Read the operator’s 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.
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03/23/2017
Important Safety Information

Look for Safety Symbol
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.

DANGER indicates an imminently hazardous situation 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 indicates a potentially hazardous situation 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 indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Use Adequate Lifting Means
The frame sections and gangs of this machine are extremely heavy. If using multiple lifters, make sure each is rated for at least its share of the load.

Prepare for Emergencies
• Be prepared if a fire starts
• Keep a first aid kit and fire extinguisher handy.
• Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.
Be Familiar with Safety Decals

▲ Read and understand the “Safety Decals” section of the Operators Manual.
▲ Read all instructions noted on the decals.
▲ Keep decals clean. Replace damaged, faded and illegible decals.

Wear Protective Equipment

▲ Wear protective clothing and equipment.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.
▲ Because operating equipment safely requires your full attention, avoid wearing entertainment headphones while operating machinery.

Avoid High Pressure Fluids

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

▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
▲ If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

Use Safety Lights and Devices

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

▲ Use flashing warning lights and turn signals whenever driving on public roads.

Use lights and devices provided with implement.

Keep Riders Off Machinery

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

▲ Never allow children to operate equipment.
▲ Keep all bystanders away from machine during operation.

Shutdown and Storage

▲ Lower implement, put tractor in park, turn off engine, and remove the key.
▲ Secure Turbo Max using blocks and supports provided.
▲ Detach and store Turbo Max in an area where children normally do not play.
Tire Safety
Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.

▲ 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.

▲ When removing and installing wheels, use wheel-handling equipment adequate for weight involved.

Safety At All Times
Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

▲ Be familiar with all machine functions.

▲ Operate machinery from the driver’s seat only.

▲ Do not leave machine unattended with tractor engine running.

▲ Do not stand between the tractor and machine during hitching.

▲ Keep hands, feet and clothing away from power-driven parts.

▲ Wear snug-fitting clothing to avoid entanglement with moving parts.

▲ Watch out for wires, trees, etc., when folding and raising machine. Make sure all persons are clear of working area.
Introduction

The Turbo Max has been designed with care and built by skilled workers using quality materials. Proper setup, maintenance, and safe operating practices will help the customer get years of satisfactory use from the machine.

Description of Unit

The 1200-1500TM Turbo Max is a one section “vertical” tillage tool. Working width ranges from 12 to 15 feet. The implement is designed to cut and size residue, till soil for faster seedbed warming, break up soil crust on hard dried fields while eliminating compaction layers. The front and rear gangs may be adjusted from 0-6 degree angle, depending on the aggressiveness desired. Various finishing attachments are also available to further smooth, redistribute residue, kill weeds, and break clods.

Models Covered

1200TM 12’ (7.5in) spacing
1500TM 15’ (7.5in) spacing

Document Family

586-535Q-ENG Assembly Manual
586-535Q Pre-Delivery Manual (this document)
586-535M Operator Manual
586-535P Parts Manual

Tools Required

• Basic Hand Tools
• Torque Wrench
• Fork Truck, Overhead Hoist or Loader

Pre-assembly Checklist

- Before assembling, read and understand “Important Safety Information” 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 area).
- Have all major components
- Have all fasteners and pins shipped with machine.
Using This Manual

This manual was written to help you assemble and prepare the new machine for the customer. The manual includes instructions for assembly and setup. Read this manual and follow the recommendations for safe, efficient and proper assembly and setup.

An operator’s and parts manual is also provided with the new machine. Read and understand “Important Safety Information” and “Operating Instructions” in the operator’s manual before assembling the machine. Refer to the parts manual for proper part’s identification. As a reference, keep the operator’s and part’s manual on hand while assembling.

The information in this manual is current at printing. Some parts may change to assure top performance.

Definitions

The following terms are used throughout this manual.

NOTICE

A crucial point of information related to the preceding topic. Read and follow the directions to remain safe, avoid serious damage to equipment and ensure desired field results.

Useful information related to the preceding topic.

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated. An orientation rose in some line art illustrations shows the directions of: Up, Back, Left, Down, Front, Right.
Shipping
The Turbo Max will be shipped partially pre-assembled. Models 1200-1500TM.

Refer to Figure 3
- Models 1200-1500TM center frames will be shipped with center frame completely assembled with hydraulics fully charged.

