# Manuals for the 2512 In-Row Ripper

<table>
<thead>
<tr>
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<th>MANUAL NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-1039</td>
<td>2512 In-Row Ripper Parts Manual</td>
</tr>
<tr>
<td>F-1040</td>
<td>2512 In-Row Ripper Operators Manual</td>
</tr>
<tr>
<td>F-1075</td>
<td>Caddy Parts Manual (ONLY)</td>
</tr>
</tbody>
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## 5 Troubleshooting Guide
The Landoll Model 2512 Rigid & Folding In-Row Ripper is a quality product designed to give years of trouble free performance. By following each section of this manual, your system will perform as designed for you and your operation.

CHAPTER 1

Gives basic instructions on the use of this manual and understanding the safety statements.

CHAPTER 2

Gives product specifications for the equipment. These specifications supply lengths and measures for your equipment. A Standard Bolt Torque Table is provided to give guidelines for bolt torques to be used when servicing this product.

CHAPTER 3

Contains assembly instructions for your 2512 Rigid & Folding In-Row Ripper. When these procedures are correctly followed, your equipment should provide you years of trouble-free operation and service.

CHAPTER 4

Instructs how to operate your equipment before using it, and describes adjustments needed. Gives practical advice for the care and maintenance of your Landoll equipment. Drawings in this section locate adjustment points on the equipment.

IF YOU HAVE ANY QUESTIONS CONTACT:

LANDOLL CORPORATION
1900 NORTH STREET
MARYSVILLE, KANSAS 66508

PHONE # (785) 562-5381 or (800) 428-5655
OR
FAX # (888) 527-3909

CHAPTER 5

Is a troubleshooting guide to aid in diagnosing and solving problems with the In-Row Ripper.

PARTS MANUAL

Is a separate manual showing the various assemblies, subassemblies, and systems. Refer to that manual when ordering Landoll replacement parts. Order parts from your Landoll dealer.

WARRANTY

The Warranty Registration form is filled out at the time of sale. For questions regarding the product registration, please contact the dealer where the implement was purchased. NOTE: IMPROPER ASSEMBLY, MODIFICATION, OR MAINTENANCE OF YOUR LANDOLL MACHINE CAN VOID YOUR WARRANTY.

COMMENTS

Address comments or questions regarding this publication to:

LANDOLL CORPORATION
1900 NORTH STREET
MARYSVILLE, KANSAS 66508
ATTENTION: PUBLICATIONS - DEPT. 55
Understanding Safety Statements

You will find various types of safety information on the following pages and on the machine signs (decals) attached to the vehicle. This section explains their meaning.

The Safety Alert Symbol means ATTENTION! YOUR SAFETY IS INVOLVED!

**NOTE**

Means that failure to follow these instructions could cause damage to the equipment or cause it to operate improperly.

Special notice - read and thoroughly understand.

---

**CAUTION**

Caution means serious equipment or other property damage can occur if instructions on this label are not properly followed.

---

**WARNING**

Warning means serious injury or death can occur if safety measures or instructions on this label are not properly followed.

---

**DANGER**

Danger means a life-threatening situation exists. Death can occur if safety measures or instructions on this label are not properly followed.

---

**NOTE**

Make sure you read and understand the information contained in this manual and on the machine signs (decals) before you attempt to operate or maintain this vehicle.

The safety statements contained in this manual relate to the operation of the Model 2512 Rigid & Folding In-Row Ripper.

---

Decal Safety

1. Examine safety decals and be sure you have the correct safety decals for the implement.
2. Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the implement. Wash with soap and water or a cleaning solution as required.
3. Replace decals that become damaged or lost. Also, be sure that any new implement components installed during repair include decals which are assigned to them by the manufacturer.
4. When applying decals to the implement, be sure to clean the surface to remove any dirt or residue. Where possible, sign placement should protect the sign from abrasion, damage, or obstruction from mud, dirt, oil etc.
Transporting Safety

**IMPORTANT**

It is the responsibility of the owner/operator to comply with all state and local laws.

1. When transporting the implement on a road or highway, use adequate warning symbols, reflectors, lights and slow moving vehicle sign as required. Slow moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

2. Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.

3. Carry reflectors or flags to mark the tractor and implement in case of breakdown on the road.

4. Do not transport at speeds over 20 MPH under good conditions. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.

5. Avoid sudden stops or turns because the weight of the implement may cause the operator to lose control of the tractor. Use a tractor heavier than the implement.

6. Use caution when towing behind articulated steering tractors; fast or sharp turns may cause the implement to shift sideways.

7. Keep clear of overhead power lines and other obstructions when transporting. Know the transport height and width of your implement.

**Maintenance Safety**

1. Understand the procedure before doing the work. Use proper tools and equipment.

2. Make sure all moving parts have stopped.

3. Do not make adjustments or lubricate implement while it is in motion.

4. Block the implement so it will not roll when working on or under it to prevent injury.

**High Pressure Fluid Safety**

1. Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Use a piece of cardboard, rather than hands, to search for suspected leaks.

2. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

3. Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

**Protective Equipment**

1. Wear protective clothing and equipment.

2. Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.

3. Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection, such as earmuffs or earplugs.

**Chemical Safety**

1. Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.

2. Read chemical manufactures instructions and store or dispose of unused chemicals as specified.

3. Handle chemicals with care and avoid inhaling smoke from any type of chemical fire.

4. Store or dispose of unused chemicals as specified by the chemical manufacturer.

**Prepare for Emergencies**

1. Keep a First Aid Kit and Fire Extinguisher handy.

2. Keep emergency numbers for doctor, ambulance, hospital and fire department near the phone.
Tire Safety
1. Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.
2. When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side, not in front of or over the tire assembly. Use a safety cage if available.
3. When removing and installing wheels use wheel-handling equipment adequate for the weight involved.

Safety Chain
1. Use a chain with a strength rating equal to or greater than the gross weight of towed machinery, which is 10,100 pounds minimum in accordance with ASAE S338.2 specifications. If two or more implements are pulled in tandem, a larger chain may be required. Chain capacity must be greater than the TOTAL weight of all towed implements.
2. A second chain should be used between each implement.
3. Attach the chain to the tractor drawbar support or specified anchor location. Allow only enough slack in the chain to permit turning. The distance from hitch pin to attachment point or intermediate support point should not exceed 9 inches.
4. Replace the chain if any links or end fittings are broken, stretched or damaged.
5. Do not use a safety chain for towing.
# Standard Specifications

## Model Specifications

### 2511N Rigid In-Row Ripper

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Number of Shanks</th>
<th>Frame Type</th>
<th>Frame Configuration</th>
<th>Transport Width</th>
<th>Estimated Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2511N-3-30</td>
<td>3</td>
<td>RIGID</td>
<td>107 (IN) RIGID</td>
<td>110” (9’ - 2”)</td>
<td>3,357 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2511N-3-40</td>
<td>5</td>
<td>RIGID</td>
<td>107 (IN) RIGID</td>
<td>110” (9’ - 2”)</td>
<td>3,849 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2511N-5-30</td>
<td>6</td>
<td>RIGID</td>
<td>107 (IN) RIGID CT (2) 13 (IN) EXT</td>
<td>140” (11’ - 8”)</td>
<td>4,725 W/2 GAUGE WHEEL</td>
</tr>
</tbody>
</table>

### 2512 Rigid and Folding In-Row Ripper (Caddy Optional)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Number of Shanks</th>
<th>Frame Type</th>
<th>Frame Configuration</th>
<th>Transport Width</th>
<th>Estimated Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2512-4-30</td>
<td>4</td>
<td>RIGID</td>
<td>135 (IN) RIGID</td>
<td>149” (12’- 5”)</td>
<td>5,636 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512-5-30</td>
<td>5</td>
<td>RIGID</td>
<td>135 (IN) RIGID</td>
<td>149” (12’- 5”)</td>
<td>6,398 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512-6-30</td>
<td>6</td>
<td>RIGID - 1-4-1</td>
<td>135 (IN) RIGID CT (2) 13 (IN) EXT</td>
<td>179” (14’- 11”)</td>
<td>8,209 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512-7-30</td>
<td>7</td>
<td>RIGID - 1-5-1</td>
<td>135 (IN) RIGID CT (2) 28 (IN) EXT</td>
<td>209”</td>
<td>9,406 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512-8-30</td>
<td>8</td>
<td>RIGID - 2-4-2</td>
<td>135 (IN) RIGID CT (2) 28 (IN) WING</td>
<td>239”</td>
<td>10,473 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512F-7-30</td>
<td>7</td>
<td>FOLDING - 1-5-1</td>
<td>150 (IN) RIGID CT (2) 28 (IN) WING</td>
<td>167” (13’- 11”)</td>
<td>10,422 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512F-8-30</td>
<td>8</td>
<td>FOLDING - 1-6-1</td>
<td>180 (IN) RIGID CT (2) 28 (IN) WING</td>
<td>197” (16’- 5”)</td>
<td>11,559 W/2 GAUGE WHEEL</td>
</tr>
<tr>
<td>2512F-9-30</td>
<td>9</td>
<td>FOLDING - 2-5-2</td>
<td>150 (IN) RIGID CT (2) 28 (IN) WING</td>
<td>167” (13’- 11”)</td>
<td>12,721 W/2 GAUGE WHEEL</td>
</tr>
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</table>

