



MAX Tank Series

Owner's Manual



Manufactured by
Minden Machine Shop Inc.
1302 K Road
Minden NE 68959
1-800-264-6587

Helicopter Tank

Serial # _____
Date of Purchase _____

MAX Series Helicopter Tanks

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INTRODUCTION

Model: Patriot MAX Series Tanks

Thank you for purchasing the Patriot MAX Tank series. We feel you have made a wise choice and hope you are completely satisfied with your MAX tanks. If you have any questions regarding the applications of certain solutions or chemicals, contact your chemical supplier and follow chemical manufacturer recommendations as well as all licensing and use restrictions or regulations.



WARNING!

TO AVOID PERSONAL INJURY OR PROPERTY DAMAGE, OBSERVE THE FOLLOWING INSTRUCTIONS:

Chemicals are dangerous. Know exactly what you are going to do and what is going to happen before attempting to work with these products. Improper selection or use can injure people, animals, plants, and soil.

Always wear protective clothing such as coveralls, goggles, and gloves when working with chemicals.

Be sure to dispose of all unused chemicals or solutions in a proper and ecologically sound manner.

GENERAL INFORMATION

1. Unless otherwise specified, high-strength (grade 5) (3 radial-line head markings) hex head bolts are used throughout assembly of the MAX Series Tanks.
2. Whenever terms “LEFT” and “RIGHT” are used in this manual it means from a position behind the MAX Series Tanks and facing forward.
3. When placing a parts order, refer to this manual for the part numbers and place order by part number and description.

REMEMBER

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or manufacturer.

BEFORE OPERATION

1. Carefully study and understand this manual
2. Do not wear loose-fitting clothing which may catch in moving parts.
3. Always wear protective clothing and footwear.
4. It is recommended that suitable hearing and eye protection be worn.
5. Operator may come in contact with certain materials which may require specific safety equipment relative to handling of such materials. (Examples: extremely dusty, molds, fungus, bulk fertilizers, etc.)
6. Be sure there are no tools lying on or in equipment.

7. Use a tractor equipped with a Roll-Over Protection System (ROPS) and fasten your seat belt prior to starting the engine.
8. Manufacturer does not recommend usage of tractor with ROPS removed.
9. Move tractor wheels to widest recommended settings to increase stability.
10. Do not allow anyone to stand between tongue or hitch and towing unit when backing up to equipment.
11. Make sure all fasteners are tight and installed.
12. Check for leaks and repair any that are found.
13. Confirm the tank straps are correctly tightened.
14. Inspect the tanks making sure lids are secure and the tanks are in working order.

DURING OPERATION

Beware of bystanders, **PARTICULARLY CHILDREN!** Always look around to make sure it is safe to start engine machine with the MAX Tanks. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.

NO PASSENGERS ALLOWED! Do not carry passengers anywhere on or in the machine with MAX Tanks.

Keep hand and clothing clear of moving parts.

Do not clean, lubricate, or adjust the machine while it is moving.

When halting operations, even periodically, set tractor or towing unit brakes, disengage PTO, shut off engine, and **remove ignition key.**

Be especially observant of operating area and terrain – watch for holes, rocks, or other hidden hazards. Always inspect area prior to operation.

- **DO NOT** operate near the edge of drop-offs or banks.
- **DO NOT** operate on steep slopes. An overturn may result.
- Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops. Pick the most level possible route when transporting across fields. Avoid edges of ditches, gullies, and steep hillsides.
- Be extra careful when working on inclines.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose gravel, rocks, and holes: they can be dangerous for equipment operations or movement.
- Do not walk or work under raised components or attachments unless securely positioned and blocked.
- Keep all bystanders, pets, and livestock clear of work area.
- Operate towing unit from operators seat only
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck hardware on equipment following every 100 hours of operation. Correct all problems. Follow maintenance safety procedures.

FOLLOWING OPERATION

- Rinse and clean the Patriot MAX Tanks when finished using them. Properly dispose of any contaminated rinse water.
- Following operation, or when unhitching, stop tractor or towing unit, set brakes, disengage PTO and all power drives, shut off engine and **remove ignition key**.
- Do not permit children to play on or around stored MAX Tanks.
- Make sure to store the MAX Tanks on a hard, level surface. Lower any jacks or storage stands to the lowest position.

HIGHWAY AND TRANSPORT OPERATIONS

Adopt safe driving practices:

- Keep brake pedals latched together at all times. **NEVER USE INDEPENDENT BRAKING
LOSS OF CONTROL OR UPSET MAY RESULT.**
- Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop. Keep speed to minimum.
- Reduce speed prior to turns to avoid risk of overturning.
- Always keep tractor or towing unit in gear to provide engine braking when going downhill. Do not coast.
- Do not drink and drive!

Comply with state and local laws governing highway safety and movement of farm machinery on public roads.

Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on highway during transport. Various safety lights and devices are available from your dealer.

Use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.

When driving tractor under 20 mph (40 kph) day or night, use flashing amber warning light and a slow moving vehicle (SMV) identification emblem.

Plan your route to avoid heavy traffic.

Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.

Be observant of bridge load ratings. Do not cross bridges rated lower than a gross weight of unit you are operating.

Watch for obstructions overhead and side to side while transporting.

Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased width and weight when making turns, or stopping.

PERFORMANCE MAINTENANCE

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Make sure there is plenty of ventilation. Never operate engine in a closed building. Exhaust fumes may cause asphyxiation.
- Before working on this machine, stop vehicle, set brakes, disengage PTO and all power drives, shut off engine, and **remove ignition key**
- Be certain all moving parts and attachments have come to a complete stop before attempting to perform maintenance.
- Always use a safety support and block wheels. Never use a jack to support machine.
- Always use proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Follow torque chart in this manual when tightening bolts and nuts.
- Never use your hands to locate a hydraulic leak on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate skin.
- Openings in skin and minor cuts are susceptible to infection from hydraulic fluid. **WITHOUT IMMEDIATE TREATMENT, SERIOUS INFECTION AND REACTIONS CAN OCCUR.**
- When disconnecting hydraulic lines, shut off hydraulic supply and relieve all hydraulic pressure.
- Replace **all shields and guards** after servicing and before moving.
- After servicing, be sure all tools, parts and service equipment are removed.
- Do not allow grease or oil to build up on any steps or platform.
- When replacing bolts refer to the owner's manual.
- Refer to bolt torque chart for head identification marking.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.

SAFETY AND OPERATION RULES

GENERAL SAFETY STATEMENTS

Safety precautions are essential when the use of any mechanical equipment is involved. These precautions are necessary when using, storing, and servicing mechanical equipment. Using this equipment with the respect and caution demanded will considerably lessen the possibilities of personal injury. If safety precautions are over-looked or ignored, personal injury or property damage may occur.

This unit was designed for specific applications. It should not be modified and/or used for any application other than which it was designed. If there are any questions regarding its application, write or call Patriot Equipment. Do not use this unit until you have been advised. For more information, call 1-800-264-6587.

Read this entire manual carefully - know your equipment. Consider the application, limitations, and the potential hazards specific to your unit. Occupational safety is of prime concern to us. This manual was written with the safety of the operator and others who come in contact with the equipment as our prime concern. The manual presents some of the day-to-day work problems encountered by the operator and other personnel. This manual was written to help you understand safe operating procedures for Patriot Helicopter Tanks. We want you as our partner in safety. A copy of this manual should be available to all persons who may operate equipment that use Patriot MAX Tanks.

It is your responsibility as an owner, operator, or supervisor to know what specific requirements, precautions, and work hazards exist and to make these known to all other personnel working with the equipment or in the area, so that they too may take any necessary safety precautions that may be required. Avoid any alterations of the equipment. Such alterations may create a dangerous situation where serious injury or death may occur.

Why is SAFETY important to you?

3 BIG REASONS

1. **Accidents disable and kill**
2. **Accidents cost money**
3. **Accidents can be avoided**

Signal Words

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with safety messages. The appropriate signal word for each message has been selected using the following guidelines:

DANGER – An immediate and specific hazard, which will result in severe personal injury or death if proper precautions are not taken.

WARNING – A specific hazard or unsafe practice, which could result in severe personal injury or death if proper precautions are not taken.

CAUTION – Unsafe practices which could result in personal injury if proper precautions are not taken, or a reminder of good safety practices.

SAFETY ALERT SYMBOL



The Symbol Shown Above Is Used To Call Your Attention To Instructions Concerning Your Personal Safety. Watch This Symbol - It Points Out Important Safety Precautions. It Means ATTENTION! Become Alert! Your Personal Safety Is Involved! Read The Message That Follows And Be Alert To The Possibility Of Personal Injury Or Death.

Anyone who will operate or work around the MAX Series Tanks shall first read this manual! This manual must be delivered with the equipment to its owner. Failure to read this manual and its safety instructions is a misuse of equipment.

SAFETY EQUIPMENT

Please, remember safety equipment provides important protection for persons around an auger that is in operation. Be sure ALL safety shields and protective devices are installed and properly maintained. If you find any shields or guards damaged or missing, contact Minden Machine Shop Inc. for the correct items.