Refer to Figure 4
- The attachment frames (if equipped) will be stacked on pallets and banded together.
- 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 un-band all components.
- The shipping stands do not need to be returned to Great Plains.

Unloading
Be sure the truck is on level ground, preferably concrete.

![CAUTION](image)
Centering components:
Be sure and center fork truck or chains (overhead hoist) on components so they won’t slide and cause injury.

Unload Smaller Items First
Unloading the Turbo Max is a potentially dangerous operation.
1. Reduce risk and complications by first unloading
2. the gangs and finishing attachments
3. the misc. boxes
4. Place these components well out of the maneuvering area needed for unloading the Turbo Max.
5. the Turbo Max (described in the next section)

Unload Turbo Max
6. The center brace bar, front trusses and hitch assembly may be attached to center section on trailer if heavy fork lift is not available to unload machine. See “Assembly” on page 8 to install components needed to pull off side of trailer.
7. 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.
8. Set parking brake on tractor and trailer.
9. Slowly lift the Turbo Max off trailer bed using two fork lifts.
10. Stop lifting about 12” above the bed.
11. Have the truck driver slowly pull the trailer straight out from under the Turbo Max.
12. Making sure to keep level from front to back and side to side, slowly lower the Turbo Max.
13. Slowly lower Turbo Max until it is resting on the coulter gangs.

**Unpacking Boxes**

Position boxes in area that you can maneuver components up to machine to assembly.

14. Carefully remove banding from boxes.
15. Carefully remove banding from brace bars and finishing reels.
16. Locate and identify all components before assembling.

**Further Assistance**

Great Plains Manufacturing, Inc. wants you to be satisfied with your new Turbo Chisel Narrow. If for any reason you do not understand any part of this manual or are otherwise dissatisfied with the product please contact:

**Great Plains Service Department**

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

Or go to www.greatplainsag.com and follow the contact information at the bottom of your screen for our service department.
Assembly

Valves

Bolts needed in these next steps will be bolted on parts or located in a bag on center frame. The hoses will be hooked to valves and cylinders and hoses running to hitch will be rolled up on center frame. The system will be charged. Once hitch assembly is installed hoses will need routed on hitch, see Hose Routing below.

Refer to Figure 5

17. Install the counter balance valve ① to block on center frame with 5/16 x 3 1/2 hex bolts ② and 5/16 lock washers.
18. Align holes in double block tee ③ in position shown, secure with 5/16 x 4 bolts ④, 5/16 lock washers and 5/16 nuts.
19. Install the lock valve ⑤ to the top of the bracket on center frame with 1/4 x 2 Gr. 5 hex bolts ⑥, 1/4 lock washers and 1/4 nuts.
20. Bolts may be tightened to specs, See "Torque Values Chart" on page 22.

Hose Routing

Refer to Figure 6

Be sure hoses running from valves ① to cylinders are routed as shown before installing trusses ②. The hoses need to route in locations shown with arrows, on top of center frame tubes ③ to cylinders.
Hitch Truss & H-Bracket

Refer to Figure 7

21. Align holes on truss plates ① and center frame plates. Install the 3/4 x 2 hex bolts ② (front and rear plates) and 3/4 x 2 1/2 hex bolts ③ (middle plates), 3/4 lock washers and 3/4 nuts of trusses ①.

22. Align rear holes of level bar ④ between ears of torque tube, secure the 1 x 9 1/2 pin ⑤. Align hole in pin with holes in torque tube collar, secure with the 3/8 x 2 1/4 Gr. 8 hex bolt ⑥ and 3/8 nylon lock nut.

23. Align holes in rear plate of h-bracket spring assembly ⑦ and front plate of level bar ④, secure with 3/4 x 2 Gr. 8 hex bolts ⑧, 3/4 lock washers and 3/4 nuts.

24. Align bottom holes on h-bracket spring assembly ⑦ with ears on front of center frame, secure with 1 x 3 1/4 usable pins ⑨, 1.5 x 1.0 x.075 machine washers ⑩ and 3/16 x 2 cotter pin.

