Read the operator manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

Illustrations may show optional equipment not supplied with standard unit.
Table of Contents
# Table of Contents

## Introduction ................................................................................................................................. 1

## Safety Information ...................................................................................................................... 2

## Assembly ..................................................................................................................................... 6

- Pre-Assembly Preparation ........................................................................................................... 6
- Shipping ....................................................................................................................................... 6
- Unloading ................................................................................................................................. 6
- Unload Turbo-Max .................................................................................................................... 6
- Unpacking Boxes ....................................................................................................................... 6
- Removing Machine Components from Container ....................................................................... 7
- Center Axle ............................................................................................................................... 8
- Detrackers ............................................................................................................................... 8
- Gang Assembly - Center Frame .............................................................................................. 9
- Wings & Fold Hydraulics .......................................................................................................... 10
- Hydraulic Hoses ..................................................................................................................... 11
- Hydraulic Hose Hookup ............................................................................................................ 11
- Tire Assembly - Wings ............................................................................................................. 11
- Gang Assembly - Wings .......................................................................................................... 12
- Purging Hydraulic System ....................................................................................................... 13
- Angle Gauge ........................................................................................................................... 14
- Rolling Harrow and Reel (Option) .......................................................................................... 15
- Drag Frames and Rolling Harrow ............................................................................................ 15
- Reel Following Rolling Harrow .............................................................................................. 16
- Lights ....................................................................................................................................... 17
- Front & SMV ............................................................................................................................ 17
- Rear Lights ............................................................................................................................... 17
- Fold Switch Adjustment ........................................................................................................... 17
- Install Decals ........................................................................................................................... 17

## Appendix - Reference Information ........................................................................................... 18

- Torque Values Chart ................................................................................................................ 18
- Hydraulic Connectors and Torque ............................................................................................ 19
- Tire Inflation Chart .................................................................................................................. 19
- 6.0M Turbo-Max Coulter Gangs ............................................................................................. 20
- 8.0M Turbo-Max Coulter Gangs ............................................................................................. 21
- 6.0 Turbo-Max Left-Hand Side Layouts .................................................................................. 22
- Rolling Harrow ....................................................................................................................... 22
- Heavy Reel ............................................................................................................................. 22
- 6.0 Turbo-Max Right-Hand Side Layouts ............................................................................... 23
- Rolling Harrow ....................................................................................................................... 23
- Heavy Reel ............................................................................................................................. 23
- 8.0 Turbo-Max Left-Hand Side Layouts ............................................................................... 24
- Rolling Harrow ....................................................................................................................... 24
- Heavy Reel ............................................................................................................................. 24
- 8.0 Turbo-Max Right-Hand Side Layouts ............................................................................... 25
**Table of Contents**

- **Introduction**
- **Turbo-Max Models Covered**
  - 6.0 Meter Turbo-Max 19cm row spacing
  - 8.0 Meter Turbo-Max 19cm row spacing
- **Pre-assembly Checklist**
- **Tools Required**
- **Document Family**
  - 588-015M Operator Manual
  - 588-015Q Pre-Delivery Manual
  - 588-015P Parts Manual
- **Further Assistance**

---

**Introduction**

Great Plains’ Turbo-Max is a pull-type unit designed for tilling and working soil. Every Turbo-Max we build is designed and built with care using only quality materials. For the best installation experience, read this manual and follow all instructions carefully. These pages will guide you through the unloading process and contain tips for easier assembly.

All information in this manual is current as of publication. Information contained within is subject to change to ensure top performance.

---

**Turbo-Max Models Covered**

<table>
<thead>
<tr>
<th>Model</th>
<th>Row Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0 Meter Turbo-Max</td>
<td>19cm</td>
</tr>
<tr>
<td>8.0 Meter Turbo-Max</td>
<td>19cm</td>
</tr>
</tbody>
</table>

---

**Pre-assembly Checklist**

- Before assembling, read and understand “Safety Information” on page 2 in front part of this manual.
- Have at least two people on hand while assembling.
- Make sure area is level and free of obstructions (preferably an open, concrete surface).
- Check that all major components, fasteners, and pins are accounted for.

---

**Tools Required**

The following tools are required for installation:

- Basic Hand Tools
- Torque Wrench
- Fork Truck, Overhead Hoist or Loader
- Assembly Stands

Refer to “Torque Values Chart” on page 18 when tightening machine hardware.

---

**Document Family**

- 588-015M Operator Manual
- 588-015Q Pre-Delivery Manual
- 588-015P Parts Manual

See “Specifications and Capacities” on page 85 for precise swath information.

