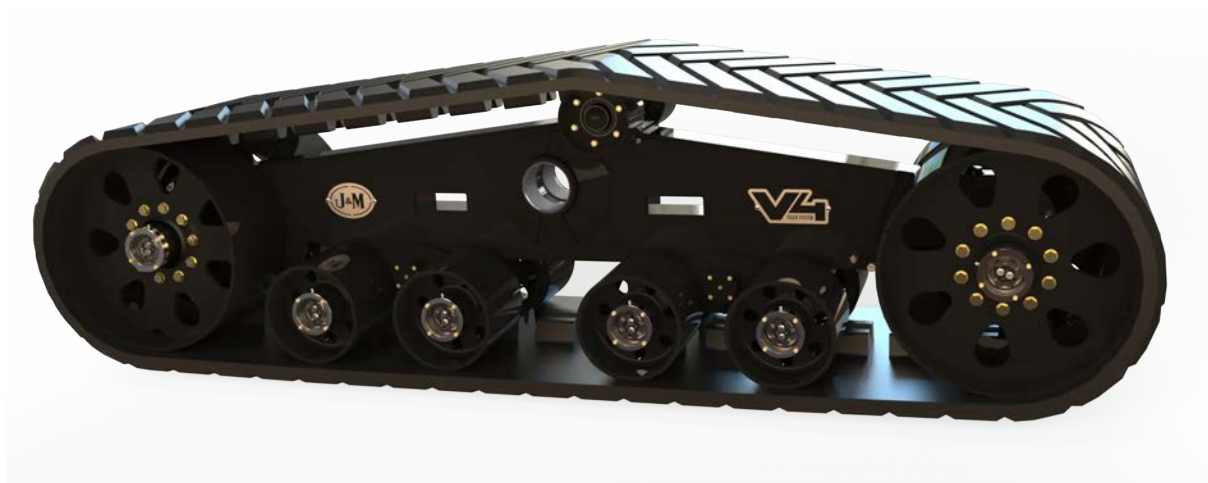




# Manual

## TRACKS OPERATOR'S MANUAL

MODEL



Rev. 3.13.2024

J&M Manufacturing Co, Inc

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# To the Dealer

## TO THE DEALER

Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists are completed before releasing equipment to the owner.

The dealer must complete the Warranty Registration found on the Dealer Portal website located at [dealer.jm-inc.com](http://dealer.jm-inc.com) and return it to J&M Mfg. Co., Inc. at the address indicated on the form. Warranty claims will be denied if the Warranty Registration has not been submitted.

## EXPRESS WARRANTY:

J&M Mfg. Co. Inc. warrants against defects in construction or materials for a period of ONE year. We reserve the right to inspect and decide whether material or construction was faulty or whether abuse or accident voids our guarantee.

Warranty service must be performed by a dealer or service center authorized by J&M Mfg. Co., Inc. to sell and/or service the type of product involved, which will use only new or remanufactured parts or components furnished by J&M Mfg. Co., Inc. Warranty service will be performed without charge to the purchaser for parts or labor based on the Warranty Labor Times schedule. Under no circumstance will allowable labor times extend beyond the maximum hours indicated in the Warranty Labor Times schedule for each warranty procedure. The purchaser will be responsible, however, for any service call and/or transportation of the product to and from the dealer or service center's place of business, for any premium charged for overtime labor requested by the purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranty. Costs associated with equipment rental, product down time, or product disposal are not warrantable and will not be accepted under any circumstance.

Each warranty term begins on the date of product delivery to the purchaser. Under no circumstance will warranty be approved unless (i) the product warranty registration card has been properly completed and submitted to the equipment manufacturer, and (ii) a warranty authorization number has been issued by the equipment manufacturer. This Warranty is effective only if the warranty registration card is returned within 30 days of purchase.

This warranty does not cover a component which fails, malfunctions or is damaged as a result of (i) improper modification or repair, (ii) accident, abuse or improper use, (iii) improper or insufficient maintenance, or (iv) normal wear or tear. This warranty does not cover products that are previously owned and extends solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third-party, this warranty does not transfer to the third party purchaser in any way. J&M Mfg. Co., Inc. makes no Warranty, express or implied, with respect to tires or other parts or accessories not manufactured by J&M Mfg. Co., Inc. Warranties for these items, if any, are provided separately by their respective manufacturers.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

In no event shall J&M Mfg. Co., Inc. be liable for special, direct, incidental or consequential damages of any kind. The exclusive remedy under this Warranty shall be repair or replacement of the defective component at J&M Mfg. Co., Inc.'s option. This is the entire agreement between J&M Mfg. Co., Inc. and the Owner about warranty and no J&M Mfg. Co., Inc. employee or dealer is authorized to make any additional warranty on behalf of J&M Mfg. Co., Inc.

The manufacturer reserves the right to make product design and material changes at any time without notice. They shall not incur any obligation or liability to incorporate such changes and improvements in products previously sold to any customer, nor shall they be obligated or liable for the replacement of previously sold products with products or parts incorporating such changes.

## SERVICE:

The equipment you have purchased has been carefully manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and maintenance. Lubricate the unit as specified. Observe all safety information in this manual and safety signs on the equipment.

For service, your authorized J&M dealer has trained mechanics, genuine J&M service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine J&M service parts. Substitute parts may void warranty and may not meet standards required for safety and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

**Model No:** V4 Tracks

**Serial No:** \_\_\_\_\_

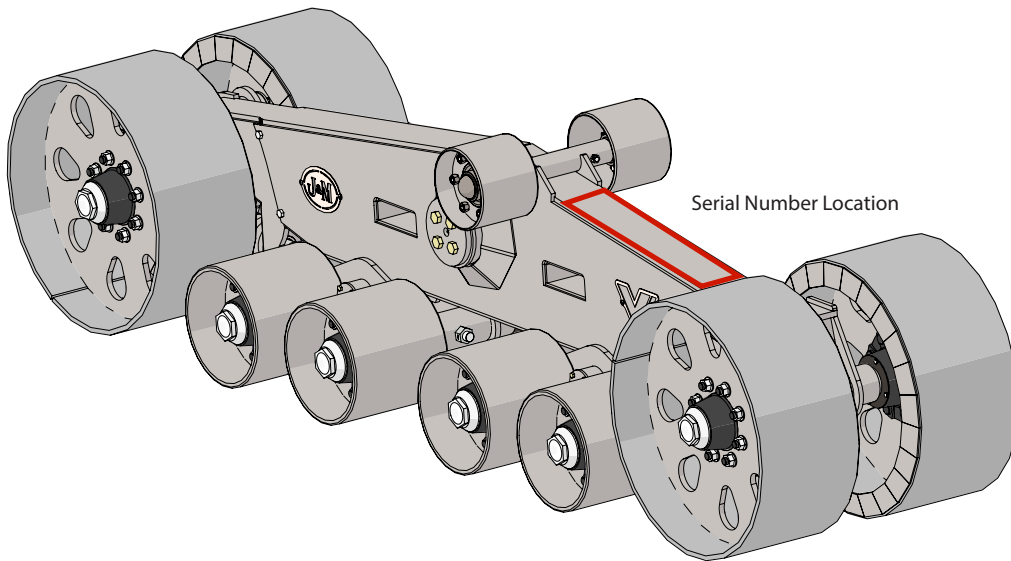
**Date of Purchase:** \_\_\_\_\_

**Purchased From:** \_\_\_\_\_

Provide this information to your dealer to obtain correct repair parts.



# Serial Number



Serial Number: \_\_\_\_\_

Model Number: V4 Tracks

Standard practice when ordering parts or obtaining information from your dealer requires the serial number and model number. Have numbers available before making contact.

# General Information

## TO THE OWNER:

The purpose of this manual is to assist you in operating and maintaining your V4 Tracks in a safe manner. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance and help maintain safe operating conditions. If this machine is used by an employee or is loaned or rented, make certain that the operator(s), prior to operating:

1. Is instructed in safe and proper use.
2. Reviews and understands the manual(s) pertaining to this machine.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury or death.



This Safety-Alert symbol indicates a hazard and means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



### **DANGER**

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



### **WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



### **CAUTION**

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

### **IMPORTANT**

Indicates that failure to observe can cause damage to equipment.

### **NOTE**

Indicates helpful information.

# Safety Rules



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be erased by an operator's single careless act. In addition, hazard control and accident prevention are dependent upon the awareness, concern, judgment, and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Make certain that the operator(s), prior to operating is instructed in safe and proper use and reviews and understands the manual(s) pertaining to this machine. Also make certain that the operator(s) reviews and understands the operator's manual of the grain cart and the tractor.

Read this manual before you operate this machine. If you do not understand any part of this manual, or need more information, contact the manufacturer or your authorized dealer.



Understand that your safety and the safety of other persons is measured by how you service and operate this machine.

The safety information given in this manual does not replace safety codes, federal, state or local laws. Make certain your machine has the proper equipment as designated by local laws and regulations.


A frequent cause of personal injury or death is from persons falling off equipment and being run over. Do not permit persons to ride on this machine.

Travel speeds should be such that complete control and machine stability is maintained at all times. Where possible, avoid operating near ditches, embankments and holes. Reduce speed when turning, crossing slopes and rough, slick or muddy surfaces. If a ditch must be crossed, do so at an angle. Avoid sharp turns to maximize the stability of the road. Reduce speed when turning, crossing slopes and rough, slick or muddy surfaces. Avoid running over hard objects protruding above the ground surface, if possible. Damage to the understructure or load may result. If the object is unavoidable, reduce speed.

Collision of high-speed road traffic and slow-moving machines can cause personal injury or death. Keep hands, feet, hair and clothing away from moving parts while unit is in operation. Make sure that everyone is clear of equipment before applying power or moving the machine.

Never adjust, service, clean, or lubricate track system until all power is shut off. Support equipment and attachments properly when working beneath them. Do not depend on hydraulic cylinders to hold them up. An attachment can fail if a control is moved, or if a hydraulic line breaks. Wear protective glasses when servicing equipment.