25. Bolts may be tightened to specs, See “Torque Values Chart” on page 22.

Hitch Assembly

Refer to Figure 8

26. Remove the 1 1/4 x 8 Gr. 8 bolts ② from the rear of hitch assembly ①. Bolt the hitch assembly ① to center frame with the 1 1/4 x 8 Gr. 8 bolts ②, 1 1/4 flat washer ③ (one side of uniball to take up space) and 1 1/4 top lock nuts. Tighten bolts snug, do not torque, as the hitch must pivot freely.

27. Install jack ④ on front outside of hitch to support the front of hitch ① for the rest of assembly.

28. Remove 1 1/4 x 8 1/2 Gr. 8 special thread bolt ⑤ from front short level bar tube ⑥. Align holes in rear of level bar tube ⑥ and center hole of h-bracket ⑦. Install the 1 1/4 x 8 1/2 Gr. 8 special thread bolt ⑤ from the left side and secure with 1 1/4 top lock nut.

29. Bolt the spring hose holder ⑧ to welded nut on front of hitch with 1/2 x 1 Gr. 5 bolt ⑨, 1/2 flat washer and 1/2 lock washer.

30. The front of the level turnbuckle ⑩ may need attached to ears on hitch assembly ① with 1 x 6 hex bolt ⑪ and 1 top lock nut

31. Bolts may be tightened to specs, See “Torque Values Chart” on page 22.
Hose Routing Hitch

Refer to Figure 9

32. Route hydraulic hoses ① from valves ②, on center frame under manual pak bracket ③, under front of hitch turnbuckle ④ along all hose clamp blocks and through spring hose holder loop ⑤ to front of hitch ⑥ as shown. Secure hoses with hose clamps ⑦, 5/16 hex bolts and 5/16 lock washers.

33. The light Harness will need routed with hydraulic hoses along hitch. Be sure all bolts are tight.

Attach Hose Clamps and Hose Wraps

Refer to Figure 10

34. When all the hoses are hooked up and tightened properly, put hose clamps on hoses as shown.

35. Install hose wraps on hoses as needed.

Be sure and get hoses and light wiring harness fastened properly so they do not drag. Check to be sure there is enough slack in hinge area when folding machine the first time.

Hydraulic Hose Hookup

36. Great Plains hydraulic hoses are color coded to help you hookup hoses to your tractor outlets. Hoses that go to the same remote valve are marked with the same color.

<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>Red</td>
<td>Gang Adjustment (2 hoses)</td>
</tr>
<tr>
<td>Yellow</td>
<td>Hydraulic Reel Adjustment (Optional)</td>
</tr>
</tbody>
</table>

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.
Hose Handles

Refer to Figure 11

37. To distinguish hoses on the same hydraulic circuit, refer to hose handles. The hose under an extended-cylinder symbol feeds a cylinder base end. The hose under a retracted-cylinder symbol feeds a cylinder rod end.

38. Once all hoses are tightened, hook hoses to tractor
Depth Stop & Angle Gauge

Refer to Figure 12

- See machine layout drawings in Appendix for proper gang gauge placement for each model.

39. Slide depth stop tube ① from rear of machine under left wing stop through square hole on depth control bracket on center wing brace. Align rear holes over lever on torque tube, secure with 1/2 x 3 hex bolt ②, 1/2 top lock nut.

40. Fasten depth stop assembly ③ on top of depth stop tube with 1/2 x 21/2 hex bolts ④, 1/2 lock washers and nuts.

41. Attach angle gauge bracket assembly ⑤ to front of center frame with 1/2 x 3 1/32 x 6 u-bolts ⑥, 1/2 lock washers and 1/2 nuts.

42. Attach gauge link ⑦ to ear on front of center frame and gauge bracket assembly ⑥, secure with 3/8 x 11/4 hex bolts ⑧ and 3/8 top lock nuts.

43. Bolt may be tightened to specs, See "Torque Values Chart" on page 22.
Lights & SMV

Refer to Figure 13

- See layout drawings in Appendix for proper light bracket placement. The SMV sign will be shipped in a bag and will need installed on the rear of the machine.

44. Remove u-bolts from light brackets and rotate 180 degrees. Re-install the LH 1 and RH 2 light brackets with the $\frac{1}{2} \times 3 \frac{1}{32} \times 6$ u-bolts 3, $\frac{1}{2}$ lock washers and 1/2 nuts.