---

**Further Assistance**

For additional help with understanding these assembly instructions or for any other assembly or setup related questions, please contact our service department at the following address:

**Great Plains Service Department**

1525 E. North St.
P.O. Box 5060
Salina, KS 67402-5060

Or call us at (800) 270-9302 to speak over the phone with a service representative.

Copies of this machine’s operator manual are available by mail or online. Please visit **www.greatplainsag.com** and follow the product link for information on your machine, or use the QRC code below to view our publications store.

---

**Turbo-Max QRC**

The QR Code (Quick Response) to the left will take you to this machine’s family of manuals. Use your smart phone or tablet to scan the QR Code with an appropriate App to begin viewing.

---

**Dealer QRC**

The QR Code (Quick Reference) to the left will take you to available dealers for Great Plains products. Refer to the Parts Manual QR Locator for detailed instructions.
Safety Information

- Look for Informational Symbols

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

- Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness. The signal words are:

**DANGER**

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

**WARNING**

WARNING indicates a potential hazard which, 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**

CAUTION indicates a potential hazard which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTICE**

NOTICE indicates a potential hazard which, if not avoided, may result in moderate to severe damage to your machine, machine parts, or nearby property.

- Be Familiar with Safety Decals

1. Thoroughly read and understand “Locations of Safety Decals” on page 8.
2. Read all instructions noted on the decals.

- Wear Protective Equipment

1. Wear protective clothing and equipment appropriate for the job, such as safety glasses, hard hat, and ear plugs.
2. Clothing must fit snug without fringes and pull strings to avoid entanglement with moving parts.
3. Avoid using distracting multimedia devices, such as audio that requires headphones, tablet, or smart phone, while operating machinery.

- Use A Safety Chain

1. A safety chain will help control drawn machinery if the machinery separates from tractor drawbar.
2. Use a chain with a strength rating equal to or greater than the gross weight of towed machinery.
3. Attach chain to tractor drawbar support or other specified anchor location. Allow only enough slack in chain to permit turning.
4. Replace chain if any links or end fittings are broken, stretched or damaged.
5. Do not use safety chain for towing.
■ Avoid High Pressure Fluids

**NOTE**
Escaping fluid under pressure can penetrate the skin, causing serious injury.

1. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
2. Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing any work on the system.
3. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
4. Escaping fluid under pressure can penetrate the skin causing serious injury.
5. Use a piece of paper or cardboard, **NOT BODY PARTS**, to check for suspected leaks.
6. **DO NOT DELAY.** If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene can result.

■ Tire Safety

**NOTE**
Tire changing can be dangerous and must be performed by trained personnel using correct tools and equipment.

1. When inflating tires, use a clip-on chuck and extension hose long enough for you to stand to one side—not in front of or over tire assembly. Use a safety cage if available.
2. When removing and installing wheels, use wheel-handling equipment adequate for weight involved.

■ Use Safety Lights and Devices

**NOTE**
Slow-moving tractors and towed machinery can create a hazard when driven on public roads. They are difficult to see, especially at night.

1. If equipped, use flashing warning lights and turn signals whenever driving on public roads.
2. Use safety devices provided with implement.
3. Keep safety lights and signs clean and visible from rear of the machine.

■ Keep Riders Off Machinery

**NOTE**
Riders obstruct the operator’s view. Riders could be struck by foreign objects or thrown from the machine.

1. Never carry riders or use machinery as a personal lift.
2. Riders obstruct the operators view.
3. Riders can be struck by foreign objects or thrown from the machine.
4. Never allow children to operate equipment.
5. Keep all bystanders away from machine during operation.
Transport Machinery Safely

NOTE

Maximum Transport speed for implement is 30 kph (20 mph). Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

1. Comply with state and local laws.
2. Carry reflectors or flags to mark machinery in case of breakdown on the road.
3. Keep clear of overhead power lines and other obstructions when transporting.
4. Do not fold or unfold the implement while the tractor is moving.
5. Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of towing vehicle.
6. Turning tractor too tight can cause implement to tip over.
7. When towing on a trailer, secure implement with tie downs and chains.
8. When towing on a trailer, sudden braking can cause a trailer to swerve and upset. Reduce speed if trailer is not equipped with brakes.

Shutdown and Storage

1. Park the tractor and implement on a solid, level surface where children normally do not play.
2. Raise the wings, put tractor in park or set park brake. Turn off engine and remove switch key to prevent unauthorized starting.
3. Wait for all components to come to a complete stop before leaving the operator’s seat.
4. Turn lockout valve and wing lock levers to locked position to prevent the wings from lowering.
5. Install transport locks to relieve pressure on hydraulic hoses.
6. Detach the tractor. Secure the implement using blocks and supports.