## Specifications

	
Belt Width	36"
Overall Length	139"
Weight (One Track)	4,660 lbs
Footprint Dimensions (One Track)	107.1" x 36"
Footprint Area (Both Tracks)	7,711 in <sup>2</sup>
Average Ground Pressure with 1,500 Bushel Cart	13.2 psi
Pivot Shank	6" Diameter



# Bolt Torque Chart

Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application. Fasteners must always be replaced with the same grade as specified in the manual parts list. Always use the proper tool for tightening hardware. Ensure fastener threads are clean and you start thread engagement properly. **Use these values when tightening all bolts and nuts with the exception of wheel nuts.**

## SAE Fasteners

Coarse Thread Series				
Diameter and Pitch (Inches)	Grade 5		Grade 8	
	Dry	Oiled	Dry	Oiled
1/4"-20	8 ft-lbs	6 ft-lbs	12 ft-lbs	9 ft-lbs
5/16"-18	17	13	25	18
3/8"-16	31	23	44	33
7/16"-14	49	37	70	52
1/2"-13	75	57	106	80
9/16"-12	109	82	154	115
5/8"-11	150	113	212	159
3/4"-10	267	200	376	282
7/8"-9	429	322	606	455
1"-8	644	483	909	681
Fine Thread Series				
Diameter and Pitch (Inches)	Grade 5		Grade 8	
	Dry	Oiled	Dry	Oiled
1/4"-28	10 ft-lbs	7 ft-lbs	14 ft-lbs	10 ft-lbs
5/16"-24	19	15	27	20
3/8"-24	35	26	49	37
7/16"-20	55	41	78	58
1/2"-20	85	64	120	90
9/16"-18	121	91	171	128
5/8"-18	170	127	240	180
3/4"-16	297	223	420	315
7/8"-14	474	355	669	502

## Stud and Wheel Nut Torque Specifications

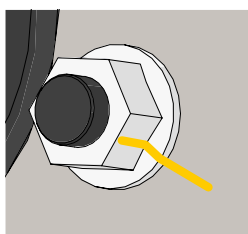
Always tighten hardware to these values unless a different torque or tightening procedure is listed for specific application. Fasteners must always be replaced with the same grade as specified in the manual parts list. Always use the proper tool for tightening hardware. Ensure fastener threads are clean and you start thread engagement properly. **Use these values when tightening all studs and wheel nuts.**

Stud	Tightening Torque
1/2"-20	120 ft-lbs
9/16"-18	170 ft-lbs
5/8"-18	300 ft-lbs
3/4"-16	400 ft-lbs
20mm	475 ft-lbs
22mm	640 ft-lbs

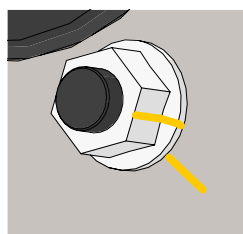
**TIGHTENING WHEEL NUTS:** Standard **3/4" wheel studs and flange nuts should be tightened to torque 400 ft-lbs** during initial operation of the tracks and then checked for proper torque after every 10 hours of use. Failure to do so may damage wheel nut seats. Once seats are damaged, it will become impossible to keep nuts tight.

**RECOMMENDED TIP:** Use a paint stick to mark the location of each nut prior to use. Mark on the wheel and lugnut. This provides a quick and accurate visual check for lug tightness.

Tight



Loose

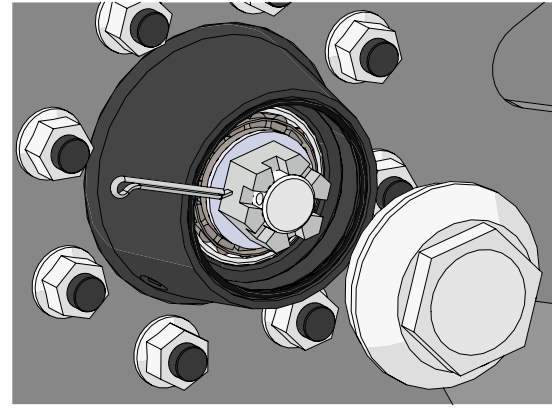




## Castle Nut Torque Setting

Torque all idler and bogie wheel V4 track model hubs at 30 ft-lb. Apply 200 ft-lb of torque to the castle nut while rotating the hub to ensure that the hub components are properly seated. Then loosen the castle nut one full turn. After that, apply the recommended torque (30 ft-lb) to the castle nut. Spin the hub several revolutions and re-apply the recommended torque. Continue spinning the hub and re-applying the torque until the castle nut no longer spins at the recommended torque. Install the cotter pin, locking the castle nut in place.

**Note:** If a slot in the castle nut does not line up with one of the cross holes in the spindle at the recommended torque setting, rotate the castle nut slightly so that a castle nut slot does line up with a spindle cross hole and so that the torque setting is as close as possible to the recommended torque setting. Never use an impact wrench when tightening or loosening castle nuts during this procedure.



## Lubrication Schedule

Check the oil level in the hubs by looking through the dust cap sight glasses. The oil level should be maintained between the top and bottom of the 1-1/4" diameter threaded portion of the spindle (as pictured below). If the oil is below the bottom of the threaded portion of the spindle, add a GL-5 SAE 75W-90 synthetic gear oil with rust and oxidation inhibitors. Change the oil in the hubs annually. When changing the oil after the first year, recheck the castle nut tightness. The hub components can loosen after initial break in period. Retightening the castle nut will prevent too much endplay in subsequent years; they do not tend to loosen after retightening. If bearing components are ever replaced the castle nut should be retightened the following year. If the old oil is observed to still be in good operating condition (clean and unstained) after successive oil changes, the frequency of oil changes may be reduced to bi-annually at the owner's discretion. When changing oil, add 11 oz of oil for the G848 hub and 12.8 oz for the 80093 hub (pictured below).

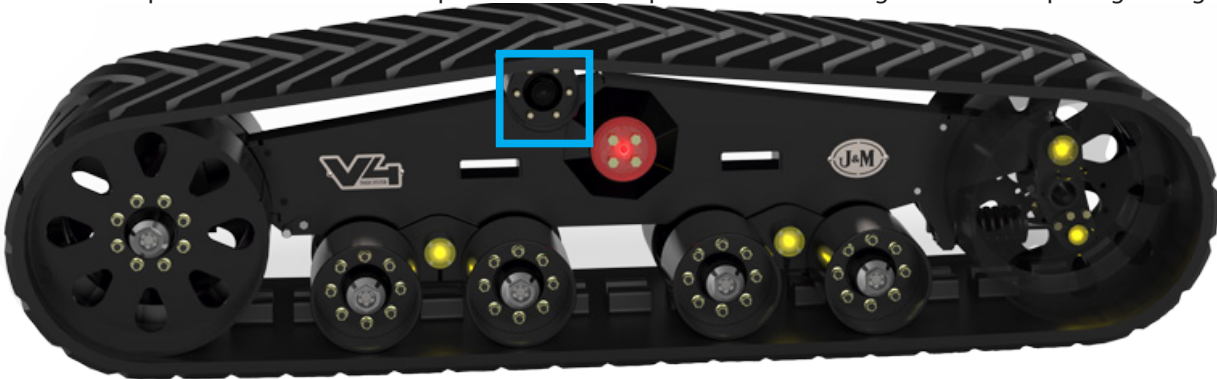
G848 hub  
11 oz of oil.



80093 hub  
12.8 oz of oil.



Track pivot locations are highlighted in yellow and red in the image below. All pivot pins oscillate on composite sleeve bushings, which do not require grease. Grease can, however, reduce composite sleeve bushing wear by up to 8x. Because of this, the pivot locations highlighted in yellow are greased initially at the factory during assembly. It is recommended that the dealership grease the pivot locations highlighted in red before delivery. It is also recommended that **all pivot locations be greased again annually before use** to purge old grease from the pivot cavities. This will help to maximize composite sleeve bushing life. More frequent greasing is acceptable.



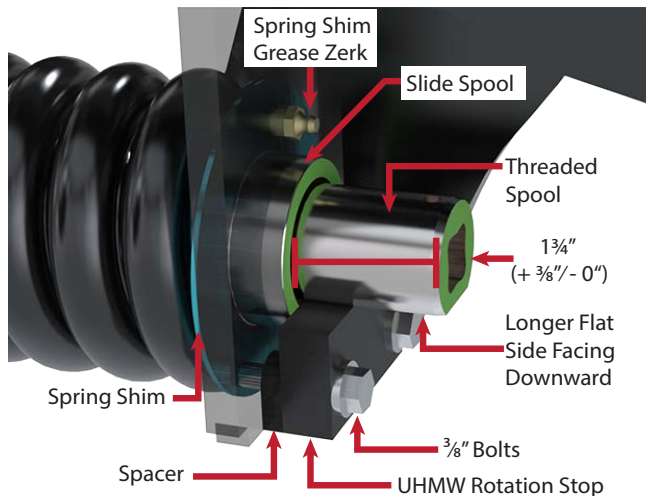
The upper midrollers, shown in the blue box in the image above, should be checked annually for free rotation and quiet, smooth operation. Do so by lifting the belt near the upper midrollers slightly above them so that the belt is no longer contacting the rollers. If an upper midroller does not spin freely, smoothly, and quietly, remove the upper midroller and re-pack the upper midroller hub bearings with grease. It is estimated that the upper midroller bearings may need re-packed every 3-6 years, depending on operating conditions.

## Routine Maintenance

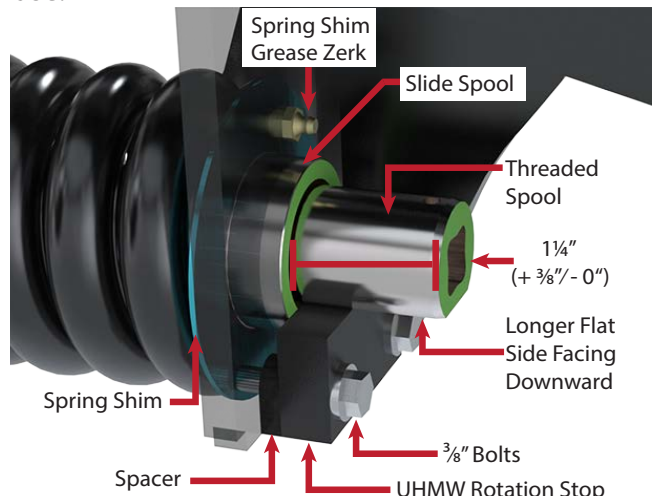
Check ALL wheel nuts for correct torque setting (400 ft-lb for 3/4"-16 wheel nuts). Tighten as needed. Re-check wheel nut torque settings during initial break-in period (during 1st, 2nd, 3rd loads, etc.), then periodically afterwards (every 10 hours of use for first 40 hours). Keep checking wheel nut settings until wheel nuts do not loosen. Failure to keep the wheel nuts tight could cause considerable damage to the grain cart and surroundings. Damage caused by failure to keep the wheel nuts tight is not warrantable.