### 2512 Folding In-Row Ripper (Caddy ONLY)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Number of Shanks</th>
<th>Shank Spacing</th>
<th>Shank Extensions</th>
<th>Transport Width</th>
<th>Estimated Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2512F-10-30</td>
<td>10</td>
<td>FOLDING - 2-6-2</td>
<td>180 (IN) CENTER CT (2) 52 (IN) WING</td>
<td>197” (16’- 5”)</td>
<td>13,872 W/2 GAUGE WHEEL ON WINGS</td>
</tr>
<tr>
<td>2512F-11-30</td>
<td>11</td>
<td>FOLDING - 2-7-2</td>
<td>210 (IN) CENTER CT (2) 52 (IN) WING</td>
<td>227” (18’- 11”)</td>
<td>14,924 W/2 GAUGE WHEEL ON WINGS</td>
</tr>
<tr>
<td>2512F-12-30</td>
<td>12</td>
<td>FOLDING - 3-6-3</td>
<td>150 (IN) CENTER CT (2) 82 (IN) WING</td>
<td>167” (13’- 11”)</td>
<td>16,045 W/2 GAUGE WHEEL ON WINGS</td>
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</table>
# 2512 Folding In-Row Ripper (Caddy ONLY)

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Number of Shanks</th>
<th>Shank Spacing</th>
<th>Shank Extensions</th>
<th>Transport Width</th>
<th>Estimated Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2512F-13-30</td>
<td>13</td>
<td>FOLDING - 3-7-3</td>
<td>210 (IN) CENTER CT (2) 82 (IN) WING</td>
<td>227&quot; (18'- 11&quot;)</td>
<td>17,097 W/2 GAUGE WHEEL ON WINGS</td>
</tr>
<tr>
<td>2512F-14-30</td>
<td>14</td>
<td>FOLDING - 3-8-3</td>
<td>240 (IN) CENTER CT (2) 82 (IN) WING</td>
<td>257&quot; (21'- 5&quot;)</td>
<td>18,430 W/2 GAUGE WHEEL ON WINGS</td>
</tr>
<tr>
<td>2512F-15-30</td>
<td>15</td>
<td>FOLDING - 4-7-4</td>
<td>210 (IN) CENTER CT (2) 112 (IN) WING</td>
<td>227&quot; (18'- 11&quot;)</td>
<td>19,299 W/2 GAUGE WHEEL ON WINGS</td>
</tr>
<tr>
<td>2512F-16-30</td>
<td>16</td>
<td>FOLDING - 4-8-4</td>
<td>240 (IN) CENTER CT (2) 112 (IN) WING</td>
<td>257&quot; (21'- 5&quot;)</td>
<td>20,731 W/2 GAUGE WHEEL ON WINGS</td>
</tr>
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</table>

## Tire Inflation

<table>
<thead>
<tr>
<th>Model</th>
<th>Tire Size</th>
<th>Ply/Load Rating</th>
<th>Inflation Pressure (Psi) (Max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caddy</td>
<td>IF 320/70R15</td>
<td>144</td>
<td>70 psi</td>
</tr>
<tr>
<td>Caddy HD</td>
<td>VF 385/65R22.5</td>
<td>163</td>
<td>70 psi</td>
</tr>
<tr>
<td>Gauge Wheels</td>
<td>IF280/70R15</td>
<td>134</td>
<td>64 psi</td>
</tr>
<tr>
<td>Gauge Wheels</td>
<td>20.5 X 8.0 X 10</td>
<td>D</td>
<td>70 psi</td>
</tr>
</tbody>
</table>

## Recommended Torque Specification For Lug Bolts and Nuts

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Torque (FT. LBS.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/16-18 (Heavy Duty Disc)</td>
<td>80 - 90 FT. LBS.</td>
</tr>
</tbody>
</table>

# General Torque Specifications (rev. 4/97)

**TORQUE SPECIFIED IN FOOT POUNDS** - This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.
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**STANDARD SPECIFICATIONS**

**Figure 2-1: General Torque Specifications**

<table>
<thead>
<tr>
<th>UNC SIZE</th>
<th>SAE Grade 2</th>
<th>SAE Grade 5</th>
<th>SAE Grade 8</th>
<th>UNF SIZE</th>
<th>SAE Grade 2</th>
<th>SAE Grade 5</th>
<th>SAE Grade 8</th>
</tr>
</thead>
</table>

**METRIC:**

Coarse thread metric class 10.9 fasteners and class 10.0 nuts and through hardened flat washers, phosphate coated, Rockwell “C” 38-45. Use value in [   ] if using prevailing torque nuts.
Hydraulic Fitting Torque Specifications

TORQUE IS SPECIFIED IN FOOT POUNDS - 37° JIC, ORS, & ORB (REV. 10/97)

This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.