Practice Safe Maintenance

1. Understand procedure before doing work. Use proper tools and equipment. Refer to this manual.
2. Work in a clean, dry area.
3. Lower the implement. Put tractor in Park, turn off engine. To prevent unauthorized starting, remove key before performing maintenance or service work.
4. If work must be performed with wings raised, turn lockout valve and wing lock levers to the locked position.
5. Make sure all moving parts have stopped and all system pressure is relieved.
6. Disconnect lighting harness from the tractor before servicing or adjusting electrical systems.
7. Welding: Disconnect lighting harness from the tractor. Protect hydraulic lines. Avoid fumes from heated paint.
8. Inspect all parts. Make sure parts are in good condition and installed properly.
9. Do not alter this machine in a way which will adversely affect its performance.
10. Remove buildup of grease, oil or debris.
11. Remove all tools and unused parts from implement before operation.
Safety At All Times

**NOTE: Read Operator Manual**

Thoroughly read and understand the instructions in the operator manual before operation. Read all instructions noted on the safety decals.

**NOTE: Do Not Use Untrained Operators**

Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

1. The operator must not use drugs or alcohol as they can change the alertness or coordination of that person while operating equipment. If over-the-counter drugs are used, seek medical advice on whether you can safely operate equipment.

2. Operator must be familiar with all functions of the tractor and attachments, and be able to handle emergencies quickly.

3. Make sure all guards and shields are in place and secured before operating the implement.

4. Keep all bystanders away from equipment and work area.

5. Operator must start tractor and operate controls from the driver’s seat only, never from the ground.

6. Dismounting from a moving tractor can cause serious injury or death.

7. Be familiar with all functions of the implement.

8. Do not leave implement unattended with tractor engine running.

9. Do not stand between the tractor and the implement during hitching.

10. Watch out for wires, trees, etc., when folding and raising the implement.

11. Turning tractor too tight can cause hitched implement to ride up on wheels. This can result in injury or equipment damage.
Assembly

Pre-Assembly Preparation

Shipment
The Turbo-Max will be shipped partially pre-assembled.
- The center frames will be shipped partially pre-assembled. The wings will be shipped un-attached, stacked together on 8.0M models of the machine.
- The front gangs will be fully assembled but not assembled to machine.
- The attachment frames (if equipped) will be bolted to the primary rack.
- Finishing attachments (if equipped), will be shipped with mounted brackets assembled, reel assemblies assembled and all bolts will be in a box.
- Remove unit from shipping stands (if equipped), after machine is lowered to ground and carefully remove bands from all components.
- The shipping stands do not need to be returned to Great Plains.

Unloading

NOTE: Choose an Appropriate Work Surface
Be sure the truck is on level ground. Work is made easier if the ground is concrete.

CAUTION

Centering Components
Be sure and center fork truck or chains (overhead hoist) on components so they won’t slide and cause injury.

Unloading the Turbo-Max is a potentially dangerous operation. Reduce risk and complications by first unloading the gangs, finishing attachments, and other miscellaneous components. Place these components well out of the maneuvering area needed for unloading the Turbo-Max.

Unload Turbo-Max
1. The hitch assembly may be attached to center section on trailer. If heavy fork lift is not available to unload machine, See “Assembly” on page 11 to install components needed to pull off side of trailer.
2. If heavy fork lift or two fork lifts are available the machine may be lifted off the truck before assembling rest of machine. Double-check that all chains and tie-down straps have been released and stowed.
3. Set parking brake on tractor and trailer.
4. Slowly lift the Turbo-Max off trailer bed using two fork lifts.
5. Stop lifting about 12” above the bed.
6. Have the truck driver slowly pull the trailer straight out from under the Turbo-Max.
7. Making sure to keep level from front to back and side to side, slowly lower the Turbo-Max.
8. Slowly lower Turbo-Max until it is resting on the couler gangs.

Unpacking Boxes

NOTE: Choose an Appropriate Work Area
Position boxes in area that you can maneuver components up to machine to assembly.
1. Carefully remove banding from boxes.
2. Locate and identify all components before assembling.
Removing Machine Components from Container

NOTE: Tongue Installation and Center Frame Hardware
The tongue of this machine and its adjoining hardware, hydraulic hoses, and brake lines come factory installed. Hydraulic hoses that connect from the center to the wings of the machine will need installation once the wings are un-racked and installed. All hydraulic hoses come color-coded. Match the hydraulic hose color with the corresponding color when hooking up hydraulic lines.