Belt tension is set at the factory and should not change significantly once set unless you are detensioning the track for maintenance. A change in belt tension can be an indication of a problem elsewhere within the track system. Check the belt tension by measuring the distance from the end of the Slide Spool to the end of the Threaded Spool. See the image below for the measurement location. The measured distance should be between  $1\frac{3}{4}" (+\frac{3}{8}" / -0")$  or  $1-1\frac{1}{4}" (+\frac{3}{8}" / -0")$ . If the measured distance is too short or too long, remove the UHMW Rotation Stop and Spacer by removing the accompanying 3/8" bolts with a 9/16" socket wrench. Loosen or tighten the Threaded Spool as needed (using the 3/4" drive insert) so that the Threaded Spool extends beyond the Slide Spool by the proper distance. Turn the Threaded Spool counterclockwise to increase the distance (and tighten the belt). **Greasing the Spring Shim can greatly reduce the torque required to turn the Threaded Spool.** Once finished with adjustment, rotate the Threaded Spool so that the longer flat side of the spool is facing downward against the UHMW Rotation Stop. Re-install the UHMW Rotation Stop, Spacer, and accompanying bolts.

If the spring length is 10" overall. Set the length of the threaded spool to  $1-3\frac{3}{4}" (+\frac{3}{8}" / -0")$ . The 10" springs should measure  $9-5\frac{5}{8}"$  to  $10"$  as the springs can experience a compression set after use.



If the spring length is  $10-5\frac{5}{8}"$  overall set the length of the threaded spool to  $1-1\frac{1}{4}" (+\frac{3}{8}" / -0")$ . The  $10-5\frac{5}{8}"$  springs should measure  $10-3\frac{3}{8}"$  to  $10-5\frac{5}{8}"$  as the springs can experience a compression set after use.



**Note:** You won't be able to get a measurement on the spring unless you have disassembled the track. Belt Tension is set at the factory and should not change significantly.

Inspect the belt for any defects. If any defects are found, contact the J&M Service Department.

Check the track system periodically for cracks in welds and for other structural damage. Have cracked welds fixed immediately. Failure to do so could result in extensive damage to the track system and grain cart and greatly reduce the life of the equipment.

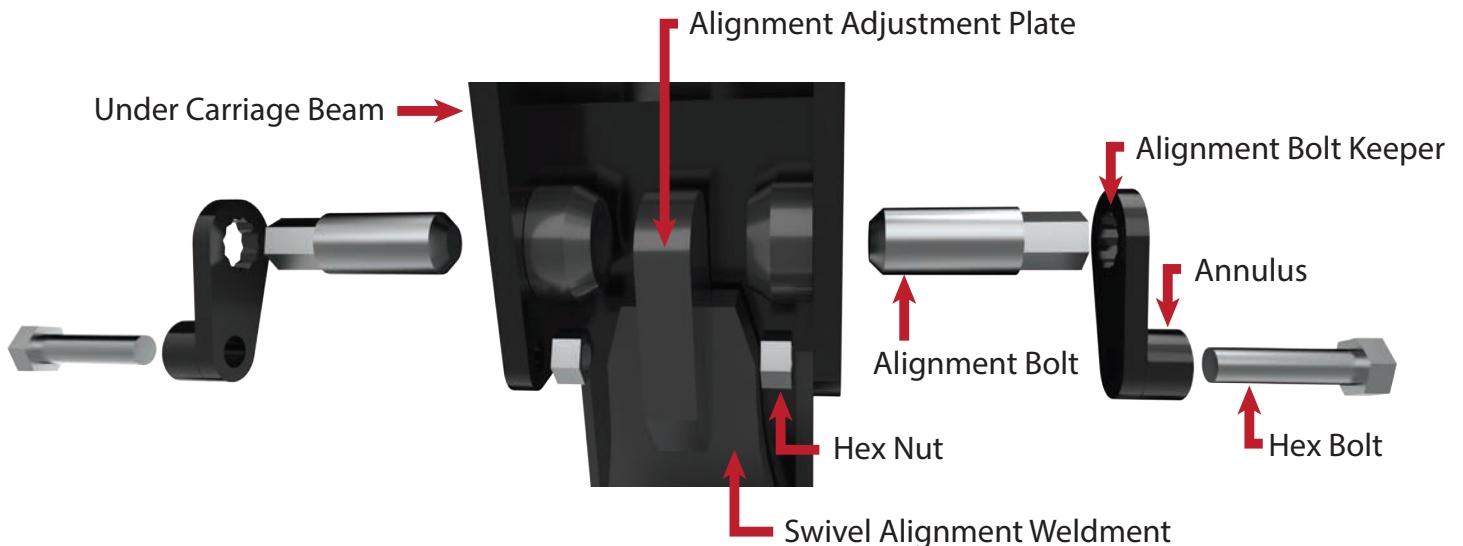
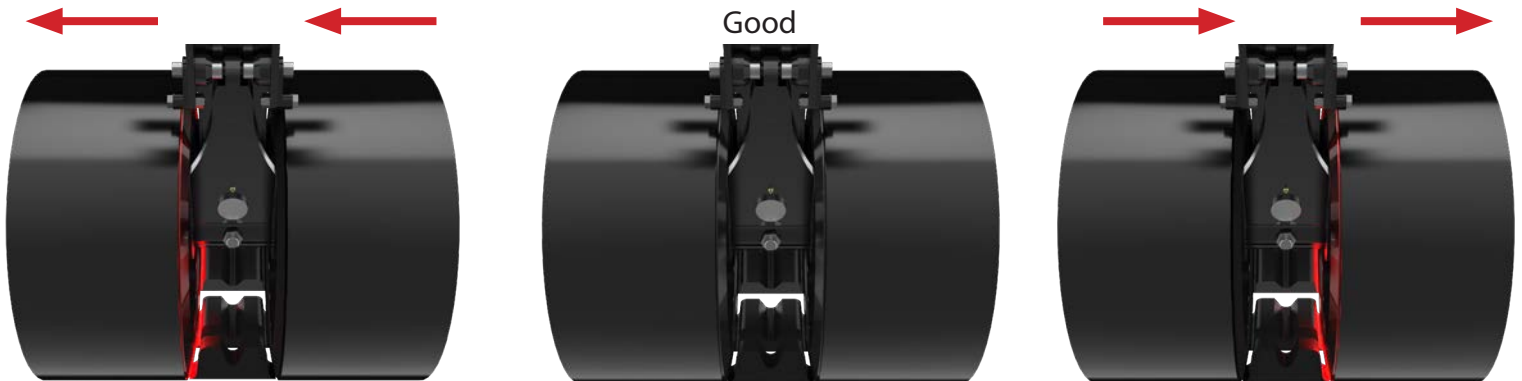
Remove debris buildup from the surface of idler wheels. Debris buildup on the surface of idler wheels can temporarily alter the belt alignment and cause guide lug wear. Debris buildup on the surface of idler wheels can also cause the belt to become overly tensioned, leading to damage to the tensioner system as well as to the idler wheel assemblies. Damage done to the track system as a result of debris build-up is not covered under warranty. Debris buildup on the bogie wheels is less problematic than on the idler wheels, but should be removed periodically as well. Check belt alignment according to "Alignment" on page 11.

# Alignment

The track belts are held in proper alignment by the Swivel Alignment Weldments. Track alignment is set at the factory but may need further adjustment during the initial belt break-in period, and sometimes occasionally throughout the life of the belt. During the break-in period, the track belt loses its initial tackiness, and the track rolling components undergo a polishing process to achieve a smoother steel-to-rubber interface with the guide lugs. Track alignment should be monitored closely and may need adjusted more frequently during the break-in period. If the cart is towed to/by the customer from the dealership, the alignment needs to be checked within the first mile of towing. Towing speeds should NOT exceed 25 mph. It is highly recommended to add several cups of talc to the inside of the belt over the guide lugs before and during initial towing to help lubricate the guide lugs, remove the initial tackiness of the belt, and reduce guide lug wear during the break-in process. If the towing/transport duration exceeds 30 minutes, a 15-minute cool down period is recommended before resuming towing/transport.

To determine if track alignment needs adjusted, pull the tracks 500-1,000 ft in a straight line on level terrain. Then measure the temperature on each side of the guide lugs. If the temperature of one side is significantly higher (10-20°F or more) than the other, adjust the alignment by following the instructions below. Repeat the process, allowing the guide lugs to cool in between adjustments, until there is no longer a significant temperature difference between sides of the guide lugs. (Note that all nuts and bolts for the alignment adjustment require 15/16" sockets/wrenches. An impact wrench is recommended for tightening the Alignment Bolts.)

- Step 1: Loosen the Hex Nut from the Hex Bolt on each Alignment Bolt Keeper. Remove the Hex Nut, Hex Bolt, and Alignment Bolt Keeper from each Alignment Bolt.
- Step 2: Adjust the track alignment by moving the Alignment Adjustment Plate of the Swivel Alignment Weldment with the Alignment Bolts. Turn the Alignment Bolts 1 turn in the direction that moves the Alignment Adjustment Plate towards the heated side of the Guide Lugs. Do so by first loosening one Alignment Bolt and then tightening the opposite Alignment Bolt against the Alignment Adjustment Plate until the Alignment Adjustment plate is tight against both Alignment Bolts. If the Alignment Bolts have been turned 6 turns from center (one Alignment Bolt extends beyond the UC Beam by 1-5/8") and the track is still not aligned, contact the J&M Service Department.
- Step 3: Reinstall the Alignment Bolt Keeper, Hex Bolt, and Hex Nut for each Alignment Bolt. If the Alignment Bolt extends beyond the UC Beam by more than 1-1/8", flip the Alignment Bolt Keeper before fastening it so that the Annulus of the Alignment Bolt Keeper is touching the UC Beam.



## BELT INSPECTION

The rubber track contains several layers of cables. These layers include a tension cable layer, reinforcement plies, and alignment plies. The orientation of the cables varies for each layer.

When any of the cables are exposed to moisture by cuts or gouges in the rubber, they can deteriorate by rusting. Because of this, any exposed cables should be repaired as soon as possible. Any damaged cables that protrude above the surface of the track should be clipped or ground down to below the surface of the track to prevent additional damage due to unraveling.

Cuts, gouges and minor wear on guide lugs are not expected to cause operational problems. However, a track that has two or more consecutive guide lugs missing should be replaced since this could lead to untracking, possibly damaging other undercarriage components.

## ROTATE TRACKS

If one track belt becomes more worn than the other due to certain operating conditions (e.g., side hill operation or frequent travel on crowned roads), rotating the track assemblies from one side of the cart to the other may increase the service life of the tracks.

## STORAGE PREPARATION

**IMPORTANT:** When the track system is not going to be used for a length of time, thoroughly clean the tracks, removing all dirt/debris from the track system. Store the tracks in a dry, protected place. Leaving your track system outside, open to the weather, will shorten its life. Park the track system on level ground. Block the front and rear of the belts to prevent the tracks from rolling unexpectedly. Inspect the track system and touch-up spots where the paint has been worn away (use a good quality primer paint).