SERIAL NUMBER

To ensure efficient and prompt service, please furnish us with the model and serial number of your Patriot MAX Series Tanks in all correspondence or other contact.



SAFETY PROCEDURES

1. Use only lifting equipment with the proper capacity when loading or lifting the Patriot MAX Series Tanks. Forklifts with too little capacity may tip towards the front where the lifted weight is.
2. Do not use makeshift systems to handle equipment as you may create an unsafe condition.
3. Do not attempt to raise the Patriot MAX Series Tank units by hoist or forklift when it is loaded with product.
4. Do not operate unit without correct plumbing and guards in place.
5. Do not allow any riders on the Patriot MAX Series Tanks.
6. In case of any defect or awareness of potential danger, please contact the plant at 1-800-264-6587 immediately

LIGHTING AND MARKING

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.



OPERATOR QUALIFICATIONS

Operation of the MAX Series Tanks shall be limited to competent and experienced persons. In addition, anyone who will operate or work around the MAX Series Tanks must use good common sense. In order to be qualified, they must also know and meet all other requirements, such as:

1. Some regulations specify that no one under the age of 18 may operate power machinery. This includes the tractor with MAX Series Tanks. It is your responsibility to know what these regulations are in your own area or situation.
2. Current OSHA regulations state in part: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee or user in the safe operation and servicing of all equipment with which the employee or user is, or will be involved.”
3. Unqualified persons are to stay out of the work area as shown in the work diagrams.
4. A person who has not read and understood all operating and safety instruction is not qualified to operate the machine with the MAX Series Tanks.

SAFETY OVERVIEW

YOU are responsible for SAFE operation and maintenance of your Patriot MAX Series Tanks.

YOU must ensure that you and anyone who is operates, maintains, or works around the MAX Series Tanks must be familiar with the operating, maintenance, and safety information contained in the manual. This manual will take you step by step through your working day and alerts you to all good safety practices while operating the tanks.

Remember YOU are the key to safety. GOOD PRACTICES protect not only you but also the people around you. Make these practices a working part of your safety program. Be certain EVERYONE operating this machine is familiar with the procedures recommended and follows safety precautions. Remember, most accidents can be prevented. Do not risk injury or death by ignoring any information addressed.

MAX Series Tank owners must give operating instructions to operators before allowing them to operate the tanks. They must be reviewed at least annually thereafter per OSHA regulation 1928.57.

The most important safety device on the equipment is a SAFE OPERATOR. It is the operator's responsibility to read and understand ALL instructions in the manual and to follow them. All accidents can be avoided!

Any person who has not read and understood all operation and safety instructions is not qualified to operate the helicopter tanks. An untrained operator exposes himself and bystanders to possible serious injury or death.

Do not modify the equipment in any way. Unauthorized modifications may impair the functions and/or safety and could affect the life of the equipment.



SAFETY AFFIRMATION

I have read and understand the operator's manual and all safety signs before operation, maintenance, or adjusting the MAX Series Tanks.

I will allow only trained persons to operate the Patriot MAX Series Tanks. *An untrained operator is not qualified to operate this equipment.

I have access to a fire extinguisher.

I have all guards in place and will not operate the Patriot MAX Series Tanks without them.

I will not allow riders on the Patriot MAX Series Tanks.

I understand the danger of moving parts (PTO, auger flighting, and pinch points) and will stop engine before servicing.

I am aware of the need to secure the Patriot MAX Series Tank to its base.

I understand that any accidents that occur with the Patriot MAX Series Tanks are my responsibility.

I understand that Minden Machine Shop will not be held responsible for any accidents that involve the Patriot MAX Series Tanks.

SIGN OFF SHEET (this must be signed annually as part of your safety program)

As a requirement of OSHA, it is necessary for the employer to train the employee in the safe operation and safety procedures with the Patriot MAX Series Tanks. We include this sign off sheet for your convenience and personal record keeping.

DATE	EMPLOYER SIGNATURE	EMPLOYEE SIGNATURE



MACHINE INSPECTION

After delivery of your new Patriot MAX Series Tanks and/or completion of assembly and before each use, inspection of the equipment is mandatory. This inspection should include, but not be limited to:

1. Check to see that all guards are in place, secure, and functional.
2. Are the fasteners tight?
3. Any leaks?
4. Do the valves operate correctly?
5. Any cracks present in the tank or tank saddle?
6. Are all the lids for the tanks secure?
7. Do any hoses need secured?
8. Are the tank straps tight?
9. Are the tanks clean?
10. How is visibility from the operator seat?

SAFETY DECALS

1. Keep safety decals clear and legible at all times.
2. Replace decals and signs that are missing or have become unreadable.
3. Safety signs are available from your Dealer or the Manufacture.

How to install Safety Signs

1. Be sure that the installation area is clean and dry.
2. Decide on the exact position before you remove the backing paper.
3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
5. Small air pockets can be pierced with a pin and smoothed out using a piece of decal backing paper.

Axle Mount Helicopter Tank Decal Placement

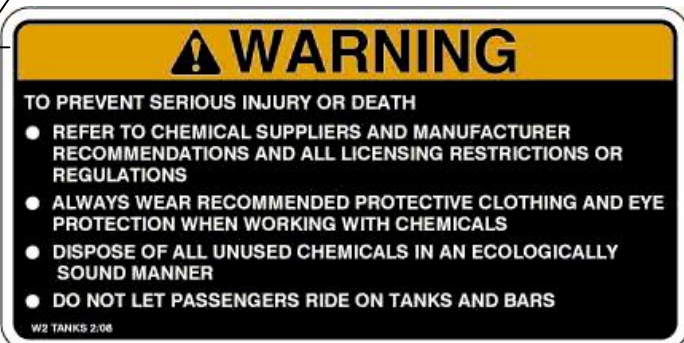
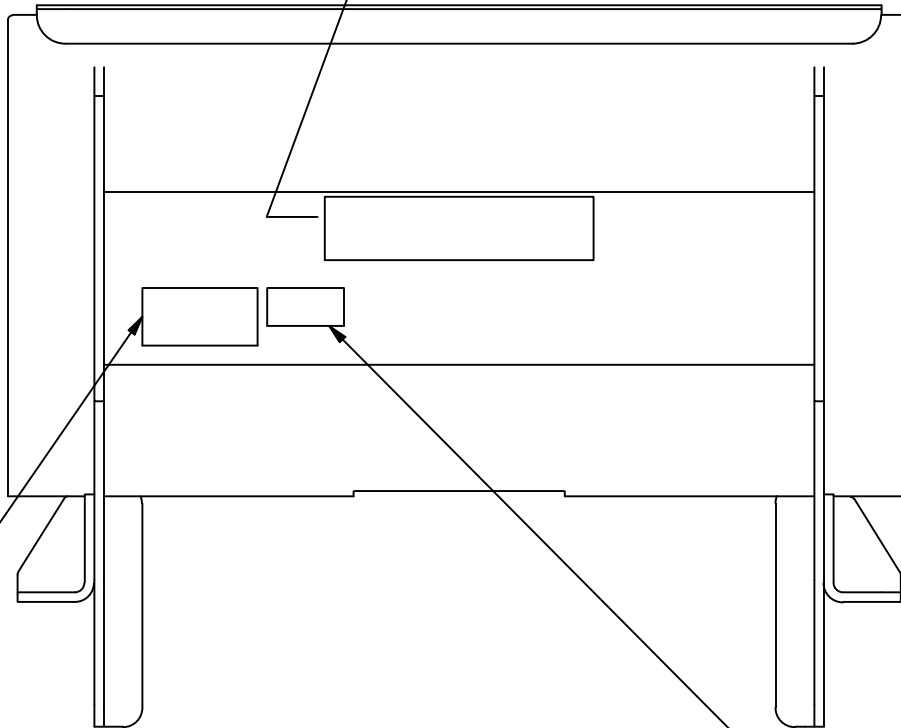
HELICOPTER TANKS

Minden Machine Shop Inc.

www.mindenmachine.com

1-800-264-6587

TS3000



TS3002

**2800 lb. LIMIT
PER TANK**

TS3001

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Torque Data for Standard Nuts, Bolts, and Capscrews

Tighten all bolts to torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt chart as guide. Replace hardware with same grade bolt.

Note: Unless otherwise specified, high-strength Grade 5 hex bolts are used throughout assembly of equipment.

