVENT MACHINE DAMAGE MAINTAIN PROPER TIRE INFLATION.

800 / 65 R32 – Radial: 44 PSI
400 FT-LB LUG NUT torque (flanged)

6. Torque all lug nuts to proper specifications (400 ft/lb). See the Torque Specifications table on the Specification page in the *Introduction* Section or at the end of Chapter 7. *Maintenance*.

7. Check tire pressure and inflate tires to recommended pressure:
   800/65 R32 – Radial: 44 PSI

**IMPORTANT!** Operate combine for 20 minutes prior to your first field operation.

---

**Prepare the combine for operation.**

1. Start the tractor.

2. Engage the PTO.

3. Increase slowly to operating speed (100%) or 790 RPM.
3.

Operation

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**Combine Process**

The AMADAS M2120A Peanut Combine functions as follows:

- The combine removes peanut pods from peanut vines which have been dug and windrowed.

- Once separated and cleaned, the peanuts are conveyed into the peanut storage basket and vine material is passed out of the machine.

- The combine is pulled and powered by a farm tractor capable of speeds as low as 1 MPH while maintaining engine RPMs that will produce a combine speed readout of 100%.

- Optimum harvest conditions exist when windrows are harvested with peanut moisture content between 14% and 20%.

- Very dry or very wet conditions as well as excessive dirt and/or weeds in the windrow could reduce separation efficiency and cause an increase in loose shelled kernels (LSKs).

The detailed steps of the threshing, separating, and cleaning process are on the next page.
1. The header pickup (1) lifts the dug & windrowed peanuts and vines off of the ground. The header auger (2) feeds them into the picking cylinders (3).

2. The picking cylinders strip the peanuts from the vines. Large amounts of dirt and foreign material are removed by the high-capacity cleaning area of the cylinder concaves (4) under each cylinder.

3. The adjustable overhead teeth (5) over the 1st and 2nd cylinders can be used separately to increase the pre-conditioning aggressiveness. An adjustable retention board (6) controls the time that the vines remain in the fourth cylinder.

4. Optional adjustable concave teeth (7) are available for the first, second, and third cylinders for increased harvesting aggressiveness.

5. Peanuts and vine material fall through the extraction holes (8) in the fourth cylinder concave onto the disc separator (9), or travel back into the separator cylinders (10).

6. The separator cylinders separate the good peanuts from the coarse vine material and carry the vine material out of the machine. Peanuts sift out of the cam-actuated separator cylinders and are swept down to the disc separator for final separation.

7. At the disc separator, the good peanuts are separated from vine material and other light trash.

8. The cleaning fan (11) agitates the material on the disc separator to aid in separation and blows light material such as leaves, pops, immature, diseased peanuts, and other light trash over the tail board and out of the back of the combine.

9. The higher-density, good peanuts fall through to the stemmer section (12), while vine material and sticks advance across the disc separator and out of the back of the combine.

10. As the good peanuts fall into the stemmer saws, their stems are removed. Cleaned peanuts fall into the collection auger (13) and are conveyed into the elevator air system, which sends them up to the peanut basket (14).
Hitching Combine to Tractor

1. Set the tractor drawbar in the center fixed position with the hitch point centered behind the end of the PTO shaft.

   • 20" for 1-3/8" 21 spline CV shafts
   • 20" for 1-3/4" 20 spline CV shafts

   **Note:** An optional drawbar extension (AMADAS part #61359) will be necessary to reach the proper hitch point dimension on most tractors with 1-3/8" 21 spline PTO output shafts.

2. Position the three-point hitch lower lift links in the FULLY raised position.

3. Engage the lift lock to prevent the tractor from inadvertently lowering if the tractor is equipped with this feature.

4. If combine is equipped with a pin hitch, lower/raise jack until the pin hitch will be between the draw bar and the upper pin plate. Once in position, install the pin and pin keeper.

   **Note:** An optional bushing is available to match the pin diameter of various tractors.

5. If the combine is equipped with an optional ball hitch, install a 2-5/16" hitch ball on the tractor stationary drawbar. A 1-1/4" hole size and 2-5/16" high strength hitch ball are required. Tighten the nut securely.

   A hitch ball for a 1-1/8" and 1-1/2" size hole is also available as well as a number of bushings to ensure proper fit.

6. Position tractor so the hitch ball will slip into the tongue-mounted ball socket when lowered. Lubricate the ball socket with grease.

7. Using the jack, slowly lower the tongue until the ball release handle snaps into place.

8. Remove the jack and place in holding bracket on the side of the tongue, (or the alternative holding bracket on the side of machine for storage). Refer to Figure 3-3.

**NOTICE**

- 20" for 1-3/8" 21 spline CV shafts
- 20" for 1-3/4" 20 spline CV shafts

**Notice:** An optional drawbar extension will be necessary to reach the proper hitch point dimension on most tractors with 1-3/8" 21 spline PTO output shafts.

**NOTICE**

- If the tractor is equipped with a quick hitch, we highly recommend that you remove it.

  Failure to do so can cause damage to the PTO shaft and driveline.

**NOTICE**

- DO NOT attempt to support the machine with the jack in the alternate position. This position is for storage only.
**Hitching Combine to Tractor (cont.)**

**WARNING**

Escaping fluid or spray under pressure can penetrate the skin causing serious injury.

- Read “Avoid High Pressure Fluids” in Chapter 1. Safety.
- Relieve pressure before disconnecting hydraulic lines.
- Tighten all connections before applying hydraulic or spray pressure.

9. Attach the hydraulic hoses from the combine to the tractor remote hydraulic valves.

**NOTICE**

An OCS system equipped M2120A will not function properly unless your tractor’s hydraulic pump capacity is at least 35 GPM @ 2500 PSI.

Maximum harvesting performance requires at least 40 GPM @ 2500 PSI pump flow.

**WARNING**

Death or serious injury can result if the combine separates from the towing vehicle.

ALWAYS engage the safety chains before towing the combine.
Attaching and Checking Driveline

IMPORTANT! Your AMADAS M2120A has been equipped with a constant velocity PTO driveline. Because of the double Cardan Joint incorporated into this shaft, you can expect a constant output shaft speed with minimal vibration. The shaft speed will remain constant with minimum vibration even in a tight turning radius.

Please read the section on lubrication in Chapter 7. *Maintenance* thoroughly. The PTO drive shaft has special requirements.

1. REMOVE the tractor key and keep in possession while working on, under, and around the tractor.

2. Make sure the tractor draw bar is set with the center of the hitch approximately 3-1/2" below the centerline of the tractor PTO output shaft.

3. Extend the tractor draw bar until the center of the pin hitch is approximately 20" from the end of the tractor PTO output shaft. Refer to Figure 3-5.

4. If your combine is equipped with a pin type hitch, use the same 20" dimension to center the tractor clevis pin.

5. If equipped with a side shift tongue, shift the tongue to the operating position (left side).

6. Attach the driveline to the combine and tractor PTO.

   **Note:** 1-3/8" 21 spline and 1-3/4" 20 spline ends are available.

---

**DANGER**

ALWAYS make sure all drive shields and guards are in place when the combine is in operation.

**DANGER**

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before you leave the tractor for any reason.

**DANGER**

BODY ENTANGLEMENT HAZARD

ROTATING DRIVELINE

To prevent severe injury or death:

- Avoid all contact with PTO shaft while shaft is in motion.

---

Figure 3-6: PTO Driveline Placement Measurements

Figure 3-7: PTO Driveline
Attaching and Checking Driveline (cont.)

**NOTICE**

Failure to check driveline length and clearance can cause damage to combine and tractor.

7. Be certain that the driveline length does not exceed 58 inches when fully extended. Refer to Figure 3-8.

![Figure 3-8: Maximum PTO Driveline Length](image)

**Note:** If the driveline Length is more than 72 inches, check the drawbar setting and move the drawbar out.

8. Start the tractor engine and raise the pickup header to its highest position.

**NOTICE**

In most cases, the tractor will turn until the tire is very close to the combine tongue without the telescoping shaft bottoming out.

If this is not possible with your tractor, do not exceed the observed limits or severe damage to the combine and tractor will occur, whether the PTO is engaged or disengaged.

**NOTICE**

Do NOT allow the tractor tire to touch the tongue, or the universal driveline to reach its closed (bottomed out) position during operation.

Do NOT allow the constant velocity (CV) joint to exceed 80 degrees. Severe damage to the driveline, tractor, or combine will occur.

9. Refer to Chapter 1. *Safety* for safety measures before operation.

10. Turn the tractor slowly. At the tightest possible turn radius observe that the driveline is at the shortest length and fully collapsed.

![Figure 3-9: Turn Radius](image)

11. Turn the tractor off and remove the key.

12. Measure the driveline length. Refer to Figure 3-10.

![Figure 3-10: Minimum PTO Driveline Length](image)

13. Repeat steps 8-12 in opposite direction.
**Daily Pre-Start Checks**

**IMPORTANT!** Perform both external and internal daily pre-start inspections each day before taking the machine to the field.

These pre-start inspections will help detect problems early, reduce downtime, and extend the life of your combine.

Read these instructions, then use the Daily Pre-Start External and Internal Inspection Guides at the end of this section to do the checks.

**Daily External Pre-Start Inspection:**

1. Clean built-up dirt and debris from the machine. Refer to the External Inspection Guide General Cleaning list. Figures 3-11 through 3-16 show some of the critical areas.

2. Service the tractor and attach the combine.
3. Grease the PTO driveline as shown in Figure 3-16. Also refer to the Lubrication Chart in Chapter 7. Maintenance.

4. Grease the combine hitch as shown in Figure 3-18.

5. Grease the front tongue u-joint as shown in Figure 3-19.

6. Check all chains and belts for proper tension and alignment. Refer to Chapter 7. Maintenance for detailed information on auto belt tensioners and chain tensioning systems.

7. Check sheaves and sprockets for excessive wear.

8. Check separator clutch for signs of slippage. Refer to Figure 3-20.

**NOTICE**

Use the grease listed in the Recommended Lubricants table at the beginning of this manual and in Chapter 7. Maintenance on all lubrication points to greatly extend the life of lubricated components.

5. Grease the front tongue u-joint as shown in Figure 3-19.

**DANGER**

Death or serious personal injury will result from entanglement.

ALWAYS make sure all drive shields and guards are in place when the combine is in operation.

**NOTICE**

Use the grease listed in the Recommended Lubricants table at the beginning of this manual and in Chapter 7. Maintenance on all lubrication points to greatly extend the life of lubricated components.
Daily Pre-Start Checks (cont.)