## REMOVING FROM STORAGE

1. Inspect rubber belt for cuts or gouges and repair any damaged cables.
2. Check the belt for missing or damaged guide lugs and replace as necessary.
3. Check belt alignment.
4. Check belt tension.
5. Check the oil level in each idler/bogie hub. If the oil level in a hub is low, inspect the front and rear of the hub for potential leaks. Repair/replace dust caps and/or seals as needed on leaking hubs to remove the leak.
6. Inspect upper midrollers for free rotation (when not in contact with the track belt) and quiet, smooth operation.
7. Check the wheel lugnuts and make sure the nuts are properly torqued to 400 ft-lbs.
8. Inspect all track pivot locations (shown in "Lubrication Schedule" on page 9) for excessive bushing wear. Translational pin movement within a bushed spool in excess of 1/16" from one side of the spool to the other is an indication that excess bushing wear may be present.

## HOW TO FLUSH THE OLD OIL OUT OF THE OIL BATH HUBS

1. Roll the hub until the fill plug is on top.
2. Drain the hub by removing the cap.  
\*There is no need to tilt the track, the oil will flow through the bearing easily.
3. Replace cap. Torque cap to 30-40 ft-lb.

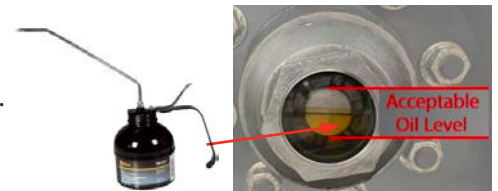
## HOW TO ADD OIL TO OIL BATH HUBS

1. Remove the fill plug.
2. Use an oiler hand pump to add a GL-5 SAE 75W-90 synthetic gear oil with rust and oxidation inhibitors. When empty, it takes **11 oz of oil** to fill hubs to recommended level.
3. Replace the fill plug. Use PTFE tape on the fill plug threads for a tight seal.

When performing maintenance work, wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head. Follow the instructions in this Operator's Manual to ensure safe and proper maintenance and repair.

Your local, authorized dealer can supply genuine replacement parts. Substitute parts may not meet original equipment specifications and may be dangerous.

**BE CERTAIN THAT ALL POWER IS SHUT OFF TO THE GRAIN CART BEFORE PERFORMING ANY MAINTENANCE OR REPAIR WORK.**

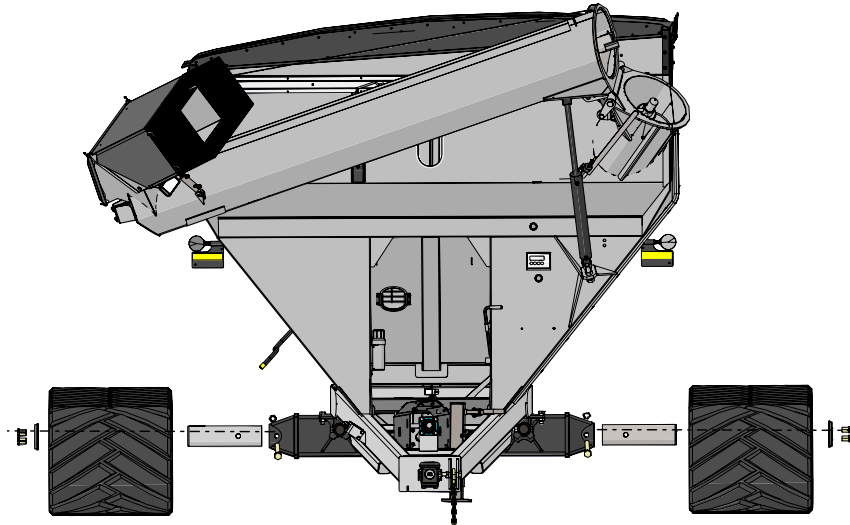




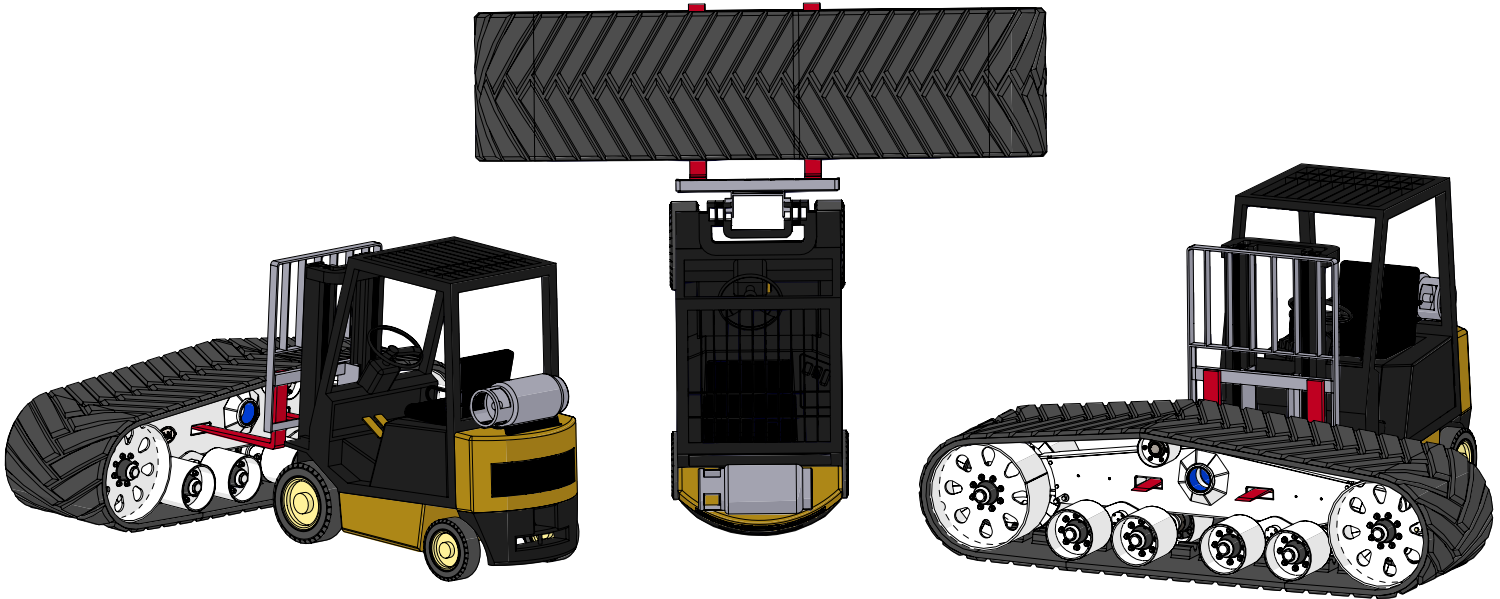
# Installation

**Step 1** - Install both spindles. Use (2) 1-1/4"-7 x 9" Gr8 YZ Hex Bolts and (2) 1-1/4"-7 Gr2 Z Nylon Locking Hex Nuts to attach the spindles to the axle.

**Step 2** - Use an overhead hoist to pick up the grain cart. Use a hoist and chains that are rated for the specific weights. The weights are located in the grain cart operator's manual. When raising the grain cart, keep the axle level with the ground.



**Step 3** - Pick the tracks up with a forklift. Put both of the forks in the slots on the tracks designed for the forks. It is recommended to use a forklift with the side shift option available. Use a forklift that is rated for at least 4,000 lbs for the V4 LT tracks and 5,000 lbs for the V4 tracks.



**Step 4** - Slide the tracks onto the spindle. Be sure to center the track bushings with the spindle prior to attempting to slide the track on so that no damage is done to the bushing's liner or the 6" ID x 6-3/4" OD Rod Wiper Seals. Grease both the bushing liner, the face of the V-ring seal, and the spindle prior to assembly.

**Step 5** - Install the Center Pivot Spindle Retainer Weldment. Use (4) 3/4"-10 x 2" Gr8 YZ Hex Bolts to fasten the Center Pivot Spindle Retainer Weldment to the spindle.

**Step 6** - Tighten all of the hardware according to the "Bolt Torque Chart" on page 8.

# Operation Guidelines

The track system offers benefits which can be maximized by following recommended operational practices. In reviewing these guidelines, you will learn the best ways to gain these benefits.

The four basic rules for maximizing track life are:

1. **Follow track break-in procedures**
2. **Verify and maintain alignment**
3. **Understand ways to maximize tread life**
4. **Use correct operational techniques**

By understanding these rules, you learn operational techniques and methods which help achieve years of trouble-free service.

## 1. TRACK BREAK-IN

**Before any road transport is done, especially when new, expose the inside of the tracks to soil, or a dry lubricant. Keep speeds down when breaking in new tracks.**

Guide lug life benefits from correct break-in procedures. Correct break-in reduces initial guide lug wear. During the break-in period, rolling components undergo a polishing process to achieve a smooth steel-to-rubber interface with the guide lug. Rubber surfaces use dust and dirt as a dry lubricant during break-in to minimize heat and reduce rubber stickiness. New tracks lacking a coating of dust should be exposed to dry and dusty soil conditions as soon as possible. Do not road transport a new track system without first exposing the inside of the track to soil, dirt, or other dry lubricant. Road transport of new rubber without dry lubricant may generate damaging heat and can cause guide lug damage/wear. If roading must be done, then a dry lubricant such as soil, talc, or floor-dry should be applied to the guide lugs periodically during roading until exposure to the field commences.

## 2. TRACK ALIGNMENT

**Monitor track alignment and recheck periodically.**

Track alignment is the most important periodic check that can be made on a track system. ALWAYS check alignment very carefully before road transport is done. Alignment can change due to component wear, track damage, end wheel buildup, operation on sloped surfaces, or following track replacement. Misalignment causes wear to guide lugs, so periodic alignment checks are important. By checking if there is significant difference in surface temperatures or wear between the inner and outer guide lug faces, you can determine if the track is in proper alignment. See "Alignment" on page 11.