Bolt Torque for Standard Bolts

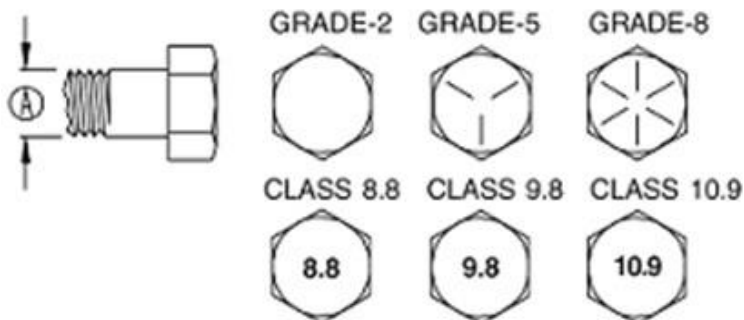
Bolt Size A	Grade 2		Grade 5		Grade 8	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	6	8	9	12	12	16
5/16"	10	13	18	25	25	35
3/8"	20	27	30	40	45	60
7/16"	30	40	50	70	80	110
1/2"	45	60	75	100	115	155
9/16"	70	95	115	155	165	220
5/8"	95	130	150	200	225	300
3/4"	165	225	290	390	400	540
7/8"	170	230	420	570	650	880
1"	225	300	630	850	970	1310

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

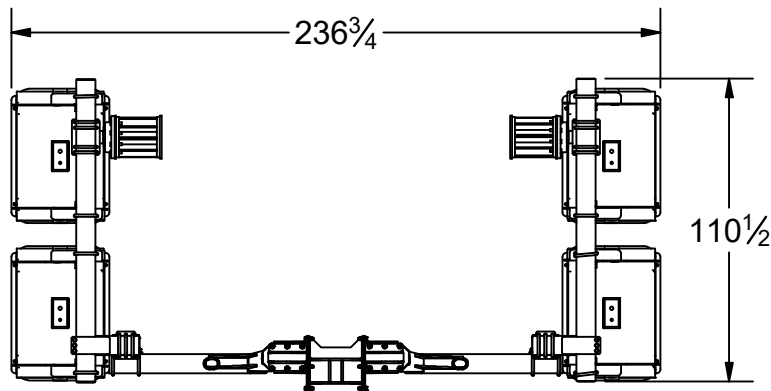
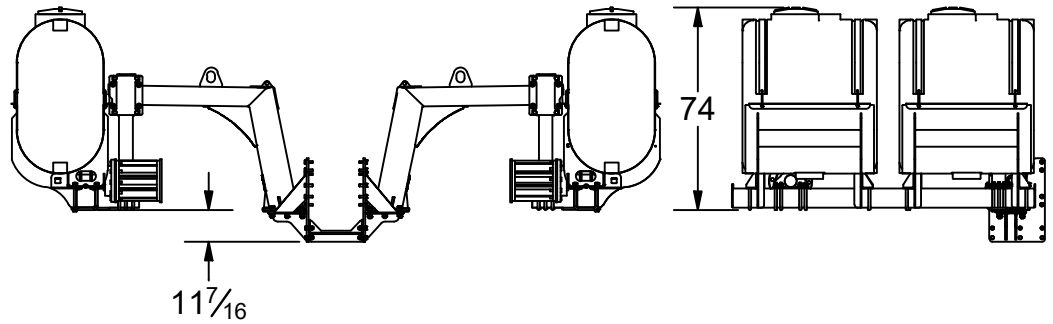
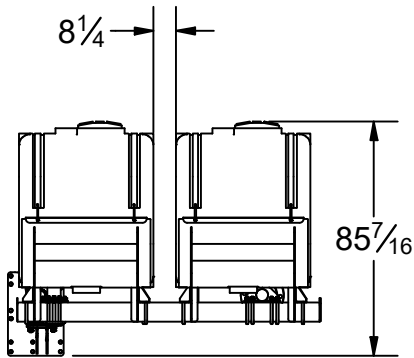
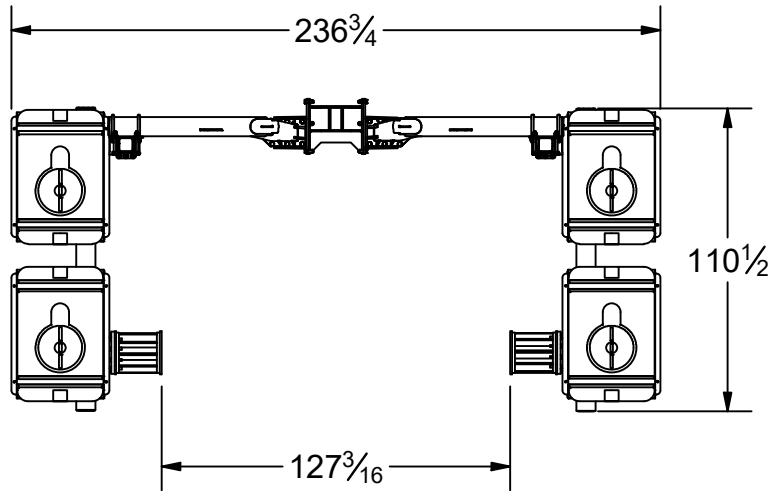
Bolt Torque for Metric Bolts

Bolt Size A	Class 8.8		Class 9.8		Class 10.9	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
6	9	13	10	14	13	17
7	15	21	18	24	21	29
8	23	31	25	34	31	42
10	45	61	50	68	61	83
12	78	106	88	118	106	144
14	125	169	140	189	170	230
16	194	263	216	293	263	357
18	268	363	..	..	364	493
20	378	513	..	..	515	689
22	516	699	..	..	702	952
24	654	886	..	..	890	1206

Grade or Class value for bolts and capscrews are identified by their head markings.



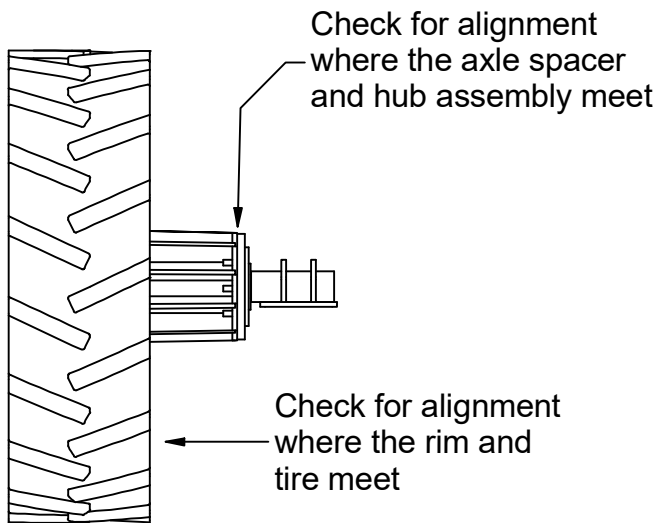
Axle Mount Helicopter Tank Assembly Instructions



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Prior to beginning the assembly of the Axle Mounted Helicopter Tanks, the tractor will have to be in a position where the duals are able to be loosened and the tire/rim bolts removed. The use of a hydraulic jack (one that is rated for the weight of the tractor), is recommended so that the tractor duals can safely be loosened and the bolts removed. Be sure to block the wheels to prevent the tractor from moving. Right and Left is determined by sitting in the operator seat of the tractor, facing forward.

Wheel Alignment/Run Out Check



1. Block wheels to prevent tractor from moving
2. Raise the rear tractor tire
3. Check the rim alignment at 12, 3, 6, or 9 o'clock position while the wheel is rotated.
4. If the measurement exceeds 1/4" total, the wheel will need removed and loosen the tractor hub. Clean the hub and axle if necessary. Re-torque the wheel bolts according to the tractor manufacturer specifications.
5. Reinstall the wheel and repeat steps 3 and 4 until the measurement is less than 1/4".
6. Install the hub spacer and the spindle assembly.
7. Once the hub spacer and spindle assembly are installed, check the spindle alignment. Rotate the wheel and measure at hub spacer and spindle assembly joint.
8. If measurement is greater than 1/4" total, repeat steps 3 and 4 until measurement is less than a 1/4".

To mount the axle spacer and the hub assembly, please refer to the Axle Mount Helicopter Tank Assembly instructions.

Assembly Instructions

Preparation: Clean and prep all areas of the tractor where attachment of the Axle Mount Helicopter Tanks parts will occur. Remove any attachments (loaders, blades, or push bars) that may be on the tractor and clean those areas as well.

1. The tractor must be lifted high enough to safely remove the bolts from the dual wheel of the tractor. Use an appropriate hydraulic jack to lift the tractor. Place the jack in the correct location according to the tractor manufacturer. Be sure to block the wheels to prevent the tractor from moving. Lift the tractor high enough to remove the weight of the tractor off of the dual, but have the wheel in contact with the ground. Locate the 10 longer bolts that will be used to attach the hub spacer to the rim and hub.

Using a forklift, have the hub spacer ready to go on after the hub bolts are removed. Save the washers that are on the old bolts as they will be reused with the longer replacement bolts. Remove the bolts that are attaching the wheel to the tractor hub. Care should be taken as the dual is not held on with any fasteners currently.

Install the factory washers onto the longer bolts. Install the hub spacer to the tractor rim and hub. Use the longer bolts for attaching. Start all of the fasteners and then tighten to the torque specified in this manual. See the tightening sequence diagram for the correct sequence of tightening the hub bolts. Place the tractor back on the ground when attaching the hub spacers is complete.

NOTE:

Attaching the spindle assembly to the hub spacer before the hub spacer is installed on the tractor may be required. Assembly will be easier, due to the spindle assembly fasteners being more accessible.



Warning!

Do not allow anyone to be under the tractor or tires when tractor is elevated. Serious injury or death could occur.