9. Check separator chain guide condition. Refer to Figure 3-21.

![Figure 3-21: Separator Chain Guide Location](image)

10. Check separator cylinder concaves for buildup. The location is shown below.

![Figure 3-22: Separator Cylinder Concaves](image)

NOTICE

MAINTAIN PROPER TIRE INFLATION TO PREVENT MACHINE DAMAGE.

- 800 / 65 R32 – Radial: 44 PSI
- 400 FT–LB LUG NUT torque (flanged)

11. Check tire pressures and lug nut torques according to specifications.

WARNING

Escaping fluid or spray under pressure can penetrate the skin causing serious injury.

- Read “Avoid High Pressure Fluids” in Chapter 1. Safety.
- Relieve pressure before disconnecting hydraulic lines.
- Tighten all connections before applying hydraulic or spray pressure.

DANGER

Improperly tightened lug nuts or incorrectly inflated tires can result in serious personal injury.

Make sure the lug nut torque and cold inflation tire pressure are at the required specifications.

12. Check all hydraulic lines for leaks, adequate fluid, and signs of damage.
Daily Pre-Start Checks (cont.)

14. Turn the tractor on and lift the basket to a fully raised position.

15. Put the tractor in park, shut off the engine, and remove the key.

16. Lock the basket in the raised position with the basket safety strut.

Contact with an obstruction or high voltage power line could result in death or serious personal injury.

Be aware of the combine’s height and width which can be found on the Specifications Table in the Introduction Chapter.

Check overhead clearance to make sure no power lines, overhead limbs, or any other obstructions exist.

Death or serious personal injury could result if the basket falls.

ALWAYS install the basket safety strut over the hydraulic cylinder before working around or under the raised bin.

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before you leave the tractor for any reason.

Figure 3-23: Basket Safety Strut in Locked Position
### Daily Pre-Start Checks (cont.)

#### Daily Internal Pre-Start Inspection:

Refer to the Pre-Start Internal Inspection Guide at the end of this section.

1. Inspect internal systems/components for wear and damage.
2. Look for any foreign objects or build-up.
3. Use the “Daily Pre-Start Internal Inspection Guide” at the end of this section and do all the daily pre-start checks listed.
4. Remove the basket safety strut.
5. Lower the basket.

![Danger](image)

**Death or serious personal injury could result if shields are not in place.**

NEVER operate this machine without all shields correctly in place.

ALWAYS keep hands, feet, and clothing away from power-driven parts.

6. Replace all covers and shields.

#### Final Pre-Start Inspection:

Refer to the Pre-Start External Inspection Guide at the end of this section.

1. Start the tractor, let the engine idle, and leave it in PARK.
2. Engage the PTO.
3. Listen for any noise which could indicate a problem, such as damaged or defective bearings.
4. Increase the tractor engine to the combine speed.
5. Listen again for any noises that can indicate damaged bearings, etc.

Continue with the operating procedure when:

- The combine is attached to a tractor.
- All of the daily pre-start checks have been performed.
- Operating procedures are clearly understood by all operators.
## Daily Pre-Start External Inspection Guide

<table>
<thead>
<tr>
<th>2120A DAILY PRE-START EXTERNAL INSPECTION GUIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Cleaning:</strong></td>
</tr>
<tr>
<td>• Header bands and springs.</td>
</tr>
<tr>
<td>• Cross auger door and duct work.</td>
</tr>
<tr>
<td>• Frame sides.</td>
</tr>
<tr>
<td>• Conveyor intake sealing area. (with basket)</td>
</tr>
<tr>
<td>• Front hood area.</td>
</tr>
<tr>
<td>• Rear landing area.</td>
</tr>
<tr>
<td><strong>Drives:</strong></td>
</tr>
<tr>
<td>• Clean/grease tractor PTO driveline.</td>
</tr>
<tr>
<td>• Clean/grease the front tongue u-joint.</td>
</tr>
<tr>
<td>• Clean/grease header reversing clutch.</td>
</tr>
<tr>
<td>• Clean/check tension on chains and belts.</td>
</tr>
<tr>
<td>• Check sheaves and sprockets for excessive wear.</td>
</tr>
<tr>
<td>• Check separator clutch for signs of slippage.</td>
</tr>
<tr>
<td>• Check/clean disc separator chain guide.</td>
</tr>
<tr>
<td>• Check gearboxes for leaks.</td>
</tr>
<tr>
<td>• Verify all shields are in place.</td>
</tr>
<tr>
<td><strong>PTO Connection:</strong></td>
</tr>
<tr>
<td>• Listen for any unusual noise at tractor idle.</td>
</tr>
<tr>
<td>• Listen for any unusual noise at tractor engine increase.</td>
</tr>
<tr>
<td><strong>Hydraulics:</strong></td>
</tr>
<tr>
<td>• Check fluid level in tractor.</td>
</tr>
<tr>
<td>• Check hose routing for damage.</td>
</tr>
<tr>
<td>• Inspect for leaks.</td>
</tr>
<tr>
<td><strong>Transport:</strong></td>
</tr>
<tr>
<td>• Check tire pressures. (44 PSI)</td>
</tr>
<tr>
<td>• Check lug nut torque. (400 ft-lb torque)</td>
</tr>
<tr>
<td>• Verify tail lights and markers are operational and visible.</td>
</tr>
<tr>
<td>• Grease hitch and inspect condition.</td>
</tr>
</tbody>
</table>

**Note:** these pre-start checks will be available on cards in the AMADAS M2120A Peanut Combine accessory case.
## Daily Pre-Start Internal Inspection Guide

**2120A DAILY PRE-START INTERNAL INSPECTION GUIDE**

<table>
<thead>
<tr>
<th><strong>Thresholding Section:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Picking springs and bars.</td>
<td></td>
</tr>
<tr>
<td>- Picking cylinder vine build up around bearing covers.</td>
<td></td>
</tr>
<tr>
<td>- Beater cylinder fins.</td>
<td></td>
</tr>
<tr>
<td>- Overhead teeth.</td>
<td></td>
</tr>
<tr>
<td>- Concave condition under picking cylinders.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Separating Section:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Check separator cylinder springs, and bars.</td>
<td></td>
</tr>
<tr>
<td>- Check separator cylinder cams, tracks, and cam track bearings.</td>
<td></td>
</tr>
<tr>
<td>- Check concave condition under separator cylinders.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cleaning Section:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Inspect cleaning fan for buildup or damage.</td>
<td></td>
</tr>
<tr>
<td>- Check stemmer saws for buildup or damage.</td>
<td></td>
</tr>
<tr>
<td>- Check disc separator for obstructions.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Air Lift System:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Elevator housing and peanut ductwork for any holes or buildup.</td>
<td></td>
</tr>
<tr>
<td>- Cross auger run out or flight damage.</td>
<td></td>
</tr>
<tr>
<td>(a bent cross auger will cause excessive LSKs)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Offloading System:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Basket duct for excessive wear.</td>
<td></td>
</tr>
<tr>
<td>- Basket duct vent free of debris.</td>
<td></td>
</tr>
<tr>
<td>- Foreign material buildup around augers.</td>
<td></td>
</tr>
<tr>
<td>- Conveyor intake seals.</td>
<td></td>
</tr>
<tr>
<td>- Conveyor belt damage and tracking.</td>
<td></td>
</tr>
<tr>
<td>- Infeed hopper bearing and wear plate.</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* these pre-start checks will be available on cards in the AMADAS M2120A Peanut Combine accessory case.
Operating Procedure

IMPORTANT! Make sure you have performed all of the daily pre-start checks before you operate the combine.

When setting the machine, set as least aggressive as possible while still allowing peanuts to be removed from the vines.

A too aggressive setting will overthresh the crop and make final separation more difficult.

Refer to the “M2120A Combine Setting Guide”, p/n 0345, at the end of this chapter for quick reference to general settings.

1. Set the retention board adjustment handle to “disengaged”. Refer to Figure 3-24.

2. Tighten the T-handle securely.

   Note: Fine tune adjustment can be made after initial harvesting has begun.

WARNING

Serious personal injury can result from making adjustments while the combine is running.

NEVER make adjustments to the harvesting controls while the combine is running.

3. Set the #1 cylinder overhead teeth control and, if equipped, concave teeth adjustment handles to the “disengaged” position.

4. Set the #2 overhead teeth control, if necessary.

5. Tighten the T-handle securely.

6. Set the cleaning air control handle two-thirds open.

7. Tighten the T-handle securely.

If green vine material is present in the windrow engage the first cylinder overhead teeth fully.

This keeps the preconditioning cylinders clean, aids feeding, and prevents crushing peanuts.
Operating Procedure (cont.)

8. Set the elevator air control handle in one-half open position if using manual control.

![Elevator Air Control](image1)

**Figure 3-27: Elevator Air Control**

**Note:** Make sure the basket lip extension is in the operating position. Leaving the lip folded obstructs the discharge of air from the bin.

![Basket Lip Open](image2)

**Figure 3-28: Basket Lip Open**

9. Set the header height so that the pickup spring fingers are one to two inches above the soil (with the combine wheels in the row centers as it moves over the windrow).

10. Engage the PTO and set combine speed at 100% (790 RPM tractor PTO output). Refer to “PTO Speed Adjustment” in Chapter 5. Controls and Adjustments for more information.

**Note:** 790 PTO RPM is standard for most machines. Some combines are equipped with an optional drive that requires different input speeds. Refer to the PTO RPM on your machine.

11. Harvest conditions vary. Operate the tractor accordingly at 1 to 2-1/2 miles per hour.

**Begin Operations:**

1. Move forward and harvest for 50 yards.

![DANGER](image3)

**DANGER**

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before you leave the tractor for any reason.

![CAUTION](image4)

**CAUTION**

It is important to perform checks for proper operation.

To skip this step puts you at risk for personal injury and the combine at risk for machine damage.

2. Stop and check for proper operation. Refer to the “Proper Operation” table at the end of this section.

3. Make any necessary adjustments.

4. Run the combine down the windrow approximately another 50 yards and check performance again.

5. Set the controls as desired and continue to the end of the row.
Operating Procedure (cont.)

Offloading:

1. Harvest the first few baskets of peanuts at moderate speed to become accustomed to the machine.

   **NOTICE**
   
The offloading operation requires COMPLETE operator attention.
   REDUCE ground speed when offloading.

**WARNING**

Serious personal injury and machine damage can result from dumping the basket with the lip in the stored position.

Make sure the lip extension is folded out before dumping the bin.

**DANGER**

Contact with an obstruction or high voltage power line could result in death or serious personal injury.

Be aware of the combine’s height and width which can be found on the Specifications Table in the Introduction Chapter.

Check overhead clearance to make sure no power lines, overhead limbs, or any other obstructions exist.