NOTE: Center Frame Shipping Hardware
Wing hinge pin hardware is used to hold center frame to rack during shipping. Use pin and adjoining hardware to attach wings to the center frame.

Un-rack tires, crated tires, and all machine frames. Use a hoist or forklift to move large components. Set the three smaller drag frames aside to keep clear of assembly area.

Carefully set the center frame onto assembly stands.
## Center Axle

Your Turbo-Max ships with the center frame’s axle and tires preassembled but separate from the center frame of the machine. The center frame will need to be lifted using a hoist (or appropriate forklift) to get the axle underneath the frame. Rest center frame on stands strong enough to support 6,000 lbs. of total weight.

1. With machine raised on stands, slide the axle (1) underneath the center frame using a hoist (or appropriate forklift).
2. Attach axle (1) to center frame using $\frac{3}{4}$" bolts (2), lock washers (3), and nuts (4).
3. Remove hoist straps and stands from underneath the center frame.

## Detrackers

1. Locate left- and right-hand detracker assemblies (1) in shipping boxes and set aside along with required hardware for installation.
2. Insert $\frac{5}{8}$" bolt (2) and nut (3) into detracker mount’s tube assembly (4). Loosely tighten nut over the end of bolt to secure.
3. Slide detracker (1) arm through tube (4) on mount. Secure detracker on each side using hitch pin (5).
4. Tighten $\frac{5}{8}$" bolt (2) and nut (3) hardware to secure detracker.
Gang Assembly - Center Frame

Before you begin installing the gangs on the center frame, lift center frame using a hoist or overhead loader and install transport locks. Then keep the machine raised and block tires to keep machine in place while working.

**NOTICE: Turn Tractor Off**

*Make sure tractor is turned off after raising the machine to prevent accidental movement of the machine while working.*

1. Position gang assemblies in correct location on floor or ground with a proper hoist. Carefully slide gang assemblies underneath center frame into position.

2. Attach gang bars to machine using 1 1/4” bolts (1), cotter pins (2), flat washers (3), and nuts (4).

3. Next install 3/4” bolts (5) through aligned tubes (6) and plates (7), and secure with lock washers (8) and nuts (9).

4. Finally install brackets (10) using 5/8” bolts (11), lock washers (12), and nuts (13).

5. Secure hydraulic cylinder to front gang bar using clevis pin (14), cotter pin (2), and washer (15). Install turnbuckle to front and rear gang bars using clevis pins (16), cotter pins (2), and washers (15).

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<table>
<thead>
<tr>
<th>Callout</th>
<th>Part No.</th>
<th>Part Description</th>
<th>Quantity</th>
</tr>
</thead>
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<td>4</td>
</tr>
<tr>
<td>2</td>
<td>805-058C</td>
<td>PIN COTTER 3/16</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>804-035C</td>
<td>WASHER FLAT 1 1/4</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>803-079C</td>
<td>NUT HEX 1 1/4 - 7</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>802-070C</td>
<td>HHCS 3/4-10X6 GR5</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
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<td>SPACER</td>
<td>16</td>
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<tr>
<td>7</td>
<td>586-544D</td>
<td>BOTTOM PLATE</td>
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<td>8</td>
<td>804-023C</td>
<td>WASHER LOCK 3/4</td>
<td>16</td>
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<td>9</td>
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<td>NUT HEX 3/4-10 PLT</td>
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<td>10</td>
<td>812-402C</td>
<td>BRACKET</td>
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</tr>
<tr>
<td>11</td>
<td>802-162C</td>
<td>HHCS 5/8-11X3 1/2</td>
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<tr>
<td>12</td>
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<td>WASHER LOCK 5/8</td>
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<td>NUT HEX 5/8-11 PLT</td>
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<tr>
<td>14</td>
<td>805-351C</td>
<td>PIN CLVS 1.0X3.38</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>804-192C</td>
<td>WASHER MACH</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>805-498C</td>
<td>PIN CLEVIS 1 X 3</td>
<td>4</td>
</tr>
</tbody>
</table>
## Wings & Fold Hydraulics

1. Attach center frame to wing hinge arm (1) with the wing hinge pin / pin spirol assembly (2), flat washers (4), and lock nut (5).

**NOTE: Center Frame Shipping Hardware**

Wing hinge pin hardware is used to hold center frame to rack during shipping. Use pin and adjoining hardware to attach wings to the center frame.