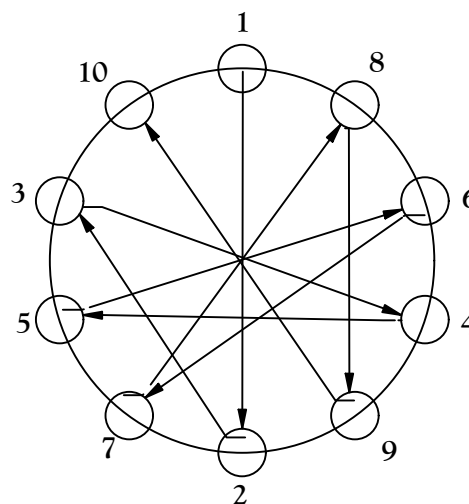
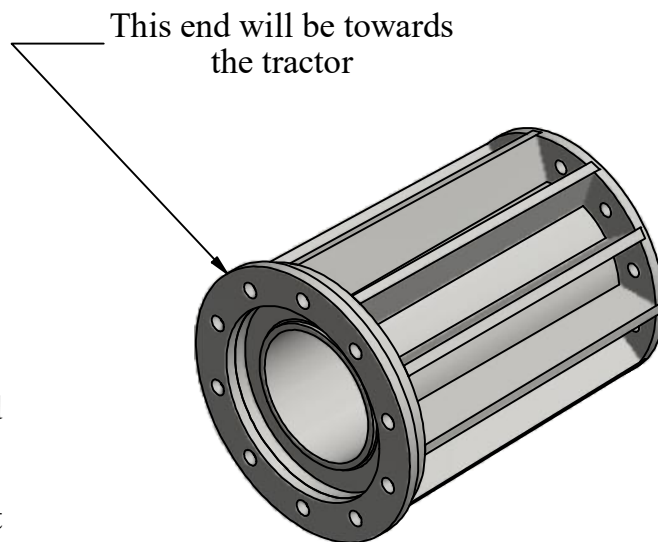


Warning!

To prevent serious injury or death

Tractor manufacturers have different thicknesses of hubs. Be sure to use the longer bolts that come with the kit as the standard bolts will fail.

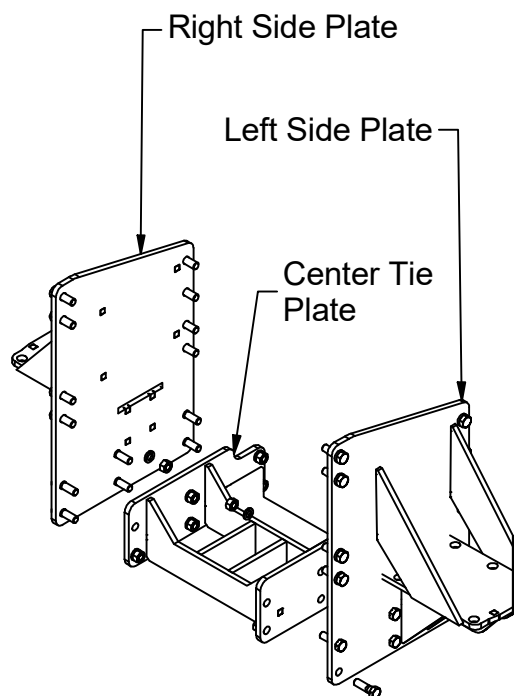
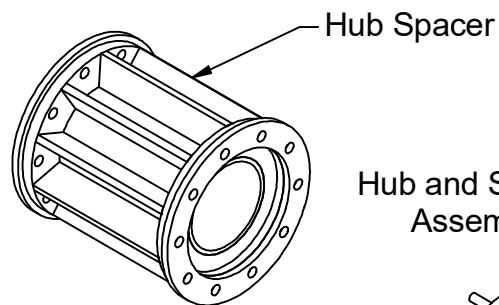
Use the hex bolt: BM22-150mm (22mm-2.50 x 150 mm Gr. 10.9 metric bolt)



10 Bolt Hub
Tightening Sequence

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2. With the hub spacers installed and the fasteners correctly torqued, locate the hub and spindle assembly. Attach the hub and spindle assemblies to the right and left side. Align the hub studs with the hub spacer and insert into the holes. Use the 3/4" lug nuts and fasten the hub and spindle assemblies to the hub spacer. Tighten the fasteners in the correct sequence (See diagram) and also to the correct torque (see table in the manual).



Front of Tractor



Complete Hub/Spindle Assembly

3. Locate the undercarriage assembly. The undercarriage is comprised of three parts; two side plate assemblies and a center tie plate assembly. Locate the parts and all of the needed fasteners. The parts are listed with the enclosed packing slips (undercarriages vary with the tractor make and model).

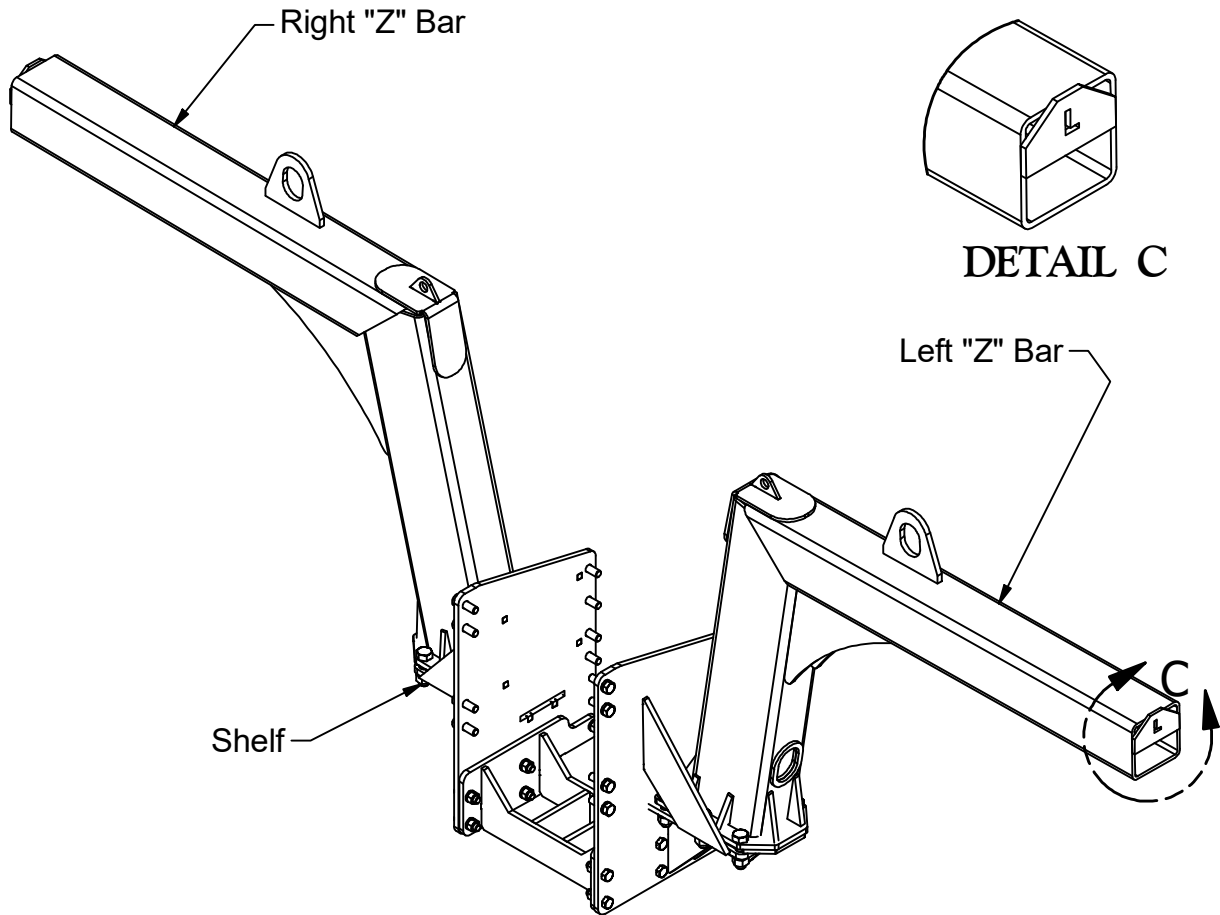
Once the parts and fasteners are located, begin by mounting the side plates to the tractor. Start all of the fasteners, but leave them loose to aid in the installation of the center tie plate. With the side plates installed loosely, install the center tie plate. Start all of the fasteners with the nuts and lockwashers.

Now that all of the pieces are in place, tighten the fasteners. Tighten the side plates first and then tighten the center tie plate. Be sure to tighten the bolts to the correct torque. A torque table is included with this manual.



Left side of undercarriage mounted to tractor. Z bar is shown mounted to the undercarriage.