### Parker Brand Fittings

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>37 Degree JIC</th>
<th>O-Ring (ORS)</th>
<th>O-Ring Boss (ORB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>11-13</td>
<td>15-17</td>
<td>13-15</td>
</tr>
<tr>
<td>-5</td>
<td>14-16</td>
<td>16-18</td>
<td>14-16</td>
</tr>
<tr>
<td>-6</td>
<td>20-22</td>
<td>34-36</td>
<td>25-29</td>
</tr>
<tr>
<td>-8</td>
<td>43-47</td>
<td>58-62</td>
<td>40-44</td>
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<td>-10</td>
<td>55-65</td>
<td>100-110</td>
<td>58-62</td>
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<td>-12</td>
<td>80-90</td>
<td>134-146</td>
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<td>115-125</td>
<td>202-218</td>
<td>109-121</td>
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<td>160-180</td>
<td>248-272</td>
<td>213-237</td>
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<td>-24</td>
<td>185-215</td>
<td>303-327</td>
<td>238-262</td>
</tr>
<tr>
<td>-32</td>
<td>250-290</td>
<td>310-340</td>
<td></td>
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</tbody>
</table>

### Gates Brand Fittings

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>37 Degree JIC</th>
<th>O-Ring (ORS)</th>
<th>O-Ring Boss (ORB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>10-11</td>
<td>10-12</td>
<td>14-16</td>
</tr>
<tr>
<td>-5</td>
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<td>34-38</td>
<td>32-40</td>
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<td>124-138</td>
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<td>156-173</td>
<td>150-180</td>
<td>156-184</td>
</tr>
<tr>
<td>-32</td>
<td>219-243</td>
<td>310-340</td>
<td></td>
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</tbody>
</table>

### Aeroquip Brand Fittings

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>37 Degree JIC</th>
<th>O-Ring (ORS)</th>
<th>O-Ring Boss (ORB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>11-12</td>
<td>10-12</td>
<td>14-16</td>
</tr>
<tr>
<td>-5</td>
<td>15-16</td>
<td>16-20</td>
<td></td>
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<tr>
<td>-6</td>
<td>18-20</td>
<td>18-20</td>
<td>24-26</td>
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<td>-8</td>
<td>38-42</td>
<td>32-35</td>
<td>50-60</td>
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<td>57-62</td>
<td>46-50</td>
<td>75-80</td>
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<td>79-87</td>
<td>65-70</td>
<td>125-135</td>
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<td>108-113</td>
<td>92-100</td>
<td>160-180</td>
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<tr>
<td>-16</td>
<td>127-133</td>
<td>125-140</td>
<td>210-280</td>
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<tr>
<td>-20</td>
<td>158-167</td>
<td>150-165</td>
<td>270-360</td>
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<tr>
<td>-24</td>
<td>245-258</td>
<td>310-340</td>
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Figure 2-2: Hydraulic Fitting Torque Specifications
Figure 2-3: 4-Shank Spacing
Figure 2-4: 5-Shank Spacing
Figure 2-5: 6-Shank Spacing
Figure 2-6: 7-Shank Spacing
8-Shank Spacing
It is very important that your new 2512 Series Rigid or Folding In-Row Ripper be properly assembled, adjusted, and lubricated before use. Illustrations are provided in this section to show proper assembly procedures. Remove paint from grease fittings and replace any that are damaged or missing. Be sure to return bolts, clips, etc. to their original locations.

To ensure assemblies are aligned, insert all bolts and leave the nuts loose until completion of final assembly. Use lock washers or flat washers where called for. Spread all cotter pins. After completion of final assembly, tighten all nuts evenly to prevent misalignment, distortion, or binding. Tighten all bolts and nuts to the recommended torques shown on Page 2-3 and Page 2-4. Tighten all u-bolt legs evenly.

**IMPORTANT**

Check all bolt lengths, nut sizes, etc., from the parts book before assembly. Different models of the 2512 Series Rigid & Folding In-Row Ripper use different size bolts.

---

### Specific Dangers and Warnings

**DANGER**

In the event a shank trips and does not release, do not attempt to release the shank. Contact your Landoll dealer for further instructions. A tripped shank can release suddenly and cause serious injury or death.

---

**DANGER**

Coulter blades are extremely sharp. Use extreme care when working on or near coulter blades. Do not allow coulters to roll over or fall on any part of body. Do not allow wrenches to slip when working near coulter blades. Never push wrenches towards coulter blades. Do not climb over machine above coulter blades. Failure to stay clear of coulter blade edges may result in serious personal injury or death.

---

**DANGER**

To prevent accidental lowering:

1. All hydraulically elevated equipment must be locked out using the cylinder lockouts.
2. Lower equipment to the ground while servicing or when it is idle.

Failure to take measures to prevent accidental lowering may result in serious personal injury or death.

---

**WARNING**

Be sure to bleed the hydraulic system of all air in lines after installation. Failure to bleed the system of all air may cause the machine to operate improperly.
Assembly Preparation
1. Hook up the In-Row Ripper to a tractor using the three-point hitch.
2. Raise the unit about 36" and place stands under the main frame to prevent accidental lowering.

WARNING
Do not attempt to lift heavy parts (such as the frame), manually. Use a hoist or a forklift to move these parts into position.

SMV Bracket Installation
1. Attach the SMV mounting bracket at a point where emblem is visible from rear of machine, using u-bolt and 5/8-11 flange head serrated nuts (See Figure 3-1.)
2. Attach SMV emblem to top of SMV mounting bracket using 1/4-20 x 1 hex head cap screws, flat washers, and hex lock nuts (See Figure 3-8.)