2. Attach wing hinge arm (3) to wing using four sets of 3/4" bolts (7), washers (8), and nuts (9).

3. Attach base end of fold cylinders (10) to center frame assembly with 1 x 3\(\frac{1}{8}\) pins (11), 1.5 x 1.00 x.075 machine washer (12) and \(\frac{3}{16}\) x 2 cotter pin (13). Attach retractable end of fold cylinder (14) to wing frame assembly using same hardware.

4. Attach hydraulic lines to cylinders after removing plugs and caps from cylinder inlets.

5. Secure the hydraulic lines that run from the fold cylinder’s rod end to the top side of the cylinder using large zip ties. These zip ties are included with machine components.

**NOTICE: Purge System of Air**

Do not hook up rod end of fold cylinders until system is purged of air. See “Purging Hydraulic System” on page 13.

### Table of Contents

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part No.</th>
<th>Part Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
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<td>588-060H</td>
<td>WING HINGE ARM</td>
<td>6</td>
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<tr>
<td>2</td>
<td>588-165D</td>
<td>HINGE PIN TMN</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>817-922C</td>
<td>SLEEVE BEARING</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>804-035C</td>
<td>WASHER FLAT 1/4</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>803-316C</td>
<td>NUT HEX LOCK</td>
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<td>802-212C</td>
<td>HHCS 3/4-10X2</td>
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<td>804-023C</td>
<td>WASHER LOCK 3/4</td>
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<td>8</td>
<td>803-027C</td>
<td>NUT HEX 3/4</td>
<td>24</td>
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<td>9</td>
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<td>CYL 4.0X40X2 ROD</td>
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<td>10</td>
<td>805-396C</td>
<td>PIN CLVS 1.0X3</td>
<td>8</td>
</tr>
<tr>
<td>11</td>
<td>805-058C</td>
<td>PIN COTTER 3/16</td>
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</tr>
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<td>12</td>
<td>804-192C</td>
<td>WASHER MACH</td>
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<td>13</td>
<td>850-268C</td>
<td>CYL 4.0X40X2 ROD</td>
<td>4</td>
</tr>
</tbody>
</table>
Hydraulic Hoses

**NOTE: Hydraulic Hose Routing**
The hydraulic hoses are routed and attached to the frame assemblies. They will also be fastened to correct center frame cylinders, valves, double block tees and hydraulic fittings. Connect hydraulic hoses at the bulkhead brackets. Be sure hose ends and fittings are clean before assembling hoses.
When attaching wing hydraulic lines to bulkheads, match the line with the same color zip tie as the bulkhead fitting. Refer to hydraulic layouts starting on page 26 for more information.
For complete hydraulic hose installation, see hydraulic diagrams starting on page 26.

### Hydraulic Hose Hookup

Great Plains hydraulic hoses are color coded to help you hookup hoses to your tractor outlets.

<table>
<thead>
<tr>
<th>Color</th>
<th>Hydraulic Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>Lift (2 hoses)</td>
</tr>
<tr>
<td>Green</td>
<td>Fold (2 hoses)</td>
</tr>
<tr>
<td>Red</td>
<td>Gang Adjustment (2 hoses)</td>
</tr>
</tbody>
</table>

**WARNING: High Pressure Fluid Hazard:**
Relieve pressure before disconnecting hydraulic lines. Use paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury. Only trained personnel should work on system hydraulics.

### Tire Assembly - Wings

Remove nuts (1) from wing hubs and set aside. Slide tire (2) over hub and secure using removed nuts. Torque as outlined in “Hydraulic Connectors and Torque” on page 19.

**NOTE: Torque Order**
Hardware for tires should be torqued one at a time in a criss-cross pattern on the hub and not in a clock-wise or counter clock-wise pattern around the hub.

**NOTICE: Purge Lift of Air**
Do not hook up rod end of lift cylinders until system is purged of air. See “Purging Hydraulic System” on page 13.
Gang Assembly - Wings

NOTE: Machine Raising
If machine is not still raised from installing center coulters gangs and axle, raise machine up now.

NOTICE: Turn Tractor Off
Make sure tractor is turned off after raising the machine to prevent accidental movement of the machine while working.

1. Position gang assemblies in correct location on floor or ground with a proper hoist. Carefully slide gang assemblies underneath wings into position.

2. Attach gang bars to machine using 1 1/4” bolts (1), cotter pins (2), flat washers (3), and nuts (4).

3. Next install 3/4” bolts (5) through aligned tubes (6) and plates (7), and secure with lock washers (8) and nuts (9).

4. Finally install brackets (10) using 5/8” bolts (11), lock washers (12), and nuts (13).

5. Secure hydraulic cylinder to front gang bar using clevis pin (14), cotter pin (2), and washer (15). Install turnbuckle to front and rear gang bars using clevis pins (16), cotter pins (2), and washers (15).