The "Z" Bars are marked
Right and Left

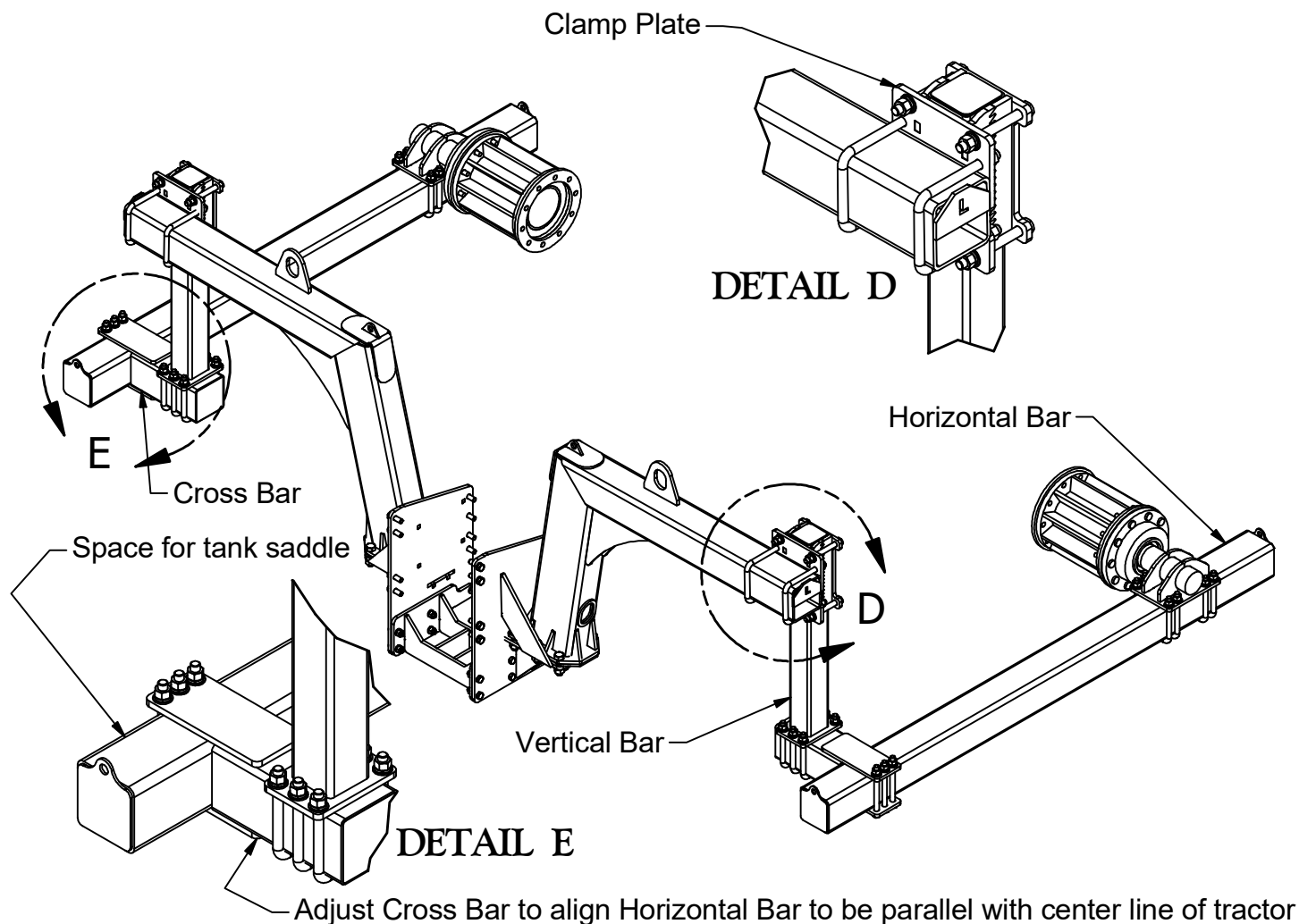


4. Next, mount the "Z" Bars. The "Z" bars are marked "R" for the right side and "L" for the left side. Place the bars on the correct side of the tractor. Mount the bars to the undercarriage by placing the bar on top of the side plate's shelf. Align the holes and use the 1" x 3-1/2" bolts, lockwashers, and nuts to fasten them in place. Start all the bolts, and then tighten them to the correct torque. Be sure the bolts are tightened evenly.



A mounted right side Z bar is shown.

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5. Locate the clamp plates for the vertical bars. Be careful! The clamps are right and left side specific since the "Z Bars" have an angle to them, so be sure you have the correct one. Attach the clamp plates to the "Z Bars" with the 7/8" U-Bolts, lock washers, and nuts. Leave the clamp plates loose enough so they can be easily slid back and forth along the "Z Bar" for alignment purposes. With the clamps in place, mount the vertical bars to the clamp plates using the 7/8" x 8" bolts, lock washers, and nuts. The vertical bars will be held in place with the height adjustment grooves. For starting purposes, have all the grooves aligned (see Detail D). Tighten the 7/8" bolts enough that the grooves will not come out and the vertical bar will remain in place. With the vertical bar set, attach the cross bar to it with 7/8" u-bolts, lock washers, and nuts. Leave an 1-1/2" space towards the inside. Leave the u-bolts slightly loose for now to aid in setting the horizontal bar. See Detail E.

6. Locate the horizontal bars. Use a forklift to lift the horizontal bars into place. Using 7/8" U-Bolts, lock washers, and nuts; attach the horizontal bar to the spindle assembly and using 7/8" x 10" hex bolts, lock washers, and nuts, attach the horizontal bar to the cross bar. Do not tighten completely as adjustments will have to be made.

7. Adjust the horizontal bar so that there is space in front of the cross bar for a tank saddle to mount (See Detail E). Next, adjust the vertical bar until the horizontal bar is level. Now, adjust the horizontal bar so that it is parallel with the center line of the tractor by moving the cross bar if needed. Tighten all the fasteners to the correct torque.

8. Repeat for the other side.



Mounting the clamp plate to the Z bar. Be sure to get the correct clamp plate for the correct side.

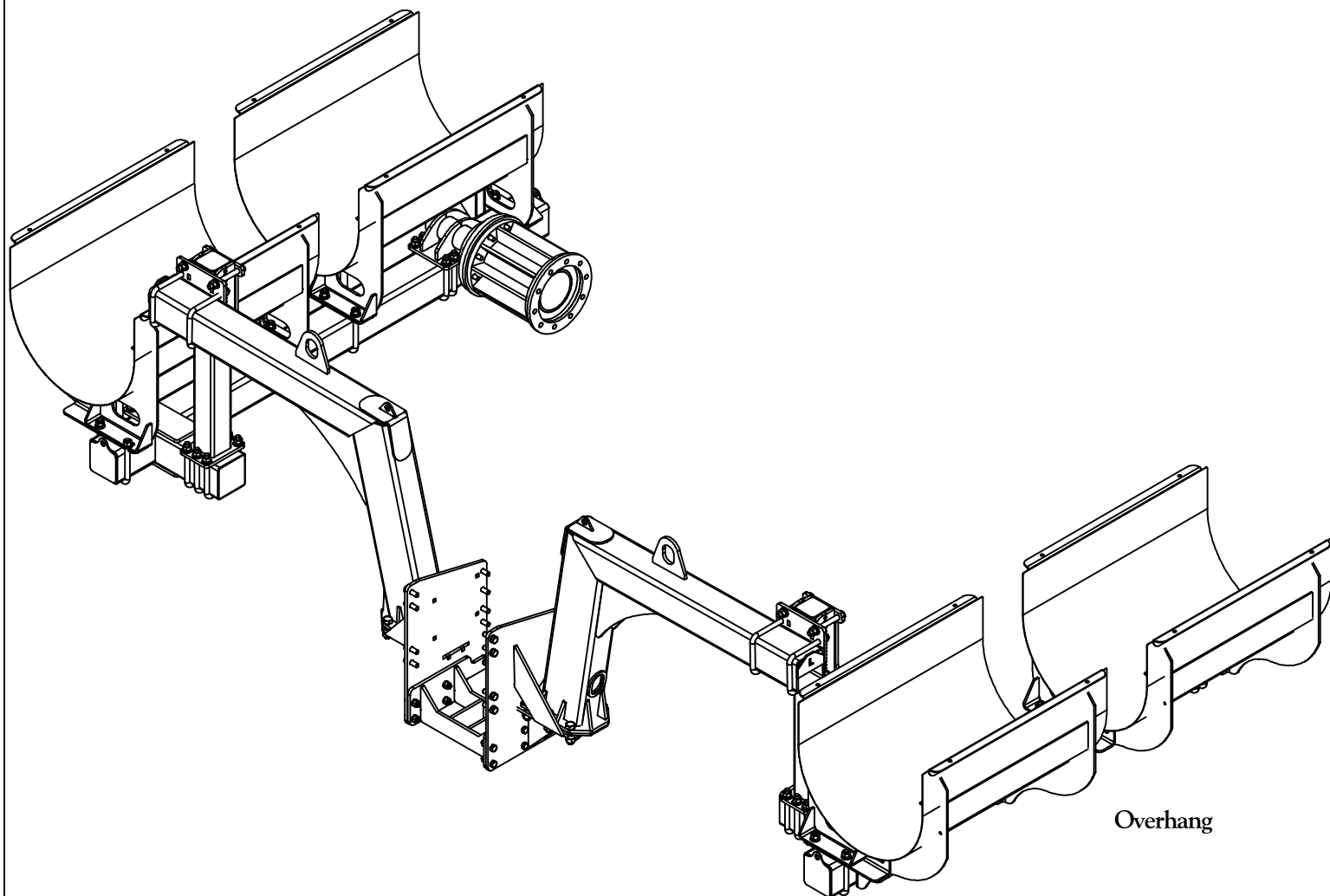


Using the 7/8" U-bolts to attach the clamp plate.