Jackstand Installation
1. Remove jackstand(s) from frame.
2. Remove rigid gauge adjustment pin and 3/16 hair pin from outer jackstand tube.
3. Insert jackstand through bottom of outer jackstand tube and pin at desired level with rigid gauge adjustment pin and 3/16 hair pin (See Figure 3-1.)

Figure 3-1: 2512 Series Parts Identification
Auto-Reset Clamp and Shank Assembly

1. The spring clamp weldments are already located on the frame at the proper spacing.
2. Attach wearstrip to straight leg shank using wearstrip bracket, 3/4-10 x 3 hex head cap screw, and 3/4-10 hex lock nut. (See Figures 3-2 through 3-3.)
3. Attach steel point to low disturbance straight leg shank using 1/2 x 2 and 5/16 x 2 spring slotted pins. Place pins with open ends oriented opposite of each other.

1. Attach top of shank point assembly to front of spring clamp assembly using 3/4-10 x 4 hex head cap screw and hex lock nut. Attach lower hole of shank point assembly to rear of spring clamp assembly using 5/8-11 x 3-3/4 hex head cap screw, connex bushing, and 5/8-11 hex lock nut.
2. Adjustment holes are provided in the spring clamp weldment to compensate for varying ground conditions and depths of operation.
Figure 3-2: Auto-Reset Clamp and Straight Leg Shank Assembly
Figure 3-3: Hydraulic Reset Option w/parabolic shank and coverboard
RSB Clamp and Straight Shank Assembly

1. The rigid clamp assemblies are already located on the frame at the proper spacing.

2. Attach wearstrip to straight leg shank using wearstrip bracket, 3/4-10 x 3 hex head cap screw, and 3/4-10 hex lock nut *(See Figures 3-4)*

3. Attach steel point to low disturbance straight leg shank using 1/2 x 2 and 5/16 x 2 spring slotted pins. Place pins with open ends oriented opposite of each other.

4. Attach top of shank point assembly to front of spring clamp assembly using 3/4-10 x 4 hex head cap screw and hex lock nut. Attach lower hole of shank point assembly to rear of spring clamp assembly using 5/8-11 x 5-1/2 hex head cap screw, connex bushing, and 5/8-11 hex lock nut.

*Figure 3-4: RSB Clamp and Straight Leg Shank Assembly*
Coverboard Installation

1. Insert three 1/2-13 x 2-1/2 hex screws into the coverboard bracket before attaching the coverboard furrower (See Figure 3-3.) Secure with 1/2-13 nuts and tighten only so that locking portion of nut engages the thread. The customer will tighten these nuts after mounting to shank.

2. Tighten the 7/16-14 flange nut to the 7/16-14 x 1-1/4 plow bolt before tightening the 1/2-13 hex nut to the 1/2-13 x 1-1/2 roundhead screw. This is to ensure that the point of the coverboard furrower is pulled tightly against the bracket. Make sure that the plow bolt head is flush with the surface of the coverboard furrower (See Figure 3-5.) This hardware should be tightened now.

Right Hand & Left Hand Coulter Assemblies

1. Assemble coulter adjustment tube to coulter assembly using roll pins 1/2 x 4 and 5/16 x 4. Assemble the coulter stop to the coulter adjustment tube using 1/2 x 4 screw and nut (See Figure 3-6)

2. Install the coulter adjustment tube and coulter assembly to the frame using the coulter clamp tube, 4 u-bolts, clamp plate and 5/8-11 lock nuts. Do not tighten nuts until the depth adjustment is completed.

3. Use adjustment pin and 3/16 hairpin to set desired depth. Tighten 5/8 lock nuts on the u-bolts.

4. Attach coulter blade to coulter assembly using 1/2 x 1-1/2 screws and locknuts.

Gauge Wheel

1. The gauge wheel assembly comes fully assembled from the factory.

2. Attach the tire and wheel assembly to the hub and tighten the lug nuts to the proper torque as specified in Figure 2-1.
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ASSEMBLY INSTRUCTIONS

LH GAUGE WHEEL
EXPANDED VIEW

RH MOUNT
(REMAINING COMPONENTS
SAME AS LH GAUGE WHEEL)

Figure 3-7: Gauge Wheel
Electrical Installation

1. Attach left and right light brackets with reflectors to frame using warning light bar, 1/2-13 x 7-1/2 hex head cap screws, and hex lock nuts (See Figures 3-8 thru 3-9.)

2. Attach ag amber single LED lamps to light brackets using 1/4-20 x 1-1/4 hex head cap screws and hex lock nuts.

3. Attach left tail light mount to frame assembly using u-bolt and 5/8-11 flange head serrated nuts.

4. Attach right tail light mount and ag flasher control module to frame assembly using u-bolt and 5/8-11 flange head serrated nuts. Be sure that the control module is set so that the 4 pin connector faces the right side of the machine.

5. Attach reflector assemblies and ag red single LED lamps to tail light mounts using 1/4-20 x 1-1/2 hex head cap screws and hex lock nuts.

**IMPORTANT**

Make sure lights are positioned for maximum visibility from the rear.