**Note:** *Minimizing guide lug inner/outer temperature difference is the best way to achieve correct alignment.*

## 3. MAXIMIZE TREAD LIFE

**Use care during road transport. DO NOT TRANSPORT A FULL LOAD ON THE ROAD.**

**Avoid conditions that cause high tread wear rates.**

Several operational factors influence tread wear:

- Amount of roading (roading increases wear)
- Field soil conditions (abrasive increases wear)
- Operating weight and distribution
- Operator techniques

Tread life decreases with higher percentages of roading. Tread wear rates can be minimized by staying off pavement, and reducing transport weight and speed. The greatest rate of tread wear occurs on a hot day with a poorly balanced or heavily loaded system. Always transport during cooler parts of the day and at reduced travel speeds and weight, as this will lower temperatures of the treads, guide lugs, and rolling components. Remember that frequent sharp turning of the track system (i.e. skidding around a tight turn) especially if done on hard surfaces and fully loaded, dramatically increases tread wear and puts high stresses on the mechanical components. Take wide turns whenever possible. V4 tracks are rated up to 25 mph. J&M recommends towing an empty grain cart at no faster than 20 mph and a loaded grain cart should not travel faster than 8 mph. **Speed in excess of these limits may lead to excessive belt and/or seal wear. Damage incurred in this manner is not warrantable.**

**Do not transport a loaded grain cart outside the field. Transporting a loaded grain cart on a hard surface or road can lead to excessive heat buildup in the treads and cause permanent damage. Damage incurred in this manner is not warrantable.**

Refer to your grain cart operator's manual to understand the maximum speed and duration limitations, as well as the maximum load limitations, while transporting your equipment. Always respect these limits.



# Operation Guidelines

## 4. OPERATIONAL TECHNIQUES

### Use recommended practices from J&M to improve track performance.

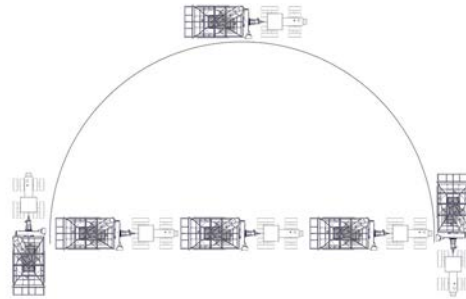
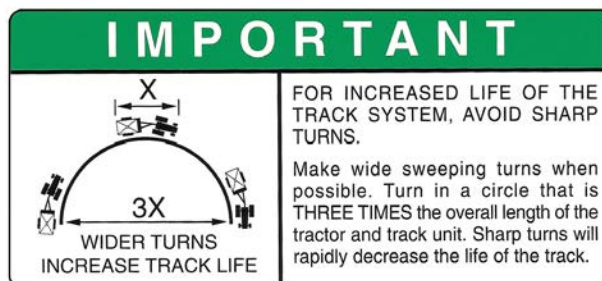
- Maintain correct track tension. For instructions on adjusting track tension, see "Routine Maintenance" on page 10.
- Proper tension is important for best track performance. Tension can change during service. Improper tension can increase the potential for derailing or untracking, or reduce the life of bearings and rolling components.
- Keep material out of the undercarriage. A track system will allow some material to ingest and pass through it, but sharp noncompressible objects cause high localized loads to both track and wheels, which if severe enough, can result in track and wheel damage. Inspect and clean material from the undercarriage before starting work.

### Crossing ditches or diagonal transitions

During transitions from sloped to flat areas (or vice versa), the front and rear of the track may be in contact with the ground while the mid-section is unsupported. If turning is attempted at this time, the risk is higher for derailing or misalignment to occur.

### Limit sharp turns

When pulling grain carts with a track system, avoid sharp turns or pivots. Sharp turns cause one or both tracks to slide across the surface resulting in berming, road surface damage, and excessive tread wear. To maximize the life of your track system, it is recommended that wide turns be consistently made whenever possible. Turning in a circle that is **THREE TIMES** the overall length of the tractor and track unit will reduce premature wear on the belt and undercarriage.



# Repair Parts List and Diagrams

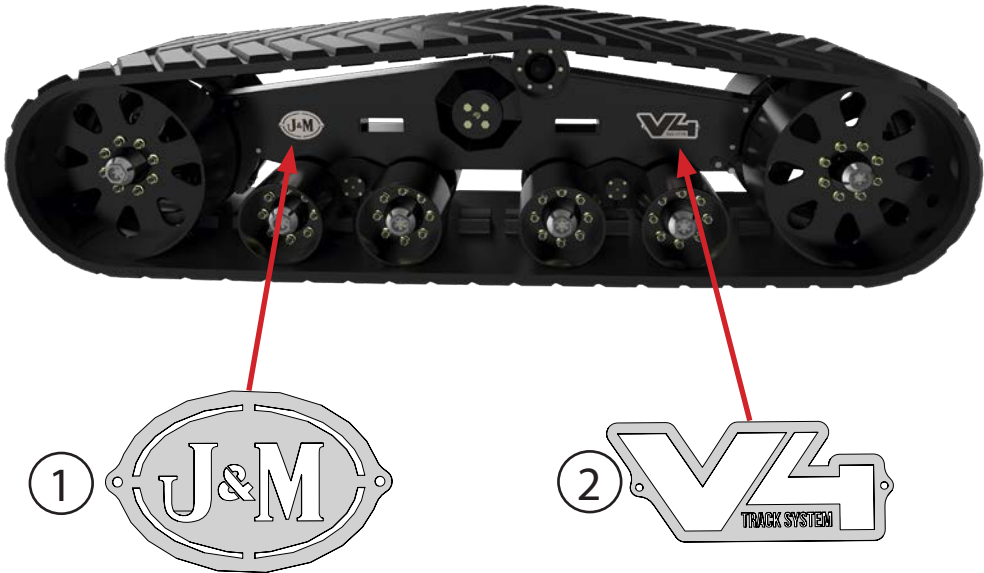
When performing maintenance work, wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head. Follow the Operator’s Manual instructions to ensure safe and proper maintenance and repair.

Your local, authorized dealer can supply genuine replacement parts. Substitute parts may not meet original equipment specifications and may be dangerous.

**⚠ WARNING**

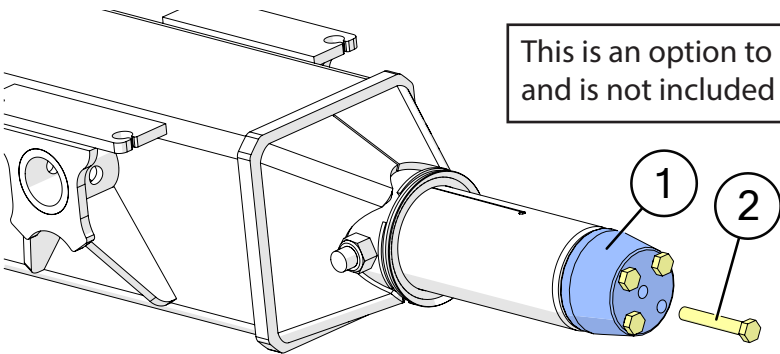
**MAKE SURE ALL POWER IS SHUT OFF BEFORE PERFORMING ANY MAINTENANCE OR REPAIR WORK.**

## Stainless Steel Cut-Outs



Description		Part No.
1	J&M Stainless Steel Cutout Logo with Rivets	JM0050640
2	V4 - V4 Logo with Rivets	JM0050632

## 6" Assembly Aid

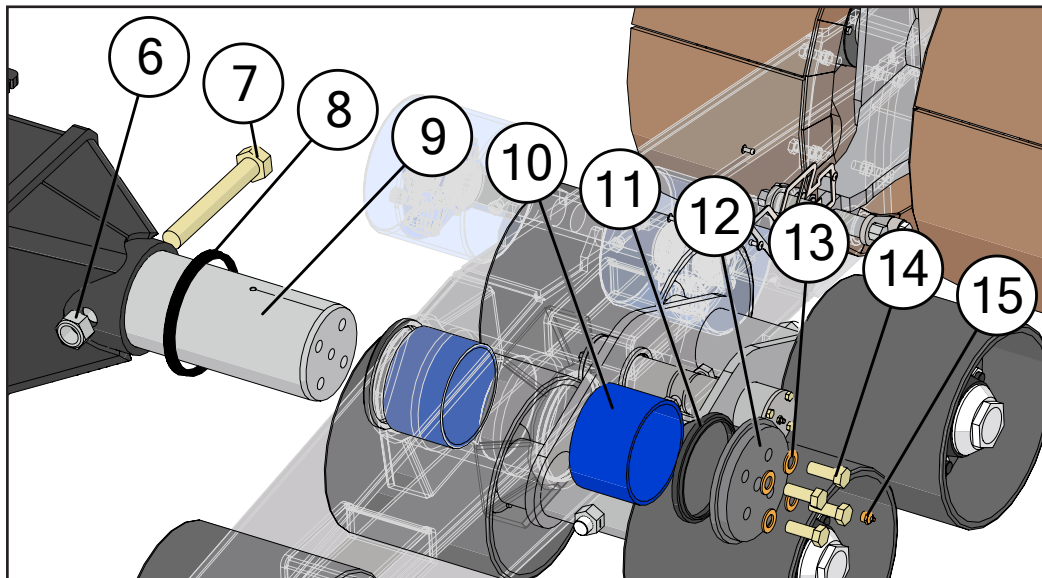
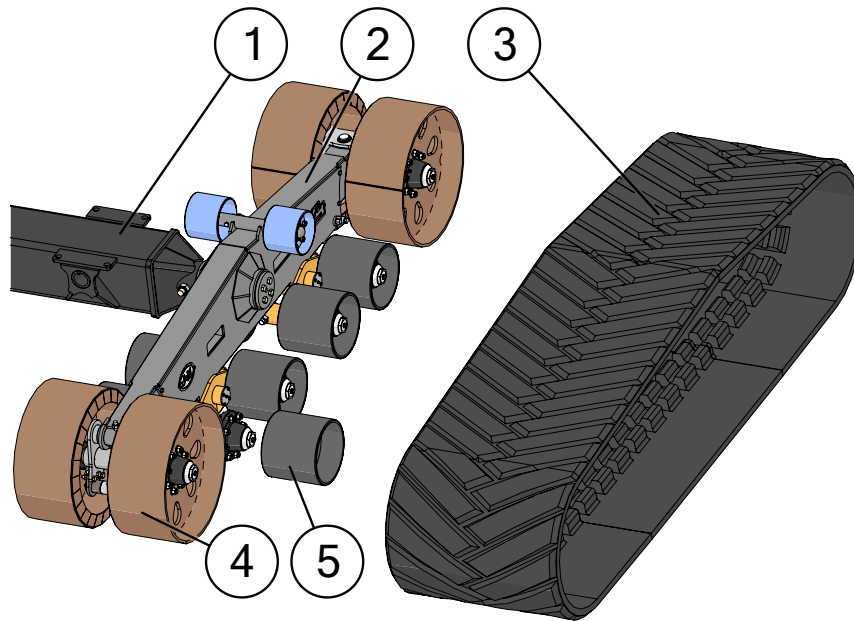