The horizontal bar is shown being installed.

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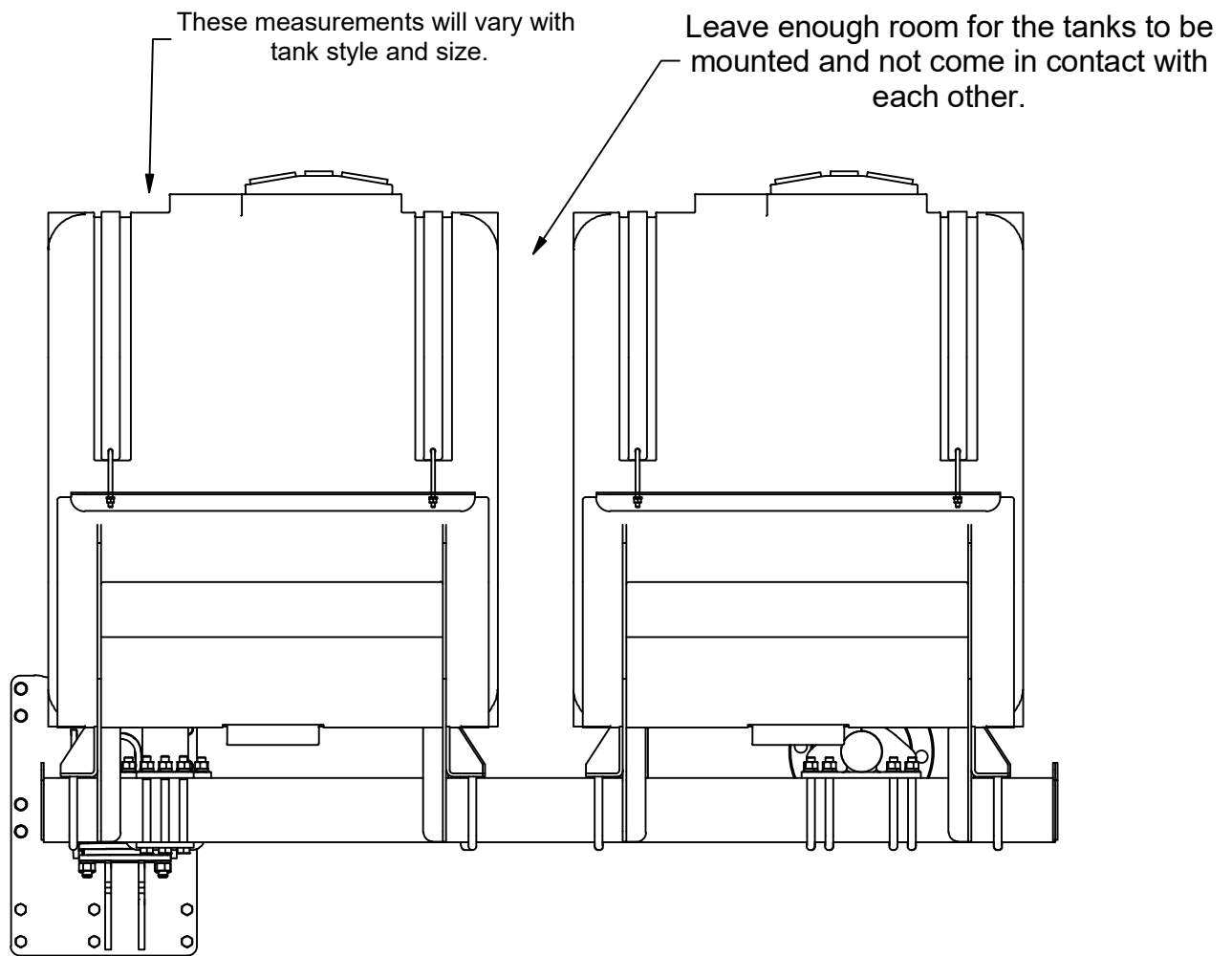


9. Find the saddles for the tanks and position them to be attached to the horizontal bar. The saddles will be mounted with the overhang towards the outside of the assembly (see diagram). Mount the front saddles first. Use the 7/8" U-bolts, lock washers, and nuts to hold the saddles in place. When mounting the tank saddles, the length of the tank must be considered so as to avoid the tank coming in contact against the framework of the Axle Mount Helicopter Tanks or the tank next to it.

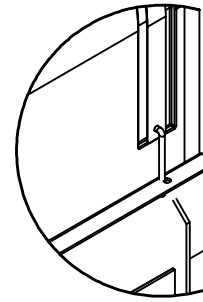
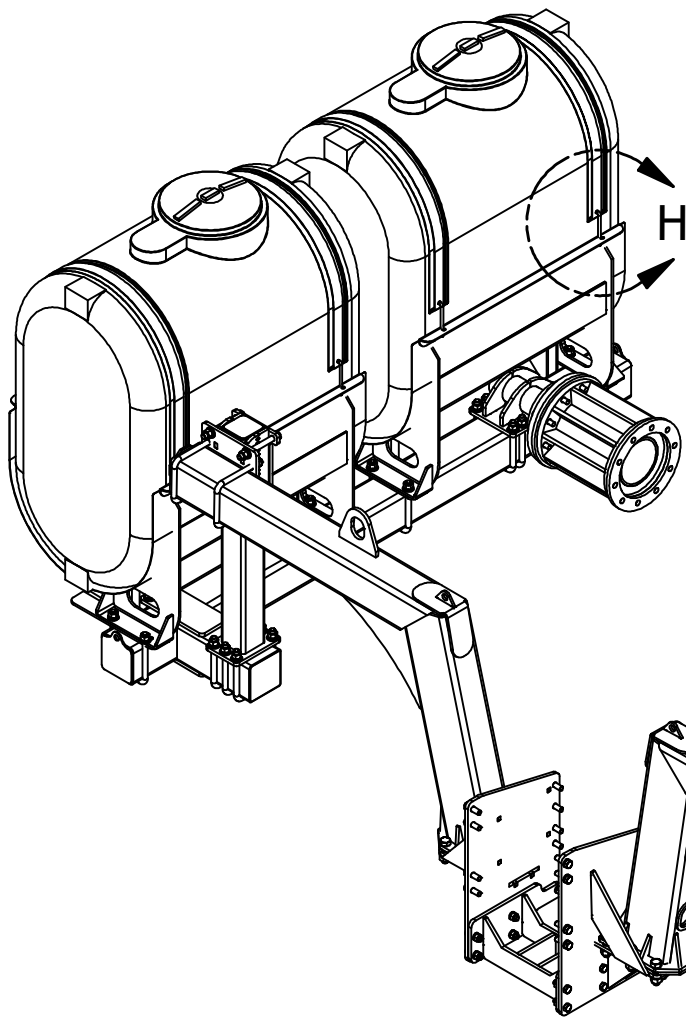


Use the correct lifting tool to mount the saddles. The picture shows the rear saddle being mounted on the left side of the saddle tank assembly.

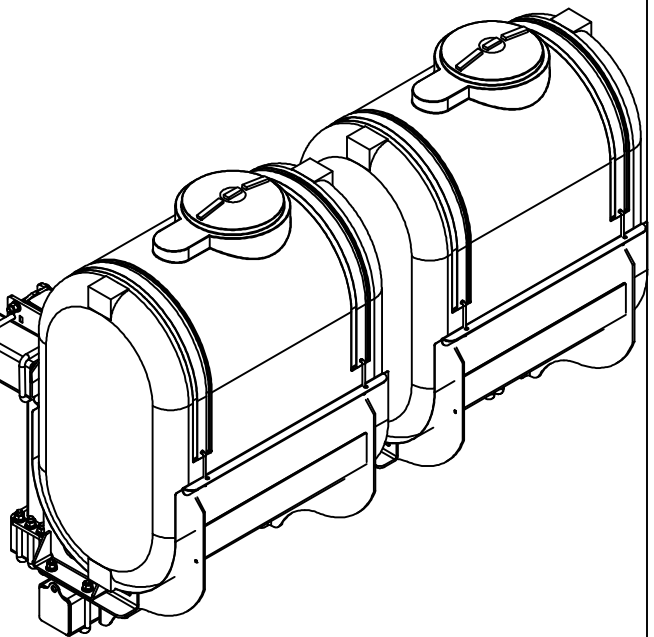
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10. With the front saddle properly placed, mount the rear saddle next. Place the rear saddle so there will be about 1" to 2" of space between the tanks when assembly is complete. Use the 7/8" U-bolts, lock washers, and nuts to mount the saddle. When saddles are mounted correctly, tighten the 7/8" U-bolts to the correct torque. Repeat for the other side.