1. Install the LED warning light harness to the frame. Connect 2 pin and 3 pin ends to each of the warning lights. Connect 6 pin to the ag flasher control module.

2. Attach 7 pin/4pin 120” harness to frame. Connect 4 pin end to the ag flasher control module.

3. Ensure that the harnesses are clear of any moving parts and secure the harnesses with tie wraps provided.

4. Install the stor-away holder bracket on bolt in coulter clamp plate and assemble harness stor-away to bracket with 1/4-20 x 3/4 hex head cap screws and hex lock nuts.

**General Hydraulic Components - Hydraulic Reset Option**

*Figure 3-10* is provided as a general guideline for the components provided with the Hydraulic Reset Option. It is meant to assist with identifying components on the machine. Each machine size will use a specific quantity of each component during assembly. Please refer to F-1039 Parts Manual for proper quantity per tool.
Figure 3-8: LED Light and SMV Bracket Installation
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**ASSEMBLY INSTRUCTIONS**

#### Figure 3-9: LED Light and SMV Harness Wire Designations

<table>
<thead>
<tr>
<th>7-PIN CONN.</th>
<th>4-PIN TOWER</th>
<th>CIRCUIT</th>
<th>WIRE COLOR</th>
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<tr>
<td>1</td>
<td>D</td>
<td>GROUND</td>
<td>GROUND</td>
</tr>
<tr>
<td>2</td>
<td>–</td>
<td>WORK LAMPS</td>
<td>BLACK ♦</td>
</tr>
<tr>
<td>3</td>
<td>B</td>
<td>LEFT FLASHING &amp; TURN</td>
<td>YELLOW ♡</td>
</tr>
<tr>
<td>4</td>
<td>–</td>
<td>STOP LAMPS</td>
<td>RED ♣</td>
</tr>
<tr>
<td>5</td>
<td>A</td>
<td>RIGHT FLASHING &amp; TURN</td>
<td>GREEN ♢</td>
</tr>
<tr>
<td>6</td>
<td>C</td>
<td>TAIL LAMPS</td>
<td>BROWN ♣</td>
</tr>
<tr>
<td>7</td>
<td>–</td>
<td>SWITCHED POWER (12 V)</td>
<td>BLUE ♤</td>
</tr>
</tbody>
</table>

#### 7 PIN/4PIN LIGHT HARNESS - WIRING CHART

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>2-PIN TOWER</td>
<td>2-PIN TOWER</td>
<td>3-PIN TOWER</td>
<td>6-PIN SHROUD</td>
<td>3-PIN TOWER</td>
<td>2-PIN TOWER</td>
</tr>
<tr>
<td>BLACK LEFT TURN</td>
<td>A</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>WHITE GROUND</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>BROWN TAIL LIGHT</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YELLOW LEFT TURN</td>
<td></td>
<td>D</td>
<td></td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>GREEN RIGHT TURN</td>
<td>B</td>
<td></td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RED RIGHT TURN</td>
<td></td>
<td>C</td>
<td>F</td>
<td></td>
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</tr>
</tbody>
</table>

**Figure 3-9: LED Light and SMV Harness Wire Designations**
Figure 3-10: Hydraulic Reset Option - General Components
### DANGER

Coulter blades are sharp. Do not allow coulters to roll over or fall on any part of the body. Do not allow wrenches to slip when working near coulter blades. Do not climb over machine above coulter blades. Failure to stay clear of coulter blade edges may result in serious personal injury or death.

### WARNING

All hydraulically elevated equipment must be locked out or lowered to the ground when servicing or when equipment is idle, to prevent accidental lowering. Failure to take measures to prevent accidental lowering may result in serious personal injury.

### CAUTION

Whenever transporting farm implements on public roads, it is the responsibility of the operator to abide by state and local laws concerning wide loads, speed, safety emblems, and safety lighting equipment. Drive at safe speeds, particularly when rounding corners, crossing rough ground and on hillsides, to prevent tipping.

### DANGER

Do not attempt to manually reset a shank assembly or straighten a bent shank mount. Contact a Landoll dealer or Landoll Corporation immediately for assistance.

### DANGER

Never allow anyone to ride on the In-Row Ripper at any time. Allowing a person to ride on the In-Row Ripper may result in serious personal injury or death of that person.
Tractor Preparation

The 2512 Series Rigid and The Folding In-Row Rippers up to and thru the 2512F-9 can be used on tractors with CAT IVN hitches. For rippers larger than the 2512F-9 it is recommended to be mounted on a caddy. All 2512 and 2512F rippers can be mounted onto a caddy. Before attaching the In-Row Ripper, prepare the tractor as follows:

a. The rear tractor tires should be inflated equally and ballast added according to the tractor operator's manual.

b. For mounted type models, install front end weights as needed on tractor to maintain stability.