2. Always check for proper clearance above and around machine before offloading.

   **Note:** In very dirty conditions, dumping the basket slowly will help produce a cleaner sample by allowing the screen at the basket lip to remove more dirt and small foreign material.

Proper Operation

Once your combine has been put into operation, it is important that you make the checks and adjustments for proper operation you find in the table on the next page.

**DANGER**

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before you leave the tractor for any reason.

**NOTICE**

IMPORTANT! Make only one adjustment at a time between performance checks.

This will allow you to determine which adjustment is actually improving the combine’s performance.
**Proper Operation (cont.)**

**Operation Adjustments:**

<table>
<thead>
<tr>
<th>If...</th>
<th>Then...</th>
</tr>
</thead>
<tbody>
<tr>
<td>All peanuts are removed from the vines and no more shelling occurs than might be expected in a new machine.</td>
<td>Leave the combine controls where they are set.</td>
</tr>
<tr>
<td>More than an occasional good peanut is left on the vines.</td>
<td>Begin engaging 1st overhead teeth starting at 1/2 engaged moving in 1” increments toward fully engaged. Then begin increasing tractor RPM in 2% increments as needed.</td>
</tr>
<tr>
<td>An excessive number of peanuts are not removed from the vine.</td>
<td>Fully engage the first adjustable overhead teeth.</td>
</tr>
<tr>
<td></td>
<td>• If peanuts are still left on the vine, begin engaging the rear overhead adjustable teeth in 1” increments.</td>
</tr>
<tr>
<td></td>
<td>• If both sets of overhead teeth are engaged and RPM has been increased, then begin engaging retention board as needed.</td>
</tr>
<tr>
<td>“Tails” are being left on the peanuts.</td>
<td>Increase PTO speed and/or engage overhead stripperst.</td>
</tr>
<tr>
<td>There are NO leaves or other light foreign material present in the basket or peanuts blowing over the tailboard.</td>
<td>Make no changes to the cleaning air setting at this time.</td>
</tr>
<tr>
<td>There is light trash and leaves in the basket.</td>
<td>Inspect area under disc separator above stemmer saws for trash buildup.</td>
</tr>
<tr>
<td>Only a few hulls and LSKs are in the basket during the first few acres of operation.</td>
<td>Make no changes to the elevator air setting at this time (unless the peanut hulls are very fragile or too little air is available to blow the peanuts to the basket).</td>
</tr>
<tr>
<td>Picking aggressiveness and available cleaning and pneumatic conveyor air needs to be increased or decreased.</td>
<td>Adjust the combine speed from 90% to 110% as needed.</td>
</tr>
</tbody>
</table>

**Table 3-3: Proper Operation Troubleshooting Guide**
Proper Operation (cont.)

Important! Make these following checks once your combine has been put into operation:

### AMADAS PEANUT COMBINE SETTING INFORMATION

<table>
<thead>
<tr>
<th>Conditions &gt;&gt;</th>
<th>START</th>
<th>DRIER</th>
<th>GREENER**</th>
<th>HEAVIER YIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADJUSTMENT</strong>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Speed</td>
<td>100% (800 PTO RPM) (unless non-standard drive)</td>
<td>Faster</td>
<td>100% or Greater</td>
<td>100%</td>
</tr>
<tr>
<td>Ground Speed</td>
<td>~ 11/2 - 3 MPH</td>
<td>100% or Less</td>
<td>Slower</td>
<td>Slower</td>
</tr>
<tr>
<td>Overhead Teeth</td>
<td>Disengaged</td>
<td>As Needed, (engage 2nd)</td>
<td>Engage 1st</td>
<td>As Needed, (engage 1st)</td>
</tr>
<tr>
<td>Concave Teeth (If Equipped)</td>
<td>Disengaged</td>
<td>As Needed, (engage 3rd)</td>
<td>Engage 2nd</td>
<td>As Needed, (engage 2nd)</td>
</tr>
<tr>
<td>Retention Board</td>
<td>Disengaged</td>
<td>As Needed, (engage 1st)</td>
<td>Engage 3rd</td>
<td>As Needed, (engage 3rd)</td>
</tr>
<tr>
<td>Cylinder Speed</td>
<td>Std. or High (If Equipped)</td>
<td>Low Speed (If Equipped)</td>
<td>Std. or High (If Equipped)</td>
<td>Std. or High (If Equipped)</td>
</tr>
<tr>
<td>Tail Board</td>
<td>1/2</td>
<td>Lower to Blow out Sticks</td>
<td>Higher to use more Air</td>
<td>Adjust Accordingly</td>
</tr>
<tr>
<td>Cleaning Air</td>
<td>~ Position 7</td>
<td>~ Position 7</td>
<td>May need to Increase</td>
<td>Adjust Accordingly</td>
</tr>
<tr>
<td>Elevator Air</td>
<td>~ 2/3 Open</td>
<td>~ 2/3 Open</td>
<td>May need to Increase</td>
<td>Increase</td>
</tr>
</tbody>
</table>

**Make Only One Adjustment At A Time! **  **Never Run Low Speed Cylinder Drive In Green Conditions! **

### BEHIND COMBINE

<table>
<thead>
<tr>
<th>PROBLEM &gt;&gt; ADJUSTMENT</th>
<th>Good Peanuts Still On Vine</th>
<th>Hulls</th>
<th>Good Peanuts Low In Hay</th>
<th>Good Peanuts High In Hay</th>
<th>LSK's</th>
<th>LSK's + Hulls</th>
<th>Stick Trash</th>
<th>Light Trash</th>
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<tr>
<td>Machine Speed</td>
<td>1. Increase</td>
<td>2. Decrease</td>
<td>-</td>
<td>-</td>
<td>1. Decrease</td>
<td>1. Decrease</td>
<td>1. Decrease</td>
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<tr>
<td>Ground Speed</td>
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<td>-</td>
<td>2. Increase</td>
<td>-</td>
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<td>Retention Board</td>
<td>1. Increase</td>
<td>3. Decrease</td>
<td>-</td>
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<td>3. Decrease</td>
<td>3. Decrease</td>
<td>3. Decrease</td>
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</tr>
<tr>
<td>Overhead Teeth</td>
<td>3. Increase</td>
<td>2. Decrease</td>
<td>-</td>
<td>-</td>
<td>2. Decrease</td>
<td>-</td>
<td>-</td>
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<td>Concave Teeth</td>
<td>4. Increase</td>
<td>1. Decrease</td>
<td>-</td>
<td>-</td>
<td>1. Decrease</td>
<td>1. Decrease</td>
<td>1. Decrease</td>
<td>-</td>
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<tr>
<td>Cylinder Speed</td>
<td>2. Increase</td>
<td>4. Decrease</td>
<td>-</td>
<td>-</td>
<td>4. Decrease</td>
<td>4. Decrease</td>
<td>4. Decrease</td>
<td>-</td>
</tr>
<tr>
<td>Cleaning Air</td>
<td>-</td>
<td>-</td>
<td>1. Decrease</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Elevator Air</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1. Decrease</td>
<td>1. Decrease</td>
<td>-</td>
<td>-</td>
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</table>

Table 3-4: M2120A Combine Setting Guides
Proper Operation (cont.)

M2120A 6-Row Peanut Combine Shaft Speeds

<table>
<thead>
<tr>
<th>SHAFT DESCRIPTION</th>
<th>STANDARD</th>
<th>2-SPEED</th>
<th>2-SPEED VALENCIA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HIGH</td>
<td>LOW</td>
</tr>
<tr>
<td>PTO</td>
<td>790</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 Jackshaft</td>
<td>790</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2 Jackshaft</td>
<td>553</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 Picking Cylinder</td>
<td>113</td>
<td>131</td>
<td>101</td>
</tr>
<tr>
<td>#2 Picking Cylinder</td>
<td>121</td>
<td>140</td>
<td>108</td>
</tr>
<tr>
<td>#3 Picking Cylinder</td>
<td>146</td>
<td>169</td>
<td>131</td>
</tr>
<tr>
<td>#4 Picking Cylinder</td>
<td>188</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 Beater Cylinder</td>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 Stemmer</td>
<td>211</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2 Stemmer</td>
<td>260</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2 Beater Cylinder</td>
<td>461</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 Walker Cylinder</td>
<td>101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2 Walker Cylinder</td>
<td>101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#3 Walker Cylinder</td>
<td>101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#4 Walker Cylinder</td>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#5 Walker Cylinder</td>
<td>110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1-15 Disc Separator</td>
<td>192</td>
<td></td>
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</tr>
<tr>
<td>Elevator Fan</td>
<td>2523</td>
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</tr>
<tr>
<td>Cleaning Fan</td>
<td>1229</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vine Spreader</td>
<td>237</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collection Auger</td>
<td>101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Header Hydraulic Pump (if so equipped)</td>
<td>1706</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Header Motor</td>
<td>247</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Header Auger</td>
<td>92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Header Pickup</td>
<td>55</td>
<td></td>
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</tr>
<tr>
<td>Speed Readout Pulse Count</td>
<td>4027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tachometer Readout</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Values for 2-Speed are same as Standard unless otherwise noted.

Table 3-5: M2120A Shaft Speeds at 100%
Hydraulic Basket Lip/Dirt Trap

IMPORTANT! Remember the following:

• Your tractor’s hydraulics are used to operate the basket lip.

• When lifting the basket, be sure to engage the tractor’s hydraulics long enough for the basket lip to reach the fully extended position.

If you dump the basket without having the basket lip fully extended, peanuts will not fall uniformly from the lip but will spill out of the sides.

To retract the hydraulic basket lip/dirt trap for transport, lower the basket fully and continue to apply hydraulic pressure until the basket lip is fully retracted.
Road Towing Combine with Side Shift Tongue
M2120A for 8-30” Rows Only

**DANGER**

Death or serious injury can result if the combine separates from the towing vehicle.
ALWAYS use safety chains when towing the combine.

Combines with side shift tongues are designed to shift the tongue to the center of the machine for safer and easier transport.

1. Raise the header off the ground.
2. Engage the hydraulic tongue shift cylinder to move the tongue to the center position.
3. Install the 1” x 4-1/4” pin and safety clip.