6. Once all gang bars are installed onto both wings, lower the machine and purge and gang angle hydraulics of air.

Callout | Part No. | Part Description | Quantity
--- | --- | --- | ---
1 | 588-166D | BOLT - 1 1/4 X 13 1/8 | 4
2 | 805-058C | PIN COTTER 3/16 | 4
3 | 804-035C | WASHER FLAT 1 1/4 | 4
4 | 803-079C | NUT HEX 1 1/4 - 7 | 4
5 | 802-070C | HHCS 3/4-10X6 GR5 | 16
6 | 586-542D | SPACER | 16
7 | 586-544D | BOTTOM PLATE | 4
8 | 804-023C | WASHER LOCK 3/4 | 16
9 | 803-027C | NUT HEX 3/4-10 PLT | 16
10 | 812-402C | BRACKET | 4
11 | 802-162C | HHCS 5/8-11X3 1/2 | 8
12 | 804-022C | WASHER LOCK 5/8 | 8
13 | 803-021C | NUT HEX 5/8-11 PLT | 8
14 | 805-351C | PIN CLVS 1.0X3.38 | 2
15 | 804-192C | WASHER MACH | 4
16 | 805-498C | PIN CLEVIS 1 X 3 | 4
Purging Hydraulic System

1. Extend the lift cylinders (1) (black handles) until the center section is fully raised. Remove the cylinder transport locks and store on center frame tubes. Raise and lower the lift system several times to purge air from system. Retract and extend the gang system (2) (red handles) several times to purge air from system. Watch for leaks and re-tighten fittings if necessary.

2. Before charging the fold cylinders (3), make sure the rod end of the cylinders are un-bolted or un-pinned and block is placed under cylinders as shown. Extend the fold cylinders (3) (green ends) completely and then close them. Extend and retract cylinders several times to purge air from the system.

3. Now the rod end of fold cylinders (3) may be hooked up to wing with the 1 x 3\(\frac{1}{8}\) usable pin (4), 1.5 x 1.0 x 0.75 machine washer (5), and 3\(\frac{1}{16}\) x 2 cotter pin (6). Bend cotter pin over to secure.

---

**Callout** | **Part No.** | **Part Description** | **Quantity**
--- | --- | --- | ---
1 | 810-502C | CYL REP 3.75X10X1.38 ROD (TIE) | 2
2 | 810-740C | CYL REP 3.50X2.5X1.25 ROD (TIE) | 2
3 | 850-268C | CYL 4.0X4X2 ROD (TIE ROD) | 4
4 | 805-396C | PIN CLEVIS 1.0X3 13 USBL | 4
5 | 804-192C | WASHER MACH 1.5X1.00X.075 | 4
6 | 805-058C | PIN COTTER 3/16 X 2 | 4
Angle Gauge

1. Attach gauge angle plate (1) to front of center frame with four 1/2” bolts (2), lock washers (3), and nuts (4).

2. Attach gauge link (5) to gauge bracket assembly (6) using 3/8” bolt (7), three stacked 5/16” washers (8), and 3/8” nut (9).

3. Install 3/8” bolt (7) onto gauge bracket assembly (6) immediately above gauge link connection. Secure with 3/8” nut (9).

4. Attach free end of gauge link (5) onto angle gauge arm (10) using 3/8” bolt (7) and nut (9).

**NOTE: Degree Decal Missing**
If degree decal is not on the gauge bracket assembly, locate and apply to the gauge bracket’s contoured face with numbers aligned upwards.

5. Retract cylinders to straighten gangs. Adjust gauge link (5) until angle gauge plate (1) points to 0°.
Rolling Harrow and Reel (Option)

NOTICE: Dimensions By Model Will Vary
Distances marked with an ‘xxx’ denotes a variable distance between. Distance varies based on make and model of machine. For more detailed specifications and layouts on page 24.

Drag Frames and Rolling Harrow

1. Start by installing the drag frames (1) with 3/4 x 2 hex bolts (2), 3/4 lock washers (3) and 3/4 nuts (4). Torque bolts to 265 ft-lb.

2. Attach rolling harrow bracket assemblies (5) in appropriate location with 5/8 x 3 1/32 x 4 1/2 u-bolts (6) and secure with 5/8 lock washers (7) and 5/8 nuts (8). Adjust the brackets to dimensions shown in layout drawings and torque u-bolts to 150 ft-lb.