Description		Part No.
1	Track-to-Axle Assembly Aid for 6" Center Pivot Spindle	JM0076628
2	3/4"-10 x 5" Gr5 Z Hex Bolt	JM0009997



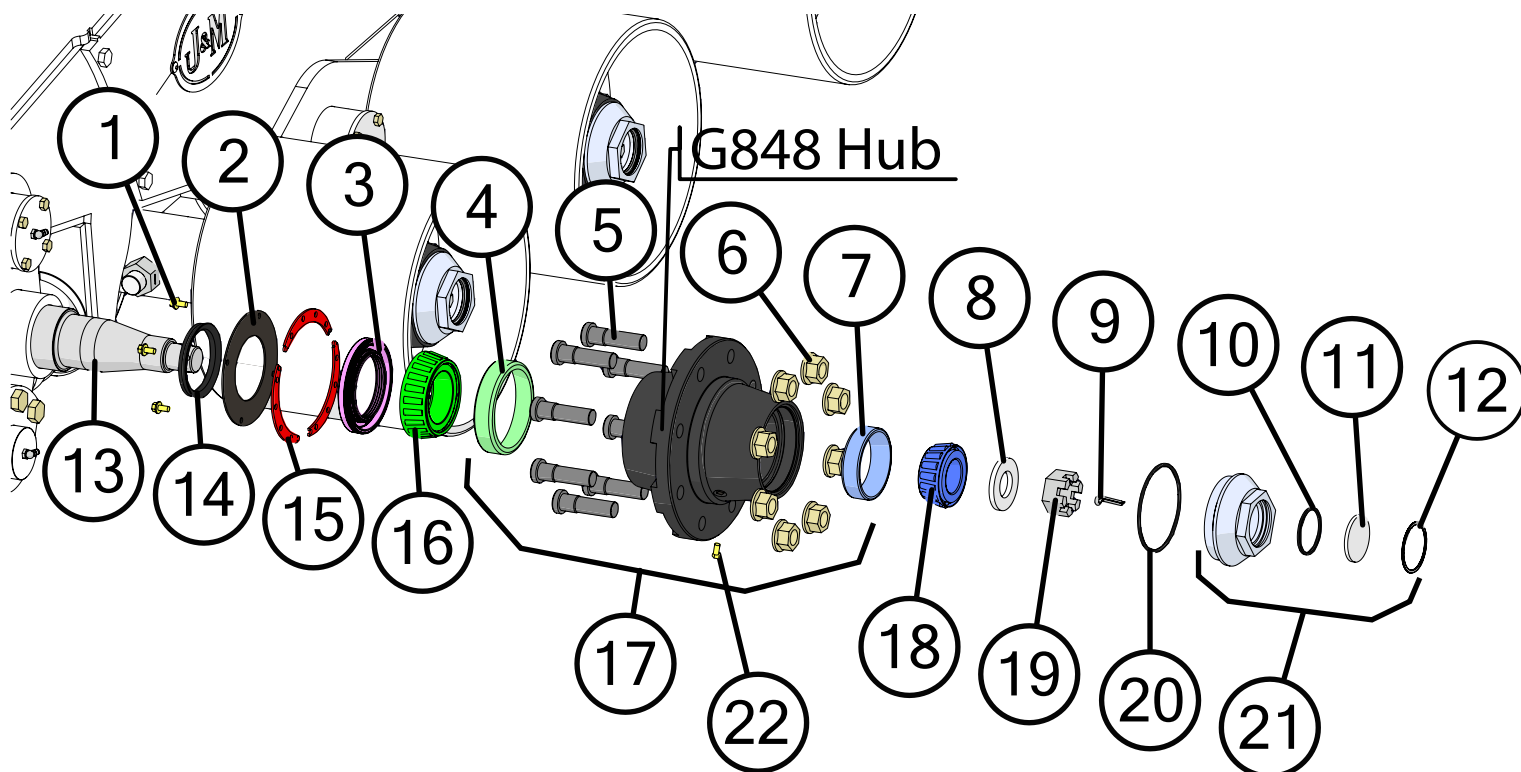


# Track Beam and Connections



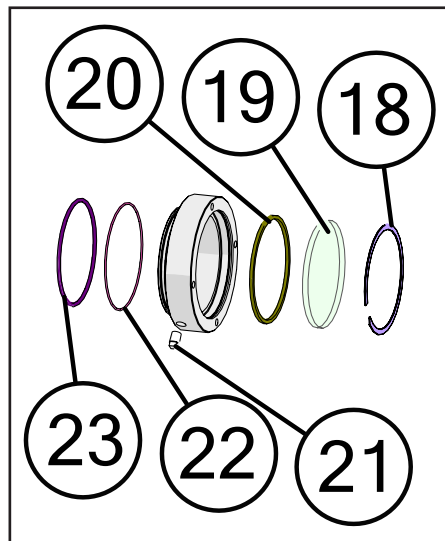
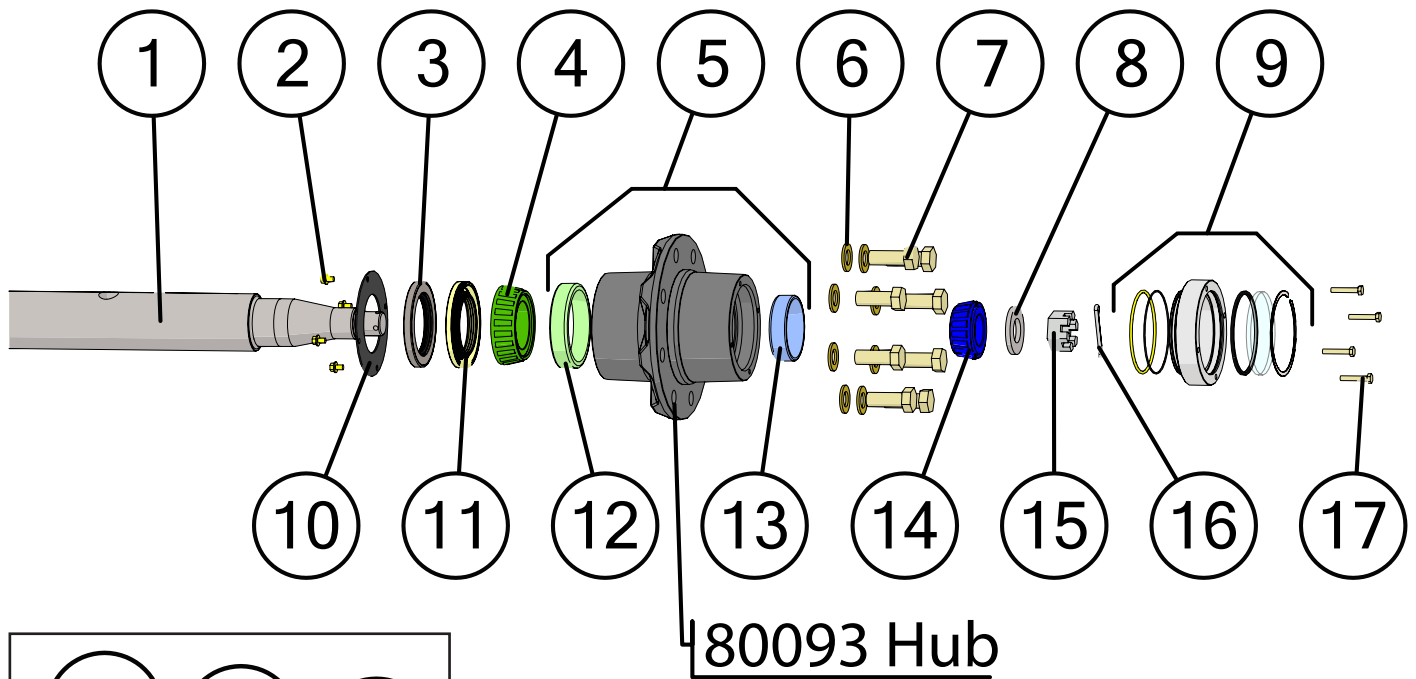
	Description	Part No.
1	Track Axle Weldment 95-1/2" Length (6" Spindle)	JM0038996
2	V4 - UC Beam Weldment	JM0047377
3	Track Belt - 36" x 300" (V4)	JM0047224
4	V4 - Idler Wheel Weldment 27" Diameter for 8 Bolt Hub	JM0047179
5	Bogie Wheel Weldment for 36" Tracks (3/4" Holes)	JM0047175
6	1-1/4"-7 Gr2 Z Nylon Locking Hex Nut	JM0026789
7	1-1/4"-7 x 9" Gr8 YZ Hex Bolt	JM0039198
8	VA-180 NBR V-Ring Seal (7.8" OD x 7" ID)	JM0058060
9	6" x 21-3/4" Center Pivot Spindle for 36" Tracks	JM0050592
10	6" ID x 6-1/2" OD x 4" Long Sleeve Composite Bushing	JM0038700
11	6" ID x 6-3/4" OD Rod Wiper	JM0050590
12	Spindle Retainer Weldment for Tracks with 6" Spindle (4 Bolt Pattern)	JM0050597
13	3/4" Hardened YZ SAE Flat Washer	JM0042264
14	3/4"-10 x 2" Gr8 YZ Hex Bolt	JM0041923
15	3/8" NPT Male x 51/64" Straight Grease Fitting	JM0051112