DETAIL H



11. With the saddles correctly installed, the tanks can be mounted in them. Place the tank inside the saddle and center the tank within the saddle. The sump of the tank should be centered in the cutout of the pan. Adjust the tank if needed. Once the tank is in place in the saddle, attach the tank straps to the saddle using the "J" bolts, flat washers, and nuts. Place the head of the "J" bolt towards the tank and then insert the "J" bolt into the mounting hole of the saddle (Detail H). Place a flat washer on it and then thread the nut onto the end of it. Leave it loose for now. Repeat for the other side of the tank strap. Once both tank straps are mounted, tighten the "J" bolts evenly and until the tank is held in place. Repeat the sequence for the other three tanks. Be sure that the tanks have clearance between them and are not touching.

12. Check that all the fasteners for the Axle Mounted tanks are tightened.

13. After the first fill of the tanks, the tank straps may need to be tightened.

14. Recheck and tighten any loose fasteners after 50 hrs of use.



Tanks are shown installed in the saddles. Please note how the "J" bolts are mounted with the "head" towards the tank. Be sure to check that enough space is present between the tanks so the tanks will not contact each other during use.



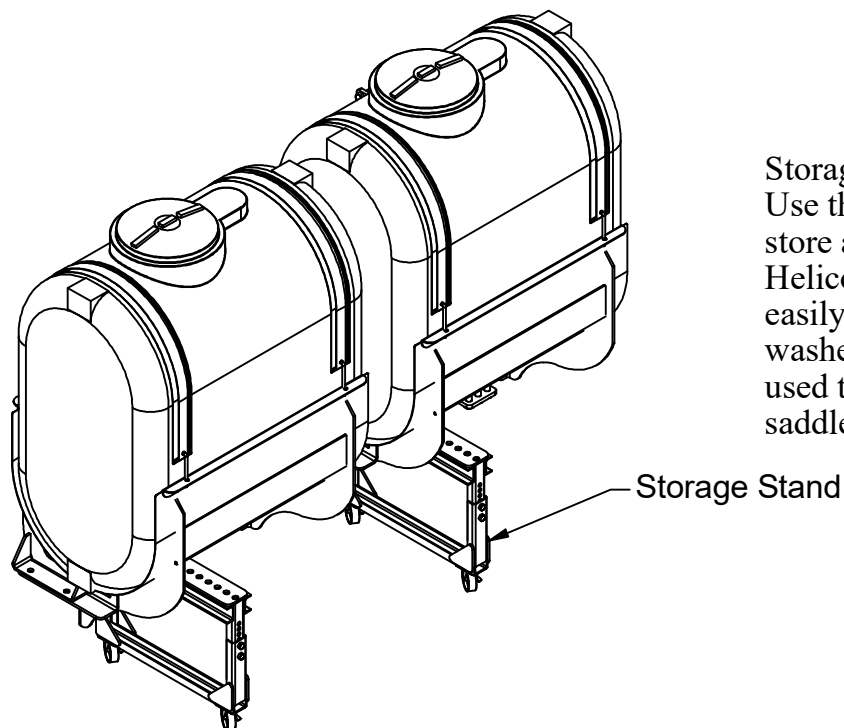
The assembled MAX tanks should look like the above picture.

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Removal and Storage

Before removal, clean the Axle Mounted Saddle Tanks and rinse the tanks. Dispose of the rinse water in accordance with the local and federal guidelines.

To remove the Axle Mount Saddle Tanks from the tractor do the installation steps in reverse. The saddles and tanks can be left on the horizontal bar and storage stands can be used for storage. As with installation, a forklift is recommended to aid in the lifting and lowering of components.



Storage:

Use the optional storage stands to easily store and move the Axle Mount Helicopter Tanks. The stands attach easily and quickly with 7/8" U-bolts, lock washers, and nuts. The stands can be used to aid in attaching and detaching the saddle tanks.

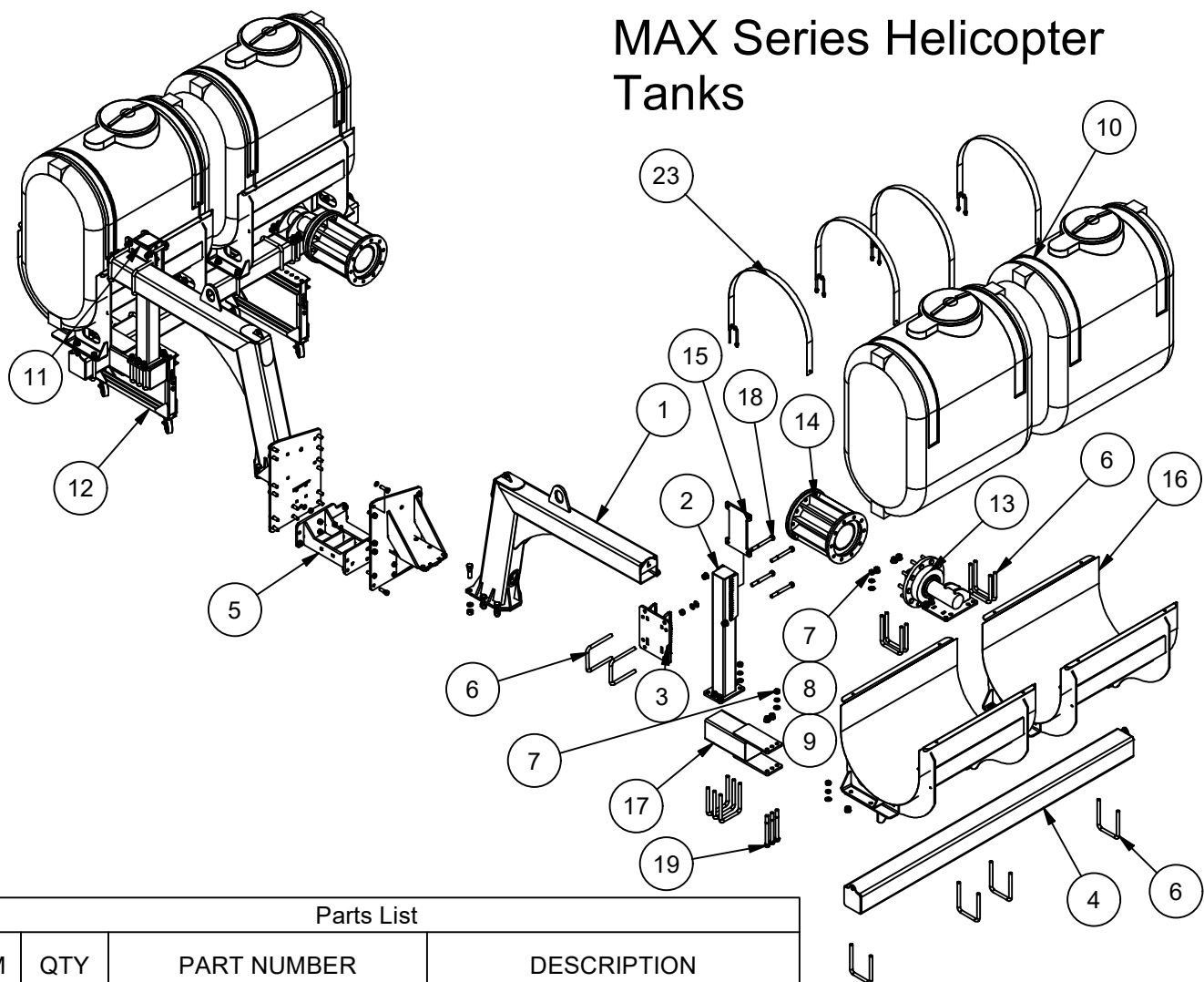


WARNING!

Do not permit children or anyone to play on or around the Axle Mounted Helicopter Tanks. The Tanks could tip over and cause serious harm or even death!