<table>
<thead>
<tr>
<th>Side Shift Cylinder Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retracted Length: 20-1/4”</td>
</tr>
<tr>
<td>Extended Length: 30-1/4”</td>
</tr>
<tr>
<td>Stroke: 10”</td>
</tr>
<tr>
<td>Inside Diameter: 3”</td>
</tr>
<tr>
<td>Outside Diameter: 3-1/2”</td>
</tr>
</tbody>
</table>

3000 PSI Rating
Cylinder ear hole sized for 1” diameter hitch pin.

Table 3-6: Side Shift Cylinder Specifications
4. Off-Loading Conveyor System

Before Using the Off-Loading Conveyor System ........... 54
Conveyor Safety .................................................. 54
Using the Conveyor ............................................. 56
Charging the OCS Hydraulics ....................... 56
Conveyor Tracking .............................................. 57
Conveyor Maintenance ........................................ 58
Using the Basket ............................................... 59
Basket Maintenance ......................................... 61
Basket Covers .................................................. 62
Basket Safety Strut ........................................... 62
OCS Troubleshooting ........................................ 63
Your AMADAS M2120A is available with an optional Off-load Conveying System (OCS) that comes with an unloading conveyor. The conveyor operates as follows:

- The conveyor is controlled by two tractor remotes, one to extend and store the conveyor, and one to power it.
- A container is placed underneath the conveyor whenever it is turned on.

**Note:** Running the conveyor without a container will cause you to dump product on the ground.

### Conveyor Safety

**DANGER**

Contact with an obstruction, or high voltage power line could result in death, or serious personal injury.

Be aware of the combine’s height and width which can be found on the Specifications Table in the Introduction Chapter.

Check overhead clearance to make sure no power lines, overhead limbs, or any other obstructions exist.

**DANGER**

To prevent death or serious personal injury NEVER stick any body part into any moving part of the conveyor.

**DANGER**

To prevent death or serious personal injury NEVER stand, sit, or ride on the conveyor when it is in motion.
Conveyor Safety (cont.)

**DANGER**

To prevent death or serious personal injury NEVER drive on roads with the conveyor extended.

Always make sure the conveyor is in stowed position on the conveyor rest before taking it on a road.

Be aware of the length of the conveyor when traveling. Even when in the stored position, the conveyor extends several feet past the rear of the combine and presents a substantial hazard for hitting obstructions.

It is important to remember the following safety items when your combine is equipped with the OCS option:

• Always keep in mind the length of the conveyor and how far out it extends, even when in the stored position.

• Be careful when backing the combine, as the conveyor extends several feet past the rear of the combine.

• When not using the conveyor, retract it into the stowed position. Make sure the conveyor is in place on the conveyor rest.

• Always make sure the conveyor is in the stowed position when you drive it on a road.
Using the Conveyor

Having an OCS system requires that your tractor be equipped with at least five remotes. Three are required to operate your Off-load Conveyor System. One is used for each of the following operations.

• Position the conveyor in the offloading position.
• Operate the unloading augers and conveyor.
• Raise the basket for clean out and maintenance.

For proper peanut flow:

Notice

An OCS system equipped M2120A will not function properly unless your tractor’s hydraulic pump capacity is at least 35 GPM @ 2500 PSI.

Maximum harvesting performance requires at least 40 GPM @ 2500 PSI pump flow.

Charging the OCS Hydraulics

**WARNING**

Escaping fluid or spray under pressure can penetrate the skin causing serious injury.

• Read “Avoid High Pressure Fluids” in Chapter 1. Safety.
• Relieve pressure before disconnecting hydraulic lines.
• Tighten all connections before applying hydraulic or spray pressure.
• Use the Hose ID Chart to identify hydraulic hose connections.

1. Refer to the safety information at the beginning of this chapter when operating your conveyor.
2. Connect the OCS hydraulic hoses to your tractor hydraulics.
3. Operate the remote for the swing out cylinder until all air has been removed from the system.
4. Put the conveyor in the storage position.
5. Check your tractor’s hydraulic oil level.
6. Fill to required level if necessary.
Conveyor Tracking

Check conveyor tracking by having the operator engage the tractor remotes. Observe the tracking of the belt at both the head and tail pulley. The conveyor belt should be running centered to pulleys. A deviation of +/- 3/4” is the allowable limit.

To adjust the tracking:

1. Locate the tracking rod at the lower end of the conveyor.

2. Extend the rod to push the belt away from that side or shorten the rod to bring closer.

3. Adjust the tension rods on each side at the upper end of the conveyor if the tracking rod adjustment is not enough to correct. Use the tension rod for rough adjustment and the tracking rod for fine adjustment.

WARNING

Serious personal injury can result from making adjustments while on the conveyor.

NEVER use the conveyor as a means of access.

Use a ladder or other safe means to access the tension rods.

Figure 4-1: Tracking Rod Location

Figure 4-2: Tension Rod Location
**Conveyor Maintenance**

**Lubrication:**

Lubricate grease points weekly. One or two pumps at each point is sufficient.

- Grease bearings on each side of the top end and bottom end of the conveyor.

**Inspection:**

**Daily:**

- Clean area around infeed hopper bearing and wear plate.

**Weekly (for signs of excessive wear):**

- Inspect infeed hopper bearing and wear plate.

- Inspect the three guide wheels around the edge of infeed hopper.

- Inspect the conveyor belt and tracking. If adjustments are necessary, refer to the 'Conveyor Tracking Section' in this chapter.
Using the Basket

Adjusting peanut off-load flow rate:

Auger shields are assembled at the factory in the lowest position to decrease shelling.

The following may increase peanut flow rate:

- Raise the auger shields outside the basket and at the conveyor end.

Figure 4-7: Auger Shields Duct End Adjustment Locations

Figure 4-8: Auger Shields Conveyor End Adjustment Locations

Figure 4-9: Auger Shields Location

- Adjust the infeed hopper deflector shields inside the basket.

Figure 4-10: Infeed Hopper Deflector Shield Adjustment Locations

Figure 4-11: Infeed Hopper Shield Deflector Location
Using the Basket (cont.)

To prevent shelling:

- Adjust elevator air flow to minimum setting required to fill conveyor hopper.

**IMPORTANT!** To prevent peanut loss, do not overfill basket. Monitor the highest row of bin side slots. The peanut depth will most rapidly fill in that region.

**Note:** It is not necessary to fill the basket completely to start offloading.

To achieve maximum harvesting efficiency, it may benefit to offload product whenever time is available.

![Elevator Air Adjustment](image)
**Basket Maintenance**

**Lubrication:**
- Grease basket pivot point two pumps weekly.
- Grease hydraulic arm pivot point two pumps weekly.

**Inspection:**
- Inspect infeed hopper deflector shield weekly for excessive wear.
- Check tightness of swing cylinder lug mounting bolts. Torque to 212 ft/lb.
**Basket Covers**

Basket covers can be removed to gain access to the interior of the basket.

**Basket Safety Strut**

**DANGER**

Death, or serious personal injury could result if the basket were to fall.

ALWAYS install the basket safety strut over the hydraulic cylinder before working around or under the raised bin.

Always use the basket safety strut as intended before checking or working around the open bin.

IMPORTANT! Basket must be empty.

1. Lift basket using appropriate remote.

2. Rotate basket safety strut into locked position shown in Figure 4-19.
OCS Troubleshooting

3. Change conveyor hoses to another tractor remote that is functioning properly.

4. If the conveyor operates properly, then the remote is the problem. Contact your tractor dealer for service to the tractor.

5. Check for a foreign object (e.g., rock, etc.) under the conveying augers.

   Note: If an auger is stalled, the conveyor will also stall.

6. Check for bridging of material at the point where material is emptied from the basket onto the augers.

7. Dislodge any packed material and check for foreign objects.

If the conveyor is not working correctly:

1. Make sure sufficient hydraulic oil is available in your tractor hydraulic reservoir.

2. Make sure all quick disconnects on conveyor hoses are properly connected. Refer to Figure 4-20 below for location.
5. Controls and Adjustments

Overview
Controls and Adjustments
Adjustable Overhead Teeth and Optional Concave Teeth Controls
Retention Board Adjustment
Cleaning Air Control
Tailboard Adjustment
Elevator Air Control
Standard Pickup Header Speed Control
Remote Auger Reverse
PTO Speed Adjustment
Pickup Header Height Adjustment
Header Auger Adjustment
Optional Dual Speed Cylinder Drives
Variable Pitch Vine Spreaders
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### Overview

The AMADAS M2120A Peanut Combine performs efficiently over a wide range of peanut varieties and windrow conditions with only a few changes required in operational controls.

**WARNING**

Serious personal injury can result from making adjustments while the combine is running.

NEVER make adjustments to the harvesting controls while the combine is running.

Once the controls and adjustments are set for average conditions, adjusting the ground and PTO speed is usually adequate for efficient performance (when harvesting peanuts of similar varieties under similar conditions).

Changing the PTO speed affects picking and cleaning operations, and can be used to fine tune operations.

To further maximize combine performance there are primarily two major areas to consider for adjustment.

- The picking operation by adjusting one or more of the following:
  - retention board
  - overhead teeth
  - combine input speed
  - concave teeth (if equipped)

- The cleaning operation by adjusting:
  - cleaning air
  - tail board

**Note:** Some controls and adjustments MAY affect both areas.

**IMPORTANT!** Make only one adjustment at a time between performance checks.

This will allow you to determine which adjustment is actually improving the combine’s performance.
Controls and Adjustments

Adjustable Overhead Teeth and Optional Concave Teeth Controls

The adjustable overhead teeth handle controls the degree of aggressiveness of the overhead spring tooth bar.

Always start with all control handles in the disengaged position. Make adjustments as follows:

We recommend adjusting the #1 cylinder overhead teeth handle first, and then adjust the #2 cylinder handle.

Engaging the overhead teeth will help clean wrapping vines from the corresponding spring tooth cylinder and increase that cylinder’s effectiveness.

• If the vines are green and/or tough, progressively engage the overhead teeth to allow more threshing of the vines starting at the 1/2 engaged position.

• If you notice that an excessive number of peanuts are not being separated from the vines or a tough, wrapping condition develops, adjust the handle toward the engaged position in 1” increments between checks.

• The optional concave teeth may be engaged to increase aggressiveness as needed.

Figure 5-2: Overhead Teeth Control Locations

Figure 5-3: Overhead Teeth Controls

Figure 5-4: Optional Concave Teeth Control
Retention Board Adjustment

The AR rotor discharge boards control the retention time of material in the forth picking cylinder.

Start with the retention control handle disengaged for normal conditions. Make adjustments as follows:

• If the vines are very "brittle" leave the control disengaged for less aggressive action. This will help avoid tearing the vines apart excessively, which makes separation more difficult.

• In “tough” conditions, or to remove very small peanuts from bunch type vines clustered around the tap root, move the control handle toward engaged.

• Only engage the handle enough to ensure that good peanuts are not being left on the vine behind the combine; start at the ½ engaged position.

• If the control is engaged too far, shelling may occur, and the vines will tear apart excessively, possibly overloading the disc separator.

• The best performance is with the control handle engaged no further than necessary to remove the good peanuts from the vines.