## Hub and Spindle Assembly SN 2200160 and Lower



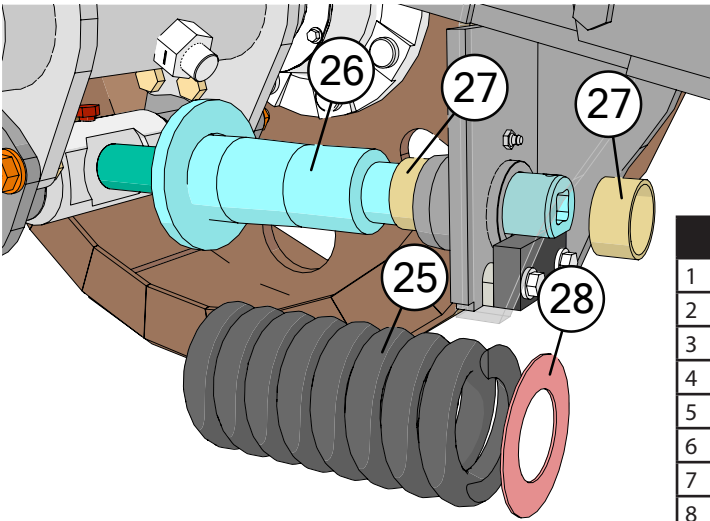
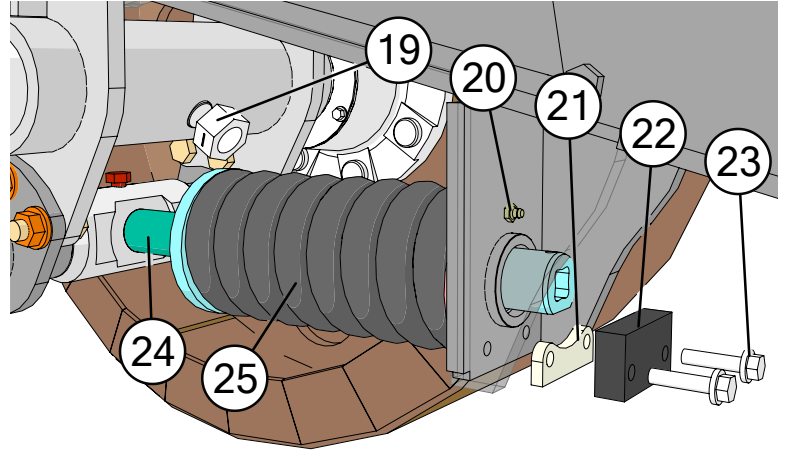
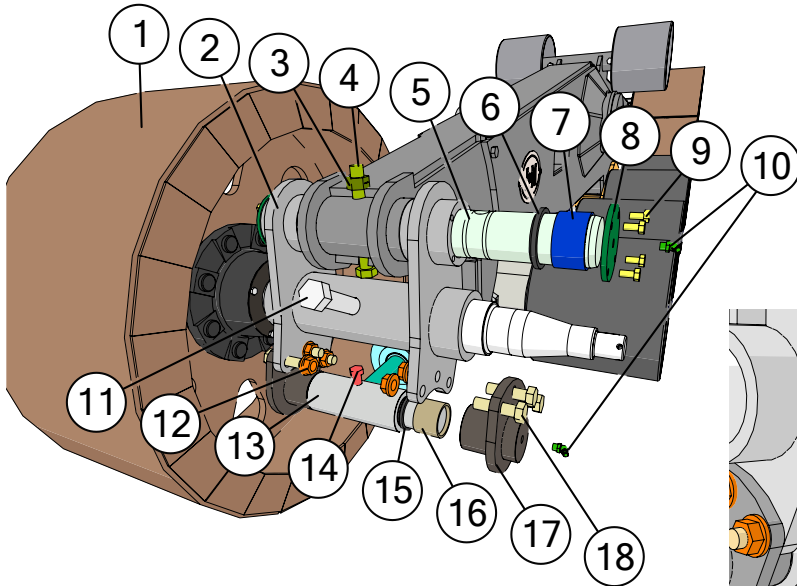
	Description	Part No.
1	1/4"-20 x 1/2" Gr5 Z SF Hex Bolt	JM0058248
2	5.5" OD Seal Guard/Retainer	JM0049029
3	3" x 4-1/2" ST16 Rotary Shaft Seal (Oil Bath) (3004505ST16)	JM0049021
4	G848 Large Cup - G910331 (39520)	JM0020307
5	3/4"-16 x 1-3/4" Oil Bath Stud	JM0030051
6	3/4"-16 Flange Lugnut	JM0034718
7	G848 Small Cup - 3525	JM0020308
8	1-9/32" ID x 2-1/2" OD x 1/4" Through-Hardened Washer	JM0047840
9	7/32" x 2-1/4" Z Cotter Pin	JM0051045
10	O-ring (Size #137, 2.050ID x 2.256OD x 0.103W - Square Profile)	JM0058057
11	848 Dust Cap Window	JM0054674
12	2-3/8" Retaining Ring (WH-237-S02)	JM0058058
13	3" x 29-5/8" Double Faced Spindle for G848 Hub (3DFS-ST-NS)	JM0020287
14	VA-075 NBR V-Ring Seal (V4/Suspension)	JM0058056
15	G848 Seal Guard/Retainer Spacer	JM0057966
16	G848 Large Bearing - G910333 (39585)	JM0020306
17	G848 Oil Bath Hub Assembly (Includes Races, Studs, and Nuts)	JM0025743
18	G848 Small Bearing (G910355)	JM0020305
19	1-1/4"-12 Gr2 Castle Hex Nut	JM0010113
20	O-Ring for Dust Cap on Oil Bath Hub	JM0202321
21	Dust Cap Assembly G848 Oil Bath Hub	JM0025747
22	1/8"-27 NPT Galvanized Plug (9/32 External Square Head)	JM0061561

# Hub and Spindle Assembly SN 2200161 and Higher



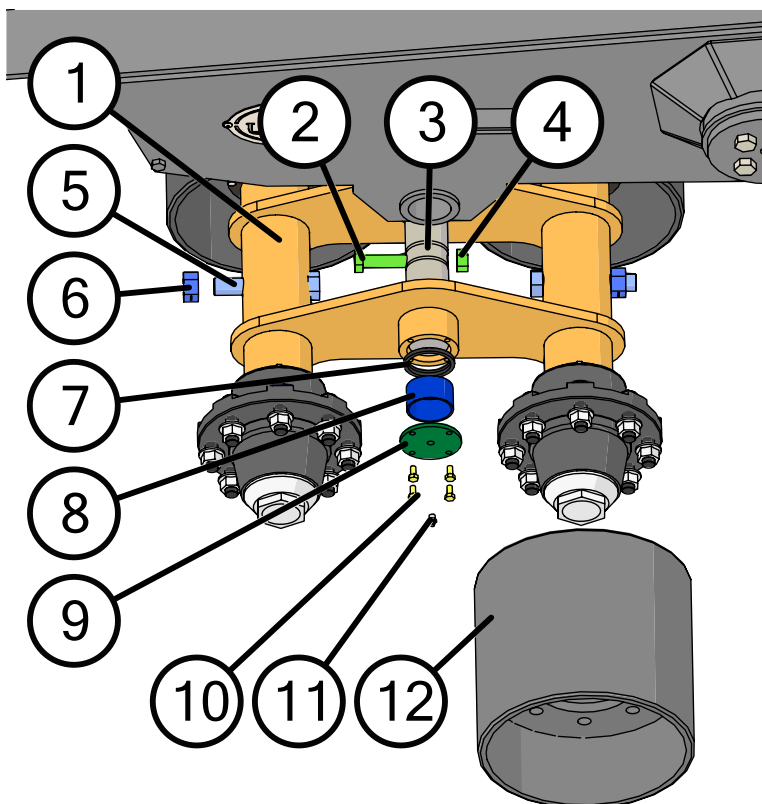
	Description	Part No.
1	Double Ended Spindle for G848 Hub	JM0020287
2	1/4"-20 x 3/8" Gr5 Z SF Hex Bolt	JM0060883
3	3.000 x 4.502 x 0.438 Oil Seal	JM0074385
4	G848 Large Bearing - G910333 (39585)	JM0020306
5	80093 Hub with Bearing Cups	JM0080133
6	3/4" Hardened YZ SAE Flat Washer	JM0042264
7	3/4"-10 x 2" Gr8 YZ Hex Bolt	JM0041923
8	1-9/32" ID x 2-1/2" OD x 1/4" Through-Hardened Washer	JM0047840
9	5-1/2" OD Bogie Wheel Hub Cap Assembly (Bolt-On)	JM0060877
10	5.5" OD Seal Guard/Retainer	JM0049029
11	3" x 4-1/2" ST16 Rotary Shaft Seal (Oil Bath)	JM0049021
12	G848 Large Cup - G910331 (39520)	JM0020307
13	G848 Small Cup - 3525	JM0020308
14	G848 Small Bearing - 3585	JM0020305
15	1-1/4"-12 Gr2 Castle Hex Nut	JM0010113
16	7/32" x 2-1/4" Cotter Pin	JM0051045
17	1/4"-20 x 1-1/2" Gr8 YZ Hex Bolt	JM0054649
18	4-3/8" Housing Diameter VH-437-502 Retaining Ring	JM0054637
19	Hub Cap Sight Window 4.35" Diameter	JM0060881
20	O-Ring Size #243 (4.109ID x 4.387OD x 0.139W) Square Profile	JM0060878
21	1/8"-27 NPT Z Plug - Hex Drive with 7/8" Taper	JM0080134
22	O-Ring Size #046 (4.239ID x 4.379OD x 0.070W)	JM0054675
23	O-Ring Size #243 (4.109ID x 4.387OD x 0.139W)	JM0054639