45. Attach the SMV sign 4 to the rear of the smv bracket 5 with $\frac{1}{4} \times 3 \frac{3}{4}$ pan head screws 6, $\frac{1}{4}$ lock washers and 1/4 nuts.

46. Tighten all bolts to specs, See “Torque Values Chart” on page 22.
Rolling Harrow (optional)

It is very important to install the rolling harrow assembly in the order shown below and go to the rolling harrow placement drawing, see “Layout Section” of this manual for proper dimensions where it is marked xxx in drawing below. The rolling harrow bracket dimensions are coming off of rear, front tube of drag frame to front of plate of rolling harrow bracket. The ball joint bracket is dimensioned off of end of rolling spike tube to side of plate on ball joint bracket (dimensions in layout drawings may come off either end of tube). For complete parts breakdown see “Attachment Section” of Parts Manual.

Refer to Figure 14

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

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

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

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

51. Check to see that all bolts have been tightened to specs, See "Torque Values Chart" on page 22.

Figure 14
Rolling Harrow
Reel Following Rolling Harrow (optional)

It is very important to install the reel assembly in the order shown below and go to the rolling harrow placement drawing, see “Layout Section” of this manual for proper dimensions where it is marked xxx in drawing below. The reel arm assemblies ① dimensions are coming off of rear tube of drag frame to side of plate of reel arm assemblies ①. The reel tube assemblies ② are dimensioned off of end of reel tube to side of plate on reel arm assembly ① (dimensions in layout drawings may come off either end of tube). For complete parts breakdown see “Attachment Section” of Parts Manual.

Refer to Figure 15

52. Install mounting reel arm assemblies ① in position shown in reel following rolling harrow placement drawing with 5/8 x 3 1/32 x 4 1/2 u-bolts ②, 5/8 lock washers and 5/8 nuts. Torque u-bolts to 150ft-lb.

53. Attach reel tube assemblies ② in direction shown in circle and place them in position shown (with arrow towards machine) with 5/8 x 2 17/32 x 3 1/2 u-bolts ④, secure with 5/8 lock washers and 5/8 nuts. Torque u-bolts to 150ft-lb.

54. Check to see that all bolts have been tightened to specs, See “Torque Values Chart” on page 22.

Figure 15
Reel Following Rolling Harrow
Hydraulic Reel Down Pressure Kit

*Figure 2*

Note: The center cylinder has a 3\(\frac{1}{4}\)" bore, on all the center locations. On models 1800-3500 the right hand cylinder has a 3" bore, and the left hand cylinder has a 2\(\frac{3}{4}\)" bore. On the 4000 & 4800 the inside wings have a 3" bore and the outside wings have a 2\(\frac{3}{4}\)" bore. These cylinders must be put in the correct place for the hydraulics to work correctly. Hydraulic hoses should be delivered attached and plumbed to the hydraulic cylinders and mounted on the cylinder mount bars.

55. Mount the rear drag arm assemblies onto the proper section of the rear attachment frames using u-bolt, lock washer and hex nut.

56. Attach the hydraulic cylinder mount brackets to the rear attachment frame using u-bolt, lock washer and hex nut for models 1200 and 1500. Use bolts, lock washer and hex nut on models 1800 through 4800 these bolt will only be used on the rear of the attachment frame and will also secure the drag arm mounts to the drag frame. Use u-bolt, lock washer and hex nut to attach the hydraulic cylinder bracket to the front of the drag frame.

57. Hook up the hydraulics as shown in Figure 1, the bottom bulkhead fitting the runs to the cylinder on each one of the brackets is plumbed to the base end of the cylinders, while the top fitting is plumbed to the rod end of the cylinder. The bottom bulkhead fitting on the center cylinder runs directly to the extend handle and is hooked to the tractor. The top bulkhead fitting on the cylinder needs to be plumbed to the bottom fitting on the right hand side cylinder. The top bulkhead fitting on the right hand cylinder runs over to the bottom bulkhead fitting on the left cylinder. The top bulkhead fitting on the left cylinder runs directly to the retract handle and is hooked to the tractor.

58. If the reel arm assemblies are not already on the drag arms then they will need to be installed into the drag arm brackets and secured with bolt and lock nut. See Layout Section for dimensions and proper placement.