3. Attach ball joint brackets (9) to rolling spike tubes with 5/8 x 3 1/32 x 4 1/2 u-bolt (6), secure with 5/8 lock washers (7) and 5/8 nuts (8). Place left ball joint brackets (9) in proper location from layout drawing and torque u-bolts to 150 ft-lb. Leave right ball joint bracket (9) loose, as it may need move a little to bolt up to right rolling harrow bracket (5).

4. Carefully lower machine down or use fork lift (if available) to raise rolling harrow assemblies (5) to attach rolling harrow brackets (9). Align ball joint brackets and to rolling harrow assemblies. Secure with 1 x 4 hex bolts (10) and 1 nylon lock nut (11). Torque bolts to 645 ft-lb. Also torque the 5/8 x 3 1/32 x 4 1/2 u-bolts (6) in right ball joint brackets to 150 ft-lb.

---

<table>
<thead>
<tr>
<th>Callout</th>
<th>Part No.</th>
<th>Part Description</th>
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</tr>
<tr>
<td>1</td>
<td>**</td>
<td>RH WING DRAG FRAME</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>**</td>
<td>LH WING DRAG FRAME</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>802-064C</td>
<td>HHCS 3/4-10X2</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>804-023C</td>
<td>WASHER LOCK 3/4</td>
<td>45</td>
</tr>
<tr>
<td>4</td>
<td>803-027C</td>
<td>NUT HEX 3/4-10 PLT</td>
<td>45</td>
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<tr>
<td>5</td>
<td>589-220H</td>
<td>HARROW BRACKET</td>
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<td>6</td>
<td>806-183C</td>
<td>U-BOLT 5/8-11X3</td>
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<td>7</td>
<td>804-022C</td>
<td>WASHER LOCK 5/8</td>
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<td>8</td>
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<td>9</td>
<td>589-064H</td>
<td>BALL JOINT BRACKET</td>
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<td>802-073C</td>
<td>HHCS 1-8X4 GR5</td>
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<td>11</td>
<td>803-038C</td>
<td>NUT HEX 1-8 NYLON</td>
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</table>
1. Measure from the end of the drag frame (1) as specified on layouts on page 24. Install mounting reel arm assemblies (2) in position shown with 5/8 x 4 1/32 x 4 3/4 u-bolts (3), 5/8 lock washers (4), and 5/8 nuts (5). Torque u-bolts to 150ft-lb.

2. Attach reel tube assemblies (6) in direction shown. Measure out specified amount from the end of the tube assembly to attach first arm. Secure into position shown with 5/8 x 2 17/32 x 3 1/2 u-bolts (7), 5/8 lock washers (4), and 5/8 nuts (5). Torque u-bolts to 150ft-lb.

3. Check to see that all bolts have been tightened to specs. See “Torque Values Chart” on page 18.
Lights

NOTE: Lighting Layout
See layout drawings in Appendix for proper light bracket placement. If machine is equipped with a rear attachment the rear light brackets will need to be mounted to the rear tube of the center drag frame.

Front & SMV
1. Install the RF/LR (1) and LF/RR (2) light brackets with the $\frac{1}{2}$ bolt (3), lock washers, and nuts.

Rear Lights

NOTE: Option Lighting
If your machine comes with the rolling harrow and reel option, rear lights are installed on center drag frame.
1. Remove u-bolts from light brackets. Install the RF/LR (1) and LF/RR (2) light brackets and the rear beacon bracket (3) with the $\frac{5}{8}$ u-bolts, lock washers, and nuts.

Fold Switch Adjustment

NOTICE: Switch Damage Advisory
Wings need to be folded down when installing the fold switch (1) to prevent damage to switch and bracket. Be sure wing safety lock pins and front light brackets are installed.
1. Position switch bracket assembly - with fold switch attached - over holes in the front right-hand light bracket.
2. Install fold switch (1) using $\frac{1}{2}$ bolts (2), washers (3), and nuts (4).