Figure 5-5: Retention Board Control
Cleaning Air Control

WARNING

Serious personal injury can result from making adjustments while the combine is running.

NEVER make adjustments to the harvesting controls while the combine is running.

Set the cleaning air control as follows:

• For average conditions set the cleaning air control handle at the 3/4 open position.

To make adjustments:

Use the inspection doors at the rear of the combine to aid in setting the cleaning air.

• Set the air higher than needed and then adjust it back until no good peanuts are being blown out the back of the machine.

Note: If the air is set too low, proper separation will not occur and peanuts can ride over the disc separator with the vines.

• Open the cleaning air control handle more to remove pods containing small shriveled peanuts.

Always operate with the cleaning air control set no higher than necessary to save all peanuts of value while still providing a clean sample.

Note: In some conditions the maximum open setting may be necessary. The maximum opening of the fan door should be at least 10-3/8".
**Tailboard Adjustment**

The tailboard affects the flow of material from the stemmer bottom out the back of the combine. Raising the tailboard makes it harder to blow material out of the stemmer bottom, while lowering the tailboard makes it easier.

![Figure 5-9: Tailboard Location](image)

Under normal conditions, set the tailboard in the upper position.

Usually, the tailboard is adjusted only if the cleaning air or other adjustments do not produce the desired response. If adjustments are needed, make them as follows:

- Use a 7/16 wrench to loosen the seven 1/4” fasteners and evenly raise or lower the tailboard across the width of the machine.

![Figure 5-10: Tailboard Fasteners Location](image)

**Note:** Raising the tailboard in fields where heavy foreign material exists (stones, melons, wood, etc.) increases the chance for the foreign material to get into the bin.

- Lower the tailboard in very dry conditions. If dry, brittle vines are getting shredded up into small sticks that can penetrate the disc separator openings, lower the tailboard to make it easier to blow this light, small trash out of the stemmer bottom.
Elevator Air Control

Manual Elevator Air Control

A **manual mode** option allows the operator to control the position of the damper from the cab of the tractor.

The elevator air control is normally set so that peanuts are conveyed about 3/4th of the way across the bin. For maximum performance apply only as much air as necessary to fully fill the basket.

Make adjustments as follows:

- Raise the air if peanuts are very dirty or high yield.
  
  **Note:** Excessive airflow will cause LSKs.

- Lower the air if peanuts are very light/fragile or dry.

- Lower the air if LSKs or empty hulls are in the conveyor system.
  
  **Note:** Too low a setting can block the elevator air system.

On a new machine, or one that has been sitting idle, some LSKs may be seen in the basket due to roughness in the air ducts. Once the air ducts smooth out, the number of LSKs should decrease.
Standard Pickup Header Speed Control

Pickup header speed is controlled by your tractor’s hydraulic remote setting.

**WARNING**

Serious personal injury can result from working with hot oil.
Do NOT work on hydraulic system if oil temperature exceeds 100°F.
Read “Avoid High Pressure Fluids” in Chapter 1. Safety before working with hydraulics.

Set the header speed so that the header picks up the windrow completely as the combine travels down the field. If the header is too slow, it will push the vines before adequate lift is achieved, causing peanut loss. If operated too fast, the windrow will pull apart before entering the combine and loss could also occur.

Dry vines typically require lower pickup speeds than green vines.
If the windrows have excessive dirt, increase the header speed slightly to help dirt removal before it enters the machine.

Remote Auger Reverse

Remote reversing auger and header speed control are standard features built into the hydraulic package on the AMADAS M2120A.

The remote auger reverse system consists of a bi-directional hydraulic motor and a one-way reversing clutch.

When the header is reversed by the hydraulic remote the one-way clutch free wheels, stopping the pickup while the auger reverses, allowing material to be discharged from the header.

**NOTICE**

Failure to lubricate the header reversing clutch can cause damage to the header pickup. Refer to the Chapter 7. Maintenance, “Lubrication Schedule”.

**DANGER**

NEVER remove material from the header/auger while the tractor engine and combine are running.
ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before unclogging any part of the combine.
PTO Speed Adjustment

Proper PTO speed is essential to efficient operation. PTO speed functions as follows:

A combine speed monitor, which monitors combine speed from the tractor cab, is included with the tech package and should be mounted in the tractor. Refer to Chapter 8. “Peanut Tech” Monitoring and Control for details.

The combine speed monitor measures combine speed as a percentage of machine design speed.

Note: Consistent combine speed is important for the best harvesting performance. If the combine speed fluctuates, check the combine drive belts and tractor PTO system for the source of problem.

A magnetic pickup assembly senses combine speed. This pickup reads off of one of the disc separator drive sprockets, and should be adjusted to have a clearance of 1/16”, or less, between sprocket tooth and pickup.

NOTICE

Make sure the Sprocket never actually contacts the pickup.

This can damage the pickup and render it inoperable.

The AMADAS M2120A is designed to operate with 790 PTO RPM input, so the tractor will not be required to run at its full “PTO speed”.

At machine design speed, the tractor PTO output should be 790 RPM and the combine speed monitor should read 100%.

NOTICE

790 PTO RPM is standard for most machines. Some combines are equipped with optional drives that require different input speeds. Refer to the PTO RPM on your machine.
**PTO Speed Adjustment (cont.)**

The normal operational range of the combine is 90% to 110% of the design speed as shown on the digital speed indicator.

- The 790 RPM tractor PTO should operate from:

  710 RPM (90%) to 870 RPM (110%).

**Note:** If the PTO speeds drop to 671 RPM (85%) or go past 870 RPM (110%) a visual and audible alarm will sound.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious machine damage <strong>WILL</strong> result if you exceed 110% of the design speed.</td>
</tr>
<tr>
<td><strong>NEVER exceed 110% of the design speed.</strong></td>
</tr>
</tbody>
</table>

The combine design speed is 100% on the combine speed monitor or 790 PTO RPM.

- For very dry peanuts, reduce the combine speed to below 100% to aid in performance.

  **Note:** Cleaning air and elevator air may need to be increased to maintain performance.

- For tough or wet conditions, raise the combine speed over 100% to increase aggressiveness and aid in performance.

  **Note:** To avoid loss or damage cleaning and elevator air may need to be lowered.

For more information, see instructions in Chapter 8. “Peanut Tech” Monitoring and Control.
**Pickup Header Height Adjustment**

The pickup header height is controlled with a tractor-powered remote hydraulic cylinder.

**NOTICE**
To reduce excessive wear, avoid dragging pickup teeth in the soil.

Operate the header low enough to pick up all the vines in the windrow, but high enough to allow dirt clods, soil, and other debris to fall out. This reduces the amount of foreign material entering the combine.

Figure 5-16: Header Lift Cylinder
Header Auger Adjustment

The header auger is manually height adjustable. It can be raised or lowered to help feeding in varied crop conditions. The header auger adjustment functions as follows:

- The header auger can be raised for additional crop clearance if the header stalls often (but the hydraulic system is operating properly).

- Raise the auger until the finish of the auger has become polished, when the machine is new, for less resistance moving the crop.

- The header auger is run at the halfway setting or lower for more efficient conveyance of crop and less rolling of vine material under normal conditions.

- Use the adjustable bearing mount plates on each end of the header to make adjustments.

- The auger height is adjusted by loosening the four outer bolts holding the bearing mount plate and then turning the top mounted adjuster screw to raise or lower the auger.

**Note:** It is important to keep the header auger level, so both ends should be adjusted to the same relative position.

- Make sure all bolts are retightened after the adjustments are made.
Optional Dual Speed Cylinder Drives

The dual speed cylinder drives allow efficient operation in a wider range of conditions by allowing the operator to vary greatly the combine’s cylinder speeds as follows.

• Cylinder speed can be significantly reduced for gentler threshing action by switching the main drive chain from the larger high speed drive sprocket to the smaller low speed sprocket.

• Typically, the high speed cylinder drive setting is used in normal to tough conditions for more aggressive threshing action.

Variable Pitch Vine Spreaders

The standard vine spreader setup can throw vines too far and onto unharvested rows in certain conditions, or with certain headers.

A set of variable pitch flails has been designed to help reduce this problem.

Remove the inner flail mounting bolt and rotate the flail around the outer bolt as shown in the diagram to make adjustments.

• **Medium throw** reduces vine travel 1 to 2 feet each side.

• **Short throw** reduces vine travel 2 to 3 feet each side.

\[\text{Figure 5-19: Vine Spreaders}\]

**NOTICE**

Do NOT allow the combine to run in green or tough conditions with the dual speed cylinder drives in the low speed setting.

Severe damage to the combine, driveline, or tractor will occur.

• The low speed cylinder drive setting is used in very dry or brittle conditions to handle the crop more gently, threshing with less damage and leaving the vine material in larger pieces for better separation.

• The low speed cylinder drive setting results in around a 23% reduction in cylinder speed. This is a substantial speed reduction that can increase possible torque loads, so the low speed setting should never be used in green or tough conditions.

• Shut the tractor off before changing the dual speed cylinder drive settings, and always remember to tighten thoroughly all of the accompanying idlers.

**Note:** Combines equipped with two speed drives have a designated PTO input speed of 790 RPM unless equipped with an optional 13” sheave. In this case, the design PTO input speed is 850 RPM.
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6. Performance

Fine Tuning Operation...........................................83
Achieving Maximum Ground Speed..........................83
Increasing Separating Capacity...............................84
Harvesting Under Wet Conditions...........................85
Troubleshooting....................................................86
Figure 6-1: M2120A PT OCS Peanut Combine
Fine Tuning Operation

This chapter describes ways you can fine tune your combine’s performance. Also refer to Chapter 5. Controls and Adjustments for more information on fine tuning your combine using the combine’s standard controls.

Be sure to refer to Chapter 1. Safety and follow all safety guidelines when working on the combine.

Seeking Maximum Ground Speed

Moisture, dirt clods, grass, weeds, peanut maturity, yield, stem characteristics, vine type and many other variables determine the most efficient ground speed.

Contact with an obstruction or high voltage power line could result in death or serious personal injury.

Be aware of the combine’s height and width which can be found on the Specifications Table in the Introduction Chapter.

Check overhead clearance to make sure no power lines, overhead limbs, or any other obstructions exist.

If maximum ground speed is desired:

1. Shift the tractor into the next higher gear.

DANGER

ALWAYS stop the combine, set the parking brake, shut the tractor motor off and remove the key before you leave the tractor for any reason.

2. Operate machine for 50-70 yards and check for harvesting loss.

3. Continue to increase tractor ground speed by shifting to the next higher gear speed if the performance check shows the machine performed satisfactorily at the last speed tried.