59. You may need to install the spring bolt assemblies through the collar on the bottom end of the reel arm assemblies, and secure with a top lock nut. Thread the bottom of the spring bolt to the drag arm mounting brackets with snap ring pin, flat washer and snap ring.

60. Attach the reel mounting tubes onto the reel arm assemblies using u-bolts, lock washers and hex nuts. The same mounting tubes and hardware that was previously installed on your implement will be used to reinstall it onto the new reel arms. Reels should come attached to the mounting tubes in the proper place.

61. Mount the depth gauge bracket to the rear tube of the drag frame using lock washer and hex nut. You may need to install the depth gauge if it is not already attached to the bracket. Do not install the depth gauge link yet.

62. On the center drag arm assembly be sure that the depth gauge link attachment ear is on the right hand side of the center arm. This ear will be attached to the depth gauge link using hex bolt and top lock, this hardware will also be used to attach the link to the gauge.

63. Purge the hydraulics of air and check for leaks.

Note: Please see layouts for dimensions and placement, and Part Manual for a complete list of parts.
Hydraulic Reel Attachment

Install reel with
handed screw fingers

Double Reel Center Mounting

Remand up stream,
looking downrears
can damage rear
in rocky 50%
Install Rear Hitch (optional)

The rear tow hitch will be shipped with big components banded together and the hardware will be installed on hitch components. Carefully un-band the components. There are two different types of rear hitches, rear hitch extended or a-frame style. See appropriate mounting directions listed below.

Extended Rear Hitch

Refer to Figure 16

64. Attach middle of rear hitch arms 1 to rear tube of drag frame with 5/8 x 3 1/32 x 4 1/2 u-bolts 2, 5/8 lock washers and 5/8 nuts. Attach front plates of rear hitch arms 1 to rear tube of center frame with 3/4 x 5 1/32 x 4 1/2 u-bolts 3, 3/4 lock washers and 3/4 nuts.

65. Attach 46” cross arm 4 to bottom side of rear hitch truss plates with 5/8 x 3 1/32 x 4 1/2 u-bolts 2, secure with 5/8 lock washers and 5/8 nuts.

Do not tighten any bolts until every thing is installed.

66. The bolt on sleeve assembly with rigid 5 or flex slide 6 may be fastened using 5/8 x 3 1/32 x 4 1/2 u-bolt 2, secure with 5/8 lock washers and 5/8 nuts.

67. If machine is equipped with rolling harrow only, attach rigid or flex slide 7 to rear tube of drag frame, with 5/8 x 3 1/32 x 4 1/2 u-bolts 2, secure with 5/8 lock washers and 5/8 nut.

68. Tighten all bolts to specs, See “Torque Values Chart” on page 22.

A-Frame Hitch

Refer to Figure 17

69. Attach rear mounting bar 1 to rear of center frame with 3/4 x 2 bolts 2, 3/4 lock washers and 3/4 nuts.

70. Attach a-frame hitch 3 to rear of center frame with 5/8 x 4 1/4 x 32 x 4 1/2 u-bolts 4, 5/8 lock washers and 5/8 nuts.

71. Hitch will have either the flex slide assembly 5 or the rigid slide assembly 6. There will be a 3/4 x 1 1/2 hex bolt 7 and 3/4 jam nut in front hole of assembly to keep the slide assembly from sliding clear out.

72. If machine is equipped with optional rear hitch accessory kit may be installed as shown in “Parts Manual”.

73. Tighten all bolts to specs, See “Torque Values Chart” on page 22.

74. Route hoses and light harness along hitch and frame with hose clamps and hose wraps, provided.

Be sure hoses and light harness is fastened securely so they don’t drag or get pinched.
Rear Hitch Accessory Kit

**WARNING**

If Rear Hitch Accessory Kit is not installed correctly damage to you tractor and implement may occur. The dual machine harness needs to be plugged into the light harness that runs directly from the tractor.

**Refer to Figure 18**

75. Plug the female end of the dual machine harness (1) into the male end of the lead harness (2).

76. Locate the enhance module (3), plug the female end of the module (3) into the male end of the dual machine harness (2).

77. Plug the male end of the enhance module (3) into the wishbone light harness (4). The wishbone light harness attaches to the amber and red LED lights on your implement.