Install Decals

NOTE: Clean Frame Before Decal Installation
The center brace bar decals will need installed in locations shown. Clean the area on which the decal is to be placed. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.
All decals should be installed on the machine prior to shipping. If decals are not placed on machine in full or in part, refer to the machine’s operator and parts manual for decal placement.
## Torque Values Chart

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<thead>
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<th>Bolt Size</th>
<th>Grade 2</th>
<th>Grade 5</th>
<th>Grade 8</th>
<th>Bolt Size</th>
<th>Class 5.8</th>
<th>Class 8.8</th>
<th>Class 10.9</th>
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<td>N-m^b</td>
<td>ft-lb^d</td>
<td>N-m</td>
<td>ft-lb</td>
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<td>ft-lb</td>
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<td>11</td>
<td>8</td>
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<td>15⁄16-6</td>
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<td>2640</td>
<td>1950</td>
<td>4290</td>
<td>3160</td>
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</table>

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Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

---

Gang Bolt Torque 1 3⁄4"-5 850 Foot-pounds (165 lbs on 5’ cheater)
Rolling Harrow Spike Bolt 1 1⁄2"-6 650-750 Foot-pounds (175 lbs on 4’ cheater)
Wheel Bolt Torque Values 1⁄2"-20 (75-85 ft-lbs) 9⁄16"-18 (80-90 ft-lbs) 5⁄8"-18 (85-100 ft-lbs).
3⁄4"-16 (300-330 ft-lbs)
Hydraulic Connectors and Torque

Refer to Figure 1 (a hypothetical fitting)
Leave any protective caps in place until immediately prior to making a connection.

1. **NPT** - National Pipe Thread
   Note tapered threads, no cone/flare, and no O-ring. Apply liquid pipe sealant for hydraulic applications. Do not use tape sealant, which can clog a filter and/or plug an orifice.

2. **JIC** - Joint Industry Conference (SAE J514)
   Note straight threads ④ and the 37° cone ⑤ on “M” fittings (or 37° flare on “F” fittings). Use no sealants (tape or liquid) on JIC fittings.

3. **ORB** - O-Ring Boss (SAE J514)
   Note straight threads ④ and elastomer O-Ring ⑤. Prior to installation, to prevent abrasion during tightening, lubricate O-Ring with clean hydraulic fluid. Use no sealants (tape or liquid) on ORB fittings. ORB fittings that need orientation, such as the ell depicted, also have a washer ⑧ and jam nut ⑨ (“adjustable thread port stud”). Back jam nut away from washer. Thread fitting into receptacle until O-Ring contacts seat. Unscrew fitting to desired orientation. Tighten jam nut to torque specification.

Tire Inflation Chart

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<tr>
<th>Wheel</th>
<th>Tire Size</th>
<th>Inflation</th>
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</thead>
<tbody>
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<td>Gauge Wheel</td>
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<td>44 psi (303 kPa)</td>
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<tr>
<td>Transport/ Wings</td>
<td>12.5L x 15” 12-Ply</td>
<td>55 psi (379 kPa)</td>
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<tr>
<td>Transport/ Center</td>
<td>440/55R18 Load 159A8/B Titan</td>
<td>73 psi (503 kPa)</td>
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Tire Inflation Chart

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<tr>
<th>Gauge Size</th>
<th>Fitting</th>
<th>N-m</th>
<th>Ft-Lbs</th>
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<td>1/4-18 NPT</td>
<td>1.5-3.0 turns past finger tight</td>
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<td>-5</td>
<td>1/2-20 JIC</td>
<td>19-20</td>
<td>14-15</td>
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<td>-5</td>
<td>1/2-20 ORB w/jam nut</td>
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<td>9-12</td>
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<td>-6</td>
<td>5/16-18 JIC</td>
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<td>3/4-16 ORB straight</td>
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</table>

Tire Warranty Information

All tires are warranted by the original manufacturer of the tire. Tire warranty information is found in the brochures included with your Operator's and Parts Manuals or online at the manufacturer’s web sites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.

Manufacturer/Website

- Firestone: www.firestoneag.com
- Gleason: www.gleasonwheel.com
- Titan: www.titan-intl.com
- Galaxy: www.atgtire.com
- BKT: www.bkt-tire.com
6.0M Turbo-Max Coulter Gangs
8.0M Turbo-Max Coulter Gangs
6.0 Turbo-Max Left-Hand Side Layouts

Rolling Harrow

Heavy Reel
6.0 Turbo-Max Right-Hand Side Layouts

Rolling Harrow

Heavy Reel
8.0 Turbo-Max Left-Hand Side Layouts

Rolling Harrow

Heavy Reel
8.0 Turbo-Max Right-Hand Side Layouts

Rolling Harrow

Heavy Reel
Hydraulic Lift Layout

Hose to Retract Valve
Located underneath the level bar.
Part of hydraulic fold layout.

Hydraulic Lift Connections
Hydraulic Gang Layout

Hydraulic Gang Connections
Hydraulic Fold Layout

Hydraulic Fold Connections

Connected to wing lift at bulkhead. Part of hydraulic lift layout on p. 22.
Table of Contents