Note: The header auger may be subject to clogging at higher ground speed. Be sure the elevator air is sufficient to elevate increased peanut volume.

4. When performance deteriorates, incomplete threshing, or excessive separator loss is seen, drop back to the next lower gear selection that offered satisfactory performance. This is the maximum efficient ground speed for existing conditions.

Note: Normally the cleaning air system is unaffected by the other components of the machine. If you experience peanut loss, determine whether the loss is resulting from the cleaning air systems or the separator cylinder section before adjusting the cleaning air controls. Refer to Chapter 5. Controls and Adjustments.
Increasing Picking Capacity

**DANGER**

MOVING PARTS HAZARD

To prevent serious injury or death:
- Keep hands, feet, and clothing away from power-driven parts.
- Never clean, lubricate, or adjust machine when it is running.

The picking capacity can be increased by more aggressively engaging the retention board, overhead teeth, or, if equipped, concave teeth.

**Note:** Each of these adjustments increases aggressiveness and may cause some shelling. You must decide if higher capacity is worth a possible increase in shelling.

The best separating efficiency can typically be achieved when peanut kernel moisture is 14% to 20%.

**NOTICE**

**IMPORTANT:** Make only one adjustment at a time between performance checks.

This will allow you to determine which adjustment is actually improving the combine’s performance.
## Harvesting Under Wet Conditions

If equipped with dual cylinder drives, always run on high in wet conditions. More aggressive combine settings are typically needed in wet conditions.

If water droplets are present on or under peanut vines when harvested, the surfaces of all components in the combine can become coated in a layer of material composed of soil and vine fiber.

Proceed at a ground speed lower than normal if it is not possible to lift the windrows or wait until they dry before harvesting.

Check frequently for buildup of residue on the stemmer saws, elevator air ducts and other surfaces subject to buildup.

**DANGER**

NEVER remove material while the tractor engine and combine are running.

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before you leave the tractor for any reason.

<table>
<thead>
<tr>
<th>After harvesting peanuts where buildup occurs, it is important to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clean the stemmer saw with a wire brush and scrape out the stemmer bottom.</td>
</tr>
<tr>
<td>2. Remove the elevator duct work and clean thoroughly to remove buildup.</td>
</tr>
<tr>
<td>3. Clean the separator cylinder concaves.</td>
</tr>
<tr>
<td>4. Remove the inspection cover located under the first few disc separator shafts.</td>
</tr>
<tr>
<td>a. Use a flashlight and visibly inspect the area in front of and around the first disc separator shaft (front shaft). If any debris is present, thoroughly clean this area.</td>
</tr>
<tr>
<td><strong>Note:</strong> Use a long stick with a hook, or compressed air if necessary.</td>
</tr>
<tr>
<td>b. Replace inspection cover when finished.</td>
</tr>
<tr>
<td><strong>Important!</strong> Failure to keep this area clean will adversely affect peanut separation.</td>
</tr>
</tbody>
</table>
# Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good peanuts attached to vines being discharged from combine.</td>
<td>Main drive belt slips under surge loads.</td>
<td>Tighten belt and reduce ground speed.</td>
</tr>
<tr>
<td></td>
<td>Combine not at or near design speed.</td>
<td>Adjust RPMs and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Ground speed too fast for conditions.</td>
<td>Shift tractor into a lower gear.</td>
</tr>
<tr>
<td></td>
<td>Moisture level in windrows is too high.</td>
<td>Lift windrows and/or wait for moisture to dissipate.</td>
</tr>
<tr>
<td></td>
<td>Adjustable overhead teeth not engaged enough.</td>
<td>Engage overhead teeth slightly (in 1” increments).</td>
</tr>
<tr>
<td></td>
<td>Retention board open too much.</td>
<td>Engage in 1” increments.</td>
</tr>
<tr>
<td>Loose peanuts being discharged over back of separator cylinders.</td>
<td>Combine PTO not at or near design speed.</td>
<td>Adjust and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Ground speed too high for conditions.</td>
<td>Shift tractor to lower gear.</td>
</tr>
<tr>
<td>Good peanuts being discharged over disc separator.</td>
<td>Ground speed too high for conditions.</td>
<td>Shift tractor to lower gear.</td>
</tr>
<tr>
<td></td>
<td>Cleaning air control improperly set.</td>
<td>Lower air setting if peanuts are being blown out. Raise air setting if peanuts are riding out in the vine hay.</td>
</tr>
<tr>
<td></td>
<td>Combine settings are not aggressive enough.</td>
<td>Engage overhead teeth (1/8” increments).</td>
</tr>
<tr>
<td>Lightweight foreign material in basket.</td>
<td>Main drive belt slips under surge loads.</td>
<td>Tighten belt and reduce ground speed.</td>
</tr>
<tr>
<td></td>
<td>Combine PTO not at or near design speed</td>
<td>Adjust and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Cleaning air control set too low.</td>
<td>Adjust to a higher setting</td>
</tr>
<tr>
<td></td>
<td>Separator section drive or cleaning air control air drive belts are slipping.</td>
<td>Tighten belts.</td>
</tr>
<tr>
<td></td>
<td>Moisture level in windrows too high.</td>
<td>Lift windrows and/or wait for moisture to dissipate.</td>
</tr>
<tr>
<td></td>
<td>Cleaning fan belt slipping.</td>
<td>Tighten belt and inspect sheaves.</td>
</tr>
</tbody>
</table>
## Troubleshooting (cont.)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive amounts of LSKs in basket.</td>
<td>Retention board engaged too far in the closed position.</td>
<td>Disengage in 1” increments between checks.</td>
</tr>
<tr>
<td></td>
<td>Cylinders are wrapping in tough, green conditions</td>
<td>Engage overhead teeth</td>
</tr>
<tr>
<td></td>
<td>Adjustable concave teeth (if equipped) are too aggressive.</td>
<td>Disengage in 1” increments between checks.</td>
</tr>
<tr>
<td></td>
<td>Main drive belt slips under surge.</td>
<td>Tighten belts.</td>
</tr>
<tr>
<td></td>
<td>Combine PTO over design speed.</td>
<td>Adjust and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Moisture content in peanuts too low.</td>
<td>Minimize aggressive settings, reduce combine RPM. Increase to a higher tractor gear and ground speed if needed.</td>
</tr>
<tr>
<td></td>
<td>Moisture level in windrows too high.</td>
<td>Lift windrows or wait for moisture to dissipate.</td>
</tr>
<tr>
<td></td>
<td>Obstruction in elevator air duct.</td>
<td>Shut off tractor, disassemble duct and remove obstruction.</td>
</tr>
<tr>
<td></td>
<td>Very dry harvest conditions.</td>
<td>Disengage teeth, retention board, and slow PTO.</td>
</tr>
<tr>
<td></td>
<td>Windrows have been run over and the peanuts shell easily.</td>
<td>None.</td>
</tr>
<tr>
<td></td>
<td>Elevator air set too high.</td>
<td>Lower elevator air setting.</td>
</tr>
<tr>
<td></td>
<td>Excessive amount of dirt clods in basket.</td>
<td>Reshake windrow.</td>
</tr>
<tr>
<td></td>
<td>Pickup header is being operated too low.</td>
<td>Raise header so that spring tips run just above the ground.</td>
</tr>
<tr>
<td></td>
<td>Combine PTO not at or near design speed.</td>
<td>Adjust and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Main drive or cleaning air belts are slipping.</td>
<td>Tighten belts and check elevator fan belt and V-sheave for wear.</td>
</tr>
<tr>
<td></td>
<td>Concave teeth (if equipped) not engaged.</td>
<td>Engage concave teeth.</td>
</tr>
<tr>
<td></td>
<td>Ground speed too fast for conditions.</td>
<td>Shift tractor into a lower gear.</td>
</tr>
</tbody>
</table>
## Troubleshooting (cont.)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive amount of dirt clods in basket. (cont.)</td>
<td>Obstruction in elevator air duct.</td>
<td>Disassemble duct and remove obstruction.</td>
</tr>
<tr>
<td></td>
<td>Elevator fan or main drive belts are slipping.</td>
<td>Tighten belts and check the elevator fan belt and V-sheave for wear.</td>
</tr>
<tr>
<td></td>
<td>Combine PTO not at or near design speed.</td>
<td>Adjust and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Stones or dirt clods in air duct.</td>
<td>Shut off tractor. Open cleaning door and remove stones or clods.</td>
</tr>
<tr>
<td></td>
<td>Animals have built nests in high pressure section of elevator system.</td>
<td>Remove inspection door in jet tunnel and remove nest.</td>
</tr>
<tr>
<td></td>
<td>Dirt buildup on inside of duct.</td>
<td>Inspect and clean.</td>
</tr>
<tr>
<td>Tractor PTO load excessive.</td>
<td>Tractor PTO not at or near design speed.</td>
<td>Adjust and observe combine speed monitor.</td>
</tr>
<tr>
<td></td>
<td>Ground speed too fast for conditions.</td>
<td>Shift tractor into a lower gear.</td>
</tr>
<tr>
<td></td>
<td>Threshing chamber jammed.</td>
<td>Stop, shut off tractor, and remove excess material.</td>
</tr>
<tr>
<td>Hay is torn up excessively under dry conditions.</td>
<td>Adjustable overhead teeth set too aggressively.</td>
<td>Disengage overhead teeth in 1” increments between checks.</td>
</tr>
<tr>
<td></td>
<td>Retention board engaged too far in the closed position.</td>
<td>Open in 1” increments between checks.</td>
</tr>
<tr>
<td></td>
<td>Combine is being operated above suitable PTO speed level.</td>
<td>Reduce combine speed to lower speed level.</td>
</tr>
<tr>
<td></td>
<td>Very dry harvest conditions.</td>
<td>Disengage aggressive overhead settings, increase ground speed and decrease PTO if necessary.</td>
</tr>
</tbody>
</table>

**Note:** For OCS troubleshooting refer to Chapter 4. *Off-Loading Conveyor System.*

Table 6-0: M2120A Troubleshooting
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7. Maintenance

Belt Adjustment .............................................................. 93
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Lubrication ..................................................................... 95
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Tire & Wheel Fasteners Torque ...................................... 100
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Belt Adjustment

V-belt drives power the fans, hydraulic power (optional), separating section, and stemmer saws. The belts also transmit power from the PTO input gearbox to the main jackshaft.

Important! Properly maintaining the belts is essential to ensure efficient machine operation.

MOVING PARTS HAZARD
To prevent serious injury or death:
• Keep hands, feet, and clothing away from power-driven parts.
• Never clean, lubricate, or adjust machine when it is running.

ALWAYS stop the combine, set the parking brake, shut the tractor motor off, and remove the key before servicing.