Please refer to the parts manual for part numbers and descriptions.
**Rear Stand**

*Refer to Figure 19*

**NOTICE**

*If machine is equipped with a rear attachment, be sure you install the rear jack stand so machine doesn’t tip backwards when unhooking machine from tractor.*

78. Attach the rear stand bracket ① to the center of the rear tube of the drag frame with 5/8 x 3 1/32 x 4 1/2 u-bolts ②, 5/8 lock washers and 5/8 nuts.

79. Tighten u-bolts specs, See “Torque Values Chart” on page 22.

80. Slide the rear stand ③ through the rear stand bracket ①, secure with the 3/4 x 5 1/4 pin ④ and retainer.

81. Once the options are installed, fold the Turbo Max to check for clearance and interferences, also watch that hoses do not get pinched.

⚠️ Double check that all bolts are tightened to specs, See “Torque Values Chart” on page 22. Consult the “Operator’s Manual”, for the first time field adjustments before going to the field.

**Weight Package Assembly (Optional)**

*Refer to Figure 20*

Caution: Lower machine until coulters are on ground and pressure is off leveling system.

⚠️ Up to 1 set of weights (2 weights) may be used in positions shown.

82. Start by removing the 3/4 x 2 Gr. 8 bolts ① from level bar assembly.

83. Pivot level bar ② up so there will be clearance to set the 750 pound weight assemblies ⑤ into place.

84. Pivot level bar spring assembly ③ forward.

85. Carefully lower the 750 pound weight assemblies ⑤ onto center frame trusses ⑥.

86. Slide rear weights as far forward as possible and install weight box stops ⑦ on inside of trusses as close to weight as possible (rear weights), secure with 1/2 x 4 1/32 x 5 1/4 u-bolt ⑧, 1/2 lock washers and 1/2 nuts.

87. Torque u-bolts to 85 ft-lbs.
Refer to Figure 21

88. Pivot level bar ② and the level bar spring assembly ③ until holes in plates are aligned.

89. Re-install $\frac{3}{4}$ x 2 Gr. 8 bolts ①, secure with $\frac{3}{4}$ lock washers and $\frac{3}{4}$ nuts.

90. Torque $\frac{3}{4}$ x 2 Gr. 8 bolts ① to 375 ft lbs to be sure bolts do not work loose and cause damage to machine.
## Appendix - Reference Information

### Torque Values Chart

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>Bolt Head Identification</th>
<th>Torque Values Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>in-tpi²</td>
<td>Grade 2</td>
<td>Grade 5</td>
</tr>
<tr>
<td></td>
<td>N-m⁶</td>
<td>ft-lb³</td>
</tr>
<tr>
<td>1/4-20</td>
<td>7.4</td>
<td>5.6</td>
</tr>
<tr>
<td>1/4-28</td>
<td>8.5</td>
<td>6</td>
</tr>
<tr>
<td>5/16-18</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>5/16-24</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>9/16-16</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>9/16-24</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>7/16-20</td>
<td>43</td>
<td>32</td>
</tr>
<tr>
<td>7/16-24</td>
<td>49</td>
<td>36</td>
</tr>
<tr>
<td>5/8-20</td>
<td>66</td>
<td>49</td>
</tr>
<tr>
<td>5/8-24</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>9/16-12</td>
<td>95</td>
<td>70</td>
</tr>
<tr>
<td>9/16-18</td>
<td>105</td>
<td>79</td>
</tr>
<tr>
<td>5/8-12</td>
<td>130</td>
<td>97</td>
</tr>
<tr>
<td>5/8-18</td>
<td>150</td>
<td>110</td>
</tr>
<tr>
<td>3/4-10</td>
<td>235</td>
<td>170</td>
</tr>
<tr>
<td>3/4-16</td>
<td>260</td>
<td>190</td>
</tr>
<tr>
<td>7/8-9</td>
<td>225</td>
<td>165</td>
</tr>
<tr>
<td>7/8-14</td>
<td>250</td>
<td>185</td>
</tr>
<tr>
<td>1-8</td>
<td>340</td>
<td>250</td>
</tr>
<tr>
<td>1-12</td>
<td>370</td>
<td>275</td>
</tr>
<tr>
<td>1-14</td>
<td>480</td>
<td>355</td>
</tr>
<tr>
<td>1-7</td>
<td>540</td>
<td>395</td>
</tr>
<tr>
<td>1-12</td>
<td>680</td>
<td>500</td>
</tr>
<tr>
<td>1-14</td>
<td>750</td>
<td>555</td>
</tr>
<tr>
<td>1-6</td>
<td>890</td>
<td>655</td>
</tr>
<tr>
<td>1-10</td>
<td>1010</td>
<td>745</td>
</tr>
<tr>
<td>1-6</td>
<td>1180</td>
<td>870</td>
</tr>
<tr>
<td>1-12</td>
<td>1330</td>
<td>980</td>
</tr>
</tbody>
</table>