In-Row Ripper Operation

1. Before operating the In-Row Ripper, inspect it to be sure it is in good operating condition.
2. Replace badly worn or missing parts.
3. While the machine is new, bolt tightness should be checked after a few hours of operation. Tighten any loose nuts or cap screws. Check the gauge wheel lug bolts daily.
4. Check the gauge wheel tire inflation. All tires should be equally inflated to avoid side draft.

Hydraulic Accumulator Operation

The 2512 Rigid and Folding In-Row Ripper may be equipped with the Hydraulic Reset Option. The Hydraulic Reset Option utilizes a factory-charge accumulator. The accumulator needs to carry an additional hydraulic charge to do field work.

The hydraulic charge needs to be greater in magnitude than the nitrogen pre-charge to create an oil reserve within the accumulator to maintain working pressure in the event of a small loss of oil from the system or a change in ambient temperature.

The ripper does not need to be connected to the tractor during field operation but connecting the lines to the tractor will keep them out of harms way.

The ball valve between the pressure reduction valve manifold and the machine system needs the be turned “OFF” during field operation. The ball valve should only be opened to 1.) check the system operating pressure present, and 2.) adjust the system pressure if it is too high or too low (below 2,000 psi).

The pressure reduction valve is pre-set at the factory to have a hydraulic output of 2,000 psi. The pressure reduction valve will increase the hydraulic pressure of the system to 2,000 psi if it is less than 2,000 psi and will allow oil to pass back to the tractor if the system pressure is higher than 2,000 psi thereby reducing the system pressure. The pressure gauge will not monitor the system pressure unless the ball valve is opened, but the valve should remain in the “OFF” position unless the operating pressure is being checked or adjusted.

To Charge The Accumulator:

1. Connect the pressure and return lines to the pressure reduction valve manifold to the tractor.
2. Activate the tractor circuit connected to the pressure reduction manifold. If the pressure immediately reaches 3,000psi the connections needs to be reversed.
3. Open the ball valve on the 2512 (align with the hydraulic lines entering and leaving the valve manifold). Monitor the pressure gauge on the pressure reduction valve manifold and CLOSE the valve when the pressure reaches 2,000psi.
4. Once the accumulator is charged to 2,000psi there should be no need to recharge the system except for ambient temperature changes or leaks in the system.

NOTE

If the system continuously loses pressure, contact Landoll Corporation and request to speak with a technician.

DANGER

Do not discharge or attempt to discharge the accumulator. Do not adjust or remove any fittings on the accumulator. Failure to heed or comply to this warning will result in serious injury or death.
Attaching to Three-Point Hitch

1. Carefully back the tractor into place.
2. Attach the In-Row Ripper to the tractor.
3. For tractors equipped with Quick Hitches:
   a. Attach quick hitch to the In-Row Ripper
   b. Raise and make sure lower pin locks are secured.
   c. Raise the parking stand and pin in fully up position.
   d. When disconnecting the In-Row Ripper, adjust stands to leave the tool bar tilted slightly forward. This will permit easier disconnecting and reattaching.

1. For tractors not equipped with Quick Hitch:
   a. Attach lower lift arms of the tractor to the In Line Ripper utilizing appropriate pins. 2512 Rigid Model come with either Category IIIN, CAT III, and CAT IVN. 2512 Folding Models come with CAT IVN ONLY. *(See Figure 4-1)*
   b. Attach top link after connecting lower lift arms. Raise parking stands into clamps or remove. When disconnecting, place stand so that the In Line Ripper is stable.

1. Reinstall the stabilizer bars or sway blocks before transporting.

---

Attaching to Caddy

If you will be attaching the In-Row-Ripper to a Caddy:

1. Carefully back the Caddy up to the In-Row-Ripper.
2. Attach the lower links of the caddy to the in line ripper first.
3. When the lower links have been secured, extend or retract the upper link of the Caddy using the hydraulic upper link. Attach the upper link of the caddy to the In line Ripper.

---

**CAUTION**

Do not move tractor without making sure top hitch is connected to tractor.
Figure 4-1: 3 Point Hitch Setup

2511-N
CAT II HITCH
USED WITH 3, 4, & 5 NARROW FRAMES

2512 RIGID FRAME

2511-N
CAT III NARROW HITCH
USED WITH 3, 4, & 5 NARROW FRAMES

2512 RIGID FRAME

2511-N
CAT III HITCH
4, 5, 6, 7 & 8 RIGID FRAMES

2512 RIGID FRAME

ALL 2512 FOLDING

2511-N
CAT IV NARROW HITCH
7 THRU 16 FOLDING

CAT II HITCH
CAT III NARROW HITCH
CAT III HITCH
CAT IV NARROW HITCH
Field Operation - Three Point Hitch Type