Check and adjust the belts as follows:
1. Make sure the tractor engine is shut off.
2. Open shields covering drive belts.
3. Check belts and sheaves for wear. Replace if necessary.
4. Check the main drive belt in the middle. There should be no more than 1/2” deflection. Adjust the belt tension as necessary.
5. Make sure that idlers are aligned and fasteners are tight.
6. Replace shields before operating the machine.

Figure 7-1: Access Drive Belts

W DANGER
Death or serious personal injury will result from entanglement.
ALWAYS make sure all drive shields and guards are in place when the combine is in operation.

3/4/19
Chain Adjustment

The chain drives must be properly maintained for the combine to function correctly.

Important! Proper chain alignment and tension are very important.

To check and adjust the chains:

1. Make sure the tractor engine is shut off.
2. Open the shields which cover the chains.
3. Check chains and sprockets for wear. Replace if necessary.

NOTICE

NEVER replace a chain only without checking for sprocket wear. New chains must run on sprockets with no visible wear to prevent premature wear of chains and/or sprockets.

3. The chains should have no more than 1" of play when checked in the middle. Use the chain idlers to adjust.

5. Lubricate chains if needed. Refer to Table 9: Lubrication Schedule in this chapter.

6. Make sure all idlers are tight and aligned.

MOVING PARTS HAZARD

To prevent serious injury or death when performing maintenance on this machine:

- Put the tractor in park.
- Shut off the engine.
- Remove the key.

DANGER

Death or serious personal injury will result from entanglement.

ALWAYS make sure all drive shields and guards are in place when the combine is in operation.

7. Replace all shields before operating the machine.
Lubrication

There are some components on the combine that require regular lubrication in order to continue functioning correctly. These items and their lubrication intervals are shown on Table 9: Lubrication Schedule in this section.

**NOTICE**

Damage to bearing seals may occur if you use a power grease gun or exceed the specified lubrication intervals.

Do NOT use a power grease gun and do NOT exceed the specified lubrication intervals.

**Note:** Some sealed bearings contain no grease fittings. They are lubricated for life and require no further lubrication.

**DANGER**

Death or serious personal injury may result if you lubricate the combine while it is operating.

**Note:** For OCS lubrication requirements refer to Chapter 4. *Off-loading Conveyor System.*

---

Figure 7-7: Drive Chains and Idlers
PTO and Driveline

Daily greasing of the PTO is essential for proper operation. Refer to Figure 7-8 for PTO grease points.

There are two grease fittings located 180° apart on the telescoping shaft.

**NOTICE**

The driveline will fail if not lubricated on a periodic basis.

Daily lubrication of the CV driveline is essential to driveline longevity.

![CV Shaft Lube Requirements Diagram](image)

* Lubricate outer cross kit with 5 pumps of grease (about 1/2 wt. oz.).
** Inner cross kit also lubricates the double yoke. Lubricate with 15 pumps of grease (about 1–1/2 wt. oz.).
Consult operators manual for additional information.

Figure 7-8: Walterscheid - PTO Lubrication Points

![Bonadioli & Pavesi - Lubrication Points](image)
## Schedule & Lubricants

### Table 9: Lubrication Schedule

**LUBRICATION SCHEDULE**

<table>
<thead>
<tr>
<th>Action / Component</th>
<th>Type of Lube</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Before Each Use</td>
</tr>
<tr>
<td>Lubricate Hitch Assembly</td>
<td>A</td>
<td>X</td>
</tr>
<tr>
<td>Lubricate PTO Driveline Shaft</td>
<td>A</td>
<td>X</td>
</tr>
<tr>
<td>Lubricate U-Joint (on gearbox output)</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Lubricate Tongue U-Joint</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Lubricate Basket Pivot Points</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Lubricate Bearings</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Oil Chains</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Lubricate Jack</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Lubricate Wheel Bearings</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Lubricate Header Reversing Clutch</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>

_A = Multi-Purpose Grease (EP2 rated)_  
_B = SAE 10 Wt. Hydraulic Fluid_  
_C = Chain Lube_  
_D = Gear Oil, Synthetic 50 Wt._

**NOTE:** Refer to the OCS section for additional lubrication points and schedule.

### Table 10: Recommended Lubricants

**Recommended Lubricants**

<table>
<thead>
<tr>
<th>Grease, Synthetic NLGI #2</th>
<th>O.E.M. equipped Permalube Xtreme Grease, p/n #81088</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear Oil, Synthetic 50WT</td>
<td>O.E.M. equipped Lubemaster Synthetic SAE 50, p/n #81087</td>
</tr>
</tbody>
</table>
Lubrication Locations

NOTE: Refer to the OCS section for additional lubrication points and schedule.
Post Season Maintenance

To extend the life of your combine, take the time to prepare it properly for the long non-use period.

Follow these storage suggestions at the end of each season.

1. Clean the combine thoroughly to remove all dirt and moisture-holding materials.
2. Flush out the slots below the disc separator shafts with an air hose or blower to remove all trash and dirt.
   **Note:** If dirt is packed tightly, it can be loosened with prodding.
3. Repaint worn and scratched parts.
4. Coat the internal parts of the combine with light oil or another rust inhibitor.
5. Release tension on all belts.
6. Remove and clean all chains. Store in a container of oil or oil/diesel mix, if possible. If not, reinstall but do not tension.
7. Grease all fittings and driveline.
8. Store the combine under shelter.
9. Collapse all hydraulic cylinders to prevent them from rusting or pitting.

**IMPORTANT!** Cover the optional hydraulic tank and breather cap to prevent water from entering the tank if the combine must be stored outside.

**CAUTION**

Use protective eye gear.

**NOTICE**

Do NOT use high-pressure water or air directly on the bearing seals.
Do NOT use high-pressure water or air around electrical components. Contaminant or moisture penetration may occur and can dramatically shorten part life.
### Torque Charts

#### Tire & Wheel Fasteners Torque

<table>
<thead>
<tr>
<th>Torque Specifications</th>
<th>Diameter</th>
<th>Thread</th>
<th>Grade</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensions/Spindles</td>
<td>7/8”</td>
<td>14</td>
<td>8</td>
<td>668 ft/lb</td>
</tr>
<tr>
<td>Lug nuts</td>
<td>3/4”</td>
<td>16</td>
<td>8</td>
<td>400 ft/lb</td>
</tr>
</tbody>
</table>

18’ & 19’ Tire pressure: 800 / 65 R32 – Radial: 44 PSI

**Table 8-3: Tire & Wheel Fasteneners Torque**

Tighten standard 3/4” wheel studs and nuts to torque 500 ft/lbs during initial operation of the combine. Then check for proper torque after every 10 hours of use.

**IMPORTANT!** Failure to check for proper torque after every 10 hours may damage wheel nut seats. Once seats are damaged, it will become impossible to keep nuts tight.

#### Bolt Torque

**Table 8-4: Bolt Torques**

Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application. Fasteners must always be replaced with the same grade as specified in the manual parts list. Always use the proper SAE tool for tightening hardware.

**Note:** Make sure fastener threads are clean and you start thread engagement properly. All torque values are given to specifications used on hardware defined by SAE J1701 & J1701M (JUL 96).
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8. "Peanut Tech" Monitoring and Control

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Custom Air Pressure Settings ................................ 109
Key Features

As part of Amadas’ commitment to continuous product improvement, we are pleased to include the “Peanut Tech” package on 2120A Peanut Combines.

**Combine Speed**

Combine speed is monitored and displayed. If the speed drops below 85% or goes beyond 110% of the design speed, both a visual and audible alarm will activate.

**Duct Air**

In-cab control and position display of the Elevator Air Control actuator meters the volume of air in the peanut elevator duct (shown as Duct Air).

Duct air can be controlled in two different ways.

**Manual** - Manual Mode allows the operator to adjust the air as needed based on observed peanut flow to the basket.

**Automatic** - In Auto Mode, the controller monitors duct air pressure, combine speed, and elevator air actuator position to determine the optimum damper setting.

**Peanut Duct Load**

The controller monitors duct air pressure, combine speed, and elevator air actuator position to determine the amount of load placed on the Peanut Elevator system.

This helps determine harvest speed and helps prevent overloading the combine.

A visual and audible alarm will activate to warn the operator the system is reaching capacity when the load reaches 80% of design load. This helps prevent “plugging the duct”.

Figure 8-1: AMADAS “Peanut Tech” Package Controller

Figure 8-2: "Peanut Tech” Package Home Screen
**Key Features (cont.)**

**Peanut Door Alarm**

The Peanut Door is located on the left side of the combine above the collection auger.

The peanut door opens to release peanuts that continue to be harvested when the elevator duct “plugs” due to overloading or the introduction of foreign objects.

This will reduce machine damage but peanut loss will continue until the combine is stopped.

When an overload happens the Amadas Logo will be replaced with a flashing “Peanut Door” display along with an audible alarm.

![Figure 8-3: Peanut Inspection Door Location](Image)

![Figure 8-4: Peanut Door Alarm Display on Home Screen](Image)

**Service Hours**

Resettable service hours function keeps track of the combine run time since the last service was performed.
Home Screen Functions and Controls

1. Displays combine speed and background flashes if combine speed is below 85% or above 110% design speed.

2. Displays position of the actuator that controls the elevator air.

3. Displays peanut duct load and will flash a visual and sound an audible alarm once it reaches 80% of design load.

4. Accesses the ALL INFORMATION Screen. Provides more detailed sensor and settings readings.

5. Mutes the audible portion of an alarm for 5 minutes. Unmutes the audible portion of an alarm during the 5 minutes.

6. Returns to the HOME Screen from the HELP Screen. [Button 10 also]

7. Decreases elevator air in manual mode.

8. Increases elevator air in manual mode.

9. Displays “Peanut Door” if peanut door opens.

10. Returns to the HOME Screen from the HELP Screen. [Button 6 also.]

11. Accesses the help (basic instructions) from the HOME Screen.

12. Toggles the elevator control from manual to auto. The current mode is displayed above the button.

13. Indicates if power is being supplied to the controller.
**Help/Basic Instruction Screens**

This screen displays basic instructions for the “Peanut Tech” System.

1. Return to HOME Screen.
2. Return to HOME Screen.
3. Use to go to PAGE 2 of instructions.

**PAGE 2**

This screen displays more basic instructions for the “Peanut Tech” System.

1. Return to HOME Screen.
2. Return to HOME Screen.
3. Use to go to PAGE 1 of instructions.

**Access Setup Screen**

The SETUP Screen can only be accessed from the HOME Screen.