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

---

### Torque Values Chart

- **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 (75-85ft-lbs)
- **Wheel Bolt Torque Values**: 9/16”-18 (80-90ft-lbs)
- **Wheel Bolt Torque Values**: 5/8”-18 (85-100ft-lbs)
### Tire Inflation Chart

<table>
<thead>
<tr>
<th>Wheel</th>
<th>Tire Size</th>
<th>Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>SL 12-Ply</td>
<td>52 psi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(359 kPa)</td>
</tr>
</tbody>
</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.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Web site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firestone</td>
<td><a href="http://www.firestoneag.com">www.firestoneag.com</a></td>
</tr>
<tr>
<td>Gleason</td>
<td><a href="http://www.gleasonwheel.com">www.gleasonwheel.com</a></td>
</tr>
<tr>
<td>Titan</td>
<td><a href="http://www.titan-intl.com">www.titan-intl.com</a></td>
</tr>
<tr>
<td>Galaxy</td>
<td><a href="http://www.atgtire.com">www.atgtire.com</a></td>
</tr>
<tr>
<td>BKT</td>
<td><a href="http://www.bkt-tire.com">www.bkt-tire.com</a></td>
</tr>
</tbody>
</table>

### Hydraulic Connectors and Torque

Refer to Figure 22 (a hypothetical fitting)

Leave any protective caps in place until immediately prior to making a connection.

- **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.

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

- **ORB** - O-Ring Boss (SAE J514)
  - Note straight threads and elastomer O-Ring.
  - Prior to installation, to prevent abrasion during tightening, lubricate O-Ring with clean hydraulic fluid.

- **ORB** fittings that need orientation, such as the ell depicted, also have a washer and jam nut (“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.

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>Fitting</th>
<th>N-m</th>
<th>Ft-Lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>1/4-18 NPT</td>
<td>1.5-3.0 turns past finger tight</td>
<td></td>
</tr>
<tr>
<td>-5</td>
<td>1/2-20 JIC</td>
<td>19-20</td>
<td>14-15</td>
</tr>
<tr>
<td>-5</td>
<td>1/2-20 ORB w/jam nut</td>
<td>12-16</td>
<td>9-12</td>
</tr>
<tr>
<td>-5</td>
<td>1/2-20 ORB straight</td>
<td>19-26</td>
<td>14-19</td>
</tr>
<tr>
<td>-6</td>
<td>1/16-18 JIC</td>
<td>24-27</td>
<td>18-20</td>
</tr>
<tr>
<td>-6</td>
<td>1/16-18 ORB w/jam nut</td>
<td>16-22</td>
<td>12-16</td>
</tr>
<tr>
<td>-6</td>
<td>1/16-18 ORB straight</td>
<td>24-33</td>
<td>18-24</td>
</tr>
<tr>
<td>-8</td>
<td>3/4-16 JIC</td>
<td>37-53</td>
<td>27-39</td>
</tr>
<tr>
<td>-8</td>
<td>3/4-16 ORB w/jam nut</td>
<td>27-41</td>
<td>20-30</td>
</tr>
<tr>
<td>-8</td>
<td>3/4-16 ORB straight</td>
<td>37-58</td>
<td>27-43</td>
</tr>
</tbody>
</table>

![Figure 22: Hydraulic Connector ID](image)
Hydraulic Lift Layout
Hydraulic Gang Angle Layout
1200TM Machine Layout
1500TM Machine Layout
1200TM Rolling Harrow Layout
1200TM Heavy Reel Following Rolling Harrow Layout
1500TM Rolling Harrow Layout
1500TM Heavy Reel Following Rolling Harrow Layout
1200TM Hydraulic Reel Layout
1500TM Hydraulic Reel Layout
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