1. Lower the In-Row Ripper to the ground and pull it a few feet at the approximate desired depth.
2. Check for front-to-rear levelness. Level the frame by adjusting the three-point hitch top arm until the frame is level relative to the ground.
3. Set the depth by adjusting the gauge wheels. For stability, it is important that the gauge wheels always apply slight pressure against the soil. Adjust the gauge wheels as follows:
   a. Loosen the keeper nut on the adjustable top link.
   b. Shorten the top link to shallow up the ripper, lengthen the link to allow the ripper to run deeper.
   c. Snug up the top link keeper nut.
4. Always lift the In-Row Ripper completely out of the ground before turning or backing to prevent shank or coulter damage or damage to their respective mounting brackets.
5. Reduce speed at field ends, raise the In-Row Ripper out of the ground, and assist turning by using the wheel brakes, if necessary.
6. After a few hours of initial operation, check all cap screws for tightness. Tighten any loose cap screws.
7. Coulters should be adjusted to operate only deep enough to be in firm soil and cut the residue. Generally, the harder the soil, the less pressure should be used on the coulters. Adjust the single coulters by loosening the coulter mount U-bolts, sliding the coulter up or down as needed. Re-tighten the coulter mount making sure the coulter standard tube is square with the ripper frame.
8. Tighten the slotted nut while rotating the hub until there is a slight resistance to wheel rotation. Back the slotted nut off one notch until the wheel rotates freely without end play.
9. Install a new cotter pin and the hub cap.
10. Wheel bearing maintenance should be performed at the beginning of every season of use.

Coulter Spring Adjustment

No spring adjustment is necessary on the coulters. All adjustments were made before shipping at the factory. Initial operating force to move coulter upwards is 540 pounds. The preload has proved to be more than adequate for most conditions.

Wheel Bearing Maintenance

1. Check wheel bearings and coulter bearings occasionally for excessive end play. To correctly replace the wheel bearings:
2. Place the frame on blocks or stands sufficient to lift the tire clear of the ground.
3. Remove the hub cap, cotter pin, slotted nut, and washer.
4. Remove the hub. Clean and inspect the bearings and hub cavity. Replace any worn or defective parts.
5. Repack the bearings using a high-quality wheel bearing grease.
6. Replace the hub with a new seal and inner bearing in place.
7. Install the outer bearing cone, washer, and slotted nut.

CAUTION

Any attempt to make coulter force greater than factory setting may contribute to premature failure of parts and warranty shall be null and void.

Lubrication

IMPORTANT

Items with grease zerks are listed in the illustrated parts book.
1. Grease coulter hub and swivel mount casting after twenty hours of use.

Storage

1. The service life of the In-Row Ripper will be extended by proper off-season storage practices. Before storing, complete the following procedures:
2. Completely clean the unit.
3. Inspect the machine for worn or defective parts. Replace parts as needed to avoid delays the following season.
4. Repaint all areas where the original paint film is worn off.
5. Grease all exposed metal surfaces of shanks, points, and coulters.
6. Lubricate as suggested in “Lubrication” on page 4-5.
7. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground tools and tires should rest on a board or other device to keep them out of the soil.
The Troubleshooting Guide, shown below, is included to help you quickly locate problems that can happen using your 2512 Series Rigid & Folding In-Row Ripper. Follow all safety precautions stated in the previous sections when making any adjustments to your machine.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>PROBABLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPIKES DO NOT PENETRATE TO DESIRED DEPTH</td>
<td>Coulters set too deep</td>
<td>Adjust coulters up, to just run in firm soil, to cut residue.</td>
</tr>
<tr>
<td></td>
<td>Spikes worn back</td>
<td>Replaces spikes</td>
</tr>
<tr>
<td></td>
<td>Lower hitch arms in lower holes of pull bracket</td>
<td>Move hitch arms to upper hole in pull brackets.</td>
</tr>
<tr>
<td></td>
<td>Implement not level</td>
<td>Adjust top 3-point link.</td>
</tr>
<tr>
<td>UNIT BOUNCES OR NOT WORKING AT UNIFORM DEPTH</td>
<td>Gauge wheels not set at correct depth</td>
<td>Adjust gauge wheels to correct depth.</td>
</tr>
<tr>
<td></td>
<td>Gauge wheels not set at correct depth</td>
<td>Gauge wheels, not the 3-point hitch, should carry the load.</td>
</tr>
<tr>
<td></td>
<td>Tire pressure not equal</td>
<td>Inflate all tires to the same pressure.</td>
</tr>
<tr>
<td></td>
<td>Lower hitch arms not set to same height</td>
<td>Measure lower hitch arms and adjust to uniform length.</td>
</tr>
<tr>
<td>RESIDUE HANGS ON SHANKS</td>
<td>Coulter not set deep enough</td>
<td>Adjust coulter down to run in firm soil, to cut residue.</td>
</tr>
<tr>
<td></td>
<td>Gauge wheel too close to shank</td>
<td>Position gauge wheel on frame for maximum clearance to shanks.</td>
</tr>
<tr>
<td></td>
<td>Coulter not aligned</td>
<td>Check coulter alignment on front bar.</td>
</tr>
<tr>
<td></td>
<td>Soil too wet causing hairpinning of residue</td>
<td>Let soil dry.</td>
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2512 In-Row Ripper
Operators Manual

Re-Order Part Number F-1040-0320

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