1. Press and hold buttons 3 and 4 for more than 5 seconds.

   **Note:** Make sure to press button 4 first.

2. Once the SETUP Screen appears, use the directional pad to navigate and change values.
3. Use the left and right arrows to navigate through the screen.
4. Use the up and down arrows to change values.
5. To return to the HOME Screen, press [esc].
All Information Screen Functions and Controls

Control Buttons
1. Return to HOME Screen.
2. Reset the service hours displayed in the upper right corner of the screen.
3. Increase elevator air.
4. Decrease elevator air.
5. Mute an audible alarm for 5 minutes. Unmute the audible alarm during the 5 minutes.
6. Toggle between manual and auto elevator control. The current state is displayed on the screen above the button.
7. Return to HOME Screen.

Left column: The actual sensor information the controller is receiving.

Right column:
Service hours since last reset:
• Speed of the left and right rotor.

State of peanut door:
• Backlit in green – door is closed.
• Backlit in red; audible alarm – door is open.

State of PTO:
• Backlit in green – above 85%.
• Backlit in red; audible alarm – below 85%.
• Backlit in red; audible alarm – above 110%.

State of Actuator UP [more air]:
• Backlit in green – actuator is increasing air at that time.

State of Actuator DOWN [less air]:
• Backlit in green – actuator is decreasing air at that time.
Calibrating the Actuator

If a new Elevator Actuator is installed, it is necessary to calibrate the actuator.

1. In the HOME Screen, press button 4 to set the air control to Auto. Refer to Figure 8-12.

2. Press and hold buttons 3 and 4, Figure 8-11 above, for more than 5 seconds to access the SETUP Page.

   Note: Make sure to press button 4 first.

3. Use the left arrow button to navigate to the [Calibrate Elevator Raw] block.

4. Depress the UP arrow until actuator is completely closed.

5. With actuator closed, press and hold button 4 [MAX] for approximately 3 seconds.

6. Depress the DOWN arrow until actuator is completely extended.

7. With actuator extended or opened, press and hold button 3 [MIN] for approximately 3 seconds.

8. To exit, depress [ok] and then [esc].

Custom Air Pressure Settings

**Important Note:** If any component from the elevator air or monitoring system (air pressure sensor, duct work, elevator fan, etc.) is changed or replaced, these procedures must be followed.

1. In the HOME Screen press button 4 to toggle from Auto mode to Manual mode. Refer to Figure 8-12.

   **DANGER**

   BODY ENTANGLEMENT HAZARD

   ROTATING DRIVELINE

   To prevent severe injury or death:
   - Avoid all contact with PTO shaft while shaft is in motion.

2. Engage PTO and adjust the combine speed to 100%.

3. Operate the combine in Manual mode and adjust the air to 30 to 35% open.

4. Press button 1, Figure 8-12 above, to view the ALL INFORMATION Screen, Figure 8-13, and record the [Air Pressure] displayed in the lower left.

   **Note:** This number will fluctuate. Select an average reading.
1. Press Button 1, Figure ??, to return to the Home Screen.

2. Press and hold buttons 3 and 4, Figure ?? above, for more than 5 seconds to access the SETUP Page.

Note: Make sure to press button 4 first.

3. Navigate to the [High Air Press to Close] box by using the left and right arrow keys. Refer to Figure ??.

Note: Only left and right arrow keys can be used to navigate. Using up and down keys will result in value changes.

4. Add 25 to the previously recorded Air Pressure number in Step 4. Use the UP or DOWN arrow keys to change the set point to this new number.

5. Navigate to the [Low Air Press to Open] box by using the left or right arrow keys.

f. Subtract 25 from the previously recorded Air Pressure number in Step 4. Use the UP or DOWN arrow keys to change the set point to this new number.

g. Press [esc] to return to the HOME Screen. Refer to Figure 110.

h. Return to [Auto] mode.

• The base point for the fan damper should adjust to the same point when the combine was in [Manual] mode.

• If more basket fill is needed, increase both the [High Air Press to Close] and [Low Air Press to Open] by 10.

• To decrease shelling issues, decrease both the [High Air Press to Close] and [Low Air Press to Open] by 10.
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Appendix A

Non-Safety Related Decals ........................................... 116
Non-Safety Decal Locations ........................................... 117
Non-Safety Related Decals

<table>
<thead>
<tr>
<th>Decal P/N</th>
<th>Description</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8519</td>
<td>Slow Moving Vehicle</td>
<td>1</td>
</tr>
<tr>
<td>80336</td>
<td>Elevator Air</td>
<td>1</td>
</tr>
<tr>
<td>80564</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>80568</td>
<td>2 - 7/16 Bearing Lubrication A/R</td>
<td></td>
</tr>
<tr>
<td>80632</td>
<td>Engaged/Breast Spring A/R</td>
<td>A/R</td>
</tr>
<tr>
<td>80636</td>
<td>Engaged/Breast Spring A/R</td>
<td>A/R</td>
</tr>
<tr>
<td>80662</td>
<td>Engaged/Breast Spring A/R</td>
<td>A/R</td>
</tr>
<tr>
<td>80670</td>
<td>Engaged/Overhead Teeth</td>
<td>1</td>
</tr>
<tr>
<td>80678</td>
<td>Engaged/Overhead Teeth</td>
<td>1</td>
</tr>
<tr>
<td>80679</td>
<td>Engaged/Retention Board</td>
<td>1</td>
</tr>
<tr>
<td>80680</td>
<td>Cleaning Air; Closed/Open</td>
<td>1</td>
</tr>
<tr>
<td>80684</td>
<td>Red/White Stripe; 5&quot;Wide (Not Displayed) A/R</td>
<td>A/R</td>
</tr>
<tr>
<td>80717</td>
<td>“Inspection Door”</td>
<td>2</td>
</tr>
<tr>
<td>80718</td>
<td>Engaged/Overhead Teeth</td>
<td>OPT</td>
</tr>
<tr>
<td>80787</td>
<td>Fan Damper Open/Closed</td>
<td>1</td>
</tr>
<tr>
<td>80834</td>
<td>“Remove Before Use”</td>
<td>1</td>
</tr>
<tr>
<td>80902</td>
<td>Tape, 2&quot;X9&quot; Yellow Reflective</td>
<td>2</td>
</tr>
<tr>
<td>80903</td>
<td>Tape, 2&quot;X9&quot; Red Reflective</td>
<td>2</td>
</tr>
<tr>
<td>80904</td>
<td>Tape, 2&quot;X9&quot; Orange Reflective</td>
<td>2</td>
</tr>
<tr>
<td>80980</td>
<td>“Remove Inspection Doors”</td>
<td>3</td>
</tr>
<tr>
<td>80999</td>
<td>“AMADAS 2/20” w/Flag: Small</td>
<td>1</td>
</tr>
<tr>
<td>81000</td>
<td>“AMADAS 2/20” w/Flag: Large</td>
<td>1</td>
</tr>
<tr>
<td>81024</td>
<td>“OCS”, Gray/Red</td>
<td>2</td>
</tr>
<tr>
<td>81039</td>
<td>“Basket Access Door”</td>
<td>1</td>
</tr>
<tr>
<td>81041</td>
<td>Variable Pitch Vine Spreaders</td>
<td>1</td>
</tr>
<tr>
<td>81068</td>
<td>“Basket Access.....” w/Arrows</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 12: Non-safety Related Decals

Note:

Decals 80684 are located on the outer shields of the 2120A. For additional information on decals refer to the AMADAS 2120A Parts Catalog.
TWO-YEAR LIMITED WARRANTY
For AMADAS INDUSTRIES Pull-Type Peanut Combine

A. General Provisions
The Warranties described below are provided by AMADAS INDUSTRIES (“AMADAS”) through its authorized dealers to the original purchaser of each new AMADAS pull-type peanut combine. AMADAS will repair or replace, at its option, any part covered under warranty which is found to be defective in material or workmanship during the applicable period of warranty.

B. What is Warranted?
All parts of any new AMADAS pull-type peanut combine, except tires, tubes, belts, chains, picking and header springs, and PTO drivelines are warranted for 24 months. The warranty period will begin when the combine is delivered to the purchaser. AMADAS will repair or replace, at its option, any new part or component under the above warranty, if a defect in material or workmanship appears in such part or component and is reported to AMADAS before the expiration of the applicable equipment warranty. Tires, tubes, belts, chains, picking and header springs, and PTO drivelines are not warranted by AMADAS beyond that offered by the items original manufacturer.

Used equipment is not warranted by AMADAS unless it is specifically covered by a separate warranty document. The above warranties cover only defective material and workmanship. The warranties do not cover any depreciation or failure caused by normal wear, lack of proper maintenance or use, misuse, lack of proper protection during storage, or accident. The purchaser shall pay all costs of routine maintenance and/or replacement of maintenance and wear items.

C. Unapproved Service or Modification
All Obligations of AMADAS under this warranty are terminated if the combine is modified or altered in ways not approved by AMADAS.

D. Securing Warranty Service
To secure warranty service, the purchaser must (1) report the product defect and request repair within the applicable warranty period, (2) present evidence of the date of delivery of the peanut combine, and (3) make the combine available to an AMADAS authorized dealer within a reasonable period of time.

E. No Dealer Warranty
The selling dealer makes no warranty of his own on any item warranted by AMADAS, and makes no warranty on other items. The dealer has no authority to make any representation or promise on behalf of AMADAS, or to modify the terms or limitations of this warranty in any way.

F. What are your Responsibilities?
   a. Read the operator’s manual before operating the equipment.
   b. Perform all necessary maintenance as described in the operator’s manual.
   c. Deliver the machine to an AMADAS authorized dealer at your expense during normal working hours for any needed warranty services.
   d. Contact an AMADAS authorized dealer promptly on any claim for warranty service.
   e. Sign the AMADAS machinery delivery form, which will be given to you by the dealer.

G. Disclaimer
There are no warranties that extend beyond the description here. ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED AS ARE ALL OTHER REPRESENTATIONS TO THE PURCHASER. AMADAS specifically excludes any liability on behalf of the company for any incidental or consequential damages including, but not limited to, crop loss, loss of profits, rental of substitute equipment, or other commercial losses. AMADAS shall not be responsible for expenses or inconveniences that you might incur or experience with respect to the AMADAS peanut combine, nor shall AMADAS be liable for defects, damage, or failures caused by improper storage, unreasonable use, or abuse, or accident, including the failure to provide reasonable and specified maintenance. This warranty applies only to the original purchaser of the equipment. Because some states do not allow the exclusion of limitations of incidental or consequential damages, the above limitation may not apply to you. This warranty gives you specific legal rights. You may also have other rights, which vary from state to state. Where there is a conflict between a provision of this warranty and the provision of any state, the state legislation prevails.