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MAX Series Helicopter Tanks



Parts List

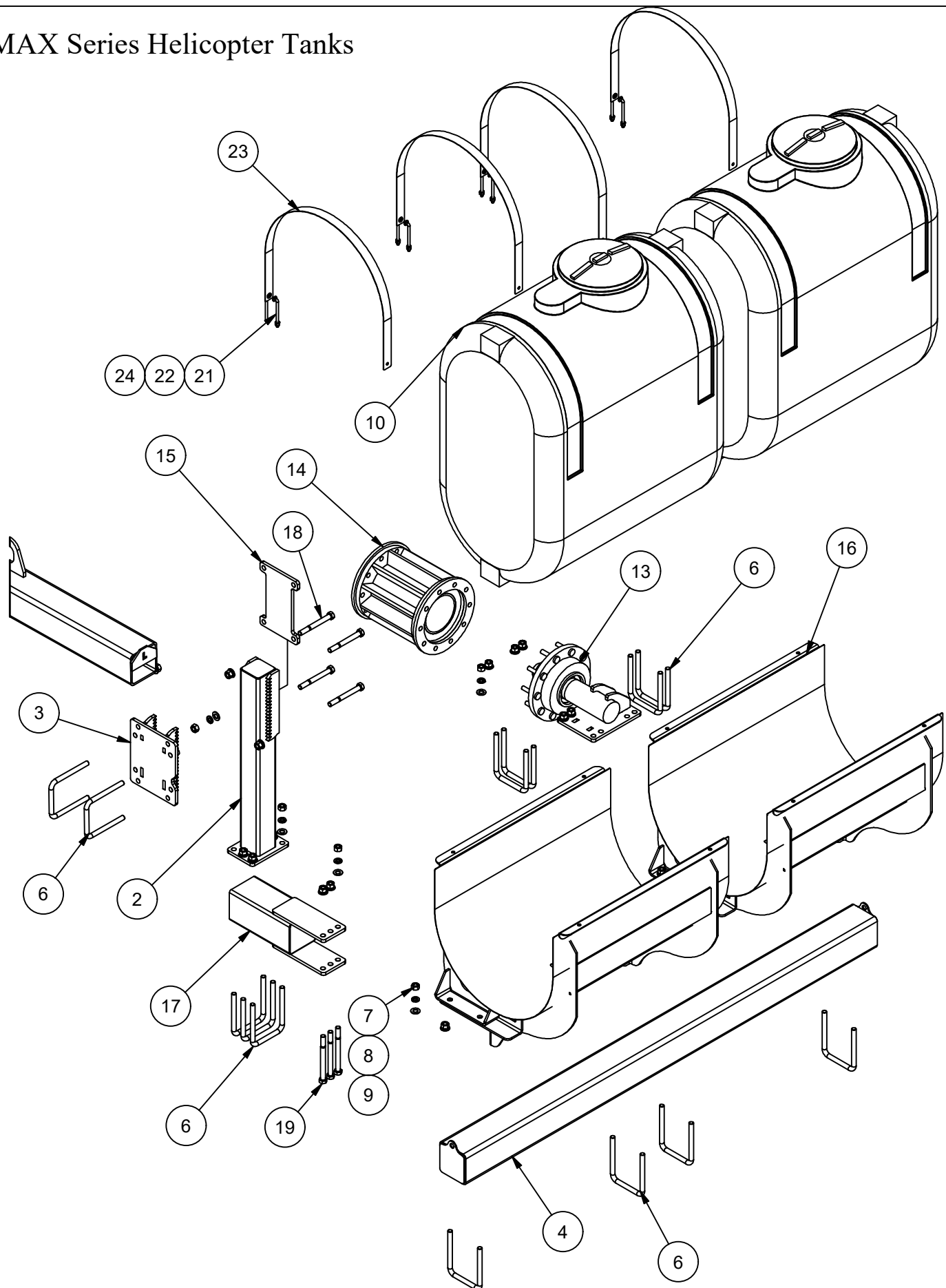
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	Z Bar Assembly	Varies with Tractor Model
2	2	HT-AMCP-A003	Tie Tube Weldment
3	1	HT-AMCP-A002	Upper Mount LH Weldment
4	2	HT-B20	Tube Weldment
5	1	Undercarriage Assembly	Varies with Tractor Model
6	26	ST115	7/8" x 7 x 9 U-Bolt
7	66	N7/8N	Hex Nut
8	66	W7/8F	Plain Washer
9	66	W7/8L	Lock Washer
10	4	T20 (White) T20Y (Yellow)	300 Gallon Oval Tank
11	1	HT-AMCP-A005	Upper Mount RH Weldment
12	2	HT-OP17	Stand Assembly
13	2	HT-AMCP-A007	Hub/Spindle Assembly
14	2	HT-AMCP-A008	Hub Adapter
15	2	HT-AMCP-P015	Upper Mount Plate
16	4	HT-ST55-A03	300 Gallon Oval Tank Saddle
17	2	HT-AMCP-A009	Extension Tube
18	8	B7/8x8.5	Hex Bolt
19	6	B7/8x10.0	Hex Bolt
20	16	ST100	J-Bolt
21	16	W1/2L	Lock Washer
22	16	N1/2N	Nut
23	8	HT-ST55-P07	Tank Strap
24	16	ST100	J Bolt

Hub/Spindle Parts

Part Number	Description
SPD1021	Complete Hub
HM218210	Inner Cup
HM212010	Outer Cup
HM218248	Inner Cone
HM212049	Outer Cone
DC28	Hub Cap
WB51	Stud
WB52	Flange Nut
SE55	Seal
S1021	Spindle
WA35	Spindle Washer
WB120	Spindle Nut

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MAX Series Helicopter Tanks



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MAX Series Fastener List

Step-Up Bars		
Qty	Part Number	Description
12	B1x3.5	Hex Bolt
12	W1L	Lock Washer
12	N1N	Nut

Vertical Bars		
Qty	Part Number	Description
10	ST115	7/8 U-Bolt
28	W7/8L	Lock Washer
28	N7/8N	Nut
8	B7/8x8.5	Hex Bolt

Wheel Spacer/Spindle Assembly		
Qty	Part Number	Description
20	BM22x150	Metric Bolt
8	ST115	7/8 U-Bolt
16	W7/8L	Lock Washer
16	N7/8N	Nut

Saddles		
Qty	Part Number	Description
8	ST115	7/8 U-Bolt
16	W7/8L	Lock Washer
16	N7/8N	Nut
16	ST100	J-Bolts
16	W1/2L	Lock Washer
16	N1/2N	Nut

Stands (OP-17)		
Qty	Part Number	Description
4	ST115	U-Bolt
8	W7/8L	Lock Washer
8	N7/8N	Nut

Minden Machine Shop Inc

LIMITED WARRANTY

Minden Machine Shop Inc warrants all products manufactured by it to be free of defect in material and workmanship for a period of one (1) year from the date of purchase.

This Minden Machine Shop Inc. warranty does not cover:

1. Parts and accessories supplied by Minden Machine Shop Inc. but manufactured by others. Minden Machine Shop Inc. will facilitate the other manufacturer warranty for the benefit of the purchaser but will not be bound thereby (example: augers, motors, trailers, tanks, etc.).
2. Products that have been altered by anyone other than a Minden Machine Shop Inc. employee or are used by the purchaser, for purposes other than what was intended at time of manufacture or used in excess of the "built specifications".
3. Products that are custom manufactured by Minden Machine Shop Inc. utilizing the purchaser's design which deviates from Minden Machine Shop Inc. normal production line manufactured or customized features of the products.
4. Malfunctions or damages to the product from misuse, negligence, customer alteration, accidents or product abuse due to incoming material or poor material flow ability or lack of required performance or required maintenance (e.g., poor material flow ability caused by incoming wet fertilizer or hot soybean meal, etc).
5. Loss of time, inconvenience, loss of material, down time or any other consequential damage.
6. Product use for a function that is different than designed intent (e.g., storing soybean meal in grain bin, unacceptable material in the bin such as hot bean meal when product originally designed for other application, etc).
7. Minden Machine Shop Inc is not responsible for any equipment that this product is attached to or mounted on.

To activate this warranty, the purchaser must make contact in writing with Minden Machine Shop Inc. within one (1) year of date of purchase. After contact, Minden Machine Shop Inc. has the right to determine the cause and qualify the legitimacy of the claim. Minden Machine Shop Inc., upon acceptance of a warranty claim, shall have a reasonable time to plan any repair or replacement and may affect repair or replacement out of its factory or through contract with a local repair service. If a purchaser after warranty notice is made, chooses to make the repair itself, Minden Machine Shop Inc. must approve any expenses before they are incurred to be responsible for customer reimbursement. Minden Machine Shop Inc. shall be liable on a warranty claim for repair or replacement of any defective products and this is the purchaser's sole and exclusive remedy. Minden Machine Shop Inc. will not be liable for any other or further remedy including claims for personal injury, property damage or consequential damage. The law of the State of Nebraska shall govern and any such claim and any issues with regard to the same shall be resolved in the Nebraska District Court for the county of Kearney.

RETURN OF MERCHANDISE

Merchandise may not be returned without written approval from the factory. All returns must have a return authorization number. Obtain this number before the return and show it on all return items. A 15% restocking charge is made on merchandise returned. Returned merchandise must be shipped pre-paid.

RECEIVING MERCHANDISE AND FILING CLAIMS

When receiving merchandise it is important to check both the number of parts and their description with packing slip. The consignee must make all claims for freight damage or shortage within 10 days from the date of delivery.

When the material leaves the factory it becomes the property of the consignee. It is the responsibility of the consignee to file a claim on any possible damage or loss. Please list your preferred routing on purchase orders.

MODIFICATIONS

It is the policy of Minden Machine Shop Inc. to improve its products whenever possible and practical to do so. We reserve the right to make changes, improvements and modifications at any time without incurring the obligation to make such changes, improvements and modifications on any equipment sold previously.

WARRANTY REGISTRATION

To register equipment, or file a claim, copy and paste the words on this page into an email or word document, fill out the appropriate information completely, and email it to larry@mindenmachine.com with the subject as EQUIPMENT WARRANTY, or fill it out and fax it to 308-832-1340.

Dealer Information: Not Applicable, check here: [☐]

Dealer Name:

Address:

City:

State:

Zip Code:

Phone #:

Email:

End User Information:

Purchaser:

Address:

City:

State:

Zip Code:

Phone #:

Email:

Equipment:

Serial #:

Date Of Purchase: / /