## Rear End Idler - Tensioner



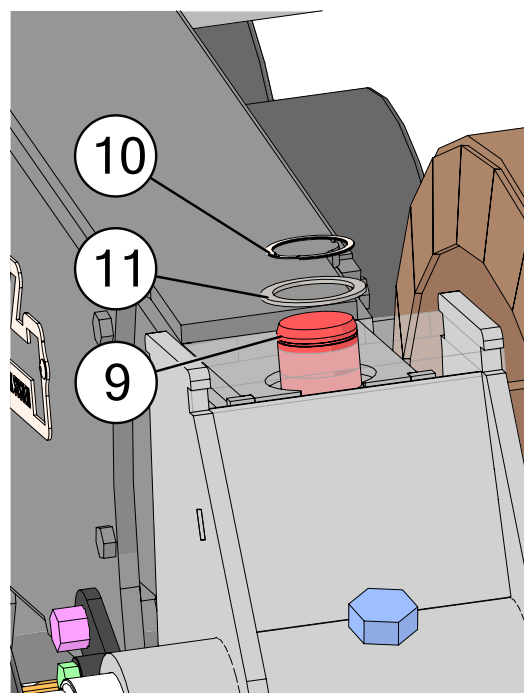
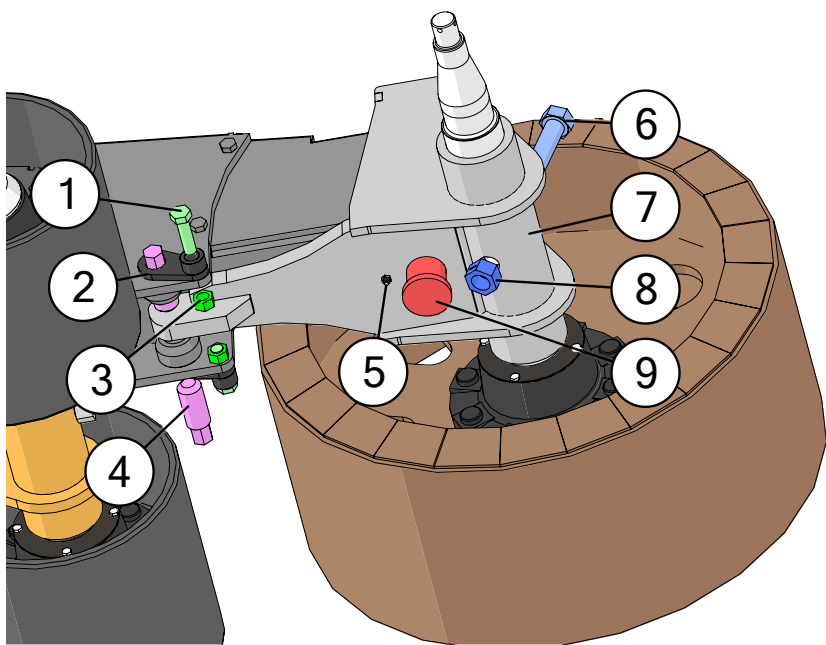
Description	Part No.
1 V4 - Idler Wheel Weldment 27" Diameter for 8 Bolt Hub	JM0047179
2 V4 - Tensioner Weldment	JM0047411
3 3/4"-10 Gr2 Z Centerlock Hex Nut	JM0002147
4 3/4"-10 x 6" Gr5 Z Hex Bolt	JM0016683
5 V4 - Bogie Pivot Pin	JM0047203
6 2-1/2" x 3" OD Rod Wiper Seal	JM0050204
7 2-1/2"ID x 2-3/4" OD x 1-1/2" Long Sleeve Composite Bushing	JM0038697
8 V4 - Bogie Pivot Spool Cap	JM0050500
9 5/16"-18 x 5/8" Gr8 YZ Hex Bolt	JM0051107
10 1/8" NPT Male 65 Degree Elbow Grease Fitting	JM0050602
11 1"-8 x 5-1/2" Gr5 Z Hex Bolt	JM0002110
12 5/8"-11 Gr8 YZ SF Hex Nut	JM0047537
13 V4 - Tensioner Lower Pivot Pin - 2022	JM0077958
14 1/2"-20 x 1" Gr8 YZ Hex Bolt	JM0047538
15 1-3/4" ID x 2-1/8" OD Rod Wiper	JM0050512
16 1-3/4" ID x 2" OD x 1-1/2" Sleeve Composite Bushing	JM0030328
17 V4 - Tensioner - Lower Side Plate Weldment	JM0047410
18 5/8"-11 x 2-1/4" Gr8 Z Hex Bolt	JM0050591
19 1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
20 1/8" NPT Male x 11/16" Straight Grease Fitting	JM0009756
21 V4 - Tensioner UHMW Rotation Stop Spacer	JM0050576
22 V4 - Tensioner UHMW Rotation Stop	JM0047246
23 3/8"-16 x 1-1/2" Gr5 Z SF Hex Bolt	JM0001633
24 V4 - Tensioner Threaded Rod - 2022	JM0077957
25 4-11/16" OD x 10" Long x 1" Wire Compression Spring	JM0047251
26 V4 - Tensioner Threaded Spool Press Fit ASM	JM0047501
27 1-3/4" ID Bronze Bushing (2" OD x 1" Length) (EB-134)	JM0002244
28 V4 - Tensioner Spring Shim	JM0050579

## Mid Rollers



	Description	Part No.
1	V4 - Bogie Frame Weldment	JM0047417
2	3/4"-10 x 5" Gr5 Z Hex Bolt	JM0009997
3	V4 - Bogie Pivot Pin	JM0047203
4	3/4"-10 Gr2 Z Centerlock Hex Nut	JM0002147
5	1"-8 x 5-1/2" Gr5 Z Hex Bolt	JM0002110
6	1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
7	2-1/2" x 3" OD Rod Wiper Seal	JM0050204
8	2-1/2"ID x 2-3/4" OD x 1-1/2" Long Sleeve Composite Bushing	JM0038697
9	V4 - Bogie Pivot Spool Cap	JM0050500
10	5/16"-18 x 5/8" Gr8 YZ Hex Bolt	JM0051107
11	1/8" NPT Male x 11/16" Straight Grease Fitting	JM0009756
12	V4 - Bogie Wheel Weldment	JM0047175

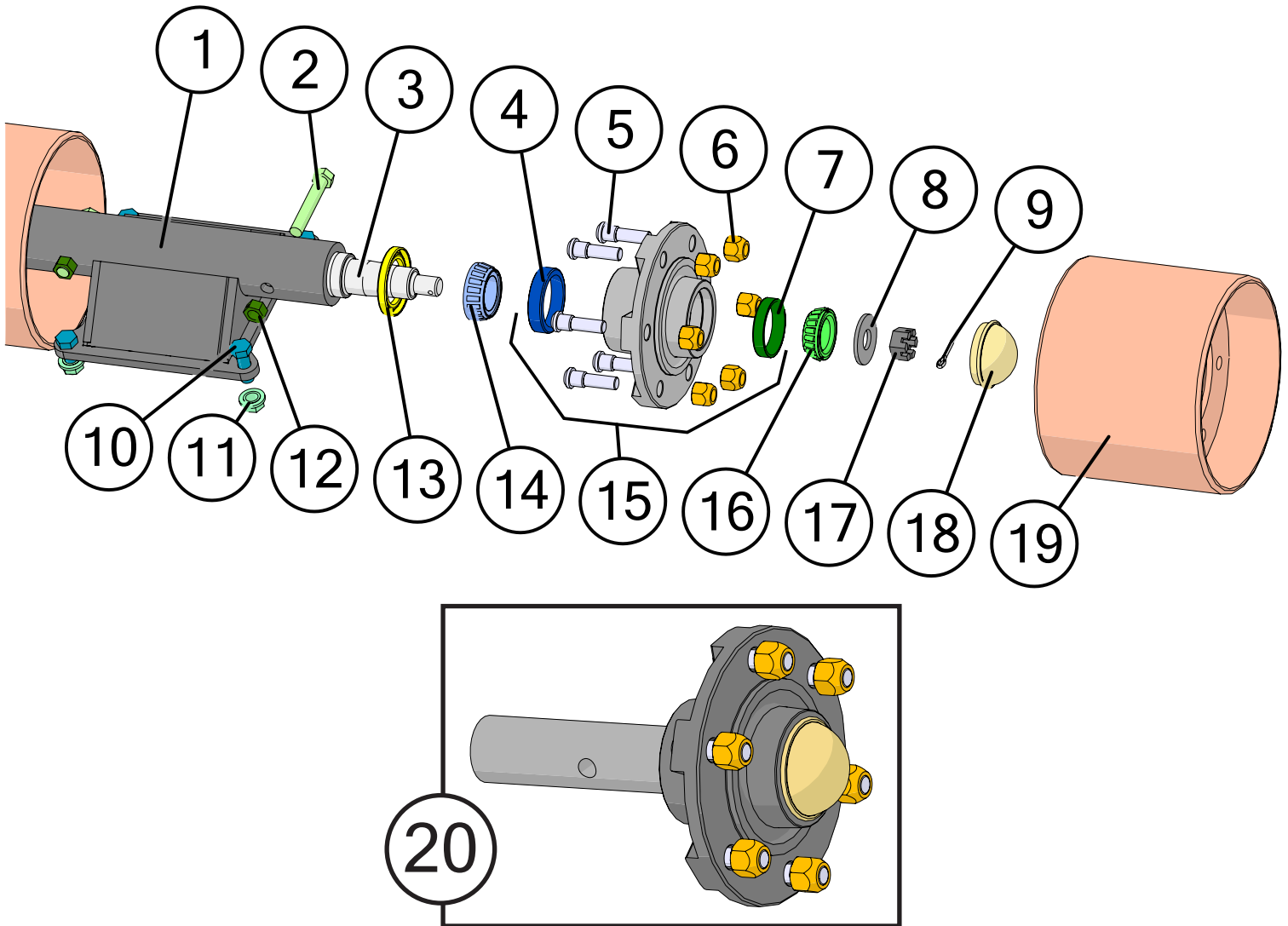
## Front End Idler and Hitch



	Description	Part No.
1	5/8"-11 x 2-1/4" Gr5 Z Hex Bolt	JM0001493
2	V4 - Hitch Alignment Bolt Keeper Weldment	JM0050587
3	5/8"-11 Gr2 Z Hex Nut	JM0001522
4	V4 - Hitch Alignment Bolt	JM0050581
5	1/8" NPT Male x 11/16" Straight Grease Fitting	JM0009756
6	1"-8 x 5-1/2" Gr5 Z Hex Bolt	JM0002110
7	V4 - Hitch Weldment	JM0047419
8	1"-8 Gr2 Z Centerlock Hex Nut	JM0002149
9	V4 - Hitch Pin	JM0047351
10	2" Shaft Diameter Spirolox WSM-200-S02 Retaining Ring	JM0050227
11	Longitudinal Roller Washer (2-5/8" OD x 2-1/32" ID) (Stabilizer, V4)	JM0038648



## Upper Rollers



	Description	Part No.
1	Upper Midroller Bracket Weldment (V4, STX2)	JM0074652
2	1/2"-13 x 3" Gr5 Z Hex Bolt	JM0016678
3	1-3/4" Diameter Spindle (SS-134SC)	JM0026569
4	Large Cup for 6-8 Ton (LM48510) (104580)	JM0026565
5	Wheel Stud for Hub, 6-8 Ton (1/2"-20 x 1-7/8") (4187)	JM0019559
6	1/2"-20 Lug Nut, 6-8 Ton (5552)	JM0003062
7	Small Cup for 6-10 Ton (LM67010) (200500)	JM0026564
8	3/4" USS Hardened YZ Flat Washer	JM0058394
9	5/32" x 1-1/2" Cotter Pin	JM0014348
10	1/2"-13 x 1-1/2" Gr5 Z Hex Bolt	JM0002100
11	1/2"-13 Gr5 Z SF Hex Nut	JM0002153
12	1/2"-13 Gr2 Z Centerlock Hex Nut	JM0001511
13	Grease Seal, 6-8 Ton (103953)	JM0026572
14	Large Inner Bearing for 6-8 Ton (LM48548) (104579)	JM0019563
15	G25 Hub with Races, Studs and Nuts, 7-8 Ton (105218)	JM0026566
16	Small Outer Cone for 6-10 Ton (LM67048)	JM0019564
17	3/4"-16 Gr2 Castle Hex Nut	JM0002130
18	Dust Cap, 6-10 Ton (103969)	JM0026567
19	Upper Midroller Wheel Weldment (V4, STX2)	JM0047173
20	G25-6 Hub, Spindle, and Bearings Assembly	JM0026571